THE
INDUSTRIAL ARTS INDEX

1951

List of Periodicals Indexed

A M A Achives Ind Hygiene & Occup Med—A.M.A. Archives of Industrial Hygiene and Occupational Medicine
A S M E Trans—Transactions of the American Society of Mechanical Engineers
Acoustical Soc Am J—Journal of the Acoustical Society of America
Adv Agency—Advertising Agency and Advertising and Selling
Formerly Advertising and Selling; name changed May, 1949
Adv & Sell. See Adv Agency
Advanced Management—Advanced Management
Changed to monthly beginning December, 1949
Aero Digest—Aero Digest
Aeronautical Eng R—Aeronautical Engineering Review
Air Affairs—Air Affairs
Air Transport. See Aviation W
Am Assn of Textile Chemists and Colorists. Proceedings. Published in American Dyestuff Reporter
Am Assn Pet Geologists Bul—Bulletin of the American Association of Petroleum Geologists
Am Bankers Assn J. See Banking
Am Bld—American Builder
Am Bsns—American Business
Am Cer Soc Bul—Bulletin of the American Ceramic Society
Am Cer Soc J—Journal of the American Ceramic Society
Am Chem Soc J—Journal of the American Chemical Society
Am Concrete Inst J—Journal of the American Concrete Institute
Am Dyestuff Rep—American Dyestuff Reporter
Am Gas Assn Mo—American Gas Association Monthly
Am Gas Assn Proc—American Gas Association Proceedings
Am Gas J—American Gas Journal
Am Inst E E J. See Elec Eng
Am Inst of Mining and Metallurgical Engineers. See Min Eng
Am J Sci—American Journal of Science
Am Mach—American Machinist
Am Pet Inst Proc—American Petroleum Institute Proceedings
Am Soc C E Proc—Proceedings of the American Society of Civil Engineers
Am Soc for Metals Trans—Transactions of the American Society for Metals
Am Soc Heat & V E J. See Heating-Piping
Am Soc M E J. See Mech Eng
Am Soc M E Trans. See A S M E Trans
Am Soc T M Proc—American Society for Testing Materials. Proceedings
Am Stat Assn J—Journal of the American Statistical Association
Am Water Works Assn J—Journal of the American Water Works Association
Anal Chem—Analytical Chemistry
Ann Am Acad—Annals of the American Academy of Political and Social Science
Arch Forum—Architectural Forum, The Magazine of Building
Now Magazine of Building, Architectural Forum and Magazine of Building, House & Home beginning 1952
Arch Rec—Architectural Record
Archives Ind Hygiene & Occup Med. See A M A Archives Ind Hygiene & Occup Med
Aslib Proc—Aslib Proceedings
Formerly Association of Special Libraries and Information Bureaux Proceedings; changed January, 1949
Assn of Sp Lib & Inf Bur Proc. See Aslib Proc
Automobile Eng—Automobile Engineer
Automotive Ind—Automotive Industries
Aviation W—Aviation Week
Merger of Aviation and Aviation News, July 7, 1947

Bankers Mo—Bankers Monthly
Banking—Banking; Journal of the American Bankers Association
Barron's—Barron's
Bell System Tech J—Bell System Technical Journal
Blast F & Steel Pl—Blast Furnace and Steel Plant
Brick & Clay Rec—Brick and Clay Record
Bsns W—Business Week
Burroughs Clearing House—Burroughs Clearing House
Bus Transportation—Bus Transportation

CAA J—Civil Aeronautics Administration Journal
Can Chem & Process Ind—Canadian Chemistry and Process Industries
Name changed to Canadian Chemical Processing, June, 1951
Can Chem Process—Canadian Chemical Processing
Can Min J—Canadian Mining Journal
Cer Ind—Ceramic Industry
Chem Age (Lond)—The Chemical Age
Chem & Eng N—Chemical and Engineering News
Chem & Ind—Chemistry and Industry
Chem & Met Eng. See Chem Eng
Chem Eng—Chemical Engineering (formerly Chemical and Metallurgical Engineering)
Chem Eng Prog—Chemical Engineering Progress
Chem Ind—Chemical Industries
Name changed to Chemical Industries Week January 20, 1951; changed to Chemical Week June 2, 1951
Chem Ind W—Chemical Industries Week (formerly Chemical Industries, now Chemical Week)
Chem R—Chemical Reviews
Chem Soc J—Journal of the Chemical Society
Chem W—Chemical Week
Civil Eng—Civil Engineering
Coal Age—Coal Age
Comm & Fin Chr—Commercial & Financial Chronicle
Communications—Communications
Now Tele-Vision Engineering
Comp Air Mag—Compressed Air Magazine
Concrete—Concrete
Constr Methods—Construction Methods and Equipment
Consumers Res Bul—Consumers' Research Bulletin (Not Confidential)
Credit & Fin Management—Credit and Financial Management

Diesel Power—Diesel Power and Diesel Transportation
Dom Eng—Domestic Engineering
Dun's R—Dun's Review

East Underw—Eastern Underwriter
Econ Geol—Economic Geology
Economist—Economist
Ed & Pub—Editor & Publisher, the Fourth Estate
Edison Elec Inst Bul—Edison Electric Institute Bulletin
Elec Com—Electrical Communication
Elec Eng—Electrical Engineering
Elec R (Lond)—Electrical Review
Elec West—Electrical West
Elec World—Electrical World
Electrician—Electrician
Electrochem Soc J—Journal of Electrochemical Society
Electronics—Electronics
Eng & Min J—Engineering and Mining Journal
Eng Educ. See J Eng Educ
Eng N—Engineering News-Record
Engineer—Engineer
Engineering—Engineering
Explosives Eng—The Explosives Engineer

Factory Management—Factory Management and Maintenance
Fed Res Bul—Federal Reserve Bulletin
Food Eng—Food Engineering
Food Ind—Food Industries
Name changed to Food Engineering April, 1951

LIST OF PERIODICALS INDEXED

For Comm W—Foreign Commerce Weekly
Fortune—Fortune
Foundry—Foundry
Franklin Inst J—Journal of the Franklin Institute

Gas Age—Gas Age
Gen Elec R—General Electric Review
Geol Soc Bul—Bulletin of the Geological Society of America
Geol Soc Proc—Proceedings volume of Geological Society of America
Glass Ind—Glass Industry

Harvard Bsns R—Harvard Business Review
Heat & Ven—Heating and Ventilating
Heating-Piping—Heating, Piping and Air Conditioning

Ill U Eng Exp Sta Bul—Illinois University Engineering Experiment Station. Bulletin
Ill U Eng Exp Sta Circ—Illinois University Engineering Experiment Station. Circular
Illum Eng—Illuminating Engineering, The Journal of the Illuminating Engineering Society
Ind & Eng Chem—Industrial and Engineering Chemistry
Ind & Eng Chem Anal ed. See Anal Chem
Ind Marketing—Industrial Marketing
Ind Med—Industrial Medicine and Surgery
Ind Stand—Industrial Standardization and Commercial Standards Monthly
Name changed to Standardization beginning January, 1949
India Rubber World—India Rubber World
Inland Ptr—Inland Printer
Inst E E J. See Inst E E Proc
Inst E E Proc—Proceedings of the Institution of Electrical Engineers
Inst Mech Eng Proc—Institution of Mechanical Engineers. Proceedings
Inst Pet J—Journal of the Institute of Petroleum
Inst Radio Eng Proc—Proceedings of the Institute of Radio Engineers
Instruments—Instruments
Int Labour R—International Labour Review
Iron Age—Iron Age
Iron & Steel Eng—Iron and Steel Engineer
Iron & Steel Inst J—Journal of the Iron and Steel Institute

J Account—Journal of Accountancy
J Aeronautical Sci—Journal of the Aeronautical Sciences
J Ap Chem—Journal of Applied Chemistry
Formerly Society of Chemical Industry Journal; name changed January, 1951
J Ap Phys—Journal of Applied Physics
J Bsns—Journal of Business of the University of Chicago
J Chem Educ—Journal of Chemical Education
J Chem Phys—Journal of Chemical Physics
J Doc—Journal of Documentation
J Eng Educ—Journal of Engineering Education
J Fr Inst. See Franklin Inst J
J Ind Hygiene—The Journal of Industrial Hygiene and Toxicology
Name changed to Archives of Industrial Hygiene and Occupational Medicine January, 1950. Now A.M.A. Archives, q.v.
J Land & Pub Util Econ. See Land Econ
J Marketing—The Journal of Marketing
Publication of the American Marketing Association
J Metals—Journal of Metals
Formerly Metals Technology; name changed January, 1949
J Phys & Colloid Chem—Journal of Physical and Colloid Chemistry
J Res Nat Bur Stand—Journal of Research of the National Bureau of Standards
J Retailing—Journal of Retailing
J Sci Instr—Journal of Scientific Instruments

Land Econ—Land Economics
Formerly Journal of Land and Public Utility Economics; name changed February 1948
Life Ins Courant—Life Insurance Courant
Light Metal Age—Light Metal Age

Mach—Machinery
Machine Design—Machine Design
Mag of Wall St—Magazine of Wall Street
Management R—Management Review
Manuf Rec—Manufacturers Record
Marine Eng—Marine Engineering and Shipping Review
Materials & Methods—Materials and Methods
Mech Eng—Mechanical Engineering
Metal Finishing—Metal Finishing
Metal Prog—Metal Progress
Metallurgia—Metallurgia, the British Journal of Metals
Metals Tech. See J Metals
Midwest Eng—Midwest Engineer
Formerly Journal of the Western Society of Engineers; name changed September, 1948
Mill & Factory—Mill & Factory
Min & Met. See Min Eng
Min Cong J—Mining Congress Journal
Min Eng—Mining Engineering
Formerly Mining and Metallurgy; name changed January, 1949
Mo Labor R—Monthly Labor Review
Mo U Sch Mines & Met Bul tech ser—Bulletin of the University of Missouri, School of Mines and Metallurgy. Technical Series
Mod Ind—Modern Industry
Mod Packaging—Modern Packaging
Mod Plastics—Modern Plastics
Munic Util—Municipal Utilities
Formerly Water and Sanitation; name changed September, 1950

N A C A Bul—N.A.C.A. Bulletin
N Y Pub Lib Bul—New York Public Library Bulletin
Nat City Bank—National City Bank of New York
Nat Pet N—National Petroleum News
Nat Res Council Bul—National Research Council Bulletin
Nat Safety N—National Safety News
Nat Underw—National Underwriter
Nat Underw (Life ed)—National Underwriter Life Insurance Edition

Oil & Gas J—Oil and Gas Journal
Oil Paint & Drug Rep—Oil Paint and Drug Reporter
Opt Soc Am J—Journal of the Optical Society of America

Paint Oil & Chem R—Paint, Oil and Chemical Review
Paper Ind—Paper Industry
Paper Tr J—Paper Trade Journal
TAPPI section now published as a separate Journal. See Tappi
Personnel—Personnel
Personnel J—Personnel Journal
Pet Eng—Petroleum Engineer
Pet Processing—Petroleum Processing
Pet Refiner—Petroleum Refiner
Phys R—The Physical Review
Power—Power
Power Eng—Power Engineering (formerly Power Generation)
Power Generation. See Power Eng
Product Eng—Product Engineering
Ptr Ink—Printers' Ink
Pub Health Rep—Public Health Reports
Changed to monthly beginning January, 1952
Pub Roads—Public Roads
Pub Util—Public Utilities Fortnightly
Pub Works—Public Works Magazine
Pulp & Pa of Can—Pulp and Paper Magazine of Canada

Q S T—QST

RCA R—RCA Review
R Econ & Stat—Review of Economics & Statistics
R Sci Instr—Review of Scientific Instruments
Radio & Tv N—Radio and Television News
Radio N. See Radio & Tv N
Rayon—Rayon and Synthetic Textiles
Ref Shelf—The Reference Shelf
Refrig Eng—Refrigerating Engineering
Review of Economics and Statistics. See R Econ & Stat

LIST OF PERIODICALS INDEXED

Roads & Bridges—Roads and Bridges
Name changed to Roads and Construction January, 1950
Roads & Constr—Roads and Construction
Name changed to Roads and Engineering Construction June, 1950
Roads & Eng Constr—Roads and Engineering Construction
Roads & Sts—Roads and Streets
Rock Prod—Rock Products
Rough Notes—Rough Notes and the Casualty Insuror
Roy Aeronautical Soc J—Journal of the Royal Aeronautical Society
Rs Mod Phys—Reviews of Modern Physics
Rubber Age—Rubber Age
Ry Age—Railway Age
Ry Mech & Elec Eng—Railway Mechanical and Electrical Engineer
Ry Mech Eng. See Ry Mech & Elec Eng

S A E J—S.A.E. Journal
Safety Eng—Safety Engineering
Name changed to Safety Maintenance and Production October, 1950
Safety Maint & Prod—Safety Maintenance and Production
Sales Management—Sales Management
Sci Am—Scientific American
Science—Science
Sewage & Ind Wastes—Sewage and Industrial Wastes
Sewage Works J—Sewage Works Journal
Name changed to Sewage and Industrial Wastes January, 1950
Sheet Metal Worker—Sheet Metal Worker
Soap & San Chem—Soap and Sanitary Chemicals
Soc Chem Ind J—Journal of the Society of Chemical Industry
Name changed to Journal of Applied Chemistry January, 1951
Soc Dyers & Col J—Journal of the Society of Dyers and Colourists
Soc for Advan of Management J. See Advanced Management
Soc Motion Picture & Tv Eng J—Journal of the Society of Motion Picture and Television Engineers
Soc Motion Picture Eng J—Journal of the Society of Motion Picture Engineers
Name changed to Journal of the Society of Motion Picture and Television Engineers January, 1950
Society of Automotive Engineers Journal. See S A E J
Special Lib—Special Libraries
Spectator (Life ed)—Spectator; Life Insurance in Action
Life ed and Property ed combined January, 1952
Spectator (Property ed)—Spectator; Property Insurance Review
Property ed and Life ed combined January, 1952
Standardization—Standardization
Formerly Industrial Standardization; name changed January, 1949
Steel—Steel
Survey of Cur Bsns—Survey of Current Business

Tappi—Tappi
Tech R—Technology Review
Tele-Tech—Tele-Tech
Tele-Vision Eng. See Tv Eng
Textile Col. See Am Dyestuff Rep
Textile Inst J—Journal of the Textile Institute
Published in two parts: Transactions; Proceedings, Standardisation and Abstracts
Textile Res J—Textile Research Journal
Textile World—Textile World
Tool Eng—Tool Engineer
Transactions of the American Society of Mechanical Engineers. See A S M E Trans
Trusts & Estates—Trusts and Estates, The Fiduciary Journal
Tv Eng—Tele-Vision Engineering
Formerly Communications; name changed January 1950

U S Bur Labor Statistics Bul
U S Bur Mines Bul
U S Bur Mines Information Circ
U S Bur Mines Rep of Invest
U S Bur Mines Tech Pa
Now included in Bulletin series
U S Geol S Bul
U S Geol S Professional Pa
U S Nat Advisory Com for Aeronautics—United States National Advisory Committee for Aeronautics. Annual Reports
U S Nat Bur Stand—United States National Bureau of Standards
U S Naval Inst Proc—United States Naval Institute Proceedings
U S Women's Bur Bul—United States. Women's Bureau. Bulletin

Water and San. See Munic Util
Water & Sewage Works—Water & Sewage Works
Weekly Underw—Weekly Underwriter
Welding J—Welding Journal
Western Soc E J. See Midwest Eng
Westinghouse Eng—Westinghouse Engineer
Wireless Eng—Wireless Engineer
World Oil—World Oil

Key to General Abbreviations

+	continued on later pages of the issue
abr	abridged
Ag	August
Ap	April
arch	architect
bibliog	bibliography
comp	compiled or compiler
cond	condensed
cont	continued
D	December
diag	diagram
ed	edited or edition or editor
F	February
i	index
il	illustrations
inc	incorporated
Ja	January
Je	June
Jl	July
Mr	March
My	May
n s	new series
N	November
no	number
O	October
p	page
pl	plate
por	portrait
pseud	pseudonym
pt	part
rev	revised
S	September
sup	supplement
tr	translated or translation or translator
v	volume
yrbk	yearbook

Sample entry: Hydrogen peroxide; structural materials, manufacture and uses. J. S. Reichert and R. H. Pete. il Chem Eng 54:213-14+ Ap '47

Explanation: An illustrated article with the title given above will be found in Chemical Engineering, volume 54, pages 213 to 214 (continued on later pages of the same issue) the April 1947 number

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THE
INDUSTRIAL ARTS INDEX

THIRTY-NINTH ANNUAL VOLUME

1951

SUBJECT INDEX TO A SELECTED LIST OF ENGINEERING,
TRADE AND BUSINESS PERIODICALS

EDITED BY
LEONE BAKER, MARION E. POTTER,
LUCILLE CRAUMER

MANAGING EDITOR
CHARLOTTE TRILLING

NEW YORK
THE H. W. WILSON COMPANY
1952

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PREFACE

This volume completes the thirty-ninth year of Industrial Arts Index, cumulating the monthly issues published from December 1950 thru November 1951.

Under the editorship of Marion E. Potter who has guided its progress from its inception, the Index has in these thirty-nine years, increased more than four-fold both in number of pages and in number of publications included; and it is due to Miss Potter's devotion to her work, a devotion that is still undiminished, that Industrial Arts Index occupies its present place in the field of library service.

During this year no new periodicals were added to the list and none dropped. Changes in titles of periodicals and other changes are noted as they occur in the announcement pages of current numbers of the Index and in the List of Periodicals indexed.

Miss Doris Dart's contribution to the chemical indexing is gratefully acknowledged.

L. B.

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Magazine Notes

Compiled with the aid of Johanna Kramm and Jessie Van Strander

(Reprinted from monthly issues of 1951) *

"Deutsche Zeitschriften, 1945-1949," a list of German periodicals published by the book trade, is a survey for a period in which it was not always possible to maintain regularity of publication. The list includes not only current periodicals, but also periodicals which ceased publication during the years 1945-1949. Published by Buchhändler-Vereinigung GMBH, Frankfurt /M. United States agent, Stechert-Hafner, 31 East 10th Street, New York 3. ($4.50)

"Union List of Periodicals and Other Serial Publications in the Medical and Biological Sciences Libraries of the Greater Los Angeles Area," includes holdings of more than 3,000 American and foreign titles in 17 representative libraries which have been made available thru the cooperative effort of members of the Southern California Chapter of SLA. Address: Mrs. Gertrude M. Clark, Assistant Librarian, Los Angeles City Health-Department, 116 Temple Street, Room 512, Los Angeles 12. ($5)

The first official "Catholic Press Directory," published by The Catholic Press Association, lists every Catholic publication in the United States together with the circulation, rates, advertising data, personnel and special requirements. In addition, the directory contains a market guide for writers and authors. The writers' supplement lists editorial policy, rates of payment, and directions for mss. submission. Catholic Press Directory, 35 Scio Street, Rochester, New York. ($5)—*Special Libraries.*

A.I.B.S. Bulletin is the organ of the American Institute of Biological Sciences, 2101 Constitution Avenue, Washington, D.C. Published five times a year, January, April, July, August and October. Subscription $2 a year; 50 cents a copy.

Acta Physiologica et Pharmacologica Neerlandica, sponsored by the Hollandsche Maatschappij der Wetenschappen (Holland Society of Sciences), is a quarterly, succeeding (January 1950) *Archives Néerlandaises de Physiologie* as well as the *Acta Brevia Neerlandica.* The journal will be tri-lingual; the authors have the choice of English, French, or German. The summaries of all articles will be given in all three languages. Published by North-Holland Publishing Company, Amsterdam, Netherlands. Subscription $10 a year.

Acustica, an international journal, is sponsored by the acoustic group of three national physics associations, English, French and German. Contributions will be for the most part limited to the three languages. There will be six numbers a year. Published by S. Hirzel, Claridenhof, Gotthardstrasse 6, Zurich. Subscription 36 Swiss francs.

Adult Education, which began with an October 1950 issue, combines *Adult Education Bulletin* volume fifteen, number one, and *Adult Education Journal* volume nine, number four, and thus becomes the official organ of the two associations. It is published bimonthly by the American Association for Adult Education, 167 Public Square, Cleveland 14 and the Department of Adult Education of the National Education Association of the United States, 1201 Sixteenth Street, N.W., Washington 6. Editor: Robertson Sillars. Annual fee for membership in either association is $3, including one year's subscription to *Adult Education.* Single copies, 50 cents. Editorial office: 314 East Superior Avenue, Cleveland 14.

Aeronautical Society of India, Journal, is published quarterly at the office of the Society, New Delhi. February 1949 issue is the first. Subscription Rs 4 a year; single issues Re 1. $4.

Air Repair, a new magazine devoted to the problems of air purification, was announced recently as the official publication of the Air Pollution and Smoke Prevention Association of America, a 44-year-old organization which moved its headquarters from Chicago to Pittsburgh last winter. Its offices are now at Mellon Institute.

American Benedictine Review is a quarterly published by the American Benedictine Academy. Address Bonaventure Schwinn, editor, St Mary's Abbey, 528 High Street, Newark 2, New Jersey. It began with a Spring 1950 issue. Subscription $5 a year; single copy $1.25.

American Institute of Biological Sciences. See A.I.B.S. Bulletin

The American Naturalist, a journal established in 1867, became, beginning with its 85th volume in January 1951, the journal of the American Society of Naturalists, which has now assumed full editorial control. Jacques Cattell will continue as publisher, and the journal will be issued six times a year by the Science Press, of Lancaster, Pennsylvania.

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* These notes have been reprinted by request.

The Amsterdam Naturalist, bulletin of the Zoological Museum, Amsterdam, began with an April 14, 1950 issue. The text is in English. It is adapted to the general reader and illustrated. Published by De Regenboog Publishers, Recht Boomssloot 47, Amsterdam(C), The Netherlands. Subscription in the United States $4

Animal Life, an illustrated monthly, beginning with a March 1951 issue, incorporates *Animal Pictorial*, *Dogs* and *Wild Birds*, and aims to present "a natural view of animal life, showing all living things as part of the same creation and to uphold the humane treatment of animals." Published by St Francis Publishing Company, 51 Tothill Street, London, S.W.1. Subscription £1 1s a year; 1s 6d a single issue.

Annals of the Ukrainian Academy of Arts and Sciences in the United States, published semiannually by the Ukrainian-American Publishing Company, began with a Winter 1951 issue. Special issues will appear at irregular intervals. All correspondence, orders, and remittances should be sent to Professor Michael Vetukhiv, P.O. Box 27, Planetarium Station, New York 24. Single copy $1; Foreign $1.50.

Antiques Review, an illustrated quarterly, is published by Seven Oaks Press, 165 Victoria Street, London, S.W.1. Single issue $1 or 3s 6d.

Appraisal Digest, beginning April 1950, is published quarterly by the New York State Society of Real Estate Appraisers, a division of the New York State Association of Real Estate Boards, 210 State Street, Albany 6, New York. Subscription $2 a year; single issue 50 cents.

Architect and Builder, a monthly for architects, builders and quantity surveyors in South Africa and Rhodesia, began with a February 1951 issue. Address is Advertising Centre, Riebeeck Square (P.O. Box 4591), Cape Town, South Africa. Subscription 30 shillings a year.

The Architectural Times, a British illustrated quarterly, completes its first volume with a Winter 1950-1951 issue, published in February. Subscription £1 a year, $4.25 in United States and Canada. Published at 36 Great Smith Street, Westminster, London, S.W.1.

Archives, Bibliothèques, Collections, Documentation, a French bimonthly, began with a May-June issue. Published under the auspices of four French bibliographical associations at 65 Rue de Richelieu, Paris. Subscription 1200 frs a year; foreign 1800 frs; single issue 275 frs.

Archives of Biochemistry changed its title March, 1951, to *Archives of Biochemistry and Biophysics*, to indicate more accurately the new scope of the journal.

Ark, the Journal of the Royal College of Art, London, S.W.7, began quarterly publication last October. 2s 6d an issue.

Asia; Asian Quarterly of Culture and Synthesis, beginning with a March 1951 issue, is edited by René de Berval and Jivan Bhakar. The text is in English. Published at 93 rue d'Ormay, Saigon, P.O. Box 79, Saigon (Viêt Nam). Subscription in United States $7.50 a year; $2 a copy.

Audience, a small quarterly magazine for secretaries, lecturers and audiences, began publication with a Spring 1951 issue. Copies should be ordered from the editor, Maurice G. Frost, 165 Hatfield Road, St Albans, England. Subscription 4 shillings 8 pence a year; single issues one shilling, 2 pence.

BMQ; the *Boston Medical Quarterly*, began with a March 1950 issue. Published by Boston University School of Medicine and Massachusetts Memorial Hospitals; Dr. James M. Faulkner, Editor, 80 East Concord Street, Boston 18. Subscription $2 a year; 50 cents a copy.

Basis, a Weekly Journal of Comment, beginning with an April 13, 1951 issue, is published by the School of Economic Science, 11 Suffolk Street, Haymarket, London, S.W.1. Economic measures are considered as to their effect on food, clothing, housing. Subscription 17s 6d a year.

Biological Abstracts will continue its nine sectional editions thru 1952, contrary to a previous anouncement. They may be offered only to individual scientists. All libraries, federal and state agencies, industrial organizations, etc., may subscribe only to the complete edition. Beginning with 1952, volume 26, the price will be $50 a year.

Book Previews is circulated among individual consumer book buyers on a free basis, with the understanding that they buy needed books thru *Book Previews*; first issue November 1950. Libraries (not privileged to make purchase of books thru *Book Previews*) may subscribe at $3 a year in the United States; $4 elsewhere. It will list, each month, the books to be published in the coming six weeks. It will give titles, authors, descriptions, and other pertinent information, including the publication dates and prices as furnished by the publishers. Publication office, 11 East 48th Street, New York 17.

Boston Medical Quarterly. See BMQ

British African Review, Volume 1, Number 1, (new series) February 1950, incorporates *The British Africa Monthly*, successor to the *Union Review*, and *The Central Africa News Review*. Address P.O. Box 1707 Salisbury, Rhodesia, or Box 1986 Johannesburg. Subscription overseas 13s 6d.

British Museum Quarterly resumed publication with a January 1951 issue, volume sixteen, number one. Four parts 14 shillings; single parts 3s 6d. Published by the Trustees of the British Museum, London, W.C.1.

British Transport Review is published three times a year, April, August and December, by British Transport Commission, 55 Broadway, London, S.W.1. The first issue is dated April 1950. The *Review* will deal with a range of subjects representative, in turn, of the Commission's great variety of interests. Subscription three shillings a year. Single issue one shilling.

Business Publisher, a Monthly Journal for Trade Magazine Editors, is directed primarily at the editors and publishers of small business periodicals. It is a small size magazine, published by Bridges Publishing Company, 1505 Eleanor Avenue, St Paul 5. Subscription $8 a year in United States and Canada; foreign $9.

Business Times is published monthly by the National School of Salesmanship. Editorial and Advertising offices: Bank of England Chambers, Manchester, 2. First issue January 1951. Subscription 10s a year; single copies 1s 2d.

Camellian is the quarterly official organ of the South Carolina Camellia Society, P.O. Box 715, Columbia, S.C. Subscription $3 a year.

Camera Obscura, published ten times a year at Nieuwe Gracht 7, Haarlem, Netherlands, has been for the present discontinued.

Canadian Chemistry and Process Industries changed its title with the June issue to *Canadian Chemical Processing.*

Effective September 29, William Weld Company, Limited, publisher of *Farmer's Advocate & Home Magazine,* London, Ontario, will take over ownership of *Canadian Countryman.* Name of the new publication, the first issue of which appears October 13, will be *Farmer's Advocate & Canadian Countryman.* Published the second and fourth Saturday of each month.—*Printers' Ink.*

Carnival, a new quarterly magazine, is being designed for advertisers wishing to reach selective charge account customers of leading department stores in the nation's key cities. To be launched September 1951, it is assured of an initial circulation of approximately 500,000. George O. Walbridge is publisher and John McClain, Hearst columnist, editor. Offices have been established at 714 Fifth Avenue, New York City. Sadler and Sangston Associates, 342 Madison Avenue, New York City, are the advertising representatives.—*Sales Management.*

The *Catholic Standard,* a weekly, plans to begin publication November 2 in Washington, D.C. It will be a twenty-four page tabloid with an expected beginning circulation of 35,000 in the Washington archdiocese. It replaces a Washington edition of the *Baltimore Catholic Review,* which hereafter will concentrate on the Baltimore archdiocese.—*Editor and Publisher.*

Centaurus, International Magazine of the History of Science and Medicine, a quarterly, beginning in 1950, contains original articles in French, German or English. Each issue has about 96 pages. Published by Ejnar Munksgaard, 6, Nörregade, Copenhagen K, Denmark. Subscription 40 Danish crowns (about $6 or 40 shillings) a year.

Chain Store Age, in commemoration of its silver jubilee, published special supplements to volume 26, June 1950, devoted to Drug, Variety and Grocery chains respectively.

Chemical Engineering Progress, published by American Institute of Chemical Engineers, announces in the September issue, a new publication policy of the Institute by which certain papers and symposia will be issued separately. The announcement states: "To make everything complete, and to guarantee permanency in the literature, our present plans call for two separate abstract reports. In *Chemical Engineering Progress* we will publish abstracts of all articles appearing in the Symposium Series. Then, in the symposium volumes we will publish abstracts of all articles which appeared in *Chemical Engineering Progress* from the original symposia. In any case, all articles will be indexed in the annual index of *Chemical Engineering Progress.*"

Chemical Engineering Research, planned by Messrs. Butterworth and Co., Ltd., 4 Bell Yard, London, W.C. 2, England, for early publication, will contain papers in French, English, and German with resumés in each language. There will be six issues a year. The subscription is expected to be about $12.60.

Chemical Industries when taken over by McGraw-Hill Publishing Company some months ago, contained an announcement that a more frequent publication schedule was planned. With the issue dated January 20, 1951, Volume 68, *Chemical Industries* becomes *Chemical Industries Week.* Subscription $5 a year in United States and possessions; $6 in Canada, $7 in Pan American countries; $15 in other countries. Single issue 35 cents. Name changed to Chemical Week June 2, 1951

Christian East, a Quarterly Review, Devoted to the Study of the Eastern Churches, is a revival after an eleven year interval of an earlier publication with this title. It is published for The Anglican and Eastern Churches Association by The Faith Press, 7 Tufton Street, Westminster, S.W.1. Subscription 10 shillings a year; single issue 2/6.

Church School Worker is published monthly except July and August by the Board of Christian Education and Publication of the Evangelical and Reformed Church. Office of publication, 1009 Sloan Street, Crawfordsville, Indiana. Subscription office: 1505 Race Street, Philadelphia 2. Subscription $1.50 a year.

The Cincinnati Art Museum Bulletin is published six times a year for its membership by the Cincinnati Museum Association, Eden Park, Cincinnati 6. New series, volume one, number one, is dated October 1950.

Citizens and their Schools is published monthly by the National Citizens Commission for the Public Schools, 2 West 45th Street, New York 19. Volume 1, number 4, February 1951, is a report of the 2d annual meeting of the Commission.

Civil Defense News is a new publication summarizing ideas and developments in the field, published biweekly for local and state CD officials, company executives with CD tasks, industrial plant protection and safety officers, civic leaders active in CD planning, and press and periodical editors—*Science*.

Clearinghouse Bulletin of Research in Human Organization is a new quarterly of the Society for Applied Anthropology, 79 West Monroe Street, Chicago 3. It began with a summer 1951 issue of twenty-four pages. Subscription is thru membership in the Society.

Coat of Arms, Heraldic Quarterly Magazine, beginning in 1950, is published by the Heraldry Society, East Knoyle, Wiltshire. Single issue two shillings.

Comment, a British monthly, beginning with a December 1950 issue, has a twofold aim: "to provide a forum and clearing-house for the opinions and discussions of that great body of Right-wing Undergraduates throughout every British University, and secondly, by publishing these opinions, to enable all those readers whose job or interest it is, to evaluate the significance and prejudices of the present generation at the Universities." University office, 8 Oriel Street, Oxford; London office, 10 Duchess Street, London, W.1. Subscription 7s 6d a year; sixpence for a single issue.

Community Planning Review, a quarterly of the Community Planning Association of Canada, 169 Somerset Street West, Ottawa, began with a February 1951 issue. Subscription $2 a year.

Consumers' Digest summarizes each month two or three of Consumers' Research leading reports from the current issue. Designed primarily for local newspapers, church, fraternal, and employee publications, it presents in nontechnical language the important points and includes the favorable ratings of CR's findings on products by brand name. Subscription $1 a year—*Consumers' Research Bulletin.*

Controls Service, a weekly, indexing and digesting the new price, production and distribution regulations, has been inaugurated by the *Journal of Commerce.* Subscription $25 a year from the New York Journal of Commerce, 63 Park Row, New York 15, N.Y.

Copy, Today's Better Fiction, a pocket-size quarterly began with a spring 1950 issue. Published by The Bards, 139 South Beverly Drive, Suite 333, Beverly Hills, California. Subscription $2 for four issues; single copies 50 cents.

Coranto (typewritten bulletin) is an irregular publication of the University of Illinois School of Journalism, which hopes to stimulate teaching and research in the history of journalism. It is intended as a clearing house for short research papers about English and American newspapers and periodicals of the seventeenth thru nineteenth centuries, bibliographical material, notes on research in progress and so on. There is no subscription charge.

Cornish Opinion (Incorporating *Youth Fights Back*) is a small monthly, published by the St Ives Division, Young National Liberals and Conservatives, Morrab Road, Penzance. Subscription six shillings a year.

Crossroads, successor to the *Westminster Adult Bible Class,* is a quarterly publication of the Board of Christian Education of the Presbyterian Church in the United States of America, 1009 Sloan Street, Crawfordsville, Indiana. Subscription $1.75 a year.

Cumbria, a Monthly Magazine of Lakeland Life, has begun a new series of which the July 1951 issue is number 4. Published by Dalesman Publishing Company, Clapham, via Lancaster, England. Nine pence an issue.

Defense Production Record is the official weekly bulletin of the defense production program, edited and published for the Defense Production Administration by the Office of Public Information of the National Production Authority, United States Department of Commerce. The first issue is dated May 3, 1951. "It is prepared from information which has been available during the last week from DPA and other Federal agencies concerned with defense production, and from statements by officials of such agencies." Subscription $2.50 a year; foreign $4; single issues 5 cents. For sale by United States Superintendent of Documents, Washington.

Delphic Review; an Anarchistic Quarterly, edited by Albert J. McCarthy, is published by the Delphic Press, Fordingbridge, Hants (Hampshire), England. Subscription 10s 6d a year; 2s 6d a single issue.

The Dental Practitioner, a monthly journal for the practitioner and his staff, began with a September 1950 issue. John E. Seear is editor. Published by John Wright & Sons, 42-44 Triangle West, Bristol 8, England. Subscription £1 1s; single issue 2 shillings.

Design+, is an illustrated quarterly magazine of tropical architecture and arts, published by Arts and Design, Inc., 928 duPont Building, Miami 32, Florida. Subscription $3.50 a year; foreign $4.70.

Diameter, a Magazine of the Arts, a small size monthly, began publication in March at 161 Remsen Street, Brooklyn 2. Subscription $4 a year; Canada and foreign $5; single issue 35 cents.

Down South on the Beautiful Gulf Coast is published bimonthly by Activities Incorporated, 1319 23d Avenue, Gulfport, Mississippi. Subscription $3 for two years; 30 cents a copy.

Elettrificazióne; Rivista Generale delle Applicazioni dell'Energía Elettrica, a monthly, began its second year in January 1951. Published by Delfino Società Editrice, Milan, Italy, Via Passarella, 10. Subscription 7000 lire a year; single issue 700 lire.

The English Record, publication of the New York English Council, began its second volume with a Fall 1951 issue. Richard K. Corbin, 1226 Constant Avenue, Peekskill, New York, is treasurer of the Council. Subscription with membership dues $1.

Episcopal Churchnews, has been announced for publication December 1. It will be published at Richmond, Virginia by the Southern Churchman Company, which issued a magazine, *Southern Churchman,* for 116 years.

Essays in Criticism, a quarterly journal of literary criticism, is edited by F. W. Bateson. It began with a January 1951 issue. Published by Basil Blackwell, 49 Broad Street, Oxford, England. Subscription 15 shillings or $2.25 a year; 60 cents a single copy.

Europe Today and Tomorrow; International Bulletin of the European Movement, is an English edition of *Nouvelles de l'Europe.* June 1951 issue is number five. Published monthly by International Secretariat, 25 rue de Spa, Brussels. Subscription $3 a year.

The European is an independent quarterly journal, devoted to the cause of European unity and international understanding. It began with a Winter 1950 issue. Published by Edgar G. Dunstan & Company, Drayton House, Gordon Street, London, W.C.1 Subscription 4 shillings a year in the United Kingdom; $1 in the United States

European Bridge Review began monthly publication at Enskede, Sweden, in February, 1950, altho an introductory number was issued in the preceding October. Bound volume 1950 may be obtained at the price of £1.15 or $5.

European Broadcasting Union, Documentation and Information Bulletin, began with a May 1950 issue. It is a bimonthly, published at 37 Quai Wilson, Geneva, Switzerland.

European Review is an independent international monthly devoted to the cause of European unity, published in French and English from Europe House, Smith Square, London, S.W.1. November 1950 is number one.

Exchanges, a review for commercial expansion of the Belgo-Luxembourg Economic Union, quarterly English edition, began with an August 1950 issue. Address 33 rue Ducale, Brussels, Belgium. Subscription 200 Belgian francs or $4.

FAO Radio Newsletter will not be issued in April and May owing to the removal of FAO headquarters to Rome in March. When publication is resumed, a new *FAO* will continue to carry up-to-date news of FAO's worldwide activities. The Letter will be issued monthly by the Food and Agriculture Organization of the United Nations, Rome; North American Regional Office, Washington, D.C.

Faculty of Radiologists, Journal, is a quarterly publication of the society, 45 Lincoln's Inn Fields, London, W.C.2 beginning July 1949. Subscription to non-members £2 2 shillings a year; single issues 12s 6d. Address John Wright and Sons, 42-44 Triangle West, Bristol 8, England.

Family Doctor, a publication of the British Medical Association, began with a May issue. It is an illustrated monthly devoted to the many subjects that those interested in the health and well being of a family need to know about. Address is B.M.A. House, Tavistock Square, London, W.C.1. Subscription 14 shillings a year.

The Federalist is the monthly organ of the United World Federalists, 7 East 12th Street, New York 3. The April 1951 issue is the first. Subscription $1.50 a year.

Feed Age, January 1951, begins a new monthly business magazine for feed manufacturers. It is published by American Trade Publishing Company, 45 West 45th Street, New York 19. Subscription: for the present is free.

Fibre e Colori, an Italian textile monthly, began with a January 1951 issue. Published in Milan, Italy, Corso Matteotti 11. Subscription 1500 lire a year; foreign 3000 lire; single issue 150 lire.

Film Sense is a monthly, now in its second volume, published by the National Council of the Arts, Sciences, and Professions, 49 West 44th Street, New York 18. Subscription $1; single issue 10 cents.

Finnish Paper and Timber, now in its second volume, is published ten times a year by the Central Association of Finnish Woodworking Industries, Helsinki, Unioninkatu 19. Text is in English. Subscription Fmks 950 a year.

Food and Agriculture Organization. See FAO Radio Newsletter

Food Buyer, a new controlled-circulation business publication scheduled for a January '51 issue, will offer its advertisers a money-back advertising guarantee. Published by the Food Sales Publishing Co., at 367-373 West Broadway here, the new publication will be distributed to wholesale food buyers, a select group of food brokers, food buying syndicates, food purchasing cooperatives and others. Distribution will include Canada, Cuba, Puerto Rico and other countries.—*Printers' Ink.*

Food Industries changes its title to *Food Engineering* with the April issue. The reason given is that "the trend in food processing is toward better engineered processes, equipment, premises, products and packages, to produce quality foods at lower relative cost."

Frontier; Christian Commentary on the Common Life, a monthly beginning January 1950, continues and extends the work done by the *Christian Newsletter* from 1937 to 1949. It is published under the auspices of the Christian Frontier Council. "The governing purpose is the quest for a deeper and clearer understanding of contemporary problems and tasks in the light of the Christian Faith." Published by Basil Blackwell, 49 Broad Street, Oxford, England. Subscription 12s 6d a year; single copy one shilling.

Furniture Development Council, 11 Adelphi Terrace, Robert Street, London, W.C.2, publishes a *Technical Bulletin*, a bimonthly, beginning 1951. Subscription 30 shillings for six issues. Separate issue is not available.

General Semantics Bulletin is published three times a year for members of the Institute of General Semantics, Lakeville, Connecticut. "It is for information and inter-communication among workers in the non-aristotelian discipline formulated by Alfred Korzybski." It is sent to members of the Institute who pay $10 or more in annual dues. Library subscription $5. Single copies are priced according to the cost of production. Autumn-Winter issue, numbers 4 and 5, $2.50.

Geographical Bulletin, published twice yearly by the Department of Mines and Technical Surveys, describes the work in progress in the Canadian Geographical Service and presents the results of research. It began with a spring 1951 issue. Address Director, Geographical Branch, Department of Mines and Technical Surveys, Elgin Building, Ottawa. Fifty cents a copy.

Go, a magazine of travel and leisure, is published in association with the Sunday *Times* at Kemsley House, London, W.C.1. New York office 155 East 44th Street. The April-May 1951 issue is number one of a New Series. It is an illustrated bimonthly. Subscription £1 4s a year; 3s 6d a single issue.

Governmental News, a national illustrated quarterly for public officials, state and local, is now in its second volume. Published by George F. Breitbach and Sons, 716 North 11th Street, Milwaukee. Subscription $2 a year.

Green Thumb; Gardening in the Deep South, is a small size monthly, now in its second volume. Published by Green Thumb Publishers, 9 Third Street North, St. Petersburg, Florida. Subscription $2.50 a year; single issues 25 cents.

Hemispherica, monthly bulletin of the United States Committee of the Inter-American Association for Democracy and Freedom, states as its aim, "to alert the conscience of those Americans who, if given the facts, will share our concern for democracy and freedom in this Hemisphere." It began with a January 1951 issue of four pages. Secretary of the Association is Frances R. Grant, Room 710, 67 West 44th Street, New York 18.

Here's How; the Magazine of Money Making Ideas, completes its first year with a July 1951 issue. Published six times a year by How Publishing Company, 1512 Jarvis Avenue, Chicago 26. Subscription $1.50 a year; single copy 25 cents.

High Fidelity, the Magazine for Audio-Philes, is an illustrated quarterly, April, September, November and February. It began with a summer 1951 issue. Published by Radiocom, Incorporated, 264 Main Street, Great Barrington, Massachusetts. Subscription $3 a year in United States; Canada $3.50; foreign $4.

History Today, an illustrated monthly, edited by Peter Quennell and Alan Hodge, began with a January 1951 issue. Published at 72 Coleman Street, London, E.C.2. Single number 2s 6d.

Home-Making, beginning with a Spring 1951 issue, furnishes ideas on decorating, furnishing, carpentry, cookery and home management. Published at Kemsley House, London, W.C.1. One shilling an issue.

Hotel and Catering Institute, Journal, is a quarterly official publication of the Institute, 24 Portman Square, London W.1. Single issue 1s 6d.

The Incorporated Statistician, the journal of the Association of Incorporated Statisticians, published two numbers in 1950, July and December. Volume two, numbers 1 and 2 are dated April and August. Published by the Association, 54 New Broad Street, London, E.C.2. Five shillings an issue.

Index Medicus Danicus, edited by A. G. Drachmann, is a new publication of the University Library, Copenhagen, Scientific and Medical Department. It is a quarterly, beginning with a July 1950 issue. Each number will be about thirty-two pages. Published by Ejnar Munksgaard, Copenhagen. Subscription $4 or 28 shillings.

The Indian at Home and Overseas is a political, cultural, and trade review, published monthly at 12 Kennington Park Road, London, S.E.11. "It will endeavour to promote the political, cultural and economic advancement of our people everywhere." Subscription 14 shillings a year; single copies one shilling.

Indonesian Review is a journal devoted to Indonesia's reconstruction and international understanding. It began with a January 1951 issue.

Second issue is dated February-March. Address all communications to the Editor, Indonesian Review, Kramat 99, Djakarta. Subscription $10; single issue $1.

Industrial Handling, a January newcomer, is the quarterly house organ of Frank G. Hough Company, 1000 East Sunnyside Avenue, Libertyville, Illinois. It is devoted to bulk material handling.

Industrial Health Monthly is the new title of *Industrial Hygiene Newsletter*, published by the United States Public Health Service. In its eleven years of life it has been used by physicians, engineers, nurses, industrial management and labor leaders. It is free to persons engaged in industrial hygiene in governmental agencies (federal, state, or local). For sale by Superintendent of Documents, Government Printing Office, Washington 25. Subscription $1 a year; foreign $1.25.

Inter-American Commission of Women, Bulletin, is intended "to supply all American women and feminist organizations with information regarding its different activities and with data obtained through the Delegates and the respective National Committees on Cooperation in the various countries of the hemisphere." It is published three times a year in Spanish and English. It is distributed free of charge among the feminist organizations, other institutions, and individuals, interested in the problems of the Commission. Published by Pan American Union, Washington, D.C.

International Dental Journal (Journal Officiel de la Fédération Dentaire Internationale), is a new quarterly, beginning with a September 1950 issue. Articles are in English with summaries in French, German, Italian and Spanish. Subscription $8.50 a year (10% discount to members). Published by Cassell and Company, 37/38 St. Andrew's Hill, Queen Victoria Street, London, E.C.4. American agents are British Publications, 150 East 35th Street, New York 16.

International Journal of Group Psychotherapy is the official publication of The American Group Psychotherapy Association (formerly The American Group Therapy Association). It is to be published quarterly in March, June, September and December. The first issue (delayed) is dated April 1951. Published by International Universities Press, 227 West 13th Street, New York 11. Subscription $7.50 a year; single issues $2.

International Monetary Fund, Staff Papers, is published (three issues a volume) by the Fund, 1818 H. Street, N.W. Washington 25. It is intended to help government officials, professional economists, and others concerned with monetary and financial problems. Subscriptions may be entered with any current number at a rate of U.S. $3.50 for three numbers or the approximately equivalent price in the currencies of most countries. Single copies U.S. $1.50.

Israel Office of Information with the issue of January 19, 1951, resumes publication of the *Israel Digest,* on a weekly basis, incorporating the Israel Service of Information. Formerly a monthly bulletin, the *Digest* will contain a round-up of news and features about Israel at home, at the United Nations, on the American scene, wherever Israel is in the news. Individual subscriptions are available at $2.50 a year from the Israel Office of Information, 11 East 70th Street, New York 21.

Israel Exploration Journal is published with the assistance of the Jewish Agency, The Department of Organization of the Hebrew University and the Israel Exploration Society. It is published quarterly (January, April, August, October). The first number was issued December, 1950. The main purpose is to communicate to scholars abroad the results of scientific investigations of the Near East as carried out in Israel. Address of the Journal is P.O.B. 1406, Jerusalem, Israel. Subscription $6 a year in the United States, payable to the Bank of Manhattan, 40 Wall Street, New York.

Journal of Atmospheric and Terrestrial Physics is a new British bimonthly, published by Butterworth-Springer Ltd, 4 Bell Yard, Temple Bar, London, W.C.2. Editor in chief is Sir Edward Appleton. American distributors, Academic Press, 125 East 23d Street, New York 10. Subscription £3 10s; $9.50.

The Journal of Finance and Credits, a quarterly, containing articles translated from *Zeitschrift für das gesamte Kreditwesen,* began with a May, 1950, issue. Published by Fritz Knapp, Frankfurt/Main, Wiesenau 40. Subscription DM 8 a year.

Journal of Geological Education is published twice a year by The Association of Geology Teachers. It is edited by William F. Read, Lawrence College, Appleton, Wisconsin. Volume 1, Number 1, Mineralogy Number is dated April 1951. The secretary of the Association is Raymond C. Gutschik, University of Notre Dame. Subscription $2; single issues $1.15.

Journal of Physical & Colloid Chemistry, a Williams and Wilkins publication, will be published by American Chemical Society, Washington 6, beginning January 1952.

Journal of Prosthetic Dentistry is the official organ of The Academy of Denture Prosthetics, The American Denture Society, The Pacific Coast Society of Prosthodontists. It is to be published bimonthly but the first issue is a combination of numbers 1 and 2, January-March 1951. Published by The C. V. Mosby Company, 3207 Washington Boulevard, St Louis 3. Subscription in United States and Pan American countries $9 a volume; Canada and foreign countries $9.50.

Kalāmanjari, a Periodical Devoted to the Arts; edited by William Peiris, is published at 229 Galle Road, Kollupitiya, Colombo, Ceylon. Number one, dated 1950-1951, includes among its many illustrations, seven color plates. Six rupees a copy; in the United States $1.89.

Libri; International Library Review, is issued quarterly. It will bring original papers on all aspects of librarianship, including the history of books and publishing as well as news from the library world, reviews and a current list of new books on bibliography and librarianship. Published by Ejnar Munksgaard, 6 Nörregade, Copenhagen K, Denmark. Subscription 40 Danish crowns (about $6 or 40s).

Life in the Bronx, an illustrated monthly, began with a March 1951 issue. It is published at 2488 Grand Concourse, New York 58. Subscription $2 a year; 25 cents a copy.

Light Craft, a small size monthly, tells of latest developments in manufacture, maintenance, etc. of the small boat. It began with an April 1951 issue. Published by Link House, 24 Store Street, London, W.C.1. Subscription 19 shillings 6d; overseas 20 shillings; single issue 1s 6d.

Literary Amateur, a small size "quarterly publication of selected amateur writing," began with a January 1951 issue. Published by Kenneth L. Rhodes and L. G. Merrell, Morristown, Indiana. Subscription $1 a year; single copy 25 cents.

London Symphony Observer is the monthly journal of the London Symphony Orchestra Club, now in its second volume. Subscription 6 shillings inland; 6s 6d overseas. Address 124 Sloane Street, London, S.W.1.

Magicol is the quarterly publication of Magic Collectors Association, beginning with an August 1950 issue. It is devoted to magic, juggling, ventriloquism and kindred arts. The Association is at 170 Broadway, Suite 714, New York 5. Membership dues are $3.

Mass Education Bulletin, a quarterly, beginning December 1949, is published by Mass Education Clearing House, University of London Institute of Education, Malet Street, W.C.1. Distributed free.

Medical and Biological Illustration, edited by P. Hansell, is a quarterly, beginning with a January 1951 issue, published by the British Medical Association, Tavistock Square, London, W.C.1. It will deal with educational applications and historical aspects as distinct from articles on graphic and photographic technique. Subscription £2 2s a year; $7 in United States; single issue 10s 6d.

The Metaphysician, the Mystic Magazine, edited by Richard J. Palatine, began with a June 1951 issue. It is published by the Palatine Press, 66 New Bond Street, London, W.1. Subscription 13 shillings a year; United States and Canada $3; single issue one shilling.

Métaux et Industries is a new bimonthly devoted to the problems of metals in industry other than corrosion. Published at 32 rue de Maréchal-Joffre, Saint-Germain-en Laye, Seine-et-Oise. Subscription 2000 fr; foreign 3000 fr.

Mid-Atlantic Pharmaceutical News-Review is a new regional drug publication. It will have controlled circulation of 15,540 among drug stores, hospital pharmacies and wholesale drug houses in the Mid-Atlantic region. James S. Talbott is publisher and editor. First issue is tentatively planned for September.—*Printers' Ink.*

Midwest Folklore, published quarterly by Indiana University, Bloomington, Indiana, began with an April 1951 issue. Subscriptions are $3 to libraries, schools, and individuals not members of cooperating regional folklore societies; to members of cooperating regional societies $2.50 if their subscriptions are made thru the treasurers of their respective societies. Single copies $1. Correspondence regarding subscriptions and business matters should be directed to the Business Manager, Professor Jonas Balys, Library, Room 41.

The Millgate, Magazine of the New Age, is a revival of the *Millgate Monthly,* first published in 1905. The new magazine (first number, April 1951) will deal with social, historical, literary, and biographical subjects. Published by the Co-operative Press Limited, Progress House, Chester Road, Manchester 16, England. One shilling a copy.

Mining Engineering and the *Journal of Metals,* published by the American Institute of Mining and Metallurgical Engineers, renamed in January 1949, used volume number "one" thru the year. They changed volume numbers with January 1950 to correspond with the number of the Transactions volumes, containing the technical papers published during the year. Thus, instead of the numbering volume 2 during 1950, *Mining and Engineering* and *Journal of Metals* had volume numbers 187 and 188 respectively. With January 1951 the volume numbers became 190 and 191 respectively. With the third number of the year, March 1951, the volume number for each periodical has again changed and will continue as volume three, the proper numbering if the 1950 volume and the two issues of 1951 had been numbered to succeed volume one of 1949.

Montana Magazine of History is published quarterly by the Historical Society of Montana, Helena. First number, January 1951. Subscription with annual dues $3 a year.

Muslim's Digest, a monthly organ of the International Union of Islamic Service, began publication August 1950. Published by Makki Publications, 100 Brickfield Road, Durban, South Africa. Subscription South Africa and overseas £1 11s 6d; single issue 1s 9d.

NYU Engineering Research Review, an eight page bulletin, has had two issues, one dated December 1950 and the second February 1951. Copies may be obtained by addressing requests to Dr. Harold K. Work, director of the Research Division, New York University, College of Engineering, New York 53.

National Council Outlook is published monthly except July and August by the National Council of the Churches of Christ in the U.S.A., 297 Fourth Avenue, New York 10, the result of a merger of twelve interdenominational organizations. The *Outlook* began publication in January 1951. Subscription $2 a year.

National TV Tuner, scheduled to bow October 15, is a business paper for the television, radio and electronic service business management field. Publisher is Lecture Bureau Publishing, Philadelphia. Initial print order of 15,000 will go to contractors, dealers, technicians and manufacturers.—*Printers' Ink.*

Neurology, Official Journal of the American Academy of Neurology, is a bimonthly, beginning with a January-February 1951 issue. Published by Lancet Publications, Incorporated, 84 South Tenth Street, Minneapolis 3. Subscription $8 a year; single issue $1.50. Outside of the United States $9 and $1.70.

The New Outlook, for Faith and Society, a small size quarterly, began with a Spring 1951 issue. The editor, J. V. Langmead Casserley, places himself in a group he calls Christian Humanists but the periodical is broad in its appeal. Published by A. R. Mowbray and Company, 28 Margaret Street, London, W.1. Subscription 10s 6d a year.

New-Story, a monthly magazine for the short story, will put emphasis on stories of unknown writers who merit publication. A March issue is the first. Published by Gargoyle Press, 48 West 25th Street, New York; United States distributor is Eastern News Company, 165 East 35th Street, New York. Subscription $5 a year; 70 cents a copy. French rates 175 fr a copy. Editorial office is in Paris, 29 Place Dauphine.

New York University Engineering Research Review. See NYU.

News from Behind the Iron Curtain (typewritten) is a digest, collected, translated, analyzed, and distributed by the National Committee for a Free Europe, Inc., Room 301, 350 Fifth Avenue, New York 1. Altho it began with a July 1-15, 1950 issue, the January 1-15, 1951 issue, is the first available.

News Report, beginning with a January-February 1951 issue, is published bimonthly by the National Academy of Sciences-National Research Council. It reports current activities of divisions, boards, committees, and other established groups within the organization, and records news of affiliated societies and developments in the field of international science. It is distributed without charge to organizations and individuals directly associated with the Academy-Research Council; it is available to others at the rate of $2 a year. Address is 2101 Constitution Avenue, Washington 25, D.C.

The Oil Daily, a new morning newspaper, tabloid in size and printed on slick paper, began publication in October. It is to be devoted to news about the petroleum business. Subscription rates for regular mail delivery anywhere in the United States, U.S. Possessions, Canada, South and Central America and Spain will be $25. Address is 616 South Michigan Ave., Chicago 5.

Opera, a pocket-size bimonthly magazine, began with a February 1950 issue. Published by Ballet Publications, 18 Garway Road, London, W.2. United States agent, Wehman Brothers, 712 Broadway, New York 3. Subscription 13 shillings a year; single issue 2 shillings. Subscription in the United States $1.90 a year.

Optica Acta has begun publication; all articles are in either English or French. A sample copy may be obtained from Stanley S. Ballard, Chairman, U. S. A. National Committee of the International Commission of Optics, Tufts College, Medford 55, Massachusetts.

Origin, a Quarterly for the Creative, is a small size magazine, "representing an earnest belief that there is material worth exhibiting from writers who have either no outlet or no sympathetic outlet." Spring, 1951 is the first issue. Published by Cid Corman, 51 Jones Avenue, Dorchester 24, Mass. Subscription $3 a year; Canada $3.50; foreign $4; 75 cents an issue.

Our Public Lands, official periodical of the Bureau of Land Management, Department of the Interior, is a quarterly, semitechnical in nature, featuring articles, pictures, and short items on the objectives and methods of public land management. It will be available on request to individuals and organizations directly concerned with the use and management of Federal land. A limited number of copies has also been authorized for distribution to special graduate students, and to the libraries of schools that include public-land management courses in their curriculum. Sale copies may be obtained from the Superintendent of Documents, Washingon 25, for 15 cents a copy or 60 cents a year. It began publication in April 1951.

Packer and Shipper, the Packaging & Freight Transport Journal for Industry, founded and edited by A. Lesley Whitaker, 29 Baker Street, London, W.1, is a bimonthly, beginning with a January-February 1951 issue. Subscription £1 1s a year.

Peace; a World Review, is issued in various languages. It is published at 15 rue Feydeau, Paris (2ᵉ). The English edition may be obtained from Collet's Subscription Department, 40 Great Russell Street, London W.C.1. or Central Books, 2 Parton Street, London, W.C.1.

The People's Section Bulletin is published monthly, except June, August and December, by the Peoples' Section for the United Nations, 45 East 65th Street, New York 21. Subscription $1 a year.

Personality, Symposia on Topical Issues, a quarterly, began with a January 1951 issue. "Each issue will integrate contributions, on a different subject, from the fields of experimentation, diagnosis, theory and therapy in order to promote understanding among those who are concerned specifically with personality problems." Published by Grune & Stratton, 381 Fourth Avenue, New York 16. Subscription $6 a year; foreign $7; single issues $2.

Philatelic Literature Review, a Guide to Intelligent Stamp Collecting, is the official organ of the Philatelic Library Association, Second series, volume one number one, is dated Fall 1950. Subscription $1 a year; single copies 25 cents. Address P.O. Box 300 Canajoharie, New York.

Philosophical Quarterly, published for the Scots Philosophical Club, beginning in October, the fiftieth anniversary of the Club's founding, will cover the whole field of philosophy with preference to work on metaphysics, ethics, political theory, and the philosophy of art, history, and religion. Published by the University of St Andrews, Scotland. Editor is T. M. Knox. Subscription £1 or $5; single issue $1.

Photographic Science and Technique is a quarterly technical supplement to *PSA Journal,* beginning with a January 1950 issue. It is not available on a separate subscription basis but public libraries in the United States may subscribe to the Journal and all its supplements at the special reduced rate of $3 a year. To individuals $10 a year. Published by Photographic Society of America, 2005 Walnut Street, Philadelphia 3.

The Plant, a monthly, beginning with an April 1950 issue, is published by The Plant Publishing Company, St. Joseph, Michigan. It is devoted to power-engineering-maintenance.

Power has merged into its pages and its editorial staff those of its sister publication, *Operating Engineer,* begun in January 1948

Practical Television & Television Times, raises its price to one shilling with Volume 1, Number 9, February 1951. It is published by George Newnes, Tower House, Southampton Street, Strand, London W.C.2.

Prevention, a monthly, beginning with a September 1950 issue, is "devoted to the conservation of human health." It accepts only classified advertisements of food raised organically. J. I. Rodale is editor, Edward J. Fluck, assistant editor. Published by Rodale Press, Emmaus, Pennsylvania. Subscription $3 a year; single issue 25 cents.

Print Collectors Quarterly, volume 30, number 3 and 4, is included in *Print* volume 6, number 4, December 1950, and volume 7, number 1, February 1951 respectively. *Print* will be published bimonthly after the December number, and after the February number it will have completely absorbed *Print Collectors Quarterly.* —*Bulletin of Bibliography.*

The Private Schoolman is the organ of the National Federation of Private School Associations, 2601 Sixteenth Street, N.W., Washington 9. The May-June 1950 issue is the first. It is a bimonthly at present but a monthly schedule is planned. It is to serve as a journal and forum for private school teachers and administrators. Subscription $2 a year.

Publishers Monthly; Trade Journal of Publishers and Booksellers, beginning with a May issue, is published at 15 Bankim Chatterjee Street, Calcutta 12. Subscription Rs 3 a year; single copy 6 annas.

Radiometer Polarographics is published quarterly by Radiometer, 72, Emdrupvej, Copenhagen NV, Denmark. It is supplied free of charge on application to the publisher. It contains an abstract section, providing an index to articles on polarographic analysis in seventeen chemical journals.

Read Magazine, the Current Magazine for Youth, began with a September 15, 1951 issue. It is a publication of the American Education Press, 11 West 42d Street, New York 18. Subscription 80 cents per student for school year, 18 numbers, on orders of five or more copies sent to one address.

Recurrence, a Quarterly of Rhyme, beginning with a summer, 1950 issue, is published by Variegation Publishing Company, Room 549, 124 West Fourth Street, Los Angeles 13. Subscription $1 a year; 25 cents a copy.

Review Fifty, a Quarterly Synthesis of Poetry and Prose, is a small magazine edited by Edmund Cooper. Address is Bank House, Botesdale, via Diss, Norfolk, England. Subscription five shillings a year; single issue one shilling six pence.

Review of Coal Tar Technology is published twice a year by Coal Tar Research Association, Oxford Road, Gomersal, near Leeds, primarily for use of members, but is available to nonmembers at five shillings an issue in Europe and $1 in the United States. Each issue covers the literature for six months. Volume one (1949) is out of print. Volume 2, part one, covering January-June 1950, was published January, 1951.

Rivista di Ingegneria, an Italian monthly, began publication with a January 1951 issue at Via Cerva 22, Milan, Italy. Subscription in United States $10 a year; single issue $1.

Revista InterAmericana de Bibliografia, a quarterly, beginning with a January-March, 1951 issue, is published by the Columbus Memorial Library, Pan American Union and supersedes its publication *LEA.* It seeks to encourage Latin-American and inter-American bibliographical studies by publishing information about authors, publications and libraries. Orders may be sent to Publications and Promotion Section, Pan American Union, Washington 6, D.C. Subscription $3 a year; single issues 75 cents.

Road International is an illustrated semiannual published by the International Road Federation, 18 South Street, London, W.1. It began with an Autumn 1950 issue and deals with roads and their economic rôle on an international plane. Subscription 7 shillings a year (U.K.); $1 (U.S.); single issues 3s 6d or 50 cents.

Rough Notes becomes with the September issue *Rough Notes and Casualty Insuror*, being combined with the *Casualty Insuror* purchased from the National Underwriter Company.

Royal Military Police Journal, a quarterly, began with a Spring 1950 issue. Published at Royal Military Police Depot and Training Establishment, Inkerman Barracks, Woking, Surrey, England. Subscription 8s 10d a year; 2 shillings an issue.

Schools and Better Living is the new title of *Applied Economics for Better Living*, beginning March 1951, volume 5 number 1. Nine issues a year.

Shakespeare Newsletter, beginning with a March 1951 issue (now out of print), is edited and published by Louis Marder, Brooklyn College. Published monthly September thru June. Address is 749 Franklin D. Roosevelt Drive, New York 9. Subscription $1 a year.

Social Order, a small size monthly, begins a new series with a January 1951 issue. It is published by the Institute of Social Order, 3115 South Grand Boulevard, St. Louis 18. The Institute is a non-profit corporation, composed of Jesuit social scientists. Subscription $4 a year; single copy 40 cents.

Soil Magazine, a monthly, beginning March 1949, edited and published by S. Marian, 24 Union Road, Exeter, England, is distributed by the Biotechnic Press, BCM Biotechnic, London, W.C.1. Subscription 7s 6d or $1; Single issue 9 pence.

Street Lighting, a quarterly, beginning March 1951, is a magazine for officials responsible for lighting America's streets and highways. Published by the National Street and Traffic Safety Lighting Bureau, 1410 Terminal Tower, Cleveland 13.

Swiss Review of World Affairs began in April, 1951, as a monthly publication of the *Neue Zürcher Zeitung*. Publisher in United States is University of Chicago Press, 5750 Ellis Avenue, Chicago 37. Subscription $7 a year; single issues 75 cents.

Technical Reports News Letter is published monthly by United States Department of Commerce, Office of Technical Services, Washington 25.

Telephone Manufacturing Company Technical Journal, an illustrated house organ, published two numbers in 1950. Volume two begins with a March 1951 issue. Address Telephone Manufacturing Company, Hollingsworth Works, Dulwich, London, S.E.21.

Textile Quarterly, beginning January, 1951, is published by H. R. Carter Publications, 2 Marcus Ward Street, Belfast. Seven shillings, six pence an issue.

Thames, with volume three number one, January-March 1951, becomes a quarterly, and to quote the editor "does justice to the finest river in the world." Published by Clerke and Hannah, 50 Bloomsbury Street, London, W.C.1. Subscription 11s a year; single issues 2s 9d.

Vacuum, a Review of Developments in Vacuum Research and Engineering, a quarterly, began with a January 1951 issue. It will include besides contributions from experts, abstracts of vacuum work compiled from world publications. Published by W. Edwards & Company, Worsley Bridge Road, Lower Sydenham, London, S.E. 26. Subscription £1 10s a year; United States $4.20; single copies (back issues) 8s 6d ($1.20).

Valor, official monthly organ of the American Federation of the Physically Handicapped, began with a June 1950 issue. Federation headquarters, National Press Building, Washington 4, D.C. Subscription $2.50 a year; single issue 25 cents.

Vetus Testamentum, a quarterly, published by The International Organization of Old Testament Scholars, began with a January 1951 issue. The publisher is E. J. Brill, Oude Rijn, Leiden. The Netherlands. Subscription £2 a year.

Vision is a Spanish language fortnightly, published in Panama City, 33 Avenida Central. It reports world affairs, with emphasis on matters of interest to Latin America. It is sponsored by a group of United States and Latin American business men and distributed by air to 6000 newsstands in Latin America. 50,000 initial circulation guaranteed. Subscription $5 a year. Address 231 East 51st Street, New York 22.

The Visual Analyst is published by the Pacific University, College of Optometry. Volume one, number one, is dated December 1949; Volume one, number four is dated April 1951. Address is Forest Grove, Oregon.

The Voice of Ahinsa (non-violence) is the bimonthly organ of the World Jain Mission Society, Aliganj, U.P. India. Subscription (inland) RS 6; foreign 10 shillings; single issue RS 1.

The Voice of Youth, the Poetry Society's Junior Quarterly, beginning with a Spring 1951 issue, is intended for children and those in their teens. Published by the Society, 33 Portman Square, London, W.1. One shilling and six pence an issue.

WUS in Action, a typewritten bulletin of World University Service, 13, rue Calvin, Geneva, is numbered volume one number one, January 1951.

British Department of Scientific and Industrial Research has announced that *Water Pollution Abstracts,* a monthly publication prepared by the Department's Water Pollution Research Staff, is available on a single-copy or annual subscription basis. *Water Pollution Abstracts* is obtainable in the United States, from the British Information Services, 30 Rockefeller Plaza, New York 20. Subscription $3.36; 30 cents a copy.

The *Weekly Underwriter* has purchased from Roger W. Budlong and Associates, Inc., *The Insurance Buyer,* which will hereafter appear as a monthly department of *Weekly Underwriter.*

Westminster Teacher, a Teaching Guide for Uniform Lessons and for Leaders of all Adult Classes, is published quarterly by the Publication Division of the Board of Christian Education of the Presbyterian Church in the United States, 1009 Sloan Street, Crawfordsville, Indiana. Subscription $2.25 a year.

Work is the organ of Histadrut, the General Federation of Jewish Labour in Israel, P.O. box 303 Tel Aviv, Israel. September-October issue is volume one, number four. Single issue in Israel 125 pruta; in Great Britain one shilling; in the United States 25 cents.

World University Service in Action. See WUS in Action

Writers' Markets & Methods, a 33 year old publication, begins a new series with a June 1951 issue. The editor says, "Our aim is to give practical, down-to-earth, hard-hitting articles on the craft of writing as it is related to the facts about selling." Published monthly by M & M Publishing Company, 30 Horizon, Venice, California. Subscription $2 a year; single copies 25 cents.

The Zionist Quarterly, organ of the Zionist Organization of America, began with a summer 1951 issue. Harold P. Manson is editor. On the Editorial Board are: Philip S. Bernstein, Louis Lipsky, Marvin Lowenthal, Samuel Margoshes, Emanuel Neumann, Abba Hillel Silver. The address is 41 East 42d Street, New York 17. Subscription $3 a year; $1 a single copy.

Your Dog, the Magazine for the American Dog-owning Family, a bimonthly beginning January 1951, will be of interest not only to dog owners but to the many who love other people's dogs. Published by The Telegraph Press, Cameron and Kelker Streets, Harrisburg, Pennsylvania. Subscription $3 a year; single copies 25 cents.

List of Periodicals Indexed

A M A Archives Ind Hygiene & Occup Med—A.M.A. Archives of Industrial Hygiene and Occupational Medicine. $8; single numbers $1. m American Medical Association, 535 N Dearborn St, Chicago 10 (2v:Ja,Jl v3-4;i-s)

Published as Journal of Industrial Hygiene and Toxicology until January 1950; as Archives of Industrial Hygiene and Occupational Medicine, January 1950-October 1950

A S M E Trans—Transactions of the American Society of Mechanical Engineers. $12; single numbers $1.50. m (except Mr, Je, S, D) American Society of Mechanical Engineers, 29 W 39th St, New York 18 (1v:Ja v73:i-l)

$6 to members and affiliates

Acoustical Soc Am J—Journal of the Acoustical Society of America. $10; single numbers $2. bi-m American Institute of Physics, 57 E 55th St, New York 22 (1v:Ja v23;i-s)

Adv Agency—Advertising Agency and Advertising and Selling. $4; single numbers 35c. m Moore Pub. Co, Inc, 48 W 38th St, New York 18 (1v:Ja v44;i-l)

Formerly Advertising and Selling; name changed May, 1949

Adv & Sell. See Adv Agency

Advanced Management—Advanced Management $8; single numbers $1. m Society for the Advancement of Management, Inc, 411 Fifth Av, New York 16 (1v:Ja v16;i-s)

Formerly Society for the Advancement of Management Journal, a bi-monthly

Changed from quarterly to monthly beginning December, 1949

Aero Digest—Aero Digest. $3; single numbers 50c. m Aeronautical Digest Pub. Corp, 515 Madison Av, New York 22 (2v:Ja,Jl v62-63; i-r)

Annual Directory issue March $1

Aeronautical Eng R—Aeronautical Engineering Review. $3; single numbers 50c. m Institute of the Aeronautical Sciences, Inc, 2 E 64th St, New York 21 (1v:Ja v10;i-s)

Formerly Journal of the Aeronautical Sciences, Aeronautical Review Section

Air Affairs—Air Affairs. $10; single numbers $3. q International Society of Air Affairs, 1720 M St, N.W, Washington 6, D.C. (1v:Autumn v3;i-none)

Air Transport. See Aviation W

Am Assn of Textile Chemists and Colorists. Proceedings. Published in American Dyestuff Reporter

Am Assn Pet Geologists Bul—Bulletin of the American Association of Petroleum Geologists. $15; single numbers $1.50. (F, Mr, Je each $3) m American Association of Petroleum Geologists, Inc, Box 979, Tulsa 1, Oklahoma (1v:Ja v35;i-s)

Am Bankers Assn J. See Banking

Am Bld—American Builder. $3; single numbers 50c. m Simmons-Boardman Pub. Corp, 30 Church St, New York 7 (1v:Ja v73;i-none)

Am Bsns—American Business. $4. single numbers 35c. m Dartnell Publications, Inc, 4660 Ravenswood Av, Chicago 40 (1v:Ja v21;i-none)

Am Cer Soc Bul—Bulletin of the American Ceramic Society. $6; single numbers 50c. m American Ceramic Society, 2525 N High St, Columbus 2, Ohio (1v:Ja v30;i-s)

Ceramic Abstracts, formerly published as part of the Bulletin, is included in American Ceramic Society Journal beginning January 1946

Am Cer Soc J—Journal of the American Ceramic Society; Ceramic Abstracts. $14; single numbers $1.50. m American Ceramic Society, 2525 N High St, Columbus 2, Ohio (1v:Ja v34;i-s)

Am Chem Soc J—Journal of the American Chemical Society. $14; single numbers $1. m American Chemical Society, 1155 16th St, N.W, Washington 6, D.C. (1v:Ja v73;i-s)

Published semimonthly beginning January 1952

Am Concrete Inst J—Journal of the American Concrete Institute. $12; single numbers $1.50. m (except Jl and Ag) American Concrete Institute, 18263 W. McNichols Road, Detroit 19, Mich. (1v:S v23;i-s)

Am Dyestuff Rep—American Dyestuff Reporter Incorporating Textile Colorist and Converter. $5. bi-w Howes Pub. Co, 44 E 23d St, New York 10 (1v:Ja v40;i-s)

Includes Proceedings of American association of textile chemists and colorists

Am Gas Assn Mo—American Gas Association Monthly. $3. m (bi-m Jl-Ag) American Gas Assn, Inc, 420 Lexington Av, New York 17 (1v:Ja v33;i-s)

Am Gas Assn Proc—American Gas Association Proceedings. Annual convention proceedings. American Gas Association, Inc, 420 Lexington Av, New York (32d annual convention, 1951)

Am Gas J—American Gas Journal. $3; single numbers 50c. m American Gas Journal, Inc, 205 E 42d St, New York 17 (2v:Ja,Jl v174-175; i-l)

Two issues in August. The second issue is American Gas Handbook

Am Inst Chem Eng Trans—American Institute of Chemical Engineers. Transactions. $10; single numbers $2. bi-m American Institute of Chemical Engineers, 50 E 41st St, New York 17 (1v:F v42;i-s)

Published as section of Chemical Engineering Progress beginning January, 1947

Am Inst E E J. See Elec Eng

Am Inst of Mining and Metallurgical Engineers. See Min Eng

Am J Sci—American Journal of Science. $8; single numbers 75c. m American Journal of Science, Sterling Tower, Yale University, New Haven, Conn. (1v:Ja v249;i-s)

Am Mach—American Machinist. $5; single numbers 50c. bi-w McGraw-Hill Pub. Co, Inc, 330 W 42d St, New York 36 (1v:Ja v95;i-r)

38th Annual Review number, January 22, price $1

Am Pet Inst Proc—American Petroleum Institute Proceedings. 50 W 50th St, New York

Published annually in 5 sections

Publications of societies, institutions, etc. are listed under the names of the organizations. i-l=index sent loose; i-r=index sent upon request; i-s=index stitched in volume.

Month abbreviation followed by volume number=Month in which new volume begins and the number of the new volume beginning in 1951.

Am Soc C E Proc—Proceedings of American Society of Civil Engineers; single numbers 50c. m American Society of Civil Engineers, 33 W 39th St, New York 18 (1v:Ja v77;i-none)

Publication as monthly journal discontinued with the January 1950 issue. Published thereafter [volume 76] as separate papers. Annual subscription: Nonmembers $10; Libraries $5

Am Soc for Metals Trans—Transactions of the American Society for Metals, v43 '51 American Society for Metals, 7301 Euclid Av, Cleveland 3, Ohio

Volume for 1951 indexed in 1952

Am Soc Heat & V E J. See Heating-Piping

Am Soc M E J. See Mech Eng

Am Soc M E Trans. See A S M E Trans

Am Soc T M Proc—American Society for Testing Materials. Proceedings. annual American Society for Testing Materials, 1916 Race St, Philadelphia 3 (1v:v50)

Volume 50 indexed in 1952

Am Stat Assn J—Journal of the American Statistical Association. $8. q American Statistical Association, 1108 16th St, N.W, Washington 6, D.C. (1v:Mr v46;i-l)

Am Water Works Assn J—Journal of the American Water Works Association. $7; single numbers 75c, to members 50c. m American Water Works Assn, 521 Fifth Av, New York 17 (1v:Ja v43;i-s)

Anal Chem—Analytical Chemistry. $4; single numbers 50c. m American Chemical Society, 1155 16th st, N.W, Washington 6, D.C. (1v:Ja v23;i-s)

Formerly Industrial and Engineering Chemistry Analytical Edition

Combination with Industrial and Engineering Chemistry $8

Ann Am Acad—Annals of the American Academy of Political and Social Science. $5; single numbers $2. bi-m American Academy of Political and Social Science, 3817 Spruce St, Philadelphia 4 (6v;Ja,Mr,My,Jl,S,N v273-278; i-s)

Published also in cloth $7.50; single numbers $2.50

Arch Forum—Architectural Forum. The Magazine of Building. $5.50; single numbers $2. m Time, Inc, 9 Rockefeller Plaza, New York 20 (2v:Ja,Jl v94-95;i-r)

Now Magazine of Building, Architectural Forum and Magazine of Building, House & Home beginning 1952

Arch Rec—Architectural Record. $4.50; single numbers $2. m F. W. Dodge Corp, 119 W 40th St, New York 18 (2v:Ja,Jl v109-110;i-s)

Archives Ind Hygiene & Occup Med. See A M A Archives Ind Hygiene & Occup Med

Aslib Proc—Aslib Proceedings. 40s; single numbers 10s 6d. 4 times a year Aslib, 4 Place Gate, London, W. 8 (1v:F v3;i-l)

Formerly Association of Special Libraries and Information Bureaux Proceedings; changed January, 1949

Assn of Sp Lib & Inf Bur Proc. See Aslib Proc

Automobile Eng—The Automobile Engineer. £2 11s 6d; U.S. $8; Canada $7.50; single numbers 3s 6d. m Iliffe & Sons, Ltd, Dorset House, Stamford St, London, S.E. 1 (iv:Ja v41;i-r; cost 6d)

Annual extra number published in November

Automotive Ind—Automotive Industries. $2; single numbers 25c. s-m Chilton Company, Chestnut & 56th Sts, Philadelphia 39 (2v:Ja, Jl v104-105;i-none)

Title was Automotive & Aviation Industries from February 1, 1942 thru June 15, 1947

Statistical issue, March 15, price $1

Aviation W—Aviation Week. $6; single numbers 50c. w McGraw-Hill Pub. Co, Inc, 330 W 42d St, New York 36 (2v Ja,Jl v54-55;i-none)

Merger of Aviation and Aviation News beginning July 7, 1947

Air Transport incorporated April 5, 1948

Bankers Mo—Bankers Monthly. $5; single numbers 50c. m Rand McNally & Co, 536 South Clark St, Chicago 5 (1v:Ja v68;i-none)

Formerly Rand McNally Bankers Monthly

Banking—Banking; Journal of the American Bankers Association. $4.50; single numbers 50c. m American Bankers Association, 12 E 36th St, New York 16 (1v:Jl v44;i-s)

Formerly American Bankers Association Journal

Barron's—Barron's. $15; single numbers 35c. w Barron's Pub. Co. Inc, 40 New St, New York 4 (1v:Ja v31;i-r)

Bell System Tech J—Bell System Technical Journal. $1.50; single numbers 50c. q American Telephone and Telegraph Co, 195 Broadway, New York 7 (1v:Ja v30;i-l)

Blast F & Steel Pl—Blast Furnace and Steel Plant. $2.50; single numbers 50c. January and August numbers $1 ea. m Steel Publications, Inc, 4 Smithfield St, Pittsburgh 30, Pa. (1v: Ja v39;i-s)

Brick & Clay Rec—Brick and Clay Record. $5; single numbers 50c. m Industrial Publications, Inc, 5 So. Wabash Av, Chicago 3 (2v: Ja,Jl v118-119;i-s)

Bsns W—Business Week. $6; single numbers 25c. w McGraw-Hill Pub. Co, Inc, 330 W 42d St, New York 36 (without v no;i-none)

Burroughs Clearing House—Burroughs Clearing House. m Burroughs Adding Machine Co, Second Blvd. and Burroughs Av, Detroit 32, Mich. (1v:O v36;i-none)

Bus Transportation—Bus Transportation. $5; single numbers 50c. m McGraw-Hill Pub. Co, Inc, 330 W 42d St, New York 36 (1v:Ja v30; i-r)

CAA J—Civil Aeronautics Administration Journal; issued by the Civil Aeronautics Administration. 75c. m Superintendent of Documents, Washington 25, D.C. (1v:Ja v12;i-s)

Formerly Civil Aeronautics Journal; name changed with April 15, 1945 number

Can Chem & Process Ind—Canadian Chemistry and Process Industries. $5; single numbers 50c. m Westman Publications, Ltd, 137 Wellington St, West, Toronto, Ont. 1 (1v:Ja v35; i-r)

Formerly Canadian Chemistry and Metallurgy

Name changed to Canadian Chemical Processing, June, 1951

Can Chem Process—Canadian Chemical Processing. $5; single numbers 50c. m Westman Publications, Ltd, 137 Wellington St, West Toronto, Ont. 1 (1v:Ja v35;i-r)

Can Min J—Canadian Mining Journal. $7.50; single numbers $1. m National Business Publications, Ltd, Gardenvale, Que. (1v:Ja v72;i-[illegible])

Cer Ind—Ceramic Industry. $4; single numbers 50c. m Industrial Publications, Inc, 5 So. Wabash Av, Chicago 3 (2v:Ja,Jl v56-57;i-s)

Price of January issue $2

Chem Age (Lond)—The Chemical Age. 35s; single numbers 1s. w Benn Brothers, Ltd, Bouverie House, 154 Fleet St, London, E.C. 4 (2v:Ja,Jl v64-65;i-r)

Chem & Eng N—Chemical and Engineering News. $6; single numbers 15c. w American Chemical Society, 1155 16th St, N.W. Washington 6, D.C. (1v:Ja v29;i-s)

Chem & Ind—Chemistry and Industry. £4. single numbers 2s 6d. w Society of Chemical Industry, 56 Victoria St, London, S.W. 1 (without v no;i-)

Buyers' Guide published as supplement to December 2, 1950

Supplementary issue published December 30, 1950

Chem & Met Eng. See Chem Eng

Chem Eng—Chemical Engineering with Chemical and Metallurgical Engineering. $3; single numbers 50c. m McGraw-Hill Pub. Co. Inc, 330 W 42d St, New York 36 (1v:Ja v58;i-s)

Chem Eng Prog—Chemical Engineering Progress. $6; single numbers 75c. m American Institute of Chemical Engineers, 120 E 41st St, New York 17 (1v:Ja v47;i-s)

Chem Ind—Chemical Industries. $5; single numbers 60c. m Maclean-Hunter Pub. Corp, 309 W Jackson Blvd, Chicago 6; 522 5th Av, New York 18 (2v:Ja,Jl v66-67;i-r)

Name changed to Chemical Industries Week January 20, 1951

Chem Ind W—Chemical Industries Week. $5; single numbers 35c. w McGraw-Hill Pub. Co, Inc. 330 W 42d St, New York 18

Name changed to Chemical Week June 2, 1951

Chem R—Chemical Reviews. $9 ($7 to members of American Chemical Society) bi-m Williams & Wilkins Co, Mount Royal and Guilford Avs, Baltimore 2, Md. (2v:F,Ag v48-49;i-s)

Chem Soc J—Journal of the Chemical Society. £6. m The Chemical Society, Burlington House, Piccadilly, London, W. 1 (without v no;i-l)

Chem W—Chemical Week. $5; single numbers 35c. w McGraw-Hill Pub. Co, Inc, 330 W 42d St, New York 36 (2v:Ja,Jl v68-69;i-r)

Formerly Chemical Industries Week

Published twice in November; second issue, Buyers' Guide issue $2.50

Civil Eng—Civil Engineering, the Magazine of Engineered Construction. $5; single numbers 50c. m American Society of Civil Engineers, 33 W 39th St, New York 18 (1v:Ja v21;i-r)

Coal Age—Coal Age. $5; single numbers 50c. m McGraw-Hill Pub. Co, Inc, 330 W 42d St, New York 36 (1v:Ja v56:i-r)

Comm & Fin Chr—Commercial & Financial Chronicle. $45; single numbers Monday ed. 90c, Thursday ed. 40c. s-w William B. Dana Co, 25 Park Pl, New York 7 (2v:Ja,Jl v173-174;i-l)

Annual Review and Outlook issue, January 18 in two sections $1.50

Communications—Communications. $2; single numbers 25c. m Bryan Davis Pub. Co. Inc, 52 Vanderbilt Av, New York 17 (1v:Ja v29; i-s)

Name changed to Tele-Vision Engineering, January, 1950

Comp Air Mag—Compressed Air Magazine. $3; single numbers 35c. m Compressed Air Magazine Co, Phillipsburg, New Jersey (1v:Ja v56; i-r)

Concrete—Concrete. $3; single numbers 40c. m Concrete Pub. Corp, Daily News Plaza, 400 W Madison St, Chicago 6 (1v:Ja v59;i-s)

Constr Methods—Construction Methods and Equipment. $2; single numbers 35c. m McGraw-Hill Pub. Co, Inc, 330 W 42d St, New York 36 (1v:Ja v33;i-none)

Consumers Res Bul—Consumers' Research Bulletin (Not Confidential). $3; single numbers 30c. m Consumers' Research, Inc, Washington, New Jersey (2v:Ja,Jl v27-28;i-s)

Credit & Fin Management—Credit and Financial Management. $3; single numbers 25c. m National Association of Credit Men, 33 S Clark St, Room 1538, Chicago 3 (1v:Ja v53; i-s)

Diesel Power—Diesel Power and Diesel Transportation. $3; single numbers 35c. m Diesel Publications, Inc, 192 Lexington Av, New York 16 (1v:Ja v29;i-s)

Dom Eng—Domestic Engineering. $5; single numbers 50c. m Domestic Engineering Co, 1801 Prairie Av, Chicago 16 (2v:Ja,Jl v177-178;i-none)

Dun's R—Dun's Review. $4; single numbers 35c. m Dun & Bradstreet, Inc, 99 Church St, New York 8 (1v:Ja v59;i-r)

Formerly Dun & Bradstreet Monthly Review

East Underw—Eastern Underwriter. $5; single numbers 25c. w Eastern Underwriter Co, 41 Maiden Lane, New York 38 (1v:Ja v52;i-none)

Econ Geol—Economic Geology and the Bulletin of the Society of Economic Geologists. $5; single numbers $1. s-q Economic Geology Pub. Co, M. M. Leighton, Business Mgr, Urbana, Ill. (1v:Ja v46;i-s)

Economist—Economist. £3; single numbers 1s. w Economist Newspaper, Ltd, 22 Ryder St, St James's, London, S.W. 1 (2v:Ja,Jl v160-161;i-l)

Ed & Pub—Editor & Publisher, the Fourth Estate. $5; single numbers 15c. w Editor & Publisher, 1475 Broadway, New York 18 (1v: Ja v84;i-r) Bound in two volumes a year; cost $2.50 each or $5 a year

Additional issue published in January; International Year Book Number, included in annual subscription

Edison Elec Inst Bul—Edison Electric Institute Bulletin. $2. m Edison Electric Institute, 420 Lexington Av, New York 17 (1v:Ja v19;i-l)

Elec Com—Electrical Communication. $2; single numbers 50c. q International Telephone and Telegraph Corp, 67 Broad St, New York 4 (1v:Mr v28;i-l)

Elec Eng—Electrical Engineering. $12; single numbers $1.50. m American Institute of Electrical Engineers, 500 5th Av, New York 36 (1v:Ja v70;i-l)

Elec R (Lond)—Electrical Review. £3 6d; U.S. and Canada $11; single numbers 1s. w Electrical Review, Dorset House, Stamford St, London, S.E. 1 (2v:Ja,Jl v148-149;i-r)

Elec West—Electrical West. $2; single numbers 25c. m McGraw-Hill Co. of California, 68 Post St, San Francisco 4, Calif. (2v:Ja,Jl v106-107;i-r)

Elec World—Electrical World. $6; single numbers 35c. w McGraw-Hill Pub. Co, Inc, 330 W 42d St, New York 36 (2v:Ja,Jl v135-136;i-r)

Regular issue alternates with a News Edition

Electrician—Electrician. 50s; single numbers 1s. w Benn Bros, Ltd, Bouverie House, 154 Fleet St, London, E.C. 4 (2v:Ja,Jl v146-147; i-l)

Electrochem Soc J—Journal of Electrochemical Society. $12; single numbers $1.25. m Electrochemical Society, 235 W. 102d St, New York 25 (1v:Ja v98;i-s)

Preprints replaced by Journal (monthly) January 1948

Electronics—Electronics. $6; single numbers 75c. m McGraw-Hill Pub. Co, Inc, 330 W 42d St, New York 36 (1v:Ja v24;i-s)

Price of Annual Buyers' Guide issue $2

Eng & Min J—Engineering and Mining Journal. $3; single numbers 50c. m McGraw-Hill Pub. Co, Inc, 330 W 42d St, New York 36 (1v:Ja v152;i-s)

Eng Educ. See J Eng Educ

Eng N—Engineering News-Record $6; single numbers 35c. w McGraw-Hill Pub. Co, Inc, 330 W 42d St, New York 36 (2v:Ja,Jl v146-147;i-r)

Engineer—Engineer. £5 10s; Canadian subs £5 5s; single numbers 2s: w Engineer, 28, Essex St, Strand, London, W.C. 2 (2v:Ja,Jl v191-192;i-l)

Engineering—Engineering. £5 10s; Canadian subs £5 5s; single numbers 2s 3d. w Engineering, Ltd, 35 and 36 Bedford St, Strand, London, W.C. 2 (2v:Ja,Jl v171-172;i-r)

Explosives Eng—The Explosives Engineer. $1.50; single numbers 30c. bi-m Explosives Engineer, 913 Delaware Trust Bldg, Wilmington 99, Delaware (1v:Ja v29;i-l)

Factory Management—Factory Management and Maintenance. $3; single numbers 50c. m McGraw-Hill Pub. Co. Inc, 330 W 42d St, New York 36 (1v:Ja v109;i-r)

Fed Res Bul—Federal Reserve Bulletin. $2; single numbers 20c (to non-members). m Board of Governors of the Federal Reserve System, Constitution Av at 20th St, Washington 25, D.C. (1v:Ja v37;i-s)

Food Eng—Food Engineering. $2; single numbers 35c. m McGraw-Hill Pub. Co, Inc, 330 W 42d St, New York 36 (1v:Ja v23;i-s)

Food Ind—Food Industries. $2; single numbers 35c. m McGraw-Hill Pub. Co, Inc, 330 W 42d St, New York 18 (1v:Ja v23;i-s)

Name changed to Food Engineering April, 1951

For Comm W—Foreign Commerce Weekly. Issued by U.S. Department of Commerce. $9; single numbers 20c. w Superintendent of Documents, Washington 25, D.C. (4v: 13 issues in each v42-45;i-none)

Fortune—Fortune. $12.50; single numbers $1.25. m Time, Inc, Kittredge Building, Denver 2 (2v:Ja,Jl v43-44;i-r)

Foundry—Foundry. $3; single numbers 50c. m Penton Pub. Co, Penton Bldg, Cleveland 13, O. (1v:Ja v79;i-r)

Franklin Inst J—Journal of the Franklin Institute. $10; single numbers $1. m Franklin Institute, Benjamin Franklin Parkway at 20th St, Philadelphia 3 (2v:Ja,Jl v251-252;i-s)

Gas Age—Gas Age combining Natural Gas, Gas Age, Gas Record. $4; single numbers 50c. bi-w Moore Pub. Co, Inc, 48 W 38th St, New York 18 (2v:Ja,Jl v107-108;i-r)

Gen Elec R—General Electric Review. $4; single numbers 40c. m General Electric Co, 1 River Road, Schenectady 5, N.Y. (1v:Ja v54;i-l)

Geol Soc Bul—Bulletin of the Geological Society of America. $15. m Geological Society of America, H. R. Aldrich, sec, 419 W 117th St, New York 27 (1v:Ja v62;i-s)

Geol Soc Proc—Proceedings volume of Geological Society of America for 1950. Geological Society of America, H. R. Aldrich, sec, 419 W 117th St, New York 27

Glass Ind—Glass Industry. $4; single numbers 40c. m Ogden Pub. Co, 55 W 42d St, New York 18 (1v;Ja v32;i-s)

Harvard Bsns R—Harvard Business Review. $6; single numbers $1.50. bi-m Harvard Business Review, Gallatin House, Soldiers Field, Boston 63 (1v:Ja v29;i-s)

Changed from quarterly to bi-monthly beginning January 1948

Heat & Ven—Heating and Ventilating. $3; single numbers 30c. m Industrial Press, 148 Lafayette St, New York 13 (1v:Ja v48;i-none)

Heating-Piping—Heating, Piping and Air Conditioning. $3; single numbers 35c. m Keeney Pub. Co, 6 N Michigan Av, Chicago 2 (1v:Ja v23;i-r)

Includes American Society of Heating and Ventilating Engineers Journal section

Directory and show number January, $1.50

Ill U Eng Exp Sta Bul—Illinois University Engineering Experiment Station. Bulletin. irr Univ. of Ill, Urbana

Ill U Eng Exp Sta Circ—Illinois University Engineering Experiments Station. Circular. irr Univ. of Ill, Urbana

Illum Eng—Illuminating Engineering, The Journal of the Illuminating Engineering Society. $10; single numbers $1.50. m Illuminating Engineering Society, 1860 Broadway, New York 23 (1v:Ja v46;i-l)

Published every month beginning January, 1949

Ind & Eng Chem—Industrial and Engineering Chemistry. $5; single numbers 75c. m American Chemical Society, 1155 16th St, N.W, Washington 6, D.C. (1v:Ja v43;i-s)

Ind & Eng Chem Anal ed. See Anal Chem

Ind Marketing—Industrial Marketing. $3; single numbers 25c. m (s-m during Je) Advertising Publications, Inc, 200 East Illinois St, Chicago 11 (1v:Ja v36;i-s)

June 25th issue not sold separately

Ind Med—Industrial Medicine and Surgery. $6; single numbers 75c. m Industrial Medicine Pub. Co, 605 North Michigan Av, Chicago 11 (1v:Ja v20;i-s)

Ind Stand—Industrial Standardization. $4; single numbers 35c. m American Standards Association, 70 E 45th St, New York 17 (1v:Ja v19;i-l)

Published bi-monthly from November 1947 to June 1948

Name changed to Standardization beginning January, 1949

India Rubber World—India Rubber World. $3; single numbers 35c. m Bill Brothers Publishing Corporation, 386 4th Av, New York 16 (2v:Ap,O v124-125;i-s)

Inland Ptr—Inland Printer. $5; single numbers 45c. m Maclean-Hunter Pub. Corp, 309 W Jackson Blvd, Chicago 6; 522 5th Av, New York 18 (2v:Ap,O v127-128;i-none)

Inst E E J. See Inst E E Proc

Inst E E Proc—Proceedings of the Institution of Electrical Engineers. £3 13s 6d; single numbers pt 1 6s; pt 2 7s 6d; pt 3 7s 6d. The Institution, Savoy Place, Victoria Embankment, London, W.C. 2 (1v:Ja v98;i-l)

Published in 3 parts: pt 1, General, bi-m (Ja); pt 2, Power Engineering, bi-m (F); pt 3, Radio and Communication Engineering, bi-m (Ja)

Inst Mech Eng J & Proc—Institution of Mechanical Engineers. Journal and Proceedings. Institution of Mechanical Engineers, Storey's Gate, St. James's Park, London, S.W. 1

Published separately beginning 1950. Proceedings quarterly; Journal monthly (except July and August)

Inst Mech Eng Proc—Institution of Mechanical Engineers. Proceedings. q Institution of Mechanical Engineers, Storey's Gate, St. James's Park, London, S.W. 1 (1v:v164;i-s)

Inst Pet J—Journal of the Institute of Petroleum. £4 14s 6d; single numbers 10s. m Institute of Petroleum, 26 Portland Pl, London, W. 1 (1v:Ja v37;i-s)

Formerly Journal of the Institution of Petroleum Technologists

Inst Radio Eng Proc—Proceedings of the Institute of Radio Engineers. $18; single numbers $2.25. m Institute of Radio Engineers, Inc, 1 East 79th St, New York 21 (1v:Ja v39;i-s)

Instruments—Instruments, the Magazine of Measurement, Inspection, Testing, Control. $4. m Instruments Pub. Co. Inc, 921 Ridge Av, Pittsburgh 12 (1v:Ja v24;i-s)

Int Labour R—International Labour Review. $6; single numbers 60c. m International Labour Office, 1825 Jefferson Pl, Washington 6, D.C. (2v:Ja,Jl v63-64;i-s)

August-September, November-December are combined numbers

Iron Age—Iron Age. $8; single numbers 35c. w Chilton Co, Inc, Chestnut & 56th Sts, Philadelphia 39; 100 E 42d St, New York 17 (2v:Ja,Jl v167-168;i-r)

Iron & Steel Eng—Iron and Steel Engineer. $7.50; single numbers $1.50. m Association of Iron and Steel Engineers, 1010 Empire Bldg, Pittsburgh 22 (1v:Ja v28;i-s)

Iron & Steel Inst J—Journal of the Iron and Steel Institute. £5; single numbers 10s. m Iron and Steel Institute, 4, Grosvenor Gardens, London, S.W. 1 (3v:Ja,My,S v167-169; i-r)

J Account—Journal of Accountancy. $7; single numbers 75c. m American Institute Pub. Co, Inc, 270 Madison Av, New York 16 (2v:Ja,Jl v91-92;i-s)

J Aeronautical Sci—Journal of the Aeronautical Sciences. $12; single numbers $1.50. m Institute of the Aeronautical Sciences, Inc, 2 E 64th St, New York 21 (1v:Ja v18;i-s)

Review section now published as Aeronautical Engineering Review

J Ap Chem—Journal of Applied Chemistry. £2 10s; single numbers 5s. m Society of Chemical Industry, 56 Victoria St, London, S.W. 1 (1v:Ja v1;i-s)

Formerly Society of Chemical Industry Journal; name changed January, 1951

J Ap Phys—Journal of Applied Physics. $12; single numbers $1. m American Institute of Physics, 57 E 55th St, New York 22 (1v:Ja v22;i-s)

$10 to members and associate members of the American Institute of Physics

J Bsns—Journal of Business of the University of Chicago. $6; single numbers $1.75. q University of Chicago Press, 5750 Ellis Av, Chicago 37 (1v:Ja v24;i-s)

J Chem Educ—Journal of Chemical Education. $3.50; single numbers 50c. m Journal of Chemical Education, 20th and Northampton Sts, Easton, Pa. (1v:Ja v28;i-s)

J Chem Phys—Journal of Chemical Physics. $15; single numbers $1.25. m American Institute of Physics, 57 E 55th St, New York 22 (1v:Ja v19;i-s)

J Doc—Journal of Documentation. 40s; single numbers 10s. q Aslib, 4 Gate Place, London, W. 8 (1v:Mr v7;i-l)

J Eng Educ—Journal of Engineering Education. $5; single numbers $1. m (except Jl and Ag) American Society for Engineering Education, A. B. Bronwell, Sec, Northwestern University, Evanston, Ill. (1v:S v42;i-s)

J Fr Inst. See Franklin Inst J

J Ind Hygiene—The Journal of Industrial Hygiene and Toxicology. $8; single numbers $1.50. bi-m Williams & Wilkins Co, Mt Royal & Guilford Avs, Baltimore 2, Md. (1v:Ja v31; i-l)
After January 1950, appeared as Archives of Industrial Hygiene and Occupational Medicine; now A.M.A. Archives, q.v.

J Land & Pub Util Econ. See Land Econ

J Marketing—The Journal of Marketing. $4. q Thomas J. McGann, Business manager, Iona College, New Rochelle, N.Y. (1v:Jl v16; i-l)
Publication of the American Marketing Association

J Metals—Journal of Metals. $8; single numbers 75c. m American Institute of Mining and Metallurgical Engineers, Inc, 29 W 39th St, New York 18 (1v:Mr v3;i-l)
Special issues $1.50
Formerly Metals Technology; name changed January, 1949
Volume number changed to 188 January 1950, to correspond with Transactions. Volume number does not run consecutively; January and February numbers 1951, issued as volume 191, numbers 1 and 2. March issue begins new volume number, volume 3, no. 3

J Phys & Colloid Chem—The Journal of Physical and Colloid Chemistry. $10; single numbers $1.25. m except (Jl, Ag and S) Williams & Wilkins Co, Mt. Royal & Guilford Avs, Baltimore 2, Md. (1v:Ja v55;i-s)
Changed from bi-monthly to monthly beginning January, 1948

J Res Nat Bur Stand—Journal of Research of the National Bureau of Standards. $5.50. m Superintendent of Documents, Washington 25, D.C. (2v:Ja,Jl v46-47;i-s)

J Retailing—Journal of Retailing. $2; single numbers 60c. q New York University School of Retailing, 100 Washington Square East, New York 3 (1v:Spring v27;i-r)
Index published every two years

J Sci Instr—Journal of Scientific Instruments. £4 ($11.50 in U.S.); single numbers 8s ($1.15 in U.S.). m Institute of Physics, 47 Belgrave Square, London, S.W. 1 (1v:Ja v28;i-s)

Land Econ—Land Economics. $6; single numbers $2. q Sterling Hall, University of Wisconsin, Madison 6, Wis. (1v:F v27;i-s)
Formerly Journal of Land and Public Utility Economics; name changed February 1948

Life Ins Courant—Life Insurance Courant. $4; single numbers 50c. m Flitcraft, Inc, 75 Fulton St, New York 38 (1v:Ja v56;i-s)

Light Metal Age—Light Metal Age. $3; single numbers 60c. bi-m Roy Fellom, jr, 220 South State St, Chicago 4 (1v:F v9;i-r)

Mach—Machinery. $4; single numbers 40c. m Industrial Press, 148 Lafayette St, New York 13 (1v:S v58;i-r)

Machine Design—Machine Design. $10; single numbers $1. m Penton Pub. Co, Penton Bldg, Cleveland 13, O. (1v:Ja v23;i-s)

Mag of Wall St—Magazine of Wall Street and Business Analyst. $15; single numbers 75c. bi-w Ticker Pub. Co, Inc, 90 Broad St, New York 4 (2v:Ap,O v88-89; i-s)

Management R—Management Review. single numbers 75c. m American Management Association, 330 W 42d St, New York 18 (1v:Ja v40;i-s)
Membership required for annual subscription

Manuf Rec—Manufacturers Record. $3; single numbers 35c. m Manufacturers Record Publishing Co, 109 Market Place, Baltimore 3, Md. (1v:Ja v120;i-none)

Marine Eng—Marine Engineering and Shipping Review. $3; single numbers 35c. m Simmons-Boardman Pub. Corp, 30 Church St, New York 7 (1v:Ja v56;i-r)

Materials & Methods—Materials and Methods, the Magazine of Materials Engineering. $2; single numbers 50c. m Reinhold Pub. Corp, 330 W 42d St, New York 36 (2v:Ja,Jl v33-34;i-s)
Formerly Metals and Alloys; name changed October, 1945

Mech Eng—Mechanical Engineering. $7; single numbers 75c. m American Society of Mechanical Engineers, 29 W 39th St, New York 18 (1v:Ja v73;i-r)

Metal Finishing—Metal Finishing. $4; single numbers 45c. m Finishing Publications, Inc, 11 W 42d St, New York 36 (1v:Ja v49;i-s)
Formerly Metal Industry

Metal Prog—Metal Progress. $7.50; single numbers $1.50. m American Society for Metals, 7301 Euclid Av, Cleveland 3, O. (2v:Ja,Jl v59-60;i-s)

Metallurgia—Metallurgia, the British Journal of Metals. 24s; single numbers 2s. m Kennedy Press, Ltd, 31 King Street West, Manchester, 3 (2v:N,Je v43-44;i-l)

Metals Tech. See J Metals

Midwest Eng—Midwest Engineer. $4; single numbers 50c. m (except Je, Jl and Ag) Western Society of Engineers, 84 E. Randolph st, Chicago 1 (1v:S v4;i-none)
Formerly Journal of the Western Society of Engineers; name changed September, 1948

Mill & Factory—Mill & Factory. $5; single numbers 50c. m Conover-Mast Publications, Inc, 205 E 42d St, New York 17 (2v:Ja,Jl v48-49; i-none)

Min & Met. See Min Eng

Min Cong J—Mining Congress Journal. $3; single numbers 30c. m American Mining Congress, 1102 Ring Bldg, Washington 6, D.C. (1v:Ja v37;i-r)

Min Eng—Mining Engineering. $8; single numbers 75c. m American Institute of Mining and Metallurgical Engineers, Inc, 29 W 39th St, New York 18 (1v:Mr v3;i-l)
Formerly Mining and Metallurgy; name changed January, 1949
Special issues $1.50
Volume number changed to 187 January 1950, to correspond with Transactions. Volume number does not run consecutively; January and February numbers 1951, issued as volume 190, numbers 1 and 2. March issue begins new volume number, volume 3, no. 3

Mo Labor R—Monthly Labor Review. $6.25; single numbers 55c. m Superintendent of Documents, Washington 25, D.C. (2v:Ja,Jl v72-73;i-l)
Free to labor departments and bureaus and other offices connected with the administration of labor laws

Mo U Sch Mines & Met Bul tech ser—Bulletin of the University of Missouri, School of Mines and Metallurgy. Technical Series. irr Univ. of Mo. Rolla

Mod Ind—Modern Industry. $4; single numbers 50c. m Magazines of Industry, Inc, 400 Madison Av, New York 17 (2v:Ja,Jl v21-22;i-none)

Mod Packaging—Modern Packaging. $5; single numbers 75c. m Modern Packaging Corp, 575 Madison Av, New York 22 (1v:S v25;i-r)

Mod Plastics—Modern Plastics. $5; single numbers 75c. m Modern Plastics Inc, 575 Madison Av, New York 22 (1v:S v29;i-l)
Formerly Plastic Products

Munic Util—Municipal Utilities. $3; $6 in U.S; single numbers 50c; $1 in U.S. m Monetary Times Printing Co, of Canada, Ltd, 341 Church St, Toronto 2, Ont. (1v:Ja v89;i-none)
Published as Water and Sewage until January 1950; as Water and Sanitation, January 1950-September 1950

N A C A Bul—N.A.C.A. Bulletin. $10 m National Association of Cost Accountants, 505 Park Av, New York 22 (1v:S v33;i-r)

Changed from semi-monthly to monthly beginning with September, 1949

N Y Pub Lib Bul—New York Public Library. Bulletin. $3; single numbers 25c. m New York Public Library, 5th Av & 42d St, New York 18 (1v:Ja v55;i-s)

Bibliographies of interest to special libraries are indexed

Nat City Bank—National City Bank of New York. m 55 Wall St, New York 15 (without v no;i-none)

Nat Pet N—National Petroleum News. $7; single numbers 35c. w National Petroleum Pub. Co, 1213 W 3d St, Cleveland 13, O. (1v: Ja v43;i-none)

Monthly technical section beginning July 29, 1942, published separately as pt 2 of the regular issue with subtitle Refinery Management and Petroleum Chemical Technology thru August, 1946; name changed to Petroleum Processing, September, 1946

Nat Res Council Bul—National Research Council Bulletin. irr National Research Council, 2101 Constitution Av, Washington 25, D.C.

Individual numbers variously priced. Pricelist sent on request

National Research Council Bulletin and Reprint and Circular series have been discontinued, and future publications will appear in one series numbered from 201

Nat Safety N—National Safety News. $7.50; single numbers 75c. m National Safety Council, Inc, 425 N Michigan Av, Chicago 11 (2v: Ja,Jl v63-64;i-r)

Nat Underw—National Underwriter. $6; single numbers 25c. w National Underwriter Co, 175 W Jackson Blvd, Chicago (1v:Ja v55;i-none)

Nat Underw (Life ed)—National Underwriter Life Insurance Edition. $5; single numbers 20c. w National Underwriter Co, 175 W Jackson Blvd, Chicago (1v:Ja v55;i-none)

Oil & Gas J—Oil and Gas Journal. $4; single numbers 50c. w Petroleum Pub. Co, 211 South Cheyenne St, Tulsa 1, Oklahoma (1v:My v50; i-r)

Oil Paint & Drug Rep—Oil, Paint and Drug Reporter. $5; single numbers 25c. w Schnell Pub. Co, Inc, 30 Church St, New York 7 (2v: Ja,Jl v159-160;i-r)

January 29, section 2 is Annual review issue

Opt Soc Am J—Journal of the Optical Society of America. $8.50; single numbers $1. m American Institute of Physics, Inc, 57 E 55th St, New York 22 (1v:Ja v41;i-s)

Paint Oil & Chem R—Paint, Oil and Chemical Review. $3; single numbers 20c. bi-w Trade Review Co, 1607 Howard St, Chicago 26 (1v:Ja v114;i-none)

Paper Ind—Paper Industry. $3. m Fritz Publications, Inc, 431 South Dearborn St, Chicago 5 (1v:Ap v33;i-l)

Paper Tr J—Paper Trade Journal. $5; single numbers 15c. w Lockwood Trade Journal Co, Inc, 15 W 47th St, New York 19 (2v:Ja,Jl v132-133;i-s)

TAPPI section now published as separate Journal. See Tappi

Personnel—Personnel. single numbers $1. bi-m American Management Association, 330 W 42d St, New York 18 (1v:Jl v28;i-s)

Membership required for annual subscription

Personnel J—Personnel Journal. $5; single numbers 75c. m (Jl and Ag issues combined) Personnel Journal, Inc, Swarthmore, Pa. (1v: My v30;i-s)

Pet Eng—Petroleum Engineer. $5; single numbers 50c. m Petroleum Engineer Pub. Co, Irwin-Keasler Bldg, Dallas 1, Texas (1v:Ja v23;i-l)

Extra number [Ref annual] published July 15

Pet Processing—Petroleum Processing. $8; single numbers 75c. m National Petroleum Pub. Co, 1213 W 3d St, Cleveland 13 (1v:Ja v6; i-r)

Formerly monthly technical section of National Petroleum News

Pet Refiner—Petroleum Refiner. $2; single numbers 50c. m Gulf Pub. Co, Box 2608, Houston 1, Texas (1v:Ja v30;i-s)

Phys R—The Physical Review. Second Series. $25; single numbers $1.25. s-m American Institute of Physics, Inc, 57 E 55th St, New York 22 (4v:Ja,Ap,Jl,O v81-84;i-s)

Power—Power. $4; single numbers 50c. m McGraw-Hill Pub. Co, Inc, 330 W 42d St, New York 36 (1v:Ja v95;i-r)

Extra number published in Mid-June

Power Eng—Power Engineering. $10; single numbers $1. m Technical Pub. Co, 110 S. Dearborn St, Chicago 3 (1v:Ja v55;i-s)

Published as Power Plant Eng until January 1948; as Power Generation, January 1948-May 1950

Product Eng—Product Engineering. $5; single numbers 50c. m McGraw-Hill Pub. Co, Inc, 330 W 42d St, New York 36 (1v:Ja v22;i-s)

Ptr Ink—Printers' Ink. $5; single numbers 25c. w Printers' Ink Pub. Co, Inc, 205 E 42d St, New York 17 (4v:Ja,Ap,Jl,O v234-237;i-none)

Pub Health Rep—Public Health Reports. $4.75; single numbers 15c. w Superintendent of Documents, Washington 25, D.C. (1v:Ja v66;i-r)

Distributed gratuitously to state and municipal health officers, etc., by the Surgeon general of the United States public health service, Washington, D.C.

Became monthly January 1952. Subscription $4.25; single numbers 55 cents

Pub Roads—Public Roads. $1; single numbers 20c. bi-m Superintendent of Documents, Washington 25, D.C. (1v [12 nos] Ap v26 '50; i-none)

Changed from quarterly to bimonthly beginning June, 1949

Pub Util—Public Utilities Fortnightly. $15; single numbers $1. bi-w Public Utilities Reports, Inc, Munsey Bldg, Washington 4, D.C. (2v:Ja,Jl v47-48;i-s)

Pub Works—Public Works. $3; single numbers 35c. m Public Works Journal Corp, 310 E 45th St, New York 17 (1v:Ja v82;i-r)

Pulp & Pa of Can—Pulp and Paper Magazine of Canada. $5; $10 in U.S.; single numbers 50c; $1 in U.S. m National Business Publications, Ltd, Gardenvale, Que. (1v:Ja v52;i-s)

Extra convention number published in February, price $2

Q S T—QST; $4; single numbers 40c. m American Radio Relay League, Inc, 38 La Salle Road, West Hartford 7, Conn. (1v:Ja v35;i-s)

RCA R—RCA Review. $2; single numbers 75c. q Radio Corporation of America, RCA Laboratories Division, Princeton, New Jersey (1v: Mr v12;i-s)

R Econ & Stat—Review of Economics and Statistics. $6. q Harvard University Press, 322 Littauer Center, Cambridge 38, Mass. (1v: F v33;i-s)

R Sci Instr—Review of Scientific Instruments. $8; single numbers $1. m American Institute of Physics, 57 E 55th St, New York 22 (1v: Ja v22;i-s)

$6 to members of scientific societies

Radio & Tv N—Radio and Television News. $4. m Ziff-Davis Pub. Co, 185 N Wabash Av, Chicago 1 (2v:Ja,Jl v45-46;i-s)

Name changed from Radio News to Radio and Television News beginning August, 1948

Radio N. See Radio & Tv N

Rayon—Rayon and Synthetic Textiles. $5; single numbers 60c. m Rayon Pub. Corp, 303 Fifth Av, New York 16 (1v:Ja v32;i-s)

Name changed to Rayon and Synthetic Textiles beginning September, 1948

Ref Shelf—The Reference Shelf. irr The H. W. Wilson Co, 958 University Av, New York 52

Refrig Eng—Refrigerating Engineering. $4; single numbers 50c. m American Society of Refrigerating Engineers, 40 W 40th St, New York 18 (1v:Ja v59;i-s)

Review of Economics and Statistics. See R Econ & Stat

Roads & Bridges—Roads and Bridges. $3; $6 in U.S; single numbers 50c; $1 in U.S. m Monetary Times Printing Co. of Canada, Ltd, 341 Church St, Toronto 2, Ont. (1v:Ja v87;i-none)
Name changed to Roads and Construction, January, 1950

Roads & Constr—Roads and Construction. $3; $6 in U.S; single numbers 50c; $1 in U.S. m Monetary Times Printing Co. of Canada, Ltd, 341 Church St, Toronto 2, Ont. (1v:Ja v88;i-none)
Name changed to Roads and Engineering Construction June, 1950

Roads & Eng Constr—Roads and Engineering Construction. $3; $6 in U.S; single numbers 50c; $1 in U.S. m Monetary Times Printing Co. of Canada, Ltd, 341 Church St, Toronto 2, Ont. (1v:Ja v89;i-none)
Annual directory number June, price $2 in Canada; $4 in U.S.

Roads & Sts—Roads and Streets. $5. m Gillette Pub. Co, 22 West Maple St, Chicago 10 (1v:Ja v94;i-none)

Rock Prod—Rock Products. $2; single numbers 25c. m Maclean-Hunter Pub. Corp, 309 W Jackson Blvd, Chicago 6 (1v:Ja v54;i-s)

Rough Notes—Rough Notes and the Casualty Insuror. $3; single numbers 35c. m Rough Notes Co, Inc, 1142 N. Meridian St, Indianapolis 6, Ind. (1v:Ja v94;i-s)

Roy Aeronautical Soc J—Journal of the Royal Aeronautical Society. £6 3s; single numbers 10s 3d. m Royal Aeronautical Society, 4 Hamilton Place, Piccadilly, London, W. 1 (1v:Ja v55;i-s)

Rs Mod Phys—Reviews of Modern Physics. $4; single numbers $1.50. q American Institute of Physics, Inc, 57 E 55th St, New York 22 (1v:Ja v23;i-none)

Rubber Age—Rubber Age. $3; single numbers 35c. m Palmerton Pub. Co, Inc, 250 W 57th St, New York 19 (2v:Ap,O v69-70;i-s)

Ry Age—Railway Age. $14; single numbers 50c. w Simmons-Boardman Pub. Corp, 30 Church St, New York 7 (2v:Ja,Jl v130-131;i-r)
Annual review and outlook number, January 15, price $1

Ry Mech & Elec Eng—Railway Mechanical and Electrical Engineer. $3; single numbers 50c. m Simmons-Boardman Pub. Corp, 30 Church St, New York 7 (1v:Ja v125;i-r)

Ry Mech Eng—Railway Mechanical Engineer with which is incorporated the Railway Electrical Engineer. $3; single numbers 50c. m Simmons-Boardman Pub. Corp, 30 Church St, New York 7 (1v:Ja v123;i-r)
Name changed to Railway Mechanical and Electrical Engineer beginning January, 1950

S A E J—S.A.E. Journal. $10; single numbers $1. m Society of Automotive Engineers, Inc, 29 W 39th St, New York 18 (1v:Ja v59;i-r)

Safety Eng—Safety Engineering. $4; single numbers 50c. m Alfred M. Best Co, Inc, 75 Fulton St, New York 7 (2v:Ja,Jl v99-100;i-s)
Name changed to Safety Maintenance and Production, October, 1950

Safety Maint & Prod—Safety Maintenance and Production. $4; single numbers 50c. m Alfred M. Best Co, Inc, 75 Fulton St, New York 38 (2v:Ja,Jl v101-102;i-s)

Sales Management—Sales Management. $8; single numbers 50c. s-m Sales Management, Inc, 386 4th Av, New York 16 (2v:Ja,Jl v66-67;i-none)
Published semi-monthly except in May and November when it is published three times a month

Sci Am—Scientific American. $5; single numbers 50c. m Scientific American, Inc, 2 W 45th St, New York 36 (2v:Ja,Jl v184-185;i-s)

Science—Science. $7.50; single numbers 25c. w American Association for the Advancement of Science, 1515 Massachusetts Av, N.W., Washington 5, D.C. (2v:Ja,Jl v113-114;i-s)

Sewage & Ind Wastes—Sewage and Industrial Wastes. $7.50; single numbers $1. m Federation of Sewage and Industrial Wastes Associations, 325 Illinois Bldg, Champaign, Ill. (1v:Ja v23;i-s)

Sewage Works J—Sewage Works Journal. $5; single numbers $1. bi-m Federation of Sewage Works Associations, 325 Illinois Bldg, Champaign, Ill. (1v:Ja v21;i-s)
Name changed to Sewage and Industrial Wastes, January, 1950

Sheet Metal Worker—Sheet Metal Worker. $3; single numbers 25c. m Edwin A. Scott Pub. Co, 45 W 45th St, New York 19 (1v:O v43;i-s)

Soap & San Chem—Soap and Sanitary Chemicals. $4. m MacNair-Dorland Co, Inc, 254 W 31st St, New York 1 (1v:Ja v27)
Annual index appears in Soap Blue Book which is sent to all subscribers

Soc Chem Ind J—Journal of the Society of Chemical Industry. £2; single numbers 4s. m Society of Chemical Industry, 56 Victoria St, London, S.W. 1 (1v:Ja v69;i-s)
Two supplementary issues in 1950
Name changed to Journal of Applied Chemistry January, 1951

Soc Dyers & Col J—Journal of the Society of Dyers and Colourists. £4. m Society of Dyers and Colourists, Dean House, 19 Piccadilly, Bradford, Yorkshire, England (1v:Ja v67;i-l)

Soc for Advan of Management J. See Advanced Management

Soc Motion Picture & Tv Eng J—Journal of the Society of Motion Picture and Television Engineers. $12.50; single numbers $1.50. m Society of Motion Picture Engineers, 40 W 40th St, New York 18 (2v:Ja,Jl v56-57;i-l)

Soc Motion Picture Eng J—Journal of the Society of Motion Picture Engineers, $12.50; single numbers $1.50. m Society of Motion Picture Engineers, 342 Madison Av, New York 17 (2v:Ja,Jl v52-53;i-l)
Name changed to Journal of the Society of Motion Picture and Television Engineers January, 1950

Society of Automotive Engineers Journal. See S A E J

Special Lib—Special Libraries. $7; single numbers 75c. m (S-Ap) bi-m (My-Ag) Special Libraries Association, 31 E 10th St, New York 3 (1v:Ja v42;i-l)

Spectator (Life ed)—Spectator; Life Insurance in Action. $3; single numbers $1. m Chilton Co, Inc, Chestnut & 56th Sts, Philadelphia 39 (1v:Jl v159;i-s)
Life ed and Property ed combined January 1952

Spectator (Property ed)—Spectator; Property Insurance Review. $3; single numbers $1. m Chilton Co, Inc, Chestnut & 56th Sts, Philadelphia 39 (1v:Jl v17;i-s)
Property ed and Life ed combined January 1952

Standardization—Standardization. $4; single numbers 35c. m American Standards Association, 70 E 45th St, New York 17 (1v:Ja v22;i-l)
Formerly Industrial Standardization; name changed January, 1949

Steel—Steel. $10; single numbers 50c. w Penton Pub. Co, Penton Bldg, Cleveland 13, O. (2v:Ja,Jl v128-129;i-r)

Survey of Cur Bsns—Survey of Current Business. U.S. Bureau of Foreign and Domestic Commerce, Office of Business Economics. $3.25; single numbers 30c. m Superintendent of Documents, Washington 25, D.C. (1v:Ja v31;i-none)

Tappi—Tappi. $7.50; single numbers $1. m Technical Association of the Pulp and Paper Industry, 122 E 42d St, New York 17 (1v:Ja v34;i-s)

Tech R—Technology Review. $3.50; single numbers 50c. m except (Ag, S, O) Massachusetts Institute of Technology, room 1-281, Cambridge 39, Mass. (1v:N v54;i-r)

Tele-Tech—Tele-Tech. $3; single numbers 40c. m Caldwell-Clements, Inc, 480 Lexington Av, New York 17 (1v:Ja v10;i-s)

Tele-Vision Eng. See Tv Eng

Textile Col. See Am Dyestuff Rep

Textile Inst J—Journal of the Textile Institute. £3 10s; single numbers 6s. m Textile Institute, 10 Blackfriars St, Manchester 3, England (1v:Ja v42;i-l)
Published in two parts: Transactions; Proceedings, Standardisation and Abstracts

Textile Res J—Textile Research Journal. $15; single numbers $1.50. m Textile Research Institute, Inc, 10 E 40th St, New York 16 (1v:Ja v21;i-s)

Textile World—Textile World. $2; single numbers 35c. m McGraw-Hill Pub. Co, Inc, 330 W 42d St, New York 36 (1v:Ja v101;i-s)

Tool Eng—Tool Engineer. $6. m American Society of Tool Engineers, 10700 Puritan Av, Detroit 21 (2v:Ja,Jl v26-27;i-s)

Transactions of the American Society of Mechanical Engineers. See A S M E Trans

Trusts & Estates—Trusts and Estates, The Fiduciary Journal. $5; single numbers 60c. m Fiduciary Publishers, Inc, 50 E 42d St, New York 17 (1v:Ja v90;i-s)

Tv Eng—Tele-Vision Engineering. $3; single numbers 50c. m Bryan Davis Pub. Co. Inc, 52 Vanderbilt Av, New York 17 (1v:Ja v2;i-s)
Formerly Communications; name changed January, 1950

U S Agric—Publications. U.S. Dept. of Agriculture, Division of Publications, Washington, D.C.
Selected contributions on technical subjects are indexed

U S Bur For & Dom Com Economic Ser—U.S. * Bureau of Foreign and Domestic Commerce, Washington, D.C.

U S Bur Labor Statistics Bul—United States Bureau of Labor Statistics. Bulletin. Distributed free of charge. U.S. Bureau of Labor Statistics, Washington, D.C.

U S Bur Mines Bul—United States. Bureau of † Mines, Bulletin. U.S. Bureau of Mines, Washington, D.C.

U S Bur Mines Information Circ—United † States. Bureau of Mines. Information Circular. U.S. Bureau of Mines, Washington, D.C.

U S Bur Mines Rep of Invest—United States. † Bureau of Mines. Reports of Investigations. U.S. Bureau of Mines, Washington, D.C.

U S Bur Mines Tech Pa—United States. Bu- † reau of mines. Technical Paper. U.S. Bureau of Mines, Washington, D.C.
Now included in Bulletin series, beginning with Bulletin 481

U S Geol S Bul—United States Geological Survey. Bulletin. U.S. Geological Survey, Washington, D.C.

U S Geol S Professional Pa—United States Geological Survey. Professional Paper. U.S. Geological Survey, Washington, D.C.

U S Nat Advisory Com for Aeronautics—United States National Advisory Committee for Aeronautics, Washington, D.C. Annual reports.
Thirty-third annual report, 1947, including Technical reports nos. 863-891

U S Nat Bur Stand—United States. National ‡ Bureau of Standards. Circular. U.S. National Bureau of Standards, Washington, D.C.

U S Naval Inst Proc—United States Naval Institute Proceedings. $5; single numbers 50c. m United States Naval Institute, Annapolis, Md. (1v:Ja v77;i-r)

U S Women's Bur Bul—United States. Women's Bureau. Bulletin. U.S. Women's Bureau, Washington, D.C.

Water & San. See Munic Util

Water & Sewage Works—Water & Sewage Works. $2; single numbers 25c. m Gillette Pub. Co, 22 West Maple St. Chicago 10 (1v:Ja v98;i-l)

Weekly Underw—Weekly Underwriter. $5; single numbers 25c. w Underwriter Printing and Publishing Co, 116 John St, New York 38 (2v:Ja,Jl v164-165;i-l)

Welding J—Welding Journal. $6; single numbers $1. m American Welding Society, 33 W 39th St, New York 18 (1v:Ja v30;i-s)

Western Soc E J. See Midwest Eng

Westinghouse Eng—Westinghouse Engineer. $2.50; single numbers 35c. bi-m Westinghouse Engineer, 306 Fourth Av, P.O. Box 1017, Pittsburgh 30, Pa. (1v:Ja v11;i-r)

Wireless Eng—Wireless Engineer. £2 4s 6d; U.S. and Canada $7; single numbers 3s 6d. m Iliffe & Sons, Ltd, Dorset House, Stamford St, London, S.E. 1 (1v:Ja v28;i-l)

World Oil—World Oil. $2; single numbers 50c. m Gulf Pub. Co, 3301 Buffalo Drive, Houston 6, Texas (2v:Ja,Jl v132-133;i-r)
Two issues February and July; second issues $1 each

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Key to General Abbreviations

+	continued on later pages of the issue
abr	abridged
Ag	August
Ap	April
arch	architect
bibliog	bibliography
comp	compiled or compiler
cond	condensed
cont	continued
D	December
diag	diagram
ed	edited or edition or editor
F	February
i	index
il	illustrations
inc	incorporated
Ja	January
Je	June
Jl	July
Mr	March
My	May
n s	new series
N	November
no	number
O	October
p	page
pl	plate
por	portrait
pseud	pseudonym
pt	part
rev	revised
S	September
sup	supplement
tr	translated or translation or translator
v	volume
yrbk	yearbook

Sample entry: Hydrogen peroxide; structural materials, manufacture and uses. J. S. Reichert and R. H. Pete. il Chem Eng 54:213-14+ Ap '47

Explanation: An illustrated article with the title given above will be found in Chemical Engineering, volume 54, pages 213 to 214 (continued on later pages of the same issue) the April 1947 number

Industrial Arts Index

A Cumulative Subject Index to Engineering, Trade and Business Periodicals

1951

ABACA. See Manila hemp

ACTH. See Adrenocorticotropic hormone

ATF, incorporated. See Daystrom, incorporated

ATP. See Adenosine triphosphate

ABANDONED mines. See Mines and mineral resources—Abandoned mines

ABBOTT, William Lamont, 1861-1951
  Sketch. Mech Eng 73:283 Ap '51

ABBOTT laboratories
  In advertising to bright minds we try not to be dull. C. S. Downs. il Sales Management 65:58-63 N 1 '50
  Sales of radiopharmaceuticals double in last six months. il Chem & Eng N 29:3462-4 Ag 20 '51

ABBREVIATIONS
  Standards on abbreviations of radio-electronic terms, 1951. Inst Radio Eng Proc 39:397-400 Ap '51 (reprints 50c)
  Symbols, signs, and abbreviations recommended for British scientific publications. Chem Soc J p 1677-92 Je '51

ABDULLAH ibn Hussein, king of Jordan, 1882-1951
  Sketch. Economist 161:221 Jl 28 '51

ABERDEEN

Harbor

  Model investigations of Aberdeen harbour. J. D. Lawson. il plan diag Engineering 172:283-4 Ag 31 '51

ABERRATION (optics)
  Four-figure method of ray tracing. W. H. Steel. Opt Soc Am J 40:878 D '50

ABIETIC acid
  Preparation and properties of dehydroabietophenone (*nor*-dehydroabietyl phenyl ketone) and 6-hydroxydehydroabietophenone. R. P. Jacobsen. Am Chem Soc J 73:3463-6 Jl '51

ABIETINOL
  Diphenyl-*t*-dehydroabietinol and its oxidation product. H. H. Zeiss. Am Chem Soc J 73:497-9 Ja '51

ABILITY
  Help employees stretch their aptitudes. D. A. Laird. Banking 44:145 S '51
  Intellectual resources. D. Wolfle. Sci Am 185:42-6 S '51

ABILITY tests
  Aptitude tests are a valuable supplement to personal judgment. M. Wiseman. Ptr Ink 234:32 Mr 16 '51
  Aptitude tests by the bundle; industrial psychology, inc. il Bsns W p72+ S 15 '51
  Aptitude tests; we use 'em to spot the lemons and the misfits. E. E. Reynolds. Sales Management 66:58+ F 15 '51
  Books concerning the psychological test. H. S. Dyer. Sci Am 185:110-16 S '51
  How accurate are your job-placement tests. J. Gardner. Textile World 101:162+ Ag '51
  Institute's vocational tests assist in hiring and promoting staff workers. R. G. Ankers. J Account 91:86-91 Ja '51
  Predicting success in routine bank work. E. N. Hay. Banking 43:41+ Je '51
  Reducing typing costs with aptitude tests. A. Blakemore. Personnel J 30:20-4 My '51
  Research findings in the field of supervisory and executive selection. M. M. Mandell. Personnel 27:215-16 N '50
  Right man for the right job; tests developed by United States employment service. J. L. Kent. il Mill & Factory 47:119-20 N '50
  Round pegs for right round holes; tests for 5,000 employes of Kemper insurance companies. East Underw 51:29 D 22 '50
  Scientific hiring of appliance servicemen. A. R. Laney, jr. il Am Gas Assn Mo 33:14-16 Ja '51
  Sound approach to hiring; services of Klein institute for aptitude testing. Nat Underw 55:27 S 27 '51
  Tests help cut turnover rate 74 per cent in five months. A. R. Michael. il Factory Management 109:78-80 My '51

Group tests

  Analysis of the use of the group oral interview. H. Fields. Personnel 27:480-6 My '51

ABRASION
  Abrasion of nine minerals of sand size in ball mills. H. L. Alling. bibliog Am J Sci 249:569-90 Ag '51
  Abrasion test as a criterion to determine the wear of textiles. I. F. H. Germans. bibliog il diags Textile Inst J Trans 42:T 185-93 My '51
  Abrasion testing. H. F. Schiefer. Textile Inst J 41:P800-3 N '50
  Comparative breakdown resulting from abrasion of round and square samples with the Taber abraser. M. H. Zook. Am Dyestuff Rep 39:895-6 D 11 '50
  Comparison of the breakdown produced by abrasion, using four combinations of wheels and pressures on the Taber abraser. M. H. Zook. Am Dyestuff Rep 39:795-800 N 27 '50
  Development of a reproducible testing technique using the Taber abraser on rayon fabrics. M. H. Zook. bibliog diags Am Dyestuff Rep 39:679-85 O 16 '50
  Electrolytic polishing of zirconium and its application to a study of the effects of abrasion upon the structure of the metal. P. A. Jacquet. il Metallurgia 42:268-70 O '50
  Investigation of the abrasiveness of coal and its associated impurities. H. F. Yancey and others. bibliog il Min Eng 3:Trans 262-8 Mr '51
  Portable abrasion tester for tile. Cer Ind 55:81 D '50
  Relation between fiber properties and apparent abrasion resistance. D. D. Gagliardi and A. C. Nuessle. Am Dyestuff Rep 40:409-15 Je 25 '51
  Relationship between the structural geometry of a textile fabric and its physical properties; textile geometry and abrasion-resistance. S. Backer and S. J. Tanenhaus. il diags Textile Res J 21:635-54 bibliog(p653-4) S '51
  Relationship between the structural geometry of a textile fabric and its physical properties; the mechanics of fabric abrasion. S. Backer. il diags Textile Res J 21:453-68 bibliog(70 titles, p466-8) Jl '51

ABRASIVES

Abrasive application in double-disk refining of groundwood rejects. J. H. White. il Pulp & Pa of Can (Convention no) 52:232-5 [F] '51

Abrasive belts for polishing. J. F. Whitcomb. il diag Metal Finishing 49:46-8 Ag '51

Abrasive disks; single or multiple layer? E. W. Farmer. il Am Mach 95:126-7 F 5 '51

Abrasive metals; strength, polish in metalworking. il Steel 129:68 S 24 '51

Abrasive tumbling, a precision finishing method. il diag Steel 128:81-4+ F 5 '51

Abrasiveness of industrial waste creates treatment problem. P. D. Oesterle. il Water & San 88:27+ Ag '50; Same. Water & Sewage Works 98:32-3 Ja '51

Abrasives companies to end selling pool. Bsns W p 146 F 17 '51

Better grinding; Carborundum co.'s new contact wheel reduces glazing of abrasive belts. il Bsns W p58 Ap 21 '51; Aviation W 54:49-50 My 7 '51; Iron Age 167:111-12 My 3 '51; Mod Ind 21:99 Je '51

Better way to handle dry bulk materials; moving abrasive grain from processing to wheelmaking plant at Norton co.; illustrations with text. A. F. Hardy, jr. Factory Management 108:102-3 N '50

Crosscountry clinic sells abrasives for Behr-Manning; exhibits latest abrasive machinery. il Bsns W p 118-20 Ag 11 '51

Dry cleaning with corn cob grits. E. W. Shoff. il Iron & Steel Eng 28:126-8; Discussion. 128-30 S '51

Fast abrasive belt finishing lops off costs. il Steel 127:88-90 D 11; 100-2 D 18 '50

Glass-grinding industry processes which can abate stream pollution. H. R. Murdock. Ind & Eng Chem 42:sup 111A-12A N '50

Machine lapping with continuously fed free abrasives. F. L. White. il diags Am Mach 95:161-3 Je 11 '51

New vacuum-blasting tools aid welding, drum cleaning. D. H. Stormont. il Oil & Gas J 49:78+ Ja 11 '51

Performance of oil-film bearings with abrasive-containing lubricant. A. E. Roach. bibliog il diags A S M E Trans 73:677-85; Discussion. 685-6 Jl '51

Pipe conveyor wins battle against abrasion; McKee glass co. flow chart Heating-Piping 23:123 Ja '51

Polishing-grain sizes; reference book sheet. Am Mach 94:169 N 13 '50

Practical barrel finishing. P. L. Veit. bibliog il diags Metal Finishing 49:71-7+ S '51

Pressure blasting; tool for production and maintenance work. il Diesel Power 29:52-3 Ag '51

Probe new uses for tough abrasives. il Steel 128:79 Ap 9 '51

Radiant heaters accelerate coating tenfold. il Elec World 136:160 Ag 13 '51

Study of grinding techniques for bacterial cells. W. B. Dockstader and H. O. Halvorson. Science 112:618-20 N 24 '50

Uniform high quality finish obtained with diamond powder abrasives. S. G. Kelley, jr. il Materials & Methods 33:65-7 F '51

Vibrating abrasive cuts the hard-to-cut; Cavitron machine. Bsns W p80+ Mr 3 '51

ABSENTEEISM (labor)

Absenteeism, don't let it get away from you again. E. S. Grant. il Factory Management 109:52-6 Ap '51

How to control absenteeism. J. E. Bedford. Mill & Factory 49:75-8 Ag '51

Industrial sickness absenteeism; males and females, 1949, and males, first and second quarters, 1950. W. M. Gafafer. Pub Health Rep 65:1556-61 N 24 '50

Industrial sickness absenteeism third and fourth quarters, 1950. W. M. Gafafer. Pub Health Rep 66:779-80 Je 15 '51

Plan for reducing absenteeism. T. C. Kent. Personnel J 30:91-3 Jl-Ag '51

Reducing sick absences. B. Blai, jr. Personnel J 29:268-9 D '50

Scheduled absenteeism didn't work out at Ford. Bsns W p36 Ap 21 '51

Some pointers on curbing absenteeism; abstract. Management R 40:130 Mr '51

Times absent vs. days absent as a measure of absenteeism. B. J. Covner and M. Smith. bibliog Personnel 28:23-7 Jl '51

ABSORPTIOMETER

Improved null-point variable aperture photoelectric absorptiometer. J. W. Nicholas. bibliog il diags Metallurgia 43:95-8 F '51

ABSORPTION

Absolute rate of the chemisorption of hydrogen on reduced copper. T. Kwan and M. Kujirai. J Chem Phys 19:798-9 Je '51

Absorption air conditioner. E. P. Whitlow and L. A. McNeely. il diags Refrig Eng 59:38-43; Discussion. 43+ Ja '51

Absorption of carbon dioxide by liquid drops. B. E. Dixon and A. A. W. Russell. diag Soc Chem Ind J 69:284-8 S '50

Absorption on a semi-works scale; absorption of sulfur dioxide in water in a packed tower. D. A. Pearson and others. bibliog diag Chem Eng Prog 47:257-64 My '51

Calculation of diffusion coefficients from sorption data. S. Prager. J Chem Phys 19:537-41 My '51

Chemical engineering unit operations; sixth annual review; absorption and humidification. R. L. Pigford. bibliog(99 ref) Ind & Eng Chem 43:41-6 Ja '51

Fuel oil as an absorbent in recovery of light oil. C. R. Montgomery. il Iron & Steel Eng 27:74-8; Discussion. 78-81 D '50

Observations and problems in recovery and retention of light hydrocarbons. A. M. L. Kube. flow sheet diags Oil & Gas J 49:98-100+ F 15 '51; Same. Pet Processing 6:138-43 F '51

Pressure-induced absorption in hydrogen. J. van Kranendonk and R. B. Bird. bibliog Phys R 82:964-5 Je 15 '51

Principles of precision colorimetry; absorption law deviations in measurements of relative transmittance. C. F. Hiskey and I. G. Young. bibliog diags Anal Chem 23:1196-201 S '51

Selective absorption of hydrogen sulfide from gas streams. H. D. Frazier and A. L. Kohl. bibliog flow diag il diag Ind & Eng Chem 42:2288-92 N '50

Selective absorption of optical antipodes by proteins. W. Bradley and G. C. Easty. Chem Soc J p499-503 F '51

Significance of liquid-film coefficients in gas absorption. P. V. Danckwerts. bibliog Ind & Eng Chem 43:1460-7 Je '51

Sorption of GR-S type rubber by carbon black; effect of variables on the sorption by Graphon. I. M. Kolthoff, R. G. Gutmacher and A. Kahn. bibliog J Phys & Colloid Chem 55:1240-6 O '51

Water absorption of proteins; effect of guanidino groups in casein. E. F. Mellon and others. Am Chem Soc J 73:1870-1 Ap '51

See also

Adsorption

Hygroscopicity

Tables, calculations, etc.

New way to solve absorption problems. C. Huang. bibliog diags Chem Eng 58:118-19 Ag '51

ABSORPTION (physiology)

Percutaneous absorption of water. A. S. Szczesniak and others. bibliog Science 113:293-4 Mr 16 '51

ABSORPTION, Dielectric. See Dielectric constants

ABSORPTION apparatus

Absorption on a semi-works scale; absorption of sulfur dioxide in water in a packed tower. D. A. Pearson and others. bibliog diag Chem Eng Prog 47:257-64 My '51

Air humidification coefficients in spray towers; gas-film mass transfer coefficients at low air velocities for use in scrubber design. C. F. Bonilla, J. R. Mottes and M. Wolf. bibliog il Ind & Eng Chem 42:2521-5 D '50

Determination of liquid-film absorption coefficients; a new type of column and its application to problems of absorption in presence of chemical reaction. E. J. Stephens and G. A. Morris. bibliog diags Chem Eng Prog 47:232-42 My '51

Efficiency characteristics of commercial absorbers. E. G. Ragatz. Pet Refiner 29:117-24 D '50

Falling-film type HCl absorbers control weak acid temperature. W. M. Gaylord. il diag Chem Eng 57:286+ N '50

ABSORPTION apparatus—*Continued*

Modern trends in gas plants for catalytic cracking units. F. E. Gilmore and R. D. Bauer. flow diags diags Pet Refiner 30:196+ S '51

Most economical gas plant; Upham gas company's gasoline plant. E. D. Soltes. il diag Pet Eng 22:C34-6 N '50

Natural-gas processing; a review of its history, and a resume of current developments. V. E. Middlebrook. diags Oil & Gas J 49:85-7+ D 7 '50

Performance characteristics of spray-type absorption equipment. R. L. Pigford and C. Pyle. bibliog flow diag il diags Ind & Eng Chem 43:1649-62 Jl '51

System of process calculations for light hydrocarbons. A. J. L. Hutchinson. il Pet Refiner 29:97-103 D '50

Taylor-Mayfair cycling plant achieves efficiency with simplicity. L. Gross and C. T. Wells. flow chart il Pet Refiner 30:115-19 F '51

Bibliography

Packed columns for multicomponent absorbers and fractionators. W. C. Edmister. bibliog(86 titles) Pet Eng 23:C25-6 Ja '51

Design

How to estimate plate efficiency. Ju Chin Chu and others. bibliog Pet Processing 6:39-45+, 154-7 Ja-F '51

ABSORPTION coefficients

Absolute absorption coefficient of germanium and the fine structure in the *K* edge of some of its compounds. H. Glaser. bibliog Phys R 82:616-21 Je 1 '51

Determination of liquid-film absorption coefficients; a new type of column and its application to problems of absorption in presence of chemical reaction. E. J. Stephens and G. A. Morris. bibliog diags Chem Eng Prog 47:232-42 My '51

Emission of radiation from diatomic gases; experimental determination of effective average absorption coefficients of CO. S. S. Penner and D. Weber. bibliog J Ap Phys 22:1164-7 S '51

ABSORPTION of neutrons. See Neutrons—Absorption

ABSORPTION of rays

Absorption by aluminum in the soft X-ray region. D. H. Tomboulian and E. M. Pell. bibiog Phys R 83:1196-201 S 15 '51

Absorption of penetrating showers. H. A. Meyer and others. bibliog diags Phys R 82:424-7 My 1 '51

Absorption of 280-Mev photons. J. W. DeWire and others. bibliog plan diags Phys R 83:505-9 Ag 1 '51

Colour and constitution; basic dyes. M. J. S. Dewar. Chem Soc J p2329-34 S '50

Energy transfer by collision in benzene vapor. L. M. Cheng. bibliog J Chem Phys 19:693-7 Je '51

Gamma-ray spectrum from the absorption of π^--mesons in deuterium. L. Aamodt and others. Phys R 80:282-3 O 15 '50

Integrated absorption of the fundamental of CO from measurements using self-broadening of rotational lines. D. Weber and S. S. Penner. diag J Chem Phys 19:974-5 Jl '51

Measurements of gamma-ray absorption coefficients. C. M. Davisson and R. D. Evans. bibliog diag Phys R 81:404-11 F 1 '51

Optical absorption and photoconductivity in barium oxide. W. W. Tyler and R. L. Sproull. bibliog diags Phys R 83:548-55 Ag 1 '51

Penetration and diffusion of Co^{60} gamma-rays in water using spherical geometry. G. R. White. bibliog diag Phys R 80:154-6 O 15 '50

Quantitative infrared intensity measurements; carbon monoxide pressurized with infrared-inactive gases; studies on the first overtone of unpressurized CO. S. S. Penner and D. Weber. bibliog diags J Chem Phys 19:807-18 Jl '51

Scattering and absorption of gamma-rays. M. S. Plesset and S. T. Cohen. J Ap Phys 22:350-7 Mr '51

See also

Beer's law
Sound—Absorption
X rays—Absorption

ABSORPTION spectra. See Spectrum—Absorption spectra

ABSTRACTS

Abstracting and indexing services. Chem & Eng N 29:1499-500 Ap 16 '51

Anglo-American abstracts? Chem Age (Lond) 63:629-30 N 4 '50

International physics abstracting service. E. Hutchisson. Science 112:635 N 24 '50

Science communications. W. F. Hewitt, jr. bibliog Science 114:134-5 Ag 3 '51

Scrutiny of the abstract. K. K. Landes. Am Assn Pet Geologists Bul 35:1660 Jl '51

Squibb abstract bulletin. Special Lib 41:365 D '50

See also

Chemical abstracts (periodical)

ACACIA

Acacia mollissima Willd; the component sugars and aldobiuronic acid of black wattle gum. A. M. Stephen. Chem Soc J p646-9 Mr '51

ACADEMIC freedom

Do antisubversive efforts threaten academic freedom? E. C. Kirkland. Ann Am Acad 275:132-9 My '51

ACARDITE. See Diphenylurea

ACCELERATION

Correlating modulus for fluid resistance in accelerated motion. H. W. Iversen and R. Balent. diags J Ap Phys 22:324-8 Mr '51

Gravitational acceleration of neutrons. A. W. McReynolds. Phys R 83:172-3 Jl 1 '51

ACCELERATION of machinery. See Machinery, Kinematics of

ACCELERATORS (particles)

Bevatron. L. Smith. il diags Sci Am 184:20-5 F '51

British linear accelerator. L. G. Rule. il Electronics 23:124 N '50

Chalk River accelerator. Can Min J 71:75 N '50

Device for determining the direction of flux lines in the time varying magnetic field of a particle accelerator. R. E. Richardson and D. C. Sewell. diag R Sci Instr 22:697 S '51

Electric generator operates at 19,000 rpm; application of Faraday's disc generator, using liquid mercury jets as brushes; experimental machine for application in design of betatrons and other accelerators. il Power Eng 54:60-1 D '50

Electronic ram. W. Raudorf. bibliog diag Wireless Eng 28:215-21 Jl '51

Electrostatic source of ionizing energy. J. G. Trump. bibliog il diags Elec Eng 70:781-7 S '51

Energy doubling in dc accelerators. L. W. Alvarez. R Sci Instr 22:705-6 S '51

Ignitron pulse equipment for particle accelerators. C. C. Herskind and J. E. Hudson. il Elec Eng 69:959 N '50

Sources of radiation. W. C. Parkinson. bibliog il diags Ind Med 20:175-84 Ap '51

300- to 4,000-kilocycle electrically tuned oscillator. A. I. Pressman and J. P. Blewett. il diags Inst Radio Eng Proc 39:74-7 Ja '51

See also

Betatron
Electron accelerators
Proton accelerator
Synchrotron

ACCELEROMETERS

Ceramic accelerometer of wide frequency range. L. T. Fleming. il diags Instruments 24:968-72 Ag '51

Improved Ramberg vacuum-tube accelerometers developed by NBS. il Elec Eng 70:176 F '51; Electronics 24:120+ F '51; Instruments 24:198-200 F '51; Aero Digest 62:44+ My '51

Miniature piezoelectric accelerometer uses barium disk. Product Eng 22:175 O '51

Response of accelerometers to transient accelerations. S. Levy and W. D. Kroll. bibliog diag J Res Nat Bur Stand 45:303-9 O '50

Self-generating accelerometers. G. K. Guttwein and A. I. Dranetz. bibliog il diags Electronics 24:120-3 O '51

Self-recording accelerometers. il R Sci Instr 22:284 Ap '51

ACCEPTANCES

Commercial paper and bankers' acceptances outstanding, end of month Oct. 1949-Nov. 1950. Fed Res Bul 37:65 Ja '51 [cont monthly]

ACCIDENT and health underwriters, International association of. See International association of accident and health underwriters

ACCIDENT insurance. See Insurance, Accident

ACCIDENT law

Wrongful death limits increased in several states. Nat Underw 55:13+ Jl 26 '51

ACCIDENT prevention. See Safety devices and measures

ACCIDENTS

How much is industry doing to prevent off-the-job accidents? T. J. Berk. Nat Safety N 63:24-5+ Ja '51; il Safety Maint & Prod 101:11+ F '51

See also

Airlines—Accidents
Automobile accidents
Aviation—Accidents
Building accidents
Burns and scalds
Electricity, Injuries from
Explosions
Falls
Fires
First aid in illness and injury
Grade crossing accidents
Insurance, Accident
Motor bus lines—Accidents
Negligence
Railroads—Accidents
Safety devices and measures
Street accidents

Psychological aspects

Emotions can be killers. L. G. Giberson. Nat Safety N 64:28-9+ S '51

Statistics

Accident barometer. Published in monthly numbers of National safety news

Accidents cost $7,700,000,000 in 1950; Safety Council report. Weekly Underw 164:373+ F 10 '51

Accidents to all workers; tabulation. Iron Age 167:363 Ja 4 '51

Fatalities fewer in 1950. A. D. Battey. map Nat Safety N 64:26-7+ Jl '51

1950 record. Nat Safety N 63:8 Mr '51

ACCIDENTS, Automobile. See Automobile accidents

ACCIDENTS, Industrial

AEC injury rate down 22 per cent in 1950. Nat Safety N 63:122-5 My '51; Safety Maint & Prod 101:82-3 Je '51

Honor roll; records of operation exceeding 500,000 man-hours, or one year. Published in monthly numbers of National safety news

Industrial accidents; annual report of the chief inspector of factories for the year 1949. Engineering 171:438 Ap 13 '51

Loss prevention philosophy for today. R. Clair. il Safety Maint & Prod 101:41+ Je '51

Pain and sorrow, inc.; they keep 1,500 idle everyday after accidents in industry. C. C. Milne. Pulp & Pa of Can 52:170+ My '51

Productivity in British industry; safety in industry. A. Herbert. il Engineer 190:389-92, 406-8 O 27-N 3 '50

Reducing industrial accidents; experience of a General electric company plant. G. R. Fugal. Harvard Bsns R 29:82-90 Jl '51; Abstract. Mo Labor R 73:680-1 D '51

Story of safety; a 50-year review. H. Armand. il Safety Maint & Prod 101:15-16+ Je '51

Use of phyatromine in industrial injuries. A. H. Stahmer. bibliog Ind Med 20:337-8 Jl '51

See also

Boiler explosions
Building accidents
Burns and scalds
Coal mines and mining—Safety measures
Disabled—Rehabilitation
Electricity, Injuries from
Employers' liability
Explosions
Falls
First aid in illness and injury
Mine accidents
Safety devices and measures
Workmen's compensation

also subdivision Accidents under special subjects, e.g.

Chemical plants
Coal mines and mining
Machine shops
Paper mills
Railroads
Rubber factories

Cost

Estimating industrial accident costs. R. H. Simonds. Harvard Bsns R 29:107-18 Ja '51

Injuries and your purse. Eng N 146:124 F 8 '51

Truck safety; fleet accidents eat up operators' profits. H. Ridder. Nat Pet N 42:17-20 D 6 '50

Uninsured costs of industrial accidents. R. H. Simonds. Mo Labor R 72:633-7 Je '51

Psychological aspects

See Safety devices and measures—Psychological aspects

Records

How to move fast on accidents by using a quality control technique that warns of trouble before it's too late. M. H. Saltz. Factory Management 108:86-8 D '50

Recent rulings on unusual accidents by Z16 committee of judges. Standardization 22:92-3+, 118-19, 159-60+, 254-5+, 286-8 Mr-My, Ag-S '51

Records that work for safety. T. J. Berk. Nat Safety N 63:28-9 My '51

Statistics

Causes of permanent disabilities and changes in injury rates by industry; tabulations. Iron Age 167:364 Ja 4 '51

Frequency and severity are accident criteria. W. H. Adams. Am Gas J 175:12+ Ag '51

Illinois accident rate. Safety Maint & Prod 102:47 Jl '51

Industrial injuries to women. Safety Maint & Prod 101:64-5 Mr '51

Industrial injury rates lower in '50, National safety council reports. Nat Underw 55:20 Je 14 '51

Injuries and accident causes in the manufacture of clay construction products; with tables. F. S. McElroy and G. R. McCormack. U S Bur Labor Statistics Bul 1023:1-49; pa 30c Supt. of doc. '51; Excerpts. Mo Labor R 70:270-5 Mr '50

Injuries going up, BLS reports. il Bsns W p40+ Jl 28 '51

Injuries to crewmen on inland waterways; an analysis of hazards and injury rates. U S Bur Labor Statistics Special Ser 5:1-25; pa 20c Supt. of doc. '51

Injury rates by industry, 1949; tabulation. Iron Age 167:362 Ja 4 '51

Injury rates in manufacturing, 1949-50; a graphic analysis. E. Clague. Mo Labor R 73:40-2 Jl '51

Injury rates in manufacturing, 1951. Mo Labor R 73:177-80 Ag '51

Injury rates in manufacturing; quarterly statistics, 1950. Mo Labor R 71:203-6, 567-71; 72:184-8, 549-53 Ag, N '50, F, My '51

Is accident prevention slipping? Safety Maint & Prod 101:32 F '51

Safer industry; with table of accidents in British factories, 1944-1949. Economist 160:636+ Mr 17 '51

Tuning in accident experience. R. F. Millikan. Nat Safety N 64:24-6+ S '51

Work injuries in 1950; preliminary estimates. Mo Labor R 72:270-1 Mr '51; Excerpt. Safety Maint & Prod 101:42-3 Ap '51

Work injuries in the United States during 1949. F. S. McElroy and R. S. Barker. U S Bur Labor Statistics Bul 1025:1-23; pa 20c Supt. of doc. '51; Excerpts. Mo Labor R 71:478-84 O '50

Work injuries to crewmen on inland waterway vessels. F. S. McElroy and G. R. McCormack. Mo Labor R 71:676-80 D '50

ACCOUNTANTS

Accountant's part in creative management. J. W. Gladson. N A C A Bul 33:3-12 S '51

C.P.A. as a source of credit data verification. K. J. Berylson. Credit & Fin Management 53:27-8 Ja '51

Character and ability make a good cost man. A. A. Slade. N A C A Bul 32:1490-5 Ag '51

Cost accountant looks at himself. W. M. Leary. N A C A Bul 32:961-4 Ap '51

Cost accountant looks at his company. T. D. Foy. N A C A Bul 32:964-6 Ap '51

Degree for industrial accountants opposed as tending to divide the profession. M. L. Davidson. J Account 91:863-4 Je '51

Growing demands of labor for share in profits will give accountants new role in management-employee negotiations. R. S. Cole. J Account 91:125-6 Ja '51

ACCOUNTANTS—*Continued*

Management opportunities for the industrial accountant; abstract. C. R. Cox. Management R 39:722-3 D '50

New survey reveals hiring intentions of major accounting employers. J Account 91:289-93 F '51

On-the-job training after two years; college graduate accounting training; Caterpillar tractor co. C. A. Vobroucek. N A C A Bul 32:699-703 F '51

Problems of military preparedness; accounting manpower in mobilization. J Account 90:461-3 D '50

Study of personality traits may be the key to choosing the valuable accounting junior. R. N. McMurry. J Account 91:604-9 Ap '51

See also

Hurdman, Frederick H.

Public relations

Appointment by British labor government of three accountants to high posts in newly nationalized steel industry. J Account 91:126-7 Ja '51

Working papers

Some advice on how to set up working papers; hints on planning before starting work. C. G. Snow. J Account 90:507-9 D '50

Working papers for operating budget. H. G. Oberlander. N A C A Bul 33:189-207 O '51

ACCOUNTANTS, Public

Advice for the new partner, how to make easy the burden of increased duties. A. F. Sanderbeck. J Account 91:408-10 Mr '51

Close attention to clients, sound staff training helps smaller practices grow. W. B. Isenberg. J Account 91:92-5 Ja '51

Does the accountant's growing role as a business adviser clash with his professional objectivity? abstract. M. S. Massel. J Account 91:237 F '51

How to manage the accounting engagement; a survey of how 11 successful firms do it. L. H. Pilié. J Account 91:422-7 Mr '51

Interrelationship between law and accountancy; a symposium. J Account 92:62-71 Jl '51

More midnight oil for CPA's. Bsns W p84+ S 29 '51

Accounting

How to set up time-record system and client scheduling file for smaller accounting firms. J. M. Stoy. J Account 91:610-12 Ap '51

Employees

How to train staff men to make an effective accounting organization. A. G. Mann. J Account 90:486-9 D '50

Institute's vocational tests assist in hiring and promoting staff workers. R. G. Ankers. J Account 91:86-91 Ja '51

Fees

OPS counsel says that accountants' fees are not subject to price control. J Account 91:842-3 Je '51

Law

Courses of study leading to CPA certificates should not be narrow, nor fixed by law. H. C. Zug. J Account 92:175-9 Ag '51

Lawyers and CPAs join in statement of principles defining proper areas of federal tax practice for members of both professions. J Account 91:869-71 Je '51; Excerpts. Trusts & Estates 90:392 Je '51

Relations between lawyers and certified public accountants in income-tax practice. M. Austin. bibliog J Account 91:805-15 Je '51

Significance of Auditing statement 23 in relation to accountants' liability. A. M. Cannon. J Account 90:373-8 N '50

Service

Accountants can serve real estate owners in appealing assessments, in preparing tax protests and negotiating settlements. E. W. O'Brien. J Account 91:726 My '51

How accounting service can provide control and decision-making help to small retailers. H. A. Lipson. J Account 92:48-51 Jl '51

Special services rendered by the CPA for small business in small communities. S. A. Densmore. J Account 92:184-9 Ag '51

ACCOUNTANTS as witnesses

Accountant's usefulness as expert witness grows as business gets more complex. K. W. Robinson. bibliog J Account 91:686-9 My '51

ACCOUNTANTS' liability insurance. See Insurance, Accountants' liability

ACCOUNTANTS' reports

Accountant reports to management. A. E. Grover. il Foundry 79:82-7+ Ja '51

Accounting firms can write better long-form audit reports. F. V. Russell. J Account 90:429-34 N '50

Accountant's responsibility for disclosure of fixed-asset commitments. P. N. Wehr, jr. J Account 92:322-5 S '51

Adapting the reversed form of report to specific situations. J Account 90:521-2 D '50

CPA's opinion; a discussion of the standards of reporting on financial statements. J Account 91:390-401 Mr '51

More support for name paper. J Account 92:339-40 S '51

Pity the poor stockholder! J Account 90:449 N '50

Plain paper recommended. J Account 91:734-6 My '51

Problem of the CPA who keeps books; to give or not to give an opinion. G. E. Hunt, jr. J Account 92:341-2 S '51

Reader replies to arguments in favor of plain paper for statements. J Account 92:92-3 Jl '51

Significance of Auditing statement 23 in relation to accountants' liability. A. M. Cannon. J Account 90:373-8 N '50

What bankers would like to find in audit reports submitted for credit purposes. R. L. Stauffer. J Account 91:416-21 Mr '51

What is the operating man entitled to expect from the accountant? E. L. Lindseth. Edison Elec Inst Bul 19:139-42 My '51

ACCOUNTING

Accounting technique for reporting financial transactions. R. K. Mautz. (Bur. of economic and business research special bul. 7) 91p Univ. of Illinois, Urbana '51

Controllers study pensions, personnel and defense problems at annual meeting, Chicago. J Account 90:414-18 N '50

Cost accountant looks at the economy. W. Harrison. N A C A Bul 32:966-9 Ap '51

Disclosure is a matter of managerial policy, not accounting doctrine. R. J. Chambers. J Account 92:223 Ag '51

Figures don't lie, but liars can figure; a program for improvement. N. J. Gulski. Credit & Fin Management 53:24-7 Jl '51

How coöperation in development of accounting principles by SEC and profession helps investors. H. A. McDonald. J Account 91:411-15 Mr '51

How weak accounting systems encourage employee embezzlements; four case histories. E. K. Redfern. J Account 92:82-6 Jl '51

Industrial engineers' relations with accounting. J. L. Wilson. Advanced Management 16:13-15 Ap '51

Influence of government regulation on development of today's accounting practices. P. F. Brundage. J Account 90:384-91 N '50

Interrelationship between law and accountancy; a symposium. J Account 92:62-71 Jl '51

Management accounting in the United States; excerpt from productivity report by Anglo-American council on productivity. N A C A Bul 32:643-57, 763-81 F-Mr '51

Milestones on the path of accounting. P. F. Brundage. Harvard Bsns R 29:71-81 Jl '51

Need for continuing change in accounting principles and practices. S. J. Broad. J Account 90:405-13 N '50

New group should be formed by top management to counsel Institute in development of accounting principles. N. L. McLaren. J Account 91:127-8 Ja '51

Planning and preparing a complete chart of accounts. P. C. Jung. N A C A Bul 32:1255-63 Je '51

Roadblocks in the path of accounting. P. F. Brundage. Harvard Bsns R 29:110-19 S '51

Thirty days hath September; 21 working day months, as accounting method. L. P. Jennings. N A C A Bul 32:802-7 Mr '51

ACCOUNTING—*Continued*

Today's great need for accounting data must not be allowed to encourage accounting to become an end in itself. J. Clayton. J Account 91:838-9 Je '51

Wide variety of technical and professional matters discussed at Institute 63d annual meeting, Boston. J Account 90:419-28 N '50

See also

Accountants, Public
Assets, Fixed
Auditing
Bank accounting
Billing
Budget, Business
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Credit—Accounting aspects
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Financial statements
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also subdivision Accounting under special subjects, e.g.

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Business consolidations
Charities
Clay products plants
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Contractors
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Gas, Natural
Gas companies
Hospitals
Income
Income tax
Industrial research
Inventories
Job work
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Machine shops
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Newspapers
Orchestras
Paper mills
Payrolls
Pensions, Industrial
Petroleum refineries
Plastic industries
Public utilities
Publishing
Rayon mills
Subcontracting
Sugar factories
Trusts and trustees

Bibliography

Current books and articles recently issued of especial interest to accountants. J Account 90:sup A57-8+ D '50 [cont monthly]

History

Accounting at the half-century mark. J Account 91:65-6 Ja '51

Inflation problems

Case against price-level adjustments in income determination. E. B. Wilcox and H. C. Greer. J Account 90:592-504; Discussion. G. O. May. 504-5 D '50

English accounting profession worries about inflation, too; the bad effects of rising prices, rising wages, and rising taxes. F. J. Alban. J Account 91:726-8 My '51

How a large oil company adjusted its accounts during postwar inflation behind the Iron Curtain; American company in Hungary. L. Paxton. J Account 92:190-7 Ag '51

To overcome inflationary distortions treat ordinary accounts like those of a foreign branch. W. T. Baxter. J Account 90:436-8 N '50

Laws and regulations

Maryland's uniform accounting system expected to benefit local governments. B. S. Schilling, jr. J Account 91:120-3 Ja '51

Milestones on the path of accounting. P. F. Brundage. Harvard Bsns R 29:71-81 Jl '51

Mechanical aids

Automatic accounting machine. il Engineering 171:516 Ap 27 '51

Electronic accounting for small orders; Doubleday's book clubs. J. Garth. il Am Bsns 20:14-15 O '50

End of the month peak periods can be leveled with right system; Rosenstock Motors uses mechanized bookkeeping equipment. P. Eastman. il Am Bsns 21:20-1 Jl '51

How accountants can learn more about proper application of business machines. J. B. Griffith. J Account 92:72-81 Jl '51

How air force mechanized; Kelly air force San Antonio, mechanizes its accounting. Am Bsns 21:45-6 Ja '51

Machines slash office turnover; Lit bros. department store uses high-speed accounting machines. L. Bolger. il Am Bsns 21: 24+ Jl '51

Missouri Pacific office brain; new IBM electronic calculator. E. Whitmore. il Am Bsns 20:10-11 N '50

New system enables one bookkeeper to replace four; County title company uses accounting machine. J. M. Conroy. il Am Bsns 21:20-1 Ap '51

One machine does many accounting jobs; National cash register company's Class 31 (electric) typewriter-accounting machine. N. Garner. il Ry Age 130:30-2 Ap 30 '51

Southern California Gas modernizes pay roll with machine equipment. S. E. Johnson and J. K. Windsor. il Am Gas J 174:15-16 Mr '51

Study of 20 motor carriers shows how punch-card accounting equipment is installed and used. E. W. Goode. J Account 91:434-8 Mr '51

These gear teeth are characters; toothed print wheel for IBM alphabetical accounting machine; illustrations and drawings with text. E. J. Tangerman. Am Mach 95:131-3 Mr 19 '51

What new system can do; mechanical accounting at Washington Post. G. S. Phillips. il Am Bsns 21:14-15+ Je '51

See also

Intelex
Punched card system
Tabulating machines

Rounding off system

Centsless accounting; Dravo corp., Pittsburgh. L. F. Adams. Am Bsns 21:38-40 Ap '51

Standards

Is there a need for separate accounting principles for nonprofit enterprises? L. Morey. J Account 91:562-5 Ap '51

Study and teaching

Courses of study leading to CPA certificates should not be narrow, nor fixed by law. H. C. Zug. J Account 92:175-9 Ag '51

Do our schools turn out industrial accountants? G. J. Kalcik. N A C A Bul 33:82-7, 94 S '51

What should the industrial accountant study? T. A. Budd. N A C A Bul 33:79-82 S '51

Hungary

How a large oil company adjusted its accounts during postwar inflation behind the Iron Curtain; American company in Hungary. L. Paxton. J Account 92:190-7 Ag '51

United States

Management accounting in U.S. is described by Anglo-American council on productivity. J Account 91:286-8 F '51

ACCOUNTING, Industrial. See Factories—Accounting

ACCOUNTING departments

Administration of a large accounting department. S. D. Flinn. N A C A Bul 32: 243-67 N '50

How to achieve an early closing; abstract. W. H. Duka. Management R 40:230-1 Ap '51

How Westinghouse controller's activity, accounting functions, are organized. W. V. Deane. J Account 91:402-7 Mr '51

Who says accountants and production men can't live together? W. Von Pechmann. Factory Management 108:230+ N '50

ACCOUNTING ethics

Auditor's responsibility for compliance with government regulations. J Account 92:161-2 Ag '51

Should accountants audit books they have kept? J Account 90:520-1 D '50

What are the accountant's responsibilities in preparing income-tax returns? D. G. Willard. J Account 91:549-53 Ap '51

ACCOUNTS receivable

Accounts receivable; how to save $4,000 a year; Garford trucking company. D. J. Zabolin. il Am Bsns 21:20+ Je '51

ACCRA, Gold Coast

Water supply

Gold Coast has waterworks problems similar to those of Canada. il Munic Util 89:29-30+ Ag '51

ACCUMULATORS, Electric. See Storage batteries

ACENAPHTHENE

Acenaphthene series; orientation of *tert.*-butyl- and di-*tert.*-butyl-acenaphthene, and preparation of new derivatives. H. E. Nürsten and A. T. Peters. Chem Soc J p729-36 F '50

Acenaphthene series; preparation and orientation of the three nuclear-substituted mono-*tert.*-butylacenaphthenes; isolation of pure 1-*tert.*-butylnaphthalene. E. Illingworth and A. T. Peters. Chem Soc J p 1602-7 Je '51

Acenaphthene series; two isomeric ethylacenaphthenes and their derivatives. H. E. Nürsten and A. T. Peters. Chem Soc J p2389-92 S '50

Dimorphism in acenaphthene-3-aldehyde. J. H. Gorvin. Chem Soc J p407-8 Ja '50

Preparation of some acenaphthoxyacetic acids. H. Rapoport, T. P. King and J. B. Lavigne. bibliog Am Chem Soc J 73:2718-21 Je '51

Study of the synthesis and some properties of acepleiadiene. V. Boekelheide, W. E. Langeland and C. Liu. bibliog Am Chem Soc J 73:2432-5 Je '51

ACENAPHTHYLENE

Fluoranthene derivatives; the reaction of acenaphthylene with butadiene derivatives. M. C. Kloetzel and H. E. Mertel. bibliog Am Chem Soc J 72:4786-91 O '50

ACEPLEIADIENE

Study of the synthesis and some properties of acepleiadiene. V. Boekelheide, W. E. Langeland and C. Liu. bibliog Am Chem Soc J 73:2432-5 Je '51

ACETALDEHYDE

Acetaldehyde by dehydrogenation of ethyl alcohol. J. M. Church and H. K. Joshi. bibliog diags Ind & Eng Chem 43:1804-11 Ag '51

Acetaldehyde, propionaldehyde, and *n*-butyraldehyde; some physical properties. T. E. Smith and R. F. Bonner. bibliog diag Ind & Eng Chem 43:1169-73 My '51

Cheaper synthesis; abstract. J. M. Church and H. K. Joshi. Chem Eng 57:291 N '50

Crossed reaction chains in oxidation by molecular oxygen; oxidation of hydrocarbons in aldehyde-air mixtures. N. J. H. Small and A. R. Ubbelohde. diags Chem Soc J p723-8 F '50

Free radicals in the photolysis and pyrolysis of acetaldehyde. P. D. Zemany and M. Burton. bibliog diag J Phys & Colloid Chem 55:949-64 Je '51

Kinetics of the oxidation of organic compounds by ceric sulphate; the reactivities of aliphatic ketones and acetaldehyde. J. Shorter. Chem Soc J p3425-31 D '50

Kinetics of the photolysis of acetaldehyde; the determination of ethane and hydrogen in the reaction products by the use of a mass spectrometer. C. J. Danby, A. S. Buchanan and I. H. S. Henderson. Chem Soc J p 1426-30 Je '51

Mechanism of photolysis of acetaldehyde. P. D. Zemany and M. Burton. Am Chem Soc J 73:499-500 Ja '51

Oxidation of aldehydes in the gaseous phase; the inhibition of the oxidation of acetaldehyde by nitrogen peroxide (dioxide). C. A. McDowell and J. H. Thomas. Chem Soc J p 1462-7 Je '50

Photolysis of aliphatic aldehydes; acetaldehyde-*d*. F. E. Blacet and R. K. Brinton. bibliog Am Chem Soc J 72:4715-19 O '50

Some applications of deuterium in the study of decomposition mechanisms of organic compounds. L. A. Wall and W. J. Moore. bibliog J Phys & Colloid Chem 55:965-74 Je '51

Manufacture

German synthetic prowess; features of the Hüls acetylene plant. Chem Age (Lond) 64:955-8 Je 23 '51

ACETALS

Benzylidene derivatives of L-arabinose diethyl acetal and dimethyl acetal. C. F. Huebner, R. A. Pankratz and K. P. Link. Am Chem Soc J 72:4811-12 O '50

Bromination of halogenoacetals. G. T. Newbold. Chem Soc J p3346-8 N '50

γ-Chlorobutyraldehyde and its diethyl acetal. R. B. Loftfield. Am Chem Soc J 73:1365-6 Mr '51

Experiments with acetals of pentaerythritol. E. D. Bergmann and E. Bograchov. Am Chem Soc J 73:1774-5 Ap '51

Formation of benzophenone and its diethylketal in the ethanolysis of diphenyldichloromethane. L. J. Andrews and W. W. Kaeding. bibliog Am Chem Soc J 73:1007-11 Mr '51

Geometrical isomerism of propylene acetals. H. J. Lucas and M. S. Guthrie. bibliog Am Chem Soc J 72:5490-1 D '50

Hydrolysis of the acetal of D(+)-2-octanol. J. M. O'Gorman and H. J. Lucas. bibliog Am Chem Soc J 72:5489-90 D '50

Ketene acetals; dealcoholation of orthoesters with aluminum *t*-butoxide. S. M. McElvain and W. R. Davie. Am Chem Soc J 73:1400-2 Ap '51

Ketene acetals; diethoxymethylketone diethylacetal. S. M. McElvain and L. R. Morris. Am Chem Soc J 73:206-7 Ja '51

Ketene acetals; diphenylketene dimethylacetal. S. M. McElvain, S. B. Mirviss and C. L. Stevens. bibliog Am Chem Soc J 73:3807-11 Ag '51

Ketene acetals; the preparation and properties of ketene divinylacetal and related compounds. S. M. McElvain and A. N. Bolstad. Am Chem Soc J 73:1988-92 My '51

Mixed acetals. F. Kipnis, H. Soloway and J. Ornfelt. Am Chem Soc J 73:1783-4 Ap '51

Non-reduction of the acetal group by lithium aluminum hydride. C. S. Marvel and H. W. Hill, jr. Am Chem Soc J 73:481 Ja '51

Preparation and hydrolysis of some acetals and esters of D(—)-2,3-butanediol. H. K. Garner and H. J. Lucas. bibliog Am Chem Soc J 72:5497-501 D '50

Preparation of α-bromoacetals. E. N. Marvell and M. J. Joncich. bibliog Am Chem Soc J 73:973-5 Mr '51

Some cyclic acetals of D-glucose and its derivatives. R. L. Mellie, C. L. Mehltretter and C. E. Rist. bibliog Am Chem Soc J 73:294-6 Ja '51

Some cyclic acetals of glyoxal. M. M. Sprung and F. O. Guenther. Am Chem Soc J 73:1884-6 Ap '51

ACETAMIDOBENZALDEHYDE

Oxidation and reduction of 4-acetamidobenzaldehyde thiosemicarbazone. R. Duschinsky and H. Gainer. Am Chem Soc J 73:4464-6 S '51

ACETAMIDOMESITYLENE

Steric hindrance in acetamidomesitylene. G. Sachs. bibliog J Ap Chem 1:203 My '51

ACETAMIDOQUINOLONE

Nitrosoacylarylamines; the nitrosation of 3-acetamido-4-quinolones and -quinaldones. W. J. Adams and D. H. Hey. Chem Soc J p 1521-7 Je '51

ACETATES

Allylic rearrangements; the formation and rearrangement of α,α-dialkylallyl acetates. W. G. Young and I. D. Webb. bibliog Am Chem Soc J 73:780-2 F '51

Nonequivalence of methyl and carboxyl groups in photometabolism of acetate by rhodospirillum rubrum. M. D. Kamen and others. Science 113:302 Mr 16 '51

ACETIC acid

Acid-base titrations in glacial acetic acid; acid potassium phthalate as primary standard and behavior of crystal violet indicator. W. Seaman and E. Allen. bibliog Anal Chem 23:592-4 Ap '51

Acidity function in aqueous acetic acid solutions. D. S. Noyce and P. Castelfranco. Am Chem Soc J 73:4482-3 S '51

Acylation reactions catalysed by strong acids; acetyl perchlorate as a *C*-acetylating agent. H. Burton and P. F. G. Praill. Chem Soc J p2034-8 Ag '50

Addition of acetic acid to perfluoro-2-butyne. A. L. Henne, J. V. Schmitz and W. G. Finnegan. Am Chem Soc J 72:4195-7 S '50

ACETIC acid—*Continued*

Carbon-sulphur fission in thio-ethers; the retarding influence of α-methyl groups and of the length of the acid chain on the alkaline hydrolysis of (2-ketoalkylthio)-and (*p*-nitrotriphenylmethylthio)-acetic acids. Y. Iskander and R. Tewfik. Chem Soc J p2050-3 Ag '51

Carbon-sulphur fission in thio-ethers; the retarding influence of α-methyl groups and of the length of the acid chain on the alkaline hydrolysis of (nitrobenzylthio)acetic acids. Y. Iskander and Y. Riad. Chem Soc J p2054-8 Ag '51

Carbon-sulphur fission in thio-ethers; the retarding influence of the length of the radical chain and of a second α-thio-acetic acid group on the alkaline hydrolysis of (nitrobenzylthio)-and (nitrodiphenylmethylthio)-acetic acids. Y. Iskânder and A. Salama. Chem Soc J p2058-62 Ag '51.

Condensation of ethyl acetoacetate to isodehydroacetic acid and ethyl ester. R. H. Wiley and N. R. Smith. Am Chem Soc J 73:3531-3 Jl '51

Coumarins; derivatives of coumarin-3- and -4-acetic acids. S. C. Laskowski and R. O. Clinton. bibliog Am Chem Soc J 72:3987-91 S '50

Dichromate reduction rate at a steel surface in air-free, acetic acid solution. N. Hackerman and R. M. Hurd. bibliog diag Electrochem Soc J 98:51-6 F '51

Distribution of the lower fatty acids between water and a variety of solvents. M. Davies and others. Chem Soc J p 1249-52 My '51

Evaporation errors in determination of trace concentrations of low molecular weight solutes in carbon tetrachloride. M. R. Meeks, V. E. Whittier and C. W. Young. Anal Chem 23:792-3 My '51

Extraction in a pilot-unit spray tower. C. J. Geankoplis, P. L. Wells and E. L. Hawk. bibliog flow diag diags Ind & Eng Chem 43:1848-56 Ag '51

Kinetics of chlorohydrin formation; the reaction between hypochlorous acid and allyl alcohol in the presence of sodium acetate-acetic acid buffers of constant *pH*. G. C. Israel. Chem Soc J p 1286-9 My '50

Limiting negative pressure of acetic acid and benzene in relation to temperature; abstract. L. J. Briggs. Science 112:427 O 13 '50

Limiting negative pressure of acetic acid, benzene, aniline, carbon tetrachloride, and chloroform. L. J. Briggs. J Chem Phys 19: 970-2 Jl '51

Liquid-liquid extraction from single drops. F. B. West and others. bibliog diag Ind & Eng Chem 43:234-8 Ja '51

Materials of construction report. il diags(p 111) Chem Eng 57:108-10 N '50

Preparation of acetic-2-C^{14} acid. D. N. Hess. Am Chem Soc J 73:4038 Ag '51

Rates of decomposition of acetyl peroxide in acetic acid and carbon tetrachloride. S. D. Ross and M. A. Fineman. bibliog Am Chem Soc J 73:2176-81 My '51

Reaction of *a*-cyanoprene (1-cyanobuta-1 : 3-diene); dimers. J. L. Charlish and W. H. Davies. Chem Soc J p 1385-8 My '50

Reaction of nitrous acid with diaminoguanidine in acetic acid media; isolation and structure proof of reaction products. E. Lieber and D. R. Levering. bibliog Am Chem Soc J 73:1313-17 Mr '51

Reaction products of lignin and sodium chlorite in acid solution. J. S. Barton. bibliog flow sheets Tappi 33:496-503 O '50

Reactions of diazoketones; kinetics of the decomposition of some *p*-substituted-α-diazoacetophenones in acetic acid. J. F. Lane and R. L. Feller. bibliog Am Chem Soc J 73:4230-4 S '51

Recovery and concentration of acetic acid in cellulose acetate manufacture; abstract and discussion. W. F. Hastie. Chem & Ind p71 Ja 27 '51

Titrimetry in glacial acetic acid. P. C. Markunas and J. A. Riddick. bibliog Anal Chem 23:337-9 F '51

Vapor-phase catalytic esterification rates. R. A. Buckley and R. J. Altpeter. bibliog flow sheet Chem Eng Prog 47:243-50 My '51

Vapor phase dissociation of some carboxylic acids; acetic acid. M. D. Taylor. Am Chem Soc J 73:315-17 Ja '51

See also
Trichloroacetic acid

Manufacture

Construction of acid recovery units; indoors or outdoors? H. S. Kemp and others. il Chem Eng Prog 47:339-40 Jl '51

ACETIC anhydride

Action of acetic anhydride on benzalaniline; a reinvestigation. A. W. Burgstahler. bibliog Am Chem Soc J 73:3021-3 Jl '51

Acylation reactions catalysed by strong acids; acetyl perchlorate as a *C*-acetylating agent. H. Burton and P. F. G. Praill. Chem Soc J p2034-8 Ag '50

Acylation reactions catalysed by strong acids; evidence for the existence of acetylium (the acetyl cation), $(CH_3 \cdot CO)^+$, in solutions of concentrated aqueous perchloric acid in acetic anhydride. H. Burton and P. F. G. Praill. Chem Soc J p 1203-6 Ap '50

Acylation reactions catalysed by strong acids; mixtures of zinc chloride and acetyl chloride or acetic anhydride as sources of acetylium ions. H. Burton and P. F. G. Praill. Chem Soc J p726-30 Mr '51

Addition of acetic anhydride to benzalaniline; the Perkin reaction in the nitrogen system. H. S. Angel and A. R. Day. bibliog Am Chem Soc J 72:3874-7 S '50

Conductance of methanol, acetone, ethyl acetate and acetic anhydride complexes of aluminum bromide in nitrobenzene at 25°. R. E. Van Dyke. Am Chem Soc J 73:398-402 Ja '51

Continuous flow stirred tank reactor systems; agitation requirements. R. W. MacDonald and E. L. Piret. bibliog il diags Chem Eng Prog 47:363-9 Jl '51

Cryoscopic measurements in sulphuric acid; the solutes acetic anhydride and benzoic anhydride; cryoscopic evidence for the acetylium and benzoylium ions. R. J. Gillespie. Chem Soc J p2997-3000 N '50

Infra-red spectroscopic investigation of the reaction between acetic anhydride and butyric anhydride. L. Brown and I. F. Trotter. Chem Soc J p87-93 Ja '51

Methylene-nitramines; an investigation of some properties of 1-alkoxymethyl-3 : 5-dinitro-1 : 3 : 5-triaza*cyclo*hexane and of related compounds. K. W. Dunning and W. J. Dunning. Chem Soc J p2925-8 N '50

Quantitative studies of the reactivities of mixed carboxylic anhydrides; the composition of the acylation products in the reaction between acetic chloroacetic anhydride and primary aromatic amines. A. R. Emery and V. Gold. Chem Soc J p 1443-7 Je '50

Quantitative studies of the reactivities of mixed carboxylic anhydrides; the determination of some reaction velocities involving acetic chloroacetic anhydride. A. R. Emery and V. Gold. Chem Soc J p 1447-55 Je '50

Quantitative studies of the reactivities of mixed carboxylic anhydrides; the hydrolysis and some acylation reactions of a series of acetic chloroaliphatic acid anhydrides. A. R. Emery and V. Gold. Chem Soc J p 1455-60 Je '50

Reaction of α-dimethylaminoacids with acetic anhydride. J. A. King and F. H. McMillan. bibliog Am Chem Soc J 73:4451-3 S '51

Reactions of nitroparaffins; the reaction of primary nitroparaffins with acetic anhydride. T. Urbański. Chem Soc J p3374-6 D '49

Structure determination and synthesis of 1-acetamidomethylhexamine nitrate. W. E. Bachmann, E. L. Jenner and L. B. Scott. Am Chem Soc J 73:2775-7 Je '51

Structure of the benzalaniline-acetic anhydride addition product. H. R. Snyder, D. B. Bright and J. C. Lorenz. Am Chem Soc J 73:1836-7 Ap '51

See also
Dakin-West reaction

ACETOACETATES

Acetoacetic ester-type cleavage by aniline. R. M. Roberts and M. B. Edwards. bibliog Am Chem Soc J 72:5537-9 D '50

Condensation of acetoacetic ester with some unsymmetrical epoxides. R. M. Adams and C. A. VanderWerf. bibliog Am Chem Soc J 72:4368-73 O '50

ACETOBACTER

Contribution to the study of acetobacters of the rapid vinegar type; abstract. J. M. Wiame and R. Lambion. Food Eng 23:158-9 My '51

L-Fuco-4-ketose, a new sugar produced by the action of acetobacter suboxydans on L-fucitol. N. K. Richtmyer, L. C. Stewart and C. S. Hudson. bibliog Am Chem Soc J 72:4934-7 N '50

ACETOLYSIS

Simple acetolysis of nitrate esters. M. L. Wolfrom, R. S. Bower and G. G. Maher. Am Chem Soc J 73:874-5 F '51

ACETONE

Analysis of mercuric ion-anion mixtures. J. B. Fernandez, L. T. Snider and E. G. Rietz. bibliog Anal Chem 23:899-900 Je '51

Composition of vapors from boiling solutions; systems containing acetone, chloroform, and methyl isobutyl ketone. A. E. Karr and others. bibliog Ind & Eng Chem 43:961-8 Ap '51

Concerted displacement reactions; the mechanism of acid-base catalysis in water solution. C. G. Swain. bibliog Am Chem Soc J 72:4578-83 O '50

Conductance of methanol, acetone, ethyl acetate and acetic anhydride complexes of aluminum bromide in nitrobenzene at 25°. R. E. Van Dyke. Am Chem Soc J 73:398-402 Ja '51

Conductance of sulfamic acid and some sulfamates in water at 25° and conductance measurements of some long chain sulfamates in water and in water-acetone mixtures at 25°. E. G. Taylor, R. P. Desch and A. J. Catotti. bibliog Am Chem Soc J 73:74-7 Ja '51

Experiments on the catalytic exchange of acetone and propane with deuterium. L. N. Kauder and T. I. Taylor. bibliog Science 113:238-41 Mr 2 '51

Fluorescence of acetone vapor. G. W. Luckey and W. A. Noyes, jr. bibliog J Chem Phys 19:227-31 F '51

Kinetics of the oxidation of organic compounds by ceric sulphate; the oxidation of acetone. J. Shorter and C. Hinshelwood. Chem Soc J p3276-83 N '50

Partial hydrogenation of difurfuralacetone and related compounds. K. Alexander and others. Am Chem Soc J 72:5506-7 D '50

Photochemical studies; pyridine and mixtures of acetone and pyridine. R. H. Linnell and W. A. Noyes, jr. bibliog Am Chem Soc J 73:3986-8 Ag '51

Photolysis of acetone; diffusion of methyl radicals from the light beam and the activation energy of hydrogen abstraction. A. J. C. Nicholson. bibliog Am Chem Soc J 73:3981-6 Ag '51

Preparation of propane-1-C^{13}; electroreduction of acetone to propane. A. S. Gordon and S. Heimel. Am Chem Soc J 73:2942-3 Je '51

Properties of electrolytic solutions; conductance of some salts in acetone. M. J. McDowell and C. A. Kraus. Am Chem Soc J 73:3293-6 Jl '51

Racemization of the dimethyl ester of *l*-bromosuccinic acid by lithium bromide in acetone. A. R. Olson, L. D. Frashier and F. J. Spieth. bibliog J Phys & Colloid Chem 55:860-73 Je '51

Rate constant of ethane formation from methyl radicals. R. Gomer and G. B. Kistiakowsky. bibliog J Chem Phys 19:85-91 Ja '51

Reactions of methyl radicals. A. F. Trotman-Dickenson and E. W. R. Steacie. bibliog J Phys & Colloid Chem 55:908-22; Discussion. 922-4 Je '51

Reactions of methyl radicals; abstraction of hydrogen atoms from cyclic hydrocarbons, butynes, amines, alcohols, ethers, and ammonia. A. F. Trotman-Dickenson and E. W. R. Steacie. bibliog J Chem Phys 19:329-36 Mr '51

Reactions of methyl radicals; abstraction of hydrogen atoms from olefins. A. F. Trotman-Dickenson and E. W. R. Steacie. bibliog J Chem Phys 19:169-71 F '51

Reactions of methyl radicals; abstraction of hydrogen atoms from paraffins. A. F. Trotman-Dickenson and others. J Chem Phys 19:163-8 F '51

Structures of β-diacetone-D-fructose and β-monoacetone-D-fructose. M. L. Wolfrom, W. L. Shilling and W. W. Binkley. bibliog Am Chem Soc J 72:4544-5 O '50

Systems cobaltous nitrate-water-acetone and cobaltous nitrate-water-*t*-butyl alcohol at 25°. L. I. Katzin and J. R. Ferraro. bibliog Am Chem Soc J 72:5451-5 D '50

Thermochemistry for the petrochemical industry; some C_3 oxygenated hydrocarbons. K. A. Kobe and others. bibliog Pet Refiner 30:119-22 Ag '51

Vapor-liquid equilibria in binary systems; systems involving *cis-* or *trans*-dichloroethylene and a ketone or ester. N. Alpert and P. J. Elving. bibliog Ind & Eng Chem 43:1182-6 My '51

Analysis

Analysis of binary and ternary mixtures; system acetone-chloroform-methyl isobutyl ketone. A. E. Karr, W. M. Bowes and E. G. Scheibel. bibliog diag Anal Chem 23:459-63 Mr '51

Analysis of three-component liquid mixtures by refractive index alone. W. M. Spicer and L. H. Meyer. bibliog Anal Chem 23:663-4 Ap '51

ACETONITRILE

Rotation-vibration spectrum of methyl cyanide in the region 1.6μ-20μ. P. Venkateswarlu. bibliog J Chem Phys 19:293-8 Mr '51

ACETONYLACETONE. See Hexanedione

ACETOPHENETIDIN. See Phenacetin

ACETOPHENONE

Alkenylation by use of lithium alkenyls; the condensation of *iso*butenyl-lithium with benzaldehyde and acetophenone, and the oxotropic rearrangement of the resulting carbinols; studies in molecular rearrangement. E. A. Braude and C. J. Timmons. diag Chem Soc J p2000-6 Ag '50

Apparent polarities of a number of substituted chloro-, nitro-, methyl-, methoxy-, and acetyl-benzenes. C. G. Le Fèvre and R. J. W. Le Fèvre. Chem Soc J p 1829-33 Jl '50

α-Hydroxy-β-amino ketones and derivatives. N. H. Cromwell and N. G. Barker. Am Chem Soc J 72:4110-12 S '50

Partial asymmetric synthesis in a Reformatsky reaction. J. A. Reid and E. E. Turner. Chem Soc J p3365-8 D '49

Reactions of diazoketones; kinetics of the decomposition of some *p*-substituted-α-diazoacetophenones in acetic acid. J. F. Lane and R. L. Feller. bibliog Am Chem Soc J 73:4230-4 S '51

Reactions of organic peroxides; reactions of αα-dimethylbenzyl hydroperoxide (*iso*propylbenzene hydroperoxide). E. G. E. Hawkins. Chem Soc J p2169-73 Ag '50

Reactions of peracids; the reaction of substituted acetophenones with perbenzoic acid. S. L. Friess and A. H. Soloway. Am Chem Soc J 73:3968-72 Ag '51

Schmidt reaction of some *p*-substituted acetophenones. H. H. Szmant and J. J. McIntosh. Am Chem Soc J 72:4835-6 O '50

Studies on antibiotics; substituted ω-phenylsulphonylacetophenones, bisphenylthio- and bisphenylsulphonyl-alkane derivatives. F. Bergel, A. L. Morrison and H. Rinderknecht. Chem Soc J p659-63 F '50

Studies on the mechanism of the Willgerodt reaction; the over-all mechanism. E. V. Brown, E. Cerwonka and R. C. Anderson. bibliog Am Chem Soc J 73:3735-8 Ag '51

Synthesis and reaction of α-acetoxy and α-benzoxy-β-amino ketones. N. H. Cromwell and F. W. Starks. bibliog Am Chem Soc J 72:4108-10 S '50

ACETOTHIOPHENAMIDE. See Thiophene acetamide

ACETOVANILLONE

Aged in wood. Chem Ind 67:878-9 D '50

ACETOXY group

Role of neighboring groups in replacement reactions; complex neighboring groups; the benzamido group. S. Winstein and R. Boschan. bibliog Am Chem Soc J 72:4669-77 O '50

ACETOXYMETHOXYCHOLESTANOL

Dehydration of 6β-acetoxy-3β-methoxycholestan-5α-ol. M. Davis and V. Petrow. Chem Soc J p2211-12 Ag '51

ACETOXYPENTANDIONE

Preparation of 3-acetoxy-2 : 4-pentandione, and some by-products in acetoxylations with lead tetraacetate. W. Cocker and J. C. P. Schwarz. Chem & Ind p390 My 19 '51

ACETYL

Determination of acetyl in pectin. E. L. Pippen, R. M. McCready and H. S. Owens. bibliog diag Anal Chem 22:1457-8 N '50

ACETYLACETONE

Determination of trivalent and tetravalent manganese. W. S. Fyfe. Anal Chem 23:174-5 Ja '51

Effect of solvents on tautomeric equilibria. J. Powling and H. J. Bernstein. bibliog Am Chem Soc J 73:4353-6 S '51

Equilibrium between the complexes of tervalent manganese with 2,4-pentanedione. G. H. Cartledge. bibliog Am Chem Soc J 73:4416-19 S '51

Mechanism of the hydrolytic cleavage of carbon-carbon bonds; alcoholysis of acetylacetone and some 2-ketoalkylpryridinium salts. R. G. Pearson and A. C. Sandy. Am Chem Soc J 73:931-4 Mr '51

Organic fluorides; co-ordination compounds of fluoroacetylacetones. R. N. Haszeldine and others. Chem Soc J p609-12 F '51

ACETYLAMINOBENZALDEHYDE thiosemicarbazone

Spectrophotometric analysis of amithiozone preparations. G. B. Levy and D. Fergus. Anal Chem 23:384-5 F '51

ACETYLAMINOFLUORENE

Competitive action of 2-thiouracil and uracil in AAF-induced cancer of the liver. K. E. Paschkis and others. bibliog Science 114: 264-5 S 7 '51

ACETYLAMINOPHENOL

Tons of APAP. il Chem Ind W 68:19-20 Ja 20 '51

ACETYL benzene. See Acetophenone

ACETYL bromide

Friedel-Crafts reaction of fluoranthene. N. Campbell, W. K. Leadill and J. F. K. Wilshire. Chem Soc J p 1404-6 Je '51

ACETYL chloride

Acylation reactions catalysed by strong acids; mixtures of zinc chloride and acetyl chloride or acetic anhydride as sources of acetylium ions. H. Burton and P. F. G. Praill. Chem Soc J p726-30 Mr '51

Heats of hydrolysis of the chloro-substituted acetyl chlorides. H. O. Pritchard and H. A. Skinner. Chem Soc J p272-6 Ja '50

Reaction of acetyl chloride with 1-nitro-2-nitramino-2-propoxyimidazolidine. R. H. Hall and G. F. Wright. Am Chem Soc J 73:2213-16 My '51

Reactions of 1-nitro-2-nitramino-2-propylaminoimidazolidine with acetyl chloride. R. H. Hall and G. F. Wright. Am Chem Soc J 73:2208-13 My '51

Reactions of propylene sulphide with acetyl chloride and related compounds. W. Davies and W. E. Savige. Chem Soc J p317-22 Ja '50

Rearrangement in the Nenitzescu reaction of cycloheptene with acetyl chloride and aluminum chloride. S. L. Friess and R. Pinson, jr. bibliog Am Chem Soc J 73:3512-14 Jl '51

ACETYLCHOLINE

Method of intravenous injection of drugs from a distance in conditional reflex studies. H. A. Teitelbaum and W. H. Gantt. diags Science 113:603-5 My 25 '51

Molecular configuration and biological activity of substances resembling acetyl-choline. J. H. Welsh and R. Taub. bibliog Science 112:467-9 O 20 '50

Simple instrument for the determination of ACH. J. B. Davidson. diags Science 114: 361-2 O 5 '51

Studies concerning the relationship between chemical constitution and biological activity in a group of reversed carboxyl (RC) analogues of acetylcholine. F. W. Schueler and others. bibliog Science 113:512-14 My 4 '51

Synthesis of choline and acetylcholine labeled in the ethylene chain with isotopic carbon. D. E. Walz, M. Fields and J. A. Gibbs. bibliog Am Chem Soc J 73:2968 Je '51

ACETYL compounds

Isomerism of the oximes; the acid hydrolysis of acetyl-α-aldoximes. O. L. Brady and J. Miller. Chem Soc J p 1234-42 My '50

Isomerism of the oximes; the hydrolysis of acyl derivatives. M. Benger and O. L. Brady. Chem Soc J p 1221-7 My '50

Isomerism of the oximes; the hydrolysis of acyl halogenobenzaldoximes by alkalis. O. L. Brady and S. G. Jarrett. Chem Soc J p 1227-32 My '50

Isomerism of the oximes; the kinetics of the pyrolysis of acyl derivatives. D. Ambrose and O. L. Brady. Chem Soc J p 1243-9 My '50

N→O acyl migration in epimeric acetyl inosamines. G. E. McCasland. bibliog Am Chem Soc J 73:2295-7 My '51

ACETYL fluoride

Heat of hydrolysis of acetyl fluoride. H. O. Pritchard and H. A. Skinner. Chem Soc J p 1099 Ap '50

ACETYLGLUTAMIC acid

Preparation of acetyl-L-leucine and acetyl-L-glutamic acid. H. Wolff and A. Berger. bibliog Am Chem Soc J 73:3533-4 Jl '51

ACETYLLEUCINE

Preparation of acetyl-L-leucine and acetyl-L-glutamic acid. H. Wolff and A. Berger. bibliog Am Chem Soc J 73:3533-4 Jl '51

Preparation of pure N-acetyl-L-leucine and L-leucine. H. D. DeWitt and A. W. Ingersoll. Am Chem Soc J 73:3359-60 Jl '51

ACETYLMETHYL urea

Preparation of *N*-acetyl-*N*-methylurea by an electrolytic process. M. Lamchen. Chem Soc J p748 F '50

ACETYL peroxide

Rates of decomposition of acetyl peroxide in acetic acid and carbon tetrachloride. S. D. Ross and M. A. Fineman. bibliog Am Chem Soc J 73:2176-81 My '51

Reactions of atoms and free radicals in solution; the reactions of acetyl peroxide with chloro- and dichloroalkanes. M. S. Kharasch and G. Buchi. bibliog Am Chem Soc J 73: 632-42 F '51

ACETYL phosphate

Kinetics of peptide bond formation. D. E. Koshland, jr. bibliog Am Chem Soc J 73: 4103-8 S '51

ACETYLSALICYLIC acid

Spectrophotometric determinations of esterases. B. H. J. Hofstee. Science 114:128-30 Ag 3 '51

Analysis

Infrared analysis of pharmaceutical products; acetylsalicylic acid, phenacetin, and caffeine, and combinations of these with codeine or thenylpyramine. T. V. Parke and others. bibliog Anal Chem 23:953-7 Jl '51

ACETYL succinic acid

Synthetical experiments in the B group of vitamins; pyrrolinones derived from the condensation products of primary amino-esters and formyl- or acetyl-succinic acid derivatives. A. Cohen. Chem Soc J p3005-9 N '50

ACETYL sulfide

Convenient synthesis of acetyl sulfide. W. A. Bonner. Am Chem Soc J 72:4270-1 S '50

ACETYLTHIOPHENE

Synthesis and oxidation of 2,2′-methylene-bis-(5-acetylthiophene). T. L. Cairns, B. C. McKusick and V. Weinmayr. Am Chem Soc J 73:1270-3 Mr '51

ACETYLVANILLIN

Synthesis and proof of structure of 5-acetylvanillin. H. E. Smith, C. R. Russell and L. E. Schniepp. bibliog Am Chem Soc J 73: 793-5 F '51

ACETYLATION

Acetylation of 3,5-dibromosulfanilamide. M. K. Seikel and N. A. Strahan. Am Chem Soc J 73:2486-7 My '51

Acetylation of 3,2′-nicotyrine. P. G. Haines and A. Eisner. bibliog Am Chem Soc J 72: 4618-21 O '50

Acetylation of starch. R. Lohmar and C. E. Rist. Am Chem Soc J 72:4298-9 S '50

Acylation reactions catalysed by strong acids; evidence for the existence of acetylium (the acetyl cation), $(CH_3{\cdot}CO)^+$, in solutions of concentrated aqueous perchloric acid in acetic anhydride. H. Burton and P. F. G. Praill. Chem Soc J p 1203-6 Ap '50

ACETYLATION —*Continued*

α- and the β-form of 2 : 3 : 4 : 6-tetra-acetyl D-galactopyranose anilide. K. Butler, F. Smith and M. Stacey. Chem Soc J p3371-4 D '49

Amine-*N*-glycosides; arylamine-*N*-glucosides. J. Honeyman and A. R. Tatchell. Chem Soc J p967-71 Mr '50

C-Acetylation of α′β′-naphthindole (4 : 5-benzindole) derivatives. S. G. P. Plant and M. W. Thompson. Chem Soc J p 1065-7 Ap '50

Monoacetylation of 2,4-diamino-6-nitrotoluene. R. J. Foster, F. G. Rosicky and C. Niemann. bibliog Am Chem Soc J 72:3959-60 S '50

Reactivity of cellulose to acetylation; abstract. K. Borgin. diag Paper Ind 33:545 Ag '51

Reductive acetylation of aliphatic nitro-compounds. C. Simons. Chem Soc J p2392-3 S '50

Synthesis of derivatives of 5 : 6-dihydroxyindole; 5 : 6-dihydroxyindole and related compounds. H. Burton, J. A. Duffield and P. F. G. Praill. Chem Soc J p 1062-5 Ap '50

ACETYLENE

Acetylene and acetylenic compounds in organic synthesis. E. R. H. Jones. Chem Soc J p754-61 F '50

Acetylene; CEN staff report. bibliog diag Chem & Eng N 28:4244-7 D 4 '50

Acetylene reactions; acetylenic amino-alcohols from benzophenones. H. P. W. Huggill and J. D. Rose. Chem Soc J p335-9 Ja '50

Acetylene reactions; trimerisation of ethynyl compounds. J. D. Rose and F. S. Statham. Chem Soc J p69-70 Ja '50

Chemistry of acetylene; A.C.S. Organic division papers. Chem & Eng N 29:3833 S 17 '51

Chemists give new play to acetylene. Bsns W p42+ Jl 7 '51

Condensation of acetylenes with esters; 3-dialkylamino-1-propynes with alkyl carbonates and alkyl benzoates and phenylacetylene with methyl oxalate. W. J. Croxall, J. O. Van Hook and H. J. Schneider. Am Chem Soc J 73:2713-16 Je '51

Copolymerization; copolymerization of acetylene derivatives with olefins; retardation by radicals from acetylenes. K. W. Doak. bibliog Am Chem Soc J 72:4681-6 O '50

Infra-red spectrum of C_2H_2 from 4400 to 8500 cm^{-1}. R. M. Talley and A. H. Nielsen. J Chem Phys 18:1680-1 D '50

Interest grows in acetylene as chemical building block. Pet Processing 6:808 Ag '51

Isotope effect in hydrocarbon flame spectra. G. M. Murphy and L. Schoen. il J Chem Phys 19:380-1 Mr '51

Kinetics of the reaction of atomic hydrogen with acetylene. J. R. Dingle and D. J. Le Roy. diags J Chem Phys 18:1632-7 D '50

Plastics from acetylene on increase; may lead to its manufacture from natural gas. R. S. Aries and R. M. Cziner. Oil & Gas J 50: 122+ My 17 '51

Reactions of fluorocarbon radicals; the reaction of trifluoroiodomethane with acetylene. R. N. Haszeldine. diag Chem Soc J p3037-41 N '50

Studies in acetylene flames; dangers associated with carbon monoxide produced from acetylene lamps in coal mines. A. P. C. Cumming and J. A. Horn. bibliog J Ap Chem 1:198-202 My '51

Studies in acetylene flames; formation of carbon monoxide from 2-in. flame. A. P. C. Cumming and J. A. Horn. Soc Chem Ind J 69(sup no 1):S30-3 '50

Substituted cycloöctatetraenes from substituted acetylenes. A. C. Cope and H. C. Campbell. Am Chem Soc J 73:3536-7 Jl '51

Ultrasonic investigation of liquids; acetylene derivatives. A. Weissler and V. A. Del Grosso. Am Chem Soc J 72:4209-10 S '50

Vibration-rotation transitions of C_2D_2 in the microwave region. R. M. Talley and A. H. Nielsen. J Chem Phys 19:805-6 Je '51

See also

Oxyacetylene cutting
Oxyacetylene flame
Oxyacetylene welding

Manufacture

German synthetic prowess; features of the Hüls acetylene plant. Chem Age (Lond) 64:955-8 Je 23 '51

More acetylene to be made with UCC oxidation process. Chem & Eng N 29:1957-8 My 14 '51

New process uses electrical pulses to convert methane to acetylene; patent. diag Pet Processing 6:757-8 Jl '51

Processes compete in acetylene boom. J. Happel and C. Marsel. bibliog il Chem Ind W 68:17-26 Ap 28 '51

ACETYLENE compounds

Acetylene and acetylenic compounds in organic synthesis. E. R. H. Jones. Chem Soc J p754-61 F '50

Acetylene chemicals; pictured flow sheet. Chem Eng 58:176-9 Je '51

Application of lithium alkynyls in the synthesis of long-chain dialkylacetylenes. B. B. Elsner and P. F. M. Paul. diag Chem Soc J p893-7 Ap '51

Condensation of 2-dimethylaminomethyl-*cyclo*hexan-1-one with acetylenic compounds. R. A. Raphael and F. Sondheimer. Chem Soc J p3185-7 N '50

Cyclic polyolefins; isolation of vinylcycloöctatetraene and *cis*-1-phenyl-1,3-butadiene from acetylene polymers. A. C. Cope and S. W. Fenton. bibliog Am Chem Soc J 73: 1195-8 Mr '51

Kinetics of halogen addition; acetylenic compounds. P. W. Robertson and others. Chem Soc J p 1628-30 Je '50

Microwave spectrum and molecular constants of trifluoromethyl acetylene. W. E. Anderson and others. il Phys R 82:58-60 Ap 1 '51

Researches on acetylenic compounds. J. B. Armitage and others. diags Chem Soc J p44-52, 763-71 Ja, Mr '51

Researches on acetylenic compounds; Diels-Alder reactions with acetylenic keto-esters. T. Y. Shen and M. C. Whiting. Chem Soc J p 1772-6 Jl '50

Researches on acetylenic compounds; further Reformatsky reactions with propargyl bromides. H. B. Henbest, E. R. H. Jones and I. M. S. Walls. Chem Soc J p3646-50 D '50

Researches on acetylenic compounds; synthesis of (±)-kawain. E. M. F. Fowler and H. B. Henbest. Chem Soc J p3642-5 D '50

Researches on acetylenic compounds; the preparation and properties of αβ-acetylenic γ-keto-esters. E. R. H. Jones, T. Y. Shen and M. C. Whiting. Chem Soc J p236-41 Ja '50

Researches on acetylenic compounds; the preparation and properties of the toluene-*p*-sulphonates of acetylenic alcohols. G. Eglinton and M. C. Whiting. Chem Soc J p3650-6 D '50

Researches on acetylenic compounds; the reaction between nickel carbonyl and monosubstituted acetylenic compounds. E. R. H. Jones, T. Y. Shen and M. C. Whiting. Chem Soc J p230-6 Ja '50

Role of hybridization and resonance in molecular structure. J. Duchesne. bibliog J Chem Phys 19:246-7 F '51

Studies in the polyene series; a new method for the synthesis of some acetylenic acids related to vitamin A. J. B. Toogood and B. C. L. Weedon. Chem Soc J p3123-6 D '49

Studies in the polyene series; further syntheses of acetylenic acids related to vitamin A. T. Bruun and others. Chem Soc J p633-7 F '50

Synthesis of long-chain aliphatic acids from acetylenic compounds. R. A. Raphael and F. Sondheimer. Chem Soc J p 115-22 Ja '50

Synthesis of long-chain aliphatic acids from acetylenic compounds; a new approach to the synthesis of branched-chain acids. C. L. Leese and R. A. Raphael. Chem Soc J p2725-30 O '50

Synthesis of long-chain aliphatic acids from acetylenic compounds; the synthesis of linoleic acid. R. A. Raphael and F. Sondheimer. Chem Soc J p2100-3 Ag '50

See also

Cuprene
Propyne

ACETYLENEDICARBOXYLIC acid

Olefinic acids; the addition of thiols to propiolic and acetylenedicarboxylic acid. L. N. Owen and M. U. S. Sultanbawa. Chem Soc J p3109-13 D '49

ACETYLENE lamps

Studies in acetylene flames; dangers associated with carbon monoxide produced from acetylene lamps in coal mines. A. P. C. Cumming and J. A. Horn. bibliog J Ap Chem 1:198-202 My '51

ACID number of oils. See Oil analysis

ACID resisting materials

Carbonizing tank of acid-resistant stainless steel. il Comp Air Mag 56:51 F '51

Chemical engineering materials of construction; cements. C. R. Payne. il Ind & Eng Chem 43:2203-7, 2286-7 bibliog(105 ref, p2206-7) O '51

Construction materials in the paper industry; acid pulping; symposium. il Chem Eng 57: 223-4+ D '50

Corrosion forum; chromic acid. il Chem Eng 58:147+ F '51

Materials of construction vs. citric acid. il Chem Eng 58:211-12+ Mr '51

Standard laboratory corrosion test for metals in phosphoric-acid service. H. F. Ebling and M. A. Scheil. il A S M E Trans 73: 975-87 O '51

Storage battery paint resists acid corrosion. il Power Eng 54:92 N '50; Steel 127:113 D 4 '50

See also

Corrosion resisting materials

ACID waste

Acid chemical wastes made harmless by automatic lime slurry neutralization; Sylvania electric products inc. plant. diags Eng N 146:47-8 Ja 25 '51

Acid drainage from coal mines. S. A. Braley. Min Eng 3:Trans 703-7 Ag '51

Critical review of literature on the toxicity of industrial wastes and their components to fish. P. Doudoroff and M. Katz. bibliog Sewage & Ind Wastes 22:1439-45 N '50

Disposal of waste pickling liquors; abstract. T. F. Reed. Steel 128:75 Ap 9 '51

Neutralization nomograph for determining alkali requirement in neutralizing acidic wastes. R. D. Hoak. Water & Sewage Works 98:360-1 Ag '51

Neutralization of acid wastes. H. L. Jacobs. Sewage & Ind Wastes 23:900-5 Jl '51

Pilot plant built to study the application of lime for neutralizing of waste pickle liquor; abstract. W. E. Wing. Steel 128:75-6 Ap 9 '51

Spent acid recovery offers solution for tight sulfur supply. F. J. Bartholomew. il plan Pet Refiner 30:101-3 Ap '51

Waste pickle liquor at Walker of Conshohocken; abstract. C. J. Lewis. Water & Sewage Works 98:421 O '51

ACIDIMETRY

Acidimetric titration of alkali chloride and hydrochloride salts. T. Tiguchi and J. Concha. Science 113:210-11 F 23 '51

Acidimetric titrations in the fluosilicic acid system. S. M. Thomsen. bibliog Anal Chem 23:973-5 Jl '51

Titration of acids in nonaqueous solvents. J. S. Fritz and N. M. Lisicki. bibliog Anal Chem 23:589-91 Ap '51

Tris(hydroxymethyl)aminomethane as an acidimetric standard. J. H. Fossum, P. C. Markunas and J. A. Riddick. bibliog Anal Chem 23:491-3 Mr '51

ACIDITY

Acidity function in aqueous acetic acid solutions. D. S. Noyce and P. Castelfranco. Am Chem Soc J 73:4482-3 S '51

Aromatic sulphonation; the ionisation constants of *p*-nitrotoluene, nitrobenzene, and *p*-chloronitrobenzene, and the acidity function of oleum. J. C. D. Brand. Chem Soc J p997-1003 Mr '50

Behavior of bromophthalein magenta E (tetrabromophenolphthalein ethyl ester) with organic bases and its bearing on the Brønsted-Lowry and Lewis concepts of acidity. M. M. Davis and H. B. Hetzer. bibliog (45 ref) J Res Nat Bur Stand 46:496-511 Je '51

Comparative acidic properties of some 5-substituted tetrazoles. E. Lieber, S. H. Patinkin and Hsiang Hsia Tao. bibliog Am Chem Soc J 73:1792-5 Ap '51

Hammett acidity function in six formal perchloric acid-sodium perchlorate mixtures. G. Harbottle. Am Chem Soc J 73:4024-5 Ag '51

Ionisation of triarylcarbinols in strong acids and the definition of a new acidity function. V. Gold and B. W. V. Hawes. diag Chem Soc J p2102-11 Ag '51

Reduction of carbohydrazide; the acidity of carbohydrazide, semicarbazide and urea. A. H. Corwin and J. D. Reinheimer. bibliog diag Am Chem Soc J 73:1184-6 Mr '51

See also

Hydrogen ion concentration

ACIDOLYSIS. See Hydrolysis

ACIDS

Acidity and the systems of acids and bases. R. Ferreira. bibliog J Chem Phys 19:794 Je '51

Acids and bases; aluminum chloride, ferric chloride and stannic chloride as acid catalysts in the reaction of metals with thionyl chloride. R. A. Hubbard, 2d and W. F. Luder. Am Chem Soc J 73:1327-9 Mr '51

Acylation reactions catalysed by strong acids; evidence for the existence of acetylium (the acetyl cation), $(CH_3\cdot CO)^+$, in solutions of concentrated aqueous perchloric acid in acetic anhydride. H. Burton and P. F. G. Praill. Chem Soc J p 1203-6 Ap '50

Association of cerous ion with sulfite, phosphate and pyrophosphate ions. S. W. Mayer and S. D. Schwartz. bibliog Am Chem Soc J 72:5106-10 N '50

Behavior of bromophthalein magenta E (tetrabromophenolphthalein ethyl ester) with organic bases and its bearing on the Brønsted-Lowry and Lewis concepts of acidity. M. M. Davis and H. B. Hetzer. bibliog (45 ref) J Res Nat Bur Stand 46:496-511 Je '51

Electrolytic transference properties of polymeric acids. F. T. Wall, G. S. Stent and J. J. Ondrejcin. bibliog diag J Phys & Colloid Chem 54:979-90 O '50

Kinetic study of organic inhibitors of the reaction between magnesium and acids. R. Hurst and M. A. Jermyn. Chem Soc J p 158-62 Ja '50

Nitroguanidines as pseudo-acids. S. S. Barton, R. H. Hall and G. F. Wright. bibliog Am Chem Soc J 73:2201-5 My '51

β-Propiolactone; mechanisms involved in the reaction of β-propiolactone with acids and bases. P. D. Bartlett and P. N. Rylander. Am Chem Soc J 73:4273-4 S '51

Synthesis of acid-soluble derivatives of cellulose. D. S. Breslow. bibliog Am Chem Soc J 72:4244-6 S '50

See also names of acids, e.g.

Acetic acid
Hydrochloric acid
Hydrocyanic acid
Nitric acid
Phosphoric acid
Sulfuric acid

Analysis

Coulometric determination of acid. W. N. Carson, jr. and R. Ko. bibliog Anal Chem 23:1019-22 Jl '51

Inorganic chromatography on cellulose; the separation and detection of metals and acid radicals on strips of absorbent paper. F. H. Burstall and others. 2pls diags Chem Soc J p516-28 F '50

Paper chromatography of volatile acids. E. P. Kennedy and H. A. Barker. bibliog Anal Chem 23:1033-4 Jl '51

Separation of acids by paper partition chromatography. A. G. Long, J. R. Quayle and R. J. Stedman. Chem Soc J p2197-201 Ag '51

ACIDS, Fatty

Alkyd resins; correlation between properties of alkyds and composition of modifying fatty acids. D. T. Moore. Ind & Eng Chem 43: 2348-55 O '51

Branched-chain fatty acids; synthesis of the optical isomers of 15-methyloctadecanoic acid. J. Cason and R. A. Coad. bibliog Am Chem Soc J 72:4695-7 O '50

Chemical nature of a unique fatty acid. K. Hofmann and R. A. Lucas. Am Chem Soc J 72:4328-9 S '50

Cold refining of fatty acids; abstract. Soap & San Chem 27:81 Jl '51

ACIDS, Fatty—*Continued*

Competition in the binding of long chain fatty acids and methyl orange to bovine serum albumin. G. E. Cogin and B. D. Davis. bibliog Am Chem Soc J 73:3135-8 Jl '51

Configuration of (+)-14-methylhexadecanoic acid and homologous anteiso acids. L. Crombie and S. H. Harper. bibliog Chem & Ind p757 N 25 '50

Configuration of naturally occurring mixed glycerides; the component fatty acids and glycerides of stillingia tallows. S. S. Gupta and M. L. Meara. Chem Soc J p 1337-42 My '50

Constitution and properties of a conjugated diene acid present in stillingia oil. A. Crossley and T. P. Hilditch. Chem Soc J p3353-7 D '49

Constitution of mycolipenic acid-I. N. Polgar and R. Robinson. Chem & Ind p685-6 Ag 11 '51

Dimer acids. D. T. Moore. bibliog Paint Oil & Chem R 114:13-14+ Ja 4 '51

Dispersion of ultrasonic velocity in the liquid higher fatty acids. Y. Wada and others. Acoustical Soc Am J 22:880 N '50

Displacement analysis of lipids; separation of substances analogous to fatty acids. R. T. Holman. bibliog Am Chem Soc J 73:3337-40 Jl '51

Drying oils and resins; segregation of fatty acids and their derivatives by extractive crystallization with urea. H. A. Newey and others. bibliog il Ind & Eng Chem 42:2538-41 D '50

Exponential adsorption isotherms of fatty acids on activated charcoal. E. Glueckauf. Am Chem Soc J 73:849-50 F '51

Fatty acid amides; N-alkenyl and N,N-dialkenyl amides. E. T. Roe, J. M. Stutzman and D. Swern. Am Chem Soc J 73:3642-3 Ag '51

Hormonal influence upon the in vitro synthesis of radioactive fatty acids. R. O. Brady and others. Science 113:413-15 Ap 13 '51

Improved fatty intermediates for textile finishing. L. J. Armstrong. diag Am Dyestuff Rep 40:497-500 Ag 6 '51

Infrared absorption spectra; some long-chain fatty acids, esters, and alcohols. O. D. Shreve and others. bibliog Anal Chem 22:1498-501 D '50

Isomers of conjugated fatty acids; alkali-isomerized linoleic acid. P. L. Nichols, jr., S. F. Herb and R. W. Riemenschneider. bibliog il Am Chem Soc J 73:247-52 Ja '51

Materials of construction report. il diags Chem Eng 57:118-20 N '50

Mechanism of autoxidation of monoethenoid fatty acids and their derivatives. J. H. Skellon and A. Gordon. bibliog Chem & Ind p629-32 Jl 21 '51

Mechanism of oxidation of monoethenoid fatty acids; factors influencing hydroperoxide formation and transition in catalytic autooxidations. J. H. Skellon. Chem Soc J p2020-3 Ag '50

Mixed hydrocarbon solvents for fatty acids and their triglycerides. R. Bogash and A. N. Hixson. bibliog il Chem Eng Prog 47:347-53 Jl '51

Neo-fatty acids. H. Sobotka and F. E. Stynler. bibliog Am Chem Soc J 72:5139-43 N '50

Polymerization of vinyl and allyl esters of fatty acids. S. A. Harrison and D. H. Wheeler. bibliog Am Chem Soc J 73:839-42 F '51

Preparation of unsaturated fatty acids. W. J. Gensler, E. M. Behrmann and G. R. Thomas. bibliog Am Chem Soc J 73:1071-4 Mr '51

Preparation of unsaturated long-chain alcohols by means of lithium aluminium hydride; some typical members of the series. S. P. Ligthelm, E. von Rudloff and D. A. Sutton. Chem Soc J p3187-90 N '50

Seed fat of parinarium laurinum; component acids of the seed fat. J. P. Riley. Chem Soc J p 12-18 Ja '50

Solubility of higher alkyl quaternary ammonium salts of fatty acids. D. N. Eggenberger and others. Am Chem Soc J 72:4135-7 S '50

Some properties of the calcium salts of the lower fatty acids; viscosity. W. B. Bonnor and C. G. Smith. Chem Soc J p 1359-67 My '50

Spinning-band column for vacuum fractionation of fatty-acid esters. L. J. Williamson. bibliog diag J Ap Chem 1:33-40 Ja '51

Structure of monolayers and multilayers of polar hydrocarbon molecules on solid substrates. H. T. Epstein. bibliog il diags J Phys & Colloid Chem 54:1053-69 O '50

Synthesis of unsaturated fatty acids. W. R. Taylor and F. M. Strong. Am Chem Soc J 72:4263-5 S '50

Volatile acid production during the digestion of seeded, unseeded, and limed fresh solids. A. J. Kaplovsky. bibliog Sewage & Ind Wastes 23:713-21 Je '51

Wool wax; synthesis of some *anteiso*-acids. J. R. Nunn. Chem Soc J p 1740-4 Jl '51

See also

Amino acids
Oleic acid
Stearic acid
Vaccenic acid

Analysis

Component acids and glycerides of a badger fat. S. Gupta, T. P. Hilditch and M. L. Meara. Chem Soc J p3145-51 N '50

Component acids of a hippopotamus fat. C. Barker and T. P. Hilditch. Chem Soc J p3141-4 N '50

Displacement analysis of lipids; carrier displacement separation of saturated fatty acids. R. T. Holman. bibliog Am Chem Soc J 73:1261-3 Mr '51

Fatty acids; papers presented before International congress of pure and applied chemistry. Chem & Eng N 29:3952-3 S 24 '51

Separation and stabilization of fatty acids by urea complexes. H. Schlenk and R. T. Holman. bibliog Am Chem Soc J 72:5001-4 N '50

Manufacture

High quality fatty acids from continuous distillation unit; Lawrason and co., London, Ont. H. N. Acker. flow diag il Can Chem Process 35:716-20 S '51

ACIDS, Organic

Chemical oxidation of organic acids; some observations on the oxidation of propionate by alkaline permanganate. H. R. Mahler and A. Roberts. bibliog Am Chem Soc J 72:5095-8 N '50

Dibasic acids based on *p*-chloromethylbenzoyl chloride containing ether, thioether or sulfone groups. W. S. Emerson and R. A. Heimsch. Am Chem Soc J 73:1297-8 Mr '51

Effect of α-methyl substituents on the anhydridization of aliphatic dibasic acids. R. Adams and J. L. Anderson. bibliog Am Chem Soc J 73:136-41 Ja '51

Kinetics of halogen addition; αβ-ethylenic acids. D. A. Evans, T. R. Watson and P. W. Robertson. Chem Soc J p 1624-8 Je '50

Some aryloxyaliphatic acids. L. F. Berhenke and others. Am Chem Soc J 73:4458 S '51

Study of the action of bromine on the silver salts of organic acids. J. W. H. Oldham. Chem Soc J p 100-8 Ja '50

Synthesis of long-chain aliphatic acids from acetylenic compounds. R. A. Raphael and F. Sondheimer. Chem Soc J p 115-22 Ja '50

Synthesis of long-chain aliphatic acids from acetylenic compounds; a new approach to the synthesis of branched-chain acids. C. L. Leese and R. A. Raphael. Chem Soc J p2725-30 O '50

See also

Acetic acid
Acids, Fatty
Amino acids
Carboxylic acids
Dithio acids

Analysis

Paper chromatography of hydroxy and keto-acids. L. A. Liberman, A. Zaffaroni and E. Stotz. Am Chem Soc J 73:1387-8 Mr '51

Paper chromatography of organic acids. J. B. Stark, A. E. Goodban and H. S. Owens. bibliog Anal Chem 23:413-15 Mr '51

ACME steel company

High yield stocks that should do well in a defense economy; with comparative balance sheet items. Mag of Wall St 87:228 D 2 '50

ACONITIC acid

Analysis

Determination of aconitic and itaconic acids. K. Lauer and S. M. Makar. Anal Chem 23:587-9 Ap '51

ACOUSTIC filter. See Sound filters

ACOUSTIC impedance

Acoustic wave propagation along a constant normal impedance boundary. R. B. Lawhead and I. Rudnick. bibliog diag Acoustical Soc Am J 23:546-9 S '51

Acoustical impedance in terms of energy functions. P. J. Westervelt. Acoustical Soc Am J 23:347-8 My '51

Generalization of the concept of impedance in acoustics. O. K. Mawardi. bibliog diag Acoustical Soc Am J 23:571-6 S '51

Nonspecular reflection of sound from planes with absorbent bosses. V. Twersky. Acoustical Soc Am J 23:336-8 My '51

Reflection of a spherical sound wave from an infinite plane. U. Ingard. diag Acoustical Soc Am J 23:329-35 My '51

Velocity of sound through tissues and the acoustic impedance of tissues. G. D. Ludwig. bibliog diag Acoustical Soc Am J 22:862-6 N '50

ACOUSTIC patents

Review of acoustical patents. R. W. Young. Published in bi-monthly numbers of Journal of the Acoustical society of America

ACOUSTICAL society of America

Meeting, 40th, Boston, Nov. 9-11; abstracts of papers. Acoustical Soc Am J 23:142-50 Ja '51

ACOUSTICS. See Sound

ACOUSTICS, Architectural

Acoustics in the Royal festival hall. R. H. Bolt. il diags Arch Forum 95:180-1+ Ag '51

Anechoic chamber of acoustic measurements. D. W. Robinson. il Elec Com 28:70-7 Mr '51

Architectural acoustics. R. H. Bolt and R. B. Newman. bibliog il diags Arch Rec 107:165-8+ Ap; 166-9+ Je; 108:148-51+ S; 158-60+ N '50

Discontinuous growth and decay of sound in a one-dimensional room. H. B. Miller. il diags Acoustical Soc Am J 23:517-30 S '51

Movie theater acoustics in Scandinavia. U. Ingard. Soc Motion Picture & Tv Eng J 57:156-8; Discussion. 159-69 Ag '51

Practical sound engineering; architectural acoustics as they affect broadcast and recording studios. H. M. Tremaine. il diags Radio & Tv N 45:53-5+ Ap '51

Pulse methods in the acoustic analysis of rooms. J. Moir. il diags Soc Motion Picture & Tv Eng J 57:147-55; Discussion. 159-69 Ag '51

Sound is studied in new test chamber of M.I.T. acoustics laboratory. il Elec Eng 69:1062 D '50

Ultra speed recording for acoustical measurement. C. J. LeBel and J. Y. Dunbar. il diag Acoustical Soc Am J 23:559-63 S '51

See also

Orchestra shells

Sound absorbent materials

ACRALDEHYDE. See Acrolein

ACRIDINE

Acridines derived from *p*-(1,1,3,3-tetramethyl)-butylphenol. J. B. Niederl and M. B. Hundert. Am Chem Soc J 72:4071-2 S '50

Polarographic study of the electroreduction of acridine. R. C. Kaye and H. I. Stonehill. pl diags Chem Soc J p27-38 Ja '51

Some physico-chemical properties of acridine antimalarials, with reference to their biological action; lipoid partition coefficients, surface activities, and protein affinities. D. L. Hammick and S. F. Mason. Chem Soc J p348-50 Ja '50

Some physico-chemical properties of acridine antimalarials, with reference to their biological action; the correlation of physico-chemical properties with biological action. S. F. Mason. Chem Soc J p351-4 Ja '50

ACRILAN. See Textile fibers, Synthetic

ACROLEIN

Acid-catalysed hydration of acraldehyde; kinetics of the reaction and isolation of β-hydroxypropaldehyde. R. H. Hall and E. S. Stern. Chem Soc J p490-8 F '50

Alkenylation by use of lithium alkenyls; the condensation of *iso*butenyl-lithium with acraldehyde and crotonaldehyde, and the oxotropic rearrangement of the resulting carbinols; studies in molecular rearrangement. E. A. Braude and C. J. Timmons. Chem Soc J p2007-11 Ag '50

Cyclic polyolefins; carbonyl-bridged compounds derived from the adduct of α-carbethoxycyclohexanone and acrolein. A. C. Cope and M. E. Synerholm. bibliog Am Chem Soc J 72:5228-32 N '50

Reaction of acraldehyde with ethanol. R. H. Hall and E. S. Stern. bibliog Chem & Ind p775 D 2 '50

ACRYLATES

Acrylic esters of some substituted alkanols. C. E. Rehberg, M. B. Dixon and W. A. Faucette. Am Chem Soc J 72:5199-200 N '50

Transetherification reactions; thiophenols with ethyl β-ethoxyacrylates. W. J. Croxall, L. R. Freimiller and E. Y. Shropshire. Am Chem Soc J 72:4275-6 S '50

ACRYLIC acid

Acrylic goes dry. il Chem Ind 67:552-3 O '50

Acrysol A-1; new synthetic size solves many nylon sizing problems. H. C. Borghetty and J. J. Bernard. Rayon 32:58+ Jl '51

α,α-Diethylhydracrylic acid. B. J. Ludwig. Am Chem Soc J 72:5329 N '50

Electrolytic properties of aqueous solutions of polyacrylic acid and sodium hydroxide; diffusion experiments using radioactive sodium. J. R. Huizenga, P. F. Grieger and F. T. Wall. bibliog Am Chem Soc J 72:4228-32 S '50

Electrolytic transference properties of polymeric acids. F. T. Wall, G. S. Stent and J. J. Ondrejcin. bibliog diag J Phys & Colloid Chem 54:979-90 O '50

Light scattering studies on coiling polyelectrolytes. F. H. Wall and others. bibliog J Chem Phys 19:585-8 My '51

2-Nitratoethyl esters of acrylic, crotonic and methacrylic acids. N. S. Marans and R. P. Zelinski. Am Chem Soc J 72:5330-1 N '50

Polyacrylic acid size solves nylon-sizing problem. Textile World 101:162 Je '51

Polymers of α-acetamidoacrylic acid and its methyl ester. R. Adams, J. L. Johnson and B. Englund. Am Chem Soc J 72:5080-2 N '50

Reaction of 1-(*p*-bromophenyl)-1,3-butadiene and 1-(*p*-nitrophenyl)-1,3-butadiene with acrylic acid and ethyl acrylate. G. A. Ropp and E. C. Coyner. bibliog Am Chem Soc J 72:3960-3 S '50

Ultraviolet absorption spectra of acrylic acids and esters. H. E. Ungnade and I. Ortega. bibliog Am Chem Soc J 73:1564-7 Ap '51

ACRYLIC plastics. See Methacrylates; Resinous products

ACRYLONITRILE

Chemical effects produced by ultrasonic waves. O. Lindström and O. Lamm. bibliog diag J Phys & Colloid Chem 55:1139-46 O '51

Compounding acrylonitrile-type rubber for low temperature flexibility. R. A. Clark and J. B. Dennis. bibliog Ind & Eng Chem 43:771-8 Mr '51

Copper technique for dyeing acrylonitrile fibers. T. A. Feild, jr. and G. H. Fremon. bibliog il Textile Res J 21:531-9 Ag '51

Cyanoalkylation; structural effects in the reaction of mercaptans with α-alkylacrylonitriles. R. M. Ross and others. Am Chem Soc J 73:540-2 F '51

Dyeing acrylonitrile fibers, modifying with polyvinylpyridine; patent. Am Dyestuff Rep 40:277-8 Ap 30 '51

Formation of ββ′-thiodipropionitrile (di-2-cyanoethyl sulphide) and a study of its derivatives. J. H. MacGregor and C. Pugh. Chem Soc J p736-8 F '50

Latest nor least. Chem Ind 67:875-6 D '50

Partial pressure of acrylonitrile over water. C. E. Funk, jr. bibliog Ind & Eng Chem 43:1152-4 My '51

Preparation of α-alkylacrylonitriles. C. S. Marvel, W. R. Miller and L. C. Chou. bibliog Am Chem Soc J 72:5408-9 D '50

Preparation of α-substituted glutaric acids. M. F. Ansell and D. H. Hey. Chem Soc J p 1683-6 Jl '50

Printing acrylonitrile fabrics; vat dyes plus potassium thiocyanate; patent. Am Dyestuff Rep 40:490 Ag 6 '51

ACRYLONITRILE—*Continued*

Problem in finishing of new fibers approaches solution. Chem & Eng N 28:4268 D 4 '50

Reaction of acrylonitrile with macromolecular hydroxy substances; general survey of the reaction. J. H. MacGregor. bibliog Soc Dyers & Col J 67:66-73 F '51

Reaction of acrylonitrile with macromolecular hydroxy substances; the production and uses of water-insoluble, alkali-soluble cyanoethyl cellulose ethers as soluble yarns. J. H. MacGregor and C. Pugh. bibliog Soc Dyers & Col J 67:74-80 F '51

Some chroman and 1 : 2-benzopyran derivatives. H. V. Taylor and M. L. Tomlinson. Chem Soc J p2724-5 O '50

Thermal decomposition products and burning characteristics of some synthetic low-density cellular materials. H. A. Watson and others. bibliog 6pls U S Bur Mines Rep of Invest 4777:1-16 '51

Unit processes; Chemical Engineering report, March 1951; oxidation. L. F. Marek. diag Chem Eng 58:136-7 Mr '51

Manufacture

Acrylonitrile; CIW report. R. F. Messing and R. L. James. bibliog il Chem Ind W 68: 19-24 Ja 27 '51

ACTIDIONE

Control of covered smut of oats by seed treatment with an antibiotic. A. W. Henry and others. Science 113:390 Ap 6 '51

ACTINIDE series

Oxidation states of the rare-earth and actinide elements. R. E. Connick. Chem Soc J supp no 2:S235-41 '49

Position of the cis- and trans-uranic elements in the periodic system; uranides or actinides? M. Haissinsky. Chem Soc J supp no 2:S241-3 '49

ACTINIUM

Half-life of actinium. J. M. Hollander and R. F. Leininger. bibliog Phys R 80:915-16 D 1 '50

ACTINOMYCETES

Actinomycetes and common tastes and odors. J. K. G. Silvey and others. bibliog Am Water Works Assn J 42:1018-26 N '50

Use of sodium propionate in isolating actinomycetes from soils. P. Crook and others. Science 112:656 D 1 '50

ACTINOMYCIN

Actinomycin; amino-acid content. C. E. Dalgliesh and others. Chem Soc J p2946-52 N '50

ACTIVATED carbon. See Carbon, Activated

ACTIVATED charcoal. See Carbon, Activated

ACTIVATED fertilizer corporation of Washington

Class A stock offered. Comm & Fin Chr 172: 1825 N 13 '50

ACTIVATED sludge method. See Sewage disposal—Activated sludge method

ACTIVATION

Catalytic activation of hydrogen by metals. A. Farkas. bibliog J Phys & Colloid Chem 55:1013-17 Je '51

Interpretation of the dependence of luminescent efficiency on activator concentration. P. D. Johnson and F. E. Williams. J Chem Phys 18:1477-83 N '50

Studies of the localization theory of organic reactions; the effects of annelation and of introducing hetero-atoms. R. D. Brown. Chem Soc J p 1955-61 Ag '51

ACTIVITY coefficients

Activity coefficient of thenoyltrifluoroacetone in benzene solution. E. L. King and W. H. Reas. Am Chem Soc J 73:1804-5 Ap '51

Activity coefficient of uranyl nitrate in the presence of sodium nitrate. E. Glueckauf, H. A. C. McKay and A. R. Mathieson. diag Chem Soc J supp no 2:S299-302 '49

Activity coefficients of the alkaline earth and magnesium perchlorates from freezing point data. D. E. Nicholson and W. A. Felsing. Am Chem Soc J 73:3520-1 Jl '51

Determination of the activity coefficients of the alkaline earth and magnesium perchlorates from freezing point data. D. E. Nicholson and W. A. Felsing. Am Chem Soc J 72:4469-71 O '50

Osmotic and activity coefficients of cobalt bromide and cobalt iodide. R. A. Robinson, H. J. McCoach and C. K. Lim. Am Chem Soc J 72:5783-4 D '50

Osmotic and activity coefficients of uranyl nitrate, chloride, and perchlorate at 25°. R. A. Robinson and C. K. Lim. Chem Soc J p 1840-3 Jl '51

Solvent dependence of specific rates treated as a problem in activity coefficients. E. Grunwald. bibliog J Phys & Colloid Chem 55:881-4 Je '51

Theory of ionic solutions. J. E. Mayer. diags J Chem Phys 18:1426-36 N '50

Use of ion exchangers for the determination of physical-chemical properties of substances, particularly radiotracers, in solution; activity coefficients of barium nitrate in uranyl nitrate. J. Schubert. Am Chem Soc J 73:4488-9 S '51

ACTIVITY of metals. See Metals

ACTORS and actresses

See also

Radio broadcasting—
Performers

ACTUARIAL science. See Insurance, Life—Mathematics

ACTUARIAL society of America. See Society of actuaries

ACTUARIES. See Insurance actuaries

ACYL group

Acylation reactions catalysed by strong acids; mixtures of zinc chloride and acetyl chloride or acetic anhydride as sources of acetylium ions. H. Burton and P. F. G. Praill. Chem Soc J p726-30 Mr '51

Chloramphenicol (chloromycetin); some analogs having variations of the acyl group. M. C. Rebstock. bibliog Am Chem Soc J 72:4800-3 O '50

Migrations of acyl groups in aminoethanols; analogy with mixed diacyl *o*-aminophenols. A. P. Phillips and A. Maggiolo. bibliog Am Chem Soc J 72:4920-2 N '50

N → O acyl migration in epimeric acetyl inosamines. G. E. McCasland. bibliog Am Chem Soc J 73:2295-7 My '51

Thermal interchange of acyl groups in triglycerides. C. Barker, R. V. Crawford and T. P. Hilditch. Chem Soc J p 1194-200 My '51

ACYLATION

Acylalkylcarbonates as acylating agents for the synthesis of peptides. J. R. Vaughan, jr. Am Chem Soc J 73:3547 Jl '51

Acylation of 5-bromo- and 5-chloroacenaphthene by the Friedel-Crafts procedure. D. V. Nightingale and R. M. Brooker. bibliog Am Chem Soc J 72:5539-43 D '50

Acylation of corn starch, amylose and amylopectin. I. A. Wolff, D. W. Olds and G. E. Hilbert. bibliog Am Chem Soc J 73:346-9 Ja '51

Acylation reactions catalysed by strong acids. H. Burton and P. F. G. Praill. Chem Soc J p522-34 F '51

Acylation reactions catalysed by strong acids; acetyl perchlorate as a *C*-acetylating agent. H. Burton and P. F. G. Praill. Chem Soc J p2034-8 Ag '50

Acylation reactions catalysed by strong acids; evidence for the existence of acetylium (the acetyl cation), $(CH_3 \cdot CO)^+$, in solutions of concentrated aqueous perchloric acid in acetic anhydride. H. Burton and P. F. G. Praill. Chem Soc J p 1203-6 Ap '50

Acylation reactions catalysed by strong acids; mixtures of zinc chloride and acetyl chloride or acetic anhydride as sources of acetylium ions. H. Burton and P. F. G. Praill. Chem Soc J p726-30 Mr '51

Acylation studies in the thiophene and furan series; mixed melting points of some homologous acetylmethylthiophene derivatives. H. D. Hartough. Am Chem Soc J 73:4033-5 Ag '51

Claisen acylation of methyl ketones with branched chain aliphatic esters. E. H. Man, F. W. Swamer and C. R. Hauser. bibliog Am Chem Soc J 73:901-3 Mr '51

Concerning *trans*-acylation in azlactone synthesis. S. N. Timasheff and F. F. Nord. Am Chem Soc J 73:2390 My '51

Condensations effected by acidic catalysts; the acylation of substituted and condensed thiophenes and furans. M. W. Farrar and R. Levine. bibliog Am Chem Soc J 72:4433-6 O '50

ACYLATION—*Continued*

Condensations effected by the alkali amides; studies in the acylation of methyl 2-thienyl ketone. J. K. Sneed and R. Levine. bibliog Am Chem Soc J 72:5219-20 N '50

Intramolecular acylation; the ring closure of some α-substituted glutaric acids. M. F. Ansell and D. H. Hey. Chem Soc J p2874-81 O '50

Intramolecular acylation; the ring closure of some β-substituted glutaric acids. D. H. Hey and D. H. Kohn. Chem Soc J p3177-81 D '49

Oxidation of steroids; selective oxidations and acylations in the bile acid series. L. F. Fieser and S. Rajagopalan. bibliog Am Chem Soc J 72:5530-6 D '50

Papain-catalyzed synthesis of acyl-D- and L-phenylalanylphenylhydrazides from a series of enantiomorphic pairs of acylated phenylalanines. W. H. Schuller and C. Niemann. bibliog Am Chem Soc J 73:1644-6 Ap '51

Quantitative studies of the reactivities of mixed carboxylic anhydrides; the composition of the acylation products in the reaction between acetic chloroacetic anhydride and primary aromatic amines. A. R. Emery and V. Gold. Chem Soc J p 1443-7 Je '50

Quantitative studies of the reactivities of mixed carboxylic anhydrides; the hydrolysis and some acylation reactions of a series of acetic chloroaliphatic acid anhydrides. A. R. Emery and V. Gold. Chem Soc J p 1455-60 Je '50

Studies on 4-hydroxycoumarins; acylation of 3-(α-phenyl-β-acetylethyl)-4-hydroxycoumarin. M. Seidman, D. N. Robertson and K. P. Link. bibliog Am Chem Soc J 72:5193-5 N '50

ACYLOINS

Bismuth-catalysed air-oxidation of acyloins. B. Holden and W. Rigby. Chem Soc J p 1924-5 Jl '51

Formation of five and six-membered rings by the acyloin condensation; the cyclization of dimethyl hexahydrohomophthalate. J. C. Sheehan and R. C. O'Neill. bibliog Am Chem Soc J 72:4614-16 O '50

New reagent for the oxidation of acyloins to diketones. W. Rigby. Chem Soc J p793-5 Mr '51

Synthesis of unsymmetrical α-ketols by the mixed acyloin reaction. J. W. Lynn and J. English, jr. bibliog Am Chem Soc J 73:4284-6 S '51

ADAMS, John, 1735-1826

Portrait. Fortune 43:69 F '51

ADAMS, Sherman, 1899-

Portrait. Bsns W p54 F 10 '51

ADDING machines

Designing for speed in adding machines. R. E. Boyden and K. F. Oldenburg. il diags Machine Design 23:110-15 Je '51

Manufacture

Cases in methods improvement; Burroughs adding machine co.; illustrations with text. Factory Management 109:66-9 Ap '51

ADDITION agents for storage batteries. See Storage batteries

ADDITION compounds

Addition compound of boron tribromide and trimethylamine. R. C. Osthoff, C. A. Brown and F. H. Clarke. Am Chem Soc J 73:4045 Ag '51

Addition compounds of olefins with mercuric salts. J. Chatt. Chem R 48:7-43 bibliog(73 ref, p42-3) F '51

Addition compounds of thiourea. O. Redlich and others. Am Chem Soc J 72:4161-2 S '50

Addition compounds of urea and organic substances. O. Redlich and others. bibliog diags Am Chem Soc J 72:4153-60 S '50

Addition of heterocycles to conjugate unsaturated carbonyl compounds; difunctional derivatives. I. D. Webb and G. T. Borcherdt. bibliog Am Chem Soc J 73:752-3 F '51

Addition products of trifluoroethylene. J. D. Park, W. R. Lycan and J. R. Lacher. bibliog Am Chem Soc J 73:711-12 F '51

Addition reactions and Wagner-Meerwein rearrangements in the indoxyl series. B. Witkop and J. B. Patrick. bibliog Am Chem Soc J 73:713-18 F '51

Addition reactions in phospho-organic syntheses; the addition of phosphorus pentachloride to normal olefins. G. M. Kosolapoff and J. F. McCullough. Am Chem Soc J 73:855-6 F '51

1,4-Addition reactions; the synthesis of substituted cyclohexenes and cyclohexanes. O. A. Moe, D. T. Warner and M. I. Buckley. Am Chem Soc J 73:1062-4 Mr '51

Conductance of aluminum bromide in benzonitrile on addition of various basic complexing agents at 25°. R. E. Van Dyke and T. S. Harrison. Am Chem Soc J 73:402-6 Ja '51

Conductance of aluminum bromide monoetherate on addition of various bases at 25°. R. E. Van Dyke and T. S. Harrison. Am Chem Soc J 73:575-8 F '51

Direction of addition to $CFCl=CF_2$ under free radical conditions. A. L. Henne and D. W. Kraus. Am Chem Soc J 73:1791-2 Ap '51

Dissociation of the addition compounds of trimethylboron with the normal primary aliphatic amines; the straight-chain anomaly. H. C. Brown, M. D. Taylor and S. Sujishi. Am Chem Soc J 73:2464-7 Je '51

Kinetics of halogen addition to unsaturated compounds; the mechanisms of addition reactions. P. B. D. de la Mare and P. W. Robertson. Chem Soc J p2838-42 O '50

Some addition reactions of chalcones; the preparation of some γ-ketoselenides. H. Gilman and L. F. Cason. bibliog Am Chem Soc J 73:1074-6 Mr '51

Some observations concerning steric factors. M. S. Newman. bibliog Am Chem Soc J 72:4783-6 O '50

Stereochemistry of 1,4-addition; the chlorination of butadiene. K. Mislow and H. M. Hellman. bibliog Am Chem Soc J 73:244-6 Ja '51

Structure of the benzalaniline-acetic anhydride addition product. H. R. Snyder, D. B. Bright and J. C. Lorenz. Am Chem Soc J 73:1836-7 Ap '51

ADENAUER, Konrad

Portrait. Bsns W p 166 O 13 '51

ADENINE

Adenine 5′-deoxy-5′-methylthiopentoside (adenine thiomethyl pentoside); a proof of structure and synthesis. J. Baddiley. Chem Soc J p 1348-51 My '51

Experiments on the synthesis of purine nucleosides; 1 : 2 : 3 : 5-tetra-acetyl D-xylofuranose and the D-xylofuranosides of theophylline and adenine. P. Chang and B. Lythgoe. Chem Soc J p 1992-3 Ag '50

Studies in the azole series; new syntheses of 2- and 8-aminopurines. A. H. Cook and G. H. Thomas. Chem Soc J p 1888-91 Jl '50

Synthesis of adenine labelled with ^{14}C. V. M. Clark and H. M. Kalckar. Chem Soc J p 1029-30 Ap '50

ADENOSINE

New synthesis of purine nucleosides; the synthesis of adenosine, guanosine and 2,6-diamino-9-β-D-ribofuranosylpurine. J. Davoll and B. A. Lowy. bibliog Am Chem Soc J 73:1650-5 Ap '51

ADENOSINE phosphates

Nucleotides; analogues of adenosine-5′ phosphate and uridine-5′ phosphate containing phenylphosphonate and ethylphosphonate groups. N. Anand and A. R. Todd. Chem Soc J p 1867-72 Jl '51

Separation of adenosine polyphosphates by ion exchange and paper chromatography. W. E. Cohn and C. E. Carter. bibliog Am Chem Soc J 72:4273-5 S '50

Synthetic ribonucleoside-2′ phosphates. D. M. Brown, L. J. Haynes and A. R. Todd. Chem Soc J p408 Ja '50

ADENOSINE triphosphate

Multienzyme systems. J. E. Bacher. Science 112:601 N 17 '50

Stability of disodium adenosine triphosphate. S. A. Morell and others. Science 114:333-4 S 28 '51

Analysis

Inorganic phosphates and phosphate esters in tissue extracts. B. L. Griswold, F. L. Humoller and A. R. McIntyre. Anal Chem 23:192-4 Ja '51

ADENYLIC acid

Stimulation by the adenylic acid system of amino acid in corporation into protein of liver granules. E. A. Peterson, T. Winnick and D. M. Greenberg. Am Chem Soc J 73:503-4 Ja '51

ADHESION

Adhesion of phosphors on cathode-ray screens. W. Stericker and F. Hazel. bibliog il J Phys & Colloid Chem 54:1045-53 O '50

Adhesion of rubber and textiles; effect of amount of spun staple yarn in textile. E. M. Borroff, R. S. Khot and W. C. Wake. il diag Ind & Eng Chem 43:439-42 F '51

Evaluating dynamic fatigue of adhesion of tire cords to rubber stocks. W. J. Lyons. bibliog il diags Anal Chem 23:1255-9 S '51

Method of examining the adhesion of paint to steel. S. C. Britton and R. M. Angles. bibliog il 2pls Iron & Steel Inst J 168:358-63 Ag '51

Nodule method measures adhesion of electrodeposits. Chem & Eng N 29:2388-9 Je 11 '51; Steel 128:107-8 Je 11 '51; Materials & Methods 34:154+ Ag '51

Strength behavior of adhesive bonds. H. P. Meissner and G. H. Baldauf. bibliog diags A S M E Trans 73:697-702; Discussion. 702-4 Jl '51

ADHESIVE tape

Anti-corrosion tape for service pipes. G. M. Carter, jr. il Gas Age 106:42-3+ N 23 '50

Double-coated adhesives; fixtures from a roll. C. O. T. Bolling. il Am Mach 95:143 Ap 16 '51

Giant jobs for tapes; new reinforced materials fill in for scarce metal strapping. il diags Mod Packaging 24:98-102 Jl '51

How tapes serve industry. il Mill & Factory 48:131-4 Je '51

Industrial Tape adheres to safety. il Safety Maint & Prod 102:14-16+ Jl '51

Luminescent packaging tape developed by Century coating co. il Mod Plastics 28:188 Je '51

New distribution plan skyrockets Polyken sales. G. D. Crain, jr. Ind Marketing 36: 33+ Ap '51

New tape aids packaging; gummed product named Tape-Strap. Steel 128:104 My 28 '51

Resistance tape; use it by the inch; new self-adhesive resistor developed by NBS pressed in place on printed circuits. il Aviation W 55:30+ Jl 2 '51; Electronics 24:236+ S '51

Styrene cores for Scotch tape; self-shearing 20-cavity molds speed production. il Mod Plastics 28:68-9 Mr '51

Test report on revolutionary tapes; adhesive-backed, pressure-sensitive oriented polyethylene tapes and films. W. J. Miller. il Mod Plastics 28:74-6 Ja '51

ADHESIVES

Adhesives; dextrines. R. Shoals. Tappi 33: sup64A-6A Jl '50; Same cond. Paper Ind 32:1004+ D '50

Adhesives fasten. il Product Eng 22:122-3 My '51

Adhesives may be the answer to problems inherent in the design and assembly of plastics products. G. P. Hollingsworth. il Mod Plastics 28:79-81 Jl '51

Aircraft adhesives, sealers, and coatings. I. G. Christensen. diags Aeronautical Eng R 10: 10-16 Ag '51

Anaerobic permafil. il Gen Elec R 54:49 F '51; Mech Eng 73:141-2 F '51

Contribution of sodium silicate to the stiffness of paperboard. R. H. Sams and N. W. McCready. Tappi 34:67-70 F '51

Convair Metlbonds B-36 bomber. C. L. Hibert. il Mach 57:158-63 Jl '51

Multiwall bag adhesive. Chem Ind 67:581-2 O '50

New developments in starch adhesives. J. E. Killinger. Tappi 34:sup36A+ Ap '51

Rat-repellent findings; package protection by repellents in adhesives. J. F. Welch. il Mod Packaging 24:138-40 My '51

Seam adhesives for multiwall bags. K. M. Shold. Tappi 34:294-6 Jl '51

Selecting engineering adhesives. F. W. Reinhart. bibliog il diags Product Eng 22:123-9 S '51

Silicate adhesives for weatherproof corrugated board. R. L. Kreyling. bibliog Tappi 34:sup48A+ Ap '51

Structural adhesives; their advantages, their limitations, their future. W. E. Dirkes. il Materials & Methods 34:80-3 Jl '51

Use of starch adhesives on the single facer in the manufacture of corrugated board. C. R. Vander Meulen. Tappi 34:sup80A+ Jl '51

What adhesives users should know; conservation practices and alternative materials. A. B. Crowell, jr., and M. M. Bump. il Mod Packaging 24:158-62 Ap '51

Wood adhesives. H. F. Dixon. Can Chem & Process Ind 34:991-5 D '50

Wood-to-metal adhesives. H. W. Eickner and R. F. Blomquist. Mech Eng 73:743-4 S '51

See also

Cements

Glue

Mucilage

Paste

Resinous products—Adhesives

Testing

Comparative strengths of some adhesive-adherend systems. N. J. DeLollis and others. bibliog il A S M E Trans 73:183-93 F '51

Study of bonded units. J. M. Buist and others. bibliog il diags Ind & Eng Chem 43: 373-81 F '51

ADIABATIC theorem. See Wave mechanics

ADIPIC acid

Diesters of lactic acid; adipates of various lactates. C. E. Rehberg and M. B. Dixon. bibliog Am Chem Soc J 72:5757-9 D '50

Unsaturated lactones and related substances; α-ketoadipic acid and γ-carboxymethylenebutanolide. U. Eisner, J. A. Elvidge and R. P. Linstead. Chem Soc J p2223-8 Ag '50

ADJECTIVES

High polymer adjective synthesis. R. L. Dean. Chem & Eng N 29:2902+ Jl 16 '51

ADMINISTRATION

Administration as an educational function. O. Tead. bibliog Advanced Management 16: 21-6 My '51

ADMINISTRATION, Military. See Military administration

ADMINISTRATION, Public

Personnel administration in public service; analyzing characteristic obstacles to effective use of modern policies. P. Monypenny. Advanced Management 16:19-21 Ja '51

Reorganization of the Federal communications commission; case study in administration and organization. E. W. Clemens and L. W. Thatcher. Land Econ 27:213-24 Ag '51

See also

Agricultural administration

Highway administration

Municipal government

Public health administration

Public officials

United States—Executive departments

Bibliography

Current research projects in public administration, 1951. (Pub. no. sp58) 48p pa $1 Public administration service, 1313 E. 60th st, Chicago 37 '51

ADMINISTRATION of estates. See Executors and administrators

ADOBE

Duration of action of residual DDT deposits on adobe surfaces. W. G. Downs and others. bibliog Science 114:259-62 S 7 '51

Use of adobe in construction; Lloyd G. Clark of Studio City, Calif. il diag Am Bld 73: 169-71 Ap '51

ADRENAL cortical hormones. See Hormones

ADRENAL glands

Adrenal gland and hemopoiesis. S. J. Piliero and others. bibliog Science 112:559-60 N 10 '50

New chemical can produce adrenal alterations. Chem & Eng N 29:2474 Je 18 '51

Probability that compound F (17-hydroxycorticosterone) is the hormone produced by the normal human adrenal cortex. J. W. Conn and others. bibliog Science 113:713-14 Je 22 '51

Recent advances in the chemistry of the steroids. F. S. Spring. Chem Soc J p3352-7 N '50

Special respiratory system in mammalian adrenal glands. D. G. Humm and others. bibliog Science 113:578-9 My 18 '51

ADRENAL glands—*Continued*

Steroid changes in incubating adrenal homogenates. C. S. Vestling and G. F. Lata. bibliog Science 113:582-3 My 18 '51

See also

Pregnenetetrolone

ADRENALIN

Chemistry of adrenochrome; some analogues and derivatives. J. D. Bu'Lock and J. Harley-Mason. Chem Soc J p712-16 Mr '51

Inhibitory action of adrenalin on growth of rat sarcoma. M. R. Lewis and P. M. Aptekman. Science 113:557-8 My 11 '51

ADRENERGIC blocking. See Nerves—Blocking

ADRENERGIC substances. See Sympathomimetic substances

ADRENOCHROME

Betaine hydrazone of aminochromes. H. Sobotka and J. Austin. bibliog Am Chem Soc J 73:3077-9 Jl '51

Chemistry of adrenochrome and its derivatives. J. Harley-Mason. Chem Soc J p 1276-82 My '50

Chemistry of adrenochrome; some analogues and derivatives. J. D. Bu'Lock and J. Harley-Mason. Chem Soc J p712-16 Mr '51

ADRENOCORTICOTROPIC hormone

Acid hydrolysis and the amino acid composition of sheep pituitary adrenocorticotropic hormone. Choh Hao Li. bibliog il Am Chem Soc J 73:4146-8 S '51

Adrenocortical hormones; third Lister memorial lecture. G. F. Marrian. bibliog Chem & Ind p804-7 S 29 '51

Adrenocorticotropic hormone of the pituitary gland; abstract. C. J. O. R. Morris. Chem & Ind p91 F 3 '51

Approach understanding of molecular composition of ACTH. Chem & Eng N 29:4088 O 1 '51

Biologic shock absorber. Franklin Inst J 252: 215-16 Ag '51

Burns, snake bite respond to ACTH. Chem & Eng N 28:4551 D 25 '50

Cure for deadly industrial disease; abstract. H. E. Tebrock. Mill & Factory 48:300+ Je '51

Cytological changes in human hypophyses after cortisone and ACTH treatment. G. L. Laqueur. Science 112:429-30 O 13 '50

Effect of ACTH and some adrenocortical steroids on the metabolism of tyrosine and phenylalanine in premature infants. S. Z. Levine and others. bibliog Science 113:311-12 Mr 23 '51

Metabolic study of a case of chronic beryllium poisoning treated with ACTH. H. L. Hardy and others. A M A Archives Ind Hygiene & Occup Med 3:579-82 Je '51

Minimum observations necessary to advance knowledge of the action of ACTH and cortisone. A. Forbes. A M A Archives Ind Hygiene & Occup Med 3:622-4 Je '51

Preparation of nonprotein fractions possessing adrenocorticotropic activity from fresh sheep pituitary glands. I. I. Geschwind and others. bibliog diag Science 112:436-7 O 13 '50

Pulmonary function in patients with pulmonary disease treated with ACTH. B. G. Ferris, jr. and others. bibliog A M A Archives Ind Hygiene & Occup Med 3:603-16 Je '51

Purification of corticotropin with oxycellulose. E. B. Astwood and others. Am Chem Soc J 73:2969-70 Je '51

Recognition and prevention of the complications of ACTH and cortisone therapy. T. F. Frawley. bibliog A M A Archives Ind Hygiene & Occup Med 3:587-97; Discussion. 597-8 Je '51

Symposium on the treatment of chronic beryllium poisoning with ACTH and cortisone. bibliog il A M A Archives Ind Hygiene & Occup Med 3:543-630 Je '51

USP study panel acts on corticotropin standard. Oil Paint & Drug Rep 160:62 S 24 '51

USP votes release of ACTH standard. Oil Paint & Drug Rep 159:5 Je 18 '51

ADSORBENTS

Adsorbents in waste water treatment; dye adsorption and recovery studies. H. A. Thornton and J. R. Moore. bibliog diags Sewage & Ind Wastes 23:497-504 Ap '51

Areas of carbon blacks and other solids by gas absorption. M. L. Corrin. Am Chem Soc J 73:4061-5 S '51

Determination of pore volume and area distributions in porous substances; comparison between nitrogen isotherm and mercury porosimeter methods. L. G. Joyner, E. P. Barrett and R. Skold. Am Chem Soc J 73: 3155-8 Jl '51

Determination of pore volume and area distributions in porous substances; computations from nitrogen isotherms. E. P. Barrett, L. G. Joyner and P. P. Halenda. diags Am Chem Soc J 73:373-80 Ja '51

Dynamic characteristics of a solid adsorbent. W. L. Ross and E. R. McLaughlin. diag Refrig Eng 59:167-73 F '51

Organic adsorbents; comparative study of adsorption by different resins. M. S. Bhatnagar. bibliog Ind & Eng Chem 43:2108-12 S '51

Relations between dye phosphors and hydrogen bonds of rigid media or surface of adsorbents. D. Yamamoto and R. Iwaki. J Chem Phys 19:662 My '51

Separation of hydrocarbons by selective adsorbents; patent. P. J. Gaylor. diag Pet Processing 5:1331+ D '50

Some granular carbonaceous adsorbents for sugar refining; a study of bone char replacements based on hydroxyapatite; Synthads. E. P. Barrett, J. M. Brown and S. M. Oleck. il Ind & Eng Chem 43:639-54 Mr '51

Specificity of chromatographic adsorbents. A. L. LeRosen and others. bibliog Anal Chem 23:730-2 My '51

Surface area of porous adsorbents. Ying Fu and F. E. Bartell. bibliog J Phys & Colloid Chem 55:662-75 My '51

Talc as an adsorbent for sulfonated azo dyestuffs. R. M. Hanson and C. W. Gould. bibliog Anal Chem 23:670-3 Ap '51

ADSORPTION

Adsorbed and reaction-product films on metals. H. H. Uhlig. bibliog Electrochem Soc J 97:215C-20C N '50

Adsorbed films from binary liquid solution. C. Brown. J Phys & Colloid Chem 54:1278-81 D '50

Adsorption and reduction of tetrachloroplatinate(II) ion at the dropping mercury electrode. H. A. Laitinen and E. I. Onstott. bibliog Am Chem Soc J 72:4565-70 O '50

Adsorption curve of a rare earth in an ion-exchange column. H. B. van der Heijde and A. H. W. Aten, jr. diag J Phys & Colloid Chem 55:740-4 My '51

Adsorption effects in the decomposition of hydrogen peroxide vapor. M. Tamres and A. A. Frost. Am Chem Soc J 72:5340 N '50

Adsorption equilibria of liquid mixtures of benzene and methanol with charcoal. H. H. Rowley, R. B. Olney and W. B. Innes. Am Chem Soc J 72:5180-2 N '50

Adsorption isotherm of Langmuir and of Brunauer, Emmett, and Teller for multilayers where $n = 3$. D. C. Jones. Chem Soc J p 1464-7 Je '51

Adsorption isotherm of Langmuir and of Brunauer, Emmett, and Teller for multilayers where n is two. D. C. Jones and E. W. Birks. Chem Soc J p 1127-30 Ap '51

Adsorption of aliphatic amine vapors by silica gel. F. E. Bartell and D. G. Dobay. bibliog diag Am Chem Soc J 72:4388-93 O '50

Adsorption of benzene and cyclohexane by graphite. R. N. Smith, C. Pierce and H. Cordes. bibliog Am Chem Soc J 72:5595-7 D '50

Adsorption of iron by anion exchange resins from hydrochloric acid solutions. G. E. Moore and K. A. Kraus. Am Chem Soc J 72:5792-3 D '50

Adsorption of methane on Fuller's earth. W. T. Granquist. bibliog diags Ind & Eng Chem 42:2572-5 D '50

Adsorption of organic bases on silica gel, and heats of adsorption. B. P. Gyani. diag Chem Soc J p 1521-4 Je '50

Adsorption of polar organic compounds on steel. E. L. Cook and N. Hackerman. bibliog diag J Phys & Colloid Chem 55:549-57 Ap '51

Adsorption of silver ion by sphalerite. A. M. Gaudin and others. bibliog il Min Eng 3: Trans 780-4 S '51

Adsorption of tagged phosphate ions on glass surfaces as related to alkaline attack. J. W. Hensley. bibliog il Am Cer Soc J 34:188-92 Je 1 '51

ADSORPTION—*Continued*

Adsorption separation of zirconium and hafnium. R. S. Hansen and others. bibliog Am Chem Soc J 72:5043-5 N '50

Adsorption studies of two silica gels and a gel-type catalyst. R. A. Van Nordstrand, W. E. Kreger and H. E. Ries, jr. bibliog J Phys & Colloid Chem 55:621-38 My '51

Adsorption system for the fractionation of nitrocellulose with respect to molecular weight. M. C. Brooks and R. M. Badger. bibliog Am Chem Soc J 72:4384-8 O '50

Anisotropy of nitrogen adsorption on single crystal copper surfaces. T. N. Rhodin, jr. bibliog Am Chem Soc J 72:5691-9 D '50

Anomalous first layer of adsorbed helium and a modified B.E.T. theory. J. G. Aston and S. V. R. Mastrangelo. bibliog J Chem Phys 19:1067-8 Ag '51

Application of the mass law to adsorption of divalent ions on hydrous ferric oxide. M. H. Kurbatov and others. J Chem Phys 19:258-9 F '51

Areas of carbon blacks and other solids by gas absorption. M. L. Corrin. Am Chem Soc J 73:4061-5 S '51

Aromatics by adsorption. V. B. Guthrie. flow diag Pet Processing 6:833-5 Ag '51

Assumptions of the B.E.T. theory. W. G. McMillan and E. Teller. J Phys & Colloid Chem 55:17-20 Ja '51

Basic concepts in surface thermodynamics. R. S. Hansen. diag J Phys & Colloid Chem 55:1195-200 O '51

B.E.T. (Brunauer-Emmett-Teller) adsorption equation. D. C. Jones. Chem Soc J p 126-30 Ja '51

Catalytic activation of hydrogen by metals. A. Farkas. bibliog J Phys & Colloid Chem 55:1013-17 Je '51

Chemical engineering unit operations; sixth annual review. B. L. Harris. il Ind & Eng Chem 43:46-55 bibliog(315 ref, p52-5) Ja '51

Chemisorption of carbon monoxide and the heterogeneity of the surface of iron catalysts. J. T. Kummer and P. H. Emmett. Am Chem Soc J 73:2886-9 Je '51

Condensation phenomena in supersonic tunnels; adsorption with silica gel. L. M. Majeske. bibliog il Aero Digest 63:19+ Ag '51

Contact angle and surface coverage for potassium ethyl xanthate on galena according to free acid collector theory. M. E. Wadsworth, R. G. Conrady and M. A. Cook. bibliog J Phys & Colloid Chem 55:1219-30 O '51

Correlation of the thermodynamic properties of nitrogen absorbed in titanium dioxide. G. L. Kington and J. G. Aston. bibliog Am Chem Soc J 73:1934-6 My '51

Determination of nitrogen adsorption-desorption isotherms; estimation of total pore volumes of porous solids. E. P. Barrett and L. G. Joyner. Anal Chem 23:791-2 My '51

Determination of pore volume and area distributions in porous substances; computations from nitrogen isotherms. E. P. Barrett, L. G. Joyner and P. P. Halenda. diags Am Chem Soc J 73:373-80 Ja '51

Effect of heat treatment on the surface properties of gibbsite; adsorption isotherms of nitrogen and of oxygen at -182.7°C. S. J. Gregg and K. S. W. Sing. bibliog diag J Phys & Colloid Chem 55:592-7 Ap '51

Effect of heat treatment on the surface properties of gibbsite; isotherms of carbon tetrachloride vapor at 25°C. S. J. Gregg and K. S. W. Sing. bibliog J Phys & Colloid Chem 55:597-604 Ap '51

Effect of side chain on the chromatographic adsorption of some ketones. E. D. Smith and A. L. LeRosen. bibliog Anal Chem 23:732-5 My '51

Effect of solvent on the adsorption of liquids by bauxite and attapulgus clay. J. G. Miller, H. Heinemann and W. S. W. McCarter. bibliog J Phys & Colloid Chem 55:515-23 Ap '51

Effect of wetting on the nitrogen adsorption-desorption isotherm of a silica aerogel. M. F. L. Johnson and H. E. Ries, jr. Am Chem Soc J 72:4289 S '50

Energetics of the adsorption of aliphatic amines by silica gel. D. G. Dobay, Ying Fu and F. E. Bartell. Am Chem Soc J 73:308-14 Ja '51

Expansion of charcoal upon the adsorption of gases and vapors. R. I. Razouk and M. ElGobeily. bibliog diag J Phys & Colloid Chem 54:1087-98 N '50

Exponential adsorption isotherms of fatty acids on activated charcoal. E. Glueckauf. Am Chem Soc J 73:849-50 F '51

Extraction of mercaptans by means of adsorption. W. E. Voreck, jr. and others. bibliog diag Pet Refiner 30:126-9 Mr '51

Gibbs; a rational unit for adsorption. R. B. Dean. J Phys & Colloid Chem 55:611-12 Ap '51

Heat capacity of multimolecular layers of adsorbed argon. J. A. Morrison and L. E. Drain. bibliog J Chem Phys 19:1063 Ag '51

Hüttig multilayer adsorption isotherm. T. L. Hill. Am Chem Soc J 72:5347-8 N '50

Huttig's multilayer isotherm. R. M. Barrer. Chem Soc J p 1874-6 Jl '51

Hydrogen bonding and relative adsorption affinities on silicic acid of certain derivatives of diphenylamine and N-ethylaniline. W. A. Schroeder. bibliog Am Chem Soc J 73:1122-7 Mr '51

Isothermal adsorption of cobalt from dilute solutions. M. H. Kurbatov, G. B. Wood and J. D. Kurbatov. bibliog J Phys & Colloid Chem 55:1170-82 O '51

Kinetics of gas adsorption as a method of area determination. G. Jura and R. E. Powell. J Chem Phys 19:251-2 F '51

Liquid-vapor transition region and physical adsorption according to van der Waals' equation. T. L. Hill. bibliog J Chem Phys 19:261-2 F '51

Materials adsorbed at crude petroleum-water interfaces; isolation and analysis of normal paraffins of high molecular weight. M. O. Denekas and others. bibliog il diags Ind & Eng Chem 43:1165-9 My '51

Methods of sieve analysis with particular reference to bone char. F. G. Carpenter and V. R. Deitz. bibliog J Res Nat Bur Stand 45:328-46 O '50

Mobile multilayer adsorption of a Bose-Einstein gas; helium. W. Band. bibliog J Chem Phys 19:435-8 Ap '51

Moisture adsorption test. diag Refrig Eng 59:564-5 Je '51

Moisture permeability, diffusion and sorption in organic film-forming materials. A. M. Thomas. bibliog J Ap Chem 1:141-58 Ap '51

Moisture relationships of cellulose; the heats of wetting of partially saturated viscose rayon and standard cellulose in water. M. Wahba. bibliog diags J Phys & Colloid Chem 54:1148-60 N '50

Molecular hydrogen and metallic surfaces. D. D. Eley. J Phys & Colloid Chem 55:1017-33 bibliog(90 ref, p 1032-3); Discussion. 1034-6 Je '51

New adsorption process recovers aromatics. flow sheet Pet Eng 23:C21-2+ Ag '51; Same. il Pet Refiner 30:227-8+ S '51

New adsorption processes for gas dehydration. L. L. Laurence and L. S. Reid. flow diags il Pet Eng 23:C25-6+ Mr '51

New multilayer isotherm equation with reference to surface area. G. D. Halsey, jr. Am Chem Soc J 73:2693-6 Je '51

New surface measurement tool for mineral engineers; krypton adsorption method. F. W. Bloecher, jr. bibliog diag Min Eng 3: Trans 255-8 Mr '51; Discussion. 3:Trans 981-3 N '51

Organic adsorbents; comparative study of adsorption by different resins. M. S. Bhatnagar. bibliog Ind & Eng Chem 43:2108-12 S '51

Phase transitions of argon adsorbed on graphite. G. Jura and D. Criddle. bibliog diags J Phys & Colloid Chem 55:163-72 F '51

Physical adsorption of gases in capillaries and on small particles (nucleation of condensation). T. L. Hill. bibliog J Phys & Colloid Chem 54:1186-91 N '50

Preparation, stability and adsorptive properties of the carbides of iron. H. H. Podgurski and others. bibliog Am Chem Soc J 72:5382-8 D '50

Properties of freshly formed surfaces; factors influencing surface activity and adsorption rates in aqueous decyl alcohol solutions. C. C. Addison and S. K. Hutchinson. Chem Soc J p3387-95 D '49

ADSORPTION—*Continued*

Radiotracer study of cationic surface-active agents by measurement of gegenion adsorption. C. M. Judson and others. bibliog J Chem Phys 19:378-9 Mr '51

Rate of adsorption on a nonuniform surface. G. D. Halsey, jr. bibliog J Phys & Colloid Chem 55:21-6 Ja '51

Recovery of nitrogen oxides by silica gel. E. G. Foster and F. Daniels. bibliog Ind & Eng Chem 43:986-92 Ap '51

Relationship between detergency and adsorption by the fibre. K. McLaren. bibliog diag Soc Dyers & Col J 66:521-9 O '50

Role of surface tension in multilayer gas adsorption. W. G. McMillan and E. Teller. bibliog J Chem Phys 19:25-32 Ja '51

Role of the adsorption-type desiccant in refrigeration units. W. A. Pennington. bibliog diags Refrig Eng 59:272-5+; Discussion. 300-1 Mr '51

Some adsorption colors and their significance for thermochromic and tautomeric effects; experiments with spiropyrans and with 1,3-diketohydrindene. A. Schönberg, A. Mustafa and W. Asker. bibliog diag Am Chem Soc J 73:2876-9 Je '51

Sorption hysteresis; some factors determining the size of the hysteresis loop. A. G. Foster. bibliog J Phys & Colloid Chem 55:638-43 My '51

Sorption of gases on metals at room temperature. A. L. McClellan and N. Hackerman. bibliog J Phys & Colloid Chem 55:374-82 Mr '51

Sorption of synthetic surface-active compounds by carbon black. G. R. F. Rose and others. bibliog Textile Res J 21:427-32 Je '51

Sorption of vapors by monolayers; organic vapors on stearic acid monolayers. R. B. Dean and F. Li. bibliog diag Am Chem Soc J 72:3979-82 S '50

Sorption of water vapor by proteins and polymers. B. Katchman and A. D. McLaren. bibliog Am Chem Soc J 73:2124-7 My '51

Sorption splitting; Sun oil co.'s benzene plant. Chem W 69:12-13 Jl 21 '51

Structural model of low pressure physical adsorption. M. A. Cook and others. bibliog J Chem Phys 19:367-76 Mr '51

Studies of copper surfaces by low temperature adsorption isotherms. T. N. Rhodin, jr. bibliog diag Am Chem Soc J 72:4343-8 O '50

Surface activity of polymeric acids in aqueous solutions. A. Katchalsky and I. Miller. bibliog J Phys & Colloid Chem 55:1182-94 O '51

Surface-area determination by adsorption of nitrogen from nitrogen-helium mixtures. W. V. Loebenstein and V. R. Deitz. bibliog diag J Res Nat Bur Stand 46:51-5 Ja '51

Surface area of starch and its role in water sorption. N. N. Hellman and E. H. Melvin. bibliog Am Chem Soc J 72:5186-8 N '50

Theory of chromatography; precision measurements of adsorption and exchange isotherms from column-elution data. E. Glueckauf. diag Chem Soc J p3280-5 D '49

Zero point entropy of nitrogen adsorbed on titanium dioxide. J. G. Aston, G. J. Szasz and G. L. Kington. Am Chem Soc J 73:1937-8 My '51

See also

Chromatographic analysis

Desorption

ADSORPTION, Heat of

Adsorption of organic bases on silica gel, and heats of adsorption. B. P. Gyani. diag Chem Soc J p 1521-4 Je '50

Determination of heats of adsorption by the Brunauer-Emmett-Teller single isotherm method. C. Kemball and G. D. L. Schreiner. bibliog Am Chem Soc J 72:5605-7 D '50

Heat of adsorption of nitrogen on titanium dioxide (rutile) at 77.3°K. G. L. Kington and J. G. Aston. Am Chem Soc J 73:1929-34 My '51

Heats of adsorption on carbon black. M. H. Polley, W. D. Schaeffer and W. R. Smith. bibliog Am Chem Soc J 73:2161-5 My '51

Heats of adsorption symposium. Chem & Eng N 29:1502 Ap 16 '51

ADSORPTION apparatus

Apparatus and procedure for rapid automatic adsorption, surface area, and pore volume measurement. W. B. Innes. bibliog diags Anal Chem 23:759-63 My '51

Continuous stripper for adsorption column effluent streams. R. L. Hopkins. diags Ind & Eng Chem 43:1456-8 Je '51

Precision multiple sorption-desorption apparatus. W. O. Milligan and others. bibliog il diag Anal Chem 23:739-41 My '51

Tiselius-Claesson interferometric adsorption analysis apparatus. R. T. Holman and L. Hagdahl. bibliog il Anal Chem 23:794-7 My '51

See also

Hypersorbers

ADVERTISED brands. See Advertising, National

ADVERTISEMENTS

Pick your ideas when they're ripe. H. A. Calahan. Ptr Ink 233:126 O 27 '50

Presentations; how to make them sell. H. Edmunds. il Adv Agency 44:68-9+ Jl '51

What do copy chiefs like in copy? W. J. Sheehan. il Adv Agency 44:70-1+ My '51

See also

Calendars

Books and booklets

Fine feathers promotion for a quality market; United States gypsum co. interests dealers, builders and architects in dry wall construction. M. C. Carpenter. il Sales Management 66:60+ F 1 '51

Is it better to charge for booklets or give them away? il Ptr Ink 234:38-9 Ja 12 '51

Jobs and men make a convincing booklet for construction company. Ptr Ink 236:47 S 14 '51

New "facilities books" promote defense orders. il Ind Marketing 36:50 Ag '51

Sales cues for products lost in manufacture. il Sales Management 66:46+ Je 15 '51

Seeking government orders? learn what makes a good brochure. il maps plans Mod Ind 21:40-4 My '51

Steady sales increase follows publication of reference book; Vix-Syn, synthetic rubber packings. il Ptr Ink 235:40 My 18 '51

We think of advertising as correspondence; Upson company panels. A. E. Calver. il Ptr Ink 234:38-40+ F 16 '51

When the budget is small, make the ads work overtime; increasing space impact by selling of booklets and a color wheel; National Oak Flooring. M. F. Harris. il Ptr Ink 236:44-5 S 21 '51

Calendars

Calendar of kids for toy buyers. il Ptr Ink 234:33 Ja 26 '51

Cookbooks and recipes

Why Betty Crocker's cookbook is a runaway best seller. il Sales Management 65:84+ N 10 '50

Coupons

First coast-to-coast coupon roundup started by Donnelley. Ptr Ink 234:72 Mr 30 '51

How to advertise today for tomorrow; McCulloch motors corp. new consumer advertiser building acceptance in advance. L. F. Thomann. il Ptr Ink 236:36-7 Jl 27 '51

Industrial company's entire ad is coupon. il Ptr Ink 236:100 S 7 '51

Which ad pulled best? coupon or reverse signature? Ptr Ink 234:30, 48 Ja 5 '51

Which ad pulled best? coupon or white space? il Ptr Ink 233:39+ D 1 '50

Design

Family resemblance preserved in different industrial ad campaign; Raybestos-Manhattan. il Ptr Ink 234:39 Mr 23 '51

Inserts

Color inserts; too lavish for industrial advertisers? Nordstrom valves. W. F. Weimer. il Sales Management 66:52+ Je 1 '51

How to make inserts pay; Wheelabrator placed four-pagers in key markets, saved more than $2,000, increased inquiries 38 per cent. il Ptr Ink 234:38-9 Ja 19 '51

Industrial advertiser starts second half-century with hard-hitting copy; four-page inserts sell products and reputation; Kellogg refinery equipment. N. Kelne. il Ptr Ink 234:31 F 23 '51

Massive blow technique in trade advertising. E. B. Weiss. Ptr Ink 236:49 S 7 '51

Trade program paves way for consumer approach. Ptr Ink 236:69 S 14 '51

ADVERTISEMENTS—*Continued*

Keying

How to key mail-order ads. J. Shrager. il Ptr Ink 236:56 S 14 '51

Layout

Art, typography and layout; prediction for 1951. il Ptr Ink 233:25 D 29 '50

Balloons, bromides, boomerangs; art-copy teamwork that failed. il Ind Marketing 36: 67-8+ F '51

Clipping board's 50 best for 1950. il Adv Agency 44:64-6 Ja '51

When a spread isn't a spread. il Ptr Ink 234: 29 F 16; 42 Mr 16 '51

Why we are shifting to two-in-one ads; Maas & Waldstein, industrial finishes. B. F. Ames. Ptr Ink 236:30 Jl 13 '51

Position

Improvement noted in drug ad position. R. B. McIntyre. Ed & Pub 84:32 Jl 14 '51

Location and size of magazine advertisements. D. B. Lucas and S. H. Britt. bibliog Adv Agency 43:50-1+ Ag; 52-3+ S; 72-4+ O; 70-1+ N '50

Sponsorship of weather ear revives old issues. R. B. McIntyre. Ed & Pub 84:16 S 29 '51

Which is better today; position next to dull or dandy reading? D. R. Murphy. Ptr Ink 236:46 Ag 24 '51

Printing

Do the paste-up yourself and save money on plates. H. C. Latimer. il Ptr Ink 235:42-3 Je 22 '51

Graphic arts industry hypos development of new processes to improve advertising. B. Tolk. Ptr Ink 235:73+ My 18 '51

Rating

Which ad pulled best? C. J. Swan. 163p $7.50 Funk & Wagnalls co, 153 E. 24th st, New York 10 '51

Readership

Advertising readership research; how to make it work. F. Mead. Ind Marketing 36:36-7+ Jl '51

A.R.F. studies American machinist, Chemical engineering and Business week. Adv Agency 43:78 N '50

ARF studies show best-read ads, editorial items; highlights of business publication readership research. il Ind Marketing 35:40-1+ N '50

Agency plots factors of ad readership. Ed & Pub 84:12 Mr 17 '51

Classified ad readership high in small daily; Holland (Mich.) evening sentinel. Ed & Pub 84:42 Jl 21 '51

Color dominates highest scoring ads in ARF's business-paper readership study. Ptr Ink 233:86+ O 27 '50

Every issue of a business paper gives you a new audience. R. Eastman. Ptr Ink 233:39 N 17 '50

Handy kit of facts about business papers. I. Graham. Adv Agency 44:68-9+ S '51

How good is an ad, really? Gallup and Robinson measure impact of ads. Bsns W p21 Jl 28 '51

How many of your readers see competitive ads? H. D. Hadley. il Adv Agency 44:66-7+ Mr '51

How people read newspapers; headline-shoppers. M. Wiseman. il Adv Agency 44:58-9+ O '51

How to estimate your cumulative audience. H. D. Hadley. Adv Agency 44:78-9 Ap '51

How to use Starch readership reports. H. G. Sawyer. il Ind Marketing 36:44+ Jl; 42-3+ Ag '51

How well-read is your newspaper advertising? H. D. Hadley. Adv Agency 44:68-9+ Ap '51

How you can write more readership into institutional copy; Glenn L. Martin advertising. R. W. Darrow. il Ptr Ink 236:34-5 Ag 31 '51

Is advertising readership a true measure of media values? J. Iron. Adv Agency 43:62-3+ D '50

Let's not be fooled by high ad readership! thoughts about printed ads vs. radio-tv. H. Zeisel. Sales Management 67:90-2 Ag 1 '51

Location and size of magazine advertisements; influence of thickness of the magazine. D. B. Lucas and S. H. Britt. Adv Agency 43:70-1+ N '50

Maybe readership and reader-action are related after all! study of Sasser's Buy-Lines columns. M. Wiseman. il Adv Agency 43: 54-5+ N '50

New facts about ad readership in business papers. C. J. Swan. il Ptr Ink 234:27-9+ Mr 16 '51

Newspaper ads attract increasing readership. E. Knoll. Ed & Pub 84:14 Ja 27 '51

Per-reader comparison finds large and small ad costs equal; Readex studies show service copy attracts largest number of interested readers. E. J. Dever, jr. il Ptr Ink 234:40-3 F 23 '51

Readership of food-store advertising. R. H. Oakes. J Marketing 16:66-8 Jl '51

Readership research is bunk? no, says adman. M. H. Wiseman. Ed & Pub 83:14 O 21 '50

Smallest farm-paper ads are big in reader attention. H. G. Sawyer. Ptr Ink 236:58+ S 28 '51

Starch measures best-read industrial ads (cont). il Ind Marketing 35:42-3 O; 38-9 N; 38-9, 128 D '50; 36:100-1 Ja; 42-3 F; 42-3 Mr; 42-3 Ap; 62 My; 62+ Je; 65+ Jl; 46+ Ag; 116+ S '51 (to be cont)

Starch reports best-read advertisements (cont). il Adv Agency 43:78-9 N; 76-7 D '50; 44:80 Ja; 72 F; 72-3 Mr; 74-5 Ap; 74-5 My; 72-3 Je; 72-3 Jl; 66-7 Ag; 70-1 S; 68-9 O '51

Survey shows idea ads are better read. Ed & Pub 84:26 Ap 7 '51

Ways to improve your industrial ads. H. D. Hadley. il Adv Agency 44:68-9 Ag '51

What does advertising readership mean? H. D. Hadley. Adv Agency 44:66-7+ Jl '51

What poster readership data mean. M. Harper. Adv Agency 44:82+ Je '51

Which advertising techniques make men read newspaper ads? H. J. Sawyer. Ptr Ink 236: 25-7 Ag 10 '51

Who read? is as vital as how many? H. D. Hadley. Adv Agency 44:64-5 Je '51

Repetition

Many ads good for more than one shot, says Esso. il Sales Management 66:89-90 F 15 '51

Why not a repeat performance? G. L. Sumner. Ptr Ink 236:90 Jl 27 '51

Size

Big, wordy ads get top rating in Readex data. R. Pendergast. Ed & Pub 83:32 N 25 '50

How readership findings help in planning; appeal, size of space, frequency are tied to accomplishment of specific objectives. H. D. Hadley. il Adv Agency 43:68-9+ D '50

Per-reader comparison finds large and small ad costs equal; Readex studies show service copy attracts largest number of interested readers. E. J. Dever, jr. il Ptr Ink 234:40-3 F 23 '51

Testing

Alex Smith r.o.p. color test finds readership, costs high. R. B. McIntyre. Ed & Pub 84:9 Ag 11 '51

Crocker test results await final analysis. R. B. McIntyre. Ed & Pub 84:12 Ag 11 '51

Four little girls test. J. Katz. Ptr Ink 236:90 Jl 20 '51

Which ad pulled best? test of color, of timing, of free offers and of picture content. il Ptr Ink 235:45+ Je 15 '51

Which of these ads will RCA use again? il Ptr Ink 236:48-9 Jl 20 '51

Who read? is as vital as how many? H. D. Hadley. Adv Agency 44:64-5 Je '51

See also

Advertisements—
Readership

Typography

Art, typography and layout; prediction for 1951. il Ptr Ink 233:25 D 29 '50

How copyfitting pays off at Popular Mechanics plant. J. Dalen. il Inland Ptr 126:43-4 Ja '51

Salute to the winners! il Inland Ptr 127:70-1 Je '51

Source composition techniques. R. R. Karch. Ptr Ink 233:34-5+ D 8 '50

ADVERTISEMENTS—Typography—*Continued*

Typographic clinic. G. H. Petty. il Inland Ptr 127:74-5 Ag '51

What's wrong with tv typography today? J. M. Secrest. il Ptr Ink 236:26-7 Ag 31 '51

ADVERTISEMENTS, Classified

ANCAM encourages solution to problem. Ed & Pub 83:44 N 18 '50

Association of newspaper classified advertising managers 31st annual convention, Montreal. Ed & Pub 84:11-12 Je 30 '51

Business directory. W. Kemp. Ed & Pub 84:40 Ja 27 '51

CAM survey projects rationing prospective. H. W. Tushingham. Ed & Pub 84:46 Jl 7 '51

Classified advertising merits better promotion. T. S. Irvin. Ed & Pub 84:35 My 26 '51

Classified booster. I. Simpson. Ed & Pub 84:40 Ja 27 '51

Classified clinic. Published in weekly numbers of Editor and publisher

Classified considered in journalism courses. H. W. Tushingham. Ed & Pub 83:38 D 2 '50

Farm equipment copy major classification. H. W. Tushingham. Ed & Pub 83:38 N 4 '50

'51 classified sales prospects are bright. H. W. Tushingham. Ed & Pub 84:36 Ja 6 '51

'51 forecast challenges CAM foresight, planning. H. W. Tushingham. Ed & Pub 83:30 D 30 '50

Groceries, banks use classified effectively. Ed & Pub 83:38 O 28 '50

Help wanted ads put across capitalism idea. Ed & Pub 83:45 D 23 '50

Linage gains are attributed to action ads. Ed & Pub 84:40 Ja 27 '51

Merchandise promotion for direct sales results. Ed & Pub 83:38 O 28 '50

New car ad column future possibility. H. W. Tushingham. Ed & Pub 83:40 N 25 '50

Newspaper that want ads built. W. H. Conrad. Ed & Pub 84:40 F 3 '51

Organized planning develops classified. H. W. Tushingham. Ed & Pub 83:38 O 21 '50

Phonebook leads call for planned approach. H. W. Tushingham. Ed & Pub 84:26 Mr 24 '51

Rate card important element in promotion. R. Witte. Ed & Pub 83:42 N 11 '50

Sell complete package, ANCAM chief urges. C. Watson. Ed & Pub 84:66 S 29 '51

Some ideas for '51. H. W. Tushingham. Ed & Pub 84:36 Ja 6 '51

See also

ANCAM exchanges (periodical)

Statistics

ANCAM survey. Ed & Pub 83:38 D 2 '50

Want ads

April want ad week to build for future. H. W. Tushingham. Ed & Pub 84:18 Mr 17 '51

Chicago tribune opens new want ad phone room. il Ed & Pub 84:41 F 3 '51

Rate card confusion deters want ad sales. H. W. Tushingham. Ed & Pub 84:54 Ap 21 '51

Want ad plan gives papers 20 per cent increase. Ed & Pub 84:26 F 17 '51

See also

Employment systems—Advertising aids

ADVERTISEMENTS, Pictorial

Clipping board's 50 best for 1950. il Adv Agency 44:64-6 Ja '51

How good the illustrations? Aesop Glim. il Ptr Ink 235:68 Je 22 '51

How good the illustration? Aesop Glim. il Ptr Ink 236:88 S 14 '51

New type product gains quick acceptance; Melmac plastic dinnerware action pictures. C. J. Swan. il Ptr Ink 233:32-3 N 24 '50

Shorter the copy, bigger the sales. L. F. Thomann. il Ptr Ink 236:41 Jl 6 '51

To picture or not to picture. Aesop Glim. Ptr Ink 234:56 Ja 26 '51

Which ad pulled best? a test of picture angling. il Ptr Ink 234:31+ Mr 16 '51

Cartoons

Multiple media comics buck a trend. R. W. Hoover. il Ptr Ink 236:35 Ag 3 '51

Which ad pulled best? all type or cartoons? il Ptr Ink 234:39+ F 2 '51

Which ad pulled best? cartoon or photo? il Ptr Ink 235:38+ Ap 13 '51

Which ad pulled best? cartoon or tasty dish? il Ptr Ink 236:34+ Ag 3 '51

Comic strip

National distribution secured through dual approach; comics for the kids; refill business for dealers; smoker gun. L. F. Thomann. il Ptr Ink 233:36 O 27 '50

Photographs

Cartoon strip was good but photographs better. Ptr Ink 235:43 Ap 20 '51

How to get good photographs. G. B. Motheral. Ptr Ink 235:40-1 Ap 20 '51

Which ad pulled best? circus toy ads. il Ptr Ink 236:35+ Jl 27 '51

Which is better? photographs or art work? D. Munson. il Ptr Ink 237:58-9 O 12 '51

ADVERTISEMENTS, Small space

Consistent and conventional, this small-space program pays off; Corn king co. sells specialty feed and medicinal livestock products. H. E. Green. il Ptr Ink 236:40+ Ag 17 '51

How to advertise successfully in small town markets. A. E. Pacini. il Adv Agency 44:52-3+ Ag '51

How to build a business with small-space ads; Kantwet crib mattresses. il Ptr Ink 236:48-9 S 7 '51

Smaller and smaller; shorter and shorter; Quick and People today. il Bsns W p56+ O 21 '50

Smallest farm-paper ads are big in reader attention. H. G. Sawyer. Ptr Ink 236:58+ S 28 '51

When the budget is small, make the ads work overtime; increasing space impact by selling of booklets and a color wheel; National Oak Flooring. M. F. Harris. il Ptr Ink 236:44-5 S 21 '51

ADVERTISERS

Advertising is behind the times, but, blame the client. W. Weir. Ptr Ink 235:28 My 11 '51

ADVERTISING

Ad forum discusses dynamic selling. Ed & Pub 83:14 N 18 '50

Advertising is behind the times, culturally; needs to catch up on the social sciences. E. L. Bernays. il Ptr Ink 234:25-7 Mr 30 '51; Discussion (Advertising today, Mr Bernays, is a lot more than the alchemy of semantics). K. Groesbeck. 235:42 Ap 13 '51; (Advertising is behind the times, but, blame the client). W. Weir. 235:28 My 11 '51

Advertising is still an idea business! H. Halsell. Adv Agency 43:55 N '50

BBB issues guide on military ad theme. Ed & Pub 84:64 Ja 13 '51

Copy still is the backbone of advertising. H. Stebbins. Adv Agency 43:74-5+ D '50

Direct mail swells exhibit attendance; DMAA show. il Ptr Ink 235:51 Ap 20 '51

Getchell ads still sell. il Bsns W p78-80+ D 16 '50

How to boost sales 10,000 per cent; Jim Caldwell and Wooster rubber company. L. M. Hughes. il Sales Management 65:37-40+ N 10 '50

Operations analysis and the theory of games; an advertising example. L. Gillman. Am Stat Assn J 45:541-5 D '50

Presentations; how to make them sell. H. Edmunds. il Adv Agency 44:68-9+ Jl '51

Principles of effective advertising from JWT and McCall's. W. W. Elton; O. L. Wiese. Adv Agency 43:78+ D '50

Public relations men call article on ads unfortuneate; panel discussion at annual meeting of the Public relations society of America. Ed & Pub 83:12 D 9 '50

Snyder stresses need for ads in wartime; excerpts of record of debate before the Senate finance committee. Ed & Pub 83:9 D 16 '50

What do you believe are the two most important ways the present emergency will affect advertising? Adv Agency 44:49+ Mr '51

Why advertising must be sold to top management; 17 factors that point up advertising's growing responsibility. A. C. Fatt. Adv Agency 44:78+ Jl '51

ADVERTISING—*Continued*

Words are stronger than ever, and advertising, contrary to what Mr Bernays says, has made them that way. G. K. Morlan. Ptr Ink 235:38 Ap 27 '51

See also

Advertisements
Advertising agencies and other headings beginning Advertising
Association of national advertisers
Audit bureau of circulations
Bank advertising
Billboards
Catalogs
Church advertising
Color in advertising
Community advertising
Employment systems—Advertising aids
House organs
Labels
Merchandizing
Money raising campaigns
Moving pictures in advertising
Municipal advertising
Premiums (merchandizing)
Publicity
Radio advertising
Sales letters
Show windows
Television advertising

also subdivision Advertising under special subjects, e.g.

Airlines
Correspondence schools and courses
Electric apparatus industry
Flour trade
Mattresses
Medicines, Proprietary
Office equipment industry
Optical trade
Printing trade
Products, New
Railroads

Architects, Appeal to

Fine feathers promotion for a quality market; United States gypsum co. interests dealers, builders and architects in dry wall construction. M. C. Carpenter. il Sales Management 66:60+ F 1 '51

Children, Appeal to

Kiddies; are they now our number one pressure group? J. H. Collins. il Sales Management 67:60+ Ag 15 '51

Continuity

Oversold J&L continues ads to hold customers. Ptr Ink 234:78 F 16 '51

227 reasons for continued selling, even though there's nothing to sell; advertising investments of 227 companies in general and farm periodicals, 1949. P. Salisbury. Sales Management 66:37-40 Ja 1 '51

You can't rest on your advertising oars. J. Lavenson. Adv Agency 44:109 Jl '51

Contractors, Appeal to

Sylvania assigns major sales role to its kits. il Sales Management 67:88+ Jl 1 '51

Cost

Cutting production costs. L. Leon. Adv Agency 44:61+ Mr '51

How four major advertisers increase customer coverage despite rate increases. R. Manville. Ptr Ink 236:44-5 S 14 '51

Something for practically nothing. H. S. Valentine, jr. Ptr Ink 236:90 Ag 3 '51

Will sales costs drop when you cut inquiry cost? study of mail-order results, Washington school of art. R. Y. Giles. Ptr Ink 236:51-2 S 21 '51

Dealer cooperation

How to buy advertising for 47 cents on the dollar. P. Salisbury. Sales Management 66:42-4 Ja 15 '51

How to integrate sales and advertising. R. J. Mohr. il Ptr Ink 237:37-9 O 12 '51

Late timing and delivery wreck tie-ins, retailers report. Ptr Ink 233:33 D 1 '50

Nabisco's formula; every ad supported at the point of sale. M. Beuick. il Ptr Ink 234:29-31 Mr 30 '51

Store executive asks down-to-earth ad mats. N. Baron. Ed & Pub 84:14 Je 16 '51

Dealer helps

ABC's of display; General Electric full color movie appeals directly to dealer. il Sales Management 66:76 F 15 '51

Component parts supplier uses seven-step promotional package; Lorentzen Hardware helps venetian blind manufacturer-customers help their retailers. H. K. Lorentzen. il Ptr Ink 233:32-4 N 3 '50

Iron fireman increases list for ad fuel. Ed & Pub 84:24 Ag 4 '51

Likes and dislikes about merchandising film spots. Sales Management 67:88 Ag 1 '51

Local radio show builds prestige for dealers. R. Latimer. Ptr Ink 235:36-7 Ap 27 '51

Order blank for promotional aids increases use of tie-ins 150 per cent. Ptr Ink 234:39 Mr 9 '51

What to do about the summer slump; Wooster rubber co. il Ptr Ink 236:27-9 Jl 20 '51

Dealers, Appeal to

Eight award winning ads show ways to love your dealer; ABP merchandising winners. il Ind Marketing 36:67-8+ Je '51

Guaranteed profits for retailers! Pepsi-Cola grocery trade campaign. il Ptr Ink 235:26 My 4 '51

How a free premium proved the effectiveness of a dealer magazine. A. I. Glazier. il Ptr Ink 236:44+ Ag 3 '51

New technique records retailers' reaction to trade. Ptr Ink 236:74 S 7 '51

Sales-building promotion contest helps market new line; direct-mail campaign plus salesmen; Union underwear co. E. J. Dever, jr. Ptr Ink 234:28-30 Ja 5 '51

Step up your dealer promotion to overcome fickle buying moods, Mirro Aluminum. R. L. Pritchard. il Ptr Ink 236:34-5 Jl 13 '51

You can't bombard distributors and dealers with too much mail. R. Y. Giles. il Ptr Ink 233:29-30 N 24 '50

Definition

Letters from an agency man to his son. D. Bennett. Adv Agency 44:66 Ag '51

Economic aspects

Ads benefit free economy. O. Kleppner. Ed & Pub 84:18 F 10 '51

Advertising, a basic anti-inflationary weapon. J. Hirsch and A. R. Wilson. Ptr Ink 234:29-30+ F 23 '51

Cyclical policy and the advertising appropriation. R. S. Vaile. J Marketing 16:81-2 Jl '51

How intangibles are valued. W. J. Casey. Adv Agency 44:72 Jl '51

How mobilization will affect advertising; study by Time, inc., reveals some indicative relationships between national income, consumer expenditures for goods, and gross revenues from national advertising. R. G. Gettell. Adv Agency 44:72-3+ My '51

Sale I never forgot; economy of advertising told to strikers. O. R. French. Ptr Ink 236:61 Jl 6 '51

What advertising has done for Pitney-Bowes; marketing pictographs. Sales Management 66:65, 67 Mr 15 '51

World spotlight is on advertising as social and economic force. Ptr Ink 236:52 Jl 20 '51

Employees, Appeal to

You can help fight inflation with this new comic book. E. J. Dever, jr. il Ptr Ink 235:59 Je 22 '51

Family of products

Family of products re-united by one sales theme for all; Fieldcrest blankets, sheets, towels, etc. il Ptr Ink 234:30-1 Mr 16 '51

Family resemblance preserved in different industrial ad campaign; Raybestos-Manhattan. il Ptr Ink 234:39 Mr 23 '51

How to advertise a family. V. J. Dallaire. il Ptr Ink 234:38-9 Mr 30 '51

How to make inserts pay; Wheelabrator placed four-pagers in key markets, saved more than $2,000, increased inquiries 38 per cent. il Ptr Ink 234:38-9 Ja 19 '51

When the line outgrows the trade-mark; AC spark plug division, General motors corp. J. C. Hines. il Ptr Ink 235:40-2 Ap 13 '51

Farm women, Appeal to

Do farm women respond to advertising the way their city sisters do? H. G. Sawyer. il Ptr Ink 237:52+ O 12 '51

ADVERTISING—*Continued*

Farmers, Appeal to

Advertising to the farm market from the Advertising research foundation's continuing study of (13) farm publications. A. W. Lehman. il Adv Agency 44:56-7+ Ja '51

Cash crop from the woodlot; key to McCulloch sales strategy for light-weight chain saws. C. F. Breer. Sales Management 66:84+ Ap 15 '51

Close-up selling produces orders in tight competition; centering attention of customer on performance advantages he wants. H. S. Nelson. il Ptr Ink 234:32-5 Ja 19 '51

Dealer listings will triple this year in farm-paper advertisements. V. C. Anderson. il Ptr Ink 235:40-1 Je 8 '51

Farm equipment copy major classification. H. W. Tushingham. Ed & Pub 83:38 N 4 '50

Flexibility keynotes mailers to farmers; Minneapolis-Moline co. R. O. Smith. Sales Management 66:92-3 Ja 1 '51

If you want to sell the farmer, show him proof of profit. H. W. Collins. il Sales Management 66:76+ Je 15 '51

This promotion package is making company movie a hit; Dearborn motors corp. J. F. Pedder. il Ptr Ink 236:34-5 Jl 20 '51

What kinds of ads attract farmers? statistical study. R. L. Edsall. il Ptr Ink 233:23-5+ D 15 '50

Fiction

Blandings' disease, and how to cure it; comments on Blandings' way, by Eric Hodgins. D. J. Loden. Ptr Ink 235:114 Ap 20 '51

History

Advertising at the loftiest peak in its history. Ptr Ink 233:20-1 D 29 '50

Back issues; advertising in 1934 issue of Fortune. R. Ross. Ptr Ink 235:98 Ap 27 '51

Industries, Appeal to

See Advertising, Industrial

Inquiries

Ideal inquiry campaign boosts distributor sales. il Ind Marketing 36:60 Mr '51

We think of advertising as correspondence; Upson company panels. A. E. Calver. il Ptr Ink 234:38-40+ F 16 '51

See also
Advertising, Industrial—Inquiries
Follow-up systems

International aspects

What is international advertising? C. F. Rork. Adv Agency 44:90-3+ O '51

Jobber cooperation

How to make your advertising impressive to your distributors. M. E. Tobias. il Ptr Ink 233:42 N 3 '50

Tailor your direct mail to local market needs; distributors will buy pin-pointed mail campaigns; Stromberg-Carlson co. S. H. Manson. il Ptr Ink 233:30-3 D 1 '50

Jobbers, Appeal to

How an industrial advertiser keeps distributors sold; MacWhyte wire rope. N. Kelne. il Ptr Ink 236:72-3 S 14 '51

How to get distributors for a new, premium-priced product; Piatt and Smillie germicide-detergent. N. Kelne. il Ptr Ink 235:25-7 Ap 27 '51

Laws and regulations

Copy and the law. M. J. Simon. Adv Agency 44:68+ Ja; 62+ F; 68+ Mr; 57+ Ap; 79+ My; 79+ Je; 59+ Jl; 75+ Ag; 81+ S; 67+ O '51

Courts adopting less tolerant attitude toward advertising. I. W. Digges. Ptr Ink 234:33-5+ Mr 30 '51; Excerpts. Adv Agency 44:70+ Ap '51

Damages in cancellation of advertising contract. A. W. Gray. Ed & Pub 83:55 O 28 '50

False, fraudulent, and deceptive advertising. M. J. Simon. Adv Agency 44:68+ Ja '51

FTC puts brakes on Mr. Coffee Nerves; ads for Postum. Bsns W p46 F 10 '51

How to clear security restrictions for your industrial advertising. I. R. Ogilvie. Ind Marketing 36:44+ Ap '51

Laws bar flag, shield in advertising columns. L. Farrant. Ed & Pub 83:16 N 18 '50

Lawyer looks at advertising testimonials; endorser as well as advertiser may be held liable in damages. M. J. Simon. Adv Agency 43:67+ D '50

Legal trends. G. H. Weil. Ptr Ink 235:42+ Je 8 '51 [cont monthly]

Lucky unhappy over FTC gag on ad claims. Ed & Pub 84:49 Jl 7 '51

Military theme in advertising; what you can use; how you can use it; where to get clearance. A. E. Backman. il Ptr Ink 234:31-3+ Mr 23 '51

Misrepresentation and false claims. F. L. Hart. J Chem Educ 27:629-31 N '50

New light on the legal headaches of the advertising agency; what about a Kefauver show? D. Miller. Ptr Ink 235:36-7 My 11 '51

New Orleans officers quizzed on unit rates. Ed & Pub 84:14+ Ja 20 '51

Public record of cost of idea ads advocated. Ed & Pub 83:11 O 28 '50

See also
Advertising, Fraudulent
Advertising copy—Free offers

Leaders

Trains big guns on one product, and develops new market for the line; negative consumer copy, professional and trade advertising make highest-priced product fastest seller; Firm-O-Rest mattress. H. E. Green. il Ptr Ink 234:29-31 Ja 19 '51

Moving picture tie-in

How to get branded products shown in movie scenes. J. H. Collins. il Sales Management 66:102+ F 15 '51

Objectives

Aesop Glim's clinic; why advertise? Ptr Ink 234:64 F 23 '51

How readership findings help in planning; appeal, size of space, frequency are tied to accomplishment of specific objectives. H. D. Hadley. il Adv Agency 43:68-9+ D '50

Tailor your direct mail to local market needs; distributors will buy pin-pointed mail campaigns; Stromberg-Carlson co. S. H. Manson. il Ptr Ink 233:30-3 D 1 '50

Physicians, Appeal to

Cutter's way with direct mail; doctors are just other people. il Sales Management 67:160+ S 15 '51

Give the salesmen's old story a new package; Soft-Lite lens co. A. A. Kohler. il Ptr Ink 236:38 Ag 31 '51

In advertising to bright minds we try not to be dull; Abbott laboratories, 1950's grand award winner in Direct Mail Advertising competition. C. S. Downs. il Sales Management 65:58-63 N 1 '50

We sold the doctors first; now to consumers with new name and guarantee; Univis lens co. R. O. Barber. il Ptr Ink 235:34-5 Ap 6 '51

Planning

Advertising plan for the modest budget; abstract. A. E. Jackson. Management R 40:90-1 F '51

How good? Aesop Glim. Ptr Ink 235:68 Ap 6 '51

How readership findings help in planning; appeal, size of space, frequency are tied to accomplishment of specific objectives. H. D. Hadley. il Adv Agency 43:68-9+ D '50

How to approach management for budget approval; abstract. J. T. Vinbury. Ind Marketing 36:64+ Ag '51

Planning and research behind soap advertising. W. G. Werner. Soap & San Chem 26:44-6+ O '50

Two dimensions of advertising; what and where. B. Schellenbach. Ptr Ink 235:31-2 Je 8 '51

Prize contests

Contests for public and trade spark 25-year-old company's first consumer advertising; Purepac corp. W. R. Bruner. il Ptr Ink 236:30 Ag 17 '51

Copy and the law; contests vs. lotteries. M. J. Simon. Adv Agency 44:57+ Ap '51

How to use a contest to build more interest in your ads. N. Kelne. il Ptr Ink 236:48-50 Ag 10 '51

ADVERTISING—Prize contests—*Continued*

Premiums and contests in 1951. il Ptr Ink 233:31 D 29 '50
Stopette upsets seasonal sales with fall deodorant promotion. W. A. Wright. il Sales Management 65:76+ N 20 '50
22 ways to use consumer contests. L. Brendel. il Adv Agency 44:56-7+ F '51
What do you think will be the importance of premiums and contests in the period of national mobilization? Adv Agency 44:53+ My '51

Psychology

Advertising and the decline of national intelligence. W. S. Roberts and others. Ptr Ink 236:29-31 Jl 27 '51; Discussion. 236:32 Ag 10; 32-3 Ag 17 '51
Five areas for motivation study. E. Dichter. Adv Agency 44:72-3+ My '51
How much of buying is just a reflex preconditioned by advertising? E. Stillman. Ptr Ink 234:30-1 Ja 12 '51
Let's go fishin'; attention getting ads. K. P. Johnston. Ptr Ink 236:124 S 14 '51
Not even Macy's can meet fear with logic; why I agree with E. B. Weiss. E. L. Bernays. Ptr Ink 234:28-9 F 16 '51
These are the six steps in creating copy. H. D. Hadley. Adv Agency 44:73 S '51
What you should know about magazine audiences. H. D. Hadley. Adv Agency 44:68-9+ F '51
Words are stronger than ever, and advertising, contrary to what Mr Bernays says, has made them that way. G. K. Morlan. Ptr Ink 235:38 Ap 27 '51
You either offer security or fail; interview with Ernest Dichter. Bsns W p68+ Je 23 '51

Public attitude

Advertising is being sold down the river in America's colleges. P. W. Burton. Ptr Ink 236:43 Ag 10 '51
Courts adopting less tolerant attitude toward advertising. I. W. Digges. Ptr Ink 234:33-5+ Mr 30 '51; Excerpts. Adv Agency 44:70+ Ap '51
Farmers think advertised products cost more, but they have more confidence in them. Ptr Ink 234:54 Mr 9 '51
Here's a big job; let's start educating educators about advertising. G. H. Hobart. Ptr Ink 236:44 Ag 31 '51
Let's pre-sell our students by advertising advertising. J. B. Lynn. Ptr Ink 236:90 S 21 '51
Public craves ads. R. B. McIntyre. Ed & Pub 84:15 Mr 24 '51
Wage earner forum on advertising. Ptr Ink 234:84 Mr 23 '51

Purchasing

Guide for callers; information folder for media reps. J. M. Royal. Ptr Ink 236:90+ S 7 '51
How is advertising bought? Ptr Ink 235:25-8+ Je 1 '51
How you'll buy tomorrow's space. F. R. Gamble. Adv Agency 44:77+ Je '51

Rates

Ad agencies swamped as papers hike rates. Ed & Pub 83:6 D 2 '50
Approaches rates from the rear. M. J. A. McDonald. Ed & Pub 84:40 My 26 '51
Costs force dailies to hike rates for ads. Ed & Pub 83:67 N 18 '50
Evils of co-op advertising; double billing. D. B. Arnold. Adv Agency 44:88 My '51
Good Housekeeping advertisers to earn discounts for continuity. Sales Management 67:147 O 15 '51
Government attacks unit ad rate defense. Ed & Pub 84:39 Mr 24 '51
Higher advertising rates imminent, NAEA theme. Ed & Pub 84:7+ Je 30 '51
Judge weighs arguments on forced unit ad rates; New Orleans case. Ed & Pub 84:11+ Jl 21 '51
More ad rate raises coming, NAEA told. L. Farrant. Ed & Pub 83:16 D 23 '50
New Orleans officers quizzed on unit rates. Ed & Pub 84:14+ Ja 20 '51
New York study shows variations in ad rates. D. U. Bridge. Ed & Pub 84:16 F 3 '51
Newspaper admen hear criticism of double billing, forced combinations. R. C. Robertson. Ed & Pub 84:5-6 Ja 27 '51
Newspapers weigh rate increases. H. E. Green. Ptr Ink 236:31 Jl 6 '51
Oklahoma City ends forced combination. Ed & Pub 83:7 D 16 '50
Personality, service justify ad rate rise. F. W. Rucker. Ed & Pub 83:27 D 2 '50
Political rate limit raises utility question. A. W. Gray. Ed & Pub 84:55 Jl 14 '51
Rate card strategy building ad volume. H. W. Tushingham. Ed & Pub 84:36 Je 9 '51
Rates and rationing highlight conferences. Ed & Pub 84:54 Ap 7 '51
S-H papers to launch premium page March 5. Ed & Pub 83:11 D 30 '50
Space buyers critical of selling, rates, data. Ed & Pub 84:7+ F 24 '51
Study shows dailies have held milline rate since '40. Ed & Pub 83:5-6 D 2 '50
Times Picayune calls unit rates reasonable; wins case. Ed & Pub 84:11 F 17; 11 F 24 '51
Times-Picayune contends unit ad rates are reasonable. Ed & Pub 84:15 Jl 7 '51
Two per cent discount helps sell space. F. R. Gamble. Ed & Pub 83:6 O 28 '50
U.S. asks court to outlaw compulsory unit ad rate. Ed & Pub 83:3-4 D 30 '50
U.S. lists suspensions in unit ad rate cities. Ed & Pub 84:12 My 26 '51
U.S. says New Orleans papers are separate. Ed & Pub 84:70 Je 23 '51
Why Bob, who'd think you had complexes! J. L. Collings. Ed & Pub 84:20 Je 2 '51
Wide variation in line rate vs. circulation. A. W. Fell. Ed & Pub 84:11 Ag 25 '51

Returns

Agency tells how advertising moved California beer from seventh to second place. E. Reinhardt. il Adv Agency 44:54-5+ Je '51
How to move a collectors' item quick; Bach festival phonograph records. Ptr Ink 234:45 F 16 '51
New brand-name fabric due for heavy ad and promotion buildup; Reeves-Erenmade. il Ptr Ink 234:34 Mr 23 '51
Will sales costs drop when you cut inquiry cost? study of mail-order results, Washington school of art. R. Y. Giles. Ptr Ink 236:51-2 S 21 '51

Schedules

Media man's viewpoint; question of frequency. D. B. Arnold. Adv Agency 44:102+ Jl '51

Schools, Appeal to

Aesop Glim's clinic; primer-ative; instruction to school boy selling space in year book. Ptr Ink 235:68 Ap 6 '51
Better light-better sight bureau offers new lighting educational program; Living with light. il Edison Elec Inst Bul 18:446 D '50
How to reach future employees today; work with local school groups, use comics; Industrial information institute, Youngstown. R. B. Collins. il Ptr Ink 235:35-7 Je 1 '51
Industry muffs school aids. Bsns W p64 S 22 '51

Service

Advertising plays major role in bringing relief to flood-stricken areas. Ptr Ink 236:12-13 Jl 27 '51

Statistics

Advertising checking bureau reports linage on eight product groups. R. B. McIntyre. Ed & Pub 84:16 Ag 25 '51
Advertising volume in business papers, Dec. 1949 and totals for 1949 and 1950. Ind Marketing 36:62+ Ja '51
Big stores buy record high monthly linage; with tabulation of newspaper linage, 52 cities, 1949, 1950. Ed & Pub 83:40+ D 30 '50
How 551 advertising agencies placed space in business papers in 1950. Ind Marketing 36:52+ Ap '51
How the big 25 advertised; Barbour Walker Lyndon study of the 25 biggest spenders in six major media from 1936 to 1949 inclusive. Ptr Ink 233:25-9 D 1; 27-31 D 8; 30-4 D 15; 28-32 D 22 '50
Media interest in mail-order advertising grows as competition intensifies. il Ptr Ink 233:61-2+ N 10 '50

ADVERTISING—Statistics—*Continued*

Milwaukee journal, number one on linage list. Ed & Pub 84:16 F 3 '51

National advertisers' 1950 investments in newspapers. Ptr Ink 235:35-6, 44+ Je 29 '51

National advertising in newspapers, 1950; compiled by Bureau of advertising. Ed & Pub 84:57-67 Je 23 '51

National advertising media, 1950 vs. 1949; it's a great day for the adman. Bsns W p84+ F 17 '51

1950 ad volume hit new high, topped 5½ billion. Ptr Ink 234:27 Ja 26 '51

1950 linage compiled for 355 newspapers in 110 cities. Ed & Pub 84:75-90 Mr 10 '51

1950 U.S. advertising volume passes 5⅛ billion dollars. Ptr Ink 236:29-31 Ag 10 '51

1950 was a good year, 1951 will be better, say A.N.A. members. Ptr Ink 234:28 Mr 30 '51

100 leading national advertisers in five media, 1950. Ptr Ink 234:72 F 23 '51

Printers' Ink national advertising index; representing dollar expenditures for media, talent and production. Ptr Ink 234: 63-4+ Ja 5 '51 [cont monthly]

Second 100 leading national advertisers in five media, 1950. Ptr Ink 234:72 Mr 16 '51

Top advertisers lift newspaper and dollar-volume to near $½ billion. Sales Management 67:65 Jl 1 '51

Stockholders, Appeal to

Dividend insert devoted to institutional share owners. Ptr Ink 236:62 Jl 6 '51

Dividend stuffers unstuffyed; enclosures help keep Devoe & Raynolds' stockholders informed. il Ptr Ink 234:32 Mr 30 '51

Study and teaching

Advertising teachers go to school under NAEA fellowship plan. H. W. Wilson. Ptr Ink 235:51-2 Ap 6 '51

Classified advocated for colleges in 1929. H. W. Tushingham. Ed & Pub 84:40 Mr 3 '51

Students are trained in value of classified. H. W. Tushingham. Ed & Pub 84:36 Mr 10 '51

Top ad students inspect Young & Rubicam. il Adv Agency 44:81 My '51

Directories

Directory of advertising, marketing, and public relations education in the United States. D. W. Davis, comp. 68p pa $3.50 Advertising federation of America, Bur. of research and education, 330 W. 42d st, New York 18 '51

Taxation

Little chance seen for advertising tax. D. Bruner. Ptr Ink 235:33+ Ap 13 '51

20 per cent advertising tax suggested to Congress. Ed & Pub 84:16 Ap 7 '51

Television tie-in

How to get branded products shown in movie scenes. J. H. Collins. il Sales Management 66:102+ F 15 '51

Women, Appeal to

Battle of the sexes study finds women and men speak different languages. B. Tolk. Ptr Ink 233:87 O 27 '50

How much of buying is just a reflex preconditioned by advertising? E. Stillman. Ptr Ink 234:30-1 Ja 12 '51

It's mom who buys footballs and other play balls for the kids. Sales Management 66: 112+ F 15 '51

Trade-show promotion snowballs into national campaign; Beautee-Fit brassieres. il Ptr Ink 233:39 O 27 '50

When the budget is small, make the ads work overtime; increasing space impact by selling of booklets and a color wheel; National Oak Flooring. M. F. Harris. il Ptr Ink 236:44-5 S 21 '51

See also

Advertising—Farm women, Appeal to

Canada

Advertising in Canada. For Comm W 41:8 D 11 '50

Canadian advertising volume in business papers in 1949 and 1950. Ind Marketing 36:126 Ja '51

Most Canadians prefer ads in print. Ed & Pub 83:16 D 30 '50

United States

Ad-man's lot; British vs. American. D. M. Bree. Adv Agency 44:70-1+ Jl '51

ADVERTISING, Association

First national ads on turkeys sell big flocks. M. C. Small. il Ptr Ink 236:31-3 Jl 13 '51

Friendly bank ad copy brings in new customers. R. B. McIntyre. Ed & Pub 84:14+ Mr 10 '51

Must trade association ad campaigns always be wishy-washy? National paint, varnish and lacquer association. Sales Management 66:46+ Ja 15 '51

Sale I never forgot; selling a campaign to National clay pipe manufacturers. N. E. Malone. Ptr Ink 235:49-50 Je 8 '51

65,000 advertisers supported AMA theme. Ed & Pub 83:24 D 9 '50

Small dealers recapture lost market; joined forces and used advertising premium to build store traffic. E. J. Faber. il Ptr Ink 235:48 Ap 20 '51

Tie-ins match AMA ad, two-to-one ratio. G. A. Brandenburg. Ed & Pub 83:16 N 4 '50

ADVERTISING, Cooperative

Big book ad coming this fall breaks with tradition. il Ptr Ink 235:34 Je 29 '51

Color sells a train, sells a color; Budd co., Southern Pacific railroad, Harper's Bazaar combine in traveling fashion show. il Bsns W p21 F 10 '51

Co-op tv program to help independent merchant may prove talent mine. il Ptr Ink 233:32 D 1 '50

Drug stores build sales with group ads. Ed & Pub 84:40 Mr 10 '51

Four foes join hands to capture the mystery market; radio, books, movies and magazines. il Ptr Ink 235:44 Ap 20 '51

If they sell machinery, why do they advertise milk? Ex-Cell-O machines make paper milk containers. D. G. Baird. il Sales Management 66:76+ Ap 15 '51

Unique joint advertising bolsters machine tool exports; Amertool services, inc. il Ind Marketing 35:46+ D '50

Why Yale & Towne repeats "Keys to happiness"; co-op promotion with National association of home builders, and other hardware makers. Sales Management 66:79-80 My 20 '51

Wine-Certo test pays off; may ease seasonal slump for General Foods; Wine institute and C. & H. sugar refining corporation cooperate. il Sales Management 66:40-2 F 15 '51

See also

Radio advertising, Cooperative

Jobbers and dealers

Appliance distributor tells co-op rate plan. R. B. McIntyre. Ed & Pub 84:14 Je 2 '51

Manufacturers and dealers

Are retailers becoming media brokers? J. Lorin. il Ptr Ink 235:27-9 Ap 6 '51

Evils of co-op advertising; double billing. D. B. Arnold. Adv Agency 44:88 My '51

Pay-off to Parker's plunge into co-op ads; Parker pen co. J. N. Black. il Sales Management 66:68-71 Je 1 '51

Tie-in advertisements

Customers say yum yum to apple-wine-cheese tie-in sale. il Sales Management 65: 50+ N 1 '50

New sales collateral you can find in teamwork promotions. il Sales Management 67: 37-9+ Ag 1 '51

ADVERTISING, Direct mail. See Advertising, Mail

ADVERTISING, Educational

Council ads return dollars in systematic selling; bi-monthly mat service. Ed & Pub 84:14 F 17 '51

Current price slashing begs for brand story. T. S. Irvin. Ed & Pub 84:56 Je 16 '51

ADVERTISING, Educational—*Continued*

How to enlarge a market for a product people try to avoid; Bausch & Lomb educational program to match one's eyesight with his job. R. A. Sherman. il Sales Management 66:56+ Ap 15 '51

Is anybody listening? business must start doing more listening itself. il Fortune 42: 77-83+ S '50; Same cond. Management R 39:574-7 O '50; Discussion. Ptr Ink 232:78 S 1; 233:82 O 13 '50

Leading newspapers seek sponsors for Portrait of America series. il Sales Management 65:41 N 10 '50

Little merchandise, ads make friends. il Ptr Ink 236:58+ Ag 24 '51

Merck clears rumors on cortisone. R. B. McIntyre. Ed & Pub 84:15 Mr 24 '51

Moral appeal is drawing heavy response. il Ptr Ink 236:54 S 28 '51

More public service retail ads advocated. M. Hess, jr. Ed & Pub 84:14 Je 9 '51

Nation's editors welcome public relations ideas in paid space; 13th annual forum. Ed & Pub 84:5+ Mr 3 '51

New Ford movie shows why big business is good for America; partnership with suppliers is theme. R. G. Silbar. il Ptr Ink 234:48-9 Ja 19 '51

Not even Macy's can meet fear with logic; why I agree with E. B. Weiss. E. L. Bernays. Ptr Ink 234:28-9 F 16 '51

Public record of cost of idea ads advocated. Ed & Pub 83:11 O 28 '50

Publicized panic may become a stampede; Macy's newspaper advertisement. E. B. Weiss. Ptr Ink 234:30 F 2 '51

Rosicrucian order leans heavily on ads. C. Watson. Ed & Pub 83:24 D 2 '50

This ad program, started to kill a rumor, is now for keeps; West Coast lumbermen. L. F. Thomann. il Ptr Ink 234:38-9 Mr 9 '51

You can help fight inflation with this new comic book. E. J. Dever, jr. il Ptr Ink 235: 59 Je 22 '51

See also

Advertising, Association

Advertising, Institutional

Publicity

ADVERTISING, Foreign

Export ad volume rises $1,000,000 in 1950. Ind Marketing 36:114 F '51

Foreign advertising; abstract. L. B. Slocum. For Comm W 43:9 My 21 '51

How you can be an expert on export. il Ind Marketing 36:79+ S '51

Selling U.S. ideas and products abroad; agencies, mediums and facilities; directories. J. Patterson. Adv Agency 44:94-6+ O '51

Unique joint advertising bolsters machine tool exports; Amertool services, inc. il Ind Marketing 35:46+ D '50

What is international advertising? C. F. Rork. Adv Agency 44:90-3+ O '51

ADVERTISING, Fraudulent

False, fraudulent, and deceptive advertising. M. J. Simon. Adv Agency 44:68+ Ja '51

FDA tightens regulations on false drug advertising; with text of policy statement. Oil Paint & Drug Rep 159:57 Ja 15 '51

FTC puts brakes on Mr Coffee Nerves; ads for Postum. Bsns W p46 F 10 '51

Ipana claims in advertising argued in court. Ed & Pub 83:57 O 21 '50

Misrepresentation and false claims. F. L. Hart. J Chem Educ 27:629-31 N '50

Trustee named to work out plan to reorganize Hadacol. B. Tolk. il Ptr Ink 237:40+ O 12 '51

See also

Nutrilite

ADVERTISING, Indirect

Advertiser turns sports patron; Miller brewing company campaign regains area support for Green Bay Packers. V. S. Mullen, jr. il Ptr Ink 234:36-7 F 16 '51

If they sell machinery, why do they advertise milk? Ex-Cell-O machines make paper milk containers. D. G. Baird. il Sales Management 66:76+ Ap 15 '51

Label maker is creating consumer demand for products in its wrapper. il Ptr Ink 236: 37 Jl 6 '51

ADVERTISING, Industrial

Ad budgets holding, rising; ANA survey. H. T. Rowe. Ind Marketing 36:118+ My '51

Ad "sell" hinges on beginnings, endings. il Ind Marketing 36:67+ Jl '51

Ad tax a dead duck; abstract. C. E. Wilson. Ptr Ink 235:33 Je 29 '51

ARF studies show best-read ads, editorial items; highlights of business publication readership research. il Ind Marketing 35: 40-1+ N '50

Advertising takes a closer look at media schedules; agencies forecast. Ind Marketing 36:34+ Ja; 54+ F '51

Case histories show how to write industrial copy. S. Hopper. il Ind Marketing 35: 114+ N '50

Casey Jones promotes Diesel cleaning compound; Pennsalt's sales promotion campaign built around ad. il Ind Marketing 35:66+ O '50

Color inserts; too lavish for industrial advertisers? Nordstrom valves. W. F. Weimer. il Sales Management 66:52+ Je 1 '51

Consistent advertising of industrial slogan doubles sales in five years; Lane-Wells specialized services promoted in industrial publications, direct mail and strategic outdoor. L. F. Thomann. il Ptr Ink 235:34-6 Ap 13 '51

Copy chasers. il Ind Marketing 36:69+ Ja '51 [cont monthly]

Copy, plain or fancy? excerpts from ads in Dec. issue of Factory management & maintenance. E. S. Green. Ind Marketing 36:64D S '51

Effect of war on advertising. G. D. Crain, jr. il Ind Marketing 35:33+ O '50

Family resemblance preserved in different industrial ad campaign; Raybestos-Manhattan. il Ptr Ink 234:39 Mr 23 '51

Getting results from power up; western contractors who make use of Anaconda promotion program find response from industrials. il Elec West 106:80-1 My '51

Greer integrates promotion with publicity for sales results. il Ind Marketing 35:66+ D '50

Here's how a special promotion is doing double duty; brochure sells government agency on present need for critical material; follow-up to trade; Eriez magnetic separators. Ptr Ink 236:36 Jl 6 '51

How industrial advertiser is giving technical ads consumer flavor; human interest art and copy. N. Keine. il Ptr Ink 236:42-3 S 28 '51

How industrial advertising paid off; case histories. G. Van Alstyne and others. Ind Marketing 36:86 Je; 104 Ag; 120+ S '51

How six industrial advertisers introduce new products. W. A. Marsteller. il Ind Marketing 36:40-1+ My '51

How to advertise to business men (cont). H. G. Sawyer. il Ind Marketing 35:62+ O; 60+ N; 50+ D '50; 36:40-1+ Ja; 44+ F; 56+ Mr '51

How to clear security restrictions for your industrial advertising. I. R. Ogilvie. Ind Marketing 36:44+ Ap '51

I believe in advertising, but. J. R. Netedu. Ind Marketing 36:98+ My '51

If I were an advertising man. H. Terry. Heat & Ven 47:78 D '50

Industrial ad man of the year; Alton F. Davis, Lincoln electric co. il Ind Marketing 36:69+ Ja '51

Industrial advertising can boost wartime machine productivity. A. R. Tofte. il Ind Marketing 36:38-9 Je '51

Industrial advertising in '51. Ptr Ink 233:27 D 29 '50

Industrial advertising lambasted at Ohio Valley industrial advertising conference, Cincinnati. Ind Marketing 36:34-5 My '51

Industrial advertising need not turn handsprings in wartime; gallery of emergency advertising. A. H. Dix. Ptr Ink 234:32-7 F 2 '51

It takes new ideas to sell anything, especially an old product; Hercules cellulose acetate campaign. G. H. Daly. il Ptr Ink 234:39-40+ Mr 2 '51

Kohnstamm fetes centennial with new sales film to sell women on laundry service. C. Downes. il Ind Marketing 36:38-9 F '51

New "facilities books" promote defense orders. il Ind Marketing 36:50 Ag '51

New line introduced in face of industry slump; Westinghouse a-c arcwelders and electrodes. il Ptr Ink 235:44+ Ap 6 '51

ADVERTISING, Industrial—*Continued*

New product reaches 92 per cent of year's quota in ten months; Houghto-Solv, new fuel oil additive for sludge removal. il Ptr Ink 233:36-7 D 1 '50

1951 ABP industrial advertising awards announced this week. il Ptr Ink 235:31-3 Ap 6 '51

Now industry telecasts its story. T. Armstrong. il Sales Management 66:45-6+ Ap 15 '51

$1000 Industrial Press award for proving need for specific advertising won by J. T. Vinbury. Heat & Ven 48:113-15 Jl '51; il Mach 57:212-13 Jl '51

P&H breaks the rules to get more recognition; promotes several products in same ad. il Ind Marketing 35:70 O '50

Peabody makes a test of sales without advertising. il Ind Marketing 36:98 Ap '51

Radio campaign is door-opener for industrial salesmen; Sunbury wire rope. Ptr Ink 236:36 Ag 31 '51

Sales cues for products lost in manufacture. il Sales Management 66:46+ Je 15 '51

Seeking government orders? learn what makes a good brochure. il maps plans Mod Ind 21:40-4 My '51

Sentiment sell steel valves? Cooper Alloy's best customers ask for these mailers. G. Black. il Sales Management 65:90+ N 10 '50

Signpost sequence for industrial copy writers; dollars to do-how to details. E. S. Green. il Ptr Ink 234:38-9 Mr 16 '51

Six outstanding industrial ads win ABP honors. il Ind Marketing 36:112+ Ap '51

Sound sales formula backed by advertising boosts Trane. il Ind Marketing 35:48+ N '50

Starch measures best-read industrial ads (cont). il Ind Marketing 35:42-3 O; 38-9 N; 38-9, 128 D '50; 36:100-1 Ja; 42-3 F; 42-3 Mr; 42-3 Ap; 62 My; 62+ Je; 65+ Jl; 46+ Ag; 116+ S '51

Top management forum on current industrial marketing, selling and advertising problems. Ind Marketing 36:42-3+ Ja; 40-1+ F '51

Ways to improve your industrial ads. H. D. Hadley. il Adv Agency 44:68-9 Ag '51

What industrial advertisers plan to do in 1951; cross-country; cross-industry sampling. Ind Marketing 36:33+ Ja; 100+ F '51

What is a good ad in vertical, horizontal food publications? il Ind Marketing 36:67-8+ Ap '51

When each ad is written to stand on its own; Rinshed-Mason finishes. il Ptr Ink 235:32-3 My 11 '51

Why we are shifting to two-in-one ads; Maas & Waldstein industrial finishes. B. F. Ames. il Ptr Ink 236:30 Jl 13 '51

See also

Advertising mediums—Trade journals
Hoisting machinery, Electric—Advertising
Industrial advertising research foundation
Technical products—Advertising
Wire rope—Advertising

Bibliography

Industrial marketing in wartime; a bibliography of articles on war-time advertising published by Industrial marketing from 1939-45. M. C. Lucas. Ind Marketing 35:118+ O '50

Inquiries

Ideal inquiry campaign boosts distributor sales. il Ind Marketing 36:60 Mr '51

Monsanto booklet synchronizes sales, ad staffs on inquiries. Ind Marketing 36:50+ My '51

ADVERTISING, Institutional

Altruism helps Union Oil sales; sell American capitalism. F. C. Coonradt. il Ed & Pub 84:57 Mr 3 '51

ANA issues public relations case studies showing newspapers' roles. R. B. McIntyre. Ed & Pub 84:11+ My 19 '51

Do you think public service advertising does the job it's supposed to do? Adv Agency 43:51+ N '50

Flesh and blood stuff needed in firms' public relations ads. T. S. Irvin. Ed & Pub 83:54 O 28 '50

How to advertise today for tomorrow; McCulloch motors corp. new consumer advertiser building acceptance in advance. L. F. Thomann. il Ptr Ink 236:36-7 Jl 27 '51

How to avoid stupid wartime ads; no product is uninteresting. S. A. Hunt. il Sales Management 65:58+ D 15 '50

How you can write more readership into institutional copy; Glenn L. Martin advertising. R. W. Darrow. il Ptr Ink 236:34-5 Ag 31 '51

Institutional advertising needed for the printing industry. P. Fisher. Inland Ptr 126:29 Mr '51

Institutional copy; Woolworth's. Aesop Glim. Ptr Ink 234:60 Ja 12 '51

Institutional vs. brand advertising; abstract. Management R 40:226 Ap '51

New technique for institutional advertisers; develop copy themes from letters of inquiry and feature the letter writers. L. F. Thomann. il Ptr Ink 236:40+ Ag 24 '51

New venture in institutional advertising with a home-town touch; documentary copy in concert program carries one-line credit for Heinz. il Ptr Ink 235:28 My 18 '51

Photo collection tells Shell institutional story. il Ind Marketing 36:54, cover Mr '51

Plant city ads aid Kaiser Steel. il Ed & Pub 84:48 Mr 3 '51

Public attitude surveys prove campaign's worth; General Mills advertising. S. C. Gale. Ed & Pub 84:60 Mr 3 '51

Sentiment sell steel valves? Cooper Alloy's best customers ask for these mailers. G. Black. il Sales Management 65:90+ N 10 '50

Signposts to the institutional ad highway; seven memorable campaigns of last year. M. Beuick. il Ptr Ink 234:25-7 F 16 '51

Standard ads all year 'round. G. A. Brandenburg. il Ed & Pub 84:52-3 Mr 3 '51

Talking to the subway crowd? or the board of directors? P. W. Burton. Adv Agency 44:69 Je '51

Union oil co. concentrates on ads that sell the company. il Bsns W p40-2+ D 2 '50

Urges institutional ads for retailers. C. H. Sandage. Ed & Pub 84:16 Je 30 '51

When each ad is written to stand on its own; Rinshed-Mason finishes. il Ptr Ink 235:32-3 My 11 '51

Why Shell activated its public relations advertising. M. Beuick. il Ptr Ink 234:36-7 Mr 16 '51

ADVERTISING, Mail

Cutter's way with direct mail; doctors are just other people. il Sales Management 67:160+ S 15 '51

Direct mail advertising. E. N. Mayer, jr. Harvard Bsns R 29:37-51 Jl '51

Direct mail in 1951. il Ptr Ink 233:38 D 29 '50

Direct mail swells exhibit attendance; DMAA show. il Ptr Ink 235:51 Ap 20 '51

Elements of Inland Steel's prize-winning direct mail plan. W. E. Geidt. Sales Management 65:48 N 10 '50

Flexibility keynotes mailers to farmers; Minneapolis-Moline co. R. O. Smith. Sales Management 66:92-3 Ja 1 '51

How to get action by mail; International gift of the month club. W. J. Granberg. il Ptr Ink 236:41-2 S 7 '51

How to make inserts pay; Wheelabrator placed four-pagers in key markets, saved more than $2,000, increased inquiries 38 per cent. il Ptr Ink 234:38-9 Ja 19 '51

How to say we can't take your order now; Wolverine does it with monthly gadget mailings. il Sales Management 67:92+ S 1 '51

In advertising to bright minds we try not to be dull; Abbott laboratories, 1950's grand award winner in Direct Mail Advertising competition. C. S. Downs. il Sales Management 65:58-63 N 1 '50

It takes new ideas to sell anything, especially an old product; Hercules cellulose acetate campaign. G. H. Daly. il Ptr Ink 234:39-40+ Mr 2 '51

Keeping direct mail out of wastebaskets; campaign of Abbott laboratories. il Mod Ind 20:99 D '50

NIAA conference panel on developments in direct mail practice. Ind Marketing 36:101+ Jl '51

ADVERTISING, Mail—*Continued*

New mail-order advertiser ready to go into national media; shoe bronzing service. il Ptr Ink 234:38 Ja 26 '51

Please mail it to; charitable organizations' direct mail appeals pay off. Bsns W p85-6 D 16 '50

Put a reward in your direct mail. R. M. Gray. il Adv Agency 44:63+ F '51

Sales-building promotion contest helps market new line; direct-mail campaign plus salesmen; Union underwear co. E. J. Dever, jr. il Ptr Ink 234:28-30 Ja 5 '51

Six-year-old wrote the best card. il Ptr Ink 235:37 Je 29 '51

Sylvania assigns major sales role to its kits. il Sales Management 67:88+ Jl 1 '51

Tailor your direct mail to local market needs; distributors will buy pin-pointed mail campaigns; Stromberg-Carlson co. S. H. Manson. il Ptr Ink 233:30-3 D 1 '50

This letter opens door to more direct sales; Charmante's Beauty Planalysis. Sales Management 67:64 Ag 15 '51

Treat direct mail as advertising from now on. J. R. McAlpine. il Ptr Ink 235:31-3 Je 22 '51

We think of advertising as correspondence; Upson company panels. A. E. Calver. il Ptr Ink 234:38-40+ F 16 '51

You can't bombard distributors and dealers with too much mail. R. Y. Giles. il Ptr Ink 233:29-30 N 24 '50

See also

Advertisements—Books and booklets
Mailing lists
Salesmen—Advance cards and letters

Brochures

Here's how a special promotion is doing double duty; brochure sells government agency on present need for critical material; follow-up to trade; Eriez magnetic separators. Ptr Ink 236:36 Jl 6 '51

Post cards

Personal feeling created with picture postcards. T. S. Irvin. Ed & Pub 84:52 Jl 14 '51

Testing

Sentiment sell steel valves? Cooper Alloy's best customers ask for these mailers. G. Black. il Sales Management 65:90+ N 10 '50

ADVERTISING, Municipal. See Municipal advertising

ADVERTISING, National

Adventures in shopping. Sales Management 65:37-9 D 15 '50; 66:53-4+ Ja 1; 68+ F 1; 48+ Mr 1; 50+ Ap 1; 62-4+ My 1; 46+ Je 1; 67:54+ Jl 1; 45 Ag 1; 66+ O 1 '51 (to be cont)

Brands on way up again. Bsns W p83-4 Ap 21 '51

Bruce builds on branded flooring. il Sales Management 66:110+ Je 15 '51

Contests for public and trade spark 25-year-old company's first consumer advertising; Purepac corp. W. R. Bruner. il Ptr Ink 236:30 Ag 17 '51

Few brand-name products have national distribution; Scripps-Howard study. Ptr Ink 234:38-9 F 2 '51

14-market study shows position and use of advertising brands in 1950; analysis and highlights of new study by Milwaukee journal and cooperating newspapers. H. E. Green. Ptr Ink 233:57-9 D 15 '50

How does your product acceptance vary in these 15 markets? Sales Management 66:76+ Je 1 '51

How national are the leaders? pictograph. Sales Management 66:70 Ja 15 '51

How store detailing helps the agency. D. L. Harrington. il Adv Agency 44:52-3+ F '51

How to advertise today for tomorrow; McCulloch motors corp. new consumer advertiser building acceptance in advance. L. F. Thomann. il Ptr Ink 236:36-7 Jl 27 '51

It's thousands of years old, and it goes national this week; Yami Yogurt. L. F. Thomann. il Ptr Ink 236:24-5 Ag 31 '51

Low price alone won't sell a new product; Hero fire extinguishers. il Ptr Ink 233:35 N 10 '50

Macy's; the advertised brand's number one outlet. E. B. Weiss. Ptr Ink 235:42 Je 29 '51

New battle of the brands; national brands and distributors' own brands. E. B. Weiss. il Ptr Ink 233:27-30+ O 13; 32-4+ O 20; 34-5+ O 27; 46+ N 3; 45-6+ N 10; 44-6+ N 17; 36-8+ N 24; 38-40+ D 1; 36-8+ D 8; 35-6+ D 15; 33-4+ D 22 '50

New national advertiser, after 140 years in business; Sloane-Blabon introduces new products. E. J. Dever, jr. il Ptr Ink 233:34-5 D 1 '50

New national advertiser sprouting in Midwest; Grand duchess steaks, inc. il Ptr Ink 234:26 F 9 '51

Pablum starts consumer ads to save dominant position. il Ptr Ink 234:70 Ja 12 '51; Sales Management 66:55 F 1 '51

Regional manufacturer goes national; sells direct to retailers, advertises direct to public; Flex-Let corp. J. R. Storti. il Ptr Ink 233:27-9 N 3 '50

Veterans buy brands, too! Veterans canteen service. il Sales Management 66:122+ Ap 15 '51

What they're buying in 15 markets; standardized surveys show new brand position of 100 basic products. H. E. Green. Ptr Ink 235:29-31 My 11 '51

Where national advertising originates; map. Sales Management 67:71 S 15 '51

Why advertising must be sold to top management; 17 factors that point up advertising's growing responsibility. A. C. Fatt. Adv Agency 44:78+ Jl '51

Local tie-in

Demonstration selling and stunts won initial distribution; national advertising and local tie-ins will spread consumer acceptance; Wynn lubricating oil additive. L. F. Thomann. il Ptr Ink 234:38-9 F 23 '51

More national advertisers should cater to local preferences. E. B. Weiss. Ptr Ink 234:35 F 16 '51

ADVERTISING, Outdoor

Handy kit of facts about outdoor advertising. il Adv Agency 43:59+ D '50

How Heinz uses outdoor advertising. il maps Adv Agency 43:54-5 D '50

New high to Worthington pump and machinery corp. for factory-front advertising. Aesop Glim. il Ptr Ink 233:66 D 15 '50

Outdoor advertising success story; offer of free ice water built drug store business. G. L. Hough. il Adv Agency 44:76+ Jl '51

Outdoor and transportation; 149 millions in outdoor, spectacular and transportation advertising in 1951. il Ptr Ink 233:44 D 29 '50

This is the NOAB. Adv Agency 43:58+ D '50

See also

Billboards
Electric signs
National outdoor advertising bureau
Posters

Coverage

Projectable measurement for poster readership. M. Harper. Adv Agency 44:78+ Mr '51

ADVERTISING, Point-of-sale

ABC's of display; General Electric full color movie appeals directly to dealer. il Sales Management 66:76 F 15 '51

Decals get long life at the point of sale. A. Bihr. il Ptr Ink 234:32-3 Ja 5 '51

Displays that break the log jam at the point of sale; some newsworthy examples. il Sales Management 66:96-8+ Mr 15 '51

Displays that sell; six case histories. il Mod Packaging 24:61-7+ Ag '51

How to use point-of-purchase advertising in oversold markets. il Ptr Ink 234:45-6+ Mr 23 '51

Millions for point-of-purchase displays, not one cent for audit? General Foods checking up. W. P. Lillard. il Sales Management 66:89-90+ Mr 15 '51

Put your punch in point of purchase! il Sales Management 66:76+ Mr 15 '51

Quality vs. quantity in department store display. W. J. Caddelle. il Ptr Ink 234:27-9 F 9 '51

Skilsaw integrates advertising with displays for retail pay-off; industrial marketers adds home shop tools. il Sales Management 66:88+ **Ja 15 '51**

ADVERTISING, Point-of-sale—*Continued*

These simple displays are lifting sales 37.7 per cent; L. A. Nut house and Tom Sawyer potato chips. il Ptr Ink 236:34-5 Jl 27 '51

Why low-cost Polaroid campaign is all display this year. il Ptr Ink 236:48 Ag 31 '51

Exhibitions

Point-of-purchase ad exhibition. Inland Ptr 127:63-4 My '51

ADVERTISING, Political. See Political advertising

ADVERTISING, Public relations. See Advertising, Educational

ADVERTISING, Soliciting of

Aesop Glim's clinic; primer-ative; instruction to school boy selling space in year book. Ptr Ink 235:68 Ap 6 '51

Few words of wisdom to spur sales effort. Ed & Pub 84:20 My 5 '51

Heindel sees need for better selling. G. A. Brandenburg. Ed & Pub 84:28 Ap 7 '51

How bonus incentive plans build linage. R. B. McIntyre. Ed & Pub 84:16+ Jl 28 '51

How you'll buy tomorrow's space. F. R. Gamble. Adv Agency 44:77+ Je '51

In media selling the sales story isn't enough. J. E. Sorrell. Ptr Ink 234:36-7 F 9 '51

Media mental gymnastics. C. R. Palmer. Adv Agency 44:124 Ag '51

Objections challenge solicitor's ability. H. W. Tushingham. Ed & Pub 84:35 F 24 '51

One that almost got away; advertising account saved. P. Crosley, jr. Ptr Ink 234:54+ Mr 30 '51

Personal feeling created with picture postcards. T. S. Irvin. Ed & Pub 84:52 Jl 14 '51

Phonebook leads call for planned approach. H. W. Tushingham. Ed & Pub 84:26 Mr 24 '51

Research is key to ad sales. D. Scott. Ed & Pub 83:20 O 28 '50

Self-respect. H. A. Calahan. Ptr Ink 233:116 D 8 '50

Tangible benefits sell advertising in war as in peace. F. A. Kummer. Ptr Ink 235:42 Ap 6 '51

Ten taboos for media salesmen. R. L. Wagner. Adv Agency 44:80 My '51

This tell-all sales manual goes along on every call; tv time buyers told Edward Petry & co. what kind of information they wanted. il Sales Management 67:94+ Ag 1 '51

28 do's and don'ts for media salesmen. W. B. Remington. Ptr Ink 236:60-2+ S 14 '51

What agencies want and should demand from space salesmen. H. Scribner. Ind Marketing 36:46+ Mr '51

What kind of sales control system in selling intangibles? CBS' sales control system. il Sales Management 65:102+ D 15 '50

Why box top account solicitation doesn't work; seven special offers; why you shouldn't use them. W. Seiler. Adv Agency 44:66+ O '51

Why do agencies condemn speculative copy solicitation yet use it extensively? W. Seiler. Adv Agency 44:60+ S '51

See also

Advertising—Purchasing

Newspaper representatives

ADVERTISING, State. See State advertising

ADVERTISING agencies

Account switching worries agencies. Bsns W p43-4 S 22 '51

Ad agencies re-marry, too; forsake small accounts. E. B. Weiss. Ptr Ink 234:37 Mr 30 '51

Advertising agencies; more business and less profit. Ptr Ink 233:23 D 29 '50

Advertising agent's day; photographs. Adv Agency 44:76-7 Ag '51

Advertising takes a closer look at media schedules; agencies forecast. Ind Marketing 36:34+ Ja; 54+ F '51

After 40 years, founders still in charge at Campbell-Ewald and Dan B. Miner. Ptr Ink 234:74 Mr 2 '51; Ed & Pub 84:14 F 10 '51

Agencies can build humble accounts into steady business or fantastic billings; mail-order advertising agencies. Ptr Ink 233:74+ N 10 '50

ANPA-recognized ad agencies total 915. Ed & Pub 84:106 Ap 28 '51

Are agencies worth their 15 per cent? L. M. Hughes. Sales Management 66:37-9+ Ap 15; 48+ My 1 '51

Don't overlook the value of a local ad agency. Manuf Rec 120:50 Ja '51

Father and son. J. Barnetson. Ptr Ink 233:38 N 10 '50

From big oaks, little acorns; new agencies. G. Berle. Ptr Ink 236:146 S 21 '51

How 551 advertising agencies placed space in business papers in 1950. Ind Marketing 36:52+ Ap '51

How not to get out of the agency business; Grady, Griffin & Brugger. B. Brugger. il Ptr Ink 235:34-5 Je 8 '51

Sale I never forgot; don't let a closed door stop you. R. F. Yambert. Ptr Ink 236:51 Ag 10 '51

Sale I never forgot; selling a campaign to National clay pipe manufacturers. N. E. Malone. Ptr Ink 235:49-50 Je 8 '51

Should your agency be a corporation or a partnership? N. Fields. Adv Agency 44:56-7+ Je '51

Story of Olmsted & Foley. il Adv Agency 44:64-6 F '51

What agencies should know about lithography. H. C. Latimer. diags Adv Agency 43:68+ N; 108+ D '50; 43:76-7+ Ja '51

Would you advise a young man to start his own agency under today's conditions? Adv Agency 44:53+ Je '51

Account executives

See Advertising agencies—Client relations

Accounting

How to forecast income and expenses. I. W. Rubel. Adv Agency 44:54-5+ S; 54-5+ O '51 (to be cont)

New light on ad agency profits. T. H. Anderson, jr. Ptr Ink 235:48+ Je 15 '51

Protect your advertising agency from employee error or fraud by internal controls. I. Rubel. Ptr Ink 234:28-30 F 2 '51

Try this accounting control form. J. M. Stern. Adv Agency 44:65+ Ag '51

Why small agencies need a detailed accounting system; how to set one up. J. H. Lavenson. Ptr Ink 235:39-41 Je 22 '51

Advertising

When the advertising agency advertises itself. Aesop Glim. Ptr Ink 233:78 N 17; 74 D 1 '50

Art departments

Art department at Ruthrauff & Ryan. H. Ryan. il Adv Agency 44:50-1+ F '51

How Young & Rubicam buys art. W. K. Nield. Adv Agency 43:60-1 D '50

Organization of an art department; McCann-Erickson. J. H. Tinker, jr. Adv Agency 43:52-3+ D '50

Photo and art work file saves ad department time. F. A. Hopp. il Ind Marketing 36:44+ Ag '51

Art directors

Education of an art director. G. Fry. il Adv Agency 44:71+ F '51

What's the matter with art directors? W. Cross. Ptr Ink 236:104+ S 21 '51

Client relations

Ad agency executives join clients' directors? B. Tolk. Ptr Ink 234:79 F 16 '51

Five major trends that vitally affect the advertiser-agency partnership today. Ptr Ink 236:37-40+ S 28 '51

How agencies hold their accounts today. Ptr Ink 237:41-3+ O 12 '51

How to get the most out of your advertising agency. A. H. Edelson. Sales Management 67:78+ Jl 15 '51

How to improve advertiser-agency relationships. Adv Agency 43:72-3+ N '50

How to pick a client. Aesop Glim. Ptr Ink 236:66 Jl 6 '51

Strategy of handling accounts; it's not smart to have all the answers. B. F. Pope, jr. Adv Agency 44:56-7+ S '51

Strategy of handling accounts; sell the product, not the client. B. F. Pope, jr. Adv Agency 44:56-7+ O '51

ADVERTISING agencies—*Continued*

Commissions

Advertising agency's 15 per cent. L. M. Hughes. Sales Management 66:48+ My 1 '51
How agencies get paid; why it's a good system. F. R. Gamble. Ptr Ink 235:41-2+ Je 29 '51
How to comply with CPR 34. L. D. Farrar. Adv Agency 44:61+ S '51
Why agency service fees are increasing. I. Rubel and N. Fields. Ptr Ink 236:58+ S 21 '51

Consolidation

Should agencies merge? J. O. Young. Adv Agency 44:50-1+ Mr '51
Trend toward agency mergers. J. O. Young. Adv Agency 44:67 F '51

Costs

Profits picture; operating statistics explain it. I. Rubel and N. Fields. Ptr Ink 236:64+ S 21 '51

Employees

Agency personnel planning and practice. F. D. Richards. il Adv Agency 44:54-5+ Ja '51
Do copy and art men have a corner on creation? how to be a creative time buyer, account executive or office manager. B. Foreman. Ptr Ink 235:37-8 Ap 6 '51
Duane Jones hopes to set agency precedent. Ptr Ink 236:13 S 21 '51
Educating for advertising. J. W. Jackson. Adv Agency 44:86 F '51
Good employee relations pay off in an ad agency; Ruthrauff & Ryan. J. L. Ames. Ptr Ink 234:34-5 Ja 12 '51
How agencies handle creative beginners. M. Wiseman. il Adv Agency 44:58-9+ F; 54-5+ Mr; 72-3+ Ap; 56-7+ My; 60-1+ Je '51
How can a small agency maintain an efficient staff? W. B. Swann. Adv Agency 44:72+ S '51
How do you think government wage regulations will affect advertising agencies and personnel? Adv Agency 44:53 S '51
How many people does it take to operate at different levels? I. Rubel and N. Fields. Ptr Ink 236:78-9+ S 21 '51
How much do agency people earn? W. A. Lowen. Adv Agency 44:58-9 Ap '51
How to keep interest high in agency training program. Q. G. Ryan. Ptr Ink 234:43-4 Ja 19 '51
Is there any way to stop the pirating of personnel that goes on among agencies? Adv Agency 44:49 Ag '51
New philosophy of employee relations in ad agencies; NYU seminar. Ptr Ink 235:33-4+ Je 1 '51
Trends in employee benefits. I. Rubel and N. Fields. Ptr Ink 236:81-2+ S 21 '51
Welcome to Cunningham & Walsh. Adv Agency 44:79 S '51
Where do you stand under the wage stabilization program? J. L. Ames. Ptr Ink 235:37-8 My 11 '51

Fees

How agencies get paid; why it's a good system. F. R. Gamble. Ptr Ink 235:41-2+ Je 29 '51

Finance

Advertising agency costs and operations; third annual Printers Ink study. I. Rubel and N. Fields. Ptr Ink 233:39-60 N 24 '50
Advertising agency costs and operations; fourth annual Printers' Ink study. I. Rubel and N. Fields. Ptr Ink 236:55-8+ S 21 '51
Census counts 3,279 agencies with receipts of $394,872,000. Adv Agency 44:72 Ag '51
New group of agency treasurers solves mutual problems. B. Proctor. Adv Agency 44:68-9 My '51
Should ad agencies share their profits? Ptr Ink 236:62-3 Jl 27 '51

Law

How to comply with CPR 34. L. D. Farrar. Adv Agency 44:61+ S '51

Management

Agency forum; new business department to procure new accounts? Adv Agency 44:51+ Ja '51
Copy group system brings creative power to its peak. W. E. Chase. Ptr Ink 235:38-9 Ap 20 '51
Could your agency be more profitable? I. W. Rubel. Adv Agency 43:76-7+ N '50; Same cond. Ind Marketing 35:34-5+ N '50
Creative emphasis at Cunningham & Walsh; advertising starts with visualization of an idea, with copy following later. il Adv Agency 44:58-61 My '51
How to increase your agency's profits. I. W. Rubel. Adv Agency 44:50-1+ Ag; 54-5+ S '51
How to make money on small accounts; to cultivate present accounts better than to chase new prospects. H. C. Jones. Adv Agency 44:78+ S '51
How to manage an ad agency today; NYU seminar. A. W. Lewin. Ptr Ink 235:33-5+ Ap 27 '51
More small agencies should become corporations. I. Rubel and N. Fields. Ptr Ink 236:56 S 21 '51
New light on the legal headaches of the advertising agency. D. Miller. Ptr Ink 235:36-7 My 11 '51
Ten pointers toward effective advertising. G. I. Bushfield. Adv Agency 44:74-5+ Jl '51
Two jobs for agency research are enough to improve agency's product and develop new business. W. H. Wulfeck. Ptr Ink 235:42+ My 18 '51
Two-year-old agency builds its big billings on creative flair disciplined by thorough research. B. Tolk. Ptr Ink 234:70+ Ja 5 '51
Why box top account solicitation doesn't work; seven special offers; why you shouldn't use them. W. Seiler. Adv Agency 44:66+ O '51
Why do agencies condemn speculative copy solicitation yet use it extensively? W. Seiler. Adv Agency 44:60+ S '51
See also
Advertising, Soliciting of

Medium departments

Media man's viewpoint; how the media department of a medium-sized agency, Gray & Rogers, works. D. B. Arnold. il Adv Agency 44:76+ Ap '51
Running a media department; R&R's space and time buying operation. D. Gordon. il Adv Agency 44:60-1+ Ja '51
See also
Advertising agencies
—Space buyers

Medium relations

Urges closer agency relations. H. H. Kynett. Ed & Pub 84:10 Ja 27 '51

Moving picture departments

How Ayer handles commercial films. G. D. Gudebrod. il Adv Agency 44:74+ F '51

Offices

FC&B's prize-winning offices. il Adv Agency 44:75 S '51
Layout of a small agency. il Adv Agency 44:80-1+ S '51
Memo to agency heads; better environment for copy writers. R. E. Mason. Ptr Ink 235:100 Je 15 '51
Remodel for efficiency. il plan Adv Agency 44:81 Je '51

Printer relations

Help for a young agency head; printer is best friend. R. Hostetter. Adv Agency 44:77+ Ja '51

Production departments

Cutting production costs. L. Leon. Adv Agency 44:61+ Mr '51
How one agency runs its production department. J. Connelly. il Adv Agency 43:66-7+ N '50
Production economies. E. W. Young. Adv Agency 44:74 My '51
Production manager's views on personnel. H. Seeburger. Adv Agency 44:64 Mr '51

Public relations service

Public relations as an agency service. R. J. Kaller. Adv Agency 44:75+ Mr '51

ADVERTISING agencies—*Continued*

Radio departments

Do copy and art men have a corner on creation? how to be a creative time buyer, account executive or office manager. B. Foreman. Ptr Ink 235:37-8 Ap 6 '51
Running a media department; R&R's space and time buying operation. D. Gordon. il Adv Agency 44:60-1+ Ja '51

Research departments

J. Walter Thompson's consumer purchase panel. Adv Agency 43:56-7+ D '50
Operating a research department; Ruthrauff & Ryan. W. J. Main. Adv Agency 44:52-3+ Mr '51
Two jobs for agency research are enough to improve agency's product and develop new business. W. H. Wulfeck. Ptr Ink 235:42+ My 18 '51

Selection

How we picked our advertising agency. W. A. Gordon. Ptr Ink 235:23-5+ My 4 '51
National guard holds brief briefing for ad agencies seeking account. B. Tolk. Ptr Ink 234:101+ Mr 23 '51
Six key questions to ask when you pick your ad agency. W. D. Jordan. Sales Management 65:46+ D 1 '50
Why Rheem account is shifting to Campbell-Ewald this week. B. Tolk. il Ptr Ink 236:32-3 Jl 27 '51

Service

How to improve advertiser-agency relationships. Adv Agency 43:72-3+ N '50
Millions in new-business leads in combined research, advertising and publicity program for client, Bank building & equipment corp. R. J. Armbruster. il Adv Agency 44:76-8 My '51
What agencies can do in today's emergency; learn how to sell to U.S. government. F. R. Otte. il Adv Agency 44:60-1+ Ap '51
What kind of agency service do advertisers most need today? H. Stebbins; J. Barnes. Ptr Ink 236:36-7 Ag 3 '51
Why was one client satisfied and the other disgruntled? M. Green. Ptr Ink 233:33-4 N 10 '50

Space buyers

Case for the media department. D. B. Arnold. Adv Agency 44:88 Ja '51
Faults of space buyers. D. B. Arnold. Adv Agency 43:88 N '50
How to save clients' money on 1951 space contracts. W. H. Long. Adv Agency 43:80, 144+ N '50

Split accounts

Advertisers and agencies differ on wisdom of split accounts. B. Tolk. Ptr Ink 234:63+ Mr 2 '51

Taxation

How agencies can avoid excess profits taxes. J. K. Lasser. Adv Agency 44:64-5+ My '51

Television departments

Broadcast advertising is giving agencies a brokerage status. E. B. Weiss. Ptr Ink 234:35 Ja 19 '51
What makes a tv department? C. H. Wolfe. Adv Agency 44:16+ S '51

Argentina

Story of an Argentine agency. il Adv Agency 44:70-1+ Mr '51

Canada

Agency trends in Canada parallel those in U.S. I. Rubel and N. Fields. Ptr Ink 236:86+ S 21 '51
Report on Canadian agencies. I. Rubel and N. Fields. Ptr Ink 233:58-60 N 24 '50

Great Britain

Ad-man's lot; British vs. American. D. M. Bree. Adv Agency 44:70-1+ Jl '51

ADVERTISING agencies, American association of. See American association of advertising agencies

ADVERTISING allowances

Are you financing retailer competition for your brand? P.M.'s display allowances. E. B. Weiss. il Ptr Ink 233:35-6+ D 15 '50
Co-op ad allowances are called lunacy. R. B. McIntyre. Ed & Pub 84:14+ S 1 '51

ADVERTISING and employees

Union labor chiefs suggest; tell us about your sales plans. B. W. Dempsey and D. R. Henle. il Sales Management 66:78+ F 15 '51

ADVERTISING and salesmen

Ads sold as Bob puts squeeze on salesmen. R. H. Lampee. Ed & Pub 84:30 Jl 28 '51
Casey Jones promotes Diesel cleaning compound; Pennsalt's sales promotion campaign built around ad. il Ind Marketing 35:66+ O '50
How to buy advertising for 47 cents on the dollar. P. Salisbury. Sales Management 66:42-4 Ja 15 '51
How to integrate sales and advertising. R. J. Mohr. il Ptr Ink 237:37-9 O 12 '51
Order blank for promotional aids increases use of tie-ins 150 per cent. Ptr Ink 234:39 Mr 9 '51
Radio campaign is door-opener for industrial salesmen; Sunbury wire rope. Ptr Ink 236:36 Ag 31 '51
Salesmen don't hate advertising. Ptr Ink 236:32-4 Jl 6 '51
Why do salesmen hate advertising? L. J. Sheffield. Ptr Ink 235:25-6 My 11 '51
See also
Salesmen—Advance cards and letters

ADVERTISING and war

Effect of war on advertising. G. D. Crain, jr. il Ind Marketing 35:33+ O '50
How to write ads in wartime; lessons of World war II. Ind Marketing 36:67-8+ Mr '51
Industrial advertising need not turn handsprings in wartime; gallery of emergency advertising. A. H. Dix. Ptr Ink 234:32-7 F 2 '51
So you're helping the war effort. O. E. Reed. Ptr Ink 234:39 F 23 '51
What the advertising man can do in today's semi-war economy. L. Brendel. il Ind Marketing 35:42-3 D '50

ADVERTISING appropriations

Ad budgets holding, rising; ANA survey. H. T. Rowe. Ind Marketing 36:118+ My '51
Ad industry urged to fight for larger appropriations. A. C. Fatt. Ed & Pub 84:9+ Je 16 '51
Ad managers see bigger budgets in '52. M. E. Reiners. Ptr Ink 236:32 Ag 3 '51
Brain, not belly, needed to figure ad budget. J. Dean. Ed & Pub 84:16 Ja 20 '51
Cyclical policy on the advertising appropriation. J. Dean. bibliog J Marketing 15:265-73 Ja '51
Does CPR 22 restrict sales and advertising expenditures? Sales Management 67:46+ Jl 1 '51
How much should I budget for advertising? Dom Eng 177:112+ F '51
How much to spend on advertising. J. Dean. Harvard Bsns R 29:65-74 Ja '51
How to approach management for budget approval; abstract. J. T. Vinbury. Ind Marketing 36:64+ Ag '51
How to use these census figures; discovering sales weaknesses and under advertising. Ptr Ink 235:66 My 25 '51
Industry executives disagree on deferring advertising funds. Ind Marketing 36:52+ Jl '51
Top management forum; setting ad appropriations. Ind Marketing 36:40-1+ Ag '51
227 reasons for continued selling, even though there's nothing to sell; advertising investvents of 227 companies in general and farm periodicals, 1949. P. Salisbury. Sales Management 66:37-40 Ja 1 '51
Why plowing today's excess profits into advertising is justified. J. K. Lasser. Ptr Ink 235:37-9+ Je 15 '51

ADVERTISING art

Agency president looks at art. M. Harper, jr. Adv Agency 44:74 Ap '51
Art and the advertising business. F. Baker. Adv Agency 44:72 Mr '51
Art, typography and layout; prediction for 1951. il Ptr Ink 233:25 D 29 '50
Clipping board. C. Coiner. il Published in monthly numbers of Advertising agency
Gebrauchsgraphik is back. A. Nesbitt. il Adv Agency 44:79 Ja '51
Growth of West Coast art marked at annual show. il Ptr Ink 234:32 Mr 9 '51

ADVERTISING art—*Continued*

Paper on advertising opportunity; delivered at the Design conference, Aspen, Colo. C. Coiner. il Adv Agency 44:62-3 Ag '51

29th annual of advertising and editorial art. Pitman pub. corp, 2 W. 45th st, New York 19 '50 ($10)

What is the balance of copy and art? H. Stebbins. Adv Agency 44:78+ Je '51

See also

Advertisements, Pictorial

Advertising agencies—Art departments

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ADVERTISING as a profession

Advertising needs more, not fewer deviates. E. B. Weiss. Ptr Ink 234:35 Mr 2 '51

Agency forum. Adv Agency 43:51 O '50; Discussion. J. W. Jackson. 44:86 F '51

Agency forum; is advertising becoming too much a business of specialists? Adv Agency 44:53+ Ap '51

Aptitude tests are a valuable supplement to personal judgment. M. Wiseman. Ptr Ink 234:32 Mr 16 '51

Dear Bill. D. Bennett. Adv Agency 44:63 Jl '51

How do I get a job in advertising? F. R. Otte. Ptr Ink 235:46+ Je 22 '51

How I just broke into advertising. F. H. Gildner, jr. il Ptr Ink 235:38-9 Je 29 '51

How to be a better advertising man; community service. J. B. Zabin. Ptr Ink 234:38 Mr 23 '51

To the man who will resign in 1960. F. C. Kendall. Ptr Ink 234:134 Mr 23 '51

Wanted; a trade-mark for advertising. il Ptr Ink 236:34-5 Ag 17 '51

What do you consider the most desirable qualifications for an inexperienced beginner in advertising? Adv Agency 44:47+ F '51

Why 24 agency heads chose advertising. E. Polster. Adv Agency 44:70+ Je '51

Yes, we have no ulcers! W. A. Peterson. Ptr Ink 233:118 N 17 '50

See also

Advertising copywriters

ADVERTISING associations

Directories

Directory of associations. Adv Agency 44:149+ Ja '51

ADVERTISING awards

Best campaigns in merchandising papers picked by ABP. il Ptr Ink 235:29-31 Ap 27 '51

Eight award winning ads show ways to love your dealer; ABP merchandising winners. il Ind Marketing 36:67-8+ Je '51

Freedoms foundation cites admen among 850 winners. il Ptr Ink 234:82 F 23 '51

In advertising to bright minds we try not to be dull; Abbott laboratories, 1950's grand award winner in Direct Mail Advertising competition. C. S. Downs. il Sales Management 65:58-63 N 1 '50

Industrial press announces annual $1000 award to advertising executives. Mach 57:181 N '50

NAAN award winners. Adv Agency 44:36 Ag '51

1951 ABP industrial advertising awards announced this week. il Ptr Ink 235:31-3 Ap 6 '51

Prize-winning industrial advertisements for 1950; Associated business publications 9th annual awards. il Adv Agency 44:80-1 Ap '51

Six outstanding industrial ads win ABP honors. il Ind Marketing 36:112+ Ap '51

ADVERTISING booklets. See Advertisements—Books and booklets

ADVERTISING bureau. See American newspaper publishers association—Bureau of advertising

ADVERTISING campaigns

Aesop Glim's clinic; articulated campaigns. Ptr Ink 233:71 N 3 '50

First national campaign for new Toni product; home permanent wave kit. il Ptr Ink 236:43 S 21 '51

Gilbert campaign gets rewards in readership, inquiries, sales. il Ind Marketing 36:74 Ag '51

How Pass & Seymour cut costs of a three-media campaign; using business paper inserts. W. D. Molitor. il Ind Marketing 35:36-7+ D '50

How to stretch a small budget; heavy merchandising of a campaign for Nirenberg shirts. V. J. Dallaire. il Ptr Ink 234:32-4 F 23 '51

New product reaches 92 per cent of year's quota in ten months; Houghto-Solv, new fuel oil additive for sludge removal. il Ptr Ink 233:36-7 D 1 '50

Post office clears local ad contests. Ed & Pub 84:62 Ja 13 '51

Racetrack ad copy is from horse's mouth. il Ed & Pub 83:31 D 2 '50

Sell service to make luxury product a necessity; Proctor electric blankets. T. Armstrong and J. Tiers. il Ptr Ink 236:44-7 S 28 '51

Shock treatment will spark 1951 ad copy about hidden product; Purolator. C. D. Kelly. il Ptr Ink 234:28-30 Ja 26 '51

Tinnerman proves results of a case-history advertising campaign. M. Kingman. il Ind Marketing 36:34-5+ Ag '51

See also

Money raising campaigns

Printing week

Regional campaigns

How to advertise successfully in small town markets. A. E. Pacini. il Adv Agency 44:52-3+ Ag '51

Special weeks and days

1951, merchandising days and weeks. Ptr Ink 233:56+ D 1 '50

Why an old-timer is hitching its big promotion to merchandising week; Gerber Products. il Ptr Ink 235:32 Ap 27 '51

ADVERTISING cards

How Wrigley uses car card advertising. H. L. Webster. il Adv Agency 43:52-3+ N '50

Outdoor and transportation; 149 millions in outdoor, spectacular and transportation advertising in 1951. il Ptr Ink 233:44 D 29 '50

Transportation advertising audience is 18 billion passengers. P. J. Everest. il Adv Agency 43:60-3+ N '50

Typographic clinic. il Inland Ptr 127:68 Ap '51

Which ad pulled best? a test of car cards. Ptr Ink 234:36+ Mr 23 '51

ADVERTISING characters

How to put more personality into your advertising. il Ptr Ink 236:36-7 Ag 24 '51

Kiddies; are they now our number one pressure group? J. H. Collins. il Sales Management 67:60+ Ag 15 '51

"Lemmie Duitt" to help advertisers in Pasadena. T. S. Irvin. Ed & Pub 83:52 D 2 '50

Most famous Scot in U.S. is old trademark; Johnnie Walker. il Ptr Ink 234:36-7 Ja 19 '51

Trade characters are star salesmen for savings deposit accounts. il Sales Management 67:46 Ag 15 '51

Why Betty Crocker's cookbook is a runaway best seller. il Sales Management 65:84+ N 10 '50

ADVERTISING clubs

How to start a copy club. W. T. Adams. Adv Agency 44:58-9 S '51

Montreal and Indianapolis clubs take top honors at NSE confab. Sales Management 66:62+ Je 15 '51

ADVERTISING conference, International. See International advertising conference

ADVERTISING contracts

How to save clients' money on 1951 space contracts. W. H. Long. Adv Agency 43:80, 144+ N '50

ADVERTISING copy

Ad "sell" hinges on beginnings, endings. il Ind Marketing 36:67+ Jl '51

Advertise to prospects not to co-workers. H. G. Sawyer. Adv Agency 44:104 Ag '51

Advertiser is the answer man; trend to question-and-answer ads. il Ptr Ink 235:39 Ap 20 '51

Case histories show how to write industrial copy. S. Hopper. il Ind Marketing 35:114+ N '50

Copy chasers. il Ind Marketing 36:69+ Ja '51 [cont monthly]

Copy clinic. B. Tyler. il Adv Agency 44:58-9+ Ja '51 [cont monthly]

Copy in 1951. il Ptr Ink 233:24 D 29 '50

ADVERTISING copy—*Continued*

Copy, plain or fancy? excerpts from ads in Dec. issue of Factory management & maintenance. E. S. Green. Ind Marketing 36:64D S '51
Copy still is the backbone of advertising. H. Stebbins. Adv Agency 43:74-5+ D '50
Good plain cookin'; Will Calkins' copy. H. A. Calahan. Ptr Ink 234:104 Ja 12 '51
How to advertise to business men (cont). H. G. Sawyer. il Ind Marketing 35:62+ O; 60+ N; 50+ D '50; 36:40-1+ Ja; 44+ F; 56+ Mr '51
How to avoid stupid wartime ads; no product is uninteresting. S. A. Hunt. il Sales Management 65:58+ D 15 '50
How to learn about copy that sells; classified and mail order experience is the best teacher. F. E. Fehlman. il Adv Agency 44:71+ Je '51
How to write ads in wartime; lessons of World war II. Ind Marketing 36:67-8+ Mr '51
Metals advertisers miss the boat, hit the jackpot. il Ind Marketing 35:75-6+ O; 73-4+ N '50
Realtors are advised of advertising results. J. H. Hopkins. Ed & Pub 84:40 My 26 '51
Seven rules for copy testing. J. Caples. Adv Agency 43:104 D '50
Six points that will step up the pulling power of your ads; the benefit. M. D. Keller and C. J. Swan. il Ptr Ink 236:21-3+ Ag 31 '51
Story conference; myth of the adolescent mass mind. R. Ross. Ptr Ink 235:39 My 18 '51
Ten deadly sins in copy writing. Aesop Glim. Ptr Ink 236:90-1 S 28 '51
Ten pointers toward effective advertising. G. I. Bushfield. Adv Agency 44:74-5+ Jl '51
Ten priceless principles of effective advertising copy. D. E. Robinson. Ptr Ink 233:23-4+ D 22 '50
These are the six steps in creating copy. H. D. Hadley. Adv Agency 44:73 S '51
What do copy chiefs like in copy? W. J. Sheehan. il Adv Agency 44:70-1+ My '51
What is the balance of copy and art? H. Stebbins. Adv Agency 44:78+ Je '51
Where do copy ideas come from? W. Weir. Ptr Ink 237:44-5 O 12 '51

See also
Advertisements
Advertising—Psychology
Advertising ethics
Sales letters
Television advertising—Copy

Competitive copy

Competitive advertising. M. J. Simon. Adv Agency 44:81+ S '51
What is competitive advertising today? J. Stone. Adv Agency 44:77+ Jl '51

Dealer listing

Dealer listings will triple this year in farm-paper advertisements. V. C. Anderson. il Ptr Ink 235:40-1 Je 8 '51
Largest dealer listing, biggest sales. il Ptr Ink 233:38 D 8 '50

Demonstrations and tests

Product demonstration; how it pulls direct orders for tv advertisers; dozen case histories. T. Armstrong. il Sales Management 65:70+ D 1 '50

Dramatic quality

Dramatizing an abstract. Aesop Glim. Ptr Ink 236:58 Ag 31 '51
Presenting an abstract. Aesop Glim. il Ptr Ink 236:64 Jl 20 '51

Economy appeal

How to make chronic procrastinators buy now; convince them it's cheaper; Hastings piston rings. H. E. Green. il Ptr Ink 233:32-3 O 27 '50
Industrial advertising need not turn handsprings in wartime; gallery of emergency advertising. A. H. Dix. Ptr Ink 234:32-7 F 2 '51
Signpost sequence for industrial copy writers; dollars to do-how to details. E. S. Green. il Ptr Ink 234:38-9 Mr 16 '51

Emotional appeal

Case for corn; intellectual appraisal of a copy approach the intellectuals scorn. W. H. Schneider. Ptr Ink 236:33 Ag 31 '51

Free offers

Copy and the law; that word free. M. J. Simon. Adv Agency 44:62+ F '51
FTC lets ad say free when giving away book. L. Farrant. Ed & Pub 83:16 N 25 '50
Is it better to charge for booklets or give them away? il Ptr Ink 234:38-9 Ja 12 '51
Recording of popular radio star is effective promotional come-on; records offered free at Western-Holly dealers. il Ptr Ink 234:34-5 Mr 2 '51

Guaranty of products

Beware of guarantees. M. J. Simon. Adv Agency 44:68+ Mr '51
Which ad pulled best? with or without guarantee? il Ptr Ink 234:31, 52 Ja 12 '51

Headlines

Ad-viser; headlines should promote interest. I. Settel. Radio & Tv N 44:178-9 N '50
How people read newspapers; headline-shoppers. M. Wiseman. il Adv Agency 44:58-9+ O '51
Unorthodox headlines. G. Violante. Adv Agency 44:77+ Mr '51

Health appeal

It's thousands of years old, and it goes national this week; Yami Yogurt. L. F. Thomann. il Ptr Ink 236:24-5 Ag 31 '51
Trains big guns on one product, and develops new market for the line; negative consumer copy, professional and trade advertising make highest-priced product fastest seller; Firm-O-Rest mattress. H. E. Green. il Ptr Ink 234:29-31 Ja 19 '51

Information

Hang technical copy on a news peg; Hewlett-Packard co.'s trade ads. L. F. Thomann. il Ptr Ink 236:50 S 21 '51

Language, style, etc.

Battle of the sexes study finds women and men speak different languages. B. Tolk. Ptr Ink 233:87 O 27 '50
Copy doesn't have to be simple, but it helps! B. Middleton. Adv Agency 44:77-8 Ap '51
What about semantics? in general and for advertising. R. Webster. Ptr Ink 235:38-40 Je 1 '51
Words to watch. M. J. Simon. Adv Agency 44:79+ My '51

Length

In re; long copy. Aesop Glim. il Ptr Ink 235:64 My 18 '51
Shorter the copy, bigger the sales. L. F. Thomann. il Ptr Ink 236:41 Jl 6 '51

Military theme

Military theme in advertising; what you can use; how you can use it; where to get clearance. A. E. Backman. il Ptr Ink 234:31-3+ Mr 23 '51

Negative appeal

Ad says children need tv; public calls admen addled. L. Farrant. Ed & Pub 83:5+ N 25 '50

Premium offers

Close-ups of low budget tv shows that bring high viewer response. T. Armstrong. il Sales Management 66:92+ Ja 15 '51
Pile on the benefits to introduce new product today; Hudson paper napkins. E. J. Dever, jr. il Ptr Ink 235:33-5 Je 15 '51
Premiums and contests in 1951. il Ptr Ink 233:31 D 29 '50
S-H papers to launch premium page March 5. Ed & Pub 83:11 D 30 '50
Small dealers recapture lost market; joined forces and used advertised premium to build store traffic. E. J. Faber. il Ptr Ink 235:48 Ap 20 '51

Price appeal

Why Personna is cutting its price in half; doubled ad budget will help capture the broad, low-priced market. M. Beuick. il Ptr Ink 234:31-3 Ja 26 '51

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Price quoting

Honest pricing copy. M. J. Simon. Adv Agency 44:59+ Jl; 75+ Ag '51
Let's analyze the benefits of price advertising. il Dom Eng 177:88-9+ Je '51

Quality appeal

Cinderella product thrives in new retail setting; Setwell hangers sold in men's clothing stores. il Ptr Ink 233:39 N 3 '50
Family of products re-united by one sales theme for all; Fieldcrest blankets, sheets, towels, etc. il Ptr Ink 234:30-1 Mr 16 '51
How to stretch a small budget; heavy merchandising of a campaign for Nirenberg shirts. V. J. Dallaire. il Ptr Ink 234:32-4 F 23 '51
Product on a pedestal; how to build a reputation for quality on a small budget; Du Mont television sets. il Ptr Ink 234:36-7 Mr 30 '51
Two different treatments visualize hard-to-define quality of product; Don Richards line of men's suits. il Ptr Ink 233:29 N 3 '50
What d'ya mean, quality? R. B. Smith. Ptr Ink 236:88 Ag 17 '51
Why it took a year and a half to write this ad; Gladding Cilesto fly line advertisement. L. L. Witherill. il Ptr Ink 235:36 Je 22 '51
Why Van Camp is giving its ads a new look. il Ptr Ink 236:34-5 Jl 6 '51

Quizz copy

More quizzes in ads? why not? il Ptr Ink 235:26 My 11 '51

Romance appeal

Free; romance of the old West with every pair of work pants. D. Cronin. il Sales Management 66:56-8+ Je 15 '51

Service appeal

Industrial advertiser in short supply is shifting to service theme; Quaker rubber corp. il Ptr Ink 235:27 My 11 '51

Sex appeal

Sex appeal, Mr Larrabee, is here to stay. P. W. Lennen. Ptr Ink 234:37-8 Ja 26 '51

Specific copy

Six points that will step up the pulling power of your ads; the benefit. M. D. Keller and C. J. Swan. il Ptr Ink 236:21-3+ Ag 31 '51

Testimonials

Endorsement and testimonial copy. M. J. Simon. Adv Agency 44:67+ O '51
How to make satisfied customers your best salesmen! Detweiler brothers, of Twin Falls, Idaho. il Dom Eng 176:98-9 N '50
Lawyer looks at advertising testimonials; endorser as well as advertiser may be held liable in damages. M. J. Simon. Adv Agency 43:67+ D '50
Testimonial campaign in trade press bags good quality inquiries; Gray Audograph. il Ptr Ink 233:25-6 D 8 '50
Testimonial copy and hard-hitting follow-up build new mail-order success; Charles Gilbert's formula sells hydroponic plant culture. il Ptr Ink 234:40-1 Ja 19 '51

Use appeal

Ads stressing uses of ammonia click. R. B. McIntyre. Ed & Pub 84:18+ Jl 28 '51
Close-up selling produces orders in tight competition; centering attention of customer on performance advantages he wants. H. S. Nelson. il Ptr Ink 234:32-5 Ja 19 '51
Which ad pulled best? product or comic strip? il Ptr Ink 234:40+ F 16 '51

ADVERTISING copy writers

Case for corn; intellectual appraisal of a copy approach the intellectuals scorn. W. H. Schneider. Ptr Ink 236:33 Ag 31 '51
Copy writers I have known. H. W. Newton. Adv Agency 43:69+ N '50
Gimbels advertising for Phi beta kappa candidates for cub-copywriter jobs. Aesop Glim. Ptr Ink 235:66 Ap 20 '51
How agencies handle creative beginners. M. Wiseman. il Adv Agency 44:58-9+ F; 54-5+ Mr; 72-3+ Ap; 56-7+ My; 60-1+ Je '51
How to be a copy writer. B. Brownell. Ptr Ink 234:116 Mr 9 '51
How to sell your copy to the boss. B. Foreman. Ptr Ink 234:44+ F 23 '51
How to start a copy club. W. T. Adams. Adv Agency 44:58-9 S '51
How to write copy to please the client and yourself. I. S. Sims. Ptr Ink 236:89 S 7 '51
In business for yourself. Aesop Glim. Ptr Ink 235:68 Je 8 '51
In the agency business; copy writer needed a challenge. J. Barnetson. Ptr Ink 233:38 N 24 '50
Inside dope on how to win a sales manager's approval. Aesop Glim. Ptr Ink 234:64 F 23 '51
Is too much copy written to formula? Adv Agency 43:51 D '50
Make hard ones look easy and easy ones look hard. H. A. Calahan. Ptr Ink 234:90 Mr 2 '51
Should copy writers have selling experience? yes! W. H. Schneider; no! B. Schellenbach. Ptr Ink 235:34-5 My 18 '51
Sure cure for the ad man in a rut; take a trip to the circus. W. A. Peterson. Ptr Ink 233:38 O 27 '50
Time is money; don't overspend it; give copywriters time to think. E. T. Burch. Ptr Ink 236:98 Jl 13 '51
What is adequate? Aesop Glim. Ptr Ink 234:72 Mr 9 '51
Why confine the creative urge? D. David. Adv Agency 44:80+ Je '51
You can learn copy writing from woodworking. R. C. Graham. Adv Agency 44:74+ Ag '51
Your ivory tower. Aesop Glim. Ptr Ink 236:88-9 S 14 '51

ADVERTISING council

Ad council prepares new war campaign. L. Farrant. il Ed & Pub 83:14 D 9 '50
Anti-inflation drive released by Council. Ed & Pub 84:70 Ap 28 '51
Council ads return dollars in systematic selling; bi-monthly mat service. Ed & Pub 84:14 F 17 '51
How advertising mobilizes for public service; Printers ink covers an Advertising council, Red Cross campaign. il Ptr Ink 234:34-6 Ja 26 '51

ADVERTISING cutouts

Look into die-cutting as real sales builder. M. L. Scott. il diags Inland Ptr 126:38-40 Mr '51

ADVERTISING departments

Advertising and selling; marriage or divorce? J. W. Maurer. Ptr Ink 236:39-40 S 7 '51
Where should advertising fit in the organization chart? W. A. Marsteller. Ind Marketing 36:40-1+ Jl '51

ADVERTISING displays

Black light display; utility tray and advertising sign for Miller High Life beer. il Mod Plastic 28:80 Ag '51
Displays that break the log jam at the point of sale; some newsworthy examples. il Sales Management 66:96-8+ Mr 15 '51
Electronic advertising display. W. Finke. il diags Radio & Tv N 45:60-1 Je '51
How to use point-of-purchase advertising in oversold markets. il Ptr Ink 234:45-6+ Mr 23 '51
Mass production agrees with Santa; Gardner's seasonal and holiday displays; illustrations with text. Mod Ind 20:18+ D '50
See also
Advertising, Point-of-sale

ADVERTISING ethics

Advertising and the decline of national intelligence. W. S. Roberts and others. Ptr Ink 236:29-31 Jl 27 '51; Discussion. 236:32-3 Ag 17 '51
Baiting ads draw Chicago Better business bureau fire. Ed & Pub 84:18 Ag 25 '51
Competitive advertising. M. J. Simon. Adv Agency 44:81+ S '51
Editing, growing responsibility of advertising. L. D'Aloise. Adv Agency 44:72 Je '51
FTC slaps agencies for false pill claims. Ed & Pub 84:16 Ap 7 '51
4A's interchange wars on advertising abuses. il Ptr Ink 235:32 Ap 20 '51
Good taste in advertising; campaign by American television dealers and manufacturers. S. R. Bernstein. Harvard Bsns R 29:42-50 My '51

ADVERTISING ethics—*Continued*

Medicine men are back, on tv and radio. E. B. Weiss. Ptr Ink 235:35 Ap 27 '51

Must inspirational speakers talk dirty? W. J. Murdoch. Ptr Ink 234:112 F 23 '51

New 4-A's chairman urges more interest in improving advertising ethics. B. Tolk. Ptr Ink 235:76 Ap 20 '51

One part truth. A. Takas. Ptr Ink 235:112 My 11 '51

Professors are peculiar people, an answer to DeVoto. E. B. Weiss. Ptr Ink 235:36+ Ap 13 '51

Tv ad brings rules to guide copy writers. Ed & Pub 84:7 Ja 6 '51

Too much national copy is plain silly, local Better business bureaus agree. Ptr Ink 236:33 Jl 20 '51

Underselling ad claims make retailers boil. R. B. McIntyre. Ed & Pub 84:16 Je 23 '51

Why professors are suspicious of business. B. DeVoto. Fortune 43:114-15+ Ap '51; Discussion. A. Lynd. 43:100+ Je '51

See also

Advertising, Fraudulent

ADVERTISING federation of America

Annual convention, 47th, St Louis. Ptr Ink 235:36 Je 15 '51

ADVERTISING illustrations. See Advertisements, Pictorial

ADVERTISING literature

How to make a catalog of available literature. D. F. Haggerty. Ptr Ink 235:39-40 Ap 6 '51

New product literature. L. D. Berger, jr. Ind & Eng Chem 43:849-51 Ap '51

Organizing an engineering data file. A. F. Gagne, jr. bibliog il Machine Design 23:110-16+ S '51

Translating laboratory data into new product literature. J. R. Dudley and J. M. Salsbury. Ind & Eng Chem 43:845-9 Ap '51

Bibliography

Annual new bulletin review, 1951; more than 500 items covering equipment and supplies used by power engineers. Power 95:177-86+ Mid-Je '51

Important new catalogs. Published in monthly numbers of Factory management and maintenance

Industrial advertising as a source of information. W. G. Kessel. J Chem Educ 28:383-5 Jl '51

New literature to help cut costs. Published in monthly numbers of Mill and factory

ADVERTISING managers

An idea a day. W. E. Backus. Ptr Ink 234:98 Ja 26 '51

Are advertising managers underpaid? Ptr Ink 236:88 Jl 20 '51

Check list for the 1951 industrial ad manager. il Ptr Ink 236:40-1 Jl 13 '51

Mahoney's the latest agency wonder boy. J. L. Collings. Ed & Pub 83:11 N 11 '50

Salaries and duties of 181 advertising managers. D. Houghton. Ptr Ink 236:27-30+ Jl 6 '51

What the advertising man can do in today's semi-war economy. L. Brendel. il Ind Marketing 35:42-3 D '50

See also

Association of newspaper classified advertising managers

ADVERTISING managers' association. See Interstate advertising managers' association

ADVERTISING mediums

Advertising media and markets; second edition of Ben Duffy's book. F. R. Cawl. Adv Agency 44:58-9 Jl '51

BAB and B of A clash on Pittsburgh story. Ed & Pub 84:13 F 3 '51

Copy in the three principal media. B. Tyler. Adv Agency 44:56 Mr '51

Hooper unveils mediameter for media men. Ed & Pub 84:60 My 19 '51

How we live on 69 hours a day; or (the outlook for research was never so rosy). L. M. Hughes. Sales Management 65:88-92 D 15 '50

Media earnings continued decline in '50. D. Bruner. Ptr Ink 235:61+ Ap 27 '51

Media interest in mail-order advertising grows as competition intensifies. il Ptr Ink 233:61-2+ N 10 '50

Media research; census figures will chart growth of markets in 1951. Ptr Ink 233:34 D 29 '50

National advertising media, 1950 vs. 1949; it's a great day for the adman. Bsns W p84+ F 17 '51

Preview of 1951 media promotion; a listing of major research projects for 1951. Ptr Ink 233:52+ D 29 '50

What has tv done to other media? Sales Management 67:45-6+ Jl 15 '51

See also

Advertising, Soliciting of
Advertising agencies—Medium departments
Advertising cards
Advertising novelties
Audit bureau of circulations
Moving pictures in advertising
Radio advertising
Slide films
Television advertising

Advertising

Does media advertising and promotion in general do its sponsors justice? Adv Agency 44:51 O '51

Unusual media promotion used by Wall Street journal. il Adv Agency 43:77 N '50

Directories

Selling U.S. ideas and products abroad; agencies, mediums and facilities. J. Patterson. Adv Agency 44:94-6+ O '51

Duplication

What counts today is prospect (not reader) duplication. R. Manville. Ptr Ink 236:27-9 Jl 13 '51

Farm papers

Advertising to the farm market from the Advertising research foundation's continuing study of (13) farm publications. A. W. Lehman. il Adv Agency 44:56-7+ Ja '51

Farm advertising and media in 1951. il Ptr Ink 233:40 D 29 '50

Farm publication linage; 1950 figures. Ptr Ink 234:92-3 Ja 26 '51

Mail-order ads power new product into big seller; community rat kills prove product's worth. il Ptr Ink 235:40 Je 29 '51

Smallest farm-paper ads are big in reader attention. H. G. Sawyer. Ptr Ink 236:58+ S 28 '51

Government publications

White House solicits ads for U.S. pamphlet. J. J. Butler. Ed & Pub 83:28 N 4 '50

House organs

Ryerson's offer draws war contract seekers; advertisements in house organs. Sales Management 67:70 Jl 1 '51

Newspapers

Ads develop all kinds of local business. Ed & Pub 84:48 Ja 27 '51

Ads in papers build traffic on busy corners. Ed & Pub 83:24 O 21 '50

Agents want more share-of-market data; Inland daily press and Medill school of journalism ad clinic. J. Thomas. Ed & Pub 83:22 N 25 '50

All business is local is Al Stanley's tune. C. Watson. Ed & Pub 84:26 Ja 20 '51

ABC head gives NEA six ways to get ads. H. H. Kynett. Ed & Pub 84:48 Ap 28 '51

Big advertisers reveal heavy lists of papers. Ed & Pub 84:10 Mr 3 '51

Bright future seen by agency executive. F. E. Delano. Ed & Pub 84:12 Je 9 '51

Dailies model for all media at 4-A eastern conference. L. Farrant. Ed & Pub 83:7+ N 4 '50

Don't stop presses; Pittsburgh retailer's view. A. A. Wells. Ed & Pub 84:11 Ja 13 '51

Editorial cooperation; control of newspapers by advertisers. D. B. Arnold. Adv Agency 44:82 O '51

50 top newspaper ads that have paid off. Sales Management 65:114 D 1 '50

42 stores run over 2,000,000 lines in dailies. Ed & Pub 84:30 Ap 7 '51

Gerry and Ralph plug the hometown mil-look. J. L. Collings. Ed & Pub 84:32 Ja 27 '51

Grass roots' selling plan told to admen. J. G. Noonan. Ed & Pub 84:9 Ja 27 '51

ADVERTISING **mediums**—Newspapers—*Cont.*

Harding's restaurants find dailies basic. Ed & Pub 84:18 Je 9 '51
Hart Schaffner & Marx takes dealers inside newspapers. G. A. Brandenburg. Ed & Pub 84:22 Jl 28 '51
Housewife puts newspaper ads first in shopping. Ed & Pub 84:55 My 5 '51
How ad dollars are invested in newspapers; tabulation by industry. Ed & Pub 84:11 My 5 '51
How newspaper ads built Peerless Camera. R. B. McIntyre. Ed & Pub 84:18 S 15 '51
How to advertise successfully in small town markets. A. E. Pacini. il Adv Agency 44:52-3+ Ag '51
How well-read is your newspaper advertising? H. D. Hadley. Adv Agency 44:68-9+ Ap '51
Leading newspapers seek sponsors for Portrait of America series. il Sales Management 65:41 N 10 '50
Local contacts help 11-year gain in national ads. C. L. Fountain. Ed & Pub 84:26 Mr 17 '51
Man behind Coke gets behind papers. Ed & Pub 83:12 N 11 '50
Media buyer is sold on small town papers. J. J. Hartigan. Ed & Pub 84:21+ Ap 21 '51
Milwaukee journal, number one on linage list Ed & Pub 84:16 F 3 '51
More profits program needs promotion ideas. J. C. Ottinger, jr. Ed & Pub 84:36 F 3 '51
National advertisers' 1950 investments in newspapers. Ptr Ink 235:35-6, 44+ Je 29 '51
National advertising in newspapers, 1950; compiled by Bureau of advertising. Ed & Pub 84:57-67 Je 23 '51
National linage at record high for fifth consecutive year. Ed & Pub 84:15 Ap 28 '51
New Brunswick readers prefer local daily's ad. Ed & Pub 83:20 D 9 '50
Newspaper admen see merchandise shortages easing newsprint crisis. H. E. Green. Ptr Ink 234:64+ F 2 '51
Newspaper monopolies. D. B. Arnold. Adv Agency 44:80 Ag '51
1950 linage compiled for 355 newspapers in 110 cities. Ed & Pub 84:75-90 Mr 10 '51
1950 linage greatest in newspaper history; with tabulation. Ed & Pub 84:5+ Ja 27 '51
O'Mara and Ormsbee ad men study trends in national. Ed & Pub 83:11 N 11 '50
Papers indispensable. F. Bell. Ed & Pub 83:32 N 25 '50
Philadelphia newspapers. D. B. Arnold. Adv Agency 44:98+ Mr '51
Pittsburgh proves ads stimulate coupon plan. Ed & Pub 84:31 Ja 6 '51
Promotion men urge more selling of newspaper medium. Ed & Pub 83:32 N 4 '50
Sales manager wants to see copy of paper. W. M. Kline. Ed & Pub 83:24 O 21 '50
Sell space to bottlers, newspapers are told. Ed & Pub 83:12 N 4 '50
Stitch in time urged to bag clothing ads. R. B. McIntyre. Ed & Pub 84:16 Jl 7 '51
Stresses need for added alertness. M. C. Rogers. Ed & Pub 84:34 Je 23 '51
That roar on tv ad swell for newspapers. T. S. Irvin. Ed & Pub 83:61 N 25 '50
Trends in national newspaper advertising. Adv Agency 44:92 Ja '51 [cont monthly]
Two per cent discount helps sell space. F. R. Gamble. Ed & Pub 83:6 O 28 '50
What can an advertiser do when a market loses a major medium? strike on newspapers. T. M. Jones. il Ptr Ink 233:34-5+ N 17 '50
What newspapers have and tv hasn't. E. M. Boyd. Ed & Pub 84:41 Ag 18 '51
Why Hess has added small dailies to list. R. B. McIntyre. Ed & Pub 84:16+ S 22 '51

See also

American newspaper publishers association—Bureau of advertising
Audit bureau of circulations
Newspaper representatives

Rates

See Advertising—Rates

Paper bags

Grocery bag ads offered dailies as merchandisers. R. B. McIntyre. Ed & Pub 84:14 My 19 '51

Periodicals

Clipping board's 50 best for 1950. il Adv Agency 44:64-6 Ja '51
How to estimate your cumulative audience. H. D. Hadley. Adv Agency 44:78-9 Ap '51
How to make inserts pay; Wheelabrator placed four-pagers in key markets, saved more than $2,000, increased inquiries 38 per cent. il Ptr Ink 234:38-9 Ja 19 '51
Is advertising readership a true measure of media values? J. Iron. Adv Agency 43:62-3+ D '50
January magazine linage. Ptr Ink 234:92+ Ja 12 '51 [cont monthly]
Location and size of magazine advertisements. D. B. Lucas and S. H. Britt. bibliog Adv Agency 43:50-1+ Ag; 52-3+ S; 72-4+ O; 70-1+ N '50
Magazines' promotion hitched to the sideshow. T. S. Irvin. Ed & Pub 84:46 Mr 10 '51
Media man's viewpoint; question of frequency. D. B. Arnold. Adv Agency 44:102+ Jl '51
Media man's viewpoint; tv program guides; car enthusiast magazines. D. B. Arnold. Adv Agency 44:82 F '51
Noteworthy in the magazines. J. Hanan. Adv Agency 44:87 Ja '51 [cont monthly]
What you should know about magazine audiences. H. D. Hadley. Adv Agency 44:68-9+ F '51
What's wrong with readership data? what 42 agency and company advertisers want to know about magazines. R. A. Helsel. Adv Agency 44:70+ F '51

Programs

New venture in institutional advertising with a home-town touch; documentary copy in concert program carries one-line credit for Heinz. il Ptr Ink 235:28 My 18 '51

Selection

How is advertising bought? Ptr Ink 235:25-8+ Je 1 '51
Is advertising readership a true measure of media values? J. Iron. Adv Agency 43:62-3+ D '50
Let's not be fooled by high ad readership! thoughts about printed ads vs. radio-tv. H. Zeisel. Sales Management 67:90-2 Ag 1 '51
Not more, but good research. D. B. Arnold. Adv Agency 44:87 Je '51
What counts today is prospect (not reader) duplication. R. Manville. Ptr Ink 236:27-9 Jl 13 '51
What's wrong with readership data? what 42 agency and company advertisers want to know about magazines. R. A. Helsel. Adv Agency 44:70+ F '51

Telephone directories

Sterling attributes rapid growth to telephone book advertising. W. L. Coburn. il Inland Ptr 127:38-9 Jl '51

Trade journals

A.R.F. studies American machinist, Chemical engineering and Business week. Adv Agency 43:78 N '50
ARF studies show best-read ads, editorial items; highlights of business publication readership research. il Ind Marketing 35:40-1+ N '50
Advertising volume in business papers, Dec. 1949 and totals for 1949 and 1950. Ind Marketing 36:62+ Ja '51
Annual market data and directory number. Ind Marketing 36:5-456 Je 25 '51
Best campaigns in merchandising papers picked by ABP. il Ptr Ink 235:29-31 Ap 27 '51
Eight award winning ads show ways to love your dealer; ABP merchandising winners. il Ind Marketing 36:67-8+ Je '51
Every issue of a business paper gives you a new audience. R. Eastman. Ptr Ink 233:39 N 17 '50
Handy kit of facts about business papers. I. Graham. Adv Agency 44:68-9+ S '51
How business papers compare in space volume; ranking of 65 publications for 1950. Ind Marketing 36:64 F '51
How 551 advertising agencies placed space in business papers in 1950. Ind Marketing 36:52+ Ap '51

ADVERTISING mediums—Trade journals —*Continued*

Massive blow technique in trade advertising. E. B. Weiss. Ptr Ink 236:49 S 7 '51

National business publications spring meeting. Ptr Ink 235:30 Je 8 '51

New ABC, CCA publication data brings market data book up to date. Ind Marketing 35:1-27 pt 2 N '50

New facts about ad readership in business papers. C. J. Swan. il Ptr Ink 234:27-9+ Mr 16 '51

1951 ABP industrial advertising awards announced this week. il Ptr Ink 235:31-3 Ap 6 '51

1951 business paper ad volume to reach all-time peak. A. R. Venezian. Ind Marketing 36:33-6+ S '51

1951 market data book number. maps Ind Marketing 35:5-474 S 15 '50

Politics and the how of industrial publicity. W. K. Harriman. Sales Management 67: 102+ O 1 '51

Prize-winning industrial advertisements for 1950; Associated business publications 9th annual awards. il Adv Agency 44:80-1 Ap '51

Six outstanding industrial ads win ABP honors. il Ind Marketing 36:112+ Ap '51

Testimonial campaign in trade press bags good quality inquiries; Gray Audograph. il Ptr Ink 233:25-6 D 8 '50

U.S. international trade magazines circulation and cost data. Adv Agency 44:100 O '51

ADVERTISING men

Client can be creative, too. E. B. Weiss. Ptr Ink 236:39 Jl 13 '51

Getchell ads still sell. il Bsns W p78-80+ D 16 '50

ADVERTISING novelties

Do you want more business? advertising novelties. H. E. Kranhold. il Radio & Tv N 46:35-7 S '51

ADVERTISING policies

Advertising new chemical products. J. M. Rogers. Ind & Eng Chem 43:855-8 Ap '51

Case history of a new aggressive merchandizer, aged 100; American Hard Rubber combs and bowling balls. D. Williamson. il Ptr Ink 233:31-3+ N 17 '50

Component parts supplier uses seven-step promotional package; Lorentzen Hardware helps venetian blind manufacturer-customers help their retailers. H. K. Lorentzen. il Ptr Ink 233:32-4 N 3 '50

How four major advertisers increase customer coverage despite rate increases. R. Manville. Ptr Ink 236:44-5 S 14 '51

How Scott Paper advertises, and why. C. J. Swan. il Ptr Ink 236:36-8+ Ag 10 '51

How to advertise in today's defense economy. A. C. Fatt. Adv Agency 44:71+ Ap '51

How to step up your promotional tempo; Congoleum-Nairn. M. Beuick. il Ptr Ink 236: 40-1 Jl 27 '51

ADVERTISING research

Advertising readership research; how to make it work. F. Mead. Ind Marketing 36:36-7+ Jl '51

Advertising should turn to the pure scientists. E. B. Weiss. Ptr Ink 235:37 Je 1 '51

All you have to do is tell the truth; looking and listening in department stores. E. Gramm. Ptr Ink 234:104 Mr 16 '51

Asks data; who are new readers? B. C. Duffy. Ed & Pub 83:16 O 21 '50

Banking magazine readership survey designed to avoid common criticisms of media research. E. J. Dever, jr. Ptr Ink 236:93 S 28 '51

Do farm women respond to advertising the way their city sisters do? H. G. Sawyer. il Ptr Ink 237:52+ O 12 '51

Handy kit of facts about business papers. I. Graham. Adv Agency 44:68-9+ S '51

How good is an ad, really? Gallup and Robinson measure impact of ads. Bsns W p21 Jl 28 '51

How psychiatric methods can be applied to market research. J. M. Vicary. Ptr Ink 235:39-40+ My 11 '51

How to advertise to business men (cont). H. G. Sawyer. il Ind Marketing 35:62+ O; 60+ N; 50+ D '50; 36:40-1+ Ja; 44+ F; 56+ Mr '51

Maybe readership and reader-action are related after all! study of Sasser's Buy-Lines columns. M. Wiseman. il Adv Agency 43:54-5+ N '50

Media buyers request Appleton data book. C. L. Allen. Ed & Pub 83:18 N 18 '50

NRB survey reveals advertising preferences of 201 installment loan and selling firms. Bankers Mo 68:23 Jl '51

New technique records retailers' reaction to trade. Ptr Ink 236:74 S 7 '51

Not more, but good research. D. B. Arnold. Adv Agency 44:87 Je '51

Planning and research behind soap advertising. W. G. Werner. Soap & San Chem 26: 44-6+ O '50

Private research facilities. Aesop Glim. Ptr Ink 237:78-9 O 12 '51

Snowball interview; new tool for market research; group interview played back to agency personnel. P. C. Nahl. Ptr Ink 234: 35-6 Mr 23 '51

Trends in reader and listener research. H. Herzog; H. Zeisel. Adv Agency 43:79+ D '50

What kinds of ads attract farmers? statistical study. R. L. Edsall. il Ptr Ink 233:23-5+ D 15 '50

Which advertising techniques make men read newspaper ads? H. J. Sawyer. Ptr Ink 236: 25-7 Ag 10 '51

See also

Advertisements—Readership
Advertising agencies—Research departments
Dealer panels
Industrial advertising research foundation
Market research
Television advertising—Measurement
Television advertising—Research

ADVERTISING research foundation

Ad Research expands. Bsns W p 126 S 29 '51

ARF reorganizes and expands its research facilities. W. R. Bruner. Ptr Ink 236:41 S 28 '51

ARF to widen scope of research facilities. Ed & Pub 84:20 S 29 '51

ADVERTISING research foundation, Industrial. See Industrial advertising research foundation

ADVERTISING signs. See Electric signs

ADVERTISING work (book)

Birth of advertising's most unique book; more than 1,000 Milwaukeeans cooperate. H. E. Green. il Ptr Ink 233:74-6+ N 24 '50

ADVISORY council on life underwriter education and training

New Council announces program. East Underw 52:4 Ja 12 '51; Same cond. Nat Underw (Life ed) 55:4 Ja 12 '51

AERATION

Aeration gives low-cost waste disposal for milk bottling plant. W. A. Hasfurther. il plan Food Ind 23:90-3 F '51

Aeration of culture media; a comparison of the sulphite and polarographic methods. W. S. Wise. bibliog Soc Chem Ind J 69(sup no 1):S40-1 '50

AERATION of sewage. See Sewage disposal—Aeration

AERIAL mapping. See Mapping, Aerial

AERIAL photography. See Photography, Aerial

AERIAL surveying. See Surveying, Aerial

AERIAL tramways. See Cableways

AERIAL warfare. See Aeronautics, Military

AEROBACTER

Induced and other variations in bacterial cultures; reactions of bact. lactis aerogenes to ultraviolet light and other mutagenic agents. A. C. R. Dean and C. Hinshelwood. Chem Soc J p 1157-77 My '51

Nature of the phosphorus compounds present in cells of bact. lactis aerogenes. P. C. Caldwell. Chem Soc J p 166-72 Ja '51

Nucleic acid content of bact. lactis aerogenes. P. C. Caldwell and C. Hinshelwood. Chem Soc J p 1415-18 My '50

Phosphorus metabolism of bact. lactis aerogenes. P. C. Caldwell and C. Hinshelwood. Chem Soc J p 158-66 Ja '51

Ribose nucleic acid content and cell growth of bact. lactis ærogenes. P. C. Caldwell, E. L. Mackor and C. Hinshelwood. Chem Soc J p3151-5 N '50

AERODYNAMIC laboratories
See also
Wind tunnels

AERODYNAMICS

Aerodynamic investigation on turbine-blade losses. K. H. Khalil. il diags Engineering 171:773-5 Je 29 '51
Aerodynamic oscillations of suspension bridges. R. A. Frazer. il Engineering 171: 270-1 Mr 2 '51
Aerodynamic stability and automatic control. W. Bollay. il diags J Aeronautical Sci 18: 569-617 bibliog(91 titles, p615-17); Discussion. 617-23+ S '51
Analysis of performance of jet engine from characteristics of components; aerodynamic and matching characteristics of turbine component determined with cold air. A. W. Goldstein. il diag U S Nat Advisory Com for Aeronautics 1947:397-414 '50
Application of the analogy between water flow with a free surface and two-dimensional compressible gas flow. W. J. Orlin and others. bibliog il diags U S Nat Advisory Com for Aeronautics 1947:311-28 '50
Approximate solutions for shock waves in a steady, one-dimensional, viscous and compressible gas. P. Lieber and others. bibliog J Aeronautical Sci 18:55-60 Ja '51
Approximate treatment of multishock bodies of revolution at small angles of attack by the method of characteristics. R. E. Bower. diag J Aeronautical Sci 18:70-1 Ja '51
Base pressure measurements. D. R. Chapman. bibliog J Aeronautical Sci 17:812-13 D '50
Boundary layers and skin friction in high-speed flow. A. D. Young. bibliog il diags Roy Aeronautical Soc J 55:285-302 My '51
Calculation of oblique shockwave characteristics. M. J. Thompson. J Aeronautical Sci 17:744 N '50
Calculation of the potential flow around airfoils in cascade. N. Scholz. bibliog diag J Aeronautical Sci 18:68-9 Ja '51
Calculation of the thermal boundary layer of a body in incompressible laminar flow. W. Dienemann. bibliog J Aeronautical Sci 18:64-5 Ja '51
Conical flow methods applied to uniformly loaded wings in subsonic flow. S. Lampert. bibliog diags J Aeronautical Sci 18:107-14+ F '51
Derivation and estimation of aerodynamic loads for stressing purposes. D. J. Lambert. bibliog diags Roy Aeronautical Soc J 55:561-85 S '51
Dynamic analysis of aeroelastic aircraft by the Transfer function-Fourier method. J. B. Rea. diags J Aeronautical Sci 18:375-97 Je '51
Effects of sweepback on boundary layer and separation. R. T. Jones. bibliog diags U S Nat Advisory Com for Aeronautics 1947: 487-9 '50
Experimental measurement of incompressible flow along a cylinder with a conical nose. E. V. Laitone. J Ap Phys 22:63-4 Ja '51
Extension of the theory of the one-dimensional shock-wave structure. L. Meyerhoff. bibliog J Aeronautical Sci 17:775-86 D '50
Flow around a rotating disc in a uniform stream. H. Schlichting and E. Truckenbrodt. J Aeronautical Sci 18:639-40 S '51
Frequency-response method for determination of dynamic stability characteristics of airplanes with automatic controls. H. Greenberg. U S Nat Advisory Com for Aeronautics 1947:471-9 '50
Gust loads on rigid airplanes with pitching neglected. R. L. Bisplinghoff and others. bibliog J Aeronautical Sci 18:33-42 Ja '51
High speed aircraft design. Aero Digest 62: 76-85 Ja '51
Interference method for obtaining the potential flow past an arbitrary cascade of airfoils. S. Katzoff and others. bibliog diags U S Nat Advisory Com for Aeronautics 1947:415-32 '50
Investigations of effects of surface temperature and single roughness elements on boundary-layer transition. H. W. Liepmann and G. H. Fila. bibliog il diags U S Nat Advisory Com for Aeronautics 1947: 587-98 '50
Isolated and cascade airfoils with prescribed velocity distribution. A. W. Goldstein and M. Jerison. bibliog diags U S Nat Advisory Com for Aeronautics 1947:201-15 '50
Laminar boundary layer on a rotating blade. L. E. Fogarty. bibliog diag J Aeronautical Sci 18:247-52 Ap '51
Mechanism of turbulent fluid motion. M. Munk. il diag Aero Digest 62:99-108 Je '51
Method for calculating wing characteristics by lifting-line theory using non-linear section lift data. J. C. Sivells and R. H. Neely. bibliog U S Nat Advisory Com for Aeronautics 1947:75-93 '50
Minimum drag of thin wings in frictionless flow. R. T. Jones. bibliog diags J Aeronautical Sci 18:75-81 F '51
New compressibility correction for two-dimensional subsonic flow. E. V. Laitone. J Aeronautical Sci 18:350 My '51
Rolling up of the trailing vortex sheet and its effect on the downwash behind wings. J. R. Spreiter and A. H. Sacks. bibliog il diags J Aeronautical Sci 18:21-32+ Ja '51
Secondary flow in a cascade of airfoils in a nonuniform stream. H. B. Squire and K. G. Winter. diags J Aeronautical Sci 18:271-7 Ap '51
Shatter of drops in streams of air. W. R. Lane. bibliog il diags Ind & Eng Chem 43:1312-17 Je '51
Simple interferometric test for conical flow. J. H. Giese and others. il J Ap Phys 21: 1226-31 D '50
Some aspects of flight research. H. Davies. bibliog il diags Roy Aeronautical Soc J 55: 325-57; Discussion. 357-61 Je '51
Some fluid dynamic research techniques. A. D. S. Carter and others. bibliog plans diags Inst Mech Eng Proc 163 (W.E.P. no 60): 249-63, pl 9-12 '50
Some special problems in linearized axially symmetric flow. B. des Clers and C. Chang. bibliog diag J Aeronautical Sci 18:127-38 F '51
Stability of the laminar boundary layer in a compressible fluid. L. Lees. bibliog U S Nat Advisory Com for Aeronautics 1947:331-77 '50
Stability of two-dimensional smooth transonic flows. Y. Kuo. bibliog J Aeronautical Sci 18:1-6+ Ja '51
Summary of lateral-control research. T. A. Toll, comp. il diags U S Nat Advisory Com for Aeronautics 1947:127-200 bibliog(91 titles, p 195-7) '50
Summary report on the high-speed characteristics of six model wings having NACA 65_1-series sections. W. T. Hamilton and W. H. Nelson. il diags U S Nat Advisory Com for Aeronautics 1947:379-95 '50
System for the excitation of pure natural modes of complex structure. R. C. Lewis and D. L. Wrisley. bibliog il diags J Aeronautical Sci 17:705-22+ N '50
Tables of the Theodorsen circulation function for generalized motion. Y. L. Luke and M. A. Dengler. bibliog J Aeronautical Sci 18: 478-83 Jl '51
Time lag in the self-nucleation of a supersaturated vapor. R. F. Probstein. bibliog J Chem Phys 19:619-26 My '51
Transonic flow past wedge sections. H. W. Liepmann and A. E. Bryson, jr. bibliog il diags J Aeronautical Sci 17:745-55 D '50
Turbulent boundary layer in compressible fluids. E. R. Van Driest. bibliog J Aeronautical Sci 18:145-60+ Mr '51
Turbulent diffusion from a source in turbulent shear flow. J. O. Hinze. J Aeronautical Sci 18:565-6 Ag '51
Wing plan forms for high-speed flight. R. T. Jones. bibliog diags U S Nat Advisory Com for Aeronautics 1947:61-5 '50
See also
Aeronautics
Air flow
Airplane stability and stabilizers
Airplanes—Design
Boundary layer
Shock waves
Turbulence
Wind tunnels

Electric analogies

Solution of aeroelastic problems by electronic analogue computation. J. Winson. bibliog il diags J Aeronautical Sci 17:385-95 Jl '50; Discussion. 18:71-2 Ja '51

AERODYNAMICS, Supersonic

Aerodynamics of a supersonic rectangular wing striking a sharp-edged gust. T. R. Goodman. bibliog il diags J Aeronautical Sci 18:519-26 Ag '51

AERODYNAMICS, Supersonic—*Continued*

Air condensation in hypersonic flow. P. Wegener and others. bibliog il diag J Ap Phys 22:1077-83 Ag '51

Base pressures at supersonic speeds. J. L. Potter. J Aeronautical Sci 18:141-2 F '51

Characteristics of supersonic wings having biconvex sections. B. Beane. bibliog il diags J Aeronautical Sci 18:7-20 Ja '51

Combined supersonic-hypersonic similarity rule. M. D. Van Dyke. bibliog diags J Aeronautical Sci 18:499-500 Jl '51

Comparison of theoretical and experimental results for the turbulent boundary layer in supersonic flow along a flat plate. C. Ferrari. bibliog J Aeronautical Sci 18:555-64 Ag '51

Design of a device for measurement of free-stream static pressure at supersonic speeds. M. V. Morkovin. diags Aeronautical Eng R 9:25-8 D '50

Effect of tail surfaces on the base drag of a body of revolution at Mach numbers of 1.5 and 2.0 (TN 2360); abstract. J. R. Spahr and R. R. Dickey. Aviation W 55:28-9 S 3 '51

Experimental investigation of supersonic lattice flow. J. E. O'Neill. il diag Aeronautical Eng R 10:28-32 Ja '51

First- and second-order theory of supersonic flow past bodies of revolution. M. D. Van Dyke. bibliog diags J Aeronautical Sci 18:161-78+ Mr '51

Flow over a wedge profile at Mach number one. G. Guderley and H. Yoshihara. diags J Aeronautical Sci 17:723-35 N '50

High-efficiency supersonic diffusers. E. P. Neumann and F. Lustwerk. bibliog il diags J Aeronautical Sci 18:369-74 Je '51

High-speed aerodynamic problems of turbojet installations. H. Luskin and H. Klein. bibliog il diag A S M E Trans 73:375-84 My '51

Hypersonic flow at a Mach number of ten. I. D. V. Faro and others. il diags J Ap Phys 22:220-2 F '51

Hypersonic research facilities at the Ames aeronautical laboratory. V. I. Stevens. il diags J Ap Phys 21:1150-5 N '50

Interaction of shock waves with boundary layers on a flat surface. F. W. Barry and others. bibliog il diags J Aeronautical Sci 18:229-38+ Ap '51

Interference between wing and body at supersonic speeds; theoretical and experimental determination of pressures on the body. R. H. Cramer. bibliog diag J Aeronautical Sci 18:629-32 S '51

Laminar-turbulent transition in a boundary layer. H. W. Emmons. bibliog il diags J Aeronautical Sci 18:490-8 Jl '51

Lift on inclined bodies of revolution in hypersonic flow. G. Grimminger and others. bibliog diags J Aeronautical Sci 17:675-90 N '50

Limiting case for missile rolling moments. E. W. Graham. bibliog diags J Aeronautical Sci 18:624-8 S '51

Longitudinal stability of elastic swept wings at supersonic speed. C. W. Frick and R. S. Chubb. J Aeronautical Sci 17:691-704 N '50

Low-aspect-ratio configurations in supersonic flow. P. A. Lagerstrom and M. E. Graham. bibliog diags J Aeronautical Sci 18:91-6+ F '51

Measurement of downwash at a Mach number of 1.45 behind two wings of finite span. W. F. Hilton. diags Roy Aeronautical Soc J 55:43-51 Ja '51

Methods for calculating the flow in the Trefftz-plane behind supersonic wings. P. A. Lagerstrom and M. E. Graham. bibliog diags J Aeronautical Sci 18:179-90 Mr '51

Nonstationary motion of purely supersonic wings. J. E. Froehlich. bibliog diags J Aeronautical Sci 18:298-310 My '51

Nonsteady supersonic flow about pointed bodies of revolution. W. H. Dorrance. bibliog diags J Aeronautical Sci 18:505-11+ Ag '51

Proper use of the M.I.T. tables for supersonic flow past inclined cones. M. D. Van Dyke and others. diag J Aeronautical Sci 18:355-6 My '51

Purely rolling oscillations of a rectangular wing in supersonic flow. T. Li. diags J Aeronautical Sci 18:191-8 Mr '51

Report of progress on measurements of friction coefficients, recovery factors, and heat-transfer coefficients for supersonic flow of air in a pipe. J. Kaye and others. il diags A S M E Trans 73:267-77; Discussion. 277-9 Ap '51

Ring shape source distribution in axially symmetrical supersonic flow. S. I. Pai. diags J Aeronautical Sci 18:634-5 S '51

Similarity laws for slender bodies of revolution in hypersonic flows. S. E. Neice and D. M. Ehret. bibliog diags J Aeronautical Sci 18:527-30+ Ag '51

Some roll characteristics of cruciform delta wings at supersonic speeds. Z. O. Bleviss. bibliog diags J Aeronautical Sci 18:289-97 My '51

Source-flow in supersonic and incompressible theories. H. Serbin. J Aeronautical Sci 18:431-2 Je '51

Sphere drag data at supersonic speeds and low Reynolds numbers. E. D. Kane. bibliog il diags J Aeronautical Sci 18:259-70 Ap '51

Study delta wing, supersonic flow. Aviation W 54:36+ Mr 26 '51

Supersonic wing-body center of pressure. G. K. Morikawa and T. F. Coleman. J Aeronautical Sci 18:140 F '51

Supersonic wing-body lift. G. Morikawa. bibliog diags J Aeronautical Sci 18:217-18 Ap '51

Theoretical study of air forces on an oscillating or steady thin wing in a supersonic main stream. I. E. Garrick and S. I. Rubinow. bibliog diags U S Nat Advisory Com for Aeronautics 1947:253-66 '50

Three-dimensional shock-wave reflections. E. Migotsky and M. V. Morkovin. bibliog diags J Aeronautical Sci 18:484-9+ Jl '51

Transient loading of wide delta airfoils at supersonic speeds. J. W. Miles. bibliog diags J Aeronautical Sci 18:543-54 Ag '51

Turbulent boundary layer in a compressible fluid with positive pressure gradient. C. Ferrari. bibliog J Aeronautical Sci 18:460-77 Jl '51

Use of an uncalibrated cone for determination of flow angles and Mach numbers at supersonic speeds; abstract. M. Cooper and R. A. Webster. Aviation W 54:38+ Ap 16 '51

Volterra's solution of the wave equation as applied to three-dimensional supersonic airfoil problems. M. A. Heaslet and others. bibliog il diags U S Nat Advisory Com for Aeronautics 1947:565-86 '50

Wind-tunnel tests for temperature recovery factors at supersonic velocities. W. F. Hilton. bibliog il J Aeronautical Sci 18:97-100 F '51

AEROELASTICITY (term)

Aeroelasticity represents an integration of the fields of aerodynamics and structural design. bibliog il diags Aero Digest 62:98-108 My '51

Dynamic analysis of aeroelastic aircraft by the Transfer function-Fourier method. J. B. Rea. diags J Aeronautical Sci 18:375-97 Je '51

Solution of aeroelastic problems by electronic analogue computation. J. Winson. bibliog il diags J Aeronautical Sci 17:385-95 Jl '50; Discussion. 18:71-2 Ja '51

Superposition method for calculating the aeroelastic behavior of swept wings. R. B. Brown and others. diags J Aeronautical Sci 18:531-42 Ag '51

AERONAUTIC charts. See Air navigation—Charts

AERONAUTIC engineering

Air transport association engineering and maintenance conference, Chicago. Aviation W 54:52-4+ My 21 '51

Engineering approach, 1903-1973. G. Loening. Aeronautical Eng R 10:36-7+ Mr '51

Engineering development in aircraft production. T. E. Piper. il Automotive Ind 104:34-8+ My 15 '51

Institute of the aeronautical sciences 19th annual meeting, New York, Jan. 29-Feb. 1; with abstracts of papers. Aviation W 54:28-9+ F 5; 30-2 F 12; 26+ F 19 '51

Investigations in aeronautics from the Department of aeronautical engineering, the University of Washington. K. P. Abichandani and others. bibliog il diags Washington Univ Eng Exp Sta Bul 118:1-119 '51 (pa $2)

AERONAUTIC engineering—*Continued*

Planning and aircraft development. F. O. Thornton. diag Roy Aeronautical Soc J 55:303-22 My '51

Scientific and technical developments in aviation; abstract. B. Lockspeiser. Engineer 192:263-4 Ag 31 '51

SAE National aeronautic meeting, Los Angeles, Sept. 28-30. S A E J 58:70-5 N '50

SAE National aeronautic meeting, New York; abstracts of papers. Automotive Ind 104:39+ My 15 '51

SAE National aeronautic meeting, New York, April 16-19. S A E J 59:58-62+ My '51

Technical observations. il Aero Digest 62:40 My '51

Wright brothers' aeronautical engineering collection at the Franklin institute, Philadelphia, Pa. R. H. McClarren. il Franklin Inst J 252:175-96 Ag '51

See also

Aerodynamics
Aeronautic research
Airplane engines
Airplanes—Design
Airplanes, Military—Design
Airports
Airways

Bibliography

Aeronautical engineering index, 1950. 174p Institute of the aeronautical sciences, 2 E. 64th st, New York 21 '51 ($5)

Aeronautical reviews; periodical articles, reports, government publications, books. Aeronautical Eng R 10:47-54+ Ja '51 [cont monthly]

Classified list of papers published in the Journal, 1927-1950. Roy Aeronautical Soc J 55:sup 1-12 Ja '51

Study and teaching

Cornell aero lab awards fellowships. Aviation W 55:28 Ag 20 '51

Tables, calculations, etc.

Design method for automatic longitudinal control systems. F. Stevens and K. M. Stevenson. diags Aeronautical Eng R 10:18-23 Ja '51

Dynamic analysis of aeroelastic aircraft by the Transfer function-Fourier method. J. B. Rea. diags J Aeronautical Sci 18:375-97 Je '51

Formulas for bending with axial tension. A. S. Niles. J Aeronautical Sci 18:356-7 My '51

Graphical integration. W. L. Vaughan. Aero Digest 63:29+ Jl '51

Method for calculating wing characteristics by lifting-line theory using non-linear section lift data. J. C. Sivells and R. H. Neely. bibliog U S Nat Advisory Com for Aeronautics 1947:75-93 '50

Study of the response of an airplane landing gear using the differential analyzer. W. C. Hurty. bibliog diags J Aeronautical Sci 17:756-64 D '50

Tables of the Theodorsen circulation function for generalized motion. Y. L. Luke and M. A. Dengler. bibliog J Aeronautical Sci 18:478-83 Jl '51

AERONAUTIC engineers

Engineer supply low, going lower. Aviation W 54:26-7+ My 7 '51

Selective service; problem of technicians and engineers. il Aero Digest 61:17-19+ N '50

Youth must be served. A. M. Pride. Aeronautical Eng R 10:16-17 Ja '51

AERONAUTIC instruments

Air speed computer errors. W. A. Fox. Aero Digest 63:80+ S '51

Aircraft navigation instruments. W. L. Webb. il diags Elec Eng 70:384-8 My '51

Avionic advances revealed by Honeywell. D. A. Anderton. il Aviation W 55:21-2+ Jl 30 '51

CAA finds picture instruments better than present symbolic type. CAA J 12:15 F 20 '51

Course line computer, new navigational aid. diags Aero Digest 61:70+ N '50

Dynamic flow-field measurement. A. Perone. il diags Aero Digest 62:50+ Je '51

Edge lighting gives dial clarity. il Aviation W 53:22 N 27 '50

Flight control unit is sensitive to two-foot change in altitude. M. A. Argentieri. il diags Machine Design 22:143-5 N '50

Hermetic sealing of aircraft instruments. R. F. Buckley. il diag Gen Elec R 53:43-5 N '50

Ink-trace navigator used in Brabazon. Aviation W 54:34 F 19 '51

Instrument arrangements for air carrier aircraft prescribed by the board. CAA J 12:3 Ja 20 '51

More accuracy for V-G (velocity-gravity) recorder. diag Aviation W 53:32 N 13 '50

Navigation experts see computer tests. Aviation W 54:61 My 14 '51

New bantam automatic coupler. G. L. Christian. il Aviation W 53:46+ D 18 '50

New device shows hottest cylinder. Aviation W 53:36 N 27 '50

New instrument to study gusts; NACA velocity-gravity-height. il Aviation W 54:39-40+ Je 18 '51

New picture aid for ILS-omnirange; Collins system graphically displays position; combines attitude and steering information. S. H. Reiniger. il plan Aviation W 55:43-4+ Jl 2 '51

Plants and equipment for avionics expansion; table. Aviation W 55:122-3 S 24 '51

Tests to start on navigation aid; Pictorial Computer. map Aviation W 54:67-8 Mr 26 '51

See also

Accelerometers
Altimeters
Aviation—Instrument flying
Direction finding apparatus
Radio aids to aviation
Radio apparatus on aircraft

Manufacture

How Lear handles gyro output. il Aviation W 54:21-2 Ja 15 '51

Lear instrument assembly; illustrations with text. Aero Digest 62:20-5 My '51

Mounting

Shock mount. il Aviation W 54:31 Ja 1 '51

Vibration control mountings in production. W. Rudolph. il Automotive Ind 104:52-3 F 1 '51

AERONAUTIC laboratories

AF reveals plans for engineering center; Arnold engineering development center. D. A. Anderton. Aviation W 55:13-14 Jl 2 '51

Aircraft gas turbine; General electric company's Aircraft gas turbine laboratory. il diag Mech Eng 73:22-4 Ja '51

Aircraft research and development equipment; Fairey aviation co. il diag Engineering 170:430-3 D 1 '50

Arnold engineering development center. F. O. Carroll. il S A E J 59:50-3 Ja '51

Decade of flight testing on the ground; Lewis flight propulsion laboratory of the National advisory committee for aeronautics. il Steel 128:34-5 Ja 29 '51

Erector set construction used in test laboratory at El Segundo, Calif. plant of Douglas aircraft co. G. C. Close. il Steel 128:75 Je 18 '51

G-E aircraft gas turbine laboratory dedicated. il plan Aeronautical Eng R 10:6-7 F '51

G-E dedicates aircraft gas turbine laboratory; illustrations with text. Automotive Ind 103:32-3 D 1 '50

Navy jet lab gets powerful air unit. Aviation W 55:31 Jl 9 '51

New General Electric aircraft gas-turbine laboratory. il Mach 57:190-1 D '50; Steel 127:98-9 D 18 '50; Am Mach 94:143 N 27 '50

Refrigeration; a research tool. il Refrig Eng 59:343-5+ Ap '51

Tons of conditioned air for jet engine research; Lewis flight propulsion laboratory. il Steel 128:80-1 My 21 '51

Wilderness lab serves Avro; jet engine test center. il Aviation W 55:33-4 Ag 27 '51

See also

Wind tunnels

AERONAUTIC meteorology. See Meteorology, Aeronautic

AERONAUTIC research

Aeronautical research in Australia. Engineering 172:72-3 Jl 20 '51

Aeronautical research; NACA Langley aeronautical laboratory. il Mech Eng 73:652-5 Ag '51

Air cycle refrigeration in aeronautical research; abstract. B. L. Rathmell. Refrig Eng 59:472 My '51

AERONAUTIC research—*Continued*

Aircraft structure fatigue. R. McLarren. bibliog il Aero Digest 63:100-8 S '51

Boulton Paul's transonic triangle for high-speed flight research. D. A. Anderton. il diags Aviation W 53:19 N 27 '50

Clear air turbulence over Europe. G. S. Hislop. bibliog map diags Roy Aeronautical Soc J 55:185-211; Discussion. 211-25 Ap '51

Dual tunnel teams instruction, research. il diag Aviation W 53:29-30+ N 20 '50

Establishment of Air research and development command. Aviation W 53:14-15 N 6 '50

High-speed research airplane program. H. A. Soulé. il Aero Digest 63:17-22 S '51

Institute of the aeronautical sciences 19th annual meeting; impressions and comments. Aeronautical Eng R 10:35-48 Ap '51

Institute of the aeronautical sciences 19th annual meeting, New York, Jan. 29-Feb. 1; with abstracts of papers. Aviation W 54: 28-9+ F 5; 30-2 F 12; 26+ F 19 '51

Investigations in aeronautics from the Department of aeronautical engineering. R. M. Rosenberg, ed. il diags Univ of Washington Eng Exp Sta Bul 118:1-119 '51 (pa $2)

Low-cost brain; electronic analogue computer offering wide utility in solving dynamic problems in aeronautical engineering research. Aviation W 53:36 N 6 '50

Money, manpower and machinery govern quality and quantity of aeronautical research for tomorrow's combat craft. Aviation W 54:46+ F 26 '51

NACA closes transonic gap. R. McLarren. il Aero Digest 62:32+ Je '51

NACA reports; abstracts. Aviation W 54: 27+ Ap 9; 38+ Ap 16; 36-7 Ap 30; 41-2+ My 14; 34-5 My 21; 34+ Je 4; 36 Je 11; 54 Je 18; 27-8 Je 25; 55:22+ Jl 9; 49 Jl 16; 33-4 Jl 30; 38-9 Ag 6; 37+ Ag 13; 33-4 Ag 20; 47-8 Ag 27; 28-9 S 3; 29 S 17 '51

NACA says; letter to Congress. J. C. Hunsaker. Aviation W 54:14-15 Ja 29 '51

Nucleation mechanisms acquire significance in aeronautics; formation of rain particles, sheet ice, and supersonic condensation shock waves. Chem & Eng N 29:3616-17 S 3 '51

Progress in stall research. G. Campbell and G. Bull. bibliog Aeronautical Eng R 9:24-32 N '50

Prototype group sets up program. Aviation W 54:63 Mr 19 '51

Research aircraft; new delta-wing aircraft, the P.111, designed and built by Messrs. Boulton Paul aircraft, limited. il diags Engineering 170:468-9 D 8 '50

Research and development to promote safety in aviation. T. P. Wright. S A E J 59:35-41 Ja '51

Some aspects of flight research. H. Davies. bibliog il diags Roy Aeronautical Soc J 55:325-57 Je '51; Abstract. Engineering 171: 229-30 F 23 '51; Discussion. Roy Aeronautical Soc J 55:357-61 Je '51

Summary of lateral-control research. T. A. Toll, comp. il diags U S Nat Advisory Com for Aeronautics 1947:127-200 bibliog(91 titles, p 195-7) '50

Television as research tool; Lewis flight propulsion laboratory. F. A. Friswold. il Electronics 23:122+ N '50

Transonic flow past wedge sections. H. W. Liepmann and A. E. Bryson, jr. bibliog il diags J Aeronautical Sci 17:745-55 D '50

War of wits; air force's big brain-buying venture. J. McDonald. map Fortune 43:99-102+ Mr '51

See also

Aeronautic laboratories
Wind tunnels

Germany

Germany and the delta wing; how priorities, politics and allied bombs brought defeat to German research. A. Lippisch. Aero Digest 62:30+ F '51

AERONAUTIC workers

Improved service and new type certificate being provided airmen. CAA J 11:135 D 15 '50

See also

Airlines—Employees
Airplane factories—Employees

AERONAUTICS

Aeronautics; future progress. J. C. Hunsaker. Franklin Inst J 251:48-57 Ja '51

60,000 active small aircraft render many vital services. D. W. Nyrop. CAA J 12:25+ Mr 20 '51

See also

Aerodynamics
Aeronautic laboratories
Air navigation
Air power
Air travel
Airlines
Airplane engines
Airplane propellers
Airplanes
Airports
Airways
Aviation
Aviators
Bombs, Flying
Flying boats
Gliders
Helicopters
Interplanetary flight
Meteorology, Aeronautic
National aeronautic association
Photography, Aerial
Radio aids to aviation
Seaplanes

Bibliography

Aeronautical engineering index, 1950. 174p Institute of the aeronautical sciences, 2 E. 64th st, New York 21 '51 ($5)

Aeronautical reviews; periodical articles, reports, government publications, books. Aeronautical Eng R 10:47-54+ Ja '51 [cont monthly]

Classified list of papers published in the Journal, 1927-1950. Roy Aeronautical Soc J 55:supp 1-12 Ja '51

I.A.S. previews; summaries of current papers accepted for I.A.S. publications (cont). Aeronautical Eng R 10:43-4 Ja; 39-40 F; 57-8+ My; 37-8+ Ag; 35 S '51

Reviews. Published in monthly numbers of Journal of the Royal aeronautical society

Exhibitions

Engineering in the Festival of Britain; air transport. Engineering 171:749-50, pl 61 Je 22 '51

French show progress in civil planes. R. Hazeltine. il Aviation W 55:16-18 Jl 16 '51

Idlewild air show, 1951. il S A E J 59: 79-81 Je '51

Latest jet engines displayed at Paris aviation show. W. F. Bradley. il diag Automotive Ind 105:45+ Jl 15 '51

New developments seen at SBAC display. D. A. Anderton. il Aviation W 55:14 S 17 '51

International aspects

Aviation know-how introduced abroad by CAA's missions. CAA J 12:61 Je 20 '51

Canada to U.S. flight entries now simplified. CAA J 12:25+ Mr 20 '51

Laws and regulations

CAR review. Aviation W 55:18 Ag 27 '51

Flight plans mandatory in defense zones. CAA J 12:1+ Ja 20 '51

New stall rule hit as arbitrary. F. L. Moore. Aviation W 55:44 S 17 '51

Proposal would revise regulations on certification of light planes. CAA J 11:122-3 N 15 '50

See also

Airlines—Regulation

Public relations

Aviation public relations. W. T. Bonney. Air Affairs 3:576-88 D '50

Safety measures

See Aviation—Safety measures

Statistics

Civil aviation highlights; 1949-1950; tabulation. CAA J 12:17 F 20 '51

Large increase shown in industrial flying, CAA report reveals. CAA J 12:36 Mr 20 '51

Study and teaching

See also

Aeronautic engineering—Study and teaching
Aviators—Training

Colombia

Civil aviation in Colombia. For Comm W 41: 23+ O 30 '50

AERONAUTICS—*Continued*

Europe

Clear air turbulence over Europe. G. S. Hislop. bibliog map diags Roy Aeronautical Soc J 55:185-211; Discussion. 211-25 Ap '51

Great Britain

Completion of United Kingdom National airways system. map Engineer 191:447 Ap 6 '51

New Zealand

Some general observations of concern to New Zealand in the development of aviation. A. Nevill. Roy Aeronautical Soc J 55:389-91 Je '51

Panama

Changes in Panamanian civil aviation. For Comm W 41:27-8 O 30 '50

United States

Air power and the future air age. R. E. Gross. Comm & Fin Chr 174:1365+ O 11 '51

Aviation mobilization, basis of program suggested to states. CAA J 12:108 S 20 '51

Civil aviation now better prepared to render vital wartime services. C. F. Horne. CAA J 12:72 Je 20 '51

New civil air M-day plan ready. F. L. Moore. Aviation W 54:67-8 My 21 '51

AERONAUTICS, Commercial

CAB, CAA officials at Local service airline seminar. Aviation W 54:17 Je 25 '51

See also

Air express service
Air mail service
Airlines
Airplane industry and trade
Airplanes in construction work
Airports
Airways
Photography, Aerial

International aspects

Some international aspects of air transport. G. Cribbett. diags Roy Aeronautical Soc J 54:669-94 N '50

U.S.-French pact clears the air. Aviation W 54:52 Ap 9 '51

Statistics

1950 aviation story in summary form; tabulation. CAA J 12:11 Ja 20 '51

Near East

Lebanese build airport to get Middle East trade. il Eng N 145:52 D 14 '50

United States

Aviation closes busy year, ready for national defense. D. W. Nyrop. CAA J 12:1+ Ja 20 '51

Progress of civil aviation greatest in last five years. D. W. Nyrop. CAA J 12:49+ My 20 '51

Three named as air mobilization heads. F. L. Moore. Aviation W 54:65-6 Mr 26 '51

25 years of aviation aid U.S. economy and defense. CAA J 12:57+ Je 20 '51

AERONAUTICS, Military

Debate; prop vs. jet for troop support; the commander argues; A. W. Jessup replies. il Aviation W 54:18+ Ja 29 '51

Flexibility seen as air power key. A. W. Jessup. il Aviation W 55:17-18 S 10 '51

Strategic air warfare. R. A. Ofstie. il U S Naval Inst Proc 77:590-9 Je '51

See also

Air power
Air raids
Airplane carriers
Airplanes, Military
Airports, Military
Airships, Military
Bombs, Flying
Helicopters—Military use
United States—Air service

Australia

Aussies' role. Aviation W 54:150+ F 26 '51

Brazil

Trained cadre is value in small force. Aviation W 54:159-61 F 26 '51

Canada

See also
Canada—Air force

France

Industry reorganization pays. B. France. Aviation W 54:126+ F 26 '51

Germany

Working for air defense; warning against making Germany's mistakes of wartime production of aircraft. W. Voigt. S A E J 59:19-21 My '51

Great Britain

Europe's main arsenal slowly mobilizes. F. R. Brewster. Aviation W 54:112+ F 26 '51

India

Transports, fields are its air strength. Aviation W 54:172 F 26 '51

Mexico

Poor air force, small and outdated. Aviation W 54:161-2 F 26 '51

Netherlands

Dutch aim is ten-fold air power increase. Aviation W 54:158-9 F 26 '51

Russia

Bombers next; lessons of past war learned. Aviation W 54:174-5+ F 26 '51

See also
Airplanes, Military—Russia

Spain

Wartime role to be unsinkable carrier. Aviation W 54:157-8 F 26 '51

Sweden

Increases asked for stronger air power. G. H. Smith. Aviation W 54:155-6 F 26 '51

United States

Army gets stronger voice in tactical air. Aviation W 55:16-17 Jl 23 '51

Army's role in air power. Aviation W 54:17 F 26 '51

Cold war III. Aero Digest 62:18-19 Ja '51

Maneuver widens AF, army gulf. B. S. Lee. Aviation W 55:17-18 S 3 '51

Pattern of U.S. defense expansion. Aviation W 55:14-15 S 24 '51

Technical progress and air power in the world crisis. L. B. Richardson. Aeronautical Eng R 10:10-13+ Jl '51

War of wits; air force's big brain-buying venture. J. McDonald. map Fortune 43:99-102+ Mr '51

What Vandenberg told senators. Aviation W 54:17-18+ Je 11 '51

With money no problem, strength grows. B. S. Lee. Aviation W 54:11-13 F 26 '51

See also

Airplanes, Military—United States
United States—Air service

AEROSOLS

Aerosol build-up techniques. F. Fahnoe, A. E. Lindroos and R. J. Abelson. flow diag il diags Ind & Eng Chem 43:1336-46 Je '51

Aerosol valves. W. Tuttle. Soap & San Chem 27:107+ Ja '51

Collection of aerosols in a Venturi scrubber. F. O. Ekman and H. F. Johnstone. bibliog flow sheet Ind & Eng Chem 43:1358-63 Je '51

Electrical method for investigating the nature and behavior of small, airborne, charged particles. J. H. Daniel and F. S. Brackett. bibliog diag J Ap Phys 22:542-54 My '51

Evaluation of liquefied-gas aerosols. R. A. Fulton and others. bibliog Soap & San Chem 27:129+ Ag '51

Fitting dimodal particle size distribution curves; comparison of methods. J. M. Dallavalle, C. Orr, jr. and H. G. Blocker. bibliog Ind & Eng Chem 43:1377-80 Je '51

Investigation of small, airborne, charged particles by an electrical method. J. H. Daniel and F. S. Brackett. bibliog diag A M A Archives Ind Hygiene & Occup Med 3:505-19 My '51

Particle-size determination in radioactive aerosols by radioautograph. J. A. Leary. il Anal Chem 23:850-3 Je '51

Performance of wet cell washers for aerosols. M. W. First and others. bibliog diags Ind & Eng Chem 43:1363-70 Je '51

AEROSOLS—*Continued*

Preparation of solid- and liquid-in-air suspensions for use in air pollution studies. R. D. Cadle and P. L. Magill. bibliog il diags Ind & Eng Chem 43:1331-5 Je '51

Push-button product; Fleet air refresher. il Chem Ind W 68:22-3 F 3 '51

Removal of submicron aerosol particles from moving gas stream; condensation center effects in steam nozzles. P. J. Schauer. bibliog il diags Ind & Eng Chem 43:1532-8 Jl '51

Stabilization of wax aerosols. B. J. Eiseman, jr. il Soap & San Chem 27:106-9+ My '51

Vapors of sulfuric acid-water mixtures as nucleating sources in aerosol formation; abstract. V. K. LaMer and V. A. Gordieyeff. Science 112:454-5 O 20 '50

Wetting characteristics of lubricating aerosols. D. G. Faust. il diag Product Eng 22:131-4 Jl '51

AFFILIATED gas equipment, inc.

Outlook bright for gas appliance firm. Barron's 31:17-18 Ap 2 '51

AFGHANISTAN

Afghanistan on the frontier. map Economist 159:1150-1 D 23 '50

Economic conditions

News by countries. For Comm W 42:15 F 19; 44:8 Ag 20 '51

AFRICA

See also

Transportation—Africa

Industries and resources

Can Africa replace Asia as a source of raw materials? V. L. Horoth. il map Mag of Wall St 88:351-3+ Je 30 '51

Industrialisation and social problems in central Africa. P. de Briey. Int Labour R 63:475-506 My '51

Social conditions

Industrialisation and social problems in central Africa. P. de Briey. Int Labour R 63:475-506 My '51

AFRICA, East

Yearbooks

Year book and guide to East Africa. A. Gordon-Brown, ed. 435p, 16p, 98p $3 Union-Castle mail steamship co, 3 Fenchurch st, London, E.C. 3; for sale by H. W. Wilson co, New York '51

AFRICA, French West

Commercial policy

Tariffs and trade controls. For Comm W 42:13 F 5 '51

AFRICAN oil palm. See Oil palm

AFRICANS in France

Recreation of North African workers employed in France. Int Labour R 63:192-202 F '51

AFTER burners. See Gas turbines, Aircraft—After burners

AFTERGLOWS. See Electric discharges

AFZELIA

Afzelin (kœmpferol-3-rhamnoside), a new glycoside isolated from doussié. F. E. King and R. M. Acheson. Chem Soc J p 168-70 Ja '50

AGAR

Improved toximetric agar-dish test for evaluation of wood preservatives. R. W. Finholt. bibliog Anal Chem 23:1038-9 Jl '51

Ionophoretic analyses in agar gels. Q. P. Peniston, H. D. Agar and J. L. McCarthy. bibliog diags Anal Chem 23:994-9 Jl '51

Sea harvest. il Chem Ind W 68:11-12 Mr 17 '51

AGARIC acid

Synthetic of potential antibacterial agents; some α-alkylglutaric acids and their derivatives. J. C. Roberts and B. Shaw. Chem Soc J p2842-5 O '50

AGE

Age incidence of specific causes of illness found in monthly canvasses of families; sample of the eastern health district of Baltimore, 1938-43. S. D. Collins and others. Pub Health Rep 66:1227-45 S 28 '51

Population trends and investment; effects of changes in the age composition. J. J. Spengler. Comm & Fin Chr 174:511+ Ag 9 '51

See also

Old age

AGE and employment

Are greybeards white elephants? J. J. Wittmer. Am Gas Assn Proc 1950:84-90

Can businessmen lick old age? interview with Dr Charles E. Dutchess. Bsns W p98-103 N 11 '50

Geriatrics; problems with the aged in industry. C. T. Olson. Ind Med 20:205-11 My '51

How old is a retired banker? A. W. Ballentine. Banking 43:38 D '50

Industry and the older worker. E. Ahern. Personnel J 29:188-9 O '50

Man can still work at 70; Rubery, Owen & co. workshop for older men; illustrations with text. Bsns W p 122+ D 16 '50

Old people in work. Economist 160:1286-7 Je 2 '51

Pensions are not enough; the individual company and its older workers. E. S. Hewitt and others. bibliog J Bsns 24:127-40 Ap '51

Planners look on aged as vast reservoir of defense manpower. Bsns W p 128+ F 24 '51

Problem of age barriers in personnel selection. W. G. O'Donnell. Personnel 27:461-71 My '51

Problem of the aged in Britain. P. Einzig. Comm & Fin Chr 173:2155 My 24 '51

Retirement, when? Safety Maint & Prod 102:70 S '51

To the man who will resign in 1960. F. C. Kendall. Ptr Ink 234:134 Mr 23 '51

What if a worker isn't old at his retirement age? International gerontological congress, 2d, St Louis. Bsns W p 116-18+ S 29 '51

Why waste manpower? old-timers often possess skills which younger men lack. F. H. Colvin. Am Mach 95:139 Jl 9 '51

You're not old unless you think you are. G. H. McCormick. Ptr Ink 235:52-3 Je 22 '51

See also

Forty-plus clubs

AGE of wood. See Wood—Age

AGED, Homes for. See Old age homes

AGENCY (law)

See also

Exclusive agencies

AGENE. See Nitrogen chloride

AGENTS, Insurance. See Insurance agents

AGENTS, Manufacturers'. See Manufacturers' agents

AGGREGATES

Aggregate packing in bitumen macadam carpets; abstract and discussion. J. F. T. Blott. Chem & Ind p 146 F 24 '51

Minnesota highway department contracts maintenance aggregate. Roads & Sts 94:64-5 Ja '51

Portable unit aggregate plant turns out 6,000 tons daily for Jersey pike. flow diag il Constr Methods 33:50-3 Ag '51

See also

Concrete—Aggregate

Testing

Design problems in the use of local aggregates for bituminous surfaces. J. T. Pauls and H. M. Rex. Pub Roads 26:186-91 Ag '51

Methods for the determination of soft pieces in aggregate. D. O. Woolf. il Pub Roads 26:148-56 Ap '51

AGING of metals. See Metals—Aging

AGITATION

Continuous flow stirred tank reactor systems; agitation requirements. R. W. MacDonald and E. L. Piret. bibliog il diags Chem Eng Prog 47:363-9 Jl '51

Effect of agitation on rate of growth of single crystals. A. W. Hixson and K. L. Knox. bibliog diag Ind & Eng Chem 43:2144-51 S '51

AGITATORS

Good mixer; compressed air eases dairyman's job of agitating milk. R. E. Stork. il diags Comp Air Mag 56:184-6 Jl '51

How to drive agitators magnetically in sealed pressure vessels. J. W. Postler. diags Chem Eng 57:168-9 N '50

AGITATORS—*Continued*

How to estimate agitator power from blade dimensions. D. E. Mack. bibliog Chem Eng 58:109-10 Mr '51

See also

Mixers

AGRARIAN policy. See Agriculture—Economic aspects

AGRICOLA, Georgius, 1494-1555

Georgii Agricolae De re metallica. Sci Am 184:46-7 F '51

AGRICULTURAL administration

Challenge of research in agricultural political science. W. R. Parks. Land Econ 26:315-24 N '50

Has the farmer had his fill? Fortune 42:78-9 D '50

Land or people? C. M. Hardin. Land Econ 27:133-42 My '51

Resource and revenue relationships in agricultural production control programs. E. O. Heady. R Econ & Stat 33:228-40 Ag '51

AGRICULTURAL chemicals

British agricultural chemicals; expanding test and production plant at Yalding. il Chem Age (Lond) 63:599-600 O 28 '50

Co-ops set high sales goal. il Chem Ind W 68:14-15 F 10 '51

Down to earth chemicals. I. U. Cobleigh. Comm & Fin Chr 174:1154 S 27 '51

Insect invasions test distribution channels of agricultural chemicals; C&EN annual review. L. S. Hitchner. il Chem & Eng N 29:40-1 Ja 1 '51

More food; chemicals raise crop yields, improve farm produce quality. D. Marshall. Barron's 31:15-16 S 10 '51

Toxic agricultural chemicals; precautions for protection of workers. Chem Age (Lond) 64:337 Mr 3 '51

Bibliography

Chemicals and allied products; pt. 1, agricultural chemicals; subject index (annotated) to Bibliography of scientific and industrial reports, v. 1-12, 1946-1949. 43p pa $5 Technical information service, 732 Woodward bldg, 15th and H st, N.W. Washington 5, D.C. '50

AGRICULTURAL chemicals association, National. See National agricultural chemicals association

AGRICULTURAL chemistry

Chemical progress during the 75 years of the American chemical society. F. C. Blanck and others. il Ind & Eng Chem 43:564-76 Mr '51

Chemist in agriculture; abstract. B. Thomas. Chem & Ind p 190 Mr 10 '51

AGRICULTURAL clubs

See also

4-H clubs

AGRICULTURAL credit

Bank credit can help save U.S. soil. M. E. Fonda. il Bankers Mo 68:26+ Ag '51

Banker's role in the battle for food. D. F. Richards. il Bankers Mo 68:7-8+ Ap '51

Buying farms with hundred-percent loans; an analysis of the Farm security administration loan experience in Wisconsin. W. K. Burkett and K. H. Parsons. Land Econ 27:151-68 My '51

Cattle feeder financing. D. E. Crouley. Banking 44:58-9 Jl '51

Cotton production financing. J. W. Bellamy, jr. il Banking 44:82+ S '51

Country banker Grover C. Helm says, our job is to loan money; interview. Bsns W p50+ Mr 10 '51

Credit that builds farms; State national bank, Decatur, Ala. T. J. Cottingham. il Burroughs Clearing House 35:25-7+ Ap '51

Dairy cattle loans. N. A. Jamba. Banking 43:57+ Mr '51

Farm credit in a war economy; highlights of Virginia bankers association conference. Banking 43:56+ Ap '51

Farmers prefer bank credit; with tabulation of borrowings during 1949. Banking 43:58-9 O '50

Financing livestock in the South. Burroughs Clearing House 35:14-15 D '50

Financing the wheat grower. R. N. Downie. il Banking 44:61+ Ag '51

How one bank handles poultry loans. S. Ford. Banking 43:58+ Mr '51

National bank of Argentina as a source of credit for Argentine farmers. E. Kutyn. Land Econ 26:390-3 N '50

Simplified GI farm loans. W. T. Robinson. Banking 43:66+ O '50

USDA wants to expand farm credit; excerpt from booklet Family farm policy review. Banking 44:116+ S '51

When bankers favor conservation loans; survey of Illinois bankers. L. R. Combs. il Banking 43:72 Je '51

See also

Mortgages, Farm

AGRICULTURAL engineering

Productivity in British industry; productivity in agriculture. C. Davies. il Engineer 191:274-8 Mr 2 '51

See also

Agricultural machinery

Electricity on the farm

Irrigation

AGRICULTURAL experiment stations

See also

Rothamsted experimental station

AGRICULTURAL laws and legislation

Legal problems in father-son farming operations. H. H. Ellis. bibliog Land Econ 27:235-47 Ag '51

Argentina

National bank of Argentina as a source of credit for Argentine farmers. E. Kutyn. Land Econ 26:390-3 N '50

AGRICULTURAL libraries

Agricultural libraries. J. R. Blanchard. Special Lib 42:93-5 Mr '51

Connecticut agricultural experiment station library, 1875-1950. R. M. H. Giandonato. bibliog Special Lib 41:352-8+ D '50

See also

Botanical libraries

AGRICULTURAL limestone. See Lime as fertilizer

AGRICULTURAL limestone association, National. See National agricultural limestone association

AGRICULTURAL limestone institute

Annual meeting, 6th, Cincinnati, Feb. 7-9; with abstracts of papers. Rock Prod 54:100-5 Mr '51

AGRICULTURAL machinery

Achievements in farm mechanisation. W. J. West. il Engineering 170:378, 388-91 N 17 '50

Future problems in farm mechanisation. W. H. Cashmore. Engineering 170:317-18 O 27 '50

Lift-type farm trailer; two-wheeled carrier. diags Welding J 30:536-7 Je '51

Productivity in British industry; productivity in agriculture. C. Davies. il Engineer 191:274-8 Mr 2 '51

Welding on the farm. il Welding J 29:1097-8 D '50

See also

Cultivators

Harvesting machinery

Hay baling machines

Planters (machinery)

Plows

Tractors

Testing

Apparatus for the testing of agricultural machinery. H. J. Hamblin. il diags Engineer 192:141-4 Ag 3 '51

AGRICULTURAL machinery industry

Farm equipment market to continue strong. G. Beaudet. il Iron Age 167:111-12 Je 21 '51

Farm machinery makers slowed by short supplies. G. Beaudet. Iron Age 167:121-2 Mr 1 '51

Market for components? Steel 128:49-50 Mr 26 '51

When a 68-year-old district manager hit the road; Harnischfeger's farm welder sales. il Sales Management 65:54+ N 10 '50

See also

International harvester company

Southern farm equipment manufacturers

Tractor industry and trade

AGRICULTURAL machinery industry—*Cont.*

Advertising

Close-up selling produces orders in tight competition; centering attention of customer on performance advantages he wants. H. S. Nelson. il Ptr Ink 234:32-5 Ja 19 '51

Farm implements and machinery advertising in '51 expected to keep pace with '50. Ptr Ink 233:116+ N 10 '50

Flexibility keynotes mailers to farmers; Minneapolis-Moline co. R. O. Smith. Sales Management 66:92-3 Ja 1 '51

This promotion package is making company movie a hit; Dearborn motors corp. J. F. Pedder. il Ptr Ink 236:34-5 Jl 20 '51

Exhibitions

Agricultural machinery exhibition at Earls Court. il Engineer 190:558-9, 590-2 D 8-15 '50

Agricultural machinery exhibition, Paris, February 27-March 4. il Engineering 171: 429-31, 460-3, pl 31-2 Ap 13-20 '51

Royal show at Cambridge. il Engineer 191: 868-9; 192:20-2, 57-60 Je 29-Jl 13 '51; Engineering 172:20-3, 53-5, 73-5, 117-20, 148-50, pl 1-2 Jl 6-Ag 3 '51

Smithfield show and agricultural machinery exhibition, London. il Engineering 170:472, 478-9, 510-11, 540-2 D 8-22 '50

South Bank exhibition; Country pavilion. Engineer 191:671-4, 706, pl 2 My 25-Je 1 '51

Finance

Financing farm equipment through correspondent banks. W. B. Pollard. il Burroughs Clearing House 35:25-7+ Mr '51

It's sold when it's sold; Minneapolis-Moline deferred sales system. il Bsns W p 119-21 Ag 18 '51

Securities

Laggard farm equipments; with statistics of leading stocks. F. R. Walters. Mag of Wall St 88:510-11+ Ag 11 '51

Statistics

Farm machinery wages, 1947-1950; tabulation. Iron Age 167:335 Ja 4 '51

Farm tractor production, 1929-1950; tabulation. Iron Age 167:334 Ja 4 '51

Farm wheel tractors by age, drawbar hp; tabulation. Iron Age 167:335 Ja 4 '51

Selected farm machinery manufactured in the U.S. in number of units, 1929-1949; tabulation. Iron Age 167:327 Ja 4 '51

France

French farmalls; International Harvester starts production at Saint Dizier. Bsns W p 121 D 2 '50

Great Britain

Engineering outlook. Engineering 171:91-3 Ja 26 '51

AGRICULTURAL products

See also

Chemurgy
Cotton
Crops
Farm produce
Flax
Grain
Rice
Straw
Tobacco
Wheat

AGRICULTURAL research

See also

Grain research laboratory, Winnipeg, Manitoba

AGRICULTURAL workers. See Farm labor

AGRICULTURE

See also

Agricultural machinery
Airplanes in agriculture
Chemurgy
Crops
Electricity on the farm
Farm buildings
Farm labor
Farm produce
Farmers
Feeding and feeding stuffs
Fertilizers
Food supply
Forests and forestry
Irrigation
Land tenure
Livestock
Plant breeding
Rice
Rubber plants and planting
Soils
Wheat

Bibliography

New sources of agricultural literature. D. A. Brown. Special Lib 41:320-3 N '50

Economic aspects

Balance sheet and current financial trends of agriculture, 1951; abstract. F. L. Garlock and others. map Fed Res Bul 37:1090-103 S '51

Concentration of power in the American economy; big-little business, big labor, big agriculture. C. Wilcox. Harvard Bsns R 28: 54-60 N '50

Foresees no wild inflation, short of war; farmers should be prepared. W. I. Myers. Comm & Fin Chr 173:1346 Mr 29 '51

Gross national farm product in constant dollars, 1910-50; with tables and charts. J. W. Kendrick and C. E. Jones. Survey of Cur Bsns 31:13-19 S '51

Legal problems in father-son farming operations. H. H. Ellis. bibliog Land Econ 27: 235-47 Ag '51

Methods and objectives of scientific agrarian policy. C. von Dietze. Land Econ 26:354-67 N '50

Postwar railroad freight rate increases and agriculture. W. H. Thompson. J Marketing 15:298-306 Ja '51

Resource and revenue relationships in agricultural production control programs. E. O. Heady. R Econ & Stat 33:228-40 Ag '51

See also

Agricultural credit
Farm income
Farm market
Farm produce—Prices

Periodicals

New sources of agricultural literature. D. A. Brown. Special Lib 41:320-3 N '50

Political aspects

Challenge of research in agricultural political science. W. R. Parks. Land Econ 26:315-24 N '50

Statistics

Gross national farm product in constant dollars, 1910-50; with tables and charts. J. W. Kendrick and C. E. Jones. Survey of Cur Bsns 31:13-19 S '51

Arkansas

Arkansas story. il Manuf Rec 120:79-83 F '51

Asia

Our economic policy in Asia. R. W. Miller. 4pls Harvard Bsns R 29:52-70 Jl '51

Bahama Islands

Agriculture in the Bahamas. map Economist 160:86-7 Ja 13 '51

Chile

Agreement with International bank-FAO mission signed. For Comm W 44:10 Jl 23 '51

China

Agrarian revolution. Economist 160:603-4 Mr 17 '51

Current agrarian reform policies in Communist China. Chao Kuo-chün. bibliog Ann Am Acad 277:113-23 S '51

See also

Land tenure—China

Europe

Plan for Europe's farmers. Economist 160: 750 Mr 31 '51

Stalinism and the peasant; collectivisation in eastern Europe. Economist 160:724-6 Mr 31 '51

Great Britain

Farming merry-go-round. Economist 160:782-3 Ap 7 '51

Inquest on agriculture; comments on White paper on procedure followed in annual review of farm prices. Economist 160:1214-16 My 26 '51

India

Cures for India's poverty. Economist 159: 657, 698 O 28-N 4 '50

Italy

See also

Land tenure—Italy

AGRICULTURE—*Continued*

Maine

Aroostook without subsidy. il Fortune 44:65-6 Jl '51

Minnesota

Quantity down, quality up, in Plains states; farmer population in Minnesota-to-Montana area. A. G. Mezerik. il Sales Management 65:44-6 N 20 '50

Mississippi

Mississippi contributes variety of products to national and world markets. il Manuf Rec 120:74-8 Je '51

Missouri

Balanced farming ups farmers' balances. J. K. McDermott. il Bankers Mo 68:7-10 Ja '51

Montana

Quantity down, quality up, in Plains states; farmer population in Minnesota-to-Montana area. A. G. Mezerik. il Sales Management 65:44-6 N 20 '50

Poland

Collectivisation in Poland; settling the peasant problem. Economist 159:1151-2 D 23 '50

Russia

Lag in agriculture. map Economist 160:549-50 Mr 10 '51

Price system in socialized agriculture. V. Katkoff. J Marketing 16:43-50 Jl '51

Russian farmers' free markets. Economist 161:457 Ag 25 '51

Russia's agro-towns. Economist 160:202-3 Ja 27 '51

Soviet harvest time. Economist 161:405-6 Ag 18 '51

United States

Agricultural production and income in 1950; with figures for other years. Survey of Cur Bsns 31:15-17 F '51

Balance sheet and current financial trends of agriculture, 1951; abstract. F. L. Garlock and others. map Fed Res Bul 37:1090-103 S '51

Balance sheet of agriculture. F. R. Walters. Mag of Wall St 88:546-7+ Ag 25 '51

Current position of agriculture. P. T. Allen. Fed Res Bul 37:1079-89 S '51

End of one farm problem; surpluses no longer a worry. Bsns W p26 F 10 '51

Nation's mobilization program must not jeopardize agriculture; meetings of agricultural control officials, Washington. Chem & Eng N 29:4268+ O 15 '51

Urges unfettered agricultural program. E. L. Butz. Comm & Fin Chr 173:94 Ja 4 '51

AGRICULTURE, Cooperative

Farming co-operative, a new system of farm management. O. Schiller. map Land Econ 27:1-15 F '51; Critical appraisal. K. Brandt. 27:102-7; Reply. D. Pronin. 178-80 My '51; Rejoinder. 27:180-2, 256-9 My-Ag '51

AGRICULTURE, Department of. See United States—Agriculture, Department of

AGRICULTURE and state. See Agricultural administration

AGSTONE. See Lime as fertilizer

AHVENANMAA

Storm over the Åland Islands. map Economist 160:1573-4 Je 30 '51

AIKEN, South Carolina

See also

Housing—Aiken, South Carolina

AILERONS

Aileron. bibliog diags Aero Digest 61:95-100+ N '50

Flight measurements of the lateral control characteristics of narrow-chord ailerons on the trailing edge of a full-span slotted flap. R. H. Sawyer. il diags U S Nat Advisory Com for Aeronautics 1947:481-5 '50

Summary of lateral-control research. T. A. Toll, comp. il diags U S Nat Advisory Com for Aeronautics 1947:127-200 bibliog(91 titles, p 195-7) '50

AIR

Air lubricated bearings. P. M. Mueller. diags Product Eng 22:112-15 Ag '51

Dispersion of air between 2500A and 6500A. H. Barrell. bibliog Opt Soc Am J 41:295-9 My '51

Effect of high pressures on the explosibility of mixtures of ethane, air, and carbon dioxide and of ethane, air, and nitrogen. R. E. Kennedy and others. bibliog 6pls U S Bur Mines Rep of Invest 4751:1-11 '50

Gas evolution in liquids and cavitation. P. H. Schweitzer and V. G. Szebehely. diags J Ap Phys 21:1218-24 D '50

Microwave measurements of the dielectric properties of gases. G. Birnbaum and others. bibliog il diag J Ap Phys 22:95-102 Ja '51

Obtaining lower Btu gases by blending natural gas with other gases or air. E. C. Powers. flow chart Am Gas J 174:19 Ja '51

Phase-shift refractometer. C. W. Tolbert and A. W. Straiton. bibliog il diags R Sci Instr 22:162-5 Mr '51

Relation between gas evolution and physical properties of liquids. V. G. Szebehely. J Ap Phys 22:627-8 My '51

Solubility of air in Freon-12 and Freon-22. H. M. Parmelee. diags Refrig Eng 59:573-7 Je '51; Discussion. 59:669+ Jl '51

See also

Aerodynamics
Air conditioning
Atmosphere
Atmosphere, Upper
Compressed air
Dust
Humidity
Oxygen
Ventilation

Analysis

Cold-surface collection of volatile atmospheric contaminants. R. D. Cadle, M. Rolston and P. L. Magill. il diag Anal Chem 23:475-7 Mr '51

Detects chlorine in low ranges; Davis electro conductivity analyzer. il Nat Safety N 64:42 Ag '51

Determination of composition of air-borne particulate material. R. D. Cadle. bibliog il diag Anal Chem 23:196-8 Ja '51

Determination of naphthalene in air. M. C. Robbins. bibliog A M A Archives Ind Hygiene & Occup Med 4:85-7 Jl '51

Determination of parathion in air samples by ultraviolet absorption spectroscopy. R. C. Hirt and J. B. Gisclard. bibliog diag Anal Chem 23:185-7 Ja '51

Device provides easier air-pollution testing. il Food Eng 23:147 Ap '51

Isotopic composition of oxygen in air dissolved in Pacific Ocean water as a function of depth. N. M. Rakestraw, D. P. Rudd and M. Dole. Am Chem Soc J 73:2976 Je '51

New instrument is sensitive to 0.05 part per million of sulfur dioxide. R. H. Munch. il diag Ind & Eng Chem 43:sup99A-100A+ S '51

Particle-size determination in radioactive aerosols by radioautograph. J. A. Leary. il Anal Chem 23:850-3 Je '51

Rapid estimation of small amounts of ethylene in air; portable instrument for testing degrading of oranges. F. Stitt, A. H. Tjensvold and Y. Tomimatsu. bibliog il diag Anal Chem 23:1138-41 Ag '51

Sampling and analyzing units check combustible concentrations. il World Oil 132:248+ Ap '51

Symposium on the dynamics of industrial medicine; chemical analysis. F. R. Holden. A M A Archives Ind Hygiene & Occup Med 3:159-60 F '51

Thermal conductivity bridge for gas analysis. C. C. Minter and L. M. J. Burdy. diags Anal Chem 23:143-7 Ja '51

Bacteriology

Control of the bacterial population of the atmosphere; abstract and discussion. J. Wolf. Chem & Ind p372-3 My 12 '51

Symposium on air disinfection and sterilization. Chem & Ind p805-7 D 16 '50

AIR affairs, American society of. See American society of air affairs

AIR America, inc.

Certificates offered. Comm & Fin Chr 174:1193 O 1 '51

AIR bases. See Airports, Military

AIR blast circuit breakers. See Electric circuit breakers—Oilless

AIR brake association
Annual meeting, 42d, Chicago, Sept. 18-20. Ry Mech & Elec Eng 124:640-50 N '50

AIR brakes
ABLC (load compensating) freight brake equipment; report of Air brake association. Ry Mech & Elec Eng 124:644-6 N '50
Brake system leakage on freight trains; Air brake association report. Ry Mech & Elec Eng 124:643-4 N '50
Brakes and brake equipment; committee report, A.A.R. Mechanical division. Ry Age 131:104+ Jl 9 '51; Same, with drawings. Ry Mech & Elec Eng 125:65-6 Ag '51
Characteristics of air flow in automatic train braking; report of Air brake association. Ry Mech & Elec Eng 124:640-3 N '50
Elimination of moisture from brake systems of Diesel road locomotives; report of Air brake association. diags Ry Mech & Elec Eng 124:647-50 N '50
High speed and heavy loads; equipment problems that are confronting railroads. W. J. Patterson. Ry Mech & Elec Eng 125:50-1 Ag '51
Maintenance of Budd CF disc brakes. il Ry Mech & Elec Eng 124:722-5 D '50
Schedule 24RL air brakes (cont). Ry Mech & Elec Eng 124:753-4 D '50; 125:76 Ja; 80-1 F; 71-2 Mr; 82 Ap; 83 My; 73 Je; 64 Jl; 67 S; 79 O '51
24-RL brake equipment troubles and remedies; report of Air brake association. Ry Mech & Elec Eng 124:646-7 N '50

Testing

Development and testing of brakes for high-speed railroad equipment. C. E. Tack. bibliog il diags A S M E Trans 73:167-79; Discussion. 180-2 F '51

AIR carriers
See also
Airlines

Non-scheduled operations

Air coach transport assn. awaits CAB accreditation. Aviation W 54:45 F 5 '51
ACTA cracks down on violators. Aviation W 53:51-2 N 6 '50
Board order denies modern air transport request for exemption. CAA J 12:99 S 20 '51
Board order grants irregular carriers military exemption. CAA J 12:46 Ap 20 '51
CAB, CAA scored by nonsked lines. Aviation W 54:53 Ap 30 '51
CAB revokes Arrow registration. Aviation W 54:58-9 Ja 29 '51
Court order enjoins Board's enforcement affecting irregulars. CAA J 12:75 Jl 20 '51
Court reprieves large nonskeds. Aviation W 54:57 Je 11 '51
Decision opens way to suits by nonskeds. Aviation W 55:57-8 Jl 23 '51
Future looks better for nonskeds. Aviation W 55:71-2 Jl 16 '51
How to fit nonskeds in the picture; large irregulars offer plan for renting their fleets on military contract basis during mobilization. Aviation W 54:52+ Ja 29 '51
Nonsked groups set for military traffic. Aviation W 54:64 My 7 '51
Nonsked plea; irregulars ask CAB for liberalized exemptions. Aviation W 53:55-7 N 20 '50
Nonsked role; CAB eases irregulars' regulations as carrier shortage looms. Aviation W 54:64-5 Mr 19 '51
Policy of CAB on nonskeds. D. Rentzel. Aviation W 54:65 My 7 '51
Seattle nonsked presses CAB fight. Aviation W 54:62 Je 25 '51
Senate view; small business group asks CAB to ease up on nonsked regulation. Aviation W 55:72-3 Jl 16 '51

AIR cleaners
Air cleaner removes dirt, liquids and oil vapors. il Product Eng 22:200 Ag '51
Electronic air filters; untapped market exists. il diag Sheet Metal Worker 42:62-3 S '51
Ventilation of survival areas for civil defense. H. C. Murphy. Heating-Piping 23:85-6+ Jl '51
Watch your air cleaners. H. C. Campbell. Constr Methods 33:81 My '51
See also
Air filters
Air washers

AIR cleaning
Air pollution control methods. J. L. York. il diags Sewage & Ind Wastes 23:908-15 Jl '51
Air-washing system improves knitting quality. E. D. White. il Textile World 101:124-5 O '51
Survey of electrostatic precipitation. E. A. Walker and J. E. Coolidge. il Heating-Piping 23:107-11 Mr '51

AIR coach transport association
ACTA awaits CAB accreditation. Aviation W 54:45 F 5 '51

AIR compressors
Air force development of a light-weight multi-fuel Diesel engine. M. E. Davis and F. J. Neugebauer. diags Diesel Power 29:36-40 My '51; Same cond. Automotive Ind 104:32-3+ Je 15 '51
Axial-flow compressors guarded by potentiometer watchdogs; Westinghouse electric corp. Aviation gas turbine development laboratory. R. N. Grassi and W. H. Wannamaker. il diags Power 95:90-1+ Je '51
Compressors for aircraft gas turbines; discussion. Engineering 170:511-12 D 15 '50
Development of air and gas compressing plant. E. S. Legat. diags Inst Mech Eng Proc 162 no 4:468-71, pl 1-2 '50
Free-piston air compressors offer practical application advantages. J. Barraja-Frauenfelder. il diags Power 95:84-6 F '51
How to keep air pressure up. C. W. Gibbs. il Factory Management 109:78-81 Jl '51
Investigations of axial-flow compressors. J. T. Bowen and others. bibliog il diags A S M E Trans 73:1-14; Discussion. 14-15 Ja '51
Make your air system efficient. il Eng & Min J 152:144-5+ Jl '51
My best maintenance idea; survey shows need for purchase of new air compressor; with cost data. Factory Management 109:86-7 Mr '51
Navy divers work at 10,000 feet altitude. il Comp Air Mag 56:215 Ag '51
New compressors serve Port Said sewage system. il Comp Air Mag 55:246-7 N '50
100,000-horsepower wind maker; air compressor installed at the Lewis flight propulsion laboratory. il Power 95:81-2 My '51
Overall and stage characteristics of axial-flow compressors. A. R. Howell and R. P. Bonham. bibliog diags Inst Mech Eng Proc 163 (W.E.P. no 60):235-48, pl 7-8 '50
Performance of axial-flow compressors as affected by single-stage characteristics. S. M. Bogdonoff. bibliog diag J Aeronautical Sci 18:319-28 My '51
Pneumatic power; design of air supply systems. J. A. Campbell. il diags Machine Design 23:141-6 My '51
Pneumatics powers new plane systems. G. L. Christian. il Aviation W 54:28-9 Ja 1 '51
Power compressors provide continuous operation in hypersonic wind tunnel. il Elec Eng 70:282 Mr '51
Relative merits of centrifugal and axial compressors for aircraft gas turbines; discussion. E. S. Moult and others. il diag Roy Aeronautical Soc J 55:129-52 Mr '51
Review of new plant equipment; air compressors and accessories. il Power 95:147 Mid-Je '51
Round table on compressor surge. J. R. Foley. diags S A E J 59:46-50 S '51
Simplified design comparisons of axial compressors. F. L. Wattendorf. bibliog diags J Aeronautical Sci 18:447-59 Jl '51
Surging in centrifugal and axial flow compressors. R. O. Bullock and H. B. Finger. S A E J 59:42-5 S '51; Excerpt. Automotive Ind 104:105 My 15 '51
Tests prove compressor efficiency; Junkers free-piston Diesel air compressor. il Machine Design 23:121 Ja '51
Your air compressor, how to get the most out of it. T. G. Hicks. il diag Food Eng 23:72-4+ Jl '51

Manufacture

Reducing costs in deep-slotting compressor rotors. J. H. Hummer and others. il Mach 57:183-5 D '50

Repair

Air compressors are tough, but you've got to service them right to get efficient operation. L. J. Murphy. il diag Mill & Factory 47:81-4 D '50

AIR compressors—*Continued*

Testing

Experimental investigation of supersonic lattice flow. J. E. O'Neill. il diag Aeronautical Eng R 10:28-32 Ja '51

AIR compressors, Portable

Canadian Ingersoll-Rand co. introduces new, improved all-Canadian portable compressor. il Roads & Eng Constr 88:52+ S '50; Same abr. Munic Util 88:44+ O '50
Ingersoll-Rand air compressor. il Blast F & Steel Pl 39:468 Ap '51
Ingersoll-Rand develops new type rotary portable air compressor. H. W. Richardson. il diag Constr Methods 33:87-8+ F '51
Johnson mobile air compressor. il Engineer 192:240 Ag 24 '51
Mobile air compressor unit. il Engineer 191: 330 Mr 9 '51
New entirely-Canadian Joy compressor features automatic clutch and economy control. Roads & Eng Constr 89:88 F '51
New portable compressor; Gyro-Flow 600. A. S. Park. il diags Comp Air Mag 56:44-6 F '51
Single-tool portable air compressor. il Engineering 170:452 D 1 '50
Two stage air compressor. il Ry Mech & Elec Eng 125:88-9 Je '51

AIR conditioning

Absorption air conditioner. E. P. Whitlow and L. A. McNeely. il diags Refrig Eng 59: 38-43; Discussion. 43+ Ja '51
Adding floor presents a problem. W. B. Buck. il plan Heating-Piping 23:102-3 Mr '51
Air conditioning design conditions; commercial buildings; reference data. N. N. Wolpert. Heat & Ven 48:150a-150b My; 134a-134b Je '51
Air conditioning design conditions, industrial plants; reference data. N. N. Wolpert. Heat & Ven 47:126a-126b D '50; 48:130a-130b Ja; 158a-158b F; 122a-122b Mr; 140a-140b Ap '51
Air conditioning helps control noise. C. M. Ashley. bibliog il Refrig Eng 58:1080-3+ N '50
Air conditioning old buildings. W. L. Fleisher. il plan Refrig Eng 58:1184-8+ D '50; Discussion. 59:51 Ja '51
Atomic plant hazards reduced by automatic control of temperature, humidity and air movement; abstracts. J. A. Cutler. Heat & Ven 48:116+ Ja '51; Dom Eng 177:166 Ap '51
Design of small air conditioning systems to maintain comfort during mild, humid weather. D. D. Wile. diags Refrig Eng 59: 447-52+ My '51
Facts on flow in ducts. W. Huebner. diags Heating-Piping 23:104-6 F '51
Heat exchangers reduce air conditioning costs. A. H. Gipson. il diags Heat & Ven 48:71-3 My '51
Heat pump research and development survey; list of projects. C. H. Coogan, jr. Refrig Eng 59:47-8 Ja '51
Humidity control for small air conditioning systems. W. T. Smith. diag Refrig Eng 59:653-5; Discussion. 655-6 Jl '51
Odor control in air conditioning systems; abstract. K. B. Magee. Refrig Eng 59:682-3 Jl '51
Power handbook; air conditioning. J. C. McCabe, comp. diags Power 95:102-3 Jl '51
Principles of air conditioning; revision of paper published in Nov. 1929. W. H. Carrier. il diags Heating-Piping 22:81-5 Ap; 105-9 Je; 106-10 Ag '50; 23:114-16 F '51
Residential air conditioning; low priced builder's house and luxury apartment houses in Philadelphia. il plans diags Arch Forum 95:182-3+ Ag '51
Something new in heating; Caldwell system of heating and air conditioning. il Dom Eng 177:107+ My '51
Time-saving steps for balancing air-conditioning systems. L. R. Phillips. il diags Power 95:88-90 Ap '51
Ultraviolet air disinfection in room air conditioners. L. J. Buttolph. il Refrig Eng 59: 54-7+ Ja '51
Year around air conditioning in medium priced houses. il Sheet Metal Worker 42:91-2 N '50
Year-round air conditioning for residences. G. R. Wachter and C. M. Gerhart. diags Heat & Ven 48:87-102 My '51
Year-round air conditioning with the heat pump. F. R. Ellenberger. bibliog il map diags Gen Elec R 53:10-18 D '50

See also
Air filters
Air purification
Cold storage
Cooling
Cooling from central stations
Electricity in air conditioning
Exhaust systems
Gas in air conditioning
Heating
Humidity
Ventilation

also subdivision Air conditioning under special subjects, e.g.
Cars
Factories
Hosiery mills
Nylon mills
Store buildings
Textile mills

Hygienic aspects

Air conditioning in the treatment and prevention of disease. R. W. Keeton. Heating-Piping 23:142-5; Discussion. 148 Ap '51

Tables, calculations, etc.

Do your duct estimating in chunks. D. Kelland. diag Power 94:104 N '50

AIR conditioning, Industrial

Advanced air conditioning boosts bakery output. N. Feder. il plan diag Food Eng 23:109-10+ S '51
Air conditioned prover room; Minneapolis gas co. B. C. Holman. il diag Gas Age 107: 25-7+ Ap 12 '51
Air conditioning design data for food industries. N. N. Wolpert. Heat & Ven 48:83-4 S '51
Central air-washing systems pay off at Spartan mills. E. D. White. il Textile World 101:112-14 Jl '51
Collapsible chambers for temperature and humidity control at Institute of paper chemistry. W. D. Beers. il Paper Ind 32: 1278-80 Mr '51
Controlled atmosphere enclosure for assembly of Reo engines. J. Geschelin. il plan Automotive Ind 104:32-3+ Je 1 '51
Here's how humidifiers boost plant efficiency. F. Honerkamp. il Rayon 32:31+ F '51
How to make a survey for air conditioning and refrigeration applications. J. Partington, jr. il Heat & Ven 48:65-8 Jl '51
Ventilation humidification air-conditioning. il Rayon 32:95+ Ap '51

See also
Humidification
Humidifiers

AIR conditioning equipment

Balancing air flow in air conditioning systems. il Heat & Ven 48:71-4 Ag '51
Heating, piping, and air conditioning equipment for industry and large buildings; trade names. Heating-Piping 23:94d-109d Ja '51
High velocity air conditioning systems; Anemostat corporation. il plan diag Arch Rec 109:142+ Ja '51
Hightower textile building conditions air for all fabrics. C. T. Baker. il diags Power 95: 88-91 F '51
Insulating air conditioning system. il Heating-Piping 22:102 N '50
Insulation of complete air conditioning unit saves time and materials. il Power Eng 55: 85-6 Mr '51
It blows hot, it blows cold; air-tempering system in plant of Union hardware and metal co. il plan Dom Eng 177:94-5 Je '51
Philco's room air conditioners meet various home cooling needs. il Arch Forum 94:204 My '51
Review of new plant equipment; air conditioning, heating, refrigerating and ventilating equipment. il diag Power 95:143-5 Mid-Je '51
Space heater converted to air conditioner; Ortho pharmaceutical corp. A. Stout. il diag Sheet Metal Worker 42:75+ S '51
Year-round residential air conditioner; Carrier's 38B Weathermaker. il diags Arch Forum 94:228 Je '51

See also
Air filters
Air pipes
Cold storage
Cooling equipment
Gas in air conditioning
Heat pump
Humidifiers

AIR conditioning equipment—*Continued*

Cleaning

Freon filter and compressor. G. Kleaver. il Ry Mech & Elec Eng 125:81 Mr '51

Design

Pointers on air conditioning duct design and installation; reference section. il diags Heat & Ven 48:87-97 O '51

Pressure losses of take-offs for extended-plenum duct systems. J. W. Holl and others. bibliog diags Heating-Piping 23:117-24 S '51

Exhibitions

Impressive displays highlight exposition. il Sheet Metal Worker 42:90+ Mr '51

International heating and ventilating exposition; exhibitors and their exhibits. plan Heating-Piping 23:148-60 Ja '51

Fires and fire protection

Fire hazards of air conditioning systems. Safety Maint & Prod 101:36-8 Ap '51

Fire safety measures for air conditioning systems. P. C. Hensler. Heat & Ven 48:75-6 Mr '51

Installation

How to save metal in air conditioning systems. Arch Forum 94:162 Ja '51

Pointers on air conditioning duct design and installation; reference section. il diags Heat & Ven 48:87-97 O '51

Stainless jackets for cold water exterior risers; incorporating the entire layout into the design treatment of the facade. il diags Sheet Metal Worker 42:44+ N '50

Maintenance and repair

Helpful hints on plant maintenance work; excerpts from conference papers. Heating-Piping 23:90-3 Mr '51

Trouble shooting. C. T. Baker. Power 95:116-17 S '51

Manufacture

Quality control in the manufacture of room air conditioners. F. E. Dennison and L. V. Curran. il diag Refrig Eng 58:1174-7 D '50

Noise

How cooling tower noise has been reduced. R. D. Lemmerman. il plan diag Heating-Piping 23:108-10 Ap '51

Rating

Rating room air conditioners. J. A. Galazzi. il plan Refrig Eng 59:558-62+ Je '51

Transportation

Shipping containers for Waukesha ice engine units. il Ry Mech & Elec Eng 124:738 D '50

Water requirements

Air conditioning growth stabilized, and water use not likely to be excessive; abstracts. R. A. Gonzales. Heat & Ven 47:116-19 D '50; Pub Works 82:52+ Ja '51

Cost of refrigerative and other special service. E. L. Bean. bibliog Am Water Works Assn J 43:65-81 Ja '51

Doctor prescribes for cooling water. J. I. Montel. il Refrig Eng 59:680-1 Jl '51

Limit use of water for air conditioning? views expressed at conference in Chicago. Heating-Piping 23:97-8+ Mr '51

Regulation of air conditioning and other refrigeration; committee report. Am Water Works Assn J 42:1111-19 D '50; Same. Heating-Piping 23:132-5 Ja '51; Same. Refrig Eng 59:60-2 Ja '51

Water quality control for air conditioning and refrigeration. R. M. Westcott. il Heating-Piping 23:98-101 S '51

Water, water, everywhere, but not enough for comfort. W. V. Weir. il Refrig Eng 59:884-7 S '51

AIR conditioning industries

Air conditioners defy today's sticky economic weather. J. C. Perham. Barron's 31:5 Ag 6 '51

First unit can sell the second one. il Dom Eng 177:143 Ap '51

How to make a survey for air conditioning and refrigeration applications. J. Partington, jr. il Heat & Ven 48:65-8 Jl '51

Law and your profits. W. H. Hillyer. Heating-Piping 23:96 Ag; 103 S '51

Review of legal decisions of value to air conditioning and heating contractors. L. T. Parker. Heat & Ven 48:88-91 Ja; 99-101 Ap; 87-90 Jl '51

Sell air conditioners this summer. A. Stout. il Sheet Metal Worker 42:79-80+ My '51

Trane is profit-conditioned. il Fortune 44:85-7+ Ag '51

Directories

Directory section; names and addresses of manufacturers of equipment and products used in air conditioning, sheet metal work, ventilation and warm-air heating. Sheet Metal Worker 42:161-82 Ja '51

1951 directory; heating, piping, and air conditioning equipment for industrial, commercial, institutional and public buildings; classified by products, trade names and manufacturers' addresses. Heating-Piping 23:1d-127d Ja '51

Statistics

Air conditioning, commercial refrigeration equipment, 1944-1950; tabulations. Steel 128:125 Ja 1 '51

1950 shipments of air conditioning and refrigeration equipment. Refrig Eng 59:760-1+ Ag '51; Excerpt. Heat & Ven 48:107 S '51

Houston, Texas

Houston is best air conditioned city. Heat & Ven 48:83 My '51

AIR conditions

Piezoelectric crystals as sensing elements of pressure, temperature, and humidity. E. A. Roberts and P. Goldsmith. il diags Elec Eng 70:776-80 S '51

See also

Air conditioning
Air pollution
Dust
Humidity
Smoke prevention
Ventilation

AIR defenses. See Air raids—Protective measures

AIR diffusers

Air diffuser cuts noise of high velocity air distribution systems, Anemostat's HPW-1. il Arch Forum 94:240+ Je '51

High pressure diffuser distributes air without drafts; Kno Draft. il diag Arch Forum 95:208+ Jl '51

High-velocity air diffusers; Pittsburgh's Kaufmann department stores. il Power 94:99 N '50

Simple diffuser controls air flow. il diags Product Eng 22:112-13 Ap '51

AIR ejectors

Effect of temperature of entrained fluid on the performance of steam-jet ejectors. W. C. Holton and E. J. Schulz. A S M E Trans 73:911-13 O '51

Ejector dumps ammonia. S. C. Page. diags Power 95:121 Ap '51

Ejectors for cooling a turbojet installation. H. C. Towle and F. V. H. Judd. diags Aeronautical Eng R 10:20-4 S '51

Keep your steam jet ejectors up to snuff. L. S. Stinson. il diags Power Eng 55:87-8+ Jl '51

Modernization of tugboat power plants. A. Levine. il diags Marine Eng 56:57-61 My '51

Modified Hilsch apparatus for producing hot and cold air streams. J. Bertin. diags J Sci Instr 28:251 Ag '51

AIR engines

Air cranking motors. il diag Diesel Power 29:48-50 My '51

Air motor develops great power and speed. il diag Product Eng 22:170 Ja '51

Heavy valves positioned by air motor; illustrations with text. Product Eng 22:132-3 F '51

Starter works on compressed air. il Product Eng 22:210 S '51

AIR entrainment. See Concrete—Air entrainment

AIR express service

Air express rates go up 20 percent. Aviation 54:48-9 Ap 2 '51

AIR filters

Air filters under mobilization. W. Broemel. il Sheet Metal Worker 42:62-3 D '50

Dry fibrous air filter media; performance characteristics. E. Stafford and W. J. Smith. il Ind & Eng Chem 43:1346-50 Je '51

AIR filters—*Continued*

Dust deleter; new asbestos-containing paper. Chem Ind 67:561 O '50

Filters aid at-source control of dusts. W. O. Vedder. diags Chem Eng 58:140-4 My '51

How the Western Maryland cleans air filters. il Ry Mech & Elec Eng 125:53-5+ My '51

Improved tester determines properties of dust filter media. L. R. Michels and C. A. Wolbach. il diag Chem Eng 58:126 Ja '51

Maintenance of internal combustion engines; filtration of air and oil. P. H. Moore. il Pet Eng 23:C113-14+ Jl '51

Modified air sampler employing fiberglas. F. W. Sehl and B. J. Havens, jr. il diag A M A Archives Ind Hygiene & Occup Med 3:98-100 Ja '51

Performance of industrial aerosol filters. L. Silverman. bibliog diags Chem Eng Prog 47:462-8 S '51

Rating, selection and use of panel type air filters. C. B. Rowe. il diags Heat & Ven 48:58-63 Ja '51

Research and equipment development. L. C. McCabe. diag Ind & Eng Chem 43:sup 135A-6A+ O '51

Triple-filtered air for new building; American air filter co., Louisville, Ky. il Heating-Piping 23:91 Ag '51

See also

Automobile engines—Air filters

AIR flow

Air flow measurements on human subjects with and without respiratory resistance at several work rates. L. Silverman and others. bibliog A M A Archives Ind Hygiene & Occup Med 3:461-78 My '51

Air humidification coefficients in spray towers; gas-film mass transfer coefficients at low air velocities for use in scrubber design. C. F. Bonilla, J. R. Mottes and M. Wolf. bibliog il Ind & Eng Chem 42:2521-5 D '50

Balancing air flow in air conditioning systems. il Heat & Ven 48:71-4 Ag '51

Characteristics of air flow in automatic train braking; report of Air brake association. Ry Mech & Elec Eng 124:640-3 N '50

Control of air streams from a long slot. A. Koestel and C. Young. diag Heating-Piping 23:111-15 Jl '51

Density measurements in supersonic flow by means of the X-ray absorption method. E. M. Winkler. J Ap Phys 22:201-2 F '51

Easy figuring of air ducts and grilles; chart. L. J. Murphy. Mill & Factory 48:96 My '51

Experimental investigation of supersonic lattice flow. J. E. O'Neill. il diag Aeronautical Eng R 10:28-32 Ja '51

Facts on flow in ducts. W. Huebner. diags Heating-Piping 23:104-6 F '51

Finding air velocities in ducts; data sheet. J. D. Constance. Power 95:154 Je '51

Flow characteristics of air outlets. A. W. Evans. diags Heat & Ven 48:76-9 My '51

High-pressure drops through orifices. J. A. Perry, jr. Instruments 24:279 Mr '51

How to check your air conditioning system. O. O. Huebner. il diag Mill & Factory 49:120-2 Jl '51

Isothermal free jets of air mixing with air. J. F. Taylor, H. L. Grimmett and E. W. Comings. bibliog flow diag diags Chem Eng Prog 47:175-80 Ap '51

Let's speed up the fan! P. Franck. Heating-Piping 23:84-6 Ag '51

Model tests using low-velocity air. J. W. Ball. diags Am Soc C E Proc 77[no 76]:1-13 Je '51

Orifice meters with supercritical compressible flow. R. G. Cunningham. bibliog(32 titles) diags A S M E Trans 73:625-37; Discussion. 637-8 Jl '51

Short-cut method aids figuring exhaust and collecting systems. W. H. Fogle. il diags Heating-Piping 23:75-8 Jl '51

Simple manometer for use in measuring low air velocities. D. B. Spalding. diags J Sci Instr 27:310-12 N '50

Simplified heating lessons; pressures and resistance to air flow. C. H. Burkhardt. diags Sheet Metal Worker 42:61-2 F '51

Simplified thermocouple for temperature measurements in high velocity gas streams. H. M. Beede and C. R. Droms. il diags Instruments 24:338-41 Mr '51

Temperature and velocity distribution in wake of a heated cylinder. G. W. Billman, D. M. Mason and B. H. Sage. bibliog il diags Chem Eng Prog 46:625-33; Discussion. 633-4 D '50

Velocities and effective thermal conductivities in packed beds. M. Morales, C. W. Spinn and J. M. Smith. bibliog diags Ind & Eng Chem 43:225-32 Ja '51

Velocity distribution and fluid friction in smooth concentric annuli. R. R. Rothfus, C. C. Monrad and V. E. Senecal. bibliog diags Ind & Eng Chem 42:2511-20 D '50

See also

Aerodynamics

Anemometers

AIR freight forwarders. See Forwarding companies (air freight)

AIR freight service

Air freight; volume grows but some problems remain unsolved. A. Glenn. Barron's 31:11-12 Ap 2 '51

Air lift hauls tractors and scrapers to Labrador. il Constr Methods 33:40-3 Ag '51

Airlines largest factor in airlift potential. F. L. Moore. Aviation W 54:86+ F 26 '51

Australian beef takes to the air; flying carcasses from inland slaughterhouse to coast. il Food Ind 23:110 F '51

Cargo fleet coming; but how? F. L. Moore. Aviation W 53:44 N 27 '50

Diesel equipment flown to Canadian iron ore fields; construction of Quebec, North Shore, and Labrador railway. il map Diesel Power 29:44-5 S '51

Korea airlift one year old. Aviation W 55:58 Jl 9 '51

Overhead and floor tow conveyors for air cargo; abstract. J. C. Webb. Mech Eng 73:233 Mr '51

Pacific airlift builds up again. F. L. Moore. Aviation W 53:61-2 D 18 '50

Profitable cargo at 11 cents a ton mile! Slick's daily coast-to-coast navy service. map Aviation W 54:12-13 Je 11 '51

Sellers reach into new markets with assist from air freight. J. H. Collins. il Sales Management 67:42-5 Ag 1 '51

Tiger's freight doubled since June. Aviation W 53:49-50 D 4 '50

See also

Containers (for air transport)

AIR gages. See Gages, Pneumatic

AIR jets

Isothermal free jets of air mixing with air. J. F. Taylor, H. L. Grimmett and E. W. Comings. bibliog flow diag diags Chem Eng Prog 47:175-80 Ap '51

Momentum, mass, and heat transfer in free jets. T. Baron and L. G. Alexander. bibliog(40 ref) Chem Eng Prog 47:181-5 Ap '51

AIR lines. See Airlines

AIR mail service

Air mail rates; ATA hits Senate group proposal. Aviation W 55:52+ Ag 6 '51

ATA supports WAL on mail pay appeal. Aviation W 54:42 F 12 '51

Airline mail pay; rate cut proposals squeeze subsidy plum. S. Altschul. Barron's 31:7-8 Jl 9 '51

Airmail fees cut. Bsns W p 114 Jl 14 '51

Carriers' mail rates due to drop. S. Altschul. Aviation W 54:59 Je 4 '51

CAB clears mail-pay fog. Bsns W p25 O 13 '51

CAB estimates LAA mail pay. Aviation W 55:68-9 S 10 '51

CAB says Western got too much pay. Aviation W 53:52 D 11 '50

CAB sets big four mail pay rates. Aviation W 55:68 Ag 20 '51

CAB sets 45-cent big four mail rate. Aviation W 55:75 Jl 16 '51

Final mail rates fixed for big four carriers. CAA J 12:98 S 20 '51

International mail pay. Aviation W 55:54 Jl 30 '51

Mail means money, post office says. il Aviation W 53:13-14 D 4 '50

Mail pay accounts. Aviation W 55:49 S 3 '51

Mail pay; an air freight view. E. Slick. Aviation W 54:59-60 My 7 '51

Mail payments. Aviation W 54:45 Ap 2 '51

New formula for mail pay shaping up. K. Johnsen. Aviation W 55:56-7 Jl 9 '51

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LIBRARY

AIR mail service—*Continued*
PAA report omits mail estimate. S. Altschul. Aviation W 54:47-8 My 14 '51
Pan American division, subject of Board order concerning mail rates. CAA J 12:98 S 20 '51
PO studies XC-99 use as all-mail plane. il Aviation W 53:16-17 D 18 '50
Progress seen on boosting airlift. Aviation W 54:66 Ap 16 '51
Separation brings praise and problems; Civil aeronautics board's plan to speed up separation of compensatory mail pay from subsidy. Aviation W 55:13-15 Jl 23 '51
Subsidy bill. F. L. Moore. Aviation W 55:15-16 Ag 20 '51
Subsidy separation bill introduced. Aviation W 54:18 Je 18 '51
U.S. ocean carriers differ on mail rates. Aviation W 55:16 Ag 6 '51
Wars of the international airlines. map Fortune 44:96-7+ O '51

AIR marshall corporation
Stock offered. Comm & Fin Chr 172:1625 O 30 '50

AIR motors. See Air engines

AIR navigation
ACC readies navigation blueprint. Aviation W 53:43-4 D 25 '50
Anyone can fly a pressure pattern. D. G. Williams. diags Aero Digest 62:30-1+ Je '51
Application of Liouville's approximation to the blind navigation problem. J. J. Gilvarry and S. H. Browne. bibliog J Ap Phys 21:1195-6 N '50
Ink-trace navigator used in Brabazon. Aviation W 54:34 F 19 '51
Our new aerial highways; Common System of all weather navigation. F. B. Lee. Franklin Inst J 251:209-14 F '51
Rho-theta system of air navigation. P. C. Sandretto. il diags Elec Com 27:268-76 D '50
Some operational problems of public transport helicopters. R. H. Whitby. bibliog diags Roy Aeronautical Soc J 55:27-42 Ja '51
Tests to start on navigation aid; Pictorial Computer. map Aviation W 54:67-8 Mr 26 '51
Transition program developed by CAA for change-over to Common System. CAA J 12:99+ S 20 '51
See also
Aeronautic instruments
Radio aids to aviation

Charts

New uses of radar; obtaining elevations for aeronautical charts. S. Jowitt. Roads & Eng Constr 88:106-7 N '50
Route-charts series completion announced. CAA J 12:7 Ja 20 '51

AIR navigation development board
ANDB revises 1952 projects list; original program changed to give more balanced all-weather flight research. Aviation W 54:60-1 Je 4 '51
Break in ANDB overcast possible. F. L. Moore. Aviation W 54:71-2 Ap 23 '51
Funds cut threatens all-weather program. Aviation W 54:13-14 Ap 2 '51

AIR patrols
Numbering system aids aerial patrol observer. G. W. Tilghman, jr. il Elec World 136:144+ S 10 '51

AIR pilots. See Aviators

AIR pipes
Concrete pipelines for United nations. Eng N 146:30 Mr 22 '51
Corrosion characteristics of various duct materials; abstract. J. W. McWilliams. Heat & Ven 48:85-6 Jl '51
Facts on flow in ducts. W. Huebner. diags Heating-Piping 23:104-6 F '51
Pointers on air conditioning duct design and installation; reference section. il diags Heat & Ven 48:87-97 O '51
Pressure losses of take-offs for extended-plenum duct systems. J. W. Holl and others. bibliog diags Heating-Piping 23:117-24 S '51

Tables, calculations, etc.

Do your duct estimating in chunks. D. Kelland. diag Power 94:104 N '50
Duct sizing, easy as ABC! for ducts carrying dry air, moist air, flue gas. A. B. Stickney. Power Eng 54:64-5 N '50
Finding air velocities in ducts; data sheet. J. D. Constance. Power 95:154 Je '51

AIR plants. See Epiphytes

AIR pollution
Air cleanup still going full blast. il Mod Ind 20:68 N '50
Air pollution; a problem of the process industries. A. G. Christie. Mech Eng 73:570-1+ Jl '51; Abstracts. Chem & Eng N 29:1842 My 7 '51; Heating-Piping 23:90 Jl '51; Discussion. S. T. Powell. Mech Eng 73:937-8 N '51
Air pollution at low altitudes; techniques for study. H. P. Munger. il Chem Eng Prog 47:436-9; Discussion. 439 Ag '51
Air pollution in Pittsburgh. S. B. Ely. A M A Archives Ind Hygiene & Occup Med 3:44-7 Ja '51
Air-pollution prevention in the United States. J. F. Barkley. bibliog Mech Eng 73:284-8 Ap '51
Air pollution problem. J. C. Soet. Sewage & Ind Wastes 23:906-8 Jl '51
Air sampling program will trace smog reactions in atmosphere. il map Chem & Eng N 29:3017-18 Jl 23 '51
Air sanitation important aspect of industrial health promotion; summarization of conference on industrial health, Atlantic City. A. D. Brandt. Heating-Piping 23:92-3 Ag '51
Atmospheric pollution. L. C. McCabe. Published in monthly numbers of Industrial and engineering chemistry
Atmospheric pollution in the vicinity of a chromate plant. H. G. Bourne, jr. and W. R. Rushin. bibliog il Ind Med 19:568-9 D '50
Calaveras cement co. dust suit. W. W. Mein, jr. il Min Eng 3:Trans 534-6 Je '51
Catalytic action of NO_2 with light. L. C. McCabe. Ind & Eng Chem 43:sup89A-90A+ Ap '51
Changing aspects of air pollution. il Ry Age 131:47-9 Ag 27 '51
Check list of air pollution control ordinances. Iron Age 167:344 Ja 4 '51
Cold-surface collection of volatile atmospheric contaminants. R. D. Cadle, M. Rolston and P. L. Magill. il diag Anal Chem 23:475-7 Mr '51
Control of air pollution in the chemical industry. M. Sittenfield. Chem Eng Prog 47:481-3 S '51
Cost of cleaner air; sulphur emission from coal combustion. A. G. Thomson. Elec R (Lond) 148:345-6 F 16 '51
Crop and soil reactions to applications of hydrofluoric acid. W. H. MacIntire and others. bibliog il Ind & Eng Chem 43:1800-3 Ag '51
Design of exhaust systems to overcome complaints in a plating establishment. F. H. Stebbins. diags Sheet Metal Worker 42:42-4 Ag '51
Detergent licks smog at asphalt treating plant. Chem Eng 58:196+ Mr '51
Detroit, Pittsburgh, and Cincinnati report progress in their air pollution control programs during 1950. L. C. McCabe. Ind & Eng Chem 43:sup87A-8A+ My '51
Dust, fume and smoke suppression. A. J. Grindle. il diags Iron & Steel Eng 28:87-94; Discussion. 94-6 Jl '51
Electrical method for investigating the nature and behavior of small, airborne, charged particles. J. H. Daniel and F. S. Brackett. bibliog diag J Ap Phys 22:542-54 My '51
Engineering phases of plant health control. W. A. Cook. il Chem & Eng N 29:1517-18 Ap 16 '51
Equipment, methods, and literature helpful to laboratories. L. C. McCabe. il Ind & Eng Chem 42:sup85A-6A D '50
Establishing responsibility for dust. R. R. Paxton. bibliog Rock Prod 54:127-8+ Je '51
First electrical precipitator installed on open-hearth furnace. L. C. McCabe. Ind & Eng Chem 43:sup89A-90A+ Mr '51
Free carbon in the air. T. W. Reynolds. Heat & Ven 48:93 F '51
Fume control; a report on available systems; joint Chicago fume control committee. Paint Oil & Chem R 113:10+ O 26 '50
Health and air pollution; a study on a limited budget. H. Heimann and others. map A M A Archives Ind Hygiene & Occup Med 3:399-407 Ap '51

AIR pollution—*Continued*

Health implications of air pollution. J. J. Bloomfield. bibliog Am Soc C E Proc 77[no 73]:1-7 Je '51

Hydrogen sulfide; casualties in Poza Rica, Mexico. L. C. McCabe. il Ind & Eng Chem 43:sup79A-80A+ F '51

Identification of particles in Los Angeles smog by optical and electron microscopy. R. D. Cadle and others. bibliog il diag A M A Archives Ind Hygiene & Occup Med 2:698-715 D '50

Industrial viewpoint. J. C. Radcliffe. Sewage & Ind Wastes 23:915-17 Jl '51

Informed public helpful in solving pollution problems. Chem & Eng N 29:1734-6 Ap 30 '51

International congress of pure and applied chemistry, 12th, New York; air pollution sessions, Sept. 11-13. bibliog Ind & Eng Chem 43:sup 106A+ Jl '51

Investigation of small, airborne, charged particles by an electrical method. J. H. Daniel and F. S. Brackett. bibliog diag A M A Archives Ind Hygiene & Occup Med 3:505-19 My '51

Laws, morals, and manners; air pollution problems of refineries. W. L. Stewart, jr. Am Pet Inst Proc 31 M(3):11-13 '51

Los Angeles kills smog with kindness. il Bsns W p60+ F 24 '51

Measuring rate of dustfall. R. R. Paxton. bibliog il Rock Prod 54:114+ F '51

Medical aspects of the industrial hygiene program. J. H. Sterner. Chem & Eng N 29:1399-401 Ap 9 '51

Meteorological technics in air pollution surveys. M. Eisenbud and W. B. Harris. il A M A Archives Ind Hygiene & Occup Med 3:90-7 Ja '51

Metropolitan menace; air pollution in the Chicago area. J. R. Allan. Midwest Eng 3:10-11+ N '50

Performance of industrial aerosol filters. L. Silverman. bibliog diags Chem Eng Prog 47:462-8 S '51

Pollution control, an industry must. M. Nord. bibliog Chem Eng 58:112-18 My '51

Portable sampler to detect presence of smog hazards. il Mill & Factory 49:135 S '51

Precipitators stop dust and fumes. W. T. Sproull. il Chem Eng 58:151-4 My '51

Preparation of solid- and liquid-in-air suspensions for use in air pollution studies. R. D. Cadle and P. L. Magill. bibliog il diags Ind & Eng Chem 43:1331-5 Je '51

Present status of air-pollution research. H. P. Munger. bibliog il Mech Eng 73:405-11 My '51

Processes use many collector types; settling chambers, impingement and inertial separators, packed beds and scrubbers. C. E. Lappie. bibliog diags Chem Eng 58:144-51 My '51

Protective shelters in modern warfare. W. Viessman. il plan diags Heating-Piping 23:77-82 Mr; 111-16 Ap '51

Recovery of sulfur compounds from atmospheric contaminants. M. Katz and R. J. Cole. bibliog(66 ref) Ind & Eng Chem 42:2258-69 N '50

Smog prevention; abstract. M. L. Barad. Mech Eng 73:320 Ap '51

Smog report; Los Angeles. il Oil & Gas J 49:25 Mr 1 '51

Smoke and fly-ash virtually eliminated as air pollution problems. H. P. Munger. Midwest Eng 3:12+ Ja '51

Stack disposal of chemical waste. C. A. Gosline. A M A Archives Ind Hygiene & Occup Med 2:621-30 D '50

Stack dust; here's what affects it. E. R. Kaiser. il diags Power 95:92-4 Je '51

Study of eye irritation caused by Los Angeles smog. R. D. Cadle and P. L. Magill. il diags A M A Archives Ind Hygiene & Occup Med 4:74-84 Jl '51

Study of nitrogen oxide concentrations during arc welding. L. Silverman and S. I. Husain. bibliog A M A Archives Ind Hygiene & Occup Med 3:135-46 F '51

Symposium on industrial health and safety. H. H. Schrenk. Chem & Eng N 29:1640-2 Ap 23 '51

Symposium on the dynamics of industrial medicine; maximum allowable concentrations. H. H. Hudson. bibliog A M A Archives Ind Hygiene & Occup Med 3:161-4 F '51

Toxicity of sulfuric acid mist. J. F. Tren and others. bibliog il diag A M A Archives Ind Hygiene & Occup Med 2:716-34 D '50

Two-year study on air contaminants and techniques for microsampling. L. C. McCabe. il diag Ind & Eng Chem 42:sup 115A-16A N '50

Use of low-sulfur fuels to reduce sulfur dioxide concentrations in downtown St Louis. L. C. McCabe. diags Ind & Eng Chem 43:sup83A-4A Ja '51

What process wastes cause air pollution? L. Silverman. Chem Eng 58:132-5 My '51

When wastes go up the stack. M. Sittenfield. bibliog il diags Chem Eng 58:136-40 My '51

See also

Beryllium poisoning
Dust
Fumes
Gases, Asphyxiating and poisonous
Respiratory apparatus
Smelter fumes
Smoke prevention

Testing

How to measure air pollution. F. R. Rehm. Pub Works 82:54+ Jl '51

AIR pollution and smoke prevention association of America (formerly Smoke prevention association)

Annual convention, 44th, Roanoke, Va. May 10; with abstracts of papers. Oil Paint & Drug Rep 159:7+ My 14 '51; Chem & Eng N 29:2046-7 My 21 '51

Reorganized under new name. Safety Maint & Prod 100:61 N '50

AIR power

House gets $15-billion air power budget. B. S. Lee. Aviation W 55:13-15 Ag 13 '51

Senate pushes build-up for air power. Aviation W 55:13 S 17 '51

Survival in the atomic age. G. C. Kenney. Air Affairs 3:453-8 D '50

Technical progress and air power in the world crisis. L. B. Richardson. Aeronautical Eng R 10:10-13+ Jl '51

Tomorrow will be too late. E. S. Land. Aero Digest 63:23-4 S '51

AIR preheaters

Kiln preheaters; panel discussion; abstract. Rock Prod 53:79-81 N '50

Shop-made preheater cuts fuel costs, aids boiler efficiency. C. W. Alcorn. il World Oil 133:125-7 Ag '51

AIR purification

Aerosol build-up techniques. F. Fahnoe, A. E. Lindroos and R. J. Abelson. flow diag il diags Ind & Eng Chem 43:1336-46 Je '51

Air humidification coefficients in spray towers; gas-film mass transfer coefficients at low air velocities for use in scrubber design. C. F. Bonilla, J. R. Mottes and M. Wolf. bibliog il Ind & Eng Chem 42:2521-5 D '50

Air-wick patent. Chem Ind W 68:11 Mr 17 '51

Effect of propylene and triethylene glycol on atomized E. coli. R. Nagy and G. Mouromseff. bibliog Science 112:593-5 N 17 '50; Discussion. 113:698; Reply. 698-9 Je 15 '51

Large-scale odor and dust control results in nuisance-free refuse handling station. W. A. Xanten. il plan Heat & Ven 48:65-7 Ag '51

Protective shelters in modern warfare. S. Viessman. il plan diags Heating-Piping 23:111-16 Ap '51

Reducing absenteeism in cold weather; purifying air in offices with Glyco-Master vaporizer. Am Bsns 21:50-1 Ja '51

Sonic agglomeration, a new solution. G. Kiddoo. bibliog flow diags Chem Eng 58:154-6 My '51

Symposium on air disinfection and sterilization. Chem & Ind p805-7 D 16 '50

Ultraviolet air disinfection in room air conditioners. L. J. Buttolph. il Refrig Eng 59:54-7+ Ja '51

See also

Air conditioning
Air filters
Air pollution
Ventilation

AIR raid shelters

Architects hear A-bomb shelter needs. Eng N 146:25 My 24 '51

Bomb shelter in Palisades urged again by engineer. Eng N 146:31 Ja 18 '51

Exploded; the big bomb shelter idea. P. DeHuff. il Arch Forum 94:70+ Ap '51

Garage-air raid shelters; despite hazards, cities keep planning them. il Arch Forum 95:70+ Jl '51

AIR raid shelters—*Continued*

Introduction to the design of underground openings for defense. C. W. Livingston, comp. bibliog il diags Colorado School of Mines [Golden] Quarterly 46 no 1:1-304 Ja '51 (pa $3)

Portland engineers survey buildings for air-raid shelter use. R. E. Kennedy. Civil Eng 21:336 Je '51

Shelter from a-bomb; Bomb shelters, inc. il Bsns W p 117-18+ My 5 '51

Sheltering 135,000 from bombs; Rockefeller Center. il Bsns W p22-3 F 3 '51

Ventilation of survival areas for civil defense. H. C. Murphy. il diag Heating-Piping 23:97-9 My; 85-6+ Jl; 70 S '51

AIR raid signals

Washington adopts automatic c-d warning system. H. A. Friede. il map Electronics 24:90-1 My '51

AIR raids

Destruction and protection of dams. O. Kirschmer. il maps diag Electrician 145:1593-8; 146:45-9 D 29 '50-Ja 5 '51

Evaluation; bombs over Korea. il Aviation W 54:16 Ja 1 '51

If bombs wreck our power plants, will we have portable units to take over? Power 95:82-3 F '51

Your business and the A-bomb; abstract of Risk Research memorandum. Comm & Fin Chr 173:157+ Ja 11 '51

See also

Electric lines—Damage from air raids

Ethical aspects

Moral edge. E. E. Wilson. Air Affairs 3:541-7 D '50

Protective measures

Can process plants protect themselves against enemy bomb attacks? F. W. Sullivan, jr. and L. E. Carlsmith. il Chem Eng 58:104-7+ Jl '51

Cities planning for emergency transportation. Safety Maint & Prod 101:46-7 Ap '51

Defense communications in New York city. plan diag Electronics 24:74-5 F '51

Disaster control; handbook for metalworking. bibliog plans diags Am Mach 94:127-66 N 13 '50

Four steps for defense; Brooklyn union gas co. Gas Age 107:14+ Mr 29 '51

How to protect your people and property in an air raid. A. C. Warner. Factory Management 109:90-1 F '51

Need of civil defense and how it is being met in Greater Winnipeg. W. D. Hurst. il Munic Util 89:43+ Je '51

New computer aids air defense; project Typhoon. il Electronics 24:132 F '51

New York insurance companies prepare to meet threat of bombing. Nat Underw (Life ed) 54:1+ O 20 '50

Oil prepares bomb defenses, fight on sabotage. L. Castle and others. il Nat Pet N 43:21-7 F 21 '51

Safety measures at Dime savings bank of Brooklyn. Burroughs Clearing House 35:14-15 F '51

Super blast tests sub-surface structures. il Eng N 146:28-9 Je 21 '51

Toledo plan for civil defense. J. F. More. il Pub Works 82:64-7+ Ap '51

Traffic control planning for civil defense. B. A. Lefeve. il plan Pub Works 82:74-6+ Ap '51

U.S., Canada blend air defense efforts. Aviation W 54:17 My 14 '51

What happens when alert comes at New York Port authority building; illustrations with text. Factory Management 109:86-9 F '51

See also

Air raid shelters
Air raids and building
Atomic bombs—Protective measures

AIR raids and building

A-bomb-resistant buildings; design lessons from Hiroshima and Nagasaki. il Arch Forum 93:146-8 N '50

Bomb defense for industry's production. il Arch Rec 109:128-31 F '51

See also

Atomic bombs and building

AIR receivers

Safety measures

Check air tanks now! B. Davis. il diags Power 95:126-7 Je '51

AIR reduction company

New expansion. Barron's 31:19-20 Mr 12 '51

Security I like best. M. S. Benjamin. Comm & Fin Chr 173:2142 My 24 '51

AIR rights (international law)

Airspace rights over the Arctic. J. C. Cooper. Air Affairs 3:517-40 D '50

AIR sampling

Air pollution at low altitudes; techniques for study. H. P. Munger. il Chem Eng Prog 47:436-9; Discussion. 439 Ag '51

Air sampling program will trace smog reactions in atmosphere. il map Chem & Eng N 29:3017-18 Jl 23 '51

Cold-surface collection of volatile atmospheric contaminants. R. D. Cadle, M. Rolston and P. L. Magill. il diag Anal Chem 23:475-7 Mr '51

Equipment, methods, and literature helpful to laboratories. L. C. McCabe. il Ind & Eng Chem 42:sup85A-6A D '50

Fuel pump for air sampling. H. G. Bourne, jr. and R. D. Schafer. il Heat & Ven 48:74 Je '51

Symposium on air disinfection and sterilization. Chem & Ind p805-7 D 16 '50

Symposium on the dynamics of industrial medicine; studying the environment. F. E. Adley. il A M A Archives Ind Hygiene & Occup Med 3:153-8 F '51

Two-year study on air contaminants and techniques for microsampling. L. C. McCabe. il diag Ind & Eng Chem 42:sup 115A-16A N '50

AIR scrubbers. See Air washers

AIR taxi conference of America

Air taxi faces numerous hurdles; meeting, Washington. Aviation W 54:55 My 7 '51

AIR taxi service. See Airlines—Air taxi service

AIR traffic. See Airports—Traffic control; Airways—Traffic control

AIR transport association

Engineering and maintenance conference, Chicago, April 24-26. Aviation W 54:14-16 My 7; 52-4+ My 21 '51

AIR transport service, Military. See United States—Military air transport service

AIR transportation. See Air carriers; Air freight service; Airlines

AIR travel

Air transportation and real estate values. A. N. Kemp. Comm & Fin Chr 174:1161+ S 27 '51

Air travel from the passenger's point of view; discussion. Roy Aeronautical Soc J 55:547-60 S '51

AA, TWA luring new travel market. Aviation W 54:57 Ja 29 '51

Customer, airline executive views jibe; abstract. R. D. Speas. Aviation W 54:48 F 5 '51

Shoppers become buyers; Pan American color slide program for travel agents. il Sales Management 66:48 My 20 '51

AIR turbines

AiResearch air turbine assembly; refrigeration equipment for aircraft; illustrations with text. Aero Digest 62:22-5 Je '51

Pneumatic governor design for high rotational speeds. P. M. Mueller. diags Product Eng 22:170-5 O '51

AIR war college, Maxwell Field, Alabama

Air war college. P. P. Blackburn, jr. il U S Naval Inst Proc 77:52-5 Ja '51

AIR warfare. See Aeronautics, Military

AIR washers

Performance of wet cell washers for aerosols. M. W. First and others. bibliog diags Ind & Eng Chem 43:1363-70 Je '51

Theory and practice of the fog filter air scrubber. D. G. Hudson. il Heat & Ven 48:57-60 Mr '51

AIRCOMATIC welding. See Electric welding, Arc—Inert gas shielding

AIRCRAFT

See also

Airplanes
Airships, Military
Flying boats
Gliders
Helicopters
Seaplanes

AIRCRAFT gas turbines. See Gas turbines, Aircraft

AIRCRAFT industries association

Avionics gets own AIA technical group. A. McSurely. Aviation W 54:13 Ap 9 '51

AIRCRAFT production resources agency

Relief speeded for material-short plants. A. McSurely. Aviation W 54:13-14 Ap 23 '51

Will help get the kinks out of airplane output. Steel 128:31 Ja 29 '51

AIRCRAFT steel. See Steel, Aircraft

AIRFOILS

Application of nonstationary airfoil theory to dynamic stability calculations. E. V. Laitone and E. R. Walters. diags J Aeronautical Sci 18:214-16 Mr '51

Calculation of the potential flow around airfoils in cascade. N. Scholz. bibliog diag J Aeronautical Sci 18:68-9 Ja '51

Extension of Glauert's theory of thin airfoils to profiles in cascade. N. Scholz. bibliog diag J Aeronautical Sci 18:637-9 S '51

Interference method for obtaining the potential flow past and arbitrary cascade of airfoils. S. Katzoff and others. bibliog diags U S Nat Advisory Com for Aeronautics 1947:415-32 '50

Isolated and cascade airfoils with prescribed velocity distribution. A. W. Goldstein and M. Jerison. bibliog diags U S Nat Advisory Com for Aeronautics 1947:201-15 '50

Low-speed investigation of the stalling of a thin, faired, double-wedge airfoil with nose flap; abstract. L. M. Rose and J. M. Altman. Aviation W 53:34 O 30 '50

Secondary flow in a cascade of airfoils in a nonuniform stream. H. B. Squire and K. G. Winter. diags J Aeronautical Sci 18:271-7 Ap '51

Theory of unstaggered airfoil cascades in compressible flow. R. A. Spurr and H. J. Allen. bibliog diags U S Nat Advisory Com for Aeronautics 1947:551-64 '50

Thin aerofoil theory and the application of analogous methods to the design of Kaplan turbine blades. S. P. Hutton. bibliog diags Inst Mech Eng Proc 163 (W.E.P. no 57): 81-9; Discussion. 89-97 '50

Turbulent boundary layer in a compressible fluid with positive pressure gradient. C. Ferrari. bibliog J Aeronautical Sci 18:460-77 Jl '51

Volterra's solution of the wave equation as applied to three-dimensional supersonic airfoil problems. M. A. Heaslet and others. bibliog il diags U S Nat Advisory Com for Aeronautics 1947:565-86 '50

See also

Airplane wings

AIR line pilots association, International

Behncke bumped but battles on; union head, deposed by directors. Aviation W 55:16 Jl 23 '51

EAL-pilot pact based on mileage. Aviation W 55:16 S 10 '51

Legal maneuvers mark ALPA week. Aviation W 55:13-14 Jl 30 '51

New leadership for ALPA. R. C. Robson. Aviation W 55:64 Jl 30 '51

Revolt of the pilots. W. Kroger. Aviation W 55:13-15 Ag 6; 71-5 Ag 13; 63-7 Ag 20; 63-6 Ag 27 '51

Trouble at top. Bsns W p34+ Jl 28 '51

AIRLINES

Air transportation and what is the technical future. K. R. Ferguson. S A E J 59:61-3 Ja '51

Airline outlook. R. S. Damon. Air Affairs 3:459-68 D '50

Airlines expand automatic pilot program. Aviation W 55:42+ Jl 23 '51

Airlines face problem on spare parts. A. McSurely. Aviation W 53:13-14 N 6 '50

Airlines pinch-hit for railroads. il Aviation W 54:15-16 F 12 '51

Airlines told how jets can make money. Aviation W 54:83-4 Je 18 '51

Customer, airline executive views jibe; abstract. R. D. Speas. Aviation W 54:48 F 5 '51

Decision opens way to suits by nonskeds. Aviation W 55:57-8 Jl 23 '51

DO's for airlines. Bsns W p27-8 Ja 13 '51

Future air transport possibilities. G. Loening. il Aeronautical Eng R 10:17-23 Ag '51

Three month wait for priorities; orders for airline planes will be considered for DO ratings only every quarter. Aviation W 54:43 F 5 '51

World airline record, 1950-51. 263p Roy R. Roadcap & associates, 208 So. La Salle st, Chicago 4 '51

See also

Aeronautics, Commercial
Air carriers—Nonscheduled operations
Air express service
Air freight service
Air mail service
Airports
Airways
American airlines
California central airlines
Eastern air lines, inc
National airlines, inc.
Pan American World airways
Trans World airlines

Accidents

Analysis of fatal crashes. Aviation W 55:65 S 10 '51

Cause sought of National crash. Aviation W 54:16 Ja 22 '51

CAA, NWA, Martin get accident blame. Aviation W 54:47 Ap 2 '51

CAB findings on EAL Florida accident. Aviation W 55:70 S 10 '51

CAB issues NWA 2-0-2 crash report. Aviation W 53:16-17 D 25 '50

Damage slight in two Connie mishaps. Aviation W 55:18 Jl 30 '51

Master rod bearing failed in Cairo crash. Aviation W 55:17 Jl 23 '51

Pilot, airline blamed in NWA Butte crash. Aviation W 55:57-8 Jl 9 '51

Scheduled airline safety, 1938-1950; tabulation. Aviation W 54:109 F 26 '51

2-0-2 crash traced to prop reversal. Aviation W 54:64-5 My 7 '51

UAL sues Douglas for DC-6 crashes. Aviation W 53:13 N 13 '50

See also

Aviation—Accidents

Accounting

Try new system of settling accounts. Aviation W 55:66 S 10 '51

Advertising

How TWA gets most out of ads in dailies. R. B. McIntyre. il Ed & Pub 84:11+ My 26 '51

Military are the target of this special campaign to convert emergency fliers to steady travelers by air. M. F. Redfern. il Ptr Ink 234:30-1 F 9 '51

National airlines puts 90 per cent of budget into dailies. R. B. McIntyre. il Ed & Pub 84:14+ Ap 14 '51

Starch reports best-read advertisements. il Adv Agency 44:72-3 Je '51

Travel lure; latest wrinkle in incentive programs; American airlines offers companies million-air holidays. il Sales Management 66:108 F 15 '51

Air taxi service

Air taxi faces numerous hurdles; meeting, Washington. Aviation W 54:55 My 7 '51

Air taxi gets boost in New York area. il Aviation W 54:60 Ap 16 '51

First air taxi; Midway airlines. Fortune 44:156 S '51

Claims

Application of res ipsa to aviation cases. R. A. McLarty. Nat Underw 55:10 F 8 '51

Effect of CAB rule on airline injury actions. L. B. Mackall. Weekly Underw 163:1039-40, 1093-4 N 4-11 '50; Abstract. Nat Underw 54:34 S 28 '50

Consolidation

Airlines merger reports increase. S. Altschul. Aviation W 55:18 Jl 23 '51

CAB order denies merger of West Coast, Southwest. CAA J 12:106 S 20 '51

CAB seeks mergers to aid air transport. Aviation W 54:86 Je 18 '51

Continental asks O.K. on Mid-West purchase. Aviation W 54:51 Mr 12 '51

Delta-Northeast merger. S. Altschul. Barron's 30:9-10 O 16 '50

Robinson, Wiggins plan merger. map Aviation W 54:56 Je 11 '51

Employees

Airline strikes averted by MRA (Moral rearmament movement). Aviation W 54:49 Ja 22 '51

AIRLINES—Employees—*Continued*

How United air lines trains its salesmen; use of recordings of conversations between customers and company personnel. Am Bsns 21:38 Ja '51

NMB asks end of WAL strike. Aviation W 55:16 Ag 13 '51

Non-selling TWA employees sell $366,743 worth of air travel. L. Stemp. Am Bsns 21:30 Ag '51

Pilot pay; Mid-West part payment of wages by IOUs hit by CAB examiner. Aviation W 53:45-6 D 4 '50

Strike is ended, but the dispute goes on; UAL pilots go back to work under truce. Aviation W 55:13-15 Jl 9 '51

Strike issue; less time in the air; United air lines pilots. il Aviation W 55:15 Jl 2 '51

UAL-pilot dispute still in mediation. Aviation W 55:13 Jl 16 '51

Want more business? don't overlook sales contests. il Ptr Ink 233:56+ N 17 '50

WAL operations halt as mechanics strike. Aviation W 55:55-6 Ag 6 '51

See also

Air line pilots association. International

Equipment and supplies

ATA studies pool of carrier spare parts. Aviation W 55:66-7 Ag 27 '51

Fares

California Central Airlines air coach. T. M. Self. Aviation W 54:58-63 Ja 15 '51

CAB now wants ocean coach; calls for low-fare trans-Atlantic scheduled service. Aviation W 54:44 Ap 2 '51

CAB turns down TTA excursion rates. Aviation W 53:59 N 13 '50

CAB urges fare hikes on Coast coach runs. Aviation W 54:41 F 12 '51

Cool IATA reaction seen to ocean coach. Aviation W 54:70-1 My 21 '51

Higher coach fares may lower service. Aviation W 53:50 O 30 '50

IATA will study Atlantic air coach. Aviation W 55:45 S 17 '51

NAL DC-6 day coach N.Y.-Miami asked. Aviation W 55:56-7 Jl 2 '51

No additional coach operators needed? Aviation W 53:44-5 D 4 '50

Overseas air coach parley asked. Aviation W 55:17 Ag 13 '51

PAA sets low fare on Alaska cargo run. Aviation W 54:52 Ja 8 '51

UAL will start coast-to-coast coach. Aviation W 55:16 Ag 20 '51

Federal aid

Wars of the international airlines. map Fortune 44:96-7+ O '51

Feeder airlines

Boeing offers new turboprop feederliner. A. McSurely. il Aviation W 53:15-16 N 20 '50

Development of local service airline operations. D. W. Nyrop. CAA J 12:75+ Jl 20 '51

Feeder airlines. S. Altschul. Barron's 30:9-10 N 6 '50

Feederline specifications for ideal plane. F. L. Moore. il plans Aviation W 53:52-5 N 20 '50

Heron suggested as best shorthaul bet; four-engined feederliner. il plans diags Aviation W 54:21-2+ Ja 8 '51

Problems of local service airlines. C. F. Horne. CAA J 12:84 Jl 20 '51

Finance

Airline cash; high earnings may not spell high dividends. R. P. Cooke. Barron's 31:7-8 Ag 6 '51

Airline credit is on the upswing. S. Altschul. Aviation W 53:52 N 13 '50

Airline finance. H. J. Gunderson. Air Affairs 3:509-16 D '50

Airline income; estimated 1950 total. Aviation W 54:53-4 Ja 8 '51

Airline net climbing with traffic. S. Altschul. Aviation W 55:43 S 3 '51

Airline profits at comparatively high level; IBA committee report. Comm & Fin Chr 172:2302-3 D 14 '50

Airline traffic; carriers off to possible record. R. P. Cooke. Barron's 31:17 Ja 29 '51

Airlines riding good times with heavy advertising. N. Kelne. il Ptr Ink 233:85-6 D 1 '50

AAL gaining financial strength. S. Altschul. Aviation W 54:26 F 5 '51

Capital air lines cuts its debt. S. Altschul. Aviation W 54:18 Mr 5 '51

Carriers entering familiar phase. S. Altschul. Aviation W 54:32 Ja 1 '51

Flying Tiger income increasing sharply. Barron's 31:18 Mr 19 '51

Foreign airlines; congressional airing of their subsidies due soon. S. Altschul. Barron's 31:11 Mr 12 '51

1950 and 1949 airline operations; tabulations. Aviation W 54:16 Ap 9 '51

1950 good to locals, '51 looks better. Aviation W 54:52-3 Ap 30 '51

Outlook for air transportation. R. S. Damon. Comm & Fin Chr 173:1940+ My 10 '51

Profit from loss; airline earnings boom. R. P. Cooke. Barron's 30:11-12 D 18 '50

Separation brings praise and problems; Civil aeronautics board's plan to speed up separation of compensatory mail pay from subsidy. Aviation W 55:13-15 Jl 23 '51

See also

Airlines—Securities

Fires and fire protection

New in flying, advanced in safety; Philippine air lines. S. Soliman. il Nat Safety N 63:22+ F '51

Interchange agreements

Airline maneuver; Eastern-Pan American deal traced to national break-up. S. Altschul. Barron's 31:11 F 19 '51

CAB asks interchange agreement; requests that EAL enter through-service pacts. S. Altschul. Aviation W 53:43 D 4 '50

CAB rules for multiple interchange. map Aviation W 54:38-9 F 19 '51

CAB shifts on Miami interchange; Board rescinds National-Panagra pact. Aviation W 55:14-15 Jl 30 '51

Coast to coast by interchange. map Bsns W p68-70 Ap 7 '51

EAL strengthened by PAA deal. S. Altschul. Aviation W 54:18 F 12 '51

Interchange agreements disapproved by Board; agreement between National airlines, inc. and Pan American Grace airways, inc. CAA J 12:87 Ag 20 '51

Interchanges; CAB plans wide route pattern changes. maps Aviation W 54:68-9 Ap 16 '51

New battle flares over Panagra. W. Kroger. il Aviation W 54:59-60 My 14 '51

New through-service-to-West interchange plan. map Aviation W 55:65 Ag 20 '51

Panagra stands by NAL interchange. Aviation W 54:41 Mr 5 '51

PAA and EAL sign interchange pact. Aviation W 54:45 F 5 '51

Struggle for gateways; Panagra is pawn in Pan American-Grace control battle. S. Altschul. Barron's 31:9-10 Je 18 '51

Supplemental opinion in service to West rescinds prior action; interchange agreement between Braniff airways, inc.; Continental airlines, inc.; and American airlines, inc. CAA J 12:87 Ag 20 '51

Transcontinental interchange begins. Aviation W 54:70 My 21 '51

Maintenance and repair

CAL; progressive Midwest carrier. G. L. Christian. il Aviation W 53:37-8 D 4 '50

How Delta speeds the work. G. L. Christian. il Aviation W 54:48+ Mr 19 '51

Tank stripping; why one airline kept job at home; Braniff international airways. Aviation W 55:62+ Jl 16 '51

Management

Huge savings in inventory control; PAA, only partly through long-term program. S. H. Reiniger. Aviation W 54:36-7 F 12 '51

Making a big business out of air. il map Bsns W p 138-42 Je 16 '51

Ringing up flights; cash registers solve check-in and weight problems for Hawaiian Airlines. il Bsns W p90+ Ag 11 '51

Military use

Airlines largest factor in airlift potential. F. L. Moore. Aviation W 54:86+ F 26 '51

AIRLINES—Military use—*Continued*
Change expected in rail travel clause. Aviation W 54:46-7 F 5 '51
Contracts set under air mobilization plan. Aviation W 55:17 S 17 '51
Furlough air travel tax law under fire. Aviation W 54:47 F 5 '51
Ground rules for wartime airlift; air force preparation for fast four-engine plane roundup. Aviation W 54:44-5 Ja 22 '51
Mobilization; carrier presidents meet with McCone, discuss Douglas report. Aviation W 54:55 Ja 29 '51
Progress seen on boosting airlift. Aviation W 54:66 Ap 16 '51

Officials

Airlines announce executives '50 pay. Aviation W 54:44 Ap 2; 14-15 Ap 9; 17-18 Ap 16; 54-7 Ap 30 '51
Salaries, holdings of airline executives. Aviation W 54:60-1 Je 25; 55:55-6 Jl 2 '51
SEC survey lists stock holdings. Aviation W 54:16-17 Ap 30 '51
Stock options offered to key men; share-purchase plans as incentive to top management personnel. S. Altschul. Aviation W 55: 43 S 17 '51

Purchasing

Airlines buying more equipment. Aviation W 54:42+ Ja 15 '51
How airlines buy under new controls. il Aviation W 53:16-17 D 11 '50
Mechanized control saves money; United air lines. Aviation W 54:50+ Ap 16 '51

Radio communication

PAA radio telephone girdles the globe. G. L. Christian. il map Aviation W 53:37-8 D 11 '50
Round-the-world voice radio system; Pan American world airways. W. W. Lynch. il map Radio & Tv N 46:36-7+ Ag '51
Tape recorder; multichannel aircraft communications two-way recording system. il Aviation W 54:69-70 Mr 26 '51
TWA orders Collins radio units. S. Reiniger. il Aviation W 54:34+ Ja 22 '51

Regulation

Adoption of new Part 40 proposed by Bureau of safety regulation. CAA J 11:123 N 15 '50
ATA is opposed to widening CAB rule. Aviation W 54:46 Ap 2 '51
CAB announces its DO procedures. Aviation W 54:40 F 19 '51
CAB powers; Rentzel asks Senate unit for more authority over airlines. Aviation W 54:16-17 Mr 26 '51
Domestic trunkline service pattern is affected by recent Board opinion. CAA J 12:27 Mr 20 '51

Safety measures

Air transport safety. C. M. Christenson. Aeronautical Eng R 10:23-6 Jl '51
Airline safety rule; all out in 90 sec. Aviation W 54:57 Je 11 '51
First aid for airlines; unit-type kit. G. P. St Clair. il Nat Safety N 63:28+ Je '51
43 U.S. airlines win safety awards. Aviation W 54:56-7 Je 11 '51
New in flying, advanced in safety; Philippine air lines. S. Soliman. il Nat Safety N 63:20-2+ F '51
New push given all-weather plans. F. L. Moore. Aviation W 55:65-6 S 10 '51
Northwest to ground 20 Martin 2-0-2s for modifications. Aviation W 54:15 Mr 19 '51

Sanitation

Insect control on aircraft. R. W. Sherman. bibliog il Soap & San Chem 27:122-3+ Ag '51

Schedules

How the Jetliner would do it. Aviation W 54: 47-8 Ja 22 '51

Securities

Airline stocks may fly high next year. Bsns W p58+ D 30 '50
Dividends reflect carrier boom. S. Altschul. Aviation W 53:36 D 25 '50
Fare planes are now banking profits. I. U. Cobleigh. Comm & Fin Chr 174:860 S 6 '51
Forced sales as money-makers. S. Altschul. Aviation W 55:18 Ag 6 '51
Good flying weather ahead for the airlines; with statistics on leading companies. S. Devlin. Mag of Wall St 88:357-9+ Je 30 '51
How the funds view air stocks. S. Altschul. Aviation W 54:51 Ap 9 '51
Investment trusts buy air shares. S. Altschul. Aviation W 54:18 F 19 '51
MCA goes to public for expansion. S. Altschul. Aviation W 54:52 Je 11 '51
SEC lists aviation stock transactions. Aviation W 55:15 Jl 16 '51
SEC report lists stock transactions. Aviation W 54:17-18 Mr 19 '51
Special appraisal of transportation companies; with charts and tables. J. C. Cresswill. Mag of Wall St 88:663-6 S 22 '51

Service

Selling more plane tickets; Panagra furnishes cameras for use of passengers. Am Bsns 20:39 O '50

Shops

EAL's ideal; safety, simplicity; Miami main overhaul base. G. L. Christian. il Aviation W 54:37+ F 5; 32-3 F 19 '51
PanAm base levels work peaks; Miami overhaul base. G. L. Christian. il Aviation W 54:40-1 Mr 12 '51
Volume overhaul of aircraft components; PanAm's Miami base. G. L. Christian. plan Aviation W 54:46 Ja 29 '51

Statistics

Airline business shows growing strength. Aviation W 54:65-6 Ap 16 '51
Scheduled air carrier operations, domestic; Jan.-Dec. 1950, 1949; tabulations. CAA J 12:32-3 Mr 20 '51
Scheduled air carrier operations, international and overseas; Jan.-Dec. 1950, 1949; tabulations. CAA J 12:31 Mr 20 '51
U.S. airline operations, 1943-1950; tabulation. Aviation W 54:109 F 26 '51
U.S. scheduled air transport industry; tabulation. Aviation W 54:110 F 26 '51

Stores systems

Mechanized control saves money; United air lines. Aviation W 54:50+ Ap 16 '51

Taxation

ATA suggests EPT alternatives. Aviation W 53:63-4 D 18 '50
Excess profits; airlines' circumstances call for special tax treatment. R. Ramspeck. Aviation W 53:14-15 D 4 '50
Faster write-offs of planes sought. Aviation W 55:17 Ag 27 '51

Terminals

Air terminal, appropriately modern; Hancock airport terminal, Syracuse, N.Y. il Illum Eng 45:707 N '50
Stapleton airfield, Denver, Colo. il plans Arch Rec 109:126-30 Ja '51
See also
Airport buildings
Airports

Ticket offices

Machines ease counter problems of Capital and Hawaiian airlines. il Aviation W 55: 46-7 S 3 '51

Tickets

Quick ticket; Capital Airlines agents punch a button. Bsns W p94 Ag 11 '51

Transoceanic lines

Atlantic route battle is opened. Aviation W 55:15 Ag 20 '51
BOAC-SAA pact sets Africa routes. Aviation W 53:50-1 N 6 '50
CAB now wants ocean coach; calls for low-fare trans-Atlantic scheduled service. Aviation W 54:44 Ap 2 '51
Comet coming; possibility seen of early jet service on New York-Caribbean run. F. R. Brewster. Aviation W 53:41-3 D 25 '50
Cool IATA reaction seen to ocean coach. Aviation W 54:70-1 My 21 '51
Foreign airlines; congressional airing of their subsidies due soon. S. Altschul. Barron's 31: 11 Mr 12 '51
IATA will study Atlantic air coach. Aviation W 55:45 S 17 '51
Overseas air coach parley asked. Aviation W 55:17 Ag 13 '51

AIRLINES—Transoceanic lines—*Continued*

TWA ocean Connies join luxury parade. il Aviation W 54:53+ My 28 '51

U.S.-French pact clears the air. Aviation W 54:52 Ap 9 '51

U.S. ocean carriers differ on mail rates. Aviation W 55:16 Ag 6 '51

Wars of the international airlines. map Fortune 44:96-7+ O '51

Alaska

PAA sets low fare on Alaska cargo run. Aviation W 54:52 Ja 8 '51

Two more carriers get U.S.-Alaska rights. Aviation W 54:86 Je 18 '51

Australia

Air-transport developments, New Zealand and Australia. For Comm W 41:25 N 6 '50

Chile

Chilean national airline airport construction program; with cost data. For Comm W 43:26 Ap 9 '51

France

Subsidy shapes Air France course. S. Altschul. Aviation W 54:18 Mr 12 '51; Discussion. 54:66-7 My 7 '51

Great Britain

Airways corporations; annual reports. Engineering 172:267 Ag 31 '51

BOAC 1950 record indicates busy 1951. Aviation W 54:51 Ja 8 '51

Pionair; BEA's new version of the DC-3. il Aviation W 54:34 Ja 8 '51

Viscount to enter BEA service in 1953. D. A. Anderton. il Aviation W 53:21-2+ N 6 '50

Hawaiian Islands

CAB backs Hawaii competitive service. Aviation W 54:62 My 14 '51

Ireland

Irish aviation, report 1949-50. For Comm W 41:24 O 23 '50

Israel

El Al plans summer schedule expansion. Aviation W 54:63 My 14 '51

Italy

Italian carriers report rough going. Aviation W 54:65 Mr 19 '51

Mexico

American airlines leads soaring Mexican traffic. J. Wilhelm. il Aviation W 55:52-3 Jl 2 '51

Latin enterprise; Aerovias gets Miami, connects with NAL. Aviation W 54:36-8 Ja 1 '51

New Zealand

Air-transport developments, New Zealand and Australia. For Comm W 41:25 N 6 '50

Northwestern states

New services for Alaska-Northwest. Aviation W 55:48 S 3 '51

Puerto Rico

Board decision stands in Puerto Rico case. CAA J 12:39 Ap 20 '51

Puerto Rico nonskeds get tighter controls. Aviation W 54:69 My 21 '51

Scandinavia

Scandinavian lines form one company. Aviation W 53:49-50 N 27 '50

South Africa

BOAC-SAA pact sets Africa routes. Aviation W 53:50-1 N 6 '50

Switzerland

Swissair looks to government aid. Aviation W 54:38-9 Ja 1 '51

United States

Air transport developments, 1949-1950 and a view to the future. R. D. Speas. S A E J 59:41-4 My '51

Air transportation and what is the general future. F. B. Lee. S A E J 59:44-5 Ap '51

Airline business shows growing strength. Aviation W 54:65-6 Ap 16 '51

Business good and getting better. Aviation W 53:54-5 N 13 '50

Civil air transportation expansion in emergency likely. D. W. Rentzel. CAA J 12:14 F 20 '51

Forecasts advances in regularity of service. D. W. Nyrop. CAA J 11:121+ N 15 '50

Higher subsidies for more planes; Air coordinating committee prominent in military-civil program to obtain funds. Aviation W 54:39-40 Mr 5 '51

No decision yet on cross-country route. Aviation W 54:57 Ja 29 '51

Policy for '52? Aviation W 54:68-9 My 21 '51

Rentzel to get key mobilization post. Aviation W 54:13 Mr 12 '51

Scheduled airlines add 700 aircraft to fleet during last five years. CAA J 12:15 F 20 '51

U.S. market brightens for British. il Aviation W 53:45-6 O 30 '50

AIRPLANE accessories industry

Airlines face problem on spare parts. A. McSurely. Aviation W 53:13-14 N 6 '50

Certificates of necessity; aircraft industry gets $157 million. Aviation W 54:43-4+ Je 4 '51

Expanding facilities; list of projects on which Defense production administration granted certificates of necessity for accelerated tax amortization. Aviation W 55:137+ S 24 '51

Industry fights component price control. A. McSurely. Aviation W 55:12-13 Ag 20 '51

Life with CMP; keeping data straight at Eclipse-Pioneer. il Bsns W p 102-7 Je 2 '51

Salaries list of equipment makers. Aviation W 54:17-18 My 21 '51

Directories

Directory of accessories manufacturers. Aero Digest 62:114-16+ Mr '51

Finance

Components firms share air boom. S. Altschul. Aviation W 54:43 Ap 2 '51

Statistics

Aircraft propellers and other products; aircraft propeller plants; value of shipments; number of employees in aircraft propeller plants; 1949-1950; tabulations. Automotive Ind 104:172-3 Mr 15 '51

U.S. exports of aeronautic products, by years, 1912-1950; by type of product for 1947-1950; tabulations. Automotive Ind 104:122 Mr 15 '51

AIRPLANE ambulances. See Airplanes, Ambulance

AIRPLANE brakes. See Brakes, Airplane

AIRPLANE carriers

Airplane carriers. G. F. Bogan. Air Affairs 3:481-7 D '50

Carrier clears deck with hinged stacks. Aviation W 55:20 Ag 27 '51

Full steam up on flush-deck carrier. Aviation W 54:16 Ja 15 '51

Navy commissions aircraft carrier, U.S.S. Oriskany. il Marine Eng 55:37+ N '50

Portfolio of aircraft carriers. il U S Naval Inst Proc 77:874-9 Ag '51

Some aspects of modern naval aircraft design. D. L. H. Williams. il diags Roy Aeronautical Soc J 55:523-39 S '51; Same cond. Engineering 171:449-52 Ap 13 '51; Discussion. Roy Aeronautical Soc J 55:539-46 S '51

Three very long minutes; photographs of aircraft carrier off Korea in support of the Inchon landing. U S Naval Inst Proc 76:1364-9 D '50

AIRPLANE dope

Film-forming properties of cellulose acetate propionates; effect of solvents, diluents, and plasticizers. A. G. Roberts and S. G. Weissberg. bibliog Ind & Eng Chem 43:2088-98 S '51

AIRPLANE engines

Adapting Cyclones for copter use. il Aviation W 54:35-6 My 14 '51

Aero engines; military aircraft programme. Economist 161:231-3 Jl 28 '51

AF, navy to phase out piston engine planes. Aviation W 54:17 Je 4 '51

Aircraft power plants. il Product Eng 22:182-3 My '51

Application of power to aircraft; abstracts. F. M. Owner. Engineering 172:8 Jl 6 '51; Engineer 191:799-800 Je 15 '51; Discussion. Engineering 172:8 Jl 6 '51

AIRPLANE engines—*Continued*

Atom plane. Bsns W p23-4 F 24 '51

Atom, power for flight. D. A. Anderton. diags Aviation W 54:21-2+ My 21; 23-4+ My 28; 21-2+ Je 4; 21-2+ Je 11 '51

Aviation engine. F. R. Banks. Inst Mech Eng Proc 162 no 4:433-45 '50; Same abr. Engineer 191:259-60, 278-80 F 23-Mr 2 '51

Centrispun high-alloy steel aero-engine components; abstract. A. E. Thornton and J. I. Morley. Metal Prog 60:116+ S '51

Development of the de Havilland series of engines for light aircraft. J. L. P. Brodie. il diags Engineer 191:486-9 Ap 13 '51

Engines; illustrations and brief descriptions. Aero Digest 62:76+ Mr '51

Further study of metal transfer between sliding surfaces; abstract. J. T. Burwell and C. D. Strang. Aviation W 54:27-8 Ap 9 '51

New aircooled engines feature starting at -65F; Packette series. il diag Automotive Ind 105:32-3 S 15 '51

Power versus weight in aviation. M. Roy. diags Roy Aeronautical Soc J 55:265-81 My '51; Abstract. Engineering 171:295-6 Mr 9 '51

South Bank exhibition; aircraft propulsion. il Engineer 191:598-600 My 11 '51

See also

Gas turbines, Aircraft

Air supply

Simplified thermocouple for temperature measurements in high velocity gas streams. H. M. Beede and C. R. Droms. il diags Instruments 24:338-41 Mr '51

Compounding

Miracle engine; Wright's Turbo Cyclone 18. il Aero Digest 62:17-18+ My '51

Control

Spark-thinking control based on correlation of maximum-economy spark timing, flame-front, travel, and cylinder-pressure rise. H. A. Cook and others. il diag U S Nat Advisory Com for Aeronautics 1947:537-42 '50

Cooling

High-altitude flight cooling investigation of a radial air-cooled engine. E. J. Manganiello and others. bibliog il diags U S Nat Advisory Com for Aeronautics 1947:267-83 '50

Piston cooling and ring groove wear. F. Jardine. il diags S A E J 58:52-5 D '50

Power-plant installation of the AG-14 pusher. B. Anderson and M. Greenwood. il diag Aeronautical Eng R 10:31-6 F '51

Design

Analysis of jet-propulsion-engine combustion-chamber pressure losses. I. I. Pinkel and H. Shames. diags U S Nat Advisory Com for Aeronautics 1947:433-43 '50

Burners for supersonic ram-jets; factors controlling over-all burner performance. J. W. Mullen, 2d, J. B. Fenn and R. C. Garmon. bibliog il diags Ind & Eng Chem 43:195-211 Ja '51

Mechanical linkage varies compression in radial engine. il diags Product Eng 22:114-15 Ja '51

Power-plant installation of the AG-14 pusher. B. Anderson and M. Greenwood. il diag Aeronautical Eng R 10:31-6 F '51

Radial engine with variable compression and no master rod; Sharpe engine. G. S. Hoell. il diags. Automotive Ind 103:44-5+ D 1 '50

Recent developments in R-4360 engine. E. A. Ryder. il S A E J 58:42-5 D '50

Thermodynamic study of the turbojet engine. B. Pinkel and I. M. Karp. bibliog diag U S Nat Advisory Com for Aeronautics 1947:599-627 '50

Twin Centaurus power plant for the Bristol Brabazon. J. L. Norton. il diags Engineer 191:542-3, 589-91 Ap 27-My 4 '51; Engineering 171:509-12 Ap 27 '51

Exhaust

Ceramic coatings prevent exhaust gas corrosion. Steel 128:98+ Je 18 '51; Same. Automotive Ind 105:36-7+ Ag 1 '51; Same. Cer Ind 57:51-2 Ag '51; Same. Franklin Inst J 252:347-8 O '51; Same abr. Product Eng 22:165-7 Jl '51; Same cond. Iron Age 168:118 S 6 '51

Ceramics; exhaust protection. il Aviation W 54:30 My 21 '51

Ceramics for the hot spots. C. L. Foushee, jr. il Aero Digest 63:32+ Ag '51

New method for analysis of jet engine exhaust gas. diag Automotive Ind 105:60+ Jl 15 '51; Pet Processing 6:885 Ag '51

Porcelain enamel solves aircraft engine problem. il Cer Ind 56:72-3+ Je '51; Am Cer Soc Bul 30:226 Je 15 '51

Failure

Automatic feathering to reduce the hazard of aircraft engine failure at take-off. W. L. Kershaw. il diag Elec Eng 69:953-8 N '50

Master rod bearing failed in Cairo crash. Aviation W 55:17 Jl 23 '51

Fuel

Aviation fuels; problem of improving their quality in event of war. D. Read. flow diags diag Oil & Gas J 49:68-9+ Mr 15 '51; Same. Pet Refiner 30:130-6 Mr '51; Abstract. Chem & Eng N 29:1012 Mr 12 '51

Aviation gasoline and its component hydrocarbons; wartime research (1940-45). H. M. Smith and others. 19pls[in pocket] diags U S Bur Mines Bul 497:1-79; pa $1.50 Supt. of doc. '51

Fuel and lubricant requirements of personal plane aircraft engines. W. V. Hanley. il S A E J 59:49-53 Ap '51

Light aircraft engine tests; fuels and operating variables; abstract. V. E. Yust. S A E J 59:68 Mr '51

National annual survey of commercial aviation gasoline, Oct. 1950 production. O. C. Blade. 4pls U S Bur Mines Rep of Invest 4789:1-11 '51; Excerpt. Oil & Gas J 49:238 Ap 19 '51

Needed; more avgas. G. Weber. Oil & Gas J 50:95 Ag 23 '51

Net heat of combustion of AN-F-58 aircraft fuels. S. Rothberg and R. S. Jessup. bibliog Ind & Eng Chem 43:981-5 Ap '51

Plasticized gasoline. Chem W 69:26+ O 13 '51

Relation between gas evolution and physical properties of liquids. V. G. Szebehely. J Ap Phys 22:627-8 My '51

Trends in the use of aviation fuel. M. Van Winkle. bibliog il Pet Refiner 30:89-92 My '51

Why avgas is tight; what one refinery had to do to fill a relatively small military contract. H. D. Ralph. il Oil & Gas J 49:40-1 N 30 '50

See also

Airplanes—Refueling

Gas turbines, Aircraft—Fuel

Fuel feeding

Burners for supersonic ram-jets; instability in a two-inch ram-jet burner. J. B. Fenn, H. B. Forney and R. C. Garmon. bibliog il diags Ind & Eng Chem 43:1663-72 Jl '51

Earls Court exhibition; a critical review of current design; carburation and induction systems. il Automobile Eng Extra no 40:388-400 N 30 '50

Recommendations for fuel system design for personal aircraft with regard to vapor lock; abstract. L. I. York and others. S A E J 59:107-8 F '51

Solenoid fuel pump. Aviation W 54:33 F 19 '51

Ignition

Spark-timing control based on correlation of maximum-economy spark timing, flame-front travel, and cylinder-pressure rise. H. A. Cook and others. il diag U S Nat Advisory Com for Aeronautics 1947:537-42 '50

Ignition devices

Burners for supersonic ram-jets; factors controlling over-all burner performance. J. W. Mullen, 2d, J. B. Fenn and R. C. Garmon. bibliog il diags Ind & Eng Chem 43:195-211 Ja '51

AIRPLANE engines—Ignition devices—*Cont.*

High-energy multiple-spark ignition systems for jet engines; abstract. M. A. Zipkin and others. il S A E J 59:70 Ap '51

How large can the gaps be? C. E. Swanson and J. W. Miller. S A E J 59:32-5 F '51

Plug fouling remedies discussed; European ignition conference, 2d, London. Aviation W 55:57-9+ Ag 13 '51

Smitsvonk low-tension capacity ignition system. W. B. Smits and P. F. H. M. Pont. il diags S A E J 59:61-4+ Ap '51

Some problems in aircraft magneto development. R. T. Coe and D. F. Welch. bibliog il diags Inst E E Proc 97 pt 2:485-500 Ag '50; Discussion. diags 97 pt 2:500-6; 98 pt 2: 46 Ag '50, F '51

Spark advance saves at National. G. L. Christian. il Aviation W 54:23 Mr 5 '51

Lubrication

Air-powered oil dispenser for aircraft. il Comp Air Mag 55:283 D '50

Fuel and lubricant requirements of personal plane aircraft engines. W. V. Hanley. il S A E J 59:49-53 Ap '51

Low temperature lubrication of aircraft engines. S. Barron. diags S A E J 59:58-62 Jl '51

Round table on lubrication problems of aircraft powerplants. E. A. Droegemueller and D. N. Harris. S A E J 59:63, 68 S '51

Manifolds

Hammer techniques advance; speed fabrication of aircraft exhaust systems. il Steel 129:88-90 S 3 '51

Manufacture

Auto makers get more engine business. A. McSurely. Aviation W 54:12-13 F 19 '51

Cylinder heads for sleeve-valve aero engines. J. Hinde. il Metallurgia 43:11-14 Ja '51

Mobilization stirs up Wasps' nest; P&W's rapid restoration of Southington plant. I. Stone. il Aviation W 54:21-3 F 19 '51

Strategic cost-cutter; Solaramic. il Chem W 69:19 Ag 18 '51

Tailored tools speed Ryan engine work. il Aviation W 55:33-4 S 3 '51

Mufflers

Muffler quiets DC-3 engine noise. il Aviation W 55:38 S 17 '51

Noise

Comparative study of the noise from turbojet and reciprocating aircraft engines in flight. S. C. Ghose. bibliog il diags Roy Aeronautical Soc J 54:697-707 N '50

New type cylinders absorb test sounds. il Aviation W 54:24+ Mr 5 '51

Protection

VPI joins fight against rust; anti-corrosion powder. S. H. Reiniger. il Aviation W 55: 48-9 S 10 '51

Repair

EAL curing engine, injection ills; Eastern air lines' Miami overhaul base. G. L. Christian. il Aviation W 54:32-3 F 19 '51

Specifications

1951 U.S. aircraft engines; tabulation. Automotive Ind 104:174-5 Mr 15 '51

U.S. reciprocating engines; tabulation. Aviation W 54:42-3 F 26 '51

Starting

Aircraft ground starting connector. il Engineer 191:394 Mr 23 '51

Airplane starters. Mech Eng 73:21 Ja '51

Jeep power plant to energize military planes. il Mech Eng 72:994 D '50

Mobile power plant to supply starting current for jet and large reciprocating engines. il Machine Design 23:120 Mr '51

New muscle for British jets; Rotax ltd. cartridge starter. il Aviation W 54:31 Ja 8 '51

Superchargers

Capacitive slip ring for instrumentation; problem of multiple temperature measurements on aircraft supercharger impellers solved with thermistor elements capacitively connected to an r-f bridge. F. P. Fischer and C. H. Coogan, jr. diags Electronics 24: 84-5 Ja '51

Turbosuperchargers in commercial aviation; abstract. A. W. White and others. diags Automotive Ind 104:39+ My 15 '51

Temperature

New device shows hottest cylinder. Aviation W 53:36 N 27 '50

Recent developments in R-4360 engine. E. A. Ryder. il S A E J 58:42-5 D '50

Temperature-sensing devices for jet engines. A. I. Dahl and E. F. Fiock. il diags Aero Digest 63:23+ Jl '51

Testing

Cylinders swallow sound; aluminum tubes stuffed with fiberglas used in aircraft engine test cells. il Bsns W p76-7 Ja 27 '51

Engine analyzers gain wider acceptance. G. L. Christian. il Aviation W 54:34-7 Ap 2 '51

How GE tested ramjet for helicopters. il diag Aviation W 55:32+ S 10 '51

Silencing aircraft engines; illustrations with text. Automotive Ind 104:40 F 15 '51

Valves

Induction hardening cuts cost 30 per cent; Thompson products co.; sodium filled aircraft engine valves. il Steel 127:66 O 30 '50

Recent developments in R-4360 engine. E. A. Ryder. il S A E J 58:42-5 D '50

AIRPLANE engines, Gas turbine. See Gas turbines, Aircraft

AIRPLANE fabrics

Investigation of fabric structure and its relation to certain physical properties; combination fabrics. G. H. Hotte. bibliog Textile Res J 20:811-28 D '50

AIRPLANE factories

Birmingham wins; compromise war-surplu airplane plant. Bsns W p86 Ag 11 '51

Five contractors take over defense jobs; plant for Ford aircraft engine division. il Dom Eng 177:88-9+ Ap '51

Lockheed plans new jet center at Palmdale airport. T. L. Self. Aviation W 55:16 S 17 '51

USAF reveals plans for reopening plants. B. Lee. il Aviation W 53:15 D 25 '50

Willow Run getting ready to roll. A. McSurely. il Aviation W 55:19-20 S 10 '51

Costs

Cost control engineering, stepping stone to better design proficiency; Glenn L. Martin co. J. Van Hamersveld. il diags Machine Design 23:108-14 F; 132-8 Mr '51

Experts tell why planes cost so much. Aviation W 55:23-4+ Ag 27 '51

Electric equipment

All-purpose electrical test bench; Douglas Aircraft's El Segundo plant. il diags Mill & Factory 48:101-4 Ja '51

Largest resistance welder installed at Ryan. il Welding J 30:838-9 S '51

Employees

Aircraft and parts wages, 1947-1950; tabulation. Iron Age 167:329 Ja 4 '51

Aircraft labor; manpower situation. Aviation W 53:18 N 20 '50

C-W, P&WA set up training programs. Aviation W 54:22 F 5 '51

Dermatitis from formaldehyde. Chem Age (Lond) 65:91-2 Jl 21 '51

Employment in complete aircraft and aircraft engine plants; tabulation. Automotive Ind 104:120 Mr 15 '51

Employment is up, supply down. Aviation W 54:17 Ja 22 '51

Expansion of employment in the aircraft industry. M. Kupinsky. Mo Labor R 73:15-19 Jl '51

Give 'em cash, then take it; Seattle food store cashes aircraft workers' checks; sells canned goods by case. il Bsns W p46-8 S 22 '51

Lockheed trains from the top. H. E. Linsley. Am Mach 95:123-6 O 15 '51

Manpower supply crisis looms. Aviation W 53:14 D 18 '50

NAA wage pact. Aviation W 53:17 O 30 '50

Occupational outlook handbook; aircraft manufacturing occupations. il U S Bur Labor Statistics Bul 998:273-83 '51

AIRPLANE factories—Employees—*Cont.*

On- and off-the-job training makes mechanics from scratch at Boeing airplane co., Seattle. il Factory Management 109:122-3 Ja '51
Solar finds reservoir of talent in handicapped workers. H. Waterman. Am Bsns 21:36-8 Ag '51
Starting a plant? here's wage rule. Aviation W 55:170 S 24 '51
WSB airframe unit planning hearings. Aviation W 55:17 Jl 2 '51
WSB to investigate airframe wages. Aviation W 54:17-18 Je 25 '51
When women have their say; factory personnel problems; abstract. L. O. Stockford and K. R. Kunze. S A E J 59:73 Ja '51

Equipment

Aircraft parts stretch-formed on conventional mechanical presses; Rohr aircraft corp., Chula Vista, Calif. B. F. Raynes. il Steel 129:76-7 Ag 27 '51
All-weather docks for B-36 work at Consolidated Vultee aircraft corp.'s Fort Worth plant. Aviation W 53:26 N 6 '50
Assembly jig; fast and cheap; Republic's optical tooling. il Bsns W p34-5 D 23 '50
Big machines build Boeing bombers. C. O. Herb. il Mach 57:196-201 Jl '51
Big miller gives close tolerances; Farnham utility mill. il Aviation W 54:53 My 7 '51
Cut out the idle mileage; Pratt and Whitney plant, East Hartford, Conn., uses industrial power truck fleet. il Safety Maint & Prod 101:16-17+ My '51
Double duty technique cuts aircraft handling costs. E. R. Petoskey. il Automotive Ind 104:44-6+ My 1 '51
Electric eye accurately locates work in riveting operations. H. L. Hubbard. il Mach 57:192-5 Jl '51
Extrusion die pool for aircraft industry. diags Light Metal Age 9:11 Ap '51
Fully demountable twin-hull assembly buck for seaplanes. R. E. Bechtol. il Automotive Ind 105:46-7 Ag 15 '51
Gaging method will speed aircraft output; optical system for building large fixtures and jigs. G. F. Elwers. Iron Age 166:83 N 23 '50
Glass-fiber laminates simplify jig-making. C. D. Birmingham. il Am Mach 95:131-3 Je 11 '51
Gold rush; AF defense firms find badly needed machines at storage depots. Aviation W 55:203-4 S 24 '51
How to move machines fast and like it; Pratt & Whitney Aircraft. J. W. Colody. il Factory Management 109:94-6 Ag '51
Hydraulic press for large aircraft components. il Engineering 171:641-2 My 25 '51
Industrial truck system at Bendix Aviation plant. il Automotive Ind 105:44+ S 15 '51
Industry views, approves optical tooling. T. M. Self. il Aviation W 55:21-2+ Jl 16 '51
Jet plane production spurs unique machines and methods. N. Lynn. il Steel 129:98-100 S 24 '51
Joggling along on Convair B-36 tooling. il Aviation W 55:39 Jl 2 '51
Lockheed's Hall of giants. C. O. Herb. il Mach 57:147-53 Jl '51
Machining integral ribs; new machine tool designed to make aircraft structures stronger, faster. il Steel 128:49 Je 11 '51
Massive new electronically controlled machine for manufacture of reinforced aircraft skins. il Mach 57:222-3 Jl '51
Massive tooling marks industry's defense program; illustrations with text. Aviation W 53:20-1 D 18 '50
Mill for integrally stiffened skin of F-94. il Aviation W 55:40 Jl 9 '51
Needed; machines and methods. il Aviation W 55:180-2+ S 24 '51
New giant presses will speed plane production. B. Olson. il Iron Age 167:75-6 Ja 18 '51
New machines solve new jet problems. il Bsns W p58+ Ag 11 '51
New milling machine planned for aircraft makers. R. F. Jones. diags Iron Age 167:98-9 My 17 '51
New system cuts airframe tooling time 40 per cent. il Am Mach 94:94-5 D 25 '50
Novel production machinery at Ryan. il Aero Digest 63:76+ S '51
Optical airframe tooling, a new assembly technique. A. Kastelowitz. il diags Automotive Ind 104:38-41+ Ap 15 '51
Optical system developed for building large jigs and fixtures; Republic aircraft corporation. G. P. Muir. il diags Tool Eng 25:24-5 D '50
Optical tooling eases airframe building. il diag Aviation W 53:23+ D 11 '50
Optical tooling faces its biggest test. I. Stone. il diags Aviation W 54:27-32+ Je 18 '51
Plastic tools for light metals; Northrop aircraft, inc. G. C. Close. il Light Metal Age 9:8-10 Je '51
Power flexibility for aircraft production; Long Beach plant of Douglas aircraft co. il Automotive Ind 105:49+ Ag 1 '51
Press clips produce wrinkle-free stampings. R. B. Stanton. il diags Steel 129:101 S 24 '51
Producing Pratt & Whitney jet-engine compressor blades. G. H. DeGroat. il Mach 57:164-71 Jl '51
Simplified die making through standardization. R. L. Weisbeck. il Aero Digest 62:42+ F '51
Standardized wheels provide more efficient easy rolling for Lockheed's trucks, dollies, carts, racks, etc. F. M. Burt. il Mill & Factory 48:85-6 F '51
Stockpiled tools speed defense work. Aviation W 54:24+ Mr 26 '51
Tailored tools speed Ryan engine work. il Aviation W 55:33-4 S 3 '51
Tool reserve speeds mobilization. il Aviation W 54:45+ My 21 '51
Tooling up by telescope. il diags Fortune 44:120-3 O '51
Trolley ride speeds Comet production; jigs carry components on track system along factory floor. il Aviation W 55:41+ Ag 6 '51
Twenty miles of air lines; North American aviation company plants. il Comp Air Mag 56:239-40 S '51
Unique features of huge G&L aircraft skin milling machine. J. Daugherty and J. M. Delfs. il diags Mach 58:178-84 S '51

Heating and ventilation

How Boeing saved $100,000 in cost of heating. il Heating-Piping 23:78-80 My '51
We cut our heat bill $100,000 a year with simple saving plan; Boeing's Seattle plant. W. B. Pride. il Factory Management 108:76-7 D '50

Lighting

Light for aircraft inspection. G. E. Solley. il diag Illum Eng 45:752 D '50

Management

Accelerating aircraft production during World war II; a digest. D. W. Ewing. Harvard Bsns R 29:104-12 Mr '51
Aircraft data handling. K. E. Barnes. Aero Digest 62:22+ F '51
Aircraft production damage control. W. L. Nye. diag Aero Digest 62:30+ My '51
Aviation subcontractor. W. Schweizer. Aero Digest 61:42-3 S; 37+ N '50
Cost control engineering, stepping stone to better design proficiency; Glenn L. Martin co. J. Van Hamersveld. il diags Machine Design 23:108-14 F; 132-8 Mr '51
Cuts paperwork-preparation time from six weeks to fifteen hours; Douglas Aircrafts' new factory tabulating group. H. A. Stewart. il Factory Management 109:72-3 Mr '51
Cutting blueprint costs $100,000 a year; Glenn L. Martin co. il Mill & Factory 47:110 N '50
Fixed budget controls maintenance costs; Fairchild aircraft division, Hagerstown, Md. W. Carroll. Factory Management 109:112-15 Ja '51
Formula for flexibility; Pratt & Whitney subcontracts. il Bsns W p72-4 Je 30 '51
Graphic planning of production; Glenn L. Martin, Baltimore plant. Mod Ind 20:91 N '50
How aircraft design changes can be controlled. E. F. Stoner. Automotive Ind 104:38-9+ Ja 1 '51
Production planning boosts department efficiencies. C. R. Wulffsohn. il Automotive Ind 104:46+ Ap 1 '51
Put parts where they're needed; Northrop aircraft, inc.'s F-89 Scorpion production line. il Aviation W 54:33 Mr 12 '51

AIRPLANE factories—Management—*Cont.*

Receiving and shipping on wheels; Douglas aircraft co.; illustrations with text. G. C. Close. Mill & Factory 48:109-11 Mr '51

Saving hours at Martin with electronic calculating equipment. F. Myers. Am Bsns 21: 50-2 Mr '51

Split-second planning; what the air force and key aviation planners decided they would need in case of an emergency; Fairchild plan. W. L. Landers. il Aero Digest 61:20-2+ D '50

Purchasing

Easy buying; automatic business machines are used for material requisitioning at Douglas. J. Joseph. il Aero Digest 62:19+ F '51

Quality control

Quality control of structural resistance welding in aircraft. J. R. Fullerton. Welding J 30:631-3 Jl '51

Records

Tabulation machines simplify stockroom control; Douglas aircraft co. J. Joseph. Am Mach 95:93 My 28 '51

Safety measures

Safety is un-saturated; innovations made by the Glenn L. Martin co. il Safety Maint & Prod 102:27-8 Jl '51

AIRPLANE industry and trade

Accelerating aircraft production during World war II; a digest. D. W. Ewing. Harvard Bsns R 29:104-12 Mr '51

Air force and industry study production. W. Kroger. Aviation W 53:17-18 N 13 '50

Air force reports on methods projects; progress shown in joint production program. Aviation W 53:13-14 N 27 '50

AMC expediter; new Industrial planning division will help solve manufacturer problems. Aviation W 54:19 Mr 5 '51

Aircraft industry. H. E. Dickhuth. il Banking 43:74+ My '51

Aircraft industry in a defense economy. S. Altschul. Comm & Fin Chr 173:432 Ja 25 '51

Aircraft industry must outdo World war II achievements. R. McLarren. Automotive Ind 104:38-40+ Ja 15 '51

Aircraft industry steps up subcontracting. W. Kroger. Aviation W 54:13-14 Mr 19 '51

Aircraft industry using 60,851 subcontractors. Am Mach 95:242 Je 11 '51

Aircraft subcontracting, it's here to stay. N. Lynn. map Steel 129:48-9 Jl 23 '51

Aircraft threat; strike at Alcoa. Bsns W p25 Jl 21 '51

Alcoa strike; aircraft and engine production faces snag. Aviation W 55:15 Jl 23 '51

Armed forces regional council assistance clinic, Oakland. Aviation W 54:18 Je 25 '51

Aviation subcontractor. W. Schweizer. Aero Digest 61:42-3 S; 37+ N '50

Big year behind and bigger year ahead. Aviation W 54:25-6+ F 26 '51

Case study; what subcontracting is, and what a plant needs. Aviation W 55:161-2+ S 24 '51

Certificates of necessity; aircraft industry gets $157 million. Aviation W 54:43-4+ Je 4 '51

Chase grows up. Bsns W p36 N 11 '50

Cites steps taken to assist civil aviation. D. W. Nyrop. CAA J 12:13+ F 20 '51

CAB announces its DO procedures. Aviation W 54:40 F 19 '51

Civil air o.k.'d; commercial production of transport planes and parts gets all-clear from military. Bsns W p 108 N 11 '50

Clinic charts new business path; first joint procurement show. il Aviation W 54:18-19 My 28 '51

Cold war III. Aero Digest 62:18-19 Ja '51

Dispersal; a guide for tomorrow. Aviation W 55:14-15 S 3 '51

Diversification; it has enabled Ryan to get deeper into military output. Aviation W 54:46+ Ap 16 '51

Douglas aims to hold transport leadership. Aviation W 54:17 Mr 12 '51

Everybody's glad; Kaiser-Frazer to build own airplane. Bsns W p 149-50 Je 23 '51

Expanding facilities; list of projects on which Defense production administration granted certificates of necessity for accelerated tax amortization. Aviation W 55:137+ S 24 '51

For example; one Gilfillan contract gives work to several thousand companies. Aviation W 55:168-70 S 24 '51

Government confusion slows mobilization. Aviation W 53:13-14 D 25 '50

How combat plans determine production. B. S. Lee. il Aviation W 55:16-18 S 24 '51

Industrial mobilization planning with the aircraft industry. A. H. Johnson. S A E J 58:23-4+ N '50

Industry dos? Washington is studying priorities for transport plane manufacturers. A. McSurely. Aviation W 53:14-15 O 30 '50

Industry fights component price control. A. McSurely. Aviation W 55:12-13 Ag 20 '51

Industry poised for all-out mobilization. il Aviation W 53:12-14 D 11 '50

Kaiser buys Chase. Bsns W p21 My 26 '51

Lightplane producers eye future. Aviation W 54:39 Ja 8; 16 Ja 15 '51

Lockheed tools up for the jet age. il Bsns W p55-6+ F 2 '51

Lots of bosses; Douglas Aircraft gives plant managers wide autonomy. Bsns W p 100 F 24 '51

Martin subcontracts rising sharply. Aviation W 55:38 Jl 30 '51

Materials lack hampers plane industry. A. McSurely. Aviation W 55:13-14 S 3 '51

Military view of subcontracts; commanding generals of AF's largest procurement districts report on work loads. T. M. Self; E. J. Bulban. Aviation W 55:174+ S 24 '51

More business for small business. Aviation W 54:17 My 28 '51

More USAF clinics for subcontractors. Aviation W 54:17 Ap 23 '51

NPA plan threatens civil planes. F. L. Moore. Aviation W 54:13-14 My 14 '51

Nation's industries share air contracts. Aviation W 54:15 Ja 15 '51

New production plan for C-119, C-123. Aviation W 54:16 Je 4 '51

New types of facilities needed. R. Modley. Aviation W 55:37 Jl 2 '51

New way to get defense orders; prospective subcontractors get chance to inspect items at area exhibits sponsored by AMC. il Aviation W 54:13 Mr 5 '51

Orders roll; AF issues $4.5 billion worth. il Aviation W 54:13-14 Ja 15 '51

Plane builders set for big job; military program. Bsns W p30-1 N 25 '50

Plane makers; three-fold expansion seen in next 12 months. R. P. Cooke. Barron's 31: 9-10 Ja 1 '51

Planes or plans? D. C. Ramsey. Aero Digest 61:20+ N '50

Poll shows rise in subcontracts. W. Kroger. Aviation W 54:15-16 My 28; 13-15 Je 4; 39-41 Je 11 '51

Priorities plan recognizes small-plane manufacturers. C. F. Horne. CAA J 12:73+ Jl 20 '51

Priority plan complex but clearing. F. L. Moore. diag Aviation W 54:56-8 Ja 15 '51

Priority rules; good and bad. Aviation W 55:220 S 24 '51

Procedures set for non-military planes and parts. D. W. Nyrop. CAA J 12:1+ Ja 20 '51

Production step-up faces rocky road. A. McSurely. Aviation W 54:13-14 Ja 8 '51

Progress report on expanding production. R. Modley. il Aviation W 55:56+ S 24 '51

Subcontracting swells as USAF expands. il diag Aviation W 54:18-19 Ja '51

Survey group recommends development of new planes. CAA J 12:85+ Ag 20 '51

Top 50 list has 19 aircraft firms. Aviation W 55:15 Jl 30 '51

Truce may slow, but not halt production. Aviation W 55:11 Jl 16 '51

USAF calls in more auto firms and aircraft manufacturers grumble. B. S. Lee. Aviation W 54:18 Ja 8 '51

War plane solo pays for North American. il Bsns W p32+ N 25 '50

What's your part in plane building? il Steel 128:43-5 F 12 '51

AIRPLANE industry and trade—*Continued*

Why industry spreads the work. Aviation W 55:153-5+ S 24 '51

See also

Boeing airplane company

North American aviation, inc.

Advertising

How you can write more readership into institutional copy; Glenn L. Martin advertising. R. W. Darrow. il Ptr Ink 236:34-5 Ag 31 '51

Directories

Airframe and powerplant manufacturers; list. Aero Digest 62:108+ Mr '51

Directory of manufacturers. Automotive Ind 104:190+ Mr 15 '51

U.S. aircraft industry; table. Aviation W 55:60 S 24 '51

Finance

Backlogs grow; aircraft manufacturers begin to flex rearmament muscles. R. P. Cooke. Barron's 31:21 Ap 9 '51

'50 profits rested on solid base. S. Altschul. Aviation W 54:18 Ja 15 '51

'50 reports not what they seem. S. Altschul. Aviation W 54:63 Ap 16 '51

How AIA looks at excess profits tax. diags Aviation W 53:12-13 N 27 '50

How the funds view air stocks. S. Altschul. Aviation W 54:51 Ap 9 '51

How to look at aircraft earnings. S. Altschul. Aviation W 54:51 Ap 30 '51

Industry goes to banks, not public. S. Altschul. Aviation W 54:57 Je 25 '51

No bonanza for planemakers. Bsns W p78-80 D 9 '50

Profits lag climbing backlogs. S. Altschul. Aviation W 55:18 Ag 20 '51

Tax hazards of plant expansion. R. Modley. Aviation W 54:40+ Je 25 '51

Officials

SEC survey lists stock holdings. Aviation W 54:16-17 Ap 30 '51

Stock options offered to key men; share-purchase plans as incentive to top management personnel. S. Altschul. Aviation W 55:43 S 17 '51

What aviation pays executives; manufacturers report to SEC. Aviation W 54:17 Ap 16; 15 Ap 23 '51

Public relations

Aviation public relations. W. T. Bonney. Air Affairs 3:576-88 D '50

Securities

Air dividend-earning ratio high. S. Altschul. Aviation W 54:41 My 7 '51

Aircraft shares continue strong. S. Altschul. Aviation W 53:59-60 D 18 '50

Aircraft stocks reflect war news. S. Altschul. Aviation W 55:69 Jl 16 '51

Copter shares lure speculators. S. Altschul. Aviation W 54:43 Ja 22 '51

Dividend outlook is conservative. S. Altschul. Aviation W 53:43 N 27 '50

Douglas, UAC declare stock splits. S. Altschul. Aviation W 54:20 Mr 26 '51

Low flying aircraft in a soaring market. I. U. Cobleigh. Comm & Fin Chr 174:952 S 13 '51

SEC lists aviation stock transactions. Aviation W 55:15 Jl 16 '51

SEC report lists stock transactions. Aviation W 54:17-18 Mr 19 '51

Stability means regular dividends. S. Altschul. Aviation W 55:60+ S 10 '51

Super boom in aircrafts; with data on leading companies. S. Devlin. il Mag of Wall St 88:672-3+ S 22 '51

What about aircraft manufacturing stocks! L. Stone. Comm & Fin Chr 172:1686 N 2 '50

Statistics

Aircraft and aircraft engine production, 1927-1950; shipments of complete civil aircraft and other products of their plants; shipments of civil aircraft engines and other products of their plants, 1950-1949; tabulations. Automotive Ind 104:119 Mr 15 '51

Aircraft shipments, 1948-1950; tabulation. Steel 128:136 Ja 1 '51

Big year behind and bigger year ahead. Aviation W 54:25-6+ F 26 '51

Civil aircraft shipments drop during 1951 six-month period. CAA J 12:106 S 20 '51

Personal and transport aircraft shipments, 1950-1949, civil aircraft shipments by months, 1950-1949; registered civil aircraft by manufacturer and by leading states; tabulations. Automotive Ind 104:120 Mr 15 '51

Registered civil aircraft, single-engine, two-engine, three-engine and four-engine aircraft; tabulations. Automotive Ind 104:121 Mr 15 '51

U.S. exports of aeronautic products, by years, 1912-1950; by type of product for 1947-1950; tabulations. Automotive Ind 104:122 Mr 15 '51

Argentina

Argentina to develop own aircraft industry. D. J. Wilson. Automotive Ind 104:51-2 Je 1 '51

Australia

Aussies' role. Aviation W 54:150+ F 26 '51

Canada

Canadian defense; aircraft and electronics companies step up production. J. Montagnes. Barron's 31:9 My 28 '51

Lion's share; RCAF will get major slice of Dominion's defense budget. Aviation W 54:143+ F 26 '51

France

Aircraft build-up; after a slow start comes some progress. R. P. Cooke. Barron's 31:9-10 Je 25 '51

France starts jet transport study. il Aviation W 54:33-4 F 12 '51

French show progress in civil planes. R. Hazeltine. il Aviation W 55:16-18 Jl 16 '51

Latest jet engines displayed at Paris aviation show. W. F. Bradley. il diag Automotive Ind 105:45+ Jl 15 '51

Great Britain

Are English civil jets in the race? Aviation W 55:26-7 Jl 9 '51

Engineering outlook; the aircraft industry. Engineering 171:213-15 F 23 '51

New aircraft. Economist 161:638-9 S 15 '51

U.S. market brightens for British. il Aviation W 53:45-6 O 30 '50

Italy

Aircraft industry making recovery. Aviation W 54:162-3 F 26 '51

AIRPLANE landing stations. See Aviation landing stations

AIRPLANE models

Proportional radio control. H. G. McEntee. il diags Radio & Tv N 46:58-62+ S '51

Radio control of model aircraft. W. A. Good and W. E. Good. il diags Q S T 35:12-14+ Ag '51

Receivers for radio-controlled models. W. A. Good and W. E. Good. il diags Q S T 35:22-5 S '51

See also

Airplanes—Model testing

AIRPLANE parts

Aircraft production damage control. W. L. Nye. diag Aero Digest 62:30+ My '51

Aluminum aircraft parts hot formed successfully. G. C. Close. il Steel 128:84-6 Mr 5 '51

Boeing plane spares about $190 million. Aviation W 55:39-40 Jl 30 '51

Development of steel shapes for aircraft components. A. H. Peterson. diags Automotive Ind 104:204+ Mr 15 '51

Electroforming speeds the production of aircraft parts and tools. G. B. Lewis and L. Frost. il diags Mach 57:178-85 Jl '51

Gold mine in a junk shop; Bernard Bachman's surplus B-29 equipment. il Bsns W p66+ N 18 '50

Hinges for fastening structural parts. H. G. Brilmyer. il diags Product Eng 22:153-5 Je '51

Huge hydraulic presses needed for making large aircraft parts. K. B. Wolfe. il Automotive Ind 104:50-1+ Ja 1 '51

Newest methods of fabricating honeycomb aircraft components. T. F. Freeman. il Automotive Ind 104:42-5+ Je 15 '51

Porcelain enamel selector valve cuts maintenance. il Iron Age 168:74 Ag 23 '51

Push-pull and torque tubes. J. J. Sloan. il diags Machine Design 23:143-7 Ap '51

AIRPLANE parts—*Continued*

Quick-detachable mountings; Eclipse-Pioneer jet-engine starters. il Machine Design 23: 106-8 Ag '51

Testing

Accelerator tests aircraft components. il Machine Design 23:120-1 Ag '51

AIRPLANE propellers

Automatic feathering to reduce the hazard of aircraft engine failure at take-off. W. L. Kershaw. il diag Elec Eng 69:953-8 N '50

Comeback for the propeller. R. A. Winston. il U S Naval Inst Proc 77:34-7 Ja '51

Design and operation of gas turbine propellers. R. C. Treseder and D. D. Bowe. il diag S A E J 59:29-31 Ap '51

Effect of ice on prop performance. Aviation W 53:30 D 18 '50

'50 propeller industry's output shows slight increase over 1949. CAA J 12:43 Ap 20 '51

Free and forced vibrations of rotating blades. R. Plunkett. bibliog J Aeronautical Sci 18: 278-82 Ap '51

High speed propeller design. R. McLarren. bibliog diag Aero Digest 63:99-107 Jl '51

Laminar boundary layer on a rotating blade. L. E. Fogarty. bibliog diag J Aeronautical Sci 18:247-52 Ap '51

New aircraft propellers may result in speeds of 1000 miles an hour. Mach 57:190 Ja '51

New props for turbine power. I. Stone. il diags Aviation W 53:21-2+ O 30 '50

Propellers; illustrations and brief descriptions. Aero Digest 62:98+ Mr '51

Splined positive lock. T. Barish. il diag Machine Design 23:115-16 Ja '51

Stone-Kamewa reversible-pitch propeller. il diags Engineering 170:303-4, pl 23 O 13 '50

Supersonic prop research. diag Aero Digest 61:44+ N '50

Turbo-Hydromatic 19-ft. prop to AF. il Aviation W 54:17 Ap 9 '51

Control

Recent developments of the mechanism of the hydraulic variable-pitch aircraft propeller. H. L. Milner. diags Inst Mech Eng Proc 163 (W.E.P. no 57):111-20 '50; Same abr. Engineer 189:476-7 Ap 21 '50; Discussion. Inst Mech Eng Proc 163 (W.E.P. no 57): 121-4 '50; Engineer 189:481 Ap 21 '50

Manufacture

Alloy steel prop blades made by hot extruding; illustrations with text. Materials & Methods 33:66-8 My '51

Big squeeze applied to airplane propellers cuts production time by hours. il Product Eng 22:162-3 Ap '51

Contour machining of propeller blades. T. P. Williams. il Mach 57:154-7 Jl '51

De Havilland prop work helped by induction heater. Aviation W 54:31 Ap 2 '51

High-speed propellers; de Havilland propeller co. Mech Eng 73:586 Je '51

Hollow steel propeller blades for aircraft. il diags Engineering 172:161-3, 193-4, 225-7, pl 15-17 Ag 10-24 '51

Producing hollow steel aircraft propeller blades. G. H. DeGroat. il Mach 57:137-43 N '50

Prop extrusion is production milestone. I. Stone. il Aviation W 54:27-8+ Mr 19 '51

Squeeze hot billets to make propeller blanks. il Iron Age 167:125 Mr 1 '51; Steel 128: 86+ Ap 2 '51; Automotive Ind 104:32-3+ Ap 1 '51; Mach 57:190-1 Ap '51; Aeronautical Eng R 10:6 My '51; Mech Eng 73:506-7 Je '51

Squeezing out prop blades. il Bsns W p 108-10 Mr 24 '51

Steel prop blades extruded with internal taper. E. J. Tangerman. il Am Mach 95: 128B-128E Mr 5 '51

Testing

Supersonic prop spin pit. diag Mech Eng 73: 24-5 Ja '51

AIRPLANE races

Four-place helioplane shown at races. A. McSurely. il Aviation W 55:15-17 Ag 27 '51

Military jets to vie in National air races. Aviation W 55:18 Ag 13 '51

National air race results. Aviation W 55:15 Ag 27 '51

National air races, Detroit. Aero Digest 63:5+ S '51

Races prove crowd-appeal of air power. B. S. Lee. il Aviation W 55:13-14 Ag 27 '51

Racing rules. Aviation W 54:15 My 14 '51

Speeds up to 800 mph at 1951 National air races. R. McLarren. Automotive Ind 105: 41+ S 1 '51

AIRPLANE seats. See Airplanes—Seats

AIRPLANE shops

Hewitt enters conversion business. E. J. Bulban. il Aviation W 54:77+ Je 18 '51

AIRPLANE skis. See Airplanes—Landing gear

AIRPLANE stability and stabilizers

Aerodynamic stability and automatic control. W. Bollay. il diags J Aeronautical Sci 18:569-617 bibliog(91 titles, p615-17); Discussion. 617-23+ S '51

Application of nonstationary airfoil theory to dynamic stability calculations. E. V. Laitone and E. R. Walters. diag J Aeronautical Sci 18:214-16 Mr '51

Dynamic analysis of aeroelastic aircraft by the Transfer function-Fourier method. J. B. Rea. diags J Aeronautical Sci 18:375-97 Je '51

Effects of pressure gradient on stability and skin friction in laminar boundary layers in compressible fluids. H. Weil. bibliog J Aeronautical Sci 18:311-18 My '51

Equations of longitudinal stability. J. W. Miles. J Aeronautical Sci 17:815-16; 18:212 D '50, Mr '51

Frequency-response method for determination of dynamic stability characteristics of airplanes with automatic controls. H. Greenberg. U S Nat Advisory Com for Aeronautics 1947:471-9 '50

Longitudinal stability of elastic swept wings at supersonic speed. C. W. Frick and R. S. Chubb. J Aeronautical Sci 17:691-704 N '50

Nonlinear effects of structural deformation on stability. A. Epstein. bibliog J Aeronautical Sci 18:50-4 Ja '51

Nonsteady supersonic flow about pointed bodies of revolution. W. H. Dorrance. bibliog diags J Aeronautical Sci 18:505-11+ Ag '51

Tail wags plane, but NACA studies show designers how to avoid flight instability. Aviation W 54:26+ Ja 8 '51

AIRPLANE struts

Buckling of struts. H. Lurie. diags Roy Aeronautical Soc J 55:181-4 Mr '51; Discussion. 55:454-8 Jl '51

AIRPLANE wings

Aerodynamics of a supersonic rectangular wing striking a sharp-edged gust. T. R. Goodman. bibliog il diags J Aeronautical Sci 18:519-26 Ag '51

Aileron. bibliog diags Aero Digest 61:95-100+ N '50

Approximate method for the calculation of the stresses in sweptback wings. T. Rand. diags J Aeronautical Sci 18:61-3 Ja '51

Bell X-5, first aircraft with controllable wing sweep. il Aero Digest 63:86+ Jl '51

Calculation of thermal stresses in a wedge-shaped wing. G. H. Eisenhardt and W. M. Rohsenow. diags J Aerouautical Sci 18: 115-23 F '51

Characteristics of supersonic wings having biconvex sections. B. Beane. bibliog il diags J Aeronautical Sci 18:7-20 Ja '51

Conical flow methods applied to uniformly loaded wings in subsonic flow. S. Lampert. bibliog diags J Aeronautical Sci 18:107-14+ F '51

Coupled free vibrations of a swept wing. A. E. Engelbrecht. bibliog diags J Aeronautical Sci 18:329-38 My '51

Delta wing. R. McLarren. il diags Aero Digest 61:93-105 D '50

Design approximation of skin thickness from stiffness criteria. A. H. Hall. diags Roy Aeronautical Soc J 54:741-52 D '50

Distortion characteristics of swept and cranked wings in relation to flutter and other aeroelastic phenomena. D. Williams. diags Roy Aeronautical Soc J 55:116-25 F '51

Effect of end plates on swept wings at low speed; abstract. J. M. Riebe and J. M. Watson. Aviation W 54:28 Ap 9 '51

Effect of torsional stiffness requirements on wing structural weight. W. R. Micks. J Aeronautical Sci 17:736-40 N '50

AIRPLANE wings—*Continued*

Effects of sweepback on boundary layer and separation. R. T. Jones. bibliog diags U S Nat Advisory Com for Aeronautics 1947:487-9 '50

Equivalence of the spanwise lift distribution to the spanwise lift-influence function for slender wings and wing bodies. G. K. Morikawa and A. E. Puckett. bibliog diags J Aeronautical Sci 18:503-4 Jl '51

Fighter wing redesigned for magnesium. D. H. Black. il diag Iron Age 167:90-2 Mr 29 '51

Flight measurements of the lateral control characteristics of narrow-chord ailerons on the trailing edge of a full-span slotted flap. R. H. Sawyer. il diags U S Nat Advisory Com for Aeronautics 1947:481-5 '50

Forged-tapered wing spars reduce plane weight. diag Automotive Ind 104:80 My 1 '51

Germany and the delta wing; how priorities, politics and allied bombs brought defeat to German research. A. Lippisch. Aero Digest 62:30+ F '51

Improved approximate method for calculating lift distribution due to twist; abstract. J. C. Sivells. Aviation W 54:30 Mr 5 '51

Interference between wing and body at supersonic speeds; theoretical and experimental determination of pressures on the body. R. H. Cramer. bibliog diag J Aeronautical Sci 18:629-32 S '51

Limiting case for missile rolling moments. E. W. Graham. bibliog diags J Aeronautical Sci 18:624-8 S '51

Longitudinal stability of elastic swept wings at supersonic speed. C. W. Frick and R. S. Chubb. J Aeronautical Sci 17:691-704 N '50

Method for calculating wing characteristics by lifting-line theory using non-linear section lift data. J. C. Sivells and R. H. Neely. bibliog U S Nat Advisory Com for Aeronautics 1947:75-93 '50

Methods for calculating the flow in the Trefftz-plane behind supersonic wings. P. A. Lagerstrom and M. E. Graham. bibliog diags J Aeronautical Sci 18:179-90 Mr '51

Minimum drag of thin wings in frictionless flow. R. T. Jones. bibliog diags J Aeronautical Sci 18:75-81 F '51

Negative camber airfoils for transonic flight. T. B. Woersching. bibliog J Aeronautical Sci 18:361-8 Je '51

Northrup scientists explore feasibility of cast aircraft wings. Light Metal Age 8:7 O '50

Plane whose wings change sweep in air; new Bell X-5. il Aviation W 54:16-17 Je 18 '51

Purely rolling oscillations of a rectangular wing in supersonic flow. T. Li. diags J Aeronautical Sci 18:191-8 Mr '51

Relation of lifting-line theory to lifting-surface theory. E. Reissner. J Aeronautical Sci 18:212-14 Mr '51

Rolling up of the trailing vortex sheet and its effect on the downwash behind wings. J. R. Spreiter and A. H. Sacks. bibliog il diags J Aeronautical Sci 18:21-32+ Ja '51

Study delta wing, supersonic flow. Aviation W 54:36+ Mr 26 '51

Summary of lateral-control research. T. A. Toll, comp. il diags U S Nat Advisory Com for Aeronautics 1947:127-200 bibliog(91 titles, p 195-7) '50

Summary report on the high-speed characteristics of six model wings having NACA 65_1-series sections. W. T. Hamilton and W. H. Nelson. il diags U S Nat Advisory Com for Aeronautics 1947:379-95 '50

Superposition method for calculating the aeroelastic behavior of swept wings. R. B. Brown and others. diags J Aeronautical Sci 18:531-42 Ag '51

Transient loading of wide delta airfoils at supersonic speeds. J. W. Miles. bibliog diags J Aeronautical Sci 18:543-54 Ag '51

Transient temperature distribution in a wing flying at supersonic speeds. J. Kaye. bibliog diags J Aeronautical Sci 17:787-807+ D '50

Volterra's solution of the wave equation as applied to three-dimensional supersonic airfoil problems. M. A. Heaslet and others. bibliog il diags U S Nat Advisory Com for Aeronautics 1947:565-86 '50

Wind-tunnel investigation at low speed of a 45-deg. sweptback untapered semispan wing of aspect ratio 1.59 equipped with 25-percent-chord plain flaps; abstract. H. S. Johnson and J. R. Hagerman. Aviation W 53:28 O 30 '50

Wing plan forms for high-speed flight. R. T. Jones. bibliog diags U S Nat Advisory Com for Aeronautics 1947:61-5 '50

See also

Airfoils

Airplanes, Flying wing

Flutter

Distortion characteristics of swept and cranked wings in relation to flutter and other aeroelastic phenomena. D. Williams. diags Roy Aeronautical Soc J 55:116-25 F '51

Generalized complex forces in flutter calculations. J. E. V. Nilsson and N. B. Langefors. J Aeronautical Sci 18:139 F '51

Investigation of flight-flutter testing techniques. M. D. Schwartz and D. L. Wrisley. bibliog il Aeronautical Eng R 10:24-34 Ag '51

Nonstationary motion of purely supersonic wings. J. E. Froehlich. bibliog diags J Aeronautical Sci 18:298-310 My '51

Structural damping with complex stiffness. H. R. Grummann and R. E. Newton. diags Aero Digest 63:22+ Jl '51

Theoretical study of air forces on an oscillating or steady thin wing in a supersonic main stream. I. E. Garrick and S. I. Rubinow. bibliog diags U S Nat Advisory Com for Aeronautics 1947:253-66 '50

Manufacture

Forge-taper forms wing spar. il Aviation W 54:19 Mr 5 '51; Steel 128:74 F 19 '51

Forging process speeds wing output. Steel 127:66 O 30 '50

Main wing beam forged for Cutlass. il Product Eng 21:154 D '50

Standard presses form ribbed sheets at Lockheed. R. B. Scott. il Iron Age 168:75-7 Ag 30 '51

Testing

Comparative drag measurements at transonic speeds of rectangular and sweptback NACA 65-009 airfoils; abstract. C. W. Mathews and J. R. Thompson. Aviation W 54:42 Ap 16 '51

Extensive tests on British delta wings. Aviation W 54:35 Ap 16 '51

Instrument for automatically recording waviness of surfaces. C. W. Medhurst. il diags J Sci Instr 28:211-14 Jl '51

Measurement of downwash at a Mach number of 1.45 behind two wings of finite span. W. F. Hilton. diags Roy Aeronautical Soc J 55:43-51 Ja '51

AIRPLANES

Administrator sets up advisory committee for prototype aircraft. CAA J 12:11 Ja 20 '51

Aeronautics in 1950. il Engineer 191:7-9, 67-8, 100-1, pl 1, 8 Ja 5-19 '51

Air transportation and what is the technical future; abstract. E. C. Wells. S A E J 59:75+ Ja '51

Ashton reports for altitude duty; Avro to build six pressurized, Nene-engined research craft. diags Aviation W 53:42-3 N 20 '50

Atomic plane seen flying by 1954-56. Aviation W 55:16-17 S 17 '51

Boeing offers new turboprop feederliner. A. McSurely. il Aviation W 53:15-16 N 20 '50

CAA certificates Douglas DC-6B. Aviation W 54:74-5 Ap 23 '51

Defense puts spotlight on DC-3. F. L. Moore. il plan Aviation W 53:39-40 D 25 '50

Delta joins DC-3 conversion trend. il Aviation W 54:39-40 F 19 '51

Details of Douglas Skyrocket's new record flight. il Aviation W 55:14 S 10 '51

Fairey's Delta research F.D.1 makes first flight. il Aviation W 54:16 Mr 26 '51

Feederline specifications for ideal plane. F. L. Moore. il plans Aviation W 53:52-5 N 20 '50

First Brabazon passenger flights. il Engineer 192:157-8 Ag 3 '51

AIRPLANES—*Continued*

Flight experience with turbine propeller powered aircraft. R. C. Loomis and E. D. Shannon. il diag Aviation W 54:21-2+ Ap 23 '51; Abstract. Automotive Ind 104:106+ My 15 '51

Heron suggested as best shorthaul bet; four-engined feederliner. il plans diags Aviation W 54:21-2+ Ja 8 '51

Hope wanes for new local service plane. Aviation W 55:58 Jl 23 '51

Martin prototype 4-0-4 takes the air. il Aviation W 53:13 O 30 '50

New Convair transport. plan diags Automotive Ind 104:53+ Ap 1 '51

New experimental aircraft; P.111. il Engineer 190:383 O 20 '50

New stars for Europe's skies; illustrations with text. Aviation W 54:36 My 7 '51

Pionair; BEA's new version of the DC-3. il Aviation W 54:34 Ja 8 '51

Plane that grew; Lockheed Constellation. il diags Aero Digest 62:26-9+ Je '51

PO studies XC-99 use as all-mail plane. il Aviation W 53:16-17 D 18 '50

Probe U.S. market for Handley Page Marathon. Aviation W 54:15 Je 11 '51

Production 4-0-4 nears flight. A. McSurely. il Aviation W 54:14-16 Je 25 '51

Renault in production on new frigate model. W. F. Bradley. diags Automotive Ind 104:57+ My 1 '51

61 Convair-liner 340s ordered since Jan. 1. Aviation W 54:16-17 F 19 '51

Super Connie orders climb to 143. il Aviation W 55:15 Ag 13 '51

TWA ocean Connies join luxury parade. il Aviation W 54:58+ My 28 '51

TWA studies major plane deals. Aviation W 55:16-17 Jl 2 '51

TWA's first 4-0-4 rolls out. il Aviation W 55:57 Jl 23 '51

Transports; illustrations and drawings with brief descriptions. Aero Digest 62:38-44 Mr '51

United to order new Convair-liner. Aviation W 54:17 Ja 29 '51

Who will build the atom plane? Aviation W 54:15 Mr 5 '51

See also

Aeronautics
Airfoils
Airplane engines
Airplane propellers
Aviation
Flying boats
Gliders
Hangars
Helicopters
Loading and unloading—Airplanes
Seaplanes

Acceleration

Problems in aircraft dynamic response. J. R. Rea. Aero Digest 63:26-8+ Jl '51

Airworthiness

Air registration board. Engineering 172:160 Ag 3 '51

Problems related to airworthiness requirements for commercial turbine-engined airplanes. G. W. Haldeman. Aeronautical Eng R 9:33-40 N '50; Abstract. Aviation W 53:37-8+ Ag 14 '50

Proposal would revise regulation on certification of light planes. CAA J 11:122-3 N 15 '50

Automobile combinations

See Airplanes, Light—Automobile combinations

Auxiliary power

Pneumatic versus hydraulic systems for aircraft. H. F. Gerwig and J. H. Famme. diags Product Eng 21:91-5 N '50

Stratos to produce French baby turbine. G. L. Christian. il Aviation W 55:51-2+ Ag 27 '51

Cabins

Supercharging

General aspects of cabin pressurization. R. W. Rummel. il Aeronautical Eng R 10:14-17+ Jl '51

Moisture-free cabin. Aviation W 53:51 D 18 '50

Chartering

Transatlantic charter flights affected by Board statement on 1951 policies. CAA J 12:39 Ap 20 '51

Cockpits

Considerations in the design and installation of cockpit check lists, placards, and manuals. D. H. Kaplan. bibliog il diag Aeronautical Eng R 10:10-16 S '51

Fighter cockpit seal. il Aviation W 55:59 Ag 27 '51

New cockpit philosophy. R. C. Robson. Aviation W 55:56 S 17 '51

Cold weather operation

Low temperature lubrication of aircraft engines. S. Barron. diags S A E J 59:58-62 Jl '51

Unit runs at -105F.; Hydro-Aire electro-mechanical, linear actuator. il Aviation W 53:40 N 6 '50

Control

Aerodynamic stability and automatic control. W. Bollay. il diags J Aeronautical Sci 18:569-617 bibliog(91 titles, p615-17); Discussion. 617-23+ S '51

Aileron. bibliog diags Aero Digest 61:95-100+ N '50

Airlines expand automatic pilot program. Aviation W 55:42+ Jl 23 '51

Autopilot for guiding jets in combat. Electronics 24:176+ Ap '51

Control-surface position feedback in flight-control systems. L. Becker. diag Aeronautical Eng R 10:17-19+ S '51

Design method for automatic longitudinal control systems. F. Stevens and K. M. Stevenson. diags Aeronautical Eng R 10:18-23 Ja '51

Faith grows in approach couplers. Aviation W 54:35-6 Ja 1 '51

Flight control unit is sensitive to two-foot change in altitude. M. A. Argentieri. il diags Machine Design 22:143-5 N '50

Flight investigation on a fighter-type airplane of factors which affect the loads and load distributions on the vertical tail surfaces during rudder kicks and fishtails. J. Boshar. il diags U S Nat Advisory Com for Aeronautics 1947:491-536 '50

Flight measurements of the lateral control characteristics of narrow-chord ailerons on the trailing edge of a full-span slotted flap. R. H. Sawyer. il diags U S Nat Advisory Com for Aeronautics 1947:481-5 '50

Frequency-response method for determination of dynamic stability characteristics of airplanes with automatic controls. H. Greenberg. U S Nat Advisory Com for Aeronautics 1947:471-9 '50

Highspeed aircraft controls; a power-operated irreversible system on the new F-86E Sabre jet interceptor fighter. il Aero Digest 61:42+ D '50

New autopilot allows unlimited maneuvers. Aviation W 54:37-8 Mr 5 '51

New bantam automatic coupler. G. L. Christian. il Aviation W 53:46+ D 18 '50

Proportional radio control. G. R. Urquhart. diags Aero Digest 62:20-1+ F '51

Roll to sideslip or yaw ratios. D. Graham and A. McCaskill. J Aeronautical Sci 17:741-2 N '50

Single curve simplifies control; new system uses mechanical computer. diag Aviation W 54:26+ Ap 16 '51

Summary of lateral-control research. T. A. Toll, comp. il diags U S Nat Advisory Com for Aeronautics 1947:127-200 bibliog(91 titles, p 195-7) '50

Design

Aeroelasticity represents an integration of the fields of aerodynamics and structural design. bibliog il diags Aero Digest 62:98-108 My '51

Aeronautics; trends in airplane design. J. C. Hunsaker. Franklin Inst J 251:48-57 Ja '51

Air transportation and what is the technical future. K. R. Ferguson. S A E J 59:61-3 Ja '51

Aircraft structure fatigue. R. McLarren. bibliog il Aero Digest 63:100-8 S '51

Airplane pitching moment of inertia. I. Bouton. J Aeronautical Sci 18:140-1 F '51

Analysis of the elastic and plastic stability of sandwich plates by the method of split rigidities. P. P. Bijlaard. bibliog diags J Aeronautical Sci 18:339-49, 790-6+ My, D '51

Anticlastic curvature of rectangular beams and plates. D. G. Ashwell. diags Roy Aeronautical Soc J 54:708-15 N '50

AIRPLANES—Design—*Continued*

Antisymmetric span loading studied. Aviation W 54:32-3 Ja 15 '51

Application of spot and seam welding to design. S. P. Jenkins and T. E. Piper. il Welding J 30:803-9 S '51

Bell X-5, first aircraft with controllable wing sweep. il Aero Digest 63:86+ Jl '51

Bifurcation criterion and plastic buckling of plates and columns. C. E. Pearson. bibliog diags J Aeronautical Sci 17:417-24 Jl '50; Discussion. P. P. Bijlaard. 17:810-11 D '50

Buckling load of a stepped column. F. M. Hoblit. diags J Aeronautical Sci 18:124-6+ F '51

Buckling of a pretwisted pin-ended column. G. V. R. Rao. diag J Aeronautical Sci 18: 211-12 Mr '51

Buckling of sandwich cylinders under axial compression. F. K. Teichmann and others. il diag J Aeronautical Sci 18:398-406 Je '51

Characteristics of supersonic wings having biconvex sections. B. Beane. bibliog il diags J Aeronautical Sci 18:7-20 Ja '51

Column behavior in the plastic stress range. J. E. Duberg and T. W. Wilder, 3d. diags J Aeronautical Sci 17:323-7 Je '50; Discussion. N. J. Hoff. 17:743-4 N '50

Conical flow methods applied to uniformly loaded wings in subsonic flow. S. Lampert. bibliog diags J Aeronautical Sci 18:107-14+ F '51

Convair triplets; 240, Turboliner, 340; turboprop transport research. il diags Aviation W 54:21-2+ Mr 12 '51

Convair Turboliner. il Aero Digest 62:15-18+ F '51

Cost control engineering, stepping stone to better design proficiency; Glenn L. Martin co. J. Van Hamersveld. diags Machine Design 23:108-14 F '51

Critical stress of thin-walled cylinders in axial compression. S. B. Batdorf and others. bibliog U S Nat Advisory Com for Aeronautics 1947:543-50 '50

Design approximation of skin thickness from stiffness criteria. A. H. Hall. diags Roy Aeronautical Soc J 54:741-52 D '50

Designing aircraft main spar frames. M. Stone. il diags Machine Design 23:111-16 O '51

Development and design of aeroplane structures; abstract and discussion. A. G. Pugsley. Engineering 172:70-1 Jl 20 '51

Development of a large aircraft; the Lockheed Constitution. W. M. Hawkins, jr. and R. L. Thoren. il diags Machine Design 23: 164-7+ My '51; S A E J 59:47-54 Je '51

Distortion characteristics of swept and cranked wings in relation to flutter and other aeroelastic phenomena. D. Williams. diags Roy Aeronautical Soc J 55:116-25 F '51

Dynamic analysis of aeroelastic aircraft by the Transfer function-Fourier method. J. B. Rea. diags J Aeronautical Sci 18:375-97 Je '51

Effect of torsional stiffness requirements on wing structural weight. W. R. Micks. J Aeronautical Sci 17:736-40 N '50

Effective end restraint of columns by frequency measurements. H. Lurie. J Aeronautical Sci 18:566-7 Ag '51

Extension of Glauert's theory of thin airfoils to profiles in cascade. N. Scholz. bibliog diag J Aeronautical Sci 18:637-9 S '51

First details on U.S. jet transport plans. il plan diags Aviation W 54:19+ Je 18 '51

First U.S. turboprop transport flies: Convair Turboliner. T. M. Self. il Aviation W 54: 15-17 Ja 8 '51

Flight characteristics at high Mach numbers. V. Outman and G. S. Graff. il S A E J 58:56-8 D '50

Flight tests bring Brabazon changes. il Aviation W 55:37-8 Ag 27 '51

High speed aircraft design. Aero Digest 62: 76-85 Ja '51

How aircraft design changes can be controlled. E. F. Stoner. Automotive Ind 104: 38-9+ Ja 1 '51

How airframe design trends affect manufacturing methods. A. H. Petersen. il diags Automotive Ind 105:52-3+ Ag 1 '51

Interaction curves for the critical loads on continuous beam-columns. E. Rottmayer. Aeronautical Eng R 10:40-2 Mr '51

Interference between wing and body at supersonic speeds; theoretical and experimental determination of pressures on the body. R. H. Cramer. bibliog diag J Aeronautical Sci 18:629-32 S '51

Longitudinal stability of elastic swept wings at supersonic speed. C. W. Frick and R. S. Chubb. J Aeronautical Sci 17:691-704 N '50

Method of calculating the landing flare path of an airplane. R. D. Fusfeld. diag Aeronautical Eng R 10:25-30 F '51

Negative camber airfoils for transonic flight. T. B. Woersching. bibliog J Aeronautical Sci 18:361-8 Je '51

Nonlinear effects of structural deformation on stability. A. Epstein. bibliog J Aeronautical Sci 18:50-4 Ja '51

Plane whose wings change sweep in air; new Bell X-5. il Aviation W 54:16-17 Je 18 '51

Plastic buckling of plates and a theory of plastic slip. P. Cicala. J Aeronautical Sci 18:285-6 Ap '51

Pounds vs dollars in aircraft design. M. F. Taylor and J. VanHamersveld. diags Aero Digest 63:36+ S '51

Problems faced in designing famed X-1. J. van Lonkhuyzen. il Aviation W 54:22-4 Ja 1 '51

Problems in aircraft dynamic response. J. R. Rea. Aero Digest 63:26-8+ Jl '51

Research and development to promote safety in aviation. T. P. Wright. S A E J 59:35-41 Ja '51

Simple graphical solution of the Duhamel integral. E. V. Laitone and J. T. Ahlin. diags J Aeronautical Sci 18:142-3 F '51

Simplified method of elastic-stability analysis for thin cylindrical shells. S. B. Batdorf. bibliog il diags U S Nat Advisory Com for Aeronautics 1947:285-309 '50

Some aspects of flight research. H. Davies. bibliog il diags Roy Aeronautical Soc J 55: 325-57; Discussion. 357-61 Je '51

Strange design; French SE 2410 Grognard. il Aviation W 54:36-8 Ap 16 '51

Structural damping with complex stiffness. H. R. Grummann and R. E. Newton. diags Aero Digest 63:22+ Jl '51

Summary of lateral-control research. T. A. Toll, comp. il diags U S Nat Advisory Com for Aeronautics 1947:127-200 bibliog(91 titles, p 195-7) '50

Summary report on the high-speed characteristics of six model wings having NACA 65_1-series sections. W. T. Hamilton and W. H. Nelson. il diags U S Nat Advisory Com for Aeronautics 1947:379-95 '50

Supersonic wing-body center of pressure. G. K. Morikawa and T. F. Coleman. J Aeronautical Sci 18:140 F '51

Supersonic wing-body lift. G. Morikawa. bibliog diags J Aeronautical Sci 18:217-28 Ap '51

System for the excitation of pure natural modes of complex structure. R. C. Lewis and D. L. Wrisley. bibliog il diags J Aeronautical Sci 17:705-22+ N '50

Tail wags plane, but NACA studies show designers how to avoid flight instability. Aviation W 54:26+ Ja 8 '51

Towards slower and safer flying, improved take-off and landing, and cheaper airports. F. H. Page. bibliog il diags Roy Aeronautical Soc J 54:721-39 D '50

Treatise on experience; review of some detail design experiences. W. W. Davies. il diags S A E J 59:64-6 S '51

Triangle seen as shape of the future. il diags Aviation W 55:20-2+ S 17 '51

Use of wind tunnel model data in aerodynamic design. R. Hills. bibliog il diags Roy Aeronautical Soc J 55:1-19 Ja '51; Abstract. Engineering 170:356-7 N 10 '50; Discussion. Roy Aeronautical Soc J 55:20-6 Ja '51

Viscount to enter BEA service in 1953. D. A. Anderton. il Aviation W 53:21-2+ N 6 '50

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Airplane propellers
Airplane wings
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Airplanes, Flying wing
Airplanes, Light—Design
Airplanes, Military—Design

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Convertaplanes

AF makes convertaplane awards. A. McSurely. Aviation W 54:14 Ap 30 '51
Air force studies convertaplane design. il Aviation W 54:17 F 12 '51

Electric equipment

Aircraft electric motors need test equipment. I. E. Ross. bibliog il diags Elec Eng 70:41-6 Ja '51
A.c. system protection. R. H. Keith. Aero Digest 63:26+ Ag '51
Aluminum conductors from the aircraft manufacturer's viewpoint. W. W. Schumacher. il diag Elec Eng 69:1064 D '50
Automatic feathering to reduce the hazard of aircraft engine failure at take-off. W. L. Kershaw. il diag Elec Eng 69:953-8 N '50
Brabazon electrical equipment; abstract and discussion. M. J. J. Cronin. Elec R (Lond) 148:753-4 Ap 13 '51
Centralized control panels. B. O. Austin. il Aero Digest 63:64+ S '51
Constant speed for airborne generators; Sundstrand's engine-driven, hydraulic, constant speed alternator drive. G. L. Christian. il diag Aviation W 54:48-50 Je 25 '51
Dielectric materials for electrical connectors. H. M. Neben. il Aero Digest 62:31-2+ My '51
Direct current control in aircraft. J. D. Miner and B. O. Austin. il diags Aero Digest 61:28-9+ D '50
Dynamotor for aircraft teletype printer. diag Westinghouse Eng 10:255 N '50
Electrical and allied developments during 1950; transportation; aviation. G. Bartlett. il Gen Elec R 54:40-3 Ja '51
Electronics simplified; single unit design, containing complete subcircuits in plug-in packages. E. Forbes. il Aero Digest 62:19-20+ Ap '51
Engineering highlights of 1950; electrical apparatus for aircraft. il Westinghouse Eng 11:31-2 Ja '51
Expansion chambers, utilizing porous ceramic baffles successfully employed in variable tuning capacitors, for airborne electronic equipment. il diags Machine Design 23:115-16 F '51
Fault-finder spots electrical defects. Aviation W 55:41 Jl 16 '51
Growing pains torment avionics. W. Kroger. Aviation W 54:71-2+ F 26 '51
Gust alleviation device for aircraft. Engineer 192:31 Jl 6 '51
High-altitude brush. Aviation W 54:70+ Je 18 '51
High-flying varnish; designed to protect electrical components in military aircraft at temperatures down to -70 F. Aviation W 53:52+ D 18 '50
How plastics aid miniaturization of electrical assemblies in aircraft. R. J. Bibbero and E. B. Chester. bibliog il Machine Design 23:127-32 O '51
Improved cabin heat control for 4-0-4; Barber-Colman system. G. L. Christian. il diags Aviation W 53:43-4 O 30 '50
Miniature relays hermetically sealed. Aviation W 55:52+ Ag 13 '51
New heavy-duty ground connector. Aviation W 54:54 Ap 16 '51
New industry, new problems; avionic equipment industry. W. Kroger. il Aviation W 55:101-2+ S 24 '51
New uses seen for Goodrich's Geon; aircraft electrical equipment. Aviation W 54:43+ Mr 12 '51
Non-jamming stop when limit switch fails. diag Aviation W 55:66 Jl 16 '51
Plants and equipment for avionics expansion; table. Aviation W 55:122-3 S 24 '51
Progress towards electrical serviceability. R. H. Woodall and V. A. Higgs. il diags Roy Aeronautical Soc J 55:395-413 Jl '51; Abstract. Engineering 171:331 Mr 16 '51; Discussion. Roy Aeronautical Soc J 55:413-23 Jl '51
Rotary inverter completely shock mounted. il diags Product Eng 22:128-9 Ag '51
Temperature rise in electronic equipment cases. R. J. Bibbero. Machine Design 23:174-5 F '51
Transient analysis of a voltage-regulated aircraft d-c system. D. G. Scorgie. diag Elec Eng 70:138 F '51
Wide-speed-range a-c electric systems for aircraft. H. B. James and others. diag Elec Eng 69:1101 D '50

Equipment

AMC redesigns plane intercoms. il Aviation W 54:36+ My 21 '51
AirResearch air turbine assembly; refrigeration equipment for aircraft; illustrations with text. Aero Digest 62:22-5 Je '51
Development of a large aircraft; the Lockheed Constitution. W. M. Hawkins, jr. and R. L. Thoren. il diags Machine Design 23:164-7+ My '51; S A E J 59:47-54 Je '51
Gust alleviators. Aviation W 54:48+ Je 18 '51
New compensated-float method of liquid-level gaging for aircraft. R. G. Ballard. il diags Instruments 23:1006-7 O '50
New remote driveshaft is light; for transmission of power to aircraft accessories. G. L. Christian. il Aviation W 55:54-5 Ag 20 '51
Romec expanding line of aircraft pumps. G. L. Christian. il Aviation W 53:38-9 N 6 '50
Unit runs at -105F.; Hydro-Aire electromechanical, linear actuator. il Aviation W 53:40 N 6 '50
See also
Aeronautic instruments
Airplanes—Electric equipment
Airplanes—Hydraulic equipment
Radio apparatus on aircraft

Fires and fire protection

Air force needs fast fire trucks. il Automotive Ind 104:38-9+ Je 1 '51
All big DC-6 fleets go to Skydrol fire-resistant fluids. G. L. Christian. il Aviation W 54:65-6+ Je 18 '51
Aqueous nonflammable hydraulic fluids; Hydrolubes. J. E. Brophy and others. bibliog Ind & Eng Chem 43:884-96 Ap '51
CB extinguisher designed to make use of liquid chlorobromomethane. il Aviation W 54:40 F 5 '51
CB system slated in Convair 340. S. H. Reiniger. Aviation W 55:43 Jl 30 '51
Hydraulic fluid that will not burn. G. L. Christian. il Aviation W 55:54+ Jl 16 '51
Jets ablaze; in a turbo jet aircraft fire protection measures are mandatory. H. A. Klein. il diag Aero Digest 61:30-1+ D '50
Kidde's electronic fire detector. il Aviation W 54:50-2 My 14 '51
New fire aids developed by CAA. il Aviation W 54:45 Ja 29 '51
New magnetic fire detector. diag Aviation W 55:56 Ag 20 '51

Fuel tanks

Aluminum tanks welded in unique fixtures. T. E. Imholz. il Iron Age 168:87-9 Jl 5 '51
Development of Sabre combat tanks. R. Sohn. il diags Aero Digest 62:22-3+ Ap '51
Device suppresses fuel tank explosions. il Aviation W 54:45-6 Je 11 '51
Expanding rubber forms parts. T. L. Self. il Aviation W 55:32+ Jl 23 '51
Fuel tank sealers. Aviation W 54:54 Je 4 '51
Hydraulically expanded rubber die forms airplane fuel tanks. il Mach 58:169 S '51; Steel 129:76 Ag 20 '51
Production development of a jettisonable fuel tank. A. H. Petersen. il Automotive Ind 104:44+ Ja 15 '51
Simmonds electronic fuel gage; Pacitron gage. il(cover) diag Electronics 24:138 Jl '51
Tank stripping; why one airline kept job at home; Braniff international airways. Aviation W 55:62+ Jl 16 '51
Tanks stripped faster and cleaner. il diag Aviation W 54:39+ Ap 30 '51

Gearing

Chain you can't hook up wrong. diags Aviation W 54:45 Ap 16 '51

Heating and ventilation

Cabin heat control. Aviation W 54:50 Je 11 '51
Heating nets. il Aviation W 54:31 Ja 1 '51

AIRPLANES—Heating and ventilation—*Cont.*

Improved cabin heat control for 4-0-4; Barber-Colman system. G. L. Christian. il diags Aviation W 53:43-4 O 30 '50

New lightweight ground heater. Aviation W 53:36 N 27 '50

History

Miracle at Kitty Hawk, the letters of Wilbur and Orville Wright, ed. by F. C. Kelly; review. Aero Digest 63:52+ Jl '51

Hydraulic equipment

ATA group finds equipment improving. Aviation W 54:14-16 My 7 '51

Aircraft hydraulics men score advances in equipment standards; meeting of three committees of the SAE aeronautics committee. S A E J 58:71-4 D '50

All big DC-6 fleets go to Skydrol fire-resistant fluids. G. L. Christian. il Aviation W 54:65-6+ Je 18 '51

Aqueous nonflammable hydraulic fluids; Hydrolubes. J. E. Brophy and others. bibliog Ind & Eng Chem 43:884-96 Ap '51

Constant speed for airborne generators; Sundstrand's engine-driven, hydraulic, constant speed alternator drive. G. L. Christian. il diag Aviation W 54:48-50 Je 25 '51

Designing an integral dashpot for a hydraulic cylinder. W. E. Soong. diags Machine Design 23:129-32+ Jl '51

Dynamic response of hydraulic systems. H. Raiklen. diags Machine Design 23:137-40 S '51

Flying F-89 mockup saves time. il Aviation W 54:34-5 My 28 '51

Hydraulic fluid that will not burn. G. L. Christian. il Aviation W 55:54+ Jl 16 '51

Hydraulic power unit. il Aviation W 55:48+ Jl 23 '51

Investigation of hydraulic damping; abstract. J. E. Campbell. S A E J 59:105 My '51

Leakproof valves for hydraulic and pneumatic applications. il Aviation W 54:48 Ja 29 '51

New cockpit control. il Aviation W 54:50 Je 11 '51

On target; new aero fluid; H2. il Chem W 69:27-8 Jl 7 '51

Pneumatic versus hydraulic systems for aircraft. H. F. Gerwig and J. H. Famme. diags Product Eng 21:91-5 N '50

Pressure pumps proved in use. il Aviation W 54:53-4+ Mr 26 '51

Progress towards hydraulic serviceability. R. H. Bound and H. G. Conway. il diags Roy Aeronautical Soc J 55:424-39; Discussion. 439-49 Jl '51

Recent developments of the mechanism of the hydraulic variable-pitch aircraft propeller. H. L. Milner. diags Inst Mech Eng Proc 163 (W.E.P. no 57):111-20 '50; Same abr. Engineer 189:476-7 Ap 21 '50; Discussion. Inst Mech Eng Proc 163 (W.E.P. no 57): 121-4 '50; Engineer 189:481 Ap 21 '50

Wafer kits boost pump reliability. il Aviation W 54:43 Mr 12 '51

Wafer licks hydraulic pulsation. G. L. Christian. il Aviation W 53:31-2+ N 27 '50

Ice protection

Effect of ice on prop performance. Aviation W 53:30 D 18 '50

Gas turbine icing tests at Mount Washington, N.H. P. M. Bartlett and T. A. Dickey. il plan S A E J 59:25-8 Ja '51

Heating pad de-ices flaps on B-36 jets. diag Aviation W 53:39 N 6 '50

Icing clouds simulated in tunnel. il Aviation W 53:39 N 13 '50

Icing protection; Avro Canada's Jetliner. Aviation W 55:49 Jl 16 '51

Indication, measurement and control of ice accretion. D. F. Lucking. Roy Aeronautical Soc J 55:382-5 Je '51

Investigation of spontaneous freezing temperatures. Automotive Ind 104:128 F 15 '51

New windshields studied for military airplanes. Materials & Methods 34:9 S '51

Porous panel anti-icing system. il Aviation W 54:35-6 Ja 8 '51

Weight comparison of de-icing systems. C. K. McBaine. Aero Digest 63:72+ S '51

See also

Gas turbines, Aircraft—Ice problem

Instrument boards

Cockpit viewpoint; amendment to Civil air regulations calls for standardization of flight instrument panels. Aviation W 54:56 Ja 22 '51

Edge lighting gives dial clarity. il Aviation W 53:22 N 27 '50

Sierracin used in edge-lighted panels. Aviation W 55:51-2 S 10 '51; Product Eng 22: 230 S '51

Jet propulsion

See Airplanes, Jet propelled

Landing

Analytical and experimental studies on dynamic loads in airplane structures during landing. T. H. H. Pian and H. I. Flomenhoft. bibliog il diags J Aeronautical Sci 17: 765-74+ D '50; Correction. 18:640 S '51

Camera frames low-level flight data. il Aviation W 54:25 Ja 1 '51

Faith grows in approach couplers. Aviation W 54:35-6 Ja 1 '51

15 tough minutes; easier by radar. il Bsns W p24-5 Ag 11 '51

Method of calculating the landing flare path of an airplane. R. D. Fusfeld. diag Aeronautical Eng R 10:25-30 F '51

100-ft. minimums now in sight; combination of approach light system and electronic aids make lower ceilings practical. F. L. Moore. diag Aviation W 54:48-9 Ja 8 '51

Radar landing systems. P. H. Kreager. il Aero Digest 63:34+ Jl '51

Recent developments in visual low-approach and landing aids for aircraft. M. A. Garbell. diags Illum Eng 46:353-8 Jl '51

Skid tests studied. il Machine Design 23:162 F '51

Snow has little effect on improved landing aid. CAA J 11:133 D 15 '50

See also

Aviation landing stations

Landing gear

N.R.C.'s aircraft ski research. Can Chem & Process Ind 34:986 D '50; Can Min J 71:54 D '50

Recent developments in aeroplane landing gear. H. G. Conway. il diags Engineering 171:233-4 F 23 '51

Study of the response of an airplane landing gear using the differential analyzer. W. C. Hurty. bibliog diags J Aeronautical Sci 17: 756-64 D '50

Track type landing gear for light airplanes; illustrations with text. Automotive Ind 105: 48 Ag 15 '51

Lighting

Electroluminescence; new word in lighting. il diag Aviation W 55:65+ Ag 13 '51

Improved aircraft lights aim of intensive research. CAA J 12:12 Ja 20 '51

Lighting the Boeing stratocruiser. R. J. Helberg. il diag Illum Eng 46:340-4 Jl '51

New landing and taxi light pair. il Aviation W 54:54 Mr 19 '51

Load

Derivation and estimation of aerodynamic loads for stressing purposes. D. J. Lambert. bibliog diags Roy Aeronautical Soc J 55: 561-85 S '51

Gust loads on rigid airplanes with pitching neglected. R. L. Bisplinghoff and others. bibliog J Aeronautical Sci 18:33-42 Ja '51

Structural load measurements on complex aircraft components using strain-gage summation circuits. M. A. Walter. bibliog diags J Aeronautical Sci 18:101-6 F '51

Lubrication

Aircraft lubricating grease needs met with synthetic products. R. R. Matthews. bibliog Pet Processing 6:161+ F '51

Maintenance and repair

Air transport association engineering and maintenance conference, Chicago. Aviation W 54:52-4+ My 21 '51

Aviation chemicals. W. H. Shearon, jr. il Chem & Eng N 28:3964-5 N 13 '50

EAL's, ideal; safety, simplicity; Miami main overhaul base. G. L. Christian. il Aviation W 54:37+ F 5; 32-3 F 19 '51

AIRPLANES—Maintenance and repair—*Cont.*

Guide to equipment overhaul times. il Aviation W 54:37-41 Ap 23 '51

Stratocruiser overhaul dock. il Aviation W 53:51 D 18 '50

Manufacture

Aircraft parts stretch-formed on conventional mechanical presses; Rohr aircraft corp., Chula Vista, Calif. B. F. Raynes. il Steel 129:76-7 Ag 27 '51

Aircraft production number. il diags Mach 57:145-208 Jl '51

Aircraft riveting. H. Giddings. il diags Roy Aeronautical Soc J 54:753-78 D '50; Abstract. Engineering 170:467-8 D 8 '50

Auto industry returns to its wartime job. A. McSurely. il Aviation W 55:84-6+ S 24 '51

Beefing up planes by integral ribs. il Bsns W p44-6+ Ap 28 '51

British metals adhesive uses; Redux bonding. C. J. Moss. il Aviation W 54:30+ Mr 5 '51

Cutting for speed; Boeing cuts sheet to size after it is riveted into place. Bsns W p84+ F 10 '51

Dies pooled: AMC project cataloging extrusion shapes will speed plane production. Aviation W 54:16 Mr 5 '51

Engineering developments in aircraft production. T. E. Piper. il Automotive Ind 104:34-8+ My 15 '51

Engineering developments in light metals. T. Piper. il Light Metal Age 9:8-14 F '51

Forming problems with stainless steel sheet metal. il diag Automotive Ind 105:42-4+ Jl 15 '51

German aircraft manufacturing methods. A. Bringewald. il S A E J 59:26-8 My '51; Abstract. Automotive Ind 104:36 F 1 '51

High production requires ingenious methods of deburring aircraft sheets; illustrations with text. H. E. Linsley. Am Mach 95:99-101 Je 25 '51

Hot dimpling widens metal use. il diags Aviation W 54:21-2 Ap 2 '51

Hot-joggling aluminum extrusions. T. E. Piper. il Mach 57:144-8 N '50

How airframe design trends affect manufacturing methods. A. H. Petersen. il diags Automotive Ind 105:52-3+ Ag 1 '51

How Northrop speeded aluminum extrusion machining. il Light Metal Age 9:23 Ag '51

How to stretch-form magnesium. il Aviation W 54:21-2 Mr 19 '51

Impact-extrusion for thin-wall parts. Aviation W 55:30 S 10 '51

Integrally stiffened sections are extruded. O. L. Mitchell. il diags Iron Age 167:92-5 Je 14 '51

Integrally-stiffened skin revolutionizes aircraft construction. P. E. Sandorff and G. W. Papen. il diags Iron Age 167:99-102 F 1; 87-90 F 8; 91-4 F 15; 74-7 F 22 '51

Magnesium sheet hot formed at less cost at Douglas Aircraft. G. C. Close. il Steel 127:56-8 N 27 '50

Making plane sections in one piece. il Bsns W p48 Je 16 '51

Metal adhesive processes; Redux process. F. H. Parker. il diags Roy Aeronautical Soc J 55:153-67 Mr '51; Abstract. Engineering 171:144-6 F 2 '51; Discussion. Roy Aeronautical Soc J 55:167-8 Mr '51

Northrop's cost-cutting methods. il Aviation W 54:37-8+ Je 4 '51

Optical tooling, faster more accurate. G. Elwers. il Iron Age 166:119-22 D 7 '50

Optical tooling gets under way at Republic. Bsns W p86+ Jl 28 '51

Optical tooling insures aircraft accuracy. B. K. Bucey. il diag Mach 58:137-43 S '51

Picture book production of the Martin 4-0-4. il Aero Digest 62:23-8 F '51

Plane fabrication's ace in hole; German-developed mass-production technique. I. Stone. diags Aviation W 54:42+ My 28 '51

Planning and aircraft development. F. O. Thornton. diag Roy Aeronautical Soc J 55:303-22 My '51

Planning and production methods used in the construction of the de Havilland Comet. H. Povey. il diags Roy Aeronautical Soc J 55:459-514 Ag '51; Same cond. Engineering 171:605-7, 639-41 My 18-25 '51; Discussion. Roy Aeronautical Soc J 55:515-17 Ag '51

Rubber die method cuts tooling costs for Consolidated Vultee Aircraft; Hidraw. il Bsns W p77-8 Ja 27 '51

Spun neutral shapes facilitate drop hammer forming; Douglas aircraft co. G. C. Close. il Steel 128:72-4 Ja 22 '51

Stretch brake cuts forming cost 90 per cent. il Aviation W 54:42+ My 7 '51

Stretch forming with flexible equipment; Northrop aircraft. il Automotive Ind 105:38-9 Jl 15 '51

Tests show value of press-forging; manufacturing integrally stiffened structures. il Aviation W 54:50+ Ap 23 '51

Universal locator sets up aircraft fixtures. L. E. Laux. il diags Am Mach 94:125-7 N 27 '50

Why consider adhesive bonded structures? S. Gunthorp and R. G. Naugle. il diags Product Eng 21:138-43 D '50

See also

Airplane factories

Airplanes—Welding operations

Drafting room practice

Quick photo prints from master drawings at Consolidated Vultee Aircraft. T. A. Dickinson. il diag Mill & Factory 48:87 F '51

Materials

Air force specifies policy for cadmium parts. Aviation W 54:43 Ja 29 '51

Air force's new ML aluminum casting alloy. J. C. McGee. il Light Metal Age 9:17-18+ Ag '51

Aircraft adhesives, sealers, and coatings. I. G. Christensen. diags Aeronautical Eng R 10:10-16 Ag '51

Aircraft metallic materials under low temperature conditions. P. L. Teed. bibliog il diags Roy Aeronautical Soc J 55:61-81 F '51; Abstract. Engineering 170:357-8 N 10 '50; Discussion. Roy Aeronautical Soc J 55:81-6 F '51

Approved and proposed aero materials specs; list. S A E J 59:81+ Ja; 106+ Mr; 73 Ap; 105-6 My '51

Bronze alloy for B-47 counterweights. Aviation W 53:43 N 20 '50; il Steel 127:100 D 4 '50

Buckling strength of rectangular sandwich panels; reference book sheet. N. J. Hoff. diag Product Eng 22:183+ Je '51

Conservation of columbium. J. F. Tyrrell. bibliog il Metal Prog 58:63-8 Jl '50; Discussion. 58:691-708+ N '50

Easier way to fight salt spray; Alodizing process. S. H. Reiniger. il diag Aviation W 55:37-8+ Ag 20 '51

Effect of low temperatures on aircraft metals. J. B. Johnson and D. A. Shinn. bibliog il Product Eng 22:187-92 O '51

Fatigue problems in transport aircraft. W. T. Shuler. Aeronautical Eng R 10:20-6 Je '51

Fighter wing redesigned for magnesium. D. H. Black. il diag Iron Age 167:90-2 Mr 29 '51

Flying foam; combination of GR-A (butadiene-acrylonitrile) synthetic rubber and nylon. il Chem Ind W 68:13 Mr 3 '51

How NPA plans to allocate materials. A. McSurely. Aviation W 54:13-14 F 5 '51

Metal failures in aircraft. W. B. F. Mackay and R. L. Dowdell. il Metal Prog 59:518-22 Ap '51

Modern trends in airframe materials. L. Schapiro. il Metal Prog 59:511-15 Ap '51; Same cond. Steel 128:77-80 Ap 16 '51; Abstract. Light Metal Age 9:13 Ap '51

Navy studies jet structural alloys at intermediate temperatures. J. F. Erthal. il Iron Age 167:91-5 My 10 '51

New aluminum casting alloy for higher temperatures. Automotive Ind 105:58+ S 1 '51

New silicone elastomer retains properties over wide temperature range. il Materials & Methods 33:67-8 Ja '51

Problem of rubber in aircraft. Rubber Age 69:717 S '51

SAE technical board approves 67 aeronautical material specifications. S A E J 59:116+ Je '51

AIRPLANES—Materials—*Continued*

Structural-efficiency evaluation of titanium at normal and elevated temperatures. G. J. Heimerl and P. F. Barrett. Aviation W 54:28-30 F 19 '51

Titanium in aircraft. J. B. Johnson and E. J. Hassell. Metal Prog 60:51-5 S '51

USAF tests titanium in airplane structurals. Steel 127:60-1 N 27 '50; Aviation W 53:38-9 N 20 '50; Mech Eng 73:20-1 Ja '51

XA78S new high-strength aluminum alloy. Light Metal Age 9:31 Je '51

Plastics

Electroformed tooling. M. H. Orbaugh. il Automotive Ind 105:32-3+ Ag 1 '51

Glass reinforced plastics. I. Yassin. Aero Digest 63:44-6+ Ag '51

Gun plugs for jet fighters. il Mod Plastics 28:68-9 My '51

Laminates; fiberglas, plastic parts have many ballistic and dielectric uses. R. Temple. Aviation W 54:43-4+ Mr 19 '51

New high-strength laminate treatment. Aviation W 55:28 Jl 2 '51

Plastics in aircraft; a progress report. il Mod Plastics 28:73-8, 177 Ap '51

Sierracin used in edge-lighted panels. Aviation W 55:51-2 S 10 '51; Product Eng 22:230 S '51

Void free laminates; abstract. B. D. Raffel and E. Duplaga. Product Eng 22:151 F '51

Model testing

Airplane model profiles tested in water channel; development of an electronic depth indicating probe mechanism. il Product Eng 21:162 N '50

Analytical and experimental studies on dynamic loads in airplane structures during landing. T. H. H. Pian and H. I. Flomenhoft. bibliog il diags J Aeronautical Sci 17:765-74+ D '50

Flexing the Stratojet's limbs. il Aviation W 54:24 Je 25 '51

Use of wind tunnel model data in aerodynamic design. R. Hills. bibliog il diags Roy Aeronautical Soc J 55:1-19; Discussion. 20-6 Ja '51

Noise

Acoustical comfort index for aircraft noise. S. Lippert and M. M. Miller. Acoustical Soc Am J 23:478 Jl '51

Why planes have to be noisy; CAA hears New Yorkers' gripes. il Bsns W p26 Ap 21 '51

See also

Airplane engines—
Mufflers

Painting

Hot spray finish; Douglas aircraft co. Aviation W 55:31 Jl 23 '51

Hot spraying of lacquer feasible for aircraft. E. D. Mitchell and O. J. Winkles. il Automotive Ind 105:42-3+ S 1 '51

Patents

Ingenuity marks French patents. diags Aviation W 55:29+ Ag 13 '51

Performance

Power versus weight in aviation. M. Roy. diags Roy Aeronautical Soc J 55:265-81 My '51; Abstract. Engineering 171:295-6 Mr 9 '51

Safety need not cut down performance. J. Lederer. Aviation W 54:24-9 F 12 '51

Pneumatic equipment

Convair P5Y pneumatic system. E. C. Powers. il Aero Digest 62:19+ My '51

Growing pneumatics field attracts PAC. Aviation W 54:39 F 5 '51

Leakproof valves for hydraulic and pneumatic applications. il Aviation W 54:48 Ja 29 '51

Motor serves as emergency aircraft actuator. il Product Eng 22:192 Ap '51

Pneumatic versus hydraulic systems for aircraft. H. F. Gerwig and J. H. Famme. diags Product Eng 21:91-5 N '50

Pneumatics powers new plane systems. G. L. Christian. il Aviation W 54:28-9 Ja 1 '51

Radio equipment

See Radio apparatus on aircraft

Range

Variation in airplane range with wind velocity. R. E. Hage. Aeronautical Eng R 10:18-22 Jl '51

Reconstruction

Hewitt enters conversion business. E. J. Bulban. il Aviation W 54:77+ Je 18 '51

Refueling

Application of pressure refueling to flight. G. E. Woods-Humphery. bibliog il Aeronautical Eng R 9:20-3+ N '50

Fueled in flight; Boeing six-jet-engined B-47. il Aviation W 54:13 Ap 16 '51

High-output plane refueling truck. il Aviation W 54:53-4 Je 25 '51

Hydrant fueling installed at Bangkok. Aviation W 54:24 Mr 5 '51

Mid-air refueling designed for use with many planes. il Aviation W 55:20-1 Jl 9 '51

Motor vehicle for fuelling aircraft. il Engineering 171:546-7 My 4 '51

New F-84 fitted for air refueling. il Aviation W 54:15 Je 18 '51

Refuelling in flight by the probe and drogue method. C. H. Latimer-Needham. il diag Engineering 171:491-2, pl 35-6 Ap 27 '51

Transport refueling. B. Clark. il Aero Digest 62:56+ Ja '51; Discussion. F. W. Free. 62:29+ Ap '51

Roadable airplanes

See Airplanes, Light—Automobile combinations

Safety measures

See Aviation—Safety measures

Seats

Crash-injury research; protection afforded by rearward-facing passenger seats. plan Mech Eng 73:740-1 S '51

Facing the tail? bearing of airline seating arrangements on casualties. Economist 161:180 Jl 21 '51

Foldaway seats make room for cargo. il Aviation W 53:44 O 30 '50

ICAO recommends safety provisions. Aviation W 54:68 My 21 '51

MATS adopts rearward seating. T. M. Self. il Aviation W 54:59-60 Je 25 '51

Pilot-ejection seats for high-speed aircraft. Engineering 171:368 Mr 30 '51

Rearward-facing seats for use in military transport planes. Mech Eng 72:908 N '50

Skis

See Airplanes—Landing gear

Specifications

Foreign military and civil aircraft; tabulation. Aviation W 54:166+ F 26 '51

Group studies specs for planes of future. Aviation W 54:67 Ap 16 '51

1951 U.S. and British civil aircraft; tabulation. Automotive Ind 104:152 Mr 15 '51

See also

Airplanes, Light—
Specifications

Speed

Boulton Paul's transonic triangle for high-speed flight research. D. A. Anderton. il diags Aviation W 53:19 N 27 '50

High speed aircraft design. Aero Digest 62:76-85 Ja '51

High speed propeller design. R. McLarren. bibliog diag Aero Digest 63:99-107 Jl '51

High-speed research airplane program. H. A. Soulé. il Aero Digest 63:17-22 S '51

Longitudinal stability of elastic swept wings at supersonic speed. C. W. Frick and R. S. Chubb. J Aeronautical Sci 17:691-704 N '50

Speed of an airplane in steady flight. A. Miele. J Aeronautical Sci 17:808-9 D '50

Summary report on the high-speed characteristics of six model wings having NACA 65_1-series sections. W. T. Hamilton and W. H. Nelson. il diags U S Nat Advisory Com for Aeronautics 1947:379-95 '50

Time required to make a level speed measurement with a turbine-jet aircraft. K. J. Lush. Roy Aeronautical Soc J 54:651-5 O '50; Discussion. O. N. Lawrence. 55:262-4 Ap '51

AIRPLANES—Speed—*Continued*

Transient loading of wide delta airfoils at supersonic speeds. J. W. Miles. bibliog diags J Aeronautical Sci 18:543-54 Ag '51

Transient temperature distribution in a wing flying at supersonic speeds. J. Kaye. bibliog diags J Aeronautical Sci 17:787-807+ D '50

Wing plan forms for high-speed flight. R. T. Jones. bibliog diags U S Nat Advisory Com for Aeronautics 1947:61-5 '50

See also

Airplanes, Jet propelled

Stalling

Low-speed investigation of the stalling of a thin, faired, double-wedge airfoil with nose flap; abstract. L. M. Rose and J. M. Altman. Aviation W 53:34 O 30 '50

New stall rule hit as arbitrary. F. L. Moore. Aviation W 55:44 S 17 '51

Progress in stall research. G. Campbell and G. Bull. bibliog Aeronautical Eng R 9:24-32 N '50

Stall recovery demonstrations pay dividends. CAA J 12:97+ S 20 '51

Stall recovery technique shown pilots by CAA. CAA J 11:121+ N 15 '50

Standards

SAE aero standardization geared to military preparedness. S A E J 59:48-50 F '51

Steering

Nose-wheel steering systems. H. G. Conway. diags Roy Aeronautical Soc J 55:586-91 S '51

Stresses

Analysis of the elastic and plastic stability of sandwich plates by the method of split rigidities. P. P. Bijlaard. bibliog diags J Aeronautical Sci 18:339-49, 790-6+ My, D '51

Analytical and experimental studies on dynamic loads in airplane structures during landing. T. H. H. Pian and H. I. Flomenhoft. bibliog il diags J Aeronautical Sci 17:765-74+ D '50

Anticlastic curvature of rectangular beams and plates. D. G. Ashwell. diags Roy Aeronautical Soc J 54:708-15 N '50

Approximate method for the calculation of the stresses in sweptback wings. T. Rand. diags J Aeronautical Sci 18:61-3 Ja '51

Bending of thick sandwich plates. G. Gerard. diag J Aeronautical Sci 18:424-6+ Je '51

Bifurcation criterion and plastic buckling of plates and columns. C. E. Pearson. bibliog diags J Aeronautical Sci 17:417-24 Jl '50; Discussion. P. P. Bijlaard. 17:810-11 D '50

Calculation of thermal stresses in a wedge-shaped wing. G. H. Eisenhardt and W. M. Rohsenow. diags J Aeronautical Sci 18:115-23 F '51

Column behavior in the plastic stress range. J. E. Duberg and T. W. Wilder, 3d. diags J Aeronautical Sci 17:323-7 Je '50; Discussion. N. J. Hoff. 17:743-4 N '50

Compact amplifier for aircraft tests. J. V. Foster and T. Wrathall. il diags Electronics 23:81-3 N '50

Critical stress of thin-walled cylinders in axial compression. S. B. Batdorf and others. bibliog U S Nat Advisory Com for Aeronautics 1947:543-50 '50

Derivation and estimation of aerodynamic loads for stressing purposes. D. J. Lambert. bibliog diags Roy Aeronautical Soc J 55:561-85 S '51

Minimum energy solution and an electrical analogy for the stress distribution in stiffened shells. L. A. Goran. bibliog diags J Aeronautical Sci 18:407-16 Je '51

Principles underlying the dynamic stressing of aeroplanes. D. Williams. diags Roy Aeronautical Soc J 55:362-81 Je '51

Simplified method of elastic-stability analysis for thin cylindrical shells. S. B. Batdorf. bibliog il diags U S Nat Advisory Com for Aeronautics 1947:285-309 '50

Surplus airplanes

Gold mine in a junk shop; Bernard Bachman's surplus B-29 equipment. il Bsns W p66+ N 18 '50

Tail surfaces

Effect of tail surfaces on the base drag of a body of revolution at Mach numbers of 1.5 and 2.0(TN 2360); abstract. J. R. Spahr and R. R. Dickey. Aviation W 55:28-9 S 3 '51

Flight investigation on a fighter-type airplane of factors which affect the loads and load distributions on the vertical tail surfaces during rudder kicks and fishtails. J. Boshar. il diags U S Nat Advisory Com for Aeronautics 1947:491-536 '50

Take-off

Automatic feathering to reduce the hazard of aircraft engine failure at take-off. W. L. Kershaw. il diag Elec Eng 69:953-8 N '50

Camera frames low-level flight data. Aviation W 54:25 Ja 1 '51

Designing a Jato engine. W. L. Rogers. il diags Machine Design 23:102-6 Ja '51

Rockets and assisted take-off. A. V. Cleaver. il diags Roy Aeronautical Soc J 55:87-102 F '51; Same cond. Engineering 170:575-7 D 29 '50; Discussion. Roy Aeronautical Soc J 55:102-9 F '51

Testing

Cameras aid in flight testing. il diag Aviation W 54:26 Ja 8 '51

Compact amplifier for aircraft tests. J. V. Foster and T. Wrathall. il diags Electronics 23:81-3 N '50

Dynamic performance. Tech R 53:290 Ap '51

Flight-test video. Aviation W 53:35 O 30 '50

Mercator drop test technique. K. D. Engle. il Aero Digest 62:30-1+ Ap '51

New recorders provide test data immediately. il Product Eng 22:177 Je '51

Remote control for safer test flying. G. L. Christian. il diag Aviation W 53:44+ N 20 '50

Structural testing equipment at the Royal aircraft establishment, Farnborough; abstract. S. A. G. Emms. diags Product Eng 22:152 Ja '51

See also

Airplane engines—Testing

Airplanes—Model testing

Airplanes, Military—Testing

Wind tunnels

Transportation

Portable aircraft cargo deck erected on Mission San Diego. il Marine Eng 56:72-3 My '51

Vibration

Effective end restraint of columns by frequency measurements. H. Lurie. J Aeronautical Sci 18:566-7 Ag '51

Structural damping with complex stiffness. H. R. Grummann and R. E. Newton. diags Aero Digest 63:22+ Jl '51

Telemetered vibration data. il diags Machine Design 22:119-20 D '50

Vibrations of rectangular plates. H. Lurie. J Aeronautical Sci 18:139-40 F '51

Weight

Board recommends reduction in weights of C-46 transports. CAA J 12:87 Ag 20 '51

Power versus weight in aviation. M. Roy. diags Roy Aeronautical Soc J 55:265-81 My '51; Abstract. Engineering 171:295-6 Mr 9 '51

Welding operations

Application of spot and seam welding to design. S. P. Jenkins and T. E. Piper. il Welding J 30:803-9 S '51

Crack sensitivity of aircraft steels. A. W. Steinberger and others. bibliog il diags Welding J 29:752-64 S '50; Discussion. 30:52-3, 163-6 Ja-F '51

High-speed consumable electrode machine welding for aircraft. B. Gross and R. A. Smith. il Welding J 30:812-16 S '51

Improved welding aids fabrication; Sciaky resistance welders with current decay control. il Aviation W 55:39 Jl 9 '51

Quality control of structural resistance welding in aircraft. J. R. Fullerton. Welding J 30:631-3 Jl '51

Spot and seam welding of aircraft using d.-c. current. J. H. Cooper. bibliog il Welding J 29:965-72 N '50

AIRPLANES—*Continued*

Wheels

Goodrich produces huge magnesium wheels. B. A. Evans. il Mach 57:206-8 Jl '51

Improving Bendix airplane landing wheels by burnishing. W. H. DuBois. il diags Metal Prog 60:55-9 S '51

Magnesium bomber wheels cast to close tolerances. il Steel 128:85 Ja 22 '51

Safety wheel chock. il Aviation W 54:35 F 19 '51

Windshields

Fog-freeze resistant fighter windshield. Aviation W 54:30 F 19 '51

New windshields studied for military airplanes. Materials & Methods 34:9 S '51

Windshields studied to analyze failures. Aviation W 55:31 Ag 6 '51

AIRPLANES, Ambulance

Comfort for flying wounded; special C-54M modification designed for convenience of patients. il Aviation W 54:49-50 Ja 8 '51

Greater use seen of flying ambulances. Aviation W 54:41 F 12 '51

Hospital plane; C-54M. Aero Digest 62:40+ F '51

AIRPLANES, Amphibious

Fuel fills floats; Grumman SA-16. Aviation W 53:32 D 4 '50

Goodyear shows GA-22 to services. il Aviation W 53:43 N 6 '50

See also

Seaplanes

AIRPLANES, Flying wing

Delta wing. R. McLarren. il diags Aero Digest 61:93-105 D '50

Germany and the delta wing; how priorities, politics and allied bombs brought defeat to German research. A. Lippisch. Aero Digest 62:30+ F '51

Research aircraft; new delta-wing aircraft, the P.111, designed and built by Messrs. Boulton Paul aircraft, limited. il diags Engineering 170:468-9 D 8 '50

Triangle seen as shape of the future. il diags Aviation W 55:20-2+ S 17 '51

AIRPLANES, Freight

AF issues call for air freighter. Aviation W 54:40-1 Mr 5 '51

ASME hears cargo solutions. Aviation W 53:15 D 4 '50

Battle looms on C-46 load limits. Aviation W 55:19-20 Ag 27 '51

Concrete phase in the development of the load detachability principle in aircraft. G. W. Lescher and J. A. Sterhardt. il diags S A E J 59:38-42 F '51

Freighter reworked to aid farmer; adapted for dispersing top dressing. il Aviation W 53:56 D 18 '50

How XC-120 pack plane is engineered. I. Stone. il diags Aviation W 53:22+ N 13 '50; Abstract. Product Eng 22:149-50 F '51

Lockheed steps into cargo ring. diag Aviation W 55:16 S 3 '51

Lockheed wins; design for turboprop freighter picked by AF. Aviation W 55:16 Jl 9 '51

Men to drop from sky in containers. il Product Eng 22:148-9 Mr '51

Nation's airlift studied at Air cargo day. S A E J 59:36-7+ F '51

New airborne construction equipment being groomed by military engineers. il Roads & Sts 94:92+ Je '51

New lift given Connie Speedpaks. il Aviation W 54:48-9 My 7 '51

USAF set to choose air freight winner. Aviation W 54:18 My 7 '51

U.S. civil and military transport aircraft; specifications tabulated. Aviation W 54:93 F 26 '51

Versatility plus performance, the Boeing Stratofreighter; abstract. A. F. Kelsey. diags Mech Eng 73:234-5 Mr '51

XC-120 goes to Eglin for tests. il Aviation W 54:15 Je 11 '51

AIRPLANES, Industrial

Private planes; will they have a place in railroad operation and maintenance? C. J. Miller. il Ry Age 131:74-7 Jl '51

AIRPLANES, Jet propelled

Airlines told how jets can make money. Aviation W 54:83-4 Je 18 '51

Analysis of performance of jet engine from characteristics of components; aerodynamic and matching characteristics of turbine component determined with cold air. A. W. Goldstein. il diag U S Nat Advisory Com for Aeronautics 1947:397-414 '50

Are English civil jets in the race? Aviation W 55:26-7 Jl 9 '51

Arrow of the republic; the B-47. Barron's 31:1 Jl 30 '51

Atom, power for flight. D. A. Anderton. diags Aviation W 54:21-2+ Je 4 '51

Australia's first homegrown jet. il Aviation W 53:31 D 4 '50

Autopilot for guiding jets in combat. Electronics 24:176+ Ap '51

Avro 707A. il Aviation W 55:27 S 3 '51

Baker sold on jet airliners. Aviation W 53:49-50 O 30 '50

Best climb speed for jet aircraft; graphical solution. A. M. Jackes. Aero Digest 62:24 Ap '51

Boeing B-47 Stratojet. il Aero Digest 61:22-5+ N '50

Boeing estimates jet price at $2.5 million. Aviation W 53:44 D 25 '50

British jet engines in America; contract between Armstrong-Siddeley motors and Curtiss-Wright aircraft corp. Economist 159:609-10 O 14 '50

British jets; fast but few. il Bsns W p 172-4 S 22 '51

Burners for supersonic ram-jets; factors controlling over-all burner performance. J. W. Mullen, 2d, J. B. Fenn and R. C. Garmon. bibliog il diags Ind & Eng Chem 43:195-211 Ja '51

Burners for supersonic ram-jets; instability in a two-inch ram-jet burner. J. B. Fenn, H. B. Forney and R. C. Garmon. bibliog il diags Ind & Eng Chem 43:1663-72 Jl '51

CPA sees savings in Comet operations. Aviation W 54:63 Je 25 '51

Cargo run slated for jet bomber. Aviation W 54:51-2 Ja 29 '51

Case for the turbojet. W. Boyd. S A E J 58:49-51 N '50

Comeback for the propeller. R. A. Winston. il U S Naval Inst Proc 77:34-7 Ja '51

Comet coming; possibility seen of early jet service on New York-Caribbean run. F. R. Brewster. Aviation W 53:41-3 D 25 '50

Debate; prop vs. jet for troop support; the commander argues; A. W. Jessup replies. il Aviation W 54:18+ Ja 29 '51

Definition and measurement of jet engine thrust. B. Jakobsson. bibliog diags Roy Aeronautical Soc J 55:226-43 Ap '51

Delay in commercial jet transport. M. G. Beard. Air Affairs 3:568-75 D '50

Desirability of completely expanded nozzles. C. B. Cohen and P. J. Evans, jr. J Aeronautical Sci 17:811-12 D '50

F-94: variations on a Lockheed theme. D. A. Anderton. il diags Aviation W 54:20-3 Je 25 '51

First details on U.S. jet transport plans. il plan diags Aviation W 54:19+ Je 18 '51

Flight characteristics of the Boeing B-47 Stratojet. R. M. Robbins and W. H. Cook. il Aviation W 54:25-6+ Ap 30 '51; Same abr. S A E J 59:69-72 S '51; Abstract. Automotive Ind 104:105-6 My 15 '51

Fokker S.14 jet trainer takes to the air. I. Stone. diags Aviation W 55:29-30+ Jl 30 '51

Foreign aid jet plane deliveries speeded. il Aviation W 53:12-13 D 4 '50

France starts jet transport study. il Aviation W 54:33-4+ F 12 '51

Glide path cavity antenna for jet fighter aircraft. L. E. Raburn. il diags Tele-Tech 10:32-3+ S; 50-1+ O '51

Grumman F9F Panther. il diags Aero Digest 61:24-7+ D '50

High-speed aerodynamic problems of turbojet installations. H. Luskin and H. Klein. bibliog il diag A S M E Trans 73:375-84 My '51

How GE subcontracts its jet production. diags Bsns W p61-2+ N 4 '50

How the Jetliner would do it. Aviation W 54:47-8 Ja 22 '51

If Russia strikes in Europe. R. Cross and W. Green. il Aero Digest 61:17-19+ D '50

Improved aircraft lights aim of intensive research. CAA J 12:12 Ja 20 '51

ICAO study lists civil jet problems. Aviation W 54:63-4 Ja 15 '51

AIRPLANES, Jet propelled—*Continued*
J-35 points up new thrust achievements. I. Stone. il Aviation W 54:25-6+ Ap 2 '51
Jet fighters. J. T. Retalliata. Mech Eng 73:505 Je '51
Jet planes in Korea. J. T. Rettaliata. Midwest Eng 3:24 N '50
Jet planes spell trouble for aviation engineers building Korean airfields. R. W. Lockridge. il Civil Eng 21:398-9 Jl '51
Jetliner purchase by AF seen possible. Aviation W 54:16 Mr 19 '51
Jets ablaze; in a turbo jet aircraft fire protection measures are mandatory. H. A. Klein. il diag Aero Digest 61:30-1+ D '50
Jets come of age. H. P. Lanham. il U S Naval Inst Proc 77:370-7 Ap '51
Jets in traffic; Dayton tests check radar ability to merge jets and piston craft in pattern. Aviation W 53:48-50 N 6 '50
Lockheed plans new jet center at Palmdale airport. T. L. Self. Aviation W 55:16 S 17 '51
Long-range jet airliner; De Havilland Comet. Mech Eng 73:140 F '51
Method of presenting the performance of turbojet engines. C. A. Meyer and H. F. Faught. diags Aeronautical Eng R 10:33-41 Ja '51
Military jets to vie in National air races. Aviation W 55:18 Ag 13 '51
New muscle for British jets; Rotax ltd. cartridge starter. il Aviation W 54:31 Ja 8 '51
Next stage in aircraft design? Economist 161:366-7 Ag 11 '51
Northrop F-89 Scorpion. il Aero Digest 62:30-2+ Ja '51
Once off ground, normal jet sweeps wings back for speed; illustrations with text. Bsns W p 148 Je 23 '51
1000 horses to start high-thrust jets. Aviation W 54:22-7 Ja 22 '51
Practical aspects of turbojets in transport aircraft. R. T. Holland and E. L. Auyer. diags Aeronautical Eng R 10:32-5 Mr '51
Props vs. jets; some more navy views. A. W. Jessup. Aviation W 54:21 Ap 16 '51
Reflection of rectilinear waves in one-dimensional gas flows. L. Poggi. diags J Aeronautical Sci 17:813-15 D '50
Republic F-84F. il diags Aero Digest 63:25-32+ S '51
Research aircraft; new delta-wing aircraft, the P.111, designed and built by Messrs. Boulton Paul aircraft, limited. il diags Engineering 170:468-9 D 8 '50
Response characteristics of temperature-sensing elements for use in the control of jet engines. A. I. Dahl and E. F. Fiock. bibliog diags J Res Nat Bur Stand 45:292-8 O '50; Abstract. Franklin Inst J 251:191-2 Ja '51
Some meteorological problems indicated for jet transport operation at 40,000 ft. H. T. Harrison. bibliog il maps diags Aeronautical Eng R 10:52-61 Ap '51
Starting jet fighters by artificial respiration. il Mill & Factory 49:132 Jl '51
Static tests of Boeing's Stratojet; illustrations with text. Aviation W 54:31 F 19 '51
Stratojet becomes long-range threat. Aviation W 54:18 Ap 2 '51
Ten years of the jet era. D. A. Anderton. il Aviation W 54:74 My 14 '51
Tests resumed on French Aspin I. Aviation W 54:30-1 Ap 2 '51
Time required to make a level speed measurement with a turbine-jet aircraft. K. J. Lush. Roy Aeronautical Soc J 54:651-5 O '50; Discussion. O. N. Lawrence. 55:262-4 Ap '51
Turbojet aircraft with special reference to the jetliner; abstract. E. H. Atkin. Mech Eng 73:662-3 Ag '51
Uncle's a tough customer; testing jet engines; illustrations with text. Mod Ind 20:18+ N '50
U.S. airline pilots to fly Jetliner trials. Aviation W 54:45-6 F 5 '51
U.S. jet air line nears. R. McLarren. Automotive Ind 103:54+ N 15 '50
U.S. lags on jets. Bsns W p87-8 Je 23 '51
We can catch British jets, group says. Aviation W 55:51-4 Jl 30 '51
Weight growth of jet fighters. G. A. Kunznick. Aero Digest 63:30-1+ Ag '51
What properties should jet fuel have? K. C. Hunt. Aviation W 54:26+; Discussion. 37+ Ja 29 '51
Wright speeds Sapphire to production. I. Stone. il Aviation W 54:22+ Ap 16 '51
See also
Gas turbines, Aircraft
Rocket propulsion

AIRPLANES, Light
Aero Commander set for 1951 deliveries. Aviation W 54:16 F 12 '51
Aircraft rule changes set on small planes. Aviation W 54:62 My 7 '51
B-23 scores as executive plane. Aviation W 54:35 F 12 '51
Beech puts C35 Bonanza into production. il Aviation W 54:15-16 Ja 29 '51
CAA-developed farming plane highly versatile. il CAA J 12:56 My 20 '51
Design details of Beech Twin Bonanza. I. Stone. il diags Aviation W 53:28-9+ N 6 '50
Lightplane producers eye future. Aviation W 54:39 Ja 8; 16 Ja 15 '51
New Super Cubs in 1951 Piper line. il Aviation W 53:45 D 11 '50
Odd flight adds sales appeal. il Aviation W 54:16 My 21 '51
Personal aircraft; illustrations and drawings with brief descriptions. Aero Digest 62:44-53 Mr '51
Piper aircraft unveils 1951 Pacers. il Aviation W 53:40 N 27 '50
Piper offers tri-geared Pacer. il Aviation W 54:47 Ja 8 '51
Power-plant installation of the AG-14 pusher. B. Anderson and M. Greenwood. il diag Aeronautical Eng R 10:31-6 F '51
Proposal would revise regulations on certification of light planes. CAA J 11:122-3 N 15 '50
60,000 active small aircraft render many vital services. D. W. Nyrop. CAA J 12:25+ Mr 20 '51
Twin winner; Twin Bonanza. il Aero Digest 61:47-8 N '50

Automobile combinations
Army interest in Airphibian seen. il Aviation W 54:55 Ja 15 '51
Flying autos, certification problems. M. Taylor. Aviation W 54:54 Mr 5 '51

Control
Pocket size pilot for light plane control. J. Robbins. il Aero Digest 61:32+ D '50

Design
Boulton Paul's transonic triangle for high-speed flight research. D. A. Anderton. il diags Aviation W 53:19 N 27 '50
Four-place helioplane shown at races. A. McSurely. il Aviation W 55:15-17 Ag 27 '51

Specifications
U.S. personal and executive aircraft; tabulation. Aviation W 54:59-60 F 26 '51

AIRPLANES, Military
Aeronautics in 1950. il Engineer 191:7-9, pl 1, 8 Ja 5 '51
Air war; the new concept. il Bsns W p24 Ag 4 '51
Airborne submarine detection systems. T. B. Schillo. il Electronics 24:88-9 Ag '51
Airplanes in Korea. Aero Digest 62:62+ Ja '51
Alodizing navy Cutlass fighters against corrosion. flow sheet il Automotive Ind 105:38-9+ Ag 1 '51
Britain to get new U.S. patrol bomber, P2V-5. il Product Eng 22:204 My '51
Canberra twin-jet bomber to be built by three nations. il Automotive Ind 104:44-5 Ap 1 '51
Convair flying boat may have big role; possible atomic bomb carrier. Aviation W 55:18 Ag 13 '51
Convair P5Y pneumatic system. E. C. Powers. il Aero Digest 62:19+ My '51
Debate; prop vs. jet for troop support; the commander argues; A. W. Jessup replies. il Aviation W 54:18+ Ja 29 '51
First MDAP F-84Es en route to Europe. Aviation W 54:15 F 12 '51
Fletcher shows armed lightplane. il Aviation W 55:16 Jl 30 '51

AIRPLANES, Military—*Continued*

Flying boats in war. P. H. Mackworth. Engineering 171:268 Mr 2 '51
Foreign aid jet plane deliveries speeded. il Aviation W 53:12-13 D 4 '50
Glide path cavity antenna for jet fighter aircraft. L. E. Raburn. il diags Tele-Tech 10: 32-3+ S; 50-1+ O '51
Gun plugs for jet fighters. il Mod Plastics 28: 68-9 My '51
Martin speeds plans for B-57 production. I. Stone. il diag Aviation W 55:19-20+ Jl 23 '51
Modern military aircraft change airfield design concepts. J. B. Newman and H. E. Brown. il Civil Eng 21:206-10 Ap '51
Money, manpower and machinery govern quality and quantity of aeronautical research for tomorrow's combat craft. Aviation W 54:46+ F 26 '51
Navy device teaches ejection bailout. il Aviation W 53:29-30 D 18 '50
New windshields studied for military airplanes. Materials and Methods 34:9 S '51
NATO jets; flow of planes abroad quickens. Aviation W 54:17 Mr 12 '51
Pilot-ejection seats for high-speed aircraft. Engineering 171:368 Mr 30 '51
Props vs. jets; some more navy views. A. W. Jessup. Aviation W 54:21 Ap 16 '51
Quick disconnect for fighter pilot bailouts. il Product Eng 22:202 My '51
RAF pilot to fly Canberra to U.S. Aviation W 54:17 F 19 '51

See also

Airplanes, Military transport
Helicopters—Military use

Design

Air inlet. bibliog il diags Aero Digest 62:76-85 Ap '51
Atom blast studied as key to new design. B. S. Lee. Aviation W 54:13-14 Je 25 '51
Boeing B-47 Stratojet. il Aero Digest 61:22-5+ N '50
Canberra. R. McLarren. il Aero Digest 62:17-18+ Ap '51; Discussion. W. E. Petter. 63: 30+ Jl '51
Development of Sabre combat tanks. R. Sohn. il diags Aero Digest 62:22-3+ Ap '51
F-94; variations on a Lockheed theme. D. A. Anderton. il diags Aviation W 54:20-3 Je 25 '51
Flight characteristics of the Boeing B-47 Stratojet. R. M. Robbins and W. H. Cook. il Aviation W 54:25-6+ Ap 30 '51; Same abr. S A E J 59:69-72 S '51; Abstract. Automotive Ind 104:105-6 My 15 '51
Flight investigation on a fighter-type airplane of factors which affect the loads and load distributions on the vertical tail surfaces during rudder kicks and fishtails. J. Boshar. il diags U S Nat Advisory Com for Aeronautics 1947:491-536 '50
I designed the MiG-15. M. I. Gurevich. il diags Aero Digest 63:17-19+ Jl '51
Lockheed F-90 is transonic contender. D. A. Anderton. il diags Aviation W 53:27-9 D 25 '50
Lockheed F-94C all-weather fighter. il diag Aero Digest 63:20-3+ Ag '51
New C-119 changes engines and props. il diags Aviation W 54:15-16 F 5 '51
Republic F-84F. il diags Aero Digest 63:25-32+ S '51
Scorpion designed for easy maintenance. il Aviation W 55:21-2+ Ag 20 '51
Some aspects of modern naval aircraft design. D. L. H. Williams. il diags Roy Aeronautical Soc J 55:523-39 S '51; Same cond. Engineering 171:449-52 Ap 13 '51; Discussion. Roy Aeronautical Soc J 55:539-46 S '51

Drawings

Canberra Mk2. Aviation W 55:44 Ag 27 '51
Design study; Supermarine 535. Aviation W 54:32 My 7 '51
Hawker P.1052. Aviation W 54:34 Je 11 '51

Equipment

Dewar flasks of unusual design; small liquid oxygen containers for use in fighter aircraft. D. S. Goalwin. il diags Refrig Eng 59:768-9 Ag '51
Emergency keyer unit for installation on USAF aircraft. Aviation W 53:22 N 27 '50

Maintenance and repair

Design for combat maintenance. B. H. Pauly. il diags Aero Digest 63:17-18+ Ag '51
Gold mine in a junk shop; Bernard Bachman's surplus B-29 equipment. il Bsns W p66+ N 18 '50
Katies back at Kelly; planes outlure pans; women on job of plane maintenance at Kelly air force base. il Bsns W p 116 Ja 20 '51

Manufacture

Big machines build Boeing bombers. C. O. Herb. il Mach 57:196-201 Jl '51
Convair Metlbonds B-36 bomber. C. L. Hibert. il Mach 57:158-63 Jl '51
Needed; machines and methods. il Aviation W 55:180-2+ S 24 '51
New concepts for defense tooling. K. B. Wolfe. Automotive Ind 104:37+ Ap 15 '51
Unusual set-ups for machining Thunderjet parts. H. Albert. il Mach 57:186-91 Jl '51

Bibliography

Manufacturing information that helped to win World war II. Mach 57:176-8 Ja '51

Rescue equipment

Douglas developing collapsible lifeboat. Aviation W 54:45 Ap 30 '51
Escape equipment on high speed aircraft. il diag Engineer 190:599-600 D 15 '51
Radio to save lives; air force's lifeboat, dropped by parachute in air-sea rescue operations, will have radio control. il Electronics 24:136+ Ag '51

Specifications

1951 U.S. and British military aircraft; tabulations. Automotive Ind 104:150-1 Mr 15 '51
U.S. military aircraft; specifications tabulated. Aviation W 54:22-3 F 26 '51

Testing

B-47 takes torture test tougher than combat; illustrations with text. Bsns W p96-9 F 10 '51
Cargo run slated for jet bomber. Aviation W 54:51-2 Ja 29 '51
Structural testing the Stratojet. H. L. Adams. il Aero Digest 62:20-1+ Je '51
Temperature testing the B-36. R. C. Sebold. il Aero Digest 63:20-1+ Jl '51

Weight

Weight growth of jet fighters. G. A. Kunznick. Aero Digest 63:30-1+ Ag '51

Australia

Australian Canberra bomber years off. Aviation W 55:20 Ag 27 '51

Canada

Experimental CF-100 crashes on test hop. Aviation W 54:16 Ap 23 '51

France

French show; many designs, few planes. R. Hazeltine. il Aviation W 55:17-18 Jl 9 '51
Two new aircraft for French navy. D. H. Wood. il Aviation W 55:30 Ag 27 '51

Great Britain

Aero engines; military aircraft programme. Economist 161:231-3 Jl 28 '51
AF studies Canberra first hand. il Aviation W 54:14 Mr 5 '51
Aircraft for defence. Economist 159:826+ N 18 '50
Britain's first four-jet bomber in production. il Aviation W 54:15 Je 4 '51
British aircraft display. il Mech Eng 72:906-7 N '50
British build an air arsenal. D. H. Wood. il Aero Digest 61:27-8+ N '50
British jets; fast but few. il Bsns W p 172-4 S 22 '51
Canberra 2, by English electric; illustrations with text. Aviation W 53:32-3 O 30 '50
Naval aviation; abstract. M. J. Mansergh. Engineering 170:452 D 1 '50
Royal navy drafts the Fairey 17. il Aviation W 54:28+ Mr 5 '51

Russia

AF bares secrets of MiG engine. Aviation W 54:16 Je 11 '51
Design detail; Russia's MiG 15; drawing with text. Aviation W 54:32 Ap 2 '51

AIRPLANES, Military—Russia—*Continued*

I designed the MiG-15. M. I. Gurevich. il diags Aero Digest 63:17-19+ Jl '51
If Russia strikes in Europe. R. Cross and W. Green. il Aero Digest 61:17-19+ D '50
Jet fighters. J. T. Retalliata. Mech Eng 73:505 Je '51
Red defender; MIG-15 interceptor. il Aviation W 53:36 N 13 '50
Report from Korea on the MIG. Aviation W 53:15 D 11 '50
Russian planes. il Aviation W 54:16-17 Ja 15 '51
Russians can make good planes. A. W. Jessup. Aviation W 54:15-16 F 19 '51; Same cond. il Bsns W p25 F 24 '51
USSR military aircraft; specifications tabulated. Aviation W 54:176 F 26 '51
What Vandenberg told senators. Aviation W 54:17-18+ Je 11 '51

United States

AF decides to buy Boeing XB-52. B. Lee. il Aviation W 54:14-16 Mr 12 '51
AF, navy to phase out piston engine planes. Aviation W 54:17 Je 4 '51
Air force shopping for troop support bomber. A. McSurely. il Aviation W 53:12-13 N 13 '50
Air force studies Douglas design for B-36 role. il Aviation W 54:13-14 Ja 29 '51
Air force unveils F-89 Scorpion all-weather fighter. diag Product Eng 22:156 F '51
AJ-1 gives navy increased punch. il Aviation W 53:14 N 6 '50
Aircraft industry must outdo World war II achievements. R. McLarren. Automotive Ind 104:38-40+ Ja 15 '51
Aircraft the air force buys; illustrations. Aviation W 55:41-2 S 24 '51
Aircraft the navy is buying; illustrations. Aviation W 55:45-6 S 24 '51
Army due to buy more planes. B. S. Lee. Aviation W 53:14-15 N 13 '50
Arrow of the republic; the B-47. Barron's 31:1 Jl 30 '51
B-36 firing. il Aviation W 54:13 Ja 1 '51
B-36 too big? Aviation W 54:16 My 21 '51
Boeing B-47 Stratojet. il Aero Digest 61:22-5+ N '50
Boeing's bombers. il Fortune 44:96-103+ S '51
Busy Burbank; Lockheed offers new F-94 model. il Aviation W 54:16 My 14 '51
CF-100 readied for trans-Atlantic test. il Aviation W 54:14 Ap 9 '51
Convair's Ft. Worth B-36D line in action; illustrations with text. Aviation W 54:25 F 5 '51
Defense pairs off industry, parcel out aircraft manufacture to auto companies. Bsns W p21 D 30 '50
Design details of Beech Twin Bonanza. I. Stone. il diags Aviation W 53:28-9+ N 6 '50
Douglas Skyrocket; highest and fastest. il Aviation W 55:14-15 Jl 16; 37-8 Ag 6 '51
F-89s may put Northrop in black. il Aviation W 53:18 N 6 '50
Field service report on C-119; first Korean combat paradrops. Aviation W 53:15 N 27 '50
GM to convert Kansas City plant to jet fighter production. il Automotive Ind 104:35+ Ja 15 '51
Grumman F9F Panther. il diags Aero Digest 61:24-7+ D '50
Grumman Guardians, designed for seeking out and destroying enemy submarines. il Aero Digest 62:26-8+ My '51
Highspeed aircraft controls; a power-operated irreversible system on the new F-86E Sabre jet interceptor fighter. il Aero Digest 61:42+ D '50
How combat plans determine production. B. S. Lee. il Aviation W 55:16-18 S 24 '51
How Fairchild assembles the C-119; illustrations with text. Aviation W 53:20-1 N 27 '50
How Thunderjets fare under fire. il Aviation W 54:9 Je 18 '51
Korean combat report on F-84E. il Aviation W 54:15 Ja 22 '51
Latest warplane designs; illustrations with text. Automotive Ind 105:40-1 Jl 1 '51
Long-range F-84F strikes with guns, bombs, rockets; illustrations with text. Aviation W 54:14-15 Ja 15 '51
Mid-air refueling designed for use with many planes. il Aviation W 55:20-1 Jl 9 '51
Military planes; illustrations and drawings with brief descriptions. Aero Digest 62:17-37 Mr '51
Navy boosts F3H-1 Demon production. Aviation W 55:220 S 24 '51
Navy orders new jet fighter from NAA. il Aviation W 54:17 Ja 29 '51
Navy reveals fast-climbing XF4D. il Aviation W 54:16 F 5 '51
Navy studies radical new fighter. il Aviation W 54:15 My 21 '51
New big boy; Convair YB-60. Aviation W 55:16-17 Jl 30 '51
New Cutlass, tailless twin-jet navy fighter. Aviation W 54:16 Mr 12 '51
New McDonnell F3H in first test flight. Aviation W 55:16 Ag 13 '51
New production plan for C-119, C-123. Aviation W 54:16 Je 4 '51
Next step in bombers; B-36F or XB-52? B. S. Lee. il Aviation W 53:13-14 N 20 '50
Northrop F-89 Scorpion. il Aero Digest 62:30-2+ Ja '51
Northrop Scorpion assembly lines roll. il Aviation W 53:18 O 30 '50
Pentagon switches on aircraft. Bsns W p30+ Mr 3 '51
Plane builders set for big job. Bsns W p30-1 N 25 '50
Planes or plans? D. C. Ramsey. Aero Digest 61:20+ N '50
Republic F-84F. il Aero Digest 62:36+ F '51
USAF spurs expanded production. Aviation W 54:14-15 F 26 '51
USAF starts liaison evaluation. Aviation W 53:15 D 18 '50
Utility-command craft for army; Cessna L-19. M. Daggett, jr. diags Aviation W 53:30-1 D 11 '50
War plane solo pays for North American. il Bsns W p32+ N 25 '50
What would 150-wing air force mean? il Bsns W p91-2+ S 22 '51

AIRPLANES, Military transport

Army buying; funds set aside for purchasing four Chase C-122C transports. Aviation W 54:17 Mr 5 '51
Busy Beaver; army, AF will share in procurement of light transports. il Aviation W 55:18 S 3 '51
Characteristics of military cargo aircraft, past, present, and future; abstract. L. S. Rochte. Mech Eng 73:233-4 Mr '51
Concrete phase in the development of the load detachability principle in aircraft. G. W. Lescher and J. A. Sterhardt. il diags S A E J 59:38-42 F '51
Douglas building turboprop C-124. B. S. Lee. il Aviation W 54:13-14 Ja 22 '51
Kaiser deal spurs new drive on C-123. B. S. Lee. il Aviation W 54:13-14 My 21 '51
Kaiser-Frazer conversion; to devote part of Willow Run's floor space to production of Fairchild Packet. H. C. Tuttle. il Steel 128:65-6 My 14 '51
Martin offers military 4-0-4. il Aviation W 53:17 D 25 '50
Men to drop from sky in containers. il Product Eng 22:148-9 Mr '51
New cargo aircraft nearly eliminates disassembly; Douglas C-124A, Globemaster II. Midwest Eng 3:15 Ja '51
9½-ton bulldozer bails out of C-119; first successful heavy-cargo parachute drop. Aviation W 55:17 Jl 23 '51
Rearward-facing seats for use in military transport planes. Mech Eng 72:908 N '50
Transport plane in peace and war. R. E. Gross. Air Affairs 3:469-80 D '50
USAF buys big-wing Packet. B. S. Lee. il Aviation W 55:17-18 Jl 30 '51
U.S. civil and military transport aircraft; specifications tabulated. Aviation W 54:93 F 26 '51

AIRPLANES, Pilotless

Australia's first homegrown jet. il Aviation W 53:31 D 4 '50
Miniature radar transponder beacon; azimuth, range and identification of a pilotless plane. R. S. Butts. il diags Electronics 24:104-7 S '51

AIRPLANES, Roadable. See Airplanes, Light—Automobile combinations

AIRPLANES, Target

Globe corporation; tooling for targets. G. P. Muir. il Tool Eng 26:51-5 Ap '51

AIRPLANES, Training

AF tests Temco, Beech trainers. il Aviation W 55:14 Ag 20 '51

Beech shows armed T-34 trainer. il Aviation W 55:12 Jl 16 '51

Beech trainer wins AF competition. Aviation W 54:18 Je 18 '51

Boeing delivers TB-50D trainer. il Aviation W 54:17 Ap 23 '51

Fokker S.14 jet trainer takes to the air. I. Stone. diags Aviation W 55:29-30+ Jl 30 '51

Look at new foreign military trainers. il Aviation W 54:24+ My 14 '51

Temco gets USAF order for TF-51s. Aviation W 54:18 Mr 26 '51

USAF decides on Fairchild T-31. il Aviation W 53:18 D 11 '50

AIRPLANES, Transport. See Airplanes, Military transport

AIRPLANES as carriers of insects

Insect control on aircraft. R. W. Sherman. bibliog il Soap & San Chem 27:122-3+ Ag '51

AIRPLANES in agriculture

Aerial farmers to boost agricultural production. CAA J 12:56 My 20 '51

Agricultural flying seen as major aviation activity. C. F. Horne. CAA J 12:97+ S 20 '51

Agricultural plane shows unique features; Ag-1 prototype flying tractor. il Aviation W 55:42+ Jl 16 '51

Airplane to play major defense role in agriculture. D. W. Nyrop. CAA J 12:26 Mr 20 '51

CAA-developed farming plane highly versatile. il CAA J 12:56 My 20 '51

CAA-sponsored agricultural plane flight tested. CAA J 12:8 Ja 20 '51

Dusting data obtained in survey of operators. CAA J 12:108 S 20 '51

Farming plane demonstrated at National airport. CAA J 12:73+ Jl 20 '51

Farming with planes brings unusual tasks to tending of fields. CAA J 12:36 Mr 20 '51

Freighter reworked to aid farmer; adapted for dispersing top dressing. il Aviation W 53:56 D 18 '50

Spray plane; experimental agricultural plane Ag-1. il diags Aviation W 53:32 D 18 '50

World's need for food gives plane bigger job in boosting production. D. W. Nyrop. CAA J 11:135 D 15 '50

AIRPLANES in business

B-23 scores as executive plane. Aviation W 54:35 F 12 '51

Company-owned plane; does it really pay its way? il Sales Management 67:60-1+ S 15 '51

Hewitt enters conversion business. E. J. Bulban. il Aviation W 54:77+ Je 18 '51

AIRPLANES in construction work

Operation railroad airlift; driving ore railroad into forest lands of Quebec and Labrador. il map Eng N 147:36-8 Jl 19 '51

AIRPLANES in fishing

Striking it rich in oil and fish; dealers demonstrating value of seaplanes to tidewater oil men and tuna fishers. E. J. Bulban. il Aviation W 53:39 O 30 '50

AIRPLANES in insect control

Large-scale DDT spraying reduces mosquito nuisance. il maps Eng N 145:30-2 N 30 '50

Oregon dusters ask safety rules. Aviation W 54:36 F 19 '51

Planes rout insects to save cotton crop in southeast Missouri. CAA J 11:132 N 15 '50

AIRPLANES in rescue work

Administrator lauds role of small planes in recent disasters. CAA J 12:95 Ag 20 '51

AIRPLANES in the petroleum industry

Striking it rich in oil and fish; dealers demonstrating value of seaplanes to tidewater oil men and tuna fishers. E. J. Bulban. il Aviation W 53:39 O 30 '50

AIRPORT buildings

Airport, Yuma county, Arizona. il plans Arch Rec 109:130-3 Ja '51

Building types study; airports. il plans diags Arch Rec 109:112-33 Ja '51

How Brooklyn Union designed airport gas distribution system. il plan Gas Age 108:78-81 O 11 '51

Heating and ventilation

Units heat big airport building at Logan international airport. il Heating-Piping 23:117 Ap '51; Same cond. Dom Eng 177:110+ My '51

Lighting

Air terminal, appropriately modern; Hancock airport terminal, Syracuse, N.Y. il Illum Eng 45:707 N '50

AIRPORTS

Airports in use; tabulation. Automotive Ind 104:121 Mr 15 '51

National defense and aviation boom gave impetus to airport advances; twenty-five years of progress. il CAA J 12:59+ Je 20 '51

New yardstick measures airways needs. F. L. Moore. map Aviation W 54:62-4 My 28 '51

Number of airports in U.S. shows slight decrease. CAA J 12:107 S 20 '51

United States airports by states, Jan. 1, 1951; tabulation. CAA J 12:45 Ap 20 '51

See also

Aviation landing stations

Hangars

Bibliography

Highway and airport digest. map Published in monthly numbers of Public works

Buildings

See Airport buildings

Construction

International air terminal at Isla Verde, Puerto Rico. il Pub Works 82:45 F '51

Cost

Airport landing strip for Newcastle, Wyo.; unit prices. Eng N 146:88 My 24 '51

La Guardia airport runways; unit prices. Eng N 147:78 Jl 26 '51

Municipal airport, Oregon; unit prices. Eng N 146:84 Je 21 '51

Design

Airport design; its architectural aspects. W. Prokosch. il plan diags Arch Rec 109:112-17 Ja '51

Logan international airport East Boston, Mass. il plans diag Arch Rec 109:118-25 Ja '51

Puerto Rico builds a lure for air traffic. il map plan Eng N 146:43-4 Mr 8 '51

World's best airport, Baltimore's Friendship field. il plans Eng N 146:32-6 F 1 '51

Drainage

Base course drainage for airport pavements. A. Casagrande and W. L. Shannon. il diags Am Soc C E Proc 77 [no 75]:1-23 Je '51

Employees

FSF honors alert airport personnel. Aviation W 53:14 N 27 '50

Equipment

Bigger pull for biggest planes; Tournatow. il Aviation W 53:32 D 25 '50

New airport radio. il Aviation W 54:40+ My 21 '51

Federal aid

CAA announces airport program. Aviation W 54:42 F 12 '51

CAA lists 186 airports for federal aid program. CAA J 11:133 D 15 '50

List 4,945 airports in new CAA plan. Aviation W 55:75 Jl 16 '51

1951 federal funds for airport aid to be spent on essential defense items. D. W. Nyrop. CAA J 12:50 My 20 '51

Where federal-aid cash will go. Aviation W 53:55-6 N 13 '50

Fees

San Francisco airport raises rates. Aviation W 53:66 D 18 '50

Finance

Airport costs and planning. L. A. Bryan. Air Affairs 3:556-67 D '50

Fires and fire protection

For small airports; fire truck. il Aviation W 53:46 N 13 '50

Kidde truck has many fire weapons. Aviation W 54:60-1 Mr 26 '51

These trucks can wade through flames. il Spectator (Property ed) 17:18-20+ Ag '51

AIRPORTS—*Continued*

Lighting

Advances in airport lighting. W. A. Pennow. diag Illum Eng 46:119-25; Discussion. 125-8 Mr '51
Airport runway light. il Westinghouse Eng 10:254 N '50
Identification beacon at London airport. il Engineer 191:621 My 11 '51
Know-how and tools speed airport job; installing runway marker light system; illustrations with text. Elec West 106:76-7 Mr '51
Modern lighting system for a municipal airport. W. P. Hughes. il Pub Works 81:47-8 D '50
New policy? CAA coming around to pilots' way of thinking on approach lights. Aviation W 53:55 N 20 '50
100-ft. minimums now in sight; combination of approach light system and electronic aids make lower ceilings practical. F. L. Moore. diag Aviation W 54:48-9 Ja 8 '51
Recent developments in visual low-approach and landing aids for aircraft. M. A. Garbell. diags Illum Eng 46:353-8 Jl '51
Runway lights. il Aviation W 55:59-60 Ag 20 '51
Way out of approach light gloom? F. L. Moore. il diags Aviation W 53:46-7+ D 11 '50

Runways

Airport runways; abstract. P. H. Stafford. Mech Eng 72:993 D '50
Canadian pavement design defended; reply to paper by G. McFadden and others. N. W. McLeod. Eng N 147:35-8 Ag 9 '51
Charts determine concrete pavement design for airports. A. A. Anderson. il Civil Eng 21:22-3 Ja '51
Hot-shipped asphalt aids air force runway maintenance crew; undersealing concrete pavements. il Roads & Sts 94:82+ Ja '51
Modern military aircraft change airfield design concepts. J. B. Newman and H. E. Brown. il Civil Eng 21:206-10 Ap '51
Overseas airport job holds contractor lessons; Beirut, Lebanon. il Roads & Sts 93:50 N '50
Performance of airport pavements. H. Aaron. il Roads & Eng Constr 89:78+ S '51
Planning and construction of airfields; abstract and discussion. J. A. Dawson. Engineering 172:70-1 Jl 20 '51
Recent Engineer corps developments in airport pavement design. G. McFadden and T. Pringle. Roads & Sts 94:43-50 F '51
Soil cement base at Lubbock municipal airport. R. L. Oldham. il diags Roads & Sts 94:42-4+ Ap '51

Sanitation

Recirculating filters at Malton airport give effective performance. G. G. Reid. il Munic Util 89:23+ Ag '51

Statistics

Airports by type and class; tabulation. Aviation W 54:62 F 26 '51

Surfaces

Settlement correction at La Guardia field. J. M. Kyle. plan Am Soc C E Proc 76 [no 43]:1-6 N '50

Traffic control

Air coordinating committee reports on blueprint for air traffic control. CAA J 12:2 Ja 20 '51
Air force tests new navigation system; Rho-Theta system. il diag Aviation W 54:26+ Mr 12 '51
Automatic GCA. J. T. McNaney. il diags Electronics 24:82-7 F '51
CAA testing terminal baby omni. F. L. Moore. Aviation W 55:44 S 3 '51
Distance-measuring equipment for the terminal area. J. Lyman and G. B. Litchford. il diags Aeronautical Eng R 10:48-55 My '51
Information theory applied to system design. W. G. Tuller. diags Elec Eng 70:124-6 F '51
Jets in traffic; Dayton tests check radar ability to merge jets and piston craft in pattern. Aviation W 53:48-50 N 6 '50
New monitor; Gilfillan's automatic control device. il Aviation W 54:48+ Mr 26 '51
Radar control; LaGuardia test operation. Aviation W 53:56 N 13 '50
Unit simulates traffic problems. il Aviation W 54:45-6 Mr 26 '51

Transportation problems

Air taxi gets boost in New York area. il Aviation W 54:60 Ap 16 '51
How to save time on the ground; tractor-trailer could carry passengers and cargo to airport. il Aviation W 54:44-5 Ap 30 '51

Baltimore

World's best airport, Baltimore's Friendship field. il plans Eng N 146:32-6 F 1 '51

Bolivia

CAA personnel help to redesign Bolivian airports. CAA J 12:49+ My 20 '51

Boston

Logan international airport, East Boston, Mass. il plans diag Arch Rec 109:118-25 Ja '51

Canada

Canadian pavement design defended; reply to paper by G. McFadden and others. N. W. McLeod. Eng N 147:35-8 Ag 9 '51

Denver

Stapleton airfield, Denver, Colo. il plans Arch Rec 109:126-30 Ja '51

Lebanon

Beirut airport built with American equipment. il Roads & Eng Constr 88:56 N '50
Lebanese build airport to get Middle East trade. il Eng N 145:52 D 14 '50

Miami

Miami airport future debated. Aviation W 55:56-7 Ag 6 '51

New York (city)

How Brooklyn Union designed airport gas distribution system. il plan Gas Age 108:78-81 O 11 '51

Puerto Rico

International air terminal at Isla Verde, Puerto Rico. il Pub Works 82:45 F '51
Puerto Rico builds a lure for air traffic. il map plan Eng N 146:43-4 Mr 8 '51

Turkey

Turkey expands her air transport facilities. I. Ismen and V. Urul. il map plans Civil Eng 21:214-15 Ap '51

Washington, D.C.

Start preliminaries for capital airport. Aviation W 55:59-60 Jl 23 '51
Untying Washington traffic knot. Aviation W 53:66 D 18 '50
Washington airport services revised. Aviation W 54:49-50 Ja 22 '51

AIRPORTS, Military

Air force housing; Edwards air force base, Muroc, Calif. il plan diags Arch Rec 109:123-5 My '51
House approves bases build-up; list of projects. Aviation W 55:17 Ag 20 '51
Housing, Mather air force base, Sacramento, Calif. plans diag Arch Rec 110:124 S '51
Housing, Travis air force base, Fairfield, Solano county, Calif. il plans Arch Rec 110:116-17 S '51
Jet planes spell trouble for aviation engineers building Korean airfields. R. W. Lockridge. il Civil Eng 21:398-9 Jl '51
Mobile materials lab for airfield work. il Roads & Sts 94:96 Je '51
Modern military aircraft change airfield design concepts. J. B. Newman and H. E. Brown. il Civil Eng 21:206-10 Ap '51
Recent Engineer corps developments in airport pavement design. G. McFadden and T. Pringle. Roads & Sts 94:43-50 F '51
Tailoring airfields for modern planes. Eng N 146:43 My 17 '51
Training leads to award at Tinker air force base. Safety Maint & Prod 102:34-5 Ag '51
U.S. is top airport construction buyer. Eng N 147:98 Ag 16 '51

AIRSHIPS, Military

Better blimps ready for anti-sub role. A. McSurely. Aviation W 54:183-4+ F 26 '51

New anti-submarine warfare airship. il U S Naval Inst Proc 76:1248-53 N '50

AIRSPACE rights. See Air rights (international law)

AIRWAYS

New yardstick measures airways needs. F. L. Moore. map Aviation W 54:62-4 My 28 '51

See also

Airports

Lighting

Mid-span warning light installed by remote control. il Elec World 136:96 Jl 30 '51

Transmission line provides energy to operate aircraft warning light. il Elec West 107: 63-4 Jl '51

Traffic control

ACC readies navigation blueprint. Aviation W 53:43-4 D 25 '50

Air traffic control. D. W. Rentzel. Aeronautical Eng R 10:18-21+ My '51

Completion of United Kingdom National airways system. map Engineer 191:447 Ap 6 '51

First airways based on omnirange in operation. CAA J 11:121 N 15 '50

Latest in equipment and procedures forms basis of Common System of air navigation and traffic control. CAA J 12:74 Jl 20 '51

Modernizing the federal airways. R. Battle. il Tele-Tech 10:30-2+ My '51

Our new aerial highways; Common System of all weather navigation. F. B. Lee. Franklin Inst J 251:209-14 F '51

Today's invisible highways in the air grew from line of gas-lit beacons. il CAA J 12: 62-3+ Je 20 '51

Transition program developed by CAA for change-over to Common System. CAA J 12: 99+ S 20 '51

Work pushed on high-frequency VOR airways net. map Aviation W 54:61 Je 4 '51

ALABAMA

See also

Geology—Alabama
Iron industry and trade—Alabama
Iron mines and mining—Alabama
Steel industry and trade—Alabama

ALABAMA power company

Bonds offered. Comm & Fin Chr 174:993 S 17 '51

Preferred stock offered. Comm & Fin Chr 172: 1529 O 23 '50

ALABAMA university

Research and educational facilities. J. R. Cudworth. il Min Eng 187:1250C-1250D D '50

ALAN WOOD steel company

Alan Wood steel co. T. J. Ess. il plan Iron & Steel Eng 28:sup 1A-18A My '51

ALAND ISLANDS. See Ahvenanmaa

ALANINE

Alanine, glycine and proline contents of casein and its components. W. G. Gordon, W. F. Semmett and M. Bender. Am Chem Soc J 72:4282 S '50

Ionization constants of β-alanine in water and isopropyl alcohol-water mixtures. M. May and W. A. Felsing. Am Chem Soc J 73:406-9 Ja '51

Optical rotation of peptides. B. F. Erlanger and others. bibliog Am Chem Soc J 73: 3508-12 Jl '51

Rate of absorption of and the formation of glycogen by DL-homoserine as compared with DL-alanine. W. J. Wingo and R. A. Smith. Am Chem Soc J 73:2967-8 Je '51

Studies in the azole series; a new method of peptide synthesis; alanyl-peptides. A. H. Cook and A. L. Levy. Chem Soc J p651-6 F '50

ALARMS

Combustible gas alarm aids safety in solvent extraction; Hunter packing co. il Heating-Piping 23:99-101 Mr '51; Same. Safety Maint & Prod 101:30-1+ Ap '51

What kind of alarm for process-steam wastage? il diags Power 95:124+ F '51

ALASKA

Land of opportunity. C. ter Kuile. Comm & Fin Chr 174:155+ Jl 12 '51

Reclamation men get their dam site after grueling Alaskan adventure. il maps Eng N 147:30-1 S 27 '51

Triangulation parties conquer Arctic to map Alaska. K. B. Jeffers. il map Civil Eng 21:84-7 F '51

See also

Copper mines and mining—Alaska
Cost of living—Alaska
Engineering—Alaska
Mercury mines and mining—Alaska
Public health—Alaska

Antiquities

How man came to North America. R. Solecki. il map Sci Am 184:11-15 Ja '51

Industries and resources

Alaskan science conference, 1st, Washington, Nov. 9-11, 1950. Science 113:223-7 Mr 2 '51

ALASKA, Gulf of

Submarine geology of the Gulf of Alaska. H. W. Menard and R. S. Dietz. bibliog maps diags Geol Soc Bul 62:1263-85, pl 1-5 O '51

ALASKA highway

Photo interpretation of the terrain along the southern part of the Alaska highway. H. M. Raup and C. S. Denny. il U S Geol S Bul 963-D:95-135, pl 9-16[in pocket]; pa 55c Supt. of doc. '50

ALASKA telephone corporation

Debentures offered. Comm & Fin Chr 174: 1293 O 8 '51

ALASKAN science conference

Meeting, 1st, Washington, Nov. 9-11, 1950. Science 113:223-7 Mr 2 '51

Meeting, 2d, Mount McKinley national park, Sept. 4-8. Science 113:701-2 Je 15 '51

ALBERTA

See also

Chemical industries—Alberta
Gas, Natural—Alberta
Petroleum industry and trade—Alberta
Roads—Alberta

ALBITE

Change of free energy with pressure of the reaction, nepheline + albite = 2 jadeite. H. S. Yoder and C. E. Weir. bibliog Am J Sci 249:683-94 S '51

Mechanism of weathering. A. F. Frederickson. bibliog diags Geol Soc Bul 62:221-31 Mr '51

ALBUMIN

Combination of organic anions with serum albumin; the protein sites involved in the combination. J. D. Teresi. bibliog Am Chem Soc J 72:3972-8 S '50

Competition in the binding of long chain fatty acids and methyl orange to bovine serum albumin. G. E. Cogin and B. D. Davis. bibliog Am Chem Soc J 73:3135-8 Jl '51

Deamination of crystalline egg albumin. P. H. Maurer, M. Heidelberger and D. H. Moore. bibliog Am Chem Soc J 73:2070-80 My '51

Dimer of human serum albumin with a bifunctional mercury compound. R. Straessle. Am Chem Soc J 73:504-5 Ja '51

Effect of serum albumin on the polarographic diffusion current of cadmium. C. Tanford. bibliog Am Chem Soc J 73:2066-70 My '51

Inertness of crystalline ovalbumin in systems containing α-chymotrypsin and hydrolyzable substrates. H. T. Huang and C. Niemann. Am Chem Soc J 72:4286-7 S '50

Light scattering in solutions of serum albumin; effects of charge and ionic strength. J. T. Edsall and others. bibliog Am Chem Soc J 72:4641-56 O '50

Molecular weight of lactoglobulin, ovalbumin, lysozyme and serum albumin by light scattering. M. Halwer, G. C. Nutting and B. A. Brice. bibliog Am Chem Soc J 73:2786-90 Je '51

Preparation and properties of serum and plasma proteins; an optical and morphological study of some crystalline human serum albumin preparations and of their derivatives. B. W. Low and E. J. Weichel. bibliog diag Am Chem Soc J 73:3911-16 Ag '51

Preparation and properties of serum and plasma proteins; crystalline derivatives of human serum albumin and of certain other proteins. J. Lewin. bibliog 2pls Am Chem Soc J 73:3906-11 Ag '51

ALBUMIN—*Continued*

Streaming birefringence of denatured ovalbumin. J. F. Foster and E. G. Samsa. bibliog Science 112:473-4 O 20 '50

Streaming orientation studies on denatured proteins; heat denaturation of ovalbumin in acid media. J. F. Foster and E. G. Samsa. bibliog Am Chem Soc J 73:3187-90 Jl '51

Study of protein-ion interaction by the moving boundary method; the combination of bovine serum albumin with chloride ion. R. A. Alberty and H. H. Marvin, jr. bibliog Am Chem Soc J 73:3220-3 Jl '51

Temperature dependence of the electrophoretic mobility of horse serum albumin. I. Watanabe, N. Ui and M. Nakamura. bibliog J Phys & Colloid Chem 54:1366-70 D '50

Thermodynamics of metalloprotein combinations; buffer effects in copper-albumin complexes. I. M. Klotz and H. A. Fiess. J Phys & Colloid Chem 55:101-11 Ja '51

ALCLAD

Effects of prior static and dynamic stresses on the fatigue strength of aluminum alloys. J. A. Bennett and J. L. Baker. bibliog il J Res Nat Bur Stand 45:449-57 D '50

ALCOHOL

Acetaldehyde by dehydrogenation of ethyl alcohol. J. M. Church and H. K. Joshi. bibliog diags Ind & Eng Chem 43:1804-11 Ag '51

Action of alcohol on phthalic anhydrides. Y. Hirshberg, D. Lavie and E. D. Bergmann. Chem Soc J p1030-4 Ap '51

Alcohol used in plastics. Mod Plastics 28: 204+ Ap '51

Analysis of fat acid oxidation product by countercurrent distribution methods; model compounds. K. T. Zilch and H. J. Dutton. bibliog Anal Chem 23:775-8 My '51

Chemical and physical properties of ethanol-water mixtures. M. Bobtelsky. Chem Soc J p3615-17 D '50

Composition of vapors from boiling binary solutions; recirculation-type still and equilibria under pressure for ethyl alcohol-water system. D. F. Othmer and others. diag Ind & Eng Chem 43:707-11 Mr '51

Compositions of vapors from boiling solutions; equilibria under pressure of systems; ethyl ether-ethyl alcohol and ethyl ether-water-ethyl alcohol. W. P. Moeller and others. bibliog Ind & Eng Chem 43:711-17 Mr '51

Dielectric constant and loss factor of ethyl alcohol and water at λ=3.24 cm obtained by free wave method. M. Yasumi and others. J Chem Phys 19:978-9 Jl '51

Enzymatic transfer of hydrogen from alcohol to DPN. F. H. Westheimer and others. Am Chem Soc J 73:2403 My '51

Ethanol from methanol. I. Wender and others. Science 113:206-7 F 23 '51

Ethylene chemicals; the next decade; with graphs and tables. W. E. Kuhn and J. W. Hutcheson. bibliog Chem W 69:19-34 S 29 '51

Evaporation errors in determination of trace concentrations of low molecular weight solutes in carbon tetrachloride. M. R. Meeks, V. E. Whittier and C. W. Young. Anal Chem 23:792-3 My '51

Heat of solution of halides, sulphuric acid, oxalic acid, sodium hydroxide, and urea in ethyl alcohol-water mixtures. M. Bobtelsky and R. D. Larisch. diag Chem Soc J p3612-15 D '50

Kinetics and mechanism of the acid-catalyzed reaction of diphenyldiazomethane with ethyl alcohol. J. D. Roberts and W. Watanabe. bibliog Am Chem Soc J 72: 4869-79 N '50

Kinetics and mechanism of the reaction of diphenyldiazomethane and benzoic acid in ethanol. J. D. Roberts, W. Watanabe and R. E. McMahon. bibliog Am Chem Soc J 73:760-5 F '51

Kinetics and mechanism of the reaction of diphenyldiazomethane with 2,4-dinitrophenol in ethanol. J. D. Roberts, W. Watanabe and R. E. McMahon. Am Chem Soc J 73:2521-3 Je '51

Mechanism studies of the Fischer-Tropsch synthesis; the addition of radioactive alcohol. J. T. Kummer and others. Am Chem Soc J 73:564-9 F '51

Salt effect in vapor-liquid equilibria; ethanol-water saturated with inorganic salts. R. R. Tursi and A. R. Thompson. bibliog diag Chem Eng Prog 47:304-8 Je '51

Solubility of propane and the butanes in ethanol. C. B. Kretschmer and R. Wiebe. bibliog diag Am Chem Soc J 73:3778-81 Ag '51

Syntheses with isotopic tracer elements; the preparation of ethanol labelled with carbon isotopes. J. D. Cox and H. S. Turner. diags Chem Soc J p3176-80 N '50

Syntheses with isotopic tracer elements; the preparation of ethylene oxide and ethanol labelled with carbon isotopes. J. D. Cox and R. J. Warne. diags Chem Soc J p 1893-6 Jl '51

Temperature variations in alcohol-argon filled G-M counters. O. Parkash. bibliog Phys R 80:303 O 15 '50

Thermodynamic properties of ethyl alcohol. R. C. Reid and J. M. Smith. bibliog(43 ref) Chem Eng Prog 47:415-18 Ag '51

Vapor-phase catalytic esterification rates. R. A. Buckley and R. J. Altpeter. bibliog flow sheet Chem Eng Prog 47:243-50 My '51

Viscosity of mixed vapours. R. B. Silgardo and J. A. Storrow. bibliog(48 ref) diags Soc Chem Ind J 69:261-6 S '50

Water as substitute for alcohol. C. F. King. Inland Ptr 126:41-3 Mr '51

Analysis

Colorimetric determination of ethyl alcohol. M. B. Williams and H. D. Reese. bibliog Anal Chem 22:1556-61 D '50

Dehydration

Equilibrium and thermodynamic relation in the vapour-phase catalytic dehydration of ethyl alcohol to ethyl ether. F. H. H. Valentin. Chem Soc J p498-500 F '50

Manufacture

Ethanol binge. il Chem Ind 67:558-9 O '50

Fermentation to ethanol of concentrated calcium, magnesium, and ammonium sulphite waste liquors. H. D. Agar and J. L. McCarthy. bibliog diag Tappi 34:126-31 Mr '51

Fungal amylase process. il diag Chem Eng 58:244 Mr '51

Grain alcohol without malt. il Chem Ind W 68:19 F 3 '51

Synthetic alcohol. Bsns W p42 O 21 '50

By-products

Biosynthesis of riboflavin, L. bulgaricus factor, and other growth factors; laboratory and pilot plant studies of biosynthesis by A. gossypii cultivated on grain stillage media. K. L. Smiley and others. bibliog Ind & Eng Chem 43:1380-4 Je '51

Physiological effect

Alcohol and death. Sci Am 185:30-1 Ag '51

How to lose your appetite. Sci Am 184:30 Ja '51

Stimulants, lift or letdown? Chem Eng 58: 251-2+ F '51

ALCOHOL in the body

Alcohol metabolism. H. Newman. Science 113:333 Mr 23 '51

ALCOHOL industry

Ethanol; too much on hand? Chem W 69:13-14 S 15 '51

Munitions board, GSA criticized for sale of grain alcohol units. Oil Paint & Drug Rep 158:4+ N 27 '50

Regulation

Alcohol use restrictions removal voted by House. Oil Paint & Drug Rep 159:3 Ja 22 '51

Statistics

Polyalcohol enduse estimated for 1950; tabulation. Oil Paint & Drug Rep 159:66 F 19 '51

Taxation

Alcohol tax reduced in new revenue bill. Oil Paint & Drug Rep 159:3 Je 18 '51

Ethanol industry unit asks relief of taxes. Oil Paint & Drug Rep 159:5 Mr 19 '51

ALCOHOLATES

See also

Zirconium alcoholates

ALCOHOLICS anonymous

A.A.; uniquely American phenomenon. Fortune 43:99-100+ F '51

ALCOHOLISM

Alcoholism in industry. G. N. Thompson. Ind Med 20:273-6 Je '51

Psychological evaluation of alcoholics. M. P. Manson. bibliog Ind Med 20:281-3 Je '51; Abstract. Nat Safety N 64:40 S '51

Rehabilitation of alcoholics in business and industry. C. C. Troensegaard and M. P. Manson. bibliog Ind Med 20:277-80 Je '51

See also

Employment management—Alcohol problem

ALCOHOLS

Acetylene reactions; acetylenic amino-alcohols from benzophenones. H. P. W. Huggill and J. D. Rose. Chem Soc J p335-9 Ja '50

Action of alcohols on 3,3,4,4-tetrafluoro-1,2-dichlorocyclobutene-1. J. D. Park, C. M. Snow and J. R. Lacher. bibliog Am Chem Soc J 73:2342-5 My '51

Action of alkanols on tetrafluoroethylene. J. D. Park and others. Am Chem Soc J 73:1329-30 Mr '51

Addition of alcohols to some 1,1-difluoroethylenes. P. Tarrant and H. C. Brown. Am Chem Soc J 73:1781-3 Ap '51

Alkyl-oxygen fission in carboxylic esters; phthalates of di-*p*-methoxyphenylcarbinol and of *tert.*-alcohols. M. P. Balfe, J. Kenyon and E. M. Thain. Chem Soc J p386-8 F '51

Carbonylation of alcohols with nickel carbonyl catalyst. H. Adkins and R. W. Rosenthal. bibliog Am Chem Soc J 72:4550-3 O '50

Catalytic reactions of aromatic amines; alkylation with alcohols. A. G. Hill, J. H. Shipp and A. J. Hill. bibliog diag Ind & Eng Chem 43:1579-83 Jl '51

Chemical effects on nuclear induction signals from organic compounds. J. T. Arnold and others. il J Chem Phys 19:507 Ap '51

Complexes of copper phenylacetate and diphenylacetate with alcohols. M. Crawford. Chem Soc J p2187-90 Ag '50

1,6-Dioxaspiro[4.4]nonanes from γ-(2-furyl)-alkanols. K. Alexander, L. S. Hafner and L. E. Schniepp. Am Chem Soc J 73:2725-6 Je '51

Direct proof of the equivalence of carbon atoms 1 and 6 in D-mannitol and a new method of correlating certain higher-carbon sugars and alcohols. N. K. Richtmyer and C. S. Hudson. bibliog Am Chem Soc J 72:3880-2 S '50

Experiments relating to the resolution of tertiary alcohols; the resolution and deamination of α-naphthylphenyl-*p*-tolylmethylamine, and the Curtius, Hofmann, and Schmidt reactions with 2-methyl-2-phenylhexanoic acid. C. L. Arcus, J. Kenyon and S. Levin. Chem Soc J p407-10 F '51

Factors interfering with the Oppenauer oxidation of amino alcohols. R. E. Lutz, R. H. Jordan and W. L. Truett. bibliog Am Chem Soc J 72:4085-9 S '50

Fatty alcohols from wool wax unsaponifiables by urea-complex formation. E. von Rudloff. bibliog Chem & Ind p338-9 Ap 28 '51

Induced oxidation of alcohols during the reduction of acid permanganate. J. H. Merz, G. Stafford and W. A. Waters. Chem Soc J p638-45 Mr '51

Infrared absorption spectra; some long-chain fatty acids, esters, and alcohols. O. D. Shreve and others. bibliog Anal Chem 22:1498-501 D '50

Infrared studies of association in eleven alcohols. F. A. Smith and E. C. Creitz. bibliog diag J Res Nat Bur Stand 46:145-64 F '51

Interaction of alcohols with silicon tetrachloride. W. Gerrard and A. H. Woodhead. Chem Soc J p519-22 F '51

Interaction of boron trichloride with optically active alcohols and ethers. W. Gerrard and M. F. Lappert. Chem Soc J p1020-4 Ap '51

Mechanism of sulfation of alcohols. N. C. Deno and M. S. Newman. bibliog Am Chem Soc J 72:3852-6 S '50

Methods of resolution; variations of the resolution of alcohols through acid esters. A. K. Macbeth, J. A. Mills and R. Pettit. Chem Soc J p3538-42 D '50

Methylene-nitramines; an investigation of some properties of 1-alkoxymethyl-3 : 5-dinitro-1 : 3 : 5-triaza*cyclo*hexane and of related compounds. K. W. Dunning and W. J. Dunning. Chem Soc J p2925-8 N '50

Mineral oil as a wool lubricant; emulsification of blends of mineral oil and wool-wax alcohols. E. V. Truter. bibliog J Ap Chem 1:254-7 Je '51

Oxidation of alcohols by 2 : 4-dinitrophenylhydrazine. E. A. Braude and W. F. Forbes. Chem Soc J p 1762-4 Jl '51

Oxidation of some secondary aliphatic-aromatic alcohols. H. A. Neidig and others. Am Chem Soc J 72:4617-18 O '50

Preparation of unsaturated long-chain alcohols by means of lithium aluminium hydride; some typical members of the series. S. P. Ligthelm, E. von Rudloff and D. A. Sutton. Chem Soc J p3187-90 N '50

Reactions of 4-arsonophenylglycine with polyalcohols. R. L. McGeachin and R. E. Cox. Am Chem Soc J 73:556 F '51

Reactions of 2,4-dinitrobenzeneselenenyl bromide with alcohols and amines. W. S. Cook and R. A. Donia. bibliog Am Chem Soc J 73:2275-7 My '51

Reactions of epoxy ketones and alcohols with amines; mechanism studies. N. G. Barker and N. H. Cromwell. Am Chem Soc J 73:1051-3 Mr '51

Reactions of the cobaltic ion; the kinetics of the reactions of the cobaltic ion with aldehydes and alcohols. C. E. H. Bawn and A. G. White. Chem Soc J p343-9 F '51

Reactions of αβ-unsaturated cyclic aldehydes and ketones; alcohols derived from (—)-piperitone. C. S. Barnes, L. M. Jackman and A. K. Macbeth. Chem Soc J p 1848-51 Jl '51

Rotation of polyols in ammonium molybdate solutions. N. K. Richtmyer and C. S. Hudson. Am Chem Soc J 73:2249-50 My '51

Simple preparation of optically active secondary alcohols. A. A. Bothner-By. Am Chem Soc J 73:846 F '51

Spectroscopic evidence for the proton conductivity through solid alcohols. Y. Kakiuchi and others. bibliog il diag J Chem Phys 19:132-3 Ja '51

Stereospecificity in the rearrangement of aminoalcohols. D. Y. Curtin and P. I. Pollak. bibliog Am Chem Soc J 73:992-4 Mr '51

Stereospecificity in the rearrangement of amino alcohols; the configurations of "α"- and "β"-1-*p*-chlorophenyl-1,2-diphenyl-2-aminoethanol. D. Y. Curtin, E. E. Harris and P. I. Pollak. Am Chem Soc J 73:3453-4 Jl '51

Study in terpene series; the dehydroxymethylation of bicyclic primary terpenic alcohols by hydrogenolysis in the presence of nickel catalysts. V. N. Ipatieff, G. J. Czajkowski and H. Pines. bibliog Am Chem Soc J 73:4098-101 S '51

Study in the terpene series; isomerization accompanying hydrogenolysis of alcohols. V. N. Ipatieff, W. W. Thompson and H. Pines. bibliog Am Chem Soc J 73:553-5 F '51

Synthesis of 2,2-dimethyl-3-(4-morpholinyl)-1-propanol and analogous amino alcohols by the Mannich and crossed Cannizzaro reactions. L. C. Cheney. bibliog Am Chem Soc J 73:685-6 F '51

Synthesis of some amino alcohols. R. E. Holmen and D. D. Carroll. Am Chem Soc J 73:1859-60 Ap '51

Vapor phase reaction between phosgene and alcohols. J. H. Saunders, R. J. Slocombe and E. E. Hardy. Am Chem Soc J 73:3796-7 Ag '51

See also

Alcohol
Amyl alcohol
Benzyl alcohol
Butyl alcohol
Esters
Fusel oil
Hexyl alcohol
Methanol
Octyl alcohol
Quebrachitol
Sorbitol

ALCOHOLS—*Continued*

Analysis

Determination of *trans*-octadecenoic acids, esters, and alcohols in mixtures; infrared spectrophotometric method. O. D. Shreve and others. bibliog Anal Chem 22:1261-4 O '50

Manufacture

Hydrogenation yields fatty alcohols; De Nora high-pressure process. R. F. Warren. il diag Chem Eng 58:117-19 Je '51

ALCOHOLYSIS

Formation of benzophenone and its diethylketal in the ethanolysis of diphenyldichloromethane. L. J. Andrews and W. W. Kaeding. bibliog Am Chem Soc J 73:1007-11 Mr '51

Further observations on the alcoholysis of diethyl diiminomalonate monohydrochloride; some new pyrimidines. S. M. McElvain and B. E. Tate. Am Chem Soc J 73:2760-4 Je '51

Mechanism of the hydrolytic cleavage of carbon-carbon bonds; alcoholysis of acetylacetone and some 2-ketoalkylpyridinium salts. R. G. Pearson and A. C. Sandy. Am Chem Soc J 73:931-4 Mr '51

Solubility effects in lignin alcoholysis reactions. C. Schuerch, jr. Am Chem Soc J 73:2385-6 My '51

ALDEHYDES

Action of *t*-butyl hypochlorite on organic compounds; aromatic aldehydes. D. Ginsburg. Am Chem Soc J 73:702-4 F '51

Aldehyde of the phenothiazine series. N. P. Buu-Hoï and N. Hoán. Chem Soc J p 1834-6 Jl '51

Alkenylation by use of lithium alkenyls; the condensation of *cyclo*hexenyl-lithium with aldehydes and ketones, and some reactions of the resulting carbinols; studies in molecular rearrangement. E. A. Braude and J. A. Coles. Chem Soc J p2014-19 Ag '50

Carbazole aldehydes. N. P. Buu-Hoï and N. Hoán. bibliog Am Chem Soc J 73:98-100 Ja '51

Chemistry of epoxy compounds; cooxidation of aldehydes and oleic acid, methyl oleate or oleyl alcohol. D. Swern and T. W. Findley. bibliog Am Chem Soc J 72:4315-16 S '50

Conversion of aromatic aldehydes into primary amines by a simple adaptation of the Leuckart reaction. K. G. Lewis. Chem Soc J p2249-50 Ag '50

Coumarones from *o*-hydroxyaldehydes and bromomalonic ester. S. Tanaka. Am Chem Soc J 73:872 F '51

Cyclopropanes; cyclopropanecarboxaldehyde. L. I. Smith and E. R. Rogier. Am Chem Soc J 73:4047-9 Ag '51

Degradation of α-amino-acids to aldehydes and ketones by interaction with carbonyl compounds. R. Moubasher. Chem Soc J p 1928 Jl '51

Oxidation of aldehydes in the gaseous phase; the inhibition of the oxidation of acetaldehyde by nitrogen peroxide (dioxide). C. A. McDowell and J. H. Thomas. Chem Soc J p 1462-7 Je '50

Oxidation of *n*-decaldehyde; abstract. H. R. Cooper and H. W. Melville. Chem & Ind p 146 F 24 '51

Oxo reactions gaining ground in industry; abstract. C. L. Levesque. Chem & Eng N 28:3881 N 6 '50

Photochemical reactions in sunlight; photoreduction of phenylglyoxylic acid; photoreactions between aldehydes and *o*-quinones; reactions between *o*-quinones and ethylenes in the dark and in the light. A. Schönberg and others. Chem Soc J p 1364-8 My '51

Photolysis of aliphatic aldehydes; acetaldehyde-*d*. F. E. Blacet and R. K. Brinton. bibliog Am Chem Soc J 72:4715-19 O '50

Photolysis of the aliphatic aldehydes. F. E. Blacet and J. G. Calvert. bibliog Am Chem Soc J 73:661-74 F '51

Preparation of ethynylcarbinols from the bisulphite compounds of aldehydes and ketones. J. Cymerman and K. J. Wilks. Chem Soc J p 1208-9 Ap '50

Preparation of some dialkylaminoalkylaldehydes. M. Yandik and A. A. Larsen. Am Chem Soc J 73:3534-5 Jl '51

Preparative method for thiosemicarbazones of aromatic aldehydes. B. Puetzer, W. E. Hamlin and L. Katz. Am Chem Soc J 73:2958 Je '51

Reaction of benzylmagnesium chloride with aliphatic aldehydes. S. Siegel, W. M. Boyer and R. R. Jay. bibliog Am Chem Soc J 73:3237-40 Jl '51

Reaction of hydroxyaldehydes with ethyl orthoformate; β-hydroxyaldehydes. E. R. Alexander and E. N. Marvell. Am Chem Soc J 72:3944-6 S '50

Reactions in sunlight of certain diketones with ethylenes and aromatic aldehydes; photopolymerisation of 9-anthraldehyde. A. Mustafa. Chem Soc J p 1034-7 Ap '51

Reactions of aldehydes and ketones with alkyl borates. H. G. Kuivila, S. C. Slack and P. K. Siiteri. Am Chem Soc J 73:123-4 Ja '51

Reactions of the cobaltic ion; the kinetics of the reactions of the cobaltic ion with aldehydes and alcohols. C. E. H. Bawn and A. G. White. Chem Soc J p343-9 F '51

Reactions of αβ-unsaturated cyclic aldehydes and ketones; alcohols derived from (—)-piperitone. C. S. Barnes, L. M. Jackman and A. K. Macbeth. Chem Soc J p 1848-51 Jl '51

Small-ring compounds; synthesis of cyclopropanecarboxaldehyde by the MacFadyen-Stevens reduction. J. D. Roberts. bibliog Am Chem Soc J 73:2959 Je '51

Sommelet reaction; the choice of solvent and the effect of substituents. S. J. Angyal and others. Chem Soc J p2141-5 Ag '50

Spectrophotometric evidence for the absence of free aldehyde groups in periodate-oxidized cellulose. J. W. Rowen, F. H. Forziati and R. E. Reeves. bibliog Am Chem Soc J 73:4484-7 S '51

Structures of the oxo aldehydes from styrene. L. A. Wetzel, C. H. McKeever and C. L. Levesque. Am Chem Soc J 72:4939-40 N '50

Studies of compounds related to natural perfumes; the Diels-Alder reaction with acetylenic aldehydes; the synthesis of 4-methylsafranal. J. C. Lunt and F. Sondheimer. Chem Soc J p3361-7 D '50

See also

Acetaldehyde
Benzaldehyde
Formaldehyde
Furfural
Glyoxal
Salicylaldehyde

Analysis

Rapid micromethod for alkaline nitrobenzene oxidation of lignin and determination of aldehydes. J. E. Stone and M. J. Blundell. bibliog il diag Anal Chem 23:771-4 My '51

ALDEHYDIC acids

Unsaturated lactones and related substances; the synthesis of aldehydo-acids by the Rosenmund reaction. W. S. Johnson, R. P. Linstead and R. R. Whetstone. Chem Soc J p2219-22 Ag '50

ALDEN, Herbert Watson, 1870-1950

Sketch. por S A E J 58:50-1 D '50

ALDER, Kurt, 1902-

Diels-Alder reaction proves potent chemical ally. por(cover) Chem & Eng N 28:4266 D 4 '50

Nobel laureates in chemistry. por Chem & Eng N 28:4104 N 20 '50

ALDER

Insulating board from Douglas fir and alder. S. L. Schwartz. Paper Ind 32:974-6 D '50

ALDOBIONIC acid

Grapefruit and lemon gums; the ratio of sugars present in the gums and the structure of the aldobionic acid (4-D-glucuronosido-D-galactose) isolated by graded hydrolysis of the polysaccharides. J. J. Connell and others. Chem Soc J p 1696-700 Jl '50

ALDOBIURONIC acid

Acacia mollissima Willd: the component sugars and aldobiuronic acid of black wattle gum. A. M. Stephen. Chem Soc J p646-9 Mr '51

ALDOSES

Aldose end-group estimation by cyanide consumption. A. Y. Yundt. Tappi 34:95-6 F '51

Oxidation of aldoses by hypoiodous acid; comparison of the rates of oxidation of α- and β-D-glucose. K. D. Reeve. Chem Soc J p 172-7 Ja '51

ALDRIN

Study of workers exposed to the insecticides chlordan, aldrin, dieldrin. F. Princi and G. H. Spurbeck. bibliog A M A Archives Ind Hygiene & Occup Med 3:64-72 Ja '51

ALEXANDER, Charles F.

Heads NSC industrial department. por Nat Safety N 63:29 F '51

ALEXANDRIA, Virginia

Water supply

New water supply for the Alexandria water co.; with cost data. E. H. Aldrich. il plans diags Am Water Works Assn J 43:332-48 My '51

ALFALFA

Formation of stereoisomers of beta-carotene in alfalfa. C. R. Thompson, E. M. Bickoff and W. D. Maclay. bibliog Ind & Eng Chem 43:126-9 Ja '51

Stability of carotene in alfalfa; effect of feed ingredients. H. L. Mitchell and R. E. Silker. bibliog Ind & Eng Chem 42:2325-7 N '50

ALFALFA meal

Alfalfa meal producer bought by Archer-Daniels-Midland. Chem & Eng N 29:3706+ S 10 '51

ALFIN catalysts. See Catalysts

ALGAE

Chemical engineering problems in large scale culture of algae. P. M. Cook. flow diag il diags Ind & Eng Chem 43:2385-9 O '51

Copper with ammonia and chlorine in finished water. M. C. Smith. Am Water Works Assn J 43:763-9 S '51

Ecology of significant organisms in surface water supplies. C. M. Tarzwell and C. M. Palmer. Am Water Works Assn J 43:568-78 Jl '51

Fucoidin; the isolation and purification of fucoidin from brown seaweeds. E. G. V. Percival and A. G. Ross. Chem Soc J p717-20 F '50

Manufacture of algal chemicals; laboratory-scale isolation of mannitol from brown marine algae. W. A. P. Black, E. T. Dewar and F. N. Woodward. bibliog J Ap Chem 1:414-24 S '51

Manufacture of algal chemicals; production of alginates from brown marine algae. L. A. Bashford, R. S. Thomas and F. N. Woodward. bibliog Soc Chem Ind J 69:337-43 N '50

New chemicals from seaweed; Gulland laboratory at Institute of seaweed research. Chem Age (Lond) 64:47-8 Ja 13 '51

Sterols of algae; the structure of fucosterol. W. Bergmann and M. Klosty. Am Chem Soc J 73:2935 Je '51

Studies on algal epiphytes. J. W. King. bibliog Science 112:596-7 N 17 '50

See also

Laminarin

Analysis

Improved method for the estimation of combined fucose in seaweeds. W. A. P. Black and others. bibliog Soc Chem Ind J 69:317-20 O '50

Structure of the mannan present in porphyra umbilicalis. J. K. N. Jones. Chem Soc J p3292-5 N '50

ALGEBRA

Contribution to the algebra of relay and switch contacts. G. H. Buffery. diags Inst E E Proc 97 pt 1:357-63 N '50

ALGERIA

Economic conditions

News by countries. For Comm W 42:9-10 Mr 26; 43:9 Ap 2; 10 My 7; 12 Je 4; 44:8 Jl 16; 9 S 17; 45:11 O 1 '51

ALGIN

Organic derivatives of alginic acid. A. B. Steiner and W. H. McNeely. bibliog il Ind & Eng Chem 43:2073-7 S '51

ALGINATES

Manufacture of algal chemicals; production of alginates from brown marine algae. L. A. Bashford, R. S. Thomas and F. N. Woodward. bibliog Soc Chem Ind J 69:337-43 N '50

ALGONKIAN. See Geology, Stratigraphic—Algonkian

ALGOSOLS. See Dyes and dyeing—Vat dyes

ALIEN admission bonds. See Insurance, Surety and fidelity—Alien admission bonds

ALINEMENT charts. See Nomographs

ALINEMENT of machinery

Fixture for precision alignment of pressed-in shafts. H. G. Frommer. diag Tool Eng 26:59 F '51

New method speeds checking of crane rails. A. Zanotta. il Am Mach 95:128A Mr 5 '51

Time to inspect bore alignment cut 98 per cent. W. Jacoby. il diag Am Mach 95:142-3 Mr 19 '51

ALIPHATIC compounds. See Chemistry, Organic

ALKALI chlorides

Acidimetric titration of alkali chloride and hydrochloride salts. T. Higuchi and J. Concha. Science 113:210-11 F 23 '51

ALKALI halides

Growth of quartz in alkali halide solutions. J. F. Corwin and A. C. Swinnerton. bibliog Am Chem Soc J 73:3598-601 Ag '51

See also

Potassium iodide

ALKALI industry

Alkali edict. Chem Ind W 68:39-40 F 17 '51

ALKALI metal chlorides

Epitaxy of alkali chlorides on metals. G. W. Johnson. bibliog il J Ap Phys 22:797-805 Je '51

ALKALI metal halides

Absorption spectra of pure and colored alkali halide crystals. D. L. Dexter. Phys R 83:435-8 Jl 15 '51

Application of kinetic theory to the critical curve for aqueous solutions of 1-1 electrolytes. C. H. Secoy. J Phys & Colloid Chem 54:1337-46 D '50

Binding energy and dipole moment of alkali halide molecules. E. S. Rittner. bibliog J Chem Phys 19:1030-5 Ag '51

Color centers in additively colored alkali halide crystals containing alkaline earth ions. F. Seitz. Phys R 83:134-40 Jl 1 '51

Distribution of impurities in alkali halides. E. Burstein and others. bibliog Phys R 81:459-60 F 1 '51

Growth of large single crystals of alkali halides for scintillation counting. R. B. Owen. diag J Sci Instr 28:221-2 Jl '51

Influence of plastic flow on the electrical and photographic properties of the alkali halide crystals. F. Seitz. bibliog Phys R 80:239-43 O 15 '50

Mechanism of exciton-enhanced photoelectric emission in alkali halides. M. H. Hebb. Phys R 81:702-5 Mr 1 '51

Revised dielectric parameters of alkali and halide ions. S. Roberts. Phys R 81:161 Ja 1 '51

Solid solutions of the alkali halides; theoretical calculation of lattice constants, heats of mixing, and distributions between solid and aqueous phases. G. S. Durham and J. A. Hawkins. bibliog J Chem Phys 19:149-56 F '51

V-centers in alkali halides. R. Casler and others. bibliog J Chem Phys 18:1564-71 D '50

See also

Salt

ALKALI metal hydroxides

Contribution to the chemistry of the alkali metal ozonates. T. P. Whaley and J. Kleinberg. bibliog diag Am Chem Soc J 73:79-82 Ja '51

ALKALI metal oxides

Reactions between alkali superoxides and some alkaline earth nitrates in liquid ammonia. E. Seyb, jr. and J. Kleinberg. diag Am Chem Soc J 73:2308-9 My '51

Theoretical calculation of the stability of solid and gaseous alkali and alkaline earth oxides. L. Brewer and D. F. Mastick. bibliog Am Chem Soc J 73:2045-50 My '51

ALKALI metal silicates

Surface tension of molten alkali silicates. L. Shartsis and S. Spinner. bibliog J Res Nat Bur Stand 46:385-90 My '51

ALKALI metals

Alkali metal phosphides; reaction of alkali metals and white phosphorus in liquid ammonia. E. C. Evers. bibliog Am Chem Soc J 73:2038-40 My '51

Mechanism of self-diffusion in alkali metals. H. R. Paneth. bibliog Phys R 80:708-11 N 15 '50

ALKALI metals—*Continued*

Paramagnetic resonance in alkali metal solutions at low fields. E. C. Levinthal and others. Phys R 83:182-3 Jl 1 '51

Reaction of germanes; with alkali metals and amides; polyalkylgermanes; phenyl bromide and sodium germanyl. S. N. Glarum and C. A. Kraus. Am Chem Soc J 72:5398-401 D '50

Studies relating to boron; some reactions of the aliphatic boranes with alkali metals in liquid ammonia and ethylamine. J. E. Smith and C. A. Kraus. Am Chem Soc J 73:2751-4 Je '51

See also

Cesium
Lithium
Potassium
Rubidium
Sodium

Analysis

Analytical chemistry of the less common alkali metals. bibliog(104 ref) Chem Age (Lond) 65:17-23, 467-70+ Jl 7, O 6 '51

Potentiometric titrations involving solutions of metals in liquid ammonia. G. W. Watt and J. B. Otto, jr. bibliog diags Electrochem Soc J 98:1-8 Ja '51

ALKALIES

Alkalies for bottle washing. D. H. Ross. il Chem Ind 67:902-4 D '50

Alkaline cleavage of isophorone. H. Finch, K. E. Furman and S. A. Ballard. Am Chem Soc J 73:4299-301 S '51

Carbon-sulphur fission in thio-ethers; the retarding influence of α-methyl groups and of the length of the acid chain on the alkaline hydrolysis of (2-ketoalkylthio)- and *p*-nitrotriphenylmethylthio)-acetic acids. Y. Iskander and R. Tewfik. Chem Soc J p2050-3 Ag '51

Carbon-sulphur fission in thio-ethers; the retarding influence of α-methyl groups and of the length of the acid chain on the alkaline hydrolysis of (nitrobenzylthio)acetic acids. Y. Iskander and Y. Riad. Chem Soc J p2054-8 Ag '51

Carbon-sulphur fission in thio-ethers; the retarding influence of the length of the radical chain and of a second α-thio-acetic acid group on the alkaline hydrolysis of (nitrobenzylthio)- and (nitrodiphenylmethylthio)-acetic acids. Y. Iskander and A. Salama. Chem Soc J p2058-62 Ag '51

Critical review of literature on the toxicity of industrial wastes and their components to fish. P. Doudoroff and M. Katz. bibliog Sewage & Ind Wastes 22:1434-9 N '50

Cyclopropanes; cyclopropyl nitrocyclopropyl ketones, and their behavior toward alkaline reagents. L. I. Smith and E. R. Rogier. bibliog Am Chem Soc J 73:3831-7 Ag '51

Decomposition of primary nitramines in alkaline solutions. J. Barrott, M. I. Gillibrand and A. H. Lamberton. diag Chem Soc J p 1282-9 My '51

Effect of varying the cation in some organic reactions requiring an alkaline medium. O. L. Brady and J. Jakobovits. Chem Soc J p767-77 Mr '50

Hydrogenation of nitro compounds with Raney nickel treated with chloroplatinic acid and with alkali. G. S. Samuelsen, V. L. Garik and G. B. L. Smith. bibliog Am Chem Soc J 72:3872-4 S '50

Isomerism of the oximes; the action of alkali on α- and β-*o*-iodobenzaldoximes. O. L. Brady and S. G. Jarrett. Chem Soc J p 1232-3 My '50

Isomerism of the oximes; the hydrolysis of acyl halogenobenzaldoximes by alkalis. O. L. Brady and S. G. Jarrett. Chem Soc J p 1227-32 My '50

New reactions involving alkaline treatment of 3-nitroso-2-oxazolidones. M. S. Newman and A. Kutner. bibliog Am Chem Soc J 73:4199-204 S '51

See also

Ammonia
Concrete, Effect of alkalies on
Potassium hydroxide
Sodium hydroxide

ALKALINE earth borides

Boride cathodes. J. M. Lafferty. il diags J Ap Phys 22:299-309 Mr '51

ALKALINE earth carbonates

See also

Barium carbonate

ALKALINE earth metals

Color centers in additively colored alkali halide crystals containing alkaline earth ions. F. Seitz. Phys R 83:134-40 Jl 1 '51

Oxidation of lithium and the alkaline earth metals in liquid ammonia. J. K. Thompson and J. Kleinberg. Am Chem Soc J 73:1243-5 Mr '51

See also

Barium
Calcium
Strontium

ALKALINE earth nitrates

Reactions between alkali superoxides and some alkaline earth nitrates in liquid ammonia. E. Seyb, jr. and J. Kleinberg. diag Am Chem Soc J 73:2308-9 My '51

ALKALINE earth oxides

Theoretical calculation of the stability of solid and gaseous alkali and alkaline earth oxides. L. Brewer and D. F. Mastick. bibliog Am Chem Soc J 73:2045-50 My '51

ALKALINE earth perchlorates

Activity coefficients of the alkaline earth and magnesium perchlorates from freezing point data. D. E. Nicholson and W. A. Felsing. Am Chem Soc J 73:3520-1 Jl '51

Determination of the activity coefficients of the alkaline earth and magnesium perchlorates from freezing point data. D. E. Nicholson and W. A. Felsing. Am Chem Soc J 72:4469-71 O '50

ALKALINE earth pyrophosphates

Some rare earth activated phosphors. H. G. Jenkins and A. H. McKeag. bibliog il Electrochem Soc J 97:415-18 D '50

ALKALINE earth silicates

Some rare earth activated phosphors. H. G. Jenkins and A. H. McKeag. bibliog il Electrochem Soc J 97:415-18 D '50

ALKALINITY

Alkalinity-nitrogen relationships in sewage treatment. W. W. Eckenfelder, jr. and J. W. Hood. bibliog Water & Sewage Works 97:507-10 D '50

ALKALOIDS

Alkaloids of daphnandra species; micranthine. I. R. C. Bick and A. R. Todd. Chem Soc J p 1606-12 Je '50

Alkaloids of fumariaceous plants; coreximine, a naturally occurring coralydine. R. H. F. Manske. bibliog Am Chem Soc J 72:4796-7 O '50

Alkaloids of fumariaceous plants; the structure of glaucentrine. R. H. F. Manske, E. H. Charlesworth and W. R. Ashford. Am Chem Soc J 73:3751-3 Ag '51

Cactus alkaloids; trichocereus terscheckii (Parmentier) Britton and Rose. L. Reti and J. A. Castrillón. bibliog Am Chem Soc J 73:1767-9 Ap '51

Chemistry of some South American plant products; alkaloids and flavanols; abstract. V. Deulofeu. Chem & Eng N 29:3943 S 24 '51

Chemistry of the mitragyna genus. G. M. Badger, J. W. Cook and P. A. Ongley. Chem Soc J p867-73 Mr '50

Erythrina alkaloids; apo- and isoapo-β-erythroidine. F. Koniuszy and K. Folkers. Am Chem Soc J 73:333-5 Ja '51

Erythrina alkaloids; studies on the structure of erysopine, erysodine, erysovine and erythraline. K. Folkers, F. Koniuszy and J. Shavel, jr. Am Chem Soc J 73:589-93 F '51

Erythrina alkaloids; studies on the structure of β-erythroidine. F. Koniuszy and K. Folkers. bibliog Am Chem Soc J 72:5579-81 D '50

Extraction of alkaloids from tree tobacco. L. Feinstein, P. J. Hannan and E. T. McCabe. bibliog diag Ind & Eng Chem 43:1402-3 Je '51

Hypotensive principles of veratrum viride. J. Fried, H. L. White and O. Wintersteiner. bibliog Am Chem Soc J 72:4621-30 O '50

Identity of α-longilobine and seneciphylline. R. Adams and J. H. Looker. bibliog Am Chem Soc J 73:134-6 Ja '51

Infrared absorption spectra of alkaloids. L. Marion, D. A. Ramsay and R. N. Jones. Am Chem Soc J 73:305-8 Ja '51

Papilionaceous alkaloids; identity of hexalupine with *d*-thermopsine. L. Marion, W. F. Cockburn and J. F. Couch. Am Chem Soc J 73:1769-70 Ap '51

ALKALOIDS—*Continued*

Recent investigations on ergot alkaloids. A. Stoll. bibliog il Chem R 47:197-218 O '50

Senecio alkaloids; the isomerisation of senecic acid to *trans*-senecic (integerrinecic) acid, and the general structure of the necic acids. M. Kropman and F. L. Warren. Chem Soc J p700-2 F '50

Senecio alkaloids; the occurrence and preparation of the *N*-oxides; an improved method of extraction of the senecio alkaloids. M. J. Koekemoer and F. L. Warren. Chem Soc J p66-8 Ja '51

Senecio alkaloids; the structure of retrorsine and isatidine; the ester groupings. E. C. Leisegang and F. L. Warren. Chem Soc J p702-3 F '50

Solanum alkaloids; fission of the oxide ring of solasodine with lithium aluminium hydride. L. H. Briggs and R. H. Locker. Chem Soc J p3020-1 N '50

Solanum alkaloids; solasodine. L. H. Briggs and others. Chem Soc J p3013-20 N '50

Steroid secondary amines. F. C. Uhle. Am Chem Soc J 73:883 F '51

Veratrum alkaloids regain attention as their chemistry unfolds. Chem & Eng N 29:1626-7 Ap 23 '51

See also

Berberine
Carpaine
Coclaurine
Colchicine
Conessine
Emetine
Gelsemine
Germitrine
Jervine
Mitragynine
Nicotine
Papaverine
Quinamine
Sanguinarine
Wilfordine
Yohimbine

Analysis

Chromatographic separation employing ultraviolet absorbancy ratios. M. Beroza. bibliog Anal Chem 22:1507-10 D '50

Colorimetric determination of alkaloids in tissues by means of methyl orange. A. O. Gettler and I. Sunshine. bibliog Anal Chem 23:779-81 My '51

ALKANES. See Paraffins

ALKANNIN

Beryllium complexes with naphthazarin and alkannin. A. L. Underwood, T. Y. Toribara and W. F. Neuman. bibliog Am Chem Soc J 72:5597-602 D '50

ALKENES. See Olefins

ALKENYLATION

Alkenylation by use of lithium alkenyls. E. A. Braude, C. J. Timmons and J. A. Coles. diag Chem Soc J p2000-19 Ag '50

Alkenylation employing lithium alkenyls; the formation and some reactions of *cis*-propenyl-lithium. E. A. Braude and J. A. Coles. Chem Soc J p2078-84 Ag '51

ALKOXY group

Analogs of pteroylglutamic acid; 4-alkoxy derivatives. B. Roth, J. M. Smith, jr. and M. E. Hultquist. Am Chem Soc J 73:2869-71 Je '51

Formation of free alkoxy (RO·) radicals in solution. M. S. Kharasch and others. Science 113:392 Ap 6 '51

Quaternary ammonium salts; a new method for the preparation of *p*-substituted alkoxy-, *cyclo*alkoxy-, arylalkoxy-, aryloxy-, and alkylthio-benzophenones. W. Tadros and A. Latif. Chem Soc J p3337-40 D '49

ALKYD resins. See Resinous products

ALKYL acrylates

Preparation and polymerization of cycloalkyl acrylates. C. E. Rehberg and W. A. Faucette. Am Chem Soc J 72:4307 S '50

ALKYL borates

Reactions of aldehydes and ketones with alkyl borates. H. G. Kuivila, S. C. Slack and P. K. Siiteri. Am Chem Soc J 73:123-4 Ja '51

ALKYL carbonates

Plasticizers from lactic acid; *n*-alkyl carbonates of various esters of lactic acid. C. E. Rehberg and others. bibliog Ind & Eng Chem 42:2374-5 N '50

ALKYL chlorides

Effect of intramolecular configuration on the rate of unimolecular solvolysis of aralkyl chlorides. G. Baddeley and J. Chadwick. Chem Soc J p368-74 F '51

Higher alkyl chloride industry; important germicidal uses for surface-active compounds; Leda Chemicals. il Chem Age (Lond) 64:415-17 Mr 17 '51

ALKYL group

Alumina activated with anhydrous hydrogen fluoride; a dealkylation catalyst for aromatic hydrocarbons. L. Berg and others. bibliog diag Chem Eng Prog 47:469-72 S '51

Chemical effects of steric strains; the effect of the halogen on the rate of hydrolysis of tertiary aliphatic halides. H. C. Brown and A. Stern. Am Chem Soc J 72:5068-70 N '50

Hydrogen chloride-aluminium chloride as an agent of isomerisation. G. Baddeley. Chem Soc J p994-7 Mr '50

Monomers containing large alkyl groups; the synthesis of 2-alkyl-1,3-butadienes. C. G. Overberger and others. bibliog Am Chem Soc J 73:2540-3 Je '51

Properties and reactions of free alkyl radicals in solution; reactions with iodine, bromine, and sulphuryl chloride. M. C. Ford and W. A. Waters. Chem Soc J p 1851-5 Jl '51

Properties and reactions of free alkyl radicals in solution; some reactions of 2-cyano- and 2-carbomethoxy-2-propyl radicals with quinones. A. F. Bickel and W. A. Waters. Chem Soc J p 1764-9 Jl '50

ALKYL halides

Exchange reactions of normal paraffins and unsubstituted cycloparaffins with alkyl halides, catalyzed by aluminum halides. C. P. Brewer and B. S. Greensfelder. bibliog Am Chem Soc J 73:2257-9 My '51

Interaction of Friedel-Crafts catalysts with alkyl halides and aromatic hydrocarbons. H. C. Brown, H. Pearsall and L. P. Eddy. Am Chem Soc J 72:5347 N '50

New general method for the preparation of alkyl halides. S. R. Landauer and H. N. Rydon. Chem & Ind p313 Ap 21 '51

Preparation of alkyl halides. I. S. Bengelsdorf. bibliog Chem & Ind p687 Ag 11 '51

ALKYL nitrites

Rotational isomerism in nitrous acid and alkyl nitrites. L. D'Or and P. Tarte. J Chem Phys 19:1064-5 Ag '51

ALKYL phthalamic acids

Accelerator-activators from amic acids. M. C. Throdahl, R. O. Zerbe and D. J. Beaver. Ind & Eng Chem 43:926-30 Ap '51

ALKYL sulfates

Reactions of the alkyl-sulphate ion; kinetics and mechanism of the reaction with hydroxide ion. G. H. Green and J. Kenyon. Chem Soc J p 1389-91 My '50

Reactions of the alkyl-sulphate ion; kinetics and mechanism of the reaction with phenoxide ion and the polar effects of substituents in the phenol nucleus. G. H. Green and J. Kenyon. Chem Soc J p 1589-96 Je '50

ALKYL sulfides

Preparation and properties of sulfur compounds related to petroleum; the dialkyl sulfides and disulfides. D. T. McAllan and others. Am Chem Soc J 73:3627-32 Ag '51

ALKYLATION

Alkyl phenyl-(2-pyridyl)-methyl sulfones; sulfonium salts as alkylating agents. T. R. Lewis and S. Archer. bibliog Am Chem Soc J 73:2109-13 My '51

Alkylation commands new interest from refiners. W. L. Bolles. il Pet Refiner 30:150-1 S '51

Alkylation of Grignard reagents by quaternary ammonium salts; a novel synthesis of 1,3-dialkylindoles. H. R. Snyder, E. L. Eliel and R. E. Carnahan. bibliog Am Chem Soc J 73:970-3 Mr '51

Alkylation of β-ketoesters with β-dimethylaminoethyl chloride. W. V. Doering and S. J. Rhoads. bibliog Am Chem Soc J 73:3082-4 Jl '51

Alkylation of nitroparaffins with amines and their derivatives. H. R. Snyder and W. E. Hamlin. bibliog Am Chem Soc J 72:5082-5 N '50

Alkylation of phenol with ethyl 6-bromosorbate. H. E. Ungnade and T. R. Hopkins. Am Chem Soc J 73:3091-3 Jl '51

Alkylation of triethyl phosphonoacetate and related esters. G. M. Kosolapoff and J. S. Powell. bibliog Am Chem Soc J 72:4198-200 S '50

ALKYLATION—*Continued*

Alkylation plant improvements. D. H. Putney. diags Pet Eng 23:C27-8+ Je '51; Same. Pet Refiner 30:89-94 Je '51; Same abr. Pet Processing 6:744-8 Jl '51

Alkylation with long chain *p*-toluenesulfonates; alkylation of phenols with *n*-octadecyl *p*-toluenesulfonate. D. A. Shirley and W. H. Reedy. bibliog Am Chem Soc J 73:458-9 Ja '51

Carbon-alkylation reactions of nitro-alkanes; the reaction of *p*-nitrobenzyl-trimethylammonium iodide and sodium 2-propanenitronate. H. Shechter and R. B. Kaplan. Am Chem Soc J 73:1883 Ap '51

Catalytic reactions of aromatic amines; alkylation with alcohols. A. G. Hill, J. H. Shipp and A. J. Hill. bibliog diag Ind & Eng Chem 43:1579-83 Jl '51

Catalytic reactions of aromatic amines; rearrangement of alkyl groups. A. G. Hill and A. J. Hill. Ind & Eng Chem 43:1583-5 Jl '51

Chemical engineering unit processes fourth annual review. R. N. Shreve. il Ind & Eng Chem 43:1908-16 bibliog(204 ref, p 1914-16) S '51

Condensations by sodium; the effect of salts and other substances on the alkylation of toluene, a modified Wurtz reaction. A. A. Morton and A. E. Brachman. bibliog Am Chem Soc J 73:4363-7 S '51

Cyclic sulfones; alkylation of 2,5-diphenyl-3,4-dihydroxythiophene-1-dioxide with methyl and ethyl iodide; an extension of a method for the alkylation of benzyl sulfone. C. G. Overberger and J. M. Hoyt. Am Chem Soc J 73:3957-8 Ag '51

Derivatives of oxazolid-2 : 4-dione; the alkylation of 5 : 5-dimethyloxazolid-2 : 4-dione. J. S. H. Davies and W. H. Hook. Chem Soc J p30-41 Ja '50

Difficulties in the alkylation of 2 : 6-di-iodo-4-nitrophenol. J. H. Wilkinson. Chem Soc J p626-7 F '51

Evidence that 1-isopropyl-3-*t*-butylbenzene from aluminum chloride alkylation of benzene with isobutene is really 1,3-di-*t*-butylbenzene. F. E. Condon and E. E. Burgoyne. Am Chem Soc J 73:4021-2 Ag '51

Further study of the rearrangement occurring during the alkylation of 6-methoxy-8-aminoquinoline with 1-diethylamino-3-chloropentane. R. C. Elderfield and C. Ressler. bibliog Am Chem Soc J 72:4059-68 S '50

Hydrofluoric acid alkylation. bibliog diag Pet Refiner 30:159-61 S '51

HF alkylation today. D. P. Thornton, jr. flow diag il Pet Processing 6:488-91 My '51

H_2SO_4 alkylation; pictured flow sheet. Chem Eng 58:212-15 S '51

Improved alkylation process. G. Weber. flow chart il Oil & Gas J 49:78+ D 28 '50

Improvements in sulfuric acid alkylation process. flow diag il Pet Refiner 30:93-4 F '51

Isomerization accompanying alkylation; reaction of benzene with methylcyclopropane, ethylcyclopropane and with dimethylcyclopropanes. H. Pines, W. D. Huntsman and V. N. Ipatieff. bibliog Am Chem Soc J 73:4343-7 S '51

Isomerization accompanying alkylation; reaction of benzene with 2- and 3-pentanol. H. Pines, W. D. Huntsman and V. N. Ipatieff. Am Chem Soc J 73:4483 S '51

Lower acidity sulfuric acid alkylation. E. C. Hughes, D. G. Stevens and F. Veatch. bibliog diag Ind & Eng Chem 43:1447-51 Je '51

Molecular weight of lysozyme after reduction and alkylation of the disulfide bonds. H. Fraenkel-Conrat and others. Am Chem Soc J 73:625-7 F '51

Necessity for activators in the boron trifluoride catalyzed alkylation of benzene by S-butyl methyl ether. R. L. Burwell, jr. and L. M. Elkin. Am Chem Soc J 73:502 Ja '51

New reactor uses compartmented design. il diag Chem Eng 58:142-3 Ap '51

Nuclear alkylation in the alkali-catalyzed reaction of styrene oxide with 2-naphthol. C. O. Guss and L. H. Jules. bibliog Am Chem Soc J 72:3878-80 S '50

Ortho alkylated phenols; 2,6-di-*t*-butylphenol. H. Hart and F. A. Cassis, jr. bibliog Am Chem Soc J 73:3179-82 Jl '51

Reaction of isoalkanes and olefin precursors catalyzed by sulfuric acid. R. F. Marschner and D. R. Carmody. Am Chem Soc J 73:604-7 F '51

Reactions of the alkyl-sulphate ion; kinetics and mechanism of the reaction with phenoxide ion and the polar effects of substituents in the phenol nucleus. G. H. Green and J. Kenyon. Chem Soc J p 1589-96 Je '50

Study of the alkylation of active methylene compounds using 2-(β-dimethylaminoethyl)-quinoline. V. Boekelheide and G. Marinetti. Am Chem Soc J 73:4015-16 Ag '51

N-Substituted amino-acids; the reductive alkylation of amino-acids. R. E. Bowman. Chem Soc J p 1346-9 My '50

N-Substituted amino-acids; the reductive alkylation of some di- and tri-peptides; a new method of determining the end amino-acid in polypeptides. R. E. Bowman. Chem Soc J p 1349-51 My '50

Sulfuric acid alkylation. flow diag diags Pet Refiner 30:152+ S '51

Sulfuric acid alkylation for gasoline. J. W. Jewell, jr. and C. C. King. flow diag diags Pet Eng 23:C24-6+ My '51; Same. Oil & Gas J 50:120+ Ag 16 '51

Tris-(hydroxymethyl)-aminomethane derivatives; alkylation products. J. S. Pierce and J. Wotiz. Am Chem Soc J 73:2594 Je '51

Unit processes; Chemical Engineering report, March 1951. R. N. Shreve. diag Chem Eng 58:138 Mr '51

Vapor phase alkylation of phenols and thiophenols. C. Hansch and D. N. Robertson. Am Chem Soc J 72:4810-11 O '50

See also

Methylation

ALKYLTHIO group

Action of heat on heterocyclic bases containing an alkylthio-grouping; 2-alkylthiobenzothiazoles and 2-alkylthiobenzoxazoles. D. J. Fry and J. D. Kendall. Chem Soc J p 1723-6 Jl '51

Formation and fission of quaternary salts of heterocyclic bases containing reactive alkylthio-groups. D. J. Fry and J. D. Kendall. Chem Soc J p 1716-22 Jl '51

ALL American airways

AAA hopes for early CAB action on new route extension. Aviation W 53:64-5 D 18 '50

ALL Saints' day

Halloween. R. Linton. il Sci Am 185:62-6 O '51

ALLANITE

Allanite from Wilmot Pass, Fiordland, New Zealand. C. O. Hutton. bibliog Am J Sci 249:208-14 Mr '51

ALLEGHANY corporation

Security I like best. H. A. Boeckeler. Comm & Fin Chr 173:910+ Mr 1 '51

ALLEGHENY Ludium steel corporation

Security I like best. S. L. Joseph. Comm & Fin Chr 174:1346+ O 11 '51

ALLEN, Clarence Edgar

Retires as editor of British Machinery. por Mach 57:194 Ap '51

ALLEN, Clinton L. 1893-

Sketch. C. Axman. por East Underw 52:21+ Mr 23 '51

ALLEN, Raymond Bernard, 1902-

Portrait. Bsns W p21 O 6 '51

ALLEN, William M. 1900-

Back on war work, Boeing booms again. por(cover) Bsns W p 106-8+ S 29 '51

Portrait. Fortune 44:128 O '51

ALLENE

LCAO self-consistent field calculation of the twisting frequency and π-electron energy levels of allene. R. G. Parr and G. R. Taylor. bibliog J Chem Phys 19:497-501 Ap '51

Raman spectrum of allene-d_4. R. C. Lord and J. Ocampo. J Chem Phys 19:260-1 F '51

ALLENIC acids

Propargylic rearrangement; allenic acids from secondary and tertiary propargylic bromides. J. H. Wotiz and R. J. Palchak. Am Chem Soc J 73:1971-2 My '51

ALLENYLPHENOL. See Phenylpropadiene

ALLER, Howard Lewis, 1883-

Portrait. Fortune 43:83 Ap '51

ALLERGENS

Chemistry of allergens; properties and composition of natural proteoses isolated from oilseeds and nuts by the CS-1A procedure. J. R. Spies and others. bibliog Am Chem Soc J 73:3995-4001 Ag '51

Sleuthing oilseed allergins wins Hillebrand prize for three; Henry Stevens, E. Jack Coulson and Joseph R. Spies. Chem & Eng N 29:663 F 19 '51

ALLERGY

Chemical constitution, electrochemical, photographic and allergenic properties of *p*-amino-N-dialkylanilines. R. L. Bent and others. bibliog il Am Chem Soc J 73:3100-25 Jl '51

Government chemists honored for allergy studies. Chem & Eng N 29:1105 Mr 19 '51

Research contributions of BCG vaccination programs; tuberculin allergy as a family trait. C. E. Palmer and S. N. Meyer. Pub Health Rep 66:259-76 Mr 2 '51

ALLETHRIN

Allethrin attains rank as commercial chemical. Chem & Eng N 29:1946 My 14 '51

Crystalline allethrin isomer. M. S. Schechter and others. Am Chem Soc J 73:3541-2 Jl '51

Further studies on aerosol formulations with lethane and other toxicants. F. B. Maughan and others. Soap & San Chem 27:125+ F '51

Prop for allethrin. Chem Ind W 68:11-12 Ja 27 '51

Pyrethrum outlook, and where increased output of allethrin will fit into the picture. il Soap & San Chem 27:114-15 Mr '51

Sprouting allethrin. il Chem W 69:30-1 Ag 11 '51

Synergists widen scope of non-toxic insecticides. M. Goldberg. il Chem Ind 67:578-81 O '50

ALLIED chemical and dye corporation

Allied Chemical with financial data, 1940-1949. S. B. Self. Barron's 30:9-10 N 27 '50

Annual report. Comm & Fin Chr 173:1057 Mr 12 '51

ALLIED mills, inc.

Securities disturbing investors. R. Colston. Mag of Wall St 87:347+ D 30 '50

ALLIED stores corporation

Five high yield stocks that should do well in a defense economy; with comparative balance sheet items. Mag of Wall St 87:451 Ja 27 '51

Stern's is what Allied's waited for. Bsns W p78+ Mr 31 '51

To benefit from high U.S. income. Barron's 31:25 Ja 22 '51

ALLIS-CHALMERS manufacturing company

Roberts, president; Johnson advanced to executive VP. Elec World News ed 135:22+ Mr 5 '51

ALLOCATION. See Priorities and allocations, Industrial

ALLOPREGNANEDIONE

Bromination of allopregnane-3,20-dione. M. Rubin, H. Wishinsky and F. Bompard. bibliog Am Chem Soc J 73:2338-40 My '51

ALLOTROPY

Allotropic transformation of hafnium. P. Duwez. bibiog J Ap Phys 22:1174-5 S '51

Allotropy of beryllium. A. U. Seybolt and others. J Ap Phys 22:986 Jl '51

Amorphous antimony; lecture demonstration in allotropy. H. J. Fraden. diags J Chem Educ 28:34-5 Ja '51

ALLOY casting institute

Alloy casting institute picks officers. Foundry 79:210+ Ag '51

ALLOYS

Accent on alloys. J. V. Sherman. Barron's 31:15 Ja 15 '51

Advances in metals. il Product Eng 22:158-61 My '51

Dendritic crystallization of alloys. B. H. Alexander and F. N. Rhines. bibliog il diags J Metals 188:Trans 1267-73 O '50; Discussion. 3:Trans 561-3 Jl '51

Designing with modern materials; survey of latest developments in engineering materials. il Machine Design 23:298-327 O '51

Die castings; methods of production, materials, design principles, finishing, uses, etc. T. C. Du Mond. il Materials & Methods 34:86-92 Ag '51

Diffuse X-ray scattering by disordered binary alloys. W. J. Taylor. Phys R 82:279-80 Ap 15 '51

Directory of materials; metals and alloys for chemical manufacture. Chem Eng 57:143-9 N '50

Effect of rate of freezing on degree of segregation in alloys. W. T. Olsen, jr. and R. Hultgren. J Metals 188:Trans 1323 N '50

Electrical conductivity of metals and alloys; table; engineering data sheet. Metal Finishing 49:75 Ag '51

Experimental evidence for the vacancy mechanism in diffusion in metals and alloys. F. C. Nix and F. E. Jaumot, jr. bibliog Phys R 83:1275-6 S 15 '51

Heterogeneous catalysis; hydrogenation by binary alloys. P. W. Reynolds. Chem Soc J p265-71 Ja '50

How to select nonferrous alloys for investment castings. R. L. Wood and D. V. Ludwig. il Materials & Methods 33:78-82 Ja '51

Infiltrated or impregnated alloys. H. W. Greenwood. Engineer 190:384-5 O 20 '50

Metals and alloys; abstracts of papers read before British association for the advancement of science. Engineering 172:277-8 Ag 31 '51; Engineer 192:264-5; Discussion. 265-6 Ag 31 '51

Oriented crystals in the rolled plates of alloys. S. Yamaguchi. il J Ap Phys 22:680-1 My '51

Overlap forces and elastic constants of body-centered cubic metals. I. Isenberg. Phys R 83:637-40 Ag 1 '51

Production and detection of a non-equilibrium number of vacancies in a metal. A. S. Nowick. Phys R 82:551-2 My 15 '51

Recent metals and alloys. A. C. Quarrell. Chem Age (Lond) 65:292-4 S 1 '51; Same. Chem & Ind p738-9 S 1 '51; Same. Metallurgia 44:89-90 Ag '51

Thermodynamic investigations on ternary amalgams. C. Wagner. bibliog J Chem Phys 19:626-31 My '51

See also

Aluminum alloys
Babbitt metal
Bearing metals
Beryllium alloys
Brass
Bronze
Cobalt alloys
Copper alloys
Iron alloys
Lead alloys
Magnesium alloys
Monel metal
Nickel alloys
Platinum alloys
Solutions, Solid
Steel alloys
Tin alloys
Zinc alloys

ALLOYS, Hard facing

Dies hardfaced with alloy last longer. A. Gray. il Iron Age 167:68-70 My 31 '51

Hard facing alloys for steel mill use. H. S. Avery. bibliog il diags Iron & Steel Eng 28:81-106 S '51

ALLOYS, Heat resisting

Air force, Curtiss-Wright report; machinability data for high-temperature alloys. R. Le Grand. il Am Mach 94:99-106 D 25 '50

Development and evaluation of cast turbine rotors. N. J. Grant and others. bibliog il diag Foundry 78:86-93+ D '50

Discaloy. E. F. Losco. il diags Westinghouse Eng 11:50-3 Mr '51

Gas-turbine performance and materials; abstract. J. B. Bucher. Metal Prog 60:124+ S '51

High-temperature jet-engine alloys; popular grades listed in order of their decreasing strategic alloy index, Oct. Iron Age 167:340 Ja 4 '51

High temperature steels and alloys for gas turbines; symposium. Engineer 191:313-14, 342-3, 373-4, 404-6 Mr 9-30 '51; Engineering 171:282-3, 312-13, 352, 380-1 Mr 9-30 '51; Metallurgia 43:119-26, 166-8+ Mr-Ap '51; Metal Prog 59:653-6+ My '51

How to select the right cast heat resistant alloy. N. A. Matthews. il Steel 127:90-2+ N 6 '50

How tool life is affected by heat resisting alloys. Automotive Ind 104:52+ Ap 1 '51

Introduction to arc-cast molybdenum and its alloys. J. L. Ham. bibliog A S M E Trans 73:723-32 Ag '51; Same cond. Steel 128:106-8 Ja 15 '51

Machining studies aid aero production; salient features of the air force study. diag Aviation W 53:22+ D 18 '50

Magnesium rare earth alloys. L. W. Eastwood. il Product Eng 22:158-61 S '51

Metals and alloys for high-sulfur, high-temperature processes. B. B. Morton. Oil & Gas J 50:146 My 10 '51

ALLOYS, Heat resisting—*Continued*

Metals for the high-speed age. J. D. Sullivan. Eng & Min J 152:82-4 S '51

New aluminum casting alloy for higher temperatures. Automotive Ind 105:58+ S 1 '51

Nickel-aluminum-molybdenum alloys for service at elevated temperatures; abstract. H. V. Kinsey and M. T. Stewart. Materials & Methods 32:8 D '50

Research pushed on gas turbine blade materials. A. H. Allen. il Steel 129:72-5+ Ag 27 '51

Rhenium in high temperature alloys; abstract. A. D. Melaven. Chem Eng 58:259-60 Je '51

Russians have new heat-resistant alloys. Iron Age 167:65-9 Mr 22 '51

Summarizing heat-resisting castings. W. L. Nelson. Oil & Gas J 50:90+ Ag 30 '51

Survey of the development of creep-resisting alloys. N. P. Allen. Engineering 171:235-8 F 23 '51

Tips on welding high-temperature materials in production of military rockets. F. H. Stevenson. il Iron Age 168:109-11 Jl 19 '51

Testing

Development of low-carbon N-155 alloy for gas-turbine construction. W. O. Binder. bibliog il 2pls Iron & Steel Inst J 167:121-34 F '51

Navy studies jet structural alloys at intermediate temperatures. J. F. Erthal. il Iron Age 167:91-5 My 10 '51

Research engineers delve deeper into corrosion at high temperatures. il Materials & Methods 34:10 S '51

ALLYLACETIC acid. See Pentenoic acid

ALLYL alcohol

Allyl alcohol; isomerization of propylene oxide over a chromic oxide catalyst. L. G. Lundsted and others. bibliog Ind & Eng Chem 43:728-30 Mr '51

Kinetics of chlorohydrin formation; the reaction between hypochlorous acid and allyl alcohol in aqueous solution. G. C. Israel, J. K. Martin and F. G. Soper. Chem Soc J p 1282-5 My '50

Kinetics of chlorohydrin formation; the reaction between hypochlorous acid and allyl alcohol in the presence of sodium acetate-acetic acid buffers of constant *pH*. G. C. Israel. Chem Soc J p 1286-9 My '50

Thermochemistry for the petrochemical industry; some C_3 oxygenated hydrocarbons. K. A. Kobe and others. bibliog Pet Refiner 30:119-22 Ag '51

ALLYL benzene

Allylbenzene compounds; 2 : 4 : 6-trimethoxyallylbenzene. P. Holmes, D. E. White and I. H. Wilson. Chem Soc J p2810-11 O '50

Bromination of allylbenzene. M. Lora-Tamayo, F. Martin-Panizo and R. Perez Ossorio. Chem Soc J p 1418-21 My '50

ALLYL bromide

Anomalous reaction of allyl bromide with sodium dibutyl phosphite. W. H. C. Rueggeberg, J. Chernack and I. M. Rose. Am Chem Soc J 72:5336-7 N '50

ALLYL chlorides

Allylic rearrangements; the solvolysis and intramolecular rearrangement of α,α-dimethylallyl chloride. W. G. Young, S. Winstein and H. L. Goering. bibliog Am Chem Soc J 73:1958-63 My '51

Reaction of formaldehyde with allyl chloride. C. C. Price and I. V. Krishnamurti. Am Chem Soc J 72:5335-6 N '50

ALLYL compounds

Polymerization of vinyl and allyl esters of fatty acids. S. A. Harrison and D. H. Wheeler. bibliog Am Chem Soc J 73:839-42 F '51

Preparation and polymerization of unsaturated quaternary ammonium compounds; halogenated allyl derivatives. G. B. Butler and F. L. Ingley. Am Chem Soc J 73:895-6 Mr '51

Preparation and properties of some allylic peroxides. T. W. Campbell and G. M. Coppinger. bibliog Am Chem Soc J 73:1788-9 Ap '51

Studies on the mechanism of the Claisen rearrangement; the ortho rearrangement of(—)α,γ-dimethylallyl phenyl ether and the para rearrangement of (—)α,γ-dimethylallyl 2,6-xylyl ether. E. R. Alexander and R. W. Kluiber. bibliog Am Chem Soc J 73:4304-6 S '51

Two stage polymerizations; preparation and polymerization of substituted allyl phenyl ethers. G. B. Butler and F. L. Ingley. bibliog Am Chem Soc J 73:1512-13 Ap '51

ALLYL cyanide. See Butenenitrile

ALLYL group

Effect of changes in the allyl group on the rearrangement of allyl ethers of salicylic acids. W. R. Nummy and D. S. Tarbell. bibliog Am Chem Soc J 73:1500-4 Ap '51

ALLYL halides

Coupling of allylic halides by nickel carbonyl. I. D. Webb and G. T. Borcherdt. Am Chem Soc J 73:2654-5 Je '51

Kinetics of halogen substitution; halogen addition; benzyl and allyl chloride, bromide, and cyanide. L. D. Swindale, B. E. Swedlund and P. W. Robertson. Chem Soc J p812-14 Mr '50

ALLYL starch. See Starch

ALLYL sulfides

Structure of diallyl disulphide. F. Challenger and D. Greenwood. Chem Soc J p26-30 Ja '50

ALLYL urea

Mercurial diuretics; methoxymercuration of substituted allylureas. R. L. Rowland, W. L. Perry and S. Gerstein. Am Chem Soc J 73:3691-3 Ag '51

ALMANACS

Whitaker's almanack, 1951. J. Whitaker. v83 1156p 12s 6d Joseph Whitaker & sons, 13 Bedford square, London, W.C. 1 '51

ALMONDS

Almond production in Italy. For Comm W 44:24-5 Jl 9 '51

Production and exports in France, Iran and Spain. For Comm W 44:18-19, 20 Jl 16 '51

Sicilian 1951 almond crop small. For Comm W 44:20 Jl 23 '51

Sweet-almond production and trade, French Morocco. For Comm W 44:21 Jl 30 '51

ALMY water tube boiler company. See Neal and Carr, inc.

ALNICO

Precipitation and the domain structure of Alnico 5. A. H. Geisler. bibliog il diag Phys R 81:478-9 F 1 '51

Theory of magnetic anisotropy in Alnico V. J. E. Goldman and R. Smoluchowski. bibliog Phys R 80:302-3 O 15 '50

ALODIZING. See Aluminum—Protection

ALPHA rays

Alpha-decay energies of polonium isotopes. D. G. Karraker and others. bibliog Phys R 83:390-3 Jl 15 '51

α-Decay systematics. G. Wilkinson. Chem Soc J supp no 2:S364-5 '49

Alpha-particle groups from the $N^{14}(d,\alpha)C^{12}$ and $N^{15}(d,\alpha)C^{13}$ reactions. R. Malm and W. W. Buechner. bibliog Phys R 81:519-22 F 15 '51

Alpha-particle range-energy curve for Kodak NTA emulsions. F. E. Steigert and others. bibliog Phys R 83:474 Jl 15 '51

Angular distribution of the $Al^{27}(d,\alpha)Mg^{25}$ reaction and energy levels in Mg^{25}. A. D. Schelberg and others. bibliog diags Phys R 80:574-9 N 15 '50

Angular distributions of the alpha-particles and of the gamma-rays from the disintegration of fluorine by protons. C. Y. Chao. bibliog Phys R 80:1035-42 D 15 '50

Angular yield of deuterons and alphas from the proton bombardment of beryllium. J. A. Neuendorffer and others. bibliog diag Phys R 82:75-80 Ap 1 '51

Angular yield of protons, tritons, and alphas from the deuteron bombardment of beryllium. I. Resnick and S. S. Hanna. bibliog Phys R 82:463-7 My 15 '51

Artificial chains collateral to the heavy radioactive families. W. W. Meinke and others. bibliog Phys R 81:782-98 Mr 1 '51

Bombardment of Li_2O and C by alpha-particles and deuterons. I. B. Berlman. bibliog Phys R 80:775-81 D 1 '50

Changes in conductivity of germanium induced by alpha-particle bombardment. W. H. Brattain and G. L. Pearson. diag Phys R 80:846-50 D 1 '50

Chemical actions of ionising radiations on aqueous solutions; the action of neutrons and of α-particles on benzene. G. Stein and J. Weiss. Chem Soc J p3254-6 D '49

ALPHA rays—*Continued*

Comparison of several nuclear absolute voltage determinations. W. J. Sturm and V. Johnson. bibliog diags Phys R 83:542-7 Ag 1 '51

Complex alpha-spectrum of U^{235}. A. Ghiorso. Phys R 82:979 Je 15 '51

Coulomb functions for reactions of protons and alpha-particles with the lighter nuclei. I. Bloch and others. Rs Mod Phys 23:147-82 Ap '51

Excited state of Be^9 from the $\mathrm{B}^{11}(d,\alpha)\mathrm{Be}^9$ reaction. D. M. Van Patter and others. bibliog diag Phys R 81:233-8 Ja 15 '51

Excited states of Si^{29} from an investigation of the $\mathrm{P}^{31}(d,\alpha)\mathrm{Si}^{29}$ and $\mathrm{Si}^{28}(d,p)\mathrm{Si}^{29}$ reactions. P. M. Endt and others. bibliog Phys R 83:491-4 Ag 1 '51

Gamma-alpha-reaction in Rb^{87}. R. N. H. Haslam and H. M. Skarsgard. bibliog Phys R 81:479-80 F 1 '51

$\mathrm{Li}^6(n,\alpha)\mathrm{H}^3$ reaction spectrum. U. Facchini and others. bibliog Phys R 81:475-6 F 1 '51

Magnetic analysis of the $\mathrm{B}(\alpha, p)\mathrm{C}$ reaction. G. M. Frye and M. L. Wiedenbeck. Phys R 82:960-1 Je 15 '51

Mass assignments of alpha-active isotopes in the rare-earth region. J. O. Rasmussen and others. Phys R 80:475-6 N 1 '50

Noncentral electric interaction in alpha-radioactivity. M. A. Preston. bibliog Phys R 82:515-20 My 15 '51

Precise determination of the $\mathrm{Li}^7(p, \alpha)\mathrm{He}^4$ and $\mathrm{Be}^9(d, \alpha)\mathrm{Li}^7$ Q-values. W. Whaling and C. W. Li. bibliog Phys R 81:150-1 Ja 1 '51

Q-values for (α,p) reactions on aluminum and boron by means of photographic emulsions. H. Slätis and others. diags Phys R 81:641-2 F 15 '51

Radii of even-even nuclei with alpha-fine structure. M. A. Preston. Phys R 83:475-6 Jl 15 '51

Reactions of high-energy particles with nuclei. G. Wilkinson. Chem Soc J supp no 2: S366-9 '49

Relative energy and angle distribution of low energy π^- mesons from 390-Mev alpha-particles on carbon; μ^- meson endings. S. B. Jones and R. S. White. bibliog diag Phys R 82:374-7 My 1 '51

Scattering of 20-Mev alpha-particles by helium. K. B. Mather. diag Phys R 82:126 Ap 1 '51

Simple capture of alpha-particles. W. E. Bennett and others. Phys R 82:20-2 Ap 1 '51

Specific alpha-activity of U^{235}. E. H. Fleming, jr. and others. Phys R 82:967 Je 15 '51

Specific alpha-radioactivity of Pu^{240}. E. F. Westrum, jr. bibliog Phys R 83:1249-50 S 15 '51

Systematics of even-even alpha-emitters. I. Kaplan. bibliog Phys R 81:962-8 Mr 15 '51

Thick target fast neutron yield from 15-Mev deuteron and 30-Mev alpha-bombardment. A. J. Allen and others. bibliog diags Phys R 81:536-9 F 15 '51

Three new delayed alpha-emitters of low mass. L. W. Alvarez. bibliog Phys R 80:519-23 N 15 '50

Total yield of alphas from $\mathrm{Li}^6(d, \alpha)\alpha$. R. Resnick. Phys R 82:447 My 1 '51

ALPHAZURINE G

Alphazurine G and some *N,N′*-substituted benzidines as redox indicators. R. N. Adams and E. M. Hammaker. bibliog Anal Chem 23:744-6 My '51

ALTIMETERS

Altimeter computer promises greater bombing accuracy. Aviation W 54:56 Je 4 '51

Datum stabilizer for radar-altimeter surveying. B. I. McCaffrey. il diag Electronics 24:100-3 F '51

Rating

Barometers for home use; aneroid barometers as altimeters. il diag Consumers Res Bul 28:20-3 S '51

ALTITUDE

Altitude effects on two-cycle automotive Diesel engines. R. W. Guernsey. il S A E J 59:26-8 Ap '51

Altitude performance of electro-motive model 567 engine. H. W. Barth and others. il Ry Mech & Elec Eng 125:61-3+ Ja '51; Abstract. S A E J 59:78 F '51

Effect of changes in altitude on the controlled behavior of a gas-turbine engine. S. C. Himmel and R. P. Krebs. diag J Aeronautical Sci 18:433-41 Jl '51

Electron tube ratings at very high altitudes. R. J. Bibbero. il Tele-Tech 10:42-4 My '51

ALTROSE

Isopropylidene derivatives of D-altrose and 1 : 6-anhydro-β-D-altrose. F. H. Newth and L. F. Wiggins. Chem Soc J p 1734-7 Jl '50

ALUMEL

Reference tables for thermocouples. H. Shenker and others. U S Nat Bur Stand Circ 508:1-71; pa 35c Supt. of doc. '51

ALUMINA

Air force develops high temperature material; aluminum oxide, formed into crucibles. Product Eng 22:153 Mr '51

Alumina activated with anhydrous hydrogen fluoride; a dealkylation catalyst for aromatic hydrocarbons. L. Berg and others. bibliog diag Chem Eng Prog 47:469-72 S '51

Analogies in the gallia and alumina systems; the preparation and properties of some low-alkali gallates. L. M. Foster and H. C. Stumpf. il Am Chem Soc J 73:1590-5 Ap '51

Beta-alumina occurrence in glass tank refractories. L. Bor. il Am Cer Soc J 33:375-6 D 1 '50

Ceramic compositions having negative linear thermal expansion; lithia-alumina-silica. E. J. Smoke. bibliog Am Cer Soc J 34:87-90 Mr 1 '51

Cone deformation study of a portion of the system SrO-$\mathrm{Al_2O_3}$-$\mathrm{SiO_2}$. A. S. Watts. diag Am Cer Soc J 34:63 F 1 '51

Corrosion resistance of pure alumina as a glass refractory. F. Day, jr. and J. P. Ambrosone. Am Cer Soc J 34:163-4 My 1 '51

Effect of heat treatment on the surface properties of gibbsite, adsorption isotherms of nitrogen and of oxygen at -182.7°C. S. J. Gregg and K. S. W. Sing. bibliog diag J Phys & Colloid Chem 55:592-7 Ap '51

Effect of nuclear substitution on the rate of silica-zirconia-alumina-catalyzed depropylation of cumene. R. M. Roberts and G. M. Good. bibliog Am Chem Soc J 73:1320-2 Mr '51

Extraction of alumina from Haiti and Jamaica bauxites. T. D. Tiemann. J Metals 3:Trans 389-93 My '51

Fluidization studies of solid particles. C. O. Miller and A. K. Logwinuk. bibliog il diags Ind & Eng Chem 43:1220-6 My '51

Hydrogen-deuterium exchange activity of silica-alumina catalysts. V. C. F. Holm and R. W. Blue. bibliog diag Ind & Eng Chem 43:501-5 F '51

Hydrogen transfer over silica-alumina catalysts. R. W. Blue and C. J. Engle. bibliog Ind & Eng Chem 43:494-501 F '51

Investigation of the properties of alumina *ex*-aluminum isopropoxide as a catalyst for dehydrations. H. Adkins and S. H. Watkins. bibliog Am Chem Soc J 73:2184-8 My '51

Low temperature heat capacities of inorganic solids; heat capacity of aluminum oxide (synthetic sapphire) from 19 to 300°K. E. C. Kerr, H. L. Johnston and N. C. Hallett. Am Chem Soc J 72:4740-2 O '50

Magnetic susceptibilities of $\mathrm{Cr_2O_3}$-$\mathrm{Al_2O_3}$ and of $\mathrm{Fe_2O_3}$-$\mathrm{Al_2O_3}$ solid solutions. P. W. Selwood, L. Lyon and M. Ellis. Am Chem Soc J 73:2310-11 My '51

Manufacture of sintered alumina ware. R. Scott. il diags Metallurgia 44:50-2 Jl '51

Orientation effects in transparent alumina films. W. O. Milligan and H. B. Weiser. bibliog il J Phys & Colloid Chem 55:490-6 Ap '51

Phase equilibrium relationships in a portion of the system MgO-$\mathrm{Al_2O_3}$-$\mathrm{2CaO{\cdot}SiO_2}$. A. T. Prince. bibliog Am Cer Soc J 34:44-51 F 1 '51

Preparation of alumina bodies by the slip-casting method. W. Watt and J. P. Roberts. Metallurgia 43:307-8 Je '51

Preparation of zirconia and alumina shapes. L. E. Mong and J. J. Donoghue. bibliog il Am Cer Soc Bul 29:405-7 N 15 '50

Probe new uses for tough abrasives. il Steel 128:79 Ap 9 '51

Production at N.P.L. of alumina and other ware for research involving high temperatures. V. H. Stott. il diags Metallurgia 44:157-62+ S '51

ALUMINA—*Continued*

Production of aluminum from kalunite alumina. A. Fleischer and J. Glasser. J Metals 3:Trans 634-6 Ag '51

Production of sintered alumina ware. T. G. Carruthers. il diags Metallurgia 44:103-7 Ag '51

Small continuous high-temperature kiln; vitrified alumina. K. Langrod. diags Am Cer Soc Bul 30:227-9 Jl 15 '51

Study of the system barium oxide-aluminum oxide-water at 30° C. E. T. Carlson and others. bibliog J Res Nat Bur Stand 45: 381-98 N '50

Thermal conductivity of granular beds filled with compressed gases. J. L. Weininger and W. G. Schneider. bibliog diags Ind & Eng Chem 43:1229-33 My '51

Use and misuse of fused cast high-alumina refractories. R. W. Brown and O. R. Stach. il diags Am Cer Soc Bul 30:251-7 Ag 15 '51; Excerpts. Glass Ind 32:518+ O '51

See also

Bauxite
Corundum
Gibbsite

ALUMINUM

Absorption of aluminum in the soft X-ray region. D. H. Tomboulian and E. M. Pell. bibliog Phys R 83:1196-201 S 15 '51

Aluminium and its alloys in 1950. E. Elliott. bibliog Metallurgia 43:69-72 F '51

Aluminum-coil weight and length; chart; reference book sheet. J. T. Hogan. Am Mach 95:143 Je 25 '51

Aluminum creep studied. Steel 128:115-16 Mr 26 '51; Same abr. Iron Age 167:89 Mr 29 '51; Same abr. Materials & Methods 33: 148+ Je '51

Aluminum cylinders without cast iron liners; recent developments in Germany demonstrate feasibility of chrome plating. P. M. Heldt. il diag Automotive Ind 104:32-3+ F 15 '51

Aluminum louvers for south light. il Eng N 145:41 N 9 '50

Aluminum radiators to save copper; Trane's heat exchanger. il Bsns W p52-4+ O 13 '51

Aluminum roof for bridge deck; Huey P. Long bridge. il Eng N 146:41 Ap 5 '51

Aluminum warpage problem declared solved. Light Metal Age 8:19 O '50

Angular distribution of the $Al^{27}(d,\alpha)Mg^{25}$ reaction and energy levels in Mg^{25}. A. D. Schelberg and others. bibliog diags Phys R 80:574-9 N 15 '50

Century of aluminium. Engineer 191:700 My 25 '51

Cloud-chamber study of nuclear interactions in lead and aluminum. B. P. Gregory and J. H. Tinlot. bibliog il diags Phys R 81: 667-82 Mr 1 '51

Cross sections of gamma-proton reactions. J. Halpern and A. K. Mann. bibliog diag Phys R 83:370-3 Jl 15 '51

Deoxidation by aluminium; abstract and discussion. H. A. Sloman and E. L. Evans. Engineer 190:493-4 N 24 '50

Direct extrusion applied to light metal scrap. M. Stern. il diag Iron Age 167:71-3 Je 28 '51

Distribution of energy loss of electrons in aluminum. R. D. Birkhoff. bibliog Phys R 82:448-9 My 1 '51

Effect of phase changes in white light interferometry. L. G. Schulz. bibliog diags Opt Soc Am J 41:261-4 Ap '51

Effect of prestraining temperatures on the recovery of cold worked aluminum. T. E. Tietz and others. bibliog J Metals 1:Trans 921-6 D '49; Discussion. 188:Trans 1364-5 N '50

Electrochemical behavior of aluminum in solutions of iron sulfate. J. V. Petrocelli. Electrochem Soc J 98:183-6 My '51

Electrolysis of aluminum solutions in a magnetic field. C. E. Wood and C. W. Tittle. J Chem Phys 18:1683 D '50

Electroplating on aluminum. R. H. Keller. bibliog il diags Metal Finishing 48:56-64 D '50

Equilibrium and rate of aluminum monochloride formation from aluminum chloride and aluminum. A. S. Russell, K. E. Martin and C. N. Cochran. bibliog diag Am Chem Soc J 73:1466-9 Ap '51

Fabrication and application advancements during 1950. W. McCague. il Light Metal Age 9:19-25 F '51

Growing giant in metal scene. B. Hatschek. Iron Age 168:71-2 S 20 '51

How shortages of aluminum may affect passenger cars. Automotive Ind 104:48+ Ja 1 '51

Huey Long bridge gets aluminum deck. il diags Ry Age 129:36-9 D 9 '50

Inelastic scattering of 15-Mev neutrons by lead, iron, and aluminum. P. H. Stelson and C. Goodman. bibliog diag Phys R 82: 69-71 Ap 1 '51

Interaction of pi-mesons with carbon and aluminum nuclei. M. Camac and others. il diag Phys R 82:745-6 Je 1 '51

Investigation of the role of aluminum in the graphitization of plain carbon steel. A. M. Hall and E. E. Fletcher. bibliog il A S M E Trans 73:743-50 Ag '51

Light metals and their alloys codified. R. B. Smith. bibliog Iron Age 167:65-70 Ja 25 '51

M-7 aluminum restrictions. Sheet Metal Worker 42:38 Mr '51

Materials casebook; aluminum output improves. il Product Eng 22:138-9 O '51

Mechanism of creep as revealed by X-ray methods; abstract. G. B. Greenough and E. M. Smith. Metal Prog 59:424 Mr '51

Mechanism of primary creep in metals; abstract. W. A. Wood and R. F. Scrutton. Metal Prog 59:410+ Mr '51

Metallic aluminum in solution in liquid ammonia. A. D. McElroy, J. Kleinberg and A. W. Davidson. diag Am Chem Soc J 72: 5178-80 N '50

Modern wareboard for the ceramic industry. C. E. Hendricks. diags Am Cer Soc Bul 30: 78 Mr 15 '51

Neutron capture γ-rays from fluorine, sodium, magnesium, aluminum, and silicon. B. B. Kinsey and others. bibliog diag Phys R 83: 519-34 Ag 1 '51

New etch for aluminum. Light Metal Age 8: 26-7 D '50

New low-cost jacketing cuts maintenance on insulated lines. il Pet Eng 23:E18 F '51

Nuclear reactions resulting from the proton bombardment of aluminum. F. C. Shoemaker and others. bibliog diag Phys R 83: 1011-17 S 1 '51

Photo-disintegration of silver and aluminum. B. C. Diven and G. M. Almy. diags Phys R 80:407-14 N 1 '50

Photographic reproductions on aluminum; Aluphoto process. il Product Eng 22:163 Jl '51

Q-values for (α,p) reactions on aluminum and boron by means of photographic emulsions. H. Slätis and others. diags Phys R 81:641-2 F 15 '51

Range and straggling of protons between 35 and 120 Mev. N. Bloembergen and P. J. van Heerden. bibliog diags Phys R 83:561-6 Ag 1 '51

Range of high energy electrons in aluminum. H. E. Johns and others. bibliog diags Phys R 83:952-4 S 1 '51

Rubber to aluminum assembly. il Light Metal Age 9:24 Je '51

Solubility of oxygen in liquid iron containing aluminum. D. C. Hilty and W. Crafts. bibliog il diag J Metals 188:Trans 414-24 F '50; Discussion. 188:Trans 1342-5 N '50

Structural studies of plastic deformation in aluminum single crystals. N. K. Chen and C. H. Mathewson. bibliog il J Metals 3:Trans 653-60 Ag '51

Transport of aluminum atoms by a gas. M. Ter-Pogossian and others. Phys R 80:294-5 O 15 '50

See also

Bauxite

Analysis

Alkalimetric determination of metals with the aid of acid-base indicators. J. F. Coetzee. Chem Soc J p997-1004 Ap '51

Analysis of aluminum and aluminum alloys using pin samples; direct-reading spectrochemical methods. R. W. Callon and L. P. Charette. bibliog il Anal Chem 23:960-6 Jl '51

ALUMINUM—Analysis—*Continued*

Colorimetric determination of aluminium in water using ammonium aurin tricarboxylate. A. C. Rolfe, F. R. Russell and N. T. Wilkinson. bibliog diag J Ap Chem 1:170-8 Ap '51

Polarographic determination of aluminum; use of an organic reagent. H. H. Willard and J. A. Dean. bibliog Anal Chem 22:1264-7 O '50

Separation of iron(III) from aluminum. H. Teicher and L. Gordon. bibliog Anal Chem 23:930-1 Je '51

Sodium content in aluminum speedily analyzed, using a Beckman flame spectrophotometer. D. A. Brewster and C. J. Clausen, jr. bibliog il Iron Age 166:88-92 N 2 '50

Spectrophotometric determination of beryllium in aluminum with sulfosalicylic acid. H. V. Meek and C. V. Banks. bibliog Anal Chem 22:1512-16 D '50

Survey of methods for aluminum determination and a disinvolved phosphate method applicable to iron ores and analogues. E. T. Saxer and E. W. Jones. bibliog Blast F & Steel Pl 39:445-50+, 549-52 Ap-My '51

Cleaning

Removal of stearic acid from surfaces by alkaline detergents. F. Hazel and W. Stericker. bibliog il Ind & Eng Chem 43:919-25 Ap '51

Typical aluminum cleaning practices; data sheet. Mach 57:245 F '51

Conservation

Stretch your aluminum supply. D. M. White. Light Metal Age 9:20+ Je '51

Corrosion

Corrosion of aluminium; low temperature station carries out research. Chem Age (Lond) 64:711-13 My 5 '51

Effect of surface finish on the stress-corrosion properties of aluminium; seven per cent magnesium alloy. S. E. Hadden and E. C. W. Perryman. bibliog il Metallurgia 42:392-6 D '50; Abstract and discussion. Engineering 170:341 N 10 '50

Relationship between the ageing and stress-corrosion properties of aluminium-zinc alloys; abstract and discussion. E. C. W. Perryman and J. C. Blade. Engineering 170:341 N 10 '50

Theory of the mechanism of stress-corrosion in aluminium-seven per cent magnesium alloy; abstract and discussion. P. T. Gilbert and S. E. Hadden. Engineering 170:341 N 10 '50

See also
Aluminum—Protection

Electrotechnical uses

Aluminum conductor for distribution. H. C. Purcell. il Elec West 107:70-2 Ag '51

Aluminum conductors from the aircraft manufacturer's viewpoint. W. W. Schumacher. il diag Elec Eng 69:1064 D '50

Jointing aluminium cable. P. A. Raine. il Elec R (Lond) 148:529-31 Mr 16 '51

New-type aluminum cable offers economy and better appearance. A. D. Fragall. il Elec West 106:72-3 My '51

Simple sheath-splitter safe for aluminum cable. C. L. Lucal. il Elec World 135:108+ Je 4 '51

Spiralled conductors for services and secondaries. il Elec World 136:126 Jl 16 '51

Finishing

Bright dip for aluminum. il Metal Finishing 49:79-80 Ja '51

Easy on the finish; fine-mesh uniform grain silica cleans but doesn't grind. il Chem W 69:30-1 S 1 '51

Effect of surface finish on the stress-corrosion properties of aluminium; seven per cent magnesium alloy. S. E. Hadden and E. C. W. Perryman. bibliog il Metallurgia 42:392-6 D '50

Finishes for aluminum products. R. V. Vanden Berg. col il Product Eng 22:179-86 O '51

Typical electroplating processes for aluminum; data sheet. Mach 58:239 S '51

Wrought aluminum alloys; finishes for aluminum. P. O'Keefe. il Materials & Methods 33:103-4 Je '51

Fire hazards

Fire hazards investigated. Chem Age (Lond) 65:251 Ag 25 '51

Isotopes

Capture cross sections for fast neutrons. R. L. Henkel and H. H. Barschall. bibliog diags Phys R 80:145-9 O 15 '50

Energy level at 31 kev in Al^{28} from $Al^{27}(d,p)Al^{28}$ reaction. H. Enge and others. bibliog Phys R 83:31-3 Jl 1 '51

Masses of Al, Si, P, and S isotopes. H. T. Motz. diag Phys R 81:1061-2 Mr 15 '51

Joining to steel, etc.

Gas turbine use seen for bi-metals. Product Eng 21:163-4 N '50

Some interesting experiments with bi-metallic piston skirts; municipal plant, Freeport, Long Island. il Diesel Power 29:40-1 Jl '51

Metallography

Galvanic macro-etch for high-purity aluminum. I. S. Servi. il Metal Prog 58:732-3 N '50

Metallographic techniques for high purity aluminum. I. S. Servi and N. J. Grant. il J Metals 3:Trans 473 Je '51

New anodic-film method for studying orientation in aluminum. A. Hone and E. C. Pearson. il Metal Prog 58:713-15 N '50

Plastic behavior of high-purity aluminum single crystals at various temperatures. F. D. Rosi and C. H. Mathewson. bibliog il diags J Metals 188:Trans 1159-67 S '50; Discussion. 3:Trans 545-7 Jl '51

Study of strain markings in aluminum. B. R. Banerjee. bibliog il J Metals 188:Trans 1126-8 S '50; Discussion. 3:Trans 547-8 Jl '51

Paint

Fire hazards investigated. Chem Age (Lond) 65:251 Ag 25 '51

Heat reflected and conserved by aluminum paint coatings. G. M. Babcock and F. B. Rethwisch. il Heat & Ven 48:68-9 Mr '51

New tool quickly paints energized 110-kv buses. Elec World 134:121-2 N 6 '50

Prices

Nonferrous prices; tabulation. Steel 128:129 Ja 1 '51

Protection

Alodizing navy Cutlass fighters against corrosion. flow sheet il Automotive Ind 105:38-9+ Ag 1 '51

Continuous anodizing of aluminum coiled sheet. C. J. Simon. il plan Metal Finishing 49:63-4 My '51

Easier way to fight salt spray; Alodizing process. S. H. Reiniger. il diag Aviation W 55:37-8+ Ag 20 '51

Electrolytic oxide treatments for aluminum; data sheet. Mach 58:239 S '51

Finishing of light alloys. J. L. Bleiweis. il Metal Finishing 49:49-55 F '51

Influence of hard chromium plating on the fatigue strength of aluminum alloys; abstract. E. Raub. Metal Prog 59:412+ Mr '51

Kawneer enamels aluminum for profit; panels for architectural use. il Cer Ind 55:54-7+ N '50

Light metal chromed cylinders. il diag Engineer 192:115-17 Jl 27 '51

New hard finish for aluminum alloys; MHC finish. il Metal Finishing 48:61-3+ N '50

Sealing of anodized aluminum increases corrosion resistance. A. E. Durkin. il Iron Age 167:96-8 My 10 '51

Vitreous enamel for aluminum. W. F. Carroll. Am Cer Soc Bul 30:232-3 Jl 15 '51

Wet blasting permits direct chrome plating on aluminum. H. E. Linsley. il Am Mach 95:120-1 Ag 20 '51

Testing

Creep of high-purity aluminum. W. D. Jenkins. bibliog il J Res Nat Bur Stand 46:310-17 Ap '51

ALUMINUM—Testing—*Continued*

Mechanical and physical properties of pure aluminum and some aluminum alloys at the temperature of liquid oxygen; abstract. H. Maeder. Refrig Eng 59:257+ Mr '51

Some observations on the recovery of cold worked aluminum. T. V. Cherian and others. bibliog il J Metals 1:Trans 948-56 D '49; Discussion. 188:Trans 1363-4 N '50

Use of fatigue tests in the investigation of structural characteristics of cold worked metals; abstract. R. Jacquesson and P. Laurent. Metal Prog 59:422 Mr '51

Textile uses

Milium; resinated aluminum-sprayed fabric that reflects the heat radiated from the body to make clothing warmer. il Light Metal Age 8:11 O '50

Uses

Aluminum automotive history. Steel 129:130+ S 10 '51

Aluminum engine is on the way. W. Patton. Iron Age 168:132+ S 13 '51

Aluminum engine powers experimental Buicks. il diag Product Eng 22:196-7 O '51

Aluminum offers design advantages for refrigeration equipment. E. W. Mason. il diag Refrig Eng 59:869-72+ S '51

Expansion in the use of aluminium. E. G. West. bibliog il Metallurgia 42:320-5 N '50

Use of aluminum in petroleum refinery equipment. E. E. Kerns and W. E. Baker. il Am Pet Inst Proc 31 M(3):89-98 '51; Same. Pet Refiner 30:123-9 My '51; Excerpts. Oil & Gas J 50:87+ Jl 19 '51

Welding

Aircomatic process used in welding aluminum masts for navy. il Marine Eng 56:58-60 S '51

Aluminum boxes inert-arc welded. il Iron Age 167:99 My 3 '51; Welding J 30:460 My '51

Aluminum-magnesium filler metals for welding high-strength aluminum alloys. D. C. Martin and R. D. Williams. Welding J 30: sup55-8 Ja '51

Aluminum tanks welded in unique fixtures. T. E. Imholz. il Iron Age 168:87-9 Jl 5 '51

Applying aluminum roofing by stud welding. il Sheet Metal Worker 42:74-5 D '50

Falling-weight impact test of welded aluminum alloy plates. E. C. Hartmann. il diags Welding J 30:sup303-6 Je '51

Fatigue strength of spot-welded light alloy joints. H. Kihara. diags Welding J 30: sup529-36 O '51

Field welding of aluminum tanks. P. C. Arnold. il Welding J 30:597-601 Jl '51

Helium strengthens aluminum welds. Bsns W p70+ My 26 '51

How to join aluminum sheet by oxy acetylene welding. il diags Mill & Factory 49:90 Ag '51

How to weld aluminum. il diags Sheet metal Worker 42:41-4 F; 46-9+ Mr '51

How to weld aluminum piping. il Power 95: 142 Ap '51

Latest developments in cold pressure welding widen its field of application. W. Dubilier. il Materials & Methods 32:78-80 N '50; Same. Light Metal Age 8:16-19 O '50; Same. Welding J 29:1077-81 D '50

Performance of high-strength aluminum alloy weldments. W. R. Apblett and W. S. Pellini. il diags Welding J 30:sup473-81 O '51

Pressure welding aluminum at various temperatures. M. A. Miller and G. W. Oyler. bibliog il diags Welding J 30:sup486-98 O '51

Problems of change-over from steel to aluminum in fabricating truck bodies. il Light Metal Age 8:8-9 O '50

Reclaiming aluminum Diesel locomotive parts. L. Grover and R. L. Rex. il diag Ry Mech & Elec Eng 125:56-9 S '51

Semi-automatic welding builds tank cars faster; illustrations with text. J. S. Frey. Am Mach 95:170-1 O 1 '51

Sigma welding of nonferrous metals and alloy steels. H. T. Herbst. il diags Welding J 30: 618-31 Jl '51

Slope control aids ac welding of aluminum. C. Bruno and G. W. Birdsall. il Iron Age 167:100-1 Ap 5 '51

Stresses around a spot weld under static and cyclic loads. G. Welter. il diags Welding J 29:sup565-76 N '50

Survey of aluminum welding techniques. F. A. Lewis. il Tool Eng 25:21-3 O; 28-31 N '50

Welding aluminum alloys. G. O. Hoglund. bibliog il Welding J 30:331-46 Ap '51

Welding aluminum with inert arc d.c. J. W. Mortimer. il Welding J 29:879-81 O '50; Discussion. G. J. Gibson. 30:49-52 Ja '51

Welding electrodes and rods for ferrous and nonferrous metals; filler metals for aluminum and magnesium. H. R. Clauser. Materials & Methods 32:79-80 D '50

ALUMINUM, Molten

Solubility of iron in liquid magnesium-aluminium alloys. W. A. Baker and M. D. Eborall. Metallurgia 44:145-6 S '51

ALUMINUM, Powdered

Kaiser ups aluminum stake. il Chem Ind W 68:25 Mr 10 '51

Use of finely divided metals in explosives. D. Hart and W. R. Tomlinson, jr. il Metal Prog 59:788-92 Je '51

ALUMINUM, Structural

Aluminum construction material. E. E. Kerns and W. E. Baker. Chem Eng 58:336+ S '51

Aluminium hangars at London airport. il Engineer 191:721 Je 1 '51; Engineering 171:654-5 Je 1 '51; Metallurgia 43:295-6 Je '51

Aluminium in structural engineering. W. C. Devereux. bibliog Engineer 192:150-1 Ag 3 '51

Aluminum mechano decking. il Light Metal Age 9:27 Ap '51

Festival of Britain symbol. il Elec R (Lond) 147:644 O 27 '50

Kawneer enamels aluminum for profit; panels for architectural use. il Cer Ind 55:54-7+ N '50

Portable aircraft cargo deck erected on Mission San Diego. il Marine Eng 56:72-3 My '51

Rolling scaffolds; mobile work stands of light-weight aluminum alloys. il Nat Safety N 64:44+ Jl '51

Structural aluminum. E. Hartman. Midwest Eng 4:7-9+ S '51

Titus station features metal for walls and for pipe insulation. J. G. Miller and T. Y. Mullen. il plan diags Elec World 136:78-81 Jl 30 '51

Tower crane with aluminum-alloy jib. il Engineering 171:771 Je 22 '51

ALUMINUM alloys

Ageing of aluminum alloys; recent Russian work. bibliog Chem Age (Lond) 64:25-8 Ja 6 '51

Air force's new ML aluminum casting alloy. J. C. McGee. il Light Metal Age 9:17-18+ Ag '51

Aluminum alloy in car construction; 61S-T6. E. C. Hartmann and others. il Ry Mech & Elec Eng 124:717-21 D '50

Aluminium alloy progress. il Engineer 192: 268-9 Ag 31 '51

Aluminium and its alloys in 1950. E. Elliott. bibliog Metallurgia 43:69-72 F '51

Aluminium casting alloy D.T.D.424 (now known as LM-4). D. C. G. Lees and W. H. Glaisher. bibliog diags Metallurgia 43:73-80 F '51

Aluminum foundry alloys based on the Al-Cu-Si ternary system; abstract. F. Bollenrath and H. Groeber. Metal Prog 58:922+ D '50

Aluminum-magnesium filler metals for welding high-strength aluminum alloys. D. C. Martin and R. D. Williams. Welding J 30: sup55-8 Ja '51

Aluminum-rich binary alloys; table; data sheet. F. R. Morral. Metal Prog 59:672B My '51

Anelastic effects arising from precipitation in aluminum-zinc alloys. A. S. Nowick. bibliog il J Ap Phys 22:925-33 Jl '51

Characteristics and applications of standard aluminum rivet alloys and tempers; table; engineering file facts. Materials & Methods 33:105 Je '51

Chemical engineering materials of construction. H. W. Fritts and E. D. Verink, jr. bibliog il Ind & Eng Chem 43:2197-9 O '51

Copper-bearing, high-strength wrought aluminum alloys; typical properties, tabulated; engineering file facts. Materials & Methods 32:83 D '50

ALUMINUM alloys—*Continued*

Crystal structure of UAl_4. B. S. Borie, jr. diags J Metals 3:Trans 800-2 S '51

Decomposition of a solid solution of silver in aluminum; abstract. N. V. Ageev and M. A. Skryabina. Light Metal Age 9:34 Ap '51

Designing with modern materials; survey of latest developments in engineering materials. il Machine Design 23:311-12 O '51

Effect of alloying elements on the elevated temperature plastic properties of alpha solid solutions of aluminum. O. D. Sherby and others. bibliog J Metals 3:Trans 643-52 Ag '51

Effect of small quantities of Cd, In, Sb, Tl, Pb, or Bi on the aging characteristics of cast and heat treated aluminum; four per cent copper, 0.15 per cent titanium alloy. H. K. Hardy. Metal Prog 59:862+ Je '51

Effect of sonic and ultrasonic vibrations on the structure of magnesium-aluminum alloys with 4 to 12 per cent Al; abstract. C. Siebers and W. Bulian. Metal Prog 59:560 Ap '51

Effect of surface finish on the stress-corrosion properties of aluminium; seven per cent magnesium alloy. S. E. Hadden and E. C. W. Perryman. bibliog il Metallurgia 42:392-6 D '50

Equilibrium relations in magnesium-aluminum-manganese alloys. B. J. Nelson. bibliog il diag J Metals 3:Trans 797-9 S '51

Extrusion effects in Al-Zn-Mg alloys with 4.5 per cent Zn and 3.5 per cent Mg; abstract. G. Siebel. Metal Prog 58:912+ D '50

High stress fatigue of aluminum and magnesium alloys; charts; reference book sheet. Product Eng 22:159, 161, 163 F '51

K-150 fills gap between established aluminum alloys. D. T. Ross. il Materials & Methods 34:74-5 Ag '51

Light metals and their alloys codified. R. B. Smith. bibliog Iron Age 167:65-70 Ja 25 '51

Micro solution-potential measuring technique. L. W. Smith and V. J. Pingel. il Electrochem Soc J 98:48-50 F '51

Modern all-aluminum body development for production. E. C. DeSmet and others. il diags S A E J 59:35-9+ Je '51

Modern trends in airframe materials. L. Schapiro. il Metal Prog 59:511-15 Ap '51; Same cond. Steel 128:77-80 Ap 16 '51; Abstract. Light Metal Age 9:13 Ap '51

Modification in aluminium-silicon alloys; abstract. B. M. Thall and B. Chalmers. Engineering 171:492-3 Ap 27 '51

Modification in aluminum-silicon alloys; abstract. B. M. Thall and B. Chalmers. Metal Prog 58:902+ D '50

New aluminum casting alloy for higher temperatures. Automotive Ind 105:58+ S 1 '51

Nickel-aluminum alloy combines strength and corrosion resistance; Duranickel. P. O'Keefe. il Materials & Methods 33:73-7 Ap '51

Performance of high-strength aluminum alloy weldments. W. R. Apblett and W. S. Pellini. il diags Welding J 30:sup473-81 O '51

Precision investment nonferrous casting alloys; tabulation; engineering file facts. Materials & Methods 32:99 N '50

Preparing zinc-base and aluminum-base die castings for finishing. D. F. Seymour. il Materials & Methods 33:68-9 Mr '51

Recent developments in casting alloys; abstract. Irvine. Chem Age (Lond) 64:849-50 Je 2 '51

Recent researches on aluminum-zinc-magnesium-copper alloys; abstract. A. Saulnier and G. Gabane. Metal Prog 59:284+ F '51

Relative formability and cost, strength, and elongation of aluminum alloys; tabulation; data sheet. E. V. Sharpnack, comp. Mach 57:239 D '50

Russians have new heat-resistant alloys. Iron Age 167:65-9 Mr 22 '51

Segregation of iron and manganese in some aluminium casting alloys. W. H. Glaisher. diag Metallurgia 43:127-31 Mr '51

Solubility relationships in the aluminium-sodium and aluminium-silicon-sodium systems; abstract and discussion. C. E. Ransley and H. Neufeld. Engineer 191:437-8 Ap 6 '51

Structural light-alloy riveting with the high-tensile alloys. J. G. Whitman. il diags Engineer 192:228-31 Ag 24 '51

Wrought aluminum alloys; nomenclature and composition, forms, properties, corrosion and chemical resistance, etc. P. O'Keefe. il Materials & Methods 33:89-104 Je '51

XA78S new high-strength aluminum alloy. Light Metal Age 9:31 Je '51; Automotive Ind 104:90 My 15 '51

Analysis

Analysis of aluminum and aluminum alloys using pin samples; direct-reading spectrochemical methods. R. W. Callon and L. P. Charette. bibliog il Anal Chem 23:960-6 Jl '51

Colorimetric determination of copper in aluminium alloys. S. A. Shrager and G. Norwitz. bibliog J Ap Chem 1:354-5 Ag '51

Determination of bismuth, lead and copper in aluminium alloys. G. Norwitz. Metallurgia 43:46 Ja '51

Polarographic determination of cadmium in aluminium alloys. W. Stross. diags Metallurgia 43:145-7 Mr '51

Rapid electrolytic method for the determination of zinc in aluminium-zinc alloys. G. Norwitz. bibliog J Ap Chem 1:353-4 Ag '51

Spectrophotometric determination of nickel in aluminum alloys. M. D. Cooper. Anal Chem 23:880-3 Je '51

Volumetric determination of iron in aluminium alloys. G. Norwitz. Metallurgia 43:154 Mr '51

Testing

Creep properties of some aluminium alloys at temperatures up to 300° C. J. McKeown and R. D. S. Lushey. diags Metallurgia 43:15-19 Ja '51

Effect of alloying elements on the electrical resistivity of aluminum alloys. A. T. Robinson and J. E. Dorn. bibliog J Metals 3:Trans 457-60 Je '51

Effects of precompression on the behavior of the aluminum alloy 24ST4 during cyclic direct stressing. S. I. Liu. bibliog diag J Metals 3:Trans 452-6 Je '51

Effects of prior static and dynamic stresses on the fatigue strength of aluminum alloys. J. A. Bennett and J. L. Baker. bibliog il J Res Nat Bur Stand 45:449-57 D '50

Effects of prior stress on the fatigue of aluminum alloys. J. E. Bennett and J. L. Baker. il Light Metal Age 9:16-17 Ap '51; Same cond. Materials & Methods 33:9+ Ap '51; Same cond. Steel 128:104+ Mr 19 '51; Same cond. Aviation W 54:28+ Ap 9 '51; Same cond. Mech Eng 73:584-5 Jl '51; Excerpts. Product Eng 22:164 Ap '51; Abstract. Iron Age 167:79 Mr 22 '51

Falling-weight impact test of welded aluminum alloy plates. E. C. Hartmann. il diags Welding J 30:sup303-6 Je '51

Free cone bend test for aluminum alloy sheet and coil; abstract. W. Thompson. il Metal Prog 59:840+ Je '51

Static friction tests with various metal combinations and special lubricants. H. S. White and D. Zei. il J Res Nat Bur Stand 46:292-8 Ap '51

What is the strength of aluminum after forming? L. V. Omelka and D. A. Paul. il Iron Age 168:112-14 Ag 16 '51

When will it fail? T. T. Oberg. Metal Prog 60:74-5 Jl '51

X-ray inspection of light alloys. J. G. Schneeman. il Light Metal Age 9:11-14, 16 Ag '51

ALUMINUM alloys, Heat treatment of

Effects of precompression on the behavior of the aluminum alloy 24ST4 during cyclic direct stressing. S. I. Liu. bibliog diag J Metals 3:Trans 452-6 Je '51

Heat treatment of aluminium alloys. J. Crowther. Metallurgia 43:243-7 My '51

New quenching process for aluminum. G. Close. il diag Light Metal Age 8:6-7+ O '50

Some observations on the recovery of cold worked aluminum. T. V. Cherian and others. bibliog il J Metals 1:Trans 948-56 D '49; Discussion. 188:Trans 1363-4 N '50

ALUMINUM arches. See Arches, Aluminum

ALUMINUM barges. See Barges, Aluminum

ALUMINUM barrels. See Barrels, Aluminum

ALUMINUM boats. See Boats, Aluminum

ALUMINUM borohydride

Effect of traces of oxygen on the reaction of aluminum borohydride with ethylene. R. S. Brokaw and R. N. Pease. bibliog Am Chem Soc J 72:5263-6 N '50

ALUMINUM bridges. See Bridges, Aluminum

ALUMINUM bromide

Action of aluminum bromide on some halogenated thiophenols and benzyl phenyl sulfides. H. F. Wilson and D. S. Tarbell. bibliog Am Chem Soc J 72:5200-5 N '50

Aluminum bromide isomerization of 2,2,4-trimethylpentane alone and in the presence of naphthenes; mechanism of the inhibition by naphthenes of side reactions during paraffin isomerization. F. E. Condon. bibliog Am Chem Soc J 73:3938-47 Ag '51

Conductance of aluminum bromide in benzonitrile on addition of various basic complexing agents at 25°. R. E. Van Dyke and T. S. Harrison. Am Chem Soc J 73:402-6 Ja '51

Conductance of aluminum bromide monoetherate on addition of various bases at 25°. R. E. Van Dyke and T. S. Harrison. Am Chem Soc J 73:575-8 F '51

Conductance of methanol, acetone, ethyl acetate and acetic anhydride complexes of aluminum bromide in nitrobenzene at 25°. R. E. Van Dyke. Am Chem Soc J 73:398-402 Ja '51

Isomerization of saturated hydrocarbons; the effect of light upon the isomerization of methylcyclopentane in the presence of aluminum bromide-hydrogen bromide. H. Pines, E. Aristoff and V. N. Ipatieff. Am Chem Soc J 72:4055-6 S '50

Isomerization of saturated hydrocarbons; the effect of oxygen and light upon the isomerization of methylcyclopentane in the presence of aluminum bromide. H. Pines, E. Aristoff and V. N. Ipatieff. Am Chem Soc J 72:4304 S '50

ALUMINUM bronze

Nickel-aluminum bronze. J. S. Vanick. bibliog il Foundry 79:98-102 Ag; 108-11+ S '51

Nylon, a factor in stress corrosion of aluminum bronze. E. J. Silk. il J Metals 3:600 Ag '51

ALUMINUM buckets. See Buckets, Aluminum

ALUMINUM butoxide

Ketene acetals; dealcoholation of orthoesters with aluminum *t*-butoxide. S. M. McElvain and W. R. Davie. Am Chem Soc J 73:1400-2 Ap '51

ALUMINUM chloride

Acids and bases; aluminum chloride, ferric chloride and stannic chloride as acid catalysts in the reaction of metals with thionyl chloride. R. A. Hubbard, 2d and W. F. Luder. Am Chem Soc J 73:1327-9 Mr '51

Addition of hydrogen sulphide to *iso*pentene with aluminium chloride as catalyst. A. J. van Riemsdijk and others. diags Inst Pet J 37:265-9 My '51

β-Aroylpropionic acids; the mechanism of interaction between phenol and succinic anhydride in presence of aluminium chloride; the nature of the Fries reaction. F. G. Baddar and L. S. El-Assal. Chem Soc J p3606-8 D '50

Condensation of *o*- and *p*-bromobenzyl alcohols with phenol and 2,6-dibromophenol in the presence of aluminum chloride. D. Y. Wu, R. L. Guile and R. C. Huston. bibliog Am Chem Soc J 73:3443-4 Jl '51

Conductance of aluminum chloride in nitrobenzene on addition of various nitrogen bases at 25°. R. E. Van Dyke and H. E. Crawford. Am Chem Soc J 73:2022-5 My '51

Conductance of aluminum chloride in nitrobenzene on addition of various oxygen bases at 25°. R. E. Van Dyke and H. E. Crawford. diag Am Chem Soc J 73:2018-21 My '51

Demonstration of exchange and Friedel-Crafts reactions of gaseous organic chlorides on solid aluminum chloride. M. Blau and J. E. Willard. Am Chem Soc J 73:442-4 Ja '51

Effect of aluminum chloride on *n*-propyl chloride. T. I. Crowell and G. L. Jones, jr. Am Chem Soc J 73:3506-7 Jl '51

Equilibrium and rate of aluminum monochloride formation from aluminum chloride and aluminum. A. S. Russell, K. E. Martin and C. N. Cochran. bibliog diag Am Chem Soc J 73:1466-9 Ap '51

Exchange reaction between aluminum chloride and carbon tetrachloride. C. H. Wallace and J. E. Willard. bibliog diag Am Chem Soc J 72:5275-81 N '50

Hydrogen chloride-aluminium chloride as an agent of isomerisation. G. Baddeley. Chem Soc J p994-7 Mr '50

Hydroximyl chlorides from nitrostyrenes. C. D. Hurd, M. E. Nilson and D. M. Wikholm. bibliog Am Chem Soc J 72:4697-9 O '50

Quinone imides; aluminum chloride-catalyzed arylations of *p*-quinone dibenzenesulfonimides. R. Adams and K. R. Eilar. Am Chem Soc J 73:1149-52 Mr '51

Rearrangement in the Nenitzescu reaction of cycloheptene with acetyl chloride and aluminum chloride. S. L. Friess and R. Pinson, jr. bibliog Am Chem Soc J 73:3512-14 Jl '51

Structure of liquid aluminum chloride. R. L. Harris, R. E. Wood and H. L. Ritter. bibliog diag Am Chem Soc J 73:3151-5 Jl '51

ALUMINUM clad iron. See Iron, Aluminum clad

ALUMINUM coating

Aluminized cast iron. M. G. Whitfield and V. Sheshunoff. il Foundry 79:177-8+ S '51

Aluminum-coated steel. Mech Eng 72:909-10 N '50

Checking quality of aluminized screens. H. J. Evans. diags Electronics 24:140+ Jl '51

Effect of bath composition on aluminum coatings on steel; abstract. D. O. Gittings and others. Materials & Methods 32:110 D '50

Rare earths in aluminum baths give attractive hot-dip coatings. W. Hodge and E. M. Smith. il Materials & Methods 34:95-6 S '51

72-inch high vacuum evaporator and its glow discharge equipment. N. C. Benson and others. diags Opt Soc Am J 40:687-90 O '50

Thin, attractive metal coatings produced by vacuum method. K. Rose. il Materials & Methods 33:71-3 Je '51

Use of ethyl silicate in providing heat-resistant coatings of aluminum on steel. G. Tolley. il J Ap Chem 1:86-90 F '51

ALUMINUM company of America

Aircraft threat; strike at Alcoa. Bsns W p25 Jl 21 '51

Alcoa strike; aircraft and engine production faces snag. Aviation W 55:15 Jl 23 '51

New Alcoa officers. Light Metal Age 9:30 Je '51

Wage chronology; Aluminum co. of America, 1939-50. A. A. Belman. Mo Labor R 71:688-92 D '50

Wage chronology no. 11; supplement. Mo Labor R 73:56-7 Jl '51

ALUMINUM company of Canada

Aluminum co. starts its huge program in British Columbia and Quebec. il Roads & Eng Constr 89:108-9+ Ag '51

ALUMINUM compounds

Determination of selenate, and the preparation of some aluminium selenates. H. Bassett. Chem Soc J p 1191-4 Ap '50

ALUMINIUM development association

Progress and prospects outlined at A.G.M. Chem Age (Lond) 64:721-2 My 5 '51

ALUMINUM doors. See Doors, Aluminum

ALUMINUM dust

Effect of aluminum dust on susceptibility to lobar pneumonia; animal experiments. F. J. Vintinner. A M A Archives Ind Hygiene & Occup Med 4:217-20 S '51

ALUMINUM foil

Absolute energy loss of 18-Mev protons in various materials. D. C. Sachs and J. R. Richardson. bibliog diags Phys R 83:834-7 Ag 15 '51

Aluminum fire suit. il Light Metal Age 9:22 Je '51

Copper for copper; Cameo's new cleanser label; metallic tone on foil helps identify product use. il Mod Packaging 24:136-7 Ap '51

Foil protection for a cereal carton. il Mod Packaging 24:86 D '50

Gypsum wallboard with aluminum foil backing is effective insulation. il Arch Forum 94:206 Ja '51

Neither tin nor steel; Reynolds new container made of aluminum foil coated with plastic. il Chem W 69:32 O 6 '51

ALUMINUM foil—*Continued*

New tensioning setup removes foil processing problems. il Blast F & Steel Pl 39:846-7 Jl '51
Production of aluminum foil; illustrations with text. Light Metal Age 8:14-15 O '50
Radiant conditioning in use at Reflection Point. C. A. Mills. il Heating-Piping 22:88-91 D '50; Same cond. Arch Forum 93:127-31 N '50; Discussion. Heating-Piping 23:69-70 Mr; 69-70 D '51
Residential cooling by reflective radiation. C. A. Mills. il Refrig Eng 58:1057-9 N '50; Discussion. 59:268+ Mr '51
Scrap reduced on foil mills. il Steel 128:103 Mr 12 '51

ALUMINUM founding

Air force's new ML aluminum casting alloy. J. C. McGee. il Light Metal Age 9:17-18+ Ag '51
Aluminum alloy die castings. F. A. Lewis. bibliog il diags Foundry 79:124-7+ Ap; 96-100+ My '51
Aluminum and magnesium sessions, A.F.S. annual meeting. Foundry 79:158+ Je '51
Aluminium casting alloy D.T.D.424 (now known as LM-4). D. C. G. Lees and W. H. Glaisher. bibliog diags Metallurgia 43:73-80 F '51
Aluminum castings, shipments, 1947-1950; tabulation. Iron Age 167:341 Ja 4 '51
Aluminum foundry alloys based on the Al-Cu-Si ternary system; abstract. F. Bollenrath and H. Groeber. Metal Prog 58:922+ D '50
British continuously cast large aluminum sections. D. I. Brown. il Iron Age 168:166-8 S 13 '51
Cast aluminum saucer used in radio research. il Foundry 79:167 O '51
Continuous cast aluminum bars produced by the Properzi process. D. I. Brown. il diags Iron Age 167:87-90 F 15; 71-3 F 22 '51
Continuous casting process employs a moving mold. D. I. Brown. il diags Iron Age 167:53-5 Ja 25 '51
Diecasting machines fed automatically by electromagnetic molten metal pumps; production of electrical connectors, Scintilla magneto div., Bendix aviation corp. H. Chase. il plan diags Iron Age 167:100-3 F 15 '51
500-pound aluminum casting produced in permanent mold. il Steel 128:92 Mr 19 '51; Mech Eng 73:415-16 My '51; Mach 57:172 Je '51; Comp Air Mag 56:164 Je '51
500-pound casting made in permanent mold. il Foundry 79:152 S '51
Large aluminium alloy casting. il Engineer 191:284-5 Mr 2 '51
Large sculpture group cast in aluminum; group, Venus and Manhattan decorates the face of Parke-Bernet Galleries building, New York. J. Morris. il Foundry 78:102-5+ N '50
New aluminum casting alloy for higher temperatures. Automotive Ind 105:58+ S 1 '51
Permanent mold casting of aluminum engine blocks. il diag Foundry 78:84-5+ D '50
Segregation of iron and manganese in some aluminium casting alloys. W. H. Glaisher. diag Metallurgia 43:127-31 Mr '51
Targeting fixtures boost casting output. E. Preece. il diags Am Mach 95:114-16 Ja 8 '51

ALUMINUM halides

Exchange reactions of normal paraffins and unsubstituted cycloparaffins with alkyl halides, catalyzed by aluminum halides. C. P. Brewer and B. S. Greensfelder. bibliog Am Chem Soc J 73:2257-9 My '51

ALUMINUM hydrides

Hydride research expands frontiers of hydrogen chemistry. H. I. Schlesinger. Chem & Eng N 29:1202-3 Mr 26 '51

ALUMINUM industry and trade

Administration again raises sights on expansion program for aluminum. Elec World 135:144 F 26 '51
Ailing aluminum. Bsns W p26 Ag 4 '51
Aluminum; Harvey gets loan, plans plant. Iron Age 168:129 S 6 '51
Aluminum industry. H. E. Dickhuth. il Banking 43:68+ F '51
Aluminium industry, 1929-1950. W. C. Devereux. il Metallurgia 42:317-20 N '50
Aluminum industry seeks to meet mounting U.S. needs. il Chem & Eng N 28:3972-4 N 13 '50
Aluminum kick; Canadian expansion and new U.S. capacity. Bsns W p25 Ja 27 '51
Aluminum, 1950. R. J. Lund. Eng & Min J 152:88-9+ F '51
Aluminum outlook. Mech Eng 73:416 My '51
Aluminum output boost of 798 million lb ok'ed. Elec World (News ed) 134:27-8 D 11 '50
Aluminum program; rising. Bsns W p21 Je 2 '51
Aluminum programs jell; Alcoa picks Northwest; Alcan gets set. Bsns W p 140+ My 5 '51
Aluminum; stiffest control yet. Bsns W p34 N 18 '50
Aluminum stockpile; as it grows so will shortages in copper and zinc. K. Bloch. Barron's 31:5 O 8 '51
Aluminium supply and demand. Metallurgia 43:65-6 F '51
America needs more aluminum. J. Alico. il Light Metal Age 8:8-10+ D '50
Auto makers try to ease cutback impact. Bsns W p21 N 25 '50
Ceilings on DO's aluminum makers must take boosted 10-20 per cent by NPA. Elec World News ed 135:28 F 19 '51
CMP for aluminum. Light Metal Age 9:19 Je '51
CMP metals; steel, aluminum, and copper. Survey of Cur Bsns 31:4-6 My '51
Government's aluminum expansion program runs into a three-way snag. Elec World News ed 135:28 Je 11 '51
Great aluminum farce. il maps Fortune 43:92-8+ Je '51
More aluminum, more steel coming. Bsns W p25 D 2 '50
NPA issues 35 per cent aluminum cutback order. B. Hatschek. Iron Age 166:104 N 16 '50
Status of the aluminum industry. Light Metal Age 8:10+ O '50
Twice as much aluminum; NSRB wants to increase annual capacity. Bsns W p25-6 O 21 '50
U.S. hikes aluminum goal. Bsns W p32-3 F 17 '51
U.S. passes up chance for Canadian aluminum. Bsns W p 134 N 11 '50

Securities

Aluminum industry expands to meet defense needs; with statistical data on leading companies. H. S. Coffin. Mag of Wall St 87:331-3+ D 30 '50

Statistics

Primary aluminum production highest since war years. Light Metal Age 8:20 D '50
Primary aluminum production, 1950-1944 by months; secondary aluminum production, 1939-1949; aluminum wrought products, 1947-1950; aluminum and aluminum-base alloy castings, 1947-1950; tabulations. Steel 128:132 Ja 1 '51
U.S. production, primary and secondary; imports and exports; shipments of wrought aluminum and aluminum castings; scrap and secondary aluminum prices; world production, etc. Iron Age 167:300-1 Ja 4 '51

Canada

Aluminum for sale; Alcan will have it. Bsns W p27 Ja 13 '51

Great Britain

New aluminium agreement. Economist 160:1062-3 My 5 '51

New England

Aluminum next. Bsns W p54-5 F 10 '51

Northwestern states

Aluminum power cut stands. Bsns W p 138-9 S 29 '51
Pacific Northwest aluminum industry. il Elec West 105:79 O '50

Norway

ECA grants loan for large aluminum plant. For Comm W 44:18 Ag 20 '51

ALUMINUM industry and trade—*Continued*

Quebec (province)

Vital industry geared to the Saguenay. A. W. J. Dyck. il Can Chem & Process Ind 34:894-8 N '50

ALUMINUM isopropoxide

Reduction of benzophenone by aluminum isopropoxide. Q. P. Cole. diag J Chem Educ 28:142 Mr '51

ALUMINUM laurate

Preparation of a stable aluminium dodecanoate (laurate) with no gelling properties in hydrocarbons. J. Glazer, T. S. McRoberts and J. H. Schulman. Chem Soc J p2082-3 Ag '50

ALUMINIUM, limited

Launching record expansion program. Barron's 31:15-16 O 8 '51

ALUMINUM metallurgy

Non-ferrous metal industry in Germany during the period 1939-1945 (light metal portion); abstract. Metal Prog 59:426+ Mr '51

Production of aluminum from Kalunite alumina. A. Fleischer and J. Glasser. J Metals 3:Trans 634-6 Ag '51

ALUMINUM nails. See Nails, Aluminum

ALUMINUM nitrate

System aluminum nitrate-water-*n*-hexyl alcohol at 25° C. C. C. Templeton. bibliog J Phys & Colloid Chem 54:1255-69 D '50

ALUMINUM ores

See also

Bauxite

ALUMINUM oxide. See Alumina

ALUMINUM paint. See Aluminum—Paint

ALUMINUM plating

Aluminum successfully electroplated on other metals. Iron Age 168:111 Ag 16 '51

Electrodeposition of aluminum from nonaqueous solutions at room temperature. F. H. Hurley and T. P. Wier, jr. bibliog il diag Electrochem Soc J 98:207-12 My '51

Electrodeposition of metals from fused quaternary ammonium salts. F. H. Hurley and T. P. Wier, jr. bibliog Electrochem Soc J 98:203-6 My '51

ALUMINUM roofs. See Roofs, Aluminum

ALUMINUM scaffolding. See Scaffolding, Aluminum

ALUMINUM silicates

Copper-activated aluminosilicate phosphors. E. W. Claffy and J. H. Schulman. bibliog Electrochem Soc J 98:409-13 O '51

See also

Albite
Andalusite
Bentonite
Feldspar
Gehlenite
Kyanite
Mullite
Sillimanite

ALUMINUM sulfate

Manufacture

Alum; pictured flow sheet. Chem Eng 57:172-5 D '50

ALUMINUM ware

Extra-dough-re-me for salesmen spurs interest in training clerks; Mirro aluminum ware contest. R. L. Pritchard. il Ptr Ink 234:34-5 F 9 '51

Advertising

Step up your dealer promotion to overcome fickle buying moods; Mirro Aluminum. R. L. Pritchard. il Ptr Ink 236:34-5 Jl 13 '51

ALUMINUM waste

Aluminum scrap recovery saves five million pounds; Chrysler's scrap system. H. Chase. il plan Iron Age 168:94-8 S 27 '51

ALUMINUM wire. See Wire, Aluminum

ALUMINUM work

Aluminum aircraft parts hot formed successfully. G. C. Close. il Steel 128:84-6 Mr 5 '51

Aluminum auto bodies ahead? C. J. Schmidt and others. Steel 128:87-8 Ja 15 '51

Aluminum blanking die. W. Bischoff. il Light Metal Age 8:19 O '50

Aluminum die forging design for quality and economical production. A. E. Favre and A. J. Orazem. il diags Product Eng 21:140-4 Ag; 130-4 S '50; 22:125-9 Ja '51

Aluminum fabrication with a hand tool production line. il Light Metal Age 9:16-18 Je '51

Aluminum-forming process uses tough-rubber female die. il Am Mach 95:190 F 19 '51

Aluminum window manufacturing. H. E. Jackson. il Light Metal Age 9:12-14 Je '51

Continuous cast aluminum bars produced by the Properzi process. D. I. Brown. il diags Iron Age 167:87-90 F 15; 71-3 F 22 '51

Contour forming technique spreads. il Light Metal Age 8:11 D '50

Deep-drawing aluminum parts with low-cost dies; Sperry gyroscope co. E. Andreola. il diags Mach 57:173-9 Mr '51

Designing and machining high-speed mixed-flow compressor impellers. H. Woodhouse. il diags Mach 57:152-60 F '51

Eases aluminum soldering problems; ultrasonic soldering iron. Aviation W 53:40 D 11 '50

Engineering developments in light metals. T. Piper. il Light Metal Age 9:8-14 F '51

Fabricating aluminum barrels. H. Jarman. il Light Metal Age 8:6-7+ D '50

Forge-tapered wing spars cut airplane weight 50 pounds. diag Steel 128:74 F 19 '51

Hot-joggling aluminum extrusions. T. E. Piper. il Mach 57:144-8 N '50

How Northrop speeded aluminum extrusion machining. il Light Metal Age 9:23 Ag '51

Impact-extrusion for thin-wall parts. Aviation W 55:30 S 10 '51

Induction heating successfully solders aluminum. C. H. Yetman. il Iron Age 167:108-9 Mr 15 '51

Integrally stiffened sections are extruded. O. L. Mitchell. il diags Iron Age 167:92-5 Je 14 '51

Manufacture of aluminum hats. H. Jackson. il Light Metal Age 9:8-10 Ag '51

Minimum radii for cold-bending aluminum; table. Iron Age 168:80 Ag 30 '51

Press forming aluminum alloys; reference book sheet. E. V. Sharpnack. Am Mach 94:171, 173 N 13 '50

Problems of change-over from steel to aluminum in fabricating truck bodies. il Light Metal Age 8:8-9 O '50

Recommended practice for drilling aluminum alloys; data sheet. diags Mach 57:249 Ap; 241 My '51

Secondary aluminium mission to the U.S.A. Metallurgia 43:67-8 F '51

Soldering of aluminium; avoidance of brittlement. il Metallurgia 42:131-3 Ag '50; Abstract. Product Eng 22:151-2 Ja '51

Standard presses form ribbed sheets at Lockheed. R. B. Scott. il Iron Age 168:75-7 Ag 30 '51

Taps for tapping aluminum alloys. Mach 57:176 N '50

Ultrasonic soldering of light metals. A. E. Crawford. il diag Metallurgia 44:113-16+ S '51

What is the strength of aluminum after forming? L. V. Omelka and D. A. Paul. il Iron Age 168:112-14 Ag 16 '51

Wrought aluminum alloys; nomenclature and composition, forms, properties, corrosion and chemical resistance, etc. P. O'Keefe. il Materials & Methods 33:89-104 Je '51

See also

Aluminum—Welding
Aluminum founding

ALUMINUM works

Aluminum co. starts its huge program in British Columbia and Quebec. il Roads & Eng Constr 89:108-9+ Ag '51

Aluminum for British industries; rolling mill at Rogerstone. G. Leonard. il Light Metal Age 8:16-17 D '50

Aluminium strip mill at Rogerstone. flow chart il Engineer 190:319-22, 351-3, 459-61, 487-9 S 29-O 6, N 17-24 '50; Engineering 170:265-7, 281-3, 337-40, pl 19-22, 26-7 S 29-O 6, N 10 '50; Metallurgia 42:223-32 O '50; Elec R (Lond) 147:607-14 O 20 '50

Aluminum wire mill; Aluminum company of America. il map Elec West 105:78 O '50

Continuous strip mill; Northern aluminium company limited, Rogerstone. flow diag il Automobile Eng 40:445-51 D '50

Developing Hungary's aluminium industry. G. Dobos. il Chem Age (Lond) 64:349-51 Mr 3 '51

Harvey will turn out 72,000 tons of aluminum. Elec World News ed 135:21 Ja 8 '51

ALUMINUM works—*Continued*

New Kaiser reduction plant. il Light Metal Age 9:23 Ap '51

New Reynolds reduction plant. Light Metal Age 9:20 Ap '51

Pacific Northwest aluminum industry. il Elec West 105:79 O '50

Secondary aluminum recovery in the South Pacific. H. W. Franz. il J Metals 3:597-9 Ag '51

Two aluminum users planning to make their own. J. Delaney. Iron Age 167:105-6 My 17 '51

Accounting

Accounting for construction of a metals plant; multi-million dollar aluminum rolling mill. G. L. Stump. N A C A Bul 32: 423-32 D '50

Employees

Refining of aluminum; employment and earnings, 1947-1950; tabulation. Iron Age 167: 363 Ja 4 '51

Wage chronology; Aluminum co. of America, 1939-50. A. A. Belman. Mo Labor R 71: 688-92 D '50

Equipment

More aluminum for defense; use of natural gas at Alcoa's plant, Davenport, Ia. A. Q. Smith. il plan Gas Age 107:67-70+ Ap 26 '51

Power

Alcoa to build plant at Wenatchee; Chelan PUD, BPA to supply power. Elec World News ed 135:28 My 14 '51

Alcoa's choice; water, gas, or coal. Bsns W p21 Ap 14 '51

Alcoa's lignite. Bsns W p80+ Ag 4 '51

Engines for new aluminum plant; Reynolds metals works. il Diesel Power 29:90 Ap '51

Gas engines vie with steam in new aluminum plants. Power 95:83 S '51

Largest gas-electric plant for Reynolds co. il Light Metal Age 9:28 Je '51

Lignite-fired plant to be built, run by Texas power & light co. for Alcoa smelter. Elec World News ed 136:11 Ag 6 '51

More natural gas makes more power for more aluminum for defense; Aluminum co. of America. A. Q. Smith. il Gas Age 107:35-7+ Ap 12 '51; Same abr. Light Metal Age 9:8-10 Ap '51

New aluminum plant to use lignite fuel. Light Metal Age 9:26 Ag '51; Same cond. Mill & Factory 49:244+ O '51

Power for aluminum; where? D. I. Bohn. Elec Eng 70:665-6 Ag '51

Tar and char, power too; low temperature carbonization of lignite. Chem W 69:25-6 Ag 18 '51

Western lignite upgraded to power aluminum smelter. il Coal Age 56:127 S '51

ALUNITE

Determination of selenate, and the preparation of some aluminium selenates. H. Bassett. Chem Soc J p 1191-4 Ap '50

Lead alunite. H. Bassett. Chem Soc J p 1460-1 Je '50

ALUPHOTO process. See Photography on metals

AMALGAMATED meat cutters and butcher workmen of North America

Lawyers of the jungle. Fortune 43:52+ Je '51

Pattern bargaining. Bsns W p32 S 8 '51

AMALGAMS

Formation of ammonium amalgam by electrolysis. R. J. Johnston and A. R. Ubbelohde. diags Chem Soc J p 1731-6 Jl '51

Pure metals by amalgam process. diags Chem Age (Lond) 64:21-5 Ja 6 '51

Study of the polarographic behavior of dropping amalgam electrodes. N. H. Furman and W. C. Cooper. bibliog diags Am Chem Soc J 72:5667-76 D '50

Thermodynamic investigations on ternary amalgams. C. Wagner. bibliog J Chem Phys 19:626-31 My '51

AMBER glass. See Glass, Colored

AMBERG, Richard H.

Named general manager at Syracuse. Ed & Pub 83:16 O 28 '50

AMBERLITES

Carboxylic cation exchange resin in water conditioning; hydrogen cycle. F. X. McGarvey and J. Thompson. Ind & Eng Chem 43:741-6 Mr '51

AMBULANCE airplanes. See Airplanes, Ambulance

AMEBA

Contamination of vegetables grown in polluted soil. W. Rudolfs and others. Sewage & Ind Wastes 23:478-85, 992-1000 Ap, Ag '51

In vitro method of screening amebicidal agents using the Phillips culture. W. T. Bradner and G. W. Rawson. bibliog Science 113:674-6 Je 15 '51

Literature review on the occurrence and survival of enteric, pathogenic, and related organisms in soil, water, sewage, and sludges, and on vegetation; endamoeba histolytica. W. Rudolfs and others. bibliog Sewage & Ind Wastes 22:1417-20 N '50

Locomotion of chaos chaos, the giant ameba; abstract. W. H. Lewis. Science 113:473 Ap 27 '51

Structure and amœbicidal activity; aliphatic diamines. D. M. Hall, S. Mahboob and E. E. Turner. Chem Soc J p 1842-5 Jl '50

AMEBIASIS

Significance and prevalency of subclinical amebiasis; abstract. E. W. Dennis and D. A. Berberian. Science 112:424 O 13 '50

AMEBICIDES

Amebacidal chromanones. P. F. Wiley. bibliog Am Chem Soc J 73:4205-9 S '51

Fumagillin (H-3), a new antibiotic with amebicidal properties. M. C. McCowen and others. bibliog Science 113:202-3 F 23 '51

AMERICA

Antiquities

American archaeology. G. R. Willey. Science 114:sup3 S 14 '51

AMERICAN aggregates corporation

American aggregates corporation's contributions to the sand and gravel industry. B. Nordberg; N. C. Rockwood. il plan Rock Prod 54:102-13 Ja '51

AMERICAN airlines, inc.

AAL gaining financial strength. S. Altschul. Aviation W 54:26 F 5 '51

AA starts daily New York Mexico run. Aviation W 54:51 Ja 8 '51

Five low-priced speculative stocks. Mag of Wall St 87:607-8 Mr 10 '51

Security I like best. J. B. Jones, jr. Comm & Fin Chr 173:459 Ja 25 '51

Top profits; American leads. Aviation W 54: 16-17 Ap 9 '51

AMERICAN and foreign power company, inc.

Files plan. Comm & Fin Chr 173:377 Ja 22 '51

Public utility securities. O. Ely. Comm & Fin Chr 173:548 F 1 '51

AMERICAN association for the advancement of science

AAAS officers, 1951, members of the executive committee, etc. Science 113:sup3, 149-50 Ja 5, F 9 '51

Annual science exposition. Science 112:509-10 O 27 '50

Association finances. Science 113:563-5 My 11 '51

Association's annual exposition of science and industry. R. L. Taylor. Science 114:372-3 O 5 '51

Meeting, 117th, Cleveland. Sci Am 184:30-2 F '51

Meeting, 117th, Cleveland, Dec. 26-30. Science 113:146-9 F 9 '51

Meeting, 117th, Cleveland, Dec. 26-30; programs. Science 112:544-6, 568-72, 603-6, 631-4 N 3-24 '50

Meeting, 118th, Philadelphia, Dec. 26-31. Science 114:219-21 Ag 24 '51

Meeting, 118th, Philadelphia, Dec. 26-31; preliminary announcement. Science 113:635-6 Je 1 '51

Preview of the 117th meeting, Cleveland, Dec. 26-30; annual science exhibition. Science 112:670-701 D 8 '50

Reports of sections and societies. Science 113: 151-63 F 9 '51

Pacific division

Annual meeting, 32d, Los Angeles, June 18-23. Science 114:193-4 Ag 17 '51

AMERICAN association for the advancement of science—*Continued*

Southwestern division

Annual meeting, 27th, El Paso, April 29-May 3. Science 113:731-2 Je 22 '51

AMERICAN association of advertising agencies

Annual eastern conference, New York. Ed & Pub 83:7+ N 4 '50

Annual meeting, 33d, White Sulphur Springs. Ptr Ink 235:28 Ap 27 '51; Sales Management 66:75 My 1 '51

Annual meeting, 33d, White Sulphur Springs, W.Va; abstracts of papers. Ed & Pub 84:19+ Ap 21 '51

AMERICAN association of economic entomologists

Annual meeting, 62d, Denver, Dec. 18-21. Soap & San Chem 27:113 Ja '51

AMERICAN association of industrial physicians and surgeons. See Industrial medical association

AMERICAN association of newspaper representatives

AANR's work in '50 reviewed. D. J. Worthington. Ed & Pub 83:56 D 2 '50

Annual meeting, Detroit, Dec. 5. Ed & Pub 83:11 D 9 '50

Rohde elected head of Chicago AANR chapter. Ed & Pub 83:30 D 16 '50

AMERICAN association of oilwell drilling contractors

Annual meeting, Fort Worth; with abstracts of papers. Oil & Gas J 50:47-8 S 27 '51

AMERICAN association of passenger traffic officers

Annual meeting, Chicago, Oct. 23-24. Ry Age 129:79-81 N 11 '50

Annual meeting, 88th, Sept. 15-19. Ry Age 131:114-16 O 1 '51

AMERICAN association of petroleum geologists

Joint annual meeting with S.E.P.M. and S.E.G., St Louis, April 23-26; with abstracts of papers. Oil & Gas J 49:67, 123-4+ Ap 26 '51

Joint annual meeting with S.E.P.M. and S.E.G., 34th, St Louis, April 23-26; with list of papers. World Oil 132:109-10+ Ap '51

Membership list. Am Assn Pet Geologists Bul 35:649-766 Mr '51

Pacific section annual meeting, Los Angeles, Oct. 19-20. Oil & Gas J 49:62-3 O 26 '50

AMERICAN association of railroad superintendents

Annual meeting, Chicago, June 12-14. Ry Age 130:82-7 Je 25 '51

AMERICAN association of state highway officials

Annual meeting, Miami, Dec. 4-7. Eng N 146: 23-4 D 14; 29 D 21 '50

Annual meeting, Miami, Dec. 4-7. Roads & Sts 94:53-5 Ja '51

AMERICAN association of teachers of journalism. See Association for education in Journalism

AMERICAN association of textile chemists and colorists

Annual convention textile exposition, 30th, New York, Oct. 17-19; plans and guide to exhibitors. Textile World 101:181-2+ O '51

Annual convention, 29th, New Castle, N.H. Am Dyestuff Rep 39:688-91 O 16 '50

Council meeting, 173d, Portsmouth, N.H. Sept. 28. Am Dyestuff Rep 39:808-9 N 27 '50

Council meeting, 174th, New York, Nov. 17. Am Dyestuff Rep 39:899-900 D 25 '50

Council meeting, 175th, New York, Jan. 19. Am Dyestuff Rep 40:149-51 Mr 5 '51

Meeting, Portsmouth; abstracts of papers. Textile World 100:128-31+ D '50; 101:122-3+ Ja '51

Committee on research

Meeting, 164th, New York, Nov. 17. Am Dyestuff Rep 39:917-19 D 25 '50

Meeting, 165th, New York, Jan. 19. Am Dyestuff Rep 40:152-3 Mr 5 '51

New research sub-committee to study current drycleaning test methods. Rayon 32:68 Jl '51

AMERICAN association of university teachers of insurance

Annual meeting, Chicago, Dec. 27-29. Nat Underw 55:21+ Ja 4 '51; Nat Underw (Life ed) 55:1+ Ja 5 '51; Weekly Underw 163: 1480-1 D 30 '50

AMERICAN bankers association

A.B.A.'s new president; James E. Shelton. K. Monroe. il Burroughs Clearing House 35:27-9+ O '50

Annual convention, 77th, Chicago, Sept. 30-Oct. 3. Comm & Fin Chr 174:1345+, 1358+ O 11 '51

Annual convention, 77th, Chicago, Sept. 30-Oct. 3; portraits of leaders, program. Banking 44:161-73 S '51

Annual national instalment credit conference, 5th, Chicago, March 12-14; with abstracts of papers. Banking 43:90-2 Ap '51; Burroughs Clearing House 35:11-12 Ap '51

Diamond anniversary convention, New York, Sept. 24-27. Comm & Fin Chr 172:1285+ O 5 '50; Banking 43:51-6 N '50; Burroughs Clearing House 35:37-42 O '50; Trusts & Estates 89:713-14 O '50

Presidential address. J. E. Shelton. Comm & Fin Chr 174:1345+ O 11 '51

What's the matter with the bankers? Fortune 42:69-70 N '50

Credit policy commission

National credit conference, 3d, Chicago, Dec. 14-16; with abstracts of papers. Banking 43:90+ Ja '51; Burroughs Clearing House 35:25-30 Ja '51

Savings and mortgage division

Annual savings and mortgage conference, New York, March 5-6; excerpts from addresses. Banking 43:86-8+ Ap '51; Burroughs Clearing House 35:12-14 Ap '51

Trust division

Annual meeting, New York, Sept. 25. Trusts & Estates 89:638+ O '50

Annual mid-winter trust conference, 32d, New York, Feb. 5-7. Trusts & Estates 90: 78-9+ F '51

Committee chairmen named. Trusts & Estates 90:62 Ja '51

Mid-continent trust conference, 19th, St Louis, Nov. 9-10. Trusts & Estates 89:812-13+ D '50

Mid-winter trust conference, New York, Feb. 5-7; summary of panel sessions. Trusts & Estates 90:170-3 Mr '51

Mid-winter trust conference, 32d, New York, Feb. 5-7. Banking 43:82-4 Mr '51; Burroughs Clearing House 35:11-13 Mr '51

Western regional trust conference, 24th, Los Angeles, Oct. 18-20. Trusts & Estates 89: 742 N '50

AMERICAN bar association

Section of public utility law annual meeting, Washington, Sept. 18-19; addresses on questions of public interest. Pub Util 46: 603-41, 706-24 O 26-N 9 '50

Insurance section

Annual meeting, New York, Sept. 17. Nat Underw 55:1+ S 20 '51; Nat Underw (Life ed) 55:3 S 21 '51; Weekly Underw 165:698-9+ S 22 '51

Real property, probate and trust law section

Annual meeting, 73d, Washington, D.C. Sept. 18-20. Trusts & Estates 89:636-7+ O '50

AMERICAN Bible society

Library

Library of the American Bible society. M. T. Hills. Special Lib 42:182-3+ My-Je '51

AMERICAN biltrite rubber company

American biltrite rubber co. combines affiliated concerns. Rubber Age 69:599 Ag '51

AMERICAN board of clinical chemists

Board of clinical chemists open for business. Chem & Eng N 28:4446 D 18 '50

AMERICAN box board company

Bonds offered. Comm & Fin Chr 174:993 S 17 '51

AMERICAN brake shoe company

Five companies with big order backlogs; with comparative balance sheet items. Mag of Wall St 88:302 Je 16 '51

AMERICAN broadcasting company

ABC wed at last; merger with Paramount. Bsns W p20 Je 2 '51

IT&T dickers for ABC network. Bsns W p 122-4+ Ap 7 '51

AMERICAN bureau of shipping
Activities. W. Green. Welding J 30:855-6 S '51

AMERICAN butter institute
Annual meeting, 42d, Chicago. Food Ind 23: 148-50 Ja '51

AMERICAN can company
Dividends may be higher with expansion tapering off. C. A. Clark, jr. Barron's 30:5-6 D 4 '50

AMERICAN car and foundry company
Annual report, 52d, year ended April 30. Comm & Fin Chr 174:326-7 Jl 26 '51
Status reviewed. Comm & Fin Chr 174:1193-4 O 1 '51

AMERICAN ceramic society
Annual convention, 53d, Chicago; abstracts of papers. Brick & Clay Rec 118:55+ Je '51
Annual meeting, 53d, Chicago, April 22-26. Am Cer Soc Bul 30:177-84 My 15 '51
Annual meeting, 53d, Chicago, April 22-26. Chem & Eng N 29:1843 My 7 '51
Annual meeting, 53d, Chicago, April 22-26; program and abstracts of papers. Am Cer Soc Bul 30:81-108 Mr 15 '51
Annual meeting, 53d, Chicago, April 22-26; program, officers, exhibits. Brick & Clay Rec 118:51+ Ap; 38 Je '51
Financial statement. Am Cer Soc Bul 30: 209 Je 15 '51
Membership roster. Am Cer Soc Bul 29:355-74+ O 15 '50
Pacific coast regional meeting, 4th, Long Beach, Calif., Oct. 24-26. Am Cer Soc Bul 30:310-13 S 15 '51
Pacific coast regional meeting, San Francisco. Glass Ind 31:579+ N '50
Photos of annual meeting, Chicago, April 22-26. Cer Ind 56:53-7, cover My '51

Glass division

Annual meeting, 53d, Chicago, April 22-26; with abstracts of papers. Glass Ind 32: 229-30+ My '51
Fall meeting, Toledo, Oct, 6-7; with abstracts of papers. Glass Ind 31:576-8 N '50

AMERICAN chemical society
ACS candidates for 1951. Chem & Eng N 28: 3820-1 O 30 '50
ACS committee reports; part of the minutes of the Dec. 9-10, 1950, meeting. Chem & Eng N 29:281-5 Ja 22 '51
Annual Delaware symposium, 3d. Chem & Eng N 29:378 Ja 29 '51
Board of directors minutes, Dec. 9-10. Chem & Eng N 29:188-90 Ja 15 '51
Board of directors minutes, June 6. Chem & Eng N 29:2998-3002 Jl 23 '51
Chemical progress during the 75 years of the American chemical society. bibliog il Ind & Eng Chem 43:264-314, 564-602, 795-830, 1034-56, 1272-91 F-Je '51
Chemistry and the future. N. H. Furman. Chem & Eng N 29:3979-81 S 24 '51
Commemorative plaque unveiled. Chem & Eng N 29:3704-5 S 10 '51
Council session, diamond jubilee meeting, New York. Chem & Eng N 29:3700+ S 10 '51
Diamond jubilee. Ind & Eng Chem 43:266-8 F '51
Diamond jubilee meeting, New York, Sept. 3-7. Bsns W p 19-22 S 15 '51
Diamond jubilee meeting, New York, Sept. 3-7. Chem & Eng N 29:3790-851 S 17 '51
Diamond jubilee meeting, New York, Sept. 3-7; program. plan Chem & Eng N 29: 2560-90 Je 25 '51
Diamond jubilee membership directory. A. H. Emery. Chem & Eng N 29:4102 O 1 '51
Fifty-year members receive honors at spring meeting. Chem & Eng N 29:1236-7 Mr 26 '51
First 75 years. A. Standen. il Chem & Eng N 29:3240-67 Ag 13 '51
Meeting, 118th, Chicago; with abstracts of papers. Can Chem & Process Ind 34:815-18 O '50
National meeting data evaluated; condensed from report of committee on data for evaluating national meetings. M. H. Arveson. map Chem & Eng N 29:3155-60 Ag 6 '51
National meeting, 118th, Chicago; reports. Chem & Eng N 28:3786-816 O 30 '50
National meeting, 118th, Chicago, Sept. 3-8. Science 112:548-9 N 3 '50
National meeting, 119th, Boston and Cleveland; official reports. Chem & Eng N 29: 2165-96 My 28 '51
National meeting, 119th, Boston, April 1-5; Cleveland, April 8-12; program. Chem & Eng N 29:862-97 Mr 5 '51
National meeting, 119th, Cleveland. Chem & Eng N 29:1612-36 Ap 23 '51
Official reports for 1950. Chem & Eng N 29: 773-96 F 26 '51
Philadelphia section meeting-in-miniature, 4th, Jan. 18. Chem & Eng N 29:376 Ja 29 '51
Preliminary program, 119th national meeting, Boston, April 1-12, 1951. Chem & Eng N 28:4542-7 D 25 '50
Spring meeting, 119th, Boston, April 1-5, Chem & Eng N 29:1486-91 Ap 16 '51
Words about words; ACS divisional nomenclature committees. A. M. Patterson. Chem & Eng N 29:3652 S 3 '51

Cellulose chemistry division

Chemical progress during the 75 years of the American chemical society; cellulose chemistry. W. O. Kenyon. bibliog il Ind & Eng Chem 43:820-30 Ap '51

Chemical education division

Meeting, 118th, Chicago. J Chem Educ 28: 107-9 F '51

Industrial and engineering chemistry division

Christmas symposium, Baltimore. Chem & Eng N 29:192-3 Ja 15 '51

Rubber division

Chemical progress during the 75 years of the American chemical society; rubber chemistry. R. P. Dinsmore. bibliog(72 ref) il Ind & Eng Chem 43:795-803 Ap '51
Meeting, 57th, Cleveland, Oct. 11-13; program and abstracts of papers. India Rubber World 122:677-89; 123:193-6+ S, N '50; Rubber Age 67:691-705; 68:206-7 S, N '50
Meeting, 58th, Washington, Feb. 28-March 2. Rubber Age 68:714-15 Mr '51; India Rubber World 124:73-6 Ap '51
Meeting, 59th, New York, Sept. 5-7. Rubber Age 69:724-5 S '51
Meeting, 59th, New York, Sept. 5-7; abstracts of papers. India Rubber World 124:328-36 Je '51; Rubber Age 69:322-31 Je '51

AMERICAN chemical society journal
Official report for 1950. Chem & Eng N 29: 789-90 F 26 '51

AMERICAN college of life underwriters
Annual meeting of trustees, Los Angeles. Nat Underw (Life ed) Daily ed 55:12 S 20 '51; Spectator (Life ed) 159:12-13 O '51

AMERICAN colortype company
Heavy demand for printing aiding American Colortype. Barron's 31:21 Ja 29 '51

AMERICAN commission on stratigraphic nomenclature
Records for 1949-1950. Am Assn Pet Geologists Bul 35:1074-81 My '51

AMERICAN concrete institute
ACI's place in a billion dollar industry. F. H. Jackson. Am Concrete Inst J 22:581-8 Ap '51
Annual meeting, 47th, San Francisco, Feb. 20-22. Eng N 146:23-4 Mr 1 '51
Annual meeting, 47th, San Francisco, Feb. 20-22; with abstracts of papers. Am Concrete Inst J 22:sup3-6+ Ap '51; Roads & Eng Constr 89:119-20+ Ap '51; Rock Prod 54:184+ Ap '51; Concrete 59:18+ My '51

AMERICAN concrete pipe association
Annual convention, 43d, New York, February 28-March 3; with abstracts of papers. Rock Prod 54:181-3+ Ap '51

AMERICAN council on education
Higher education in the national service. F. J. Brown. Science 113:133-4 F 2 '51

AMERICAN crystallographic association
Winter meeting, Washington, Feb. 15-17. Chem & Eng N 29:906 Mr 5 '51

AMERICAN cyanamid company
Five companies expanding into new fields; with comparative balance sheet items. Mag of Wall St 88:501 Ag 11 '51
Sales seen at new high in 1951. Barron's 31:29 Jl 30 '51

AMERICAN dairy products corporation
Stocks offered. Comm & Fin Chr 173:2285 Je 4 '51

AMERICAN drug manufacturers association
Annual meeting, Hot Springs, Va. Nov. 9-10. Oil Paint & Drug Rep 158:7+ D 11 '50
Annual meeting, 39th, White Sulphur Springs, W.Va. April 30-May 3. Chem & Eng N 29:2052 My 21 '51
Annual meeting, 39th, White Sulphur Springs, W.Va., April 30-May 3; with abstracts of papers. Oil Paint & Drug Rep 159:7+ My 7 '51

AMERICAN dry ginger ale company
Securities offered. Comm & Fin Chr 173:377 Ja 22 '51

AMERICAN economic association
Annual meeting, Chicago. Bsns W p24-5 Ja 6 '51

AMERICAN electroplaters' society
Annual meeting, Buffalo, July 30-August 2; abstracts of papers. Steel 129:109-10+ S 10 '51
Annual meeting, 38th, Buffalo, July 30-August 2. Iron Age 168:78-80 Ag 30 '51
Annual meeting, 38th, Buffalo, July 30-August 2; program. Metal Finishing 49:76-80 Jl '51
Annual meeting, 38th, Buffalo, July 30-August 2; with abstracts of papers. Metal Finishing 49:58-63 S; 64-9+ O '51

AMERICAN federation of labor
AFL, at 70, is placid, powerful. il Bsns W p32+ S 29 '51
AFL-CIO split overdramatized. Bsns W p30+ Ag 25 '51
Annual convention, 69th, Houston, Sept. 17-23. Mo Labor R 71:553-6 N '50
End of functional unity. Fortune 44:60+ O '51
Get together; AFL and CIO. Bsns W p 132 Mr 17 '51
Let George do it. Fortune 43:50 My '51
Too busy on defense for AFL-CIO merger. Bsns W p 124 Mr 3 '51
Toward one big union federation. Bsns W p30 Ap 7 '51

AMERICAN federation of musicians
Featherbeds stay. Bsns W p 135-6 F 17 '51
Petrillo revisited. Fortune 44:48a-48b Ag '51

AMERICAN federation of radio artists
Red-proof radio is AFRA's aim. Bsns W p40+ Ag 25 '51

AMERICAN foundation of occupational health
Medical service in industry program transferred to American foundation of occupational health. P. R. Hawley. Ind Med 20:427-8 S '51
President's page. A. G. Kammer. Ind Med 20:426 S '51

AMERICAN foundrymen's society
Annual meeting, 55th, Buffalo, April 23-26. Foundry 79:100-5+ Je; 126+ Jl '51
Annual meeting, 55th, Buffalo, April 23-26. Steel 128:27 Ap 30 '51; Iron Age 167:105-6 My 3 '51
Annual meeting, 55th, Buffalo, April 23-26; program, awards, committee members, plant visitations, etc. Foundry 79:104-15+ Ap '51
New officers and directors. Foundry 79:142 Je '51

AMERICAN gas and electric company
AG&E's job, more power for defense. il map Elec World 135:38-9 Ja 1 '51
Extends offer. Comm & Fin Chr 173:197 Ja 15 '51
Five well situated stocks offering good yields; with comparative balance sheet items. Mag of Wall St 87:122 N 4 '50
Growth continues rapid. Barron's 31:15-16 Je 11 '51
Public utility securities. O. Ely. Comm & Fin Chr 173:645 F 8 '51
Serving smaller communities is profitable business; with financial data, 1941-1950. W. T. Hyde, jr. map Barron's 31:23-5 S 10 '51
Stock offered. Comm & Fin Chr 173:1473 Ap 9 '51

AMERICAN gas association
A.G.A. awards to honor leadership, achievement. Am Gas Assn Mo 33:35 My '51
Annual meeting, 32d, Atlantic City, Oct. 2-6; with abstracts of papers. Am Gas Assn Mo 32:2-9, 27-41+ N '50; Am Gas J 173:17-23+ N '50; Gas Age 106:37-53+ O 26 '50; Pub Util 46:598, 685-90 O 26-N 9 '50
Distribution, motor vehicles and corrosion conferences sponsored by American gas association, Memphis, April 16-18. Am Gas Assn Mo 33:21-5+ My '51
Gas, the flame of progress. H. H. Cuthrell. Am Gas Assn Proc 1950:9-13; Same. Am Gas Assn Mo 32:15-16+ N '50
How the operating section meets technical problems. R. Van Vliet. Gas Age 107:30-1+ Ja 4 '51
Industry honors top achievement. Am Gas Assn Mo 32:24-6+ N '50
Nominates for 1951-1952. Am Gas Assn Mo 33:2-4+ Jl-Ag '51
Officers for 1950-51; portraits. Gas Age 108:66 O 11 '51
Residential gas section set for '51. C. H. Horne. Gas Age 107:32-6+ Ja 4 '51

Appliance testing laboratory

Celebrates 25 years of consumer service. il Standardization 21:310-11+ D '50
Laboratories addition opened, Cleveland, Aug. 17. Am Gas Assn Mo 33:18 S '51; Gas Age 108:51 S 13 '51

Natural gas department

Spring meeting, Dallas, May 7-8. Am Gas J 174:22 Je '51
Spring meeting, Dallas, May 7-8. Gas Age 107:40-3 My 24 '51; Am Gas Assn Mo 33:2-7 Je '51

AMERICAN gas journal (periodical)
C. R. Bellamy is technical editor. Am Gas J 174:36 F '51

AMERICAN gear manufacturers association
Annual meeting, Hot Springs, Va. June 4-6. Am Mach 95:149 Je 25 '51; Mach 57:210-11 Jl '51
Annual meeting, 35th, Hot Springs, Va. June 4-6; with abstracts of papers. Automotive Ind 105:50-2+ Jl 1 '51
Semi-annual meeting, Chicago, Oct. 23-25. Am Mach 94:180 N 13 '50

AMERICAN helicopter society
American helicopter society news. H. A. Haberer. Aeronautical Eng R 10:46 Ag '51
Annual forum, Washington. Aviation W 54:16-17 My 7 '51; Aeronautical Eng R 10:6-8 Jl '51

AMERICAN industrial hygiene association
Annual meeting, 12th, Atlantic City. Chem & Eng N 29:1835-6 My 7 '51

AMERICAN institute for property and liability underwriters
CPCU designation held as concept of insurance on professional plane. D. H. Chadwick. East Underw 51:26 O 20 '50
CPCU society meeting, Chicago. East Underw 52:30+ S 7; 48+ S 14 '51; Nat Underw 55:19 S 6; 1+ S 13 '51
1951 C.P.C.U. qualifiers; list. Nat Underw 55:5+ Ag 2 '51
Praises CPCU accomplishments. J. A. North. East Underw 52:20+ S 14 '51

AMERICAN institute of accountants
Annual meeting, 63d, Boston. J Account 90:419-28 N '50

Bulletins

Accounting research bulletins 13 and 26 cancelled; no. 35 (presentation of income) supplemented. J Account 92:200-1 Ag '51

AMERICAN institute of actuaries. See Society of actuaries

AMERICAN institute of architects
Annual convention, Chicago. Arch Forum 94:28-9+ My '51
Annual convention, 83d, Chicago, May 8-11. Arch Rec 109:11-14+ Je '51

AMERICAN institute of banking
Annual convention, 49th, Pittsburgh. Banking 44:44-8 Jl '51

AMERICAN institute of chemical engineers
Award winners, 1950. Chem Eng Prog 46:sup 14+ D '50
Engineers in management posts warned to stop dealing in facts. Chem & Eng N 28:3880 N 6 '50
Meeting, Columbus, Ohio, Dec. 3-6. Chem & Eng N 28:4444-5 D 18 '50; Mech Eng 73:84 Ja '51
Meeting, Rochester, Sept. 16-19; program. Chem Eng Prog 47:sup 17-18+ Ag '51
Meeting, White Sulphur Springs, March 11-14; program. Chem Eng Prog 47:sup 18+ F '51

- **AMERICAN institute of chemical engineers** —*Continued*
  - National Capital section meeting; with abstracts of papers. Chem & Eng N 29:1830 My 7 '51
  - Newly elected officers; portraits. Chem Eng Prog 46:sup 13 D '50
  - Regional meeting, Kansas City, May 13-16. Chem & Eng N 29:2138-9 My 28 '51
- **AMERICAN institute of chemists**
  - Annual meeting, 25th, Niagara Falls, May 9-11. Oil Paint & Drug Rep 159:7+ My 14 '51
  - Gold medal award to Harry N. Holmes. Chem & Eng N 29:2146-7 My 28 '51
- **AMERICAN institute of electrical engineers**
  - Amendments to constitution. Elec Eng 70:837-40 S '51
  - Board of directors meeting, New York, Jan. 25. Elec Eng 70:359-60 Ap '51
  - Board of directors regular meeting, Oklahoma City. Elec Eng 70:80-2 Ja '51
  - Fall general meeting, Cleveland, Oct. 22-26; tentative technical program. Elec Eng 70:916-18 O '51
  - Fall meeting, Oklahoma City, Oct. 23-27. Elec World 134:74-6 N 6 '50; Elec Eng 69:1123-7 D '50
  - Inflation, dues, and service. T. G. LeClair. Elec Eng 69:1049-50 D '50
  - Meeting, Miami Beach, April 12. Elec Eng 70:641-2 Jl '51
  - Members and money; board of directors recommends that the Institute adopt membership requirements consistent with those of other societies and that dues provisions be transferred to by-laws. T. G. LeClair. Elec Eng 70:183-4 Mr '51
  - Officers and committees for 1951-52; subsections, geographical district executive committees, student branches. Elec Eng 70:828-36 S '51
  - Pacific general meeting, Portland, Aug. 20-23. Elec Eng 70:920-1 O '51; Elec World News ed 136:12 S 3 '51
  - Regular meeting of board of directors, Toronto, June 28. Elec Eng 70:921-3 O '51
  - Report of the board of directors. Elec Eng 70:724-50 Ag '51
  - Report on plan for recognition of section growth presented. Elec Eng 70:820-2 S '51
  - Section and branch activities annual report for 1949-50. Elec Eng 69:1036-8 N '50
  - Section and student branch meetings, 1950-1951; tables. Elec Eng 70:925-7 O '51
  - Section growth award plan. C. G. Veinott. Elec Eng 70:757 S '51
  - Some objectives for 1951-52. F. O. McMillan. Elec Eng 70:657-9 Ag '51
  - Statement of principles of professional conduct. Elec Eng 70:171-3 F '51
  - Summer meeting, Toronto, June 25-29. Elec Eng 70:712-18 Ag '51
  - Summer meeting, Toronto, June 25-29; summaries of papers. Elec World 136:103-7+ Jl 16 '51
  - Summer meeting, Toronto, June 25-29; technical program. Elec Eng 70:543-5 Je '51
  - Technical subcommittees, 1951-52. Elec Eng 70:929-38 O '51
  - Where your money goes. W. J. Barrett. Elec Eng 69:1051 D '50
  - Winter general meeting, New York, Jan. 22-26; technical program. Elec Eng 70:72-6 Ja '51
  - Winter meeting, New York, Jan. 22-26. Elec Eng 70:266-77 Mr '51
  - Winter meeting, New York, Jan. 22-26; abstracts of papers. Power Eng 55:74-5+ Mr '51
  - Winter meeting, New York, Jan. 22-26; with summaries of papers. Elec World 135:101-7+ F 12 '51
- **AMERICAN institute of graphic arts**
  - Printing for commerce; 1951 exhibit emphasizes design. R. Savery. il Inland Ptr 126:36-7 Mr '51
- **AMERICAN institute of marine underwriters**
  - Anniversary dinner, New York. East Underw 51:1+ N 24 '50; Weekly Underw 163:1196+ N 25 '50
- **AMERICAN institute of mining and metallurgical engineers**
  - Annual meeting, 171st, St Louis, Feb. 19-22; abstracts of papers. Iron Age 167:118+ Mr 1 '51
  - Annual meeting, 171st, St Louis, Feb. 19-22; with abstracts of papers. Min Eng 3:321-34 Ap '51; Rock Prod 54:122+ Ap '51
  - Annual meeting program. Min Eng 190:65-70 Ja '51
  - Annual meeting, St Louis, Feb. 19-22; program of the metals branch. J Metals 191:189-93 F '51
  - 1951 directory of officers, divisions, local sections, student chapters and committees. J Metals 3:1-38 sec 2 Je '51
  - Officers, directors, division chairmen, Legion of honor, annual meeting chairmen. J Metals 191:181-8 F '51; Same. Min Eng 190:145-51 F '51
  - Organization and structure. flow sheet Min Eng 3:718-21 Ag '51
  - Sulphur, titanium, zinc and steelmaking symposia highlight metals branch activities at AIME 171st annual meeting, St Louis. J Metals 3:338-9 Ap '51

Coal division

  - Annual meeting, St Louis, Feb. 19-21; with abstracts of papers. Coal Age 56:128-9+ Ap '51

Industrial minerals division

  - Annual Northwest industrial minerals conference, 4th, Portland, Ore. April 27-28; abstracts of papers. Rock Prod 54:88-9 Jl '51

Minerals beneficiation division

  - Regional meeting, Salt Lake City, Sept. 1. Rock Prod 53:83-4 N '50

Petroleum division

  - Annual meeting, St Louis, Feb. 17-22. Oil & Gas J 49:28-9 Mr 1 '51

- **AMERICAN institute of physics**
  - Style manual. Opt Soc Am J 41:567-96 S '51
- **AMERICAN insurance company, Newark, New Jersey**
  - Security I like best. N. T. Robertson. Comm & Fin Chr 173:2242 My 31 '51
- **AMERICAN international underwriters corporation**
  - Phone call that netted $5,000; using facilities of American International Underwriters. Spectator (Property ed) 17:26-7 O '51
- **AMERICAN investment company of Illinois**
  - Instalment loan company profits to stay at peak level. Barron's 31:15 O 1 '51
  - Offering to common stockholders underwritten. Comm & Fin Chr 172:2217 D 11 '50
- **AMERICAN iron and steel institute**
  - Annual meeting, 59th, New York, May 23-24; abstracts of papers. Iron & Steel Eng 28:116-38+ Ag '51
  - Annual meeting, 59th, New York, May 23-24; with abstracts of papers. Steel 128:49-50, 92+ My 28 '51; Iron Age 167:71-4 My 31 '51
- **AMERICAN leather chemists association**
  - Annual meeting, 47th, Groton, Conn. June 10-13. Chem & Eng N 29:2630-1 Je 25 '51
- **AMERICAN life convention**
  - Annual meeting, 46th, Toronto, Oct. 9-12. East Underw 52:3-5, 8-9 O 12; 3-4 O 19 '51; Nat Underw (Life ed) 55:3, 19-32 O 12; 3-4 O 19 '51; Weekly Underw 165:912-20 O 13 '51
  - Committee chairmen and board of regents members. Weekly Underw 163:1386 D 16 '50
  - Joint committees of ALC and LIAA. Nat Underw (Life ed) 55:4 F 2 '51
  - Medical section annual meeting, Colorado Springs. Nat Underw (Life ed) 55:2 Je 29 '51
  - State vice-presidents; list. Nat Underw (Life ed) 54:5 N 10 '50
  - Traces consistent A.L.C. growth. C. G. Taylor, jr. Weekly Underw 165:869+ O 13 '51
- **AMERICAN locomotive company**
  - Heavy backlog spurs American Locomotive. Barron's 31:16-17 Je 11 '51
- **AMERICAN machine and metals, inc.**
  - Dividend increase likely. Barron's 31:13-14 O 1 '51
- **AMERICAN machine tool distributors association**
  - Annual meeting, 26th, Lake Placid, Sept. 29-30. Mach 57:175-6 N '50
  - Meeting, Atlantic City, Oct. 1-2. Am Mach 95:173 O 15 '51
  - Spring meeting, 27th, Chicago. Steel 128:28 Ap 30 '51

AMERICAN machinist (periodical)
A.R.F. studies American machinist, Chemical engineering and Business week. Adv Agency 43:78 N '50

AMERICAN management association
AMA solves problem of confab size. il Mod Ind 20:91-4 D '50
Executives learn to manage in style; new seminar center in New York. il Bsns W p98-100 O 13 '51
Opens new management center for executive training seminars. East Underw 52:29 O 12 '51

Insurance division

Fall conference, Chicago. Nat Underw 54:25+ N 23 '50
Meeting, New York, June 7-8. Nat Underw 55:6+ Je 7 '51
Spring meeting, New York, May 14-15. East Underw 52:1+ My 18 '51; Nat Underw 55: 4+, 8+ My 17 '51

Packaging conference and exposition

National conference, 20th, Atlantic City, April 17-19. Chem & Eng N 29:1838-9 My 7 '51

Production conference

Conference, Chicago, Dec. 11-12. Chem & Eng N 28:4557-8 D 25 '50
Production conference, Chicago, Dec. 11-12. Mech Eng 73:169 F '51

AMERICAN-MARIETTA company
Common stock offered. Comm & Fin Chr 172: 1925 N 20 '50
Expansion continues. Barron's 31:18-19 Je 25 '51

AMERICAN meat institute
Annual meeting, 45th, Chicago. Food Ind 22: 1961-2 N '50
Annual meeting, 46th, Chicago, Sept. 21-25. Chem & Eng N 29:4173 O 8 '51

AMERICAN medical association
Clinical session, 4th, Cleveland, Dec. 5-8. Science 113:19-20 Ja 5 '51
65,000 advertisers supported AMA theme. Ed & Pub 83:24 D 9 '50
Tie-ins match AMA ad, two-to-one ratio. G. A. Brandenburg. Ed & Pub 83:16 N 4 '50

AMERICAN mining congress
Annual business meeting, New York, Dec. 5. Min Cong J 37:44+ Ja '51
Coal division annual conference of committees, Pittsburgh, Nov. 9; with abstracts of papers. Min Cong J 36:44-50 D '50
Coal division annual meeting, Cleveland, May 14-17; officers, chairmen, committee members, program, speakers. Min Cong J 37:50-62 Ap '51
Coal division annual meeting, Cleveland, May 14-17; with abstracts of papers. Coal Age 56:100-11 Je '51; Min Cong J 37:58-82 Je '51

Western division

Annual meeting, Salt Lake City, Aug. 28-31; with abstracts of papers. Min Cong J 36: 54-60, 65-89 O '50
Declaration of policy. Min Cong J 36:90-3 O '50

AMERICAN mosquito control association
Annual convention, Chicago, March 5-8. Soap & San Chem 27:157 Ap '51

AMERICAN natural gas company
Earnings are increasing. Barron's 31:13-14 My 14 '51

AMERICAN naturalist (periodical)
American naturalist. L. C. Dunn. Science 113: 43 Ja 12 '51

AMERICAN newspaper guild
Convention, Pittsburgh. Ed & Pub 84:9-10+ Je 30; 11+ Jl 7 '51
Kent State's guild chapter is disbanded. Ed & Pub 83:12 N 4 '50

AMERICAN newspaper publishers association
774 papers now on membership roll of ANPA. Ed & Pub 84:50 Ap 28 '51

Bureau of advertising

Ad bureau adjusts dues on pay-as-you-go basis. Ed & Pub 83:7+ D 2 '50
Annual meeting, 2d. Ed & Pub 84:15 Ap 28 '51
Annual report. Ed & Pub 84:13-14 Je 23 '51
Bureau booklet lists helps to advertising. Ed & Pub 83:8 N 11 '50
Copy ideas pay dues to Bureau for eight years. Ed & Pub 83:14 D 23 '50
Retail success stories sought in Bureau plan. C. Watson. Ed & Pub 83:31 D 2 '50
This is your Bureau of advertising; members as of Nov. 1, 1950. Ed & Pub 83:2-4 D 2 '50

Mechanical conference

Conference, 23d, Chicago, June 11. Ed & Pub 84:12+ Je 16 '51

Mechanical department

Annual report. Ed & Pub 84:98 Ap 28 '51

Mechanical research committee

Photo composing still major research goal. Ed & Pub 84:24 Ap 28 '51

AMERICAN oil chemists' society
Annual meeting, 42d, New Orleans, May 1-3. Chem & Eng N 29:1944+ My 14 '51
Fall meeting, 24th, San Francisco, Sept. 26-29; with abstracts of papers. Soap & San Chem 26:37-9 O '50
Fall meeting, 25th, Chicago. Oil Paint & Drug Rep 160:4+ O 15 '51

AMERICAN optical company
Detroit and Cleveland diversifies; shipping company's purchase of American optical co. stock. Bsns W p 119-20 F 10 '51

AMERICAN ordnance association
Ordnance association joins ASA. Standardization 22:156 My '51

AMERICAN paper and pulp association
Annual meeting, 74th, New York, Feb. 19-24. Paper Ind 32:1297-8, 1301-2 Mr '51

AMERICAN petroleum institute
API agriculture group keeps finger on farmer pulse for oil industry. Nat Pet N 43:51-3 Je 27 '51
Annual meeting, 30th, Los Angeles. Nat Pet N 42:35+ N 15; 29-34 N 22 '50
Annual meeting, 30th, Los Angeles, Nov. 13-16. Chem & Eng N 28:4264-5 D 4 '50
Annual meeting, 30th, Los Angeles, Nov. 13-16; program officers, committee members, speakers. Pet Eng 22:A39-42+ N '50
Annual meeting, 30th, Los Angeles; with abstracts of papers. Oil & Gas J 49:181-7 N 16 '50
Annual spring meeting, Cincinnati, May 28-29. Nat Pet N 43:41-8 Je 6 '51
Eastern district of Production division meeting, Columbus. Oil & Gas J 49:64-5 Ap 12 '51
Pacific Coast district of Production division spring meeting, Los Angeles. Oil & Gas J 50:68-9 My 17 '51
Refining division midyear meeting, Tulsa, April 30-May 3. Oil & Gas J 49:61-2 My 3; 90-1 My 10 '51; Nat Pet N 43:27-8 My 9 '51; Pet Eng 23:C48-9 Je '51
Southwestern district of Production division meeting, Beaumont. Oil & Gas J 49:48-9 Mr 15 '51
Technology conference, 2d, Atlanta. Oil & Gas J 50:60 My 31 '51

AMERICAN pharmaceutical manufacturers association
Annual meeting, 42d, Boca Raton, Fla. April 2-4. Oil Paint & Drug Rep 159:5+ Ap 9 '51
Central scientific section meeting, Chicago, Feb. 12. Oil Paint & Drug Rep 159:7+ F 19 '51
Eastern marketing section meeting, New York, Jan. 29. Oil Paint & Drug Rep 159: 7+ F 5 '51
Midyear meeting, New York. Chem & Eng N 28:4344-5 D 11 '50
Midyear meeting, New York. Oil Paint & Drug Rep 158:7+ D 4 '50

AMERICAN philosophical society
Annual meeting, Philadelphia, April 19-21. Science 113:637 Je 1 '51

AMERICAN physical society
Minutes of the joint meeting of the New England section and the New York state section, Troy, N.Y. April 6-7. Phys R 83: 192-4 Jl 1 '51
Physics society forms chemical physics group. Chem & Eng N 29:1210-11 Mr 26 '51
Proceedings; annual meeting, 303d, New York, Feb. 1-3; with abstracts of papers. Phys R 82:291-346 Ap 15 '51

AMERICAN physical society—*Continued*

Proceedings, meeting, Chicago, Nov. 24-25; with abstracts of papers. Phys R 81:292-330 Ja 15 '51

Proceedings, meeting of Conference on gaseous electronics, New York, Oct. 19-21, 1950; abstracts of papers. Phys R 82:566-72 My 15 '51

Proceedings, meeting, Pittsburgh, March 8-10; with abstracts of papers. Phys R 82:761-76 Je 1 '51

Proceedings of meeting, Los Angeles, Dec. 28-30; with abstracts of papers. Phys R 81:646-64 F 15 '51

Proceedings; Southeastern section meeting, Chattanooga, April 5-7; with abstracts of papers. Phys R 83:481-90 Jl 15 '51

Proceedings, 307th meeting, Schenectady, N.Y. June 14-16; with abstracts of papers. Phys R 83:868-82 Ag 15 '51

Spring meeting, Washington, April 26-28; with abstracts of papers. Phys R 83:194-246 Jl 1 '51

Summer meeting, Schenectady, June 14-16. Chem & Eng N 29:2638-9 Je 25 '51

AMERICAN physiological society

Autumn meeting, 3d, Columbus, Sept. 14-16. Science 112:796 D 29 '50

AMERICAN plant food council

Annual meeting, 6th, Hot Springs, Va. June 14-17. Oil Paint & Drug Rep 159:7+ Je 18; 5+ Je 25 '51; Chem & Eng N 29:2740-1 Jl 2 '51

AMERICAN power and light company

Public utility securities. O. Ely. Comm & Fin Chr 173:838 F 22 '51

Security I like best. A. H. Deuble. Comm & Fin Chr 172:2434 D 21 '51

To sell Washington unit. Comm & Fin Chr 173:757 F 19 '51

AMERICAN president lines (formerly Dollar steamship lines, inc.)

It's Dollar's line unless high court acts. Bsns W p99 F 10 '51

U.S. still runs Dollar line. Bsns W p25 Mr 24 '51

AMERICAN press institute

Press institute plans six seminars. Ed & Pub 84:24 S 8 '51

AMERICAN psychological association

1950 directory. 262p pa $2 American psychological assn, 1515 Massachusetts av, N.W. Washington 5, D.C. '50

AMERICAN public health association

Conference report of the southern branch. Pub Health Rep 66:1107-26 Ag 31 '51

AMERICAN public works association

Annual meeting, 56th, New York, Oct. 15-18. Roads & Sts 93:51-2 N '50

Annual meeting, 57th, Detroit. Eng N 147:28 S 27 '51

AMERICAN pulp and paper mill superintendents association

Annual convention, 32d, Portland, Ore. June 24. Paper Tr J 133:46+ Jl 13 '51; Paper Ind 33:525-30+ Ag '51

Annual meeting, Portland, Ore.; program. Pulp & Pa of Can 52:132+ Jl '51

AMERICAN radiator and standard sanitary corporation

All the way into the kitchen; American-Standard buys Acme line of kitchen cabinets. Bsns W p76-7 S 15 '51

Five companies expanding into new fields; with comparative balance sheet items. Mag of Wall St 88:502 Ag 11 '51

AMERICAN radio relay league

Minutes of 1951 annual meeting of the board of directors, May 11-12. Q S T 35:27-31+ Jl '51

AMERICAN railway bridge and building association

Annual meeting, Chicago, Sept. 17-19. Ry Age 131:49-52 S 24 '51

AMERICAN railway engineering association

Annual meeting, 50th, Chicago, March 13-15; with abstracts of papers and committee reports. Ry Age 130:49-68 Mr 19 '51

Highlights of A.R.E.A. research activities; work of past year. G. M. Magee. il Ry Age 130:58-61 Mr 12 '51

AMERICAN research and development corporation

Stock offered. Comm & Fin Chr 173:1369-70 Ap 2 '51

AMERICAN road builders' association

Annual meeting, 48th, Milwaukee, March 12-14. Roads & Sts 94:56+ Ap '51; Eng N 146:17-18 Mr 22 '51

AMERICAN rock wool corporation

Common stock offered. Comm & Fin Chr 172:2377 D 18 '50

AMERICAN seating company

Security I like best. M. B. Starring, jr. Comm & Fin Chr 173:948-9 Mr 1 '51

AMERICAN service bureau

Activities of Bureau. L. N. Parker. East Underw 52:9 O 12 '51

AMERICAN smelting and refining company

American smelting; with financial data, 1940-1950. G. E. Eddins. Barron's 30:9-10 D 11 '50

Ten potential market leaders for 1951; with comparative balance sheet items. Mag of Wall St 87:502 F 10 '51

AMERICAN societies for experimental biology, Federation of. See Federation of American societies for experimental biology

AMERICAN society for engineering education

Annual meeting, East Lansing, Mich. June 25-29. Mech Eng 73:677 Ag '51

Annual meeting, 59th, East Lansing, Mich. Chem & Eng N 29:2822+ Jl 9 '51; Eng N 147:24 Jl 12 '51

Officers and council members, divisions, committees for 1950-51; with list of members. J Eng Educ 41:17-262 F '51

AMERICAN society for metals

Papers record progress in materials, processes; abstracts. Materials & Methods 32:7-8+ D '50

AMERICAN society for quality control

Annual meeting, 5th, Cleveland. Automotive Ind 104:52+ Je 15 '51

AMERICAN society for testing materials

Annual meeting, 54th, Atlantic City. Eng N 146:25 Je 28 '51; Iron Age 167:81-2 Je 28 '51

Annual meeting, 54th, Atlantic City, June 18-21. Concrete 59:22-4 Ag '51; Foundry 79:164+ Ag '51; Standardization 22:253 Ag '51

Committee D-12 meeting, New York, March 19-20. Soap & San Chem 27:73+ Ap '51

Paint committee D-1 meeting, Washington, Feb 26-28. Oil Paint & Drug Rep 159:7+ Mr 5 '51

AMERICAN society for the advancement of science

Annual meeting, Cleveland. Chem & Eng N 29:194+ Ja 15 '51

AMERICAN society of air affairs

Purpose of the Society and its journal. W. D. Pardridge. Air Affairs 3:436+ D '50

AMERICAN society of brewing chemists

Annual meeting, Chicago, April 22-26. Chem & Eng N 29:1834-5 My 7 '51

AMERICAN society of chartered life underwriters

New York CLU chapter's 11th annual forum on current social and economic trends. East Underw 52:3 Ap 27 '51; Nat Underw (Life ed) 55:7 Ap 20 '51

New York CLU forums a top educational function. East Underw 52:3 Mr 2 '51

AMERICAN society of civil engineers

ASCE 100th birthday to provide spark for year-long engineering observances. Eng N 147:27 S 27 '51

Engineering mechanics is new division of ASCE. Eng N 146:25 Ap 5 '51; Civil Eng 21:290 My '51

Fall meeting, Chicago, Oct. 11-14. Eng N 145:27-8 O 19 '50; Civil Eng 20:728-30 N '50

Meeting, Houston, Feb. 21-23. Civil Eng 21:161-3 Mr '51

Membership trends influence responsibilities. G. A. Hathaway. Civil Eng 21:394-5 Jl '51

Summer meeting, Louisville. Civil Eng 21:417-19 Jl '51

Summer meeting, Louisville. Eng N 146:23-5 Je 21 '51

Washington office is active in national affairs. Civil Eng 21:163-4 Mr '51

Winter meeting, Houston. Eng N 146:24-5 Mr 1 '51

AMERICAN society of heating and ventilating engineers

Annual meeting, 57th, Philadelphia, Jan. 22-25. Sheet Metal Worker 42:95+ Mr '51

Annual meeting, 57th, Philadelphia, Jan. 22-25; with discussions of papers. Heating-Piping 23:112-38 Mr '51

AMERICAN society of heating and ventilating engineers—*Continued*
Annual meeting, 57th, Philadelphia; with abstracts of papers. Heat & Ven 48:111-15+ F '51
Environment laboratory in Cleveland. Heat & Ven 48:120 O '51
Semi-annual meeting, Portland, Ore. July 2-4. Heating-Piping 23:115-22 Ag '51
Society's role in legislative matters. Heating-Piping 23:187-8 Ja '51

AMERICAN society of mechanical engineers
ASME aids progress; editorial. Mech Eng 72:861-2 N '50
ASME elects fellows. Mech Eng 72:936-7, 1027-8 N-D '50
ASME elects seven to the grade of fellow. Mech Eng 73:446-7 My '51
Annual meeting, 71st, New York, Nov. 26-Dec. 1; with list of papers. Mech Eng 73:47-67, 74-6 Ja '51
Annual meeting, 71st, Nov. 26-Dec. 1. Mach 57:195-6 Ja '51
Codes and standards a tremendous ASME operation. Mech Eng 72:945 N '50
Elects its new officers. Power 94:140+ D '50
Fall meeting, Worcester. Mech Eng 72:940-2 N '50
Intensive look at the 1950 ASME year. map Mech Eng 73:41-6 Ja '51
Publications developed by the technical committees, with prices. A S M E Trans 73:59-61 sec 2 Ja '51
Recipients of honorary membership and awards at the 1950 ASME annual meeting. Mech Eng 73:68-73 Ja '51
Semi-annual meeting, Toronto, June 10-14. Mech Eng 73:684-5 Ag '51
Semi-annual meeting, Toronto, June 11-15; program. Mech Eng 73:448-51 My '51
Spring meeting, Atlanta, April 2-5. Mach 57:172-3 My '51
Spring meeting, Atlanta, April 2-5. Mech Eng 73:452-7 My '51

Rubber and plastics division

Annual meeting, New York, Nov. 30-Dec. 12. Rubber Age 68:336-7 D '50; India Rubber World 123:457-8 Ja '51
Fall meeting, Worcester, Mass. Sept. 19-21. India Rubber World 123:202 N '50
Meeting, Toronto, June 14. India Rubber World 124:457 Jl '51

Textile division

Textile division, ASME, begins study of mill modernization. Textile World 100:103+ D '50

AMERICAN society of mechanical engineers transactions
Depositories for ASME transactions in the United States including territories and dependencies, and in other countries. A S M E Trans 73:55-8 sec 2 Ja '51

AMERICAN society of newspaper editors
Annual convention, Washington. Ed & Pub 84:17+ Ap 28 '51

AMERICAN society of refrigerating engineers
ASRE council elects nine life members. Refrig Eng 59:178-9 F '51
Annual meeting, New York, Dec. 3-6; with abstracts of papers. Heat & Ven 48:83-5+ Ja '51
How to maintain good sections programs. H. W. Smith. Refrig Eng 59:181+ F '51

AMERICAN society of tool engineers
Annual meeting, New York; summaries of papers. Aviation W 54:43-5 Ap 9 '51
Annual meeting, 19th, New York, March 14-17. Automotive Ind 104:36+ Ap 15 '51
Annual meeting, 19th, New York, March 14-17. Tool Eng 26:64-71 Je '51
Annual meeting, 19th, New York, March 14-17; program, speakers, officers. Tool Eng 26:80-5 Mr '51
New officers. Tool Eng 26:61-2 My '51
New York program to boost defense work, job training. il Tool Eng 26:59-62 Ja '51
Proposals to amend constitution up for membership vote. Tool Eng 26:56-7 Ap '51
Technical advances mark first half of 1950-51 year. Tool Eng 25:45-7 D '50

AMERICAN society of traffic and transportation
National transportation conference, 1st, Chicago, Sept. 13-14. Ry Age 131:53-5 S 24 '51

AMERICAN society of training directors
Annual conference, 7th, Philadelphia, March 15-17. Personnel J 30:67-9 Je '51

AMERICAN soybean association
Annual meeting, Des Moines. Oil Paint & Drug Rep 160:7+ S 17 '51

AMERICAN standards association
ASA policy-makers for 1951; officers, board members. Standardization 22:16-17 Ja '51
Company member conference, Nov. 28-29. Standardization 22:25-7 Ja '51
Correlating committees name officers. Standardization 22:91+ Mr '51
National standards conference, New York. Steel 127:68 D 4 '50
Ordnance Association joins ASA. Standardization 22:156 My '51
Reports approval of 149 standards in 1950. Mech Eng 73:170 F '51
Standards council acts in many fields. Standardization 22:226-7+ Jl '51

AMERICAN statistical association
Annual meeting, 110th, Chicago, Dec. 27, 1950; proceedings. Am Stat Assn J 46:242-50 Je '51

AMERICAN steel foundries
Elmes engineering division celebrates one hundredth anniversary. il Mach 57:250 Jl '51

AMERICAN telephone and telegraph company
A T & T convertible 3⅜ per cent debentures. T. Prince. Comm & Fin Chr 173:913+ Mr 1 '51
American Telephone; with financial data, 1940-1949. C. A. Clark, jr. Barron's 30:9-10 D 18 '50
Annual report. Comm & Fin Chr 173:1058 Mr 12 '51
Conversion of debentures in 1950. Comm & Fin Chr 173:377-8 Ja 22 '51
Convertible is now in season; American Telephone and Telegraph 3⅜s. I. U. Cobleigh. Comm & Fin Chr 173:1427+ Ap 5 '51
For whom the Bell toils. I. U. Cobleigh. Comm & Fin Chr 174:688 Ag 23 '51
History and policies. D. R. Belcher. Pub Util 47:502-7 Ap 12 '51
Investment study. R. Colston. Mag of Wall St 88:24-6+ Ap 7 '51
Mother Bell biggest spender. Bsns W p 110-12 N 11 '50
One-million stockholders. il Bsns W p 130-2+ My 19 '51
Something new in public ownership; million shareholders. J. L. Donnelly. Pub Util 48:147-52 Ag 2 '51

AMERICAN tobacco company
Leadership is based on three brands of cigarettes; with financial data, 1940-49 and tabulations. R. B. Fant. Barron's 30:9-10 D 25 '50

AMERICAN transit association
Meeting, Baltimore, May 21-24. Bus Transportation 30:80-3 Je '51
Regional meeting, Columbus, March 13-16. Bus Transportation 30:46-9 Ap '51

AMERICAN viscose corporation
Fortieth year. H. W. Rose. il Rayon 31:60-1+ D '50

AMERICAN water works association
A.W.W.A. directory; constitution and by-laws, standardization procedure, honorary awards, committees, consolidated list of members, etc. Am Water Works Assn J 42:1-230, sup 1-73 pt 2 D '50
Annual meeting, 70th, Philadelphia, May 21-26; with awards and list of papers. Am Water Works Assn J 42:1165-72 D '50
Annual meeting, 71st, Miami, April 29-May 4. Eng N 146:25 My 10 '51
Annual meeting, 71st, Miami, April 29-May 4; with abstracts of papers. Water & Sewage Works 98:239-46, 298-303, 331-4 Je-Ag '51; Munic Util 89:21-4+ My '51
Board of directors meeting, New York, Jan. 14-16. Water & Sewage Works 98:93-4, 106 F-Mr '51
Papers scheduled at 1950 section meetings. Am Water Works Assn J 42:1173-83 D '50
Report of publications for the year ending Dec. 31, 1950. Am Water Works Assn J 43:249-52 Mr '51
Report of the audit of Association funds for the year ending Dec. 31, 1950. Am Water Works Assn J 43:234-40 Mr '51
Report of the committee on water works administration for the year ending Dec. 31, 1950. Am Water Works Assn J 43:245-8 Mr '51

AMERICAN water works association—*Cont.*

Report of the committee on water works practice for the year ending Dec. 31, 1950. Am Water Works Assn J 43:241-4 Mr '51

Canadian section

Annual meeting, 31st, Winnipeg; with abstracts of papers. Munic Util 89:27-42+ Je '51

AMERICAN welding society

Officers; short biographies. Welding J 30:841+ S '51

Preface to secretary's report for administrative year ending Aug. 31, 1950. Welding J 29:1108+ D '50

President's address. O. B. J. Fraser. Welding J 29:1106+ D '50

AMERICAN wood preservers association

Annual meeting, 47th, Chicago, April 24-26. Chem & Eng N 29:1838 My 7 '51

Annual meeting, 47th, Chicago, April 24-26. Ry Age 130:50-3 My 7 '51

AMERICAN woolen company

Study of American woolen co. S. Devlin. Mag of Wall St 87:507-9+ F 10 '51

AMERICAN zinc institute

Annual meeting, 33d, St Louis, May 21-22. Oil Paint & Drug Rep 159:7+ My 28 '51

AMERICAN zinc lead and smelting company

Gain in earnings outstrips sales rise; outlook for future continues bright. W. Wells. Barron's 31:23-4 Ja 15 '51

Zinc maker turns buyer. il Bsns W p 124+ O 6 '51

AMERICANISMS

America has a word for it, too. diags Bsns W p42+ Mr 31 '51

Dictionary of Americanisms on historical principles. M. M. Mathews, ed. 2v 1946p $50 Univ. of Chicago press, 5750 Ellis av, Chicago 37 '51; Review. A. McQueen. Special Lib 42:225-6 Jl-Ag '51

AMERICANS in foreign countries

Greener pastures; Americans working abroad pay no U.S. income tax. Bsns W p94+ Je 2 '51

AMERICIUM

Heat of reaction of americium metal with 1.5 *M* hydrochloric acid and a note on the heats of formation of La^{+3}(aq.) and Pr^{+3}(aq.). H. R. Lohr and B. B. Cunningham. bibliog diag Am Chem Soc J 73:2025-8 My '51

Pentavalent state of americium. L. B. Werner and I. Perlman. Am Chem Soc J 73:495-6 Ja '51

Preparation and some properties of americium metal. E. F. Westrum, jr. and L. Eyring. bibliog diag Am Chem Soc J 73:3396-8 Jl '51

Preparation of anhydrous americium compounds. S. Fried. bibliog diags Am Chem Soc J 73:416-18 Ja '51

Solution absorption spectrum of americium. B. J. Stover, J. G. Conway and B. B. Cunningham. Am Chem Soc J 73:491-2 Ja '51

Isotopes

Fission in Am^{242}. G. C. Hanna and others. Phys R 81:893-4 Mr 1 '51

Neutron capture cross section of Am^{241}. G. C. Hanna and others. Phys R 81:486-7 F 1 '51

Thermal neutron fission of Am^{241}. B. B. Cunningham and A. Ghiorso. Phys R 82:558 My 15 '51

AMERICIUM compounds

Preparation of anhydrous americium compounds. S. Fried. bibliog diags Am Chem Soc J 73:416-18 Ja '51

AMIC acids

Accelerator-activators from amic acids. M. C. Throdahl, R. O. Zerbe and D. J. Beaver. Ind & Eng Chem 43:926-30 Ap '51

AMIDES

Acid-catalyzed reactions of nitriles; polyamides from formaldehyde and dinitriles. E. E. Magat and others. Am Chem Soc J 73:1031-5 Mr '51

Acid-catalyzed reactions of nitriles; the reaction of nitriles with N-methylolamides. E. E. Magat and L. F. Salisbury. Am Chem Soc J 73:1035-7 Mr '51

Action of formaldehyde on proteins. R. D. Haworth, R. MacGillivray and D. H. Peacock. Chem Soc J p 1493-8 Je '50

Alternative method for the hydrolysis of thioamides in the Willgerodt-Kindler reaction. M. A. T. Rogers. Chem Soc J p3350 N '50

Amides and amino acid derivatives of biotin. D. E. Wolf, J. Valiant and K. Folkers. Am Chem Soc J 73:4142-4 S '51

Amides and amino acid derivatives of biotin; microbiological studies. L. D. Wright, H. R. Skeggs and E. L. Cresson. bibliog Am Chem Soc J 73:4144-5 S '51

Analgesic activity of N,N-dialkyl amides. D. Papa and others. bibliog Am Chem Soc J 72:3885-6 S '50

Chloramphenicol (chloromycetin); some analogs having variations of the acyl group. M. C. Rebstock. bibliog Am Chem Soc J 72:4800-3 O '50

Chromatography of sugars and their derivatives; aldonamides. M. L. Wolfrom, R. S. Bower and G. G. Maher. Am Chem Soc J 73:875 F '51

Condensations effected by the alkali amides; studies in the acylation of methyl 2-thienyl ketone. J. K. Sneed and R. Levine. bibliog Am Chem Soc J 72:5219-20 N '50

Constituents of heliopsis species; scabrin, an insecticidal amide from the roots of H. scabra Dunal. M. Jacobson. bibliog Am Chem Soc J 73:100-3 Ja '51

Dicarboxylic acid bis-(β-tertiaryaminoalkyl) amides as curare substitutes. A. P. Phillips. Science 112:536 N 3 '50

Dipole moments of some acid amides and the structure of the amide group. W. W. Bates and M. E. Hobbs. bibliog Am Chem Soc J 73:2151-6 My '51

Fatty acid amides; N-alkenyl and N,N-dialkenyl amides. E. T. Roe, J. M. Stutzman and D. Swern. Am Chem Soc J 73:3642-3 Ag '51

Hydrogenolysis of dithioesters and thioamides. J. Baddiley. Chem Soc J p3693-4 D '50

Kinetics of the α-chymotrypsin catalyzed competitive hydrolysis of acetyl-L-tryptophanamide and acetyl-L-tyrosinamide in aqueous solutions at 25° and *p*H 7.9. R. J. Foster and C. Niemann. bibliog Am Chem Soc J 73:1552-4 Ap '51

Kinetics of the α-chymotrypsin catalyzed hydrolysis of acetyl- and nicotinyl-L-tryptophanamide in aqueous solutions at 25° and *p*H 7.9. H. T. Huang and C. Niemann. bibliog Am Chem Soc J 73:1541-8 Ap '51

Kinetics of the α-chymotrypsin catalyzed hydrolysis of acetyl-L-tyrosinamide in aqueous solutions at 25° and *p*H 7.8-8.0. D. W. Thomas, R. V. MacAllister and C. Niemann. bibliog Am Chem Soc J 73:1548-52 Ap '51

Kinetics of the α-chymotrypsin catalyzed hydrolysis of nicotinyl-L-tyrosinamide in aqueous solutions at 25° and *p*H 7.9. H. T. Huang and others. Am Chem Soc J 73:3231-4 Jl '51

Mechanism of the degradation of polyamides. B. G. Achhammer, F. W. Reinhart and G. M. Kline. il diags J Res Nat Bur Stand 46:391-421 bibliog(67 titles, p420-1) My '51; Abstract. J Ap Chem 1:301-20 Jl '51

Mercurial diuretics; methoxymercuration of N-allyl amides. R. L. Rowland, W. L. Perry and S. Gerstein. Am Chem Soc J 73:91-3 Ja '51

Modification of wool by the application of linear synthetic polyamides; *N*-hydroxymethyl polyamides. D. L. C. Jackson. Textile Res J 21:655-9 S '51

Modification of wool by the application of linear synthetic polyamides; *N*-methoxymethyl polyamides. D. L. C. Jackson and M. Lipson. bibliog Textile Res J 21:156-63 Mr '51

New reaction of nitriles; preparation of N-(2-halo-1-ethyl)-amides. R. M. Lusskin and J. J. Ritter. Am Chem Soc J 72:5577-8 D '50

New reaction of nitriles; unsaturated amides. H. Plaut and J. J. Ritter. Am Chem Soc J 73:4076-7 S '51

Polyamide resin suspensoids. H. Wittcoff and others. India Rubber World 124:189-91 My '51

Polyamide resin suspensoids; answer to many packaging adhesive problems. H. Wittcoff. il Mod Packaging 24:111-15 Mr '51

AMIDES—*Continued*

Polyamides from azelaonitrile and formaldehyde. D. T. Mowry and E. L. Ringwald. bibliog Am Chem Soc J 72:4439-41 O '50

Probable existence of geometrically isomeric diazocarboxyamides. H. C. Freeman, R. J. W. Le Fèvre and I. R. Wilson. Chem Soc J p 1977-80 Ag '51

Reaction of germanes; with alkali metals and amides; polyalkylgermanes; phenyl bromide and sodium germanyl. S. N. Glarum and C. A. Kraus. Am Chem Soc J 72:5398-401 D '50

Reduction of amides with lithium aluminium hydride. A. L. Morrison, R. F. Long and M. Königstein. Chem Soc J p952-5 Ap '51

Some acylamino acid esters and amides. S. W. Fox and H. Wax. Am Chem Soc J 73:2936-7 Je '51

Some amides of tuberculostearic acid. D. A. Shirley and G. A. Schmidt. Am Chem Soc J 73:867 F '51

Substituent effects in the acid and base hydrolyses of aromatic amides. I. Meloche and K. J. Laidler. bibliog Am Chem Soc J 73:1712-14 Ap '51

Trialkylpyrrolidinetriones. G. S. Skinner and J. F. Perkins, jr. bibliog Am Chem Soc J 72:5569-73 D '50

See also

Sulfonamides

AMIDINES

Amidines; a new synthesis of 1-alkyl- and 1-aryl-3 : 4-dihydro*iso*quinolines. C. I. Brodrick and W. F. Short. Chem Soc J p 1343-5 My '51

Amidines; preparation of diguanides and guanidines from cyanoguanidine and ammonium sulphonates. P. Oxley and W. F. Short. Chem Soc J p 1252-6 My '51

Amidines; preparation of 2-substituted 4 : 5-dihydroglyoxalines and ring homologues from substituted amidines and alkylenediamines. P. Oxley and W. F. Short. Chem Soc J p859-64 Mr '50

Amidines; preparation of 2-substituted Δ^2-oxazolines and 4 : 5-dihydro-1 : 3-oxazines from hydroxyalkylamines and *N*-substituted amidines or ketoxime sulphonates. P. Oxley and W. F. Short. Chem Soc J p 1100-1 Ap '50

Antituberculous comopunds; some further *N*-substituted amidines and analogues. P. T. Charlton and others. Chem Soc J p485-92 F '51

Chemotherapeutic diamidines; the sulphur analogue of 4 : 4′-diamidinostilbene. L. Bauer and J. Cymerman. Chem Soc J p 109-14 Ja '50

Chemotherapy of tuberculosis; some substituted N-4-diphenylylamidines. L. Bauer and J. Cymerman. Chem Soc J p 1826-9 Jl '50

Chemotherapy of tuberculosis; some *N*-substituted *p*-phenylbenzamidines. L. Bauer and J. Cymerman. Chem Soc J p2078-80 Ag '50

Diamidides; derivatives of triazapentadiene and tetra-azaheptatriene. F. C. Cooper, M. W. Partridge and W. F. Short. Chem Soc J p391-404 F '51

New syntheses of heterocyclic compounds; the condensation of ethyl β-aminocrotonate with some cyclic amidines. H. Antaki and V. Petrow. Chem Soc J p551-5 F '51

N,N-Disubstituted amidines; 4-alkoxy-α-naphthamidines. E. Lorz and R. Baltzly. Am Chem Soc J 73:93-5 Ja '51

N,N-Disubstituted amidines; heterocyclic amidines and cinnamamidines. E. Lorz, L. P. Albro and R. Baltzly. bibliog Am Chem Soc J 73:483-5 Ja '51

Ortho esters, imidic esters and amidines; disproportionation reactions of nitrophenyl-, chlorophenyl- and tolyl-substituted formimidates and formamidines. R. M. Roberts, R. H. DeWolfe and J. H. Ross. Am Chem Soc J 73:2277-81 My '51

Restriction of tautomerism in the amidine system by hydrogen bonding; the case of 4(7)-nitrobenzimidazole. J. L. Rabinowitz and E. C. Wagner. Am Chem Soc J 73:3030-7 Jl '51

Some amidines and dihydroglyoxalines of the 1 : 1-diphenylethane and 1 : 1-diphenylpropane series. J. O. Jílek and M. Protiva. Chem Soc J p 188-90 Ja '50

Synthesis of amidinium salts. C. G. Raison. Chem Soc J p3319-26 D '49

Synthetic analgesics and related compounds; amidines and 4 : 5-dihydroglyoxalines. W. Wilson. Chem Soc J p2173-6 Ag '50

AMIDONE

Amidone; some isomeric chlorodialkylaminopropanes and their reaction with diphenylmethyl cyanide. P. Ofner. Chem Soc J p 1800-3 Jl '51

Search for new analgesics; variations in the basic side-chain of amidone. P. Ofner and E. Walton. Chem Soc J p2158-66 Ag '50

Synthetic analgesics; synthesis of compounds related to amidone. A. L. Morrison and H. Rinderknecht. Chem Soc J p 1478-81 Je '50

AMINATION

Chemical engineering unit processes fourth annual review; amination by reduction. J. Werner. bibliog(64 ref) Ind & Eng Chem 43:1917-19 S '51

Unit processes; Chemical Engineering report, March 1951; amination by reduction. P. H. Groggins. diag Chem Eng 58:131 Mr '51

AMINES

Action of ammonia and amines on 1,4-dichloro-2-butene. L. H. Amundsen and others. Am Chem Soc J 73:2118-21 My '51

Action of nitrous acid on 2-phenylcyclohexylamine. D. V. Nightingale and M. Maienthal. bibliog Am Chem Soc J 72:4823-4 O '50

Adsorption of aliphatic amine vapors by silica gel. F. E. Bartell and D. G. Dobay. bibliog diag Am Chem Soc J 72:4388-93 O '50

Alicyclic diamines; the geometric isomers of bis-(4-aminocyclohexyl)-methane. A. E. Barkdoll, H. W. Gray and W. Kirk, jr. bibliog Am Chem Soc J 73:741-6 F '51

Alkylation of nitroparaffins with amines and their derivatives. H. R. Snyder and W. E. Hamlin. bibliog Am Chem Soc J 72:5082-5 N '50

Amidines; preparation of 2-substituted 4 : 5-dihydroglyoxalines and ring homologues from substituted amidines and alkylenediamines. P. Oxley and W. F. Short. Chem Soc J p859-64 Mr '50

Amine and enol derivatives of 1,1,1-trifluoropropane. W. R. Nes and A. Burger. Am Chem Soc J 72:5409-13 D '50

Amine-*N*-glycosides; arylamine-*N*-glucosides. J. Honeyman and A. R. Tatchell. Chem Soc J p967-71 Mr '50

Amine salts of imidodisulfuric acid. C. E. Boatman and H. H. Sisler. Am Chem Soc J 73:559-60 F '51

Antituberculous compounds; compounds related to diethyl-ω-aryloxyalkylamines. D. A. Peak and T. I. Watkins. Chem Soc J p445-52 F '50

Aryl-2-halogenoalkylamines; a comparison of the stability of esters derived from some aryl-2-halogenoalkylamines with those obtained from other radiomimetic compounds. W. Davis and W. C. J. Ross. Chem Soc J p3056-62 N '50

Aryl-2-halogenoalkylamines; reactions with certain organic sulphur compounds. W. C. J. Ross. Chem Soc J p815-18 Mr '50

Aryl-2-halogenoalkylamines; some derivatives of 2-naphthyldi-2′-halogenoalkylamines. W. Davis, J. L. Everett and W. C. J. Ross. Chem Soc J p 1331-7 My '50

Associating effect of the hydrogen atom; the structure of diacylamines and related substances. L. Hunter and N. G. Reynolds. Chem Soc J p2857-64 O '50

Biologically active N′-alkylstreptomycylamines. W. A. Winsten and others. bibliog il Am Chem Soc J 72:3969-72 S '50

Catalytic reactions of aromatic amines; alkylation with alcohols. A. G. Hill, J. H. Shipp and A. J. Hill. bibliog diag Ind & Eng Chem 43:1579-83 Jl '51

Catalytic reactions of aromatic amines; rearrangement of alkyl groups. A. G. Hill and A. J. Hill. Ind & Eng Chem 43:1583-5 Jl '51

Chemical engineering unit processes fourth annual review; ammonolysis. A. C. Stevenson. bibliog(74 ref) Ind & Eng Chem 43:1920-4 S '51

Chemical structure of some diamine carbamates. E. Katchalski, C. Berliner-Klibanski and A. Berger. bibliog Am Chem Soc J 73:1829-31 Ap '51

AMINES—*Continued*

Chemistry of indanthrone; the cyclisation of 2-amino-1 : 2′-dianthraquinonylamine. W. Bradley, E. Leete and D. S. Stephens. Chem Soc J p2158-62 Ag '51

Chemistry of reductone; some condensation products of reductone with amino-compounds. W. Cocker and others. Chem Soc J p2052-8 Ag '50

Chlorination of aliphatic amines. L. H. Amundsen and L. S. Pitts. bibliog Am Chem Soc J 73:1494-7 Ap '51

Complexes between metal salts and long-chain aliphatic amines; the complexes of cupric salts with long-chain amines. A. R. Burkin. Chem Soc J p 122-7 Ja '50

Complexes between metal salts and long-chain aliphatic amines; the complexes of cuprous halides with long-chain aliphatic amines. R. G. Wilkins and A. R. Burkin. diag Chem Soc J p 127-32 Ja '50

Complexes between metal salts and long-chain aliphatic amines; the oxidation of copper(I) complexes to copper(II) complexes. R. G. Wilkins and A. R. Burkin. Chem Soc J p 132-6 Ja '50

Condensation of aromatic amines with ethyl α-chloro-α-formylacetate. D. A. H. Taylor. Chem Soc J p3345-6 N '50

Conversion of aromatic aldehydes into primary amines by a simple adaptation of the Leuckart reaction. K. G. Lewis. Chem Soc J p2249-50 Ag '50

Cyanuric chloride derivatives; reaction of alkoxy-*s*-triazines and aryloxy-*s*-triazines with amines. J. T. Thurston and others. bibliog Am Chem Soc J 73:2992-6 Jl '51

cis-Decahydro-2-naphthoic acids and their relationship to the *cis*-2-decalols and *cis*-2-decalylamines. W. G. Dauben and E. Hoerger. bibliog Am Chem Soc J 73:1504-8 Ap '51

Decomposition of amine picrates with ethanolamine. I. A. Kaye, I. C. Kogon and W. Burlant. Am Chem Soc J 72:5752 D '50

Dissociation constants of adrenergic amines. E. B. Leffler, H. M. Spencer and A. Burger. Am Chem Soc J 73:2611-13 Je '51

Dissociation of the addition compounds of trimethylboron with the normal primary aliphatic amines; the straight-chain anomaly. H. C. Brown, M. D. Taylor and S. Sujishi. Am Chem Soc J 73:2464-7 Je '51

Effect of certain reagents upon the properties of bentonite colloids; reactions between hydrogen bentonite and organic amines. W. H. Slabaugh and J. L. Culbertson. bibliog diags J Phys & Colloid Chem 55:1131-9 O '51

Effect of organosilicon substituents on the basic strength of amines. J. E. Noll, B. F. Daubert and J. L. Speier. Am Chem Soc J 73:3871-3 Ag '51

Effect of structure on reactivity; aminolysis of esters with primary amines. E. M. Arnett, J. G. Miller and A. R. Day. Am Chem Soc J 72:5635-8 D '50

Endocyclic α,β-unsaturated ketones; reaction of 2-bromo-4,4-dimethyl-1-keto-1,4-dihydronaphthalene with amines. N. H. Cromwell, H. H. Eby and D. B. Capps. Am Chem Soc J 73:1230-2 Mr '51

Endocyclic α,β-unsaturated ketones; reactions of 8-bromoperinaphthenone-7 with amines. N. H. Cromwell, D. B. Capps and S. E. Palmer. Am Chem Soc J 73:1226-9 Mr '51

Energetics of the adsorption of aliphatic amines by silica gel. D. G. Dobay, Ying Fu and F. E. Bartell. Am Chem Soc J 73:308-14 Ja '51

Experiments relating to the resolution of tertiary alcohols; the resolution and deamination of α-naphthylphenyl-*p*-tolylmethylamine, and the Curtius, Hofmann, and Schmidt reactions with 2-methyl-2-phenylhexanoic acid. C. L. Arcus, J. Kenyon and S. Levin. Chem Soc J p407-10 F '51

Halogenation of olefins in heterocyclic tertiary amines; cycloalkenes. F. N. Hayes, H. K. Suzuki and D. E. Peterson. bibliog Am Chem Soc J 72:4524-5 O '50

Highly branched and big; three new high-molecular-weight primary aliphatic amines and a new amine acetate. il Chem W 69:25-6 O 13 '51

Method for preparing secondary amines and Schiff's bases from phenols and hexamine. J. C. Duff and V. I. Furness. Chem Soc J p 1512-15 Je '51

Novel cyanoethylation reaction. L. Bauer and J. Cymerman. bibliog Chem & Ind p615-16 Jl 14 '51

Organic fluoro-compounds; 2 : 4 : 6-trinitro-3-hydroxybenzotrifluoride; a new reagent for the characterisation of amines and pyranol bases. W. B. Whalley. Chem Soc J p2792-4 O '50

Organicists perform fundamental study of *tert*-carbinamines. il Chem & Eng N 29:1628-9 Ap 23 '51

Perfluoro-*tert.*-amines. R. N. Haszeldine. Chem Soc J p 102-4 Ja '51

Preparation and heats of combustion of some amine nitrates. T. L. Cottrell and J. E. Gill. Chem Soc J p 1798-800 Jl '51

Preparation of amine derivatives of 2-chloro-1,4-naphthoquinone. J. C. Calandra and E. C. Adams, jr. Am Chem Soc J 72:4804 O '50

Preparation of amino ethers and diamines from chloromethyl ether and butadiene. L. H. Amundsen and W. F. Brill. bibliog Am Chem Soc J 73:1834-5 Ap '51

Preparation of aminomethylsilicon compounds and their derivatives. J. E. Noll, J. L. Speier and B. F. Daubert. Am Chem Soc J 73:3867-71 Ag '51

Preparation of N,N,N′,N′-tetrasubstituted diamines. T. M. Laakso and D. D. Reynolds. Am Chem Soc J 73:3518-20 Jl '51

Preparation of the stereoisomeric α,β-diphenyl-β-hydroxyethylamines. J. Weijlard and others. bibliog Am Chem Soc J 73:1216-18 Mr '51

β-Propiolactone; reactions with ammonia and amines. T. L. Gresham and others. Am Chem Soc J 73:3168-71 Jl '51

Pyridine syntheses; some reactions of ene amines with 1,3-dicarbonyl derivatives. E. M. Bottorff and others. bibliog Am Chem Soc J 73:4380-3 S '51

Quantitative studies of the reactivities of mixed carboxylic anhydrides; the composition of the acylation products in the reaction between acetic chloroacetic anhydride and primary aromatic amines. A. R. Emery and V. Gold. Chem Soc J p 1443-7 Je '50

Reaction between amines and 1-chloro-2 : 4-dinitrobenzene. O. L. Brady and F. R. Cropper. Chem Soc J p507-16 F '50

Reaction of 3-chlorosulfonylbenzoyl chloride with amines. C. R. Barr, I. F. Salminen and A. Weissberger. Am Chem Soc J 73:4131-3 S '51

Reaction of succinic and glutaric acid with amines. G. B. Hoey and C. T. Lester. Am Chem Soc J 73:4473-4 S '51

Reactions of carbohydrates with nitrogenous substances; mutarotations of some glycosylamines. W. Pigman and others. Am Chem Soc J 73:1976-9 My '51

Reactions of 2,4-dinitrobenzeneselenenyl bromide with alcohols and amines. W. S. Cook and R. A. Donia. bibliog Am Chem Soc J 73:2275-7 My '51

Reactions of epoxy ketones and alcohols with amines; mechanism studies. N. G. Barker and N. H. Cromwell. Am Chem Soc J 73:1051-3 Mr '51

Reactions of ethylene oxides; the reaction of epichlorohydrin with some aromatic amines. W. Davies and W. E. Savige. Chem Soc J p890-4 Mr '50

Reactions of methyl radicals; the abstraction of hydrogen atoms from cyclic hydrocarbons, butynes, amines, alcohols, ethers, and ammonia. A. F. Trotman-Dickenson and E. W. R. Steacie. bibliog J Chem Phys 19:329-36 Mr '51

Reduction of allylamines with sodium in liquid ammonia. T. J. King. Chem Soc J p898-900 Ap '51

Reduction of diazotized amines on cotton. E. R. Atkinson and A. G. Hoyle. Am Chem Soc J 73:1841-2 Ap '51

Reduction of nitriles to primary amines with lithium aluminum hydride. L. H. Amundsen and L. S. Nelson. Am Chem Soc J 73:242-4 Ja '51

Reductive methylation of amines. D. E. Pearson and J. D. Bruton. Am Chem Soc J 73:864 F '51

AMINES—*Continued*

Restricted rotation in aromatic amines; the effect of monosubstitution in the *ortho* position. R. Adams and A. S. Nagarkatti. Am Chem Soc J 72:4606-8 O '50

Restricted rotation in aryl amines; isopropyl derivatives of dibenzenesulfonamidomesitylene. R. Adams and K. Nelson. Am Chem Soc J 72:5077-9 N '50

Reversible oxidation-reduction reactions of aromatic amines. L. F. Oldfield and J. O. Bockris. bibliog diag J Phys & Colloid Chem 55:1255-74 O '51

Salts of Reinecke acid with certain simple amines. B. F. Aycock, E. J. Eisenbraun and R. W. Schrader. Am Chem Soc J 73:1351-2 Mr '51

Secondary amine salts of some thiophenols. G. F. Grillot and T. J. Brooks, jr. Am Chem Soc J 72:4281 S '50

Simple method for the preparation of tertiary amines. G. B. Butler and B. M. Benjamin. J Chem Educ 28:191 Ap '51

Steroid secondary amines. F. C. Uhle. Am Chem Soc J 73:883 F '51

Structure and amœbicidal activity; aliphatic diamines. D. M. Hall, S. Mahboob and E. E. Turner. Chem Soc J p 1842-5 Jl '50

Structure of some diamines prepared by the Mannich reaction. H. M. E. Cardwell. Chem Soc J p 1056-9 Ap '50

Studies in the azole series; the interaction of amines and 2-mercapto-4-alkylidene- or -arylidene-5-thiazolinones. A. H. Cook, G. D. Hunter and J. R. A. Pollock. Chem Soc J p 1892-8 Jl '50

Studies on phosphorylation; the reaction between organic bases and esters of the oxy-acids of phosphorus; an interpretation based on a comparison of certain aspects of the chemistry of sulphur and phosphorus. V. M. Clark and A. R. Todd. Chem Soc J p2023-30 Ag '50

Substituted amines as inhibitors in the acid corrosion of steel. L. E. Swearingen and A. F. Schram. bibliog J Phys & Colloid Chem 55:180-7 F '51

Synthesis of N-allylidene-alkylamines. C. B. Pollard and R. F. Parcell. bibliog Am Chem Soc J 73:2925-7 Je '51

Toxic effects of exposure to vapors of aliphatic amines. H. Brieger and W. A. Hodes. bibliog il A M A Archives Ind Hygiene & Occup Med 3:287-91 Mr '51

See also

Benzylamine
Ethanolamine
Methylamine
Phenylenediamine
Triamylamine

Analysis

Determination of hydroxy compounds in amine mixtures. S. Siggia and I. R. Kervenski. bibliog Anal Chem 23:117-18 Ja '51

Estimation of amino acids and amines on paper chromatograms. R. J. Block. bibliog il Anal Chem 22:1327-32 O '50

Identification and separation of amines employing beta-resorcylic acid. K. W. Wilson, F. E. Anderson and R. W. Donohoe. bibliog Anal Chem 23:1032-3 Jl '51

New derivative for the identification of primary aromatic amines. G. R. Lappin. bibliog J Chem Educ 28:126-7 Mr '51

Quantitative analysis of mixtures of primary, secondary, and tertiary aromatic amines. S. Siggia, J. G. Hanna and I. R. Kervenski. bibliog Anal Chem 22:1295-7 O '50

AMINO acids

Acid catalyzed cyclization of α-acylamino acids. J. L. O'Brien and C. Niemann. bibliog Am Chem Soc J 72:5348-9 N '50

Acid hydrolysis and the amino acid composition of sheep pituitary adrenocorticotropic hormone. Choh Hao Li. bibliog il Am Chem Soc J 73:4146-8 S '51

Adjuvant action of amino acids and peptides in fertilizin agglutination of starfish sperm. C. B. Metz and J. E. Donovan. Science 112:755-6 D 22 '50

Amides and amino acid derivatives of biotin. D. E. Wolf, J. Valiant and K. Folkers. Am Chem Soc J 73:4142-4 S '51

Amides and amino acid derivatives of biotin; microbiological studies. L. D. Wright, H. R. Skeggs and E. L. Cresson. bibliog Am Chem Soc J 73:4144-5 S '51

Amino acid constituents of prochromosomes isolated from blood cells of various animals. G. Yasuzumi and G. Miyao. bibliog Science 114:38-9 Jl 13 '51

Amino-acids and peptides; an examination of the use of carbobenzyloxy-L-glutamic anhydride in the synthesis of glutamyl-peptides. W. J. Le Quesne and G. T. Young. Chem Soc J p 1954-9 Jl '50

Amino-acids and peptides; synthesis of α- and γ-L-glutamyl-peptides by the azide route. W. J. Le Quesne and G. T. Young. Chem Soc J p 1959-63 Jl '50

Anhydro-*N*-carboxyamino-acids; a Friedel-Crafts type reaction. F. S. Statham. Chem Soc J p213-15 Ja '51

Application of ionography to the study of amino acids and proteins; abstract. H. J. McDonald and others. Chem & Eng N 29:3947-9 S 24 '51

Applications of amino acids and protein hydrolysates in the food industries. H. G. Rees. Chem & Ind sup S875-7 D 30 '50

Asymmetric enzymatic synthesis of amino acid anilides. N. F. Albertson. bibliog Am Chem Soc J 73:452-4 Ja '51

Chemical actions of ionising radiations on aqueous solutions; the action of X-rays on some amino-acids. G. Stein and J. Weiss. Chem Soc J p3256-63 D '49

Chemistry of extractives from hardwoods; baikiain, an amino-acid present in baikiaea plurijuga. F. E. King, T. J. King and A. J. Warwick. Chem Soc J p3590-7 D '50

Chemistry of reductone; some condensation products of reductone with amino-compounds. W. Cocker and others. Chem Soc J p2052-8 Ag '50

Corkscrews and pleated sheets. L. Pauling and R. B. Corey. Sci Am 185:32+ Ag '51

Cyanoethylation of α-amino acids; dicyanoethyl and tricyanoethyl derivatives. L. L. McKinney and others. Am Chem Soc J 73:1641-4 Ap '51

Deamination of amino-acids by nitrous acid with particular reference to glycine; the chemistry underlying the Van Slyke determination of α-amino-acids. A. T. Austin. diag Chem Soc J p 149-57 Ja '50

Degradation of α-amino-acids to aldehydes and ketones by interaction with carbonyl compounds. R. Moubasher. Chem Soc J p 1928 Jl '51

Destruction of amino acids during filter paper chromatography. M. K. Brush and others. bibliog il Science 113:4-6 Ja 5 '51

Dibasic aminoacids based on *p*-chloromethylbenzoyl chloride. W. S. Emerson and R. A. Heimsch. Am Chem Soc J 73:1299-300 Mr '51

Enzymatic resolution of some higher α-amino acids and preparation of optically active α-hydroxy acids. C. G. Baker and A. Meister. bibliog Am Chem Soc J 73:1336-8 Mr '51

Enzymic synthesis of peptide bonds; the relative effects of some amino acids and their acyl substituents. S. W. Fox and H. Wax. bibliog Am Chem Soc J 72:5087-90 N '50

Extent of dissociation of salts in water; calcium salts of some amino-acids and dipeptides. C. W. Davies and G. M. Waind. Chem Soc J p301-3 Ja '50

Free amino acids in potato tubers altered by 2,4-D treatment of plants. M. G. Payne and others. bibliog Science 114:204-5 Ag 24 '51

Hygroscopicity of amino acids and its relationship to the vapor phase water absorption of proteins. E. F. Mellon and S. R. Hoover. bibliog Am Chem Soc J 73:3879-82 Ag '51

Ionization of amino acids in the solvent sulfuric acid. J. L. O'Brien and C. Niemann. bibliog Am Chem Soc J 73:4264-7 S '51

Liberation of amino acids by mild acid hydrolysis of hog blood group A and O substances. H. Van Vunakis and E. A. Kabat. Am Chem Soc J 73:2977-8 Je '51

N-Substituted amino-acids. R. E. Bowman and H. H. Stroud. Chem Soc J p 1342-51 My '50

Nitrogenous compounds in sugar beet juices. R. J. Brown. bibliog Ind & Eng Chem 43:610-14 Mr '51

Peptide syntheses. T. Wieland. Chem Age (Lond) 64:233-5 F 10 '51

AMINO acids—*Continued*

Photochemistry of proteins; a contribution to the photochemistry of amino acids. I. Mandl and A. D. McLaren. bibliog Am Chem Soc J 73:1826-9 Ap '51

Prolongation of the fertilizing capacity of sea-urchin spermatozoa by amino acids. A. Tyler and E. Atkinson. bibliog Science 112: 783-5 D 29 '50

Reaction of 1,3-dichloro-2,4,6-trinitrobenzene with amino acids. H. Feuer, G. B. Bachman and J. P. Kispersky. Am Chem Soc J 73:3575-7 Ag '51

Reaction of α-dimethylaminoacids with acetic anhydride. J. A. King and F. H. McMillan. bibliog Am Chem Soc J 73:4451-3 S '51

Recent developments in the synthesis of the amino-acids. R. O. Atkinson and others. bibliog Chem & Ind p 118-22 F 17 '51

Resolution of amino acids. L. R. Overby, A. W. Ingersoll and W. A. H. Huffman. bibliog Am Chem Soc J 73:3363-9 Jl '51

Separation of α-amino acids on powdered cellulose columns. S. Blackburn. Chem & Ind p294-5 Ap 14 '51

Separation of lanthanons by means of complexes with amino-acids. R. C. Vickery. Chem Soc J p2058-61 Ag '50

Some aspects of the microbiological assay of amino acids. E. C. Barton-Wright. bibliog Chem & Ind sup S845-8 D 30 '50

Stimulation by the adenylic acid system of amino incorporation into protein of liver granules. E. A. Peterson, T. Winnick and D. M. Greenberg. Am Chem Soc J 73:503-4 Ja '51

Studies on amino acids; the synthesis of 3-hydroxykynurenine. M. Kotake, T. Sakan and S. Senoh. bibliog Am Chem Soc J 73: 1832-4 Ap '51

Studies on amino acids; the synthesis of α-hydroxytryptophan. M. Kotake, T. Sakan and T. Miwa. bibliog Am Chem Soc J 72: 5085-7 N '50

Studies on antipodes; observations on D-amino acids and on casein derivatives containing D-amino acid residues. S. W. Fox and Y. Kobayashi. bibliog Am Chem Soc J 73:353-5 Ja '51

Synthesis of naphthyl carbonate derivatives of amino acids as chromogenic substrates for carboxypeptidase. G. Wolf and A. M. Seligman. bibliog Am Chem Soc J 73:2080-2 My '51

Synthesis of simple peptides from anhydro-*N*-carboxyamino-acids. J. L. Bailey. Chem Soc J p3461-6 D '50

Teaching amino acid formulation. A. R. Patton. il J Chem Educ 28:471 S '51

Terminal amino acid residue of lysozyme as determined with 2,4-dinitrofluorobenzene. F. C. Green and W. A. Schroeder. Am Chem Soc J 73:1385 Mr '51

See also

Cystine

Ethylenediamine tetraacetic acid

Lysine

Analysis

Actinomycin; amino-acid content. C. E. Dalgliesh and others. Chem Soc J p2946-52 N '50

Amino acid analysis. G. R. Tristram. bibliog Chem & Ind sup S868-73 D 30 '50

Amino-acid separations by use of a strong-base resin. C. W. Davies, R. B. Hughes and S. M. Partridge. Chem Soc J p2285-7 S '50

Amino-acids and peptides; the solubility criterion of chemical purity with special reference to amino-acids; the use of differential vapour-pressure measurements. I. W. Hughes, E. W. Williams and G. T. Young. diags Chem Soc J p 1279-81 My '51

Amino-acids and peptides; the solubility criterion of chemical purity with special reference to amino-acids; the use of refractive-index measurements. E. W. Williams and G. T. Young. diags Chem Soc J p 1745-6 Jl '51

Buffered filter paper chromatography of the amino acids. E. F. McFarren. bibliog il Anal Chem 23:168-74 Ja '51

Chromatographic separation of amino sugars and amino acids, using the N-(2:4-dinitrophenyl) derivatives. P. W. Kent and others. bibliog Science 113:354-5 Mr 30 '51

Estimation of amino acids and amines on paper chromatograms. R. J. Block. bibliog il Anal Chem 22:1327-32 O '50

Folin colorimetric procedure for amino acids. N. H. Furman, G. H. Morrison and A. F. Wagner. bibliog Anal Chem 22:1561-2 D '50

Microbiological method for the determination of sequences of amino acid residues. S. W. Fox, T. L. Hurst and K. F. Itschner. bibliog Am Chem Soc J 73:3573-5 Ag '51

Paper chromatographic identification of the amino acids of glutathione. F. Lionetti. J Chem Educ 28:152-3 Mr '51

Paper chromatography of amino acids; effect of pH of sample. A. J. Landua, R. Fuerst and J. Awapara. il Anal Chem 23:162-8 Ja '51

Quantitative microdetermination of amino acids after paper chromatography. A. Pereira and J. A. Serra. bibliog Science 113:387-8 Ap 6 '51

Resolution into optical isomers of some amino acids by paper chromatography. M. Kotake and others. Am Chem Soc J 73: 2973-4 Je '51

Scheme for the qualitative identification of amino acids. M. S. Dunn and W. Drell. bibliog J Chem Educ 28:480-4 S '51

Small scale filter paper chromatography; filter papers and solvents. L. B. Rockland, J. L. Blatt and M. S. Dunn. bibliog il Anal Chem 23:1142-6 Ag '51

Techniques and reagents for paper chromatography. G. Toennies and J. J. Kolb. il Anal Chem 23:823-6 Je '51

AMINOACRIDINE

Some *meso*-amino-acridines and -quinolines derived from 2-aminodiphenyl. J. H. Wilkinson. Chem Soc J p464-8 F '50

AMINOADIPIC acid

New synthesis of α-aminoadipic acid. T. P. Waalkes, W. S. Fones and J. White. bibliog Am Chem Soc J 72:5760 D '50

AMINO alcohols. See Alcohols

AMINOAZO compounds. See Azo compounds

AMINOBENZOIC acid

Pharmaceutical uses for para-aminobenzoic acid. Chem Age (Lond) 63:867 D 23 '50

Roentgen irradiation of para-aminobenzoic acid solutions. P. G. Mar and I. C. C. Tchaperoff. bibliog Science 113:549-51 My 11 '51

AMINOBENZOPHENONE

Dissociation constants of 4-aminobenzophenone calculated from ultraviolet spectra at several temperatures. E. E. Sager and I. J. Siewers. bibliog J Res Nat Bur Stand 45:489-96 D '50

AMINOBENZOTRIFLUORIDE. See Trifluorotoluidine

AMINOBENZOYLGLUTAMINE

Synthesis of *N-p*-aminobenzoyl-DL- and -L-glutamine and -DL-*iso*glutamine. F. E. King and P. C. Spensley. Chem Soc J p3159-62 N '50

AMINO compounds

Absorption spectra of some N-substituted *p*-aminotriphenylmethyl ions. H. Walba and G. E. K. Branch. Am Chem Soc J 73:3341-8 Jl '51

Amino derivatives of 2,2-diphenylcyclohexanone. A. Burger and W. B. Bennet. Am Chem Soc J 72:5414-15 D '50

Amino derivatives of 5-keto-1,3,4,5-tetrahydrobenz[cd]indole. F. C. Uhle. Am Chem Soc J 73:2402-3 My '51

Analogs of pteroylglutamic acid; 2-akylamino derivatives. B. Roth, J. M. Smith, jr. and M. E. Hultquist. bibliog Am Chem Soc J 73:2864-8 Je '51

Arylaminoheterocycles; trisubstituted pyrimidines. M.-J. Langerman and C. K. Banks. Am Chem Soc J 73:3011-12 Jl '51

Carboxy derivatives of benzylpenicillin. R. P. Holysz and H. E. Stavely. Am Chem Soc J 72:4760-3 O '50

Chemical interactions of amino compounds and sugars; comparative studies with D-xylose and 2-furaldehyde. T. Tan, M. L. Wolfrom and A. W. Langer, jr. bibliog Am Chem Soc J 72:5090-5 N '50

Cyanuric chloride derivatives; amino-chloro-*s*-triazines. J. T. Thurston and others. bibliog Am Chem Soc J 73:2981-3 Jl '51

AMINO compounds—*Continued*

Factors interfering with the Oppenauer oxidation of amino alcohols. R. E. Lutz, R. H. Jordan and W. L. Truett. bibliog Am Chem Soc J 72:4085-9 S '50

α-Hydroxy-β-amino ketones and derivatives. N. H. Cromwell and N. G. Barker. Am Chem Soc J 72:4110-12 S '50

New 5-aminoglyoxalines as potential adrenergic agents. H. Bader, J. D. Downer and Mrs P. Driver. Chem Soc J p2775-84 O '50

β-Nitrosulfides and β-aminosulfides. W. E. Parham and F. L. Ramp. Am Chem Soc J 73:1293-5 Mr '51

Potential trypanocides of the *N*-heterocyclic series; structural conditions for activity against trypanosoma cruzi in the phenanthridine series. L. P. Walls. Chem Soc J p3511-16 D '50

Some amino-derivatives of borine. G. E. Coates. Chem Soc J p3481-3 D '50

Some five-membered ring α-aminoketones. N. J. Leonard and others. Am Chem Soc J 73:2371-3 My '51

Synthesis of substituted penicillins and simpler structural analogs; alpha amino monocyclic β-lactams. J. C. Sheehan and J. J. Ryan. Am Chem Soc J 73:1204-6 Mr '51

See also

Ethanolamine

AMINOCOUMARIN

Heterocyclic basic compounds; 4-aminocoumarin derivatives. D. P. Spalding, H. S. Mosher and F. C. Whitmore. Am Chem Soc J 72:5338-9 N '50

AMINOCYCLANOLS. See Aminocycloalkanols

AMINOCYCLOALKANOLS

Heterocyclization of epimeric aminocyclanols. G. E. McCasland and E. C. Horswill. bibliog Am Chem Soc J 73:3744-6, 3923-6 Ag '51

AMINOCYCLOHEXANOL

Pinacolic rearrangements of epimeric aminocyclanols. G. E. McCasland. bibliog Am Chem Soc J 73:2293-5 My '51

AMINOCYCLOHEXYL methane

Alicyclic diamines; the geometric isomers of bis-(4-aminocyclohexyl)-methane. A. E. Barkdoll, H. W. Gray and W. Kirk, jr. bibliog Am Chem Soc J 73:741-6 F '51

AMINODIHYDROXYBENZOIC acid

4-Aminosalicylic acid and its derivatives; the synthesis of 4-amino-2 : 5- and 4-amino-2 : 3-dihydroxybenzoic acid. S. C. Bhattacharyya and D. E. Seymour. Chem Soc J p 1139-40 Ap '50

AMINODIMETHYLANILINE

p-Aminodimethylaniline; the effect of substituents on the azo-coupling efficiency of the diazonium compounds. J. H. Gorvin. Chem Soc J p 1697-700 Jl '51

p-Aminodimethylaniline; the effect of substituents on the stability and mode of decomposition of the diazonium compounds. J. H. Gorvin. Chem Soc J p 1693-7 Jl '51

AMINODIPHENYL

Some *meso*-amino-acridines and -quinolines derived from 2-aminodiphenyl. J. H. Wilkinson. Chem Soc J p464-8 F '50

AMINOETHANOL. See Ethanolamine

AMINOETHYLMORPHOLINE

N-(β-aminoethyl)-morpholine as a reagent for the characterization of esters. R. W. Bost and L. V. Mullen, jr. Am Chem Soc J 73:1967-8 My '51

AMINOFLUORENONE

Syntheses of some derivatives of 4-aza- and of 2 : 4-diaza-fluoranthene. J. W. Cook and J. S. Moffatt. Chem Soc J p 1160-70 Ap '50

AMINOFLUOROBENZENE

Synthesis of 2-diethylaminomethyl-4-(7-chloro-4-quinolyl)-aminofluorobenzene dihydrobromide. A. Sveinbjornsson and C. A. VanderWerf. Am Chem Soc J 73:1378-9 Mr '51

AMINOGLUTARAMIC acid. See Glutamine

AMINO group

Absorption spectra of some phenyl sulfides, sulfoxides and sulfones containing nitro and amino groups. H. H. Szmant and J. J. McIntosh. bibliog Am Chem Soc J 73:4356-9 S '51

Pteridines: replacement reactions of amino, hydroxyl and mercapto groups in the pteridine series. E. C. Taylor, jr. and C. K. Cain. Am Chem Soc J 73:4384-7 S '51

AMINOGUANIDINE

Oxidation of di- and triaminoguanidine with potassium iodate. G. I. Keim, R. A. Henry and G. B. L. Smith. bibliog Am Chem Soc J 72:4944-6 N '50

Preparation of the polyaminoguanidines. T. E. O'Connor, K. Horgan and J. Reilly. bibliog J Ap Chem 1:91-2 F '51

Reaction of nitrous acid with diaminoguanidine in acetic acid media; isolation and structure proof of reaction products. E. Lieber and D. R. Levering. bibliog Am Chem Soc J 73:1313-17 Mr '51

AMINOHYDROXYBENZOIC acid

Derivatives of 4-amino-2-hydroxybenzoic acid. R. O. Clinton and others. Am Chem Soc J 73:3674-81 Ag '51

AMINOHYDROXYBUTYRIC acid

Preparation of L-threonine; interconversion of the four stereoisomeric α-amino-β-hydroxybutyric acids. D. F. Elliot. Chem Soc J p62-8 Ja '50

Rate of absorption of and the formation of glycogen by DL-homoserine as compared with DL-alanine. W. J. Wingo and R. A. Smith. Am Chem Soc J 73:2967-8 Je '51

AMINOHYDROXYCAPROIC acid

Synthesis of D- and L-*threo*- and D- and L-*erythro*-α-amino-β-hydroxy-*n*-caproic acid. R. T. Adams and C. Niemann. bibliog Am Chem Soc J 73:4260-3 S '51

AMINOHYDROXYMETHYLPTERIDINE

Pteridines; unambiguous syntheses of xanthopterin and 2-amino-4-hydroxy-6-methylpteridine. W. R. Boon and T. Leigh. Chem Soc J p 1497-501 Je '51

AMINOHYDROXYNAPHTHOIC acid

Aminohydroxynaphthoic acids; attempted synthesis of 7-amino-4-hydroxy-2-naphthoic acid (carboxy J-acid) from 3-amino-2-naphthoic acid. W. F. Beech and N. Legg. Chem Soc J p961-6 Mr '50

AMINOHYDROXYPTERIDINE carboxaldehyde

2-Amino-4-hydroxy-6-pteridinecarboxaldehyde. C. W. Waller and others. bibliog Am Chem Soc J 72:4630-3 O '50

AMINOIMIDAZOLECARBOXAMIDE

C^{14} labeled 4(5)-amino-5(4)-imidazole-carboxamide in the biosynthesis of purines. C. S. Miller and others. bibliog Science 112:654-5 D 1 '50

AMINOINDANOL

Further studies on the stability of β-hydroxyethylamines toward the Oppenauer oxidation; *cis*- and *trans*-1-amino-2-indanols. R. E. Lutz and R. L. Wayland, jr. bibliog Am Chem Soc J 73:1639-41 Ap '51

AMINOISOQUINOLINE

Preparation of 3-aminoisoquinoline and related compounds. C. E. Teague, jr. and A. Roe. Am Chem Soc J 73:688-9 F '51

AMINOLYSIS. See Ammonolysis

AMINOMETHANE. See Methyl amine

AMINONAPHTHOLS

Preparation of some aminonaphthol derivatives. F. Kurzer. Chem Soc J p3434-5 D '49

Recovery of organic materials from cobalt 1-nitroso-2-naphtholate. A. D. Dargaville, D. L. Ingels and J. B. Polya. J Ap Chem 1:345-6 Ag '51

AMINONAPHTHOLSULFONIC acid

Aminohydroxynaphthoic acids; attempted synthesis of 7-amino-4-hydroxy-2-naphthoic acid (carboxy J-acid) from 3-amino-2-naphthoic acid. W. F. Beech and N. Legg. Chem Soc J p961-6 Mr '50

AMINONITRILES

Pyrazine derivatives; synthesis of 2-aminopyrazine 1-oxides by the condensation of α-amino-nitriles with oximinomethyl ketones. W. Sharp and F. S. Spring. Chem Soc J p932-4 Ap '51

AMINOOCTANE

Optical properties of 2-amino-*n*-octane, 2-dimethylamino-*n*-octane, and trimethyl-2-*n*-octylammonium iodide. F. G. Mann and J. Reid. Chem Soc J p3384-6 D '50

AMINOPHENOLS

Migrations of acyl groups in aminoethanols; analogy with mixed diacyl *o*-aminophenols. A. P. Phillips and A. Maggiolo. bibliog Am Chem Soc J 72:4920-2 N '50

Reaction of benzyl methyl ketone with *o*-aminophenol, *o*-aminobenzenethiol and 1,8-naphthalenediamine. F. J. Kreysa and others. bibliog Am Chem Soc J 73:1155-6 Mr '51

AMINOPROPANE

Amidone; some isomeric chlorodialkylaminopropanes and their reaction with diphenylmethyl cyanide. P. Ofner. Chem Soc J p 1800-3 Jl '51

AMINOPROPANEDIOL

Synthesis of 3-amino-1,2-propanediol and 2,3-diamino-1-propanol. R. C. Schreyer. Am Chem Soc J 73:4404-5 S '51

AMINOPROPYNE

Condensation of acetylenes with esters; 3-dialkylamino-propynes with alkyl carbonates and alkyl benzoates and phenylacetylene with methyl oxalate. W. J. Croxall, J. O. Van Hook and H. J. Schneider. Am Chem Soc J 73:2713-16 Je '51

AMINOPURINE. See Adenine

AMINOPYRIDINE

4-Aminopyridine. A. Albert. Chem Soc J p 1376 My '51

α-Amino-γ-2-pyridinebutyric acid. J. H. Burckhalter and V. C. Stephens. Am Chem Soc J 73:4460-1 S '51

Oxidation of aminopyridines to nitropyridines. R. H. Wiley and J. L. Hartman. Am Chem Soc J 73:494 Ja '51

AMINOPYRIMIDINE

New synthesis and the chemical properties of 5-aminopyrimidine. N. Whittaker. Chem Soc J p 1565-70 Je '51

Synthesis of 2-methyl-4-amino-6-substituted aminopyrimidines. A. Maggiolo, A. P. Phillips and G. H. Hitchings. Am Chem Soc J 73:106-7 Ja '51

Synthesis of 2-sulfanilamido-5-aminopyrimidine. W. T. Caldwell. Am Chem Soc J 73:2357 My '51

AMINOQUINOLINE

Quinolinequinones; quinones and hydroquinones related to pentaquine. N. L. Drake and Y. T. Pratt. bibliog Am Chem Soc J 73:544-50 F '51

Some *meso*-amino-acridines and -quinolines derived from 2-aminodiphenyl. J. H. Wilkinson. Chem Soc J p464-8 F '50

Synthesis of 8-(5-hydroxyamylamino)-6-methoxyquinoline; a new method of preparation of pentaquin and its analogs. M. B. Green. bibliog Am Chem Soc J 73:986-90 Mr '51

Synthesis of some 3-nitro- and 3-amino-4-dialkylaminoalkylaminoquinoline derivatives. A. R. Surrey and R. A. Cutler. bibliog Am Chem Soc J 73:2413-16 Je '51

Synthetic antimalarials; some 4-dialkylaminoalkylaminoquinoline derivatives. J. K. Landquist. Chem Soc J p 1038-48 Ap '51

AMINOSALICYLIC acid

4-Aminosalicylic acid and its derivatives; the synthesis of 4-amino-2 : 5- and 4- amino-2 : 3-dihydroxybenzoic acid. S. C. Bhattacharyya and D. E. Seymour. Chem Soc J p 1139-40 Ap '50

Effect of PAS on the emergence of tubercle bacilli resistant to streptomycin. Pub Health Rep 66:863-72 Jl 6 '51

Enhancement of the action of streptomycin. R. J. W. Rees and J. M. Robson. bibliog Science 112:790-1 D 29 '50

PAS up, TB down; new medicinal use spurs production of previously obscure phenolic derivative. Chem Ind 67:715 N '50

Some derivatives of 4-amino-2-hydroxybenzoic acid (*p*-aminosalicylic acid). L. Doub and others. bibliog Am Chem Soc J 73:903-6 Mr '51

AMINOTHIAZOLE

Studies on condensed pyrimidine systems; some 2-aminothiazolo[4,5-d]-pyrimidines. A. Maggiolo and G. H. Hitchings. bibliog Am Chem Soc J 73:4426-8 S '51

Synthesis and properties of 2 : 4-diaminothiazoles. W. Davies, J. A. Maclaren and L. R. Wilkinson. Chem Soc J p3491-4 D '50

AMINOTOLUENE. See Toluidine

AMINOTROPOLONE

p-Aminotropolone. T. Nozoe and others. bibliog Am Chem Soc J 73:1895 Ap '51

New type of aromatization by the diazotization of *o*-aminotropolone derivatives. T. Nozoe, Y. Kitahara and K. Doi. bibliog Am Chem Soc J 73:1895-6 Ap '51

AMINOURACIL

Some 5-substituted aminouracils. A. P. Phillips. Am Chem Soc J 73:1061-2 Mr '51

AMITHIOZONE. See Acetylaminobenzaldehyde thiosemicarbazone

AMMATE. See Ammonium sulfamate

AMMETERS

Ammeter aids in freezer performance. diags Food Eng 23:9+ Jl '51

Electrodynamic ammeter for very-high frequencies. Franklin Inst J 250:555-6 D '50

Electrodynamic ammeter; work of P. C. Michel. H. R. Meahl. Electronics 24:262+ Ja '51

Resistance measurements; special methods for microammeters and galvanometers. diags Electrician 146:709-10 Mr 2 '51

Shunts in parallel. G. W. Stubbings. diag Electrician 146:1301-2 Ap 20 '51

Voltmeter-ammeter for determining characteristics of nonlinear devices. F. J. Lingel. il diags Electronics 24:240+ Mr '51

Testing

Calibration of a.c. instruments. F. A. Benson. diags Electrician 146:1118, 1535 Ap 6, My 4 '51

New calibrating equipment for a-c and d-c ammeters. S. C. Richardson and W. J. Maxwell. il Gen Elec R 54:26-9 Ap '51

AMMONIA

Action of ammonia and amines on 1,4-dichloro-2-butene. L. H. Amundsen and others. Am Chem Soc J 73:2118-21 My '51

Action of ammonia on β-benzoylacrylic acid. M. M. Fraser and R. A. Raphael. Chem Soc J p2245-6 Ag '50

Action of liquid ammonia solutions of potassium and potassium amide upon iron(II) bromide. G. W. Watt and W. A. Jenkins, jr. Am Chem Soc J 73:3275-6 Jl '51

Alkali metal phosphides; reaction of alkali metals and white phosphorus in liquid ammonia. E. C. Evers. bibliog Am Chem Soc J 73:2038-40 My '51

Ammonia base in the neutral sulphite semichemical pulping process. R. M. Jones and T. E. Detcher. il Tappi 34:sup88A+ Ag '51

Ammonia-base sulphite pulping liquors; their preparation and analysis. F. F. Bishop and J. F. Honstead. bibliog flow diag Tappi 34:318-23 Jl '51

Ammonia condensing cycle. E. R. Michel. il Refrig Eng 58:1173+ D '50

Ammonia controls corrosion of oil field equipment. il Safety Maint & Prod 101:21+ Ja '51

Ammonia decomposition and related phenomena on rhenium catalysts. J. P. McGeer and H. S. Taylor. bibliog Am Chem Soc J 73:2743-51 Je '51

Ammonia spill in a large plate ice-making system. H. C. Welch. diag Power 95:115 S '51

Commercial sulphite production experience with ammonia-base acid. L. A. LaFond and W. F. Holzer. bibliog il Tappi 34:241-7 Je '51

Compound fertilizers from rock phosphate, nitric and phosphoric acids, and ammonia. E. C. Houston, T. P. Hignett and R. E. Dunn. flow diag diag Ind & Eng Chem 43:2413-18 O '51

Copper with ammonia and chlorine in finished water. M. C. Smith. Am Water Works Assn J 43:763-9 S '51

Crops call for ammonia. Chem W 69:9-10 Jl 28 '51

Dehydrobromination of α,β-dibromohydrocinnamic acid in liquid ammonia. R. V. Paulson and W. S. MacGregor. bibliog Am Chem Soc J 73:679-81 F '51

Empirical formula for the microwave spectrum of ammonia. C. C. Costain. bibliog Phys R 82:108 Ap 1 '51

Graphical correlation of physical properties of a ternary system; vapor pressure and specific gravity for ammonia-ammonium nitrate-water. B. H. Sanders and D. A. Young. bibliog Ind & Eng Chem 43:1430-3 Je '51

Haber in reverse; to supply hydrogen. Chem Ind 67:575 O '50

High intensity source for the molecular beam; experimental. G. B. Kistiakowsky and W. P. Slichter. il diag R Sci Instr 22:333-7 My '51

Intermolecular forces in benzene and ammonia. V. Myers. bibliog J Chem Phys 18:1442-4 N '50

AMMONIA—*Continued*

Kinetics of the ammonia-deuterium exchange by a microwave method. J. Weber and K. J. Laidler. J Chem Phys 19:381-2 Mr '51

Metallic aluminum in solution in liquid ammonia. A. D. McElroy, J. Kleinberg and A. W. Davidson. diag Am Chem Soc J 72: 5178-80 N '50

Methylation and ethylation of corn starch, amylose and amylopectin in liquid ammonia. J. E. Hodge, S. A. Karjala and G. E. Hilbert. bibliog Am Chem Soc J 73:3312-16 Jl '51

Microwave collision diameters and associated quadrupole moments. R. M. Hill and W. V. Smith. Phys R 82:451 My 1 '51

Microwave measurements of the dielectric properties of gases. G. Birnbaum and others. bibliog il diag J Ap Phys 22:95-102 Ja '51

Microwave spectra of deutero-ammonias. H. Lyons and others. Phys R 81:630-1 F 15 '51

Microwave spectra of the deutero-ammonias. M. T. Weiss and M. W. P. Strandberg. bibliog Phys R 83:567-75 Ag 1 '51

Mysterious ammonia explosions. T. R. Hughes. il Refrig Eng 59:859-62+ S '51

Nuclear spin relaxation studies in dilute sodium-liquid ammonia solutions. R. Newman and R. A. Ogg, jr. bibliog J Chem Phys 19: 214-17 F '51

Oxidation of lithium and the alkaline earth metals in liquid ammonia. J. K. Thompson and J. Kleinberg. Am Chem Soc J 73:1243-5 Mr '51

Paramagnetic resonance absorption in potassium dissolved in liquid ammonia. C. A. Hutchison, jr. and R. C. Pastor. bibliog Phys R 81:282 Ja 15 '51

Paramagnetic resonance in metal ammonia solutions at very low fields. M. A. Garstens and A. H. Ryan. Phys R 81:888 Mr 1 '51

Polarographic investigations of reactions in aqueous solutions containing copper and cysteine (cystine). W. Stricks and I. M. Kolthoff. bibliog Am Chem Soc J 73:1723-33 Ap '51

Polarography in liquid ammonia; the polarography of thallium(I), copper(II), and ammonium ions and of molecular oxygen. H. A. Laitinen and C. E. Shoemaker bibliog Am Chem Soc J 72:4975-7 N '50

Potentiometric titrations involving solutions of metals in liquid ammonia. G. W. Watt and J. B. Otto, jr. bibliog diags Electrochem Soc J 98:1-8 Ja '51

Pressure broadening in the microwave spectrum of ammonia. C. A. Potter and others. diags Phys R 83:987-9 S 1 '51

Pressure broadening of an ammonia inversion line for foreign gases. J. Weber. bibliog Phys R 83:1058-9 S 1 '51

Pressure broadening of the ammonia inversion line by foreign gases; quadrupole-induced dipole interactions. P. W. Anderson. diags Phys R 80:511-13 N 15 '50

Production of hydrazine by the reaction of chlorine with anhydrous ammonia. R. Mattair and H. H. Sisler. diags Am Chem Soc J 73:1619-22 Ap '51

β-Propiolactone; reactions with ammonia and amines. T. L. Gresham and others. Am Chem Soc J 73:3168-71 Jl '51

Rate equation of ammonia-synthesis on iron-type catalysts of different composition. R. Brill. bibliog J Chem Phys 19:1047-50 Ag '51

Reaction of phenylpyruvic acid and related compounds with ammonia. A. Galat. bibliog Am Chem Soc J 72:4436-9 O '50

Reactions between alkali superoxides and some alkaline earth nitrates in liquid ammonia. E. Seyb, jr. and J. Kleinberg. diag Am Chem Soc J 73:2308-9 My '51

Reduction by dissolving metals; the reactivity of mesomeric anions in relation to the reduction of benzene rings. A. J. Birch. Chem Soc J p 1551-6 Je '50

Reduction of allylamines with sodium in liquid ammonia. T. J. King. Chem Soc J p898-900 Ap '51

Reduction of certain halogenated nitroparaffins by liquid ammonia; brompicrin. E. Schulz, S. Meisel and F. C. Schmidt. Am Chem Soc J 73:2962 Je '51

Some aspects of reactions between ammonia and mercury(I) compounds. S. D. Arora, W. W. Lipscomb and M. C. Sneed. Am Chem Soc J 73:1015-18 Mr '51

Stark effect of the ammonia inversion spectrum. D. K. Coles and others. bibliog Phys R 82:877-8 Je 15 '51

Studies relating to boron; some reactions of the aliphatic boranes with alkali metals in liquid ammonia and ethylamine. J. E. Smith and C. A. Kraus. Am Chem Soc J 73:2751-4 Je '51

Temperature-pressure-concentration chart for ammonia-water solutions. W. L. Bulkley and R. H. Swartz. Refrig Eng 59:660-2 Jl '51

Thermal stability of the chromium, iron, and tungsten borides in streaming ammonia and the existence of a new tungsten nitride. R. Kiessling and Y. H. Liu. bibliog J Metals 3:Trans 639-42 Ag '51

Vibrational spectra of molecules and complex ions in crystals; ammonia and deutero-ammonia. F. P. Reding and D. F. Hornig. bibliog J Chem Phys 19:594-601 My '51

Advertising

Ads stressing uses of ammonia click. R. B. McIntyre. Ed & Pub 84:18+ Jl 28 '51

Analysis

Determinations of small amounts of ammonia in the presence of hydrazine. E. F. Wiebke. bibliog Anal Chem 23:922-3 Je '51

Micro-determination of nitrogen as ammonia by the diffusion technique. H. Naylor. diags Textile Inst J Trans 42:T300-8 Jl-Ag '51

Separation and determination of ammonia in methylamine mixtures. J. L. Gove, H. Baum and E. L. Stanley. bibliog Anal Chem 23: 721-4 My '51

Vapor diffusion methods in qualitative and quantitative analysis. H. Hughes. diags J Chem Educ 28:195-7 Ap '51

Manufacture

Ammonia fertilizers from wood waste. J. Risi. flow sheet il Can Chem & Process Ind 34: 972-4 D '50

Ammonia plant completed, Dow mushrooming Texas operations. il Chem Eng 57:216 N '50

Anhydrous ammonia; pictured flow sheet. Chem Eng 58:174-7 Ag '51

Army vs. justice; Morgantown, W. Va. synthetic ammonia plant. Chem W 69:7-8 Ag 25 '51

Economics of ammonia production in the Southwest; Ozark ordnance works at El Dorado, Ark. R. C. Tallman. il Ind & Eng Chem 43:1753-4 Ag '51

Fertilizer from petroleum. G. W. McCullough and others. flow diags map Pet Processing 6:380-7 Ap '51

Formation of metallic hydrides and nitrides and their significance in the synthesis of ammonia. A. Soliman. bibliog J Ap Chem 1:98-104 Mr '51

Instrumentation of an ammonia plant. P. Hart and R. C. King. diags Instruments 24: 158+ F '51

Latest in coal gasification; French process produces ammonia, methanol, or hydrocarbon synthesis gas. diags Chem Eng 58:263-4+ S '51

Materials of construction report. il Chem Eng 57:110-13 N '50

AMMONIA compressors

Multicylinder high speed ammonia compressors, pros and cons. L. Buehler, jr. il Refrig Eng 59:459-63+ My '51; Discussion. 59:668-9+ Jl '51

Why soft drink was weak. O. L. Brage. diags Power 95:118-19 Ag '51

AMMONITES. See Ammonoidea

AMMONIUM

Nitration in sulphuric acid; nitration of the trimethyl-*p*-tolylammonium ion in 75-85 per cent sulphuric acid. G. Williams and A. M. Lowen. Chem Soc J p3312-18 N '50

Polarography in liquid ammonia; the polarography of thallium(I), copper(II), and ammonium ions and of molecular oxygen. H. A. Laitinen and C. E. Shoemaker. bibliog Am Chem Soc J 72:4975-7 N '50

AMMONIUM acetate

Kinetics of the ammonium acetate-catalyzed condensation of vanillin and nitromethane. T. I. Crowell and F. A. Ramirez. bibliog Am Chem Soc J 73:2268-70 My '51

Low-temperature conductance and viscosity of concentrated solutions of ammonium formate and ammonium acetate in some mixed solvents. L. R. Dawson and others. J Phys & Colloid Chem 55:422-8 Mr '51

AMMONIUM alginate

Creaming latex with ammonium alginate; influence of particle size. E. Schmidt and R. H. Kelsey. bibliog il Ind & Eng Chem 43:406-12 F '51

AMMONIUM amalgam. See Amalgams

AMMONIUM aurin tricarboxylate

Colorimetric determination of aluminium in water using ammonium aurin tricarboxylate. A. C. Rolfe, F. R. Russell and N. T. Wilkinson. bibliog diag J Ap Chem 1:170-8 Ap '51

AMMONIUM bromide

Nature of the second-order transition in ND_4Br. H. A. Levy and S. W. Peterson. Phys R 83:1270-1 S 15 '51

Studies of gradual transitions in mixed crystals; the system ammonium chloride-ammonium bromide. C. J. Mandleberg and L. A. K. Staveley. diag Chem Soc J p2736-43 O '50

AMMONIUM chloride

Effect of particle size and deuterium substitution on the λ-point in ammonium chloride. D. G. Thomas and L. A. K. Staveley. diag Chem Soc J p 1420-5 Je '51

Structure of ammonium chloride by neutron diffraction. G. H. Goldschmidt and D. G. Hurst. bibliog diag Phys R 83:88-94 Jl 1 '51

Studies of gradual transitions in mixed crystals; the system ammonium chloride-ammonium bromide. C. J. Mandleberg and L. A. K. Staveley. diag Chem Soc J p2736-43 O '50

See also

Dodecylammonium chloride

AMMONIUM compounds

Alkylation of Grignard reagents by quaternary ammonium salts; a novel synthesis of 1,3-dialkylindoles. H. R. Snyder, E. L. Eliel and R. E. Carnahan. bibliog Am Chem Soc J 73:970-3 Mr '51

Applications of the Eastman thermocell equation; certain absolute ionic entropies and entropies of transfer of alkali metal and tetraalkylammonium bromides and hydroxides. J. C. Goodrich and others. bibliog diags Am Chem Soc J 72:4411-18 O '50

Bolaform electrolytes; conductance of 1,3-, 1,4- and 1,5-di-(trimethylammonium)-polymethylene halides in water and in methanol. R. M. Fuoss and V. F. H. Chu. bibliog Am Chem Soc J 73:949-52 Mr '51

Bolaform electrolytes; di-(β-trimethylammonium ethyl) succinate dibromide and related compounds. R. M. Fuoss and D. Edelson. bibliog il Am Chem Soc J 73:269-73 Ja '51

Detergent sanitizers. M. A. Lesser. bibliog il Soap & San Chem 27:37-9+ Ag '51

Don't let quats ruin that flavor; presence in cheese milk curbs growth of aroma bacteria. E. Lundstedt. il Food Ind 22:2056-8 D '50

Electrodeposition of metals from fused quaternary ammonium salts. F. H. Hurley and T. P. Wier, jr. bibliog Electrochem Soc J 98:203-6 My '51

Formation and fission of quaternary salts of heterocyclic bases containing reactive alkylthio-groups. D. J. Fry and J. D. Kendall. Chem Soc J p 1716-22 Jl '51

How to sell quaternaries. I. Gaines. Soap & San Chem 27:145+ Je '51

Liquid dinitrogen tetroxide solvent system; reactions involving some alkylammonium salts, with particular reference to solvolysis and the formation of diethylnitrosamine. C. C. Addison, C. P. Conduit and R. Thompson. Chem Soc J p 1298-303 My '51

Organophilic bentonites; organic liquid gels. J. W. Jordan, B. J. Hook and C. M. Finlayson. bibliog J Phys & Colloid Chem 51:1196-208 N '50

Preparation and polymerization of unsaturated quaternary ammonium compounds; halogenated allyl derivatives. G. B. Butler and F. L. Ingley. Am Chem Soc J 73:895-6 Mr '51

Properties of electrolytic solutions; conductance of some long chain salts in water at 25°. E. J. Bair and C. A. Kraus. Am Chem Soc J 73:1129-31 Mr '51

Properties of electrolytic solutions; conductance of some quaternary ammonium and other salts in water at low concentration. H. M. Daggett, jr., E. J. Bair and C. A. Kraus. diags Am Chem Soc J 73:799-803 F '51

Properties of electrolytic solutions; conductance of some salts in water at 25°. M. J. McDowell and C. A. Kraus. Am Chem Soc J 73:2170-3 My '51

Quaternaries in hard water. E. W. Dennis. Soap & San Chem 27:117+ Mr '51

Quaternary ammonium compounds for main disinfection. M. K. Tenny. Am Water Works Assn J 43:82-4 Ja '51

Quaternary ammonium salts; a new method for the preparation of *p*-substituted alkoxy-, *cyclo*alkoxy-, arylalkoxy-, aryloxy-, and alkylthio-benzophenones. W. Tadros and A. Latif. Chem Soc J p3337-40 D '49

Quaternary ammonium salts; a novel feature associated with decomposition of some quaternary ammonium salts. W. Tadros and M. Kamel. Chem Soc J p 1890-2 Jl '51

Quaternary ammonium salts as germicides. G. H. Harris and others. bibliog Am Chem Soc J 73:3959-65 Ag '51

Quaternary ammonium salts of heterocyclic bases. D. R. Smith, M. Maienthal and R. L. Eifert. Am Chem Soc J 73:2964-5 Je '51

Quaternary ammonium salts; the formation and decomposition of ethyldimethylanilinium salts; the synthesis of *N*-ethyl-*N*-methylanilines. H. A. Fahim and M. Galaby. Chem Soc J p3529-32 D '50

Quaternary-type detergent sanitizers on the dairy farm. R. G. Puhle. bibliog Soap & San Chem 26:133+ D '50

Rearrangements of benzyltrimethylammonium ion and related quaternary ammonium ions by sodium amide involving migration into the ring. S. W. Kantor and C. R. Hauser. bibliog Am Chem Soc J 73:4122-31 S '51

Reported adrenergic blocking action of β-haloethylammonium compounds. J. F. Kerwin and others. bibliog Science 113:315-17 Mr 23 '51

Respiratory effect of Ro 2-3198 (3-hydroxy phenyldimethylethylammonium bromide) in syncurinized dogs. H. H. Su and others. bibliog Science 113:743-5 Je 29 '51

Solubility of higher alkyl quaternary ammonium salts of fatty acids. D. N. Eggenberger and others. Am Chem Soc J 72:4135-7 S '50

Solubility of quaternary ammonium salts in methanol-benzene mixtures; the anomalous behavior of tetraethylammonium iodide. G. M. Goldberg and A. A. Vernon. Am Chem Soc J 73:2845-6 Je '51

Spectral study of long chain quaternary ammonium salts in brom phenol blue solutions. E. L. Colichman. bibliog Am Chem Soc J 73:3385-8 Jl '51

Surface and interfacial tension titrations of long chain quaternary salts in brom phenol and brom thymol blue solutions. E. L. Colichman. bibliog Am Chem Soc J 73:1795-8 Ap '51

Syntheses of neurotropic and musculotropic stimulators and inhibitors; derivatives of unsaturated α-betaines. F. Bergel, A. Cohen and N. C. Hindley. Chem Soc J p 1439-48 Je '50

Synthetic curare substitutes from stilbazoline quaternary ammonium salts. A. P. Phillips and J. C. Castillo. bibliog Am Chem Soc J 73:3949-51 Ag '51

Synthetic neuromuscular blocking agents; heterocyclic decamethylenebis(quaternary ammonium salts). E. P. Taylor. Chem Soc J p 1150-7 My '51

Testing

Quaternaries vs. hypochlorites as disinfectants. W. A. Hadfield; G. R. Goetchius. bibliog Soap & San Chem 27:124-7+ Ap '51

AMMONIUM dihydrogen phosphate. See Ammonium phosphates

AMMONIUM dinitrosulfite

Structure of the dinitrososulphite and sulphamate ions. G. A. Jeffrey and H. P. Stadler. Chem Soc J p 1467-74 Je '51

AMMONIUM fluoride

System ammonium fluoride-potassium fluoride-water at 25°. H. M. Haendler and A. W. Jache. Am Chem Soc J 72:4137-8 S '50

AMMONIUM formate

Low-temperature conductance and viscosity of concentrated solutions of ammonium formate and ammonium acetate in some mixed solvents. L. R. Dawson and others. J Phys & Colloid Chem 55:422-8 Mr '51

AMMONIUM halides

Absorption and reflection spectra of the ammonium halides. L. F. H. Bovey. bibliog J Chem Phys 18:1684 D '50

o-Benzylphenol derivatives; quaternary ammonium halides. W. B. Wheatley and others. Am Chem Soc J 72:5575-7 D '50

See also

Ammonium chloride

AMMONIUM molybdate

Rotation of polyols in ammonium molybdate solutions. N. K. Richtmyer and C. S. Hudson. Am Chem Soc J 73:2249-50 My '51

AMMONIUM nitrate

Explosive sensitivity of ammonium nitrate-hydrocarbon mixtures. M. A. Cook and E. L. Talbot. bibliog il Ind & Eng Chem 43:1098-102 My '51

Graphical correlation of physical properties of a ternary system; vapor pressure and specific gravity for ammonia-ammonium nitrate-water. B. H. Sanders and D. A. Young. bibliog Ind & Eng Chem 43:1430-3 Je '51

Manual on handling ammonium nitrate. Safety Maint & Prod 101:56-7 Ap '51

System ammonium nitrate-lithium nitrate. E. O. Holmes, jr., E. O'Connell and F. Hankard. Am Chem Soc J 73:2885-6 Je '51

Manufacture

Fertilizer from petroleum. G. W. McCullough and others. flow diags map Pet Processing 6:380-7 Ap '51

Nitric acidulation of rock phosphate. T. P. Hignett. Chem Eng 58:166-9 My '51

Quiet air, better prills. il Chem W 68:23 Je 16 '51

AMMONIUM nitrite

Reactions of nitrous acid; ammonium nitrite decomposition. J. H. Dusenbury and R. E. Powell. Am Chem Soc J 73:3266-8 Jl '51

AMMONIUM perchlorate

Cryoscopic measurements in sulphuric acid; the solutes nitronium perchlorate and ammonium perchlorate; the basicity of the perchlorate ion and the acidity of perchloric acid; notes on the strengths of some oxy-acids. R. J. Gillespie. Chem Soc J p2537-42 S '50

AMMONIUM permanganate

Thermal decomposition of ammonium permanganate. L. L. Bircumshaw and F. M. Tayler. Chem Soc J p3674-8 D '50

AMMONIUM phosphates

Compound fertilizers from rock phosphate, nitric and phosphoric acids, and ammonia. E. C. Houston, T. P. Hignett and R. E. Dunn. flow diag diag Ind & Eng Chem 43:2413-18 O '51

Design of variable resonant frequency crystal transducers. W. L. Hall and W. J. Fry. diags R Sci Instr 22:155-61 Mr '51

Tracer studies with phosphate fertilizers. H. G. Dion and others. bibliog Can Chem & Process Ind 34:905-9 N '50

Ultrasonic underwater point source probe. L. Fein. diag Acoustical Soc Am J 22:876-7 N '50

AMMONIUM silicates

Some quaternary ammonium silicates. R. C. Merrill and R. W. Spencer. J Phys & Colloid Chem 55:187-95 F '51

AMMONIUM sulfamate

Comparison of ammonium sulfamate vs 2,4-D and 2,4,5-T for brush control; engineering reference sheet. Elec World 136:148 Ag 13 '51

United gas pipe line co. uses new weapon in its battle against brush; use of ammonium sulfamate, known as Ammate weed killer. A. E. Carlson. il Oil & Gas J 50:127 S 13 '51

AMMONIUM sulfate

Ammonia fertilizers from wood waste. J. Risi. flow sheet il Can Chem & Process Ind 34:972-4 D '50

Tentative standard specifications for ammonium sulfate. Am Water Works Assn J 42:1087-93 N '50

Treatment of brick to prevent CO disintegration. J. A. Shea. il Iron & Steel Eng 27:116-19 D '50; Same. Steel 127:74+ N 27 '50; Same. Blast F & Steel Pl 39:333-6 Mr '51; Same, without il. Brick & Clay Rec 118:84+ Ap '51

Manufacture

Gypsum, not sulfur; in synthesis of ammonium sulfate. il Chem W 69:33 O 13 '51

Manufacture of ammonium sulphate from anhydrite. G. I. Higson. il Chem & Ind p750-4 S 8 '51

New plant, integrated process; Mexico's self-contained ammonium sulphate plant. il diag Chem Eng 58:236 My '51

Sprayed coolant clue to better sulphate process. diag Chem Eng 58:238-9 S '51

AMMONIUM sulfite

Ammonium bisulphite pulping; its application and future in sulphite pulp manufacture. R. M. Jones and T. E. Detcher. Paper Tr J 133:20+ Ag 3 '51

Fermentation to ethanol of concentrated calcium, magnesium, and ammonium sulphite waste liquors. H. D. Agar and J. L. McCarthy. bibliog diag Tappi 34:126-31 Mr '51

AMMONIUM sulfonates

Amidines; preparation of diguanides and guanidines from cyanoguanidine and ammonium sulphonates. P. Oxley and W. F. Short. Chem Soc J p 1252-6 My '51

AMMONOIDEA

Clymenoid ammonoid from New Mexico. A. K. Miller and C. Collinson. diags Am J Sci 249:600-3 Ag '51

Lower cretaceous ammonites in Colorado, Wyoming, and Montana. W. A. Cobban and J. B. Reeside, jr. bibliog Am Assn Pet Geologists Bul 35:1892-3 Ag '51

AMMONOLYSIS

Aminolysis of esters; a preliminary study. R. Baltzly, I. M. Berger and A. A. Rothstein. Am Chem Soc J 72:4149-52 S '50

Chemical engineering unit processes fourth annual review. A. C. Stevenson. bibliog(74 ref) Ind & Eng Chem 43:1920-4 S '51

Effect of structure on reactivity; aminolysis of esters with primary amines. E. M. Arnett, J. G. Miller and A. R. Day. Am Chem Soc J 72:5635-8 D '50

Unit processes: Chemical Engineering report, March 1951. P. H. Groggins. diag Chem Eng 58:134-5 Mr '51

AMORTIZATION

Accelerated amortization. R. Schlaifer and others. Harvard Bsns R 29:113-24 My '51

Accelerated amortization accounting. O. Ely. Pub Util 48:367-8+ S 13 '51

Accelerated amortization and private facilities expansion. Survey of Cur Bsns 31:11-13+ My '51

Accelerated amortization is a contract cost. W. E. Bergstrom. N A C A Bul 32:1516-18 Ag '51

Amortization for everybody. Bsns W p26 Mr 17 '51

Amortization of emergency facilities. O. Ely. Pub Util 47:567+ Ap 26 '51

Amortization rush. Bsns W p36+ N 4 '50

Certificates of necessity; aircraft industry gets $157 million. Aviation W 54:43-4+ Je 4 '51

Chemicals output boost spurred by tax aid; list of new projects approved for fast amortization. Oil Paint & Drug Rep 159:3+ Ap 16; 3 My 14 '51

Defense facilities approved for fast tax write-offs; list. Automotive Ind 104:94+ My 15; 105:54+ Jl 15; 116+ Ag 15 '51

Defense plants get certificates of necessity; list. Am Mach 95:226-7 My 14 '51

Expansion check; Chapman objects to fast writeoffs for utilities. Bsns W p 140 Ap 28 '51

AMORTIZATION—*Continued*

Fast tax write-off for defense plants. Eng N 146:157+ Mr 29 '51

Fast tax write-off granted more defense plant requests. Iron Age 167:129-30 My 3; 116-17 My 10; 119-21 My 24; 90 My 31; 133-5 Je 7; 116-17 Je 14; 118 Je 21; 168:111-15 Jl 5; 118-20 Jl 12; 132-3 Jl 19; 99-101 Jl 26; 122+ Ag 2; 98+ Ag 9; 132-3 Ag 16; 97-9 Ag 23; 100 Ag 30; 137-9 S 6; 50-1 S 27 '51

Fast write-offs banned by I.C.C. Ry Age 131:38+ S 3 '51

Faster write-offs of planes sought. Aviation W 55:17 Ag 27 '51

Five-year gravy. Fortune 44:85+ O '51

Getting writeoffs into line; Wilson calls 60-day moratorium. Bsns W p24 Ag 18 '51

Go easy on tax relief; accelerated amortization. Bsns W p61 O 21 '50

Hitch in quick writeoffs. Bsns W p25 D 9 '50

Is quick amortization good or bad? W. H. Harrison, jr. Elec World 136:106-7 Ag 13 '51

Mobilization issue; expansion; fast amortization. Bsns W p 134-6+ Ap 14 '51

More stuff; basic materials get lion's share of fast writeoff certificates. Bsns W p24 My 12 '51

NSRB speed-up amortization rules for tax benefits outlined. Oil Paint & Drug Rep 158:4+ N 6 '50

ODM orders 60-day moratorium in rapid tax write-off awards. Oil Paint & Drug Rep 160:3 Ag 20 '51

Quickie tax write-offs. J. C. Perham. Barron's 31:3 Ap 16 '51

Real facts on tax amortization of emergency facilities. O. Ely. Pub Util 48:172-4+ Ag 2 '51

Records for accelerated amortization deductions. J.-B. Van Haelen. N A C A Bul 33: 50-7 S '51

Refining expansion; accelerated amortization granted for 122 projects. Oil & Gas J 50: 76-7 My 24 '51

Slowdown on tax relief; quick amortization of new refineries criticized. Oil & Gas J 49:60 Ap 12 '51

Tax aid approved for plant expansion. Am Mach 95:230+ S 3 '51

Tax education of Mr Jones; defense of rapid amortization. I. S. Olds. Comm & Fin Chr 173:1937+ My 10 '51; Same abr. Factory Management 109:238+ Ag '51

Tax hazards of plant expansion. R. Modley. Aviation W 54:40+ Je 25 '51

Tax writeoffs; Wilson orders 60-day rest. Iron Age 168:125 Ag 16 '51

Threat to quick writeoffs; DPA policy on pricing defense contracts. Bsns W p 144 My 12 '51

What you should know about fast amortization. E. C. Kreutzberg. Steel 127:62-3 D 11 '50

Writeoffs O.K.'d; with list of companies. Bsns W p24 D 16 '50; p37-8+ F 17; 68+ Mr 24; 71-2+ Ap 28 '51

AMOS 'n' Andy program. See Television broadcasting—Amos 'n' Andy program

AMPEROMETRIC titration. See Volumetric analysis

AMPHENONE

New chemical can produce adrenal alterations. Chem & Eng N 29:2474 Je 18 '51

AMPHIBIOUS airplanes. See Airplanes, Amphibious

AMPHIBIOUS warfare. See Military art and science—Amphibious warfare

AMPHITHEATERS

See also

Stadiums

AMPLIDYNE generator

Operation of electronic-amplidyne controlled paper machine drive. W. L. Eliason. Pulp & Pa of Can (Convention no) 52:149-51 [F] '51

Static magnetic regulators in the power generation field. W. A. Hunter. il diags Power Eng 54:69-71 D '50

AMPLIFIERS

Amplistat regulators for power rectifiers. M. J. Mulhern. bibliog il diags Gen Elec R 54:27-33 My '51

Analysis and design of self-saturable magnetic amplifiers. S. B. Cohen. bibliog diags Inst Radio Eng Proc 39:1009-20 S '51

D.c. generator amplifier use in servo control systems. J. C. West. diag Elec R (Lond) 147:819-22 N 24 '50

Feed-back in magnetic amplifiers. A. S. Fitzgerald. diags Franklin Inst J 247:223-43, 457-71 Mr, My '49; Same. Elec Com 27: 298-319 D '50

General characteristics of magnetic amplifiers. L. A. Finzi and D. C. Beaumariage. diags Elec Eng 69:1109-15 D '50

High-gain magnetic amplifier. R. Feinberg. il diags Wireless Eng 28:151-5 My '51

How magnetic amplifiers operate. G. H. Stearley. il diags Product Eng 22:132-6 Ja '51

Magnet current stabilizer. H. S. Sommers and others. diags R Sci Instr 22:612-18 Ag '51

Magnetic amplifiers. A. G. Milnes. bibliog diags Inst E E Proc 96 pt 1:89-98 My '49; Same. 96 pt 2:329-38 Je '49; Discussion. 96 pt 1:115-24 My '49; 96 pt 2:355-64, 767-8; 98 pt 2:100-2 Je, O '49, F '51

New use for temperature recorders; ready-made amplifiers for transducer signals. T. R. Breunich. il diags Product Eng 22: 143-50 S '51

Prospects for magnetic amplifiers. il diags Product Eng 22:143 My '51

Review of transductor principles and applications. R. Feinberg. il diags Inst E E Proc 97 pt 2:628-44 bibliog (52 titles, p643-4) O '50

Servo amplifier available for industrial use. Franklin Inst J 251:676-7 Je '51; Product Eng 22:215 My '51

Simple magnetic modulator for conversion of millivolt d-c signals. G. Wennerberg. bibliog il diags Elec Eng 70:144-7 F '51

Some general properties of magnetic amplifiers. J. M. Manley. diags Inst Radio Eng Proc 39:242-51 Mr '51

Steady-state analysis of self-saturating magnetic amplifiers based on linear approximations of the magnetization curve; abstract. W. H. Esselman. Elec Eng 70:672 Ag '51

Theoretical and experimental study of the series-connected magnetic amplifier. H. M. Gale and P. D. Atkinson. bibliog diags Inst E E Proc 96 pt 1:99-114 My '49; Same. 96 pt 2:339-54 Je '49; Discussion. 96 pt 1:115-24; 97 pt 1:85-8, 302-3; 98 pt 1:41-3 My '49, Mr, N '50, Ja '51; 96 pt 2:355-64; 767-8; 97 pt 2:14-16; 98 pt 2:100-1, 102-5 Je, O '49, F '50, F '51

Transient response of magnetic amplifiers; cases of negligible commutation; abstract. L. A. Finzi and others. Elec Eng 70:809 S '51

See also

Transistors

AMPLIFIERS, Vacuum tube

Adapt your amplifier for magnetic recording. L. B. Hust. il diags Radio & Tv N 28: 64-5+ My '51

Amplification at 50,000 megacycles; helix-type traveling-wave tubes. il Electronics 24:140+ Ap '51

Amplification by acceleration and deceleration of a single-velocity stream. L. M. Field and others. Inst Radio Eng Proc 39: 194 F '51

Amplification of the traveling wave tube. B. Friedman. J Ap Phys 22:443-7 Ap '51

Amplifier of variable output impedance. R. Yorke and K. R. McLachlan. diags Wireless Eng 28:222-5 Jl '51

Audio amplifier damping. R. M. Mitchell. il diags Electronics 24:128-31 S '51

Automatic compensation of zero-drift errors in direct-coupled feedback systems. F. A. Summerlin. bibliog diags Inst E E Proc 98 pt 2:59-66 F '51; Discussion. 98 pt 2: 641-2 O '51

Automatic stabilization of high-impedance d-c amplifiers; analog computer for the analysis of transient heat flow (the simulator). F. R. Smith. il diag Electronics 24: 124+ F '51

Bridged-T neutralization of pentode amplifiers. H. K. Bradford. diags Electronics 23: 214+ N '50

Brief case amplifier. J. L. Hathaway and R. C. Kennedy. il diag RCA R 11:411-17 S '50

Building the Williamson amplifier. H. I. Keroes. il diags Radio & Tv N 44:52-3+ D '50

AMPLIFIERS, Vacuum tube—*Continued*

Childs custom-built amplifier. U. J. Childs. il diags Radio & Tv N 46:37-40+ Jl '51

Coaxial-tank amplifier for 220 and 420 mc. R. D. Brayley. il diags Q S T 35:39-43 My '51

Compact amplifier for aircraft tests. J. V. Foster and T. Wrathall. il diags Electronics 23:81-3 N '50

Controlling hum in audio amplifiers. L. Fleming. il diags Radio & Tv N 44:55-8+ N '50

Design of high-pass, low-pass and band-pass filters using R-C networks and direct-current amplifiers with feedback. C. C. Shumard. diags RCA R 11:534-64 D '50

Determining amplifier sensitivity with noise diode. B. Ely. Tv Eng 2:13+ Mr '51

Direct-coupled amplifier starvation circuits. W. K. Volkers. il diags Electronics 24:126-9 Mr '51

D-c amplifier with reduced zero-offset. W. McAdam and others. bibliog il diags Electronics 24:128-32 Ag '51

Extended class-A audio. H. T. Sterling. diags Electronics 24:101-3 My '51

Flexible general purpose amplifier. J. N. A. Hawkins. il diag Radio & Tv N 44:52-4 N '50

Frequency compensated direct coupled amplifier for use with a four channel pen recorder. J. A. Tanner and B. G. V. Harrington. bibliog il diags J Sci Instr 28:33-5 F '51

Gain-bandwidth nomograph; reference sheet. C. W. Young. Electronics 23:116, 118 N '50

Graphical solution for feedback amplifiers. L. D. Barter. diags Electronics 23:204+ N '50

High-quality audio system. H. T. Sterling and A. Sobel. il diags Radio & Tv N 45:39-42+ Mr '51

High quality direct-coupled audio amplifier. C. E. Bessey. il diags Tele-Tech 10:40-2+ S '51

Highlight controls in video amplifiers. R. H. Cook. diags Tv Eng 2:10-13+ Ag '51

Improved dc amplifier for portable ionization chamber instruments. N. F. Moody. il diags R Sci Instr 22:236-9 Ap '51

Improved equalizer-preamp. C. P. Boegli. il diags Radio & Tv N 45:46-7 Ap '51

Independent control of selectivity and bandwidth. O. G. Villard, jr. diags Electronics 24:121-3 Ap '51

Low-noise miniature pentode for audio amplifier service. D. P. Heacock and R. A. Wissolik. il diags Tele-Tech 10:31-3+ F '51

Maximum output from a resistance-coupled triode voltage amplifier. J. M. Diamond. diag Inst Radio Eng Proc 39:433-4 Ap '51

Millimicrosecond oscillography. Y. P. Yu and others. bibliog il diags Electronics 24:106-11 Jl '51

Modified Wallman circuit with voltage feedback. S. Shimizu. diags Electronics 24:208+ Je '51

Multiple-channel d-c amplifier. L. Goldberg. diags Electronics 24:188+ My '51

New microwave triode; its performance as a modulator and as an amplifier. A. E. Bowen and W. W. Mumford. bibliog il diags Bell System Tech J 29:531-52 O '50

1.5-kw 500-magacycle grounded-grid triode. C. E. Fay and others. il diag Inst Radio Eng Proc 39:800-3 Jl '51

Operation of electrodynamometer instruments through amplifiers. W. G. Hoover. Electronics 24:122+ Ja '51

Periodic-waveguide traveling-wave amplifier for medium powers. G. C. Dewey and others. bibliog diags Inst Radio Eng Proc 39:153-9 F '51; Same. Elec Com 28:220-7 S '51

Practical approach to negative feedback. B. E. Parker. diags Radio & Tv N 45:68-9+ Ja '51

Preamp with tone control. G. Southworth. il diag Radio & Tv N 45:58-60 Ja '51

Production planning speeds military orders; Sperry gyroscope co. il Electronics 24:82-5 Jl '51

Pulsed r-f tetrode amplifier for 1,000 mc band. D. H. Preist. il diags Tele-Tech 10:48-9+ My '51

Quality amplifier for tv sound. L. Fleming. il diag Radio & Tv N 45:44-5+ My '51

R-f amplifier for uhf television tuners. B. F. Tyson and J. G. Weissman. il diags Electronics 24:106-9 O '51

Relation of Nyquist diagram to pole-zero plots in the complex frequency plane. W. W. Harman. diags Inst Radio Eng Proc 38:1454-5 D '50

Resistance-coupled amplifier bandwidth. B. A. Lippmann. diags Electronics 24:192+ Ja '51

Self-equalizing preamp. J. C. Hoadley. il diag Radio & Tv N 44:48-9+ N '50

Sharp i.f. amplifier for phone or c.w. B. Goodman. il diags Q S T 34:13-17 D '50

Shunt-regulated amplifiers; television modulator applications. V. J. Cooper. diags Wireless Eng 28:132-45 My '51

Simplified Q multiplier. H. E. Harris. diags Electronics 24:130-2+ My '51

Sine and square-wave generator selective amplifier. G. L. Jones, jr. diag Electronics 23:120 D '50

Small battery remote amplifier. R. Grambsch. il diag Tele-Tech 10:54+ Ag '51

Spatial harmonic traveling-wave amplifier for six millimeters wavelength. S. Millman. il diags Inst Radio Eng Proc 39:1035-43 S '51

Stability problem in feedback amplifiers. W. A. Lynch. bibliog diags Inst Radio Eng Proc 39:1000-8 S '51

Sugar-coated linear-amplifier theory. R. E. Long. diags Q S T 35:22-7+ O '51

300-B amplifier with feedback driver. H. T. Sterling. il diag Radio & Tv N 46:52-3+ Ag '51

Tranmission line reflection doubling amplifier. J. Marshall. diags R Sci Instr 21:1010-13 D '50

Traveling-wave amplifier measurements. F. E. Radcliffe. diags Electronics 24:110-11 Ag '51

Tunable audio-frequency amplifier of variable selectivity. E. A. G. Shaw. bibliog diags J Sci Instr 27:295-8 N '50

Tuned-line amplifier for 144 and 220 mc. R. W. Burhans. il diag Q S T 35:32-3 O '51

Tuning systems employing feedback amplifiers. P. G. Sulzer. diags Electronics 24:252+ Mr '51

Two-channel magnetic recording amplifier. L. B. Hust. il diag Radio & Tv N 44:45-7+ N '50

Two-stage linear r.f. amplifier. B. Goodman. il diags Q S T 35:13-16 Mr '51

Uhf rf amplifier design. R. G. Peters. il diag Tv Eng 2:10-11 Jl '51

Universal design curves for intermediate-frequency amplifiers with particular reference to phase and amplitude distortion and their compensation. W. Hackett. Inst Radio Eng Proc 38:1408-17 D '50

Universal direct-coupled differential amplifier. L. Goldberg. diags Electronics 24:128-31 O '51

Utility video amplifier. E. C. Kluender. il diags Electronics 24:125-7 S '51

Valve input conductance at v.h.f. E. E. Zepler. diags Wireless Eng 28:51-3 F '51

Video amplifier frequency response. W. H. Buchsbaum. diags Radio & Tv N 44:56-8+ D '50

Voltage-controlled secondary-emission multipliers. A. J. W. M. van Overbeek. bibliog diags Wireless Eng 28:114-25 Ap '51

V.f. amplifier couplings; unsymmetrical π-section filters. G. G. Gouriet. bibliog diags Wireless Eng 27:257-65 O-N '50

Wide-band amplifier for central antenna installations. J. B. Crawley. diags Electronics 24:210+ F '51

Testing

Direct-reading noise-factor measuring systems. R. W. Peter. bibliog il diags RCA R 12:269-81 Je '51

Let's put square waves to work. H. Anthony. il diags Radio & Tv N 44:83+ N '50

Low cost square-wave generator. S. Harris il diag Radio & Tv N 45:44-5 Ja '51

AMPLISTAT. See Amplifiers

AMPOULES. See Ampuls

AMPULS

Glaxo laboratories ltd.; new ampoule filling hall. Chem & Ind p731 S 1 '51

Minuscule samples; Harper's Bazaar's perfume packet mailed to readers; flame-sealed Plastene ampoules. il Mod Packaging 24:80-2 Ja '51

AMPUTATION
Prosthetic service for the amputee. E. H. Daniel. il Ind Med 20:102-6 Mr '51
Psychological preparation of the amputee. H. H. Kessler. Ind Med 20:107-8 Mr '51

AMYL alcohol

Analysis

Isolation of optically pure (—)-sec.-butylcarbinol from fusel oil. P. Le Couteur, J. Kenyon and T. A. Rohan. bibliog J Ap Chem 1: 341-5 Ag '51

AMYL compounds
Amyl compounds from pentane. R. L. Kenyon and others. bibliog flow sheets il diag Ind & Eng Chem 42:2388-401 D '50

AMYLASES
Action of β-amylase on amylopectin and on glycogen. T. G. Halsall and others. Chem Soc J p3200-7 D '49
Action of crystalline β-amylase on corn crystalline amylose. R. W. Kerr and F. C. Cleveland. bibliog Am Chem Soc J 73:2421-4 Je '51
Fungal amylase process. il diag Chem Eng 58:244 Mr '51
Grain alcohol without malt. il Chem Ind W 68:19 F 3 '51
Study of the action of gluc amylase, a glucose-producing amylase, formed by the mold, rhizopus delemar. L. L. Phillips and M. L. Caldwell. bibliog Am Chem Soc J 73:3563-8 Ag '51
Study of the purification and properties of a glucose-forming amylase from rhizopus delemar, gluc amylase. L. L. Phillips and M. L. Caldwell. bibliog Am Chem Soc J 73: 3559-63 Ag '51

AMYLOPECTINS
Action of β-amylase on amylopectin and on glycogen. T. G. Halsall and others. Chem Soc J p3200-7 D '49
Action of amylo-glucosidase on amylose and amylopectin. R. W. Kerr, F. C. Cleveland and W. J. Katzbeck. bibliog Am Chem Soc J 73:3916-21 Ag '51
Acylation of corn starch, amylose and amylopectin. I. A. Wolff, D. W. Olds and G. E. Hilbert. bibliog Am Chem Soc J 73:346-9 Ja '51
Amylopectin-type polysaccharide synthesised from sucrose by Cl. butyricum. P. N. Hobson and H. Nasr. Chem Soc J p 1855-7 Jl '51
Enzymic synthesis and degradation of starch; methylation and end-group assay of some synthetic polysaccharides. S. A. Barker, E. J. Bourne and I. A. Wilkinson. pl Chem Soc J p3027-30 N '50
Enzymic synthesis and degradation of starch; the mechanism of synthesis of amylopectin. P. N. Hobson, W. J. Whelan and S. Peat. Chem Soc J p596-8 F '51
Enzymic synthesis and degradation of starch; the use of mixtures of P- and Q-enzymes in the synthesis of starch-type polysaccharides. S. A. Barker and others. Chem Soc J p3022-7 N '50
Methylation and ethylation of corn starch, amylose and amylopectin in liquid ammonia. J. E. Hodge, S. A. Karjala and G. E. Hilbert. bibliog Am Chem Soc J 73:3312-16 Jl '51
Molecular magnitude of amylopectin. R. W. Kerr, F. C. Cleveland and W. J. Katzbeck. bibliog Am Chem Soc J 73:111-17 Ja '51
Starch; the uniformity of the degree of branching in amylopectin. A. L. Potter and W. Z. Hassid. bibliog Am Chem Soc J 73: 997-8 Mr '51
Triesters of corn starch, amylose, and amylopectin; properties. I. A. Wolff, D. W. Olds and G. E. Hilbert. bibliog il Ind & Eng Chem 43:911-14 Ap '51

AMYLOSES
Action of amylo-glucosidase on amylose and amylopectin. R. W. Kerr, F. C. Cleveland and W. J. Katzbeck. bibliog Am Chem Soc J 73:3916-21 Ag '51
Action of crystalline β-amylase on corn crystalline amylose. R. W. Kerr and F. C. Cleveland. bibliog Am Chem Soc J 73:2421-4 Je '51
Acylation of corn starch, amylose and amylopectin. I. A. Wolff, D. W. Olds and G. E. Hilbert. bibliog Am Chem Soc J 73:346-9 Ja '51
Enzymic synthesis and degradation of starch; the use of mixtures of P- and Q-enzymes in the synthesis of starch-type polysaccharides. S. A. Barker and others. Chem Soc J p3022-7 N '50
Fractionation of starch; the determination of the molecular weights of the triacetates of amyloses and amylose fractions by osmotic pressure measurements. R. S. Higginbotham. bibliog diags Textile Inst J Trans 42:T235-48 Je '51
Fractionation of starch; the fractionation of amyloses. D. Goodison and R. S. Higginbotham. bibliog diags Textile Inst J Trans 42:T249-73 Je '51
Methylation and ethylation of corn starch, amylose and amylopectin in liquid ammonia. J. E. Hodge, S. A. Karjala and G. E. Hilbert. bibliog Am Chem Soc J 73:3312-16 Jl '51
Preparation of films from amylose. I. A. Wolff and others. bibliog Ind & Eng Chem 43:915-19 Ap '51
Starch; the molecular constitution of amylose subfractions. A. L. Potter and W. Z. Hassid. Am Chem Soc J 73:593-5 F '51
Triesters of corn starch, amylose, and amylopectin; properties. I. A. Wolff, D. W. Olds and G. E. Hilbert. bibliog il Ind & Eng Chem 43:911-14 Ap '51

AMYRANONE
Triterpene resinols and related acids; conversion of α-amyrin into *iso*-α-amyranone (12-ketoursane). J. McLean, G. A. Silverstone and F. S. Spring. Chem Soc J p935-8 Ap '51

AMYRENE
Chemistry of the triterpenes; the α- and β-amyrenes. G. S. Davy, T. G. Halsall and E. R. H. Jones. Chem Soc J p458-61 F '51

AMYRENONOL
Triterpene resinols and related acids; *iso*-α-amyrenonol-II. J. McLean, S. U. Ruff and F. S. Spring. Chem Soc J p 1093-6 Ap '51

AMYRIN
β-Amyrin from chimaphila umbellata. F. P. Veitch, jr. and P. A. Welton. Am Chem Soc J 73:3530 Jl '51
Chemistry of the triterpenes; an interrelationship between the lupeol and the β-amyrin series; elucidation of the structure of lupeol. T. R. Ames, T. G. Halsall and E. R. H. Jones. Chem Soc J p450-7 F '51
Pentacyclic triterpenoids; 18-*iso*-β-amyranol. R. Budziarek and others. Chem & Ind p478-9 Je 23 '51
Triterpene resinols and related acids; conversion of α-amyrin into *iso*-α-amyranone (12-ketoursane). J. McLean, G. A. Silverstone and F. S. Spring. Chem Soc J p935-8 Ap '51

ANABASINE
Extraction of alkaloids from tree tobacco. L. Feinstein, P. J. Hannan and E. T. McCabe. bibliog diag Ind & Eng Chem 43: 1402-3 Je '51
New tests for the nicotiana alkaloids, nornicotine and anabasine. L. Feinstein and E. T. McCabe. Science 112:534 N 3 '50

Analysis

Modification of Sanchez color test for nicotine. L. Feinstein and E. T. McCabe. Anal Chem 23:385 F '51

ANACOM. See Calculating machines

ANACONDA copper mining company
Strong demand, high prices aiding Anaconda Copper. Barron's 31:25 Ap 9 '51

ANAEROBES. See Bacteria

ANALGESICS
Analgesic activity of N,N-dialkyl amides. D. Papa and others. bibliog Am Chem Soc J 72:3885-6 S '50
Double entry; Hist-O-Plus, antihistamine-analgesic combination. Chem Ind W 68:23 F 10 '51
Effects of various analgesics on inflammatory edema resulting from silver nitrate injection. A. La Belle and J. A. Tornaben. Science 114:187-8 Ag 17 '51
Search for new analgesics; variations in the basic side-chain of amidone. P. Ofner and E. Walton. Chem Soc J p2158-66 Ag '50
Synthetic analgesics and related compounds; amidines and 4 : 5-dihydroglyoxalines. W. Wilson. Chem Soc J p2173-6 Ag '50

ANALGESICS—*Continued*

Synthetic analgesics and related compounds; some derivatives of 3 : 7-diaza*bicyclo*[3 : 3 : 1]nonane (bispidine). Z. Kyi and W. Wilson. Chem Soc J p 1706-8 Jl '51

Synthetic analgesics; compounds related to pethidine. A. L. Morrison and H. Rinderknecht. Chem Soc J p 1467-9 Je '50

Synthetic analgesics; further attempts to prepare 3-phenylpiperidine derivatives. A. W. D. Avison and A. L. Morrison. Chem Soc J p 1474-7 Je '50

Synthetic analgesics; metadine and related 3-phenylpiperidine derivatives. A. W. D. Avison and A. L. Morrison. Chem Soc J p 1471-4 Je '50

Synthetic analgesics; synthesis of compounds related to amidone. A. L. Morrison and H. Rinderknecht. Chem Soc J p 1478-81 Je '50

Synthetic analgesics; tertiary carbinols and derivatives from Mannich bases. A. L. Morrison and H. Rinderknecht. Chem Soc J p 1510-13 Je '50

Synthetic analgesics; the synthesis of ketobemidone. A. W. D. Avison and A. L. Morrison. Chem Soc J p 1469-71 Je '50

α-Thienyl substituted aminoesters with analgetic and spasmolytic properties. F. Leonard and I. Ehrenthal. Am Chem Soc J 73:2216-18 My '51

Tons of APAP. il Chem Ind W 68:19-20 Ja 20 '51

See also

Demerol
Metopon

ANALOG computers. See Calculating machines

ANALYSIS, Chemical. See Chemistry, Analytic

ANALYSIS, Electrographic. See Electrographic analysis

ANALYSIS, Gravimetric. See Gravimetric analysis

ANALYTIC chemistry. See Chemistry, Analytic

ANATASE

Some factors affecting the opacity, colcr, and color stability of titania-opacified enamels. R. F. Patrick. bibliog Am Cer Soc J 34:96-102 Mr 1 '51

ANCAM exchanges (periodical)

ANCAM tip service valuable, exclusive. H. W. Tushingham. Ed & Pub 83:50 D 16 '50

ANCHOR Hocking glass corporation

Sales, net in uptrend. Barron's 30:22-3 N 20 '50

ANCHORS

Has your anchor been showing lately? W. B. Hayler. il map U S Naval Inst Proc 76:1360-3 D '50

ANCIENT glass. See Glass, Ancient

ANDALUSIA, Spain

Poverty in Andalusia. map Economist 160:1305-6 Je 2 '51

ANDALUSITE

Heat capacities at low temperatures and entropies at 298.16°K. of andalusite, kyanite, and sillimanite. S. S. Todd. bibliog Am Chem Soc J 72:4742-3 O '50

Kyanite pseudomorphs after andalusite from Delaware county, Pa. Am J Sci 249:457-8 Je '51

ANDERSON, John, 1726-1796

Pioneer of technical education. Engineering 171:76 Ja 19 '51

ANDRADE equation

Studies in Newtonian flow; the dependence of the viscosity of liquids on temperature. A. K. Doolittle. J Ap Phys 22:1031-5 Ag '51

ANDRE, Noble

Portrait. Sales Management 67:40 Jl 1 '51

ANDREWS, Hardage Lane, 1889-

Portrait. Bsns W p25 F 3 '51

ANDROSTADIENEDIONE

Steroids; the Wohl-Ziegler bromination of steroidal 1,4-dien-3-ones; partial synthesis of Δ^6-dehydroestrone and equilenin. S. Kaufmann and others. bibliog Am Chem Soc J 72:4531-4 O '50

ANDROSTANE

Steroids; 17-ethynylandrostan-17β-ol and androstane-2,17-dione. C. Djerassi, R. Yashin and G. Rosenkranz. bibliog Am Chem Soc J 72:5750-1 D '50

ANDROSTENEDIOLONE

Steroids and related compounds; some transformation products of 5-methyl-10-norandrost-8(9)-ene-3 : 6-diol-17-one. M. Davis and V. Petrow. Chem Soc J p 1185-8 Ap '50

ANDROSTERONE

Total synthesis of androgenic hormones. H. M. E. Cardwell and others. bibliog Chem & Ind p389-90 My 19 '51

ANELASTIC effect. See Elasticity

ANEMIA

Hematologic effect of folinic acid (citrovorum factor) in persons with pernicious anemia. T. Jarrold and others. bibliog Science 113:688-9 Je 15 '51

Sickle-cell anemia. G. W. Gray. il Sci Am 185:56-9 Ag '51

Sickle cells in whites. Sci Am 185:58 S '51

Sickling; a property of all red blood cells. R. Isaacs. il Science 112:716-18 D 15 '50

ANEMOMETERS

Calibration and use of a shielded hot-wire anemometer for very low speeds. C. F. Cowdrey. diag J Sci Instr 27:327-9 D '50

Compensated thermal anemometer and flowmeter; abstract. C. E. Hastings and C. R. Weislo. Elec Eng 70:597 Jl '51

Compensating circuit for the Simmons shielded hot-wire anemometer. L. L. Fox and others. il diag J Sci Instr 27:289-91 N '50

Over-estimation error of cup anemometers in fluctuating winds. E. L. Deacon. J Sci Instr 28:231-4 Ag '51

Portable recording pressure-plate anemometer. E. L. Deacon. il diag J Sci Instr 28:217-19 Jl '51

Simple form of sensitive electric contact cup anemometer. S. G. Crawford. diags J Sci Instr 28:36-7 F '51

Temperature and velocity distribution in wake of a heated cylinder. G. W. Billman, D. M. Mason and B. H. Sage. bibliog il diags Chem Eng Prog 46:625-33; Discussion. 633-4 D '50

Velocities and effective thermal conductivities in packed beds. M. Morales, C. W. Spinn and J. M. Smith. bibliog diags Ind & Eng Chem 43:225-32 Ja '51

ANESTHESIA

Prolongation of thiopental anesthesia in the mouse by premedication with tetraethylthiuram disulfide (antabuse). N. J. Giarman and others. Science 114:35-6 Jl 13 '51

Use of feedback systems for the control of anesthesia; electrical activity of patient's brain used to actuate network which controls dosage of anesthetic. R. G. Bickford. il diags Elec Eng 70:852-5 O '51

ANESTHETICS

Anesthetic properties of xenon in animals and human beings, with additional observations on krypton. S. C. Cullen and E. G. Gross. bibliog Science 113:580-2 My 18 '51

Central oxygen, anesthetic piping, important services in hospitals. il Heating-Piping 22:84-7 D '50

Local anesthetics; some aryl alkamine ethers. H. B. Wright and M. B. Moore. bibliog Am Chem Soc J 73:2281-3 My '51

See also

Analgesics
Chloroform
Ethyl ether
Scopolamine

ANESTHETICS, Local

Derivatives of 4-amino-2-hydroxybenzoic acid. R. O. Clinton and others. Am Chem Soc J 73:3674-81 Ag '51

N,N-Disubstituted amidines; 4-alkoxy-α-naphthamidines. E. Lorz and R. Baltzly. Am Chem Soc J 73:93-5 Ja '51

Ortho-alkoxy derivatives of procaine as local anesthetics; abstract. R. O. Clinton and F. P. Luduena. Science 112:423 O 13 '50

See also

Nerves—Blocking
Procaine

ANEURIN. See Vitamins—Vitamin B_1

ANGLES

Angle setup block works on grinder table. C. Ashley and J. R. Lucas. il diags Am Mach 94:128 N 27 '50

Chart for the resolution of angles; reference book sheet. diags Product Eng 22:187 Je '51

ANGLES—*Continued*

Production of combination angle gauges. C. H. Knoyle. diags Engineering 170:417-18 N 24 '50

See also

Pythagorean proposition

ANGLO-AMERICAN relations. See Great Britain—Foreign relations—United States

ANGLO-IRANIAN oil company, limited

Britain prepares new bid in Iran. R. E. Spann. World Oil 132:245+ My '51

Concession history. D. M. Duff. Oil & Gas J 50:60 Je 28 '51

Oil nationalization. D. M. Duff. il Oil & Gas J 49:75-7 Mr 22 '51

Persia's road to ruin. Economist 160:1017-19 My 5 '51

West could lose Iran's oil. il Bsns W p 145-6 Mr 17 '51

See also Petroleum industry and trade—Iran

ANGLO-JAPANESE payments agreement. See Financial treaties and agreements

ANGLO-NEWFOUNDLAND development company, limited

Statement of the chairman. E. M. Little. Economist 160:1205 My 19 '51

ANGLO-PORTUGUESE telephone company, limited

Statement by the chairman. A. Roger. Economist 160:1263-4 My 26 '51

ANGLO-SAXONS

Sutton Hoo ship-burial; tomb of seventh-century Anglo-Saxon king. R. L. S. Bruce-Mitford. il plan Sci Am 184:24-30 Ap '51

ANGUILLULA. See Nematodes

ANHEUSER-BUSCH, inc.

Library university; Anheuser-Busch research library sponsors language and chemistry classes. V. H. Jacoby. Special Lib 42:96+ Mr '51

ANHYDRIDES

Anhydrides of di-*n*-propyl- and di-*n*-butylphosphinic acids. G. M. Kosolapoff and R. M. Watson. bibliog Am Chem Soc J 73:4101-2 S '51

Anhydrides of polyhydric alcohols; observations on the ring scission of 1 : 2-5 : 6-diepoxyhexane and 3 : 4-*iso*propylidene 1 : 2-5 : 6-dianhydromannitol. L. F. Wiggins and D. J. C. Wood. Chem Soc J p 1566-75 Je '50

Anhydrides of polyhydric alcohols; the amino-derivatives of 1 : 4-3 : 6-dianhydro-mannitol, -sorbitol, and -L-iditol, and their behaviour towards nitrous acid. V. G. Bashford and L. F. Wiggins. pl Chem Soc J p371-4 Ja '50

Anhydrides of polyhydric alcohols; the reactions of sodium iodide and lithium chloride with dimethanesulphonyl and ditoluene-*p*-sulphonyl derivatives of the 1 : 4-3 : 6-dianhydrides of D-mannitol, D-sorbitol, and L-iditol. L. F. Wiggins and D. J. C. Wood. Chem Soc J p 1180-4 My '51

Effect of α-methyl substituents on the anhydridization of aliphatic dibasic acids. R. Adams and J. L. Anderson. bibliog Am Chem Soc J 73:136-41 Ja '51

Quantitative studies of the reactivities of mixed carboxylic anhydrides. A. R. Emery and V. Gold. Chem Soc J p 1443-60 Je '50

See also

Maleic anhydride

ANHYDRITE

Anhydrite fights Britain's sulphur shortage. il Chem Eng 58:212+ Jl '51

Manufacture of ammonium sulphate from anhydrite. G. I. Higson. il Chem & Ind p750-4 S 8 '51

ANHYDROGALACTITOL

1,4-Anhydro-D-galactitol. R. K. Ness, H. G. Fletcher, jr. and C. S. Hudson. Am Chem Soc J 73:3742-4 Ag '51

ANHYDROGLUCITOL

Reduction of acetylated glycopyranosyl bromides to 1,5-anhydroglycitols with lithium aluminum hydride; 1,5-anhydro-L-rhamnitol. R. K. Ness, H. G. Fletcher, jr. and C. S. Hudson. bibliog Am Chem Soc J 72:4547-9 O '50

ANHYDROMANNITOL

Some derivatives of 3 : 6-anhydromannitol. A. B. Foster and W. G. Overend. Chem Soc J p680-4 Mr '51

ANHYDRORHAMNITOL

Reduction of acetylated glycopyranosyl bromides to 1,5-anhydroglycitols with lithium aluminum hydride; 1,5-anhydro-L-rhamnitol. R. K. Ness, H. G. Fletcher, jr. and C. S. Hudson. bibliog Am Chem Soc J 72:4547-9 O '50

ANHYDROTALITOL

1 : 2-5 : 6-Di*iso*propylidene 3 : 4-anhydro-D-talitol. P. Bladon and L. N. Owen. Chem Soc J p604-7 F '50

ANILIDES

Asymmetric enzymatic synthesis of amino acid anilides. N. F. Albertson. bibliog Am Chem Soc J 73:452-4 Ja '51

Behavior of organic compounds in 100 per cent sulfuric acid. M. S. Newman and N. C. Deno. bibliog Am Chem Soc J 73:3651-3 Ag '51

Enzymic synthesis of peptide bonds; the relative effects of some amino acids and their acyl substituents. S. W. Fox and H. Wax. bibliog Am Chem Soc J 72:5087-90 N '50

2-Keto-4-methylcyclohexanecarboxyanilide. R. M. Roberts and M. B. Edwards. Am Chem Soc J 72:5783 D '50

See also

Galactopyranose anilides

ANILINE

Acetoacetic ester-type cleavage by aniline. R. M. Roberts and M. B. Edwards. bibliog Am Chem Soc J 72:5537-9 D '50

Aniline come-back. il Chem Ind W 68:39-40 Ap 14 '51

Catalytic synthesis of heterocycles; dehydrocyclization of *o*-alkylbenzene to indoles. C. Hansch and G. Helmkamp. bibliog Am Chem Soc J 73:3080-2 Jl '51

Chemical constitution, electrochemical, photographic and allergenic properties of *p*-amino-N-dialkylanilines. R. L. Bent and others. bibliog il Am Chem Soc J 73:3100-25 Jl '51

Eight liquid phases in stable equilibrium. S. L. Kittsley and H. A. Goeden. il Am Chem Soc J 72:4841-2 O '50

Fluorination of organic compounds containing nitrogen. R. N. Haszeldine. Chem Soc J p 1966-8 Jl '50

Heat capacities of several organic liquids. E. W. Hough, D. M. Mason and B. H. Sage. Am Chem Soc J 72:5775-7 D '50

Heat capacity of the furfuryl alcohol-aniline system. E. W. Hough, D. M. Mason and B. H. Sage. bibliog Am Chem Soc J 73:1363-4 Mr '51

Kinetics and mechanism of aromatic nitration; products of nitration of aniline derivatives, especially of dimethylaniline; the concomitant dealkylation of dialkylanilines. J. Glazer and others. Chem Soc J p2657-78 O '50

Kinetics of the condensation of anilines with formaldehyde. Y. Ogata, M. Okano and M. Sugawara. Am Chem Soc J 73:1715-17 Ap '51

Kinetics of the iodination of aniline. E. Berliner. Am Chem Soc J 72:4003-9 S '50

Kinetics of the Kjeldahl reaction. G.-M. Schwab and E. Schwab-Agallidis. diag Am Chem Soc J 73:803-9 F '51

Limiting negative pressure of acetic acid, benzene, aniline, carbon tetrachloride, and chloroform. L. J. Briggs. J Chem Phys 19:970-2 Jl '51

Partition studies; partition coefficients and ionization constants of methyl-substituted anilines. C. Golumbic and G. Goldbach. bibliog Am Chem Soc J 73:3966-7 Ag '51

Stabilization of highly polar resonance structures by hydrogen bonding; electric moments. C. Curran and G. K. Estok. bibliog Am Chem Soc J 72:4575-8 O '50

N-Toluene-*p*-sulphonyl derivatives of the *p*-halogenoanilines. J. Ratcliffe. Chem Soc J p 1140-1 Ap '51

ANILINE printing. See Color printing

ANILS

Catalytic synthesis of heterocycles; dehydrocyclization of anils to nitrogen heterocycles. C. Hansch and others. bibliog Am Chem Soc J 73:704-6 F '51

Condensation of nitroalkanes with anils. C. D. Hurd and J. S. Strong. Am Chem Soc J 72:4813-14 O '50

ANIMAL experimentation
Otitis media and audiogenic seizures in mice. H. Frings and M. Frings. bibliog Science 113:689-90 Je 15 '51

ANIMAL intelligence
Animal intelligence. C. J. Warden. il diag Sci Am 184:64-8 Je '51

ANIMAL products
See also
Milk
Packing houses—By-products

ANIMAL repellents
See also
Rodent repellents

ANIMALS
See also
Food preferences (animal)
Fresh water fauna

ANIMALS, Habits and behavior of
See also
Hibernation

ANIONOTROPY
Studies in molecular rearrangement; the oxotropic rearrangement of *cis*-propenylcarbinols; the stereochemical course of anionotropy. E. A. Braude and J. A. Coles. Chem Soc J p2085-92 Ag '51
Substituted anthracene derivatives. G. M. Badger and R. S. Pearce. Chem Soc J p2311-18 S '50

ANIONS
Analysis of inorganic compounds by paper chromatography; analysis of cations and anions. F. H. Pollard, J. F. W. McOmie and I. I. M. Elbein. Chem Soc J p470-4 F '51
Combination of organic anions with serum albumin; the protein sites involved in the combination. J. D. Teresi. bibliog Am Chem Soc J 72:3972-8 S '50
Influence of electrolytes on pulp and paper properties; anion effects. W. E. Cohen and others. bibliog Paper Tr J 133:16-18+ Jl 27 '51
Separation of anions by paper partition chromatography. W. S. DeLoach and C. Drinkard. J Chem Educ 28:461 S '51

ANISIDINE
Studies in peroxidase action; the oxidation of *p*-anisidine; a further example of ready demethoxylation; some theoretical considerations. D. G. H. Daniels and B. C. Saunders. Chem Soc J p2112-18 Ag '51

ANISOLE
Apparent polarities of a number of substituted chloro-, nitro-, methyl-, methoxy-, and acetyl-benzenes. C. G. Fèvre and R. J. W. Le Fèvre. Chem Soc J p 1829-33 Jl '50
Influence of the methoxyl group in aromatic substitution. P. B. D. de la Mare and C. A. Vernon. Chem Soc J p 1764-7 Jl '51
Syntheses with *cis*-hexahydrophthalic anhydride. F. C. Novello and M. E. Christy. bibliog Am Chem Soc J 73:1267-70 Mr '51

ANISOTROPY
Anisotropy of diffusion in grain boundaries. M. R. Achter and R. Smoluchowski. diags Phys R 83:163-4 Jl 1 '51
Anisotropy of nitrogen adsorption on single crystal copper surfaces. T. N. Rhodin, jr. bibliog Am Chem Soc J 72:5691-9 D '50
Atom polarisation; the solvent-effect theory and its application to the molecular refraction and polarisation of *n*-paraffins in the liquid state. A. Audsley and F. R. Goss. Chem Soc J p2989-97 N '50
Effects of anisotropy in a three-dimensional array of conducting disks. G. Estrin. diags Inst Radio Eng Proc 39:821-6 Jl '51
Low temperature oxidation of copper; reaction rate anisotropy. T. N. Rhodin, jr. Am Chem Soc J 73:3143-6 Jl '51
Optical examinations of anisotropy in vulcanizates. S. Oberto. bibliog il Ind & Eng Chem 43:393-8 F '51
Theory of magnetic anisotropy in Alnico V. J. E. Goldman and R. Smoluchowski. bibliog Phys R 80:302-3 O 15 '50
See also
Magnetic properties

ANNEALING
Anneal ductile iron for better machinability. J. F. Kahles and R. Goldhoff. il Iron Age 166:105-8 D 14 '50
Annealing of Ti and Zr. A. M. Bounds and H. W. Cooper. il Metal Prog 59:69+ Ja '51
Application of the absolute reaction rate theory to some problems in annealing. F. W. Cagle, jr. and H. Eyring. bibliog J Ap Phys 22:771-5 Je '51
Brass strip annealed and cleaned continuously; American brass co.'s new sheet and strip mill. il diag Steel 128:76-7 Mr 26 '51
Continuous annealing arousing industry interest. W. R. Weir. il Steel 128:68+ Ap 30 '51; Excerpts. Iron & Steel Eng 28:86 Mr '51
Copper tubes spot annealed in deoxidizing atmosphere. W. W. Swarthout. il Steel 128:84 Mr 12 '51
Effect of heating rate on graphitization of white iron. M. Okamoto. il Foundry 79:101 F '51
Experimental survey of deformation and annealing processes in zinc. D. C. Jillson. bibliog(61 titles) il diags J Metals 188:Trans 1009-18 Ag '50; Discussion. 3:Trans 541-4 Jl '51
Formation of annealing twins. J. E. Burke. bibliog il diags J Metals 188:Trans 1324-8 N '50
Method for annealing metal powders without sintering. F. W. Von Batchelder and H. E. Stauss. il R Sci Instr 22:396-7 Je '51
Origin of the cube texture in face-centered cubic metals. P. A. Beck. bibliog J Metals 3:Trans 474-5 Je '51
Pulse-annealing for the study of relaxation processes in solids. W. E. Parkins and others. il diags J Ap Phys 22:1012-19 Ag '51
Theory of annealing textures. P. A. Beck. bibliog J Metals 3:Trans 475-6 Je '51
Thermal variation of Young's modulus in some Fe-Ni-Mo alloys. M. E. Fine and W. C. Ellis. J Metals 3:Trans 761-4 S '51
See also
Electric furnaces, Annealing
Furnaces, Annealing

ANNETT, Fred Anzley
Annett story. pors Power 95:71-3 Ag '51

ANNIVERSARIES, Company
Anniversary celebration looks to the future in terms of the past; open house, 100-year book and local merchandising: Pennsalt. C. Lane. il Ptr Ink 234:32-3 Ja 12 '51
Anniversary ideas. Burroughs Clearing House 35:20-2 Ap '51
How to celebrate a bank anniversary. il Trusts & Estates 90:508-11 Ag '51
Public speaking, pageantry booms Illinois Central 100 years. B. Aitchison. il Ind Marketing 36:34-5+ Mr '51
Tugboat gives businessmen an anniversary ride; illustrations with text. Bsns W p98-9 S 29 '51
What kind of business birthday parties are best? Ptr Ink 233:26-7 D 22 '50

Advertising

Anniversary cake good to the last crumb. Ptr Ink 235:63-4 Ap 20 '51
Contest promotes birthday ideas; Fisher flouring mills co. L. Barden. il Am Bsns 21:34-5 Jl '51
Human relations. Aesop Glim. Ptr Ink 235:68 Je 22 '51
Industrial advertiser starts second half-century with hard-hitting copy; four-page inserts sell products and reputation; Kellogg refinery equipment. N. Keine. il Ptr Ink 234:31 F 23 '51

ANNUAL reports. See Corporations—Reports and yearbooks

ANNUAL wage plan. See Wage payment plans—Guaranty of earnings

ANNUITIES
Continuing gains shown in payment of annuities; table by company for 1940, 1949-50. Weekly Underw 164:24+ sec 2 My 12 '51
Group insurance and group annuity coverage, continental United States business, 1949 and 1950; tabular summary by Life insurance association. Nat Underw 55:13 Jl 26 '51; Same. Nat Underw (Life ed) 55:4 Jl 27 '51
Immediate annuity costs; purchase price of immediate annuity of $10 monthly single premium, males age 65, females age 70; table. Life Ins Courant 56:56-7 O '51

ANNUITIES—*Continued*

Individual annuities, group annuities; company ranking, Dec. 31, 1950; tables. Life Ins Courant 56:56 My '51

Number of annuity holders doubled in last decade. Nat Underw (Life ed) 55:19 Jl 20 '51

Payments under annuity contracts as of Dec. 31, 1950; table by company. Spectator (Life ed) 159:38 S '51

Provincial annuity plan set up in Alberta. Nat Underw (Life ed) 55:7 Ag 10 '51

Sales with payment by annuity. J. M. Maguire. bibliog J Account 90:514 D '50

What are group annuities? D. S. Fuerth. Life Ins Courant 56:41-4 Ap; 38-9 My '51

Rates

Connecticut General gears annuity premiums to state tax rate. Nat Underw (Life ed) 54:1 D 1 '50; Same. East Underw 51:1 D 1 '50

Connecticut General releases new annuity rates; with tabulation of tax rates by states. Nat Underw (Life ed) 54:15 D 8 '50

See interest rise having no effect on annuity rates. Nat Underw (Life ed) 55:5 Ag 3 '51

Taxation

Connecticut General gears annuity premiums to state tax rate. Nat Underw (Life ed) 54:1 D 1 '50; Same. East Underw 51:1 D 1 '50

Connecticut General releases new annuity rates; with tabulation of tax rates by states. Nat Underw (Life ed) 54:15 D 8 '50

Employe annuity, trust rulings made by Revenue bureau; with text. Nat Underw (Life ed) 54:3+ N 17 '50

Employers' annuity contributions ruled taxable income; with text of Ruling 4041. Nat Underw (Life ed) 55:3 Ja 19 '51

Taxability of employes life annuities. F. L. Morton. Spectator (Life ed) 159:36-8 Jl '51

Treasury sets up procedure for avoiding double tax on endowment installments. Nat Underw (Life ed) 54:8-9 O 27 '50

ANODES. See Electrodes

ANOPHELES. See Mosquitoes

ANSHEN, Melvin

Man who will slice the materials pie. por Bsns W p 136 Jl 7 '51

ANTABUSE. See Tetraethylthiuram disulfide

ANTENNAS, Radio. See Radio antennas

ANTENNAS, Television. See Television antennas

ANTHOCHLOR pigments. See Pigments, Biological

ANTHOCYANIDINS

Analysis

Partition chromatography of synthetic anthocyanidin mixtures. E. C. Spaeth and D. H. Rosenblatt. bibliog il diags Anal Chem 22:1321-6 O '50

ANTHRACENE

Deuterium tracers in the Elbs reaction. C. D. Hurd and J. Azorlosa. bibliog Am Chem Soc J 73:37-41 Ja '51

Directional properties of single crystal of anthracene regarding fluorescence phenomena. S. C. Ganguly and N. K. Chaudhuri. il diags J Chem Phys 19:617-18 My '51

Electron energy studies with the anthracene scintillation counter. J. I. Hopkins. bibliog R Sci Instr 22:29-33 Ja '51

Fluorescence efficiencies of some crystals for electrons and heavy particles. W. K. Jentschke and others. Phys R 83:170-1 Jl 1 '51

Ionization loss of μ-mesons at relativistic energies in anthracene. T. Bowen and F. X. Roser. bibliog diag Phys R 83:689-90 Ag 1 '51

Polycyclic aromatic hydrocarbons; synthesis of the metabolic oxidation products of 3 : 4-benzpyrene. J. W. Cook, R. S. Ludwiczak and R. Schoental. Chem Soc J p 1112-21 Ap '50

Reduction of *o*-quinones, with lithium aluminium hydride. J. Booth, E. Boyland and E. E. Turner. Chem Soc J p 1188-90 Ap '50

Response of an anthracene scintillation counter to protons. H. B. Frey and others. bibliog Phys R 82:372-3 My 1 '51

Response of some scintillation crystals to heavy particles. C. J. Taylor and others. bibliog Phys R 83:169-70 Jl 1 '51

Scintillation detector for the localization of radioactive concentrations in vivo. W. B. Ittner, 3d and M. Ter-Pogossian. diags R Sci Instr 22:638-41 Ag '51

Scintillation spectrum from cosmic rays at 30,000 feet. L. Reiffel and others. Phys R 82:121-2 Ap 1 '51

Scintillations in some phosphor-plastic systems. W. S. Koski. bibliog Phys R 82:230-2 Ap 15 '51

Stereochemistry of metabolic diols from naphthalene and anthracene. J. W. Cook, J. D. Loudon and W. F. Williamson. Chem Soc J p911-14 Mr '50

Studies in the anthracene series; reduction of highly hindered ketones with lithium aluminum hydride. E. L. May and E. Mosettig. Am Chem Soc J 73:1301-2 Mr '51

Substituted anthracene derivatives. G. M. Badger and R. S. Pearce. Chem Soc J p2311-18 S '50

Substituted anthracene derivatives; *cis*- and *trans*-9 : 10-dimethyl-9 : 10-dihydroanthracene. G. M. Badger, M. L. Jones and R. S. Pearce. Chem Soc J p 1700-2 Jl '50

Substituted anthracene derivatives; the ultra-violet absorption spectra of *meso*-substituted 1 : 2-benzanthracenes. G. M. Badger and R. S. Pearce. Chem Soc J p3072-7 N '50

Synthesis of anthracene-9C^{14}. W. H. Stevens and D. A. Holland. Science 112:718-19 D 15 '50

Temperature coefficient of scintillation phosphors. W. L. Minarik and H. G. Drickamer. bibliog R Sci Instr 22:704-5 S '51

Analysis

Dienometric estimation of anthracene. A. F. Titley, J. F. Grove and A. J. Allmand. bibliog Soc Chem Ind J 69(sup no 1):S23-7 '50

ANTHRACITE. See Coal

ANTHRADIOL

Study of the aqueous esterification of anthrahydroquinones. M. Scalera and others. bibliog Am Chem Soc J 73:3094-9 Jl '51

ANTHRAFILT. See Coal as filter medium

ANTHRAHYDROQUINONE. See Anthradiol

ANTHRALDEHYDE

Reactions in sunlight of certain diketones with ethylenes and aromatic aldehydes; photopolymerisation of 9-anthraldehyde. A. Mustafa. Chem Soc J p 1034-7 Ap '51

Reactions with 9-anthraldehyde. A. Mustafa. bibliog Science 112:440 O 13 '50

ANTHRAQUINONE

Chemistry of indanthrone; *tert.*-butyl derivatives of indanthrone and flavanthrone; the mode of formation of flavanthrone in the alkali fusion of 2-aminoanthraquinone. W. Bradley and H. E. Nursten. Chem Soc J p2170-7 Ag '51

Chemistry of indanthrone; the mode of formation of indanthrone from 2-aminoanthraquinone and potassium hydroxide. W. Bradley and E. Leete. Chem Soc J p2129-46 Ag '51

Dyeing of wool with vat colors with particular emphasis on the anthraquinone types. A. E. Weber. Am Dyestuff Rep 40:78-83 F 5 '51

Molecular compound of anthraquinone and dianthron-9-yl. V. M. Ingram. Chem Soc J p2211-13 Ag '50

Some hydroxyanthraquinones and derivatives. L. H. Briggs and G. A. Nicholls. Chem Soc J p 1138-9 Ap '51

ANTHRAX

Occupational diseases transmitted via contact with animals and animal products. H. K. Abrams and P. Warr. Ind Med 20:345-6 Ag '51

ANTHRAXYLON

Kinetics of coal hydrogenation; conversion of anthraxylon. S. Weller, M. G. Pelipetz and S. Friedman. Ind & Eng Chem 43:1575-9 Jl '51

ANTHRONE

Anthrone blood sugar method adapted to diabetes case finding in a multiple screening program. R. H. Fetz and L. M. Petrie. bibliog Pub Health Rep 65:1709-18 D 22 '50

Oxidation of anthrone by aromatic nitrocompounds. V. M. Ingram. Chem Soc J p2246-7 Ag '50

ANTHROPOLOGY

See also

Indians of North America

ANTIAUXINS. See Growth inhibiting substances

ANTIBIOTIC substances

Antibiotics. G. F. O'Brien. bibliog Ind Med 20:124-8 Mr '51

Antibiotics certification rules revised by FDA. Oil Paint & Drug Rep 160:3+ O 15 '51

Antibiotics in nutrition; abstract and discussion. W. F. Cuthbertson. Chem & Ind p477 Je 23 '51

Antibiotics; penicillin and others. E. Di Cyan. Consumers Res Bul 28:21-2 Ag '51

Battle Creek sewage plant produces new product. R. R. McIntosh. il Water & Sewage Works 98:413-15 O '51

Breaching the barrier; antibiotic has conquered a true virus. il Chem Ind W 68:34 My 26 '51

Chemical engineering unit processes fourth annual review; fermentation. S. B. Lee. il Ind & Eng Chem 43:1948-69 bibliog(414 ref, p 1965-9) S '51

Field of antibiotics expands. il Chem Age (Lond) 64:81-7 Ja 13 '51

FDA amends antibiotic certification regulations. Oil Paint & Drug Rep 160:3 Jl 23 '51

Fumagillin (H-3), a new antibiotic with amebicidal properties. M. C. McCowen and others. bibliog Science 113:202-3 F 23 '51

Hopes seen for antibiotic control of all infectious diseases. Chem & Eng N 28:3774 O 30 '50

Larger antibiotic supplies needed for mobilization program. Chem & Eng N 29:286 Ja 22 '51

Netropsin, a new antibiotic produced by a streptomyces. A. C. Finlay and others. Am Chem Soc J 73:341-3 Ja '51

Present status of antibiotics in tuberculosis; abstract. G. Brownlee. Chem & Eng N 29:3292 Ag 13 '51

Results of studies on the preservative action of antibiotics in processed foods; abstract. J. D. Burroughs and I. E. Wheaton. Food Eng 23:158 My '51

Streptomyces antibiotics; 1,3-diamino-4,5,6-trihydroxycyclohexane from neomycin A. F. A. Kuehl, jr., M. N. Bishop and K. Folkers. Am Chem Soc J 73:881-2 F '51

Studies on antibiotics; substituted ω-phenylsulphonylacetophenones, bisphenylthio- and bisphenylsulphonyl-alkane derivatives. F. Bergel, A. L. Morrison and H. Rinderknecht. Chem Soc J p659-63 F '50

Studies on antipodes; observations on D-amino acids and on casein derivatives containing D-amino acid residues. S. W. Fox and Y. Kobayashi. bibliog Am Chem Soc J 73:353-5 Ja '51

This antibiotic age. bibliog il Chem & Eng N 29:1190-5 Mr 26 '51

Wonder drugs snag new laurels; antibiotic feed supplements. il Chem Ind W 68:19-20 Ap 7 '51

X-ray analysis of some antibiotic substances. J. D. Dunitz and J. E. Leonard. Am Chem Soc J 72:4276-7 S '50

See also

Actinomycin
Aspergillic acid
Aureomycin
Bacitracin
Chloromycetin
Citrinin
Grisein
Neomycin
Patulin
Penicillin
Polymyxin
Streptomycin
Subtilin
Terramycin

ANTICLINES. See Folds (geology)

ANTICOAGULANTS. See Blood—Coagulation

ANTICONVULSANTS

Anticonvulsant drugs; some cyanurates. M. A. Spielman, W. J. Close and I. J. Wilk. bibliog Am Chem Soc J 73:1775-7 Ap '51

Anticonvulsant drugs; some 2-oxazolidones. W. J. Close. Am Chem Soc J 73:95-8 Ja '51

ANTIFERROMAGNETIC structure. See Crystallography

ANTIFERROMAGNETISM. See Magnetic properties

ANTI-FOAMS. See Foaming

ANTI-FOULING paint. See Paint, Anti-fouling

ANTI-FREEZE coatings. See Ice protection

ANTI-FREEZE solutions

Anti-freeze turnabout. il Chem W 69:39 Ag 11 '51

How to size piping for antifreeze solutions; data sheet. W. P. Armstrong and C. J. Kippenhan. Heating-Piping 22:104-6 N '50

Limitations of propylene glycol anti-freeze. Consumers Res Bul 27:25 F '51

Advertising

Starch reports best-read advertisements. il Adv Agency 44:70-1 S '51

Prices

OPS sets ceilings for antifreeze. Nat Pet N 43:20-1 Ag 8 '51

ANTIGENS and antibodies

Alteration of immunological response in malignancy; decline of proteus agglutinin. I. A. Parfentjev and others. bibliog Science 113:523-4 My 4 '51

Color reactions of human antibody and normal human gamma globulin. S. M. Beiser and E. A. Kabat. bibliog Am Chem Soc J 73:3501-2 Jl '51

Factors involved in blood clearance of bacteria. A. B. Stavitsky. bibliog Science 113:520-2 My 4 '51

Preparation of antisera for detection of the somatic antigens of salmonella cultures. P. R. Edwards. bibliog Pub Health Rep 66:837-9 Je 29 '51

Preparation of dried antigen and antiserum for the agglutination-inhibition test for virus influenza. M. R. Hilleman and others. bibliog Pub Health Rep 66:1195-203 S 21 '51

Radioactive tracers in antisera. F. D. S. Butement. Chem Soc J supp no 2:S408-10 '49

Structure of an antigenic polysaccharide isolated from tuberculin. P. W. Kent. Chem Soc J p364-8 F '51

Valence of precipitating rabbit antibody. S. J. Singer and D. H. Campbell. Am Chem Soc J 73:3543-4 Jl '51

ANTIHISTAMINES

Aminoalkyl tertiary carbinols and derived products; 3-tertiary-amino-1-aryl-1-(2-pyridyl)-propan-1-ols and -prop-1-enes. D. W. Adamson and J. W. Billinghurst. Chem Soc J p 1039-45 Ap '50

Antihistamine ads ride hard on Digest article. N. Kelne. Ptr Ink 234:67+ Ja 26 '51

Antihistamine drugs. B. Idson. Chem R 47:307-527 bibliog(464 ref, p365-76) D '50

Antihistamine drugs. B. Idson. bibliog il Chem Ind W 68:7-16 Mr 31 '51

Antihistaminics in the treatment of burns. M. M. Kessler. Ind Med 20:42-3 Ja '51

Bombshell atomizer; polyethylene nebulizer dispenses nasal spray medication; Anahist Atomizer. il diag Mod Packaging 24:104-7 N '50

Chemistry of antihistamine and related drugs. D. W. Adamson. bibliog(52 ref) Chem & Ind p2-7 Ja 6 '51

Double entry; Hist-O-Plus, antihistamine analgesic combination. Chem Ind W 68:23 F 10 '51

Long-acting antihistaminics; abstract. H. Morren and others. Chem & Eng N 29:3963-4 S 24 '51

Pyridyl-aryloxy alkamine ethers as histamine antagonists. D. Papa, N. Sperber and M. Sherlock. Am Chem Soc J 73:1279-80 Mr '51

Structure and pharmacological activity among 2-haloethylamine derivatives with a naphthylmethyl group; variation of the halogen. N. B. Chapman and others. Chem & Ind p633 Jl 21 '51

Symptomatic treatment of the common cold; usefulness of antihistaminics. R. F. Buchan and others. bibliog A M A Archives Ind Hygiene & Occup Med 4:32-42 Jl '51; Abstract. Nat Safety N 64:118+ O '51

ANTIMALARIALS. See Malaria

ANTIMONY

Activation cross sections measured with antimony-beryllium photoneutrons. V. Hummel and B. Hamermesh. diags Phys R 82:67-8 Ap 1 '51

Amorphous antimony; lecture demonstration in allotropy. H. J. Fraden. diags J Chem Educ 28:34-5 Ja '51

Antimony imports, production, consumption; tabulations. Steel 128:131 Ja 1 '51

Antimony, 1950. A. S. Kemp. Eng & Min J 152:91 F '51

Electrochemical behaviour of the antimony electrode. S. E. S. El Wakkad. Chem Soc J p2894-6 O '50

Hall coefficient and resistivity of thin films of antimony prepared by distillation. W. F. Leverton and A. J. Dekker. bibliog diags Phys R 80:732-6 N 15 '50

Significance of antimony in the history of chemistry. M. L. Dufrenoy and J. Dufrenoy. bibliog J Chem Educ 27:595-7 N '50

World antimony production, imports, prices; tabulations. Iron Age 167:303-4 Ja 4 '51

Analysis

Alkalimetric determination of metals with the aid of acid-base indicators. J. F. Coetzee. Chem Soc J p2098-102 Ag '51

Electrolytic determination of antimony. G. Norwitz. bibliog Anal Chem 23:386-7 F '51

Photoelectric spot analysis of antimony and bismuth. T. Sudo and K. Hayase. Science 113:11-12 Ja 5 '51

Reductometric titration of antimony, copper, and tin with chromous ion. J. J. Lingane and C. Auerbach. bibliog Anal Chem 23:986-91 Jl '51

Spot test detection of antimony by means of gossypol. P. W. West and L. J. Conrad. bibliog Anal Chem 22:1336-7 O '50

Isotopes

β-Ray spectrum and the *ft* value in the second forbidden transition. S. Nakamura and others. bibliog Phys R 83:1273-4 S 15 '51

Energy dependence of the beta-gamma angular correlation in Sb^{124}. E. K. Darby and W. Opechowski. bibliog Phys R 83:676-7 Ag 1 '51

Enrichment of antimony activity through the Szilard-Chalmers separation. M. Kahn. bibliog Am Chem Soc J 73:479-80 Ja '51

Gamma-neutron cross sections. H. E. Johns and others. bibliog diag Phys R 80:1062-8 D 15 '50

Prices

Nonferrous prices; tabulation. Steel 128:129 Ja 1 '51

ANTIMONY alloys

Electrical resistivity and thermoelectric power of antimony-selenium alloys. B. D. Cullity and others. bibliog J Metals 188: Trans 47-52 Ja '50; Discussion. 188:Trans 1367-8 N '50

Lattice parameter of InSb. T. S. Liu and E. A. Peretti. J Metals 3:Trans 791 S '51

ANTIMONY chlorides

Distillation of antimony trichloride for improved reagent. A. Mueller, S. H. Fox and R. I. Day. bibliog diag Anal Chem 22:1570-1 D '50

ANTIMONY compounds

Configuration of heterocyclic antimony compounds; preparation of 9-stibiafluorenes and optical resolution of 2-carboxy-9-*p*-tolyl-9-stibiafluorene. I. G. M. Campbell. diag Chem Soc J p3109-16 N '50

ANTIMONY fluorides

Formation of complex fluorides; the relation between the conductivities of boric, arsenious, and antimonic fluorides and complex formation. A. A. Woolf and N. N. Greenwood. diag Chem Soc J p2200-4 Ag '50

Vapor-liquid equilibrium of antimony pentafluoride-hydrogen fluoride; properties of antimony pentafluoride. R. C. Shair and W. F. Schurig. bibliog diag Ind & Eng Chem 43:1624-7 Jl '51

ANTIMONY mines and mining

Mexico

Antimony deposits of El Antimonio district, Sonora, Mexico. D. E. White and R. Guiza. maps U S Geol S Bul 962-B:81-119, pl 13-25(in pocket); pa 70c Supt. of doc. '49

South Africa

Antimony mining in South Africa. Chem Age (Lond) 63:779-80 D 2 '50

ANTIMONY plating

Antimony plate. A. Bregman. Metal Prog 59: 245-7 F '51

ANTIMONY sulfide

Solubilities of the sulfides of arsenic, antimony, and tin in hydrochloric acid. C. H. Sorum and H. A. Wolf. J Chem Educ 27: 614-16 N '50

ANTIOXIDANTS

Antioxidant; 2, 2^1-methylenebis (4-methyl-6-tertiarybutyl phenol). Chem Eng 58:198 S '51

Butylated hydroxyanisole in lard and shortening. J. H. Mahon and R. A. Chapman. bibliog Anal Chem 23:1120-3 Ag '51

BHA ups shelf life of salted nuts; butylated hydroxyanisole added to cooking oil and salt. S. R. Cecil and J. G. Woodroof. bibliog il Food Ind 23:81-4+ F '51

Double shelf life? it's in the bag; potato chips stay fresh when packet of absorbing and drying agents is slipped into the sack. R. N. Miller and W. E. Robertson. il Food Eng 23:38-9+ Jl '51

Estimation of antioxidants in lard and shortening. J. H. Mahon and R. A. Chapman. bibliog Anal Chem 23:1116-20 Ag '51

Mode of action of phenothiazine-type antioxidants. C. M. Murphy, H. Ravner and N. L. Smith. bibliog Ind & Eng Chem 42: 2479-89 D '50

Selenonophosphates as lubricant additives. R. E. Heiks and F. C. Croxton. Ind & Eng Chem 43:876-84 Ap '51

Sesame oil; antioxidant properties of sesamol: abstract. P. Budowski. Food Ind 22: 1953 N '50

Sulfur compounds as antioxidants; beta-alkylmercaptoketones. R. B. Thompson. bibliog Ind & Eng Chem 43:1638-41 Jl '51

Use the fats that fit your mixes. G. T. Carlin. Food Eng 23:113+ Jl '51

Wood pulpers' dividend; norconidendrin, antioxidant from sulfite pulping wastes. il Chem W 69:23 S 22 '51

ANTIOXIDANTS for rubber. See Rubber—Aging; Rubber, Artificial—Aging

ANTIPYRINE

Lanthanon purifications by the use of hexa-antipyrine lanthanon iodides. J. K. Marsh. Chem Soc J p 1337-9 My '51

ANTIQUES

Ancient Syrian coppers and bronzes. R. J. Braidwood and others. il map J Chem Educ 28:87-96 F '51

ANTIRRHINUM majus

Anthochlor pigments; the pigments of yellow antirrhinum majus. M. K. Seikel and T. A. Geissman. bibliog Am Chem Soc J 72:5725-30 D '50

ANTISEPTICS

New iodine compound is internal antiseptic. Chem & Eng N 29:664 F 19 '51

ANTISERUM. See Serum

ANTI-SLIP surfaces. See Floors—Anti-slip surfaces

ANTISPASMODICS

Aminoalkyl tertiary carbinols and derived products; spasmolytics; phenyl- and *cyclo*-hexylphenyl-carbinols. D. W. Adamson, P. A. Barrett and S. Wilkinson. Chem Soc J p52-60 Ja '51

Antispasmodics; esters of β-alkyltropic acids. A. W. Weston and R. W. DeNet. Am Chem Soc J 73:4221-3 S '51

Antispasmodics; substituted α-(β-aminoethyl)-phenylacetonitriles and 3-phenylpropylamines. A. W. Ruddy. bibliog Am Chem Soc J 73:4096-8 S '51

Research yields understanding of stimulants, antispasmodics; abstract. A. M. Lands. Chem & Eng N 29:3467-8 Ag 20 '51

Some new choline type thiols. J. Weijlard and M. Tishler. Am Chem Soc J 73:1497-500 Ap '51

ANTISPASMODICS—*Continued*

α-Thienyl substituted aminoesters with analgetic and spasmolytic properties. F. Leonard and I. Ehrenthal. Am Chem Soc J 73:2216-18 My '51

See also

Kellin

ANTI-STRIKE law. See Strikes—Law

ANTISUBVERSIVE laws. See Subversive activities

ANTITRUST laws. See Trusts, Industrial—Law

ANVILS

Casts 150-ton steel anvil block in a single mold; Continental foundry & machine co. il Foundry 78:150 N '50

APALACHICOLA river, Florida

Continental slope off Apalachicola river. G. F. Jordan. il maps Am Assn Pet Geologists Bul 35:1978-93 S '51

APARTMENT houses

Are apartments economically obsolete? J. C. Downs, jr. Arch Forum 94:107+ F '51

Difficult site no obstacle to woman builder; Perego Heights apartments, San Francisco. il plan Am Bld 73:125 F '51

Easier curb; new regulations on multi-family housing. Bsns W p92-3 N 25 '50

Formwork simplified for apartment house. il plan diags Eng N 147:35-6 Ag 16 '51

HHFA contracts with private industry for apartment building research. Arch Rec 110: 12-13 S '51

Partitions function as columns in scheme for apartment buildings; called cellular construction. P. Weidlinger. il plans diags Arch Rec 109:134-9 Ja '51

Rollover in rental housing. J. Backman and A. Gitlow. Land Econ 27:58-66 F '51

Saving $75,000 on floor costs; Marylander apartment house in Baltimore. il Eng N 146:39 My 10 '51

Two front apartment faces up and down San Francisco's Telegraph hill. il plans Arch Forum 95:200-5 S '51

Walkups vs. elevator apartments; ten-story buildings connected by circulation bridges with pair of elevators at center; New Orleans project. il plan Arch Forum 93: 101 D '50

Air conditioning

Absorption equipment for apartments analyzed; abstract. W. S. Scott. Heating-Piping 23:87-8 Jl '51

Modern air conditioned structures for New Orleans. Heat & Ven 48:82 O '51

Residential air conditioning; low priced builder's house and luxury apartment houses in Philadelphia. il plans diags Arch Forum 95:182-3+ Ag '51

Designs and plans

Apartment house not designed to meet codes but to step out ahead of them. il plan diags Arch Forum 93:118-19 D '50

Boston builds balconies; Eastgate apartments, Cambridge, Mass. il plans diags Arch Forum 94:114-29 My '51

Hillside apartments, Berkeley, Calif. il plan diag Arch Rec 109:95-9 Ja '51

Multistory buildings designed to resist earthquakes. J. J. Gould. il plans Am Concrete Inst J 23:29-36 S '51

Slum surgery in St Louis centers about a new apartment type; elevators stop every three floors. il plans Arch Forum 94:130-4 Ap '51

Electric equipment

All-electric flats. P. Schiller. Elec R (Lond) 149:225-7 Ag 3 '51

Garden apartments

Garden apartments, Atlanta. J. H. Finch and M. D. Barnes. il plans Arch Forum 94:144-5 Je '51

Good architecture pays dividends; Bel Air garden apartments, west Los Angeles. il plans Arch Rec 109:118-22 Ap '51

Heating and ventilation

Adding floor presents a problem. W. B. Buck. il plan Heating-Piping 23:102-3 Mr '51

Boiler room designed for efficiency; Twin Oaks apartments, Kansas City, Mo. il Dom Eng 178:162+ S '51

Each apartment has a furnace; Parkway Gardens, Parma, Ohio. il plans Arch Rec 108:154 D '50

Heating a glass house; glass and steel apartment house in Chicago. il plan diags Dom Eng 177:134-6+ F '51

How world's largest landlord heats low cost housing; procedures adopted by New York City Housing authority. L. Smith. il diags Heating-Piping 22:80-3 N; 80-3 D '50

Individual apartment heating control. L. Johnson. diags Heat & Ven 48:81-3 Ag '51

Tailoring an anthracite boiler to an overfeed rice stoker. H. F. Eastwood. il Heat & Ven 48:84-6 F '51

Skip-floor corridor plan

Skip-floor elevators; system at Eastgate. il plans diags Arch Forum 94:122-4 My '51

Slum surgery in St Louis centers about a new apartment type. il plans Arch Forum 94:130-4 Ap '51

APARTMENTS

Apartments designed for single people; Brentwood garden apartments, Los Angeles. il plan Arch Rec 109:178-83 Je '51

Garage roof supports 46 housing units; 46 two-story apartment units built on top of a three-level, side-hill garage. il plan diags Eng N 146:39-41 My 31 '51

Remodeling old structures is profitable; apartment units made from old masonry structure. il plans Am Bld 73:100-1 Mr '51

Short cut to low rents; Burns apartment project, North Hollywood, Calif. il Bsns W p78-80+ Jl 28 '51

APATITE

Sodalite and apatite in Canada. D. S. M. Field. il Can Min J 72:82-3 S '51

APHIDS. See Plant lice

APOTHECARIES, Society of. See Society of apothecaries

APPALACHIAN electric power company

Bonds offered. Comm & Fin Chr 174:1-2 Jl 2 '51

APPAREL shops, Women's. See Women's apparel shops

APPLE flavor. See Flavoring materials

APPLE juice

Manufacture

Experimental unit for recovery of volatile flavors. G. W. M. Phillips and others. bibliog il diag Ind & Eng Chem 43:1672-5 Jl '51

APPLE juice, Frozen

Frozen concentrated apple juice. R. K. Eskew and others. bibliog flow sheet Ind & Eng Chem 43:2397-403 O '51

APPLEGATE, Kenneth Pomeroy, 1890-

Applegate is president of Hartford Electric Light. por(cover) Elec World News ed 136: 22+ Ag 6 '51

APPLES

Customers say yum yum to apple-wine-cheese tie-in sale. il Sales Management 65: 50+ N 1 '50

Determination of residual glyoxalidine fungicides on apples and cherries. E. F. Hillenbrand, jr., W. W. Sutherland and J. N. Hogsett. Anal Chem 23:626-9 Ap '51

Makes big strides in apple processing; Knouse foods cooperative, inc. J. V. Ziemba. flow sheet(p 136-9) il Food Ind 23:111-16 F '51

Mechanized apple butter and jelly lines; Knouse foods cooperative, inc.; picture flow sheet. Food Ind 23:138-41 Mr '51

Pre-bagged apples; Washington state apple commission study of costs and efficiencies. E. W. Carlsen. il Mod Packaging 24:110-13+ My '51

Storage

Ground heat in cold storages. G. F. Sainsbury. diags Refrig Eng 58:1066-9+ N '50

APPLESAUCE

Makes big strides in apple processing; Knouse foods cooperative, inc. J. V. Ziemba. flow sheet(p 136-9) il Food Ind 23:111-16 F '51

APPLICATIONS for positions

Advice for an interviewee. W. A. Lowen. Adv Agency 44:65+ Mr '51

How I just broke into advertising. F. H. Gildner, jr. il Ptr Ink 235:38-9 Je 29 '51

APPLICATIONS for positions—*Continued*

Marketing your abilities; guides for the job seeker. H. W. Howell. bibliog Personnel 28:77-82 Jl '51

Shortening the employment application. T. C. Kent. Personnel J 29:376-7 Mr '51

What is the right job for me? how to go about getting the right kind of job in a businesslike way. A. P. Richmond, jr. bibliog Civil Eng 20:772-3 D '50

APPOINTMENT, Power of. See Power of appointment

APPRENTICE training service. See United States—Apprenticeship, Bureau of

APPRENTICES

Apprentice training; still not enough. il Bsns W p32+ My 12 '51

B.E.A. apprentice scheme. Elec R (Lond) 148:792 Ap 20 '51

Clinton, Iowa high school trains boys to build. il plans Am Bld 73:126-7 S '51

How Canada controls apprentices. G. Rousseau. Am Mach 95:144-6 F 19 '51

How the Alaska railroad trains shop apprentices. R. Perry. il Ry Age 131:42-4 S 24 '51

Individual in industry. J. French. Engineer 191:572-4 My 4 '51

Industrial education in Great Britain; contrast and similarity between British and American systems. J. Rich. Personnel 27:328-36 Ja '51

IBM develops its own toolmakers. E. J. Tangerman. il Am Mach 95:130-1 Mr 5 '51

National apprenticeship scheme, Electrical contractors' association; abstracts. W. T. Trace. Electrician 146:1837 Je 1 '51; Elec R (Lond) 148:1149-50 Je 1 '51; Discussion. Electrician 146:1839-41+ Je 1 '51

See also

Employees, Training of

APPROXIMATE computation

Theory of cooperative phenomena. R. Kikuchi. bibliog diags Phys R 81:988-1003 Mr 15 '51

APTITUDE tests. See Ability tests

AQUATIC life. See Fresh water fauna

AQUATIC plants

See also

Eelgrass

Water hyacinth

AQUEDUCTS

Electrolysis in connected aqueducts. D. Hendrickson. diag Eng N 145:27-8 D 28 '50

ARAB states

Camel hair curtain. Economist 160:1044-5 My 5 '51

ARABIA

Economic conditions

News by countries; Saudi Arabia. For Comm W 42:17 Ja 22; 26-7 F 19 '51

ARABIAN American oil company

Arabian report. Oil & Gas J 50:56+ Je 28 '51; World Oil 133:258+ Jl '51

Aramco-Arab agreement. D. M. Duff. Oil & Gas J 49:60+ Ja 11 '51

New Aramco tax. Oil & Gas J 49:36 Ja 4 '51

ARABINOSE

Deoxy-sugars; the conversion of D-arabinose into 3-deoxy-D-xylose derivatives. R. Allerton and W. G. Overend. Chem Soc J p 1480-4 Je '51

Improvements in the preparation of D-arabinose from calcium D-gluconate and of D-lyxose from calcium D-galactonate. H. G. Fletcher, jr., H. W. Diehl and C. S. Hudson. Am Chem Soc J 72:4546 O '50

Improvements in the preparation of L-arabinose from mesquite gum. C. S. Hudson. Am Chem Soc J 73:4038-9 Ag '51

Use of sodium cyanide with L-arabinose in the Kiliani synthesis. C. S. Hudson. Am Chem Soc J 73:4498-9 S '51

ARABINOSYLAMINE

Mechanisms for the mutarotation and hydrolysis of the glycosylamines and the mutarotation of the sugars. H. S. Isbell and H. L. Frush. bibliog J Res Nat Bur Stand 46:132-44 F '51

ARABOGALACTAN

Wood gum vs. arabic. il Chem W 69:21 Jl 28 '51

ARABS

Arabs in dire need. Economist 159:1149-50 D 23 '50

ARALDITE. See Resinous products

ARBITRATION

Standard arbitration; what it is and what it does. T. A. Morgan. Standardization 22:144-8+ My '51

ARBITRATION, Industrial

Arbitration under the labor contract, its nature, function and use. J. J. Justin. Personnel 27:286-300, 424-31 Ja-Mr '51

Arbitrator code; three mediation groups agree on standards. Bsns W p91-2 F 3 '51

Arbitrator; mediator or judge? abstract. Management R 40:133 Mr '51

Code of ethics and procedure for arbitrators. Mo Labor R 72:271-6 Mr '51; Same. Personnel 27:496-501 My '51

Negotiators; made or born? guideposts to intelligent choice of a company labor negotiator. Mod Ind 20:45-7 D '50

Recent arbitration awards; sign posts in labor relations. L. Stessin. Mill & Factory 49:75-80 S '51

Some instruments of industrial peace. C. S. Ching. Ann Am Acad 274:179-84 Mr '51

Standard arbitration, what it is and what it does. T. A. Morgan. Standardization 22:144-8 My '51

Tripartite boards or single arbitrators? abstract. A. Lesser, jr. Management R 40:478-9 Ag '51

Using the arbitration clause. J. J. Justin. Personnel 28:67-72 Jl '51

Utility rate fixing by labor arbiters? H. S. Simpson. Pub Util 46:804-10 D 7 '50

Voluntary arbitration as a method of labor dispute settlement. G. W. Taylor. Personnel 27:372-83 Mr '51

ARBORS and mandrels

Knock-off ring facilitates removal of work from mandrel. J. J. Baule. diag Mach 57:191 Ag '51

New tool for pile driving; pneumatic mandrel gets test. il Eng N 146:35-6 Ja 11 '51

Steep-taper arbors and collet shanks for milling and boring machines; tentative standard; reference book sheet. diags Am Mach 94:135 N 27 '50

ARC, Electric. See Electric arc

ARC lamps. See Electric lamps, Arc

ARC suppression coils. See Petersen earth coil

ARC welding. See Electric welding, Arc

ARCHEOLOGY

Radiocarbon dates. J. R. Arnold and W. F. Libby. bibliog Science 113:111-20 F 2 '51

Symposium on archaeological chemistry. E. R. Caley and others. bibliog il map J Chem Educ 28:63-96 F '51

See also

Alaska—Antiquities

Indians of North America—Antiquities

ARCHER-DANIELS-MIDLAND company

Sales outlook favorable. Barron's 31:23 Ja 8 '51

ARCHES

Arched industrial building integrates display, repair and office space for Caterpillar Tractor; Rio de Janeiro. il plan diags Arch Forum 93:136-7 N '50

Structural study; Jefferson memorial arch. F. N. Severud. il diags Arch Rec 110:151-3 Jl '51

See also

Bridges, Arched

ARCHES, Aluminum

First aluminum traffic control arches. il Light Metal Age 9:31 Je '51

ARCHES, Concrete

Cylindrical roof for circular coliseum; Alabama's live-stock coliseum in Montgomery. B. G. Anderson. il diags Eng N 145:30-3 N 2 '50

Effects of lateral loads on arches. J. P. Michalos. diags Am Concrete Inst J 22:377-87 Ja '51

Huge arched roofs built of precast units; Palazzo Esposizioni (Exhibition Palace) in Turin, Italy. il Eng N 146:46-7 Ja 4 '51

Plain and reinforced concrete arches. Am Concrete Inst J 22:681-91 My '51; Discussion. 23:692^1-692^{11} pt 2 D '51

ARCHITECTS

Architectural life. W. W. Wurster. il Arch Rec 109:91-4 Ja '51

Behind the blueprints; buildings and biographies of the judges of the NAHB-Forum house design competition. il Arch Forum 94:92+ Mr '51

Defense designing; small architects hit; big firms land most jobs. Arch Forum 95:78+ S '51

Engineers and architects. Engineer 191:607 My 11 '51

Typical architect; AIA survey. map Arch Forum 95:133+ Jl '51

See also

American institute of architects
Maybeck, Bernard R.
Niemeyer, Oscar
Wright, Frank Lloyd

ARCHITECTS' homes. See Architecture, Domestic—Architects' homes

ARCHITECTS' offices

Chicago architect's building serves dual purpose. il plans Am Bld 73:124-5 S '51

Planned for maximum lighting. il plan Am Bld 73:175 Ap '51

Two new architects' office buildings. il plans Arch Rec 109:111-19 Mr '51

Young architect's office, Beverly Hills. W. S. Beckett. il plan Arch Forum 94:138-40 Je '51

ARCHITECTURAL acoustics. See Acoustics, Architectural

ARCHITECTURAL drawing

Architectural graphic standards for architects, engineers, decorators, builders, and draftsmen. C. G. Ramsey and H. R. Sleeper. 4th ed 614p $10 John Wiley & sons, 440 Fourth av, New York 16 '51

ARCHITECTURAL education

Architectural life. W. W. Wurster. il Arch Rec 109:91-4 Ja '51

ARCHITECTURAL libraries

Classification system for architectural files; time-saver standards. Arch Rec 109:155+ Mr '51

ARCHITECTURAL lighting. See Lighting, Architectural

ARCHITECTURAL sculpture. See Sculpture, Architectural

ARCHITECTURAL societies

See also

American institute of architects

ARCHITECTURE

Crystal ball; professor gazes into the future. il Arch Forum 94:198-200 Je '51

Next fifty years; replies to questionnaire. il diag Arch Forum 94:165-70 Je '51

See also

Acoustics, Architectural
Arches
Auditoriums
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Church architecture
College architecture
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Concrete construction
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Orientation (architecture)
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Railroads—Stations
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Shopping centers
Stadiums
Store buildings
Strains and stresses
Strength of materials
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Walls
War memorials
Wood construction

also subdivision Architecture under names of cities, e.g.

Bonn, Germany—Architecture
Honolulu—Architecture
Rio de Janeiro—Architecture
Stockholm, Sweden—Architecture

Designs and plans

Frank Lloyd Wright; portfolio of recent work; with his own commentary. il plans diags Arch Forum 94:73-108 Ja '51

Young man in architecture; portfolio of recent work. il plans diags Arch Forum 94:137-97 Je '51

Details

See also

Architecture, Domestic—Details

History

International style twenty years after. H.-R. Hitchcock. il plans Arch Rec 110:89-97 Ag '51

Philosophy

Architecture and society. P. Belluschi. Arch Rec 109:116-18 F '51

Humanity, our client. J. E. Burchard. il Arch Rec 110:86-99 Jl '51

Study and teaching

See also

Architectural education

Brazil

See also

Rio de Janeiro—Architecture

Germany

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Bonn, Germany—Architecture

Guam

Air force theater, Andersen field, Guam. plan diags Arch Forum 95:172-3+ S '51

Hawaiian Islands

Architecture in Hawaii. il plans Arch Rec 108:106-22 O; 113-30 N '50

Sweden

See also

Stockholm, Sweden—Architecture

United States

Reply to; Man made America, a special number of the Architectural review. Arch Forum 94:158-9 Ap '51

ARCHITECTURE, Domestic

Behind the blueprints; buildings and biographies of the judges of the NAHB-Forum house design competition. il Arch Forum 94:92+ Mr '51

Does FHA discourage better housing? a look at FHA's Los Angeles district office. il Arch Forum 94:20-1 Ap '51

Endless house; Frederick Kiesler's egg-shaped house makes hit at New York art show. il plans Arch Forum 93:124-6 N '50

FHA in Miami; architects beef on design, but builders don't. il Arch Forum 94:27+ Je '51

New homes for new customers. M. Livingston. Am Gas Assn Proc 1950:259-62

Residential ventilation. il diags Am Bld 73:48+ Ap '51

Temperate house; how to do something about the weather by natural means. V. G. Olgyay. il maps plans diags Arch Forum 94:179-91 Mr '51

Twelve architect suggestions for the merchant builder; portfolio of new ideas. il plans diags Arch Forum 94:112-26 Ja '51

See also

Apartment houses
Beach houses
Brick houses
Concrete houses
Country houses
Desert houses
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Housing projects
Lodges (architecture)
Tourist camps, hostels, etc.

Architects' homes

Architect's own house; Carl A. Strauss, Cincinnati. il plans Arch Rec 108:141-4 N '50

Arizona architect designs his own home. il plan diags Arch Rec 110:130-3 S '51

Getting maximum space with limited money; residence at Atlanta. il plans diags Am Bld 73:121-3 Ag '51

House in a New York suburb for Olindo Grossi. il plans diags Arch Rec 108:148-51 N '50

1951 version of early American farmhouse kitchen; built in Beverly hills, Calif. by John P. Pederson. il plan diags Am Bld 73:98-9 Jl '51

ARCHITECTURE, Domestic—*Continued*

Bibliography

Climate and architecture; selected references. 20p Housing and home finance agency, Office of the administrator, Washington 25, D.C. '51

Competitions

Best homes for family living; Parents' Magazine's Expandible homes program. il plans Am Bld 72:143-5 D '50
NAHB-Forum competition report; with details of prize-winning houses. il plans diags Arch Forum 94:104-62 Mr '51
Prize house design in NAHB-Forum competition; with list of prize winners. il plan Arch Forum 94:23, 54+ F '51

Designs and plans

Accentuating spaciousness; modified ranch-type house. il plan Am Bld 73:119 S '51
Architect's version of the true ranch style. il plan Am Bld 73:127 F '51
Benjamin Adelman house in Milwaukee; designed by F. L. Wright. il plan Arch Forum 94:86-9 Ja '51
Builder-designed contemporary homes, Eugene, Ore. il plan Am Bld 73:118+ Je '51
Cocoon house uses navy's moth-balling material to weatherproof catenary curved roof. R. S. Twitchell and P. Rudolph. il plan diag Arch Forum 94:156-9 Je '51
Doctor's house-and-office; Lake Placid, N.Y. il plans Arch Forum 93:132-5 N '50
Ebony, granite, steel and skill; house in Marin county, Calif. il plans diags Arch Forum 94:110-17 Ap '51
Evolution of the 1940 colonial; with blueprints. il Am Bld 72:102-6 N '50
Expansive front achieved with L-shaped plan; with blueprints and quantity list of materials. il Am Bld 73:112-17 S '51
Five elevations; one split-level plan. il plans Am Bld 73:166-8 Ap '51
Five-level house in Belmont, Mass. il plans diag Arch Rec 109:108-11 Ja '51
Flat-top builder houses; California's pioneering Earl Smith demonstrates that public will buy them. il plan diags Arch Forum 95:169-75 Jl '51
Four San Antonio houses set new design and quality standards for merchant builders. il plans diags Arch Forum 93:113-21 N '50
Freedom expressed in small house design; with blueprints and quantity list of materials. il Am Bld 73:106-11 Ag '51
Herbert Jacobs house near Madison, Wis.; two-story solar hemicycle; designed by F. L. Wright. il plans Arch Forum 94:90-3 Ja '51
Hillside site used to obtain maximum privacy, San Rafael, Calif. il plan Arch Rec 109:108-11 F '51
Hilltop residence, Lafayette, Calif. il plan Arch Rec 110:134-7 S '51
Holiday house, Quogue, N.Y. il plan diags Arch Rec 109:162-7 Je '51
Home designed in traditional mode. il plans Am Bld 73:106-7 S '51
Home for two or more; with blueprints. il Am Bld 73:176-80 Ap '51
Home of tomorrow; Fritz Burns postwar house of 1946 remodeled. il plan diags Am Bld 73:102-5 Je '51
Home week display houses indicate design trend. il plans diags Am Bld 73:106-15 F '51
House built around a pool. il plans Am Bld 73:106-8 Mr '51
House economical to build; with blueprints and quantity list of materials. il Am Bld 73:106-11 Je '51
House for Mr and Mrs Lowell Walter near Quasqueton, Iowa; designed by F. L. Wright. il plan Arch Forum 94:82-5 Ja '51
House for Mr and Mrs Sol Friedman in Westchester suburbs of New York; designed by F. L. Wright. il plans Arch Forum 94:98-101 Ja '51
House in Los Angeles. il plan diag Arch Rec 109:144-8 My '51
House in the Pacific Northwest; Blue Ridge, Wash. il plan Arch Rec 109:130-4 Ap '51
House is a house is a house; building types study. il plans diags Arch Rec 108:131-54 N '50
House of contrasts near Redwood City. C. Wisniewski and others. il plan diag Arch Forum 94:153-5 Je '51
House of many features. il plan Am Bld 73:102 Mr '51
House of the year; San Diego house wins AIA award. il plan Arch Forum 93:78-9 D '50
House on stilts reaches for view and breeze. J. Underwood and S. S. Underwood. il plans Arch Forum 94:172-4 Je '51
House that eats, sleeps and works with the view; Portland, Ore. il plans diags Arch Forum 94:163-9 My '51
House that merits approval; with blueprints. il Am Bld 73:120-4 Mr '51
House with Cape Cod influence in ideal setting on Long Island, N.Y. il plans Am Bld 73:113 Je '51
House with emotional content; Lake Forest, Ill. il plans Arch Rec 109:105-10 Mr '51
How good ideas are put to new use; residence; Columbus, Ind. il plans diags Am Bld 73:112-16 Ag '51
John Pew house in Madison, Wis.; designed by F. L. Wright. il plans Arch Forum 94:94-7 Ja '51
Landia; Long Island's Levitt & sons 1951 house. il plans Arch Forum 94:140-6 F '51
Livability on a small, hilly lot, San Francisco. il plans Arch Rec 109:168-71 Je '51
Living quality of modern proved by experience. il plans diags Am Bld 73:162-5 Ap '51
Low roof invites low costs; with blueprints and quantity list of materials. il Am Bld 73:108-13 Jl '51
Meeting the demand for space; with blueprints. il Am Bld 73:104-8 My '51
Model house remodeled; Netherwood Estates, North Plainfield, N.J. il Arch Forum 93:122-3 N '50
Modern styling for two-story, four-bedroom house. il plans Am Bld 73:118 S '51
NAHB-Forum competition report; with details of prize-winning houses. il plans diags Arch Forum 94:104-62 Mr '51
Novel effect achieved by contrasting roof lines. il plans Am Bld 73:108-9, cover S '51
Objective; more floor space; Cemesto home, built by Space, inc., Madison, Wis. il plan Am Bld 73:152-3 Ja '51
One-room house near New Haven, Conn. V. J. Scully, jr. il plan Arch Forum 94:162-4 Je '51
Palley residence, Croton-on-Hudson. il plan Arch Rec 109:140-3 My '51
Part of a multi-house subdivision, yet individually styled. il plans Am Bld 72:107 N '50
Platform raised above a field; Connecticut small house is very big inside. il plans diags Arch Forum 95:164-8 Jl '51
Porch house is one big outdoor living room; Miami Beach. il plan diag Arch Forum 94:138-9 F '51
Ranch house for a 50-foot lot; with blueprints. Am Bld 72:138-42 D '50
Ranch style for hill site overlooking Pacific ocean at La Jolla, Calif. il plans diag Am Bld 72:98-9 N '50
Ready-made cabinets in custom-designed home at Minneapolis. il plan Am Bld 73:118-19 Jl '51
Residence in Highland Park, Ill. il plan Arch Rec 110:110-12 Jl '51
Residence near Danville, Calif. il plan Arch Rec 109:112-15 F '51
Rubinstein residence, Seattle, Wash. il plans Arch Rec 110:114-19 Ag '51
Selected homes exhibited during National home week. il plans Am Bld 73:112-28 Ja '51
Single family, duplex or row house units for less than $6,000 at Lincoln, Neb. il plans Am Bld 73:104-5 Ag '51
Sound planning for good design; ranch type house for a narrow lot; with blueprints. il Am Bld 73:142-6 Ja '51
Subdivision of the year; builder Eichler and architects Anshen & Allen team up in San Francisco Bay area. il plans diags Arch Forum 93:80-7 D '50
Tele-vention home puts video on turntable for three-room viewing. il plan Am Bld 73:159 My '51
Textbook house shows how to beat the Florida climate. il plan Arch Forum 94:132-3 F '51

ARCHITECTURE, Domestic—Designs and plans —*Continued*

Textured mansion on a Mexican hillside near Taxco. il plan Arch Forum 94:136-41 Ja '51

Three for one; designed around one floor plan; with blueprints. il Am Bld 73:136-40 F '51

Three-level house, Miami Beach. il plan Arch Forum 94:136-7 F '51

Three zone house follows contours of hilltop site. U. J. Franzen. il plans diag Arch Forum 94:176-80 Je '51

Three-zone house spreads its wings towards the breeze; Miami. il plan Arch Forum 94: 134-5+ F '51

Trends in entrances. il plans Am Bld 73: 150-1 Ja '51

Two houses on one small lot; Dallas, Tex. il plans Arch Forum 94:134-5 My '51

Umbrella house in Aurora, Ill. has Quonset ribs and coal walls. il plan diag Arch Forum 94:118-21 Ap '51

Unit planning by the Small homes council, University of Illinois. il plans Am Bld 73: 188-9 Ap '51

Unusual small house; builder of small Cape Cods changes basic design. il plan diag Am Bld 72:100-1 N '50

Vacation house in Warm Springs, Ore. il plan Arch Rec 110:100-9 Jl '51

What price more space in the builder house? with cost data. il plans Arch Forum 94:130-1 My '51

See also

Apartment houses—Designs and plans
Architecture, Domestic—Competitions
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Details

American Builder's better detail plate. K. R. O'Neal. il diags Am Bld 73:172-3 Ja '51 [cont monthly]

Remodeling

See Houses, Remodeled

Two-family houses

Economical duplex; 42-family Arlington, Va. development. il plans diag Arch Forum 94: 132-3 My '51

Arizona

Arizona architect designs his own home. il plan diags Arch Rec 110:130-3 S '51

California

California skyline takes on a new look; illustrations with text. Bsns W p 126-7 S 15 '51

Ebony, granite, steel and skill; house in Marin county. il plans diags Arch Forum 94:110-17 Ap '51

House for Dr Mary G. Hamilton, Saratoga. il plans diag Arch Rec 108:138-40 N '50

House in Beverly Hills. il plan Arch Rec 108: 152-4 N '50

Florida

New architecture for tropical Florida; with four model houses. il plans diag Arch Forum 94:131-9+ F '51

Hawaiian Islands

Residence of Mrs Alice C. Lenning, Honolulu. il plan Arch Rec 108:126-7 N '50

Mexico

Textured mansion on a Mexican hillside near Taxco. il plan Arch Forum 94:136-41 Ja '51

Texas

Four San Antonio houses. il plans diags Arch Forum 93:113-21 N '50

United States

Features and costs of new one-family houses. Mo Labor R 73:13-14 Jl '51

Frank Lloyd Wright; portfolio of recent work; with his own commentary. il plans diags Arch Forum 94:82-101 Ja '51

New housing in metropolitan areas; structural characteristics of new one-family houses started July-December 1949. D. K. Newman. Mo Labor R 71:429-32 O '50

ARCHITECTURE, Modernistic

International style twenty years after. H.-R. Hitchcock. il plans Arch Rec 110:89-97 Ag '51

ARCHIVES

Scotland

Records of Scotland. J. Fergusson. Aslib Proc 3:5-7 F '51

ARCHIVES, International council on. See International council on archives

ARCS

Constructing arcs tangent to circles. W. W. Quist. diags Mach 57:185-6 N '50

ARCTIC health research center

Facilities and opportunities for research. J. C. Haldeman. Pub Health Rep 66:941-4 Jl 20 '51

ARCTIC regions

Airspace rights over the Arctic. J. C. Cooper. Air Affairs 3:517-40 D '50

High latitude navigation trainer; Link's newest unit emphasized high speed flight in Arctic regions. il Aviation W 53:31 D 25 '50

Winterization of construction equipment; abstract. R. W. Beal. Machine Design 23:204+ F '51

See also

Greely relief expedition, 1884

ARCTIC warfare. See Polar warfare

ARDIL

See also

Dyes and dyeing—Ardil

AREA measurement

Area calculations for round wire and rods; tabulation; engineering data sheet. Metal Finishing 49:79 Mr '51

Chart for determining area of a ring or concentric circle. Water & Sewage Works 98: R53 Ap '51

Microphotometric area determinator. H. Walker, jr. and Q. Van Winkle. il R Sci Instr 22:604-6 Ag '51

Surface areas of round-square-hexagonal rods; tabulation; engineering data sheet. Metal Finishing 49:78 Ap '51

AREALOMETER

Limitations of the arealometer method for the measurement of fiber diameters. J. M. DallaValle and others. bibliog diag Textile Res J 20:676-82 O '50

ARGENTINA

See also

Agricultural laws and legislation—Argentina
Grocery trade—Argentina
Newspapers—Argentina
Railroads—Argentina

Commercial policy

Central bank suspends issuance of exchange permits without use of exchange. For Comm W 45:8 O 15 '51

Tariffs and trade controls. For Comm W 44:8 Ag 27 '51

Economic conditions

Argentina's decay; six years of Peron have brought poverty and violence. Barron's 31:5 O 1 '51

Argentina's economic position strengthened by world demand. J. D. Walstrom. For Comm W 43:6+ My 14 '51

Argentine economy. Economist 161:461-2, 515-16 Ag 25-S 1 '51

Inflation and labour unrest in Argentina. Economist 160:272 F 3 '51

News by countries. For Comm W 40:10-11 S 11; 41:9-10 O 16; 9 N 13; 9-10 D 18 '50; 42:8 Ja 15; 15-16 F 19; 11 Mr 12; 43:9 Ap 23; 11 My 14; 9 Je 18; 44:8-9 Jl 16; 8 Ag 13; 9-10 S 17; 45:8 O 15 '51

Politics and government

Champions against U.S.; Juan and Evita Peron. Bsns W p 141-2 Ag 25 '51

ARGENTOMETRY. See Volumetric analysis

ARGETSINGER, James Cameron, 1883-

Iron age salutes. por Iron Age 167:87 Je 7 '51

ARGINASE

Arginase activity in human skin. E. J. Van Scott. bibliog Science 113:601-3 My 25 '51

ARGININE

In vivo conversion of glutamic acid into proline and arginine. H. J. Sallach, R. E. Koeppe and W. C. Rose. Am Chem Soc J 73:4500-1 S '51

Poly-DL-arginine. E. Katchalski and P. Spitnik. bibliog Am Chem Soc J 73:3992-5 Ag '51

ARGON

Cosmic-ray star production in argon at sea level. W. W. Brown and E. W. Hones. il diag Phys R 83:1263-4 S 15 '51

Cross sections for ion-atom collisions in He, Ne, and A. J. A. Hornbeck and G. H. Wannier. Phys R 82:458 My 1 '51

Decay scheme of Cl^{39}. R. N. H. Haslam and others. bibliog diag Phys R 80:318-20 N 1 '50

Electron removal in argon afterglows. A. Redfield and R. B. Holt. bibliog Phys R 82:874-6 Je 15 '51

Electron temperature vs noise temperature in low pressure mercury-argon discharges. M. A. Easley and W. W. Mumford. J Ap Phys 22:846-7 Je '51

Fluorescence yield of argon. D. L. Dexter and W. W. Beeman. bibliog Phys R 81:456 F 1 '51

Gas temperatures and elastic losses in low pressure mercury-argon discharges. C. Kenty and others. bibliog diag J Ap Phys 22:1006-11 Ag '51

Heat capacity of multimolecular layers of adsorbed argon. J. A. Morrison and L. E. Drain. bibliog J Chem Phys 19:1063 Ag '51

Influence of argon, helium, oxygen, and carbon dioxide on emission spectra in the d.c. arc. B. L. Vallee and others. bibliog diag Opt Soc Am J 40:751-4 N '50

Influence of foreign gases at high pressures on the infrared absorption band of methane at 3.3μ. H. L. Welsh and others. bibliog diag J Chem Phys 19:340-4 Mr '51

Ionization of argon atoms by helium or neon metastable atoms. M. A. Biondi. Phys R 83:653-4 Ag 1 '51

Ionization yields of heavy particles. J. K. Knipp and R. C. Ling. bibliog Phys R 82:30-5 Ap 1 '51

Mobilities of molecular and atomic rare gas ions in the parent gases; helium, neon, and argon. J. A. Hornbeck. bibliog Phys R 80:297-8 O 15 '50

Oscillatory phenomena in direct current glow discharges. T. Donahue and G. H. Dieke. bibliog il diags Phys R 81:248-61 Ja 15 '51

Oxy-argon gas speeds up welding. il Iron Age 167:85 Je 14 '51; Materials & Methods 34:10 Jl '51; Welding J 30:654+ Jl '51

Phase transitions of argon adsorbed on graphite. G. Jura and D. Criddle. bibliog diags J Phys & Colloid Chem 55:163-72 F '51

Photoprotons from argon under the action of gamma-rays of 17.6 Mev. D. H. Wilkinson and J. H. Carver. bibliog Phys R 83:466 Jl 15 '51

Production of 2537 radiation and the role of metastable atoms in an argon-mercury discharge. C. Kenty. bibliog J Ap Phys 21:1309-18 D '50

Some measurements of thermal transpiration. S. Chu Liang. diag J Ap Phys 22:148-53 F '51

Spectrum of iodine excited in the presence of argon. P. Venkateswarlu. bibliog Phys R 81:821-9 Mr 1 '51

Structure of molecular compounds; compounds formed by the inert gases. H. M. Powell. pl Chem Soc J p298-300 Ja '50

Studies of γ-processes of electron emission employing pulsed Townsend discharges on a millisecond time scale. J. P. Molnar. il diags Phys R 83:940-52 S 1 '51

Study of the short duration, high intensity, electric arc as a source of visible light. G. D. Hoyt and W. W. McCormick. Opt Soc Am J 40:658-63 O '50

Temperature variations in alcohol-argon filled G-M counters. O. Parkash. bibliog Phys R 80:303 O 15 '50

Thickness of shock fronts in argon and nitrogen and rotational heat capacity lags. E. F. Greene and others. bibliog diag J Chem Phys 19:427-34 Ap '51

Ultrasonic velocities in gases at low pressures. R. A. Boyer. bibliog diag Acoustical Soc Am J 23:176-8 Mr '51

Isotopes

Concentration of A^{36} and A^{38} and study of the $A^{36}(d,p)A^{37}$ reactions and the beta-activity of A^{39}. A. Zucker and W. W. Watson. bibliog diags Phys R 80:966-9 D 15 '50

ARGON, Liquid

Atomic distribution function. R. H. Kerr and L. H. Lund. bibliog diag J Chem Phys 19:50-4 Ja '51

Electron mobilities in liquid argon. M. S. Malkin and H. L. Schultz. Phys R 83:1051-2 S 1 '51

ARIZONA

See also

Geology—Arizona

Mines and mineral resources—Arizona

ARIZONA Edison company

Stock offered. Comm & Fin Chr 173:2493 Je 18 '51

ARKANSAS

Arkansas story. il maps Manuf Rec 120:65, 67-103 F '51

See also

Mercury mines and mining—Arkansas

Industries and resources

Electricity comes to the Ozarks. A. G. Mezerik. il Sales Management 65:90+ N 1 '50

Manufacturing in Arkansas. il Manuf Rec 120:84-90 F '51

ARKANSAS natural gas corporation

Plans to simplify corporate structure. Comm & Fin Chr 173:657-8 F 12 '51

ARMAMENTS

Arms in proportion; comparative strength of East and West. Economist 161:137-9 Jl 21 '51

Freedom from want vs. freedom from fear; rearmament would be best investment for democratic nations. P. Einzig. Comm & Fin Chr 173:1038 Mr 8 '51

Paper industry's status in the rearmament program. L. T. Stevenson. Tappi 34: sup28A+ Mr '51

See also

Armor plate

Munitions

Tanks, Military

Bibliography

How to make armament; bibliography of American Machinist articles since 1938. Am Mach 94:99-107 O 30 '50

ARMATURES

Make banding a cinch. R. H. Wilsey. il Power 95:131 Je '51

Vacuum impregnation of resins. Steel 129:114+ Ag 6 '51

Welded extension saves shaft stock. il Steel 129:75-6 Ag 20 '51

Testing

Guide for over-voltage testing of armature winding. R. W. Wieseman. Power 95:96-7 Ja '51

Surge testing of traction motor armatures. D. W. Collins. il diag Ry Mech & Elec Eng 125:75-7 F '51

Tester for d.c. armatures. F. H. Catlin. il diags Ry Mech & Elec Eng 125:78-80 Mr '51

Winding insulation tester for d-c armatures. F. H. Catlin and N. Rohats. il diags Elec Eng 70:591-4 Jl '51

ARMCO steel corporation

Five well situated stocks offering good yields; with comparative balance sheet items. Mag of Wall St 87:123 N 4 '50

Human relations; the Armco story. E. Schmid, jr. Advanced Management 16:3-6 Je '51

Stock offering. Comm & Fin Chr 173:961-2 Mr 5 '51

Time to worry; Armco plans for rainy day. Bsns W p50-1 Ap 7 '51

ARMED forces chemical association

Annual meeting, 6th, Atlantic City, May 10-12. Chem & Eng N 29:2142+ My 28 '51

ARMED forces radio service. See Radio stations, Government

ARMED services

Brassey's annual; the armed forces yearbook, 1950. H. G. Thursfield, ed. v61 363p $7 Macmillan co, 60 5th av, New York 11 '51

ARMED services technical information agency

Defense document control progress; symposium on standardization in technical information services for government contractors. M. H. Smith. Special Lib 42:216-17+ Jl-Ag '51

ARMIES

See also

Water supply for armies

also subdivision Army under names of countries, e.g. United States—Army

ARMOR plate

Developments in the welding of armor; abstract. T. L. H. Butterfield. Metal Prog 59:580+ Ap '51

ARMOUR and company

Special study. S. Devlin. Mag of Wall St 88:197-9+ My 19 '51

Wage chronology no. six; supplement, 1950. Mo Labor R 71:474-5 O '50

ARMOUR research foundation

Armour Research; foundation of future technology. il Midwest Eng 3:6-9+ Mr '51

Ceramics. il Am Cer Soc Bul 29:395-8, 421-4 O 15-N 15 '50

Metalworking research reaches all-time high. R. A. Lubker. il Iron Age 166:74-7 D 21 '50

1949-50 research activities. Chem & Eng N 29:1322-3 Ap 2 '51

ARMSTRONG, Edwin Howard, 1890-

Edwin Howard Armstrong to receive Washington award. Midwest Eng 3:12 F '51

ARMSTRONG rubber company

Tax base is favorable. Barron's 31:19-20 F 5 '51

ARMY exchanges. See Post exchanges

ARMY rations. See United States—Armed services—Commissariat

AROCLORS

Portable heater using chlorinated biphenyl. R. E. Howard. flow diag il Ind & Eng Chem 43:782-4 Mr '51

AROMATIC compounds

Acid-catalyzed rearrangement of some aromatic ketones. W. A. Mosher and M. L. Huber. bibliog Am Chem Soc J 73:795-8 F '51

Action of *t*-butyl hypochlorite on organic compounds; aromatic aldehydes. D. Ginsburg. Am Chem Soc J 73:702-4 F '51

Alkaline reduction of aromatic nitro compounds with glucose. H. W. Galbraith, E. F. Degering and E. F. Hitch. bibliog Am Chem Soc J 73:1323-4 Mr '51

Aromatic fluorine compounds; 1,2,3,5-tetrafluorobenzene. G. C. Finger, F. H. Reed and R. E. Oesterling. Am Chem Soc J 73:152-3 Ja '51

Aromatic fluorine compounds; 1,2,4,5-tetrafluorobenzene and related compounds. G. C. Finger and others. Am Chem Soc J 73:145-9 Ja '51

Aromatic fluorine compounds; the fluoromesitylenes and derivatives. G. C. Finger and others. bibliog Am Chem Soc J 73:149-51 Ja '51

Aromatic fluorine compounds; 1,3,5-trifluorobenzene. G. C. Finger, F. H. Reed and J. L. Finnerty. bibliog Am Chem Soc J 73:153-5 Ja '51

Aromatic substitution by free radicals; the cleavage of benzoyl peroxide by the triphenylmethyl radical. G. S. Hammond, J. T. Rudesill and F. J. Modic. bibliog Am Chem Soc J 73:3929-31 Ag '51

Attempts to prepare new aromatic systems; *cyclo*pent[*a*]indene. W. Baker and P. G. Jones. Chem Soc J p787-93 Mr '51

Catalysed reactions of simple aromatic compounds with ethylenic systems; αβ-unsaturated ketones. J. F. J. Dippy and A. L. L. Palluel. Chem Soc J p 1415-20 Je '51

Chemistry of the oxo and related reactions; reductions in the aromatic series. I. Wender, H. Greenfield and M. Orchin. Am Chem Soc J 73:2656-8 Je '51

β-Dimethylaminoethyl esters of organic dithio acids; esters of aromatic dithio acids. R. W. Bost and O. L. Shealy. bibliog Am Chem Soc J 73:25-8 Ja '51

Directed halogenation in fluorinated aromatic compounds. J. D. Park, H. A. Brown and J. R. Lacher. Am Chem Soc J 73:709-11 F '51

Further studies on the stereochemistry of aromatic ethers. K. B. Everard and L. E. Sutton. Chem Soc J p 16-21 Ja '51

Improved method of preparation of two aromatic disulphides. L. Bauer and J. Cymerman. Chem Soc J p3434 D '49

Improved method of synthesis of aromatic dichlorophosphines. B. Buchner and L. B. Lockhart, jr. bibliog Am Chem Soc J 73:755-6 F '51

Infra-red spectra and chemical structures of some aromatic disulphides, disulphones, and thiolsulphonates. J. Cymerman and J. B. Willis. Chem Soc J p 1332-7 My '51

Interaction of sulfur dioxide with aromatic substances. L. J. Andrews and R. M. Keefer. bibliog Am Chem Soc J 73:4169-72 S '51

Kinetics and mechanism of aromatic nitration. C. A. Bunton and others. Chem Soc J p2628-84 O '50

Magnetic susceptibility of certain organic compounds; the contribution of the nitro-group to the magnetic susceptibility of aliphatic and aromatic nitro-compounds. F. G. Baddar and S. Sugden. Chem Soc J p308-11 Ja '50

Mechanism of aromatic mercuration; orientation effects. W. J. Klapproth and F. H. Westheimer. bibliog Am Chem Soc J 72:4461-5 O '50

Reaction of aromatic nitriles with guanidine. P. B. Russell and G. H. Hitchings. bibliog Am Chem Soc J 72:4922-5 N '50

Relative reactivity of aromatic double bonds; addition of osmium tetroxide to substituted 1 : 2-benzanthracenes. G. M. Badger and K. R. Lynn. Chem Soc J p 1726-9 Jl '50

Relative reactivity of aromatic double bonds; the relation between double-bond character and the velocity of addition of osmium tetroxide. G. M. Badger. Chem Soc J p 1809-14 Jl '50

Significance of the bromine cation in aromatic substitution. D. H. Derbyshire and W. A. Waters. Chem Soc J p564-77 F '50

Studies of trifluoroacetic acid; the use of trifluoroacetic anhydride in the synthesis of aromatic ketones and sulphones. E. J. Bourne and others. Chem Soc J p718-20 Mr '51

Synthesis of aromatic fluorides through diazotization in anhydrous hydrogen fluoride. R. L. Ferm and C. A. VanderWerf. bibliog Am Chem Soc J 72:4809-10 O '50

Unsaturated lactones; symmetrical aromatic dibutenolides. N. R. Campbell and J. H. Hunt. Chem Soc J p960-2 Ap '51

See also

Hydrocarbons, Aromatic

AROMATIC hydrocarbons. See Hydrocarbons, Aromatic

AROMATIZATION

Aromatization and rearrangement of cyclic ketones; 3-phenyl-5,5-dimethylcyclohexenone. M. Beringer and I. Kuntz. bibliog Am Chem Soc J 73:364-6 Ja '51

Aromatization of cyclic compounds by solid potassium perchlorate. S. Patai and L. Rajbenbach. Am Chem Soc J 73:862-3 F '51

New type of aromatization by the diazotization of *o*-aminotropolone derivatives. T. Nozoe, Y. Kitahara and K. Doi. bibliog Am Chem Soc J 73:1895-6 Ap '51

Steroids; aromatization experiments in the progesterone series. C. Djerassi and others. bibliog Am Chem Soc J 73:1523-7 Ap '51

ARONSON, Jacob, 1887-1951

Sketch, tributes. por Ry Age 130:28 Ja 22 '51

AROYLOXYACETOARONES

Effect of bond structure on the transformation of *o*-aroyloxy-acetoarones into *o*-hydroxydiaroylmethanes; Baker-Venkataraman transformation. N. V. Nowlan, P. A. Slavin and T. S. Wheeler. Chem Soc J p340-4 Ja '50

ARROWS. See Bow and arrow

ARSANILIC acid

New synthesis of arsonic acids; coupling of αβ-unsaturated carbonyl compounds with diazotised *p*-arsanilic acid. W. Freund. Chem Soc J p 1943-4 Ag '51

Some substituted *p*-arsanilic acids. R. L. McGeachin and R. E. Cox. Am Chem Soc J 73:1869-70 Ap '51

ARSENIC

Arsenic-activated zinc sulfide phosphor. J. S. Prener. Electrochem Soc J 98:406-8 O '51

Arsenic and cancer; observations in the metallurgical industry. L. S. Snegireff and O. M. Lombard. bibliog A M A Archives Ind Hygiene & Occup Med 4:199-205 S '51

First spectrum of arsenic. W. F. Meggers and others. bibliog J Res Nat Bur Stand 45:346-56 O '50

Preparation of pure arsenic. G. A. Geach, R. A. Jeffery and R. J. Shelton. diag Chem Soc J p 1207 Ap '50

Scintillation spectra of As^{76}. J. K. Blair and F. Maienschein. bibliog Phys R 81:463 F 1 '51

Thermoluminescence characteristics of silicate phosphors activated by manganese and arsenic. C. Bull and G. F. J. Garlick. bibliog Electrochem Soc J 98:371-5 S '51

Thermoluminescence of zinc silicate phosphors activated with manganese and arsenic. J. R. Nelson and J. H. Berbert. diag Opt Soc Am J 41:644 S '51

Analysis

Coulometric titrations with externally generated reagents. D. D. DeFord, J. N. Pitts and C. J. Johns. bibliog diags Anal Chem 23:938-40 Jl '51

Microdetermination of arsenic and its application to biological material. G. R. Kingsley and R. R. Schaffert. bibliog diag Anal Chem 23:914-19 Je '51

Isotopes

Beta-spectrum of As^{77}. E. N. Jensen and others. bibliog Phys R 81:143-4 Ja 1 '51

Disintegration of As^{74}. S. Johansson and others. Phys R 82:275 Ap 15 '51

Disintegration of As^{77}. R. Canada and A. C. G. Mitchell. bibliog Phys R 81:485-6 F 1 '51

ARSENIC chlorides

Liquid-vapour equilibrium as a function of temperature for the system arsenic trichloride-germanium tetrachloride. F. Sebba. diag Chem Soc J p 1975-7 Ag '51

ARSENIC compounds

Better growth with arsenicals. il Chem W 69:16 O 6 '51

Carcinogenic nitrogen compounds; derivatives of 1 : 2- and 3 : 4-benzophenarsazines. N. P. Buu-Hoï and R. Royer. Chem Soc J p795-8 Mr '51

Hydrolyses and derivatives of some vesicant arsenicals. W. A. Waters and J. H. Williams. Chem Soc J p 18-22 Ja '50

Magnetic study of some organo-metallic compounds of arsenic. M. Prasad and L. N. Mulay. bibliog J Chem Phys 19:1051-6 Ag '51; Correction. 20:201 Ja '52

Relation between the constitution of arsenicals and their action on cell division. H. King and R. J. Ludford. Chem Soc J p2086-8 Ag '50

See also
Arsine

ARSENIC fluoride

Formation of complex fluorides; the relation between the conductivities of boric arsenious, and antimonic fluorides and complex formation. A. A. Woolf and N. N. Greenwood. diag Chem Soc J p2200-4 Ag '50

ARSENIC oxides

Effect of oxides of arsenic on the adherence of ground coat enamels; abstract. J. F. Miller. Cer Ind 56:63+ Je '51

ARSENIC sulfides

Reputed arsenic subsulphide. F. R. Harris. Chem Soc J p698-9 Mr '51

Solubilities of the sulfides of arsenic, antimony, and tin in hydrochloric acid. C. H. Sorum and H. A. Wolf. J Chem Educ 27: 614-16 N '50

ARSENIDES

Analysis

Spectrographic study of platinum and palladium in common sulphides and arsenides of the Sudbury district, Ontario. J. E. Hawley and others. bibliog il Econ Geol 46:149-62 Mr '51

ARSINE

Arsine; electrocardiographic changes produced in acute human poisoning. C. J. Josephson and others. bibliog il A M A Archives Ind Hygiene & Occup Med 4:43-52 Jl '51

Microwave spectrum of phosphine, arsine, and stibine. C. C. Loomis and M. W. P. Strandberg. bibliog diags Phys R 81:798-807 Mr 1 '51

Numerous cases of poisoning and a number of deaths. H. H. Schrenk. Ind & Eng Chem 43:sup 141A-2A O '51

Studies in co-ordination chemistry. R. S. Nyholm. Chem Soc J p843-59 Mr '50

Studies in co-ordination chemistry; complexes of bivalent and tervalent cobalt with a di(tertiary arsine). R. S. Nyholm. Chem Soc J p2071-8 Ag '50

Studies in co-ordination chemistry; complexes of bivalent and tervalent nickel with a di(tertiary arsine). R. S. Nyholm. Chem Soc J p2061-71 Ag '50

Studies in co-ordination chemistry; complexes of univalent copper with a (ditertiary arsine). A. Kabesh and R. S. Nyholm. Chem Soc J p38-43 Ja '51

Synthesis of derivatives of *o*-phenyleneethylenediarsine and of *o*-phenylenetrimethylenediarsine. R. H. Glauert and F. G. Mann. Chem Soc J p682-4 F '50

Synthetic application of phenylarsinebis (magnesium bromide); the preparation and properties of 4-substituted tetrahydro-1 : 4-oxarsines and of 1 : 4-disubstituted hexahydro-1 : 4-azarsines. M. H. Beeby and F. G. Mann. Chem Soc J p886-91 Ap '51

Synthetic application of phenylarsinebis (magnesium bromide); the synthesis and properties of 6-substituted 6-arsa-1 : 2 : 3 : 4-dibenz*cyclo*hepta-1 : 3-dienes. M. H. Beeby, F. G. Mann and E. E. Turner. Chem Soc J p 1923-5 Jl '50

Synthetic application of phenylarsinebis (magnesium bromide); the synthesis of *iso*arsindolines, tetrahydro*iso*arsinolines, and 2-arsaperinaphthanes. M. H. Beeby, G. H. Cookson and F. G. Mann. Chem Soc J p 1917-22 Jl '50

ARSON

Insurance adventures in arson matters. C. T. Hubbard. Weekly Underw 165:389 Ag 18 '51

ARSONIC acids

New synthesis of arsonic acids; coupling of αβ-unsaturated carbonyl compounds with diazotised *p*-arsanilic acid. W. Freund. Chem Soc J p 1943-4 Ag '51

See also
Nitrophenylarsonic acid

ARSONIUM compounds

Mixed diglycerides containing 4-arsonophenylglycine. R. L. McGeachin and R. E. Cox. Am Chem Soc J 73:860 F '51

Reactions of 4-arsonophenylglycine with polyalcohols. R. L. McGeachin and R. E. Cox. Am Chem Soc J 73:556 F '51

ART

See also
Architecture
Ceramic art
Design
Photography

Competition

Jersey company; public relations for the long pull. G. Burck. il Fortune 44:108-13 O '51

Private collections

Tax laws make art hard to give; Kress Foundation gift to National gallery. il Bsns W p 117-18+ Ap 7 '51

ART and engineering

Painting and the graphic arts. S. Hirsch. J Eng Educ 41:101-5 O '50

ART and industry
Canadian forests as seen by six Canadian artists; landscapes depicting chief pulpwood species employed by the pulp and paper industry. F. Arbuckle and others. il Pulp & Pa of Can 52:127-34 Je '51
Portrait of power; Penn Power and Light goes in for art. il Edison Elec Inst Bul 19:87-8 Mr '51

ART collectors
Tax laws make art hard to give; Kress Foundation gift to National gallery. il Bsns W p 117-18+ Ap 7 '51; Same cond. J Account 92:352+ S '51

ART departments
See also
Advertising agencies—Art departments
Printing offices—Art departments

ART directors. See Advertising agencies—Art departments

ART galleries and museums
Museums and art galleries in the Twin Cities. H. M. Nebelthau. Special Lib 42:170-2+ My-Je '51
See also
Wallace collection, London

Libraries

See Art libraries

Lighting

Auxiliary lighting for museum galleries. L. S. Harrison. il diags Illum Eng 45:676-9 N '50
Illumination requirements of art galleries. Electrician 146:892 Mr 16 '51
Lighting system for Worcester art center, Appleton, Wis. il plan Arch Rec 110:172-3 S '51

Hawaii

See also
Honolulu academy of arts

ART industry and trade
Art auctions; latest inflation hedge. il Bsns W p22-3 Mr 3 '51

Great Britain

London art market. Economist 159:929-31 D 2 '50

ART libraries
Honolulu academy of arts. M. Morse. Special Lib 42:181+ My-Je '51

ART museum libraries. See Art libraries

ART objects
See also
Bronzes

ARTERENOL
Chemistry of adrenochrome; some analogues and derivatives. J. D. Bu'Lock and J. Harley-Mason. Chem Soc J p712-16 Mr '51

ARTERIES
Endocrine arteries. Sci Am 185:52 S '51
Significance of endogenous cholesterol in arteriosclerosis; synthesis in arterial tissue. M. D. Siperstein and others. bibliog Science 113:747-9 Je 29 '51

Diseases

Acute coronary artery disease, and effort. A. M. Master. Ind Med 19:512 N '50
Occlusive disease of the arteries. H. Montgomery. Ind Med 19:517-18 N '50

ARTERIOSCLEROSIS
Significance of endogenous cholesterol in arteriosclerosis; synthesis in arterial tissue. M. D. Siperstein and others. bibliog Science 113:747-9 Je 29 '51
Ultracentrifugal characterization and isolation of human blood lipids and lipoproteins with applications to the study atherosclerosis. F. T. Lindgren, H. A. Elliott and J. W. Gofman. bibliog il diags J Phys & Colloid Chem 55:80-93 Ja '51

ARTESIAN wells
Origin and salinity distribution of artesian water in the Adelaide Plains, South Australia. K. R. Miles. maps diags Econ Geol 46:193-207 Mr '51

ARTHRITIS
Arthritis as a public health problem. L. A. Scheele. Pub Health Rep 65:1351-8 O 20 '50
Arthritis germ? Sci Am 185:30 Ag '51
Subcutaneous implantation of cortisone pellets in rheumatoid arthritis. E. Henderson and others. bibliog Science 114:243 Ag 31 '51

ARTIFICIAL daylight. See Daylight, Artificial

ARTIFICIAL fur. See Fur, Artificial

ARTIFICIAL hand. See Hand, Artificial

ARTIFICIAL insemination. See Insemination, Artificial

ARTIFICIAL limbs
Prosthetic service for the amputee. E. H. Daniel. il Ind Med 20:102-6 Mr '51
See also
Hand, Artificial

ARTIFICIAL respiration. See Respiration, Artificial

ARTIFICIAL rubber. See Rubber, Artificial

ARTIFICIAL sapphires. See Sapphires, Artificial

ARTISTS
See also
Chemists as artists

Biography

Who's who in art. 5th ed 552p 42s Art trade press and Rockliff pub. co, 1 Dorset buildings, Salisbury square, London '50

ARTOCARPUS integrifolia
Triterpenoids; *cyclo*artenone, a triterpenoid ketone. D. H. R. Barton. Chem Soc J p 1444-51 Je '51

ARYL azides
Reaction of aryl azides with hydrogen halides. P. A. S. Smith and B. B. Brown. bibliog Am Chem Soc J 73:2438-41 Je '51
Synthesis of heterocyclic compounds from aryl azides; bromo and nitro carbazoles. P. A. S. Smith and B. B. Brown. bibliog Am Chem Soc J 73:2435-7 Je '51
Synthesis of heterocyclic compounds from aryl azides; carbolines and thienoindole. P. A. S. Smith and J. H. Boyer. bibliog Am Chem Soc J 73:2626-9 Je '51

ARYL group
Displacement of nuclear hydroxyl in quinoline series by aryl-S group. G. Illuminati and H. Gilman. Am Chem Soc J 72:4288-9 S '50
Quinone imides; aluminum chloride-catalyzed arylations of *p*-quinone dibenzenesulfonimides. R. Adams and K. R. Eilar. Am Chem Soc J 73:1149-52 Mr '51
Rowe rearrangement. W. R. Vaughan, D. I. McCane and G. J. Sloan. bibliog Am Chem Soc J 73:2298-301 My '51

ARYLOXYALKYLCARBOXYLIC acids
Plant growth-regulating activity in certain aryloxyalkylcarboxylic acids. D. J. Osborne and R. L. Wain. bibliog Science 114:92-3 Jl 27 '51

ASBESTOS
Asbestos, 1950. W. A. Rukeyser. Eng & Min J 152:103-5 F '51
Dust deleter; new asbestos-containing paper. Chem Ind 67:561 O '50
Genesis of asbestos and barite, Cuddapah district, Rayalaseema, south India. P. B. Murthy. Econ Geol 45:681-96 bibliog(52 titles, p695-6) N '50
Magnitude of Canadian asbestos industry. P. M. Malouf. il Can Min J 72:84-6 S '51
Removal of oxygen from commercial cylinder-hydrogen by means of palladized asbestos. L. W. Owen. bibliog diags Soc Chem Ind J 69:272-5 S '50
What is asbestos good for? illustrations and flow chart with text. Mill & Factory 47:99-102 N '50

Manufacture

Activated carbon in solvent recovery; gasoline vapourized during manufacture of asbestos sheet packing. il Can Chem & Process Ind 35:376-7+ My '51; Same cond. Heating-Piping 23:100-1 Jl '51
How Garlock saves solvent; activated carbon unit recovers gasoline, reduces hazard, eliminates atmospheric pollution. il Chem Eng 58:198 Ag '51

ASBESTOS cement pipes. See Pipes, Asbestos cement

ASBESTOS-cement products association
New officers. Am Bld 73:166 S '51

ASBESTOSIS
Experimental studies of asbestosis. A. J. Vorwald and others. bibliog il A M A Archives Ind Hygiene & Occup Med 3:1-43 Ja '51

ASCARIDOLE
Thermal decomposition of dihydroascaridole. C. G. Moore. Chem Soc J p234-5 Ja '51

ASCARIS
Complete elimination of microorganisms from an intestinal parasite (ascaris lumbricoides). D. Fairbairn and M. R. Reesal. Science 112:792-3 D 29 '50
Contamination of vegetables grown in polluted soil. W. Rudolfs and others. bibliog Sewage & Ind Wastes 23:656-60, 853-60, 992-1000 My, Jl-Ag '51

ASCORBIC acid. See Vitamins—Vitamin C

ASH handling
Balky ash-removal system. D. C. Swift. diag Power 95:80+ Je '51

ASHBYA gossypii
Biosynthesis of riboflavin, L. bulgaricus factor, and other growth factors; laboratory and pilot plant studies of biosynthesis by A. gossypii cultivated on grain stillage media. K. L. Smiley and others. bibliog Ind & Eng Chem 43:1380-4 Je '51

ASHING
Determination of ash in GR-S synthetic rubbers and latices. F. J. Linnig and others. bibliog J Res Nat Bur Stand 47:135-8 S '51

ASHLAND oil and refining company
Securities offered. Comm & Fin Chr 174:1294 O 8 '51

ASIA
Communism in Asia. Economist 159:1147-8, 1205-6 D 23-30 '50
Defeat in Asia threatens U.S. map Bsns W p 133-4+ D 16 '50
Lessons from Asia. E. M. Patterson, ed. Ann Am Acad 276:1-134 Jl '51
Our economic policy in Asia. R. W. Miller. 4pls Harvard Bsns R 29:52-70 Jl '51

See also
Far East
Housing—Asia

Industries and resources

Handicrafts and small-scale industries in Asian countries; possibilities of co-operative organisation. Int Labour R 62:500-24 D '50

ASIA, Southeastern
Aid for Asia; Colombo plan; recent conference in Ceylon. Economist 160:468-70 Mr 3 '51
Colombo plan. Economist 159:597, 928-9 O 14, D 2 '50
Economic plan to aid millions of Asians; Colombo plan. il Eng N 146:58 Ap 12 '51
Food for Asia; Colombo plan. A. Shonfield. Barron's 30:9 D 4 '50
Mutual aid in the Commonwealth; Colombo plan. Economist 159:951-2 D 2 '50
Nationalism in south-east Asia; Institute of Pacific relations conference, Lucknow. Economist 159:823 N 18 '50
Start of the Colombo plan. Economist 161:30 Jl 7 '51

ASLIB. See Association of special libraries and information bureaux

ASPARAGINE
Biosynthesis of radioactive asparagine from $C^{14}O_2$. D. G. Wilson and others. Science 113:695-6 Je 15 '51

Analysis

Determination of glutamine and asparagine in plant tissue extracts. G. W. Butler. bibliog Anal Chem 23:1300-4 S '51

ASPARTIC acid
Poly-L-aspartic acid. A. Berger and E. Katchalski. bibliog Am Chem Soc J 73:4084-8 S '51
Synthesis of DL-aspartic acid-4-C^{14}. S. C. Wang, T. Winnick and J. P. Hummel. Am Chem Soc J 73:2390 My '51

ASPEN
Composition of birch and aspen sulphite waste liquor; abstracts. H. Roschier and E. Aaltio. Pulp & Pa of Can 51:100 O '50; Paper Ind 32:998 D '50
Effect of bark in the neutral sulphite semichemical pulping of aspen, hickory, and slash pine. E. L. Keller. bibliog Tappi 33:556-60 N '50
Relations between yield and properties of spruce and aspen sulphite and sulphite semichemical pulps. J. N. McGovern. bibliog Tappi 33:486-9 O '50
Studies on lignin by means of catalytic hydrogenation of aspen wood and wheat straw. J. M. Pepper, C. J. Brounstein and D. A. Shearer. Am Chem Soc J 73:3316-19 Jl '51

ASPERGILLIC acid
Analogs of aspergillic acid; substituted 2-bromopyridine-N-oxides and their conversion to cyclic thiohydroxamic acids. E. Shaw and others. bibliog Am Chem Soc J 72:4362-4 O '50
Pyrazine derivatives; synthesis of homologues of aspergillic acid. D. W. C. Ramsay and F. S. Spring. Chem Soc J p3409-11 D '50
Synthesis of deoxyaspergillic acid. G. T. Newbold and others. bibliog Chem & Ind p651-2 Jl 28 '51

ASPERGILLUS
Assimilation of carbon dioxide in oxalate and citrate by aspergillus niger. K. F. Lewis and S. Weinhouse. bibliog Am Chem Soc J 73:2906-9 Je '51
Itaconic acid; production by aspergillus terreus from unrefined cane sugar. G. C. A. van der Westhuizen, C. J. P. Spruit and H. H. Sephton. bibliog J Ap Chem 1:356-60 Ag '51
Studies on the mechanism of citric acid production in aspergillus niger. K. F. Lewis and S. Weinhouse. bibliog Am Chem Soc J 73:2500-3 Je '51

ASPERGILLUS oryzae
Fungal enzymes help you make better bread. J. A. Johnson and B. S. Miller. bibliog il Food Ind 23:80-3 Mr; [cont as] Food Eng 23:161-3+ Ap '51
Transglucosidase of aspergillus oryzae. J. H. Pazur and D. French. Am Chem Soc J 73:3536 Jl '51

ASPHALT
Asphalt by vacuum distillation. W. L. Nelson. bibliog Oil & Gas J 49:76 F 1 '51
Asphalt for river or canal banks. W. L. Nelson. Oil & Gas J 50:338 Je 21 '51
Asphalt indexes. W. L. Nelson. bibliog Oil & Gas J 49:243 Ap 19; 201 Ap 26 '51
Asphalt production in Venezuela to exceed million barrels in 1951. il Oil & Gas J 49:92 F 8 '51
Asphalt-solvent blends; retardation of viscosity rise with time. A. J. Hoiberg. bibliog Ind & Eng Chem 3:1419-23 Je '51
Distillation for asphalt. W. L. Nelson. flow diag Oil & Gas J 50:338 Je 21 '51
Effect of synthetic elastomers on properties of petroleum asphalts. H. A. Endres and others. bibliog il Ind & Eng Chem 43:334-40 F '51
Electric asphalt heating eliminates a steam plant. il Elec World 135:115 Je 4 '51
Franklin Institute laboratories for research and development; National asphalt research center. il Franklin Inst J 251:549-51 My '51
Hot-shipped asphalt aids air force runway maintenance crew; undersealing concrete pavements. il Roads & Sts 94:82+ Ja '51
How to save time running asphalt penetration tests. Pet Processing 6:169+ F '51
Kinetics of coal hydrogenation; conversion of asphalt. S. Weller, M. G. Pelipetz and S. Friedman. bibliog Ind & Eng Chem 43:1572-5 Jl '51
1,500,000 gallons of hot undersealing asphalt f.o.b. nozzle. il Roads & Sts 94:67-8 My '51
State practices in asphalt undersealing. il Roads & Sts 94:81-4+ Je '51
Undersealing concrete pavements with asphalt. W. F. Winters. il diag Roads & Eng Constr 89:100-1+ Ag '51
Volume flow of asphalt. M. Reiner, P. J. Rigden and E. N. Thrower. bibliog diags Soc Chem Ind J 69:257-60 S '50

See also
Bituminous materials
Bituminous sand

ASPHALT—*Continued*

Analysis

Characterization of the phenolic fraction of coal-hydrogenation asphalt. R. Husack and C. Golumbic. bibliog Am Chem Soc J 73: 1567-71 Ap '51

Separating asphalt into its chemical constituents. G. O'Donnell. bibliog il diag Anal Chem 23:894-8 Je '51

Testing

Asphalt penetrometer improved. il Pet Processing 6:640 Je '51

Motor-driven unit improves asphalt pliability test runs. il diags Pet Processing 6:521 My '51

Oil exudation property of asphalts. E. C. Knowles and others. il diags Ind & Eng Chem 42:2340-3 N '50

ASPHALT pavements. See Pavements, Asphalt

ASPHYXIA

Death by asphyxiation due to carbon dioxide gas tank of an American tanker. Marine Eng 56:75 F '51

Oxygen depletion in a sewer manhole. G. J. Raschka and W. J. Uber. Sewage & Ind Wastes 23:802-7 Je '51

ASPIRIN

Analysis

Spectrophotometric determination of aspirin, phenacetin, and caffeine in mixtures. M. Jones and R. L. Thatcher. Anal Chem 23: 957-60 Jl '51

ASPNES, Grieg, 1912-

Our new president. F. C. Battell. por Special Lib 42:219 Jl-Ag '51

ASSAYING

Assaying in Ontario. D. A. Moddle. il Can Min J 71:176-8 N '50

Fire assaying; Kerr-Addison mine. il plan Can Min J 72:141-3 Ap '51

ASSEMBLING methods

Assembles over 1000 typewriter units an hour; International Business Machines. il Iron Age 167:64 Ja 25 '51

Assemblies economically produced by brazing and soldering; Technical metal processing inc. N. M, Salkover. il Steel 129:69-70 Ag 20 '51

Assembly jig; fast and cheap; Republic's optical tooling. il Bsns W p34-5 D 23 '50

Auto-sembly of miniature military equipment; production of wiring by acid etching of copper-faced insulating laminates. S. F. Danko and S. J. Lanzalotti. il Electronics 24:94-8 Jl '51

Chassis assembly at the Leyland works. il Engineer 191:94-5 Ja 19 '51; Engineering 171:42-3, 46 Ja 12 '51; Automobile Eng 41: 65-8 F '51

Controlled atmosphere enclosure for assembly of Reo engines. J. Geschelin. il plan Automotive Ind 104:32-3+ Je 1 '51

Fully demountable twin-hull assembly buck for seaplanes. R. E. Bechtol. il Automotive Ind 105:46-7 Ag 15 '51

Getting more production at less cost; Friden calculating machine co. G. F. Burnley. flow chart il Mill & Factory 47:121-3 D '50

How Fairchild assembles the C-119; illustrations with text. Aviation W 53:20-1 N 27 '50

How to assemble and grind fine wire brushes. M. J. Rowan. il diags Am Mach 95:89-92 My 28 '51

Industry views, approves optical tooling. T. M. Self. il Aviation W 55:21-2+ Jl 16 '51

Ingenious fastenings speed and simplify refrigerator assembly. il diags Refrig Eng 59:657-9 Jl '51

Jig designed to drill sub-assemblies. R. W. Newton. diags Mach 57:215-16 Jl '51

Kick-press punch assembles toy. B. Levowich. diag Am Mach 94:129 N 27 '50

Lear instrument assembly; illustrations with text. Aero Digest 62:20-5 My '51

Materials handling; a review of the methods and equipment in the new Vauxhall factory. il diag Automobile Eng 41:17-24 Ja '51

New system cuts airframe tooling time 40 per cent. il Am Mach 94:94-5 D 25 '50

Newly mechanized press line boosts productivity 25 per cent; Standard Products automobile door latches. A. A. Laurich. il plans Factory Management 109:120-1 S '51

Optical airframe tooling, a new assembly technique. A. Kastelowitz. il diags Automotive Ind 104:38-41+ Ap 15 '51

Plane fabrication's ace in hole; German-developed mass-production technique. I. Stone. diags Aviation W 54:42+ My 28 '51

Portable hopper type container facilitates assembly of balls. W. M. Halliday. diag Mach 57:189-90 Ag '51

Press assembles valve guide for Willys-Overland Hurricane F-head engines. Steel 127: 76 O 30 '50

Semi-automatic production technique. diags Tv Eng 2:8 Jl '51

Simplified methods speed assembly operations; contact arms and leads for Diesel-electric locomotive controls. il Mach 57: 170-1 My '51

Trolley ride speeds Comet production; jigs carry components on track system along factory floor. il Aviation W 55:41+ Ag 6 '51

See also

Automobile assembly plants

ASSESSMENT

New York assesses itself. il Bsns W p 110-12+ My 19 '51

See also

Special assessments

ASSETS, Fixed

Accountant's responsibility for disclosure of fixed-asset commitments. P. N. Wehr, jr. J Account 92:322-5 S '51

British transport commission's adoption of depreciation accounting. J Account 92:91-2 Jl '51

Problem in determining appropriate cost of fixed assets. J Account 91:137 Ja '51

What concept of depreciation for fixed assets is most useful today? C. W. Smith. J Account 92:166-74 Ag '51

ASSETS, Liquid

Estimated liquid asset holdings of individuals and businesses; with figures by type of holder, 1939-1950. Fed Res Bul 37:807-8 Jl '51

1950 survey of consumer finances; distribution of assets, liabilities, and net worth of consumers, early 1950. Fed Res Bul 36:1584-611 D '50

1951 survey of consumer finances; the economic outlook and liquid asset position of consumers. Fed Res Bul 37:627-44 Je '51

Spending power is still going up, FRB reports. Bsns W p25 Ag 18 '51

What's U.S. consumer worth? summary of FRB survey on assets, liabilities and net worth of consumers. Bsns W p68-9 Ja 6 '51

ASSIGNMENT of claims act. See Contracts, Government—Assignment of claims

ASSOCIATED equipment distributors

Annual meeting, Chicago, Jan. 29-Feb. 1; with abstracts of papers. Roads & Eng Constr 89:100-7+ F '51

Annual meeting, 23d, Chicago. Eng N 146:25 F 8 '51

ASSOCIATED general contractors of America

Annual meeting, 32d, Boston. Eng N 146:23+ Mr 8 '51; Arch Forum 94:25 Mr '51; Roads & Sts 94:58 Ap '51

Annual meeting, 32d, Boston, Feb. 25-March 1; with abstracts of papers. Concrete 59: 30+ My '51

ASSOCIATED press

AP faults are laid to manpower problem. J. Walker. Ed & Pub 83:12 O 28 '50

AP reports progress in spite of Korea. Ed & Pub 84:37 Ap 14 '51

AP wordiness is criticized by editors' content study. Ed & Pub 83:9+ O 21 '50

Bias on left, bias on right charged against AP file. Ed & Pub 83:11 N 18 '50

Board of directors annual membership meeting, New York. Ed & Pub 84:11+ Ap 28 '51

Chief for AP is expelled by Venezuela. Ed & Pub 84:50 Ja 6 '51

Five are appointed in upper level changes. Ed & Pub 84:10 Ja 6 '51

London bureau of AP moves into new home. Ed & Pub 84:10 F 10 '51

ASSOCIATED press—*Continued*
Radio has close ties to ANPA convention. J. Walker. Ed & Pub 84:40 My 5 '51
U.S. gets more time to debate AP loss claim. Ed & Pub 83:28 D 23 '50
Wes Gallagher named to AP executive staff. Ed & Pub 83:10 D 23 '50
World strife hits reporters; AP board of directors annual report. Ed & Pub 84:127-8 Ap 28 '51

ASSOCIATED press managing editors association
Annual meeting, 17th, Atlanta. Ed & Pub 83:11 N 18 '50
Convention, San Francisco. Ed & Pub 84:10 S 29 '51
Fifth year reports cite many improvements. R. U. Brown. Ed & Pub 84:12+ S 15 '51
Managing editors reject charge of AP news bias. Ed & Pub 83:8+ N 25 '50
1951 APMEA study planned as J-textbook. Ed & Pub 83:21 D 16 '50

ASSOCIATED telephone and telegraph company
Recapitalization probable. Barron's 31:13-14 Jl 2 '51

ASSOCIATED telephone company, ltd.
Bonds offered. Comm & Fin Chr 172:1530; 174:1401 O 23 '50, O 15 '51
Stock offered. Comm & Fin Chr 174:101 Jl 9 '51

ASSOCIATION and associations
See also
American chemical society
Civil rights associations
Community life
Cooperative associations
Corporations
Trade associations
Trade unions

ASSOCIATION for education in journalism (formerly American association of teachers of journalism)
Meeting at the University of Illinois. Ed & Pub 84:10 S 1 '51
Old AATJ dies; AEJ to be born Jan. 1, D. Bentel. Ed & Pub 83:36 D 30 '50

ASSOCIATION for research in nervous and mental disease
Meeting, New York, Dec. 15-16. Science 113: 255-6 Mr 2 '51

ASSOCIATION of American fertilizer control officials
Annual convention, 5th, Washington, Oct. 5. Oil Paint & Drug Rep 160:7+ O 15 '51

ASSOCIATION of American railroads
Will have loss and damage prevention section. Ry Age 131:33 O 8 '51

Accounting division

Annual meeting, 57th, New York, June 12-14. Ry Age 130:53-6 Je 18 '51

Electrical sections

Annual meeting, Chicago, Sept. 17-19. Ry Age 131:56-8 S 24 '51; Ry Mech & Elec Eng 125:59-62+ O '51
Electrical sections combine; joint meeting, Chicago, Sept. 18-20. Ry Mech & Elec Eng 124:617-39 N '50

Freight claim division

Annual meeting, 60th, San Francisco, May 22-24. Ry Age 130:63-5 Je 11 '51

Freight station section

Annual meeting, Chicago, May 15-17. Ry Age 130:39-41 My 28 '51

Mechanical division

Annual meeting, 25th, Chicago, June 26-28; with committee reports. Ry Age 131:81-98+ Jl 9 '51; Ry Mech & Elec Eng 125:47-74 Ag '51

Protective section

Annual meeting, 31st, San Francisco, May 8-10. Ry Age 130:48-9 My 28 '51

Purchases and stores division

Annual meeting, 25th, Chicago, June 4-6. Ry Age 130:66-72 Je 11 '51

Safety section

Annual meeting, 31st, Detroit, June 5-7. Ry Age 130:43-5 Je 18 '51

Signal section

Annual meeting, Chicago, Sept. 10-12. Ry Age 131:47-9 S 24 '51

Treasury division

Annual meeting, Colorado Springs, Oct. 18-20. Ry Age 129:72-3 N 4 '50

ASSOCIATION of American soap and glycerine producers
Annual convention, 24th, New York, Jan. 31-Feb. 1. Oil Paint & Drug Rep 159:5+ F 5 '51; Soap & San Chem 27:35-8 F '51

ASSOCIATION of casualty and surety companies
Annual meeting, New York. East Underw 52: 41 My 11; 54 My 25 '51; Nat Underw 55:17 My 10 '51
Lauds work of Association. J. F. Matthai. East Underw 51:27+ D 29 '50
Review of activities in 1950. J. D. Dorsett. Weekly Underw 164:62+ Ja 6 '51

Claims bureau

Plus values for every one; activities of Claims bureau. J. F. Matthai. East Underw 51:91-2 D 15 '50

ASSOCIATION of consulting chemists and chemical engineers
Annual meeting, New York, Oct. 24. Oil Paint & Drug Rep 158:7+ O 30 '50

ASSOCIATION of economic poison control officials
Annual convention, 4th, Washington, Oct. 7. Oil Paint & Drug Rep 158:3+ O 16 '50
Annual convention, 5th, Washington, Oct. 6. Oil Paint & Drug Rep 160:7+ O 15 '51

ASSOCIATION of iron and steel engineers
Annual meeting, Chicago, Oct. 1-4; program, authors, chairmen, abstracts of papers. Iron & Steel Eng 28:150-68 S '51
Annual spring conference, Detroit; with abstracts of papers. Steel 128:101-2+ Je 4 '51
District chairmen, 1950-1951. Iron & Steel Eng 27:109 N '50
Newly elected officers and directors; national committees. Iron & Steel Eng 28:104-8 Ja '51
Report of activities of standardization committee, 1950. Iron & Steel Eng 28:113-28 My '51
Rolling mill committee spring conference, Detroit, April 30-May 1; program and abstracts of papers. Iron & Steel Eng 28:107-17 Ap '51

ASSOCIATION of life insurance counsel
Winter meeting, New York, Dec. 5-6. Nat Underw (Life ed) 54:5 D 8 '50

ASSOCIATION of life insurance medical directors of America
Annual meeting, 59th, New York. East Underw 51:7, 10 O 27 '50
Board of life insurance medicine is set up for training. East Underw 52:1+ Mr 9 '51; Nat Underw (Life ed) 55:9 Mr 9 '51

ASSOCIATION of national advertisers
Annual meeting, 41st, Hot Springs, Va. Ed & Pub 84:7+ Mr 31 '51; Ptr Ink 235:77+ Ap 6 '51; Sales Management 66:108+ Ap 15 '51
Annual meeting, 42d, New York, Sept. 24-26. Sales Management 67:118+ O 15 '51

ASSOCIATION of newspaper classified advertising managers
Annual convention, 31st, Montreal. Ed & Pub 84:11-12 Je 30 '51
Program top appeal for ANCAM convention. H. W. Tushingham. Ed & Pub 84:28 My 12 '51
See also
ANCAM exchanges (periodical)

ASSOCIATION of special libraries and information bureaux
Annual conference, 25th, Bristol, England. Special Lib 42:101-2 Mr '51
Future of Aslib. L. Wilson. Aslib Proc 2: 179-84 N '50; Abstract. Engineering 170:302 O 13 '50; Discussion. Aslib Proc 2:184-6 N '50
List of members, revised to June 1. Aslib Proc 3:181-216 Ag '51
Work of Aslib. Aslib Proc 3:137-47 My '51

ASSOCIATION of supervising electrical engineers
Annual dinner, London, April 13. Electrician 146:1317 Ap 20 '51
Annual meeting, Nottingham, May 19. Electrician 146:1766 My 25 '51

ASSOCIATION technique de fonderie de France
Annual meeting, 24th, Paris, June 2-6; with abstracts of papers. Foundry 79:127+ S '51

ASTATINE
Auger effect in astatine. L. S. Germain. Phys R 80:937-8 D 15 '50
Long-lived Bi^{207} and energy levels of Pb^{207}. H. M. Neumann and I. Perlman. bibliog Phys R 81:958-62 Mr 15 '51

Analysis

Procedure for radiochemical determination of astatine in biological material. W. M. Garrison and others. bibliog Anal Chem 23: 204-5 Ja '51

Isotopes

Radioactivity of astatine isotopes. G. W. Barton, jr. and others. bibliog Phys R 82: 13-19 Ap 1 '51

ASTHMA
Effect of paper dust. W. Schweisheimer. Pulp & Pa of Can 52:165+ Mr '51

ASTRONOMICAL instruments
New navy radio telescope nears completion. il Electronics 24:140 Ap '51; Mech Eng 73: 330 Ap '51
Radio telescope at the South Bank exhibition. il diag Engineer 192:2-3 Jl 6 '51
Stellar spectrograph for the Radcliffe observatory, Pretoria. il diag Engineer 190:528-9 D 1 '50; Engineering 171:250-2 Mr 2 '51
See also
Spectrograph
Telescope

ASTRONOMICAL photography
Big Schmidt. A. G. Wilson. il diag Sci Am 183:34-41 D '50
f:1.0 camera for astronomical spectroscopy. A. Offner and W. B. Decker. il diags Opt Soc Am J 41:169-72 Mr '51

ASTRONOMICAL spectroscopy. See Stars—Spectra

ASTRONOMY
Astronomy: future developments. O. Struve. bibliog Franklin Inst J 251:13-22 Ja '51
Radio astronomy. A. C. B. Lovell. Elec R (Lond) 148:694 Ap 6 '51
See also
Astrophysics
Mars (planet)
Meteors
Stars
Sun

ASTROPHYSICS
Bailey's theory of growing circularly polarized waves in a sunspot. R. Q. Twiss. Phys R 80:767-8 N 15 '50
Cosmic radiation and cosmic magnetic fields. A. Unsöld and others. bibliog Phys R 82:857-68 Je 15 '51
Nonstatic solutions of Einstein's field equations for spheres of fluids radiating energy. P. C. Vaidya. bibliog Phys R 83:10-17 Jl 1 '51
Strength of interstellar magnetic fields. L. Davis, jr. bibliog Phys R 81:890-1 Mr 1 '51
Structure and chemical composition of Mars. H. C. Urey. bibliog Phys R 80:295 O 15 '50
See also
Spectrum, Solar

ATABRINE. See Atebrin

ATCHAFALAYA river
Atchafalaya diversion and its effect on the Mississippi river. L. M. Odom. maps Am Soc C E Proc 76 [no 9]:1-24 Mr '50; Discussion. 76 [no D-9]:1-21 D '50

ATCHISON, Topeka and Santa Fe railway
Higher taxes, costs will lower earnings; with financial data for selected years, 1929-1950. A. Jansen. Barron's 31:17-18 Ap 16 '51
Railroad securities. Comm & Fin Chr 173: 628; 174:520 F 8, Ag 9 '51
Why Santa Fe profits top all others. map Bsns W p64+ Mr 24 '51

ATEBRIN
Atabrine therapy of histoplasma infections in mice. C. C. Campbell and S. Saslaw. bibliog Pub Health Rep 66:570-7 My 4 '51
Some physico-chemical properties of acridine antimalarials, with reference to their biological action: basic dissociation constants and reduction potentials. D. L. Hammick and S. F. Mason. Chem Soc J p345-8 Ja '50

ATHENS shale
Preliminary note on age of Athens shale. C. E. Decker. bibliog Am Assn Pet Geologists Bul 35:912-15 Ap '51

ATHEROSCLEROSIS. See Arteriosclerosis

ATHLETE'S foot (disease)
Foot balm bomb. Chem W 69:29 Ag 25 '51

ATHLETIC fields

Lighting

New lights for old; narrow beam units step up football field lighting. H. T. Rankin. il Elec World 134:93 N 6 '50

ATHLETICS
See also
Baseball

ATHLETICS buildings. See Gymnasiums

ATKINS, James W. 1880-
James W. Atkins and his paper 70 years old. por Ed & Pub 83:56 O 21 '50

ATKINSON, William P.
Sketch. pors Arch Forum 94:127-9+ Ja '51

ATLANTA
Consider 180-block slum clearance. Eng N 146:55 F 1 '51

Libraries

Uncle Remus branch library. il plans Arch Forum 95:140-1 Jl '51

ATLANTIC alliance. See North Atlantic defense alliance

ATLANTIC CITY electric company
Bonds offered. Comm & Fin Chr 172:1926 N 20 '50
Service area growing fast. Barron's 31:13-14 Ag 20 '51
Stock offering underwritten. Comm & Fin Chr 173:1986 My 14 '51

ATLANTIC coast line railroad
Atlantic Coast Line; with financial data; 1941-1950. P. Bretey. Barron's 31:9-10 Ap 30 '51
Companies which should maintain their dividends in 1951; with comparative balance sheet items. Mag of Wall St 87:383 Ja 13 '51
Railroad securities. Comm & Fin Chr 173: 1559 Ap 12 '51

ATLANTIC ocean
Submarine topography in the North Atlantic. I. Tolstoy. bibliog maps Geol Soc Bul 62: 441-50, pl 1-6 My '51

ATLANTIC pact. See North Atlantic defense alliance

ATLANTIC refining company
Atlantic Refining net ahead of 1950. Barron's 31:17-18 My 28 '51
Ten potential market leaders for 1951; with comparative balance sheet items. Mag of Wall St 87:502 F 10 '51

ATLANTIC steel company
Atlantic steel co. will increase output. Blast F & Steel Pl 39:105 Ja '51

ATLANTIC union (proposed)
Atlantic union. C. K. Streit. Air Affairs 3: 488-99 D '50

ATLAS plywood corporation
Security I like best. M. F. Beal. Comm & Fin Chr 173:54 Ja 4 '51

ATLAS supply company
Case to save trouble; deny monopoly, Standard companies settle FTC-Atlas. Nat Pet N 43:26 Je 20 '51

ATLASES
American Oxford atlas. C. Lewis and others, eds. Oxford univ. press, 55 Vandam st, New York 13 '51 ($10)
Hammond's city street map atlas and trip guide for the executive, commercial traveler and tourist. 208p $1.95 C. S. Hammond and company, Maplewood, N.J. '51
United States atlases, a list of national, state, county, city and regional atlases in the Library of Congress. C. E. LeGear, comp. 445p $2.25 Supt. of doc. '50

ATMOSPHERE
Absence of atmospheric ethylene. J. H. Shaw and H. H. Claassen. Phys R 81:462-3 F 1 '51
Atmospheric helium. P. Harteck and V. Faltings. Chem Age (Lond) 64:174 Ja 27 '51
Atmospheric nitrous oxide and the nitrogen cycle. A. Adel. bibliog Science 113:624-5 Je 1 '51
Does diffusive separation exist in the atmosphere below 55 kilometers? D. W. Hagelbarger and others. Phys R 82:107-8 Ap 1 '51
Earth's atmosphere contains CO, CH$_4$, N$_2$O. Chem & Eng N 29:3467 Ag 20 '51

ATMOSPHERE—*Continued*

Effective earth's radius for radiowave propagation beyond the horizon. W. Miller. bibliog diags J Ap Phys 22:55-62 Ja '51

Fluctuations in the refractive index of the atmosphere at microwave frequencies. G. Birnbaum. bibliog Phys R 82:110-11 Ap 1 '51

Geologic evidence regarding the source of the earth's hydrosphere and atmosphere; abstract. W. W. Rubey. Science 112:454 O 20 '50

Geologic history of sea water; an attempt to state the problem. W. W. Rubey. Geol Soc Bul 62:1111-47 bibliog(p 1143-7) S '51

K^{40} and the age of the atmosphere. K. F. Chackett. bibliog Phys R 81:1057 Mr 15 '51

Neutrons produced in the atmosphere by the cosmic radiations. J. A. Simpson. bibliog diags Phys R 83:1175-88 S 15 '51

Oceans from the interior? Rubey theory. Sci Am 184:28-9 Ja '51

Source of atmospheric salts. S. G. Boyce. bibliog Science 113:620-1 Je 1 '51

See also

Air
Auroras
Fog
Hydrosphere
Meteorology

ATMOSPHERE, Solar. See Sun

ATMOSPHERE, Upper

Aperiodic aerials; use with vertical-incidence ionospheric recorders. R. Bailey. bibliog diags Wireless Eng 28:208-14 Jl '51

Automatic ionospheric recorder for the frequency range 0.55 to 17 mc/s. R. Naismith and R. Bailey. il diags Inst E E Proc 98 pt 3:11-18 Ja '51

Colloquium on mesospheric physics. Franklin Inst J 250:472-5 N '50

Comparison of ionospheric radio transmission forecasts with practical results. A. F. Wilkins and C. M. Minnis. Inst E E Proc 98 pt3:209-20 My '51

Conference on ionospheric physics, State College, Pa. July 24-27. Science 112:661 D 1 '50

Diversity effects in spaced-aerial reception of ionospheric waves. E. N. Bramley. bibliog Inst E E Proc 98 pt 3:19-25 Ja '51

Effect of the Lorentz polarization term on the vertical incidence absorption in a deviating ionosphere layer. J. M. Kelso. bibliog Inst Radio Eng Proc 39:412-19 Ap '51

Evidence for ionosphere currents from rocket experiments near the geomagnetic equator. E. Maple and others. Phys R 82:957-8 Je 15 '51

High weather; science discovers that the apparent calm at great altitudes is a myth. P. M. Gormley. diags Aero Digest 61:30-1+ N '50

Ionospheric propagation of low- and very-low-frequency radio waves over distances less than 1 000 km. R. N. Bracewell and others. diags Inst E E Proc 98 pt 3:221-36 bibliog(54 ref, p235-6) My '51

Ionospheric storms and radio circuit disturbances. C. M. Minnis. bibliog Wireless Eng 28:43-51 F '51

Low-frequency radio-wave propagation by the ionosphere, with particular reference to long-distance navigation. C. Williams. bibliog diags Inst E E Proc 98 pt 3:81-99; Discussion. 99-103 Mr '51

Magneto-ionic triple splitting of ionospheric waves. O. E. H. Rydbeck. bibliog il diags J Ap Phys 21:1205-14 D '50

Mobile ionospheric station. Franklin Inst J 252:65-7 Jl '51; Same cond. il Electronics 24:140+ Je '51

Moon echoes and transmission through the ionosphere. F. J. Kerr and C. A. Shain. bibliog il diags Inst Radio Eng Proc 39: 230-42 Mr '51

Polarimeter for the study of low frequency radio echoes. A. H. Benner and H. J. Nearhoof. bibliog il diags R Sci Instr 21:830-4 O '50

Self-consistent treatment of the oxygen dissociation region in the upper atmosphere. H. E. Moses and T. Wu. bibliog Phys R 83: 109-21 Jl 1 '51

Single-band O-20-mc/s ionosphere recorder embodying some new techniques. T. L. Wadley. bibliog il diag Inst E E Proc 96 pt 3:483-6 N '49; Discussion. diags 98 pt 3: 45-6 Ja '51

Stratospheric-ionospheric relationships. N. C. Gerson. bibliog Inst Radio Eng Proc 38: 1456 D '50

Upper atmosphere. bibliog il Aero Digest 63: 80+ O '51

Upper atmosphere, its exploration and exploitation. W. Ley. il diags Aeronautical Eng R 10:20-4+ F '51

Vertical incidence ionosphere absorption at 150 kc. A. H. Benner. bibliog Inst Radio Eng Proc 39:186-90 F '51

Wide-band aerial system for circularly polarized waves, suitable for ionospheric research. G. J. Phillips. diags Inst E E Proc 98 pt 3:237-9 My '51

ATMOSPHERIC dust. See Dust

ATMOSPHERIC electricity

Similarity of certain atmospherics waveforms. W. F. Zetrouer and W. J. Kessler. il Franklin Inst J 252:137-41 Ag '51

See also

Auroras

ATMOSPHERIC temperature

Heat pump; heat sources and sinks. il Heating-Piping 22:87-91 N '50

ATOMIC bombs

Atom blast studied as key to new design. B. S. Lee. Aviation W 54:13-14 Je 25 '51

Atom-bomb program to expand again. Bsns W p21 D 2 '50

Atomic bomb can destroy Russia, so no war. V. Bush. Comm & Fin Chr 173:1123+ Mr 15 '51

Atomic energy control; abstract. H. A. Winne. Mech Eng 73:660 Ag '51

Business week reports to executives on atomic energy. il Bsns W p99-108 Jl 28 '51 (reprints 20c)

Half-billion AEC plant will be near Paducah. Eng N 145:24 D 21 '50

How to size up the atom bomb. P. W. Swain. il Power 94:80-1 O; 74-9 N '50; 95:82-8 Ja '51

If bombs wreck our power plants, will we have portable units to take over? Power 95:82-3 F '51

Let's plan for utility security; know what A-bombs can do. Elec World 135:94-5 Ap 9 '51

Let's plan for utility security; utility system lessons from Hiroshima. il Elec World 135: 96-8 Ap 9 '51

Mathematics of doom. Sci Am 183:27-8 D '50

1951; the atom is beginning to pay off. R. B. Colborn. il Chem Eng 58:115-17 Ag '51

Paducah; atomic energy boom town. il Bsns W p84-6+ Jl 7 '51

Power installation of one million kw needed for AEC Paducah, Ky., plant. Elec World News ed 134:11 D 25 '50

Slow neutron-induced radioactivities of nuclear explosions. C. E. Mandeville. Franklin Inst J 252:297-308 O '51

U.S. atomic progress. G. Dean. Mech Eng 73: 737-8 S '51

Use of the bomb. Economist 159:989 D 9 '50

Insurance aspects

Atom test damage raises problems in Nevada. Nat Underw 55:1+ F 8 '51

Atomic test damage issue in Nevada. R. L. Gresham. Nat Underw 55:1+ F 15 '51

Brokers find gap in peacetime atom cover. East Underw 52:14 Ag 3 '51

Life insurance companies to share A-bomb risks. Bsns W p 112+ D 16 '50

Nevada damage inspires caution on exclusion. Nat Underw 55:2 Mr 1 '51

Problems raised by atomic warfare. M. Bartels. Nat Underw (Life ed) 55:24-5 O 12 '51

Protective measures

A-bomb exercise alerts gas company defenses. il Am Gas Assn Mo 33:12-13+ My '51

A bomb problem solved by traffic engineers. V. Gunlock. map Midwest Eng 3:12-13+ D '50

Accountant's responsibility in preparing for possible atomic attack. T. R. Cloake. J Account 91:256-9 F '51

America makes plans to meet an atomic attack. maps Gas Age 107:36-7+ Ja 18 '51

ATOMIC bombs—Protective measures—*Cont.*

Architects hear A-bomb shelter needs. Eng N 146:25 My 24 '51

Are we prepared? W. R. G. Baker. Nat Safety N 63:23+ F '51

Atomic age services; Atomlab division of New York's atomic center. Safety Maint & Prod 101:50-1 Ap '51

Certain types of construction may help in preserving production from effects of an atomic explosion. C. O. Brown. Ind & Eng Chem 43:sup57A-8A+ Ja '51

Check list for industrial plant civil defense planning. C. H. Muir, jr. Gen Elec R 54:18-19 Ap '51

Chicago's railroads prepare for A bomb attacks. Ry Age 129:20-1 D 23 '50

Civil defense film; Target, U.S.A., guide for industry planning and preparation in event of atomic attack. Safety Maint & Prod 102:35 S '51

Disaster control; handbook for metalworking. bibliog plans diags Am Mach 94:127-66 N 13 '50

Hiding place down there; old iron mine becomes bomb proof vault; illustrations with text. Bsns W p76 Ap 14 '51

Illinois prepares against atomic bombs. J. B. Oldendorf. Midwest Eng 3:8-9+ D '50

Instrumentation in civil defense. R. L. Butenhoff. il diag Elec Eng 70:287-90 Ap '51

Management makes plans in case of atomic attack. Chem & Eng N 29:1008-9 Mr 12 '51

Mobilizing against fire; defense against possible enemy tactics. H. Bond. il Nat Safety N 64:34-5+ Jl '51

National fire protection association discusses bombs and fire at meeting. Eng N 146:27 My 24 '51

New window resists atom bomb explosions. Product Eng 22:174 Ag '51

Planning for disaster. il Mod Ind 21:46-9 Mr '51

Precast concrete offers protection against atomic blast. A. Amirikian. il plans diags Am Concrete Inst J 22:497-516 Mr '51

Preparing for atomic eventualities; duty of water works management. M. B. Cunningham. il Water & Sewage Works 98:95-7 Mr '51

Prior planning saves lives in atomic disaster. J. S. Marsh. Civil Eng 21:155-7 Mr '51

Problems following atomic blasts. O. Schneider. Heating-Piping 23:145-7 Ap '51

Radioactive contamination of water supplies receives consideration by board of directors of American water works association. Munic Util 89:29-30 F '51

Radiological monitoring. S. S. Friedland. il diags Q S T 35:10-13+ Ap; 29-31+ Je; 21-3+ Ag '51

Safeguarding your records against atomic attack; abstract. Management R 40:119 Mr '51

Some public health aspects of an atomic explosion. W. H. Sullivan. Ind Med 20:1-6 Ja '51

Toledo plan for civil defense. J. F. More. il Pub Works 82:64-7+ Ap '51

Training for disaster; American Cyanamid. il Chem Ind W 68:29+ Mr 3 '51

Ventilation of survival areas for civil defense. H. C. Murphy. il diag Heating-Piping 23:97-9 My; 85-6+ Jl '51

Water supplies and atomic bombing; abstract. G. W. Moore. Water & Sewage Works 98:449-50 O '51

What if an A-bomb hits Chicago's water supply? il Eng N 146:36-7 Ap 26 '51

Your business and the A-bomb; abstract of report by Research institute of America. Bankers Mo 68:26-7 Mr '51; Same. Comm & Fin Chr 173:157+ Ja 11 '51

Radiological effect

Atomic warfare medicine. E. P. Cronkite. il U S Naval Inst Proc 77:932-41 S '51

Radioactive snows at Ann Arbor, Mich., after Las Vegas atomic test explosions. W. W. Meinke. Science 113:545-6 My 11 '51

Testing

Recent AEC tests at Eniwetok. R. Gibbs. Chem & Eng N 29·2542-3 Je 25 '51

ATOMIC bombs and building

A-bomb-resistant buildings; design lessons from Hiroshima and Nagasaki. il Arch Forum 93:146-8 N '50

Can we design for atomic blasts? A. Amirikian. Civil Eng 20:709-10 N '50

No U.S. aid for bomb-resistant plant. il Bsns W p30 Mr 24 '51

Precast concrete offers protection against atomic blast. A. Amirikian. il plans diags Am Concrete Inst J 22:497-516 Mr '51

ATOMIC constants

Least-squares adjusted values of the atomic constants as of Dec. 1950. J. W. M. DuMond and E. R. Cohen. bibliog Phys R 82:555-6 My 15 '51

Measurement of *e/M* by cyclotron resonance. H. Sommer and others. bibliog diags Phys R 82:697-702 Je 1 '51

New formulation of the least-squares calculation of atomic constants. J. A. Bearden and H. M. Watts. bibliog Phys R 81:160-1 Ja 1 '51

Nonindependent observational equations in the theory of least squares. E. R. Cohen. bibliog Phys R 81:162 Ja 1 '51

Re-evaluation of the fundamental atomic constants. J. A. Bearden and H. M. Watts. bibliog Phys R 81:73-81 Ja 1 '51; Correction. 83:457 Jl 15 '51

ATOMIC energy commission (United States)

Atomic byproducts for sale; just call AEC. il Bsns W p50-2+ Ap 21 '51

AEC awards $45 million plant contract. Eng N 146:24 Ap 5 '51

AEC considers Monsanto proposal to make plutonium, develop atomic power. Chem & Eng N 28:3883-4 N 6 '50

AEC fellows in radiological physics appointed for 1950-51. Chem & Eng N 29:207 Ja 15 '51

AEC goes to oil industry for its new general manager. Chem & Eng N 28:3978 N 13 '50

AEC injury rate down 22 per cent in 1950. Nat Safety N 63:122-5 My '51; Safety Maint & Prod 101:82-3 Je '51

AEC picks H-bomb plant site for $260-million project. map Eng N 145:25-6 D 7 '50

AEC raw materials program. il maps Min Cong J 37:86-9 F '51

A.E.C. statement on industry participation. Chem Eng Prog 47:sup26+ Mr '51

AEC willing to study private reactor program. Elec World News ed 135:13 F 5 '51

AEC's semiannual report indicates progress in all technical phases. R. G. Gibbs. Chem & Eng N 29:3144-5 Ag 6 '51

Atomic-energy; eighth semiannual report, July, 1950. Mech Eng 72:901 N '50

Big business in atomic energy. Steel 128:45 Je 18 '51

Blasts and reports. Sci Am 184:28 Mr '51

Declassification to speed low-power reactor study. il Chem & Eng N 28:4254-7 D 4 '50

Directory of government construction officials; Atomic energy commission; operations and area officers. Arch Rec 109:16d Mr '51

Editors find AEC declassification progress satisfactory. Mech Eng 73:257-8 Mr '51

Industry group reports on atomic energy. Pub Util 48:181-3 Ag 2 '51

Major purchasing offices; directory. Am Mach 95:155 Ja 22 '51

New blood rouses AEC. Bsns W p25 N 4 '50

Ohio, Colorado sites revealed for next AEC installations. Eng N 146:24 Ap 12 '51

Private-public power to serve AEC jointly. E. R. Abrams. Barron's 31:8 S 24 '51

Profits and plutonium; a government monopoly wants business to help it cut costs. Fortune 44:66-8 Ag '51

Report on co-operation between the electric power industry and the AEC. Elec Eng 70:763-8 S '51; Same. Mech Eng 73:702-5+ S '51

17 private companies form pools to supply power for two AEC plants. Elec World News ed 136:13 S 3 '51

Subject headings used in the catalogs of the U.S. atomic energy commission. A. G. Greene, ed. pa 70c Office of technical services, U.S. atomic energy commission, Oak Ridge, Tenn. '51

Tenth semiannual report. Sci Am 185:50+ S '51

Tripling atom plans. Bsns W p 152-3 O 13 '51

ATOMIC energy commission (United States)— *Continued*

Insurance problems

Atomic energy operations hazard declining sharply. Weekly Underw 165:252 Ag 4 '51

ATOMIC energy labor relations panel

Atomic energy program and collective bargaining. Mo Labor R 71:587-8 N '50

ATOMIC mass. See Mass (chemistry)

ATOMIC microscope. See X ray microscope

ATOMIC orbitals

Orthogonal atomic orbitals. J. C. Slater. J Chem Phys 19:220-3 F '51

Overlap and bonding power of 2*s*,2*p*-hybrid orbitals. R. S. Mulliken. J Chem Phys 19:900-12 Jl '51

Seemingly forbidden octacovalent structure. G. H. Duffey. bibliog J Chem Phys 19:963-4 Jl '51

ATOMIC piles

American low-power nuclear research reactors. il Engineer 191:422-5 Mr 30 '51

AEC opens door to industry to study reactor program. Chem & Eng N 29:468-9 F 5 '51

AEC reactor program; problems and progress; abstract. L. R. Hafstad. Chem Eng 58:252-3 Ja '51

AEC turns to walls of concrete, foam glass for Arco, Idaho reactor. il Bsns W p 138-40 S 22 '51

AEC willing to study private reactor program. Elec World News ed 135:13 F 5 '51

Atomic pile at Chalk River affords unique experimental facilities. il Can Chem & Process Ind 34:819+ O '50

Atomic research for peace; cooling the atomic pile as well as the many experimental laboratories at Brookhaven national laboratory. il diag Refrig Eng 58:1064-5+ N '50

Atomic scientist outlines basic requirements of nuclear reactors. J. A. Swartout. Chem & Eng N 29:4082+ O 1 '51

Bepo at Harwell; details of large pile. Chem Age (Lond) 64:605-6 Ap 21 '51; il diag Engineer 191:508-9 Ap 20 '51; Engineering 171:464-5 Ap 20 '51; Mech Eng 73:738-9 S '51

Building a large atomic pile by contract. il diag Eng N 146:37-40 Ap 19 '51

Chalk River N.R.X. nuclear reactor in operation. D. G. Hurst. il diag Elec Eng 70: 476-8 Je '51

Chemical engineer and atomic energy. A. M. Weinberg. Chem Eng Prog 47:sup 19+ Mr '51

Cooling atom pile poses gigantic problems in heat transfer and air movement. Heat & Ven 48:128+ My '51; il Heating-Piping 23:96 My '51

Du Pont may try to make tritium at new AEC plant. map Chem Eng 58:181-2+ Ja '51

Effect of nuclear radiation on metal. D. S. Billington and S. Siegel. diag Metal Prog 58:847-52 D '50

Engineers for the atomic energy industry. P. N. Powers. J Eng Educ 41:370-4 Mr '51

Environmental engineering aspects of nuclear activities. A. E. Gorman. J Eng Educ 41: 179-84 N '50

First privately owned reactor has built-in safety features at North Carolina state college, Raleigh. plan Eng N 146:36 Ja 25 '51

Graphite low energy experimental pile (Gleep). diags Engineer 190:587-9 D 15 '50; Same. Engineering 170:497-9 D 15 '50; Same abr. Chem Age (Lond) 63:843-5 D 16 '50; Same abr. Chem & Eng N 29:113-14+ Ja 8 '51; Excerpts. Electrician 145:1430 D 15 '50

Lopo, Hypo, Gleep and Zeep. Sci Am 184:27-8 Ja '51

Low-power nuclear reactors. il Mech Eng 73: 142-4 F '51

Low-power reactor at the Knolls atomic power laboratory; abstract. K. H. Kingdon. Mech Eng 72:996-7 D '50

New nuclear reactor approved for Chalk River. il Can Chem & Process Ind 35:40-3 Ja '51

1951; the atom is beginning to pay off. R. B. Colborn. il Chem Eng 58:115-17 Ag '51

Nuclear engineering. D. W. Cardwell. J Eng Educ 41:362-6 Mr '51

Nuclear reactor at the Brookhaven national laboratory, New York. il Engineer 192:238-40 Ag 24 '51; Chem Eng 58:271-2 My '51; Mech Eng 73:502-4 Je '51

Nuclear reactor; its design. D. A. Anderton. Aviation W 54:23-4+ My 28 '51

Nuclear reactors; four reactors may now be described. il diag Chem Eng 58:113-16 Ja '51

Radiation from a reactor. W. H. Jordan. il diags Sci Am 185:54-5 O '51

Reactor program of the Atomic energy commission. L. R. Hafstad. Am Pet Inst Proc 30(3):22-7 '50; Same cond. il Metal Prog 58: 869-73 D '50; Excerpt. Chem Eng 58:252-3 Ja '51

Reactors; the machines designed for the controlled use of nuclear energy. L. R. Hafstad. il Sci Am 184:43-50 Ap '51

Wraps taken off low-power nuclear reactors. il diags Steel 127:57-60 D 25 '50

ATOMIC power

Atom plane. Bsns W p23-4 F 24 '51

Atom power far. L. R. Hafstad. Chem Ind W 68:23+ Mr 31 '51

Atom; power for flight. D. A. Anderton. diags Aviation W 54:21-2+ My 21; 23-4+ My 28; 21-2+ Je 4; 21-2+ Je 11 '51

Atomic energy applied. J. J. Grebe. il Chem & Eng N 29:4154-7 O 8 '51

Atomic plane seen flying by 1954-56. Aviation W 55:16-17 S 17 '51

Atomic power; abstracts of papers read at annual meeting of American association for the advancement of science, Cleveland. Mech Eng 73:226-8 Mr '51

Atomic-power future good. Power 95:148 S '51

Atomic-powered submarine; abstract. K. A. Kesselring. Mech Eng 73:17 Ja '51

Business week reports to executives on atomic energy. il Bsns W p99-108 Jl 28 '51 (reprints 20c)

Ceramics and atomic energy. W. A. Lambertson. bibliog Am Cer Soc Bul 30:18 Ja 15 '51

Design of equipment for atomic power plants pushed. Chem Eng 58:204+ F '51

Electric power from nuclear reactors past idea stage. Chem & Eng N 29:1404-5 Ap 9 '51

Fiber, atom, new boss at Monsanto. il Bsns W p 112-14+ My 5 '51

1951; the atom is beginning to pay off. R. B. Colborn. il Chem Eng 58:115-17 Ag '51

Nuclear engineering? not yet; abstract. B. W. Bartlett. Chem Eng 58:250-1 Mr '51

Nuclear fuels. R. V. Moore. Elec R (Lond) 148:809-10 Ap 20 '51

Nuclear power isn't cheap, yet; abstract. C. G. Suits. Chem Eng 58:246 Mr '51

Outlook for atomic energy; abstract. L. R. Hafstad. Min Cong J 36:82-3 O '50

Power from atomic energy; abstracts. C. Thomas. Chem Age (Lond) 65:321-2 S 8 '51; Chem & Ind p757 S 8 '51

Producing atomic energy; an industrial function. G. Dean. Comm & Fin Chr 173:2549+ Je 21 '51; Abstract. Mech Eng 73:737-8 S '51

Prospects for atomic electric power. P. Monroe. Pub Util 47:868-9 Je 21 '51

Reactor program of the Atomic energy commission. L. R. Hafstad. Am Pet Inst Proc 30(3):22-7 '50; Same cond. il Metal Prog 58:869-73 D '50; Excerpt. Chem Eng 58: 252-3 Ja '51

Report on co-operation between the electric power industry and the AEC. Elec Eng 70: 763-8 S '51; Same. Mech Eng 73:702-5+ S '51

Sporn group urges AEC, industry study atomic power plants jointly. Elec World 136:59 Jl 2 '51

Three utilities sign with AEC to study use of atomic energy in industry. Elec World News ed 135:12 My 28 '51

Utility regulation for nuclear energy? J. P. Callahan. Pub Util 48:355-60 S 13 '51

Who will build the atom plane? Aviation W 54:15 Mr 5 '51

Bibliography

International bibliography on atomic energy; v. 2, scientific aspects. 880p $10 Atomic energy commission group, Dept. of security council affairs, United nations, New York; for sale by Columbia univ. press, 2960 Broadway, New York 27 '51

ATOMIC power—*Continued*

Economic aspects

Economics of atomic power. S. H. Schurr. maps diag Sci Am 184:32-8 Ja '51

Economics of atomic power; review of Economic aspects of atomic power, by S. H. Schurr and J. Marschak. F. E. Balderston. Mech Eng 73:317-18 Ap '51

Safety measures

Public health aspects of atomic power installations. L. B. Borst. bibliog Ind Med 20:156 Ap '51

ATOMIC research

Atomic energy control; abstract. H. A. Winne. Mech Eng 73:660 Ag '51

Atomic-energy; eighth semiannual report of the Atomic energy commission. Mech Eng 72:901 N '50

Atomic energy research establishment. J. Cockcroft. Engineer 191:358 Mr 16 '51

Atomic power developments; Cumberland plant. Economist 160:222 Ja 27 '51

Atomic research for peace; cooling the atomic pile as well as the many experimental laboratories at Brookhaven national laboratory. il diag Refrig Eng 58:1064-5+ N '50

Atomic research reactor at the Brookhaven national laboratory. Mech Eng 72:901-2 N '50

Brookhaven gets new hot lab; illustrations with text. Chem & Eng N 29:216-17 Ja 15 '51

Fundamental research in atomic spectra. W. F. Meggers. bibliog Opt Soc Am J 41:143-8 Mr '51

Harwell atomic research establishment. Chem & Ind p545 Je 30 '51

Hooded machines run toxic and radioactive jobs. S. S. Gold. il diags Am Mach 95:133-5 F 19 '51

Instrument electronics. M. H. Aronson. diags Instruments 24:760-2+ Jl '51

Ionization defects of fission fragments. J. K. Knipp and others. bibliog Phys R 80:478 N 1 '50

Nuclear data for low-power research reactors released by U.S., United Kingdom, and Canada. Chem & Eng N 28:4464, 4469 D 18 '50

Nuclear energy in 1950. Engineer 191:27-8 Ja 5 '51

Perónist atom. Sci Am 184:32-3 My '51

Stereo television at Argonne laboratories for viewing atomic-energy experiments at extreme distances. Electronics 23:126+ N '50

Unclassified subject matter in nuclear science and engineering. M. D. Peterson. J Eng Educ 41:375-7 Mr '51

Ventilation of an atomic energy laboratory. R. E. Holmes. il plan diags Refrig Eng 59:755-9+ Ag '51

See also

Brookhaven national laboratory

Oak Ridge national laboratory

ATOMIC theory

Excitation functions for proton reactions with sodium and magnesium. J. W. Meadows and R. B. Holt. diags Phys R 83:47-9 Jl 1 '51

New pattern in science. P. Le Corbeiller. J Chem Educ 28:553-5 O '51

ATOMIC volumes

Lanthanide contraction as a teaching aid. R. N. Keller. bibliog J Chem Educ 28:312-17 Je '51

ATOMIC weights

Interconversion of atomic per cent and weight per cent; chart; data sheet. R. J. Raudebaugh. Metal Prog 59:248B F '51

ATOMIZATION

Operating characteristics of a vibrating-type atomizing nozzle. C. M. Sliepcevich, J. A. Consiglio and F. Kurata. flow diag il diag Ind & Eng Chem 42:2353-8 N '50

Shatter of drops in streams of air. W. R. Lane. bibliog il diags Ind & Eng Chem 43:1312-17 Je '51

ATOMIZERS

Bombshell atomizer; polyethylene nebulizer dispenses nasal spray medication; Anahist Atomizer. il diag Mod Packaging 24:104-7 N '50

ATOMS

Angular distribution in the photodisintegration of the deuteron at low energies. G. R. Bishop and others. bibliog Phys R 83:1052-3 S 1 '51

Asymptotic expression of the Thomas-Fermi function for a packed atom. K. Umeda. Phys R 83:651-2 Ag 1 '51

Atom polarisation; relationships between molecular dimensions and boiling points for branched-chain paraffins. A. Audsley and F. R. Goss. Chem Soc J p 120-6 Ja '51

Atom polarisation; the solvent-effect theory and its application to the molecular refraction and polarisation of *n*-paraffins in the liquid state. A. Audsley and F. R. Goss. Chem Soc J p2989-97 N '50

Atomic binding energies. L. L. Foldy. Phys R 83:397-9 Jl 15 '51

Atomic distribution function. R. H. Kerr and L. H. Lund. bibliog diag J Chem Phys 19:50-4 Ja '51

Atomic relationships in the cubic twinned state. W. C. Ellis and R. G. Treuting. bibliog diags J Metals 191:Trans 53-5 Ja '51

Atom's nucleus arranged in energy shells, say physicists; conference on properties of the rare earths. Chem & Eng N 29:378-9+ Ja 29 '51

Binding energies of light nuclei. J. Sanada and Y. Yoshizawa. bibliog Phys R 83:663 Ag 1 '51

Building-up principle and atomic and ionic structure. D. F. Swinehart. bibliog J Chem Educ 27:622-4 N '50

Configuration interaction in Mn II. R. E. Trees. Phys R 83:756-60 Ag 15 '51

Connection between the size of an atom and the magnitude of its mesomeric and electromeric effects. G. Baddeley. Chem Soc J p663-6 F '50

Density of states in light nuclei. C. L. Critchfield and S. Oleksa. bibliog Phys R 82:243-7 Ap 15 '51

Displacement of corresponding energy levels of C^{13} and N^{13}. J. B. Ehrman. Phys R 81:412-16 F 1 '51

Distribution of recoil nucleus in pair production by photons. R. Jost and others. bibliog Phys R 80:189-96 O 15 '50

Effect of finite nuclear size on the elastic scattering of electrons. L. K. Acheson, jr. bibliog Phys R 82:488-94 My 15 '51

Energy levels of a spheroidal nuclear well. S. Granger and R. D. Spence. Phys R 83:460-1 Jl 15 '51

Energy levels of light nuclei. W. F. Hornyak and others. diags Rs Mod Phys 22:291-372 bibliog(p364-72) O '50

Evidence from nuclear masses on proposed closed shells at 20 nucleons. W. Low and C. H. Townes. bibliog Phys R 80:608-11 N 15 '50

Excited states of the mirror nuclei, Li^7 and Be^7. A. B. Brown and others. bibliog Phys R 82:159-81 Ap 15 '51

Experimental verification of the theory of compound nucleus. S. N. Ghoshal. bibliog Phys R 80:939-42 D 15 '50

Hartree computation of the internal diamagnetic field for atoms. W. C. Dickinson. Phys R 80:563-6 N 15 '50

Influence of the atomic shell on nuclear angular correlation. H. Frauenfelder. bibliog Phys R 82:549-50 My 15 '51

Influence of the atomic shell on nuclear angular correlation in Cd^{111}. H. Aeppli and others. Phys R 82:550 My 15 '51

Instrumentation of the M.I.T. cyclotron for the study of nuclear reactions. K. Boyer and others. il diags R Sci Instr 22:310-20 My '51

Interaction between the *d* shells in the transition metals. C. Zener. diags Phys R 81:440-4; 83:299-301 F 1, Jl 15 '51

LCAO self-consistent field calculation of the ground state of carbon dioxide. J. F. Mulligan. bibliog J Chem Phys 19:347-62 Mr '51

Low excited states of nuclei and the quasi-atomic model. L. J. Koester and others. bibliog Phys R 83:1250-2 S 15 '51

Low states of Li^7 in intermediate coupling. H. H. Hummel and D. R. Inglis. Phys R 81:910-14 Mr 15 '51

Magic numbers and the missing elements technetium and promethium. H. E. Suess. Phys R 81:1071-2 Mr 15 '51

ATOMS—*Continued*

Measurements on the diffusion of interstitial atoms in B.C.C. lattices. C. A. Wert. J Ap Phys 21:1196-7 N '50

Neutron binding energies from (d,p) reactions and nuclear shell structure. J. A. Harvey. bibliog Phys R 81:353-64 F 1 '51

Nuclear chemistry; session of International congress of pure and applied chemistry. il Chem & Eng N 29:3965-7 S 24 '51

Nuclear energy levels, Z-11 to 20. D. E. Alburger and E. M. Hafner. Rs Mod Phys 22:373-85 bibliog(p384-5) O '50

Nuclear magnetic moments and atomic hyperfine structure. A. Bohr. bibliog Phys R 81:331-5 F 1 '51

Quantization of angular momenta in heavy nuclei. A. Bohr. bibliog Phys R 81:134-8 Ja 1 '51

Radii of even-even nuclei with alpha-fine structure. M. A. Preston. Phys R 83:475-6 Jl 15 '51

Reactions of atoms and free radicals in solution; the peroxide-induced addition of sulfuryl chloride to 1-alkenes. M. S. Kharasch and A. F. Zavist. bibliog Am Chem Soc J 73:964-7 Mr '51

Reactions of atoms and free radicals in solution; the reactions of acetyl peroxide with chloro- and dichloroalkanes. M. S. Kharasch and G. Buchi. bibliog Am Chem Soc J 73:632-42 F '51

Relation of antiferromagnetic structure to the binding energies of some b.c.c. transition metals. Y. Hsu. bibliog Phys R 83:975-9 S 1 '51

Secondary electron emission and atomic shell structure. E. J. Sternglass. bibliog Phys R 80:925-6 D 1 '50

Spin of the nuclear ground state in the jj-coupling scheme. I. Talmi. Phys R 82:101-2 Ap 1 '51

Spin-orbit coupling in Li^7 and Be^7. D. R. Inglis. bibliog Phys R 82:181-9 Ap 15 '51

Splitting of l-shells in heavy nuclei by the tensor interaction. J. Keilson. Phys R 82:759 Je 1 '51

Structure of the nucleus. M. G. Mayer. diags Sci Am 184:22-6 Mr '51

Symposium on the teaching of nuclear chemistry. R. T. Overman and others. il J Chem Educ 28:2-20 Ja '51

Systematics of nuclear energies. A. E. S. Green. Phys R 83:1248-9 S 15 '51

Total cross sections of Be, B, O, and F for fast neutrons. C. K. Bockelman. bibliog Phys R 80:1011-13 D 15 '50

Total cross sections of nuclei for 42-Mev neutrons. R. H. Hildebrand and C. E. Leith. bibliog diags Phys R 80:842-5 D 1 '50

Triple-dipole interaction. B. M. Axilrod. bibliog J Chem Phys 19:719-29 Je '51

Velocity dependent interactions and nuclear shells. C. H. Blanchard and R. Avery. Phys R 81:35-6 Ja 1 '51

See also

Atomic research
Deuterons
Electrons
Molecules
Neutrons
Nuclear spin
Protons
Radiation
Spectrum
Stereochemistry

Collisions

Collision cross sections of hydrogen and of deuterium. I. Amdur and others. bibliog J Chem Phys 18:1676-8 D '50

Cross sections for ion-atom collisions in He, Ne and A. J. A. Hornbeck and G. H. Wannier. Phys R 82:458 My 1 '51

Ionization by the collision of pairs of metastable atoms. M. A. Biondi. bibliog Phys R 82:453-4 My 1 '51

Disintegration

Altitude and latitude variation in the rate of occurrence of nuclear disintegrations produced in the stratosphere by cosmic rays. J. J. Lord. bibliog Phys R 81:901-9 Mr 15 '51

Angular correlation in the triple cascade transitions. L. C. Biedenharn and others. bibliog Phys R 83:586-93 Ag 1 '51

Angular correlation theorem. B. A. Lippmann. Phys R 81:162-3 Ja 1 '51

Angular correlation theorem and the elimination of interference terms. H. A. Tolhoek and S. R. de Groot. bibliog Phys R 83:189-90 Jl 1 '51; Correction. 83:845 Ag 15 '51

Angular distribution and the polarization of the deuteron in the reaction $p+p \to d+\pi^+$. K. M. Watson and C. Richman. bibliog Phys R 83:1256-7 S 15 '51

Angular distribution of high energy neutrons from targets bombarded by 330-Mev protons. R. W. Miller and others. bibliog diag Phys R 81:374-8 F 1 '51

Angular distribution of $Li^7(p,\alpha)\alpha$. F. L. Talbott and others. bibliog diag Phys R 82:1-4 Ap 1 '51

Angular distribution of photo-protons from deuterium. G. Goldhaber. bibliog diag Phys R 81:930-5 Mr 15 '51

Angular distribution of protons from the $D(d,p)T$ reaction at 10.3-Mev bombarding energy. J. C. Allred and others. bibliog Phys R 82:782-5 Je 15 '51

Angular distribution of the $Al^{27}(d,\alpha)Mg^{25}$ reaction and energy levels in Mg^{25}. A. D. Scheiberg and others. bibliog diags Phys R 80:574-9 N 15 '50

Angular distribution of the products of the $T(d,n)He^4$ reaction. J. E. Brolley, jr. and others. bibliog Phys R 82:502-5 My 15 '51

Angular distributions for (d,p) and (d,n) reactions in light nuclei. S. T. Butler and J. L. Symonds. bibliog Phys R 83:858 Ag 15 '51

Angular distributions from (d, p) and (d, n) nuclear reactions. S. T. Butler. Phys R 80:1095-6 D 15 '50

Angular distributions of (d,p) reactions using 14-Mev deuterons. H. E. Gove. bibliog diag Phys R 81:364-73 F 1 '51

Angular distributions of the alpha-particles and of the gamma-rays from the disintegration of fluorine by protons. C. Y. Chao. bibliog Phys R 80:1035-42 D 15 '50

Angular yield of both proton groups from $Li^6(d,p)Li^7$. R. W. Krone and others. bibliog diags Phys R 80:603-7 N 15 '50

Angular yield of protons, tritons, and alphas from the deuteron bombardment of beryllium. I. Resnick and S. S. Hanna. bibliog Phys R 82:463-7 My 15 '51

Application of proportional scintillation γ-ray counters to the determination of the decay scheme of Au^{198}. P. E. Cavanagh. Phys R 82:791-5 Je 15 '51

Beta-alpha-correlation in the disintegration of Li^8. J. W. Gardner. bibliog Phys R 82:283-4 Ap 15 '51

Boundary conditions for the description of nuclear reactions. M. Moshinsky. diag Phys R 81:347-52 F 1 '51

Coincidence methods of measuring disintegration rates of radioactive sources. J. Barnothy and M. Forro. bibliog R Sci Instr 22:415-23 Je '51

Conservation of angular momentum in the statistical theory of nuclear reactions. L. Wolfenstein. bibliog Phys R 82:690-6 Je 1 '51

Conversion coefficient of the 35-kev gamma-ray of Te^{125}. G. Friedlander and others. Phys R 80:1103-4 D 15 '50

Cross section for photo-disintegration of the deuteron at low energies. G. R. Bishop and others. bibliog diags Phys R 80:211-22 O 15 '50; Correction. 81:644 F 15 '51

Decay of $Xe^{125} \to I^{125} \to Te^{125}$. I. Bergström. bibliog. Phys R 82:111-12 Ap 1 '51

Declassification to speed low-power reactor study. il Chem & Eng N 28:4254-7 D 4 '50

Determination of the photo-nuclear cross sections $S^{32}(\gamma,d)P^{30}$, $S^{32}(\gamma,np)P^{30}$, and $p^{31}(\gamma,n)P^{30}$. L. Katz and A. S. Penfold. bibliog Phys R 81:815-19 Mr 1 '51

Deuteron bombardment of C^{14}. E. L. Hudspeth and others. Phys R 80:643-6 N 15 '50

Direct photodisintegration processes in nuclei. E. D. Courant. bibliog Phys R 82:703-9 Je 1 '51

Directional correlation of successive nuclear radiations. J. A. Spiers. Phys R 80:491 N 1 '50

Disintegration of As^{74}. S. Johansson and others. Phys R 82:275 Ap 15 '51

Disintegration of As^{77}. R. Canada and A. C. G. Mitchell. bibliog Phys R 81:485-6 F 1 '51

ATOMS—Disintegration—*Continued*

Disintegration of boron by fast neutrons. B. Petree and others. bibliog diags Phys R 83:1148-53 S 15 '51

Disintegration of boron by slow neutrons. G. C. Hanna. bibliog Phys R 80:530-4 N 15 '50

Disintegration of Ce^{143} and Pr^{143}. E. Kondaiah. diag Phys R 83:471 Jl 15 '51

Disintegration of Hf^{181}. W. W. Pratt. bibliog Phys R 80:289 O 15 '50

Disintegration of He^{3} by fast neutrons. J. H. Coon. bibliog Phys R 80:488 N 1 '50

Disintegration of Nd^{147}. W. S. Emmerich and J. D. Kurbatov. bibliog Phys R 83:40-3 Jl 1 '51

Disintegration of neon by fast neutrons. C. H. Johnson and others. Phys R 82:117-18 Ap 1 '51

Disintegration of praseodymium 142. E. N. Jensen and others. bibliog Phys R 80:862-5 D 1 '50

Disintegration of Rb^{88}. M. E. Bunker and others. bibliog Phys R 81:30-2 Ja 1 '51

Disintegration of Sn^{119m}. R. D. Hill. bibliog il Phys R 83:865-6 Ag 15 '51

Disintegration of Ti^{45}. M. Ter-Pogossian and others. bibliog Phys R 80:360-5; 81:285 N 1 '50, Ja 15 '51

Disintegration scheme of Au^{199}. P. M. Sherk and R. D. Hill. bibliog diag Phys R 83:1097-100 S 15 '51

Disintegration scheme of I^{131}. P. R. Bell and others. diags Phys R 82:103-5 Ap 1 '51

Disintegration scheme of Re^{186}. F. R. Metzger and R. D. Hill. bibliog diag Phys R 82:646-50 Je 1 '51

Disintegrations of Nd^{147} of Pm^{140}. E. Kondaiah. bibliog Phys R 81:1056-7 Mr 15 '51

Effective photon energies of high energy photo-nuclear reactions. L. Eyges. Phys R 81:981-7 Mr 15 '51

Effective range of nuclear forces; effect of the potential shape. E. E. Salpeter. bibliog Phys R 82:60-6 Ap 1 '51

Electric excitation and disintegration of nuclei; excitation and disintegration of nuclei by the coulomb field of positive particles. C. J. Mullin and E. Guth. bibliog Phys R 82:141-55 Ap 15 '51

Emission of long-range charged particles in the slow neutron fission of heavy nuclei. K. W. Allen and J. T. Dewan. bibliog diags Phys R 80:181-8 O 15 '50

Emission of protons from the compound nucleus F^{18}. R. R. Roy. diags Phys R 82:227-9 Ap 15 '51

Emission of short-range charged particles in the slow neutron fission of uranium. K. W. Allen and J. T. Dewan. bibliog diags Phys R 82:527-30 My 15 '51

Energy barrier for asymmetric fission in the static liquid drop model. J. Jungerman. diag Phys R 80:285-6 O 15 '50

Energy levels in Li^{7}. H. E. Gove and J. A. Harvey. bibliog Phys R 82:658-63 Je 1 '51

Excitation function of C$^{14}(\alpha,p)$N^{17}. K. Sun and others. bibliog diag Phys R 82:267-8 Ap 15 '51

Excitation functions for B$^{10}(d,\alpha)$Be^{8}. W. D. Whitehead. Phys R 82:553-4 My 15 '51

Excitation functions for spallation reactions on Cu. F. O. Bartell and others. bibliog Phys R 80:1006-10 D 15 '50

Fast neutron disintegration of C^{12} and B^{10}. J. L. Perkin. Phys R 81:892-3 Mr 1 '51

Fission of medium weight elements. R. E. Batzel and G. T. Seaborg. bibliog Phys R 82:607-15 Je 1 '51

Gamma-alpha-reaction in Rb^{87}. R. N. H. Haslam and H. M. Skarsgard. bibliog Phys R 81:479-80 F 1 '51

Gamma-rays emitted in the disintegration of the 36-hour Rh^{105}. C. E. Mandeville and E. Shapiro. Phys R 82:953-4 Je 15 '51

High energy photo-nuclear reactions. K. Strauch. diags Phys R 81:973-81 Mr 15 '51

High energy protons emitted from carbon at 90° to a 240-Mev proton beam. G. M. Temmer. bibliog Phys R 83:1067-8 S 1 '51

Interpretation of comparative half-lives in the Fermi theory of beta-decay. E. Feenberg and G. Trigg. bibliog Rs Mod Phys 22:399-406 O '50

Ionization yields of fission fragments. R. B. Leachman. bibliog Phys R 83:17-20 Jl 1 '51

Isomeric state of Y^{89} and the decay of Zr^{89}. M. Goldhaber and others. bibliog Phys R 83:661-2 Ag 1 '51

Isotopes of xenon and krypton in pitchblende and the spontaneous fission of U^{238}. J. Macnamara and H. G. Thode. bibliog Phys R 80:471-2 N 1 '50

K-capture/positron branching ratio for Cu^{61}. C. S. Cook. Phys R 83:462-3 Jl 15 '51

2L^{-1}-Magnetic 2L-electric interference terms in γ-γ-angular correlations. S. P. Lloyd. Phys R 81:161-2 Ja 1 '51

L to K capture ratio and disintegration energy of Sn^{113}. D. A. Thomas and others. bibliog Phys R 82:961-2 Je 15 '51

Long-range protons from the disintegration of carbon by deuterons and a study of the competing reactions. G. C. Phillips. bibliog Phys R 80:164-70 O 15 '50

Low states of He^{5} and Li^{5}. R. K. Adair. bibliog Phys R 82:750-1 Je 1 '51

Lower limit for the lifetime of the 0.8-Mev excited level of Mo^{96}. F. R. Metzger. Phys R 83:842 Ag 15 '51

Magnetic analysis of the B(α,p)C reaction. G. M. Frye and M. L. Wiedenbeck. Phys R 82:960-1 Je 15 '51

Mn$^{55}(p,n)$Fe^{55} neutron spectrum. P. H. Stelson and W. M. Preston. bibliog diag Phys R 82:655-7 Je 1 '51

Masses of light nuclei from nuclear disintegration energies. C. W. Li and others. Phys R 83:512-18 Ag 1 '51

Measurement of specific disintegration rates by internal gas counting; radiocarbon. M. L. Eidinoff. bibliog diag Anal Chem 23:632-5 Ap '51

Mechanism of star production by gamma-rays. S. Kikuchi. Phys R 81:1060 Mr 15 '51

Meson production accompanying uranium fission. H. Bradner and J. K. Bowker. il Phys R 82:265-6 Ap 15 '51

Model for photo-nuclear reactions. L. Marquez. bibliog Phys R 81:897 Mr 1 '51

Neutral photomeson production and nucleon isobars. K. A. Brueckner and K. M. Case. Phys R 83:1141-7 S 15 '51

Neutron capture γ-rays from lead and bismuth. B. B. Kinsey and others. bibliog Phys R 82:380-8 My 1 '51

Neutron energy distributions in proton bombardment of Be and C at 100 Mev. D. Bodansky and N. F. Ramsey. diags Phys R 82:831-6 Je 15 '51

Neutron thresholds from the reactions T$^{3}(p,n)$He^{3}, Li$^{7}(p,n)$Be^{7}, Be$^{9}(d,n)$*B^{10}, and O$^{16}(d,n)$F^{17}. T. W. Bonner and J. W. Butler. diags Phys R 83:1091-6 S 15 '51

Neutron yields from photo-disintegration by gamma-rays from lithium. B. D. McDaniel and others. diags Phys R 80:807-12 D 1 '50

Nuclear compressibility and fission. W. J. Swiatecki. Phys R 83:178-9 Jl 1 '51

Nuclear disintegrations at 29,000 meters above sea level. M. M. Addario and S. Tamburino. Phys R 80:749-50 N 15 '50

Nuclear reactions resulting from the proton bombardment of aluminum. F. C, Shoemaker and others. bibliog diag Phys R 83:1011-17 S 1 '51

Nuclear recoils resulting from the decay of Be^{7}. P. B. Smith and J. S. Allen. diag Phys R 81:381-5 F 1 '51

Photodisintegration cross section of the deuteron. S. A. Colgate. Phys R 83:1262-3 S 15 '51

Photo-disintegration cross sections of deuterium and beryllium for the gamma-rays of sodium 24 and gallium 72. A. H. Snell and others. bibliog diags Phys R 80:637-42 N 15 '50

Photodisintegration of copper. P. R. Byerly, jr. and W. E. Stephens. bibliog diag Phys R 81:473-4; 83:54-62 F 1, Jl 1 '51

Photodisintegration of He^{4}. T. S. Benedict and W. M. Woodward. diag Phys R 83:1269-70 S 15 '51

Photodisintegration of He^{4} nuclei by X-rays from a 100-Mev betatron. E. R. Gaerttner and M. L. Yeater. bibliog il diag Phys R 83:146-50 Jl 1 '51

Photo-disintegration of O^{16}. M. A. Preston. Phys R 80:307-8 O 15 '50

Photo-disintegration of silver and aluminum. B. C. Diven and G. M. Almy. diags Phys R 80:407-14 N 1 '50

ATOMS—Disintegration—*Continued*

Photo-disintegration of the deuteron. J. A. Phillips and others. bibliog il Phys R 80:326-31 N 1 '50

Photo-disintegration of the deuteron by lithium and fluorine γ-rays. P. V. C. Hough. bibliog diags Phys R 80:1069-75 D 15 '50

Photo-neutron thresholds of beryllium and deuterium. R. C. Mobley and R. A. Laubenstein. bibliog diags Phys R 80:309-14 N 1 '50

Photonuclear effects in carbon from 100-Mev betatron X-rays. E. R. Gaerttner and M. L. Yeater. Phys R 82:461 My 1 '51

Photonuclear stars in emulsions. R. D. Miller. bibliog Phys R 82:260-1 Ap 15 '51

Photo-production of N^{17},$O^{18}(\gamma,P)N^{17}$. W. E. Stephens and others. bibliog Phys R 82:511-14 My 15 '51

Photoproton emission. A. Lundby and L. Marshall. bibliog diag Phys R 83:323-5 Jl 15 '51

Photoproton reactions in lead. A. G. W. Cameron and others. bibliog Phys R 83:1264-5 S 15 '51

Preparation of carbon targets; cracking benzene on silver. G. C. Phillips and J. E. Richardson. R Sci Instr 21:885-6 O '50

Probability of asymmetric and symmetric fission. T. Yasaki and O. Miyatake. bibliog Phys R 80:754-5 N 15 '50

Probable emission of a beryllium-8 nucleus in the fast neutron fission of thorium-232. E. W. Titterton. bibliog Phys R 83:1076-7 S 1 '51

Production of high energy deuterons by energetic nucleons bombarding nuclei. J. Heidmann. bibliog Phys R 80:171-6 O 15 '50

Production of photomesons. R. M. Littauer and D. Walker. Phys R 82:746-7 Je 1 '51

Proton-gamma-ray coincidence study of Si^{30} and B^{11}. H. H. Landon. diag Phys R 83:1081-4 S 15 '51

Proton-neutron reactions and thresholds. H. T. Richards and others. bibliog Phys R 80:524-30 N 15 '50

Protons and deuterons ejected from nuclei by 90-Mev neutrons. J. Hadley and H. York. bibliog diags Phys R 80:345-54 N 1 '50

Radioactive decay of I^{131}. E. W. Emery. bibliog Phys R 83:679-80 Ag 1 '51

Reaction $C^{14}(p,n)N^{14}$; excited states in N^{15}. W. D. Roseborough and others. bibliog diag Phys R 83:1133-6 S 15 '51

Reaction energies of light nuclei from magnetic analysis. E. N. Strait and others. bibliog Phys R 81:747-60 Mr 1 '51

Reactions of high-energy particles with nuclei. G. Wilkinson. Chem Soc J supp no 2:S366-9 '49

Relative photo-fission cross sections of several fissionable materials. J. McElhinney and W. E. Ogle. diags Phys R 81:342-4 F 1 '51

Resonance phenomena in (γ,n), (γ,p), and $(\gamma,2n)$ reactions measured by the technique of simultaneous activation. R. Sagane. Phys R 83:174-5 Jl 1 '51

Resonance photo-fission cross section for U^{238}. W. E. Ogle and J. McElhinney. bibliog Phys R 81:344-6 F 1 '51

Search for emission of electron pairs from nuclei. G. C. Phillips and others. Phys R 83:1049-50 S 1 '51

Search for short period activities from U^{235} fission products. J. E. Brolley, jr. and others. diag Phys R 83:990-3 S 1 '51

Spins and parities of the 3.7-3.9-Mev doublet in C^{13}. J. Rotblat. bibliog Phys R 83:1271-2 S 15 '51

Spontaneous fission in Cm^{242}. G. C. Hanna and others. Phys R 81:466-7 F 1 '51

Stars in photographic emulsions initiated by protons. L. S. Germain. Phys R 82:596-7 Je 1 '51

Stars induced by 350- to 400-Mev protons. G. Bernardini and others. Phys R 80:905 D 1 '50

Stars initiated by gamma-rays. S. Kikuchi. bibliog Phys R 80:492 N 1 '50

Stars produced in nuclear emulsions by carbon ions from the cyclotron. J. F. Miller. bibliog il Phys R 83:1261-2 S 15 '51

T+T reactions. K. W. Allen and others. bibliog Phys R 82:262-3 Ap 15 '51

Theory of angular correlation phenomena. L. Eisenbud. Franklin Inst J 251:231-46 F '51

Thick target yields from the (d,n) reaction at 10 Mev. L. W. Smith and P. G. Kruger. bibliog diags Phys R 83:1137-40 S 15 '51

Threshold for photoneutron reaction in U^{238}. J. R. Huizenga and others. bibliog Phys R 82:561-2 My 15 '51

Thresholds of photo-neutron reactions. R. Sher and others. bibliog diag Phys R 81:154-5 Ja 1 '51

Transmutation of N^{14} by protons. D. B. Duncan and J. E. Perry. bibliog diag Phys R 82:809-13 Je 15 '51

Unusual nuclear event. P. R. Barker. il Phys R 81:291 Ja 15 '51

Upper limit for the time between fission and the emission of neutrons. T. M. Snyder and R. W. Williams. diags Phys R 81:171-5 Ja 15 '51

Yields of α-, *n*-, and γ-radiation from chlorine bombarded with protons. K. J. Brostrøm and others. bibliog Phys R 83:1265-6 S 15 '51

Yields of photoprotons from twenty elements. A. K. Mann and J. Halpern. bibliog diags Phys R 82:733-8 Je 1 '51

See also

Gamma rays

Models

Atomic structure model. F. Y. Herron. diag J Chem Educ 28:473 S '51

Atomic structure models for clay minerals. A. T. Perkins. bibliog il J Chem Educ 28:388-9 Jl '51

j-j Coupling shell model and beta-decay. H. Horie and M. Umezawa. bibliog Phys R 83:1253-4 S 15 '51

Hard sphere model of the nucleon. R. Jastrow. Phys R 81:636 F 15 '51

Nuclear models. V. Weisskopf. bibliog Science 113:101-2 Ja 26 '51

Rainwater's spheroidal nuclear model. E. Feenberg and K. C. Hammack. Phys R 81:285 Ja 15 '51

ft-Values of β-decay and the shell models. M. Taketani and others. bibliog Phys R 82:441-2 My 1 '51

ATOMS, Metastable. See Metastable atoms

ATRANOL

Application of the modified Gattermann reaction to methyl and ethyl orsellinate. W. B. Whalley. Chem Soc J p3278-80 D '49

ATROPINE

Pharmacologic analysis of intestinal stimulants. S. Ellis. bibliog Science 114:325-6 S 28 '51

ATTAPULGUS clay. See Fuller's earth

ATTAR of roses

Rose-oil industry of Turkey. For Comm W 44:16 S 10 '51

ATTICS

Converting attics into bedrooms. il plans diags Am Bld 73:172-4 Ap '51

This playroom was unfinished attic. il Am Bld 73:230 S '51

ATTITUDE (psychology)

Can we measure attitude? J. V. Waits. Nat Safety N 63:76-7+ Ja '51

How's your attitude? H. C. Jones. Ptr Ink 236:78 Ag 17 '51

When women have their say; factory personnel problems; abstract. L. O. Stockford and K. R. Kunze. S A E J 59:73 Ja '51

AUCTIONS

Art auctions; latest inflation hedge. il Bsns W p22-3 Mr 3 '51

Biggest sale brings low bids; Manassas, Va. auction of pipeline construction equipment. il Bsns W p26-7 Ag 18 '51

More about the auction; the auctioneer's place in retail selling. R. J. Battista. J Retailing 26:162-8 Winter '50

Tv auction; dealers hate it. il Bsns W p20 My 26 '51

Tobacco auction; takes an expert in sight, sound; illustrations with text. Bsns W p 116-18 Je 9 '51

AUDIOMETERS

Calibration of audiometers. E. L. R. Corliss and W. F. Snyder. diags Acoustical Soc Am J 22:837-42 N '50

AUDIOMETERS—*Continued*

Electrical and acoustical performance of some commercial audiometers. K. C. Morrical and others. bibliog Acoustical Soc Am J 22:843-7 N '50

Historical note on the masking audiometer. B. F. Miessner. Acoustical Soc Am J 22: 881 N '50

Standards

Accurate measurement for better hearing; American standard specifications for audiometers for general diagnostic purposes. il Standardization 22:283 S '51

AUDIT bureau of circulations

Annual report to the membership. P. L. Thomson. Ed & Pub 83:8 O 28 '50

ABC actions reflect membership split on methods. Ptr Ink 233:87-8 N 3 '50

ABC after 36 years; tabulation of membership. Ed & Pub 83:8 O 28 '50

ABC as ad industry's keystone. H. H. Kynett. Ed & Pub 83:5+ N 4 '50

ABC directors set 70 per cent rule for Jan. 1; with text of by-law covering membership. Ed & Pub 83:8+ D 16 '50

Criticize ABC policy and practices. P. Wyman; W. B. Potter. Adv Agency 43:80 D '50

Further trading zone study is requested. G. A. Brandenburg. Ed & Pub 83:7 O 28 '50

Media clinics on ABC reports suggested. H. H. Kynett. Ed & Pub 84:44 Ja 20 '51

Meeting of newspapers' trading zone group, Chicago, Nov. 27-28. Ed & Pub 83:56 D 2 '50

Procedure on ABC zone put to vote of newspapers. Ed & Pub 84:7-8 My 19 '51

12 dailies reject ABC zone changes. Ed & Pub 83:6 O 21 '50

AUDITING

Audit program designed to eliminate year-end peaks by expanding interim examination; timber and logging client. C. E. Rawlinson. J Account 91:272-5 F '51

Banker supports effort to extend independent auditing. J Account 90:463 D '50

How to use client's staff to cut costs of audit of a small business. D. C. Hearne. J Account 92:307-12 S '51

New audit program based on quarterly transactions takes pressure from year-end peak. L. F. Beckers. J Account 91:822-6 Je '51

Piecemeal opinions should not contradict denial. J Account 91:139-40 Ja '51

Should accountants audit books they have kept? J Account 90:520-1 D '50

Special techniques needed in the audit of large business enterprises. P. Grady. J Account 91:678-85 My '51

See also

Bank examinations

Internal control

Army's internal audit program; how it works, what it is designed to accomplish. J Account 92:304-6 S '51

Evaluation of operating performance and personnel by internal auditor. A. J. Gregory. Am Gas Assn Mo 33:26-8 Jl-Ag '51

How International Harvester developed a manual for internal audit and how it works. C. E. Jarchow. J Account 91:728-30 My '51

How to check thoroughly a client's internal controls during an audit. L. Feurer. J Account 91:575-9 Ap '51

Protect your advertising agency from employee error or fraud by internal controls. I. Rubel. Ptr Ink 234:28-30 F 2 '51

Responsibility of the internal auditor. J. D. Hogan. Am Gas Assn Mo 33:25-6 Jl-Ag '51

Special techniques needed in the audit of large business enterprises. P. Grady. J Account 91:678-85 My '51

Training ground for management personnel. E. R. Mellon. Am Gas Assn Mo 33:28+ Jl-Ag '51

Study and teaching

Most failures in auditing exam are result of inexperience. J Account 91:308-9 F '51

AUDITORIUMS

Remington Rand auditorium is made available to business men. Credit & Fin Management 53:28 Jl '51

Lighting

Lighting a small auditorium-ballroom. R. H. Hiller. il plan Illum Eng 45:695-6 N '50

Lighting the school auditorium and stage. C. J. Allen. bibliog il plan diags Illum Eng 46:131-6; Discussion. 136-9 Mr '51

AUDITORS

Are auditors human? H. I. Ross. J Account 90:435-6 N '50

AUGER effect

Auger effect in astatine. L. S. Germain. Phys R 80:937-8 D 15 '50

AUGERS, Earth. See Drilling and boring (earth and rocks)

AUREOMYCIN

Aureomycin in the U.K. Chem Age (Lond) 64:240 F 10 '51

Crystallographic data; aureomycin hydrochloride. J. Krc and W. C. McCrone. il diags Anal Chem 22:1576-7 D '50

Effect of aureomycin and vitamins on the growth rate of chicks. J. Biely and B. March. Science 114:330-1 S 28 '51

Effect of aureomycin on the respiration of normal rat liver homogenates. J. C. Van Meter and J. J. Oleson. Science 113:273 Mr 9 '51

Q fever studies in southern California; aureomycin treatment of dairy cattle naturally infected with coxiella burnetii. L. Luoto and others. bibliog Pub Health Rep 66:199-204 F 16 '51

AUROCHS investment company, ltd.

Statement by the chairman at 25th annual meeting. J. H. Wormell. Economist 159: 713-14 N 4 '50

AURORAL spectrum. See Spectrum, Auroral

AURORAS

Aurora and magnetic storms; their effect on radio communication. R. K. Moore. il map Q S T 35:14-19+ Je '51

Entry into the earth's atmosphere of 57-kev protons during auroral activity. A. B. Meinel. Phys R 80:1096-7 D 15 '50

Protons and the aurora. C. W. Gartlein. Phys R 81:463-4 F 1 '51

AUSTENITE

Diffusion coefficient of carbon in austenite. C. Wells and others. il J Metals 188:Trans 553-60 Mr '50; Discussion. 188:Trans 1375-6 N '50

Effect of isothermal treatment on the mechanical properties of steel; with note on solder embrittlement. M. D. Jepson. Metallurgia 43:62-4+ F '51

Growth of austenite as related to prior structure. A. E. Nehrenberg. bibliog il J Metals 188:Trans 162-74 Ja '50; Discussion. 188:Trans 1376-81 N '50

Magnetic analysis of iron-carbon alloys; the tempering of martensite and retained austenite. J. Crangle and W. Sucksmith. bibliog Iron & Steel Inst J 168:141-51 Je '51

Silicon distribution between austenite and liquid metal in freezing hypo-eutectic cast iron. A. Hultgren and O. Carlsson. diag Iron & Steel Inst J 166:303-4 D '50

Transformation of austenite in a manganese-molybdenum steel deposited as weld metal. O. O. Miller and others. bibliog il Welding J 29:sup450-8 S '50; Discussion. 30:sup253-4 My '51

AUSTIN, David Fergueson, 1898-

Iron age salutes. por Iron Age 167:69 My 17 '51

AUSTIN, Texas

Water supply

Water treating experiences. A. H. Ullrich. il Water & Sewage Works 98:17-21 Ja '51

AUSTIN motor company, limited

Austin's bumper profits. Economist 159:770 N 11 '50

Statement by the chairman at 36th annual general meeting. Economist 159:1052 D 9 '50

AUSTRALIA

See also

Bonds, Government—Australia
Electric industries—Australia
Glass trade—Australia
Immigration and emigration—Australia
Labor and laboring classes—Australia
Steel industry and trade—Australia
Wages—Australia
Wool trade—Australia

AUSTRALIA—*Continued*

Commerce

Feud down under; Australian-Japanese trade impasse. Bsns W p 119 Je 30 '51

Economic conditions

Australia shirks the issue. Economist 159:632 O 21 '50

Australia's economic emergency. Economist 159:559, 581-2 S 30-O 7 '50

Australia's fight against inflation. Economist 159:1210 D 30 '50

News by countries. For Comm W 41:10 O 23; 10-11 N 20; 9 D 25 '50; 42:8-10 F 12; 11-12 Mr 19; 44:15-16 S 3 '51

Economic policy

Australian development and immigration. D. Copland. Int Labour R 63:633-56 Je '51

Australians divided over inflation. Economist 161:334-5 Ag 11 '51

Foreign relations

Australia's fears of Japan. Economist 160: 146 Ja 20 '51

Politics and government

Canberra seeks more power. Economist 160: 1511-12 Je 23 '51

Moods of the Australian electorate. Economist 160:925 Ap 21 '51

AUSTRALIAN estates company, limited

Statement by the chairman at annual general meeting. Economist 161:258 Jl 28 '51

AUSTRALIAN national university, Canberra

Australian national university. D. Copland. Science 113:375-6 Ap 6 '51

AUSTRIA

See also

Petroleum industry and trade—Austria

Allied military government

Stakes in Austria; Russians reluctant to leave. Economist 159:1206-7 D 30 '50

Commerce

East-west trade; Austria cannot do without it. E. W. Vaughn. Barron's 31:7 S 10 '51

Foreign trade. For Comm W 44:9 Jl 2 '51

Commercial policy

Austria, a GATT member. For Comm W 44:10 Jl 30 '51

Austria signs Torquay protocol to GATT. For Comm W 45:26 O 8 '51

Tariffs and trade controls. For Comm W 42:11 Mr 26 '51

Trade protocols signed with Denmark and Norway. For Comm W 43·12-13 Je 4 '51

Economic conditions

Austria in two orbits. Economist 159:954 D 2 '50

News by countries. For Comm W 40:11-12 S 18; 41:10-11 O 16; 9-10 N 13; 10 D 18 '50; 42:10 Ja 22; 16-17 F 19; 11-12 Mr 12; 10-11 Mr 26; 43:9-10 Ap 23; 9 My 28; 44:9 Jl 2; 10-11 Ag 6; 8-9 Ag 27; 45:11-12 O 1 '51

Economic policy

Economic control laws passed. For Comm W 43:9 My 21 '51

Economic relations

Russia

Soviet economic interests in Austria. Economist 160:440+ F 24 '51

AUTHORS

Assignment to author's wife of half interest in manuscript. J Account 91:296-8 F '51

Junior book of authors. S. J. Kunitz and H. Haycraft, eds. 2d ed rev 309p $3.50 H. W. Wilson co, New York '51

See also

Copyright

AUTHORSHIP

How to say it with statistics. R. Flesch. Ptr Ink 233:23-4 D 8 '50

Writers' and artists' year book, 1951; a directory for writers, artists, playwrights, film writers, photographers and composers. 44th ed 386p A. & C. Black, 4-6 Soho square, London, W.1, '51 ($2.50)

Writer's market. R. A. Jones and A. M. Mathieu, eds. 13th ed 515p $3.50 Writer's digest, 22 E. 12th st, Cincinnati 10 '50

See also

Chemical writing

Technical writing

Textbooks

AUTOCLAVES

Advanced engineering in Hungary; current work on special autoclaves. P. Farkas. il Chem Age (Lond) 63:577-8 O 21 '50

Curing block with high-pressure steam; Harter marblecrete stone co. J. W. Shaver. il Concrete 59:20-2 S '51

Flame gouging for better welds in autoclave fabrication; Blaw-Knox co. il Welding J 30:262 Mr '51

AUTOCORRELATION functions and power spectrum. See Wiener's theorem

AUTOMATIC baseball equipment corporation

Stock offered. Comm & Fin Chr 173:473 Ja 29 '51

AUTOMATIC control. See Control equipment

AUTOMATIC machinery. See Machinery, Automatic

AUTOMATIC pilot. See Airplanes—Control; Helicopters—Control

AUTOMATIC substations. See Electric substations, Automatic

AUTOMATIC telephone. See Telephone, Automatic

AUTOMATONS

Machine that learns. W. G. Walter. il diags Sci Am 185:60-3 Ag '51

AUTOMOBILE accessories industry

Atlas clipped by FTC examiner. Bsns W p 135-6 Je 23 '51

Automotive parts; wage structure, March-April 1950. J. F. Walker. Mo Labor R 72: 37-9 Ja '51

Battery sales slow, stocks adequate at present; restrictions cloud future. F. C. Sturtevant. Nat Pet N 43:61-2 Je 6 '51

Factory sales of replacement parts and accessories, 1933-1950; monthly sales of replacement parts and accessories in the U.S., 1944-1950; chart and tables. Automotive Ind 104:88 Mr 15 '51

Is there a place in oil TBA sales for field men of manufacturers? F. C. Sturtevant. Nat Pet N 42:52+ O 25 '50

Obstacle course for salesmen; Fram corp. H. E. Robinson. Ptr Ink 234:38-40+ Ja 5 '51

TBA distributor helps oil company supply stations with merchandise. F. C. Sturtevant. il Nat Pet N 43:46-7 Jl 4 '51

See also

Gasoline service stations—Automobile accessories

Tachometers

Advertising

How to make chronic procrastinators buy now; convince them it's cheaper; Hastings piston rings. H. E. Green. il Ptr Ink 233: 32-3 O 27 '50

Shock treatment will spark 1951 ad copy about hidden product; Purolator. C. D. Kelly. il Ptr Ink 234:28-30 Ja 26 '51

When the line outgrows the trade-mark; AC spark plug division, General motors corp. J. C. Hines. Ptr Ink 235:40-2 Ap 13 '51

Securities

Auto accessory industry; with statistical data on leading parts and accessories companies. H. F. Travis. il Mag of Wall St 88:557-9+ Ag 25 '51

Canada

Canadian TBA men look for good selling ahead; tires, accessories in good supply. F. C. Sturtevant. il Nat Pet N 43:62-3+ Ap 4 '51

AUTOMOBILE accidents

Although motor fatalities lower in Ontario, minister of highways urges greater safety effort. G. H. Doucett. Roads & Eng Constr 89:70 Mr '51

Highway deaths three times Korea casualties. Safety Maint & Prod 101:38 Mr '51

Narrow median strips on highways. Pub Works 82:81-2 Ag '51

AUTOMOBILE accidents—*Continued*

1950 auto deaths highest since 1946; Travelers reports. Nat Underw 54:28 D 14 '50
Plans for a safer Penn turnpike discussed by users at Harrisburg. il Eng N 147: 28-9 S 20 '51
Results of comparative study of war and traffic casualties. East Underw 52:57 S 21 '51
Safe operation of automotive fleets; Consolidated Edison co. W. F. Brown. Gas Age 107:32-4+ Ap 12 '51
Safety leaders sponsor project, Mid-Manhattan operations safety. East Underw 52:41 F 23 '51; Same. Weekly Underw 164:521 F 24 '51
70 mph. speed limit on Pennsylvania turnpike is accident cause; reduction urged. Roads & Eng Constr 89:58 Jl '51
Traffic deaths rise throughout Nation; survey by Association of casualty and surety companies. East Underw 52:35 Ja 19; 37 Ja 26 '51; Same. Weekly Underw 164:216, 269+ Ja 20-27 '51
Virginia initiates drive against highway mishaps. Weekly Underw 165:260 Ag 4 '51
What auto wrecks cost your salesmen. il Sales Management 66:82 Je 1 '51
Wrong side driving number two menace; abstract. H. Kemper. Safety Maint & Prod 102:38 Ag '51

See also

Grade crossing accidents
Motor trucks—Accidents

AUTOMOBILE assembly plants

British Austin co. goes automatic in new assembly plant. il Steel 129:47 Ag 20 '51
Car assembly at Longbridge works of Austin motor co. il Automobile Eng 41:329-35 S '51
How compressed air serves Nation's first small auto assembly plant; Kaiser-Frazer's plant. J. A. Newton. il Comp Air Mag 56:206-7 Ag '51
Running two to eight nuts at a time; multiple-tool machines. C. H. Vivian. il Comp Air Mag 56:235-8 S '51

Heating and ventilation

Economic ventilating system uses perimeter heaters to offset wintertime wall loss; Lincoln-Mercury assembly plant, Wayne, Mich. il diags Arch Forum 94:154-5 My '51

AUTOMOBILE batteries. See Storage batteries

AUTOMOBILE brakes. See Brakes, Automobile

AUTOMOBILE camps. See Tourist camps, hostels, etc.

AUTOMOBILE clocks. See Clocks, Automobile

AUTOMOBILE clubs. See Automobile service clubs

AUTOMOBILE drivers

Needed highway legislation and regulations. W. G. Robertson. Roads & Eng Constr 88: 156-61+ O '50

Testing

Driver training drive; tests and demonstrations at Port of New York authority bus terminal. Safety Maint & Prod 101:46 Ap '51
Visual skills of drivers tested by Ortho-Rater. Safety Maint & Prod 101:32 My '51

Training

Driver tests as training aids. G. Miller. il World Oil 131:226-8 N '50
It's now up to the kids; high school driver-education programs. I. Davis. Spectator (Property ed) 17:28-31 O '51
Massachusetts Bonding's driver clinic is widely used in training classes. East Underw 52:34 Je 29 '51
Minnesota honored for its driver education program. Weekly Underw 164:156+ Ja 13 '51
Safe operation of automotive fleets; Consolidated Edison co. W. F. Brown. Gas Age 107:32-4+ Ap 12 '51
School driver program awards made by C.&S. association. East Underw 52:26 Ag 24 '51; Same abr. Nat Underw 55:16 Ag 23 '51

AUTOMOBILE driving

American association of motor vehicle administrators training courses for instructors of driver license examiners. Safety Maint & Prod 102:38 S '51
Automobile safety. D. O. Woodbury. il Tech R 53:196+ F '51
Human factors cause most accidents. R. A. McFarland. S A E J 59:94+ Je '51
Needed highway legislation and regulations. W. G. Robertson. Roads & Eng Constr 88: 156-61+ O '50
Neglect means danger. Safety Maint & Prod 101:47-8 Ap '51
Tests reveal facts about winter hazards. Safety Maint & Prod 101:43-4 F '51
Traffic safety and the world we live in. S. J. Williams. S A E J 59:58-66 Mr '51
What these kids learn may save their lives. il Sales Management 67:92+ Jl 15 '51
Winter driving hazards. Comp Air Mag 56: 20 Ja '51

AUTOMOBILE engineering

Automotive arithmetic; Wayne university's computation laboratory to aid auto design. Bsns W p54 Mr 31 '51
Make-ready for production; high-compression V-8 engines at General Motors. il Mod Ind 22:50-1 Jl '51
Production pattern; General Motors' Le Sabre. il Bsns W p78 Ag 4 '51
SAE National passenger car, body, and materials meeting, 5th, Detroit, March 6-8. S A E J 59:54-60 Ap '51
SAE summer meeting, French Lick, June 3-8. S A E J 59:17+ Jl '51
SAE summer meeting, French Lick, June 3-8; abstracts of papers. Nat Pet N 43:28-30 Je 20 '51

See also

Automobile engines
Automobile research
Automobiles

AUTOMOBILE engines

Alfa Romeo 1900 engine; drawing. Automotive Ind 105:44-5 Ag 15 '51
Aluminum engine is on the way. W. Patton. Iron Age 168:132+ S 13 '51
Aluminum engine powers experimental Buicks. il diag Product Eng 22:196-7 O '51
Aston Martin D.B. II. il diags Automobile Eng 41:243-53 Jl '51
Austin A.70 and A.90. il diags Automobile Eng 41:163-7 My '51
Chrysler and General Motors battle over relative merits of high-compression engines. H. C. Tuttle. il Steel 128:57-8 F 12 '51
Chrysler introduces V-8 engine. H. C. Tuttle. Steel 128:57-8 Ja 22 '51
Chrysler overhead valve V-8 engine develops 180 bhp. il diag Automotive Ind 104:38-40+ F 1 '51
Engine trends, 1930-1950; tabulations. Automotive Ind 104:124 Mr 15 '51
Five factors in engine performance. C. W. Georgi. S A E J 59:90 Je '51
GM's 19XX high compression engine. C. L. McCuen. Automotive Ind 104:46-7+ Je 1 '51
High-compression engine. C. L. McCuen. il Mech Eng 73:741 S '51
International motor exhibition. il Engineer 190:503-4 N 24 '50
Lancia Aurelia V-6 engine; drawings. Automotive Ind 105:36-7 Jl 15 '51
Make-ready for production; high-compression V-8 engines at General Motors. il Mod Ind 22:50-1 Jl '51
Mechanical octanes talking point for new Chrysler engine. diags Pet Processing 6:807 Ag '51
Metal transfer from piston rings to cylinders during run-in. C. D. Strang and J. T. Burwell. bibliog Inst Mech Eng Proc (Auto div pt4):169-72, pl 1-2; Discussion. 173-5 '49-50
New Ford cars. il diags Automobile Eng 41: 320-3 S '51
New-type engine; Chrysler claims better performance, more power. il Oil & Gas J 49: 38 F 1 '51
Some aspects of the engine-fuel problem today. V. G. Raviolo. S A E J 59:27-31 F '51
Talbot race engine; drawing. Automotive Ind 104:49 F 1 '51

See also

Diesel engines, Automotive
Gas turbines, Automotive
Motor bus engines
Motor truck engines
Tractors

AUTOMOBILE engines—*Continued*

Air filters

Reports findings of dust tunnel tests; abstract. W. S. James. S A E J 59:77 My '51

Cooling

Cooling air regulation in engines of automobiles, in particular of the Volkswagen; abstract. M. A. Haesner. Automobile Eng 41:264 Jl '51

How coolant temperatures affect engine performance; abstract. V. G. Raviolo. Automotive Ind 103:42 D 15 '50

New concept in internal combustion engine cooling; use of Orsil. R. A. Hundley. diag S A E J 58:33-9 N '50

Deposits

Auto makers train sights on carbon. Bsns W p50+ Je 23 '51

Effects of combustion chamber deposits on octane requirement and engine power output; abstracts. J. B. Duckworth. Nat Pet N 43:28 Je 20 '51; S A E J 59:28-30 S '51

Possible mechanisms by which combustion chamber deposits accumulate and influence knocks; abstracts. L. F. Dumont. Automotive Ind 105:106+ Jl 1 '51; il S A E J 59:22-7 S '51

Question and answer forum on combustion-chamber deposits. A. L. Pomeroy. S A E J 59:31-8 S '51

Spectrographic determination of halogens and sulfur in engine deposits. W. O. Mansfield, jr. and others. il Opt Soc Am J 41:412-16 Je '51

Design

Automobile petrol engines; a survey of factors influencing performance and weight. D. Bastow. bibliog Automobile Eng 41:153-8 Ap '51

Buick XP-300 engine. il diag Automotive Ind 105:49+ S 1 '51

Day of high compression is nearer. il Bsns W p42-4 My 5 '51

Design features affecting wear. H. G. Braendel. diags S A E J 58:29-32 N '50

Development highlights and unique features of the new Chrysler V-8 engine. W. E. Drinkard and M. L. Carpentier. il diags S A E J 59:25-7 Je '51

Earls Court exhibition; a critical review of current design. il Automobile Eng Extra no 40:383-400 N 30 '50

Economic relationship of engine-fuel research. C. L. McCuen. il diags S A E J 59:39-44 Ag '51

Knock-free engine design; Texaco combustion process. B. Reynolds. diags Pet Processing 6:393+ Ap '51

Lancia Aurelia. il diags Automobile Eng 41:43-6 F '51

Mechanical octanes; some new engine developments. diags Fortune 43:116-18+ My '51

Studebaker V-8 engine. E. J. Hardig and others. il diags S A E J 59:53-7 Jl '51

Studebaker's new engine. J. Geschelin. il diags Automotive Ind 103:38-41+ N 1 '50

Trends in fuels and engine design; charts Automotive Ind 103:42 D 1 '50

Detonation

Motor fuel octane higher but more cars knock on gasoline available in 1949 than in 1948. H. W. Best and others. Nat Pet N 42:20-3 N 29 '50

Possible mechanisms by which combustion chamber deposits accumulate and influence knocks; abstracts. L. F. Dumont. Automotive Ind 105:106+ Jl 1 '51; il S A E J 59:22-7 S '51

Quantitative-measurement of detonation intensity; abstract. G. E. V. Jonsson. Automobile Eng 41:195 My '51

Research on engine knock. Chem & Eng N 29:3360+ Ag 13 '51

What to do about knocking engines; abstract. G. A. Round and W. S. Mount. Nat Pet N 43:22 Ja 31 '51

Efficiency

Future car and fuel development. C. L. McCuen. Nat Pet N 43:28-30 My 9 '51

Oil men dispute savings in dollars and gallons claimed for 12-to-1 engine; General Motors' new experimental 12-to-1 compression engine. Nat Pet N 43:58+ My 30 '51

Power output; work of Weslake laboratories. il diags Automobile Eng 41:283-6 Ag '51

Exhaust

Atmospheric pollution. L. C. McCabe. diag Ind & Eng Chem 43:sup 135A-6A+ O '51

Fuel

America's motor fuel supply can be increased by use of liquids condensed from natural gas; abstract. B. R. Carney. Gas Age 108:87-8 O 11 '51

Antiknock requirements of passenger cars (1949 CRC octane number requirement survey); charts. H. W. Best and others. S A E J 59:23-6 F '51

Autos and economy; refiners at odds with car makers over benefits of high-compression engines which require 100-octane fuel; abstracts of papers at meeting of American petroleum institute Division of refining. Oil & Gas J 50:86-7 My 10 '51

Autos face make-do days; SAE discusses cost-cutting techniques and L-P potential. Bsns W p70 Ja 20 '51

Availability of LPG for direct motor fuel use. R. C. Alden. map Pet Processing 5:1180-6 N '50

Bonus fuels from selective blending. T. H. Risk and D. MacDonald. il Pet Processing 6:618-21 Je '51

Economic relationship of engine-fuel research. C. L. McCuen. il diags Am Pet Inst Proc 31 M(3):197-213 '51; Excerpts. S A E J 59:39-44 Ag '51; Discussion. Am Pet Inst Proc 31 M(3):213-20 '51

Effect of variation in passenger-car octane requirements on the utilization of motor gasoline quality; abstract. W. R. Grosser and H. S. Kelly. S A E J 59:76 Jl '51

Effects of combustion chamber deposits on octane requirement and engine power output; abstract. J. B. Duckworth. Automotive Ind 105:38+ Jl 1 '51

Engine dynamometer control for fuel evaluation by simulated road tests; abstracts. A. R. Isitt and others. diags Pet Processing 6:52-5 Ja '51; S A E J 59:42-4 Mr '51

Engine-fuel problems due to many causes; discussion. S A E J 58:85-6 D '50

Evaluating fuels for high compression engines; abstracts. M. M. Roensch and J. C. Hughes. Automotive Ind 103:50-1+ N 1 '50; S A E J 58:17-22 D '50

Fuel volatility; trends and problems. W. M. Holaday and D. P. Heath. S A E J 59:45-51 My '51

Fueling high compression engines. H. Ridder. il Nat Pet N 43:22-6 Ja 31 '51

Gas auto engine. Mech Eng 73:422-3 My '51

Instrumentation for the study of engine fuel requirements. H. J. Eatwell and H. J. Hulf. il diags Engineer 191:803-5 Je 15 '51

More autos turn to propane. Bsns W p69-70+ Ja 27 '51

Motor fuel octane higher but more cars knock on gasoline available in 1949 than in 1948. H. W. Best and others. Nat Pet N 42:20-3 N 29 '50

Motor fuel volatility trends. W. M. Holaday and D. P. Heath. Pet Processing 6:158-60, 279-80 F-Mr '51; Abstract. Automotive Ind 104:91 F 1 '51

Octane squeeze. Fortune 43:114-15+ My '51

Partnership. E. A. Evans. Inst Mech Eng Proc (Auto div pt 1):1-6 '50-51

Potentialities of fuel antiknock quality. H. E. Hesselberg and W. G. Lovell. S A E J 59:32-7+ Ap '51

Quality and performance of petrol; abstract. M. L. McLaughlin. Chem & Ind p47-8 Ja 20 '51

Relation of octane number to cool flame formation. M. R. Barusch and J. Q. Payne. bibliog diags Ind & Eng Chem 43:2329-32 O '51

Role of gasoline in engine development; abstract. D. P. Barnard. Automotive Ind 104:86+ F 1 '51

Some aspects of the engine-fuel problem today. V. G. Raviolo. S A E J 59:27-31 F '51

What lower octanes mean to oil marketers. H. Ridder. Nat Pet N 43:49-53 Ag 22 '51

AUTOMOBILE engines—*Continued*

Fuel consumption

Economy test sells gas as well as cars; Mobilgas economy run. il Bsns W p86-7 Ap 28 '51
Engineering analysis of 1951 economy run. W. Sandham. Automotive Ind 104:44+ Ap 15 '51
Longer course for 1951 economy run. map Automotive Ind 104:56+ F 15 '51
New GM V-8 engine averages 29 miles per gallon in tests. Iron Age 167:127-8 My 3 '51

Fuel feeding

Application of petrol injection to automobile engines. R. Barrington and E. W. Downing. il diags Inst Mech Eng Proc (Auto div pt 3):133-43 '49-50; Same. Automobile Eng 40:153-60 Ap '50; Discussion. Inst Mech Eng Proc (Auto div pt 3):144-54 '49-50
Fuel spray pattern; test stand utilizing stroboscopic light device. il diags Pet Processing 6:400-1+ Ap '51
Knock-free engine design; Texaco combustion process. B. Reynolds. diags Pet Processing 6:393+ Ap '51
New look at motor gasoline quality; carburetor icing tendency. J. F. Kunc, jr. and others. diags S A E J 59:45-7 Ag '51; Abstract. Nat Pet N 43:46 Ja 17 '51

See also
Carbureters

Ignition devices

Car ignition radiation. C. C. Eaglesfield. diags Wireless Eng 28:17-22 Ja '51
Distributed resistance ignition cable. diag Electronics 24:204+ Jl '51
Eliminating ignition interference in tv receivers. R. Gary. il diags Radio & Tv N 46:54-6+ O '51
High frequency ignition needs no breaker points. D. C. Peroutky. il diags Automotive Ind 104:34-6+ Ja 1 '51
Ignition equipment; development and lessons. E. A. Watson. diags Inst Mech Eng Proc (Auto div pt 1):1-9, pl 1-2 '49-50
Ignition problems in damp weather. H. L. Hartzell and B. H. Short. il diags S A E J 59:58-62 Je '51
Improved spark timing light. diag Pet Eng (Ref annual) 23:C53-4 Jl 15 '51
Low tension ignition system. il diag Automotive Ind 104:47 Mr 1 '51
Minimum energy loss in ignition systems; abstract. L. H. Middleton and M. F. Peters. Automotive Ind 104:92+ F 1 '51
New submersion proof ignition. il diags Product Eng 21:98-100 N '50
Old and new ignition systems. H. L. Hartzell. S A E J 59:96+ My '51
Smitsvonk low-tension capacity ignition system. W. B. Smits and P. F. H. M. Pont. il diags S A E J 59:61-4+ Ap '51

Ignition locks

See Automobile locks

Lubrication

API to take vote on new designations for automobile and truck motor oils. H. Ridder. Nat Pet N 43:47-8 Je 6 '51
Commerce reports on difficulties in reclaiming mixed crankcase oils. H. Ridder. Nat Pet N 43:59-60 Ap 4 '51
Crankcase oil additives; Wynn's friction proofing oil and Bardahl. Consumers Res Bul 28:16-19 S '51
Lube men see no magic in non-petroleum oil. H. Ridder. Nat Pet N 43:63-5 Ap 11 '51
Many car makers will stress use of heavy duty oil in '51 engines. Nat Pet N 42:40 N 22 '50
Motor-oil additives. J. C. Geniesse and W. Schreiber. il Oil & Gas J 49:302-5+ Mr 29 '51
Motor oils. Consumers Res Bul 28:22-4 O '51
Non-petroleum motor oil sells at $1 per quart in limited marketing test. H. Ridder. Nat Pet N 43:35-7 F 21 '51
Oil consumption in passenger car engines. P. S. Lane. il diags S A E J 58:18-22 N '50
Oil qualities and aims. E. R. Grassmuck. S A E J 59:109-10 Je '51
Opinions vary on effect of heavy duty oils on engine. Nat Pet N 43:39 Mr 14 '51
Partnership. E. A. Evans. Inst Mech Eng Proc (Auto div pt 1):1-6 '50-51
Present and future trends in additives for heavy duty lubricating oils; panel discussion. Nat Pet N 43:74-7 My 2 '51
Revised SAE oil grades score three-way advance. S A E J 58:86 N '50
Shortages, allocations seen result of GM heavy-duty oil preference. H. Ridder. Nat Pet N 42:29-30 D 13 '50
Some factors governing the performance of crankcase lubricating oils. A. Towle. bibliog diags Inst Mech Eng Proc (Auto div pt2):88-98, pl 1-4; Discussion. il 98-111 '49-50
Stability test of motor lubricants. D. J. W. Kreulen. bibliog 2pls diag Inst Pet J 37:316-23 Je '51
Winter oil drain ad campaign aimed at between-changeover sales slump. H. Ridder. il Nat Pet N 43:51-3 F 28 '51

See also
Oil filters, Automobile

Manufacture

Buick uses carbide to broach at 120 feet per minute. S. J. White. il diags Mach 57:152-7 Mr '51
Chrysler V-8 pistons, rods and crankshafts in production. J. Geschelin. il Automotive Ind 104:46-9+ My 15 '51
Cylinder block production at Dagenham. il Engineer 191:767-9 Je 8 '51; Engineering 171:709-12 Je 15 '51
Engine detail machining; Ford Consul and Zephyr connecting rods and crankshafts. il Automobile Eng 41:287-95 Ag '51
Engine detail machining; Vauxhall motors ltd. il Automobile Eng 41:91-103 Mr '51
How Chrysler builds quality into the firepower engine. R. Le Grand. il diags Am Mach 95:143-58 S 17 '51
Machining operations on Chrysler's new V-8 engine. J. Geschelin. il Automotive Ind 104:30-4+ Mr 1 '51
New Buick crankcase line shows many improvements. S. White. il Am Mach 94:112-13 D 25 '50
New line speeds Chrysler V-8 engine production; illustrations with text. B. C. Brosheer. Am Mach 95:182-4 F 19 '51
Rotary fixtures speed machining of small castings. C. S. Treber. il Iron Age 168:156-8 S 13 '51
Studebaker's modern equipment for V-8 engine production. J. Geschelin. il Automotive Ind 103:34-6+ D 15 '50; 104:46-8+ F 1 '51
Thorough washing insures clean cylinder heads; Studebaker corp. F. D. Foreman and E. B. Rogers. il Steel 129:102 S 24 '51
Transfer machining; the production of cylinder blocks for Consul and Zephyr engines. il Automobile Eng 41:255-64 Jl '51
Turning and polishing Rocket engine crankshafts; Oldsmobile's plant at Lansing, Mich. H. Chase. il diags Automotive Ind 103:34-7 D 1 '50

Mufflers

Measuring and recording muffler efficiency. il Automotive Ind 104:52+ My 15 '51

Radiator caps

Pressure-vent radiator cap. diag Automotive Ind 103:47+ D 1 '50

Radiators

Aluminum radiators to save copper; Trane's heat exchanger. il Bsns W p52-4+ O 13 '51
Special equipment for making huge die cast grille. il Automotive Ind 103:48+ D 1 '50

Specifications

1951 passenger car specifications; tabulations. Automotive Ind 104:125-31 Mr 15 '51

Testing

Automobile test rigs. L. H. Dawtrey. il diags Inst Mech Eng Proc (Auto div pt 4):176-85, pl 1-8 '49-50; Same. Automobile Eng 40:259-65, 286-94 Jl-Ag '50; Discussion. Inst Mech Eng Proc (Auto div pt 4):185-92 '49-50

AUTOMOBILE engines—*Continued*

Valves

Lashograph; an instrument for observing valve lash in a running engine; abstracts. E. B. Etchells. diags Automotive Ind 104:51+ Ap 1 '51; S A E J 59:35+ Jl '51
Mechanical, self-adjusting valve tappet. diags Automotive Ind 103:40+ D 15 '50
Press assembles valve guide for Willys-Overland Hurricane F-head engines. Steel 127:76 O 30 '50
Special machine grinds and polishes ends of valve tappets. il Automotive Ind 104:53+ Je 1 '51
Strain-gage method of determining the running lash of L-head and overhead-valve engines; abstracts. A. E. Cleveland. diags Automotive Ind 104:92+ Ap 1 '51; S A E J 59:34+ Jl '51
Swing type intake valves. W. F. Bradley. diag Automotive Ind 105:45 Jl 1 '51
Valve gear design. J. L. H. Bishop. diags Automobile Eng 41:233-8 Je '51
Valve lash, automatic tappets and instrumentation; abstract. V. Ayres. S A E J 59:77 Jl '51
Valve lifter troubles; causes and remedies. H. L. Baker. il diags Nat Pet N 43:25-7+ Je 27 '51

AUTOMOBILE fabrics

Fiber consumption in textiles used for passenger car interiors. Automotive Ind 104:35 Mr 1 '51

AUTOMOBILE factories

Assembling large chassis in modern British plant; illustrations with text. Automotive Ind 104:42-3 Mr 1 '51
Designed with eye to future; Motor products corp. Marion, Ohio plant. il Factory Management 109:B80-1 pt 2 Ap '51
Extension to Vauxhall motors factory, Luton. il Engineering 170:518-19 D 15 '50
Kaiser-Frazer conversion; to devote part of Willow Run's floor space to production of Fairchild Packet. H. C. Tuttle. il Steel 128:65-6 My 14 '51
Vauxhall plant tools up for new model. J. Geschelin. il Automotive Ind 105:42-3 Ag 15 '51

See also
Automobile assembly plants

Electric equipment

High-frequency hardening; Birlec plant installed at Humber works. il Automobile Eng 40:342 S-O '50
Induction hardening cuts costs at Studebaker. il Automotive Ind 103:50+ D 15 '50
242-gun welder speeds auto assembly; Willow Run plant of Kaiser-Frazer corp. il Steel 127:58 O 30 '50

Employees

Automobile industry wages, 1947-1950; tabulation. Iron Age 167:326 Ja 4 '51
Chrysler bows to cost-of-living. Bsns W p 120 D 16 '50; Automotive Ind 104:18 Ja 1 '51
Chrysler workers vote for modified union shop. Bsns W p34-5 Ap 7 '51
Defense layoffs build trouble. Bsns W p34 Jl 21 '51
Ford hit by new bid for UAW power. Bsns W p32+ Je 9 '51
Ford salaried workers to get yearly raise. Automotive Ind 104:21 Ja 1 '51
How Ford keeps employees' skills from getting lost. D. G. Baird. il Am Bsns 21:16-17 Jl '51
Hudson stalemate in dispute over assembly line crews. Bsns W p34+ Jl 14 '51
Hudson truce hangs on study. Bsns W p32+ Ag 18 '51
Layoffs at Ford due to steel shortage. Bsns W p 126-7 N 18 '50
Left turn at Ford; Local 600. Bsns W p 130+ N 4 '50
New seniority plan cuts layoff grievances at Ford motor co. Bsns W p 126 Mr 3 '51
Purged Buick worker keeps job; expelled from UAW on Communist charges. Bsns W p 120 N 11 '50
Semantical strike; Chrysler workers won't wear smocks. il Bsns W p40-1 Je 9 '51
UAW local fails in bid to control supervisors at Kaiser-Frazer. Bsns W p 136 F 17 '51
Wage chronology, no. five; Chrysler corp.; supplement no. one. Mo Labor R 72:407-9 Ap '51
Wage chronology; no. nine; General motors corp.; supplement no. one. Mo Labor R 72:405-6 Ap '51
Wage chronology, no. 14; Ford motor co., 1941-50. A. A. Belman. Mo Labor R 72:400-4 Ap '51
Wage stabilizers' dilemma; with text of Reuther's letter to Valentine. Bsns W p62-3 D 23 '50
Wage structure motor vehicles and parts, 1950. U S Bur Labor Statistics Bul 1015:1-26; pa 20c Supt. of doc. '51

Equipment

Air power gives Crosley a helping hand. il Comp Air Mag 56:92 Ap '51
Automatic devices reduce inspection costs; Ford motor co. J. Geschelin. il Automotive Ind 103:32-3+ N 1 '50
Automatic transfer machinery. Economist 160:1118 My 12 '51
Blast cleaning of forgings reduces stream pollution. J. Geschelin. il Automotive Ind 103:48-9+ N 15 '50
Buick uses carbide to broach at 120 feet per minute. S. J. White. il diags Mach 57:152-7 Mr '51
Centreless grinding; Scrivener development for transfer machining. il diags Automobile Eng 41:303-4 Ag '51
Chassis assembly at the works of Leyland motors ltd. il Automobile Eng 41:65-8 F '51
Completely conveyorized paint shop operation; De Soto body plant. J. Geschelin. il diag Automotive Ind 103:38-9+ D 1 '50
Cylinder block production at Dagenham. il Engineer 191:767-9 Je 8 '51; Engineering 171:709-12 Je 15 '51
De Soto's body plant has eight miles of conveyors. J. Geschelin. il Automotive Ind 103:46-8+ N 1 '50
Duplex machine combines milling and handling; machining automotive clutch housings. J. Loviner. il diag Steel 127:84-6 N 6 '50
Efficient materials handling vital to automotive production. J. Geschelin. il Automotive Ind 104:34-6+ My 1 '51
Engine detail machining; Vauxhall motors ltd. il Automobile Eng 41:91-103 Mr '51
Handling scrap by remote control; television screen shows inside operator progress of car loading outside; Fisher Body plant. il Nat Safety N 63:46 Ja '51
High-speed machining of forgings; Ford motor co. C. H. Wick. il diags Mach 57:147-51 F '51
High-speed turning qualifies shafts and gears; illustrations and diagrams with text. J. M. Finally. Am Mach 95:136-7 F 19 '51
How Buick cuts forging cleaning cost; new conveyor-fed blasting system. H. Chase. il Steel 128:60-1 Ja 8 '51
How Cadillac is equipping plant to build Walker bull-dog tanks. J. Geschelin. il Automotive Ind 104:42-5+ Je 1 '51
How Chevrolet boosted Powerglide production. C. H. Wick. il diag Mach 57:147-55 Ap '51
Improved handling methods in new GM Vauxhall plant. W. F. Bradley. il diag Automotive Ind 104:38-9 My 1 '51
Italian production; Fiat factory layout, methods and equipment. il Automobile Eng 40:333-41 S-O '50
Latest American methods employed by Renault in France. J. Geschelin. il Automotive Ind 105:32-3+ S 1 '51
Machine tools get pre-delivery check by Ford engineers. il Bsns W p98 Mr 17 '51
Materials handling; a review of the methods and equipment in the new Vauxhall factory. il diag Automobile Eng 41:17-24 Ja '51
Mechanical handling; Vauxhall scheme for dealing with wheels and tyres. il Automobile Eng 41:301-2 Ag '51
Nash's new plant for making Rambler bodies. il plan Automotive Ind 104:34-7+ F 15 '51
New Buick crankcase line shows many improvements. S. White. il Am Mach 94:112-13 D 25 '50

AUTOMOBILE factories—Equipment—*Cont.*

New crankshaft notching machine doubles production at Pontiac. W. G. Patton. il diag Iron Age 168:95-6 Jl 5 '51

New plant at the Vauxhall works. il Engineer 191:622 My 11 '51; Engineering 171:621 My 25 '51

Precision machining operations on automatic transmissions at Ford's Cincinnati plant. T. MacNew. il Automotive Ind 105:42-6+ Ag 1 '51

Revacycle process increases Chrysler's gear production. C. H. Wick. il diag Mach 57: 163-7 Mr '51

Roll-edging forging blanks saves steel; Ford motor co. il Steel 127:61 O 30 '50

Special body handling saves storage space; Studebaker corp. il Automotive Ind 103:43+ D 1 '50

Special machine grinds and polishes ends of valve tappets. il Automotive Ind 104:53+ Je 1 '51

Studebaker doubles foundry capacity. R. H. Moore. il Foundry 79:72-9 Ag; 114-19 O; 102-7+ N '51

Studebaker's modern equipment for V-8 engine production. J. Geschelin. il Automotive Ind 103:34-6+ D 15 '50; 104:46-8+ F 1 '51

Thorough washing insures clean cylinder heads; Studebaker corp. F. D. Foreman and E. B. Rogers. il Steel 129:102 S 24 '51

Two new inspection devices; automatic inspection machine for cylinder bores, and instrument for precision checking of gears and camshafts, Ford equipment for quality control. il diags Automotive Ind 104:44-5+ Mr 1 '51

Ultra-modern machines make Ford transmissions; illustrations with text. Iron Age 167:114-15 Je 7 '51

Layout

Nash's new plant for making Rambler bodies. il plan Automotive Ind 104:34-7+ F 15 '51

Plant models provide continuing production aid; units of Oldsmobile's expansion program laid out in miniature. W. G. Patton. il Iron Age 166:72-3 N 23 '50

Lighting

Relighting Canadian industrial plant; Ford motor company of Canada. T. A. Tame. il Illum Eng 46:273 Je '51

Management

Modern quality control at Ford motor co. R. M. Currie. il Advanced Management 15:9-13 D '50

Pontiac saves $100,000 annually with a tool-control program. R. Le Grand. il diags Am Mach 95:85-7 Ja 8 '51

Records

Microfilming engineering drawings at Ford saves $20,000 in floor space. D. G. Baird. il Am Bsns 21:14-15+ Ap '51

Safety measures

Automobile plants spend millions for safety and health. il Safety Maint & Prod 102: 34 Ag '51

Pictures dramatize hazards; safety program at General Motors Fisher Body plant, Lansing, Mich. il Safety Maint & Prod 100:44-5 D '50

Safety, the keynote in new Oldsmobile press set-up. R. E. Hansen. il diags Mach 57: 137-43 Ag '51

AUTOMOBILE financial responsibility laws. See Automobile laws and regulations—Financial responsibility laws

AUTOMOBILE horns

Spectra and loudnesses of modern automobile horns. D. B. Callaway. Acoustical Soc Am J 23:55-8 Ja '51

AUTOMOBILE industry and trade

Assembly line shift; more tanks, fewer passenger cars will pare profits. H. Murphy. Barron's 31:9-10 Ja 15 '51

Auto industry; greatest year of civilian production. H. C. Tuttle. il Steel 128:109-10+ Ja 1 '51

Auto makers study emergency measures. N. Kelne. Ptr Ink 233:67+ D 29 '50

Auto output cut. Bsns W p25 Je 2 '51

Automobile industry. H. E. Dickhuth. Banking 43:61+ Ap '51

Automobile industry outlook. C. E. Wilson. Comm & Fin Chr 172:1701 N 2 '50

Autos reach the downgrade. Bsns W p26 Je 16 '51

Autos still roll. Bsns W p26 Ja 27 '51

Bigger price tags, smaller output for auto makers. il Bsns W p20-1 S 22 '51

Dealers; reluctant speculators; unwilling to absorb more stock. Bsns W p81-2 D 2 '50

Defense again the no. one job. L. Westrate. il plan Automotive Ind 104:34-5+ Ap 15 '51

End of the auto boom. Bsns W p21 O 28 '50

Ex-flyer rides the boom in British cars. Bsns W p 120-2 Ag 4 '51

Facts that refute alleged concentration of defense contracts. Automotive Ind 105:33+ Ag 15 '51

Great day for the dealer. Fortune 42:90-2+ N '50

Kaiser-Frazer; the roughest thing we ever tackled. Fortune 44:74-7+ Jl '51

News by commodities. Published irregularly in Foreign commerce weekly

Passenger automobile situation. M. D. Brown. Comm & Fin Chr 173:1147 Mr 15 '51

Vision and research; chemical industry to meet needs of automobile industry. H. B. McClure. il Chem & Eng N 29:748-52 F 26 '51

What's ahead for the automobile industry. L. Westrate. Automotive Ind 104:32-4+ Ja 15 '51

See also

Automobile accessories industry
Automobile factories
Ford motor company
General motors corporation
Motor bus industry and trade
Motor truck industry
Studebaker corporation
Tractor industry and trade

Accounting

End-of-the-month peak periods can be leveled with right system; Rosenstock Motors uses mechanized bookkeeping equipment. P. Eastman. il Am Bsns 21:20-1 Jl '51

Advertising

Automobile linage outlook more cheerful. G. W. Parker. Ed & Pub 84:14 Ja 13 '51

Chevrolet sponsors a tv sportscast series. W. H. Case; L. Arries. Adv Agency 44:62-3+ Ja '51

'51 Studebaker newspaper ads in 2,650 papers. Ed & Pub 83:13 N 4 '50

New car ad column future possibility. H. W. Tushingham. Ed & Pub 83:40 N 25 '50

New Ford movie shows why big business is good for America; partnership with suppliers is theme. R. G. Silbar. il Ptr Ink 234:48-9 Ja 19 '51

Starch reports best read advertisements. il Adv Agency 44:74-5 Ap '51

Directories

Directory of manufacturers. Automotive Ind 104:190+ Mr 15 '51

Finance

Kaiser's motor sputters; 1950 report shows deficit. Bsns W p 122-4 My 5 '51

What about the automobile independents? Hudson, Packard, Studebaker. G. W. Mathis. Mag of Wall St 88:305-7+ Je 16 '51

See also

Banks and banking—Automobile purchase financing

Munitions manufacture

Auto industry returns to its wartime job. A. McSurely. il Aviation W 55:84-6+ S 24 '51

Auto makers get more engine business. A. McSurely. Aviation W 54:12-13 F 19 '51

Conversion to war a cinch for jeeps. il Bsns W p32+ Ja 13 '51

Defense pairs off industry; parcel out aircraft manufacture to auto companies. Bsns W p21 D 30 '50

Detroit won't hurt; military orders pouring in. Bsns W p32+ F 10 '51

USAF calls in more auto firms and aircraft manufacturers grumble. B. S. Lee. Aviation W 54:18 Ja 8 '51

AUTOMOBILE industry and trade—*Continued*

New models

General Motors' car of the future; Le Sabre. il Bsns W p22-3 D 30 '50

GM is showing the public a new futuristic car, Le Sabre. H. C. Tuttle. il Steel 128: 39-40 Ja 8 '51

Le Sabre designed for the future; General Motors' new experimental car. il Automotive Ind 104:37 Ja 1 '51

Regulation

Fewer autos, more steel for others. Bsns W p24-5 F 17 '51

Fewer cars. Bsns W p20 My 12 '51

NPA order M-68 is simple way of giving auto producers leeway in deciding how many cars they want to build. H. C. Tuttle. Steel 128:61-2 Je 11 '51

Securities

Passenger car shares outstrip trucks; with table. Bsns W p 136 S 29 '51

Problems of the industry; with statistical position of automobile and truck manufacturers. G. L. Merton. il Mag of Wall St 88:555-6+ Ag 25 '51

Statistics

Automobile production and sales; with chart showing passenger car registrations, by age groups. Survey of Cur Bsns 31:6-7 Je '51

Automobile production, United States and Canada, 1939-1950; graph and tabulations. Steel 128:136 Ja 1 '51

Automotive market, 1950; pictograph. Sales Management 66:67 Ja 15 '51

Automotive wholesalers, dealers and repair shops by years, 1930-1951; wholesale and retail outlets, by states; tabulations. Automotive Ind 104:93 Mr 15 '51

Autos; how you add them up; ABC of what's behind some key statistics. il Bsns W p60-2 Mr 10 '51

Cars in use by makes, states and model year; tabulation. Automotive Ind 104:98-105 Mr 15 '51

Factory sales and their wholesale value, U.S. plants; 1900-1950; monthly motor vehicle factory sales by years, 1936-1950; chart and tables. Automotive Ind 104:82-3 Mr 15 '51

Factory sales to domestic and foreign markets, 1940-1950; tabulations. Automotive Ind 104:84 Mr 15 '51

Lots of old cars. Bsns W p20 Mr 24 '51

Motor vehicle production estimate by companies; 1946-1950; tabulation. Iron Age 167: 326 Ja 4 '51

Motor vehicle production in Canada, 1925-1950; by months, 1943-1950; 1949 Canadian motor vehicle registrations by provinces; tabulations. Automotive Ind 104:89 Mr 15 '51

Motor vehicle registrations and insurance records by states in 1949; tabulation. Spectator (Property ed) 16:98 N '50

New car registrations by months, 1946-1950; regional sales of new passenger cars, 1948-1950; tabulations. Automotive Ind 104:91 Mr 15 '51

New passenger car registrations by makes, by years, 1946-1950; tabulations. Automotive Ind 104:90 Mr 15 '51

1950 new car registrations by rank; tabulation. Automotive Ind 104:92 Mr 15 '51

1951 survey of consumer finances; purchases of durable goods and houses in 1950 and buying plans for 1951. J. Frechtling and T. Smith. Fed Res Bul 37:759-76 Jl '51

Number and per cent of cars in use, by age groups, 1947-1950; tabulation. Automotive Ind 104:97 Mr 15 '51

Passenger car factory sales by body types, 1947-1950; tabulation. Automotive Ind 104: 84 Mr 15 '51

Preliminary facts and figures for 1950. Automotive Ind 104:34 Ja 15 '51

Used cars

Automobile appraisal guides designated by Board of governors of Federal reserve system for purposes of Regulation W. Fed Res Bul 36:1311-14 O '50

Credit crisis; FRB's tougher terms. Bsns W p21 N 18 '50

Used car slump. Bsns W p 124-5 My 26 '51

Austria

Austria's registration, output, and trade. For Comm W 43:19 My 14 '51

Brazil

News by commodities; automotive products. For Comm W 43:18 My 28 '51

Canada

Motor vehicle production in Canada, 1925-1950; by months, 1943-1950; 1949 Canadian motor vehicle registrations by provinces; tabulations. Automotive Ind 104:89 Mr 15 '51

Chile

Conditions for import of automobiles. For Comm W 41:8-9 N 27 '50

France

Simca starts production on new Aronde model. W. F. Bradley. il diags Automotive Ind 104:46-7+ Je 15 '51

Germany

German cars hit export road. il Bsns W p 100-1 F 3 '51

West Germany on wheels; international auto show, Frankfurt; illustrations with text. Bsns W p 102-3 My 5 '51; Automotive Ind 104:40-1+ My 15 '51

Great Britain

British cars aimed for export trade. il Bsns W p 120-1 O 28 '50

Car exports and prices. Economist 160:762+ Mr 31 '51

Developments in the U.K. and Ireland. For Comm W 41:19 N 13 '50; 42:18 F 5; 45:16 O 15 '51

Engineering outlook; motor vehicle industry. Engineering 171:153-6 F 9 '51

Markets for motors. Economist 159:628+ O 21 '50

Motors and defence. Economist 160:150-2 Ja 20 '51

New car-distribution system in U.K. For Comm W 42:19 Ja 22 '51

Record car exports; with tabulation for 1948-1950; prospect for 1951. Economist 160:215-16 Ja 27 '51

Rising commercial vehicle exports. Economist 159:563 S 30 '50

Rolls-Royce limited; statement by the chairman at annual general meeting. Lord Hives. Economist 161:259 Jl 28 '51

U.K. exports of motor vehicles in 1950. For Comm W 42:21 Mr 19 '51

United Kingdom tops 1950 export goal; recent orders; new models. For Comm W 42:19 Mr 5 '51

United Kingdom's 1950 auto output up; percentage for export higher. For Comm W 42:15 Ja 8 '51

See also

Ford motor company, England

India

Indian registrations. For Comm W 44:13 Ag 13 '51

South Indian industry growing. For Comm W 41:19 N 13 '50

Israel

Statistical report, Israel, 1950. For Comm W 45:15 O 15 '51

Italy

Automotive activities in Italy. W. F. Bradley. il Automotive Ind 104:32-3+ My 15 '51

Italian production; Fiat factory layout, methods and equipment. il Automobile Eng 40: 333-41 S-O '50

Japan

Automotive vehicles registered in Japan. For Comm W 43:19 My 14 '51

Morocco

Boom market for automobiles subsided, but demand firm, French Morocco. For Comm W 43:21 Ap 30 '51

AUTOMOBILE industry and trade—*Continued*

Russia

Motor vehicles of Russia and her satellites. D. Scott. il Automotive Ind 104:32-3+ Ap 15 '51

Salvador

El Salvador good automotive market. For Comm W 41:16 O 30 '50

Switzerland

Vehicle registration; Swiss market dependent on imports. For Comm W 43:21-2 Ap 30 '51

Texas

General Motors buys plant site in Dallas-Fort Worth area. il Manuf Rec 120:39 S '51

Turkey

Turkey's use and importation of motor vehicles. For Comm W 44:17 Jl 16 '51

West Indies, British

Registrations, imports, and preferences, British West Indies. For Comm W 44:19 Ag 6 '51

AUTOMOBILE insurance. See Insurance, Automobile

AUTOMOBILE laboratories

Development of a modern dynamometer laboratory. C. L. Bouchard and H. Oxley. il diags S A E J 59:58-65 Ag '51

Milestones in research; 25th anniversary of General Motors research laboratories; illustrations with text. Automotive Ind 103:50-1 D 1 '50

AUTOMOBILE laws and regulations

Motor vehicle inspection program makes big strides forward. East Underw 52:34 S 7 '51

Proposes joint plan for licensing and rating automobile operators. W. Wagner. East Underw 52:34 O 12 '51

Financial responsibility laws

Alabama auto FR bill is passed; new responsibility law goes into effect in Utah. Nat Underw 55:32 S 6 '51

Analysis of laws requiring security for past accident; tabulation by states. Nat Underw 54:40 O 19 '50

Analysis of security type safety responsibility laws; chart. Nat Underw 55:4 O 4 '51

Governor Dewey signs bill raising liability limits. East Underw 52:35 Ap 13 '51; Nat Underw 55:25 Ap 12 '51

New drive for New York compulsory auto liability law. Nat Underw 54:19 D 21 '50

1950 report reveals effectiveness of New York safety responsibility law. East Underw 52:51-2 My 25 '51

Stringent laws enacted by dozen legislatures. B. Jones. East Underw 52:27-8 Jl 20 '51

Wrongful death limits increased in several states. Nat Underw 55:13+ Jl 26 '51

See also

Insurance, Automobile—Financial responsibility laws

AUTOMOBILE locks

Automobile ignition locks; manufacturers should help make it harder for car thieves. Consumers Res Bul 27:24-5 Ap '51

AUTOMOBILE mechanics

Training

Tape recorder solves mass training problem; Allen Electric's factory instructor records training story and 70 sales engineers carry it to mechanics' after-hours classes. il Sales Management 65:74 N 20 '50

AUTOMOBILE oil filters. See Oil filters, Automobile

AUTOMOBILE parking

Attacking a traffic problem; how Freeport, N.Y. did it. il plans Eng N 145:38-40 N 30 '50

Automatic parking garage; Rotogarage. plans diags Arch Forum 94:108-9+ F '51

Cities plan for parking. Eng N 145:56 O 26 '50

Des Moines has a practical plan for off-street parking. il Eng N 146:56 Ja 18 '51

Educated elevators speed Des Moines cars to parking stalls; illustrations with text. Bsns W p23 S 29 '51

Hackensack, N.J. takes radical steps to cure its parking problems. map Eng N 146:55 F 22 '51

How Hackensack solved its parking problems. S. F. Malkin. plan Pub Works 82:42+ My '51

Latest parking developments. Eng N 146:55 My 10 '51

New Orleans parking garage; series of unit buildings. il diags Arch Rec 110:168-71 S '51

Offstreet parking bonds ok'd for Illinois cities. Eng N 145:55 D 14 '50

One side parking aids street cleaning. H. Liebman. il Pub Works 82:38-9 Mr '51

Park at your desk office building; Cafritz building, Washington, D.C. has garage core. N. Shigon. il Am Bsns 21:34 Je '51

Parking relief promised for San Francisco. Eng N 145:60+ N 16 '50

Providence, R.I. may spend $8 million for parking. il Eng N 145:56 N 9 '50

Requirements for off-street parking. Pub Works 82:65 Ja '51

Small town solves its parking problem. Pub Works 82:91 Je '51

Where can we park the car? summary of New York state Dept. of commerce booklet. il Bsns W p50+ O 28 '50

Meters

Metered parking made ready for 350 cars in Yonkers. il Eng N 146:58 Ap 19 '51

AUTOMOBILE parts

Accessory manufacture; works of Wilmot Breeden ltd. il Automobile Eng 41:171-81 My '51

Automatic packaging machine handles varied parts; Buick service parts div. warehouse. W. G. Patton. il Iron Age 167:80-2 Mr 22 '51

Ersatz plating for cars not around corner. W. G. Patton. Iron Age 167:106 Je 14 '51

New methods reduce cost of polishing die castings; Ternstedt div., General motors corp. J. Geschelin. il Automotive Ind 104:49+ Ja 1 '51

Operational stresses in automotive parts; abstracts. R. Schilling. S A E J 59:36-7+ My '51; Machine Design 23:233-4+ Je '51; Automotive Ind 104:34-5 F 1 '51; Automobile Eng 41:353-4 S '51

Parts shortage. Bsns W p65-6 Ap 7 '51

Small parts bore hardened on screw machines. A. H. Allen. il Steel 128:74-5 Mr 26 '51

Stepped diameter parts extruded to close tolerances. diags Automotive Ind 104:50+ F 15 '51

White brass underplate may be answer to shortage of nickel for automakers. A. H. Allen. Steel 129:57 Ag 6 '51

Transportation

Improved packaging saves time and space. il Automotive Ind 105:51+ Ag 1 '51

AUTOMOBILE polish. See Automobiles—Painting and finishing

AUTOMOBILE purchase financing. See Banks and banking—Automobile purchase financing

AUTOMOBILE racing

Fastest 500; new records set at Indianapolis speed classic. R. T. Jackson. il Automotive Ind 104:34-7+ Je 15 '51

Floodlighting a quarter-mile auto race track; Brewerton speedway, Brewerton, N.Y. R. H. Goodman. il plan Illum Eng 46:420-1 Ag '51

New record set in French 24-hour race. W. F. Bradley. Automotive Ind 105:112 Ag 15 '51

Old-timers settle an important issue; illustrations with text. Bsns W p26 S 22 '51

Preview of the 1951 Indianapolis race. R. R. Kay. il Automotive Ind 104:32-3+ My 1 '51

AUTOMOBILE rental service. See Railroads—Automobile rental service

AUTOMOBILE research

Coordinating research council projects, 1951. S A E J 59:60-2 S '51

Economic relationship of engine-fuel research. C. L. McCuen. il diags S A E J 59:39-44 Ag '51

AUTOMOBILE service clubs

Enjoin Chicago auto club from insurance activities. Nat Underw 55:24 O 11 '51

Illinois is on war path against fringe motor clubs. E. J. Dirksen. Nat Underw 55:20 Ag 9 '51

AUTOMOBILE service stations

Garage trade. Economist 160:698-9 Mr 24 '51

Employees

Drive on garages by IAM and Teamsters. Bsns W p32+ Jl 7 '51

AUTOMOBILE shops

Garage trade. Economist 160:698-9, 754-5 Mr 24-31 '51

AUTOMOBILE tires. See Tires, Automobile

AUTOMOBILE trailers

Busy trailer manufacturers wait defense housing calls. il Bsns W p98-100+ Je 23 '51

Trailer coaches for temporary housing. E. Bratton. il Pub Works 82:82 Ap '51

Trailer office pays for itself on constructor's second job. il Am Bsns 21:26 F '51

AUTOMOBILES

Buick's new bodies. J. Geschelin. il Automotive Ind 104:45+ Ja 15 '51

Chevrolet's 1951 cars and trucks. il Automotive Ind 103:37+ D 15 '50

Chrysler for 1951. il diags Automotive Ind 104:42-3+ F 1 '51

Chrysler unveils five major developments. W. G. Patton. Iron Age 167:85 Ja 18 '51

DeSoto makes its bow. H. C. Tuttle. il Steel 128:43-4 Ja 29 '51

De Soto, 1951. il Automotive Ind 104:44+ F 1 '51

Do salts used for ice control speed rusting of automobiles? il Eng N 146:39-41 My 17 '51

Dodge offers 1951 models. Steel 128:58 Ja 22 '51

Features of Nash Rambler; illustrations with text. S A E J 59:52-3 Mr '51

Ford adds luxury model to line in France. W. F. Bradley. il Automotive Ind 105:37+ S 15 '51

Future developments in transportation. C. F. Kettering. Franklin Inst J 251:109-19 Ja '51

Horsepower ratings and prices of typical stock automobiles, 1940-1951; table. Product Eng 22:117 My '51

Hotchkiss announces all light-alloy car. W. F. Bradley. il Automotive Ind 104:41+ Mr 1 '51

Importance of chemical products to automobiles. C. L. McCuen. Automotive Ind 103:46-7+ N 15 '50

Le Sabre features light alloy construction. il diag Automotive Ind 105:50-1 Ag 15 '51

Le Sabre takes to the road. H. C. Tuttle. Steel 129:50 Jl 30 '51

Le Sabre, the new GM experimental car. W. A. Patton. il Iron Age 168:90-1 Jl 26 '51

Lincolns for 1951; styling changes. il Automotive Ind 103:37 N 15 '50

Look again, they're the 1951 models. il Bsns W p22-3 O 28 '50

Mercedes starts production of two new passenger cars. Automotive Ind 105:96 Ag 15 '51

Mercury's 1951 line has automatic transmission. il Automotive Ind 103:49+ N 1 '50

Motor vehicles of Russia and her satellites. D. Scott. il Automotive Ind 104:32-3+ Ap 15 '51

Nash Healey sports car; illustrations with text. Automotive Ind 104:41 F 15 '51

New car models in 1952? il Bsns W p21 Jl 7 '51

1951 Chryslers. Bsns W p71-2 Ja 20 '51

Olds models take bow. H. C. Tuttle. il Steel 128:61-2 F 5 '51

Oldsmobile's Super 88 features new body and leaf-type rear suspension. il Automotive Ind 104:49 Ap 1 '51

Plymouth's '51. il diag Automotive Ind 104:41+ Ja 15 '51

Pontiac, 1951. il diags Automotive Ind 103:38-9+ D 15 '50

Studebaker's 1951 features. il Automotive Ind 103:44-5 N 1 '50

Vauxhall announces new cars for 1952. W. F. Bradley. il Automotive Ind 105:46-7 S 15 '51

What the auto is doing to farm sales. W. B. Williams. il Ptr Ink 236:33-4 Ag 3 '51

See also

Airplanes, Light—Automobile combinations
Automobile engines
Automobile industry and trade
Motor buses
Motor trucks
Motor vehicles
Railroads—Motor vehicle competition
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Air conditioning

A.R.A. manufacturing co. automobile air-conditioning units. il Automotive Ind 103:58 D 15 '50

Airplane combinations

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Axles

Earls Court exhibition; a critical review of current design; rear axles and rear suspension. il Automobile Eng Extra no 40:406-8 N 30 '50

How Lincoln-Mercury machines axle shafts. R. F. Paulson. il diags Iron Age 167:88-90 My 10 '51

Speedier stamping of axle housings with greater safety; axle plant of the Oldsmobile division. R. E. Hansen. il Iron Age 167:74-5 Je 28 '51

Bearings

Special six-press setup stamps bearing retainers faster. R. E. Hansen. il Automotive Ind 105:62+ S 1 '51

Bodies

Aluminum auto bodies ahead? C. J. Schmidt and others. Steel 128:87-8 Ja 15 '51

Auto body-frame loads; illustrations and drawings with text. H. Hicks. S A E J 59:70-1 Ag '51

Bodywork competitions. il plans diags Automobile Eng 41:265-72 Jl '51

Cost-cutting methods of producing Henry J car bodies. H. R. Smith. il Mach 57:167-73 F '51

Designing to expedite handling of body units. E. R. Frost. map diags Automotive Ind 104:47+ My 1 '51; Same abr. Steel 127:101-2 D 4 '50

De Soto's body plant has eight miles of conveyors. J. Geschelin. il Automotive Ind 103:46-8+ N 1 '50

Earls Court exhibition; coachwork. il Automobile Eng 40:415-23 D '50

Modern all-aluminum body development for production. E. C. DeSmet and others. il diags S A E J 59:35-9+ Je '51

Nash's new plant for making Rambler bodies. il plan Automotive Ind 104:34-7+ F 15 '51

New body is born; illustrations and drawings with text. A. R. Lindsay. S A E J 59:48-9 Ag '51

Simplified body design reduces soldered joints; 1951 Oldsmobile Super Deluxe 88. il Automotive Ind 104:48+ Je 1 '51

Special body handling saves storage space; Studebaker corp. il Automotive Ind 103:43+ D 1 '50

Television increases efficiency at new Fisher Body plant. il Automotive Ind 103:47+ D 15 '50

Welding helps to ease sheet steel shortage. Bsns W p64+ N 4 '50

Brakes

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Bumpers

Advantages of simplicity in the electroplating of automobile bumpers; abstract. D. H. Schantz. Steel 129:120+ S 10 '51

Bumper guards deep drawn 220 per hour; illustrations with text. Steel 128:88 My 14 '51

Infrared boosts bumper drying 133 per cent. E. M. Wenner. il Elec World 136:112-13 Jl 30 '51

Making the Cadillac front bumper and guard assembly. il Automotive Ind 104:47+ Ap 1 '51

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Carbureters

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Chassis

Aston Martin D.B. II. il diags Auotomobile Eng 41:243-54 Jl '51

Austin A.70 and A.90. il diags Automobile Eng 41:163-70 My '51

DK chassis. diags Automobile Eng 40:343-4 S-O '50

Cleaning

Auto cleaning products. M. A. Lesser. bibliog il Soap & San Chem 27:37-9+ Ap; 31-4+ My '51

Fast car wash at service stations. J. Barton. il Nat Pet N 43:46-8+ Ag 29 '51

Heating, drying in auto laundry. il Sheet Metal Worker 42:58+ D '50

Clocks

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Clutches

Automatic clutch control introduced in France. W. F. Bradley. il Automotive Ind 104:50+ Je 1 '51

Duplex machine combines milling and handling; machining automotive clutch housings. J. Loviner. il diag Steel 127:84-6 N 6 '50

Earls Court exhibition; a critical review of current design; clutches and gear boxes. il Automobile Eng Extra no 40:400-6 N 30 '50

Cost of operation

Gasoline tax in relation to automobile operation and highway costs. E. M. Cope and L. L. Liston. Pub Roads 26:157-61 Je '51

Design

Accessibility for maintenance; cars and trucks. H. O. Mathews. S A E J 59:58-60 Ja '51; Excerpt. Automotive Ind 103:116+ D 15 '50

Chrysler models outstanding for design changes; illustrations and diagrams with text. Product Eng 22:92-7 Mr '51

Designing cars for economy and performance. V. Boghossian. Automotive Ind 103:42-3+ N 1 '50

Directional stability; study of factors involved in private car design. G. E. L. Walker. bibliog il diags Automobile Eng 40:281-5, 370-6 Ag, N '50

Earls Court exhibition; a critical review of current design. il Automobile Eng Extra no 40:383-412 N 30; 415-32 D '50

Lancia Aurelia. il diags Automobile Eng 41: 43-51 F '51

New Ford cars. il diags Automobile Eng 41: 319-28 S '51

Simca starts production on new Aronde model. W. F. Bradley. il diags Automotive Ind 104:46-7+ Je 15 '51

Door hinges

High-speed heating and forging. H. Chase. il diags Steel 129:96-8 S 10 '51

Stronger hinges made faster from preformed bar. W. G. Patton. il diags Iron Age 168: 103-5 S 6 '51

Electric equipment

Alternator-rectifier battery charging systems. R. Gray. il Am Gas Assn Proc 1950:855-8

Battery additives. P. L. Howard and G. W. Vinal. bibliog il U S Nat Bur Stand Circ 504:1-30; pa 15c Supt. of doc. '51

Battery cranks engine for 23 minutes; Willard heavy duty deluxe battery. il Nat Pet N 43:75-6 S 5 '51

Battery failures on road are record 10.8 million in 1950; AAA reports. Nat Pet N 43: 70 Je 6 '51

Conveyorized testing of generator regulators. R. Smith. il diag Automotive Ind 104:40-3 My 1 '51

Earls Court exhibition; electrical equipment. il diag Automobile Eng 40:427-32 D '50

Electrical equipment for passenger cars. M. W. Kendall. diags Inst Mech Eng Proc (Auto div pt 1):10-18 '49-50; Same. Automobile Eng 40:114-20 Mr '50; Abstract. Elec R (Lond) 146:71 Ja 13 '50; Discussion. Inst Mech Eng Proc (Auto div pt 1):18-29 '49-50

Lead, battery cutbacks could cripple essential auto travel, TBA men fear; convention of Association of American battery manufacturers, San Francisco, April 4-6. Nat Pet N 43:60+ My 2 '51

Longer life and saving in lead is claimed for low-gravity battery. Nat Pet N 43:68-9 My 2 '51

Motor show; electrical equipment. Elec R (Lond) 147:643-4 O 27 '50

New low-gravity battery uses plastic separators; Exide Ultra Start. il Nat Pet N 43:76 S 5 '51

Power-operated head. diag Automobile Eng 41:77 F '51

Reducing battery adjustment claims. F. C. Sturtevant. il Nat Pet N 43:61+ F 7 '51

Regulator parts mass-produced in progressive dies; Ford generator regulators. A. Ensign. il Iron Age 167:114-16 Mr 15 '51

Swaged generator pole shoes conserve copper wire. H. Chase. il Automotive Ind 104:40-1+ Ja 1 '51

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Automobile engines—
  Ignition devices
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Exhibitions

Automotive activities in Italy. W. F. Bradley. il Automotive Ind 104:32-3+ My 15 '51

Excellent business done at British motor exhibition. For Comm W 41:26+ D 11 '50

International motor exhibition. il diags Engineer 190:469-71, 503-6 N 17-24 '50

International motor show, Frankfurt, April 19-29. il Engineer 191:675-8 My 25 '51

London automobile show. W. F. Bradley. il diag Automotive Ind 103:34-6+ N 15 '50

Museum of modern art highlights art in autos. il Bsns W p42-6 S 8 '51

1951 international auto salon. W. F. Bradley. il Automotive Ind 104:42-3+ Ap 15 '51

Paris salon. il Automobile Eng 40:433-41 D '50

Seven countries represented at the Paris automobile show. W. F. Bradley. il Automotive Ind 103:42-5+ N 15 '50

West Germany on wheels; international auto show, Frankfurt; illustrations with text. Bsns W p 102-3 My 5 '51; Automotive Ind 104:40-1+ My 15 '51

Fenders

That crumpled fender problem again. Consumers Res Bul 27:10 Ap '51

Frames

Auto body-frame loads; illustrations and drawings with text. H. Hicks. S A E J 59: 70-1 Ag '51

Earls Court exhibition; frames. il Automobile Eng 40:424-5 D '50

Gearing

Automotive differential. L. R. Buckendale and L. G. Boughner. il S A E J 59:52-4 My '51

Gears of exceptional quality; Nash motor division. H. S. Gist. il diag Automotive Ind 104:42-4+ My 15 '51

High-speed machining of forgings; Ford motor co. C. H. Wick. il diags Mach 57: 147-51 F '51

Improved method for estimating the fatigue life of bevel and hypoid gears; abstract. W. Coleman. Automotive Ind 105:37-8 Jl 1 '51

Multithread hobs triple gear output at Chevrolet-Muncie. J. M. Finally. il diags Am Mach 95:134-7 Mr 19 '51

Revacycle process increases Chrysler's gear production. C. H. Wick. il diag Mach 57: 163-7 Mr '51

See also

Automobiles—Steering gear
Automobiles—Transmission

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Heating and ventilation

Air condition control for automobiles. C. S. Steadman. il diags Inst Mech Eng Proc (Auto div pt2):112-24 '49-50; Same. Automobile Eng 40:193-203 My '50; Discussion. Inst Mech Eng Proc (Auto div pt2):124-9 '49-50

Latest developments in vehicle heating. F. A. Ryder. il diags Automotive Ind 104: 36-7+ Ja 15 '51

History

Auto's portrait album on insurance co.'s walls. il Bsns W p92-3 Jl 21 '51

Insurance

See Insurance, Automobile

Length of service

Cars in use by makes, states and model year; tabulation. Automotive Ind 104:98-105 Mr 15 '51

Lots of old cars. Bsns W p20 Mr 24 '51

Number and per cent of cars in use, by age groups, 1947-1950; tabulation. Automotive Ind 104:97 Mr 15 '51

Lighting

Lamp sockets sealed with vinyl. il Mod Plastics 28:68-9 F '51

Lubrication

More know-how needed by lube service men; API lubrication committee meeting, Detroit, April 9-10; abstracts of papers. Nat Pet N 43:61-3 Ap 18 '51

See also

Automobile engines—Lubrication

Gasoline service stations—Lubricating service

Manufacture

Advanced production developments; summary of four papers presented at the Production forum. J. Geschelin. Automotive Ind 104:32+ F 1 '51

Autos face make-do days; SAE discusses cost-cutting techniques and L-P potential. Bsns W p70 Ja 20 '51

Cost-cutting methods of producing Henry J car bodies. H. R. Smith. il Mach 57:167-73 F '51

How flat can you get? mechanized versions of old process of lapping. il Fortune 42:115-18+ D '50

Italian production; Fiat factory layout, methods and equipment. il Automobile Eng 40: 333-41 S-O '50

Latest American methods employed by Renault in France. J. Geschelin. il Automotive Ind 105:32-3+ S 1 '51

Packard achieves production economics with induction hardening. R. E. Van Deventer and G. Bidigare. il Mach 57:154-8 My '51

Selective hardening enables machine speedup; Buick div., General motors corp. D. Godby. il Iron Age 166:93-4 N 2 '50

Welded narrow steel sheets used for wide stampings. K. Rose. il Materials & Methods 33:83-4 Ja '51

See also

Automobile assembly plants

Automobile factories

Materials

Aluminum auto bodies ahead? C. J. Schmidt and others. Steel 128:87-8 Ja 15 '51

Aluminum automotive history. Steel 129:130+ S 10 '51

Auto glitter faces austerity. il Bsns W p86+ Ap 7 '51

Automakers hunt for materials substitutes as restriction orders increase. H. C. Tuttle. Steel 128:61 F 5 '51

Auto makers try to ease cutback impact. Bsns W p21 N 25 '50

Automotive applications and special features of synthetic and natural rubbers. J. W. Liska. diags S A E J 59:22-5 My '51

British automobiles heavy on light metals. Materials & Methods 33:158+ Je '51

From abrasives to zirconium; automobile industry uses 256 chemical products. C. L. McCuen. il Chem & Eng N 29:744-7 F 26 '51

How shortages of aluminum may affect passenger cars. Automotive Ind 104:48+ Ja 1 '51

Metals shortages create many production problems. J. Geschelin. Automotive Ind 104: 46-7+ Ap 15 '51

Modern all-aluminum body development for production. E. C. DeSmet and others. il diags S A E J 59:35-9+ Je '51

Modern carbon composites. S. A. Murray. il Automobile Eng 41:182-4 My '51

Plastics

British plastics exhibition; items of interest for the automobile engineer. il Automobile Eng 41:273-4 Jl '51

Decorating plastic parts by metallizing. il Automotive Ind 104:54+ My 1 '51

Plastics industry challenged to produce automobile bodies. Chem & Eng N 28:3876-7 N 6 '50

Models

Plastic die models; abstract. R. L. Logue. Automotive Ind 103:53+ D 1 '50

Precision in miniatures; Product miniature co. il Mod Plastics 28:70-3 My '51

See-through chassis; Plymouth motor corp. acrylic full-scale model. il Mod Plastics 28: 90-1 Ag '51

Noise

Sound engineering for quieter automobiles. il Automotive Ind 103:52+ N 1 '50

Painting and finishing

Automobile waxes and polishes. il Consumers Res Bul 28:17-18 Jl '51

Completely conveyorized paint shop operation; De Soto body plant. J. Geschelin. il diag Automotive Ind 103:38-9+ D 1 '50

Cut costs, build business with infrared oven. B. M. Davis and W. W. Huntley. il Elec World 134:146 N 20 '50

Factors affecting the testing of automotive finishes. R. J. Wirshing and W. D. McMaster. il Paint Oil & Chem R 114:12-14+ Jl 5 '51

Forty cents worth of infrared does the job; infrared oven for car painting. il Elec West 107:92 S '51

GM rocks the paint industry. H. C. Tuttle. Steel 128:95-6 Je 25 '51

Hot lacquer spraying problems solved. J. A. Bede. diag Automotive Ind 104:48+ Ja 15 '51

Hot-spray method of finishing passenger car bodies; abstract. J. B. Wiesel. Automotive Ind 103:53 D 1 '50

Kaiser-Frazer hot spray lacquer. il Automotive Ind 105:48 Ag 1 '51

Reduction dulls finish. il Chem W 68:19 Je 30 '51

Silicone sortie. il Chem W 68:37 Je 23 '51

Why automobile finishes lose luster; abstract. R. J. Wirshing. Automotive Ind 105:70 Ag 1 '51

Patents

Current patents. diags Published in monthly numbers of Automobile engineer

Periodicals

Media man's viewpoint; car enthusiast magazines. D. B. Arnold. Adv Agency 44:82 F '51

Prices

Case study in controls. Bsns W p22 D 23 '50

Government freezes car prices as of Dec. 1st. Automotive Ind 104:18 Ja 1 '51

1951 car price, weight and bodies; tabulation. Automotive Ind 104:123 Mr 15 '51

Propeller shafts

Wide variety of universal joints on the production line. J. Geschelin. il Automotive Ind 105:42-4+ Jl 1 '51

Purchasing

See also

Banks and banking—Automobile purchase financing

Rating

Automobiles of 1951. il Consumers Res Bul 28:5-16 Ag '51

AUTOMOBILES—Rating—*Continued*

1951 automobiles; preliminary reports. il Consumers Res Bul 27:17-19 Ja; 5-7 My; 5-8 Je; 28:5-7 Jl '51

Renting

Equipment leases spread to autos. Bsns W p 153 S 22 '51

New investment; Mutual Life loans on auto fleets of business firms. Nat Underw (Life ed) 55:8 S 14 '51; Same abr. East Underw 52:29 S 21 '51

North Carolina rules on drive yourself liability. Weekly Underw 165:258 Ag 4 '51

Why company vehicle ownership pays off for Thomas J. Lipton, inc.; abstract. W. Langseder. S A E J 59:20 Ap '51

See also

Railroads—Automobile rental service

Repair

Accessibility for maintenance; cars and trucks. H. O. Mathews. S A E J 59:58-60 Ja '51

Auto body repair; illustrations with text. R. E. Scott. Welding J 30:742-3 Ag '51

Repairing a jeep windshield frame. R. K. Hughes. il Welding J 29:1102-3 D '50

Riding qualities

Riding comfort; abstract. R. D. Evans. S A E J 59:40-1 Jl '51

Seats

Improved cushion and back seating units. il Automotive Ind 103:78+ D 15 '50; Steel 127:40 D 25 '50

Round table on automotive seating. S A E J 59:67-8 S '51

Upside-down stitcher saves critical steel; manufacture of automotive seat assemblies. il Steel 129:86 S 17 '51

See also

Automobiles—Upholstery

Skidding

Don't s'kid yourself; results of National safety council's winter driving tests. Bus Transportation 30:50 Ja '51

Tests reveal facts about winter hazards. Safety Maint & Prod 101:43-4 F '51

Specifications

1951 British passenger cars and other foreign cars; tabulation. Automotive Ind 104:154-5 Mr 15 '51

1951 passenger car specifications; tabulations. Automotive Ind 104:125-36 Mr 15 '51

Springs and suspension

Earls Court exhibition; a critical review of current design; front suspension and steering. il Automobile Eng Extra no 40:409-12 N 30 '50

Earls Court exhibition; a critical review of current design; rear axles and rear suspension. il Automobile Eng Extra no 40:406-8 N 30 '50

International motor exhibition. il diags Engineer 190:504-6 N 24 '50

Laminated torsion bars. il Engineer 191:349-50 Mr 16 '51

New alloy for springs; chromium-molybdenum-vanadium alloy steel, called Rauenloy. il Steel 129:40 Jl 23 '51

Polyethylene in car spring liners. il diag Mod Plastics 28:64-5 F '51

Variable-rate suspension for French Renault car. il Automotive Ind 104:53+ Je 1 '51

Steering gear

Earls Court exhibition; a critical review of current design; front suspension and steering. il Automobile Eng Extra no 40:409-12 N 30 '50

Gemmer's new power steering gear, the Hydraguide. J. Geschelin. il diags Automotive Ind 104:50-1+ F 1 '51

Hydraulic assist; steering gear moves into passenger car field. diag Steel 128:92, 110 F 5 '51; Machine Design 23:191-2 Ap '51

Multiple machining for interchangeability; steering knuckles; Studebaker corp. R. Mawson. il diag Steel 128:85 Ap 2 '51

Now it's power steering; Hydraguide. il Bsns W p21 D 9 '50

Testing

Automobile test rigs. L. H. Dawtrey. il diags Inst Mech Eng Proc (Auto div pt 4); 176-85, pl 1-8 '49-50; Same. Automobile Eng 40: 259-65, 286-94 Jl-Ag '50; Discussion. Inst Mech Eng Proc (Auto div pt 4):185-92 '49-50

Ford installing 17 new test dynamometers. Steel 128:64 Ja 8 '51

Proving ground of the Motor industry research association. il plan Engineering 172: 12-13 Jl 6 '51; Engineer 192:64-5 Jl 13 '51

Study of vehicle, roadway, and traffic relationships by means of statistical instruments. T. J. Carmichael and C. E. Haley. diags S A E J 59:50-5 Ag '51

Theft

See also

Automobile locks

Transmission

Accurate stampings made at high production rates; torque converter shells, shrouds and blades for Ford automatic transmission. H. Chase. il Iron Age 168:159-61 S 13 '51

Assembling and testing automatic transmissions; Ford-Mercury units. T. MacNew. il Automotive Ind 105:38-40+ S 1 '51

Auto differential serves as slow-speed mixer drive. R. L. Miller. diag Chem Eng 58:139-40 Ag '51

Automatic car transmission system; Ford motor co. il diags Engineer 191:520-1 Ap 20 '51

Automatic transmission castings cleaned chemically. R. J. Peters. il Iron Age 167: 105-7 Mr 15 '51

Automatic transmission patent suits to go to trial. J. R. Custer. diag Automotive Ind 104:47+ Ja 1 '51

Automatic transmissions for automotive use; story about Buick's Dynaflow transmission. R. J. Gorsky. il diags Midwest Eng 3:4-7+ D '50

Automatic transmissions symposium; abstract. Nat Pet N 43:28-9 Je 20 '51

Chronological history of automatic transmission developments. Automotive Ind 105:36-7+ Ag 15 '51

Close-tolerance die castings cut auto transmission cost. il Steel 127:96-7 D 4 '50

Designing planetary gears for automatic transmissions. D. T. Sicklesteel. Automotive Ind 104:26-9+ Mr 1 '51

Earls Court exhibition; a critical review of current design; clutches and gear boxes. il Automobile Eng Extra no 40:400-6 N 30 '50

How Chevrolet boosted Powerglide production. C. H. Wick. il diag Mach 57:147-55 Ap '51

How Chevrolet deburrs Powerglide parts. H. Chase. il Am Mach 95:138-9 Ap 16 '51

How Ford makes transmissions; illustrations with text. Am Mach 95:188-9 Je 11 '51

Infinitely variable mechanical transmission; Beier gear. W. F. Bradley. il diags Automotive Ind 103:32-3 D 15 '50

International motor exhibition. il Engineer 190:504 N 24 '50

Many close-tolerance operations in machining Ford-Mercury automatic transmissions. J. Geschelin. il Automotive Ind 105:46-50+ Jl 15 '51

Mercury's automatic transmission; servicing instructions. il Nat Pet N 42:49 O 25 '50

120 transmission pawls broached every hour. il Steel 127:95 D 4 '50

Parking, neutral, drive, low, reverse; a detailed study of the American torque-converter transmissions. O. D. North. il diags Automobile Eng 41:83-90, 123-31 Mr-Ap '51

Planetary gears for automatic transmissions. D. T. Sicklesteel. diags S A E J 59:31-3+ Jl '51

Planetary transmission with hydraulic control. diag Automotive Ind 104:48+ F 15 '51

Precision machining of Studebaker automatic transmission parts. il diags Mach 57:149-56+ Je '51

Precision machining operations on automatic transmissions at Ford's Cincinnati plant. T. MacNew. il Automotive Ind 105:42-6+ Ag 1 '51

Problems involved in joining sheet metal for torque converters. H. O. Flynn. il S A E J 59:17-21 Mr '51

AUTOMOBILES—Transmission—*Continued*

Significant operations on the Chrysler torque converter. J. Geschelin. il diag Automotive Ind 104:38-42+ Ap 1 '51

Six cars boost automatic transmission drains from 15,000 to 25,000 miles. H. Ridder. Nat Pet N 42:59 N 22 '50

Theory of gear-changing. E. M'Ewen. diags Inst Mech Eng Proc (Auto div pt 1):30-9; Discussion. 39-40 '49-50

Torque converter and transmission data on latest model cars. Automotive Ind 104:53-4 F 1 '51

Torque converter transmission. C. Carmichael. il diags Machine Design 23:163-8 F '51

Transmission reflects high-rate precision manufacturing; Hydramatic transmission. Steel 129:80+ Jl 9 '51

Transportation

Auto freight row. Bsns W p20-1 D 2 '50

Oil barges hike payload by carrying new cars on empty trip down-river. D. Warren. il Nat Pet N 43:59 Ja 24 '51

See also

Railroads—Rates—Automobiles

Upholstery

Upholstery requires 700 operations. il Automotive Ind 105:32-3+ Jl 1 '51

Zig-zag springs for auto seat cushion win more acceptance in 1951 models. A. H. Allen. il Steel 127:79-80 N 13 '50

Weight

1951 car price, weight and bodies; tabulation. Automotive Ind 104:123 Mr 15 '51

Wheels

Electronic wheel balancer. il Automotive Ind 103:62+ N 15 '50

Wheel balancing boosts profits at stations, equipment man says. A. H. Singer. il Nat Pet N 42:60+ N 8 '50

Windshields

New shaded car windshield. il Automotive Ind 103:60 D 1 '50

AUTOMOBILES, Industrial

Keeping an out-plant fleet in tip-top shape. G. Close. il Mill & Factory 48:84 My '51

See also

Motor trucks

AUTOMOBILES, Military

Conversion to war a cinch for jeeps. il Bsns W p32+ Ja 13 '51

AUTOMOBILES, Salesmen's

What auto wrecks cost your salesmen. il Sales Management 66:82 Je 1 '51

Which salesmen's auto pay plan is best? Sales Management 65:76+ N 1 '50

Costs

Allowances for salesman-owned cars; a survey; abstract. Management R 40:357-8 Je '51

Some new figures on salesmen's auto expense payments. Sales Management 67:68 S 15 '51

Why company vehicle ownership pays off for Thomas J. Lipton, inc.; abstract. W. Langseder. S A E J 59:20 Ap '51

AUTOMOBILES, Used

See also

Automobile industry and trade—Used cars

AUTOMOTIVE fuel

Fuels and lubricants needs listed by army. B. S. Mesick. il Pet Refiner 29:88-9 D '50; Same cond. Oil & Gas J 49:283 N 16 '50; Excerpts. Nat Pet N 42:25 N 15 '50

LPG development; abstract. R. C. Alden and others. Automotive Ind 105:49+ Jl 1 '51

L.P. gas for motor fuel. R. C. Alden and F. E. Selim. flow diag Oil & Gas J 49:78-80+ F 8 '51

LPG is plentiful and cheap. F. E. Selim and R. C. Alden. map S A E J 59:22-5 Jl '51

L.P.G. recognition; Society of automotive engineers symposium; L.P. gas as tractor and automotive fuel. Oil & Gas J 49:51-2 Ja 11 '51

LPG versus gasoline and Diesel fuel; abstract. E. S. Corner and E. H. Berg. Automotive Ind 105:48-9 Jl 1 '51

Liquid methane as a motor fuel. M. Pearce. bibliog il diags Inst Mech Eng Proc (Auto div pt 3):155-63; Discussion. 164-6 '49-50

SAE national fuels and lubricants meeting, Tulsa, Nov. 9-10. S A E J 58:66-70 D '50; Oil & Gas J 49:193-4 N 16 '50

See also

Gas turbines, Aircraft—Fuel

Gasoline

Testing

Apparatus for studying autoignition of engine fuels; results with normal heptane and normal hexane. W. J. Levedahl and F. L. Howard. bibliog il J Res Nat Bur Stand 46:301-9 Ap '51

AUTOMOTIVE industries

Defense contract awards; orders placed for military vehicles, aircraft and related equipment. Automotive Ind 104:180+ Mr 15 '51

News by commodities. Published irregularly in Foreign commerce weekly

War mobilization situation and its effect on the West Coast transportation industry. A. T. Colwell. S A E J 59:82-3 S '51

See also

Airplane industry and trade

Automobile accessories industry

Automobile assembly plants

Automobile industry and trade

Motor bus industry and trade

Motor truck industry and trade

Tractor industry and trade

Exhibitions

International motor show, Frankfurt, April 19-29. il diag Engineer 191:675-8, 714-17 My 25-Je 1 '51

Statistics

Automotive industries 1951 statistical issue. Automotive Ind 104:78-124+ Mr 15 '51

Retail trade, 1948, for metropolitan areas. Ptr Ink 235:148+ My 25 '51

U.S. exports of automotive products, 1947-1950; tabulation. Automotive Ind 104:117 Mr 15 '51

AUTOPILOT. See Airplanes—Control

AUTOSYNTHESIS. See Synthesis

AUTOTRANSFORMERS. See Electric transformers—Autotransformers

AUXINS

Studies on compounds related to auxin-a and auxin-b; preparation of analogues of auxin-b lactone. H. B. Henbest and E. R. H. Jones. Chem Soc J p3628-33 D '50

Studies on compounds related to auxin-a and auxin-b; the preparation and properties of the *cyclo*pentenyl analogue of auxin-b lactone. J. B. Brown, H. B. Henbest and E. R. H. Jones. Chem Soc J p3634-41 D '50

Synthesis of a lactone related to auxin b. E. B. Reid and W. R. Ruby. bibliog Am Chem Soc J 73:1054-61 Mr '51

AVALANCHES

Avalanche buries Peruvian dam work. Eng N 145:24 N 16 '50

AVCO manufacturing corporation

Avco drops aviation investments. S. Altschul. Aviation W 55:18 Jl 2 '51

Avco's expanding universe. il Fortune 43:74-7+ Ja '51

AVERAGE (maritime law)

Ancient law of the sea tangles settlement of salvage of Andrea F. Luckenbach. il Bsns W p78-80+ S 8 '51

General average legal decisions and York Antwerp rules of 1950. H. A. Mullins. East Underw 52:26 S 28; 2-8+ O 5; 32 O 12; 35 O 19 '51

AVERY, Howard Shaeffer, 1906-

Avery wins Lincoln gold medal. por Welding J 29:1026+ N '50

AVGAS. See Airplane engines—Fuel

AVIATION

All-weather flying. R. C. Robson. Aviation W 55:68 Jl 23; 84 Ag 13; 56 S 3 '51

See also

Aeronautics
Aeronautics, Commercial
Air navigation
Airlines
Airplane races
Airplanes
Airports
Airways
Aviators
Flying boats
Gliders
Insurance, Aviation
Meteorology, Aeronautic
Radar aids to aviation
Radio aids to aviation
Seaplanes
Television aids to aviation
Wind tunnels

Accidents

Aircraft casualty statistics show reduction in personal accidents in first half of 1951; with table. C. Christensen. Weekly Underw 165: 411-12 Ag 25 '51

B-36 too big? Aviation W 54:16 My 21 '51

Board adopts rule on disclosure of data on accidents by employees. CAA J 11:125 N 15 '50

CAB cites pilot error in seven fatal crashes. Aviation W 55:76 Jl 16 '51

CAB reports on private crash. Aviation W 54:47 Ja 8 '51

Communication by radio vital in aerial rescues. CAA J 12:96 Ag 20 '51

Crash-injury research; protection afforded by rearward-facing passenger seats. plan Mech Eng 73:740-1 S '51

Facing the tail? bearing of airline seating arrangements on casualties. Economist 161: 180 Jl 21 '51

Fatal crash mars AWA convention. Aviation W 54:16-17 Je 25 '51

Findings issued in Regina C-46F crash. Aviation W 54:63 My 7 '51

FSF honors alert airport personnel. Aviation W 53:14 N 27 '50

Higher skill requirements suggested after private pilot accident studies. CAA J 12:38 Ap 20 '51

Human factor in aircraft accidents. J. A. Newton. Roy Aeronautical Soc J 55:110-15 F '51

Mass F-84 crashes traced to inlet icing. Aviation W 54:15 Je 18 '51

New yardstick for transportation safety. R. Modley. Aviation W 54:17-18 F 5 '51

28 million passengers carried by airlines in 1950; with tabulation of 1950 aircraft casualties. C. Christensen. Weekly Underw 164:386+ F 10 '51

See also

Airlines—Accidents
Airplane engines—Failures

Altitude flying

Ashton reports for altitude duty; Avro to build six pressurized, Nene-engined research craft. diags Aviation W 53:42-3 N 20 '50

Details of Douglas Skyrocket's new record flight. il Aviation W 55:14 S 10 '51

Effect of combustor-inlet conditions on performance of an annular turbojet combustor. J. H. Childs and others. il diags U S Nat Advisory Com for Aeronautics 1947:445-69 '50

Hazards of the stratosphere. Sci Am 183:30 D '50

High-altitude flight cooling investigation of a radial air-cooled engine. E. J. Manganiello and others. bibliog il diags U S Nat Advisory Com for Aeronautics 1947:267-83 '50

High altitude unit pressurizes radar. Aviation W 54:37 F 12 '51

High weather; science discovers that the apparent calm at great altitudes is a myth. P. M. Gormley. diags Aero Digest 61:30-1+ N '50

New way to study altitude flow; superaerodynamic windtunnel; device uses a molecular beam. il Aviation W 55:50+ Jl 16 '51

Temperature testing the B-36. R. C. Sebold. il Aero Digest 63:20-1+ Jl '51

Upper atmosphere, its exploration and exploitation. W. Ley. il diags Aeronautical Eng R 10:20-4+ F '51

History

Many papers refused Wright flight story. Ed & Pub 83:22 D 30 '50

Ice problem

See Airplanes—Ice protection; Gas turbines, Aircraft—Ice problem

Instrument flying

Application of Liouville's approximation to the blind navigation problem. J. J. Gilvarry and S. H. Browne. bibliog J Ap Phys 21:1195-6 N '50

Cockpit view vs. screen image. Aviation W 54:32 My 14 '51

Physiological aspects

Drop data; new way to get pilot's reactions to high-altitude ejection seat bailout. il Aviation W 54:32-3 Ja 8 '51

Human body in space. H. Haber. il diags Sci Am 184:16-19 Ja '51

Human factor in aircraft accidents. J. A. Newton. Roy Aeronautical Soc J 55:110-15 F '51

Safety measures

All-weather flying; impressions of symposium, I.A.S. 19th annual meeting. R. C. Robson. plans Aeronautical Eng R 10:44-7+ My '51

Automatic feathering to reduce the hazard of aircraft engine failure at take-off. W. L. Kershaw. il diag Elec Eng 69:953-8 N '50

Daredevil pilots went out of business with development of aviation safety. CAA J 12: 61+ Je 20 '51

Device suppresses fuel tank explosions. il Aviation W 54:45-6 Je 11 '51

Discussion meetings to promote safety suggested by CAA. CAA J 12:108 S 20 '51

Flight safety foundation makes awards. Aviation W 53:15 O 30 '50

Flight safety research. V. E. Bertrandias. Aeronautical Eng R 10:31-4 Ap '51

High-strength harness for USAF pilots. il Mech Eng 73:229 Mr '51

ICAO recommends safety provisions. Aviation W 54:68 My 21 '51

New safety harness for airborne troops. il Aviation W 54:50 My 7 '51

Pan Am's new life vest. Aviation W 53:39 N 6 '50

Plane makers upheld on safety measures. Aviation W 55:45-6 S 17 '51

Rearward-facing seats for use in military transport planes. Mech Eng 72:908 N '50

Research and development to promote safety in aviation. T. P. Wright. S A E J 59: 35-41 Ja '51

Rubber man model is CAA development to aid flying safety. CAA J 12:96 Ag 20 '51

Safety need not cut down performance. J. Lederer. Aviation W 54:24-9 F 12 '51

Some developments for safer aircraft. A. L. Morse. il S A E J 59:29-33 My '51

Stall recovery demonstrations pay dividends. CAA J 12:97+ S 20 '51

Stall recovery technique shown pilots by CAA. CAA J 11:121+ N 15 '50

Timetable for 2-0-2 modifications. Aviation W 54:64-5 My 28 '51

See also

Airplanes—Fires and fire protection
Airplanes—Ice protection
Airplanes—Lighting
Cornell university—Guggenheim aviation safety center

Transatlantic flights

Transatlantic charter flights affected by Board statement on 1951 policies. CAA J 12:39 Ap 20 '51

See also

Airlines—Transoceanic lines

AVIATION insurance. See Insurance, Aviation

AVIATION landing stations

See also

Airports

Portable landing mats

Army seeks new types of landing mats for airfields. Eng N 145:38 N 23 '50

Plastic landing; laminated plastics in aircraft landing mats. Bsns W p59-60 N 18 '50

AVIATION safety center. See Cornell university—Guggenheim aviation safety center

AVIATION week (periodical)

Security break? a case history. R. H. Wood. Aviation W 54:78 Mr 19 '51

AVIATORS

Defective sight not safety hazard, survey of private pilots reveals. CAA J 12:23 F 20 '51; Aviation W 54:55 Ja 15 '51

Higher skill requirements suggested after private pilot accident studies. CAA J 12:38 Ap 20 '51

Human factor in aircraft accidents. J. A. Newton. Roy Aeronautical Soc J 55:110-15 F '51

Identification cards required for pilots by Sept. CAA J 12:96 Ag 20 '51

See also

Aviation—Physiological aspects

Civil air patrol

Licenses

CAA readies new airman certificate. Aviation W 53:45 D 11 '50

Salaries

New pattern for flight pay? AA pilot and co-pilots win advances in emergency board's decision. F. L. Moore. Aviation W 54:55 Je 11 '51

Pilot pay; Mid-West part payment of wages by IOUs hit by CAB examiner. Aviation W 53:45-6 D 4 '50

Testing

Commercial pilot written test now to include radio. CAA J 12:37+ Ap 20 '51

Pilot applicants get written test by CAR change. CAA J 12:85+ Ag 20 '51

Training

Ground trainer for new airways. il Aero Digest 61:44+ D '50

High latitude navigation trainer; Link's newest unit emphasized high speed flight in Arctic regions. il Aviation W 53:31 D 25 '50

Jet trainer parts go miniature; space conservation in new B-47 flight simulator. il Aviation W 55:31 S 3 '51

Link thrives on simulator boom. G. L. Christian. il Aviation W 55:43-4+ Jl 9 '51

Unit simulates traffic problems. il Aviation W 54:45-6 Mr 26 '51

AVIATORS, Military

Testing

Pilot selection. B. Groesbeck, jr. Air Affairs 3:548-55 D '50

Training

Graham to operate AF training school. Aviation W 54:15 Ja 22 '51

Navy device teaches ejection bailout. il Aviation W 53:29-30 D 18 '50

New radar trainers for USAF. il diags Aviation W 54:57-9 Je 18 '51

USAF copter instrument course. Aviation W 54:27-8 Ja 22 '51

AWARDS. See Rewards, prizes, etc.

AXLES

See also

Automobiles—Axles

Car axles

Motor buses—Axles

Motor trucks—Axles

Manufacture

Advanced production methods in self-contained axle plant. J. Geschelin. il Automotive Ind 104:38-40+ Je 15 '51

How Lincoln-Mercury machines axle shafts. R. F. Paulson. il diags Iron Age 167:88-90 My 10 '51

Three million axle shafts induction hardened. S. L. Widrig and C. A. Payntor. il Iron Age 166:69-73 D 21 '50

AZABICYCLO compounds

Reductive cyclization; a general method for the synthesis of 1-azabicyclo compounds. N. J. Leonard and W. E. Goode. bibliog Am Chem Soc J 72:5404-7 D '50

Tris-(hydroxymethyl)-aminomethane derivatives; oxamides, ureas, oxazolidines and 1-aza-3,7-dioxabicyclo(3.3.0)octanes. J. S. Pierce and others. Am Chem Soc J 73:2595-6 Je '51

AZAINDOLE

Preparation of 5-methyl-1 : 4-diazaindene (5-methyl-4-azaindole) and its 2-methyl and 2-phenyl derivatives; some reactions of 2 : 5-dimethyl-1 : 4-diazaindene. J. C. Clayton and J. Kenyon. Chem Soc J p2952-7 N '50

AZEOTROPES

Azeotrope between paraffin hydrocarbons. G. Calingaert and M. Wojciechowski. bibliog Am Chem Soc J 72:5310-11 N '50

Azeotrope formation between sulfur compounds and hydrocarbons. D. H. Desty and F. A. Fidler. bibliog Ind & Eng Chem 43:905-10 Ap '51

Azeotropes of 2-ethoxyethanol with alkyl benzenes. W. F. Kieffer and C. E. Grabiel. bibliog Ind & Eng Chem 43:973-5 Ap '51

Azeotropic distillation apparatus. D. Raper. diags J Ap Chem 1:43-4 Ja '51

Azeotropism in binary solutions at reduced pressures; the nicotine-water system. R. T. Fowler. bibliog diag Soc Chem Ind J 69 (sup no 2):S65-9 '50

Effect of pressure in azeotropy. H. Skolnik. bibliog Ind & Eng Chem 43:172-6 Ja '51

Some azeotropes of bromine. W. M. Spicer and L. H. Meyer. Am Chem Soc J 73:934-8 Mr '51

Vapor-liquid equilibria in binary systems. N. Alpert, P. J. Elving and D. G. Flom. bibliog diag Ind & Eng Chem 43:1174-86 My '51

AZIDES

Amino-acids and peptides; synthesis of α- and γ-L'-glutamyl-peptides by the azide route. W. J. Le Quesne and G. T. Young. Chem Soc J p 1959-63 Jl '50

Reactions in the system azide-iodine-thiocyanate. P. Senise. bibliog J Phys & Colloid Chem 55:1151-70 O '51

See also

Aryl azides

Sulfonyl azides

AZINES

Absorption spectra of azines. H. H. Szmant and H. J. Planinsek. bibliog Am Chem Soc J 72:4981-6 N '50

Polyazines. C. S. Marvel and H. W. Hill, jr. Am Chem Soc J 72:4819-20 O '50

AZLACTONES

Concerning *trans*-acylation in azlactone synthesis. S. N. Timasheff and F. F. Nord. Am Chem Soc J 73:2390 My '51

AZOBENZENE

Cosolubilization in solutions of potassium laurate; effect of cosolubilized alcohols and hydrocarbons on the solubilization of several aromatic compounds in potassium laurate solutions. I. M. Kolthoff and W. F. Graydon. bibliog J Phys & Colloid Chem 55:699-712 My '51

Kinetics of aromatic halogen substitution; nitrobenzene and azobenzene. P. W. Robertson, T. R. Hitchings and G. M. Will. Chem Soc J p808-12 Mr '50

AZO compounds

1-Azo-bis-1-arylalkanes and their decomposition. S. G. Cohen, S. J. Groszos and D. B. Sparrow. bibliog Am Chem Soc J 72:3947-51 S '50

o-Mercapto-azo-compounds; the coupling of tetrazotised 2 : 2'-diaminodiphenyl disulphide with β-naphthol. A. Burawoy and C. Turner. Chem Soc J p469-77 F '50

Molecular compounds of aminoazo dyes and bile acids. G. Cilento. bibliog Am Chem Soc J 73:1355-7 Mr '51

New method for the preparation of azo dyes. E. Lieber and K. Parker. Am Chem Soc J 72:5779-81 D '50

Organolead compounds containing an azo linkage. H. Gilman and C. G. Stuckwisch. bibliog Am Chem Soc J 72:4553-5 O '50

Recent trends in the search for new azo dyes; azoic dyes. D. A. W. Adams. bibliog Soc Dyers & Col J 67:223-35 Je '51

Some azoproteins and their isoelectric points. R. L. McGeachin and B. D. Ashley. Am Chem Soc J 73:1366-7 Mr '51

Some diazoamino- and aminoazo-naphthalenes. H. H. Hodgson and J. Habeshaw. Chem Soc J p3436-7 D '49

See also

Diazotization

AZO compounds—*Continued*

Analysis

Talc as an adsorbent for sulfonated azo dyestuffs. R. M. Hanson and C. W. Gould. bibliog Anal Chem 23:670-3 Ap '51

AZOLE. See Pyrrole

AZOMETHINE. See Methylenimine

AZONITRILES

Azo-bis-nitriles; the preparation and decomposition of azo-nitriles; steric factors. C. G. Overberger and M. B. Berenbaum. Am Chem Soc J 73:2618-21 Je '51

AZOPYRIDINE

Indications of geometrical isomerism with 2 : 2′-azopyridine. R. J. W. Le Fèvre and C. V. Worth. Chem Soc J p 1814-17 Jl '51

AZOTOMETER. See Nitrometers

AZULENE

Aromatic hydrocarbons; the structure of azulene. E. Clar. Chem Soc J p 1823-6 Jl '50

Azulene; an improved synthesis. A. G. Anderson, jr. and J. A. Nelson. bibliog Am Chem Soc J 73:232-5 Ja '51

B

BCG vaccination. See Tuberculosis

BABASSU

Babassu palm industry in Brazil under study. Oil Paint & Drug Rep 160:5+ Ag 13 '51

BABASSU nuts

Babassú; Brazil's wonder nut. R. W. Pinto. il For Comm W 45:3-4 O 8 '51

BABASSU oil

Babassú; Brazil's wonder nut. R. W. Pinto. il For Comm W 45:3-4 O 8 '51

BABBITT metal

Centrifugal re-babbitting. il Diesel Power 29:56-7 F '51

Let's settle the babbitt battle! diags Power 95:140 My '51

Selection and casting of babbitts for engine and other bearings. R. V. Simpson. il Diesel Power 29:44-7 Jl '51

BABBITTING

He wants to know about bearings. H. B. McDermid. Power Eng 55:92-3 Ag '51

I.C.C. would prohibit face babbitt on main rod ends; investigation of accident on Pennsylvania-Reading seashore lines near Delair, N.J. July 20. Ry Age 131:74 S 17 '51

BABCOCK and Wilcox company

Five companies with big order backlogs; with comparative balance sheet items. Mag of Wall St 88:303 Je 16 '51

BABY foods. See Infants' food

BABY market. See Infants' supplies

BABY products. See Infants' supplies

BACHMANN Uxbridge worsted corporation

Stock offering oversubscribed. Comm & Fin Chr 173:1169 Mr 19 '51

BACILLUS coli

Adsorption of *E. coli* on river and estuarine silts. C. M. Weiss. bibliog Sewage & Ind Wastes 23:227-37 F '51

Alkalescens-dispar group. W. H. Ewing and others. bibliog Pub Health Rep 65:1474-80 N 10 '50

Comparison of enterococci and E. coli as indices of water pollution. W. E. Lattanzi and E. W. Mood. bibliog Sewage & Ind Wastes 23:1154-60 S '51

Contamination of vegetables grown in polluted soil. W. Rudolfs and others. bibliog plan Sewage & Ind Wastes 23:253-68, 739-51, 992-1000 Mr, Je, Ag '51

Disinfection of sewage with chlorine; laboratory experiments on the effect of chlorine dosage on residual coliform organisms. H. Heukelekian and M. B. Smith. bibliog Sewage & Ind Wastes 22:1509-17 D '50

Factors influencing bactericidal action of ultrasonic waves. M. P. Horwood and others. bibliog il Am Water Works Assn J 43:153-60 F '51

L-Histidinol, a precursor of L-histidine in escherichia coli. H. J. Vogel, B. D. Davis and E. S. Mingioli. Am Chem Soc J 73:1897-9 Ap '51

Membrane filter in sanitary bacteriology. H. F. Clark and others. bibliog il diag Pub Health Rep 66:951-77 Jl 27 '51

Prevalence of escherichia coli strains exhibiting genetic recombination. J. Lederberg. Science 114:68-9 Jl 20 '51

Purine and pyrimidine content of three strains of escherichia coli. A. Marshak. bibliog Science 113:181-2 F 16 '51

Relationship of acoustical energy to the lethal effects of ultrasonic vibrations on E. coli. J. P. Horton and M. P. Horwood. Science 113:693-5 Je 15 '51

Relative resistance of coliform organisms and enteric pathogens in the disinfection of water with chlorine. P. W. Kabler. bibliog Am Water Works Assn J 43:553-60 Jl '51

Spectral radiation involved in photoreactivation of ultraviolet-irradiated cultures of microorganisms. T. Knowles and A. H. Taylor. il Franklin Inst J 252:217-23 S '51

What a waterworks man should know about bacteriology. A. S. Richardson. bibliog il Munic Util 89:29-31+ Mr '51

BACITRACIN

Bacitracin; product of biochemical engineering. G. C. Inskeep and others. bibliog flow sheet il diags Ind & Eng Chem 43:1488-98 Jl '51

BACK

Miners with broken backs; rehabilitation of injured miners. W. Schweisheimer. Can Min J 72:71-2 Mr '51

BACKACHE

Herniated intervertebral disks; a time and cost analysis of 100 cases. R. H. Wilson. Ind Med 20:12-14 Ja '51

Low back symposium; the protruded lumbar intervertebral disk as a cause of backache. R. W. Forsythe and others. Ind Med 20:15-33 Ja '51

Obstetrical and gynecological aspects of backache. R. F. Lamar. Ind Med 20:19-20 Ja '51

Orthopedic aspects of backache. R. H. Kiene. Ind Med 20:17-19 Ja '51

Rest regime for the acute back strain. C. Leggo and H. Walker. Ind Med 20:30-3 Ja '51

Syllabus on industrial low back disability. J. S. Barr and H. C. Marble. Ind Med 20:21-9 Ja '51

That backache. Ind Med 19:518 N '50

Urologic aspects of backache. T. E. McMillan. Ind Med 20:16-17 Ja '51

BACKWARD regions

Economic advancement of underdeveloped areas. Y. Brozen. J Eng Educ 41:601-6 Je '51

Engineer looks at Point four; agricultural industrial service program of self help. C. D. Goderez. il Chem & Eng N 29:1928-32 My 14 '51

Incentives for economic development in Asia. A. Bonné. Ann Am Acad 276:12-19 Jl '51

Investment in underdeveloped areas no curb to communism. P. Einzig. Comm & Fin Chr 174:1172 S 27 '51

Poor countries. Economist 160:1277-8 Je 2 '51

Price system and national income and product. H. Oshima. bibliog R Econ & Stat 33:248-54 Ag '51

Private Point four in Morocco. H. Solow. il map Fortune 44:107-11+ S '51

BACON

Quick bacon cure; automatic machine injects pickle through 101 needles; Inject-O-Cure process. L. E. Malcom. il Food Eng 23:60-2 My '51

Vacuum bag it, for better quality; Armour's sliced bacon packages. E. S. Stateler. il Food Ind 22:2045-6 D '50

Window with a shade; Hormel's sliced-bacon package. il Mod Packaging 24:66-7+ Jl '51

BACTERIA

Bacteria serve as catalysts in forming hydrocarbons; abstract. C. E. ZoBell. Oil & Gas J 50:56 Je 14 '51

Bacterial oxidation of tryptophan; a study in comparative biochemistry. R. Y. Stanier and O. Hayaishi. bibliog Science 114:326-30 S 28 '51

Cytology in relation to the evolution and classification of bacteria; abstract and discussion. K. A. Bisset. Chem & Ind p 189-90 Mr 10 '51

BACTERIA—*Continued*

Cytology of the filamentous bacteria; abstract. E. O. Morris. Chem & Ind p 188-9 Mr 10 '51

Evidence for the occurrence of true mitosis in bacteria; abstract. E. D. DeLamater. Science 113:477 Ap 27 '51

Flagella; behave like tiny muscles. W. T. Astbury. il Sci Am 184:20-4 Ja '51

High rate anaerobic digestion of meat packing wastes. W. J. Fullen and L. W. Murphy. il diag Pub Works 82:44-6 Jl '51

Induced and other variations in bacterial cultures; reactions of bact. lactis aerogenes to ultraviolet light and other mutagenic agents. A. C. R. Dean and C. Hinshelwood. Chem Soc J p 1157-77 My '51

Revival by light; resuscitates microorganisms apparently killed by ultraviolet. A. Kelner. il Sci Am 184:22-5 My '51

Some considerations on autosynthesis in bacteria. P. C. Caldwell and C. Hinshelwood. Chem Soc J p3156-9 N '50

Structure of bacillus spores; abstract. C. F. Robinow. Chem & Ind p 188 Mr 10 '51

Studies with radioactive penicillin. S. Rowlands, D. Rowley and E. L. Smith. Chem Soc J supp no 2:S405-7 '49

Uptake of alkali metals by bacteria. T. C. N. Carroll and others. Chem Soc J p946-9 Mr '50

See also

Acetobacter
Air—Bacteriology
Bacillus coli
Bacteriology
Chromobacterium
Clostridium butyricum
Fermentation
Lactic acid bacteria
Lactobacillus bulgaricus
Propionibacterium
Proteus
Sulfur bacteria
Viruses
Water—Bacteriology

Resistance

Attempt to show diffusion of essential growth factors from an induced penicillin-resistant culture to the parent penicillin-sensitive strain. J. L. Stone. bibliog il Science 113:493-4 Ap 27 '51

BACTERIA, Pathogenic

Contamination of vegetables grown in polluted soil. W. Rudolfs and others. bibliog plan Sewage & Ind Wastes 23:253-68, 992-1000 Mr, Ag '51

Relative resistance of coliform organisms and enteric pathogens in the disinfection of water with chlorine. P. W. Kabler. bibliog Am Water Works Assn J 43:553-60 Jl '51

See also

Pneumococci
Salmonella
Streptococci
Tubercle bacilli

BACTERICIDES. See Disinfection and disinfectants

BACTERIOLOGICAL apparatus

Description of the Chemostat. A. Novick and L. Szilard. diag Science 112:715-16 D 15 '50

Membrane filter in sanitary bacteriology. H. F. Clark and others. bibliog il diag Pub Health Rep 66:951-77 Jl 27 '51

Micro ball mill for the disintegration of bacteria. C.-G. Heden. diags Science 113:181 F 16 '51

Study of grinding techniques for bacterial cells. W. B. Dockstader and H. O. Halvorson. Science 112:618-20 N 24 '50

BACTERIOLOGISTS, Society of American. See Society of American bacteriologists

BACTERIOLOGY

Period of outstanding progress seen ahead for bacteriologists. Chem & Eng N 29:2374+ Je 11 '51

See also

Air—Bacteriology
Antigens and antibodies
Antiseptics
Bacteria
Dairy bacteriology
Disinfection and disinfectants
Fermentation
Food—Bacteriology
Sewage—Bacteriology
Viruses
Water—Bacteriology

Culture mediums

Existence of hyaluronidase substrate factors in microbiological culture media. G. H. Warren and J. G. Durso. Science 113:359 Mr 30 '51

Medium for assay of vitamins with lactic acid bacteria. L. M. Flynn and others. bibliog Anal Chem 23:180-5 Ja '51

Medium for the study of the bacterial oxidation of ferrous iron. W. W. Leathen and others. Science 114:280-1 S 14 '51

Modification of the Winter and Sandholzer media and technique for enterococci detection. W. Lou Wang and S. G. Dunlop. bibliog Pub Health Rep 66:1212-18 S 21 '51

Studies to formulate new media for the standard plate count of dairy products. L. Buchbinder and others. Pub Health Rep 66:327-40 Mr 16 '51

Yolk sac technique for the routine isolation of brucella; injection of clotted blood specimens into embryonating eggs with recovery of all three species. K. Gay and S. R. Damon. bibliog diag Pub Health Rep 66:1204-11 S 21 '51

Laboratory methods

Detection of internally-borne bacterial pathogens of beans by a rapid phage-plaque count technique. H. Katznelson. bibliog Science 112:645-7 D 1 '50

Differentiation of bacterial species and variation within species by means of 2,3,5-triphenyltetrazolium chloride in culture medium. I. F. Huddleson and B. Baltzer. Science 112:651-2 D 1 '50

Liquid nitrogen as a tool for obtaining homogeneous bacterial suspensions. M. Usdin and J. M. Birkeland. Science 113:745 Je 29 '51

Technique

Membrane filter in sanitary bacteriology. H. F. Clark and others. bibliog il diag Pub Health Rep 66:951-77 Jl 27 '51

BACTERIOPHAGE

Detection of internally-borne bacterial pathogens of beans by a rapid phage-plaque count technique. H. Katznelson. bibliog Science 112:645-7 D 1 '50

BACTERIOSTASIS

Chemical constitution and surface-active properties; 2-alkylpyridines and 2-alkyl-1-methylpyridinium iodides. M. J. Birchenough. Chem Soc J p 1263-6 My '51

BACTERIUM lactis aerogenes. See Aerobacter

BAD debts. See Collecting of accounts

BADGERS

Component acids and glycerides of a badger fat. S. Gupta, T. P. Hilditch and M. L. Meara. Chem Soc J p3145-51 N '50

BAG filling machines

Potato chips; Blue Star uses glassine bags, semi-automatic packaging equipment. il Mod Packaging 24:110-13+ Ja '51

BAGASSE

Aljian, Atchison and Lathrop team with Hawaiian sugar industry to study utilization of bagasse. Paper Tr J 133:172-4 S 7 '51; Same cond. Pulp & Pa of Can 52:102 S '51

In Peru, sugar cane evolves into paper. il Bsns W p 164-6 My 12 '51

New bagasse test makes good newsprint. Ed & Pub 84:15 Ag 25 '51; Same abr. Paper Tr J 133:20 Ag 24 '51

Restyling byproducts will add new income; greater utilization of bagasse and blackstrap by newly developed method. il diags Food Eng 23:144-5 Ag '51

Sugar waste; more uses. il Bsns W p 110-12 F 17 '51

Utilisation of bagasse for wrapping and bag paper manufacture; abstract. M. P. Bhangava and others. Pulp & Pa of Can (Convention no) 52:248 [F] '51

BAGS

Pouches, joint army and navy packaging. L. M. Burgess. Tappi 34:sup 109A-11A Ap '51

See also

Paper bags

BAGS, Paper. See Paper bags

BAHAMA ISLANDS

See also

Agriculture—Bahama Islands

BAIKIAEA plurijuga

Chemistry of extractives from hardwoods; baikiain, an amino-acid present in baikiaea plurijuga. F. E. King, T. J. King and A. J. Warwick. Chem Soc J p3590-7 D '50

BAILEES' customers insurance. See Insurance, Bailees' customers

BAILEY, Ervin George
E. G. Bailey receives 1952 John Fritz medal. Elec Eng 70:942 O '51

BAILEY, James
Hyatt award for 1950 for research in extrusion of thermoplastics. por Mod Plastics 28:78 Jl '51

BAILEY bridges. See Bridges, Prefabricated

BAILLIE, Hugh, 1890-
Baillie alerts staff for "long disturbance." J. Walker. por Ed & Pub 83:7 D 30 '50

BAILMENT
Limitations of liability clause in storage receipt of a customer. H. S. Daynard. East Underw 52:34 Ap 13 '51

BAIN, Frederick William, 1889-1950
Sketch. por Chem & Ind p793-4 D 9 '50

BAINES, H. 1901-
Portrait. Chem & Ind p502 Je 30 '51

BAKELITE
Bakelite heating costs lowered with radiant glass panels. il Elec World 135:114 Je 4 '51
Holes molded to close tolerances; bakelite control panel for IBM electric accounting machine. W. M. Hoyt, jr. and F. R. Estabrook, jr. il Mod Plastics 28:66 F '51

BAKER, Melvin Houston, 1886-
In construction; National Gypsum. por Fortune 42:94-6+ D '50

BAKER, Walter Ransom Gail, 1892-
Sketch. por Inst Radio Eng Proc 38:1378 D '50

BAKER, William Albert
Memorial fund awards. Chem Age (Lond) 64:789 My 19 '51

BAKER, William Reginald, 1898-
Portrait. Fortune 44:130 O '51

BAKER library. See Harvard university—Graduate school of business administration—Library

BAKER-VENKATARAMAN transformation
Further experiments on the mechanism of the Baker-Venkataraman transformation. J. E. Gowan and T. S. Wheeler. Chem Soc J p 1925-8 Jl '50

BAKERS and bakeries
Advanced air conditioning boosts bakery output. N. Feder. il plan diag Food Eng 23:109-10+ S '51
Assembly-line plant for baking bread; Taystee baking co., Beaumont, Tex. il plan Arch Rec 110:140-1 Jl '51
Busier bakers? F. Henle. Barron's 30:7-8 D 4 '50
Butter for bakers; new emulsified product. Bsns W p 110+ Mr 17 '51
Engineering pegs popular price; new streamlined process economizes mass output of fried pies. G. W. Massey. il plan Food Eng 23:86-7+ S '51
Five contractors take over defense jobs; National Biscuit bakery. il Dom Eng 177:108+ Je '51
Scrapbook of exhaust hood design; control of flour dust in bakeries. J. M. Kane. il Heat & Ven 48:86-7 Ja '51
Single bright idea sells 11,000,000 packages of TobyJell; sold with Brown 'N Serve bakery rolls. E. Gidlow. il Sales Management 67:37-9 S 15 '51
Trends bring shifts in baking ingredients. A. B. Paul. il Food Ind 23:94-5 F '51
Two aids for bakers; Dugan's model boat cut-outs on cake cartons and polyethylene bags for rolls boost sales. il Mod Packaging 24:91 N '50
What one man's ideas did for the bread industry. W. Norris. Am Bsns 20:12-13+ O '50

Advertising

Nabisco's formula; every ad supported at the point of sale. M. Beulck. il Ptr Ink 234:29-31 Mr 30 '51

Electric equipment

Baker cites electric oven benefits. J. M. Bemis. il Food Ind 23:124 F '51
Coordinated drives increase production in modern bakery. il Elec World 134:118 D 18 '50
Flexible d.c. electronic drives. G. C. Dodson. il diags Food Eng 23:97-102+ My '51
Standard biscuits; electronic coordination of driven equipment at the Farm Crest bakeries. il Electronics 23:120 N '50

Employees

Baking industry; union scales, July 1, 1950. A. Y. Sherier. Mo Labor R 72:171-3 F '51; Same, with additional tables. U S Bur Labor Statistics Bul 1014:1-33; pa 25c Supt. of doc. '51

Equipment

Bakers' aid. il Mod Plastics 28:144 My '51
Cracker-filling achievement; new system of weighing; Megowen-Educator food co. il diag Mod Packaging 24:140-3 Ap '51
If it's volume you want; continuous straight-line production of Halter's pretzels. J. L. Dooley. il Food Eng 23:56-7+ Jl '51
Mechanized bread making; advanced equipment on high-speed lines improves control, raises quality; pictured flow sheet. Food Eng 23:102-5 Jl '51
Non-wicking bakery tray; high-speed mechanical handling on cookie lines at Farm Crest. flow chart il Mod Packaging 24:76-8 Mr '51
Quality doughnuts at 700 doz. an hour. Z. Block. il Food Ind 23:55-7+ Ja '51
Robotizing bakery operations. L. E. Slater. il diags Food Eng 23:73-9 Ag '51
'Scope conveyor solves tough problem; delivers goods direct from trucks on street to subway retail bakery. il diag Food Ind 22:2052+ D '50
Wagner's low cost packaging brings back five cent pies. D. Copell. il Food Ind 22:1883-4+ N '50
Weigher-stacker speeds matzoth line. il diags Food Eng 23:94-5+ Je '51

See also
Dough mixers

Safety measures

Aim for sustained safety; National biscuit co. H. T. Eggert. il Safety Maint & Prod 101:54+ Je '51
Labor's attitude toward safety codes. J. G. Cross. il Standardization 21:287+ N '50

BAKING
What pans out in baking. I. A. McGovern. Am Gas Assn Proc 1950:257-9
World's largest baking contest is an all-gas promotion. il Gas Age 107:38-9 My 10 '51

See also
Bakers and bakeries
Bread
Cake
Pretzels
Shortening
Yeasts

BAL
Biochemistry and sulphur; abstract. R. A. Peters. Chem Age (Lond) 64:783-4 My 19 '51
Dithiols; a thio-analogue of Bal-intrav. L. W. C. Miles and L. N. Owen. Chem Soc J p2943-6 N '50
Dithiols; ethers of 2 : 3-dimercaptopropanol with mannitol and sorbitol. P. Bladon and L. N. Owen. Chem Soc J p591-7 F '50
Dithiols; syntheses with the *iso*propylidene and benzylidene derivatives of 2 : 3-dimercaptopropanol. L. W. C. Miles and L. N. Owen. Chem Soc J p2938-43 N '50

BALANCE of payments
Balance of international payments, third quarter of 1950. Survey of Cur Bsns 30:5-10 D '50
Balance of international payments, fourth quarter of 1950; with tabulations. W. Lederer. Survey of Cur Bsns 31:6-11+ Mr '51
Balance of international payments, first quarter of 1951; with tables by area, 1948-1950. W. Lederer. Survey of Cur Bsns 31:15-23 Je '51
Balance of international payments, second quarter of 1951; with tables. Survey of Cur Bsns 31:9-12+ S '51
Britain's economic survey for 1951; the balance of payments. Economist 160:810-11 Ap 7 '51
Britain's prewar liabilities and reserves; with table, 1931-1951. Economist 161:653 S 15 '51
Foreign aid with and without dollar shortage. H. Mendershausen. R Econ & Stat 33:38-48 F '51
Foreign trade pattern changing. Nat City Bank p 101-3 S '51
Gold snowball; rise in sterling area's dollar reserve in last quarter of 1950. Economist 160:91-2 Ja 13 '51
International movement of gold and dollars in 1950. Fed Res Bul 37:253-62 Mr '51

BALANCE of payments—*Continued*

Is the dollar shortage over? with US balance of payments figures, April-June quarters, 1947-1950. Economist 159:1031+ D 9 '50
Recent balance of payments developments; with tabulation of payments of the U.S. Oct. 1948-Sept. 1950. R. L. Sammons. For Comm W 42:5-6+ Ja 22 '51
Recovery in foreign dollar earnings and reserves. Nat City Bank p 139-41 D '50
Re-enter, Britain's dollar gap. P. Einzig. Comm & Fin Chr 174:252 Jl 19 '51
Return to deficit; United Kingdom's balance of payments. Economist 161:170-2 Jl 21 '51
Reversal in gold movements. V. L. Horoth. Mag of Wall St 88:658-9+ S 22 '51
Rising sterling balances; with tabulation of UK sterling liabilities, 1945-1950. Economist 160:886 Ap 14 '51
Shifting dollar position. Nat City Bank p 114-17 O '50
South Africa's reserves and imports. Economist 161:239 Jl 28 '51
Sterling area and defence. Economist 160:32-4 Ja 6 '51
Tackling the sterling balances. Economist 159:1020 D 9 '50
Trends in international trade and payments. Fed Res Bul 37:363-76 Ap '51
U.S. strikes a new trade balance. Bsns W p 101-2+ D 9 '50

BALANCE sheets

Balance sheet. Dom Eng 177:92-3 Je '51
How to audit capital and reserves; these six steps will lead to a careful job. A. O. Champlin. J Account 92:342 S '51

BALANCES

Chemical balance. G. F. Hodsman. il Chem Age (Lond) 65:423-7 S 29 '51
Electronic recording analytical balance. I. W. Lohmann. il diags R Sci Instr 21:999-1002 D '50
Improved five-mg. rider for Ainsworth microchemical balances. L. E. Brown. diag Anal Chem 23:388 F '51
Isothermal balance chamber. W. S. Castor, jr. and F. Basolo. il J Chem Educ 28:380-1 Jl '51
Magnetic anisotropy of α-$NiSO_4 \cdot 6H_2O$ between 13 and 295° K; a torsion balance for magnetic anisotropy measurements. J. W. Stout and M. Griffel. bibliog diag J Chem Phys 18:1449-54 N '50
Magnetically compensated vapor density balance. E. W. Johnson and L. K. Nash. bibliog diags R Sci Instr 22:240-4 Ap '51
Magnetically controlled quartz fiber microbalance. F. C. Edwards and R. R. Baldwin. bibliog diags Anal Chem 23:357-61 F '51
Magnetochemistry of the heaviest elements; a sensitive magnetic susceptibility balance for small samples. J. K. Dawson and M. W. Lister. diags Chem Soc J p2177-81 Ag '50
New aperiodic balance. diag Chem Age (Lond) 65:197 Ag 11 '51
Proportional balance for routine analysis; proportion of paper to tobacco in cigarettes. C. F. M. Fryd. il diags Chem & Ind p362-3 My 12 '51
Simple vibration-suppressing support for balances. C. G. McIlwraith. diags Anal Chem 23:688 Ap '51
Thermobalance; tool for weighing at high temperatures; abstract. C. Duval. Chem & Eng N 29:3946-7 S 24 '51
Use of the quartz ultramicrobalance in radiochemistry; abstract. J. K. Dawson. Chem Age (Lond) 64:381 Mr 10 '51
Wind tunnel balance. il Automotive Ind 103: 60 D 15 '50

See also
Thermobalance

BALANCING machines

Car wheels dynamically balanced at Burnside shops. il Ry Mech & Elec Eng 125:54-5 Ja '51
Electrical dynamic balancing machine for alternator rotors. il diag Engineering 171: 138-9 F 2 '51
Electronic wheel balancer. il Automotive Ind 103:62+ N 15 '50
German balancing machines measure by electro-mechanical means. il Am Mach 95: 156 Je 25 '51
Simplified balancing machine. R. K. Bernhard. bibliog il diags Machine Design 23: 133-6 S '51
Snyder connecting rod balancing machine. il Automotive Ind 104:54 Ja 1 '51

BALANCING of machinery

Accurate spring counterbalancing. W. S. Rouverol. diags A S M E Trans 73:141-4 F '51; Excerpt. Machine Design 22:166-7 N '50; Discussion. A S M E Trans 73:144-5 F '51
Automatic dynamic balancers; self-balancing centrifuges, applied to automatic home-laundry machines. E. L. Thearle. diags Machine Design 22:119-24 S; 103-6+ O; 149-53 N '50
Automatic precision balancing. H. Ernst. il diags Machine Design 23:107-14 Ja '51
Correcting thermal unbalance in electric rotors. W. F. King. il diags Power 94:84-6+ N '50
It's time to counterbalance beam-pumping units. D. O. Johnson. bibliog diags Oil & Gas J 49:78-9+ Ap 12 '51; Same. Pet Eng (Ref annual) 23:B48+ Jl 15 '51
Modern practice in the balancing of large turbine-generator rotors; abstracts. C. M. Laffoon and others. il Elec Eng 70:436 My '51; Power 95:154+ My '51
Special scale aids piston rod balancing. il Iron Age 167:115-16 F 1 '51

Study and teaching

Balancing school; Gisholt machine co. G. Hubbard. Steel 128:83 Mr 5 '51

BALATA

Raw materials for electric cable making; gutta-percha and related products. V. H. Wentworth. il Electrician 146:463-5 F 9 '51

BALCONIES

Boston builds balconies; Eastgate apartments, Cambridge, Mass. il plans diags Arch Forum 94:114-21 My '51

BALDWIN-LIMA-HAMILTON corporation

Diversification; Baldwin-Lima adds road machinery. Bsns W p54 D 23 '50
Securities disturbing investors. R. Colston. Mag of Wall St 88:362-3 Je 30 '51

BALING presses

Hydraulic baling machine. il Engineer 191: 264 F 23 '51
New scrap baler. B. Taylor. Iron Age 168:126 S 6 '51
Press bales carload of scrap per shift at the Erie, Pa. works of General electric co. il Comp Air Mag 56:208 Ag '51
Scrap metal baling press. il Engineer 191: 159 F 2 '51

BALKAN states

Power both sides of the line; east and west blocs. map Bsns W p 153-4 My 5 '51

BALL mills

Abrasion of nine minerals of sand size in ball mills. H. L. Alling. bibliog Am J Sci 249:569-90 Ag '51
Approximation of the energy efficiencies of commercial ball mills by the energy balance method. A. K. Schellinger and R. D. Lalkaka. Min Eng 3:Trans 523-4 Je '51
Ball mill is effectively guarded. il Nat Safety N 62:30 D '50
Compartment mill performance; tr. by B. M. Pearson. W. Anselm. diag Rock Prod 54: 106-7 Mr '51
Cotton powder for infrared transmission measurements. F. H. Forziati and others. bibliog il J Res Nat Bur Stand 45:109-13 Ag '50
Effect of mill speeds on grinding costs. H. Hardinge and R. C. Ferguson. Min Eng 187:Trans 1127-30; Discussion. 1149-50 N '50
Get the best from a ball mill. O. H. Garlick. diags Cer Ind 55:59+ N '50
How to choose the drive for your grinding mill. E. J. Klovers. il diags Eng & Min J 152:80-2 S '51
Micro ball mill for the disintegration of bacteria. C.-G. Heden. diags Science 113:181 F 16 '51
New type of grinding mill. A. W. Fahrenwald. il diag Rock Prod 54:93-7 F '51
Probability theory of wet ball milling and its application. E. J. Roberts. bibliog diag Min Eng 187:Trans 1267-72 D '50; Discussion. 3:Trans 988-90 N '51

BALL mills—*Continued*

Progress report on grinding at Tennessee copper co. J. F. Myers and F. M. Lewis. il diags Min Eng 187:Trans 1133-6 N '50; Discussion. 3:Trans 990-1 N '51

Tricone ball mill for grinding and pulverizing. diag Blast F & Steel Pl 38:1468 D '50

Vibratory ball mill, developed at the National bureau of standards; rapidly and completely grinds cotton. il Mech Eng 72:903 N '50; Product Eng 21:163 N '50; Cer Ind 55:62 N '50; Franklin Inst J 250:553-4 D '50; Machine Design 22:121 D '50; Chem Eng 57:108 D '50

BALL point pens. See Fountain pens

BALLAST

Ballast tank gages in engine room facilitate trimming of ore carriers. il diag Marine Eng 55:59 D '50

BALLISTIC photography. See Photography of projectiles

BALLISTICS

Accuracy of the long-range ballistic rocket. W. E. Frye. bibliog J Ap Phys 22:585-9 My '51

Astroballistic heat transfer. R. N. Thomas and F. L. Whipple. J Aeronautical Sci 18:636-7 S '51

Perturbation calculus in missile ballistics. R. Drenick. diag Franklin Inst J 251:423-36 Ap '51

BALLOON fabrics

Investigation of fabric structure and its relation to certain physical properties; combination fabrics. G. H. Hotte. bibliog Textile Res J 20:811-28 D '50

BALLOONS

Soundings above Niagara falls obtained by helicopter and Kytoons. F. P. Bane. il map Civil Eng 21:529-32 S '51

BALLOONS, Meteorological

Flying saucers; said to be plastic balloons sent up by Office of naval research. Aviation W 54:13 F 19 '51

Saucers, secrecy and security; editorial. R. H. Wood. Aviation W 54:50 F 19 '51; Discussion. T. A. Solberg. 54:82; Reply. 82 Mr 26 '51

BALLROOMS

Lighting

Lighting a small auditorium-ballroom. R. H. Hiller. il plan Illum Eng 45:695-6 N '50

BALLS

See also

Tennis balls

Advertising

It's mom who buys footballs and other play balls for the kids. Sales Management 66:112+ F 15 '51

BALLS, Nylon

Seamless nylon balls have close tolerances. il Product Eng 22:234 My '51

BALSAM fir

Pathological deterioration of balsam fir killed by the spruce budworm. J. T. Basham. bibliog il Pulp & Pa of Can 52:120-2+ Ag '51

BALSAM of Peru

Balsam of Peru exported from Nicaragua, 1940-49; table. For Comm W 44:18 Ag 20 '51

BALTIMORE

Port of Baltimore commission to be named as city council okays new plan. Eng N 147:55-6 Jl 19 '51

Harbor

Control of pollution in the port of Baltimore; abstract. T. D. Conn. Mech Eng 73:588-9 Jl '51

Ore-unloading dock at Baltimore. il Marine Eng 56:52-5 Jl '51

Water supply

Full circle, continuous concreting preserves tunnel's rock bore; Patapsco River water-supply project. il diag Eng N 146:32-4 Ja 4 '51

Overflow-type dam diverts water to city. il diags Eng N 146:38-40 Mr 1 '51

BALTIMORE and Ohio railroad

Annual report. Comm & Fin Chr 173:1269-70 Mr 26 '51

Baltimore & Ohio is rapidly reducing debt and improving physical plant; with financial data 1941-50. J. B. Skalka. Barron's 31:9-10 My 14 '51

Railroad securities. Comm & Fin Chr 172:2099, 2343; 173:2582 N 30, D 14 '50; Je 21 '51

BAMBOO

Dissolving pulp from bamboo. M. H. Joglekar and C. P. Donofrio. bibliog Tappi 34:254-61 Je '51

Some preliminary investigations in the use of bamboo for reinforcing concrete; abstract. S. R. Mehra and others. Am Concrete Inst J 22:853 Je '51

BANANAS

Preserving bananas with sugar plus heat saves on refrigeration and shipping; patent. Food Ind 23:125 Ja '51

BAND instruments. See Wind instruments

BAND shells. See Orchestra shells

BAND spectra. See Spectrum—Band spectra

BANDAGES and bandaging

Band-Aid adhesive bandages; nominated for packaging's Hall of fame. il Mod Packaging 24:80-5+, cover Mr '51

BANGHAM, Donald Hugh, d. 1950

Sketch. D. T. A. Townend. Chem & Ind p775 D 2 '50

BANK accounting

Accrual accounting in audit control. M. Corns. Bankers Mo 68:16+ F '51

Bookkeeper rating plan. Burroughs Clearing House 35:24-5 O '50

New, working manual on banking costs. C. H. Lichtfeldt. il Burroughs Clearing House 35:34-6+ Ap '51

We post everything at one run and return deposit slips with checks; use of microfilm. J. F. White. Bankers Mo 67:20+ N '50

See also

Bank auditing
Bank auditors
Trust companies—
  Accounting

BANK advertising

Bank advertising expenditures will go up in 1951; data from A.B.A. survey. Banking 43:115 F '51

Bank advertising, plus or minus in public relations. L. E. Townsend. Trusts & Estates 89:716-17 O '50

Bankers wear tweeds in Bureau's ad plan. Ed & Pub 83:14 D 23 '50

Banking's forum in print; selections from today's bank advertising. il Banking 43:33-44 Mr '51

Canadian banks use folders to advertise opening of new branches. J. Montagnes. il Burroughs Clearing House 35:57-8 S '51

Court holds that New York cannot prohibit national banks from advertising that they accept savings accounts. Banking 44:76+ Jl '51

Friendly bank ad copy brings in new customers. R. B. McIntyre. il Ed & Pub 84:14+ Mr 10 '51

Letters for bank promotion; survey of the numerous types used. R. D. Hay. Banking 43:46 Ja '51

Ohio bank finds black light poster really gets attention. il Bankers Mo 47:45-6 O '50

Savings bank advertising in 1951. Banking. 44:109 Jl '51

So you're thinking about television. G. J. Watts, jr.; R. M. Thomason. il Banking 43:33-8 O '50

Something special in checking account promotion; Northwestern national bank of Minneapolis. H. V. Odle. il Burroughs Clearing House 35:32-3+ Je '51

Trade characters are star salesmen for savings deposit accounts. il Sales Management 67:46 Ag 15 '51

Triple value savings ad campaign; First national bank, Spokane, Wash. J. F. Cornelius. il Banking 44:93+ S '51

Wooing women; the Canadian bank of commerce promotional campaign. J. Montagnes. il Burroughs Clearing House 35:79 F '51

See also

Trust companies—
  Advertising

BANK auditing

Why audit a trust department? R. C. Masters. Trusts & Estates 90:374-5 Je '51

BANK auditors

New survey gathers concrete information on duties of bank auditors and comptrollers. J Account 91:586-9 Ap '51

BANK auditors and comptrollers, National association of. See National association of bank auditors and comptrollers

BANK buildings

Auto banking comes to Columbus; City national bank and trust co. C. W. McCoy. il Bankers Mo 68:7-10 Jl; 14+ Ag '51

Bank's new home in an 18th century house; Guilford savings bank, Conn. il Banking 44:14-15 Jl '51

Building for the future. J. J. McCann. il Banking 43:48+ Ap '51

Customers on wheels. il Burroughs Clearing House 35:18-20 F '51

Dollar value of color for interiors of banks. F. Birren. il Banking 43:14 D '50

Drive-in bank comes to town; Merchants national trust company, Syracuse, N.Y. D. Wolin. il Bankers Mo 67:34+ N '50

Enter the consulting contractor; he expedited construction and helped keep costs down; First national building, Tulsa, Okla. il plans Eng N 145:42-4 O 26 '50

Friendliness in action; Sylvania savings bank branch building. C. E. Baty. il Bankers Mo 47:24-5 O '50

Informality builds bank volume; Peoples bank, Canton, Ohio. il Am Bsns 21:28+ Ag '51

Latest look in financial quarters. H. V. Odle. il Burroughs Clearing House 35:32-6+ O '50

New bank homes; illustrations with text. Banking 43:116-19 My '51

New decorating aid cuts maintenance costs; plastic-coated wall covering for Central national bank, Chicago. A. J. Vogel. il Burroughs Clearing House 35:30-1+ N '50

Personal banking; special services counter, Personal banking division, Chicago national bank. il Burroughs Clearing House 35:11-12, cover Je '51

Skyscraper bank; Tulsa's First national bank & trust co. il plans diags Arch Forum 94:104-9 Ap '51

Small bank has big ideas; Merchants national bank, Quakertown, Pa. J. Ranson. il Am Bsns 21:28+ My '51

They speak of it in capitals; employees' lounge in First Wisconsin national bank building, Milwaukee. J. E. Hubel. il Bankers Mo 68:43-4 F '51

Three new banks; People's savings bank, Providence; Continental bank & trust co., Salt Lake City; Broadway savings bank, New York city. il plans Arch Rec 109:123-9 Ap '51

Fires and fire protection

Fire's aftermath. il Burroughs Clearing House 35:14 Jl '51

Lighting

Better lighting ups employee efficiency, improves morale. il Elec World 135:84 Ja 1 '51

Good lighting is good business. R. H. Braithwaite. il Bankers Mo 68:34+ Je '51

Let there be light; main office quarters of Central national bank of Cleveland. R. C. Huelsman. il Bankers Mo 68:68+ S '51

Lighting a branch banking office. il plan diag Illum Eng 46:197-8 Ap '51

Lighting integrated into architecture; New Haven, Conn. bank, the First federal savings and loan association. F. M. Hill. il Elec World 134:126 N 6 '50

Relighting the Denver national bank. il Elec West 107:66-7 Jl '51

Tellers' cages

Curb tellers, elevator style; First national bank of Lubbock, Tex. Banking 44:44 Ag '51

BANK checks. See Checks

BANK clearings

Course of bank clearings. Published in weekly Monday numbers of Commercial and financial chronicle

Record bank clearings in 1950. Economist 160:42-3 Ja 6 '51

BANK comptrollers

New survey gathers concrete information on duties of bank auditors and comptrollers. J Account 91:586-9 Ap '51

BANK consolidations

Bank deal folds; Chase National's bid for Bank of Manhattan. Bsns W p24 Ag 25 '51

Fewer and bigger; Bankers Trust to acquire Flushing National; other mergers. Bsns W p 110-11 D 16 '50

More bank mergers. R. M. Bleiberg. Barron's 30:5 O 16 '50

BANK credit. See Credit, Bank

BANK defalcation. See Embezzlement

BANK deposits

Deposits in two names; Young v. McCoy. Banking 43:78 D '50

Ownership of demand deposits as of Jan. 31, 1951. C. Fox. Fed Res Bul 37:505-7 My '51

See also

Banks and banking—
Guaranty of deposits

Savings deposits

Interest

No privacy in the socialist state; Britain's government wants banks to report all interest payments. F. B. Makin. Banking 44:74 Jl '51

See also

Savings deposits—
Interest

Records

Check-style deposit tickets. Banking 44:40+ Jl; 46 Ag '51; Bankers Mo 68:36 Jl '51

Customers are taught to complete their deposit tickets. J. P. Huston. il Bankers Mo 67:30 N '50

Statistics

Deposits at all-time peak; with tabulation showing comparative ranking of 100 largest commercial banks in the United States, based on deposits as of Dec. 30, 1950. Burroughs Clearing House 35:6-7 Mr '51

Good first-half; with table of deposit trends of 25 largest commercial banks. Burroughs Clearing House 35:3-4 Ag '51

Year end comparative deposits, 15 largest banks, 1949 and 1950; tabulation. Burroughs Clearing House 35:3 F '51

BANK deposits, Unclaimed

Unclaimed deposits in Massachusetts. Banking 43:111 Ja '51

BANK directors

See also

Federal reserve
banks—Directors

BANK employees

A.B.A. studies manpower. A. S. Greiner. Trusts & Estates 90:312 My '51

Bank employees' fringe benefits, Bank of Kennett, Kennett, Mo. gives each employee annual statement. Banking 44:39 Jl '51

Bank salary disputes. Economist 160:40-1 Ja 6 '51

Bookkeeper rating plan. Burroughs Clearing House 35:24-5 O '50

Employee attitude survey; value of opinion research in bank field. H. J. Morris, jr. Trusts & Estates 89:845-7 D '50

Employee manuals. Burroughs Clearing House 35:24-5 My '51

Fit the pay to the job; analysis of ABA program for smaller banks. Banking 43:52-4+ O '50

Highlights from the A.B.A. manpower conference, Chicago, April 26-27. Burroughs Clearing House 35:32-5 My '51; Banking 43:96-8+ Je '51

How a salary plan operates; Security bank & trust company of Madison, S.D. W. M. Willy. Banking 43:56 D '50

How old is a retired banker? A. W. Ballentine. Banking 43:38 D '50

Informing employees; from Royal bank of Canada Monthly letter. Banking 44:42-3 S '51

Making an area salary survey. L. M. Schwartz. Banking 43:37+ My '51

Manpower problem. J. S. Brown. Banking 43:38-9+ Ap '51

Partnership in time; IBM consecutive spacing time recorder. il Bankers Mo 68:50-1 F '51

Personnel headache; interview with W. Powers. Burroughs Clearing House 35:11-13 F '51

Predicting success in routine bank work; use of employment tests. E. N. Hay. Banking 43:41+ Je '51

Some thoughts on personnel management. J. F. Morris. Bankers Mo 68:22+ F '51

Taking some of the guess out of merit rating. W. B. Hall. il Burroughs Clearing House 35:32-4+ F '51

BANK employees—*Continued*

They are the bank; program of employee relations of Manufacturers trust company of New York. J. L. Cooley. il Banking 43:43+ F '51

They speak of it in capitals; employees' lounge in First Wisconsin national bank building, Milwaukee. J. E. Hubel. il Bankers Mo 68:43-4 F '51

Three-step salary program for bank employees. A. J. Hood. Trusts & Estates 90:263-4 Ap '51

Tuition refund plans. Burroughs Clearing House 35:20-2 Ag '51

Union and bank slug it out; FEG and Cleveland Trust. il Bsns W p36-7 Je 9 '51

Wages and salaries; effects of Wage stabilization Regulation six. Burroughs Clearing House 35:11-12 Ag '51

Welcome mat; booklets for new employees. Banking 44:48 Ag '51

What to do about manpower. R. N. Hogsett, jr. il Bankers Mo 67:7-8+ N '50

Training

Bank personnel training through recordings; EnterTrainment, inc. il Burroughs Clearing House 35:20+ S '51

Orienting bank beginners; new A.I.B. book, You and banking, meets that need. L. Gibson. Burroughs Clearing House 35:35+ S '51

Putting the "see" in personnel training; Continental Illinois national bank and trust company of Chicago uses visual aids. A. G. Bradt. il Burroughs Clearing House 35:32-4+ S '51

Staff course on use of the telephone; First national bank of Boston. Banking 43:44-5 Je '51

Training bookkeepers. il Burroughs Clearing House 35:16+ Ag '51

BANK equipment and supplies

Developing a planned money center; Pennsylvania company for banking and trusts. A. C. Graff. il Burroughs Clearing House 35:30-1+, cover Jl '51

Farmers and citizens bank, Lancaster, Ohio, tests new TeleVoice system. Bankers Mo 68:46-7 Ap '51

Fast currency dispenser handles rolls of bills. il Burroughs Clearing House 35:24-5 Je '51; Bankers Mo 68:44 My '51

Modern equipment cuts bank costs. W. H. Hurtzman. il Banking 44:182+ S '51

Purchasing for efficiency and economy. R. O. Money. il Bankers Mo 68:7-8+ My '51

Sale I never forgot; keeping in touch is sound selling. J. B. Gander. Ptr Ink 236:53 Ag 31 '51

This treasure hunt pays off; annual housecleaning at First national bank, Louisville. W. Distelhorst. Bankers Mo 68:34 My '51

What's new? systems and machines; listing of Banking's educational displays at A.B.A. convention. il Banking 44:190+ S '51

BANK examination

Auditor looks at bank examinations. W. M. Black. Banking 43:68-9+ O '50

When the trust examiner comes. R. C. Masters. il Trusts & Estates 89:827-8 D '50

BANK for international settlements

Annual report, 21st, year ending March 31, 1951; excerpts. Fed Res Bul 37:1104-28 S '51

BANK holidays

Bank holidays by states, January-June, 1951. Bankers Mo 68:16 Ja '51

Bank holidays by states, July-December, 1951. Bankers Mo 68:22 Jl '51

Limited holiday service in Pittsburgh banks. C. R. Korb. Bankers Mo 68:82 My '51

BANK inspection. See Bank examination

BANK liability

Bank liable for bond money; cashing of voucher check designated for purchase of government savings bonds. C. R. Rosenberg, jr. Burroughs Clearing House 35:71-3 Je '51

BANK loans. See Loans, Bank

BANK of England

Bank of England statistics. Economist 161:308 Ag 4 '51

BANK of London and South America, limited

Statement by the chairman. F. M. G. Glyn. Economist 160:570-1 Mr 10 '51

BANK of the Manhattan company

Report to stockholders; excerpts. J. S. Baker. Comm & Fin Chr 172:2102 N 30 '50

BANK officials

Trust personnel changes. Published in monthly numbers of Trusts and estates

BANK protection. See Rivers—Bank protection

BANK research

Market research for banks. J. O. Chappell, jr. Burroughs Clearing House 35:32-4+ Jl '51

BANK reserves

Federal Reserve increases bank reserves. Comm & Fin Chr 173:79 Ja 4 '51

Increase in reserve requirements; with text of revision of Regulation D supplement. Fed Res Bul 37:13, 19 Ja '51

Reserves; cash collateral accounts; ruling by Board of governors. Fed Res Bul 37:1135-6 S '51

BANK robberies

Aftermath of a holdup; microfilm saves day for Chicago savings bank. D. S. Savler. il Bankers Mo 68:42-3+ S '51

BANK stocks. See Banks and banking—Stock

BANKERS

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Martin, Fowler W.
Women as bankers

BANKERS' associations

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American bankers association
Investment bankers association of America

BANKERS' blanket bond

Big forgery loss on N.Y.C. broker covered under clause E. Nat Underw 55:24 Ap 12 '51

Improvements in two standard bond forms made by Surety association of America. Weekly Underw 164:1516-17 Je 16 '51; East Underw 52:27+ Je 15 '51; Nat Underw 55:31 Je 14 '51; Rough Notes 94:58-9 Jl '51

BANKERS trust company

Bankers Trust goes retail. S. S. Colt. il Burroughs Clearing House 35:25-7+ F '51

BANKING hours. See Banks and banking—Hours of business

BANKING law

A.B.A.-recommended better banking statutes; list by act and by states. Banking 43:90 My '51

A.B.A. recommended final adjustment of statements of account statute; text. Banking 43:43 N '50

Bank law news. Banking 43:78+ Ja '51 [cont monthly]

Court decisions. C. R. Rosenberg, jr.; F. C. Fiechter, jr. Burroughs Clearing House 35:65-7 Ja '51 [cont monthly]

Five-day week legislation by states as of June 1, 1951; table and map. Banking 44:78 Jl '51

Law department. Published in monthly numbers of Federal reserve bulletin

Loan data confidential; does bank official stand in fiduciary relationship to loan applicant;Warsofsky vs. Sherman et al. C. R. Rosenberg, jr. Burroughs Clearing House 35:88-90 F '51

Opposes use of Emergency banking act of 1933. W. E. Spahr. Comm & Fin Chr 173:1039 Mr 8 '51

Retention and destruction of bank records; statutes on record retention. J. R. Vincens. Banking 43:52-3+ D '50

States rights; borderline between state and federal power over financial institutions. Banking 44:43 Ag '51

See also

Bank liability
Banks and banking—Guaranty of deposits
Checks—Law

Brazil

Getting even for New York state banking law; new bill aimed at foreign bankers operating in Brazil. Bsns W p 154-5 S 29 '51

Dominican Republic

Organic laws of three government banks modified. For Comm W 42:18-19 F 19 '51

BANKING law—*Continued*

Indiana

Indiana's official records retention schedule Banking 43:53+ D '50

Missouri

Check selling not banking; state of Missouri vs. Currency services. Burroughs Clearing House 35:68-9 My '51

New York (state)

New York state court rules on "savings" banks. Credit & Fin Management 53:19 Jl '51

BANKING research. See Bank research

BANKRUPTCY

Bankrupt's check. C. R. Rosenberg, jr. Burroughs Clearing House 35:85-6+ F '51

Cooperation pays off for fellow creditors. R. L. Dietz. Credit & Fin Management 53:13+ S '51

Federal court rules against referee on chapter XI costs. Credit & Fin Management 53:31 F '51

New Bankruptcy act in Canada. C. B. Everberg. Credit & Fin Management 53:26 F '51

Principles and policies that should be followed when a creditor's committee takes charge. R. N. Leitzell. Credit & Fin Management 53:14+ S '51

See also
Business failures

BANKS, Federal reserve. See Federal reserve banks

BANKS, International. See Bank for international settlements

BANKS and banking

Anniversary ideas. Burroughs Clearing House 35:20-2 Ap '51

Bank wire system operating to benefit of 188 banks. Bankers Mo 67:47 D '50

Bankers monthly quiz. Bankers Mo 68:30, 43-4 Ja '51 [cont monthly]

Bankers must fight to preserve our economy. D. W. Malott. Comm & Fin Chr 174:1362-3 O 11 '51

Banking is still a business. F. B. Reuter. Bankers Mo 68:20+ Mr '51

Business outlook and its impact on banking. E. S. Adams. Comm & Fin Chr 173:2344+ Je 7 '51

Comment on perspective. C. C. Davis. Bankers Mo 68:2 S '51

Defense precautions, new operating problem. H. J. Boone. il Burroughs Clearing House 35:30-1+ O '50

Faults and frictions in our banking system. A. Sproul. Comm & Fin Chr 174:1254+ O 4 '51

Government information of interest to the banker; list of recent booklets. R. D. Stevens. Burroughs Clearing House 35:26 Je '51

How banks create money; ABC of what's behind some key statistics. il Bsns W p77-8+ Ag 25 '51

How to celebrate a bank anniversary. il Trusts & Estates 90:508-11 Ag '51

International banking survey. Economist 159:1031+ D 9 '50

It pays to study the census. L. Stafford. il Banking 43:14+ O '50

Our common problem; maintenance of a sound banking system. T. B. McCabe. Fed Res Bul 36:1287-90 O '50; Same abr. Comm & Fin Chr 172:1187+ S 28 '50

Problems facing bankers. W. T. Taylor. Comm & Fin Chr 173:2663 Je 28 '51

Sound banking in troubled times. H. J. Kneip. Comm & Fin Chr 173:2666-7 Je 28 '51

This peculiar emergency; bankers' role. W. R. Burgess. Comm & Fin Chr 172:2441 D 21 '50

Travelog of operating ideas. F. L. Beach. Burroughs Clearing House 35:23 Jl '51

Wire system to link 188 banks in 54 cities. map Banking 43:110 O '50

See also
Agricultural credit
Bank accounting
Bank advertising
Bank buildings
Bank deposits
Bank research
Banking law
Checks
Clearing houses
Credit
Federal reserve banks
Foreign exchange
Interest
Investment banking
Investment trusts
Letters of credit
Loans, Bank
Safe deposits
Savings banks
Savings deposits
Trust companies

also American bankers association; Investment bankers association of America

Automobile purchase financing

How one bank maintains volume automobile financing; Central national bank of Yonkers. A. F. Lockwood. il Burroughs Clearing House 35:25-7+ D '50

Revised auto loss payable clause aids banks. East Underw 52:47 S 14 '51; Same cond. Nat Underw 55:5 S 13 '51

These banks like bank-agent auto plan. H. G. Eberle. il Bankers Mo 68:16+ My; 14+ Je '51

Bibliography

Banking for women. M. E. Hunt, comp. (Business literature v. 23, no. 5) p9-10 Business library, Newark public lib, Newark, N.J. Ja '51

Year end survey; books important to bankers; compiled by Financial division of Special libraries association. Bankers Mo 68:22-3 Ja '51

Branch banking

Bankers Trust goes retail. S. S. Colt. il Burroughs Clearing House 35:25-7+ F '51

Big accounts pay off, too; retail vs. wholesale banks. Bsns W p76-8 F 3 '51

Branch banking in unincorporated areas; Bank vs. Bell. C. R. Rosenberg, jr. Burroughs Clearing House 35:68+ Ap '51

Year-end statement day in a branch system. G. B. Jones. il Burroughs Clearing House 35:28-9+ F '51

Cash handling

Developing a planned money center; Pennsylvania company for banking and trusts. A. C. Graff. il Burroughs Clearing House 35:30-1+, cover Jl '51

Fast currency dispenser handles rolls of bills. il Burroughs Clearing House 35:24-5 Je '51; Bankers Mo 68:44 My '51; Bsns W p 132 My 5 '51

Central banks

Craftsman plays king; review of American monetary policy, by E. A. Goldenweiser. Bsns W p65-6 Ag 4 '51

Checking accounts

Checkbooks for news carriers solve publisher's collection problem. W. J. Brons. il Bankers Mo 68:22+ Ag '51

Something special in checking account promotion; Northwestern national bank of Minneapolis. H. V. Odle. il Burroughs Clearing House 35:32-3+ Je '51

Correspondent banks

Banks fight the Fed; competition to give service to out-of-town banks. Bsns W p 112 D 16 '50

Correspondent conferences popular. Banking 43:126 Ja '51

Financing farm equipment through correspondent banks. W. B. Pollard. il Burroughs Clearing House 35:25-7+ Mr '51

Trust correspondents for country banks. C. D. Seftenberg. Trusts & Estates 90:43-4 Ja '51

Costs

Determining bank instalment credit costs. G. S. Blue. Banking 44:36-7+ S '51

Is bank credit too cheap? do bank earnings meet expenses? Banking 43:40+ Ap '51

New, working manual on banking costs. C. H. Lichtfeldt. il Burroughs Clearing House 35:34-6+ Ap '51

Yardstick for bank costs. J. W. Dodd, jr. Banking 43:42-3+ Je '51

BANKS and banking—*Continued*

Country banks

A.B.A. country bank operations commission executive session, Wichita, Kansas, April 5-6. Burroughs Clearing House 35:11-12 My '51
Balanced farming ups farmers' balances; Citizens bank of Ava, Missouri. J. K. McDermott. il Bankers Mo 68:7-10 Ja '51
Bank leads in restoring soil vitality; Farmers bank of Ashland, Ohio. J. C. Davis. il Banking 43:68+ N '50
Banker-teacher team makes things hum in Vine Grove, Ky. H. Severson. Banking 43:74 Je '51
Banking and the 4-H movement. il Bankers Mo 68:7-10+ Mr '51
Country banker. Banking 43:60+ Ja '51 [cont monthly]
Country banker Grover C. Helm says, our job is to loan money; interview. Bsns W p50+ Mr 10 '51
Country banking in New England; Northborough national bank, Northborough, Mass. R. M. Leland. il Burroughs Clearing House 35:29-31+ Je '51
Credit that builds farms; State national bank, Decatur, Ala. T. J. Cottingham. il Burroughs Clearing House 35:25-7+ Ap '51
Developing a new farm department; Lovington national bank, New Mexico. J. A. Burns. il Burroughs Clearing House 35:32-4+ D '50
Every farm is a factory; agricultural programs of Missouri banks. C. Tindall. il Bankers Mo 67:7-8+ D '50
Fit the pay to the job; analysis of ABA program for smaller banks. Banking 43:52-4+ O '50
Helping farmers get on their feet. H. Severson. il Banking 43:56-7 O '50
Keeping the farm in the family; Canadian bank of commerce, Toronto, publishes booklets for farmers. Banking 43:66-7 Ja '51
Management challenge to country banking. C. W. Reinking. il Burroughs Clearing House 35:34-6+ Ja '51
Member bank earnings, 1950; country member banks, by Federal reserve districts; with ratios. Fed Res Bul 37:577, 584 My '51
North Carolina's better farms plan; what the banks are doing. J. Bishop, jr. and C. B. Ratchford. il Banking 43:56-7 F '51
Trust correspondents for country banks. C. D. Seftenberg. Trusts & Estates 90:43-4 Ja '51
250 Nebraska banks back conservation program; Nebraska conservation foundation. A. W. Emerson. Banking 43:60+ Ja '51
Up-to-the-minute country bank program; Agricultural commission, American bankers association annual meeting, Des Moines. Banking 43:66+ My '51

See also
Agricultural credit

Credit departments

Clinic for ailing loans; American trust company's Monthly payment loan department. J. O. Elmer. il Bankers Mo 68:62+ S '51
Determining bank instalment credit costs. G. S. Blue. Banking 44:36-7+ S '51
How to make efficient use of a bank credit department. G. K. Crowther. Credit & Fin Management 53:6-7+ Jl '51
Insurance program for consumer credit. T. W. Gormly. il Burroughs Clearing House 35:30-1+ F '51
Loan data confidential; does bank official stand in fiduciary relationship to loan applicant; Warsofsky vs. Sherman et al. C. R. Rosenberg, jr. Burroughs Clearing House 35:88-90 F '51
Why bank's losses average one-third of one per cent; Industrial national bank, of Detroit. D. G. Baird. il Am Bsns 21:16-17+ F '51

Records

Simplified loan credit file for banks. Burroughs Clearing House 35:12-13 Ja '51

Credit service

Bank's Charge-It plan for merchants; serves as a credit department. C. K. Fuller. il Burroughs Clearing House 35:28-9+ N '50
Community charge account; charge it at the store; pay for it at the bank; Paterson savings and trust co. il Banking 43:84 O '50

Customer relations

Bank's human touch pays off; Kansas state bank, Wichita. M. Cromer. il Am Bsns 21:28+ Ap '51
How to rile an old friend; a short story. J. Sanders. Banking 43:46-7 My '51
How to soothe a customer; a short play. J. Sanders. Banking 44:96-7 S '51
Kentucky bank panel hears pet peeves of customers. R. P. Steptoe. Bankers Mo 68:40+ Ag '51

Deposit service

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Educational work

Bank opens its forum to other banks' customers, Farmers & merchants bank, Long Beach, Cal. il Ind Marketing 36:64-5+ My '51
Bank's way to better local government; Boston's First national bank sponsors municipal management classes at Northeastern university. K. Detzer. il Banking 43:33-5+ My '51
Dream you save for; Stamford (Conn.) bank cooperates in cartoon drawing contest. M. B. Leach. il Banking 43:14-15+ My '51
Finance and trust forums; A.B.A. trust conference panel. Trusts & Estates 90:172-3 Mr '51
First national bank of Minneapolis holds advanced finance forums. Trusts & Estates 90:121 F '51; Bankers Mo 68:28+ F '51
Forum audiences ask for more. Banking 43:70-2+ F; 64-8 Mr '51
Forums still draw. Trusts & Estates 90:321-2 My '51
How to run a financial forum. G. N. Gildersleeve. il Banking 43:55+ F '51
Inflation touches the pocketbook nerve; report on development of finance forums in public education. Banking 43:74-5 Ja '51
Junior achievement banks triple in year. il Trusts & Estates 90:405 Je '51
School work. J. B. Mack, jr. Banking 43:40-1+ N '50
These women's finance forums. W. A. Irwin. Banking 43:84 My '51
Tomorrow's job today; educational programs for youth. il Burroughs Clearing House 35:14-17 Mr '51
Train customers young. J. Morris. Banking 43:14+ N '50
Women's finance forums. Burroughs Clearing House 35:12 My '51
Women's forum for woman's club; First and merchants national bank of Richmond. Bankers Mo 68:34+ Mr '51
Working with the schools; panel report. Banking 44:34-6 Ag '51
Your dollar's worth; financial forums for women. I. W. Foster. Banking 43:82-4 D '50

Exhibits

Bank lobby displays. W. K. Brown. il Burroughs Clearing House 35:32-5+ Mr '51
Banking on exhibit. il Trusts & Estates 90:329-30 My '51
Bank's historical caravan on statewide tour of Oregon. il Bankers Mo 68:50 My '51; Banking 43:78 My '51
This is banking; Middletown (Conn.) savings bank exhibit, 300 years of transportation; models made by schoolboy. E. R. Worthington. il Banking 43:55+ D '50
What's new? systems and machines; listing of Banking's educational displays at A.B.A. convention. il Banking 44:190+ S '51

Farm development service

See Banks and banking—Country banks

Finance

Bank earnings hit the top; with listing of billion-dollar banks, 1945, 1949-50. Bsns W p94-5+ Ja 20 '51
Bank earnings trend up in 1950; with figures for New York City operations. G. Mooney. Banking 43:47+ Ja '51

BANKS and banking—Finance—*Continued*

Bank stocks; comparison of earnings of 18 major New York City banks for 1949 and 1950; with tabulation. H. E. Johnson. Comm & Fin Chr 173:440 Ja 25 '51
Bank stocks; figures from operating and year-end statements of principal New York City banks for period ended Dec. 31, 1950. H. E. Johnson. Comm & Fin Chr 173:160 Ja 11 '51
Banks are doing better. Bsns W p 111-12+ Jl 14 '51
Banks hunt more capital; restore old deposit ratio. Bsns W p 124-6 Ap 14 '51
Higher interest rates aid New York banks; with tabulation of third quarter earnings of major banks. H. T. Rohs. Barron's 30:12 O 23 '50
Member bank earnings, 1950; with comparisons. P. F. Smith. Fed Res Bul 37:501-4, 574-85 My '51
N.Y. City institutions expected to hold at 1950 levels; with tabulation of earnings of 15 major New York City banks, 1949 and 1950. H. T. Rohs. Barron's 31:15 F 26 '51
News about banks and bankers; figures from year-end statements. Comm & Fin Chr 173:67+, 164+, 345 Ja 4, 11, 18 '51
Outlook for bank earnings. J. W. Wooster, jr. Banking 44:44-5+ S '51
Present and prospective bank earnings. R. I. Robinson. Burroughs Clearing House 35:28-9+ Jl '51
Rising rates point to higher earnings; with tabulation of first quarter earnings of 15 major New York City banks. H. T. Rohs. Barron's 31:11 My 7 '51
Safety yardsticks for measuring commercial bank assets. W. N. Gaffney. Comm & Fin Chr 174:1258 O 4 '51
Taxes dim future; with table of second quarter earnings of 14 major New York City banks. Barron's 31:23 Jl 30 '51

Foreign business

Small banks and foreign trade. E. Mayer. Banking 43:106-7 Ja '51

Forms, blanks, etc.

Check-style deposit tickets. Banking 44:40+ Jl; 46 Ag '51; Bankers Mo 68:36 Jl '51

Government service

See Banks and banking—Service to government

Guaranty of deposits

Federal deposit insurance act; text. Fed Res Bul 36:1321-39 O '50
FDIC reports deposits of insured banks reach all-time high of $168 billions. Comm & Fin Chr 173:1349 Mr 29 '51

History

Boomer banking in homestead days. B. T. Salisbury. il Burroughs Clearing House 35:32-3+ Ap '51

Hours of business

Five-day week legislation by states as of June 1, 1951; table and map. Banking 44:78 Jl '51
Five-day week legislation; suggested forms from A.B.A. Model state banking code. Banking 43:70 Mr '51
Limited holiday service in Pittsburgh banks. C. R. Korb. Bankers Mo 68:32 My '51
Saturday closing. il Burroughs Clearing House 35:12-13 Je; 12+ Jl '51
Twenty-four-hour banker; Lincoln national bank and trust co., Syracuse, N.Y. R. P. Johnson. il Bankers Mo 67:38+ N '50

Insurance, Customers'

Bank urged to help agent insure mortgage property. T. F. Glavey. Nat Underw 54:12 N 23 '50
Insurance factor in bank credit; recent Banking survey. Banking 43:82 N '50
Insurance program for consumer credit. T. W. Gormly. il Burroughs Clearing House 35:30-1+ F '51

Insurance requirements

ABA's insurance and protective committee report. East Underw 51:31+ N 10 '50; Nat Underw 54:25 N 16 '50
Bankers discuss microfilming of insurance policies. Nat Underw 54:7 N 2 '50
Check list of bank insurance. J. E. Baum. Banking 43:50-1 D '50
FDIC director says too many banks still weak in cover. H. E. Cook. Nat Underw 55:31 S 6 '51
Insurance program for consumer credit. T. W. Gormly. il Burroughs Clearing House 35:30-1+ F '51
New form to cover fee mortgagee. G. T. Cowan. Nat Underw 55:7 My 10 '51
Problems facing bank insurance managers in connection with destruction of policies. T. F. Glavey. Nat Underw 54:31 N 16 '50
Program of insurance protection for banks. W. J. Schiff. Bankers Mo 68:20+ Ap '51

See also
Bankers' blanket bond
Insurance, Safe deposit box

Insurance selling

See also
Savings banks—Insurance selling

Investment advice

Banker as investment counsel. B. Graham. Comm & Fin Chr 174:1160 S 27 '51
Banker suggestions for the small investor. W. F. Staples. Burroughs Clearing House 35:8-9 My '51

Investments

Bond account in a defense economy. O. P. Decker. Burroughs Clearing House 35:28-9+ Mr '51
Current money market and bank portfolios. C. S. Bartlett. Comm & Fin Chr 173:2144+ My 24 '51
Diversifying securities in the bank's investment portfolio. F. C. Broach. Comm & Fin Chr 173:2055-6 My 17 '51
Factors affecting bank investment policy. E. B. Chapin. Comm & Fin Chr 174:1163 S 27 '51
Framing a flexible investment program for small or medium-sized banks; questions and answers. L. S. Pruyne. Burrroughs Clearing House 35:32-3+ Ja '51
Government bonds and bank investment policy. J. S. Budd, jr. Comm & Fin Chr 174:61+ Jl 5 '51
Long or short-term bonds? study of bank, life insurance and Treasury trust fund holdings of U.S. government bonds, March 3, 1941-July 31, 1950. L. S. Hayden. Banking 43:36-7+ Ja '51
Municipal bonds in bank portfolios. R. E. Hengren. Comm & Fin Chr 174:952+ S 13 '51
Responsibilities of an investment officer. F. B. Reuter. Bankers Mo 68:7-8+ F '51; Excerpts. Trusts & Estates 90:33-5 Ja '51
Safety yardsticks for measuring commercial bank assets. W. N. Gaffney. Comm & Fin Chr 174:1258 O 4 '51
Should banks buy long-term bonds? J. J. Moynahan. Harvard Bsns R 28:61-6 N '50
Successful goldfish; quality ratings of municipal bonds in portfolio management. E. H. Davis. Bankers Mo 68:14+ Ap; 22+ My '51

See also
Loans, Bank
Savings banks—Investments

Law

See Banking law

Mail service

Current trends in bank-by-mail service. W. K. Brown. il Burroughs Clearing House 35:28-31+ Ap '51
More on bank-by-mail. Burroughs Clearing House 35:12-14 My '51

New business

Bank new business; trust approaches prove effective producers. W. O. Heath. Trusts & Estates 90:254-5 Ap '51
How to mind your new business; short play. J. Sanders. Banking 44:90-1 Ag '51
On getting new business; playlet illustrates important point. J. Sanders. Banking 43:42-3+ Ap '51

BANKS and banking—New business—*Cont.*

Selling in the safe deposit department; suggesting to clients, use of bank's other services. G. W. Stewart. Bankers Mo 68:18+ Jl '51

Night and curb depositories

Bank vindicated in night deposit; Kolt vs. Cleveland trust co. C. R. Rosenberg, jr. Burroughs Clearing House 35:65-6 D '50

Night depository; Kolt v. Cleveland trust co. Banking 44:42-3 Ag '51

Twenty-four-hour banker; Lincoln national bank and trust co., Syracuse, N.Y. R. P. Johnson. il Bankers Mo 67:38+ N '50

Public relations

Blue cross does a job for banks; bank cooperation in local plans. C. Kirkpatrick. Bankers Mo 67:14+ N '50

Congratulations by letter. W. H. Butterfield. Banking 43:54-5+ My '51

5,000 high school seniors get bank awards from Bank of America. Banking 44:108 Jl '51

Forest of friends; Bank of Montreal takes part in work of Quebec 4-H clubs. M. Brown. il Banking 44:126-7 S '51

Georgia Know your bank week. Banking 44:84 S '51

How one bank spurs 4-H club work; Industrial trust company of Providence. Banking 43:59+ D '50

Making friends makes customers; Union market national bank, Watertown, Mass. J. S. Tufts. il Burroughs Clearing House 35:29-31+ Ag '51

Penthouse promenadex; 36,000 record for weekly bank tours; Mercantile national bank in Dallas. R. V. Lentz. il Trusts & Estates 90:12-13 Ja '51

Public relations are human relations. E. M. Heffernan. Comm & Fin Chr 174:862+ S 6 '51

School work. J. B. Mack, jr. Banking 43:40-1+ N '50

Six ways to turn on the light; program of California bankers association. A. Herrick. il Banking 43:48 F '51

Working with schools. R. J. Hannelly. Banking 43:54+ F '51

Working with the schools; panel report. Banking 44:34-6 Ag '51

See also

Banks and banking—Customer relations

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Purchasing

Purchasing for efficiency and economy. R. O. Money. il Bankers Mo 68:7-8+ My '51

Records

A.B.A. Bank personnel and records protection guide; abstract. Banking 43:152-3 My '51

Asset and record protection; trust department duplicating program. W. G. Rabe. il Trusts & Estates 90:160+ Mr '51

Bankers discuss microfilming of insurance policies. Nat Underw 54:7 N 2 '50

Defense precautions, new operating problem. H. J. Boone. il Burroughs Clearing House 35:30-1+ O '50

Microfilm statutes; bank record admissable only as secondary evidence even though state enacted photographic evidence statute. Banking 43:90+ My '51

Microfilming bank records; with list by states of photographic evidence statutes. J. R. Vincens. Banking 43:49-50+ Ja '51

No-ticket system of savings records saves time and prevents forgeries. Bankers Mo 47:30 O '50

Problems facing bank insurance managers in connection with destruction of policies. T. F. Glavey. Nat Underw 54:31 N 16 '50

Protecting bank records against bombing. J. R. Vincens. Banking 43:52-3+ F '51; Bibliography. G. Fitzgerald and R. A. Shiff. 43:113 Mr '51

Retention and destruction of bank records. J. R. Vincens. Banking 43:43+ N; 52-3+ D '50

We post everything at one run and return deposit slips with checks; use of microfilm. J. F. White. Bankers Mo 67:20+ N '50

Regulation

Bank price ceilings. Burroughs Clearing House 35:11-12 Jl '51

Credit controls and bank earnings. W. A. Lyon. Comm & Fin Chr 173:435+ Ja 25 '51

Developments in selective credit control; reprinted from Midland bank review. Comm & Fin Chr 174:604+ Ag 16 '51

Giannini awaits FRB's ax. Bsns W p 140+ Je 23 '51

Reports

Bank reports discuss emergency; excerpts from 1950 reports. Banking 43:120+ Mr '51

Report features; new ideas. il Burroughs Clearing House 35:8-9 Mr '51

Year-end statement day in a branch system. G. B. Jones. il Burroughs Clearing House 35:28-9+ F '51

Safe deposits

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Service

Banks still in gear for defense; cartoons with text. D. Ericson. Banking 43:46-7 Je '51

Central national bank, Chicago, joins in community redevelopment. J. R. Humphreys. il Banking 43:56-7+ Ja '51

Checkbooks for news carriers solve publisher's collection problem. W. J. Brons. il Bankers Mo 68:22+ Ag '51

Household tax service for bank customers; bank handles social security tax returns for domestic servants. V. F. Ostrom. il Burroughs Clearing House 35:30-1+ Mr '51

Plan appeals to customer; National bank of commerce of Seattle, personal money order plan. Am Bsns 20:36-7 N '50

Portable bank serves navy workers. Banking 43:14 Ja '51

Sound customers via the home budget; Home economics bureau, Society for savings, Cleveland. S. J. MacLeod. il Bankers Mo 68:15-16+ Jl '51

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Service to government

Anchoring the federal debt; Houston plan for bank mobilization week programs. Banking 43:36-8+ F '51

Banks aid Treasury crime control; reporting unusual currency transactions. Banking 43:151 My '51

Clearing houses begin E bond information job. Banking 43:153 My '51

Servicing defense bond payroll savings; National bank of Detroit. L. G. Trocke. il Burroughs Clearing House 35:36-8+ My '51

Simplified system that serves and saves; Toledo Trust's savings bonds program. Banking 44:49-50+ Ag '51

Show windows

Halloween windows; vandalism eliminated by juvenile art competition. J. E. Bedford. il Bankers Mo 47:20+ O '50

Speaking through the bank window. P. O. Bullard. il Banking 43:16+ Ja '51

Statements of account

A.B.A. recommended final adjustment of statements of account statute; text. Banking 43:43 N '50

Simplifying the statement job. L. C. Baldwin. il Banking 43:39+ D '50

Statements of condition

See Banks and banking—Reports

Statistics

All banks in the United States and possessions, by states, Dec. 30, 1950; assets and liabilities, and number of banks. Fed Res Bul 37:530-1 My '51

Billion-dollar banks, 1945, 1949-50; tabulation. Bsns W p94 Ja 20 '51

BANKS and banking—Statistics—*Continued*

Number of banks and branches in operation on Dec. 31, 1950. Fed Res Bul 37:586-7 My '51

See also

Bank deposits—Statistics

Federal reserve banks—Statistics

Stock

Bank earnings for the first half; with statistical data on leading stocks. J. S. Williams. Mag of Wall St 88:450-1+ Jl 28 '51

Bank stock earnings. W. A. Lyon. Trusts & Estates 90:120 F '51

Bank stocks at a discount. R. E. Speagle. Harvard Bsns R 29:99-106 Ja '51

1951 outlook for bank stocks; with statistical data on leading stocks. J. S. Williams. Mag of Wall St 87:456-7+ Ja 27 '51

Stockholders

Monthly dividends; a new service to stockholders; Republic national bank of Dallas. F. F. Florence. il Burroughs Clearing House 35:34-5+ Je '51

Planning a small bank stockholders' meeting. F. J. Green. il Burroughs Clearing House 35:28-9+ D '50

Survey of stockholder relations activities of 300 largest American banks. D. L. Swift. Banking 44:70+ Jl '51

Study and teaching

15th commencement for Graduate school of banking. il Trusts & Estates 90:444 Jl '51

Graduate school of banking marks 15th anniversary. Banking 43:58-9 N '50

Teaching banking; film-strips to be used in Canadian schools. J. Montagnes. il Burroughs Clearing House 35:65-6 Je '51

290 bankers get G.S.B. diplomas. Banking 44:84-7 Ag '51

Taxation

Are taxes threat to private commercial banking? M. A. Schapiro. Comm & Fin Chr 174:1255 O 4 '51

Court of appeals holds that time certificates of deposit are not borrowed capital; Commissioner of internal revenue v. Ames T.&S.B. Banking 43:70+ Mr '51

EPT and banks. W. R. White. Banking 43:47 Ja '51

Impact of higher taxation on commercial banks; statement before senate committee. M. A. Schapiro. Comm & Fin Chr 174:515+ Ag 9 '51; Excerpts. Banking 44:147 S '51

Minimizing excess profits taxes. D. Gresser. Banking 44:70+ S; 70+ O '51

Travel bureaus

Operating a profitable bank travel department; Provident savings bank, Cincinnati. W. K. Brown. il Burroughs Clearing House 35:34-5+ Ag '51

Trust departments

Asset and record protection; trust department duplicating program. W. G. Rabe. il Trusts & Estates 90:160+ Mr '51

Bank new business; trust approaches prove effective producers. W. O. Heath. Trusts & Estates 90:254-5 Ap '51

Bank-trust conference series program develops reference business. W. S. McClanahan. Trusts & Estates 90:157-9 Mr '51

Banner year for trust growth; excerpts from 1950 reports. Trusts & Estates 90:196-201, 224-6+, 314-17+ Mr-My '51

Benefits of cost accounting. W. G. Cleaver. Trusts & Estates 90:97-8 F '51

Construction and uses of synoptic trust records. C. F. Zurlinden. Trusts & Estates 90:265-7 Ap '51

Cooperative investment analysis for small or medium-sized trust departments. C. F. Borgel. Trusts and Estates 90:20-2 Ja '51

Directors' trust examinations; outline of scope and records. L. A. Pratt. Trusts & Estates 90:394-5 Je '51

Examiner suggests trust policies for acceptance, review and diversification. F. E. Nugent. Trusts & Estates 90:38-41 Ja '51

First-of-January work sheet for your trust department. L. Tharp. Trusts & Estates 90:88-91 F '51

How to organize a program for development of trust business. E. S. MacNeill. Trusts & Estates 89:778-80 N '50

Investment selection and review for the small trust department. J. H. Evans. Trusts & Estates 90:96 F '51

Know costs to make profits. W. J. Weig. Trusts & Estates 89:826 D '50

Mortgages as trust investments. F. C. Ransom. Trusts & Estates 90:465-6 Jl '51

National bank trust assets, gross earnings gain; excerpts from report of Comptroller of the currency for 1950. Trusts & Estates 90:574-5 S '51

New trust business; seven sources. A. Journeay. Banking 43:55+ Je '51

Operating economies. D. T. Pyne. Trusts & Estates 90:99-100 F '51

Pattern for trust minutes; adequate trust records prove valuable committee. L. D. Warner. Trusts & Estates 90:45-7 Ja '51

Policies determine profits. R. E. MacDougall. Trusts & Estates 89:718-20 O '50

Profitable policies in smaller trust departments. Trusts & Estates 89:784 N '50

Rotating memberships on trust committees. Trusts & Estates 89:781-3 N '50

Successful partnership of banking and trust officers. R. C. Downie. Trusts & Estates 90:540-1 Ag '51

Trust business gains. Trusts & Estates 90:80 F '51

Trust business through bank officers. V. B. Moore, jr. Trusts & Estates 90:590-1 S '51

Trust correspondents for country banks. C. D. Seftenberg. Trusts & Estates 90:43-4 Ja '51

Trust-minded directors; regular reports stimulate cooperation. J. M. Trenary. Trusts & Estates 90:296-9 My '51

Trustees as industrial leaders. R. H. Trott. Trusts & Estates 89:814 D '50

Trusteeship in war economy. R. H. Trott. Trusts & Estates 90:81-2 F '51

When the trust examiner comes. R. C. Masters. Trusts & Estates 89:827-8 D '50

Why audit a trust department? R. C. Masters. Trusts & Estates 90:374-5 Je '51

See also

American bankers association—Trust division

War problems

A.B.A. Bank personnel and records protection guide; abstract. Banking 43:152-3 My '51

Africa

Bank of British West Africa, limited; widened sphere of activities; statement by the chairman at 57th annual general meeting. Lord Harlech. Economist 161:128 Jl 14 '51

Argentina

National bank of Argentina as a source of credit for Argentine farmers. E. Kutyn. Land Econ 26:390-3 N '50

Australia

Australian bankers stem nationalization. Banking 43:102 Mr '51

National bank of Australasia limited; statement by the chairman at ordinary general meeting. H. D. Giddy. Economist 159:975 D 2 '50

Brazil

Getting even for New York state banking law; new bill aimed at foreign bankers operating in Brazil. Bsns W p 154-5 S 29 '51

Buffalo, N.Y.

Rift in the thrift; Buffalo commercial banks raise rate to lure accounts from mutuals. Bsns W p 131 S 29 '51

Bulgaria

Banking system reorganized. For Comm W 43:11-12 Ap 9 '51

Canada

Canadian bank expansion reflects business gain. J. Montagnes. Barron's 30:10 O 23 '50

Canadian banking. J. Montagnes. il Burroughs Clearing House 35:59-61 Ja '51 [cont monthly]

Canadian curbs; chartered banks agree to freeze volume loans and corporate investments. Bsns W p 105 Mr 10 '51

BANKS and banking—Canada—*Continued*

Mobile bank unit of the Canadian bank of commerce. J. Montagnes. il Burroughs Clearing House 35:65-6 N '50

Recent measures to restrain bank lending in Canada. Fed Res Bul 37:268 Mr '51

Ceylon

Dollars for Ceylon's central bank. Economist 159:1108 D 16 '50

Chicago

Central national bank, Chicago, joins in community redevelopment. J. R. Humphreys. il Banking 43:56-7+ Ja '51

Chicago banking scrapbook. il Banking 44: 176-9 S '51

China

See also

Hongkong and Shanghai banking corporation

Dallas

Banking is selling; expansion program of First national bank in Dallas. B. H. Wooten. il Burroughs Clearing House 35: 29-31+ My '51

Dominican Republic

Organic laws of three government banks modified. For Comm W 42:18-19 F 19 '51

Egypt

National bank of Egypt annual general meeting. Economist 160:956 Ap 21 '51

Florida

People make banks; Peoples national bank, Miami Shores. il Bankers Mo 68:32 Ja '51

Gardner, Massachusetts

Community service loan fund; Gardner trust co. il Banking 43:14+ Mr '51

Germany

Annual report of the Bank deutscher laender, 2d; excerpts. Fed Res Bul 37:942-51 Ag '51

First annual report of the Bank of the German states (Bank deutscher laender) for years 1948 and 1949; excerpts. Fed Res Bul 36:1293-300 O '50

Great Britain

Bank deposits and rearmament. Economist 160:1329-30+ Je 2 '51

Bank profits in 1950; with figures for 1947-50. Economist 160:94-5 Ja 13 '51

Banks in 1950; with tabulations of clearing bank deposits and advances and investments. Economist 160:214 Ja 27 '51

Barclays bank (dominion, colonial and overseas); statement by chairman at 25th ordinary general meeting. J. S. Crossley. Economist 159:1049 D 9 '50

British banks meet rising costs. F. B. Makin. Banking 43:113 O '50

Chartered bank of India, Australia and China; statement by the chairman. V. A. Grantham. Economist 160:643-50 Mr 17 '51

No privacy in the socialist state; Britain's government wants banks to report all interest payments. F. B. Makin. Banking 44:74 Jl '51

See also

Bank of England
Bank of London and South America
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Lloyds bank
Martins bank
Midland bank
National provincial bank
Westminster bank
Williams Deacon's bank

Greece

Bank of Athens; statement by the chairman. C. J. Eliasco. Economist 160:1206 My 19 '51

Honduras

Government banks complete first year's operations. For Comm W 44:12 Ag 27 '51

India

National bank of India; statement by the chairman. J. K. Michie. Economist 160: 651-2 Mr 17 '51

Ireland

Historic, unusual Bank of Ireland. F. Plachy. il Burroughs Clearing House 35:36-8+ Je '51

Italy

Annual report of the Bank of Italy for 1950; excerpts. Fed Res Bul 37:952-6 Ag '51

Japan

Export bank established; will supplement private financing. For Comm W 42:15 Ja 29 '51

Nashville, Indiana

Where it's always ladies day; Nashville state bank is run on womanpower. Bsns W p 124-5 Mr 24 '51

Nebraska

250 Nebraska banks back conservation program; Nebraska conservation foundation. A. W. Emerson. Banking 43:60+ Ja '51

Netherlands

Annual report of the Netherlands bank, 1950. Fed Res Bul 37:809-11 Jl '51

New York (city)

Bank earnings trend up in 1950; with figures for New York City operations. G. Mooney. Banking 43:47 Ja '51

Bank stocks; comparison of earnings of 18 major New York City banks for 1949 and 1950; with tabulation. H. E. Johnson. Comm & Fin Chr 173:440 Ja 25 '51

Bank stocks; figures from operating and year-end statements of principal New York City banks for period ended Dec. 31, 1950. H. E. Johnson. Comm & Fin Chr 173:160 Ja 11 '51

Bankers Trust goes retail. S. S. Colt. il Burroughs Clearing House 35:25-7+ F '51

Chemical bank & trust company moves $5-billion in securities. Banking 43:85 Ja '51

Higher interest rates aid New York banks; with tabulation of third quarter earnings of major banks. H. T. Rohs. Barron's 30:12 O 23 '50

N.Y. City institutions expected to hold at 1950 levels; with tabulation of earnings of 15 major New York City banks, 1949 and 1950. H. T. Rohs. Barron's 31:15 F 26 '51

Rising rates point to higher earnings; with tabulation of first quarter earnings of 15 major New York City banks. H. T. Rohs. Barron's 31:11 My 7 '51

Still the big town; out-of-town companies depend on services of New York banks. Bsns W p 123 Mr 24 '51

Taxes dim future; with table of second quarter earnings of 14 major New York City banks. Barron's 31:23 Jl 30 '51

Northborough, Massachusetts

Country banking in New England; Northborough national bank. R. M. Leland. il Burroughs Clearing House 35:29-31+ Je '51

Oklahoma

Boomer banking in homestead days. B. T. Salisbury. il Burroughs Clearing House 35: 32-3+ Ap '51

Palestine

Anglo-Palestine bank limited; statement by the chairman. S. Hoofien. Economist 160: 1474-5 Je 16 '51

Port Lavaca, Texas

Gulf Coast bank's self-improvement program; First state bank. J. J. Faubion, jr. il Burroughs Clearing House 35:30-1+ S '51

San Francisco Bay region

Bank leadership in real estate lending; mortgage market, 1945-50. P. Wendt. Banking 44:72+ Jl '51

Scotland

Bank of Scotland; statement by the chairman. Lord Elphinstone. Economist 160:829 Ap 7 '51

Clydesdale and North of Scotland bank limited; statement by the chairman. H. E. Yarrow. Economist 160:402 F 17 '51

Commercial bank of Scotland, limited; statement by the deputy-governor at annual meeting. Lord Rotherwick. Economist 159: 1114 D 16 '50

BANKS and banking—Scotland—*Continued*

National bank of Scotland limited; statement by the governor at 25th annual general meeting. Marquess of Zetland. Economist 159:1115 D 16 '50

Royal bank of Scotland; annual general court of proprietors. Economist 160:652-3 Mr 17 '51

Union bank of Scotland, limited; statement by the chairman. Lord Bilsland. Economist 160:1260-1 My 26 '51

South Africa

Standard bank of South Africa limited; statement by the chairman. M. F. Berry. Economist 161:313 Ag 4 '51

South Bend, Indiana

Customer-centered philosophy; American trust company. W. J. Brons. il Bankers Mo 68:11-14 Jl '51

Syracuse, N.Y.

Boss banker who plays easy to get; Crandall Melvin of Syracuse's Merchants bank. il Bsns W p 118-20+ Mr 17 '51

Texas

Strengthening state banking in Texas. P. B. Garrett. Burroughs Clearing House 35:25-7+ Jl '51

Turkey

See also

Ottoman bank

Wisconsin

Wisconsin's junior bankers conferences. W. G. Coapman. Bankers Mo 68:36-7 Mr '51

BANKS and banking, International

See also

Bank for international settlements

International bank for reconstruction and development

International bank of Washington

BANKS and banking, National

Annual report of the Comptroller of the currency; summary. Banking 44:142+ S '51

Court holds that New York cannot prohibit national banks from advertising that they accept savings accounts. Banking 44:76+ Jl '51

National bank assets at all-time high at year-end, Comptroller of currency reports. Comm & Fin Chr 173:1238 Mr 22 '51

National bank trust assets, gross earnings gain; excerpts from report of Comptroller of the currency for 1950. Trusts & Estates 90:574-5 S '51

Net earnings of national banks increase; report by Comptroller of currency for six months ended June 30, 1951. Comm & Fin Chr 174:1266 O 4 '51

BANKS and banking, State

Strengthening state banking in Texas. P. B. Garrett. Burroughs Clearing House 35:25-7+ Jl '51

BANKS and banking, Trade union

Status of labor banks, 1950. Mo Labor R 72: 413 Ap '51

BARBITURATES

Barbiturates containing the 3-methyl-2-butenyl group. H. Walton, J. Doczi and J. A. King. bibliog Am Chem Soc J 72:4319-20 S '50

BARBITURIC acid

α-Carboxethyllactones and related barbituric acid derivatives. G. S. Skinner and R. D. Huber. Am Chem Soc J 73:3321-4 Jl '51

Enzymatic formation of barbituric acid from uracil and of 5-methylbarbituric acid from thymine. O. Hayaishi and A. Kornberg. Am Chem Soc J 73:2975-6 Je '51

History of barbituric acid. M. K. Carter. bibliog J Chem Educ 28:524-6 O '51

Preparation and properties of 5-ethyl-5-(1-methyl-1-nitroethyl)-barbituric acid. A. B. Hodge. Am Chem Soc J 72:5771-2 D '50

BARCLAYS bank (Dominion, colonial and overseas)

Statement by the chairman. J. S. Crossley. Economist 159:1049 D 9 '50

BARCLAYS bank, limited

Statement by the chairman. W. Goodenough. Economist 160:167-9 Ja 20 '51

BARGES

Barge production at Dravo yards. il Marine Eng 56:49-50 F '51

Barges place girder spans in Chesapeake Bay bridge. il Constr Methods 33:100-1+ S '51

Barges prefabbed to meet demand; Dravo corp.; illustrations with text. Bsns W p75-6 O 28 '50

Chemicals on the waterways. A. J. Dawson. il Chem & Eng N 29:2813-17 Jl 9 '51

Combination towboat and barge. il Marine Eng 56:67-8 F '51

Drilling barge launched at Avondale. il Marine Eng 56:67-8 Jl '51

Humble making hole with world's most powerful barge-mounted rig. L. S. McCaslin, jr. il diag Oil & Gas J 49:66-7+ N 30 '50

Integrated coal barge fleet for Central barge company placed in service on upper Mississippi. il Marine Eng 55:56-7 N '50

Queen Mary sold; Aramco buys barge for Persian Gulf drilling. Oil & Gas J 50:48 Ag 2 '51

Submersible 1800-hp drilling barge operates in Corpus Christi bay. G. O. Danielson. il plans Pet Eng 23:B14+ Je '51

See also

Loading and unloading—Barges

Tank barges

BARGES, Aluminum

Composite plating; new method of light alloy barge construction. il Metallurgia 44:143-4 S '51

BARITE

Barite concretions from the ocean floor. R. Revelle and K. O. Emery. map Geol Soc Bul 62:707-23, pl 1-2 bibliog(p722-3) Jl '51

Barite, 1950. R. Rowand. Eng & Min J 152: 101 F '51

Barytes aggregates make heavy concrete for shielding. E. G. Tirpak. il Civil Eng 21: 453-6 Ag '51

Barytes in continuous weighting of river-crossing pipe. il World Oil 132:245-6 Ap '51

Genesis of asbestos and barite, Cuddapah district, Rayalaseema, south India. P. B. Murthy. Econ Geol 45:681-96 bibliog(52 titles, p695-6) N '50

Pipe-line crossing uses jacketing of barytes-laden cement. J. A. Kornfeld. il Oil & Gas J 49:82-3 Ap 12 '51

Scraper assembly cuts costs at open-pit barite mine. H. J. Tillia. il map Eng & Min J 152:78-9 Ag '51

Use of barytes on pipe lines. F. H. Love. il Pet Eng 23:D26+ Je '51

BARIUM

Barium supply scale tips. il Chem W 69: 39 S 8 '51

Volumetric determination of sulfate ion; using barium ion and a standard disodium dihydrogen ethylenediamine tetraacetate solution. J. R. Munger, R. W. Nippler and R. S. Ingols. bibliog Anal Chem 22:1455-7 N '50

See also

Barite

Analysis

Precipitation in homogeneous solution; separation and determination of barium, strontium, and calcium. P. J. Elving and R. E. Van Atta. bibliog Anal Chem 22:1375-8 N '50

Isotopes

Coincidence studies on the radiations from Ba^{131}. W. H. Cuffey. bibliog Phys R 82: 461-2 My 1 '51

Energy of the metastable state of Ba^{135}. W. H. Cuffey and R. Canada. bibliog il Phys R 83:654 Ag 1 '51

Gamma-radiation of Ba^{131}. E. B. Dale and others. Phys R 80:763 N 15 '50

Gamma-ray spectrum of Ba^{131}. E. L. Zimmerman and others. Phys R 80:908-9 D 1 '50

Nuclear isomers of Ba^{133} and Ba^{135}. R. D. Hill and F. R. Metzger. Phys R 83:455 Jl 15 '51

Nuclear spectroscopy of Ba^{131} and Cs^{131}. R. Canada and A. C. G. Mitchell. bibliog diag Phys R 83:76-9 Jl 1 '51

Radioactivity of barium 140. J. M. Cork and others. diag Phys R 83:856 Ag 15 '51

BARIUM—Isotopes—*Continued*

Use of ion exchangers for the determination of physical-chemical properties of substances, particularly radiotracers, in solution; activity coefficients of barium nitrate in uranyl nitrate. J. Schubert. Am Chem Soc J 73:4488-9 S '51

BARIUM alloys

Secondary emission of nickel-barium mixtures and rhenium when bombarded by electrons with energies from 50 to 8000 electron-volts. H. E. Farnsworth and M. J. Lun. il diag J Ap Phys 22:77-9 Ja '51

BARIUM aluminates

Study of the system barium oxide-aluminum oxide-water at 30° C. E. T. Carlson and others. bibliog J Res Nat Bur Stand 45:381-98 N '50

BARIUM carbonate

Determination of boron in metal borides. H. Blumenthal. Anal Chem 23:992-4 Jl '51

BARIUM chloride

Control salt bath when heat-treating high-speed steel. J. G. Morrison. Iron Age 167:63-6 My 31 '51

Determination of sulfur after combustion in a small oxygen bomb; rapid titrimetric method. R. K. Siegfriedt, J. S. Wiberley and R. W. Moore. bibliog il Anal Chem 23:1008-11 Jl '51

BARIUM chloride metaphosphate

Barium chloride metaphosphate. F. R. Hartley and A. D. Wadsley. bibliog Am Chem Soc J 73:1599-602 Ap '51

BARIUM compounds

System $Ba(IO_3)_2$-$BaCl_2$-H_2O at 25°. J. E. Ricci. Am Chem Soc J 73:1375-6 Mr '51

BARIUM dicalcium propionate

Phase transition in bariumdicalcium-propionate. S. Seki and others. bibliog J Chem Phys 19:1061-2 Ag '51

BARIUM halophosphates

Luminescent barium and magnesium halophosphates. J. T. Anderson and R. S. Wells. Electrochem Soc J 98:414-16 O '51

BARIUM hydroxide

Study of the system barium oxide-aluminum oxide-water at 30° C. E. T. Carlson and others. bibliog J Res Nat Bur Stand 45:381-98 N '50

BARIUM nickel oxides

Barium-nickel oxides with tri- and tetravalent nickel. J. J. Lander and L. A. Wooten. il Am Chem Soc J 73:2452-4 Je '51

BARIUM nitrate

Standard X-ray diffraction patterns. H. E. Swanson and E. Tatge. bibliog J Res Nat Bur Stand 46:318-27 Ap '51

BARIUM oxide

Barium oxide on tungsten cathode interface. H. P. Rooksby and E. G. Steward. J Ap Phys 22:358-9 Mr '51

Dielectric constant of barium oxide. R. S. Bever and R. L. Sproull. bibliog diags Phys R 83:801-5 Ag 15 '51

Effect of coating composition of oxide-coated cathodes on electron emission. E. G. Widell and R. A. Hellar. bibliog il J Ap Phys 21:1115-18 N '50

Enhanced photoelectric emission effect in barium oxide. B. D. McNary. bibliog Phys R 81:631-2 F 15 '51

Evaporation products of barium oxide from various base metals and of strontium oxide from platinum. L. T. Aldrich. bibliog diag J Ap Phys 22:1168-74 S '51

Growth and manipulation of barium oxide crystals. R. L. Sproull and others. bibliog il diags R Sci Instr 22:410-14 Je '51

Optical absorption and photoconductivity in barium oxide. W. W. Tyler and R. L. Sproull. bibliog diags Phys R 83:548-55 Ag 1 '51

Optical absorption of barium oxide with excess barium. E. O. Kane. J Ap Phys 22:1214-15 S '51

Perturbations in the BaO spectrum. I. Kovacs and A. Lagerqvist. bibliog J Chem Phys 18:1683-4 D '50

Phase diagram of the BaO-TiO_2 system. W. O. Statton. bibliog il diag J Chem Phys 19:33-40 Ja '51

Phase system BaO-NiO. J. J. Lander. bibliog il Am Chem Soc J 73:2450-2 Je '51

Photoconductivity and photoelectric emission of barium oxide. H. B. DeVore and J. W. Dewdney. bibliog diags Phys R 83:805-11 Ag 15 '51

Photoelectric changes induced in SrO and BaO by ultraviolet irradiation. J. E. Dickey and E. A. Taft. Phys R 80:308 O 15 '50

Study of the system barium oxide-aluminum oxide-water at 30° C. E. T. Carlson and others. bibliog J Res Nat Bur Stand 45:381-98 N '50

Thermionic emission from (Ba-Sr)O cathodes illuminated by the incandescent lamp. T. Hibi and K. Ishikawa. Phys R 83:659-60 Ag 1 '51

BARIUM phosphate

Ultrasonic studies of Weimarn gels. A. M. Srivastava. bibliog il diags Acoustical Soc Am J 23:553-8 S '51

BARIUM phosphotungstate

Preparation of phosphotungstic acid and of sodium and barium phosphotungstates. M. A. Phillips. Soc Chem Ind J 69:282-4 S '50

BARIUM silicates

Deterioration of oxide-coated cathodes under low duty-factor operation. J. F. Waymouth, jr. bibliog il diags J Ap Phys 22:80-6 Ja '51

High-temperature modification of barium feldspar. B. Yoshiki and K. Matsumoto. il Am Cer Soc J 34:283-6 S 1 '51

BARIUM steel company

Phillips Petroleum splits oil profits in return for Barium pipe. Iron Age 167:119 Je 21 '51

BARIUM sulfate

Comparison of two methods for correcting for self-absorption of beta particles, using sulfur. G. K. Schweitzer and J. T. Garrett. bibliog J Phys & Colloid Chem 55:195-9 F '51

Functions and behavior of the components of expanders for the negative plates of lead-acid storage batteries. A. C. Zachlin. bibliog il Electrochem Soc J 98:325-33 Ag '51

Investigations on the passage of light through suspensions. A. H. M. Andreasen and others. il diags Soc Chem Ind J 69:312-17 O '50

Ultrasonic studies of Weimarn gels. A. M. Srivastava. bibliog il diags Acoustical Soc Am J 23:553-8 S '51

See also

Barite

BARIUM sulfide

Preparation and tests of refractory sulfide crucibles. E. D. Eastman and others. diags Am Cer Soc J 34:128-34 Ap 1 '51

BARIUM titanate

Barium titanate transducer capable of large motion at an ultrasonic frequency. W. P. Mason and R. F. Wick. il diags Acoustical Soc Am J 23:209-14 Mr '51

Dielectric properties of $BaTiO_3$ at low temperatures. W. J. Merz. diags Phys R 81:1064-5 Mr 15 '51

Domain boundary motion in ferroelectric crystals and the dielectric constant at high frequency. C. Kittel. Phys R 83:458 Jl 15 '51

Elastic and electromechanical coupling coefficients of single-crystal barium titanate. W. L. Bond and others. Phys R 82:442-3 My 1 '51

Electromechanical behavior of $BaTiO_3$ single-domain crystals. M. E. Caspari and W. J. Merz. bibliog diags Phys R 80:1082-9 D 15 '50

Electrostatically induced permanent memory. C. F. Pulvari. bibliog diags J Ap Phys 22:1039-44 Ag '51

Evidence for the noncubic high temperature phase of $BaTiO_3$. E. A. Wood. il J Chem Phys 19:976 Jl '51

Ferroelectrics and ferromagnetics. Tech R 53:343 My '51

High intensity short duration spark light source. J. A. Fitzpatrick and others. il diag J Ap Phys 21:1269-71 D '50

Lorentz correction in hexagonal barium titanate. J. R. Tessman. Phys R 83:677-8 Ag 1 '51

Miniature piezoelectric accelerometer uses barium disk. Product Eng 22:175 O '51

Phase diagram of the BaO-TiO_2 system. W. O. Statton. bibliog il diags J Chem Phys 19:33-40 Ja '51

BARIUM titanate—*Continued*
Properties of beryllium-barium titanate dielectrics. E. N. Bunting and others. bibliog J Res Nat Bur Stand 47:15-24 Jl '51
Self-generating accelerometers. G. K. Guttwein and A. I. Dranetz. bibliog il diags Electronics 24:120-3 O '51
Structure of barium titanate at elevated temperatures. J. W. Edwards, R. Speiser and H. L. Johnston. bibliog Am Chem Soc J 73:2934-5 Je '51
Temporary enhancement of hysteresis in barium titanate samples. D. R. Young. J Ap Phys 22:523-4 Ap '51

BARIUM zinc silicate
Cathodoluminescence characteristics of some barium-zinc-silicate phosphors with manganese activator. S. Larach. Electrochem Soc J 98:369-70 S '51

BARK
Bark volume in cordwood. E. B. Chamberlain and H. A. Meyer. il Tappi 33:554-5 N '50
Canadian wood bark as a source of tannin. C. Greaves. Pulp & Pa of Can 52:118+ Mr '51
Chemistry of New Zealand melicope species; constituents of the bark of melicope simplex. L. H. Briggs and R. H. Locker. Chem Soc J p2376-9 S '50
Effect of bark in the neutral sulphite semichemical pulping of aspen, hickory, and slash pine. E. L. Keller. bibliog Tappi 33:556-60 N '50
Extractives from ponderosa pine bark. E. F. Kurth and J. K. Hubbard. il Ind & Eng Chem 43:896-900 Ap '51
Products obtained by destructive distillation of Douglas-fir bark. E. F. Kurth and C. V. S. Ratnam. bibliog diag Tappi 33:517-19 O '50
Progress in bark burning equipment for steam generation in paper mills. J. E. Neilson. il Pulp & Pa of Can 52:99-101 My '51
Redwood bark fiber insulation; its properties and application. E. Simons. bibliog il Refrig Eng 59:782-7; Discussion. 787+ Ag '51
Reveals new slants on burning wet salt-laden bark. S. B. Roberts. il diags Power 95:92-5+ S '51

BARK beetles
Bark beetle damage increasing in South. Paper Ind 33:296 Je '51
Bark beetle outbreaks; abstract. J. A. Beal. Paper Tr J 132:26 Ap 13 '51

BARK peeling
Chemical debarking studies begin at Syracuse. Paper Ind 33:391-2 Jl '51
Pulpwood peeler will operate in all seasons. il Paper Ind 32:1294 Mr '51
Pulpwood preparation in Scandinavia; peeling of pulpwood and sawlogs. J. H. Stoeckeler. Paper Ind 32:971 D '50
Recent developments in hydraulic barking. M. Johnson. Paper Tr J 133:75-6 Jl 13 '51; Same abr. Paper Ind 33:530+ Ag '51

BARKLEY, Alben William, 1877-
Vice President Barkley to address jubilee banquet. por(cover) Chem & Eng N 29:3626 S 3 '51

BARLEY
CCC loans, small crop may firm barley price. Barron's 31:19-20 Ag 6 '51
Crystalline hemicelluloses; crystalline and amorphous xylan from barley straw. A. P. Yundt. bibliog il Tappi 34:89-91 F '51

BARNACLES
Instance of the occurrence of carcinogenic substances in certain barnacles. M. B. Shimkin and others. Science 113:650-1 Je 8 '51

BARNACLES, Effect of electricity on
Electrical control of marine fouling. E. S. Castle. il Ind & Eng Chem 43:901-4 Ap '51

BARNARD, Daniel Paddock, 1901-
SAE recognizes Dr Barnard for work on fuels and engines. por Nat Pet N 43:54 Ja 10 '51
To get 1949 Horning memorial award. por S A E J 58:55 N '50

BARNS and stables
American barn; its varied forms. M. M. Foley. il plans diags Arch Forum 95:170-7 Ag; 214-20 S '51

BAROMETERS

Rating

Barometers for home use; aneroid barometers as altimeters. il diag Consumers Res Bul 28:20-3 S '51

BAROSTATS
Barostat for high-altitude chamber. H. F. Brubach and H. Specht. diag Science 114:362-3 O 5 '51

BARRACKS
Army school; Signal corps school and model barracks, Ft Monmouth, N.J. il plan Arch Forum 95:170-1+ S '51
New Offutt air force barracks provide more amenities, cost less. il plans Arch Forum 94:13 F '51

BARRELS
Plywood tobacco hogsheads fold away. il Bsns W p98-101 Jl 14 '51

Manufacture

Safety by the barrel; Blue grass cooperage co., Louisville, Ky.; photo visit. Mod Ind 21:18+ My '51

BARRELS, Aluminum
Fabricating aluminum barrels. H. Jarman. il Light Metal Age 8:6-7+ D '50

BARRETT, Charles Sanborn, 1902-
Presentation of the Clamer medal. por Franklin Inst J 250:570-1 D '50

BARRILLA mountains
Geology of the Barrilla mountains, Texas. G. K. Eifler, jr. bibliog map Geol Soc Bul 62:339-53, pl 1-2 Ap '51

BARRON'S (periodical)
Barron's market laboratory; comments by readers. Barron's 30:11-12 D 25 '50

BARTER exchanges
Chicago realtor traders club; springboard for swaps. il Bsns W p 100-2 Ag 25 '51

BARTLESVILLE, Oklahoma

Water supply

Selective use of raw water. W. L. Patterson. il map diag Water & Sewage Works 97:491-4 D '50

BARTON, Bruce, 1886-
End of a Bruce Barton legend. B. Barton. Ptr Ink 235:46 Je 8 '51

BARYTES. See Barite

BASALT
Tree trunks preserved in a volcanic flow in the northern Cameroons. H. P. T. Hyde. bibliog map Am J Sci 249:72-7, pl 1 Ja '51

BASE exchanging compounds
Cation-exchange studies with the colloidal clay salts of silver. S. K. Mukherjee and S. Ghosh. bibliog J Phys & Colloid Chem 54:1110-21 N '50
Student experiments on ion exchange. S. Peterson. J Chem Educ 28:22-3 Ja '51

BASEBALL
Baseball faces squeeze play. Bsns W p23 Ag 11 '51
Batter up! baseball follows a book of engineering principles. H. Penn. Midwest Eng 3:21-2 My '51
Former banker drafts baseball schedules. M. Sheridan. Banking 43:137 Je '51
Thyratron-controlled photoelectric umpire; detects passage of baseball through strike zone and indicates speed of ball. R. F. Shea. il diags Electronics 23:74-7 D '50
White Sox; hot team can net $300,000. il Bsns W p54-8 Jl 14 '51

See also
Frick, Ford Christopher

BASEBOARD heating. See Heating—Baseboard heating

BASEMENT stores
See also
Department stores—Basements

BASEMENTLESS construction
Argument for basementless houses; Schmitt homes, Mansfield, Ohio. il plans Am Bld 73:154-5 Ja '51
Perimeter heating provides answer to problem of heating homes without basements. il Dom Eng 176:132-3+ D '50
Radiant baseboard heating and effects of reduced thermostat setting and open bedroom windows at night. W. S. Harris and R. H. Weigel. il plans diags Ill U Eng Exp Sta Bul 391:1-67 '51 (pa 70c)
Research on extending foundation of basementless houses. Sheet Metal Worker 42:92 N '50

BASEMENTLESS construction—*Continued*

Round table report of home building experts; foundation; basementless houses. Arch Forum 94:124 F '51

Utility room vs. basement; University of Illinois survey reveals growing popularity for basementless house. R. Ferber. Arch Forum 94:68+ Mr '51

Walking on warm air; basementless house has floor of two thin concrete slabs, and channels of brick between to circulate warm air. il plan diags Am Bld 73:176+ Ja '51

BASEMENTS

100 basement units in 112 days, with prefabricated steel forms. il Constr Methods 33:52-3 F '51

Utility room vs. basement; University of Illinois survey reveals growing popularity for basementless house. R. Ferber. Arch Forum 94:68+ Mr '51

BASES (chemistry)

Acidity and the systems of acids and bases. R. Ferreira. bibliog J Chem Phys 19:794 Je '51

Adsorption of organic bases on silica gel, and heats of adsorption. B. J. Gyani. diag Chem Soc J p 1521-4 Je '50

Base strengths of N,N′-dialkylguanidines. B. Neivelt and others. bibliog Am Chem Soc J 73:3475-8 Jl '51

Conductance of aluminum bromide monoetherate on addition of various bases at 25°. R. E. Van Dyke and T. S. Harrison. Am Chem Soc J 73:575-8 F '51

β-Propiolactone; mechanisms involved in the reaction of β-propiolactone with acids and bases. P. D. Bartlett and P. N. Rylander. Am Chem Soc J 73:4273-4 S '51

Structure of Knudsen's base and of related compounds. M. E. Foss and others. 2pls Chem Soc J p624-8, 1691-5 F, Jl '50

Studies in the azole series. A. H. Cook and A. L. Levy. Chem Soc J p637-45 F '50

See also

Alkaloids	Mannich bases
Amines	Schiff bases

BASICITY

Relative basicity of the methylbenzenes. D. A. McCaulay and A. P. Lien. bibliog diag Am Chem Soc J 73:2013-17 My '51

BASIN oil corporation

Units offered. Comm & Fin Chr 174:717-18 Ag 27 '51

BASING point system. See Price policies

BASRAH petroleum company

U.S. group ready to take Basrah oil concession if Iraq ends agreement. Nat Pet N 43:36 Ap 18 '51

BASSWOOD

Some effects of high velocity electrons on wood. E. J. Lawton and others. Science 113:380-2 Ap 6 '51

BAST fibers

Bast and leaf fibers; development and prospects. A. J. Turner. Textile Inst J 42: P325-36; Discussion. P336-8 Ag '51

See also

Flax
Jute
Ramie

BATES, Joseph S. 1890-

NPA chemical setup starts rolling under Bates. por(cover) Chem & Eng N 28:4086 N 20 '50

BATES manufacturing company

Battle for stock. Bsns W p 124 Mr 17 '51

New products pay off for Bates this year. Barron's 30:16 O 30 '50

BATH iron works

Securities disturbing investors. R. Colston. Mag of Wall St 88:363 Je 30 '51

BATH preparations

Bath products. M. A. Lesser. bibliog(44 ref) il Soap & San Chem 27:46-9+ F; 46-7+ Mr '51

BATH salts. See Bath preparations

BATHING beaches

Acceptable standards for natural waters used for bathing. C. R. Cox. Am Soc C E Proc 77 [no 74]:1-7 Je '51

Bacterial survey of streams and bathing beaches at Cleveland. J. S. Delos. map Sewage & Ind Wastes 22:1618-24 D '50

BATHOLITHS

Radioactivity of the Bourlamaque, Elzevir, and Cheddar batholiths, Canada. W. N. Ingham and N. B. Keevil. bibliog maps diag Geol Soc Bul 62:131-48 F '51

BATHROOM fixtures

Dreyfuss' lavatory takes New York architectural league's gold medal award. il Arch Forum 94:210+ Ap '51

New Lavanette serves dual purpose; lavatory, medicine cabinet and linen cupboard in one unit. il plans Am Bld 73:165+ F '51

BATHROOMS

Bathtub warming; warm air heating system. diags Am Bld 73:218 Ag '51

40 ways to plan bathrooms. il plans diags Am Bld 73:92-103 Ag '51

Hello there, Mr Hadrian; Mr Gibbings' bathroom. il diag Arch Forum 95:185 Jl '51

Suggestions for the merchant builder; interior bathrooms. il plans Arch Forum 94: 117 Ja '51

X-ray bathroom; display of Mort co. il plan Dom Eng 178:100-1 Jl '51

Lighting

Planned bathroom lighting aid to builders. il diag Am Bld 73:117+ Ag '51

BATHS (chemical apparatus)

Steam-heated acid cleaning bath. C. K. Hancock. diag J Chem Educ 27:621 N '50

BATHS, Shower. See Shower baths

BATIK

Danish artists produce batique art on paper. il Inland Ptr 127:42 Ap '51

BATTELLE international institute

International research institute; Battelle to operate on Continent. Chem Age (Lond) 65:285 S 1 '51

BATTLE CREEK, Michigan

Sewerage

Battle Creek sewage plant produces new product. R. R. McIntosh. il Water & Sewage Works 98:413-15 O '51

BAUXITE

Bauxite from Jamaica. Can Chem & Process Ind 34:925 N '50

Bauxite production and imports, 1943-1950; tabulation. Steel 128:132 Ja 1 '51

Development in Jamaica bauxite. Can Min J 72:77 Ag '51

Effect of solvent on the adsorption of liquids by bauxite and attapulgus clay. J. G. Miller, H. Heinemann and W. S. W. McCarter. bibliog J Phys & Colloid Chem 55:515-23 Ap '51

Extraction of alumina from Haiti and Jamaica bauxites. T. D. Tiemann. J Metals 3:Trans 389-93 My '51

First Caribbean bauxite development; Reynolds Jamaica mines, ltd. O. C. Schmedeman. il maps Eng & Min J 151:98-100 N '50

Kaiser to mine bauxite in Jamaica, ship to Baton Rouge. Chem & Eng N 29:3620-1 S 3 '51

Mining aluminum ore; Arkansas bauxite. E. W. Buskett. il Min Cong J 37:36-8 Je '51

Recovery of titania from the bauxite sludge. S. M. Mehta and S. R. Patel. Am Chem Soc J 73:226-7 Ja '51

Thermal activation of bauxite. R. Sersale. Chem Age (Lond) 64:175 Ja 27 '51

BAXTER, Charles S.

Baxter heads tariff study group. Ry Age 131:37 S 3 '51

BAYOL, Edgar S.

Man behind Coke. por Ed & Pub 83:12 N 11 '50

BAYUK cigars, inc.

Securities disturbing investors. R. Colston. Mag of Wall St 87:335, 347 D 30 '50

BEACH houses

House on stilts reaches for view and breeze. J. J. Underwood and S. S. Underwood. il plans Arch Forum 94:172-4 Je '51

BEACHES

Beach protection engineers attempt to outwit nature at Presque Isle peninsula. F. H. Forney and G. A. Lynde. il maps Civil Eng 21:508-11 S '51

Ocracoke's beach sand roads. J. L. Morrison. il map Pub Works 82:42-3+ Jl '51

See also

Shore lines

BEACHING gear. See Flying boats—Beaching gear

BEACONS

Identification beacon at London airport. il Engineer 191:621 My 11 '51

BEADING

Merits of beaded and non-beaded boiler tubes. T. W. Reynolds. Heat & Ven 48: 65-6 Mr '51

BEAM system. See Radio communication—Beam system

BEAMS and girders

Advertising pays off in specialty concrete making; Arrowcrete corp. il Concrete 59: 14-16 Ag '51

Analysis of continuous circular curved beams. B. Velutini. diags Am Concrete Inst J 22: 217-28 N '50

Anticlastic curvature of rectangular beams and plates. D. G. Ashwell. diags Roy Aeronautical Soc J 54:708-15 N '50

Automatic welder fabricates heavy beams from plates. R. E. Peterson. il Constr Methods 33:82-3 Ag '51

Concrete beams with compression reinforcement. E. Hognestad. Am Concrete Inst J 22:567-9 Mr '51

Determining optimum cross sections for prestressed concrete girders. F. J. Uziel. diag Am Concrete Inst J 22:197-212 N '50

Direct design of T-beams. H. J. Cowan. bibliog diags Am Concrete Inst J 22:533-44 Mr '51; Discussion. 23:544^1-544^4 pt 2 D '51

Economical cross section of prestressed I-beams and box girders determined graphically. K. P. Billner. diags Am Concrete Inst J 22:565-7 Mr '51

Extra flange rivets for web splice easily computed. T. Lappo. diags Civil Eng 20: 786 D '50

Factors in prestressed girder design; Walnut Lane bridge, Philadelphia. M. Fornerod. diags Am Concrete Inst J 22:469-80 F '51; Discussion. 23:480^1-480^7 pt 2 D '51

Flexural stresses in curved beams of I- and box-section. C. G. Anderson. bibliog diags Inst Mech Eng Proc 163(W.E.P. no 62): 295-306, pl 1-2; Discussion. 318-25 '50

Graphical analysis of axially end-loaded beams. H. D. Conway. Machine Design 23: 137-40+ Ja '51

How conventional timbers and suspension supports help control beam action in mine roof. il Coal Age 55:102+ N '50

How much prestress? P. W. Abeles. diag Eng N 147:32-3 Jl 5 '51

How to design a prestressed concrete tee-beam. V. J. Brown. diags Roads & Sts 94:47-54 Je '51

Limit design of beams and frames. H. J. Greenberg and W. Prager. diags Am Soc C E Proc 77 [no 59]:1-12 F '51

Precast beams used on Snoqualmie Pass snowsheds. il Concrete 59:34+ Ja '51

Precast roof beams help beat winter on snowshed construction. il Constr Methods 33:94-5+ Ap '51

Prestressed beams with bond. P. W. Abeles. diags Eng N 146:42-3 Ap 12 '51

Prestressed-steel structures. G. Magnel. Engineering 170:386 N 17 '50

Solid laminations make strong test beams. G. E. Heck. il Eng N 146:38-9 Je 28 '51

Solution of beam-on-elastic-foundation problems by means of a mechanical analogue. A. A. Wells. il diags Inst Mech Eng Proc 163(W.E.P. no 62):307-10; Discussion. 316-25 '50

Stability and strength of slender beams. A. R. Flint. il diags Engineering 170:545-9 D 22 '50

Steel box girders support highway bridge. H. M. Hadley. il diags Eng N 146:34-5 Ap 12 '51

Strength of I-beams in combined bending and torsion. B. Sourochnikoff. diags Am Soc C E Proc 76 [no 33]:1-18 S '50; Discussion. 77 [no D-33]:1-6 S '51

Successive approximations for beams on an elastic foundation. E. P. Popov. bibliog diags Am Soc C E Proc 76 [no 18]:1-13 My '50; Discussion. 77 [no D-18]:1-13 Ap '51

Testing

Fatigue tests of beams in flexure. W. M. Wilson. diags Welding J 30:sup 105-15 Mr '51

Interpretive report on box girders and small specimens. L. Grover and others. il plans diags Welding J 30:sup321-6 Jl '51

Prestressed concrete beams can take it; illustrations with text. Bsns W p52-3 Ag 25 '51

Prestressed concrete beams for industrial buildings, tested to destruction by Austin co. il Arch Forum 95:192-3 S '51

Prototype prestressed beam justifies Walnut Lane Bridge design. G. Magnel. diags Am Concrete Inst J 22:301-16 D '50

BEAN, Louis H. 1896-

Best-known prophet since Daniel. pors Bsns W p64+ Ag 18 '51

BEAN mosaic virus. See Viruses, Plant

BEANS

Detection of internally-borne bacterial pathogens of beans by a rapid phage-plaque count technique. H. Katznelson. bibliog Science 112:645-7 D 1 '50

Enzymic synthesis and degradation of starch; the phosphorylase and *Q*-enzyme of broad bean; the *Q*-enzyme of wrinkled pea. P. N. Hobson, W. J. Whelan and S. Peat. Chem Soc J p3566-73 D '50

Plant-growth inhibitors from red kidney bean seeds. S. M. Siegel. Science 112:754-5 D 22 '50

Plant growth-stimulating hormones in immature bean seeds. J. W. Mitchell and others. bibliog il Science 114:159-61 Ag 10 '51

Some properties of an ascorbic acid oxidation inhibitor in vegetables. B. J. Branthoover and M. M. Hard. bibliog Science 114:296-8 S 21 '51

See also

Castor beans

BEAR dens, Concrete

Bear grotto is constructed of concrete. il Eng N 146:49 Mr 15 '51

BEARING metals

Bearing metals; nickel-alloyed brass and bronze castings. J. S. Vanick. il Foundry 78:80-3+ D '50

Modern carbon composites. S. A. Murray. il Automobile Eng 41:182-4 My '51

See also

Babbitt metal

BEARING surfaces

Effect of macro-roughness on the performance of parallel thrust bearings. M. E. Salama. il diags Inst Mech Eng Proc 163 (W.E.P. no 59):149-58; Discussion. 158-61 '50

BEARINGS

Accuracy of precision-instrument bearings approaches the immeasurable. il Fortune 43:19 Ap '51

Air lubricated bearings. P. M. Mueller. diags Product Eng 22:112-15 Ag '51

Analysis of the full-floating journal bearing. M. C. Shaw and T. J. Nussdorfer, jr. bibliog il diags U S Nat Advisory Com for Aeronautics 1947:95-107 '50

AISE recommended plain bearing design practice. C. E. Pritchard. Iron & Steel Eng 28:116-18 My '51

Bearing design vs unusual lubrication systems. diags Product Eng 22:187 My '51

Bearings for high speed and high temperature operation. diags Product Eng 22:184-6 My '51

Centrifugally cast bronze-back bearings for heavy-duty operation. L. M. Tichvinsky. bibliog il diags A S M E Trans 73:391-8 My '51

Emergency repairs for slow speed bearings. diags Mill & Factory 49:97 S '51

He wants to know about bearings. R. H. Freyberg; O. L. Brage; H. B. McDermid. diags Power Eng 55:99-100+ Je; 92-3 Ag '51

Heavy silver plating of bearings. F. C. Mesle. il diags Metal Finishing 49:103-4+ Jl '51

How a manufacturer cut costs by increasing packages threefold; Hyatt Bearings. il Ptr Ink 235:35 My 11 '51

Lubrication at extreme pressures with mineral oil films. O. H. Clark and others. bibliog il diags J Ap Phys 22:474-83 Ap '51

Metal plus chemical equals dry bearings. Product Eng 22:246+ My '51

Oil-air vapor system developed for all kinds of machine bearings. il Chem Eng 57:172 N '50

BEARINGS—*Continued*

Oil film thickness indicators for sleeve-type bearings. il Diesel Power 29:62 S '51

Oil-pocket metal powder bearings improve self-lubricating qualities. J. Haller. il Materials & Methods 33:80-1 My '51

Selection and casting of babbitts for engine and other bearings. R. V. Simpson. il Diesel Power 29:44-7 Jl '51

See also

Bearing metals	Bearings, Thrust
Bearings, Ball	Lubrication and lubricants
Bearings, Roller	

also subdivision Bearings under special subjects, e.g.

Automobiles
Cars
Diesel engines

Manufacture

Machining and hardening in the same setup. J. Geschelin. il Automotive Ind 104:50+ Ja 15 '51

Standards

Association of iron and steel engineers plain bearing recommended practice. bibliog il diags Iron & Steel Eng 28:sup PB3-37 Jl '51

Oil-impregnated sintered bearings; reference book sheet. Am Mach 95:139, 141 Ag 6 '51

Testing

Bearing selector measures freeness. H. J. Gifford. diags Am Mach 95:132 Ag 6 '51

Performance of oil-film bearings with abrasive-containing lubricant. A. E. Roach. bibliog il diags A S M E Trans 73:677-85; Discussion. 685-6 Jl '51

BEARINGS, Anti-friction

Chart shows details of training program; SKF industries. il Ptr Ink 233:37 D 1 '50

Proper installation and care of anti-friction bearings. Pet Eng 23:D39 Ja '51

Selection, care, installation of antifriction bearings. J. A. Trail. il Oil & Gas J 49:94-6+ D 7 '50

BEARINGS, Ball

Ball bearing geometry. R. Krouse. diags Machine Design 23:158-62 F '51

Ball bearing imports, 1938-1950; tabulation. Iron Age 167:346 Ja 4 '51

Ball bearing is sealed without mechanical contact. il Product Eng 22:248+ My '51

Ball bearing pillow blocks to compensate for shaft expansion. R. E. Downs. il diags Product Eng 22:126-8 Ap '51

Elastic girdles for ball bearings. J. H. Stark. il diags Product Eng 22:188-92 S '51

Inspection device for watthour meter ball bearings. E. H. Tyson. il Elec World 135:122 Je 18 '51

Molybdenum can replace chromium in bearing steels. A. S. Jameson and others. il Iron Age 167:102-7 Ap 5 '51

Failure

Why ball bearings fail; illustrations with text. diags Power 95:116-17 My '51

Manufacture

Induction hardening tank turret bearing rings. A. H. Allen. il diag Steel 129:64-6 Jl 30 '51

Portable hopper type container facilitates assembly of balls. W. M. Halliday. diag Mach 57:189-90 Ag '51

Standards

Why standards for ball and roller bearings? V. L. Barr. il Standardization 22:220-2 Jl '51

BEARINGS, Roller

Application of railway roller bearings to motor changeovers. S. S. Van Pelt. Iron & Steel Eng 27:151 O '50

Hyatt roller bearings for freight-cars. il diag Ry Age 131:80-1 S 17 '51; Same. Ry Mech & Elec Eng 125:96+ O '51

Maintenance of roller bearings in steel plants. P. L. Haager. il diags Iron & Steel Eng 28:172-94 S '51

Press removes Hyatt outer races. il Ry Mech & Elec Eng 125:68 Je '51

Roller bearing imports, 1938-1950; tabulation. Iron Age 167:346 Ja 4 '51

Tapered roller bearings. Engineer 191:770 Je 8 '51

Standards

Why standards for ball and roller bearings? V. L. Barr. il Standardization 22:220-2 Jl '51

BEARINGS, Step. See Bearings, Thrust

BEARINGS, Thrust

Development of the Kingsbury thrust bearing. A. Kingsbury. il diags Mech Eng 72:957-62 D '50

Effect of macro-roughness on the performance of parallel thrust bearings. M. E. Salama. il diags Inst Mech Eng Proc 163 (W.E.P. no 59):149-58; Discussion. 158-61 '50

General Electric thrust bearings; 1931-1951. W. S. Moody and E. P. Smoot. il Gen Elec R 54:30-6 Je '51

Proposed standards for pivoted shoe thrust bearings. H. A. S. Howarth. il diags Machine Design 23:150-3 My '51

Stepped film bearings. F. R. Archibald. il diags Machine Design 22:171-2 D '50

BEAT frequency oscillators. See Oscillators

BEATING process. See Paper making—Beating

BEATRICE foods company

Five high yield stocks that should do well in a defense economy; with comparative balance sheet items. Mag of Wall St 87:452 Ja 27 '51

BEAUMONT, Texas

Industries

Banking quarterbacks expansion; industrial equipment firm moves to Beaumont. C. R. Walker. Manuf Rec 119:33-4 N '50

BÉCHAMP reaction

Unit processes; Chemical Engineering report, March 1951; amination by reduction. P. H. Groggins. diag Chem Eng 58:131 Mr '51

BECHTEL, Stephen Davison, 1900-

Portrait. Fortune 43:12 F '51

BECK, Alan

Sketch. por East Underw 52:3-4 Ja 26 '51

BECK, Dave

Portrait. Bsns W p32 O 6 '51

BECKMAN spectrophotometers. See Spectrophotometers

BECKMANN rearrangement. See Molecular rearrangements

BED sofas. See Sofas

BEDDING

See also

Mattresses

BEDFORD, Clay Patrick, 1903-

Portrait. Fortune 44:125 O '51

BEDROOMS

Converting attics into bedrooms. il plans diags Am Bld 73:172-4 Ap '51

Lighting

Lighting an apartment bedroom. A. Page. il diags Illum Eng 46:221-2 Ap '51

BEECH aircraft corporation

Rapid profits build-up seen. Barron's 31:11 Ap 30 '51

BEEF

See also

Cattle breeding

BEER

Glass baffle balks air, betters product; minimizes aeration of beer. A. C. Smith. il Food Ind 23:52-4 Ja '51

High life for Miller's beer. il Bsns W p68+ S 8 '51

Methods of beer filtration; abstract. J. H. Oliver. Food Ind 23:126+ Ja '51

Mexican brewery expects increased sales of beer under new regulations. For Comm W 43:17 Ap 23 '51

Non-stop liquid blending; flow control system at Minneapolis Brewing. D. Kiewal and L. Slater. il diag Food Eng 23:58-9+ Jl '51

Portugal's hops imports and beer production. For Comm W 45:16 O 15 '51

Production, consumption, and export of German beer increases. For Comm W 44:19-20 Ag 6 '51

Recorders assure better brews; Fuhrmann & Schmidt brewing co. N. Appel and W. Thew. il Food Ind 23:119-20 Mr '51

Short stopper; new R&H labels adapt simple monogram to distinctive trademark. il Mod Packaging 24:83 N '50

BEER—*Continued*
When a product suffers from regional apathy. H. Lynde. il Sales Management 67:113-16 S 1 '51

Advertising

Agency tells how advertising moved California beer from seventh to second place. E. Reinhardt. il Adv Agency 44:54-5+ Je '51
How a horse can sell beer; Anheuser-Busch's hitches champion Clydesdales to sales promotion caravans. il Bsns W p22-3 Ag 25 '51
How small advertiser is regaining competitive standing. il Ptr Ink 236:48-9 Ag 24 '51
Starch reports best-read advertisements. il Adv Agency 44:72-3 Mr '51

Transportation

Shipper solves a troublesome switching problem; Miller brewing company uses Payloader tractor. il Ry Age 129:60-1 D 2 '50

BEER containers
Carry-homes, 60 a minute; unit sets up, loads, glues, seals six-can carton. il Food Eng 23:50 Jl '51
Get top operation on your can line with these advanced methods and inspection devices. H. Jacoby. il Food Ind 22:2059-60 D '50
Miller knocks out Blatz in battle of the beer bottles. il Sales Management 67:136+ S 15 '51
Pabst Blue Ribbon nominated for packaging's Hall of fame. il Mod Packaging 24:82-7+, cover Je '51
Tin-can lines; abstract. G. Waldron. Mod Packaging 24:127 D '50

BEER-LAMBERT law
Fluorescence and the Beer-Lambert law; a note on the technique of absorption spectrophotometry. E. A. Braude, J. S. Fawcett and C. J. Timmons. Chem Soc J p 1019-21 Mr '50

BEER'S law
Deviation from Beer's law in the ultraviolet absorption spectra of some organic compounds. H. E. Ungnade and others. bibliog Science 113:601 My 25 '51
Origins of Beer's law. H. G. Pfeiffer and H. A. Liebhafsky. J Chem Educ 28:123-5 Mr '51
Quantitative analysis with infrared spectrophotometers. D. Z. Robinson. bibliog Anal Chem 23:273-7 F '51

BEES
Turmoil among the bees. Sci Am 185:34+ Ag '51

BEETLES
See also
Bark beetles

BEETS and beet sugar
Beet juice defecation. G. Rorabaugh and V. I. Morris. bibliog Ind & Eng Chem 43:619-24 Mr '51
Composition of sugar beet liquors; effect of processing. J. B. Stark, A. E. Goodban and H. S. Owens. bibliog Ind & Eng Chem 43:603-5 Mr '51
Effect of 2,4-D on potassium nitrate levels in leaves of sugar beets. L. M. Stahler and E. I. Whitehead. bibliog Science 112:749-51 D 22 '50
Effects of nonsugars on solubility of sucrose in sugar beet sirups. H. W. Dahlberg and A. N. Bennett. bibliog Ind & Eng Chem 43:660-2 Mr '51
Ion exchange in beet sugar manufacture. J. E. Maudru. bibliog flow diag Ind & Eng Chem 43:615-18 Mr '51
Nitrogenous compounds in sugar beet juices. R. J. Brown. bibliog Ind & Eng Chem 43:610-14 Mr '51
Paper chromatography of organic acids. J. B. Stark, A. E. Goodban and H. S. Owens. bibliog Anal Chem 23:413-15 Mr '51
Reburning of defecation lime cake. R. M. Daniels and R. H. Cotton. diag Ind & Eng Chem 43:624-7 Mr '51
205 carloads of beets a day for one plant; how the Great Northern feeds three American Crystal Sugar plants on a highly specialized operating plan. il map Ry Age 130:38-41 Ja 8 '51

BEHENIC acid
Polymorphism of certain behenyl mixed triglycerides; a new metastable crystalline form of triglycerides. F. L. Jackson and E. S. Lutton. bibliog Am Chem Soc J 72:4519-21 O '50

BEHNCKE, David L.
Behncke bumped but battles on; union head, deposed by directors. Aviation W 55:16 Jl 23 '51
Revolt of the pilots. W. Kroger. Aviation W 55:13-15 Ag 6; 71-5 Ag 13; 63-7 Ag 20; 63-6 Ag 27 '51

BEKINS van and storage company
California moving day; easy, cheap. il Bsns W p92-4 My 5 '51

BELGIAN CONGO. See Congo, Belgian

BELGIUM
See also
Coal mines and mining—Belgium
Electric apparatus industry—Belgium
Labor and laboring classes—Belgium

Economic conditions

Belgium greatly affected by world developments in 1950. il For Comm W 43:3-4+ Je 18 '51
Boom conditions in Belgium. Economist 159:1009-10 D 9 '50
News by countries; For Comm W 41:8 N 6 '50; 42:9 Ja 29; 10 F 12; 43:9 Ap 30; 9-10 My 21; 8-9 Je 25 '51

Industries and resources

Expects peak industrial production in 1951. il Steel 127:70-1 D 11 '50

BELL aircraft corporation
High-flying Bell; annual report. Aviation W 54:17 My 21 '51
1951 net may reach $5 per share. Barron's 31:18 Ap 23 '51

BELL telephone laboratories
Glimpse into telephony's first 75 years. il Midwest Eng 3:6-7+ Ap '51

BELL telephone system
Glimpse into telephony's first 75 years. il Midwest Eng 3:6-7+ Ap '51
Mother Bell biggest spender. Bsns W p 110-12 N 11 '50

BELLAMY, Charles R.
C. R. Bellamy is technical editor of American gas journal. por Am Gas J 174:36 F '51

BELLS
Bell model; light-weight, durable mockups with resin-cloth technique. il Mod Plastics 28:130 D '50

BELTING
Belt re-drives cause costly losses. Brick & Clay Rec 119:31 S '51
Belt with teeth makes positive engagement. il Product Eng 22:164 F '51
Better V-belt drives for less money. F. J. Donahue. Pet Eng 22:E2 D '50; Same. Paper Ind 32:1177-8 F '51; Same. Heat & Ven 48:87 Mr '51; Same. Rock Prod 54:85 Jl '51
Conservation of hose and belting; reference book sheet. Am Mach 95:129 My 28 '51
Gilmer timing belt developed. il India Rubber World 123:563-4 F '51
Gilmer timing belt with teeth that eliminate slippage. il Mach 57:217-18 F '51; Steel 128:71 Ja 29 '51
Give a thought to variable speed. F. H. Rumble. il Heat & Ven 48:97 S '51
Handy aspirin for leather belt headaches; drawings with text. S. Elonka. Power 95:114-15 O '51
How to get the most out of rubber hose and belts; maintenance data sheet. W. L. Smith. Factory Management 109:90, 92, 94 Ap '51
How to keep V-belts on the job. C. J. Busacca and F. H. Rumble. il Power 95:120-1 Je '51
Hybrid belt has teeth; Gilmer's power-transmission and timing belt. il Bsns W p82-3 F 10 '51
Know-how saves V-belt money. P. C. Ziemke. Power Eng 55:85-6 Ag '51
Multiple V-belt drives; reference book sheet. diags Am Mach 95:179, 181 Jl 9 '51
New drive for plant and product; Gilmer timing belt. il Mod Ind 21:73-4 F '51; Mech Eng 73:220-1 Mr '51; Machine Design 23:161 Ap '51; Product Eng 22:177 My '51

BELTING—*Continued*

Proper treatment increases V-belt life. T. G. Hicks. il diags Textile World 101:124-5 Ja '51

Sag vs. belt length. F. H. Rumble. Oil & Gas J 49:83 Ag 10 '50; Same. Heating-Piping 22:119 S '50; Same. Paper Tr J 131:28 O 12 '50; Same. Eng & Min J 151:94 N '50

Stretching V-belt life. il diags Power 95:116-17 Ag '51

Toothed belt gives precision drive; illustrations with text. Factory Management 109:136-7 Mr '51

V-belt drives. il Product Eng 22:178 My '51

V-belt drives in public works. F. J. Donahue. Pub Works 82:60-2 Je '51

V-belt sheaves; reference book sheet. diags Am Mach 95:165 Jl 23 '51

Variable-speed V-belt drive. il Engineering 171:109 Ja 26 '51

Tables, calculations, etc.

Engineer your V-belt drives for lowest-cost operation. C. J. Busacca and F. H. Rumble. il diags Power 94:117-19+ D '50

BELTING, Conveyor

Are stainless conveyor belts commercially feasible? il Steel 127:100-1 N 13 '50

Belt storage and handling. C. W. Thompson and A. E. Long. il Min Cong J 37:30-1 Ja '51

To save money, conserve alloy, repin your furnace belts. R. Williams. il Iron Age 168:102-3 Ag 16 '51

BELTS, Machine gun. See Machine guns—Cartridge belts

BENDING

Bending of thick sandwich plates. G. Gerard. diag J Aeronautical Sci 18:424-6+ Je '51

Contour forming cuts trailer costs; illustrations and drawings with text. H. E. Linsley. Am Mach 95:130-1 Ag 6 '51

Design of machine parts subjected to fluctuating combined bending and torsion. N. Sag. bibliog diags Engineer 192:172-6 Ag 10 '51

Designing tubes for bending loads; data sheet. G. E. Allison and A. S. Niles. Machine Design 22:163-5 N '50

Minimum radii for cold-bending aluminum; table. Iron Age 168:80 Ag 30 '51

Nomograph on bend allowances. L. M. Majeske. Tool Eng 26:39 F '51

Notch-bend test. C. A. Zapffe and C. O. Worden. bibliog il Welding J 30:sup47-54 Ja '51

Precise tensile properties of ceramic bodies. W. H. Duckworth. bibliog il diags Am Cer Soc J 34:1-9 Ja 1 '51

Relative strength and stiffness of structural metals subjected to bending; tabulation; data sheet. E. V. Sharpnack, comp. Mach 57:239 D '50

Sharp bends need not fracture. Steel 128:153-4 My 7 '51

Sheet metal bend allowance and correction charts; reference book sheet. diags Product Eng 22:207 O '51

Some new concepts in bending. R. M. Shaw. il diags Mach 57:149-52+ N '50

Strength of I-beams in combined bending and torsion. B. Sourochnikoff. diags Am Soc C E Proc 76 [no 33]:1-18 S '50; Discussion. 77 [no D-33]:1-6 S '51

See also

Pipe bending

BENDING machines

Improved tangent bender speeds cabinet and evaporator production. il Refrig Eng 59:556 Je '51

Metal cabinets formed in one piece; machine made by Cyril bath co. il Steel 127:101 N 13 '50

1951 production preview. il Am Mach 95:245-7 Ja 22 '51

Pines engineering company rotary-fixture machine for bending irregular shapes. il Comp Air Mag 55:284 D '50

Tube bender forms sheet metal components. A. Kastelowitz. il Steel 129:78-9 Ag 27 '51

Tubular sections in frame design of hydraulic benders. E. J. DeWitt and others. il Welding J 30:139-43 F '51

Wraparound bench forms sheet metal faster; Swartzbaugh mfg. co. H. W. Eschedor. il Iron Age 167:100-2 Mr 8 '51

BENDIX aviation corporation

Bendix, an arsenal again. il Bsns W p38+ Mr 10 '51

Civil, military work boosted by Bendix. Aviation W 54:22-3 Ap 30 '51

Company in strong position for both military and civilian production. W. Wells. Barron's 30:24 N 20 '50

BENEDICT, Manson, 1907-

Man of the month. por Chem Eng 58:256 My '51

BENEFIT plans, Employees'. See Employees' benefit plans

BENEFIT societies

Arizona prepares new law for 18 benefit concerns. Nat Underw 54:20-1 D 21 '50; Same. Nat Underw (Life ed) 54:11 D 22 '50

California warns licenses necessary for fraternal sales. Nat Underw (Life ed) 55:1 O 12 '51

Current appraisal. R. Thain. Nat Underw (Life ed) 55:4 My 4 '51

Fraternal orders; business of 1950 and condition Dec. 31, 1950; table. Weekly Underw 164:88 sec 2 My 12 '51

Illinois fraternal congress annual meeting. Chicago. Nat Underw (Life ed) 55:2+ Mr 2 '51

International workers order liquidation OK'd by court; appeal pending. Nat Underw (Life ed) 55:4 Je 29 '51

Maccabees raises limits for double indemnity. Nat Underw (Life ed) 55:19 Ag 3 '51

New bills affecting New York fraternals. Nat Underw (Life ed) 55:22 My 4 '51

New York department takes over International workers order as Communist front. Nat Underw (Life ed) 54:4 D 22 '50; East Underw 51:1+ D 22 '50

New York fraternal congress 50th anniversary meeting, New York. Nat Underw (Life ed) 55:22 F 16 '51

Royal Neighbors and Modern Woodmen fight utility move. Nat Underw (Life ed) 54:18 D 1 '50

See also

National fraternal congress of America

Taxation

Must pay premium tax on old fraternal policies, Director Day rules. Nat Underw (Life ed) 55:15 Jl 13 '51

BENELUX union

Benelux forces the issue; Belgian surplus with EPU. Economist 161:511 S 1 '51

Benelux foundering. Economist 159:1190 D 30 '50

Hard facts of Benelux. Economist 159:731-2 N 11 '50

BENNETT, Henry Garland, 1886-

Portrait. Fortune 43:15 Ja '51

BENSON, Otis O. 1902-

John Jeffries award, Institute of the aeronautical sciences. por Aeronautical Eng R 10:8+ Mr '51

BENTLEY, William, 1872-

Sketch. por Inland Ptr 126:40 Mr '51

BENTLEY knitting machinery organization, inc.

U.K. likes R.I.; sets up firm in Providence to make knitting machinery. Bsns W p 141-2 N 18 '50

BENTONITE

Acid activation of some bentonite clays. G. A. Mills, J. Holmes and E. B. Cornelius. bibliog J Phys & Colloid Chem 54:1170-85 N '50

Effect of certain reagents upon the properties of bentonite colloids; inorganic salts. W. H. Slabaugh and J. L. Culbertson. bibliog diag J Phys & Colloid Chem 55:744-57 My '51

Effect of certain reagents upon the properties of bentonite colloids; reactions between hydrogen bentonite and organic amines. W. H. Slabaugh and J. L. Culbertson. bibliog diags J Phys & Colloid Chem 55:1131-9 O '51

Organophilic bentonites; organic liquid gels. J. W. Jordan, B. J. Hook and C. M. Finlayson. bibliog J Phys & Colloid Chem 54:1196-208 N '50

Physical properties of gel-cement. D. K. Smith. il Pet Eng 23:B7-12+ Ap '51

BENZACRIDINE
Chemistry of carcinogenic nitrogen compounds; angular hydroxybenzacridines and hydroxydibenzacridines. N. P. Buu-Hoï. Chem Soc J p2096-9 Ag '50
Chemistry of carcinogenic nitrogen compounds; new substituted angular benzacridines and dibenzacridines. N. P. Buu-Hoï. Chem Soc J p 1146-52 Ap '50
Relative reactivity of aromatic double bonds; the relation between double-bond character and the velocity of addition of osmium tetroxide. G. M. Badger. Chem Soc J p 1809-14 Jl '50
Some halogeno-derivatives of 2 : 3-benzacridine. B. Cairns and W. O. Kermack. Chem Soc J p 1322-7 My '50

BENZALACETOPHENONE. See Chalcones

BENZALANILINE. See Benzylidene aniline

BENZALDEHYDE
Alkenylation by use of lithium alkenyls; the condensation of *iso*butenyl-lithium with benzaldehyde and acetophenone, and the oxotropic rearrangement of the resulting carbinols; studies in molecular rearrangements. E. A. Braude and C. J. Timmons. diag Chem Soc J p2000-6 Ag '50
Certain substituted benzaldehydes and substituted benzaldehyde dinitrophenylhydrazones. J. B. Bowen and E. M. Wilkinson. Chem Soc J p750-1 F '50
Compounds related to thiosemicarbazide; benzylthiosemicarbazides. E. Hoggarth and E. H. P. Young. Chem Soc J p1582-4 Je '50
Dinitrophenylhydrazones of the halogenobenzaldehydes. O. L. Brady and S. G. Jarrett. Chem Soc J p 1021 Mr '50
Near-ultraviolet absorption spectrum of benzaldehyde vapor. S. Imanishi. il J Chem Phys 19:389 Mr '51
Proximate analysis of benzaldehyde mononitration products. W. Davey and J. R. Gwilt. bibliog Soc Chem Ind J 69:330-7 N '50
Reaction of benzylmagnesium chloride with benzaldehyde; the identification of the abnormal product. S. Siegel, S. K. Coburn and D. R. Levering. bibliog Am Chem Soc J 73:3163-5 Jl '51
Reactivities of benzaldehydes with perbenzoate radicals. C. Walling and E. A. McElhill. bibliog Am Chem Soc J 73:2927-31 Je '51
Retardation of benzaldehyde autoxidation by *p*-cresol. W. A. Waters and C. Wickham-Jones. Chem Soc J p812-23 Mr '51

BENZALKONIUM chloride
Quaternaries in hard water. E. W. Dennis. Soap & San Chem 27:117+ Mr '51

BENZAMIDINE
Antituberculous compounds; *p*-(ω-alkoxyalkoxy)-*N*-arylbenzamidines and analogues. F. C. Cooper and M. W. Partridge. Chem Soc J p459-64 F '50

BENZAMIDO group
Role of neighboring groups in replacement reactions; complex neighboring groups; the benzamido group. S. Winstein and R. Boschan. bibliog Am Chem Soc J 72:4669-77 O '50

BENZANTHRACENE
Polycyclic aromatic hydrocarbons; carcinogenic compounds. J. W. Cook. Chem Soc J p 1210-19 bibliog(78 ref, p 1218-19) Ap '50
Relative reactivity of aromatic double bonds; addition of osmium tetroxide to substituted 1 : 2-benzanthracenes. G. M. Badger and K. R. Lynn. Chem Soc J p 1726-9 Jl '50
Relative reactivity of aromatic double bonds; the relation between double-bond character and the velocity of addition of osmium tetroxide. G. M. Badger. Chem Soc J p 1809-14 Jl '50
Substituted anthracene deviratives; the ultraviolet absorption spectra of *meso*-substituted 1 : 2-benzanthracenes. G. M. Badger and R. S. Pearce. Chem Soc J p3072-7 N '50

BENZANTHRONE
4-Benzoyl*meso*benzanthrone. H. G. Rule and others. Chem Soc J p 1816-19 Jl '50
Stobbe condensation between *meso*benzanthrone and ethyl succinate. G. R. Clemo, L. Munday and G. A. Swan. Chem Soc J p 1513-14 Je '50

BENZEDRINE
Stimulants, lift or letdown? Chem Eng 58:251-2+ F '51

BENZENE
Absolute intensity of light scattering from pure liquids and solutions. C. I. Carr, jr. and B. H. Zimm. bibliog diags J Chem Phys 18:1616-26 D '50
Absorption spectra of thioindigo dyes in benzene and chloroform. W. R. Brode and G. M. Wyman. J Res Nat Bur Stand 47:170-8 S '51
Activity coefficient of thenoyltrifluoroacetone in benzene solution. E. L. King and W. H. Reas. Am Chem Soc J 73:1804-5 Ap '51
Adsorbing aromatics; chromatography separates xylenes, toluene and benzene; Arosorb process. diags Chem Eng 58:234+ S '51
Adsorption equilibria of liquid mixtures of benzene and methanol with charcoal. H. H. Rowley, R. B. Olney and W. B. Innes. Am Chem Soc J 72:5180-2 N '50
Adsorption of benzene and cyclohexane by graphite. R. N. Smith, C. Pierce and H. Cordes. bibliog Am Chem Soc J 72:5595-7 D '50
Analysis of homogeneous ternary systems; the system benzene, *n*-butyl bromide and nitrobenzene. R. Ginell and H. Silverman. Am Chem Soc J 73:1596-7 Ap '51
Arylmethylation of benzene derivatives. C. M. Welch and H. A. Smith. bibliog Am Chem Soc J 73:4391-3 S '51
Azeotropes of 2-ethoxyethanol with alkyl benzenes. W. F. Kieffer and C. E. Grabiel. bibliog Ind & Eng Chem 43:973-5 Ap '51
Benzene; CEN staff report. il Chem & Eng N 28:3866-70 N 6 '50
Benzene from petroleum; certificates of necessity granted. R. L. Van Boskirk. Mod Plastics 28:190 Ag '51
Benzene from petroleum, how and how much. G. Egloff. Can Chem Process 35:573-7 Jl '51; Same. Pet Refiner 30:127-9 Jl '51; Same. Oil & Gas J 50:96+ S 6 '51
Benzene problem reviewed. L. A. Schlueter. Oil Paint & Drug Rep 159:52-3+ Mr 19 '51
Benzene quandary; lack of firm commitment for product stalls plans. Oil & Gas J 49:39-40 N 23 '50
Benzene response; DPA o.k.'s new capacity. Oil & Gas J 50:97 Ag 16 '51
Benzene shortage; commodity survey. Chem Eng 58:279-80 Ag '51
Benzene shortage; consumers look to petroleum. Chem Age (Lond) 65:399-400 S 22 '51
Catalytic synthesis of heterocycles; dehydrocyclization of *o*-alkylbenzenes to indoles. C. Hansch and G. Helmkamp. bibliog Am Chem Soc J 73:3080-2 Jl '51
Cation complexes of compounds containing carbon-carbon double bonds; further studies on the argentation of substituted benzenes. L. J. Andrews and R. M. Keefer. bibliog Am Chem Soc J 72:5034-7 N '50
Characterization of benzene ring substitution by infrared spectra. C. W. Young, R. B. DuVall and N. Wright. Anal Chem 23:709-14 My '51
Chemical actions of ionising radiations on aqueous solutions; the action of neutrons and of α-particles on benzene. G. Stein and J. Weiss. Chem Soc J p3254-6 D '49
Chemical actions of ionising radiations on aqueous solutions; the formation of free radicals; the action of X-rays on benzene and benzoic acid. G. Stein and J. Weiss. diag Chem Soc J p3245-54 D '49
Continuous stripper for adsorption column effluent streams. R. L. Hopkins. diags Ind & Eng Chem 43:1456-8 Je '51
Critical limits of metastability in binary systems. H. Reiss and L. Friedman. bibliog J Chem Phys 19:253-4 F '51
Decomposition of lauroyl peroxide in benzene and diethyl ether. W. E. Cass. bibliog Am Chem Soc J 72:4915-17 N '50
m-Diarylbenzenes. G. F. Woods and others. Am Chem Soc J 73:3854-6 Ag '51
3,4-Dihydro-1,3,2H-benzoxazines; reaction of polyhydroxybenzenes with N-methylolamines. W. J. Burke and C. Weatherbee. Am Chem Soc J 72:4691-4 O '50
Distillation in 2, 4 and 5.75 inch diameter packed columns. A. C. Heinlein and others. Chem Eng Prog 47:344-6 Jl '51
Energy transfer by collision in benzene vapor. L. M. Cheng. bibliog J Chem Phys 19:693-7 Je '51

BENZENE—*Continued*

Entropy of crystalline benzene calculated from molecular data. I. Ichishima and S. Mizushima. bibliog J Chem Phys 19:388 Mr '51

Equilibrium relations of two methane-aromatic binary systems at 150° F. M. Elbishlawi and J. R. Spencer. bibliog Ind & Eng Chem 43:1811-15 Ag '51

Estimation of surface tensions; ternary liquid mixtures. A. S. Michaels, R. S. Alexander and C. L. Becker. bibliog Ind & Eng Chem 42:2332-6 N '50

Evidence that 1-isopropyl-3-*t*-butylbenzene from aluminum chloride alkylation of benzene with isobutene is really 1,3-di-*t*-butylbenzene. F. E. Condon and E. E. Burgoyne. Am Chem Soc J 73:4021-2 Ag '51

Flammability of benzene-chlorine mixtures. G. Calingaert and W. E. Burt. Ind & Eng Chem 43:2341-3 O '51

Formation of complexes in benzene-oxalyl chloride solutions. B. D. Saksena and R. E. Kagarise. il J Chem Phys 19:994-9 Ag '51

Fractional solvent extraction between immiscible solvents; graphical calculation. E. L. Compere and A. Ryland. bibliog Ind & Eng Chem 43:239-41 Ja '51

Franck-Condon principle and the size of the excited benzene molecule. D. P. Craig. Chem Soc J p2146-51 Ag '50

Hydration of thenoyltrifluoroacetone in benzene solution. E. L. King and W. H. Reas. Am Chem Soc J 73:1806-8 Ap '51

Hydroximyl chlorides from nitrostyrenes. C. D. Hurd, M. E. Nilson and D. M. Wikholm. bibliog Am Chem Soc J 72:4697-9 O '50

Improved yields of *p*-dichlorobenzene; substitutive chlorination of benzene. H. F. Wiegandt and P. R. Lantos. bibliog diags Ind & Eng Chem 43:2167-72 S '51

Interaction between polynitro-compounds and aromatic hydrocarbons and bases; picric acid and alkylated benzene derivatives in chloroform solution. H. D. Anderson and D. L. Hammick. Chem Soc J p 1089-94 Ap '50

Interaction of bromine with benzene and certain of its derivatives. R. M. Keefer and L. J. Andrews. bibliog Am Chem Soc J 72:4677-81 O '50

Interaction of chlorine with benzene and *m*-xylene. L. J. Andrews and R. M. Keefer. Am Chem Soc J 73:462-3 Ja '51

Interaction of iodine monochloride with benzene and certain of its derivatives. R. M. Keefer and L. J. Andrews. bibliog Am Chem Soc J 72:5170-3 N '50

Interaction polarizabilities of electron releasing and electron withdrawing groups in aromatic compounds. C. Curran and F. M. Palermiti. Am Chem Soc J 73:3733-4 Ag '51

Interfacial tension at elevated pressure and temperature; interfacial properties of hydrocarbon-water systems. A. S. Michaels and E. A. Hauser. bibliog il J Phys & Colloid Chem 55:408-21 Mr '51

Intermolecular forces in benzene and ammonia. V. Myers. bibliog J Chem Phys 18:1442-4 N '50

Isomerization accompanying alkylation; reaction of benzene with methylcyclopropane, ethylcyclopropane and with dimethylcyclopropanes. H. Pines, W. D. Huntsman and V. N. Ipatieff. bibliog Am Chem Soc J 73:4343-7 S '51

Isomerization accompanying alkylation; reaction of benzene with 2- and 3-pentanol. H. Pines, W. D. Huntsman and V. N. Ipatieff. Am Chem Soc J 73:4483 S '51

Kinetics and mechanism of aromatic nitration; nitration by acyl nitrates, particularly by benzoyl nitrate. V. Gold, E. D. Hughes and C. K. Ingold. Chem Soc J p2467-73 S '50

Lattice frequencies of benzene crystal. I. Ichishima and S. Mizushima. J Chem Phys 18:1686-7 D '50

Light scattering by concentrated polymer solutions. P. Debye and A. M. Bueche. J Chem Phys 18:1423-5 N '50

Limiting negative pressure of acetic acid and benzene in relation to temperature; abstract. L. J. Briggs. Science 112:427 O 13 '50

Limiting negative pressure of acetic acid, benzene, aniline, carbon tetrachloride, and chloroform. L. J. Briggs. J Chem Phys 19:970-2 Jl '51

Liquid-liquid equilibria in system benzene-pyridine-water. J. C. Smith, V. D. Stibolt and R. W. Day. bibliog diag Ind & Eng Chem 43:190-4 Ja '51

Liquid-liquid extraction from single drops. F. B. West and others. bibliog diag Ind & Eng Chem 43:234-8 Ja '51

Mechanism of aromatic mercuration; reaction kinetics. R. M. Schramm, W. Klapproth and F. H. Westheimer. bibliog J Phys & Colloid Chem 55:843-57; Discussion. 858-60 Je '51

Molecular orbital calculations of the lower excited electronic levels of benzene, configuration interaction included. R. G. Parr and others. bibliog J Chem Phys 18:1561-3 D '50

Molecular orbital theory and spectra of monosubstituted benzenes. F. A. Matsen, W. W. Robertson and J. F. Music. bibliog il Am Chem Soc J 72:5243-63 N '50

Molecular polarisation and molecular interaction; the molecular polarisation of diphenylamine in solution in benzene, dioxan, and mixtures of benzene with nitrobenzene, triethylamine, and pyridine. J. W. Smith. Chem Soc J p3532-5 D '50

Necessity for activators in the boron trifluoride catalyzed alkylation of benzene by S-butyl methyl ether. R. L. Burwell, jr. and L. M. Elkin. Am Chem Soc J 73:502 Ja '51

No real benzene relief is expected during 1951. Chem & Eng N 29:1206-7 Mr 26 '51

Osmometry of high polymers. D. Cleverdon and D. Laker. bibliog. J Ap Chem 1:2-13 Ja '51

Petrobenzene. Chem Ind W 68:13 Mr 24 '51

Plastics men quake at rubber plans; shortage of styrene monomer and benzene. Bsns W p68+ N 4 '50

Polyalkylbenzenes; action of senecioic acid, and of senecioyl chloride, upon the tetramethylbenzenes and upon pentamethylbenzene. L. I. Smith and J. J. Rosenbaum. bibliog Am Chem Soc J 73:3843-7 Ag '51

Purification of benzene. R. F. Evans and others. Chem Soc J p3346 N '50

Rearrangement of 4-methylcyclohexene during sulfuric acid-catalyzed reaction with benzene. J. Linsk. Am Chem Soc J 72:4257-60 S '50

Reduction by dissolving metals; the reactivity of mesomeric anions in relation to the reduction of benzene rings. A. J. Birch. Chem Soc J p 1551-6 Je '50

Resonance energy of benzene. D. F. Hornig. bibliog diags Am Chem Soc J 72:5772-4 D '50

Role of E^+_g vibrations in the 2600-A. benzene band system. D. P. Craig. Chem Soc J p59-62 Ja '50

Solubility of perfluoro-*n*-heptane with benzene, carbon tetrachloride, chloroform, *n*-heptane and 2,2,4-trimethylpentane. J. H. Hildebrand, B. B. Fisher and H. A. Benesi. bibliog Am Chem Soc J 72:4348-51 O '50

Solubility of quaternary ammonium salts in methanol-benzene mixtures; the anomalous behavior of tetraethylammonium iodide. G. M. Goldberg and A. A. Vernon. Am Chem Soc J 73:2845-6 Je '51

Solubility of tetraethylammonium chloride in benzene-ethylene dichloride mixtures. A. A. Vernon, G. M. Goldberg and J. H. LaRochelle. Am Chem Soc J 73:2844-5 Je '51

Solubilization of four typical hydrocarbons in aqueous solution by three typical detergents. J. W. McBain and K. J. Lissant. bibliog J Phys & Colloid Chem 55:655-62 My '51

Some physical properties of pure benzene. S. M. Rybicka and W. F. K. Wynne-Jones. Chem Soc J p3671-3 D '50

Spectroscopic moment; a parameter of substituent groups determining aromatic ultraviolet intensities. J. R. Platt. bibliog J Chem Phys 19:263-71 Mr '51

Structure of the silver perchlorate-benzene complex. R. E. Rundle and J. H. Goring. diag Am Chem Soc J 72:5337 N '50

BENZENE—*Continued*

Studies in the terpene series; isomerization accompanying cycloalkylation of benzene. V. N. Ipatieff, H. R. Appell and H. Pines. bibliog Am Chem Soc J 72:4260-2 S '50

Syndets offer future markets for petroleum benzene plants. Pet Processing 6:695 Jl '51

Tensile strength of benzene. J. J. Donoghue and others. bibliog diags J Chem Phys 19: 55-61 Ja '51

39 per cent benzene yields from a C_6 straight-run fraction. flow diag Pet Processing 6: 249-50 Mr '51

Ultrasonic absorption in binary mixtures of unassociated liquids. D. Sette. J Chem Phys 18:1592-4 D '50

Ultrasonic absorption in liquids. C. J. Moen. bibliog il diag Acoustical Soc Am J 23: 62-70 Ja '51

U.S. benzene needs subject of conference. Oil Paint & Drug Rep 158:3+ D 18 '50

See also

Benzol (commercial benzene)

Diethylbenzene

Manufacture

Aromatics by Platforming. V. Haensel and C. V. Berger. il Pet Processing 6:264-7 Mr '51

Aromatics production by the platforming process. V. Haensel. diag Oil & Gas J 50: 80+ Ag 9 '51

Atlas processing co. installs benzene extraction and platforming units. flow diags il Oil & Gas J 50:120+ S 13 '51

Benzene in the backyard; by-product in thermal cracking of hydrocarbons to make ethylene. il Chem W 69:15 S 29 '51

Benzene made from normal hexane on laboratory scale. Pet Processing 5:1263 D '50

Benzene manufacture. flow diag Oil & Gas J 49:204-5 Mr 29 '51

More benzene from oil. Bsns W p52+ N 25 '50

Production of aromatics from natural gas liquids. C. R. Williams and R. E. Sutherland. flow diag Oil & Gas J 50:84+ Ag 9 '51

Shell benzene recovery process. flow diag il Pet Refiner 30:233-4 S '51

Sorption splitting; Sun oil co.'s benzene plant. Chem W 69:12-13 Jl 21 '51

BENZENEDIAZONIUM chloride

Quantitative study of the orienting influence of the nitro group in the formation of nitrobiphenyls by reaction of nitrobenzene with N-nitrosoacetanilide, with benzoyl peroxide, and with benzenediazonium chloride and alkali. D. F. DeTar and H. J. Scheifele, jr. bibliog Am Chem Soc J 73:1442-5 Ap '51

BENZENE hexachloride. See Hexachlorocyclohexane

BENZENESELENINIC acid

Dissociation constants of some monosubstituted benzeneseleninic acids; a new synthesis of diaryl diselenides. E. S. Gould and J. D. McCullough. bibliog Am Chem Soc J 73:1109-12 Mr '51

BENZENESULFONATES

Aqueous solutions of sodium benzene-sulfonate and monosubstituted derivatives; some physicochemical properties. P. W. Renich and R. Taft. bibliog Ind & Eng Chem 43: 2376-84 O '51

BENZENETHIOL

Action of aluminum bromide on some halogenated thiophenols and benzyl phenyl sulfides. H. F. Wilson and D. S. Tarbell. bibliog Am Chem Soc J 72:5200-5 N '50

Aryl-2-halogenoalkylamines; reactions with certain organic sulphur compounds. W. C. J. Ross. Chem Soc J p815-18 Mr '50

Molecular orbital theory and spectra of monosubstituted benzenes; thiophenol. W. W. Robertson and F. A. Matsen. bibliog Am Chem Soc J 72:5248-50 N '50

Reaction of benzyl methyl ketone with *o*-aminophenol, *o*-aminobenzenethiol and 1,8-naphthalenediamine. F. J. Kreysa and others. bibliog Am Chem Soc J 73:1155-6 Mr '51

Reaction of 1-cyclohexyl-2-benzoyl-3-phenylethylenimine with thiophenol. G. Meguerian and L. B. Clapp. Am Chem Soc J 73:486 Ja '51

Reaction of propylene oxide with thiophenol. R. D. Schuetz. Am Chem Soc J 73:1881-3 Ap '51

Reactions of ethylenimines with thiophenol, a rate study. G. Meguerian and L. B. Clapp. bibliog Am Chem Soc J 73:2121-4 My '51

Secondary amine salts of some thiophenols. G. F. Grillot and T. J. Brooks, jr. Am Chem Soc J 72:4281 S '50

Transetherification reactions; thiophenols with ethyl β-ethoxyacrylates. W. J. Croxall, L. R. Freimiller and E. Y. Shropshire. Am Chem Soc J 72:4275-6 S '50

Vapor phase alkylation of phenols and thiophenols. C. Hansch and D. N. Robertson. Am Chem Soc J 72:4810-11 O '50

BENZHYDROL. See Benzohydrol

BENZIDINE

Alphazurine G and some *N,N′*-substituted benzidines as redox indicators. R. N. Adams and E. M. Hammaker. bibliog Anal Chem 23:744-6 My '51

Benzidine rearrangement; kinetics of the rearrangements of hydrazobenzene. R. B. Carlin, R. G. Nelb and R. C. Odioso. bibliog Am Chem Soc J 73:1002-7 Mr '51

Intramolecular nature of the benzidine rearrangement. G. J. Bloink and K. H. Pausacker. Chem Soc J p950-3 Mr '50

Substituted benzidines and related compounds as reagents in analytical chemistry. R. Belcher and A. J. Nutten. Chem Soc J p544-51 F '51

Substituted benzidines and related compounds as reagents in analytical chemistry; the precipitation of tungsten. R. Belcher and A. J. Nutten. Chem Soc J p 1516-19 Je '51

BENZIL

Analysis

Fluorometric determination of benzil. S. Sass and J. Goldenson. bibliog Anal Chem 23: 540-1 Mr '51

BENZILIC acid

Synthesis of neurotropic and musculotropic stimulators and inhibitors; benzilic acid derivatives. A. L. Morrison, M. Königstein and A. Cohen. Chem Soc J p2887-90 O '50

BENZILIDE

Structure of benzilide. H. H. Wasserman and H. E. Zimmerman. Am Chem Soc J 72:5787 D '50

BENZIMIDAZOLE

Carcinolytic compounds; 1-(1′glycityl)-benzimidazoles. F. W. Holly and others. Am Chem Soc J 73:332-3 Ja '51

Chemistry of the benzimidazoles. J. B. Wright. Chem R 48:397-541 bibliog(769 ref, p525-41) Je '51

Chemistry of the vitamin B_{12} group; acid hydrolysis studies; isolation of a phosphorus-containing degradation product. J. G. Buchanan and others. Chem Soc J p2845-55 O '50

Preparation of benziminazoles and benzoxazoles from Schiff's bases. F. F. Stephens and J. D. Bower. Chem Soc J p 1722-6 Jl '50

Some benziminazolylalanines. P. Mamalis, V. Petrow and B. Sturgeon. Chem Soc J p 1600-3 Je '50

Some potential trypanocidal and antibacterial compounds in the heterocyclic series. J. D. Bower, F. F. Stephens and D. G. Wibberley. Chem Soc J p3341-4 N '50

Structure and antimalarial activity; benziminazoles and mercaptodihydroglyoxalines. A. T. James and E. E. Turner. Chem Soc J p 1515-19 Je '50

Vitamin B_{12}; 5,6-dimethylbenzimidazole, a degradation product of vitamin B_{12}. N. G. Brink and K. Folkers. bibliog Am Chem Soc J 72:4442-3 O '50

Vitamin B_{12}; vitamin B_{12}-like activity of α- and β-ribazole. G. Emerson and others. Am Chem Soc J 73:1069-70 Mr '51

BENZINDOLE

C-Acetylation of α′β′-naphthindole (4 : 5-benzindole) derivatives. S. G. P. Plant and M. W. Thompson. Chem Soc J p 1065-7 Ap '50

BENZOCARBOLINE. See Benzopyridindole

BENZOCINNOLINE

Orientation of *x*-bromo- and *x*-nitrobenzocinnoline 6-oxides. K. E. Calderbank and R. J. W. Le Fèvre. Chem Soc J p649-51 Mr '51

BENZOCYCLOHEPTENONE

Synthesis of 2,3,4-trimethoxybenzcyclohepten-6-one. H. Rapoport and J. E. Campion. bibliog Am Chem Soc J 73:2239-41 My '51

BENZOFLUORANTHENE

Synthesis of benz[j]fluoranthene and benz[k]-fluoranthene. M. Orchin and L. Reggel. bibliog Am Chem Soc J 73:436-42 Ja '51

BENZOFLUORENONE

Synthesis of benz[j]fluoranthene and benz[k]-fluoranthene. M. Orchin and L. Reggel. bibliog Am Chem Soc J 73:436-42 Ja '51

BENZOFURAN

Coumarone dehydrogenation with N-bromosuccinimide. T. A. Geissman, T. G. Halsall and E. Hinreiner. Am Chem Soc J 72:4326 S '50

Coumarones from *o*-hydroxyaldehydes and bromomalonic ester. S. Tanaka. Am Chem Soc J 73:872 F '51

Hydrogenation of diphenylene oxide and 2 : 2′-dihydroxydiphenyl. J. I. Jones and A. S. Lindsey. Chem Soc J p 1836-41 Jl '50

Reactions of benzofurans with hydrogen. J. Entel, C. H. Ruof and H. C. Howard. bibliog Am Chem Soc J 73:4152-8 S '51

BENZOFURANONE

Anthochlor pigments; the pigments of yellow antirrhinum majus. M. K. Seikel and T. A. Geissman. bibliog Am Chem Soc J 72:5725-30 D '50

Reactions of diaryldicoumaranonyls and 2 : 2′-diphenylthioindigo-white. A. Mustafa and A. M. Islam. Chem Soc J p 1616-17 Je '51

BENZOHYDROL

4,4′-Difluorobenzhydrol. F. A. Gunther and R. C. Blinn. Am Chem Soc J 72:5770-1 D '50

Properties of benzhydrol in sulfuric acid solution. C. M. Welch and H. A. Smith. bibliog Am Chem Soc J 72:4748-50 O '50

BENZOHYDRYL group

Displacement of the benzohydryl group by an alkyl group. L. A. R. Hall and J. H. Burckhalter. Am Chem Soc J 73:473-4 Ja '51

BENZOIC acid

Chemical actions of ionising radiations on aqueous solutions; hydroxylation of benzoic acid by free radicals produced by X-rays. H. Loebl, G. Stein and J. Weiss. Chem Soc J p405-7 F '51

Chemical actions of ionising radiations on aqueous solutions; the formation of free radicals; the action of X-rays on benzene and benzoic acid. G. Stein and J. Weiss. diag Chem Soc J p3245-54 D '49

Esters of benzoic and chlorobenzoic acids. E. Monroe and C. R. Hand. Am Chem Soc J 73:487-8 Ja '51

Kinetics and mechanism of the reaction of diphenyldiazomethane and benzoic acid in ethanol. J. D. Roberts, W. Watanabe and R. E. McMahon. bibliog Am Chem Soc J 73:760-5 F '51

Ultra-violet absorption spectra of some benzoic acids with electron-repelling substituents. C. M. Moser and A. I. Kohlenberg. Chem Soc J p804-9 Mr '51

BENZOIC anhydride

Cryoscopic measurements in sulphuric acid; the solutes acetic anhydride and benzoic anhydride; cryoscopic evidence for the acetylium and benzoylium ions. R. J. Gillespie. Chem Soc J p2997-3000 N '50

BENZOIN

Benzoin condensation of quinaldehyde. C. A. Buehler and J. O. Harris. bibliog Am Chem Soc J 72:5015-17 N '50

Chemistry of the insoluble red woods; some mixed benzoins. G. G. Badcock and others. Chem Soc J p2961-5 N '50

Cleavage and rearrangement of ethers with base; reaction of the benzhydryl and trityl ethers of benzoin with potassium hydroxide. D. Y. Curtin and S. Leskowitz. bibliog Am Chem Soc J 73:2633-6 Je '51

BENZOL (commercial benzene)

Benzol for gasoline trade completed by US, Germany. Oil Paint & Drug Rep 160:3 Jl 23 '51

Developing benzol technology. Chem Age (Lond) 63:713-14 N 18 '50

Why benzol? uses and supply outlook. Mod Plastics 28:61+ Ja '51

BENZONAPHTHENETRIONE

Spectrophotometric assay of ascorbic acid with peri-naphthindanetrione hydrate. M. S. El Ridi and ohers. Science 112:751-2 D 22 '50

BENZONITRILE

Conductance of aluminum bromide in benzonitrile on addition of various basic complexing agents at 25°. R. E. Van Dyke and T. S. Harrison. Am Chem Soc J 73:402-6 Ja '51

BENZOPHENONE

Acetylene reactions; acetylenic amino-alcohols from benzophenones. H. P. W. Huggill and J. D. Rose. Chem Soc J p335-9 Ja '50

Beckmann rearrangement of O-picrylbenzophenone oxime. B. B. Lampert and. F. G. Bordwell. Am Chem Soc J 73:2369-70 My '51

Benzophenone; perfume raw material, broadening its markets. H. K. Vanderhoef. Chem Eng 57:288 D '50

Chloro substituted diphenylmethanes, phenyl benzyl ethers and benzophenones prepared from ortho- or para-cresol. R. C. Huston and K. R. Robinson. bibliog Am Chem Soc J 73:2483-6 Je '51

Formation of benzophenone and its diethylketal in the ethanolysis of diphenyldichloromethane. L. J. Andrews and W. W. Kaeding. bibliog Am Chem Soc J 73:1007-11 Mr '51

Indoles; the preparation and oxidation of the *Bz*-nitro-2-methyl-3-ethyl-, -2 : 3-diphenyl-, and -2-methyl-3-phenyl-indoles. K. Schofield and R. S. Theobald. Chem Soc J p 1505-9 Je '50

Peracetic acid cleavage of unsymmetrical ketones. W. V. Doering and L. Speers. bibliog Am Chem Soc J 72:5515-18 D '50

Polarography of benzophenone. H. J. Gardner. bibliog Chem & Ind p819-20 S 29 '51

Quaternary ammonium salts; a new method for the preparation of *p*-substituted alkoxy-, *cyclo*alkoxy-, arylalkoxy-, aryloxy-, and alkylthio-benzophenones. W. Tadros and A. Latif. Chem Soc J p3337-40 D '49

Reduction of benzophenone by aluminum isopropoxide. Q. P. Cole. diag J Chem Educ 28:142 Mr '51

BENZOPINACOLYL alcohol

Oxidation of benzpinacolyl alcohol. W. A. Mosher and H. A. Neidig. bibliog Am Chem Soc J 72:4452-4 O '50

BENZOPYRAN

Some chroman and 1 : 2-benzopyran derivatives. H. V. Taylor and M. L. Tomlinson. Chem Soc J p2724-5 O '50

BENZOPYRENE

Polycyclic aromatic hydrocarbons; synthesis of the metabolic oxidation products of 3 : 4-benzpyrene. J. W. Cook, R. S. Ludwiczak and R. Schoental. Chem Soc J p 1112-21 Ap '50

Properties of high boiling petroleum products; distillation studies with relation to polynuclear aromatic components. L. T. Eby, G. G. Wanless and J. Rehner, jr. bibliog il Ind & Eng Chem 43:954-60 Ap '51

BENZOPYRIDINDOLE

Attempts to find new antimalarials; the synthesis of various derivatives of 2 : 3-benz-γ-carboline. W. O. Kermack and N. E. Storey. Chem Soc J p607-12 F '50

BENZOPYRROCOLINE

Synthesis of substituted 2 : 3-benzpyrrocolines. R. Robinson and J. E. Saxton. Chem Soc J p3136-40 N '50

BENZOQUINONE. See Quinone

BENZOTHIADIAZINE

Derivatives of benz-1 : 2 : 4-thiadiazine 1 : 1-dioxide. D. V. Parke and R. T. Williams. Chem Soc J p 1760-3 Jl '50

BENZOTHIAZOLE

Action of heat on heterocyclic bases containing an alkylthio-grouping; 2-alkylthiobenzothiazoles and 2-alkylthiobenzoxazoles. D. J. Fry and J. D. Kendall. Chem Soc J p 1723-6 Jl '51

Antituberculous compounds; 2-benzalhydrazinobenzothiazoles. L. Katz. bibliog flow sheet Am Chem Soc J 73:4007-10 Ag '51

BENZOTHIAZOLE—*Continued*
Preparation and reactivity of some 2-methanesulphonylbenzazoles. E. Hoggarth. Chem Soc J p3311-15 D '49
Some potential trypanocidal and antibacterial compounds in the heterocyclic series; benzthiazoles. F. F. Stephens and D. G. Wibberley. Chem Soc J p3336-40 N '50

BENZOTHIOPHENE. See Thionaphthene

BENZOTRIAZOLE
Ultraviolet absorption of benzotriazole. J. E. Fagel, jr. and G. W. Ewing. bibliog Am Chem Soc J 73:4360-2 S '51

BENZOXANTHENE
3 : 4-Benzoxanthens; the synthesis and oxidation of 3 : 4-benzoxanthen. F. G. Baddar and M. Gindy. Chem Soc J p64-6 Ja '51
3 : 4-Benzoxanthens; the synthesis of 5-, 6-, and 7-methyl-3 : 4-benzoxanthones. M. Gindy and I. M. Dwidar. Chem Soc J p 1933-4 Jl '51

BENZOXANTHONE
3 : 4-Benzoxanthens; the synthesis of 5-, 6-, and 7-methyl-3 : 4-benzoxanthones. M. Gindy and I. M. Dwidar. Chem Soc J p 1933-4 Jl '51

BENZOXAZINE
3,4-Dihydro-1,3,2H-benzoxazines; reaction of polyhyroxybenzenes with N-methylolamines. W. J. Burke and C. Weatherbee. Am Chem Soc J 72:4691-4 O '50

BENZOXAZOLE
Action of heat on heterocyclic bases containing an alkylthio-grouping; 2-alkylthiobenzothiazoles and 2-alkylthiobenzoxazoles. D. J. Fry and J. D. Kendall. Chem Soc J p 1723-6 Jl '51
Preparation of benziminazoles and benzoxazoles from Schiff's bases. F. F. Stephens and J. D. Bower. Chem Soc J p 1722-6 Jl '50
Some potential trypanocidal and antibacterial compounds in the heterocyclic series. J. D. Bower, F. F. Stephens and D. G. Wibberley. Chem Soc J p3341-4 N '50

BENZOXAZOLONE
Action of hydrazine on benzoxazolones. J. D. Bower and F. F. Stephens. Chem Soc J p325-8 F '51

BENZOYLACRYLIC acid
Action of ammonia on β-benzoylacrylic acid. M. M. Fraser and R. A. Raphael. Chem Soc J p2245-6 Ag '50

BENZOYLAMINOANTHRAQUINONE
Absorption spectra of the benzoylaminoanthraquinone vat dyes. E. Waters. Soc Dyers & Col J 66:544-5 O '50

BENZOYL chloride
Mechanism of hydrolysis of acid chlorides; the effect of hydroxyl ions, temperature, and substituents on the rate of hydrolysis of benzoyl chloride. R. F. Hudson and J. E. Wardill. diag Chem Soc J p 1729-33 Jl '50
Mechanism of the hydrolysis of acid chlorides; the effect of temperature and solvent composition. B. L. Archer and R. F. Hudson. diags Chem Soc J p3259-69 N '50
Reaction of 3-chlorosulfonylbenzoyl chloride with amines. C. R. Barr, I. F. Salminen and A. Weissberger. Am Chem Soc J 73:4131-3 S '51

BENZOYLCORYDALDINE
Studies on emetine; synthesis of N-benzoylcorydaldine. M. I. Moyer and W. E. McEwen. Am Chem Soc J 73:3075-7 Jl '51

BENZOYLFLAVONE
Thermal cyclization of *o*-aroyloxyacetoarones; a new synthesis of flavones. A. T. M. Dunne and others. Chem Soc J p 1252-9 My '50

BENZOYL halides
Heats of hydrolysis of the benzoyl halides. A. S. Carson, H. O. Pritchard and H. A. Skinner. Chem Soc J p656-9 F '50

BENZOYL nitrate
Kinetics and mechanism of aromatic nitration; nitration by acyl nitrates, particularly by benzoyl nitrate. V. Gold, E. D. Hughes and C. K. Ingold. Chem Soc J p2467-73 S '50

BENZOYL perchlorate
Acylation reactions catalysed by strong acids; benzoyl and substituted benzoyl perchlorates as *C*-aroylating agents. H. Burton and P. F. G. Praill. Chem Soc J p529-34 F '51

BENZOYL peroxide
Aromatic substitution by free radicals; the cleavage of benzoyl peroxide by the triphenylmethyl radical. G. S. Hammond, J. T. Rudesill and F. J. Modic. bibliog Am Chem Soc J 73:3929-31 Ag '51
Chain transfer in the polymerization of styrene; chain transfer with styrene and benzoyl peroxide; the efficiency of initiation and the mechanism of chain termination. F. R. Mayo, R. A. Gregg and M. S. Matheson. bibliog Am Chem Soc J 73:1691-700 Ap '51
Decomposition of benzoyl peroxide in the presence of iodine; in carbon tetrachloride solution. G. S. Hammond and L. M. Soffer. bibliog Am Chem Soc J 72:4711-15 O '50
Decomposition of *sym*-substituted benzoyl peroxides. A. T. Blomquist and A. J. Buselli. bibliog Am Chem Soc J 73:3883-8 Ag '51
Effect of structure on the rate of spontaneous thermal decomposition of substituted benzoyl peroxides. C. G. Swain, W. H. Stockmayer and J. T. Clarke. bibliog Am Chem Soc J 72:5426-34 D '50
Oxidation of phenols with benzoyl peroxide. S. L. Cosgrove and W. A. Waters. Chem Soc J p3189-94 D '49; p388-91 F '51
Quantitative study of the orienting influence of the nitro group in the formation of nitrobiphenyls by reaction of nitrobenzene with N-nitrosoacetanilide, with benzoyl peroxide, and with benzenediazonium chloride and alkali. D. F. DeTar and H. J. Scheifele, jr. bibliog Am Chem Soc J 73:1442-5 Ap '51

BENZOYLPHENYLHYDROXYLAMINE
Colorimetric determination of vanadium with benzoylphenylhydroxylamine. S. C. Shome. bibliog Anal Chem 23:1186-8 Ag '51

BENZYL alcohol
Estimation of surface tensions; ternary liquid mixtures. A. S. Michaels, R. S. Alexander and C. L. Becker. bibliog Ind & Eng Chem 42:2332-6 N '50

BENZYLAMINE
Oxidation of diphenylamine and of its *N*-derivatives; oxidation of the benzyl group of some benzylamines and benzyl ethers to benzoyl. J. Forrest, S. H. Tucker and M. Whalley. Chem Soc J p303-5 F '51
Unambiguous synthesis of 3-aroylflavones and their reaction with benzylamine. W. Baker and F. Glockling. Chem Soc J p2759-64 O '50

BENZYL bromide. See Bromotoluene

BENZYL chloride. See Chlorotoluene

BENZYL chloroformate
Synthetic polypeptides; synthesis of oxazolid-2 : 5-diones and a new reaction of glycine. A. C. Farthing. Chem Soc J p3213-17 N '50

BENZYL compounds
Reductive cleavage of benzyl glycosides for relating anomeric configurations; preparation of some new benzyl pentosides. C. E. Ballou, S. Roseman and K. P. Link. bibliog Am Chem Soc J 73:1140-4 Mr '51

BENZYL cyanide. See Phenylacetonitrile

BENZYL halides
Kinetics of halogen substitution; halogen addition; benzyl and allyl chloride, bromide, and cyanide. L. D. Swindale, B. E. Swedlund and P. W. Robertson. Chem Soc J p812-14 Mr '50

BENZYLIDENE aniline
Action of acetic anhydride on benzalaniline; a reinvestigation. A. W. Burgstahler. bibliog Am Chem Soc J 73:3021-3 Jl '51
Addition of acetic anhydride to benzalaniline; the Perkin reaction in the nitrogen system. H. S. Angel and A. R. Day. bibliog Am Chem Soc J 72:3874-7 S '50
Structure of the benzalaniline-acetic anhydride addition product. H. R. Snyder, D. B. Bright and J. C. Lorenz. Am Chem Soc J 73:1836-7 Ap '51

BENZYLIDENE anthrone
Stereochemistry of 10-benzylideneanthrone and 9-benzylidenefluorene. V. M. Ingram. Chem Soc J p2318-24 S '50

BENZYLIDENE compounds
Benzylidene derivatives of L-arabinose diethyl acetal and dimethyl acetal. C. F. Huebner, R. A. Pankratz and K. P. Link. Am Chem Soc J 72:4811-12 O '50
Dithiols; syntheses with the *iso*propylidene and benzylidene derivatives of 2 : 3-dimercaptopropanol. L. W. C. Miles and L. N. Owen. Chem Soc J p2938-43 N '50

BENZYLIDENE diacetate
Nitration of benzylidene diacetate. W. Davey and J. R. Gwilt. Chem Soc J p3348-9 N '50

BENZYLIDENE fluorene
Stereochemistry of 10-benzylideneanthrone and 9-benzylidenefluorene. V. M. Ingram. Chem Soc J p2318-24 S '50

BENZYLMAGNESIUM chloride
Reaction of benzylmagnesium chloride with aliphatic aldehydes. S. Siegel, W. M. Boyer and R. R. Jay. bibliog Am Chem Soc J 73:3237-40 Jl '51
Reaction of benzylmagnesium chloride with benzaldehyde; the identification of the abnormal product. S. Siegel, S. K. Coburn and D. R. Levering. bibliog Am Chem Soc J 73:3163-5 Jl '51
Studies in silico-organic compounds; products resulting from the action of benzylmagnesium chloride on triethoxysilane. A. L. Reilly and H. W. Post. Am Chem Soc J 73:865 F '51

BENZYLMAGNESIUM halides
Reaction of benzylmagnesium halides with alkyl α-haloalkyl ethers. L. Malm and L. Summers. Am Chem Soc J 73:362-3 Ja '51

BENZYLMERCAPTAN. See Toluenethiol

BENZYLPENICILLIN. See Penicillin G (benzylpenicillin)

BENZYL phenols
2-Benzylphenol derivatives; imidazolines. W. B. Wheatley and others. bibliog Am Chem Soc J 72:4443-5 O '50
o-Benzylphenol derivatives; quaternary ammonium halides. W. B. Wheatley and others. Am Chem Soc J 72:5575-7 D '50

BENZYL phenyl ether
Substituted diphenylmethanes and phenyl benzyl ethers prepared from *o*- or *p*-cresol and *o*-, *m*- or *p*-bromobenzyl chloride. R. C. Huston and H. H. Gyorgy. bibliog Am Chem Soc J 72:4171-3 S '50

BENZYL phenyl sulfide
Action of aluminum bromide on some halogenated thiophenols and benzyl phenyl sulfides. H. F. Wilson and D. S. Tarbell. bibliog Am Chem Soc J 72:5200-5 N '50

BENZYL pyridine
Chemistry of the benzylpyridines; nuclear substituted 2-benzylpyridines. N. Sperber and others. bibliog Am Chem Soc J 73:3856-8 Ag '51

BENZYLSODIUM
Alkali organometal compounds; the reaction of benzylsodium with alkyl halides. D. Bryce-Smith and E. E. Turner. Chem Soc J p 1975-9 Ag '50

BENZYLSUCCINIC acid
Preparation of benzylsuccinic acid from ethyl α-methylcinnamate. W. F. Beech and N. Legg. Chem Soc J p2906-7 O '50

BERBERINE
Isomerization of berberine and cotarnine bases in presence of alkali. B. Skinner. Chem Soc J p823-7 Mr '50

BERDIS, Albert J.
Iron age salutes. por Iron Age 167:87 Mr 15 '51

BERGEN, William Benjamin, 1915-
Bergen of the Glenn L. Martin co. F. Hamlin. por Aero Digest 62:25+ Ap '51

BERGHOLM, Axel O.
Sketch. por Welding J 29:1028 N '50

BERKELIUM. See Chemical elements—Atomic no. 97

BERKEY, Charles Peter, 1867-
Charles Peter Berkey. J. L. Savage and R. Rhoades. por(front) (In Application of geology to engineering practice, p xi-xix) Geological society of America, 419 W. 117th st, New York 27 '50

BERKSHIRE life insurance company
Book by John Barker signalizes centenary. East Underw 52:9 Ja 26 '51
100th anniversary convention. East Underw 52:3-5+ Je 29 '51; Nat Underw (Life ed) 55:3+ Je 29 '51; il Spectator (Life ed) 158:20 Je '51; Weekly Underw 164:1634-6+ Je 30 '51

BERLIN
Confidence in Berlin. map Economist 160:1444-5 Je 16 '51

BERNAYS, Edward L. 1891-

Bibliography

Public relations, Edward L. Bernays and the American scene; annotated bibliography of and reference guide to writings by and about Edward L. Bernays from 1917 to 1951. 86p $2; pa $1.75 F. W. Faxon co, 83 Francis st, Boston '51

BERNSTEIN, Serge, 1880-
Generalization of S. Bernstein's polynomials to the infinite interval. O. Szasz. bibliog J Res Nat Bur Stand 45:239-45 S '50

BERRY, Albert E.
Portrait. Am Water Works Assn J 43:front My '51

BERTHELOT, Marcelin Pierre Eugène, 1827-1907
European chemical developments in the nineteenth century. H. S. van Klooster. J Chem Educ 28:360-2 Jl '51

BERYL
Colorado pegmatite deposit yields beryl and mica. C. A. Wemlinger. il Eng & Min J 151:92-4 N '50
Geology, mining, and uses of strategic pegmatites. R. H. Jahns. bibliog il map diag Min Eng 190:Trans 45-7 Ja '51
Mica and beryl pegmatites in Idaho and Montana. W. C. Stoll. maps plans diags U S Geol S Professional Pa 229:1-64, pl 1-9; pa $1.50 Supt. of doc. '50
Nuclear magnetic resonance measurements on Be^9, Al^{27}, and Si^{29} in beryl. J. Hatton and others. bibliog Phys R 83:672-3 Ag 1 '51
Primary beryl. Chem Ind W 68:17 F 10 '51

BERYLLIOSIS. See Beryllium poisoning

BERYLLIUM
Abundance of lithium, beryllium, boron, and other light nuclei in the primary cosmic radiation and the problem of cosmic-ray origin. H. L. Bradt and B. Peters. bibliog il Phys R 80:943-53 D 15 '50
Activation cross sections measured with antimony-beryllium photoneutrons. V. Hummel and B. Hamermesh. diags Phys R 82:67-8 Ap 1 '51
Allotropy of beryllium. A. U. Seybolt and others. J Ap Phys 22:986 Jl '51
Angular distribution of neutrons from the bombardment of Be by 340-Mev protons. J. DeJuren. Phys R 81:458 F 1 '51
Angular yield of deuterons and alphas from the proton bombardment of beryllium. J. A. Neuendorffer and others. bibliog diag Phys R 82:75-80 Ap 1 '51
Angular yield of protons, tritons, and alphas from the deuteron bombardment of beryllium. I. Resnick and S. S. Hanna. bibliog Phys R 82:463-7 My 15 '51
Beryllium discontinued in fluorescent lamp manufacture. W. Schweisheimer. Power Eng 55:105-7 F '51
Beryllium, 1950. J. W. Clark. Eng & Min J 152:92 F '51
Excited state of Be^9 from the $B^{11}(d,\alpha)Be^9$ reaction. D. M. Van Patter and others. bibliog diag Phys R 81:233-8 Ja 15 '51
Gamma-rays from Be^9 (α, n). J. Terrell. bibliog diag Phys R 80:1076-80 D 15 '50
Kinetics of the reactions of beryllium with oxygen and nitrogen and the effect of oxide and nitride films on its vapor pressure. E. A. Gulbransen and K. F. Andrew. bibliog Electrochem Soc J 97:383-95 N '50; Discussion. 98:257 Je '51
Less familiar metals of commercial importance. O. Kay and R. A. Lubker. Product Eng 22:106-7 Ja '51
Low excited states in Li^6 and Be^9. C. P. Browne and others. Phys R 83:179-80 Jl 1 '51
Neutron energy distribution in proton bombardment of beryllium. D. Bodansky. Phys R 80:481 N 1 '50
Neutron energy distributions in proton bombardment of Be and C at 100 Mev. D. Bodansky and N. F. Ramsey. diags Phys R 82:831-6 Je 15 '51
Nuclear spin of Be^9. H. S. Gutowsky and others. bibliog Phys R 81:635-6 F 15 '51

BERYLLIUM—*Continued*

Photo-distintegration cross sections of deuterium and beryllium for the gamma-rays of sodium 24 and gallium 72. A. H. Snell and others. bibliog diags Phys R 80:637-42 N 15 '50

Photo-neutron thresholds of beryllium and deuterium. R. C. Mobley and R. A. Laubenstein. bibliog diags Phys R 80:309-14 N 1 '50

Precise determination of the $Li^7(p, \alpha)He^4$ and $Be^9(d, \alpha)Li^7$ *Q*-values. W. Whaling and C. W. Li. bibliog Phys R 81:150-1 Ja 1 '51

Production ratio of photomesons from beryllium. H. A. Medicus. bibliog Phys R 83:662-3 Ag 1 '51

Review of beryllium and beryllium alloys. J. T. Richards. bibliog(91 refs) J Metals 3:379-86 My '51

Specific heat of beryllium between 0° and 900°. D. C. Ginnings, T. B. Douglas and A. F. Ball. bibliog diag Am Chem Soc J 73:1236-40 Mr '51

Spin of Be^9. N. A. Schuster and G. E. Pake. bibliog Phys R 81:886-7 Mr 1 '51

Total cross sections of Be, B, O, and F for fast neutrons. C. K. Bockelman. bibliog Phys R 80:1011-13 D 15 '50

Analysis

Analytical use of the formation of the beryllium-fluoride complex. F. Feigl and A. Schaeffer. bibliog Anal Chem 23:351-3 F '51

Beryllium excretion in humans. F. W. Klemperer and others. A M A Archives Ind Hygiene & Occup Med 4:251-6 S '51

Determination of beryllium by photodisintegration; γ,n reaction. A. M. Gaudin and J. H. Pannell. bibliog il diags Anal Chem 23:1261-5 S '51

Spectrophotometric determination of beryllium in aluminum with sulfosalicylic acid. H. V. Meek and C. V. Banks. bibliog Anal Chem 22:1512-16 D '50

Transmission characteristics in the visible spectral region of the quinalizarin and beryllium-quinalizarin complex in N/4 sodium hydroxide solution. G. W. Marks and H. T. Hall. 3pls U S Bur Mines Rep of Invest 4741:1-5 '50

Use of high frequency titrimeter; volumetric determination of beryllium. K. Anderson and D. Revinson. bibliog Anal Chem 22:1272-4 O '50

Isotopes

Angular distributions of the two gamma-rays from $Li^7(p, \gamma)Be^8$ reaction. M. B. Stearns and B. D. McDaniel. bibliog Phys R 82:450-1 My 1 '51

$B^{10}(n,\alpha)$ reaction and the low excited state of Li^7. D. R. Inglis. Phys R 81:914-19 Mr 15 '51

Carrier-free radioisotopes from cyclotron targets; preparation and isolation of Be^7 from lithium. H. R. Haymond and others. J Chem Phys 18:1685 D '50

Comparison of several nuclear absolute voltage determinations. W. J. Sturm and V. Johnson. bibliog diags Phys R 83:542-7 Ag 1 '51

Energy and angular distribution of the gamma-rays from the reaction $Li^7(p, \gamma)Be^8$. H. Nabholz and others. bibliog Phys R 82:963-4 Je 15 '51

Excitation energy difference in Li^7-Be^7. E. Feenberg. bibliog Phys R 81:644 F 15 '51

Excitation functions for $B^{10}(d, \alpha)Be^8$. W. D. Whitehead. Phys R 82:553-4 My 15 '51

Excited states of the mirror nuclei, Li^7 and Be^7. A. B. Brown and others. bibliog Phys R 82:159-81 Ap 15 '51

Fast neutron disintegration of C^{12} and B^{10}. J. L. Perkin. Phys R 81:892-3 Mr 1 '51

First excited state of Be^7 from the $Li^7(p,n)Be^7$ reaction. H. B. Willard and W. M. Preston. bibliog Phys R 81:480-1 F 1 '51

Lithium and beryllium nuclei ejected from heavy nuclei by high energy particles. L. Marquez and I. Perlman. bibliog Phys R 81:953-7 Mr 15 '51

Magnetic moments of Mg^{25}, Re^{185}, Re^{187}, and Be^9. F. Alder and F. C. Yu. bibliog Phys R 82:105 Ap 1 '51

Mirror levels in Li^7 and Be^7. B. R. Mottelson. Phys R 82:287 Ap 15 '51

Neutron yield from $Be^9(\gamma,n)Be^8$ reaction. G. J. Hine and F. E. Senftle. Phys R 80:904 D 1 '50

Nuclear recoils resulting from the decay of Be^7. P. B. Smith and J. S. Allen. diag Phys R 81:381-5 F 1 '51

Probable emission of a beryllium-8 nucleus in the fast neutron fission of thorium-232. E. W. Titterton. bibliog Phys R 83:1076-7 S 1 '51

Search for Be^7 states using the Li^6 technique. G. R. Keepin, jr. Phys R 80:768 N 15 '50

Spin-orbit coupling in Li^7 and Be^7. D. R. Inglis. bibliog Phys R 82:181-9 Ap 15 '51

Thenoyltrifluoroacetone as a complexing agent for the isolation and purification of carrier-free radioberyllium. R. A. Bolomey and L. Wish. bibliog Am Chem Soc J 72:4483-6 O '50

Physiological effect

Experimental beryllium granulomas of the skin. F. R. Dutra. bibliog il A M A Archives Ind Hygiene & Occup Med 3:81-9 Ja '51

Symposium on the dynamics of industrial medicine; unidentified occupational case history. R. J. Hasterlik. A M A Archives Ind Hygiene & Occup Med 3:147-9 F '51

Testing

Measurement of low order ductility. N. P. Pinto. diag J Metals 188:1444 D '50

BERYLLIUM, Powdered

Beryllium powder compacts reduced nine per cent by cold rolling. H. Hausner and N. Pinto. Steel 127:93 D 11 '50

BERYLLIUM alloys

Beryllium copper parts designed for investment casting. J. T. Richards. il Product Eng 22:114-17 F '51

Beryllium copper sand castings. J. T. Richards. bibliog il Foundry 79:90-3+ Ag '51

Beryllium copper shoulders defense jobs. J. T. Richards. il Steel 128:83-4 My 14 '51

Constitution and precipitation-hardening properties of copper-rich copper-tin-beryllium alloys. R. A. Cresswell and J. W. Cuthbertson. bibliog il J Metals 3:Trans 782-91 S '51

Designing beryllium copper investment castings. J. T. Richards. il diags Machine Design 23:121-5 My '51

Designing with modern materials; survey of latest developments in engineering materials. il Machine Design 23:316-17 O '51

Intermetallic compounds in the system molybdenum-beryllium. S. G. Gordon and others. bibliog il diag J Metals 3:Trans 637-8 Ag '51

Letter to the editor, dealing with beryllium copper. J. T. Richards. Materials & Methods 33:136+ Je '51

Preliminary investigation of the zirconium-beryllium system by powder metallurgy methods. H. H. Hausner and H. S. Kalish. bibliog il J Metals 188:Trans 59-66 Ja '50; Discussion. 188:Trans 1369-71 N '50

Review of beryllium and beryllium alloys. J. T. Richards. bibliog(91 refs) J Metals 3:379-86 My '51

BERYLLIUM carbide

Thermal conductivity and heat capacity of beryllium carbide. J. J. Neely and others. Am Cer Soc J 33:363-4 D 1 '50

BERYLLIUM compounds

Beryllium complexes with naphthazarin and alkannin. A. L. Underwood, T. Y. Toribara and W. F. Neuman. bibliog Am Chem Soc J 72:5597-602 D '50

Composition and stability of the beryllium-sulfosalicylate complex ion. H. V. Meek and C. V. Banks. bibilog Am Chem Soc J 73:4108-12 S '51

BERYLLIUM iodide

Dissociation of beryllium iodide in platinum containers. B. Kopelman and H. Bender. bibliog diag Electrochem Soc J 98:89-93 Mr '51

BERYLLIUM nitride

Kinetics of the reactions of beryllium with oxygen and nitrogen and the effect of oxide and nitride films on its vapor pressure. E. A. Gulbransen and K. F. Andrew. bibliog Electrochem Soc J 97:383-95 N '50; Discussion. 98:257 Je '51

BERYLLIUM oxide

Kinetics of the reaction of beryllium with oxygen and nitrogen and the effect of oxide and nitride films on its vapor pressure. E. A. Gulbransen and K. F. Andrew. bibliog Electrochem Soc J 97:383-95 N '50; Discussion. 98:257 Je '51

Measurement of the intensities of X-ray reflections from single crystals using a Geiger counter X-ray spectrometer; application to beryllium oxide; abstract. W. L. Roth. Science 112:447 O 20 '50

Persistence of beryllium oxide in lungs after inhalation of dust. F. R. Dutra and others. il diag A M A Archives Ind Hygiene & Occup Med 4:65-73 Jl '51

Porcelains within the beryllia field of the system beryllia-alumina-zirconia. S. M. Lang and others. bibliog diags J Res Nat Bur Stand 45:366-73 N '50

Properties of beryllium-barium titanate dielectrics. E. N. Bunting and others. bibliog J Res Nat Bur Stand 47:15-24 Jl '51

Vapor pressure of beryllium oxide. N. D. Erway and R. L. Seifert. bibliog diags Electrochem Soc J 98:83-8 Mr '51

BERYLLIUM poisoning

Beryllium discontinued in fluorescent lamp manufacture. W. Schweisheimer. Power Eng 55:105-7 F '51

Beryllium excretion in humans. F. W. Klemperer and others. A M A Archives Ind Hygiene & Occup Med 4:251-6 S '51

Cure for deadly industrial disease; abstract. H. E. Tebrock. Mill & Factory 48:300+ Je '51

Epidemiology of beryllium intoxication. J. H. Sterner and M. Eisenbud. bibliog A M A Archives Ind Hygiene & Occup Med 4: 123-51 Ag '51

Interaction of beryllium with enzymes; abstract. F. W. Klemperer. Science 112:423 O 13 '50

Persistence of beryllium oxide in lungs after inhalation of dust. F. R. Dutra and others. il diag A M A Archives Ind Hygiene & Occup Med 4:65-73 Jl '51

Symposium on the treatment of chronic beryllium poisoning with ACTH and cortisone. bibliog il A M A Archives Ind Hygiene & Occup Med 3:543-630 Je '51

Bibliography

Bibliography on beryllium health problems. N. W. Bass. Am Cer Soc Bul 30:79-80 Mr 15 '51

BERYLLIUM sulfate

Hydrates of beryllium sulfate. A. N. Campbell, A. J. Sukava and J. Koop. bibliog Am Chem Soc J 73:2831-5 Je '51

Systems Ag_2SO_4-$BeSO_4$-H_2O and $Ag_2SO_4MgSO_4$-H_2O at 35°. C. A. Orlick and E. L. Simons. Am Chem Soc J 73:4325 S '51

BERYLLIUM trifluoroacetone

Spectrophotometric studies of beryllium thenoyltrifluoroacetone. L. Wish and R. A. Bolomey. Am Chem Soc J 72:4486-8 O '50

BESSEL'S functions

Tables of the Bessel functions of the first kind of orders seventy-nine through one hundred thirty-five. v 14 614p $8 Harvard univ. press, Cambridge, Mass. '51

BESSEMER, Henry, 1813-1898

Sir H. Bessemer inventor. Can Min J 72:68 Mr '51

BESSEMER limestone and cement company

Fifty years in the cement industry. Rock Prod 54:82 My '51

BESSEMER process

Bessemer steel process speeded up with oxygen. Marine Eng 56:64 Jl '51

Continuous temperature measurement of liquid steel in the furnace. D. Hardwick and H. Everard. diags Iron & Steel Inst J 166:147-8 O '50

New oomph for converters. Comp Air Mag 56: 161 Je '51

Oxygen as a means of increasing Bessemer production; abstracts. W. G. McDonough. Iron Age 167:72 My 31 '51; Steel 128:92 My 28 '51; Iron & Steel Eng 28:116-17 Ag '51; Metal Prog 60:130+ S '51

Present position of the converter process; economic comparison with other steel-making processes. B. Matuschka. Iron & Steel Inst J 168:40-5 My '51; Discussion. Engineer 191:763-4, 787-8 Je 8-15 '51; Engineering 171:712-13 Je 15 '51

Superior machinability of MX explained. F. W. Boulger and others. bibliog il Iron Age 167:90-5 My 17 '51

Use of oxygen/carbon dioxide instead of air in the final stage of the basic Bessemer process. B. Kalling and others. bibliog diag Iron & Steel Inst J 168:337-43 Ag '51

BEST foods, inc.

Debt-free companies; with comparative balance sheet items. Mag of Wall St 88:402 Jl 14 '51

BETA ray spectrometer. See Spectrometers

BETA rays

Auxiliary equipment to be used with a beta-ray spectrometer for the study of radioactive gases. M. Ter-Pogossian and others. il diags R Sci Instr 22:389-92 Je '51

Bargain-counter radiation. diag Chem Ind W 68:15-16 Mr 24 '51

Behavior of space charge free diamond crystal counters under beta-ray bombardment. A. G. Chynoweth. bibliog Phys R 83:264-8 Jl 15 '51

Beta-activity of potassium. C. F. G. Delaney. Phys R 81:158 Ja 1 '51

Beta-decay and meson decay. E. R. Caianiello. bibliog Phys R 81:625 F 15 '51

Beta-decay of isomeric Cd^{113}. W. L. Carss and others. Phys R 80:1028-9 D 15 '50

Beta-disintegration of Th^{233}. M. E. Bunker and others. Phys R 80:468 N 1 '50

Beta-emitters; abstracts of papers at American physical society meeting. Phys R 81: 297-300 Ja 15 '51

Beta-ray spectroscopes. E. Persico and C. Geoffrion. bibliog diags R Sci Instr 21: 945-70 D '50

β-Ray spectrum and the *ft* value in the second forbidden transition. S. Nakamura and others. bibliog Phys R 83:1273-4 S 15 '51

Beta-ray spectrum of K^{40}. M. L. Good. Phys R 83:1054-5 S 1 '51

Beta-ray spectrum of Tl^{206}. D. E. Alburger and G. Friedlander. Phys R 82:977 Je 15 '51

Beta-spectrum of As^{77}. E. N. Jensen and others. bibliog Phys R 81:143-4 Ja 1 '51

Beta-spectrum of Cl^{36}. H. W. Fulbright and others. bibliog Phys R 82:274, 457-8 Ap 15-My 1 '51

Beta-spectrum of P^{32}. S. D. Warshaw and others. Phys R 80:288 O 15 '50

Beta-spectrum of S^{35} using window corrections. R. B. Heller and others. bibliog Phys R 83:848-9 Ag 15 '51

Beta-spectrum of sulfur 35 in the range of 0-30 kilovolts. L. Gross and D. R. Hamilton. bibliog Phys R 80:484 N 1 '50

Beta-spectrum of Tc^{99}. S. I. Taimuty. bibliog Phys R 81:461-2 F 1 '51

Ca^{45} beta-distribution obtained in a split crystal scintillation spectrometer. B. H. Ketelle. bibliog Phys R 80:758-9 N 15 '50

Calculation of the Fermi function in the theory of beta-decay. J. Y. Mei. Phys R 81: 287-8 Ja 15 '51

Comparison of two methods for correcting for self-absorption of beta particles, using sulfur. G. K. Schweitzer and J. T. Garrett. bibliog J Phys & Colloid Chem 55:195-9 F '51

Concentration of A^{36} and A^{38} and study of the A$^{36}(d, p)$A^{37} reactions and the beta-activity of A^{39}. A. Zucker and W. W. Watson. bibliog diags Phys R 80:966-9 D 15 '50

Concerning the C^{14}—N^{14} β-decay. E. Gerjuoy. Phys R 81:62-3 Ja 1 '51

Continuous γ-radiation of β-emitters. L. Madansky and F. Rasetti. bibliog Phys R 83:187-8 Jl 1 '51

Disintegration scheme of Re^{186}. F. R. Metzger and R. D. Hill. bibliog diag Phys R 82: 646-50 Je 1 '51

Distribution of absorbed energy around a point source of β radiation. R. Loevinger. bibliog Science 112:530-1 N 3 '50

Double beta-decay as a first-order process. R. G. Winter. bibliog Phys R 83:1070-1 S 1 '51

BETA rays—*Continued*

Double thin lens beta-ray spectrometer. C. M. Van Atta and others. bibliog diag R Sci Instr 21:985-90 D '50

Effect of finite nuclear size in beta-decay. M. E. Rose and D. K. Holmes. Phys R 83:190-1 Jl 1 '51

Electron-neutrino angular correlation. E. Greuling and M. L. Meeks. bibliog Phys R 82:531-7 My 15 '51

Electrostatic beta-spectrograph. D. R. Hamilton and L. Gross. bibliog diag R Sci Instr 21:912-17 N '50

Energy dependence of the beta-gamma angular correlation in Sb^{124}. E. K. Darby and W. Opechowski. bibliog Phys R 83:676-7 Ag 1 '51

Experimental search for the beta-decay of the π^+ meson. H. L. Friedman and J. Rainwater. Phys R 81:644-5 F 15 '51

First forbidden shape factor and the $f_n t$ products for beta-decay. J. P. Davidson, jr. bibliog Phys R 82:48-51 Ap 1 '51

Forbidden beta-ray spectra. A. M. Smith. bibliog Phys R 82:955-6 Je 15 '51

ft-Values of β-decay and the shell models. M. Taketani and others. bibliog Phys R 82:441-2 My 1 '51

Graphical determination of transmission curves for certain magnetic lens beta-ray spectrometers. J. F. Perkins and A. W. Solbrig, jr. R Sci Instr 22:173-5 Mr '51

High energy beta-spectrum of Sc^{46}. F. T. Porter and C. S. Cook. Phys R 81:640-1 F 15 '51

High resolution two-directional focusing beta-ray spectrometer. A. A. Bartlett and K. T. Bainbridge. bibliog il diags R Sci Instr 22:517-23 Jl '51

Higher order effects in beta-decay. E. Merzbacher. bibliog Phys R 81:942-5 Mr 15 '51

Interpretation of comparative half-lives in the Fermi theory of beta-decay. E. Feenberg and G. Trigg. bibliog Rs Mod Phys 22:399-406 O '50

(*n*,2*n*) and (*n*,*p*) cross sections. B. L. Cohen. Phys R 81:184-8 Ja 15 '51

New type beta ray gauge. il Rubber Age 69:354+ Je '51

Numerical evaluation of the Fermi beta-distribution function. D. G. E. Martin. Phys R 81:280-1 Ja 15 '51

Orbital perturbation effects in beta-decay. H. M. Schwartz and R. R. Edwards. bibliog J Chem Phys 19:385-6 Mr '51

Radioactive decay of Cs^{137}. M. A. Waggoner. Phys R 82:906-9 Je 15 '51

Radioactivity in textile production. Electronics 24:172+ Ja '51

Rapid method of calculating log(*ft*) values for β-transitions. S. A. Moskowski. Phys R 82:35-7 Ap 1 '51

Recent investigation of the shapes of β-ray spectra. C. Wu. bibliog diag Rs Mod Phys 22:386-98 O '50

Reduction of arbitrariness in the theory of forbidden β-spectra. C. L. Longmire and A. M. L. Messiah. bibliog Phys R 83:464 Jl 15 '51

Relative phase of the interaction constants for mixed invariants in beta-decay. L. C. Biedenharn and M. E. Rose. bibliog Phys R 83:459 Jl 15 '51

Self-absorption and backscattering of β radiation. L. E. Glendenin and A. K. Solomon. bibliog Science 112:623-6 N 24 '50

Shape of the low energy beta-spectrum of Rb^{86}. H. R. Muether and S. L. Ridgway. bibliog Phys R 80:750-1 N 15 '50

Simple laboratory setup for rapid measurement of β-ray dosages above one rep/sec. J. S. Krohmer and W. A. McCarthy. il Science 113:360-1 Mr 30 '51

Source discharger for magnetic lens beta-ray spectrometers. J. L. Wolfson. bibliog diag R Sci Instr 22:280-2 Ap '51

Symmetry principle in the Fermi theory of beta-decay. G. L. Trigg and E. Feenberg. Phys R 82:982 Je 15 '51

Table of *ft* values in beta-decay. A. M. Feingold. Rs Mod Phys 23:10-20 bibliog (239 ref, p 18-20) Ja '51

Theory of beta-decay. R. J. Blin-Stoyle and J. A. Spiers. Phys R 82:969-70 Je 15 '51

Thickness gaging by radiation absorption methods. C. W. Clapp and S. Bernstein. il Gen Elec R 53:39-42 N '50

Transmission of beta-rays by nylon and Formvar. R. B. Heller and others. bibliog il diag R Sci Instr 21:898-902 N '50

Twice-forbidden transition of Cs^{137} and the law of beta-decay. L. M. Langer and R. J. D. Moffat. bibliog Phys R 82:635-8 Je 1 '51

Two beta-gamma-counters for gas samples. R. Jenkins. R Sci Instr 21:940 N '50

Type of interaction in β-decay. S. A. Moszkowski. bibliog Phys R 82:118 Ap 1 '51

Use of beta-ray densitometry in paper chromatography. R. H. Müller and E. N. Wise. diags Anal Chem 23:207-8 Ja '51

Window correction curves and the shape of beta-spectra. D. Saxon. bibliog Phys R 81:639 F 15 '51

BETAINE

Betaine hydrazone of aminochromes. H. Sobotka and J. Austin. bibliog Am Chem Soc J 73:3077-9 Jl '51

Nitrogenous compounds in sugar beet juices. R. J. Brown. bibliog Ind & Eng Chem 43:610-14 Mr '51

Syntheses of neurotropic and musculotropic stimulators and inhibitors; derivatives of unsaturated α-betaines. F. Bergel, A. Cohen and N. C. Hindley. Chem Soc J p 1439-43 J[illegible] '50

Analysis

Rapid method for determination of betaine. H. G. Walker, jr. and R. Erlandsen. bibliog Anal Chem 23:1309-11 S '51

BETATRON

Ejection of the electron beam from a betatron. S. L. Fawcett and E. C. Crittenden, jr. diags R Sci Instr 21:935-6 N '50

Field measurements on model betatron and synchrotron magnets. E. A. Finlay and others. bibliog diags J Sci Instr 27:264-70 O '50

Flux-forced field-biased betatron. E. C. Gregg. bibliog il plan diags R Sci Instr 22:176-82 Mr '51

Forced betatron oscillation in a synchrotron with straight sections. N. M. Blachman. R Sci Instr 22:569-71 Ag '51

Gamma-neutron cross sections. H. E. Johns and others. bibliog diag Phys R 80:1062-8 D 15 '50

Investigations on the capturing of electrons in a 30-Mev betatron. R. Wideröe. J Ap Phys 22:362-3 Mr '51

Orbit-bender to assist injection into betatrons. L. Davis, jr. R Sci Instr 21:971-2 D '50

Photodisintegration of He^4 nuclei by X-rays from a 100-Mev betatron. E. R. Gaerttner and M. L. Yeater. bibliog il diag Phys R 83:146-50 Jl 1 '51

Photonuclear effects in carbon from 100-Mev betatron X-rays. E. R. Gaerttner and M. L. Yeater. Phys R 82:461 My 1 '51

Thick target for synchrotrons and betatrons. E. M. McMillan. diag R Sci Instr 22:117 F '51

2,000,000-kva transformer core. W. C. Sealey. il Elec Eng 70:505 Je '51

BETHLEHEM steel company

Bethlehem unwraps huge new expansion plan. B. Hatschek. Iron Age 167:84 Ja 25 '51

BETHLEHEM steel corporation

Bethlehem Steel; with condensed balance sheet and financial data, 1940-1949. F. Chutter. Barron's 31:7-8 Ja 1 '51

Ten potential market leaders for 1951; with comparative balance sheet items. Mag of Wall St 87:503 F 10 '51

BETTGER, Frank

Successful failure. H. Woodward. por Sales Management 66:41 Ap 15 '51

BETTING

Betting in Britain. Economist 160:1226 My 26 '51

BETULIC acid

Betulic acid from syncarpia laurifolia Tenn. C. S. Ralph and D. E. White. Chem Soc J p3433-4 D '49

BETULIN

Chemistry of the pentacyclic triterpenes; elucidation of the betulin-oleanolic acid relationship. G. S. Davy and others. bibliog Chem & Ind p732 N 11 '50

BETULINIC acid

Chemistry of the pentacyclic triterpenes; the stereochemistry of rings D and E of the lupeol group. G. S. Davy and others. Chem & Ind p233 Mr 24 '51

BEVATRON. See Synchrotron

BEVEL gearing. See Gearing, Bevel

BEVERAGES

Beverage quality and how to assure it. S. S. Epstein. bibliog il Food Eng 23:100-2 S '51

How temperature affects sales; influence of cool summer on cold beverage consumption. H. Zeisel. Ptr Ink 233:40-2 N 17 '50

Moxie starts to stir again. L. M. Hughes. il Sales Management 66:97+ Je 15 '51

Nickel drink is groggy. il Fortune 43:78-9+ Ja '51

Soft drinks, seasonal or basic improvement? G. W. Mathis. Mag of Wall St 88:408-9+ Jl 14 '51

Stand-out labels for Canada Dry flavored sodas. il Mod Packaging 24:84-5 Jl '51

See also

Beer
Bottling plants
Coca Cola
Coffee
Liquor traffic
Whisky
Wine

Advertising

Sell space to bottlers, newspapers are told. Ed & Pub 83:12 N 4 '50

Manufacture

Moving to that X-street building? Nedick's experience in housing its drink-canning lines. E. F. Hansen. il Food Eng 23:149+ Je '51

BIACENAPHTHYL

Preparation of the two stereoisomeric forms of 7 : 7′-diacenaphthenyl. J. I. Jones. Chem Soc J p3113-16 D '49

BIALLYL. See Hexadiene

BIAL'S reagent

Determination of pentoses; effect of varying proportions of components of Bial's color reagent. G. L. Miller, R. H. Golder and E. E. Miller. bibliog Anal Chem 23:903-5 Je '51

BIANTHRONYL

Molecular compound of anthraquinone and dianthron-9-yl. V. M. Ingram. Chem Soc J p2211-13 Ag '50

BIANTHRYL

Symmetrical dianthryls. F. Bell and W. H. D. Morgan. Chem Soc J p 1963-6 Jl '50

BIBLE

Library of the American bible society. M. T. Hills. Special Lib 42:182-3+ My-Je '51

Printing

See also

Gutenberg Bible

BIBLIOGRAPHY

Bibliographic organization; papers presented before the 15th annual conference of Chicago university, Graduate library school, July 24-29, 1950. J. H. Shera and M. E. Egan, eds. 275p $5 Univ. of Chicago press, 5750 Ellis av, Chicago 37 '51

Current general bibliographies about individual countries. F. Prinzhorn. Special Lib 42:257-8+ S '51

Informal report on UNESCO conference on the improvement of bibliographical services. F. C. Francis. Aslib Proc 3:91-7 My '51

Library in college instruction; a syllabus on the improvement of college instruction through library use. L. R. Wilson, M. H. Lowell and S. R. Reed. 347p $3.75 H. W. Wilson co, New York '51

See also

Documentation
Indexing
Libraries
Manuscripts—Catalogs
Periodicals—Indexes
Reading lists

also subdivision Bibliography under special subjects, e.g.

Chemistry
Government publications
Reference books
Science
Technology

Bibliography

American library resources; a bibliographical guide. 428p $7 American library assn, 50 E. Huron st, Chicago 11 '51

Bibliographic index; a cumulative bibliography of bibliographies, 1947-1950. V. Turrell, ed. 796p H. W. Wilson co, New York '51

Commission internationale des industries agricoles; recent bibliographies. Chem & Ind p 106 F 10 '51

Dictionaries

Bookman's glossary. 3d ed rev & enl 198p $2.50 R. R. Bowker co, 62 W. 45th st, New York 19 '51

BICYCLES

Bicycles, their care and safe operation. Consumers Res Bul 27:14 Ja '51

Combined three-speed gear and back-pedalling brake. diag Engineer 191:623 My 11 '51

Planetary gears save space in coaster brake. il diag Product Eng 22:110-11 Ap '51

Manufacture

Cycle components; factory of Walton and Brown, ltd. il Elec R (Lond) 148:1069-74 My 25 '51

Rating

Bicycles. il Consumers Res Bul 26:16-18 D '50

BICYCLOHEPTENE

New mercurials from 2,2-diphenylpentene-4-ol-1 and norbornylene. R. L. Rowland. Am Chem Soc J 73:2381 My '51

BIDAULT, Georges, 1899-

Portrait. Bsns W p 144 Ag 25 '51

BIKANER wool. See Wool—Testing

BIKINI lagoon

Submarine geology of Bikini lagoon as indicated by dispersion of water-borne explosion waves. M. B. Dobrin. bibliog map diag Geol Soc Bul 61:1091-117, pl 1-3 O '50

BILE

Changes in biliary cholesterol in abnormal thyroid states. R. H. Rosenman and others. bibliog Science 114:210-11 Ag 24 '51

See also

Choleretics

BILE acids

Formation of an acrylal in side chain degradation of the bile acids. T. F. Gallagher and E. Elisberg. Am Chem Soc J 73:194-6 Ja '51

Formylation of bile acids. I. W. Hughes, F. Smith and M. Webb. Chem Soc J p3437-8 D '49

Molecular compounds of aminoazo dyes and bile acids. G. Cilento. bibliog Am Chem Soc J 73:1355-7 Mr '51

Oxidation of steroids; selective oxidations and acylations in the bile acid series. L. F. Fieser and S. Rajagopalan. bibliog Am Chem Soc J 72:5530-6 D '50

BILLBOARDS

Lighting a billboard. G. T. Anderson. il Illum Eng 46:352 Jl '51

New color for advertisers; Day-Glo daylight fluorescent colors. L. Lapsley. il Adv Agency 44:76+ Mr '51

BILLING

Cycle billing of credit accounts. F. C. Sturtevant. il Nat Pet N 43:39+ S 19 '51

Southern California Gas uses teletype to speed customer billing. A. Rohman. il Am Gas J 174:23 Ja '51

See also

Waybills

BINARY vapor systems. See Steam plants—Binary vapor systems

BINDERS. See Insurance—Binders

BINDING materials

See also

Cements
Resinous products—Binding materials

BINOCULAR visual space. See Space perception

BINOCULARS. See Field glasses

BINS

Big benefits in bin-handling of drys. il Food Eng 23:83-5+ S '51

Portable bin facilitates handling bulk material. il Comp Air Mag 56:104 Ap '51

Pressures in a shallow rectangular bin. R. L. Moore and J. R. Shaw. diags Am Soc C E Proc 77[no 82]:1-13 Ag '51

Storage bin discharging equipment. Engineer 191:264 F 23 '51

BIOGRAPHY

Current biography; who's news and why, 1950. A. Rothe, ed. 704p H. W. Wilson co, New York '51

Bibliography

Biography index; a cumulative index to biographical material in books and magazines, August 1950-August 1951. B. Joseph and C. W. Squires, eds. 519p H. W. Wilson co, New York '51

Dictionaries

Biographical directory of the American Congress, 1774-1949. 2057p $9.50 Supt. of doc., Washington '50

Chambers's dictionary of scientists. A. V. Howard. 499p E. P. Dutton & co, 300 Fourth av, New York 10 '51 (12s 6d)

Diccionario biográfico español e hispanoamericano. v 1, A-F 1014p $10 Instituto español de estudios biográficos, Palma de Mallorca, Spain; American agent Stechert-Hafner, 31 E. 10th st, New York 3 '50

Dictionary of North American authors deceased before 1950. W. S. Wallace, comp. 525p $15 Ryerson press, 299 Queen st, W. Toronto (2B) '51

Dictionary of universal biography of all ages and of all peoples. A. M. Hyamson. 2d ed rev & reset 679p $15 E. P. Dutton & co, 300 Fourth av, New York 10 '51

International who's who, 1951. 15th ed 1067p $14 Europa publications, ltd, 56 Bloomsbury st, London, W.C. 1 '51

Kelley's handbook to the titled, landed and official classes, 1951. 77th ed 2246p $20 Kelly's directories, ltd, 186 Strand, London, W.C. 2. '51

Wer ist wer? 934p Arani-verlags-gesellschaft m.b.H. Berlin-Grunewald, Bismarckplatz; for sale by Stechert-Hafner, 31 E. 10th st, New York 3 '51

Who was when? a dictionary of contemporaries. M. A. de Ford. 2d ed $6 H. W. Wilson co, New York '50

Who was who in America; a companion biographical reference work to Who's who in America. v 2 654p $10.50 A. N. Marquis co, 210 E. Ohio st, Chicago 11 '50

Who's who in art. 5th ed 552p 42s Art trade press and Rockliff pub. co, 1 Dorest buildings, Salisbury square, London '50

Who's who in Australia. J. A. Alexander, comp. 14th ed 816p The Herald, 26-30 Flinders st, Melbourne, Australia '51

Who's who in Canada, 1949-50; an illustrated biographical record of men and women of the time. B. M. Greene, ed. 38th ed 1587p Musson book co, 103-107 Vanderhoof ave, Toronto 17 '50 ($10)

Who's who in colored America. G. J. Fleming and C. E. Burckel, eds. 7th ed 647p Christian E. Burckel and associates, Yonkers-on-Hudson, New York '50 ($10)

Who's who in commerce and industry. 7th ed 1355p A. N. Marquis co, 210 E. Ohio st, Chicago 11 '51 ($15.85)

Who's who in Latin America; part III, Colombia, Ecuador and Venezuela. R. Hilton, ed. 3d ed rev & enl 149p $3.50 Stanford univ. press, Stanford, Calif. '51

Who's who in Latin America; pt 5, Argentina, Paraguay and Uruguay. R. Hilton, ed. 3d ed rev & enl 258p $3.50 Stanford univ. press, Stanford, Calif.; A. N. Marquis co, 210 E. Ohio st, Chicago 11 '50

Who's who in Latin America; pt. 7, Cuba, Dominican Republic and Haiti. R. Hilton, ed. 3d ed rev & enl 77p $2.50 Stanford univ. press, Stanford University, Calif. '51

Who's who in New Zealand. G. H. Scholefield, ed. 5th ed 265p 42s A. H. & A. W. Reed, 182 Wakefield st, Wellington, New Zealand '51

Who's who in the East. 3d ed 1251p $15.25 A. N. Marquis co, 210 E. Ohio st, Chicago 11 '51

Who's who in the United nations. C. E. Burckel, ed. 580p Christian E. Burckel & associates, Yonkers-on-Hudson, New York '51 ($12)

World diplomatic directory and world diplomatic biography, 1950. R. Hefter, ed. 964p $20 W. S. Heinman, 125 E. 23d st, New York 10 '50

BIOHERMS. See Coral reefs and islands

BIOLOGICAL apparatus

Alteration of biological material by the Waring Blendor. G. M. Naimark and W. A. Mosher. Franklin Inst J 251:485-6 Ap '51

Electronic drinkometer. J. H. Hill and E. Stellar. Science 114:43-4 Jl 13 '51

High-pressure cytolyzer. J. M. Pirrung. diag Science 112:627 N 24 '50

Mouth-swabbing technique for the laboratory mouse. C. A. Ostrom and F. C. Hauth. diags Science 112:721-2 D 15 '50

Physical instruments for the biologist. Published in monthly numbers of Review of scientific instruments

Simple instrument for the determination of ACH. J. B. Davidson. diags Science 114:361-2 O 5 '51

Simple sampling device for submerged cultures. H. A. Walch, jr. and others. diag Science 114:368-9 O 5 '51

Simplified technique for microelectrocoagulation. M. W. Johnson and L. J. Manhoff, jr. il diags Science 113:182-4 F 16 '51

Vibrating probe electrometer for the measurement of bioelectric potentials. O. Blüh and B. I. H. Scott. il diag R Sci Instr 21:867-8 O '50

See also

Bacteriological apparatus
Homogenizers
Micromanipulators
Physiological apparatus
Respirometers

BIOLOGICAL assay

Medium for assay of vitamins with lactic acid bacteria. L. M. Flynn and others. bibliog Anal Chem 23:180-5 Ja '51

Microbiological method for the determination of sequences of amino acid residues. S. W. Fox, T. L. Hurst and K. F. Itschner. bibliog Am Chem Soc J 73:3573-5 Ag '51

Mouse-protective potency assay of typhoid vaccine. H. C. Batson and others. bibliog Pub Health Rep 66:789-805 Je 22 '51

Some aspects of the microbiological assay of amino acids. E. C. Barton-Wright. bibliog Chem & Ind sup S845-8 D 30 '50

BIOLOGICAL chemistry

A.C.S. Division of biological chemistry jubilee meeting, New York. Chem & Eng N 29:3814-16 S 17 '51

Application of radioactive indicators in biochemistry. G. C. Hevesy. bibliog(58 refs) Chem Soc J p 1618-39 Je '51

Bacterial oxidation of tryptophan; a study in comparative biochemistry. R. Y. Stanier and O. Hayaishi. bibliog Science 114:326-30 S 28 '51

Basis of life. O. Lyle. Chem & Ind p 164-7 Mr 3 '51

Biological and therapeutic significance of naturally occurring organic phosphates; abstract and discussion. F. Bergel. Chem & Ind p788-9 D 9 '50

Biological polymerization with reference to polysaccharide synthesis. M. Stacey. bibliog Chem & Ind p727-9 N 11 '50

Biosynthesis of riboflavin, L. bulgaricus factor, and other growth factors; laboratory and pilot plant studies of biosynthesis by A gossypii cultivated on grain stillage media. K. L. Smiley and others. bibliog Ind & Eng Chem 43:1380-4 Je '51

Chemical methods for estimating the distribution of C^{14} in biosynthetic glucuronic acid. F. Eisenberg, jr. and S. Gurin. bibliog Am Chem Soc J 73:4440-3 S '51

Ions and radicals in biochemical processes. W. A. Mosher. bibliog Franklin Inst J 251:665-74 Je '51

Iowa award winner, H. A. Mattill, urges stimulative teaching. Chem & Eng N 28:4548+ D 25 '50

Quantitative relationship between pH and the activity of weak acids and bases in biological experiments. E. W. Simon and H. Beevers. bibliog Science 114:124-6 Ag 3 '51

BIOLOGICAL chemistry—*Continued*

Suggested biosynthesis of cyclopropane rings. E. M. Kosower. bibliog Science 113:605-6 My 25 '51

See also

Antigens and antibodies
Bacteria
Biological materials—Analysis
Biotin
Blood
Cells
Enzymes
Histochemistry
Hormones
Immunity
Metabolism
Nutrition
Osmosis
Physiological chemistry
Plant growth
Plants—Chemical analysis
Proteins
Vitamins
Water in the body

History

Chemical progress during 75 years of the American chemical society. M. X. Sullivan. il Ind & Eng Chem 43:589-93 Mr '51

BIOLOGICAL control of weeds. See Weeds—Control

BIOLOGICAL laboratories

Small self-contained laboratory for radioisotope studies in experimental animals. R. F. Sognnaes and J. H. Shaw. il plan A M A Archives Ind Hygiene & Occup Med 3:316-22 Mr '51

See also

Hawaii marine laboratory

BIOLOGICAL libraries

See also

Special libraries association—Biological sciences division

BIOLOGICAL materials

Simple method of mounting gross biologic material in plastic boxes. T. W. Farmer and others. il Science 114:236-7 Ag 31 '51

See also

Tissues—Analysis

Analysis

Automatic countercurrent distribution equipment. L. C. Craig and others. il diags Anal Chem 23:1236-44 S '51

Determination of lactose in biological materials. M. G. Horowitz and others. bibliog Anal Chem 23:375-7 F '51

Estimation of gold in biological materials. S. Natelson and J. L. Zuckerman. bibliog Anal Chem 23:653-5 Ap '51

Microdetermination of arsenic and its application to biological material. G. R. Kingsley and R. R. Schaffert. bibliog diag Anal Chem 23:914-19 Je '51

Oxygen removal in the polarography of biological solutions. C. Tanford and J. Epstein. diags Anal Chem 23:802-3 My '51

Procedure for radiochemical determination of astatine in biological material. W. M. Garrison and others. bibliog Anal Chem 23:204-5 Ja '51

Stable internal standard flame photometer for potassium and sodium analyses. C. L. Fox, jr. bibliog il diags Anal Chem 23:137-42 Ja '51

Trace metals in biology; polarographic methods of analysis. bibliog Chem Age (Lond) 65:227-9+, 247-9 Ag 18-25 '51

BIOLOGICAL photographic association

Biological photographic association. Soc Motion Picture & Tv Eng J 55:549-50 N '50

BIOLOGICAL physics

Status and development of biophysics. R. W. Stacy. bibliog Science 113:169-75 F 16 '51; Discussion. 113:617-20 Je 1 '51

See also

Vibration—Physiological effect

BIOLOGICAL pigments. See Pigments, Biological

BIOLOGICAL warfare

Health resources in defense of the Nation; scientific developments. K. Habel. Pub Health Rep 65:1515-16 N 17 '50

New civil defense manual, Health services and special weapons defense. R. Gibbs. Chem & Eng N 29:178-9 Ja 15 '51

Potentialities of biological warfare against man; epidemiological appraisal. A. D. Langmuir. bibliog Pub Health Rep 66:387-99 Mr 30 '51; Abstract. Nat Safety N 63:56+ Je '51

BIOLOGISTS

See also

Cuénot, Lucien Claude Jules Marie

BIOLOGY

Bearing of some biological data on geology. E. Mayr. maps Geol Soc Bul 62:537-46 My '51

See also

Adaptation (biology)
Biological chemistry
Biometry
Botany
Cells
Ecology
Fertilization (biology)
Fouling organisms
Genetics
Growth
Microorganisms
Paleontology
Physiology
Plants
Regeneration (biology)
Zoology

Russia

Science in bondage. H. J. Muller. bibliog Science 113:25-9 Ja 12 '51

BIOMATHEMATICS

Mathematical biology. A. Rapoport and H. G. Landau. Science 114:sup3 Jl 27 '51

See also

Biological assay
Biometry

BIOMETRY

Influence of Statistical methods for research workers on the development of the science of statistics. F. Yates. bibliog Am Stat Assn J 46:19-34 Mr '51

R. A. Fisher's Statistical methods for research workers; an appreciation. K. Mather. Am Stat Assn J 46:51-4 Mr '51

BIOSYNTHESIS. See Synthesis

BIOTIN

Amides and amino acid derivatives of biotin. D. E. Wolf, J. Valiant and K. Folkers. Am Chem Soc J 73:4142-4 S '51

Amides and amino acid derivatives of biotin; microbiological studies. L. D. Wright, H. R. Skeggs and E. L. Cresson. bibliog Am Chem Soc J 73:4144-5 S '51

BIPHENYL. See Diphenyl

BIPYRIDINE

α,γ- and β,γ-dipyridyl. P. Krumholz. bibliog Am Chem Soc J 73:4449-50 S '51

Configuration of 2 : 2′-dipyridyl. P. E. Fielding and R. J. W. Le Fèvre. Chem Soc J p 1811-14 Jl '51

Polarography of copper complexes; dipyridyl, orthophenanthroline and thiourea complexes; a double complex system. E. I. Onstott and H. A. Laitinen. bibliog Am Chem Soc J 72:4724-8 O '50

Structural studies on polynuclear pyridine compounds. P. Krumholz. bibliog Am Chem Soc J 73:3487-92 Jl '51

BIRCH

Birch as pulp raw material; abstract. W. Jensen. Pulp & Pa of Can 52:84 Ja '51

Composition of birch and aspen sulphite waste liquor; abstracts. H. Roschier and E. Aaltio. Pulp & Pa of Can 51:100 O '50; Paper Ind 32:998 D '50

Crystalline hemicelluloses; crystalline xylan from paper birch. A. P. Yundt. bibliog Tappi 34:91-2 F '51

BIRD, Dillard E.

Tribute, L. J. Dunn and others. por Advanced Management 16:cover, 1 Jl '51

BIRDS

Flight

Performance measurements of a soaring bird; use of Kirby Kite. A. Raspet. il diags Aeronautical Eng R 9:14-17 D '50

Preliminary study of a physical basis of bird navigation; (experiments VI through XI). H. L. Yeagley. diags J Ap Phys 22:746-60 Je '51

BIREFRINGENCE. See Refraction, Double

BIRMINGHAM, Alabama

Industries

Birmingham's committee of 100 raises half-million for new industry. Manuf Rec 120:43 My '51

Birmingham's industry drive paying off, more steel helps. R. W. Kincey. Manuf Rec 119:38-9 N '50

BIRMINGHAM, Alabama—*Continued*

Rapid transit

Ten-cent peace. Bsns W p81-2 D 9 '50

BIRMINGHAM university

Library

University library buildings; university library planning. W. Bonser. il plan Aslib Proc 3:59-62 My '51

BIRTH certificates

Accuracy of supplemental medical information on birth certificates. A. M. Lilienfeld and others. bibliog Pub Health Rep 66:191-8 F 16 '51

BIRTH control

Birth control for India. Economist 161:97-8 Jl 14 '51

Planned parenthood. D. Loth. Ann Am Acad 272:95-101 N '50

BISHOP, Hazel

Woman chemist hits lipstick jackpot. pors Bsns W p42+, cover Mr 17 '51

BISMUTH

Bismuth-catalysed air-oxidation of acyloins. B. Holden and W. Rigby. Chem Soc J p 1924-5 Jl '51

Bismuth, 1950. A. S. Kemp. Eng & Min J 152:91 F '51

Determination of lead as chloride; separation from bismuth and other elements. S. Kallman. Anal Chem 23:1291-3 S '51

Ductile bismuth produced. Steel 128:125-6 Ap 2 '51

Hall coefficient and resistivity of evaporated bismuth layers. W. F. Leverton and A. J. Dekker. bibliog Phys R 81:156-7 Ja 1 '51

Magnetoresistance of bismuth at 3000 megacycles. C. W. Heaps. bibliog Phys R 80:892-3 D 1 '50

Photo-activation of bismuth. N. Sugarman and R. Peters. Phys R 81:951-2 Mr 15 '51

Quantum efficiency of bismuth counters for electromagnetic radiation of 0.07-Mev to 2.8-Mev energy. R. J. Hart and others. diags Phys R 81:460-1 F 1 '51

Secondary emission of electrons from liquid metal surfaces. J. J. Brophy. diag Phys R 83:534-6 Ag 1 '51

Simple means of measuring large magnetic fields; electrical resistance of bismuth. G. K. T. Conn and B. Donovan. bibliog J Sci Instr 28:7-9 Ja '51

Spectroscopic value of the magnetic moment of $_{83}Bi^{209}$. F. M. Kelly and others. bibliog Phys R 80:295-6 O 15 '50

Thermodynamic study of liquid metallic solutions; the systems bismuth-gold and thallium-gold. O. J. Kleppa. diags Am Chem Soc J 73:385-90 Ja '51

Analysis

Determining traces of oxygen in bismuth metal; hydrogen reduction method. E. S. Funston and S. A. Reed. bibliog il diag Anal Chem 23:190-1 Ja '51

Photoelectric spot analysis of antimony and bismuth. T. Sudo and K. Hayase. Science 113:11-12 Ja 5 '51

Spectrochemical analysis of bismuth matrices; porous electrode technique. J. C. Delaney and L. E. Owen. Anal Chem 23:577-80 Ap '51

Isotopes

Carrier-free radioisotopes from cyclotron targets; preparation and isolation of $Bi^{204,206}$ from lead. J. D. Gile and others. J Chem Phys 19:256 F '51

Long-lived Bi^{207} and energy levels of Pb^{207}. H. M. Neumann and I. Perlman. bibliog Phys R 81:958-62 Mr 15 '51

Neutron capture γ-rays from lead and bismuth. B. B. Kinsey and others. bibliog Phys R 82:380-8 My 1 '51

Polonium isotopes produced with high energy particles. D. G. Karraker and D. H. Templeton. bibliog Phys R 81:510-16 F 15 '51

BISMUTH compounds

Preparation of hexafluoroniobates, hexafluorotantalates, and hexafluorobismuthates by means of bromine trifluoride. V. Gutmann and H. J. Emeléus. Chem Soc J p 1046-50 Ap '50

Products of the cleavage of triaryl-bismuth derivatives by -SH-containing compounds. H. Gilman and H. L. Yale. Am Chem Soc J 73:2880-1 Je '51

Some new pentavalent salts of triarylbismuth compounds. H. Gilman and H. L. Yale. Am Chem Soc J 73:4470-1 S '51

BISMUTH nitrates

Equilibria of two basic bismuth nitrates in dilute nitric acid at 25°. D. F. Swinehart and A. B. Garrett. bibliog Am Chem Soc J 73:507-10 F '51

BISMUTH wire. See Wire, Bismuth

BISON, Fossil

Bison from eastern Washington. H. W. Tipper and others. map Am J Sci 249:318-22 Ap '51

BITS

Analysis of rock bit performance data. H. B. Woods. World Oil 133:193-4+ S '51

Carbide insert bits. A. J. Zinkl. Min Eng 3:312-14 Ap '51

Giant bit, a hard-surfaced casting. W. L. Nelson. il Oil & Gas J 50:109 Je 7 '51

Grinding machine for tipped bits. il Engineer 191:232 F 16 '51

Hard surfaced casting for giant bit. il Materials & Methods 32:138+ N '50

How to sharpen carbide-tipped cutter bits; illustrated instructions. Coal Age 55:109-10 D '50

Over-all look at rock drill bits. J. D. Forrester. il Min Cong J 36:22-6+ N; 52-3 D '50; Discussion. G. E. apRoberts. 36:54-5 D '50

Solving the bit problem. il diags Eng & Min J 152:110, insert Jl '51

Tungsten carbide and the defense program; allocation to mining will save critical manpower and steel. M. L. McCormack. il Min Cong J 37:110-11 Ap '51

Tungsten carbide bits at the Consolidated Beattie mines. R. F. Fry. il Can Min J 72:55-7 Mr '51

BITUMINOUS coal. See Coal

BITUMINOUS coal research, inc.

Annual meeting, Columbus, March 7; with abstracts of papers. Coal Age 56:130+ Ap '51

1950 activities. Sheet Metal Worker 42:46+ D '50

BITUMINOUS concrete pavements. See Pavements, Bituminous concrete

BITUMINOUS concrete roads. See Roads, Bituminous concrete

BITUMINOUS materials

Asphalt mulch for seeding and protecting roadway areas. W. J. Garmhausen. il Roads & Sts 94:80+ F '51

Asphaltic emulsions for road and industrial uses. W. Bierhalter. il Pet Refiner 30:103-6 S '51

Bituminous undersealing practice. il Roads & Sts 94:76-7 Ag '51

See also

Asphalt coating
Oil shales
Pavements, Bituminous
Roads, Bituminous

Testing

Apparatus for measuring the permeability to water vapour of bituminous emulsion films. A. Evans and C. Q. Keiller. diag Soc Chem Ind J 69(sup no 1):S1-3 '50

Determination of the ring and ball softening point of asphaltic bitumens with and without stirring. C. J. Krom. 2pls Inst Pet J 36:727-37 D '50

Field-like samples from lab for soils, bituminous tests. il diag Eng N 146:43-4 F 22 '51

Improved triaxial compression cell for testing bituminous paving mixtures. C. A. Carpenter and others. il diag Pub Roads 26:173-9 Ag '51

Instructions to bituminous inspectors on continuous plants. il Roads & Sts 93:74-6+ D '50

Maryland asphalt extractor. J. E. Wood and W. T. Long. il diags Roads & Sts 94:60-2+ S '51

Significance of tests for asphaltic materials. M. Brown and F. J. Benson. il diags Texas Eng Exp Sta (College Station) Bul 119:1-76 bibliog(p75-6) '50

BITUMINOUS pavements. See Pavements, Bituminous

BITUMINOUS roads. See Roads, Bituminous

BITUMINOUS sand
New technique taps Athabaska tar sands. K. A. Clark. il diag World Oil 132:205-8 F '51
Oil from Alberta bituminous sand; pilot plant for studying application of fluidized solids technique. W. S. Peterson and P. E. Gishler. bibliog il plan diag Pet Eng 23: C66-70+ Ap '51
Source of oil in tar sands of Athabaska river, Alberta, Canada. T. A. Link. bibliog maps diags Am Assn Pet Geologists Bul 35:854-64 Ap '51

BITUMINOUS shales. See Oil shales

BJERRUM, Niels, 1879-
Sketch. R. E. Oesper. por(front) J Chem Educ 28:433 Ag '51

BLACK, Eugene Robert, 1898-
Portrait. Bsns W p 141 F 10 '51

BLACK, James Byers, 1890-
California's P.G.&E. por Fortune 43:72-7+ Mr '51

BLACK, John F.
President, 1951 Association of iron and steel engineers. por Iron & Steel Eng 28:102-3 Ja '51

BLACK
See also
Carbon black

BLACK bean. See Moreton-Bay chestnut

BLACK HILLS
Possible lower cretaceous uplifting of Black Hills, Wyoming and South Dakota. A. J. Crowley. bibliog map Am Assn Pet Geologists Bul 35:83-90 Ja '51

BLACK liquor. See Paper mills—Waste

BLACK, Sivalls and Bryson, inc.
Record oil drilling aids Black, Sivalls & Bryson. Barron's 31:13 S 24 '51

BLACK wattle gum. See Gums and resins

BLACKENING of steel. See Steel—Blackening

BLACKSMITHING
See also
Horseshoes

BLACKSMITHS, drop forgers and helpers, International brotherhood of. See International brotherhood of blacksmiths, drop forgers and helpers

BLACKSTRAP. See Molasses

BLACKWELL, Otto Bernard, 1884-
Otto B. Blackwell, Edison medalist for 1950; presentation addresses by J. B. MacNeill and H. S. Osborne, response by O. B. Blackwell. por Elec Eng 70:185-9 Mr '51

BLAIR holdings corporation
Blair holdings corporation acquires stock of First California co. Comm & Fin Chr 172:2199 D 7 '50

BLANCHING
Continuous electronic blanching of vegetables proved feasable in pilot plant. il diag Food Eng 23:81 My '51

BLANKETS, Electric. See Electric blankets

BLASE, Edwin W.
Blase gets award for his terramycin recovery process. Chem Eng 58:190-1 Jl '51
Blase gets first New York ChE award for terramycin work. Chem & Eng N 29:2636 Je 25 '51
Chemical engineers achievement award winner; inventor of Pfizer's unique Q-process for the recovery of terramycin. por Chem Eng 58:234 Je '51

BLAST cleaning. See Metal cleaning; Shot blasting

BLAST furnace gas
Analyzing blast furnace gas. diag Iron & Steel Eng 28:143 Ag '51
Continuous gas analyzer serves high-pressure stack. J. de Piccolellis. Steel 128:136+ My 7 '51
Corrected CO/CO_2 ratio for blast furnaces. S. T. Killian. J Metals 3:Trans 742-5 S '51
Hazards of back-drafting. O. R. Rice. diag Iron & Steel Eng 28:118-22 Ap '51
Influence of gas/solid temperature differences on blast-furnace operation. J. Taylor. bibliog Iron & Steel Inst J 164:129-40 F '50; Discussion. 167:378-82 Ap '51
Now blast-furnace gas is base-load boiler fuel. il diags Power 95:96-8 S '51
Radioactive tracers aid blast furnace research. E. W. Voice. il diags Steel 129:102+ S 10 '51; Discussion (Gas velocity faster in blast furnace stock columns). S. P. Kinney. 129:87 O 1 '51
Solution loss and reducing power of blast furnace gas. T. L. Joseph. bibliog diags J Metals 191:Trans 37-43 Ja '51; Discussion. S. T. Killian. 3:Trans 1053-4 N '51

Cleaning

Analyzer controls gas cleaning equipment at blast furnaces. diags Steel 129:90+ Ag 27 '51
Blast-furnace gas cleaning; analysis of plant performance. R. F. Jennings. bibliog diags Iron & Steel Inst J 164:305-25 Mr '50; Discussion. 167:383-7 Ap '51
Blast-furnace gas cleaning; methods for calculating the motions of particles in a gas. J. Stringer. Iron & Steel Inst J 164:294-304 Mr '50; Discussion. 167:383-7 Ap '51
Cleaning ferromanganese blast furnace gas. C. A. Bishop and others. diag Iron & Steel Eng 28:134-6 Ag '51
Venturi scrubbers in fume removal and recovery operations. L. C. McCabe. diag Ind & Eng Chem 43:sup 105A Jl '51

BLAST furnace slag. See Slag

BLAST furnaces
AIME openhearth and blast furnace committee meeting, Cleveland, April 2-4. Iron Age 167:104-6 Ap 12 '51
Blast furnace breakouts; symposium. Steel 128:102+ Mr 5 '51
Blast furnace instrumentation. E. T. Mortson and S. T. Paisley. il Blast F & Steel Pl 39:789-99 Jl '51
Blast furnace production, Canada; tabulation. Iron Age 167:311 Ja 4 '51
Blast furnace sintering practice surveyed. R. E. Powers. Steel 128:95+ F 5 '51
Blast furnaces in the U.S., blast furnace capacity, materials; tabulations. Iron Age 167:310 Ja 4 '51
Chile now a producer of steel with fully integrated plant. F. Senior. il diag Blast F & Steel Pl 38:1295-8 N '50
Corrected CO/CO_2 ratio for blast furnaces. S. T. Killian. J Metals 3:Trans 742-5 S '51
Effect of silica reduction on the desulphurizing power of blast-furnace type slags. N. J. Grant and others. J Metals 3:Trans 672-3 Ag '51; Discussion. 3:Trans 1049-50 N '51
Effect of sinter on blast furnace production as determined by analysis of daily operating data. W. E. Marshall. Blast F & Steel Pl 39:661-4 Je '51; Excerpt. Steel 128:97 My 28 '51; Abstracts. Iron & Steel Eng 28:124 Ag '51; Metal Prog 60:162+ O '51
Effects of manganese and its oxide on desulphurization by blast-furnace type slags. N. J. Grant and others. bibliog diag J Metals 3:Trans 666-71 Ag '51; Discussion. 3:Trans 1048-9 N '51
Hard-facing prepares blast furnace bell for top-pressure operation. il Blast F & Steel Pl 38:1356 N '50
Hazards of back-drafting. O. R. Rice. diag Iron & Steel Eng 28:118-22 Ap '51
Improving current practice in blast furnace sintering. R. E. Powers. Iron & Steel Eng 28:120-1 Ag '51; Excerpt. Steel 128:94+ My 28 '51
Influence of gas/solid temperature differences on blast-furnace operation. J. Taylor. bibliog Iron & Steel Inst J 164:129-40 F '50; Discussion. 167:378-82 Ap '51
International research project studies low shaft blast furnace. J Metals 3:720 S '51
Investigations on an experimental blast-furnace. H. L. Saunders and others. plan diags Iron & Steel Inst J 163:173-206 O '49; Discussion. 166:315-18 D '50
Iron smelting problems. E. C. Smith. diag Metal Prog 58:721-4 N '50
Movies record blast furnace combustion turbulence; abstract. J. B. Austin. Steel 128: 87 F 12 '51
National open hearth steel committee and the Blast furnace, coke oven and raw materials committee of the A.I.M.E. 34th joint conference, Cleveland, April 2-4; program. Blast F & Steel Pl 39:sup20-4+ Ap '51; J Metals 3:301, 302A-303D Ap '51

BLAST furnaces—*Continued*

New blast-furnace stock-rod gas-seal. E. J. Walklate. diags Iron & Steel Inst J 163:432 D '49; Discussion. 167:387-92 Ap '51

Quenching and digging out a blast furnace. K. C. McCutcheon and others. il diag J Metals 3:304-10 Ap '51

Radio-active technique for determining gas transit times in a driving blast-furnace. E. W. Voice. il diags Iron & Steel Inst J 163:312-15 N '49; Discussion. 166:315-18 D '50

Radioactive tracers aid blast furnace research. E. W. Voice. il diags Steel 129:102+ S 10 '51; Discussion (Gas velocity faster in blast furnace stock columns). S. P. Kinney. 129:87 O 1 '51

Significance of equilibrium and reaction rate in the blast-furnace process. J. B. Austin. bibliog Iron & Steel Inst J 167:358-63 Ap '51; Discussion. Engineer 191:788, 834-5 Je 15-22 '51; Engineering 171:713 Je 15 '51

Small blast furnace seeks to recover manganese. Blast F & Steel Pl 39:700-1 Je '51

Statistical analysis of blast furnace production data. D. S. Leckie. J Metals 3:443-4 Je '51

Steel industry statistics; pig iron; blast furnace capacity. Steel 129:122-3 O 1 '51

Structure of the yellow crystalline fraction of blast-furnace salamander. J. R. Weeks and others. il diag J Metals 3:Trans 393-4 My '51

Technical aspects of northern and southern blast furnace practice. C. G. Hogberg. bibliog diags Iron & Steel Eng 27:37-47 O '50; Abstract. Steel 126:102 My 1 '50; Discussion. Iron & Steel Eng 27:47-54 O '50

Thermodynamic background of iron and steel making processes. F. D. Richardson and J. H. E. Jeffes. bibliog(72 ref) Iron & Steel Inst J 163:397-420 D '49; Discussion. 167:378-82 Ap '51

Trends in blast furnace practice. R. P. Towndrow. il Metallurgia 44:17-21 Jl '51

Air supply

Appraisal of oxygen enriched blast encourages iron production; abstract. O. R. Rice. Steel 129:100 S 3 '51

Blast-furnace operation at high top pressure. R. P. Towndrow. diag Engineering 171:575-6, 607-9 My 11-18 '51

Description of the blast furnace controlled split-wind blowing installation at Algoma steel corp., ltd. W. O. Bishop. il diags Blast F & Steel Pl 38:1428-34 D '50; Same. Iron & Steel Eng 28:78-83 Jl '51

Pressure operation of blast furnaces, 1950. R. P. Liggett. Blast F & Steel Pl 39:324-6+ Mr '51

Charging

Blast furnace charging; automatically controlled material handling plant. il Elec R (Lond) 148:621-5 Mr 30 '51

Distribution of materials in the blast-furnace; compensated charging. H. L. Saunders and R. Wild. 2pls diags Iron & Steel Inst J 163:61-70 S '49; Discussion. 166:315-18 D '50

Distribution of materials in the blast-furnace; further factors influencing the distribution of solids in the blast-furnace. R. Wild. bibliog 6pls diags Iron & Steel Inst J 166:339-48 D '50

Screening and charging practice increases furnace yield; Bethlehem steel co. A. H. Fosdick. il Steel 128:86+ Je 18 '51

Design

Distribution of materials in the blast-furnace; further factors influencing the distribution of solids in the blast-furnace. R. Wild. bibliog 6pls diags Iron & Steel Inst J 166:339-48 D '50

Proposals for the modification of a blast-furnace top to give controlled burden distribution. E. L. Diamond. fold pl il diags Iron & Steel Inst J 164:173-81 F '50; Discussion. 167:387-92 Ap '51

Lining

Carbon disintegration test for blast-furnace brick. L. J. Trostel. il diags Am Cer Soc J 34:76-81; Discussion. 81-2 Mr 1 '51

Evolution of the all-carbon blast-furnace. J. H. Chesters and others. 2pls diags Iron & Steel Inst J 167:273-82 Mr '51; Abstract. Metal Prog 60:106+ D '51

Progress report on carbon in blast furnaces. T. J. Ess. diags Iron & Steel Eng 27:68-75 N '50

Properties of available blast furnace refractories. M. A. Fay. diags Iron & Steel Eng 27:55-9 O '50

Radioactive indicators for blast-furnace refractory wear. E. W. Voice. Iron & Steel Inst J 167:157-61 F '51

Treatment of brick to prevent CO disintegration. J. A. Shea. il Iron & Steel Eng 27:116-19 D '50; Same. Steel 127:74+ N 27 '50; Same. Blast F & Steel Pl 39:333-6 Mr '51; Same, without il. Brick & Clay Rec 118:84+ Ap '51

Repair

Blast furnace inwall rebuild at Algoma. D. Joyce and J. Laidlow. il diags Iron & Steel Eng 28:75-80 S '51

Testing

Blast-furnace operation at high top pressure. R. P. Towndrow. diag Engineering 171:575-6, 607-9 My 11-18 '51

Full scale blast furnace trials. J. A. Bond and T. Sanderson. Iron & Steel Inst J 168:24-39 My '51; Abstract and discussion. Engineering 171:776-7 Je 29 '51

BLASTING

Absolute liability of defendant made rule in Connecticut blasting cases whether cause is vibration or hurling of debris. Weekly Underw 164:1236 My 12 '51

Blasting aids to boost production. il diags Eng & Min J 152:111 Jl '51

Blasting cross-cut rounds with millisecond delays and no cut holes; abstract. W. G. Agnew. Min Cong J 36:85 O '50

Blasting rock cuts on heavy-construction projects. A. B. Lattanzi. il Explosives Eng 29:17-19+ Ja '51

Blasting rock tunnels under a Pittsburgh residential district. E. D. Phinney. il Explosives Eng 28:155-8 S '50

Blasting vibrations' effects. L. D. Leet. il Explosives Eng 28:176-8+; 29:12-16, 42-4 N '50-Mr '51

Choosing a tunnel route with dynamite. il Comp Air Mag 55:251 N '50

Directional charge method of shooting wells. G. L. Smith. Am Water Works Assn J 43:463-4 Je '51

Dynamiting as a means of increasing well yield. H. House. diags Am Water Works Assn J 43:459-62 Je '51

Mining Missouri limestone near Kansas City. F. Castellani. il Explosives Eng 29:86-8 My '51

Open-pit drilling and blasting must serve the shovel. il Eng & Min J 152:99-100 Jl '51

Precision dynamiting obliterates concrete bridge. il Eng N 145:43 D 7 '50

Progress in blasting procedure. J. M. Ehrhorn. il diags Min Cong J 37:34-7 Jl '51

Some applications of millisecond delay electric blasting caps in mining. D. M. McFarland. diags Min Eng 187:Trans 1123-5 N '50

Vibrations due to blasting and their effects on building structures. G. Morris. bibliog il diag Engineer 190:394-5, 414-18 O 27-N 3 '50

See also

Coal mines and mining—Blasting

Detonators, Electric

Explosives

Petroleum—Well blasting

Safety measures

Igniter cord for lighting safety fuse. diag Eng & Min J 152:119 Ap '51

Quarry superintendent cooperates with school to promote safety among children. P. Sturtevant and G. Sturtevant. il Explosives Eng 29:113 Jl '51

Reducing the hazards of electrical blasting. il Roads & Sts 94:91-2 Jl '51; Same. Constr Methods 33:105-6 Ag '51

BLASTING, Subaqueous

Difficult pipe-line river crossing. P. R. Hammond. il diags Explosives Eng 28:139-43+ S '50; Same. World Oil 132:238-40+ Ap '51

New seismic test; oil companies to resume offshore exploration; develop black-powder method to reduce fish kill. D. H. Stormont. il Oil & Gas J 50:40 Ag 2 '51

120,000 volts under the Genesee. T. Slager and M. Milano. il diag Comp Air Mag 56:180-3 Jl '51

BLASTING, Subaqueous—*Continued*
Sweat fell on Alabama; pipe line goes through the solid granite river bed of the Tallapoosa. il Pet Eng 22:D29-31 D '50
Tunnelers blast plug in lake bottom to make intake for Scottish hydro job. diag Eng N 147:65 Ag 30 '51

BLASTOMYCES dermatitidis
Metabolism of blastomyces dermatitidis, antagonists to the growth-inhibiting effect of trimeton maleate. F. Reiss and L. Caroline. bibliog Science 114:15-17 Jl 6 '51

BLEACHERS (grandstands)
Fold away bleachers. il Arch Rec 110:200+ Jl '51; Arch Forum 95:298 S '51

BLEACHERS' association, limited
Statement by the chairman. R. C. Reynolds. Economist 161:480-1 Ag 25 '51

BLEACHING
Bleaching of tallow; abstract. Soap & San Chem 27:81+ Jl '51
Certain questions concerning the chemistry of bleaching cotton and flax; abstract. P. P. Viktorov. Soc Dyers & Col J 67:164-5 Ap '51
New bleaching range cuts costs, raises quality at Dundee. E. Dalton White. il Textile World 101:118-19 O '51

See also
Decolorization
Dyes and dyeing
Paper making—Bleaching
Soap manufacture—Bleaching

Bibliography

Literature survey of textile bleaching. J. F. Hagen. Am Dyestuff Rep 39:663-6, 703-14, 739-50, 782-6, 820-30 O 2-N 27 '50

Cotton

Control of J boxes and steamers in continuous bleaching. C. W. Bowden, jr. and D. B. Daubert. diags Am Dyestuff Rep 40:286-92 Ap 30 '51
Control of the caustic-silicate ratio in peroxide bleaching liquors. K. D. Ballou and others. bibliog Am Dyestuff Rep 40:218-22 Ap 2 '51
Stabilization of neutral hypochlorite-oxidized cotton fiber. R. E. Reeves and J. R. Jung, jr. bibliog Textile Res J 21:22-5 Ja '51

Jute

Effect of urea-formaldehyde treatment on the photochemical discolouration of bleached jute. H. J. Callow. bibliog Textile Inst J Trans 41:T404-6 O '50

Linen

Chemicals you live by in the textile industry; linen. L. P. Seyb. Rayon 31:77-8 N '50

Patents

Bleaching textiles; hypochlorite plus chlorite; steam aftertreatment. Am Dyestuff Rep 40:134 F 19 '51
Cloth bleaching apparatus. diags Am Dyestuff Rep 40:135 F 19 '51

Wool

New light on the peroxide bleach for wool; abstract. Am Dyestuff Rep 40:169 Mr 5 '51
Wool bleaching problems; abstract. E. G. Drake. Am Dyestuff Rep 39:921 D 25 '50

BLEACHING materials
Blankophors as optical bleaching agents in the textile industry; abstract. E. Koester. Am Dyestuff Rep 39:724 O 30 '50
It started with solium; optical bleaches. Chem W 69:31+ Jl 14 '51
Powder bleach battle. il Chem Ind W 68:33-4 Ap 14 '51

See also
Hydrogen peroxide
Soap manufacture—Bleaching
Sodium chlorite
Sodium hypochlorite
Sodium peroxide

BLEES, William A.
Portrait. Fortune 43:75 Ja '51

BLIND
Hamming by the touch system; R. W. Gunderson teaches radio techniques and operating to the blind. il Q S T 35:10-12 Mr '51

BLIND, Agencies for

Directories

Directory of activities for the blind in the United States and Canada; including prevention of blindness organizations and sight-saving classes. H. Lende, comp. 8th ed 150p pa $2 American foundation for the blind, 15 W. 16th st, New York '50

BLIND, Apparatus for
Auditory test equipment; measurement techniques for the blind amateur. R. W. Gunderson. il diags Q S T 35:27-30+ Ap '51

BLINDS
Vertical window blind rolls up out of sight; Verti-blind. il diags Arch Forum 94:192 My '51

BLINDS, Venetian. See Venetian blinds

BLISS, E. W., company
Sharp gains in net seen for E. W. Bliss this year. Barron's 31:27 Ja 8 '51

BLOATING of clay. See Clay—Bloating

BLOCK, Joseph L. 1902-
Iron age salutes. Iron Age 167:71 My 10 '51

BLOCK caving. See Mining methods

BLODGETT, Katharine Burr, 1898-
Problem-solver wins Garvan medal. por(cover) Chem & Eng N 29:1408 Ap 9 '51

BLOOD
Adrenal gland and hemopoiesis. S. J. Piliero and others. bibliog Science 112:559-60 N 10 '50
Amino acid constituents of prochromosomes isolated from blood cells of various animals. G. Yasuzumi and G. Miyao. bibliog Science 114:38-9 Jl 13 '51
Application of radioactive indicators in biochemistry; life-cycle of blood corpuscles. G. C. Hevesy. bibliog Chem Soc J p 1631-7 Je '51
Blood relationships of animals. A. A. Boyden. il Sci Am 185:59-63 Jl '51
Comparison of the number of circulating blood cells in different parts of the circulatory system. D. L. Azarnoff and others. bibliog Science 113:363-4 Mr 30 '51
Erythrocyte aggregation factor in the plasma and serum of patients with acute lupus erythematosus. E. M. Schleicher. Science 113:558 My 11 '51
Evidence for the heparin nature of the nonspecific hyaluronidase inhibitor in tissue extracts and blood serum. D. Glick and B. Sylvén. bibliog Science 113:388-9 Ap 6 '51
Experimental confirmation of a previously reported unusual finding in the blood of cyclotron workers. M. Ingram and S. W. Barnes. il Science 113:32-4 Ja 12 '51
Factors involved in blood clearance of bacteria. A. B. Stavitsky. bibliog Science 113:520-2 My 4 '51
Fractionation of plood plasma proteins using ion exchange resins. A. F. Reid and F. Jones. bibliog Ind & Eng Chem 43:1074-5 My '51
In vitro and in vivo production of a ceroid-like substance from erythrocytes and certain lipids. W. S. Hartroft. bibliog il Science 113:673-4 Je 15 '51
Lactic dehydrogenase and DPN-ase activity of blood. S. G. A. Alivisatos and O. F. Denstedt. bibliog Science 114:281-3 S 14 '51
Modification of the Schleicher technique for detecting the erythrocyte aggregation factor in serum. A. Fjelde. Science 113:750 Je 29 '51
Physical properties of elinin, a lipoprotein from human erythrocytes. W. B. Dandliker and others. bibliog Am Chem Soc J 72:5587-92 D '50
Pulmonary circulation as a source of leucocytes and platelets in man. H. R. Bierman and others. bibliog Science 114:276-7 S 14 '51
Sickling; a property of all red blood cells. R. Isaacs. il Science 112:716-18 D 15 '50
Ultracentrifugal characterization and isolation of human blood lipids and lipoproteins with applications to the study of atherosclerosis. F. T. Lindgren, H. A. Elliott and J. W. Gofman. bibliog il diags J Phys & Colloid Chem 55:80-93 Ja '51
Use of K^{42}-tagged erythrocytes in blood volume determinations. R. S. Yalow and S. A. Berson. Science 114:14-15 Jl 6 '51

BLOOD—*Continued*

White blood cells v. bacteria. W. B. Wood, jr. il Sci Am 184:48-52 F '51

See also

Eosinophils
Hemolysis
Leucocytes

Analysis

Anthrone blood sugar method adapted to diabetes case finding in a multiple screening program. R. H. Fetz and L. M. Petrie. bibliog Pub Health Rep 65:1709-18 D 22 '50

Cholesterol in blood serum; studies of microestimation as the pyridinium cholesteryl sulfate. A. E. Sobel, J. Goodman and M. Blau. bibliog Anal Chem 23:516-19 Mr '51

Continuous recording of circulatory hemoglobin. A. C. Guyton and others. bibliog il diags R Sci Instr 22:205-9 Mr '51

Demonstration of new processes of blood collection and separation of red blood cells, white blood cells, and platelets; protein, glycoprotein, lipoprotein, and other components of plasma; abstract. E. J. Cohn and others. Science 112:450-1 O 20 '50

Determination of serum iodine; evaluation by radioactive tracer technique of the alkaline fusion method. J. W. Decker and H. S. Hayden. bibliog Anal Chem 23:798-800 My '51

Determination of small amounts of chromium in human blood, tissues, and urine; colorimetric method. P. F. Urone and H. K. Anders. bibliog Anal Chem 22:1317-21 O '50

Instruments for clinical laboratory; abstract. A. Sobel. il(p1494) Chem & Eng N 29:1493 Ap 16 '51

Photography in electrophoresis of hemolyzed sera. G. Kegeles and F. J. Gutter. il Am Chem Soc J 73:3539-40 Jl '51

Preparation and properties of serum and plasma proteins; an optical and morphological study of some crystalline human serum albumin preparations and of their derivatives. B. W. Low and E. J. Weichel. bibliog diag Am Chem Soc J 73:3911-16 Ag '51

Preparation and properties of serum and plasma proteins; crystalline derivatives of human serum albumin and of certain other proteins. J. Lewin. bibliog 2pls Am Chem Soc J 73:3906-11 Ag '51

Spectrophotometric determination of hemoglobin and oxyhemoglobin in whole hemolyzed blood. G. G. Nahas. il Science 113:723-5 Je 22 '51

Suggested simplification of blood volume analysis using the dye T1824. S. L. Shapiro. bibliog Science 114:73 Jl 20 '51

System for the separation of the protein components of human plasma; the components of the clotting process. D. M. Surgenor and others. bibliog J Phys & Colloid Chem 55:94-101 Ja '51

Ultracentrifugal studies of γ-globulins prepared by electrophoresis-convection. J. R. Cann and others. bibliog Science 114:30-3 Jl 13 '51

Use of radioactive iodine in microdetermination of protein-bound blood iodine. F. Nesh and W. C. Peacock. Anal Chem 22:1573 D '50

Circulation

Blood union. Sci Am 185:36+ O '51

Direction of flow in the blood vessels of the infundibular stalk. R. J. Barrnett and R. O. Greep. bibliog Science 113:185 F 16 '51

Rate of circulation of the body fluid in adult tenebrio molitor Linnaeus, anasa tristis (de Geer), and murgantia histrionica (Hahn). R. Craig and N. A. Olson. bibliog Science 113:648-50 Je 8 '51

Coagulation

Clotting time and reaction velocity in the interaction of bovine fibrinogen and thrombin. D. F. Waugh and B. J. Livingstone. bibliog Science 113:121-4 F 2 '51

Control of blood clots. S. Shapiro. il Sci Am 184:18-21 Mr '51

Conversion of fibrinogen to fibrin; sedimentation and viscosity studies on clotting systems inhibited by hexamethylene glycol. S. Shulman and J. D. Ferry. bibliog J Phys & Colloid Chem 55:135-44 Ja '51

Kinetics of the interaction of bovine fibrinogen and thrombin. D. F. Waugh and B. J. Livingstone. bibliog J Phys & Colloid Chem 55:1206-18 O '51

Mechanism of clot retraction. A. J. Quick and C. V. Hussey. bibliog il Science 112:558-9 N 10 '50

Prolongation of clotting time in dormant estivating mammals. A. Svihla and others. Science 114:298-9 S 21 '51

Studies on 4-hydroxycoumarins; acylation of 3-(α-phenyl-β-acetylethyl)-4-hydroxycoumarin. M. Seidman, D. N. Robertson and K. P. Link. bibliog Am Chem Soc J 72:5193-5 N '50

System for the separation of the protein components of human plasma; the components of the clotting process. D. M. Surgenor and others. bibliog J Phys & Colloid Chem 55:94-101 Ja '51

Thromboplastic activity of hyaluronate. S. K. Abul-Haj and others. bibliog Science 114:237-9 Ag 31 '51

Diseases

See also

Anemia

Oxygen content

Oxygenation of blood by isolated lung. G. R. Gerst and others. bibliog Science 114:258-9 S 7 '51

Proteins

See Proteins

Testing

Illumination of a laboratory table for inspection of blood samples from bovine animals. L. C. Larson. il diags Illum Eng 46:338-9 Jl '51

Transfusion

Blood plasma substitute may spur Schenley sales. Barron's 31:17 My 21 '51

Dextran plasma substitute; abstract and discussion. A. R. Lockwood. Chem & Ind p46-7 Ja 20 '51

Influence of irradiation and penicillin on experimental syphilis transmission. T. F. Probey. bibliog Pub Health Rep 66:644-8 My 18 '51

Mobile unit for blood doning and plasma freeze-drying; abstract. N. Wolters. plan diag Refrig Eng 59:878-9 S '51

New process frees white blood cells for transfusion; abstract. E. Cohn. Chem & Eng N 28:3770 O 30 '50

Plasma arena. Chem Ind W 68:16 F 17 '51

PVP and dextran near commercial production as blood substitutes. flow sheets il Chem & Eng N 29:650-2+ F 19 '51

St John ambulance blood grouping at mines in the Porcupine camp. J. R. Newman. il diags Can Min J 72:70-3 Jl '51

Symposium on blood volume expanders. Chem & Eng N 29:1953, 1955 My 14 '51

Synthetic blood substitutes; PVP, dextran. il Chem Age (Lond) 64:409-13 Mr 17 '51; Can Chem & Process Ind 35:298+ Ap '51

Vinyl blood packs. il Mod Plastics 29:92-4 S '51

BLOOD groups

Liberation of amino acids by mild acid hydrolysis of hog blood group A and O substances. H. Van Vunakis and E. A. Kabat. Am Chem Soc 73:2977-8 Je '51

Physical properties of elinin, a lipoprotein from human erythrocytes. W. B. Dandliker and others. bibliog Am Chem Soc J 72:5587-92 D '50

St John ambulance blood groupings at mines in the Porcupine camp. J. R. Newman. il diags Can Min J 72:70-3 Jl '51

BLOOD pressure

Analysis of sphygmomanometry. C. C. Minter. Instruments 23:1134+ N '50

Hypodermic pressure manometer utilizing the bonded wire resistance strain gauge. H. R. Bierman and R. Jenkins. il diag R Sci Instr 22:268-9 Ap '51

Hypotension in the rat following limitation of potassium intake. S. C. Freed and M. Friedman. Science 112:788-9 D 29 '50

Hypotensive principles of veratrum viride. J. Fried, H. L. White and O. Wintersteiner. bibliog Am Chem Soc J 72:4621-30 O '50

BLOOD pressure—*Continued*

Management of the employee with hypertensive cardiovascular disease. J. C. Leonard. Ind Med 19:532-4 N '50

Methonium halides in high blood pressure. F. H. Smirk. bibliog Science 114:4-5 Jl 6 '51

Worried about your blood pressure? Ind Med 20:220 My '51

BLOOD substitutes. See Blood—Transfusion

BLOOD vessels

Thromboplastic activity of hyaluronate. S. K. Abul-Haj and others. bibliog Science 114:237-9 Ag 31 '51

See also

Cannulas
Vascular system

BLOTTERS

Blotter number six. il Inland Ptr 126:65 D '50

Here is your opportunity for an exclusive. il Inland Ptr 126:49 N '50

Printing

Blotter contest winners chosen. il Inland Ptr 127:59-61 S '51

BLOUGH, Roy, 1901-

Tax expert sums up argument for excess-profits tax; interview. por Bsns W p30+ D 16 '50

BLOW torches. See Torches

BLOWERS

Blower adjustment for comfort conditions. W. A. Rockafield. Sheet Metal Worker 42:51-2+ Je '51

Description of the blast furnace controlled split-wind blowing installation at Algoma steel corp., ltd. W. O. Bishop. il diags Blast F & Steel Pl 38:1428-34 D '50; Same. Iron & Steel Eng 28:78-83 Jl '51

Diameter of pipes for transmitting blast from blower to cupola; air pressure and velocity through pipes; tabulations and charts; data sheet. Foundry 79:157-8 Ja '51

Furnace blowers; a surprisingly fast growing market. il Sheet Metal Worker 42:108-9+ Ja '51

Grain blower. diags Welding J 30:828 S '51

Increased business with furnace blowers: preparing for the installation. diags Sheet Metal Worker 42:55+ F '51

Influence of Reynolds number on the performance of turbomachinery. H. Davis and others. bibliog A S M E Trans 73:499-503; Discussion. 503-9 Jl '51

Insulation blower now handles corn. L. C. Pogel. il diag Food Eng 23:5 Jl '51

Positive displacement, axial flow screw type compression blower, or gas pump. R. R. Newquist. il diags Am Gas Assn Proc 1950: 749-52

Proposed arrangement and method for determining pressure characteristics of a blower used with a furnace. N. A. Buckley and others. bibliog diags Ill U Eng Exp Sta Bul 390:1-71 '50 (pa 50c)

Venturi blowers handle crushed chips rapidly; Chicago screw co. F. W. Creager. il diag Am Mach 94:96-8 O 30 '50

Manufacture

Design simplicity key to blower wheel manufacture. il Steel 127:100-2 N 20 '50

BLOWPIPES

Jet-piercing blowpipe. il Blast F & Steel Pl 38:1354-5 N '50; Iron Age 166:108 D 14 '50

Production jet-piercing of blastholes in magnetic taconite. D. H. Fleming and J. J. Calaman. il Min Eng 3:Trans 585-91 Jl '51

BLUE

Off-shades with acid alizarine blues; abstract. J. I. Robinson. Am Dyestuff Rep 40:399 Je 25 '51

Problem navy blue; abstract. A. Carpenter. Am Dyestuff Rep 40:360-1 My 28 '51

BLUE RIDGE corporation

Proposed merger. Comm & Fin Chr 173:2286 Je 4 '51

BLUE RIDGE faults. See Faults (geology)

BLUEPRINTS

Cutting blueprint costs $100,000 a year; Glenn L. Martin co. il Mill & Factory 47:110 N '50

Lamps for blue-printing machines. Elec R (Lond) 149:256 Ag 3 '51

Layout to blueprint, no draftsmen; converting Willow Run (Mich.) plant to defense production. il Factory Management 109:88-9 Je '51

Pneumatic tube system speeds blueprint handling. il Iron Age 167:94 My 24 '51

Taking the Greek out of blueprints by use of scale models. H. J. Bowen. il Oil & Gas J 49:226+ Mr 29 '51

BOARD of underwriters of New York

Annual meeting, 31st, Jan. 25. Weekly Underw 164:263+ Ja 27 '51

BOAT building

Race boat hull; plywood hull is reinforced with fiberglas and polyester resin. il Mod Plastics 28:75 D '50

Reinforced plastic ketch. il Mod Plastics 28:92-3 Ag '51

Reinforced-plastic life boat. il Mod Plastics 28:58 Ja '51

BOATS, Aluminum

Aluminium survey launch. il Metallurgia 43:68 F '51

First all-welded aluminum navy vessel. il Light Metal Age 9:14 F '51

Survey launch Ain-Al-Bahr. il Engineer 191:260-2 F 23 '51; Engineering 171:188-9 F 16 '51

BOATS, Inflatable

Improved inflatable boats; water-filled pontoons keep craft stable. il Mod Plastics 28:153 Jl '51

BOATS, Plastic

Improved inflatable boats; water-filled pontoons keep craft stable. il Mod Plastics 28:153 Jl '51

Operation plastic boat; 12-ft. wherries produced at Puget Sound naval shipyard. il Mod Plastics 28:102-3 Je '51

BOATS and boating

See also

Barges
Boat building
Dredges
Ferryboats
Fishing boats
Freight ships
Motor boats
Sailboats
Scows
Shipbuilding
Ships
Steamboats
Submarine boats
Towboats
Yachts and yachting

BODENSTEIN, Max, 1871-1942

Concepts in catalysis; contributions of Paul Sabatier and of Max Bodenstein. E. K. Rideal. por Chem Soc J p 1640-7 Je '51

BODY size. See Size (biology)

BODY water. See Water in the body

BODY weight. See Weight (physiology)

BOEING airplane company

Back on war work, Boeing booms again. il Bsns W p 106-8+ S 29 '51

Boeing's backlog reaches $billion. Aviation W 54:18 Ap 2 '51

Boeing's bombers. il Fortune 44:96-103+ S '51

BOGERT, Marston Taylor, 1868-

Sketch. pors Chem & Eng N 29:3238-9, cover Ag 13 '51

BOHN, Donald Ivan

D. I. Bohn, Lamme medalist for 1950; presentation addresses by A. H. Kehoe and T. D. Jolly; response by D. I. Bohn. por Elec Eng 70:663-6 Ag '51

BOILER cleaning

Cedar waste cleans boilers. il Chem Ind W 68:28 F 17 '51

Chemical removal of copper from boilers. R. G. Call and W. L. Webb. diags A S M E Trans 73:125-9; Discussion. 129-33 F '51

Phosphoric-acid-cleaning of boilers. T. E. Purcell and S. F. Whirl. diags A S M E Trans 73:135-9 F '51; Same abr. Power Eng 54:72-3+ Ag '50; Excerpt. Chem Eng 57:268+ Jl '50

BOILER explosions

Report on boiler explosion at York power station. Engineer 191:456 Ap 6 '51; Abstract. Electrician 146:1121 Ap 6 '51

BOILER gages

Why boiler gage glass showed a false level. C. R. Anderson. Power 95:132 Ap '51

BOILER insurance. See Insurance, Boiler

BOILER plants

Before you insulate take into account boiler capacity, payout period, experimental heat loss data. S. R. Steinbock. Chem Eng 58:173-4 My '51

BOILER plants—*Continued*

Boiler room designed for efficiency; Twin Oaks apartments, Kansas City, Mo. il Dom Eng 178:162+ S '51

Boiler room in the sky; 20th floor location for packaged steam generators at Tulsa building. A. M. Gaynor. il Heating-Piping 23:78-9 Je '51

Compact, quick-steaming honey of a plant to run; Union Pacific railroad's new laundry. il plan diag Power 95:103-5 S '51

Diesel steam for a laundry; Union Pacific railroad laundry. il plan Power Eng 55:72-3 S '51

Heating a housing project; Glen Oaks village, Queens county, N.Y. il diags Dom Eng 178:96-7+ Ag '51

Matching increasing heat demands with efficient, low cost service; Illinois institute of technology. L. C. Hardison and W. J. Parduhn. il Heating-Piping 23:69-72 Ag '51

Plans and layouts for modern boiler rooms. il plans Dom Eng 177:104-5 My; 136-7 Je '51

Power for the small chemical plant. R. L. Miller. il Chem Eng 58:122-4 Je '51

Reducing the cost of steam in coal-fired boiler plants. C. E. Miller. il diag Blast F & Steel Pl 39:820-2, 970-1 Jl-Ag '51

See also

Boilers

Steam plants

Accidents

Don't let this happen in your plant. Power Eng 55:89 Ag '51

Costs

Relative cost of coal or oil firing. W. L. Nelson. Oil & Gas J 50:106 Jl 12; 114 Jl 19; 329 S 20 '51

Equipment

Coal-fired steam-generating plant is clean and efficient. E. D. White. il Textile World 101:116-17+ Je '51

Cures heater troubles, saves money. E. H. Roper. il diag Power 94:94-5 N '50

Extension to the steam plant at the university of Idaho. H. F. Gauss. il plan diag Power Eng 55:74-6+ Je '51

Fuel economy in steam plant; use of special condensate pumps. diags Chem Age (Lond) 63:869-70 D 23 '50

High-pressure boiler plant equipped for smokeless operation; National tube co.'s National works. il Steel 128:84+ F 26 '51; Same. Iron & Steel Eng 28:116+ Mr '51; Same cond. Nat Safety N 63:34+ Ap '51; Same cond. Safety Maint & Prod 102:62-4 S '51

One-boiler plant has safety and automatic combustion control. F. A. Westbrook. il diags Power 95:112-13 Ap '51

Proper chemical feed gets results. S. T. Powell. diags Power 95:78-9 Je '51

Review of new plant equipment; boilers, stokers, oil and gas burners. il diags Power 95:145-7 Mid-Je '51

Maintenance and repair

After a flood; restoring equipment to service. S. R. Lewis. Heating-Piping 23:83 Ag '51

Safety measures

These five steps help prevent furnace explosion. il diags Power 95:110-11 O '51

BOILER tubes

Boiler tube sheet and shell repair. M. J. Hurd. il Power Eng 55:82-3 My '51

Care of tubes in oil-fired boilers. il Dom Eng 178:107+ Jl; 145+ Ag '51

Declare war now on sloppy tube rolling! drawings with text. Power 95:112-13 My '51

Don't damage tubes by over-rolling! il Power Eng 55:81-2 My '51

Merits of beaded and non-beaded boiler tubes. T. W. Reynolds. Heat & Ven 48:65-6 Mr '51

Which happened first? nail down causes of low-water accidents in watertube boilers with practical tests. H. Spring and D. Carroll. il Power 95:119-21 Ja '51

BOILERMAKERS, iron ship builders and helpers of America, International brotherhood of. See International brotherhood of boilermakers, iron ship builders and helpers of America

BOILERMAKERS, iron ship builders, blacksmiths, forgers and helpers, International brotherhoods of. See International brotherhoods of boilermakers, iron ship builders, blacksmiths, forgers and helpers

BOILERS

Curing block with unique steam generator. il Concrete 59:6-7 My '51

How can we make boiler starts safe? diags Power 95:136-8 Jl '51

How to feed a boiler without a pump or injector. W. F. Schaphorst. diag Water & Sewage Works 97:472 N '50

How to leak-proof manholes. C. B. Cotton. il Power 95:138 S '51

Investigation of steam separation in boiler drums through studies on a model. E. A. Farber. il diags A S M E Trans 73:247-53; Discussion. 253-6 Ap '51

Latest technique for quick starts on large turbines and boilers. J. C. Falkner and others. diags A S M E Trans 72:1111-28; Discussion. il 1128-36 N '50

National Tube promotes smoke control for boilers. il Blast F & Steel Pl 39:358 Mr '51

1,370,000-lb boiler tops capacity record at world's largest station; Hudson Avenue station of Con Edison in New York. H. Knecht. il plan diags Power 94:112-18 N '50

Re-circulation steam generator is compact. il Food Eng 23:116 Je '51

Reclaimable cement insulates boilers. World Oil 132:120 Je '51

Seagram's combination boiler-spray drier features ease and economy of operation. C. R. Buck and N. Roberts. il diags Power Eng 55:74-7 F '51

Seven steam generators serve railroad laundry. J. E. LaRocque. il plan Heating-Piping 23:90-1 Je '51

Steam generator for Diesel locomotives now ready for applications in other industries. il Diesel Power 29:68 Ag '51

U.S. boilers; new frontiers. Mech Eng 73:651-2 Ag '51

See also

Boiler cleaning and other headings beginning Boiler

Feed water

Feed water purification

Locomotive boilers

Master boilermakers' association

Slag (in boilers)

Staybolts

Blowdown

Control of pH in stills with boiler blowdown water. flow diag il Pet Refiner 30:90-1 F '51

How can we accurately measure blowdown? il Power 95:130+ Ja '51

Trouble-free blow down system. J. E. Lahm. diags Power Eng 55:88 Ja '51

What's the best way to determine amount of boiler blowdown. C. Penokie. Power Eng 55:93 Ag '51

Coke firing

Petroleum-coke study; firing spreader-stoker type boiler units. G. Weber. Oil & Gas J 49:64+ D 14 '50

Control

Automatic control for multiple fuel-fired boilers. M. J. Boho. il diags Iron & Steel Eng 28:96-9; Discussion. 99-100 F '51

Colored lights guide boiler loading. A. Featham and B. J. McCausey. il diag Power 95:92-4 Ag '51

Combustion control. F. P. Moden. Pulp & Pa of Can 51:92-4 D '50

Control for a package boiler. H. T. Bailey. il diags Power Eng 55:66-9 My '51

Electronics for the power engineer; automatic combustion control. F. A. Annett. diags Power 95:99-102+ Ap '51

Increased productivity through automatic combustion control. J. A. Perry, jr. diags Paper Tr J 131:24-6+ N 2 '50

One-boiler plant has safety and automatic combustion control. F. A. Westbrook. il diags Power 95:112-13 Ap '51

Trends in modern boiler control. J. F. Luhrs. il diags Blast F & Steel Pl 39:110-13+, 230-2 Ja-F '51

Corrosion

Care of tubes in oil-fired boilers. il Dom Eng 178:107+ Jl; 145+ Ag '51

BOILERS—Corrosion—*Continued*

Corrosion of a steel surface by condensed films of sulphuric acid. D. Flint and R. W. Kear. bibliog diags J Ap Chem 1:388-93 S '51

Influence of carbon smokes on the corrosion of metal surfaces exposed to flue gases containing sulphur trioxide. R. W. Kear. diag J Ap Chem 1:393-9 S '51

Influence of carbon smokes on the dew-point and sulphur trioxide content of flame gases. G. Whittingham. bibliog diag J Ap Chem 1:382-8 S '51

Vanadium vandalism; use of agent in residual fuel oil contributes to furnace, boiler corrosion; panel discussion. Oil & Gas J 49:48+ N 30 '50

Design

Cyclone-fired pressurized steam generator. M. Newkirk. diags A S M E Trans 73:215-24 F '51

Design factors in the modern steam generator. F. M. Swengel. diags Power Eng 55:86-7+ F '51

New boiler designs; abstract. P. R. Loughin. Heat & Ven 48:126-7 Je '51

Super pure steam for the paper mill with the dual-circulation boiler. H. B. Wallace, jr. bibliog il diags Tappi 34:111-15 Mr '51

Efficiency

Control pump from water level to improve boiler operation. J. W. James. diags Heating-Piping 22:77-9 D '50

Electric heating

Electric steam boiler, La Chapelle cleaners, Seattle, Wash.; data sheet. J. F. Flynn. il Elec West 106:84 My '51

Equipment

New catalytic process effectively eliminates smoke. il diags Steel 128:90 Mr 12 '51

See also

Water gages

Failure

Boiler steam-drum plate cracks. Marine Eng 56:56 F '51

Prevention of embrittlement cracking. A. A. Berk. bibliog A S M E Trans 73:859-62; Discussion. 862-4 O '51

Which happened first? nail down causes of low-water accidents in watertube boilers with practical tests. H. Spring and D. Carroll. il Power 95:119-21 Ja '51

Firing

Automatic control systems for multi-fuel firing. R. L. Willis. diags Iron & Steel Eng 28:84-8 My '51

Beat fuel shortages with a dual-fuel heating system; illustrations with text. D. A. Campbell. Factory Management 108:118-19 N '50

Burning of calcium base sulfite liquor without auxiliary fuel. C. E. Rogers and R. S. Jolley. flow diag plans diags Paper Tr J 131:25-6+ N 16 '50; Abstract. Power 95:100-2 F '51

Coal-heating value from ultimate analysis; chart; data sheet. J. F. Hyam. Power 95:138 F '51

Comparative tests of different fuels. C. T. Baker. Power Eng 55:86-7 Ag '51

Cyclone-fired pressurized steam generator. M. Newkirk. diags A S M E Trans 73:215-24 F '51

Design of large boiler plant for using high-ash coal. W. G. Marskell. Engineering 172:189-90 Ag 10 '51; Same abr. Engineer 192:218-19 Ag 17 '51

Fireside deposits on steam generators minimized through humidification of combustion air. P. Murphy, jr. and others. bibliog il diags A S M E Trans 73:821-31 Ag '51; Abstract. Heat & Ven 48:136-7 My '51; Discussion. A S M E Trans 73:831-43 Ag '51

How to use three fuels at once; refinery burner handles pulverized coal or coke, gases, and oil, tar, acid sludge, or pitch. A. R. Nichols. diags Pet Processing 6:1005-7 S '51

Is the pressurized boiler furnace here? bibliog diags Power Eng 55:80-3+ Je '51

Multifuel burners. W. H. Decker. diags Mech Eng 73:633-8+ Ag '51

Reducing the cost of steam in coal-fired boiler plants. C. E. Miller. il diag Blast F & Steel Pl 39:820-2, 970-1 Jl-Ag '51

Relative cost of coal or oil firing. W. L. Nelson. Oil & Gas J 50:106 Jl 12; 114 Jl 19; 329 S 20 '51

Significance of laboratory tests of coal and coke for combustion. J. F. Barkley, comp. U S Bur Mines Information Circ 7619:1-46 '51

Simultaneous firing of Midwest coal and natural gas. diags Power Eng 55:80-1 Ag '51

Spreader dust responds to controls. E. R. Kaiser. il diags Power 95:77-9 Ag '51

These five steps help prevent furnace explosion. il diags Power 95:110-11 O '51

Trends in modern boiler control. J. F. Luhrs. diags Blast F & Steel Pl 39:110-12 Ja '51

Use of high-ash coals in the electricity-supply industry. A. A. Taylor. Engineering 172:188 Ag 10 '51

Waste felt scrap generates nearly cost-free steam. F. C. Messaros. il diag Power Eng 55:115-16 F '51

Wet combustion air reduces slagging. il Power 95:71-4 My '51

See also

Boilers—Coke firing
Boilers—Gas firing
Boilers—Oil firing
Boilers—Peat firing
Boilers—Pulverized coal firing
Boilers—Wood firing
Flue gas
Stokers, Mechanical

Furnaces

See Furnaces, Boiler

Gas firing

Burning gas in modern power boilers. J. H. D. Blanke. il map diags Power Eng 55:62-71+ Mr '51

Now blast-furnace gas is base-load boiler fuel. il diags Power 95:96-8 S '51

Purging gas piping at Hell Gate station; Consolidated Edison co. C. J. Smith. plan Am Gas Assn Mo 33:19-20 Mr '51

Manufacture

Studwelding slashes fabrication time; Combustion engineering-superheater, inc. C. H. Creasser. il Iron Age 167:110-11 Ap 12 '51

Welding of pressure vessels. H. Harris. il diags Engineering 171:29-30 Ja 5 '51

Oil firing

Erring fuel oil system. D. Swift. diags Power 95:86+ O '51

Latest ways to get smooth oil flow. O. F. Campbell. diag Power 95:109 S '51

Oil heating job deluxe; Campana-Italian balm co. il diags Dom Eng 177:100-2+ Ap '51

Relative cost of coal or oil firing. W. L. Nelson. Oil & Gas J 50:106 Jl 12; 114 Jl 19; 329 S 20 '51

Vanadium in crude oil; effect of ash on refractories. W. L. Nelson. Oil & Gas J 49:330 D 21 '50

Vanadium vandalism; use of agent in residual fuel oil contributes to furnace, boiler corrosion; panel discussion. Oil & Gas J 49:48+ N 30 '50

Peat firing

Peat-fired power station at Portarlington, Eire. il plan Engineering 171:389-92, pl 22-3 Ap 6 '51

Pulverized coal firing

Fluid-energy pulverizer and its application to steam generation. L. D. Bechtel and G. M. Croft. il Blast F & Steel Pl 38:1190-2+, 1332-5 O-N '50; Same cond. Mech Eng 72:742-4 S '50

Furnace heat absorption in pulverized-coal-fired steam generator, Willow Island station. J. W. Myers and others. bibliog il diags A S M E Trans 73:419-55; Discussion. 457-9 My '51

Pulverized lignite burned successfully in Minnesota power plant. Elec World 135:94-5 Mr 12 '51

Repair

Boiler tube sheet and shell repair. M. J. Hurd. il Power Eng 55:82-3 My '51

BOILERS—Repair—*Continued*

Braze-welding furnace and boiler sections. E. E. Cashen. il diag Welding J 30:544-5 Je '51

Now you can slash handhole plate time; illustrated instructions. S. Elonka. Power 95: 118-19 Jl '51

Safety measures

See also
Safety valves

Standards

General rules for selection of specifications for ferritic plates and tubular products for boilers and pressure vessels constructed under ASME codes. Mech Eng 73:249-52 Mr '51

Proposed revisions and addenda to boiler construction code. Mech Eng 72:1016; 73:162-5, 351-2, 440, 523, 672-6, 847 D '50, F, Ap-Je, Ag, O '51

Standardized boiler units. C. E. Miller. il diags Mech Eng 73:9-13 Ja '51; Discussion. 73:517-18 Je '51

Wood firing

Developments in spreader-firing wet wood. A. S. Weigel. diags A S M E Trans 73: 845-8 Ag '51

How can they stop stack emissions when burning sawdust or waste wood? J. R. Darnell. diag Power Eng 55:92+ Ja '51

Investigation into properties of wood fuels. W. H. D. Clark. Pulp & Pa of Can 52:103-4 My '51

Power generation from wood waste. D. L. Gusler. il Power Eng 55:60-1+ Ap '51

Progress in bark burning equipment for steam generation in paper mills. J. E. Neilson. il Pulp & Pa of Can 52:99-101 My '51

Quite a few problems in burning wood. S. Lewis. Heating-Piping 22:104-5 D '50

Reveals new slants on burning wet salt-laden bark. S. B. Roberts. il diags Power 95:92-5+ S '51

Sawdust; how to burn the stuff. O. L. Brage. il Power Eng 55:92-3 F '51

BOILERS, Heating

Cast iron radiation shipments; tabulation. Iron Age 167:340 Ja 4 '51

Develop rules for installing relief valves. il Heating-Piping 23:124-7 Ap '51

Generator hook-up supplies large amounts of hot water. H. B. Wilson. diag Heat & Ven 48:75-6+ Ag '51

Measures to avoid troubles in domestic hot water systems. T. W. Reynolds. diags Heat & Ven 48:73-7 O '51 (to be cont)

Pipe and boiler insulation techniques. il diags Dom Eng 177:132-3+ My; 146+ Je '51

Small boilers solve big heating problem; Arundel estates, Annapolis. il plan Dom Eng 178:133+ S '51

Tailoring an anthracite boiler to an overfeed rice stoker. H. F. Eastwood. il Heat & Ven 48:84-6 F '51

This spring, lay up heating boilers right; drawings with text. S. Elonka. Power 95: 124-5 Je '51

Gas firing

Gas burner controls; gas designed furnaces and boilers. C. W. Nessell. diags Sheet Metal Worker 41:76-8+ Ag; 82+ S; 42:78-9+ O; 77+ N; 55-6+ D '50; 98+ Ja; 59-60 My; 62-4 Je; 77-8 Jl; 73-5 Ag '51

Gas-fired boilers and gas conversion burners. il Consumers Res Bul 27:17-23 My '51

Techniques for installing gas conversion units. il diags Dom Eng 176:135-6+ N '50

Oil firing

Care of tubes in oil-fired boilers. il Dom Eng 178:107+ Jl; 145+ Ag '51

Gun type burners ignite horizontal rotaries. M. A. Schneider. il Heating-Piping 23:73 Ag '51

Practical oil burner work patterns. C. H. Burkhardt. diags Sheet Metal Worker 42: 71-3+ N; 51-4 D '50; 114-15+ Ja; 59-60+ F; 76-8 Mr; 59-60 Ap; 68-71 My; 60-1+ Je; 65-7 Jl; 60-1 Ag; 71-3 S; 43:59-61 O '51 (to be cont)

BOILERS, Marine

Cooling effect of tube holes in thick shells of boilers; abstract and discussion. J. F. Harvey. Marine Eng 56:58 Ja '51

Two-drum integral furnace marine boiler. il diag Engineer 191:327-8 Mr 9 '51

Oil firing

Characteristics and development of naval fuel oils; abstract and discussion. M. Blanchier. Engineering 172:136-7 Ag 3 '51

Testing

Boiler and turbine testing. L. F. Ingram and L. A. B. Peile. Engineering 172:285-7, 299-300, 349-52, 382-4 Ag 31-S 21 '51; Abstract. Engineer 192:46 Jl 13 '51; Discussion. Engineering 172:116-17 Jl 27 '51; Engineer 192: 46-7 Jl 13 '51

BOILERS, Mercury

Data on six mercury power plants; tabulation; engineering reference sheet. Elec World 134:126 D 4 '50

Mercury boiler treatment with titanium and magnesium metals; abstract. R. C. Reid. diag Mech Eng 73:514-15 Je '51

Protection of mercury power plants; detection of mercury vapor. R. M. Ilfeld. il Power Eng 54:76-7 N '50

Schiller power station at Portsmouth, N.H. flow diag il diags Engineer 191:789-93 Je 15 '51

BOILERS, Portable

If you need lots of steam in a hurry; Vapor-Clarkson steam generator. il Factory Management 109:113-14 S '51

BOILERS, Waste heat

Practical burning of pyrites for sulphite pulping; Nichols Freeman flash roaster. E. P. McGinn and others. flow chart il maps diag Paper Tr J 132:21-2+ My 25 '51

Process steam generated by using waste heat. J. C. Albright. il Pet Refiner 30:119-21 Mr '51

Waste heat boiler improves refinery's operation and maintenance of steam plant. il Pet Refiner 30:109-10 Ap '51

BOILERS, Water tube

Does cold air hurt tubes or setting? il diags Power 95:134-5 Ag '51

Gresham and Craven forced circulation steam generator. il diag Engineer 192:260-1 Ag 31 '51

Old business couldn't die. il Bsns W p 106-8+ Jl 7 '51

Which happened first? nail down causes of low-water accidents in watertube boilers with practical tests. H. Spring and D. Carroll. il Power 95:119-21 Ja '51

BOILING

Photographic study of surface-boiling heat transfer to water with forced convection. F. C. Gunther. il diags A S M E Trans 73: 115-23 F '51

Study of the mechanism of boiling heat transfer. W. M. Rohsenow and J. A. Clark. bibliog A S M E Trans 73:609-16; Discussion. 616-20 Jl '51

BOILING points

Applicability of the Ramsay-Young and Dühring rules, and an accurate method for calculating Θ, the characteristic temperature of a compound; an investigation using the best modern data. R. R. Dreisbach. Am Chem Soc J 73:3147-9 Jl '51

Atom polarisation; relationships between molecular dimensions and boiling points for branched-chain paraffins. A. Audsley and F. R. Goss. Chem Soc J p 120-6 Ja '51

Boiling coefficients of heat transfer; C_4 hydrocarbon-furfural mixtures inside vertical tubes. W. E. Bonnet and J. A. Gerster. bibliog diag Chem Eng Prog 47:151-8 Mr '51

Boiling points of aqueous solutions of dextrose within the pressure range of 200 to 1,500 millimeters. J. L. Torgesen and others. bibliog J Res Nat Bur Stand 45:458-62 D '50

Boiling points of aromatic ethyl and chloro derivatives. G. Cilento. J Phys & Colloid Chem 55:1105-6 Je '51

Correlation of critical temperature, boiling point, and critical pressure. L. H. Thomas. Chem Soc J p3411-15 D '49

BOILING points—*Continued*

Critical constants, boiling points, triple point constants, and vapor pressures of the six isotopic hydrogen molecules, based on a simple mass relationship. A. S. Friedman and others. J Chem Phys 19:126-7 Ja '51

Density, refractive index, boiling point, and vapor pressure of eight monoolefin (1-alkene), six pentadiene, and two cyclomonoolefin hydrocarbons. A. F. Forziati and others. bibliog J Res Nat Bur Stand 45:406-10 N '50

Effect of pressure in azeotropy. H. Skolnik. bibliog Ind & Eng Chem 43:172-6 Ja '51

Effect of vapor agitation on boiling coefficients. D. B. Robinson and D. L. Katz. bibliog flow sheets il diags Chem Eng Prog 47:317-24 Je '51

Method of estimating the boiling points of organic liquids. D. E. Pearson. bibliog J Chem Educ 28:60-2 F '51

Properties of high boiling petroleum products; distillation studies with relation to polynuclear aromatic components. L. T. Eby, G. G. Wanless and J. Rehner, jr. bibliog il Ind & Eng Chem 43:954-60 Ap '51

Vapor-liquid equilibria in binary systems. N. Alpert, P. J. Elving and D. G. Flom. bibliog diag Ind & Eng Chem 43:1174-86 My '51

BOISE, Idaho

Streets

Novel channelizing saves expensive intersection changes. H. K. Glidden. il plan Roads & Sts 93:48-9+ N '50

BOLIVIA

See also

Airports—Bolivia

Petroleum industry and trade—Bolivia

Petroleum laws and regulations—Bolivia

Tin industry and trade—Bolivia

Commercial policy

Tariffs and trade controls. For Comm W 42:10 Ja 29, 43:10-11 Ap 9 '51

Economic conditions

News by countries. For Comm W 42:8-9 Ja 15; 10-12 Ja 22; 7-8 F 26; 11-12 Mr 26; 43:10 Ap 30; 9-10 My 28; 9-10 Je 25; 44:9 Jl 23; 9-10 Ag 27; 9-10 S 24 '51

BOLLAY, William, 1911-

Selected as Wright Brothers lecturer. por Aeronautical Eng R 9:5 N '50

BOLOMETERS

Bolometer amplifier for microwave measurements. il diag Electronics 24:136+ Mr '51

Glass film bolometers. K. M. Laing and J. V. Fitzgerald. il R Sci Instr 22:540-1 Jl '51

Use of a low temperature bolometer for detecting a beam of free radicals. C. A. Reilly and B. S. Rabinovitch. J Chem Phys 19:248-9 F '51

BOLTS and nuts

Bolted joints found better under fatigue. T. R. Higgins. il diag Eng N 147:35-6 Ag 2 '51

Boron steels, a new era in alloy metallurgy; cold-headed bolt steels under test. D. I. Brown. il Iron Age 168:75-80 Ag 9 '51

Designing hopper feeds for square and hexagonal nuts. J. R. Paquin. diags Mach 57:158-62 Mr '51

Fatigue durability of prestressed screw threads. J. O. Almen. bibliog il diags Product Eng 22:153-6 Ap '51

General tensional relaxation properties of a bolting steel. D. N. Frey. A S M E Trans 73:755-60 Ag '51

Lockwasher joined to nut is free to rotate. il diags Product Eng 21:174 D '50

New light on bolted joints; abstract. B. E. Eltham. diags Product Eng 22:150-1 Ja '51

Next shutdown, check crankpin bolts; illustrations and drawings with text. Power 95:114-15 Ap '51

Nomograms for the solution of anchor bolt problems. A. I. Gartner. bibliog diags Pet Refiner 30:101-6 Jl '51

Nylon locknut. il Aviation W 54:55 My 28 '51

Preassembled nut and lockwasher cuts assembly time; Keps developed by Shakeproof inc. Steel 127:61 N 6 '50

Remington portable power tool shoots stud into steel, concrete. il Arch Forum 95:230 Jl '51; Arch Rec 110:180 Jl '51

Specs written for high-tensile bolts. Eng N 146:73 Mr 29 '51

Stud-bolt troubles. W. E. Kennedy. diags Power Eng 55:96-7 Je '51

Stud driver cartridges; color coded ethyl cellulose heel caps. il Mod Plastics 29:84-5 S '51

Stud welding; born 30 years too soon. il Mod Ind 21:95 F '51

Stud welding comes aboard. W. E. McArthur. il diags Marine Eng 56:68-70 Ag '51

Stud welding makes tough fastening job easy. il diag Mill & Factory 48:96-9 F '51

Stud welding speeds steel production; with cost data. R. C. Singleton. il Iron & Steel Eng 27:100-4 O '50; Excerpts. Welding J 29:1094-6 D '50

Stud welding to ferrous and nonferrous metals. T. L. Hufert and others. il diags Product Eng 22:89-91 Mr '51

Tensile forces in tightened bolts. A. H. Stang. bibliog il diag Product Eng 22:118-20 F '51

Venders, try-it-yourself; introduce Shakeproof's new Keps; trade show exhibit. B. Aitchison. il Ind Marketing 35:33+ D '50

When you want a bolt to stay put; illustrated instructions. Mill & Factory 49:81 Jl '51

See also

Staybolts

Manufacture

Induction heat + versatile fixture = doubled production; Northwest bolt and nut co. W. R. Yeakel. il Am Mach 94:164-5 D 11 '50

Nut manufacture; Simmonds aerocessories ltd. il diags Automobile Eng 41:215-23. Je '51

Planetary rolling increases bolt-threading production. H. L. Rasmussen. il Mach 57:163-5 Ap '51

Production of bolts and nuts. A. P. Newall. Engineering 171:142-3 F 2 '51

Testing

Fasteners checked in factory tests. Aviation W 54:46 Je 25 '51

Unique vibration rig for testing stop nuts. il Product Eng 22:197 O '51

BOLTZMANN equation

Effect of magnetic field on the breakdown of gases at microwave frequencies. B. Lax and others. bibliog diag J Ap Phys 21:1297-304 D '50

Solution of the Boltzmann equation for a shock wave. H. M. Mott-Smith. bibliog Phys R 82:885-92 Je 15 '51

BOMB shelters. See Air raid shelters

BOMBAY

Letter from India; Bombay, the gateway. W. G. Bowman. il Eng N 146:39-41 F 1 '51

BOMBAY stock exchange

Want to be a Bombay stockbroker? illustrations with text. Bsns W p 132-3 S 29 '51

BOMBS (chemical apparatus)

Bomb-tube for conducting small-scale reactions under medium pressures. O. Kantorowicz. diags Soc Chem Ind J 69(sup no 2):S76 '50

See also

Oxygen bombs

BOMBS, Aerial

Flexibility seen as air power key. A. W. Jessup. il Aviation W 55:17-18 S 10 '51

Some adventures in military standardization. M. F. Schoeffel. il Standardization 22:277-9 S '51

See also

Bombs, Flying

BOMBS, Atomic. See Atomic bombs

BOMBS, Flying

Air bearing gyro for missile guidance. il Aviation W 53:28 D 4 '50

All technology not mastered; missile output lags. D. A. Anderton. Aviation W 55:125-6+ S 24 '51

Auxiliary power for guided missiles. il Aviation W 54:32 Je 11 '51; Mach 57:173 Je '51

Auxiliary power unit for guided missiles. Product Eng 22:199 O '51

Guided missile friction heating. R. McLarren. bibliog Aero Digest 63:27-9+ Ag '51

BOMBS, Flying—*Continued*

Guided missiles. R. P. Cooke. Barron's 30:15 N 20 '50

Guided missiles program nears production stage. Bsns W p20 Mr 17 '51

Latest missile work revealed. il Aviation W 54:19-20 My 28 '51

Lift on inclined bodies of revolution in hypersonic flow. G. Grimminger and others. bibliog diags J Aeronautical Sci 17:675-90 N '50

Lightweight power plants; air and hydrogen-peroxide high-speed turbine-driven accessory power plants for supersonic missiles. Mech Eng 72:908-9 N '50

Limiting case for missile rolling moments. E. W. Graham. bibliog diags J Aeronautical Sci 18:624-8 S '51

Low-aspect-ratio configurations in supersonic flow. P. A. Lagerstrom and M. E. Graham. bibliog diags J Aeronautical Sci 18:91-6+ F '51

Matador opens era of missile warfare. il Aviation W 55:219 S 24 '51

Missiles streak toward future role. D. A. Anderton. Aviation W 54:66-8 F 26 '51

Missiles super-agency fast taking shape. B. S. Lee. Aviation W 53:12-14 O 30 '50

Navy missiles production ordered. diag Aviation W 54:14 Je 11 '51

New RCA electronic computer aids U.S. air defense. Franklin Inst J 251:313-15 F '51; Product Eng 22:154 Ja '51

OGM report. Aviation W 54:17 F 19 '51

Project typhoon aids missile designers; new electronic computer. D. A. Anderton. il Aviation W 53:40+ D 18 '50

Proportional radio control. G. R. Urquhart. diags Aero Digest 62:20-1+ F '51

Rockets. il Fortune 42:118-20+ N '50

Some roll characteristics of cruciform delta wings at supersonic speeds. Z. O. Bleviss. bibliog diags J Aeronautical Sci 18:289-97 My '51

Step multiplier in guided missile computer. E. A. Goldberg. il diags Electronics 24:120-4 Ag '51

Swiss show anti-aircraft guided missile system. il Aviation W 55:18 S 17 '51

Tricky work at North American; steering controls for guided missiles. il Bsns W p70+ Ja 13 '51

Testing

Missile test center. Mech Eng 73:24 Ja '51

Precision track tests guided missiles. Eng N 146:44 Ja 4 '51

BOMBS, Incendiary

Modern pyrotechnics go to war in Korea. M. Wharton. il Explosives Eng 29:89-93 My '51

BOMBS, Smoke

Modern pyrotechnics go to war in Korea. M. Wharton. il Explosives Eng 29:89-93 My '51

BONDED web fabrics. See Textile fabrics—Bonded web

BONDERITE K. See Steel—Protection

BONDERIZING

Spray gun bonderizing; a Pyrene cold pretreatment process. il Automobile Eng 41:340 S '51

BONDS

Bond market in 1951. J. S. Williams. Mag of Wall St 87:392-3+ Ja 13 '51

Bonds move, at a price. Bsns W p130-1 Jl 7 '51

Corporate bonds vs. municipals. D. M. Ellinwood. Comm & Fin Chr 172:1684+ N 2 '50

For long-term investment; stocks or bonds? with tabulation showing comparison of stocks and bonds for ten-year investment, 1900-1950. D. L. Kemmerer. Comm & Fin Chr 173:521+ F 1 '51

Halsey, Stuart & co. foresees sustained capital financing in 1951; year-end bond survey. Comm & Fin Chr 173:72 Ja 4 '51

Income bonds, for income. I. U. Cobleigh. Comm & Fin Chr 173:1327+ Mr 29 '51

Outlook for high-grade bonds and preferreds. R. A. Bing. Comm & Fin Chr 173:1947 My 10 '51

Should banks buy long-term bonds? J. J. Moynahan. Harvard Bsns R 28:61-6 N '50

Stocks and bonds; a reader's reasoning behind a rule which has served him well. Barron's 31:19-20 Ap 9 '51

What it costs to hire $$. Bsns W p92-5 Ag 4 '51

See also

Municipal bonds

Securities

Default

Deterioration in the quality of foreign bonds issued in the United States, 1920-1930; abstract. I. Mintz. Comm & Fin Chr 173:1960-1 My 10 '51

Price indexes and averages

Mutual bond fund index traces ten-year pattern. P. A. Johnston. Barron's 31:17-18 S 3 '51

Prices

Bond prices yearly average 1948-1950, monthly Dec. 1949-Dec. 1950 and weekly Dec. 1950. Fed Res Bul 37:67 Ja '51 [cont monthly]

Bonds, a buyers' market; with table. Bsns W p99 Je 30 '51

Inflation fears nibble at bond prices; tabulation showing 1949-1951 shifts for selected issues. Bsns W p 119 Mr 3 '51

Listed bond quotations. Published in weekly numbers of Barron's

Monthly range of prices on the New York stock exchange for 1950. Comm & Fin Chr 173:367-75 sec 2 Ja 18 '51

Treasuries lead upswing in bonds. Bsns W p96+ Ag 4 '51

Rating

Fixed-charge coverage test under changing economic conditions. S. M. Robbins. J Bsns 24:203-19 Jl '51

Yields

Bond yields; yearly average 1948-1950, monthly Dec. 1949-Dec. 1950 and weekly Dec. 1950. Fed Res Bul 37:66 Ja '51 [cont monthly]

BONDS, Chemical. See Chemical bonds

BONDS, Convertible

Calling convertible issues. J. S. Williams. Mag of Wall St 87:658-9+ Mr 24 '51

Convertible is now in season; American Telephone and Telegraph 3⅜. I. U. Cobleigh. Comm & Fin Chr 173:1427+ Ap 5 '51

Present market appeal of convertible bonds and stocks; with analysis of Chicago pneumatic tool co, Oliver corp. and Glidden co. S. Fried. Comm & Fin Chr 173:1136 Mr 15 '51

BONDS, Government

Foreign dollar bond service increased; abstract. G. R. Collins and M. Nadler. Comm & Fin Chr 174:251 Jl 19 '51

See also

Debts, Public

Municipal bonds

State bonds

Marketing

Atlanta bond story. C. Sibley. Banking 43:52+ Je '51

Bond drive opens on Labor day. Banking 44:74 S '51

Coupon E bonds; Standard and GE offer stock bonus to match employee U.S. bond purchases. Bsns W p98 S 8 '51; Correction. p 123 O 13 '51

Savings bonds, roadblock to inflation; National tube co. has successful drive. B. Packard. Iron Age 166:80-1 O 26 '50

Servicing defense bond payroll savings; National bank of Detroit. L. G. Trocke. il Burroughs Clearing House 35:36-8+ My '51

Simplified system that serves and saves; Toledo Trust's savings bonds program. Banking 44:49-50+ Ag '51

Special offering of Series F and G savings bonds; revised regulations governing United States savings bonds; text. Fed Res Bul 36:1291-2 O '50

Steel firms give workers right steer to bond savings plan. Iron Age 167:82 Ja 25 '51

Treasury should heed verdict of free market. S. C. Badger. Comm & Fin Chr 173:2041+ My 17 '51

Prices

Course of prices of U.S. government securities for the year 1950; monthly tabulation. Comm & Fin Chr 173:376 sec 2 Ja 18 '51

BONDS, Government—Prices—*Continued*

Mixed pattern for government bonds under Federal Reserve's new policy; with table. Bsns W p 143 My 26 '51

Why government bond prices declined; IBA committee report. Comm & Fin Chr 172: 2295-6 D 14 '50

Redemption

Next year's X-million E bond cashers; handling and refunding large coming maturities. H. Bratter. il Banking 43:33-5+ D '50

Plan for maturing Series E bonds. Banking 43:46 Mr '51

Redemption values of extended E bonds; tabulation. Comm & Fin Chr 173:1329 Mr 29 '51

Savings bond plans. Burroughs Clearing House 35:36+ F '51

Speed bond payment with rubber-stamp endorsement. Burroughs Clearing House 35: 23 Je '51

Treasury sticks to its tune; Synder's stand on E-bond maturities. Bsns W p 102-3 Ja 27 '51

Refunding

Dec.-Jan. refunding. Nat City Bank p 136 D '50

Money mart eyes Treasury. Bsns W p 136-7 My 19 '51

Plea for easy money; Snyder's refunding problem. Bsns W p 134+ S 29 '51

Sept.-Oct. refunding. Nat City Bank p 111-14 O '50

Victory for FRB; next refunding will be at higher rate. Bsns W p 116-17 N 11 '50

Yields

Connecticut Mutual charts yield on series E bonds; with tabulation. Nat Underw (Life ed) 54:16 D 1 '50

Australia

Australian bonds at sharp discount. Barron's 31:17 Ap 2 '51

Bolivia

Bolivian boon; tin price talks may be key to payment of defaulted bonds. G. Cruikshank. Barron's 31:13 O 8 '51

Conversion of Bolivian external dollar obligations authorized. For Comm W 42:9-10 Ja 29 '51

Canada

Security I like best; Canadian government short-term internal bonds. J. K. Miller. Comm & Fin Chr 173:1746 Ap 26 '51

Costa Rica

Talks expected soon on Costa Rica bonds. Barron's 31:26 F 5 '51

Great Britain

Are gilt-edged vulnerable? with tabulation of gross redemption yields. Economist 160:211-12 Ja 27 '51

Britain considers guaranteed purchasing power bonds. P. Einzig. Comm & Fin Chr 173:2366 Je 7 '51

Fall in gilt-edged. Economist 160:700 Mr 24 '51

Gilts at 1949 lows; with table. Economist 160:1249 My 26 '51

New funding loan. Economist 159:701-2 N 4 '50

Savings and inflation. Economist 160:275-6 F 3 '51

Japan

Japanese bonds; world affairs call the tune in the market. G. Cruikshank. Barron's 31:7 Ag 27 '51

Latin America

Bond-selling extravaganza of the 1920's; sale of Latin American government bonds by investment bankers of the U.S. J. F. Rippy. J Bsns 23:238-47 O '50

Russia

Soviet way of saving; new Economic development loan. Economist 160:1105-6 My 12 '51

United States

Background of U.S. securities market. A. G. Lanston. Comm & Fin Chr 174:1157+ S 27 '51

Bond market. Nat City Bank p52-4 My '51

Bond market in 1951. J. S. Williams. Mag of Wall St 87:392-3+ Ja 13 '51

Bond markets sensitive to Treasury cash balance. D. H. Stevens. Barron's 31:16 Je 4 '51

Bond pegs dropped. Nat City Bank p39-42 Ap '51

Companies react favorably to new U.S. bond issue. Nat Underw (Life ed) 55:1+ Mr 9 '51

Credit problem; a new attack; new nonmarketable security. Bsns W p26 Mr 10 '51

Curb inflation with a purchasing-power bond. S. H. Slichter. Comm & Fin Chr 173:1121+ Mr 15 '51

Deficit financing needs a stronger bond market. D. H. Stevens. Barron's 31:23+ My 21 '51

E bond pros and cons. Burroughs Clearing House 35:6-8 S '51

Federal debt; vehicle of inflation? L. R. Robinson and H. R. Brinberg. Comm & Fin Chr 173:1945+ My 10 '51

FRB can still tighten strings; status of government bond market. Bsns W p88-9 Ja 13 '51

Financial mobilization; Snyder's debt management policies. Nat City Bank p 16-19 F '51

Foresees new U.S. securities on market. S. F. Porter. Comm & Fin Chr 172:2283 D 14 '50

Government bond market under new Federal Reserve policy. R. P. Brown. Comm & Fin Chr 173:2664+ Je 28 '51

Government bonds and bank investment policy. J. S. Budd, jr. Comm & Fin Chr 174: 61+ Jl 5 '51

Governments keep dropping. Bsns W p 132-3 Ap 21 '51

Hard-selling ads released on U.S. bonds. Ed & Pub 83:49 D 23 '50

Impact of flexible interest rate policy on bond prices. R. L. Reierson. Comm & Fin Chr 173:1758+ Ap 26 '51

In defense of defense bonds. A. W. May. Comm & Fin Chr 173:617+, 713+ F 8, 15 '51

Investment market; governments, other securities. M. Olyphant; H. E. Dickhuth. Banking 43:70-2 Ja '51 [cont monthly]

Investors cooler to government bonds. Bsns W p 130 Jl 7 '51

It's an old and sacred custom; objects to use of fractions in price lists. T. A. Scott. il Banking 43:39+ O '50

Long or short-term bonds? study of bank, life insurance and Treasury trust fund holdings of U.S. government bonds, March 3, 1941-July 31, 1950. L. S. Hayden. Banking 43:36-7+ Ja '51

Martin appointment; he inherits cheap money; new 2¾ per cent bond. K. Bloch. Barron's 31:6 Mr 19 '51

Money market steady; upheaval in government bonds has mild effect on other issues. Bsns W p 120-2 Mr 24 '51

New chapter in Treasury security market; 2¾ per cent bond. A. G. Lanston. Comm & Fin Chr 173:1541+ Ap 12 '51

New government bond market and the investor. A. W. May. Comm & Fin Chr 173: 1225+ Mr 22 '51

New phase in interest rate policy. J. S. Williams. Mag of Wall St 88:14-15+ Ap 7 '51

Next step in Treasury financing; recommends new long-term issue at three per cent rate. T. I. Parkinson. Comm & Fin Chr 172:2536 D 28 '50

1950 performance record. J. T. Chippendale, jr. Comm & Fin Chr 173:75 Ja 4 '51

Now, what's ahead for government bonds? A. W. May. Comm & Fin Chr 173:2045-6 My 17 '51

Obsolete model; we need a new savings bond, not just another drive. Barron's 31:1 O 1 '51

Our reporter on governments. J. T. Chippendale, jr. Published in weekly Thursday numbers of Commercial and financial chronicle

Outlook for best-grade bonds. D. H. Stevens. Barron's 31:19-20 Ja 1 '51 [cont biweekly]

Ownership of United States government securities, direct and fully guaranteed, end of month figures for June 1940-June 1946, half yearly June 1947-June 1950 and monthly July-October 1950. Fed Res Bul 37: 72 Ja '51 [cont monthly]

BONDS, Government—United States—*Cont.*

Pegged Treasury bond market; primary cause of inflation. M. S. Eccles. Comm & Fin Chr 173:1021 Mr 8 '51

Price pegs for bonds. Nat City Bank p28-31 Mr '51

Recent credit report clue to bond market. D. H. Stevens. Barron's 31:33-4 Je 18 '51

Security I like best; world's premier investment. W. Freiday. Comm & Fin Chr 173: 430 Ja 25 '51

Special characteristics of government bond market. L. M. Piser. Comm & Fin Chr 174: 774 Ag 30 '51

Treasury-Federal Reserve dispute regarding interest rates and support of government bond prices. A. G. Lanston. Comm & Fin Chr 173:730+ F 15 '51

Treasury-Federal Reserve rift. A. G. Lanston. Comm & Fin Chr 172:1602-3 O 26 '50

Treasury financing plans. Nat City Bank p64-6 Je '51

Treasury rollover of 2½s succeeds. Bsns W p26 Ap 7 '51

Treasury securities and inflation. A. G. Lanston. Comm & Fin Chr 173:2569+ Je 21 '51

Treasury sticks to its tune; Snyder's stand on E-bond maturities. Bsns W p 102-3 Ja 27 '51

Turmoil in Treasury issues and its impact on bond prices. W. Witherspoon. Comm & Fin Chr 173:1226 Mr 22 '51

U.S. bond prices unpegged. Survey of Cur Bsns 31:5-6 Je '51

U.S. government bonds sag in free market. R. S. Byfield. Manuf Rec 120:28 Jl '51

United States savings bonds issued and redeemed through Dec. 31, 1950; tabulation. Comm & Fin Chr 173:248 Ja 15 '51

United States savings bonds; sales redemptions and maturities, yearly 1943-1950 and monthly Dec. 1949-Dec. 1950. Fed Res Bul 37:71 Ja '51 [cont monthly]

Urges higher interest rates on savings bonds. W. Green. Comm & Fin Chr 174:160 Jl 12 '51

See also

Bonds, Government—Marketing

BONDS, Municipal. See Municipal bonds

BONDS, Revenue

Authorization for revenue bond issues in California. S. B. Robinson. Am Water Works Assn J 43:113-20 F '51

California to seek bond road financing. Eng N 145:29 D 14 '50

Computing size of a revenue bond issue. G. D. Russell. Water & Sewage Works 98: 438-9 O '51

Municipal financing of utilities. L. E. Caffall. Comm & Fin Chr 172:1598 O 26 '50

Municipal revenue bonds. J. E. Roddy. Comm & Fin Chr 174:1055+ S 20 '51

Offstreet parking bonds OK'd for Illinois cities. Eng N 145:55 D 14 '50

Revenue bonds step into new roles; financing plants for rental to private companies. il Bsns W p 102+ S 1 '51

What makes a good revenue bond? D. M. Wood. Comm & Fin Chr 172:1697+ N 2 '50

BONE

Apparatus for determining bone density by means of radioactive strontium (Sr^{90}). F. G. Evans and others. diag Science 114: 182-5 Ag 17 '51

Method for embedding undecalcified bone for histologic sectioning, and its application to radioautography. J. S. Arnold. bibliog il diag Science 114:178-80 Ag 17 '51

See also

Cartilage

Fractures

BONE black

Bone char conference, 2d, Washington. Chem & Eng N 29:2048 My 21 '51

Methods of sieve analysis with particular reference to bone char. F. G. Carpenter and V. R. Deitz. bibliog J Res Nat Bur Stand 45:328-46 O '50

Some granular carbonaceous adsorbents for sugar refining; a study of bone char replacements based on hydroxyapatite; Synthads. E. P. Barrett, J. M. Brown and S. M. Oleck. il Ind & Eng Chem 43:639-54 Mr '51

BONE char. See Bone black

BONN, Germany

Architecture

Germany's up-to-date Parliament lets light into politics. il Arch Forum 95:181 Jl '51

BONNEVILLE power administration

Another controversial transmission line; McNary-LaGrande 230-kv federal line. il map Elec West 107:55-7 Jl '51

BPA completes 200-mile microwave link. R. F. Stevens. il map Elec West 105:82-3 O '50

BPA, five utilities discuss long-standing disputes. Elec World News ed 136:11 Ag 20 '51

BPA to cut off interruptible power to nine industries unless water rises. Elec World 136:82 Ag 27 '51

Microwave applications to Bonneville power administration system. R. F. Stevens and T. W. Stringfield. bibliog map diags Elec Eng 70:29-33 Ja '51

BONUS system

Earned-bonus plan pays in knitting mill; Lawler hosiery mills. E. D. White. il Textile World 101:122-3 Mr '51

How to boost collections; southern seed processor's bonus scheme boosts driver-collected receipts. S. Covington. Am Bsns 21:24+ Je '51

SSB, not profits, will decide your bonus. Bsns W p26 Ag 25 '51

See also

Salesmen—Bonuses

Wage payment plans
—Group bonus

BONUS system for executives

Bonus plan for operating department heads. A. A. Kasper. N A C A Bul 32:268-73 N '50

Foremen's bonus plan that really works; American fixture & manufacturing co., St Louis. E. J. Scheer. Factory Management 108:120-2 N '50

Incentive compensation for executives. A. Patton. Harvard Bsns R 29:35-46 S '51

BONUSES, Soldier. See Veterans—Bonuses

BOOK clubs. See Clubs, Merchandizing

BOOK industry and trade

Book boosters; Doubleday uses packaging and display. il Mod Packaging 24:92-3 Mr '51

Book publishers split on value of serials. J. McMaster. Ed & Pub 84:48 Ap 7 '51

Book trade hits new trouble; with FTC. il Bsns W p47-8+ Jl 28 '51

Accounting

Electronic accounting for small orders; Doubleday's book clubs. J. Garth. il Am Bsns 20:14-15 O '50

Advertising

Big book ad coming this fall breaks with tradition. il Ptr Ink 235:34 Je 29 '51

Four foes join hands to capture the mystery market; radio, books, movies and magazines. il Ptr Ink 235:44 Ap 20 '51

Sunday editor scores scarcity of book ads. E. J. Strong. Ed & Pub 83:10 D 2 '50

What's become of book advertising? F. S. Rosenau. Ptr Ink 235:58+ Je 15 '51

What's wrong with—? Aesop Glim. Ptr Ink 234:54 F 9 '51

Directories

Clegg's international directory of the world's book trade, 1950. 694p $7.50 R. R. Bowker co, 62 W. 45th st, New York 19 '50

Great Britain

Author's reward. Economist 160:1357-8 Je 9 '51

United Kingdom book trade has large turnover. For Comm W 44:17 Ag 27 '51

BOOK prices

United States cumulative book auction records, 1945-50. S. R. Shapiro, ed. 1814p $40 Want list, 95 Broad st, New York 4 '51

BOOK reviews

Book reviews. bibliog Chem & Ind p 199-216 Mr 17 '51

Book reviews. Science 113:439-64 Ap 20 '51

See also

Newspapers—Book reviews

BOOKBINDER, Hy

Portrait. Fortune 43:38 F '51

BOOKER brothers, McConnell and company, limited

Statement by the chairman. Economist 161:599-600 S 8 '51

Statement by the chairman at annual general meeting. A. F. V. McConnell. Economist 159:567-8 S 30 '50

BOOKKEEPING

At a glance jobber bookkeeping. H. Ridder. il Nat Pet N 43:52-4+ Je 13 '51

One-man bookkeeping for a contractor. il Elec West 106:78-9 Ap '51

Setting bookkeeping standards by time study; abstract. R. L. Petersen. Management R 40:365 Je '51

We save $10,000 a year with ledgerless bookkeeping; abstract. F. G. Phillips. Management R 40:530-1 S '51

BOOKLETS. See Advertisements—Books and booklets

BOOKS

Fifty books of year go on extensive tour. Inland Ptr 127:69-70 My '51

BOOKS and reading

How to read everything; Cole electric co. executives get daily tape-recorded digest. il Bsns W p 105 Ag 18 '51

BOOTLEGGING

No bright glow in moonshine; legal distillers wail. Bsns W p38 O 21 '50

BOOTS, Rubber. See Shoes, Rubber

BORANE. See Boron hydrides

BORAX

Trona process and its unique features; with flow sheets. J. V. Hightower. Chem Eng 58:104-6 Ag '51

BORAZOLE

Preparation of borazole and its reactions with boron halides. G. W. Schaeffer, R. Schaeffer and H. I. Schlesinger. diag Am Chem Soc J 73:1612-14 Ap '51

BORDEN, Gail, 1801-1874

Sale I never forgot; Gail Borden gets loan from a stranger to save condensed milk business. T. G. Montague. Ptr Ink 233:64-5 D 1 '50

BORDEN company

Companies which should maintain their dividends in 1951; with comparative balance sheet items. Mag of Wall St 87:384 Ja 13 '51

Debentures offered. Comm & Fin Chr 173:1058 Mr 12 '51

BORG-WARNER corporation

Drop in Borg-Warner 1951 net expected. Barron's 31:23-4 Je 18 '51

Warner gear division

Warner Gear observes 50th year. il Am Mach 95:187 Je 11 '51

BORIC acid

Acidic behavior of concentrated boric acid solutions. D. Stetten, jr. bibliog Anal Chem 23:1177-9 Ag '51

Low temperature heat capacities of inorganic solids; the heat capacity of boric acid from 16 to 296° K; description of the Ohio state university solid calorimeters. H. L. Johnston and E. C. Kerr. bibliog il diags Am Chem Soc J 72:4733-8 O '50

Molar heats of solution of boric oxide and boric acid. E. R. Van Artsdalen and K. P. Anderson. bibliog Am Chem Soc J 73:579-81 F '51

BORIDES

Boride cathodes. J. M. Lafferty. il diags J Ap Phys 22:299-309 Mr '51; Abstract. Science 112:420 O 13 '50

Borides of some transition elements. R. Kiessling. bibliog diags Electrochem Soc J 98:166-70 Ap '51; Discussion. bibliog 98:518-19 D '51

New method machines sintered carbides, sintered borides, hardened tool steels; Cavitron process. A. S. Cohan. il J Metals 3:216-17 Mr '51

New superconducting borides and nitrides. J. K. Hulm and B. T. Matthias. bibliog Phys R 82:273-4 Ap 15 '51

Study of the refractory borides. L. Brewer and others. bibliog Am Cer Soc J 34:173-9 Je 1 '51

Analysis

Determination of boron in metal borides. H. Blumenthal. Anal Chem 23:992-4 Jl '51

BORINE

Some amino-derivatives of borine. G. E. Coates. Chem Soc J p3481-3 D '50

BORING bars

Boring-bar cam shifts tool to cut helical groove. H. J. Gifford. diags Am Mach 95:122 Ap 2 '51

Boring bar pivots on setscrews. N. Palmer. diag Am Mach 95:118 Ja 8 '51

Headstock roller bearing supports boring bar. G. W. Lippett. diags Am Mach 95:164 S 17 '51

BORING machinery. See Drilling and boring machinery

BORNITE

Copper mineralization in the Fungurume region, Katanga. R. Oosterbosch; H. Schuiling. il diags Econ Geol 46:121-48 Mr '51

Semiconductor bornite. C. W. Horton. J Ap Phys 22:364 Mr '51

BORON

Abundance of lithium, beryllium, boron, and other light nuclei in the primary cosmic radiation and the problem of cosmic-ray origin. H. L. Bradt and B. Peters. bibliog il Phys R 80:943-53 D 15 '50

Boron stops knock; adding element to leaded gasoline. Bsns W p20 Mr 31 '51

Chemistry of boron; the reactions and structure of dihydroxydifluoroboric acid. L. H. Long and D. Dollimore. Chem Soc J p 1608-12 Je '51

Disintegration of boron by fast neutrons. B. Petree and others. bibliog diags Phys R 83:1148-53 S 15 '51

Disintegration of boron by slow neutrons. G. C. Hanna. bibliog Phys R 80:530-4 N 15 '50

Effect of boron on cast iron. W. G. Wilson. Foundry 79:88-9+ S '51

Excitation function of the reaction $C^{12}(\gamma p)B^{11}$. A. K. Mann and J. Halpern. diag Phys R 80:470-1 N 1 '50

Low temperature heat capacities of inorganic solids; the heat capacity of pure elementary boron in both amorphous and crystalline conditions between 13 and 305°K; some free energies of formation. H. L. Johnston, H. N. Hersch and E. C. Kerr. bibliog il Am Chem Soc J 73:1112-17 Mr '51

Magnetic analysis of the $B(\alpha, p)C$ reaction. G. M. Frye and M. L. Wiedenbeck. Phys R 82:960-1 Je 15 '51

Proton groups from the deuteron bombardment of boron. W. O. Bateson. bibliog diag Phys R 80:982-4 D 15 '50

Q-values for (α,p) reactions on aluminum and boron by means of photographic emulsions. H. Slätis and others. diags Phys R 81:641-2 F 15 '51

Some physical properties of eight refractory oxides and carbides. J. J. Gangler. bibliog il diag Am Cer Soc J 33:367-74; Discussion. 374-5 D 1 '50

Structure of elementary boron. J. L. Hoard, S. Geller and R. E. Hughes. Am Chem Soc J 73:1892-3 Ap '51

Titanium-boron alloys. H. R. Ogden and R. I. Jaffee. il J Metals 3:Trans 335-6 Ap '51

Total cross sections of Be, B, O, and F for fast neutrons. C. K. Bockelman. bibliog Phys R 80:1011-13 D 15 '50

See also
Steel—Boron content

Analysis

Determination of boron in metal borides. H. Blumenthal. Anal Chem 23:992-4 Jl '51

Determination of boron in steels. M. W. Kelly. bibliog diag Anal Chem 23:1335-6 S '51

Estimation of boric oxide in glass. J. Davies. Chem Age (Lond) 64:519-20 Ap 7 '51

Some aspects of boron analysis. G. R. Ball. Chem Age (Lond) 64:517-19 Ap 7 '51

Isotopes

Cross section ratio $\sigma[B^{10}(n, \alpha)Li^7]/\sigma[B^{10}(n, \alpha)Li^{7*}]$ as a function of energy. H. Bichsel and others. Phys R 81:456-7 F 1 '51

Energy levels of B^{10}. F. Ajzenberg. bibliog Phys R 82:43-7 Ap 1 '51

BORON—Isotopes—*Continued*

Energy levels of B^{11} from the B^{10} $(d,p)B^{11}$ reaction. D. M. Van Patter and others. bibliog diag Phys R 82:248-57 Ap 15 '51

Excitation functions for $B^{10}(d,\alpha)Be^8$. W. D. Whitehead. Phys R 82:553-4 My 15 '51

Excited state of Be^9 from the $B^{11}(d,\alpha)Be^9$ reaction. D. M. Van Patter and others. bibliog diag Phys R 81:233-8 Ja 15 '51

Gamma-ray transitions in B^{10}. D. E. Alburger. Phys R 83:184 Jl 1 '51

Gamma-rays from deuteron bombardment of B^{10}, B^{11}, N^{14}, and F^{19}. J. Terrell and G. C. Phillips. bibliog Phys R 83:703-8 Ag 15 '51

Proton-gamma-ray coincidence study of Si^{30} and B^{11}. H. H. Landon. diag Phys R 83:1081-4 S 15 '51

Three new delayed alpha-emitters of low mass. L. W. Alvarez. bibliog Phys R 80:519-23 N 15 '50

BORON carbide

Boron carbide as a base material for a cermet; abstract. H. J. Hamjian and W. G. Lidman. Iron Age 167:96 My 24 '51

Boron carbide can be used for aircraft thrust nozzles. S. D. Stoddard. bibliog Brick & Clay Rec 118:83 Ap '51

Probe new uses for tough abrasives. il Steel 128:79 Ap 9 '51

BORON chlorides

Condensation products of ethylene chlorohydrin and boron trichloride. D. R. Martin and L. S. Mako. Am Chem Soc J 73:2674-6 Je '51

Infrared spectrum of boron trichloride. R. E. Scruby and others. J Chem Phys 19:386-7 Mr '51

Interaction of boron trichloride with optically active alcohols and ethers. W. Gerrard and M. F. Lappert. Chem Soc J p1020-4 Ap '51

BORON compounds

Compounds with boron at the bridgehead; a study of the steric consequences of planar boron. H. C. Brown and E. A. Fletcher. diags Am Chem Soc J 73:2808-13 Je '51

Esters containing boron and selenium. H. G. Cook and others. Chem Soc J p3125-8 N '50

Magnetic study of some hydrates of boron compounds. M. Prasad and others. bibliog J Chem Phys 19:686-8 Je '51

What is boron good for? flow sheet il Mill & Factory 47:115-18 D '50

BORON fluoride

Catalytic esterification of olefins with organic acids. R. D. Morin and A. E. Bearse. bibliog Ind & Eng Chem 43:1596-600 Jl '51

Corrosion experiments with gaseous boron trifluoride. F. Hudswell, J. S. Nairn and K. L. Wilkinson. diags J Ap Chem 1:333-6 Ag '51

Electrochemistry of boron trifluoride coordination compounds; boron trifluoride-ethyl ether. N. N. Greenwood, R. L. Martin and H. J. Emeléus. diags Chem Soc J p3030-6 N '50

Electrochemistry of boron trifluoride co-ordination compounds; boron trifluoride-mono(acetic acid). N. N. Greenwood, R. L. Martin and H. J. Emeléus. diags Chem Soc J p 1328-32, 1795-8, 1915-21 My, Jl '51

Equilibria in the system boron trifluoride-water at 25°. C. A. Wamser. bibliog Am Chem Soc J 73:409-16 Ja '51

Formation of complex fluorides; the relation between the conductivities of boric, arsenious, and antimonic fluorides and complex formation. A. A. Woolf and N. N. Greenwood. diag Chem Soc J p2200-4 Ag '50

Lower paraffin hydrocarbons; catalytic conversion by boron fluoride with hydrogen fluoride. E. C. Hughes and S. M. Darling. bibliog Ind & Eng Chem 43:746-50 Mr '51

Necessity for activators in the boron trifluoride catalyzed alkylation of benzene by S-butyl methyl ether. R. L. Burwell, jr. and L. M. Elkin. Am Chem Soc J 73:502 Ja '51

Polymerization of *iso*butene by boron trifluoride. A. G. Evans. bibliog J Ap Chem 1:240-2 Je '51

Separation of sulfur and aromatics from petroleum with boron fluoride and hydrogen fluoride. E. C. Hughes and others. bibliog Ind & Eng Chem 43:750-3 Mr '51

BORON halides

Preparation of borazole and its reactions with boron halides. G. W. Schaeffer, R. Schaeffer and H. I. Schlesinger. diag Am Chem Soc J 73:1612-14 Ap '51

BORON hydrides

Analysis of the electron diffraction data for decaborane. C. M. Lucht. diag Am Chem Soc J 73:2373-5 My '51

Disproportionation reaction of the dimethylaminoboron hydrides. A. B. Burg and C. L. Randolph, jr. bibliog Am Chem Soc J 73:953-7 Mr '51

First and second pressure limits of explosion of diborane-oxygen mixtures. F. P. Price. bibliog Am Chem Soc J 72:5361-5 D '50

Hydride research expands frontiers of hydrogen chemistry. H. I. Schlesinger. Chem & Eng N 29:1202-3 Mr 26 '51

Kinetics of pyrolysis of diborane. J. K. Bragg, L. V. McCarty and F. J. Norton. Am Chem Soc J 73:2134-40 My '51

Kinetics of the thermal decomposition of diborane; abstract. L. V. McCarty and others. Science 112:425 O 13 '50

Low temperature heat capacity of inorganic solids; the heat capacity of decaborane, $B_{10}H_{14}$, from 14 to 305°K. E. C. Kerr, N. C. Hallett and H. L. Johnston. Am Chem Soc J 73:1117-19 Mr '51

Luminous reactions of pentaborane and oxygen at and below the first pressure limit of explosion. F. P. Price. bibliog diag Am Chem Soc J 73:2141-4 My '51

Molecular structure of pentaborane. W. J. Dulmage and W. N. Lipscomb. diag Am Chem Soc J 73:3539 Jl '51

Preliminary study of the kinetics of pyrolysis of diborane. R. P. Clarke and R. N. Pease. Am Chem Soc J 73:2132-4 My '51

Pyrolysis of diborane and the synthesis of pentaborane. L. V. McCarty and P. A. Di Giorgio. diag Am Chem Soc J 73:3138-43 Jl '51

Raman spectrum of tetramethyldiborane; apparatus for the production of Raman spectra at low temperatures. B. Rice, J. M. Gonzalez Barredo and T. F. Young. diag Am Chem Soc J 73:2306-7 My '51

Reaction between diborane and anhydrous hydrazine. H. J. Emeléus and F. G. A. Stone. Chem Soc J p840-1 Mr '51

Reaction of diborane with some alkene oxides and vinyl compounds. F. G. A. Stone and H. J. Emeléus. diag Chem Soc J p2755-9 O '50

Reinvestigation of the structures of diborane and ethane by electron diffraction. K. Hedberg and V. Schomaker. bibliog diags Am Chem Soc J 73:1482-7 Ap '51

Structure of stable pentaborane. K. Hedberg, M. E. Jones and V. Schomaker. diag Am Chem Soc J 73:3538-9 Jl '51

Studies relating to boron; some reactions of the aliphatic boranes with alkali metals in liquid ammonia and ethylamine. J. E. Smith and C. A. Kraus. Am Chem Soc J 73:2751-4 Je '51

Vapor density of diborane. E. B. Rifkin and G. W. Thomson. Am Chem Soc J 72:4825-6 O '50

Vibrational spectra of diborane and some of its isotopic derivatives. R. C. Lord and E. Nielsen. bibliog J Chem Phys 19:1-10 Ja '51

Physiological effect

Clinical observations on the toxicology of boron hydrides. H. M. Rozendaal. A M A Archives Ind Hygiene & Occup Med 4:257-60 S '51

BORON oxide

Low temperature heat capacities of inorganic solids; the heat capacity of crystalline boric oxide from 17 to 300°K. E. C. Kerr, H. N. Hersh and H. L. Johnston. Am Chem Soc J 72:4738-40 O '50

Molar heats of solution of boric oxide and boric acid. E. R. Van Artsdalen and K. P. Anderson. bibliog Am Chem Soc J 73:579-81 F '51

Neutron-absorbing glass; $CdO-SiO_2-B_2O_3$ system. L. M. Melnick and others. bibliog diags Am Cer Soc J 34:82-6 Mr 1 '51

BORON phosphate

Thermal properties of the compound BPO_4. F. A. Hummel and T. A. Kupinski. Am Chem Soc J 72:5318-19 N '50

BORON steel. See Steel—Boron content

BORON sulfide
Spectrum of the boron monosulfide (BS) molecule. P. B. Zeeman. Phys R 80:902 D 1 '50

BORON tribromide
Addition compound of boron tribromide and trimethylamine. R. C. Osthoff, C. A. Brown and F. H. Clarke. Am Chem Soc J 73:4045 Ag '51

BORON trimethyl
Dissociation of the addition compounds of trimethylboron with the normal primary aliphatic amines; the straight-chain anomaly. H. C. Brown, M. D. Taylor and S. Sujishi. Am Chem Soc J 73:2464-7 Je '51

BORTZ, Nelson M.
Portrait. Bsns W p44 O 13 '51

BOSE-EINSTEIN statistics
Bose-Einstein integral functions. J. E. Robinson. diag Phys R 83:678-9 Ag 1 '51
Contribution to the theory of Bose-Einstein liquids. C. V. Heer and J. G. Daunt. bibliog Phys R 81:447-54 F 1 '51
Mobile multilayer adsorption of a Bose-Einstein gas; helium. W. Band. bibliog J Chem Phys 19:435-8 Ap '51

BOSHELL, Edward, 1902-
E. Boshell heads Westinghouse Air Brake and Union Switch & Signal. por Ry Age 130:27 Ja 29 '51

BOSON theory
Boson current corrections to second order. D. C. Peaslee. bibliog Phys R 81:94-106 Ja 1 '51

BOSTON
Boston MDC payroll case grows hotter; minority member gets court order for records inspection. Eng N 145:24 O 26 '50
See also
Wages—Boston

Harbor

Boston port business spurs plan for greater expansion. Eng N 147:27 Jl 12 '51

Markets

Boston market; due for change. il Bsns W p94-5 Mr 3 '51

Rapid transit

Boston transit projects held up by high costs. Eng N 146:58 My 24 '51

Sewerage

Harbor sewage problem put before legislature. Eng N 145:15 D 28 '50

BOSTON and Maine railroad
Railroad securities. Comm & Fin Chr 173:301 Ja 18 '51
Takes on new look with streamlined capital structure. A. J. McNeal. Comm & Fin Chr 173:56 Ja 4 '51

BOSTON Edison company
It electrified the proper Bostonians; for 65 years, Boston Edison has supplied power. map Elec World News ed 135:11-12 Je 25 '51

BOSTON securities traders association
Annual dinner, 27th, Feb. 9; portraits. Comm & Fin Chr 173:831-4 F 22 '51

BOTANICAL chemistry
South American plant products hold Deulofeu's interest. Chem & Eng N 29:4166 O 8 '51

BOTANICAL congress, International. See International botanical congress

BOTANICAL libraries
Selection of subject headings in large botanical libraries. B. Hoskins. Special Lib 41:359-61 D '50

BOTANICAL research
Caltech's weather factory depends on instrumentation. F. Went. Instruments 23:1018-20 O '50
See also
Plants, Effect of climate on

BOTANICAL society of America
Annual meeting, 45th, Columbus, Sept. 11-13. Science 112:796 D 29 '50

BOTANY
See also
Epiphytes
Fungi
Galls (botany)
Plant cells and tissues

Embryology

Morphology of the ovary of oryza sativa Linn. var. plena (double rice). R. M. Datta and A. K. Paul. diag Science 113:491 Ap 27 '51

Pathology

Bibliography

Bibliography of plant pathology in the tropics and in Latin America. H. V. Barnes and J. M. Allen, comps. U S Agric Bibliographical Bul 14:1-78 '51

Physiology

Intracellular localization and distribution of carbonic anhydrase in plants. E. R. Waygood and K. A. Clendenning. bibliog Science 113:177-9 F 16 '51

Asia

Symposium on the origin and distribution of cultivated plants in South Asia, Delhi, Jan. 12-15. Science 113:703-4 Je 15 '51

Massachusetts

Frost-heaved tussocks in Massachusetts. R. S. Sigafoos and D. M. Hopkins. bibliog 2pls maps Am J Sci 249:312-17 Ap '51

BOTANY, Economic
See also
Forest products
Grain
Rubber plants and planting
Textile fibers
Weeds

BOTANY, Medical
Brazil luxuriant with valuable medicinals. Chem & Eng N 29:673 F 19 '51
Cultivation of medicinal herbs encouraged in Ireland. Chem & Eng N 28:4568 D 25 '50; Same. For Comm W 41:22-3 D 4 '50
Medicinal herb-development plans, India. For Comm W 44:22-3 Jl 9 '51
Potter's cyclopedia of botanical drugs and preparations. R. C. Wren. 6th ed rev 415p 10s 6d Potter & Clarke, 60 Artillery lane, London, E.1 '50

BOTTLE caps and seals
Louisville milk move; entire market changes over to universal square bottle with single-operation 38-mm. closure. il diag Mod Packaging 24:98-102 F '51
New PI proposals; two test methods for screw-cap liners. il Mod Packaging 24:113-14+ Ag '51

BOTTLE filling machines. See Bottling machines

BOTTLE washing
Alkalies for bottle washing. D. H. Ross. il Chem Ind 67:902-4 D '50

BOTTLED goods
New shape for Kreml. il Mod Packaging 24:78-9 Je '51
Stand-out labels for Canada Dry flavored sodas. il Mod Packaging 24:84-5 Jl '51
See also
Beer containers
Beverages
Coca Cola
Wine

BOTTLES
Four glass men help solve a container plant's problem; decomposition of hydrogen peroxide in glass containers. Cer Ind 56:80-1 Je '51
Packaging's Hall of fame. il Mod Packaging 24:78-85+ Ag '51
Peroxide bottle. il Chem Ind W 68:32 F 17 '51
Simpler bottle designs recommended by NPA. Bsns W p 100-1 My 12 '51
Spillproof nail polish; polyethylene-plug valve in neck of Cutex bottle. il Mod Packaging 24:175 Ap '51; Mod Plastics 28:171 Ag '51
See also
Milk bottles

Manufacture

Heavy gobs steal seven tons daily. Cer Ind 55:69 D '50
Mold-smoking speeds glass bottle output. il Cer Ind 55:76 N '50

Testing

Some tests of surface durability of bottle glass. H. E. Simpson. il Glass Ind 31:567-8 N '50

BOTTLES—*Continued*

Transportation

Distilled water company loads more bottles faster, safer, by palletizing neck-out stacks, rigging with aluminum. J. Joseph. il Food Ind 23:84 Ja '51

BOTTLES, Plastic

Bombshell atomizer; polyethylene nebulizer dispenses nasal spray medication; Anahist Atomizer. il diag Mod Packaging 24:104-7 N '50

Competition for glass; polyethylene bottles. il Chem W 69:26 Ag 11 '51

Duplicator bottle. il Mod Plastics 28:165 My '51

Mechanized squeeze-bottling; Ciba's improved nebulizer. il diag Mod Packaging 24:68-70+ Ag '51

Polyethylene flask with the look and feel of leather. il Mod Packaging 24:86 Ag '51

Squeeze-bottle lines; abstract. G. D. Harrison. Mod Packaging 24:127 D '50

Squeeze that pleases. il Chem W 69:29-30 S 1 '51

Utility extras; Max Factor's new signature line; polyethylene squeeze bottles. il Mod Packaging 24:75-7 Ag '51

BOTTLING machines

Squeeze-bottle lines; abstract. G. D. Harrison. Mod Packaging 24:127 D '50

BOTTLING plants

Prototype for bottling plants; Houston Coca-Cola bottling company. il plans Arch Rec 109:120-7 F '51

Rolling control of quality; Coca-Cola's mobile labs. A. V. Gemmill. il map Food Eng 23:63-5+ My '51

Equipment

Palletizing; saves all-around; Pepsi-Cola bottling co. B. Schwartzman. il Food Eng 23:100-1+ Ap '51

These engineered units put new performance in bottling lines; Coca-Cola's special soaker-washer feed and empty-case cleaner. E. D. White. il Food Eng 23:78 Jl '51

BOTTS, Alexander. See Upson, William Hazlett

BOUCHEROT circuit. See Radio circuits

BOULWARE, Lemuel Ricketts, 1895-

Portrait. Bsns W p34 O 13 '51

BOUNDARIES

$25-million boundary dispute; Ohio Power's new plant site in southeastern Ohio. il map Bsns W p 128-9 S 15 '51

BOUNDARY layer

Boundary layer attenuation of higher order modes in rectangular and circular tubes. R. E. Beatty, jr. bibliog diags Acoustical Soc Am J 22:850-4 N '50

Boundary layers and skin friction in high-speed flow. A. D. Young. bibliog il diags Roy Aeronautical Soc J 55:285-302 My '51

Calculation of the rate of heat transfer through a laminar boundary layer. A. N. Tifford and J. Wolansky. bibliog J Aeronautical Sci 18:427-8 Je '51

Calculation of the thermal boundary layer of a body in incompressible laminar flow. W. Dienemann. bibliog J Aeronautical Sci 18:64-5 Ja '51

Comparison of theoretical and experimental results for the turbulent boundary layer in supersonic flow along a flat plate. C. Ferrari. bibliog J Aeronautical Sci 18:555-64 Ag '51

Effect of pressure gradient on stability and skin friction in laminar boundary layers in compressible fluids. H. Weil. bibliog J Aeronautical Sci 18:311-18 My '51

Effect of surface cooling on laminar boundary-layer stability. M. Bloom. J Aeronautical Sci 18:635-6 S '51

Effects of sweepback on boundary layer and separation. R. T. Jones. bibliog diags U S Nat Advisory Com for Aeronautics 1947:487-9 '50

Interaction of shock waves with boundary layers on a flat surface. F. W. Barry and others. bibliog il diags J Aeronautical Sci 18:229-38+ Ap '51

Investigations of effects of surface temperature and single roughness elements on boundary-layer transition. H. W. Liepmann and G. H. Fila. bibliog il diags U S Nat Advisory Com for Aeronautics 1947:587-98 '50

Laminar boundary layer on a rotating blade. L. E. Fogarty. bibliog diag J Aeronautical Sci 18:247-52 Ap '51

Laminar-turbulent transition in a boundary layer. H. W. Emmons. bibliog il diags J Aeronautical Sci 18:490-8 Jl '51

Minimum critical Reynolds number and the form parameter. J. C. Freeman, jr. bibliog J Aeronautical Sci 18:350-1 My '51

New way to see boundary layer; china-clay method. il Aviation W 54:32 Ap 23 '51

Simplified compressible laminar boundary-layer theory. A. N. Tifford. bibliog J Aeronautical Sci 18:358-9 My '51

Stability of the laminar boundary layer in a compressible fluid. L. Lees. bibliog U S Nat Advisory Com for Aeronautics 1947:331-77 '50

Theory of heat transfer through a laminar boundary layer. A. N. Tifford. J Aeronautical Sci 18:283-4 Ap '51

Turbulent boundary layer in a compressible fluid with positive pressure gradient. C. Ferrari. bibliog J Aeronautical Sci 18:460-77 Jl '51

Turbulent boundary layer in compressible fluids. E. R. Van Driest. bibliog J Aeronautical Sci 18:145-60+ Mr '51

Turbulent boundary-layer temperature recovery factors in two-dimensional supersonic flow; abstract and discussion. M. Tucker and S. H. Maslen. Aviation W 54:35-6 Mr 19 '51

BOUNDARY value problems

Solution of boundary value problems by multiple Laplace transformations. T. A. Estrin and T. J. Higgins. bibliog Franklin Inst J 252:153-67 Ag '51

Solution of total differential, boundary value problems. A. N. Tifford. J Aeronautical Sci 18:65-6 Ja '51

BOUNDARY waters

Pollution of U.S.-Canada boundary waters. Pub Works 82:99 Je '51

Survey of industrial wastes in the Lake Huron-Lake Erie section of the international boundary waters. A. E. Berry and others. bibliog maps Sewage & Ind Wastes 23:508-35 Ap '51; Abstract. Water & Sewage Works 98:39 Ja '51; Discussion. Sewage & Ind Wastes 23:536-8 Ap '51

BOURDON gages. See Pressure gages

BOURDON tubes. See Pressure gages

BOURGEOIS, Nolan

Star salesman makes specialty of service; methods used by N. Bourgeois of New Orleans. pors Inland Ptr 127:46-7 Je '51

BOUSSINESQ, J.

Stress-function approaches of Boussinesq and Timpe to the axisymmetric problem of elasticity theory. E. Sternberg and others. bibliog J Ap Phys 22:1121-4 S '51

BOVRIL. See Meat extracts

BOW and arrow

Fletchers are still in business; Woodcraft equipment co.; illustrations with text. Bsns W p92-3 My 12 '51

BOWATER paper corporation

Expanding Bowater umbrella at Corner Brook, Newfoundland. il map Pulp & Pa of Can 52:54-61 Jl '51

BOWEN, Kenneth P. 1904-

Bowen of Northrop. por Aero Digest 63:32+ Jl '51

BOWERS, Nathan Abbott, 1886-

N. A. Bowers, ENR, retires after 40 years.. por Eng N 145:25 D 21 '50

BOWSTRING hemp

Mechanics of elastic performance of textile materials; mechanical properties of hard fibers with reference to their use in cordage structures. E. R. Kaswell and M. M. Platt. bibliog Textile Res J 21:263-76 My '51

BOX cars. See Freight cars

BOXES

See also

Candy boxes
Cigar boxes
Crates

BOXES—*Continued*

Manufacture

Safety in making box shook. C. S. Houston. il Safety Maint & Prod 101:18-20+ F '51

BOXES, Paper. See Paper boxes

BOXES, Plastic

Cigar box; all-plastic hinged box molded of Dow Styron. il Mod Plastics 28:184 Je '51

Fabricated reinforced-plastic boxes. il Mod Plastics 28:74-5 Mr '51

BOXES, Wirebound

Boxboard from wheat straw to replace wood veneer in wire-bound shipping containers. E. C. Lathrop and others. flow sheet il Tappi 34:145-52 Ap '51

BOY scouts

Cubs study railroading; Railroad month for cub scouts; illustrations with text. Ry Age 131:52-3 Jl 16 '51

When the boy scouts took Valley Forge; services of the Schuylkill Valley lines. il Bus Transportation 29:42-3 D '50

BOYCOTT

Decisions of interest to labor; secondary boycott. Mo Labor R 73:186-8 Ag '51

Fine distinction between primary and secondary boycotts; Denver case. N. C. Rockwood. Rock Prod 53:41+ N '50

Illegal boycotts; Supreme court to review four cases. Bsns W p 105 Ja 6 '51

U.S. Supreme court defines primary and secondary strikes and boycotts. N. C. Rockwood. Rock Prod 54:95+ Ag '51

BOYD, James, 1904-

Boyd speeds up minerals program; head of Defense minerals administration. por(cover) Chem & Eng N 29:555 F 12 '51

BOYER, Harold Raymond, 1899-

Portraits. Fortune 44:132 S; 125 O '51

BOYER, Marion Willard, 1901-

AEC goes to oil industry for its new general manager. por(cover) Chem & Eng N 28:3978 N 13 '50

Atom head; M. W. Boyer of Esso named general manager of AEC. por Oil & Gas J 49:36 N 2 '50

Portrait. Bsns W p 103 Jl 28 '51

BOYLE, Robert, 1627-1691

Robert Boyle and his background. D. Reilly. bibliog por J Chem Educ 28:178-83 Ap '51

BOYS' tours. See Railroads—Boys' tours

BRACING

Vertical spacing of cofferdam bracing. F. J. Sanger. diags Eng N 145:44-5 D 7 '50

BRADFORD dyers' association limited

Statement by the chairman. J. Ewing. Economist 160:830-2 Ap 7 '51

BRADY, G. S.

Portrait. Sales Management 67:40 Jl 15 '51

BRAHAM, Roscoe R. 1921-

Robert M. Losey award, Institute of the aeronautical sciences. por Aeronautical Eng R 10:8+ Mr '51

BRAIN

Determination of cholinesterase activity in whole brains of developing rats. C. J. Metzler and D. G. Humm. bibliog Science 113:382-3 Ap 6 '51

Differential effects of cerebellar anterior lobe cortex and fastigial nuclei on postural tonus in the cat. W. W. Chambers and J. M. Sprague. diags Science 114:324-5 S 28 '51

Direct currents of the brain; abstract. W. Köhler. Science 113:478 Ap 27 '51

Effect of large cortical lesions on learned behavior in monkeys; abstract. H. F. Harlow. Science 112:428 O 13 '50

Learning and the associative pathways of the human cerebral cortex. K. U. Smith. bibliog diags Science 114:117-20 Ag 3 '51

Ultrasonic method for outlining the cerebral ventricles. T. F. Hueter and R. H. Bolt. bibliog il diags Acoustical Soc Am J 23:160-7 Mr '51

Use of feedback systems for the control of anesthesia; electrical activity of patient's brain used to actuate network which controls dosage of anesthetic. R. G. Bickford. il diags Elec Eng 70:852-5 O '51

Use of positron-emitting radioisotopes for the localization of brain tumors. F. R. Wrenn, jr. and others. bibliog diags Science 113:525-7 My 4 '51

Violable brain. Tech R 53:341-2 My '51

See also

Cerebrospinal fluid

Electroencephalography

Diseases

Radiation counters aid brain tumor diagnosis. R. G. Davis. il diags Electronics 23:72-5 N '50

BRAKE lining machines

Sale I never forgot; the clincher came out of my brief case; Barrett brake drum lathes and relining machines; pride of ownership appeal. H. B. Barrett. Ptr Ink 236:54+ Jl 20 '51

BRAKE linings

Bonding brake linings; use of Redux. R. A. Johnson. il Automobile Eng 41:230-2 Je '51

Brake squeal, can it be silenced permanently? Niagara Frontier Transit tests. W. W. Kunz. diags Bus Transportation 30:34-6 Ag '51

BRAKE shoes

Brake design; investigation of fade sensitivity. G. A. G. Fazekas. il diags Automobile Eng 41:53-60 F '51

Effect of brake shoe action on thermal cracking and on failure of wrought steel railway car wheels. H. R. Wetenkamp and others. il diags Ill U Eng Exp Sta Bul 387:1-101 '50 (pa 60c)

Internal expanding shoe brakes for road vehicles. I. M. Waller. bibliog diags Inst Mech Eng Proc (Auto div pt 1):41-52 '49-50; Same. Automobile Eng 40:31-9 Ja '50; Discussion. Inst Mech Eng Proc (Auto div pt 1):52-66 '49-50

BRAKES

Accessibility features clutch and brake unit. il diag Product Eng 22:192 Je '51

Determination of dynamic coefficient of friction for transient conditions. G. G. Gould. A S M E Trans 73:649-54 Jl '51; Excerpts. Machine Design 23:153-4 Ja '51

Four-way brake controls recorder. il diags Machine Design 23:125-6 Jl '51

Heavy-duty brake requirements of rubber-tired earthmoving vehicles. R. K. Super. S A E J 59:36-8 Ag '51

Loads held safely with automatic brake. il diags Product Eng 22:218 My '51

Selection factors for mechanical buffers. J. Brown. il diags Product Eng 21:156-60 N '50

See also

Air brakes

Braking, Dynamic

Railroads—Braking

BRAKES, Airplane

Anti-skid braking systems. J. H. Overholser. diag Aero Digest 63:36+ Ag '51

Breaking skids betters braking; Hytrol's monitoring system. T. L. Self. Aviation W 54:49-50+ Je 4 '51

Recent developments of the mechanism of the hydraulic variable-pitch aircraft propeller. H. L. Milner. diags Inst Mech Eng Proc 163 (W.E.P. no 57):112-14 '50

BRAKES, Automobile

Brake design; investigation of fade sensitivity. G. A. G. Fazekas. il diags Automobile Eng 41:53-60 F '51

Disc brakes. W. R. Rodger. diags Automobile Eng 41:69-72 F '51

Earls Court exhibition; brakes. il Automobile Eng 40:425-7 D '50

Internal expanding shoe brakes for road vehicles. I. M. Waller. bibliog diags Inst Mech Eng Proc (Auto div pt 1):41-52 '49-50; Same. Automobile Eng 40:31-9 Ja '50; Discussion. Inst Mech Eng Proc (Auto div pt 1):52-66 '49-50

New auto tricks; Boeing's spark plug; Bendix brake pedal. Bsns W p52 O 6 '51

New hand brake requires less effort. diag Automotive Ind 103:40+ D 15 '50

Self-energizing hand brake; illustrations with text. Product Eng 22:132-3 F '51

Manufacture

New Budd foundry produces 500 brake drums per hour. T. MacNew. il Automotive Ind 103:32-3+ N 15 '50

Welded and brazed brake bands use 60 per cent less steel. W. H. Haviland and S. M. Spice. il Iron Age 167:68-70 Ja 11 '51

BRAKES, Automobile—*Continued*

Testing

Brake torque. G. A. G. Fazekas. bibliog diags Automobile Eng 41:185-91 My '51

BRAKES, Eddy current

Eddy current couplings and brakes. diags Product Eng 22:173 My '51

BRAKES, Electric

Electric brakes and clutches. il diag Product Eng 22:174-5 My '51

BRAKES, Hydraulic

Balanced-shoe-action hydraulic brakes. il Automotive Ind 103:74+ D 15 '50

Propeller-turbine brake. il Engineer 192:28 Jl 6 '51

Manufacture

Spotwelder doubles as hot upsetter. W. E. Finney. il diags Am Mach 95:134-6 O 1 '51

BRAKES, Magnetic

Electromagnetic brakes for d-c servo motors. G. Kronacher. il diags Product Eng 22: 172-5 Je '51

Electromagnetic clutching and braking units. diags Mach 57:198 My '51

Electromagnetic devices. diag Mech Eng 72: 1001-2 D '50

New and better motor brake. T. W. Driesch. il diags Gen Elec R 54:26-8 F '51

BRAKES, Motor bus

Brake squeal, can it be silenced permanently? Niagara Frontier Transit tests. W. W. Kunz. diags Bus Transportation 30:34-6 Ag '51

Commercial vehicle brakes; Girling range for medium and heavy vehicles. diags Automobile Eng 40:442-4 D '50

Secret of brake success; brake maintenance practices. il Bus Transportation 29:40-1 D '50

BRAKES, Motor truck

Brake maintenance. J. V. Bassett. Am Gas Assn Proc 1950:287-8

Commercial vehicle brakes; Girling range for medium and heavy vehicles. diags Automobile Eng 40:442-4 D '50

BRAKING, Dynamic

Controlling trains with the dynamic brake. P. A. Quarles. Ry Mech & Elec Eng 124: 678-9 N '50

D-c dynamic and capacitor braking; abstract. L. W. Herchenroeder. Product Eng 22:231-2 Jl '51

Dynamic braking and motor control system for a.c. winders. diag Engineer 191:228-9 F 16 '51; Elec R (Lond) 148:399-401 F 23 '51; Electrician 146:647-9 F 23 '51

Dynamic braking of alternating-current motors. D. Harrison. diags Engineering 170: 528-9 D 22 '50

BRAKING, Electric

D-c dynamic and capacitor braking; abstract. L. W. Herchenroeder. Product Eng 22:231-2 Jl '51

Induction motor injection braking. B. W. Glover. bibliog il diags Elec R (Lond) 148: 337-40 F 16 '51

BRAMAH, Joseph, 1749-1814

Unveiling of the Joseph Bramah portrait. por Inst Mech Eng Proc 163 (W.E.P. no 57):79-80 '50

BRANCH, Harllee, 1906-

Portrait. Fortune 43:24 Mr '51

BRANCH banking. See Banks and banking—Branch banking

BRANCH factories, Foreign

Foreign small plants; abstract. J. D. Mooney. Mech Eng 73:423 My '51

Kellogg bowls over Mexican cereal trade. Bsns W p 174 S 22 '51

New investment in Japan; Remington Rand's and Goodrich Chemical. Bsns W p 144-5 F 10 '51

U.K. likes R.I.; Bentley sets up firm in Providence to make knitting machinery. Bsns W p 141-2 N 18 '50

Why thousands of Canadians wear Van Heusen shirts. J. C. Cumming. il Sales Management 67:86+ O 1 '51

BRANCH management

Branch expenses shrink when Clary gives managers a share in profits. M. S. Bandoli. Sales Management 66:56-8+ Je 1 '51

BRANCH stores. See Department stores—Branch stores

BRANN, W. L.

Aesop Glim's clinic. Ptr Ink 235:68 My 4 '51

BRANNAN, Charles Franklin, 1903-

Election-year package for the farm states; Brannan's Family farm policy review. Bsns W p24-6 S 29 '51

BRANSON, Edwin Bayer, 1877-1950

Memorial. C. R. Longwell. por Am Assn Pet Geologists Bul 35:1706-10 Jl '51

BRANTFORD, Ontario

Water supply

Adjustment of water treatment to pollution loading. D. B. Williams. Am Water Works Assn J 43:52-4 Ja '51

BRASS

Bonding butyl rubber to brass. R. W. Kaercher and G. W. Blum. bibliog(66 ref) il diag Ind & Eng Chem 43:488-93 F '51

Branching of slip lines in alpha-brass. H. Czyzewski. il J Ap Phys 22:846 Je '51

Brass, fit for defense, tied up by shortages. B. Hatschek. Iron Age 167:109 Je 21 '51

Brass scrap, bronze and brass ingots; prices; tabulations. Iron Age 167:303 Ja 4 '51

Composition dependence of the elastic parameters of beta-brass. J. S. Rinehart. J Ap Phys 22:1089 Ag '51

Elastic parameters of beta-brass. R. A. Artman and D. O. Thompson. bibliog J Ap Phys 22:358 Mr '51

Interface and marker movements in diffusion in solid solutions of metals. L. C. Correa da Silva and R. F. Mehl. bibliog il diags J Metals 191:Trans 155-73 F '51

Long-range order in beta-brass and Cu_3Au. D. T. Keating and B. E. Warren. bibliog J Ap Phys 22:286-90 Mr '51

Quick patina on copper, brass or nickel alloys. W. G. Schneider. il Metal Prog 60: 74-6 S '51

Corrosion

Corrosion resistance of copper and copper alloys. Chem Eng 58:108-12 Ja '51

BRASS, Powdered

Brass powder parts aid fuze output. il Iron Age 168:108 Ag 16 '51

BRASS founding

Brass and bronze castings; technical sessions, A.F.S. annual meeting. Foundry 79:135+ Jl '51

Continuous casting machines for brass. il Engineer 191:490 Ap 13 '51

Continuous casting revolutionizes the brass industry. D. I. Brown. il Iron Age 168:106-8 S 6 '51

Melting brass and bronze. J. G. Dick. il Foundry 79:88-9+ Jl '51

Nickel-alloyed brass and bronze castings. J. S. Vanick. bibliog il Foundry 78:86-9+ Ag; 88-91 O; 80-3+ D '50; 79:102-7 F '51

Process control of brass and bronze foundry procedure; review. H. J. Roast. Metal Prog 59:844+ Je '51

BRASS industry and trade

Connecticut

Defense puts crimp in Connecticut brass. il Bsns W p 114-16 Je 23 '51

Great Britain

Headache for brassmakers; scrap and defence. Economist 159:1162-3 D 23 '50

BRASS plating

Calculating metal cost for brass plating; chart; engineering data sheet. Metal Finishing 49:91 S '51

Deposition of brass; electrolysis in an oxalate bath; abstract. A. I. Stabrovsky. Chem Age (Lond) 65:92 Jl 21 '51

BRASS wire. See Wire, Brass

BRASS work

Brass strip annealed and cleaned continuously; American brass co.'s new sheet and strip mill. il diag Steel 128:76-7 Mr 26 '51

Color-match welding solves musical instrument fabrication problem; F. A. Reynolds co. L. D. Richardson. il Materials & Methods 33:82-3 Mr '51

Cored forgings cut production costs. M. J. Rowan. il diags Am Mach 95:140-3 O 1 '51

Extruding copper and brass. W. W. Cotter. il diags J Metals 3:440-2 Je '51

BRASS works

Continuous casting revolutionizes the brass industry. D. I. Brown. il Iron Age 168:106-8 S 6 '51

New continuous brass mill of the Scovill manufacturing company; abstract and discussion. J. J. Hoben and J. F. Mulvey. Engineering 170:398-9 N 24 '50

Equipment

Brass strip annealed and cleaned continuously; American brass co.'s new sheet and strip mill. il diag Steel 128:76-7 Mr 26 '51

Continuous brass strip mill at Waterbury, Conn. flow chart il plan diags Engineer 192: 179-82, 209-11 Ag 10-17 '51

Wire annealing furnace fits low headroom; Bridgeport brass co. W. J. Krailing. il diag Iron Age 168:93-5 Jl 12 '51; Same. Steel 129:104+ S 24 '51

BRASSIDIC acid

Synthetic long-chain aliphatic compounds; erucic and brassidic acids; a new olefin synthesis. R. E. Bowman. Chem Soc J p 177-80 Ja '50

BRASSIERES

Advertising

Trade-show promotion snowballs into national campaign; Beautee-Fit brassieres. il Ptr Ink 233:39 O 27 '50

BRAZIL

See also

Banking law—Brazil
Ceramic industries—Brazil
Coffee trade—Brazil
Electricity supply—Brazil
Housing—Brazil
Manganese mines and mining—Brazil
Population—Brazil
Public utilities—Brazil

Commerce

See also

Coffee trade—Brazil

Commercial policy

Changes in barter regulations. For Comm W 42:10 Ja 15 '51

Commercial agreement signed with France. For Comm W 45:13 O 1 '51

Import control decentralized. For Comm W 43:12-13 My 14 '51

Sterling shortage poser; Brazil might ship coffee to Britain. Bsns W p 121-2 N 25 '50

Tariffs and trade controls. For Comm W 42:9 Ja 1; 11 F 12; 13 Mr 19; 12 Mr 26; 43:11 Ap 9; 10 Je 25; 44:10 Jl 2; 10-11 Jl 9; 9-10 Jl 16; 10-11 Jl 30; 11 Ag 6; 45:9 O 15 '51

Economic conditions

Economic advances in Brazil in 1950. C. E. Dickerson, jr. For Comm W 43:6+ Ap 9 '51

News by countries. For Comm W 41:10-11 D 18 '50; 42:9-10 Ja 15; 10-11 F 12; 12-13 Mr 19; 43:12-13 Ap 16; 12-13 My 14; 9-10 Je 18; 44:9-11 Jl 9; 11 Ag 6; 8-9 Ag 20; 10-11 S 17 '51

Economic relations

United States

U.S.-Brazil joint commission for economic development. For Comm W 44:4+ Ag 6 '51

BRAZIL nuts

1949-50 crop of Brazil nuts smaller. For Comm W 41:18 O 30 '50

BRAZING

Assemblies economically produced by brazing and soldering; Technical metal processing inc. N. M. Salkover. il Steel 129:69-70 Ag 20 '51

Birlec electric furnace for copper-brazing. il Engineering 170:551-2 D 22 '50

Brazing and bronze welding in maintenance and manufacture. G. H. DeGroat. il Mach 57:180-3 Mr '51

Brazing departments; tabulation. Iron Age 167:348 Ja 4 '51

Brazing in salt baths offers production economies. J. B. Campbell. il Materials & Methods 33:64-6 Ja '51

Carbide tips sandwich brazed. Steel 127:101 N 6 '50

Copper alloy brazing for production economy. C. E. Swift and E. B. Brown. il Welding J 29:1089-93 D '50

Design data for brazing. W. J. VanNatten. diags Welding J 30:452-4, 540-3, 634-7, 737-41 My-Ag '51

Furnace brazing of machine parts. H. M. Webber. bibliog il diags Mech Eng 72:863-9, 969-76 N-D '50

Gunning for lower costs; brazing operation; Ithaca gun co. W. L. Wallis. il diags Mill & Factory 48:121-2 Mr '51

How the brazing setup works. diags Am Mach 95:135 Je 11 '51

Is furnace brazing just as good? S. Damon. diags Am Mach 95:98-100 Ap 2 '51

Joining porous metal parts to other metals. H. W. Greenwood. Metallurgia 44:141-2 S '51

Magnesium tubing spun and brazed to produce critical part. D. C. Law. il Materials & Methods 32:65-7 N '50

New copper paste permits brazing economies. K. Rose. il Materials & Methods 33:79-80 F '51

Prepared pastes for brazing material. L. G. Klinker. il Metal Prog 59:71-3 Ja '51

Problems involved in joining sheet metal for torque converters. H. O. Flynn. il S A E J 59:17-21 Mr '51

Quick method of testing each heat eliminates defects in brazing. il Mill & Factory 49:138 S '51

Simulated test conditions elminate brazing defects. il Steel 127:99 N 20 '50

Solders and brazing materials; tabulation; engineering file facts. W. H. Kohl. Materials & Methods 33:97+ Ja; 97+ F '51

Tips on welding high-temperature materials in production of military rockets. F. H. Stevenson. il Iron Age 168:109-11 Jl 19 '51

Welding pipe and tubes of nickel and high-nickel alloy. diags Heat & Ven 48:77-80 Ag '51; Same. Mach 58:156-9 S '51

BRAZING, Silver. See Silver solder

BRAZOS river

Power to pay for Brazos River development. C. R. Marks, 3d. il maps diags Civil Eng 21:264-7 My '51

BREAD

Application of science in the baking industry; abstract. J. M. B. Coppock. Chem & Ind p791 D 9 '50

Brown bread versus white bread; abstract. A. J. N. Frears. Chem & Ind p791-2 D 9 '50

Electric bread baking oven, Silver loaf baking co.; data sheet. W. A. Newman. il Elec West 106:71 Ja '51

For fluffy bread, try fungus; Magna-Zyme. il Bsns W p54+ O 6 '51

Fungal enzymes help you make better bread. J. A. Johnson and B. S. Miller. bibliog il Food Ind 23:80-3 Mr; [cont as] Food Eng 23:161-3+ Ap '51

Mechanized bread making; advanced equipment on high-speed lines improves control, raises quality; pictured flow sheet. Food Eng 23:102-5 Jl '51

Repeat item re-wrapped for brand recognition; Master white bread. J. Witte. il Ptr Ink 234:34-5 F 16 '51

What one man's ideas did for an industry. W. Norris. Am Bsns 20:12-13+ O '50

Advertising

Label maker is creating consumer demand for products in its wrapper. il Ptr Ink 236: 37 Jl 6 '51

Pure quackery sells bread; National biscuit co.'s party for Donald Duck bread. il Bsns W p 112 Mr 17 '51

Standards

FDA caught in cross-fire on bread standards. Food Ind 23:144+ Ja '51

FDA reviews proposed bread standards move, states position. Oil Paint & Drug Rep 158: 4 N 13 '50

FDA to recommend rehearings on use of emulsifiers in bread. Oil Paint & Drug Rep 160:4 Jl 30 '51

BREAD, Unleavened. See Matzoth

BREAK-even charts. See Cost accounting

BREAK-even income statements. See Income statements

BREAK-even point. See Cost accounting

BREAKWATERS

Huge special tongs handle 30-ton breakwater stones. H. W. Holzhauer. il Roads & Sts 94:56 Je '51

BRECCIA

Megabreccia developed downslope from large faults. C. R. Longwell. bibliog maps diag Am J Sci 249:343-55, pl 1-2 My '51

BREDT'S rule of double bonds. See Double bonds

BREEDING

See also
Cattle breeding

BREMSSTRAHLUNG. See Radiation

BRESSEY, Charles Herbert, 1874-1951

Sketch. por Engineer 191:514-15 Ap 20 '51

BREWERIES

Ground couldn't take it so tanks are suspended. il Food Eng 23:145+ S '51

Sling supports for beer tanks permit uniform foundation loads. il diag Eng N 147:44 Jl 19 '51

Accidents

Brewery safety; abstract. E. V. Lahey. Safety Maint & Prod 101:60-1 Ap '51

Equipment

Clean air means better products; brewers use Precipitron. il Food Ind 23:75+ F '51

Expansion tuned to quality; Theo. Hamm brewing co. W. H. Lang and C. Wooley. il plan Food Eng 23:92-9 Ag '51

Get top operation on your can line with these advanced methods and inspection devices. H. Jacoby. il Food Ind 22:2059-60 D '50

Glass baffle balks air, betters product; minimizes aeration of beer. A. C. Smith. il Food Ind 23:52-4 Ja '51

Instruments take hold in brewing. L. E. Slater. il diag Food Eng 23:93-7+ Ap '51

Non-stop liquid blending; flow control system at Minneapolis Brewing. D. Kiewal and L. Slater. il diag Food Eng 23:58-9+ Jl '51

Recorders assure better brews; Fuhrmann & Schmidt brewing co. N. Appel and W. Thew. il Food Ind 23:119-20 Mr '51

Shipper solves a troublesome switching problem; Miller brewing company uses Payloader tractor. il Ry Age 129:60-1 D 2 '50

Safety measures

How to set a safety record; Blatz brewing co., Milwaukee. G. R. Meyers. il diag Food Eng 23:94-6+ My '51

Waste

Brewery builds waste plant; Lucky lager brewing co. B. E. Guymon. il Eng N 146:50 Ap 26 '51

How West Coast brewery solved disposal problem; Lucky lager brewing co., Azusa, Calif. C. R. Havighorst. il diag Food Eng 23:142-3 Je '51

BREWING

Brewing. W. H. Shearon, jr. and H. E. Weissler. bibliog flow sheet il diag Ind & Eng Chem 43:1262-71 Je '51

Symposium on brewing. Chem & Ind p335 Ap 28 '51

BREWING chemists, American society of. See American society of brewing chemists

BREWING industries

Embattled brewers. R. M. Bleiberg. Barron's 30:9 N 20 '50

Quotas, or allocations? Atlantic Brewing is set. Sales Management 67:58-9 Jl 1 '51

Advertising

Advertiser turns sports patron; Miller brewing company campaign regains area support for Green Bay Packers. V. S. Mullen, jr. il Ptr Ink 234:36-7 F 16 '51

Great Britain

Brewers' dilemma. Economist 159:1214-16 D 30 '50

See also
Ely brewery company, limited

BRICK construction

Building with brick and clay. il plan Am Bld 73:112-14 My '51

Caddo Heights elementary school, Shreveport, La. il plan diags Brick & Clay Rec 117:54-6 D '50

Fire resistance

Fire endurance of hollow-brick walls tested in panel furnace. il diags Brick & Clay Rec 118:46+ Je '51

Reinforcement

Key California steam power plant has earthquake-resistant reinforced brick walls. W. L. Dickey and C. W. Appleford. il Eng N 147:35-6 Jl 5 '51

BRICK handling

Atkinson brick company makes 120,000 brick per day with only one manual handling. il Brick & Clay Rec 117:32-5 D '50

Brick carrier cuts handling costs. il Brick & Clay Rec 118:35 F '51

Brik-Toter loads truck, rides to job, and unloads. il Brick & Clay Rec 119:25 Jl '51

Handling refractories with fork lift trucks. W. F. Mundy. Am Cer Soc Bul 30:8-10 Ja 15 '51

Kiln setting with fork truck reduces labor, speeds burning. il Brick & Clay Rec 119:34-6 Ag '51

Mechanized handling on the job. il Brick & Clay Rec 119:64+ S '51

New crane truck speeds brick handling; illustrations with text. Brick & Clay Rec 118:44 My '51

Packaging problems discussed at Chicago meeting. Brick & Clay Rec 119:62 Jl '51

BRICK houses

House for Mr and Mrs Lowell Walter near Quasqueton, Iowa; designed by F. L. Wright. il plan Arch Forum 94:82-5 Ja '51

Romans used in all-ceramic model home. il Brick & Clay Rec 118:55 Mr '51

BRICK industry and trade

Economy, availability dictate choice of building materials; brickmakers' problems. W. S. Sells. Brick & Clay Rec 117:44-5+ D '50

New developments in clay construction presented at Southern brick and tile manufacturers association meeting, Ponte Vedra Beach, Fla. May 18-19. Brick & Clay Rec 118:51+ Je '51

20 billion brick market in sight; greater markets to clay industry. il Brick & Clay Rec 119:33-4 S '51

History

History of Bricktown, Haverstraw, N.Y. il Brick & Clay Rec 118:45-6+ F '51

Great Britain

Labour shortage in the brickyards. Economist 159:1165 D 23 '50

Science in brick production. Economist 161:182 Jl 21 '51

BRICK walls. See Walls, Brick

BRICK work

Study and teaching

Brick masonry design course instituted at N.C. state college. Brick & Clay Rec 119:62 Ag '51

BRICK works

Cylindrical silo stores clay in student brick plant design. plan Brick & Clay Rec 119:35 Jl '51

History of Bricktown, Haverstraw, N.Y. il Brick & Clay Rec 118:45-6+ F '51

Kiln car storage employed in student plant design. plan Brick & Clay Rec 119:37 Ag '51

Smooth material flow provided by student design. il plan Brick & Clay Rec 119:62 S '51

Staggered kilns featured by winner in Rust design contest. plan Brick & Clay Rec 118:25 My '51

Student brick plant design features product-in-production storage. il plan Brick & Clay Rec 118:70 Ap '51

Twin, straight-line tunnel kiln plant design wins first prize. il plan Brick & Clay Rec 118:44 Je '51

Employees

Dust study of the building brick industry in Indiana. J. F. Keppler and H. E. Bumsted. A M A Archives Ind Hygiene & Occup Med 2:735-41 D '50

BRICK works—Employees—*Continued*
Personnel relations at Glen-Gery shale brick corp. R. G. Eshenaur. Am Cer Soc Bul 30:67-8 Mr 15 '51

Equipment

After eight days of operation, shipments were being made; Holly Springs brick & tile co.; illustrations with text. plan Brick & Clay Rec 118:41-3, 46 Mr '51
Atkinson brick company makes 120,000 brick per day with only one manual handling. il Brick & Clay Rec 117:32-5 D '50
Conversion to gas provides storage space as well as economical operation. R. G. Hartman. il Brick & Clay Rec 119:33 Ag '51
Duct system for recirculating hot brick kiln gases. il Sheet Metal Worker 42:80+ Mr '51
Efficiency; the key to progress at Boren clay products co. il plan Brick & Clay Rec 118:32-4+ Ja '51
Electrically heated clay screens double output. R. H. Hively. il Elec World 135:174+ Ja 29 '51
Kiln designed around lift trucks; West brothers brick co. il Brick & Clay Rec 118:29 My '51
Kiln setting with fork truck reduces labor, speeds burning. il Brick & Clay Rec 119:34-6 Ag '51
Men and machines combine to produce 3½ million brick a month; illustrations with text. Brick & Clay Rec 119:40-2 Ag '51
Modernization puts new life in old plant; Delaware clay co. il diag Brick & Clay Rec 119:36-7+ S '51
1950 equipment and material review. il Brick & Clay Rec 117:33-7+ N '50
Produces 100,000 common brick a day with the dry press process; John A. Denie's sons co. il Brick & Clay Rec 118:36-8 Ap '51
Sanford Brick and Tile saves $36 a day by switching fuel oils. il Brick & Clay Rec 118:65+ Mr '51
Selective loading delivers proper clay mix from pit; Burns brick co. il Brick & Clay Rec 119:54 S '51
Tennessee brick plant marks 21st birthday with modernization program; Old Hickory brick co. il Brick & Clay Rec 118:88+ Ap '51
See also
Kilns

BRICKLAYING
Accuracy of time study methods in brick laying. W. Kinniburgh and L. S. Vallance. Engineering 171:353-4 Mr 23 '51

BRICKMAKING
Brick research laboratory. il Engineer 192:60-1 Jl 13 '51; Engineering 172:55 Jl 13 '51
Converted kilns give even color, fewer kiln marks. il Brick & Clay Rec 117:53 N '50
For more accurate clay products use shrinkage system to guide firing. il Brick & Clay Rec 118:29, 32 Je '51
Here's one way to make Roman brick; Isenhour brick & tile co. il diag Brick & Clay Rec 118:53+ Mr '51
Manufacture of Fletton bricks; abstract and discussion. T. G. W. Boxall. Chem & Ind p73-4 Ja 27 '51
Modern kiln construction reduces brick production costs. J. D. McCullough. il diags Brick & Clay Rec 118:52-4+ F '51
Modernization puts new life in old plant; Delaware clay co. il diag Brick & Clay Rec 119:36-7+ S '51
Produces 100,000 common brick a day with the dry press process; John A. Denie's sons co. il Brick & Clay Rec 118:36-8 Ap '51
Reactions accompanying the firing of brick. R. E. Grim and W. D. Johns, jr. bibliog diag Am Cer Soc J 34:71-6 Mr 1 '51
Thin fingers make poor settings; good setting in a kiln necessary to get a good burn. Brick & Clay Rec 118:57 My '51
This method prevents scum and cuts costs; using sulfide or black ash directly. R. K. Robertson. Brick & Clay Rec 118:58 My '51
See also
Fire brick—Manufacture

BRICKS
Economic aspects of large structural clay units; jumbo brick. J. L. Dantzler. Brick & Clay Rec 117:49 D '50
O.S.U. medical center; a ceramic creation. il Am Cer Soc Bul 30:306-7 S 15 '51
See also

Adobe	Masonry
Brick construction	Silica brick
Fire brick	

Color

Dipping process weathers brick; produces irregular color effect; illustrations with text. Brick & Clay Rec 118:68 My '51
Manganese for chocolate browns. Brick & Clay Rec 119:58 Ag '51

Efflorescence

Application of new techniques to the solution of an efflorescence problem. W. E. Brownell. il diag Am Cer Soc J 33:360-3 D 1 '50

BRIDGE approaches
Bridge-approach tunnel dug doorstep-to-doorstep; new Manhattan approach to the George Washington bridge. R. J. O'Sullivan. il maps diag Eng N 145:40-1 D 14 '50
New roadway and approaches for the Quebec bridge; erection of a 780-ft. steel bridge over the Chaudiere river. il Roads & Eng Constr 88:69-73+ N '50

BRIDGE design
Continuous girder bridges made less costly. il diags Eng N 146:36-7 My 31 '51
Effect of skew angle on rigid-frame reactions. W. C. Boyer. il diags Am Soc C E Proc 76[no 32]:1-12 S '50; Discussion. 77[no D-32]:1-6 Je '51
Four miles of bridge spans erected without falsework; bridge across Chesapeake bay between Sandy Point and Kent island. il plan diag Eng N 147:42-4+ S 27 '51
Freeway arches have complex design. C. H. Darby and R. S. Barker. il diags Eng N 147:40-2 Ag 9 '51
Full-scale tests in California may lead to more economical bridge design. il Eng N 146:66-7 Ap 19 '51
How to design a prestressed concrete tee-beam. V. J. Brown. diags Roads & Sts 94:47-54 Je '51
Portable load testing equipment checks bridge foundation design. il Eng N 146:44 Ap 12 '51
Prototype prestressed beam justifies Walnut Lane Bridge design. G. Magnel. diags Am Concrete Inst J 22:301-16 D '50
Record swing span characterizes South Capitol Street bridge. H. J. Engel. il map diags Civil Eng 21:1-5 Ja '51
Reinforced concrete skewed rigid-frame and arch bridges. M. Barron. diags Am Soc C E Proc 76 [no 13]:1-31 Ap '50; Discussion. 77 [no D-13]:1-29 Ap '51
Six contractors tackle first bridge over Chesapeake. il map diag Eng N 145:32-4 O 26 '50
Skunk River bridge exhibits composite action after twenty-eight years of service; bond between concrete floor and steel stringers. A. H. Fuller; E. W. Blumenschein. il diags Civil Eng 21:402-5 Jl '51
Studies of highway skew slab-bridges with curbs; laboratory research. M. L. Gossard and others. il diags Ill U Eng Exp Sta Bul 386:1-79 '50 (pa 45c); Same cond. Roads & Eng Constr 88:93-4+ D '50
Suspension bridge vibration formulas. G. S. Vincent. diag Eng N 146:32-4 Ja 11 '51
Welded bridge designs receive large cash award. il Eng N 145:26 N 16 '50; Roads & Eng Constr 88:36+ D '50; Welding J 29:1120+ D '50
Welded bridges of the future, less steel. il diags Eng N 146:24-5 Mr 22 '51
See also
Bridges—Load
Bridges, Suspension

BRIDGE engineering
Bridge waterway area formula developed for Indiana. R. B. Yule. il Civil Eng 20:650+ O '50; Discussion. F. B. Marsh. 21:97 F '51

BRIDGE failures
Bridge collapse in Quebec charged to brittle steel; Duplessis bridge at Three Rivers. F. S. Merritt. il Eng N 146:23-4 F 8 '51
Brittle fractures in welded bridges. P. P. Bijlaard. il diags Eng N 146:46-8 Ap 26 '51

BRIDGE painting
How to paint a bridge. H. C. Jester. il Pub Works 81:31-4+ N '50

BRIDGEPORT brass company
Enjoying record demand. Barron's 31:27 Ja 22 '51

BRIDGES, Harry, 1901-
Portrait. Bsns W p32 O 6 '51
Still top man. por Bsns W p41-3 Ap 21 '51

BRIDGES
Aerial cable installed on bridge reduces costs, eliminates outages. D. T. Coleman. il Elec World 134:102-4 D 4 '50
Bridge building, 1950. il Eng N 146:98-100 Mr 29 '51
Bridge building shows high activity. Eng N 147:27 Jl 5 '51
Bridge waterway area formula developed for Indiana. R. B. Yule. il Civil Eng 20:650+ O '50; Discussion. F. B. Marsh. 21:97 F '51
$84 million span authorized to bridge Delaware river; other bridge proposals. Eng N 147:23-4 Ag 30 '51
Progress of the Neath by-pass. il diags Engineer 191:286-7 Mr 2 '51
Roads, bridges and tunnels in 1950. il Engineer 191:13-15+, pl 2 Ja 5 '51
Six contractors tackle first bridge over Chesapeake. il map diag Eng N 145:32-4 O 26 '50
Steel pile bridges in Kent county, Michigan; combination steel and concrete design for small bridges. L. W. Brunson. il Roads & Sts 94:56+ Ja '51
What's new in bridges. il Civil Eng 21:112-13 F '51
See also
Hudson River bridges
San Francisco Bay bridges
Washington, D. C.—Bridges

Architecture

AISC awards plaques to steel bridges chosen most beautiful built in 1950. il Eng N 147:26 S 20 '51
AISC gives awards for beautiful steel bridges. il Civil Eng 20:683 O '50; Eng N 145:29 S 28 '50; Arch Rec 108:161 N '50

Cost

Bay St Louis bridge in Mississippi; unit prices. Eng N 147:78 Jl 26 '51
Bridge over Brandywine river, Del.; unit prices. Eng N 146:55 Mr 1 '51
Catskill thruway divided highway and bridges; unit prices. Eng N 145:81 N 16 '50
Delaware River bridge, new link for Pa. and N.J.; unit prices. Eng N 145:53 N 30 '50
Divided highway, viaduct, Allegheny co., Pa.; unit prices. Eng N 146:90 F 15 '51
Gilmore Street bridge, Jacksonville, Fla.; unit prices. Eng N 146:61 My 31 '51
Highway bridges and connections, St Joseph, Mo.; unit prices. Eng N 146:81 My 3 '51
Transportation, 1950 projects. il Eng N 146: 234+ Mr 29 '51
Utica Street bridge, Oswego, N.Y.; unit prices. Eng N 146:49 Mr 22 '51

Damage from floods, etc.

Chesapeake bridge storm damage. Eng N 145: 30 D 14 '50

Erection

Barges place girder spans in Chesapeake Bay bridge. il Constr Methods 33:100-1+ S '51
Contractor hatches 19 big trusses in one nest, floats them to place in Chesapeake Bay bridge. H. T. Perez. il Constr Methods 33: 46-50 F '51
East St Louis bridge erected by cantilever method. E. L. Durkee. il diags Civil Eng 21:383-8 Jl '51
Four miles of bridge spans erected without falsework; bridge across Chesapeake bay between Sandy Point and Kent island. il plan diag Eng N 147:42-4+ S 27 '51
Labor saving equipment; aided contractor on Whitehurst freeway viaduct job. il diag Roads & Sts 93:56-9 N '50
Old spans move out, new spans in; on the ICRR. il Eng N 146:32-5 Ja 25 '51
Plywood form details on Tacoma Narrows bridge. il diags Concrete 59:28-30 Mr '51
Unusual concreting operations and floated steel spans on Boston's Long Island viaduct. J. M. Connolly. il Constr Methods 33: 58-9 My '51

Finance

Escrow and tax exemption figure for toll bridge from Cahokia to the St Louis shore. Eng N 147:56 Ag 2 '51
Important bridge construction gets priority for money and materials. Eng N 147:26 Jl 19 '51

Floors

Bridge repair headaches solved by precast slabs. il Eng N 146:48 Je 14 '51
High-strength, lightweight deck for new Tacoma Narrows bridge. Eng N 146:34 Ja 11 '51
Novel flexplane transverse screed; concreting operations on the Bronx viaduct. il Constr Methods 32:83+ N '50
Wide deck pour done by finishing machine carried on temporary supports. il diags Roads & Sts 94:51 My '51

Foundations and piers

Another surrender at Yorktown; first of six caissons for Yorktown bridge. il plans diags Eng N 145:32-6 D 21 '50
Bridge foundation is built from top down. il diags Eng N 146:39-41 Ja 11 '51
Chemicals stop cofferdam leaks. C. M. Riedel. il plan diags Civil Eng 21:195-6 Ap '51
Construction of a cellular cofferdam; Belle Vernon bridge. il diag Engineer 191:392-3 Mr 23 '51
Deep, lightweight piers for bridge at Yorktown, Va., built by caisson method. M. N. Quade and G. Vaccaro. il map diags Civil Eng 21:78-82 F '51
Economies effected on New Brunswick bridge by special deep-water pier design; use of Prepakt concrete. R. A. Malloy. il diags Roads & Eng Constr 89:69-74+ S '51
Floating caissons for Yorktown, Va. bridge sunk to 150-ft depth in swift-flowing tidal water. J. N. Newell. il diags Civil Eng 21: 406-10 Jl '51
Ingenuity and heavy equipment combine to build 4.3-mile Chesapeake Bay bridge. il map diags Civil Eng 21:278-81 My '51
Mammoth tremie seal poured in 7½-day continuous operation; building anchorage piers for Delaware memorial bridge. C. H. Cotter. il Civil Eng 20:711-14 N '50
Pier form for two-span highway bridge assembled on shore, set in cofferdam. il Eng N 146:31 Mr 22 '51
Pipe towers hold big caissons in swift tidal flow. il diags Constr Methods 33:42-6 Ja '51
Portable load testing equipment checks bridge foundation design. il Eng N 146:44 Ap 12 '51
Prefab cofferdam simplifies pier repair; Keokuk (Iowa) municipal bridge. J. E. Vollmar, jr. il Constr Methods 32:51-3 D '50
Single bridge piers built in cellular cofferdams. R. B. Howard. il Civil Eng 21:20-1 Ja '51
Slip forms reduce cost of tall bridge piers. R. Holt. il Civil Eng 20:777-9 D '50
Stave River highway bridge follows new pattern. G. Sheldon. il Roads & Eng Constr 89:63-7+ Ja '51
Unusual concreting operations and floated steel spans on Boston's Long Island viaduct. J. M. Connolly. il Constr Methods 33:56-8 Mr '51

Lighting

Better bridge lighting; bridge at Corning, N.Y. E. W. Wendell. il Eng N 147:61 S 27 '51
Lighting a bridge. il Illum Eng 45:623-4 O '50

Load

Extent of overloading of roads and bridges. T. H. MacDonald. Roads & Eng Constr 89: 90+ Jl '51
Maximum load capacity of Bailey bridges. R. B. Stegmaier, jr. il Am Soc C E Proc 76 [no 21]:1-10 Je '50; Discussion. 77 [no D-21]: 1-3 Ap '51
Too big for the bridges; how to move too heavy cargoes by use of load distributing devices. C. M. Allen and T. H. Mullen. il Eng N 147:43 Jl 19 '51

Location

Stakes help chain over marsh for bridge location. il Roads & Sts 94:64 Ja '51

BRIDGES—*Continued*

Maintenance and repair

Its aching joints are overhauled; George Washington bridge. il Bsns W p96-8 N 4 '50; Constr Methods 32:42-4 N '50

Mobile minutemen maintain Florida's bridges. E. C. DeGarmo. il Constr Methods 32:74-5+ N '50

Repairing a bridge by driving piling under it. C. C. Washington. Pub Works 81:77 D '50

Model testing

Aerodynamic oscillations of suspension bridges. R. A. Frazer. il Engineering 171: 270-1 Mr 2 '51

Painting

See Bridge painting

Raising

Air-driven jacks raise highway bridge 17 ft. il Eng N 147:40-1 Ag 23 '51

Savannah River bridge being raised 17 feet with air jacks. il Constr Methods 33:44-8 Ag '51

Reconstruction

Alterations to the Quebec bridge. il Engineering 171:238 F 23 '51

How rebuilder of Brooklyn bridge overcame two problems. il Pub Works 82:34 Jl '51

New roadway and approaches for the Quebec bridge; erection of a 780-ft. steel bridge over the Chaudiere river. il Roads & Eng Constr 88:69-73+ N '50

Rebuilding an old arch bridge under city traffic. C. R. Hanes. il Roads & Sts 93:45-8 D '50

See also
Bridges, Railroad—
Reconstruction

Stresses

Fatigue tests of beams in flexure. W. M. Wilson. diags Welding J 30:sup 105-15 Mr '51

Full-scale tests in California may lead to more economical bridge design. il Eng N 146:66-7 Ap 19 '51

Skunk River bridge exhibits composite action after twenty-eight years of service; bond between concrete floor and steel stringers. A. H. Fuller; E. W. Blumenschein. il diags Civil Eng 21:402-5 Jl '51

See also
Bridges, Railroad—
Stresses

Testing

Skunk River bridge exhibits composite action after twenty-eight years of service; bond between concrete floor and steel stringers. A. H. Fuller; E. W. Blumenschein. il diags Civil Eng 21:402-5 Jl '51

Vibration

Aerodynamic oscillations of suspension bridges. R. A. Frazer. il Engineering 171: 270-1 Mr 2 '51

Structural damping in suspension bridges. F. Bleich and L. W. Teller. il diags Am Soc C E Proc 77 [no 61]:1-31 Mr '51; Discussion. 77 [no D-61]:1-9 D '51

Suspension bridge vibration formulas. G. S. Vincent. diag Eng N 146:32-4 Ja 11 '51

Welding operations

Brittle fractures in welded bridges. P. P. Bijlaard. il diags Eng N 146:46-8 Ap 26 '51

California's proposed fifteen-million-dollar all-welded freeway viaduct in San Francisco. L. C. Hollister. il diags Welding J 30:523-8 Je '51

Fatigue tests of beams in flexure. W. M. Wilson. diags Welding J 30:sup 105-15 Mr '51

New bridge at Lanaye over the Albert canal. R. Fougnies and others. il diags Welding J 30:sup336-40 Jl '51

Welded bridge designs receive large cash award. il Eng N 145:26 N 16 '50; Roads & Eng Constr 88:36+ D '50; Welding J 29: 1120+ D '50

Welded bridges. A. Cibulka. il diags Welding J 29:1098-9 D '50

Welded bridges of the future, less steel. il diags Eng N 146:24-5 Mr 22 '51

Wrecking

Precision dynamiting obliterates concrete bridge. il Eng N 145:43 D 7 '50

Mexico

Business and government cooperate in building a Mexican bridge. il Eng N 147:58+ S 13 '51

BRIDGES (instruments). See Electric instruments; Wheatstone bridge

BRIDGES, Aluminum

Canadians build world's first aluminum arch bridge. C. J. Pimenoff. il diags Civil Eng 20:501-5 Ag '50; Abstract. Roads & Eng Constr 88:104-6 N '50

Truss bridge built of aluminum over the river Tummel in Scotland. Eng N 145:44 N 9 '50

BRIDGES, Arched

Freeway arches have complex design. C. H. Darby and R. S. Barker. il diags Eng N 147:40-2 Ag 9 '51

Prestressed concrete arch spans 353 ft. A. E. Komendant. il diags Eng N 145:48 D 7 '50

Rebuilding an old arch bridge under city traffic. C. R. Hanes. il Roads & Sts 93: 45-8 D '50

Spectacular scaffold, cellular concrete featured on high arch bridge in Chile. il diags Eng N 145:53-4 N 9 '50

BRIDGES, Bascule

Bridge and tunnel promise traffic relief at Norfolk. il maps Eng N 145:44-5 N 16 '50

Jacksonville awards contract for substructure of 3,667 bridge. il Eng N 146:26 My 10 '51

BRIDGES, Cantilever

New high bridge over Cumberland river. il diag Ry Age 129:16-19 D 23 '50

BRIDGES, Concrete

Are prestressed bridges cheaper? with cost data. S. Mitchell. il diags Am Concrete Inst J 22:761-72 Je '51; Discussion. 23:772^1-772^2 pt 2 D '51

Bridge built of blocks strung like beads; technique converts strings of concrete block into prestressed beams. il diags Eng N 146: 39-42 Ja 18 '51

Build double-deck concrete viaduct to bypass downtown Seattle. il diags Eng N 146:43-5 F 15 '51

California builds its first prestressed concrete bridge. L. C. Hollister. Eng N 145:42 N 23 '50

Experimental prestressed concrete bridge in California. il Engineer 192:151 Ag 3 '51

Factors in prestressed girder design; Walnut Lane bridge, Philadelphia. M. Fornerod. diags Am Concrete Inst J 22:469-80 F '51; Discussion. 23:480^1-480^7 pt 2 D '51

Freeway arches have complex design. C. H. Darby and R. S. Barker. il diags Eng N 147:40-2 Ag 9 '51

How to design a prestressed concrete tee-beam. V. J. Brown. diags Roads & Sts 94: 47-54 Je '51

Improved stripping float. il Constr Methods 32:82-3 N '50

Modern structures in Sweden; abstract. G. De Cuyper. Am Concrete Inst J 22:344-5 D '50

Plywood form details on Tacoma Narrows bridge. il diags Concrete 59:28-30 Mr '51

Precast bridges save state money. il diag Eng N 146:40-1 Je 7 '51

Precast slabs, curb and pile caps in South Carolina bridges. il Eng N 145:47 O 26 '50

Precision dynamiting obliterates concrete bridge. il Eng N 145:43 D 7 '50

Prestressed concrete arch spans 353 ft. A. E. Komendant. il diags Eng N 145:48 D 7 '50

Prestressed concrete bridges over the Marne river; abstract. A. Starink. Am Concrete Inst J 22:343-4 D '50

Prestressed-concrete principles and practices. D. A. Hopkins. il diags Roads & Eng Constr 89:95-102+ My '51

Prototype prestressed beam justifies Walnut Lane bridge design. G. Magnel. diags Am Concrete Inst J 22:301-16 D '50

Reinforced concrete skewed rigid-frame and arch bridges. M. Barron. diags Am Soc C E Proc 76 [no 13]:1-31 Ap '50; Discussion. 77 [no D-13]:1-29 Ap '51

Repair of bridges in Winnipeg. A. J. Taunton. Roads & Eng Constr 88:102+ N '50

Rigid-frame bridge of prestressed concrete in Oxford, England. il diags Eng N 146: 35 Mr 15 '51

Simple prestressing system for pedestrian bridge. il Eng N 146:40-1 My 10 '51

BRIDGES, Concrete—*Continued*

Spectacular scaffold, cellular concrete featured on high arch bridge in Chile. il diags Eng N 145:53-4 N 9 '50

Studies of highway skew slab-bridges with curbs; laboratory research. M. L. Gossard and others. il diags Ill U Eng Exp Sta Bul 386:1-79 '50 (pa 45c); Same cond. Roads & Eng Constr 88:93-4+ D '50

20-ton prestressed trestle slab tested to failure. il Concrete 58:3-4 N '50; Rock Prod 53:119 N '50; Civil Eng 20:742 N '50

Walnut Lane bridge at Philadelphia. il diags Engineer 190:629-30 D 22 '50

Cost

Highway, concrete bridge, Elko county, Nev.; unit prices. Eng N 147:78 Ag 2 '51

Testing

Soniscope tests concrete structures. E. A. Whitehurst. il Am Concrete Inst J 22:435-8 F '51; Discussion. 23:444^1-444^4 pt 2 D '51

BRIDGES, Covered. See Bridges, Wooden

BRIDGES, Foot

Experimental prestressed concrete bridge in California. il Engineer 192:151 Ag 3 '51

Rigid-frame bridge of prestressed concrete in Oxford, England. il diags Eng N 146:35 Mr 15 '51

Simple prestressing system for pedestrian bridge. il Eng N 146:40-1 My 10 '51

BRIDGES, Iron and steel

Continuous girder bridges made less costly. il diags Eng N 146:36-7 My 31 '51

New roadway and approaches for the Quebec bridge; erection of a 780-ft. steel bridge over the Chaudiere river. il Roads & Eng Constr 88:69-73+ N '50

Salvaged steel saves Hawaii money. il Eng N 146:44 My 3 '51

Steel box girders support highway bridge. H. M. Hadley. il diags Eng N 146:34-5 Ap 12 '51

Unusual concreting operations and floated steel spans on Boston's Long Island viaduct. J. M. Connolly. il Constr Methods 33:56-9 Mr '51

BRIDGES, Military. See Military bridges

BRIDGES, Movable

See also

Bridges, Bascule

Bridges, Swing

BRIDGES, Prefabricated

Bailey bridging speeds difficult erection. il Eng N 146:48 Mr 8 '51

County makes resourceful use of war surplus bridges. J. G. Cooney. il Roads & Sts 94:47-50 My '51

Maximum load capacity of Bailey bridges. R. B. Stegmaier, jr. il Am Soc C E Proc 76 [no 21]:1-10 Je '50; Discussion. 77 [no D-21]:1-3 Ap '51

Precast bridges save state money. il diag Eng N 146:40-1 Je 7 '51

Precast slabs, curb and pile caps in South Carolina bridges. il Eng N 145:47 O 26 '50

BRIDGES, Railroad

Aluminum roof for bridge deck; Huey P. Long bridge. il Eng N 146:41 Ap 5 '51

Better fire protection for bridges. L. R. Morgan. il Ry Age 131:38-40 Jl 16 '51

Centenary of the Britannia tubular bridge. Engineering 170:357 N 10 '50

Huey Long bridge gets aluminum deck. il diags Ry Age 129:36-9 D 9 '50

International railway congress, 15th, Rome, Sept. 25-Oct. 4. Engineering 170:465-6, 509, 542-3, 571-2 D 8-29 '50

New high bridge over Cumberland river. il diag Ry Age 129:16-19 D 23 '50

Rail-highway overpass bridge rolled into place. il diag Roads & Sts 94:43-4 Mr '51

Railway bridges; abstracts. J. S. Campbell. Engineer 191:761 Je 8 '51; Engineering 171:686 Je 8 '51

Use of prestressed concrete for railroad bridge slabs tested in PCA laboratories. il Civil Eng 20:724 N '50

See also

American railway bridge and building association

Maintenance and repair

Repair of Hurstbourne viaduct. diags Engineer 190:569 D 8 '50

Reconstruction

Cairo bridge being rehabilitated. il map diags Ry Age 130:44-7 F 5 '51

New span for old; it's done in 20 hours; Illinois Central railroad bridge at Cairo. il Bsns W p22-3 N 25 '50; Midwest Eng 3:12 N '50

Old spans move out, new spans in; on the ICRR. il Eng N 146:32-5 Ja 25 '51

Replacement of railway bridge span over Grand Surrey canal. il Engineering 170:487 D 8 '50

Stresses

Strain-testing railroad bridges. A. D. M. Lewis. il diags Electronics 24:117-19 S '51

BRIDGES, Suspension

Aerodynamic oscillations of suspension bridges. R. A. Frazer. il Engineering 171:270-1 Mr 2 '51

Authority reports on Mackinac bridge. Eng N 146:44 F 22 '51

$40-million Delaware River bridge will boost Wilmington's business. il map Bsns W p59 Ja 20 '51

New Tacoma Narrows bridge. Engineer 191:296 Mr 2 '51

Steel castings support 18,000-ton load; new Narrows bridge. Materials & Methods 33:158+ Ap '51

Structural damping in suspension bridges. F. Bleich and L. W. Teller. il diags Am Soc C E Proc 77 [no 61]:1-31 Mr '51; Discussion. 77 [no D-61]:1-9 D '51

Suspension bridge vibration formulas. G. S. Vincent. diag Eng N 146:32-4 Ja 11 '51

Tacoma Narrows again bridged. il Eng N 145:29 O 26 '50

Tightening bolts on George Washington bridge. il Constr Methods 32:42-4 N '50

Anchorages

Mammoth tremie seal poured in 7½-day continuous operation; building anchorage piers for Delaware memorial bridge. C. H. Cotter. il Civil Eng 20:711-14 N '50

BRIDGES, Swing

Record swing span characterizes South Capitol Street bridge. H. J. Engel. il map diags Civil Eng 21:1-5 Ja '51

BRIDGES, Temporary

Engineering in the Festival of Britain; temporary bridges at the South Bank exhibition. il Engineering 171:555-8, pl 43-4 My 11 '51

Temporary trestle carries traffic over road relocation between Superior and Miami, Ariz. C. B. Browning. il Roads & Sts 94:50-1 Mr '51

BRIDGES, Wooden

New covered bridges for old. il Bsns W p74-6 S 8 '51

Passing of the covered bridge. C. E. Patch. il diags Tech R 53:82-4 D '50

BRIGGS manufacturing company

Kefauver echo; UAW files unfair labor charge against Briggs mfg. Bsns W p 133-4 Mr 24 '51

BRIGHTNESS

Brightness and polarization of the daylight sky at altitudes of 18,000 to 38,000 feet above sea level. D. M. Packer and C. Lock. il diag Opt Soc Am J 41:473-8 Jl '51

Brightness relationships for comfortable seeing. S. K. Guth. bibliog il Opt Soc Am J 41:235-44 Ap '51

Comfortable brightness relationships for critical and casual seeing. S. K. Guth. il Illum Eng 46:65-72; Discussion. 72-5 F '51

Effect of task-to-surround brightness ratios on visual performance. R. L. Biesele, jr. Illum Eng 45:733-7; Discussion. 738-40 D '50

Engineering a drafting office installation to recommended brightnesses. C. J. Kroepel. il plan diag Illum Eng 46:109-12 Mr '51

Establishing comfortable brightness relationships. S. K. Guth. bibliog il Gen Elec R 54:29-34 Ag '51

Influence of surround brightness and short wave components of radiation on dark adaptation. M. J. Zigler and others. Opt Soc Am J 41:354-9 My '51

Scientific basis for establishing brightness of motion picture screens. F. J. Kolb, jr. bibliog Soc Motion Picture & Tv Eng J 56:433-42 Ap '51

BRIGHTNESS—*Continued*

Suprathreshold area brightness relationships. R. M. Hanes. Opt Soc Am J 41:28-31 Ja '51

See also

Luminosity

BRINE

Anion exchange resins may recover iodine from brines; abstract. M. Sekino. Chem & Eng N 29:3973 S 24 '51

Brine film resistance to heat flow of calcium chloride, sodium chloride, and ethylene glycol; with charts. C. T. Shields. Refrig Eng 59:880-4 S '51

Know your refrigeration brines. D. Kelland. diags Power 95:114 S '51

Salt solutions for cooling. D. Wittenberg. diags Chem Eng 58:141 Je '51

Solar evaporation of salt brines. M. R. Bloch, L. Farkas and K. S. Spiegler. bibliog il diag Ind & Eng Chem 43:1544-53 Jl '51

BRIQUETTING (fuel)

Briquetters view industry progress; 2d biennial coal-briquetting conference, Superior, Wis. Aug. 2-3; with abstracts of papers. Coal Age 56:134+ S '51

BRISE soleil. See Sun breaks

BRISTLES, Nylon

Print-roll brushes are 18 months old and still going! J. Kluthe. il Textile World 101:102 Ag '51

BRISTOL, England

History of Bristol section and local chemical industry. A. Marsden. Chem & Ind p 159-64 Mr 3 '51

Libraries

Library resources of Bristol and the Southwest. F. L. Kent. Aslib Proc 2:187-94 N '50

BRITISH association for the advancement of science

Annual meeting, 112th, Birmingham, Aug. 30-Sept. 6. Chem & Ind p697-8 O 14 '50

Annual meeting, 112th, Birmingham, England, Aug. 30-Sept. 6. Science 112:665-70 D 8 '50

Annual meeting, Edinburgh, Aug. 8-15; with abstracts of papers. Engineer 192:206-8, 231-4, 263-6 Ag 17-31 '51; Engineering 172:212-14, 244-6, 276-9 Ag 17-31 '51

Annual meeting, 113th, Edinburgh, Aug. 8-15. Elec R (Lond) 149:271-2 Ag 10 '51

Presidential address; British contribution to science and technology in the past hundred years. Duke of Edinburgh. Chem & Ind p694-5 Ag 18 '51

BRITISH broadcasting corporation

B.B.C. engineering training school. il Engineer 191:510-11 Ap 20 '51

Engineering research. il Engineering 171:793-5 Je 29 '51

Monopoly in radio? comments on the Beveridge committee report. Economist 160:115-16 Ja 20 '51

Training radio engineers; college at Evesham. il Elec R (Lond) 148:691-2 Ap 6 '51; Electrician 146:1109-10 Ap 6 '51; Engineering 171:494 Ap 27 '51

BRITISH celanese limited

Statement by the chairman at 31st annual general meeting. G. H. Whigham. Economist 159:1057-8 D 9 '50

BRITISH chemical and dyestuffs traders' association

Annual general meeting, 28th, London, April 17. Chem Age (Lond) 64:593-4 Ap 21 '51

BRITISH chemical plant manufacturers' association

Annual luncheon, London, March 29. Chem & Ind p269-71 Ap 7 '51; Chem Age (Lond) 64:513-16 Ap 7 '51

BRITISH COLUMBIA

See also

Forests and forestry—British Columbia

Mines and mineral resources—British Columbia

Railroads—British Columbia

Bibliography

Publications of the government of British Columbia, 1871-1947. M. C. Holmes. 254p pa $3.50 Provincial lib, Parliament bldgs, Victoria, B.C. '50

Industries and resources

New boom areas in Canadian West; adventure in fortune building. V. L. Horoth. il map Mag of Wall St 88:494-5+ Ag 11 '51

BRITISH EAST AFRICA

See also

Transportation—British East Africa

Economic conditions

News by countries. For Comm W 42:8-9 F 26 '51

BRITISH electrical and allied industries research association

Annual general meeting, 30th, London, Feb. 9. Elec R (Lond) 148:331-2 F 16 '51; Electrician 146:559-60 F 16 '51

Annual report. Engineer 191:222-3 F 16 '51

BRITISH electrical and allied manufacturers' association

Annual meeting, April 19. Elec R (Lond) 148:835-6 Ap 27 '51; Electrician 146:1410 Ap 27 '51

Annual report, 40th. Elec R (Lond) 148:797-8 Ap 20 '51; Electrician 146:1294 Ap 20 '51; Engineer 191:541 Ap 27 '51

BRITISH electrical development association

Annual meeting, London, April 13. Elec R (Lond) 148:773-8 Ap 20 '51; Electrician 146:1291-3 Ap 20 '51

Sales management conference, London. Elec R (Lond) 148:1077-9 My 25 '51; Electrician 146:1757-8 My 25 '51

BRITISH electrical power convention. See Electric industries—Great Britain

BRITISH European airways

BEA still in transition. Aviation W 54:54 Ap 30 '51

BRITISH GUIANA

Economic developments in 1951. For Comm W 44:10 Jl 2 '51

BRITISH HONDURAS

Economic conditions

News by countries. For Comm W 43:8-9 Je 11 '51

BRITISH hydromechanics' research association

British hydromechanics research association. Engineer 191:729-30 Je 1 '51; il Engineering 171:667-8 Je 1 '51

BRITISH industries fair

British industries fair, Birmingham and London, April 30-May 11. Chem Age (Lond) 64:705-9, 785 My 5, 19 '51

British industries fair, Birmingham and London, April 30-May 11. il diags Engineer 191:530-2, 567-71, 603-7, 659-62, 680-3 Ap 27-My 25 '51; Engineering 171:485-90, 517-24, 549-54, 581-4, pl 33-4, 37-8, 41-2, 45-6 Ap 27-My 18 '51

British industries fair, Birmingham and London, April 30-May 11; guide and review of the electrical exhibits. il plan Elec R (Lond) 148:847-88, 921-39 Ap 27-My 4 '51; Electrician 146:1375-409, 1552-4, Ap 27-My 4 '51

British industries fair, Birmingham and London, April 30-May 11; preview. Chem & Ind p352 My 5 '51

British industry reports; fair at London and Birmingham. il Mod Ind 21:76-8 Je '51

BRITISH institution of radio engineers

Convention, 3d, London, July 3-6; with abstracts of papers. Engineering 172:63-4 Jl 13 '51

BRITISH iron and steel research association

Annual report, 7th, year ended Dec. 31. Engineer 191:550-1 Ap 27 '51

B.I.S.R.A. physics laboratories. il diags Engineer 190:458-9 N 17 '50; Engineering 170:374-5 N 17 '50

Five years of co-operative research. Chem Age (Lond) 64:383-4 Mr 10 '51

Research activities. il diag Metallurgia 44:125-8 S '51

BRITISH labor party. See Labor party (Great Britain)

BRITISH MALAYA. See Malayan Union

BRITISH museum

Catalogues of the British museum; manuscripts. T. C. Skeat. J Doc 7:18-60 Mr '51

BRITISH non-ferrous metals research association

Research activities. W. L. Hall. bibliog il Metallurgia 44:129-32 S '51

BRITISH rubber producers' research association

British rubber producers' research association. il Chem & Ind p543 Je 30 '51

BRITISH scientific instrument research association
British scientific instrument research association. il Chem Age (Lond) 64:629-32 Ap 28 '51
Costing information services. C. W. Hanson. Aslib Proc 3:85-8; Discussion. 88-90 My '51

BRITISH standards institution
BSI golden jubilee exhibition; a measure of industrial progress. Chem Age (Lond) 64:959-60 Je 23 '51
Golden jubilee. Chem & Ind p556 Je 30 '51
Golden jubilee celebration, London. il Standardization 22:244-5 Ag '51
Standardisation in the chemical industry. Chem Age (Lond) 64:891-3 Je 9 '51

BRITISH steel founders' association
Research and development division. J. F. B. Jackson. Metallurgia 44:137-9 S '51

BRITISH transport commission
British transport commission's adoption of depreciation accounting. J Account 92:91-2 Jl '51

BRITISH welding research association
Activities. K. Winterton. il Metallurgia 44:133-6 S '51

BRITISH WEST INDIES. See West Indies, British

BRITTLE coating test. See Strains and stresses—Brittle coating test

BRITTLENESS
Impact resilience as a brittleness test for polyvinyl plastics. G. Friedlander. bibliog il diags Anal Chem 22:1545-51 D '50
Relation of tensile strength to brittle temperature in plasticized polymers. R. F. Boyer. bibliog diag J Ap Phys 22:723-9 Je '51
See also
Steel—Brittleness

BRITTON, Edgar Clay, 1891-
ACS 1952 president-elect. por Oil Paint & Drug Rep 158:7 D 18 '50
Dow chemists honor ACS president-elect. Chem & Eng N 29:1832-3 My 7 '51

BROACHES
B.S.A. correction broach. Engineer 191:621-2 My 11 '51; il Automobile Eng 41:297-8 Ag '51
Proper broach gullet design reduces chip problems. J. Silvagi. il diags Mach 57:181-8 Ap '51
Rotary broaches cut tangs faster. J. Lehde. il diags Am Mach 95:134-5 S 17 '51

BROACHING
Broaching the impossible. R. Woida. il diags Am Mach 95:102 My 28 '51
Broaching ups production of supercharger wheels, blades. il Iron Age 167:91 Je 14 '51
Elements of broaching; procedures, tools and applications. A. E. Rylander. il diags Tool Eng 27:53-60 Jl '51
Gun barrel rifling broached faster. F. Bohle. diags Steel 128:88+ Ap 16 '51
Long holes, gear bores broached at lower cost. T. Miles. diags Iron Age 168:110-11 S 6 '51
120 transmission pawls broached every hour. il Steel 127:95 D 4 '50

BROACHING machines
Broaching machine does multiple assembly and finishing job. il Iron Age 167:100 My 17 '51; Steel 128:148+ My 7 '51; diag Mach 57:214 Jl '51
Broaching; standard in-and-out fixtures and an automatic machining cycle. Automobile Eng 40:432 D '50
Buick uses carbide to broach at 120 feet per minute. S. J. White. il diags Mach 57:152-7 Mr '51
Double ram vertical broach. il Automotive Ind 105:54 Ag 15 '51
1951 production preview. il Am Mach 95:191-2 Ja 22 '51

BROADCASTING stations, Radio. See Radio broadcasting stations

BROCHURES. See Advertising, Mail—Brochures

BROCKWAY, Louis N.
Chairman of the 4 A's. H. Woodward. por Sales Management 66:41 My 1 '51
4-A chairman. R. B. McIntyre. por Ed & Pub 84:19 Ap 21 '51

BROKEN HILL mines. See Mines and mineral resources—New South Wales

BROKEN HILL proprietary company, ltd.
Broken hill proprietary co., ltd. of Australia to expand Kembla works. Blast F & Steel Pl 39:561-2+ My '51
World's cheapest steel. il map Fortune 42:82-9+ N '50

BROKERS

Advertising

Wall Street ads sing new tune; Dreyfus & co. il Bsns W p 116-17 Mr 3 '51

Law

Licensing of brokers, analysts proposed in New York state. Comm & Fin Chr 173:253+ Ja 18 '51

BROKERS, Food. See Food brokers

BROKERS' loans
Customers' debit balances, money borrowed, and principal related items of stock exchange firms carrying margin accounts, June and December 1941-1948, Dec. 1949 and monthly Jan.-Nov. 1950. Fed Res Bul 37:65 Ja '51 [cont monthly]

BROM phenol blue. See Bromophenol blue

BROM thymol blue. See Bromothymol blue

BROMAL
Heats of hydrolysis of chloral and bromal, and the C-C bond dissociation energies in chloral and bromal. H. O. Pritchard and H. A. Skinner. Chem Soc J p 1928-31 Jl '50

BROMIDES
Action of sodium hydride on certain aryl bromides. G. E. Philbrook, H. F. Gober and C. L. Henry. Am Chem Soc J 73:2382-3 My '51
Applications of the Eastman thermocell equation; certain absolute ionic entropies and entropies of transfer of alkali metal and tetraalkylammonium bromides and hydroxides. J. C. Goodrich and others. bibliog diags Am Chem Soc J 72:4411-18 O '50
Comparison of weak neutron fluxes by use of organic bromides. P. F. D. Shaw and C. H. Collie. Chem Soc J p434-43 F '51
Preparation of pure secondary bromides. J. Cason and R. H. Mills. bibliog Am Chem Soc J 73:1354-5 Mr '51

Analysis

Determination of mercury and bromides with 1,10-phenanthroline ferrous sulfate. E. Hall and G. M. Smith. bibliog Anal Chem 23:1181-3 Ag '51

BROMINATION
Bromination of o-acylaminotoluenes; a correction. D. G. I. Felton. Chem Soc J p2213 Ag '51
Bromination of allopregnane-3,20-dione. M. Rubin, H. Wishinsky and F. Bompard. bibliog Am Chem Soc J 73:2338-40 My '51
Bromination of allylbenzene. M. Lora-Tamayo, F. Martin-Panizo and R. Perez Ossorio. Chem Soc J p 1418-21 My '50
Bromination of catechol. M. Kohn. Am Chem Soc J 73:480 Ja '51
Bromination of halogenoacetals. G. T. Newbold. Chem Soc J p3346-8 N '50
Bromination of hecogenin acetate. G. P. Mueller, R. E. Stobaugh and R. S. Winniford. Am Chem Soc J 73:2400-1 My '51
Bromination of hydrocarbons; neopentane and hydrogen chain lengths; efficiency of neopentane as a third body. F. E. Schweitzer and E. R. Van Artsdalen. J Chem Phys 19:1028-30 Ag '51
Bromination of hydrocarbons; photo-bromination of toluene. E. W. Swegler and others. J Chem Phys 19:135-6 Ja '51
Bromination of hydrocarbons; photochemical and thermal bromination of neopentane in the gas phase; the C—H bond strength in neopentane. E. I. Hormats and E. R. Van Artsdalen. bibliog J Chem Phys 19:778-83 Je '51
Bromination of methylchlorosilanes. J. L. Speier. Am Chem Soc J 73:826-7 F '51
Bromination of 6-nitro-1-naphthylamine. H. H. Hodgson and R. E. Dean. Chem Soc J p822-3 Mr '50
Bromination of 3-(trifluoromethyl)-phenol. E. T. McBee and E. Rapkin. bibliog Am Chem Soc J 73:1325-6 Mr '51

BROMINATION—*Continued*

Kinetics of aromatic halogen substitution; nitrosobenzene and azobenzene. P. W. Robertson, T. R. Hitchings and G. M. Will. Chem Soc J p808-12 Mr '50

Kinetics of the forward and reverse reactions for the vapor phase thermal bromination of chloroform. J. H. Sullivan and N. Davidson. bibliog J Chem Phys 19:143-8 F '51

Mechanism of bromine substitution in aqueous solution. W. J. Wilson and F. G. Soper. Chem Soc J p3376-9 D '49

Nitration and bromination of tetraacetyl-β-D-glucopyranosylbenzene. J. M. Craig and W. A. Bonner. Am Chem Soc J 72:4808-9 O '50

Reaction of oct-1-ene with *N*-bromosucccinimide. L. Bateman and J. I. Cunneen. Chem Soc J p941-6 Mr '50

Significance of the bromine cation in aromatic substitution. D. H. Derbyshire and W. A. Waters. Chem Soc J p564-77 F '50

Steroids and related compounds; further experiments on the bromination of oxidation products of cholestane-3β : 5α : 6β-triol. B. Ellis and V. Petrow. Chem Soc J p2194-8 Ag '50

Steroids; contribution to the bromination of Δ^4-3-ketosteroids and a new partial synthesis of the natural estrogens. C. Djerassi and others. bibliog Am Chem Soc J 72:4534-40 O '50

Steroids; the Wohl-Ziegler bromination of steroidal 1,4-dien-3-ones; partial synthesis of Δ^6-dehydroestrone and equilenin. S. Kaufmann and others. bibliog Am Chem Soc J 72:4531-4 O '50

Studies in the biphenyl series; bromination of 4-methoxybiphenyl. J. L. Abernethy and H. Pollock. Am Chem Soc J 73:1351 Mr '51

Studies in the biphenyl series; orientation in bromination of 4-ethoxybiphenyl and bromo-4-ethoxybiphenyls. J. L. Abernethy and H. Pollock. Am Chem Soc J 73:1514-16 Ap '51

Substitution reactions of the naphthylenediamines; the bromination of 1 : 5- and 1 : 8-naphthylenediamines and related compounds. J. S. Whitehurst. Chem Soc J p226-30 Ja '51

Substitution reactions of the naphthylenediamines; the bromination of the ditoluene-*p*-sulphonyl derivatives of 1 : 5- and 1 : 8-naphthylenediamines. J. S. Whitehurst. Chem Soc J p221-6 Ja '51

BROMINE

Complexes of naphthalene with iodine and bromine; on the origin of the spectra of complexes between halogens and aromatics. N. W. Blake, H. Winston and J. A. Patterson. Am Chem Soc J 73:4437-40 S '51

Effect of bromine substitution upon the ultraviolet absorption spectra of α,β-unsaturated ketones. A. L. Nussbaum and others. bibliog Am Chem Soc J 73:3263-6 Jl '51

Effect of halogenation on the C—Br bond dissociation energy in halogenated bromomethanes. M. Szwarc and A. H. Sehon. bibliog diag J Chem Phys 19:656-7 My '51

Efficiency of the primary photochemical process for halogens in water; the photochemical reaction of Mn(II) and Br_2. A. C. Rutenberg and H. Taube. Am Chem Soc J 73:4426-31 S '51

Existence of different capture levels in the formation of nuclear isomers by slow neutron irradiation. P. C. Capron and A. J. Verhoeve-Stokkink. bibliog Phys R 81:336-9 F 1 '51

Gas-filling and some characteristics of bromine-quenched Geiger-Müller counters. D. H. Le Croissette and J. Yarwood. bibliog diag J Sci Instr 28:225-8 Ag '51

Influence of aromatic substitution on the C—Br bond dissociation energy. M. Szwarc and others. J Chem Phys 19:657-8 My '51

Interaction of bromine with benzene and certain of its derivatives. R. M. Keefer and L. J. Andrews. bibliog Am Chem Soc J 72:4677-81 O '50

Photochemical reactions between bromine and 1,2-dichloroethylene; the relation between addition and isomerization. J. A. A. Ketelaar and others. bibliog diag J Phys & Colloid Chem 55:987-1012 Je '51

Positive bromine from perfluorinated N-bromoimides. A. L. Henne and W. F. Zimmer. Am Chem Soc J 73:1103-4 Mr '51

Properties and reactions of free alkyl radicals in solution; reactions with iodine, bromine, and sulphuryl chloride. M. C. Ford and W. A. Waters. Chem Soc J p 1851-5 Jl '51

Recovery of bromine from sea-water; abstract and discussion. R. O. Gibson. Chem & Ind p217-18 Mr 17 '51

Significance of the bromine cation in aromatic substitution. D. H. Derbyshire and W. A. Waters. Chem Soc J p564-77 F '50

Slow neutron velocity spectrometer studies; Au, Ag, Br, Fe, Co, Ni, Zn. W. W. Havens, jr. and L. J. Rainwater. bibliog Phys R 83:1123-33 S 15 '51

Some azeotropes of bromine. W. M. Spicer and L. H. Meyer. Am Chem Soc J 73:934-8 Mr '51

Some physical properties associated with aromatic electrons; the pseudo-metallic properties of potassium-graphite and graphite-bromine. F. R. M. McDonnell, R. C. Pink and A. R. Ubbelohde. diags Chem Soc J p 191-7 Ja '51

Some reactions of elemental bromine, hydrogen bromide and Szilard-Chalmers bromine with ethylene bromide. G. Levey and J. E. Willard. Am Chem Soc J 73:1866-7 Ap '51

Study of the action of bromine on the silver salts of organic acids. J. W. H. Oldham. Chem Soc J p 100-8 Ja '50

Analysis

Comparison of weak neutron fluxes by use of organic bromides. P. F. D. Shaw and C. H. Collie. Chem Soc J p434-43 F '51

Quantitative determination of bromine in terminal bromodinitromethyl groups. K. Klager. Anal Chem 23:534-5 Mr '51

X-ray fluorescence analysis of ethyl fluid in aviation gasoline. L. S. Birks and others. diag Anal Chem 22:1258-61 O '50

Isotopes

Radiations from Br^{77} and Ni^{57}. R. Canada and A. C. G. Mitchell. diags Phys R 83:955-9 S 1 '51

Radioactivities of Ru^{105}, Rh^{105}, Br^{84}, and Br^{83}. R. B. Duffield and L. M. Langer. diag Phys R 81:203-7 Ja 15 '51

Separation of ^{82}Br from neutron-irradiated sodium bromate. E. Berne. Chem Soc J supp no 2:S338-40 '49

Some chemical problems in the use, as a fumigant, of methyl bromide labelled with ^{82}Br. F. P. W. Winteringham. diags Chem Soc J supp no 2:S416-20 '49

Transportation

Victory over bromine; new monel drum. A. R. Jasuta. il diags Mod Packaging 24:117-21 Je '51

BROMINE chloride

Addition of bromine chloride to carbon-carbon double bonds. R. E. Buckles and J. W. Long. bibliog Am Chem Soc J 73:998-1000 Mr '51

BROMINE compounds

Cyclic intermediates in substitution reactions; the alkaline hydrolysis of some aliphatic bromoacids. J. F. Lane and H. W. Heine. bibliog Am Chem Soc J 73:1348-50 Mr '51

Formal potential of the bromoperosmite-bromoösmate electrode in hydrobromic acid solutions. R. W. Mertes, W. R. Crowell and R. K. Brinton. diags Am Chem Soc J 72:4218-21 S '50

α-Halo ketones; the preparation, metathesis and rearrangement of certain α-bromoketones. A. A. Sacks and J. G. Aston. bibliog Am Chem Soc J 73:3902-6 Ag '51

Methanolysis of carbonyl-activated aryl bromides. R. C. Fuson and W. C. Hammann. Am Chem Soc J 73:1851-2 Ap '51

Preparation of α-bromoacetals. E. N. Marvell and M. J. Joncich. bibliog Am Chem Soc J 73:973-5 Mr '51

Some 1 : 7- and 1 : 2 : 7-derivatives of naphthalene. H. H. Hodgson and R. E. Dean. Chem Soc J p818-20 Mr '50

BROMINE compounds—*Continued*
Walden inversion in the formation of β-lactones; the configurations of the bromoacids of Kohler and Jansen. P. D. Bartlett and P. N. Rylander. bibliog Am Chem Soc J 73: 4275-80 S '51

BROMINE fluorides
Fluorination of compounds of vanadium, chromium, and manganese by bromine trifluoride. A. G. Sharpe and A. A. Woolf. Chem Soc J p798-801 Mr '51
Pennsalt shares consultant with Philadelphia area researchers; results of fluoride research in England. R. N. Hazseldine. Chem & Eng N 29:3008+ Jl 23 '51
Preparation of complex fluoro-acid salts of metals and of the nitronium ion by means of bromine trifluoride. A. A. Woolf and H. J. Emeléus. Chem Soc J p 1050-2 Ap '50
Preparation of hexafluoroniobates, hexafluorotantalates, and hexafluorobismuthates by means of bromine trifluoride. V. Gutmann and H. J. Emeléus. Chem Soc J p 1046-50 Ap '50
Preparation of nitrosyl complex fluorides and of fluorosulphonates by means of bromine trifluoride. A. A. Woolf. Chem Soc J p 1053-6 Ap '50
Reaction of bromine trifluoride with oxides and some oxy-acid salts. H. J. Emeléus and A. A. Woolf. diag Chem Soc J p 164-8 Ja '50
Reactions of fluorocarbon radicals; the reaction of trifluoroiodomethane with acetylene. R. N. Haszeldine. diag Chem Soc J p3037-41 N '50
Solvolysis by bromine trifluoride. A. G. Sharpe. Chem Soc J p2907-8 O '50

BROMOACENAPHTHENE
Acylation of 5-bromo- and 5-chloroacenaphthene by the Friedel-Crafts procedure. D. V. Nightingale and R. M. Brooker. bibliog Am Chem Soc J 72:5539-43 D '50

BROMOACETAMIDE
Arapahoe Chemicals preparing in commercial quantities. Chem Eng 58:202 My '51

BROMOACETATES
Electrolyte effect upon the kinetics of the bromoacetate-thiosulfate reaction in *n*-propyl alcohol-water solutions. F. G. Ciapetta and H. M. Tomlinson. bibliog J Phys & Colloid Chem 55:429-39 Mr '51

BROMOACETIC acid
Polarographic behavior of organic compounds; iodoacetic acid and the bromoacetic acids. P. J. Elving, I. Rosenthal and M. K. Kramer. bibliog Am Chem Soc J 73:1717-22 Ap '51
Temperature-interfacial tension studies of some alkyl esters of monobromoacetic acid against water. J. J. Jasper and W. J. Mayer. Am Chem Soc J 73:2610-11 Je '51

BROMOACETOPHENONE
Reaction of phenylhydrazine with α-haloacetophenones. D. Y. Curtin and E. W. Tristram. bibliog Am Chem Soc J 72:5238-42 N '50

BROMOBENZENE
Heat-transfer coefficient of condensing vapours. J. C. Chu and others. bibliog flow sheet J Ap Chem 1:73-80 F '51
Kinetics of exchange reactions; substituted phenyl and benzyl bromides. S. Sugden and J. B. Willis. Chem Soc J p 1360-3 My '51
Reaction of germanes; with alkali metals and amides; polyalkylgermanes; phenyl bromide and sodium germanyl. S. N. Glarum and C. A. Kraus. Am Chem Soc J 72:5398-401 D '50

BROMOBENZENESULFONATE
Driving force of the homoallylic rearrangement in acetolysis of *exo*-dehydronorbornyl *p*-bromobenzenesulfonate. S. Winstein, H. M. Walborsky and K. Schreiber. diags Am Chem Soc J 72:5795 D '50

BROMOBENZYL alcohol
Condensation of *o*- and *p*-bromobenzyl alcohols with phenol and 2,6-dibromophenol in the presence of aluminum chloride. D. Y. Wu, R. L. Guile and R. C. Huston. bibliog Am Chem Soc J 73:3443-4 Jl '51

BROMOBENZYL chloride
Substituted diphenylmethanes and phenyl benzyl ethers prepared from *o*- or *p*-cresol and *o*-, *m*- or *p*-bromobenzyl chloride. R. C. Huston and H. H. Gyorgy. bibliog Am Chem Soc J 72:4171-3 S '50

BROMOBENZYL cyanide
Reaction of α-bromobenzyl cyanide with ethyl xanthamidate (thioncarbamate). W. Davies and J. A. Maclaren. Chem Soc J p 1434-7 Je '51

BROMOBUTYRIC acid
Polarographic behavior of organic compounds; effect of ionic strength, buffer nature and concentration, and pH. P. J. Elving and others. bibliog Anal Chem 23:1218-23 S '51

BROMOCAPROIC acid
Synthesis of ε-bromocaproic acid. H. W. Heine and H. Jones. Am Chem Soc J 73: 1361-2 Mr '51

BROMOCHLOROFLUOROMETHANE
Infrared spectrum of bromochlorofluoromethane. E. K. Plyler and M. A. Lamb. J Res Nat Bur Stand 46:382-4 My '51

BROMOCHLOROMETHANE
CB system slated in Convair 340. S. H. Reiniger. Aviation W 55:43 Jl 30 '51
Exchange of deuterium oxide with bromodichloromethane and chlorodibromomethane. R. H. Sherman and R. B. Bernstein. Am Chem Soc J 73:1376-7 Mr '51

BROMODIMETHYLACRYLIC acid
Olefinic acids; prototropic and anionotropic changes in the α-bromo-ββ-dimethylacrylic acid system. L. N. Owen and M. U. S. Sultanbawa. Chem Soc J p3089-98 D '49

BROMODIMETHYLOCTADIENE
Analysis of the isomeric composition of bromodihydromyrcene. L. Bateman, J. I. Cunneen and H. P. Koch. Chem Soc J p3045-51 N '50
Dehydrobromination experiments with bromodihydromyrcene. L. Bateman, J. I. Cunneen and H. P. Koch. Chem Soc J p3051-6 N '50

BROMODINITROMETHYL group
Quantitative determination of bromine in terminal bromodinitromethyl groups. K. Klager. Anal Chem 23:534-5 Mr '51

BROMODIPHENYL butenone
Reactions of 1,4-diphenyl-1-bromo-3-butene-2-one; a synthesis of 1-aryl-2,5-diphenyl-3-pyrrolidones. P. L. Southwick, D. I. Sapper and L. A. Pursglove. bibliog Am Chem Soc J 72:4940-4 N '50

BROMOETHYLAMINE
Adrenergic blocking agents; N-aralkyl-β-haloethylamines. J. F. Kerwin and others. bibliog Am Chem Soc J 72:3983-6 S '50

BROMOETHYLBENZYL bromide
Improved synthesis of *o*-2-bromoethylbenzyl bromide. E. L. Anderson and F. G. Holliman. Chem Soc J p 1037-9 Ap '50

BROMOFLUOROMETHANE
Ultraviolet absorption spectra and the refractive indices of some fluorobromomethanes. N. Davidson. bibliog Am Chem Soc J 73:467-8 Ja '51

BROMOFLUOROTOLUENE
Some dihalo-(trifluoromethyl)-benzenes. E. T. McBee and others. bibliog Am Chem Soc J 73:3932-4 Ag '51

BROMOFORM
Isotope exchange reaction of chloroform-*d* with bromoform. G. P. Semeluk and R. B. Bernstein. Am Chem Soc J 72:4830-1 O '50

BROMOMALONIC acid
Coumarones from *o*-hydroxyaldehydes and bromomalonic ester. S. Tanaka. Am Chem Soc J 73:872 F '51

BROMOMANDELIC acid
Determination of zirconium-hafnium ratios with *p*-bromomandelic acid. R. B. Hahn. bibliog Anal Chem 23:1259-61 S '51

BROMOMETHOXYCROTONIC acid
Olefinic acids; α-bromo-γ-methoxycrotonic acid. L. N. Owen and M. U. S. Sultanbawa. Chem Soc J p3105-9 D '49

BROMOMETHYLQUINOLINE
Some derivatives of 6-bromo-8-methylquinoline and 6-chloro-8-methylquinoline. T. A. Irving and others. bibliog Am Chem Soc J 72:4069-71 S '50

BROMONAPHTHALENE. See Naphthalene

BROMONITROTOLUENE
Exchange reaction and hydrolysis of *p*-nitrobenzyl bromide in dioxane-water solutions. J. W. Hackett and H. C. Thomas. bibliog Am Chem Soc J 72:4962-4 N '50

BROMOPERINAPHTHENONE

Endocyclic α,β-unsaturated ketones; reactions of 8-bromoperinaphthenone-7 with amines. N. H. Cromwell, D. B. Capps and S. E. Palmer. Am Chem Soc J 73:1226-9 Mr '51

BROMOPHENACYL formate

p-Bromophenacyl formate. J. F. Grove and P. J. Suter. Chem Soc J p3350-1 N '50

BROMOPHENOL blue

Spectra study of long chain quaternary ammonium salts in brom phenol blue solutions. E. L. Colichman. bibliog Am Chem Soc J 73:3385-8 Jl '51

Surface and interfacial tension titrations of long chain quaternary salts in brom phenol and brom thymol blue solutions. E. L. Colichman. bibliog Am Chem Soc J 73: 1795-8 Ap '51

BROMOPHENYL butadiene

Reactions of 1-(*p*-bromophenyl)-1,3-butadiene and 1-(*p*-nitrophenyl)-1,3-butadiene with acrylic acid and ethyl acrylate. G. A. Ropp and E. C. Coyner. bibliog Am Chem Soc J 72:3960-3 S '50

BROMOPHENYL ethane

Heterogeneous catalysis of the racemisation of (+)-1-phenyl-ethyl bromide. C. L. Arcus and G. V. Boyd. Chem Soc J p 1580-5 Je '51

BROMOPHTHALEIN magenta E

Behavior of bromophthalein magenta E (tetrabromophenolphthalein ethyl ester) with organic bases and its bearing on the Brønsted-Lowry and Lewis concepts of acidity. M. M. Davis and H. B. Hetzer. bibliog(45 ref) J Res Nat Bur Stand 46: 496-511 Je '51

BROMOPICRIN

Reduction of certain halogenated nitroparaffins by liquid ammonia; brompicrin. E. Schulz, S. Meisel and F. C. Schmidt. Am Chem Soc J 73:2962 Je '51

BROMOPLATINIC acid

Determination of the structures of complex molecules and ions from X-ray diffraction by their solutions; the structures of the groups $PtBr_6^{--}$, $PtCl_6^{--}$, $Nb_6Cl_{12}^{++}$, $Ta_6Br_{12}^{++}$, and $Ta_6Cl_{12}^{++}$. P. A. Vaughan, J. H. Sturdivant and L. Pauling. bibliog Am Chem Soc J 72:5477-86 D '50

BROMOPROPYNE

Infrared spectra of propargylic alcohols and bromides. J. H. Wotiz, F. A. Miller and R. J. Palchak. Am Chem Soc J 72:5055-8 N '50

Propargylic rearrangement; allenic acids from secondary and tertiary propargylic bromides. J. H. Wotiz and R. J. Palchak. Am Chem Soc J 73:1971-2 My '51

Propargylic rearrangement; the dehalogenation of propargylic bromides. J. H. Wotiz. bibliog Am Chem Soc J 73:693-6 F '51

Researches on acetylenic compounds; further Reformatsky reactions with propargyl bromides. H. B. Henbest, E. R. H. Jones and I. M. S. Walls. Chem Soc J p3646-50 D '50

BROMOPYRIDINE

Analogs of aspergillic acid; substituted 2-bromopyridine-N-oxides and their conversion to cyclic thiohydroxamic acids. E. Shaw and others. bibliog Am Chem Soc J 72:4362-4 O '50

BROMOSTYRENE

Preparation and structure of a dimer of *p*-bromostyrene; 1,3-di-(*p*-bromophenyl)-1-butene. G. L. Goerner and J. W. Pearce. Am Chem Soc J 73:2304-5 My '51

BROMOSUCCINIC acid

Racemization of the dimethyl ester of *l*-bromosuccinic acid by lithium bromide in acetone. A. R. Olson, L. D. Frashier and F. J. Spieth. bibliog J Phys & Colloid Chem 55:860-73 Je '51

BROMOSUCCINIMIDE

Analysis of the isomeric composition of bromodihydromyrcene. L. Bateman, J. I. Cunneen and H. P. Koch. Chem Soc J p3045-51 N '50

Coumarone dehydrogenation with N-bromosuccinimide. T. A. Geissman, T. G. Halsall and E. Hinreiner. Am Chem Soc J 72: 4326 S '50

Experiments on the synthesis of the pyrethrins; synthesis of dihydrocinerin-I and tetrahydropyrethrin-I; a study of the action of N-bromosuccinimide on 3-methyl-2-*n*-alkyl (and alkenyl)-*cyclo*pent-2-en-1-ones. L. Crombie, M. Elliott and S. H. Harper. Chem Soc J p971-8 Mr '50

Preparation of *n*-bromosuccinimide by an electrolytic process. M. Lamchen. Chem Soc J p747-8 F '50

Reaction of hexa-1 : 5-diene with *N*-bromosuccinimide. L. Batemen and others. Chem Soc J p936-41 Mr '50

Reaction of oct-1-ene with *N*-bromosuccinimide. L. Bateman and J. I. Cunneen. Chem Soc J p941-6 Mr '50

Reactions of N-bromosuccinimide. R. A. Barnes and G. R. Buckwalter. bibliog Am Chem Soc J 73:3858-61 Ag '51

Studies in the polyene series; preparation of 3-dehydro-β-ionone and some 3-substituted β-ionones. H. B. Henbest. Chem Soc J p 1074-8 Ap '51

BROMOTHYMOL blue

Surface and interfacial tension titrations of long chain quaternary salts in brom phenol and brom thymol blue solutions. E. L. Colichman. bibliog Am Chem Soc J 73: 1795-8 Ap '51

BROMOTOLUENE

Kinetics of exchange reactions; substituted phenyl and benzyl bromides. S. Sugden and J. B. Willis. Chem Soc J p 1360-3 My '51

Study of the peroxide-catalyzed chlorination of the bromotoluenes with sulfuryl chloride. G. L. Goerner and R. C. Nametz. Am Chem Soc J 73:2940-1 Je '51

BROMOTRICHLOROMETHANE

C-Br bond dissociation energy in trichlorobromomethane. M. Szwarc and A. H. Sehon. bibliog J Chem Phys 18:1685-6 D '50

Kinetics of the forward and reverse reactions for the vapor phase thermal bromination of chloroform. J. H. Sullivan and N. Davidson. bibliog J Chem Phys 19:143-8 F '51

Photochemical reactions of diazomethane with carbon tetrachloride and bromotrichloromethane. W. H. Urry and J. R. Eiszner. Am Chem Soc J 73:2977 Je '51

Substituted methanes; infrared spectra and calculated thermodynamic properties for some trichloromethanes. J. R. Madigan and F. F. Cleveland. J Chem Phys 19:119-23 Ja '51

BROMOTRIFLUOROPROPANE

Compounds derived from 3-halo-1,1,1-trifluoropropane. E. T. McBee, A. E. Kelley and E. Rapkin. bibliog Am Chem Soc J 72: 5071-3 N '50

BROMOTRIFLUOROTOLUENE

Preparation of *o*-bromobenzotrifluoride. R. A. Benkeser and R. G. Severson. Am Chem Soc J 73:1353-4 Mr '51

BROMOURACIL

Some 5-substituted aminouracils. A. P. Phillips. Am Chem Soc J 73:1061-2 Mr '51

BRONK, Detlev Wulf, 1897-

Becomes president-elect of AAAS. por(cover) Chem & Eng N 29:280 Ja 22 '51

D. W. Bronk, scientist. M. O. Lee. Science 113:143 F 9 '51

BRÖNSTED, Johannes Nicolaus, 1879-1947

Brönsted memorial lecture; with bibliography of Brönsted's works. R. P. Bell. por(pl) Chem Soc J p409-19 Ja '50

BRØNSTED-LOWRY theory of acidity. See Acidity

BRØNSTED theory

Molecular structure and deviations from the Brønsted relation. R. P. Bell. bibliog J Phys & Colloid Chem 55:885-91; Discussion. H. C. Brown. 892-3 Je '51

Primary salt effect in the reaction between hydrogen peroxide and iodide ions. F. Bell and others. bibliog J Phys & Colloid Chem 55:874-81 Je '51

BRONZE

Aircomatic welding of copper-base alloys. H. Robinson and J. H. Berryman. il diags Welding J 30:7-25 Ja '51

Ancient Syrian coppers and bronzes. R. J. Braidwood and others. il map J Chem Educ 28:87-96 F '51

Brass scrap, bronze and brass ingots; prices; tabulations. Iron Age 167:303 Ja 4 '51

BRONZE—*Continued*

Bronze alloy for B-47 counterweights. Aviation W 53:43 N 20 '50; il Steel 127:100 D 4 '50

Corrosion products of an ancient Chinese bronze. R. J. Gettens. bibliog il J Chem Educ 28:67-71 F '51

Frictional, wear properties evaluated for powder metallurgy bronzes; abstract. J. H. Dedrick. Materials & Methods 33:9 F '51

Hot working of tin bronzes. D. W. D. Showell. Metal Prog 59:890+ D '50

Isothermal transformation of a eutectoid beryllium bronze. R. H. Fillnow and D. J. Mack. bibliog il J Metals 188:Trans 1229-36 O '50; Discussion. 3:Trans 533-6 Jl '51

Nickel-tin bronze theory. J. S. Vanick. il Foundry 79:130-3+ Ap '51

Nickel-tin bronzes. J. S. Vanick. bibliog il Foundry 79:102-7 F '51

Properties of phosphor bronzes; table. Machine Design 23:314 O '51

Stress corrosion of cast bronzes evaluated. J. T. Clenny. il Iron Age 167:85-9 Je 21 '51

Wrought phosphor bronzes; standard grades; available forms; engineering properties; forming and fabricating, etc. J. L. Everhart. il Materials & Methods 34:97-112 S '51

See also

Aluminum bronze

Bronze founding

Manganese bronze

Silicon bronze

Analysis

Chemical analysis of tin bronzes. J. W. Price. bibliog Metallurgia 42:263-7 O '50

Rapid analysis cuts furnace holding time. L. Silverman and others. bibliog Iron Age 167:70-2 Ja 18 '51

Testing

Correlation of structure and test-bar properties of 85-5-5-5 alloy. L. W. Eastwood and J. G. Kura. il diags Foundry 79:120-5+ O '51

Microradiography applied to leaded copper-base alloys. J. G. Kura and others. bibliog il Foundry 79:90-1+ S '51

BRONZE, Tungsten. See Lithium tungstate

BRONZE founding

Brass and bronze castings; technical sessions, A.F.S. annual meeting. Foundry 79:135+ Jl '51

Centrifugally cast bronze-back bearings for heavy-duty operation. L. M. Tichvinsky. bibliog il diags A S M E Trans 73:391-8 My '51

Insulation increases riser efficiency; Erie bronze co. W. H. Piper, jr. and J. O'Keeffe, jr. il diags Foundry 78:72-5+ D '50

Melting brass and bronze. J. G. Dick. il Foundry 79:88-9+ Jl '51

Melting tin bronze in indirect arc electric furnaces. B. W. Schafer. il Foundry 79:132+ My '51

Nickel-alloyed brass and bronze castings. J. S. Vanick. bibliog il Foundry 78:86-9+ Ag; 88-91 O; 80-3+ D '50; 79:102-7 F '51

Nickel-aluminum bronze. J. S. Vanick. il Foundry 79:108-11+ S '51

Process control of brass and bronze foundry procedure; review. H. J. Roast. Metal Prog 59:844+ Je '51

Research and the pilot foundry. H. J. Roast. Metal Prog 59:668-9 My '51

BRONZE welding

Braze-welding furnace and boiler sections. E. E. Cashen. il diag Welding J 30:544-5 Je '51

Brazing and bronze welding in maintenance and manufacture. G. H. DeGroat. il Mach 57:180-3 Mr '51

How to braze weld. B. K. Feinthal. il Welding J 30:459 My '51

How to bring worn parts back to life. E. A. Shevey. il Welding J 30:180 F '51

Repairing a jeep windshield frame. R. K. Hughes. il Welding J 29:1102-3 D '50

BROOK motors, limited

One million motors; ceremony at Huddersfield. Electrician 145:1605 D 29 '50

BROOKHAVEN national laboratory

Air conditioning hot lab at Brookhaven atomic pile. J. D. Wolcott. il Heating-Piping 23:69-72 Je '51

Atomic research for peace; cooling the atomic pile as well as the many experimental laboratories at Brookhaven national laboratory. il diag Refrig Eng 58:1064-5+ N '50

Building a large atomic pile by contract. il diag Eng N 146:37-40 Ap 19 '51

Construction problems of an atomic lab. il Arch Rec 109:162 My '51

Hot lab. il plan diags Arch Forum 94:154-7+ Ap '51

BROOKLYN bridge. See New York (city)—Bridges

BROOKLYN union gas company

Natural gas likely to spur earnings. Barron's 31:20 Mr 19 '51

Public utility securities. O. Ely. Comm & Fin Chr 173:2166 My 24 '51

BROOKS, Edward P.

Dean, new School of industrial management at MIT. H. Woodward. por Sales Management 66:40 My 1 '51

BROOKS oil company

75 years of lubrication service. il Iron & Steel Eng 28:116-17 Jl '51

BROTHERHOOD of railroad trainmen

B.R.T. fined $100,000 for sickness strikes. Ry Age 130:44 F 26 '51

BROUN, Heywood, award

Farm peonage expose captures Broun award. Ed & Pub 84:12 Mr 10 '51

BROUWER theorem

Theorem of Brouwer. H. F. Mathis. diag J Ap Phys 22:1084 Ag '51

BROWN, Bruce K., 1898-

Man of the month. por Chem Eng 58:258 F '51

PAD appointment; B. Brown named deputy petroleum administrator. por Oil & Gas J 49:38 N 30 '50

BROWN, Constantine

His column "must" in lawmakers' day. J. J. Butler. Ed & Pub 83:22 O 28 '50

BROWN, George Hay

President, American marketing association. H. Woodward. por Sales Management 66:40 My 1 '51

BROWN, John, and company, limited

Statement by the chairman. Lord Aberconway. Economist 161:602 S 8 '51

BROWN, Lewis H. 1894-1951

Use ideas for money; tribute to Johns Manville executive. Aesop Glim. Ptr Ink 235:66 Ap 20 '51

BROWN-FORMAN distillers corporation

Company headed for banner year as earnings downtrend is reversed. W. Wells. Barron's 30:17 N 6 '50

BROWN shoe company

Branches out into shoe retailing. Barron's 31:13 Jl 16 '51

Debentures offered. Comm & Fin Chr 174:2 Jl 2 '51

BROWNIAN movements

Brownian motion in a gas of noninteracting molecules. M. S. Green. bibliog diag J Chem Phys 19:1036-46 Ag '51

Irreversibility and generalized noise; extension of Nyquist relation for voltage fluctuations in electrical impedances. H. B. Callen and T. A. Welton. Phys R 83:34-40 Jl 1 '51

BROWNSVILLE, Texas

Hotels, restaurants, etc.

Room service on wheels at ten-acre hotel; El Rancho Grande. il Bsns W p90-1 Je 9 '51

BRUCELLA

Yolk sac technique for the routine isolation of brucella: injection of clotted blood specimens into embryonating eggs with recovery of all three species. K. Gay and S. R. Damon. bibliog diag Pub Health Rep 66:1204-11 S 21 '51

BRUCELLA abortus

Incidence and distribution of brucella abortus in slaughtered Bang's reactor cattle. N. B. McCullough and others. bibliog Pub Health Rep 66:341-5 Mr 16 '51

Inhibition of a strain of brucella abortus by medium filtered through cotton. D. M. Boyd and E. P. Casman. bibliog il Pub Health Rep 66:44-9 Ja 12 '51

BRUCELLOSIS

Occupational diseases transmitted via contact with animals and animal products. H. K. Abrams and P. Warr. Ind Med 20:341-4 Ag '51

BRUCELLOSIS—*Continued*
Survey of brucellosis in slaughtered hogs. N. B. McCullough and others. bibliog Pub Health Rep 66:205-8 F 16 '51

BRUCINE
New reduction product of brucine. S. P. Findlay. bibliog Am Chem Soc J 73:3008-11 Jl '51
Purification of brucine. H. Kacser. Chem Soc J p2908 O '50
Purification of brucine. E. E. Turner. Chem Soc J p842-3 Mr '51
Strychnine and brucine; oxy*pseudo*strychnine. C. A. Friedmann. Chem Soc J p 1585-9 Je '50
Thermodynamic factors in stereo-specific processes; the transformation of diastereoisomers of brucine 2′-(2-hydroxy-2-propyl)-diphenyl-2-carboxylic acid. H. Kacser and A. R. Ubbelohde. Chem Soc J p2152-8 Ag '50

BRUNAUER-EMMETT-TELLER equation
Adsorption isotherm of Langmuir and of Brunauer, Emmett, and Teller for multilayers where $n = 3$. D. C. Jones. Chem Soc J p 1464-7 Je '51
Adsorption isotherm of Langmuir and of Brunauer, Emmett, and Teller for multilayers where n is two. D. C. Jones and E. W. Birks. Chem Soc J p 1127-30 Ap '51
Anomalous first layer of adsorbed helium and a modified B.E.T. theory. J. G. Aston and S. V. R. Mastrangelo. bibliog J Chem Phys 19:1067-8 Ag '51
Areas of carbon blacks and other solids by gas absorption. M. L. Corrin. Am Chem Soc J 73:4061-5 S '51
Assumptions of the B.E.T. theory. W. G. McMillan and E. Teller. J Phys & Colloid Chem 55:17-20 Ja '51
B.E.T. (Brunauer-Emmett-Teller) adsorption equation. D. C. Jones. Chem Soc J p 126-30 Ja '51; Abstract and discussion. Chem & Ind p 147 F 24 '51
Comparison of the specific surface areas of solids as calculated by the Brunauer-Emmett-Teller and the Hüttig equations. M. L. Corrin. J Phys & Colloid Chem 55:612-13 Ap '51
Determination of heats of adsorption by the Brunauer-Emmett-Teller single isotherm method. C. Kemball and G. D. L. Schreiner. bibliog Am Chem Soc J 72:5605-7 D '50
Role of surface tension in multilayer gas adsorption. W. G. McMillan and E. Teller. bibliog J Chem Phys 19:25-32 Ja '51

BRUSH development company
Putting ultrasonic waves to work. il diag Bsns W p44+ Je 16 '51

BRUSH electrical engineering company, limited
Statement by the chairman. R. W. Matthews. Economist 160:1406 Je 9 '51

BRUSHES
Brush in a blister; spherical acetate dome in paperboard set-up box displays English hair brush. il Mod Packaging 24:77 N '50

BRUSHES (electric machinery)
Brush selection and maintenance. il diags Diesel Power 29:86-9 Ap '51
Carbon brushes for use in f.h.p. motors. E. H. Foster. Elec R (Lond) 149:279-82 Ag 10 '51
Carbon brushes must carry peak loads. C. P. Turner. il Ry Mech & Elec Eng 125:78-9 Ag '51
High-altitude brush. Aviation W 54:70+ Je 18 '51
Traction motor brushes. diag Blast F & Steel Pl 39:1124 S '51

Standards

AISE carbon brush standardization (progress report). Iron & Steel Eng 28:114-15; Discussion. 115-16 My '51

BRUSHES, Industrial
Osborn story; brushing up on business. il Steel 129:54-5 Jl 9 '51
Power brushing operation roughens rubber back of plastic laminate. il Rubber Age 68:187 N '50
Print-roll brushes are 18 months old and still going! J. Kluthe. il Textile World 101:102 Ag '51
Slick tricks with brushes; illustrations with text. H. E. Linsley. Am Mach 95:93 Ag 20 '51
Tapered step-down shafts brushed 20 per cent faster. il Steel 128:72 Ja 29 '51

BRUSHES, Paint. See Paint brushes

BUBBLE caps. See Distillation apparatus

BUBBLERS
Preparation of bubbler tips. C. L. Gordon. diags Anal Chem 23:394 F '51

BUBBLES
Absorption of sound by gas bubbles at a water-metal interface. P. J. Westervelt. Acoustical Soc Am J 23:369 My '51
Air bubbles keep sawmill log pond free of ice. plan Comp Air Mag 56:162 Je '51
Concerning the dependence of the surface energy and surface tension of spherical drops and bubbles on radius. T. L. Hill. bibliog diags Am Chem Soc J 72:3923-7 S '50
Measurement of equilibrium forces between an air bubble and an attached solid in water. T. M. Morris. bibliog diags Min Eng 187:Trans 91-5 Ja '50; Discussion. 187: Trans 1154-5 N '50
Stability of gas bubbles in liquid-gas solutions. P. S. Epstein and M. S. Plesset. J Chem Phys 18:1505-9 N '50; Discussion. F. C. Roesler. 19:512-13 Ap '51
Study of the mechanism of boiling heat transfer. W. M. Rohsenow and J. A. Clark. bibliog A S M E Trans 73:609-16; Discussion. 616-20 Jl '51
See also
Foam

BUCHANAN, John Machlin, 1917-
Buchanan wins Eli Lilly award for purine research. por(cover) Chem & Eng N 29:1312 Ap 2 '51

BUCKETS
Proper operation avoids damage to clamshell buckets. il Brick & Clay Rec 119:27 Ag '51

BUCKETS, Aluminum
Burns brick co. aerial tramway increases production; uses aluminum buckets. il Brick & Clay Rec 118:26-7+ My '51

BUCKLEY, Oliver Ellsworth, 1887-
Buckley takes chairmanship of Science advisory committee. por(cover) Chem & Eng N 29:1954 My 14 '51

BUCKMASTER, Leland Stanford, 1894-
Inelastic rubber workers. por Fortune 44:45-6+ Jl '51

BUDAPEST

Subway

New underground railway for Budapest. Engineering 170:517 D 15 '50

BUDD, John M. 1907-
Great Northern changes chiefs; John Budd succeeds F. J. Gavin. por Ry Age 130:37-8 My 28 '51
Portrait. Fortune 44:24 Jl '51
Railway repeats; Great Northern's new president. por(cover) Bsns W p54 My 19 '51

BUDD company
Earnings this year may reach $6 a share. Barron's 30:21 N 20 '50

BUDDICOM locomotive. See Locomotives

BUDDLEOFLAVONOL
Structures of buddleoflavonoloside (linarin) and of buddleoflavonol (acacetin). W. Baker, R. Hemming and W. D. Ollis. Chem Soc J p691-5 Mr '51

BUDGET

Australia

Presentation of 1950-51 budget. For Comm W 41:10-11 N 20 '50

Canada

Details of the 1951-52 budget. For Comm W 43:10 My 21 '51

France

French budget crisis? Economist 159:908 N 25 '50
French budget for 1951; with data for 1949-1951. Economist 160:203-4 Ja 27 '51

Great Britain

British budget and inflationary taxation. P. Einzig. Comm & Fin Chr 173:1865 My 3 '51
British budget; more imports, bigger savings will stem inflation. S. S. Gampell. Barron's 31:13 Ap 9 '51
Budget and the gap. Economist 160:625-6 Mr 17 '51

BUDGET—Great Britain—*Continued*

Budget not enough. Economist 160:1053-4 My 5 '51

Budget surplus; with tabulation. Economist 160:814 Ap 7 '51

Budgetary disinflation in Britain. P. Einzig. Comm & Fin Chr 173:261 Ja 18 '51

Economic survey for 1951; budgetary implications. Economist 160:813 Ap 7 '51

First instalment; Economic survey and the budget. Economist 160:777-9 Ap 7 '51

Mr Gaitskell's first budget; with tabulations. Economist 160:872-8 Ap 14 '51

1951-52 budget. For Comm W 43:18+ Je 4 '51

One year only. Economist 160:841-2 Ap 14 '51

Weapon of publicity; proposed cuts in government's information services. Economist 160:181-2 Ja 27 '51

India

Indian budget. Economist 160:694 Mr 24 '51

Mozambique

Mozambique budget for 1951 approved. For Comm W 42:18 Mr 12 '51

Nigeria

Budget estimates sharply increased. For Comm W 43:17 My 14 '51

Pakistan

Pakistan budget. Economist 160:931 Ap 21 '51

Russia

Stalin's budget. Economist 160:529-30 Mr 10 '51

South Africa

Budget estimates for fiscal year 1951-52 increased. For Comm W 44:19-20 Jl 9 '51

United States

Box score on budget-cutting. Nat City Bank p75-7 Jl '51

Budget operations for 1951 fiscal year. J. W. Snyder. Comm & Fin Chr 174:184 Jl 12 '51

Budget report. B. F. Linz. Oil & Gas J 49:40 Ja 18 '51

Budget situation. Nat City Bank p 136-9 D '50

Can federal expenditures be cut? Nat City Bank p46-7 Ap '51; Same abr. Comm & Fin Chr 173:1546 Ap 12 '51

Clean slate to save $10-billion. F. R. Fairchild. Banking 43:56+ My '51

Federal budget for rearmament. Fed Res Bul 37:125-31 F '51

Fiscal future; outgo overtakes income; charts. Bsns W p24 Ap 14 '51

Fiscal 1952 budget. Pub Util 47:165-7 F 1 '51

Forecasts 1953 deficit without more taxes. J. C. O'Mahoney. Comm & Fin Chr 174:688 Ag 23 '51

House committee cuts $21 million from Interior department power budget. Elec World News ed 135:6 Ap 30 '51

1952 federal budget. Nat City Bank p 19-21 F '51

President outlines budget expenditures of $71.6 billion; text of message. Comm & Fin Chr 173:259+ Ja 18 '51

Revised budget outlook. Nat City Bank p55-9 My '51

Seek four billion dollars for nonmilitary building as record budget goes to Congress. V. B. Smith. Eng N 146:25-7 Ja 18 '51

Surplus in Treasury's cash budget forecast by National industrial conference board. Comm & Fin Chr 174:1264-5 O 4 '51

Tax requirements for a balanced budget. W. Lindow. Comm & Fin Chr 172:2187+ D 7 '50

Testifies against S.913 establishing a congressional joint committee of the budget. T. C. Andrews. J Account 92:102-6 Jl '51

Truman aim; 40 per cent mobilization; data from economic and budget messages. Bsns W p24-5 Ja 20 '51

Unbelievable budget. Barron's 31:3 Ja 22 '51

Urges $10 billion reduction in federal budget. R. Magill. Comm & Fin Chr 173:730 F 15 '51

Why overtax the American people? government underestimates federal revenue. J. Hirsch. Comm & Fin Chr 174:254 Jl 19 '51

Zanzibar

1951 budget approved. For Comm W 42:31 Mr 19 '51

BUDGET, Business

Budgeting and rate making. F. Denier. Am Gas Assn Proc 1950:175-8

Budgeting for the research and development department. A. G. Lurie. Tappi 34:sup40A+ Ag '51

Budgets are for planning, coordination and control. H. C. Heiser. N A C A Bul 33:146-55 O '51

Comprehensive budgetary control; a case study; Davison chemical corp., Baltimore. F. Z. Oles. N A C A Bul 33:123-45 O '51

Foreman as an executive. R. Hersey. Personnel J 29:300-5 Ja '51

Giving budgeting appeal for the foreman. C. Park. N A C A Bul 33:181-8 O '51

How much do indirect expenses vary? De Laval separator co. case study. N. J. Bowne and B. B. Titus. N A C A Bul 33:170-80 O '51

How should business invest? review of Capital budgeting, by J. Dean. Bsns W p 142-4 S 15 '51

How to forecast income and expenses. I. W. Rubel. Adv Agency 44:54-5+ S '51

Measuring activity and capacity for the budget. T. R. Torian. N A C A Bul 33:156-67 O '51

Planning of investment; a study of capital budgeting in the electric-power industry. M. Gort. J Bsns 24:79-95, 181-202 Ap-Jl '51

Working papers for the operating budget. H. G. Oberlander. N A C A Bul 33:189-207 O '51

BUDGET, Household

Changes in estimating city worker's family budget; technical notes. J. C. Groble. Mo Labor R 72:193-4 F '51

Family budget of city worker, Oct. 1950. E. M. Knapp. U S Bur Labor Statistics Bul 1021:1-6; pa 5c Supt. of doc. '51; Same abr. Mo Labor R 72:152-5 F '51

Family spending in Memphis, 1949. M. C. Ruark and G. H. Mulcahy. Mo Labor R 72:655-60 Je '51

Scales of living and wage earners' budgets. D. S. Brady. Ann Am Acad 274:32-8 Mr '51

Sound customers via the home budget; Home economics bureau, Society for savings, Cleveland. S. J. MacLeod. il Bankers Mo 68:15-16+ Jl '51

BUDGET, Municipal

Tennessee planning commission sponsors local capital budget studies. C. L. Crangle. Pub Works 82:51-2 My '51

BUDGET, Personal

State budgets for single women workers. H. Kefauver. Mo Labor R 71:698-701 D '50

BUDWORMS, Spruce. See Spruce budworms

BUEHLER, Calvin Adam, 1896-

Buehler receives first Southern Chemist award. por Chem & Eng N 28:3766 O 30 '50

BUENOS AIRES

Rapid transit

Buenos Aires transport system solves traffic emergency. For Comm W 44:21+ S 10 '51

BUERGER precession method. See X Ray apparatus

BUFFALO, New York

Industries

Made in Buffalo. il Fortune 44:91-102 Jl '51

Public works

Buffalo booms with defense orders. il Eng N 146:47-8 Mr 1 '51

Sanitary affairs

Buffalo as a sanitary supply market. E. Weller. il Soap & San Chem 26:110-13+ N '50

Sewerage

Which sewer first; formula solves problem. Eng N 147:65 Ag 16 '51

BUFFER solutions

pH and buffering; values for various acids and bases commonly used in metal cleaning and plating operations; engineering data sheet. Metal Finishing 49:80 Je '51

Magnesium alloy surface treatment; importance of chemical buffering. L. F. Le Brocq and H. G. Cole. il Metallurgia 43:53-61 F '51

BUFFER solutions—*Continued*
Polarographic behavior of organic compounds; effect of ionic strength, buffer nature and concentration, and pH. P. J. Elving and others. bibliog Anal Chem 23:1218-23 S '51

BUHSE, Howard E. 1906-
Portrait. Fortune 43:15 Ja '51

BUILDERS' equipment
Building products on review; photographs with text. Am Bld 73:68+, 112-28+ Ja '51

BUILDING
Construction outlook; forecast by annual Dodge survey. Heat & Ven 47:114+ D '50
Drain on building; military construction. Bsns W p34 Ja 27 '51
First, you need a construction site; making construction site out of a lagoon; problem solved by constructors of Hunts Point sewage works. il Eng N 147:28-31 Ag 16 '51
International council for building documentation. R. L. Mushabac. Special Lib 42:220+ Jl-Ag '51
Machines save time in erecting skyscraper; Sinclair Oil building. il plans Eng N 145:20-3 D 28 '50
Marshalling men and methods for half-billion dollar atom plant. J. R. Carr. il Eng N 147:28-31 Jl 19; 37-8 Jl 26; 38-9 Ag 2 '51
Mechanical engineer in the construction industry. J. A. Warren, jr. Mech Eng 73:289-92 Ap '51
NPA revises order limiting construction. Concrete 58:10 D '50
Prime factors in planning for moving stairs. R. W. Detrick. il diags Eng N 146:30-1 Mr 1 '51
Self-supporting walls hide long-cantilever floor slabs; office building in Louisville, Ky. il Eng N 146:42 Je 21 '51
Steel plant rises from Pennsylvania farmland; Fairless works, U.S. Steel. il map plan Eng N 147:28-31 S 6 '51
Trends and techniques; development in the many fields of interest of civil engineers, architects and construction men. il Eng N 146:91-114 Mr 29 '51
What's to build? NPA statement on commercial structures. Bsns W p34+ Mr 10 '51

See also
Acoustics, Architectural
Air conditioning
Air raids and building
Architecture
Atomic bombs and building
Beams and girders
Brick construction
Building contracts
Building cycles
Building laws and regulations
Building materials
Building trades
Chimneys
Columns
Concrete construction
Concrete houses
Construction equipment
Earthquakes and building
Factories
Farm buildings
Fireproof construction
Floors
Foundation soils
Foundations
Framing (building)
Hangars
Heating
Home ownership
Hotels
Houses
Industrial buildings
Masonry
Piles and pile driving
Plumbing
Public works
Railroads—Buildings and structures
Roofs
School buildings
Sheet metal work, Architectural
Shipbuilding
Soundproofing
Steel construction
Steel houses
Strains and stresses
Strength of materials
Tile construction
Trusses
Underground construction
Ventilation
Walls
Wind pressure
Windowless construction
Winter construction
Wood construction

Accidents

See Building accidents

Accounting

Accounting for construction of a metals plant; multi-million dollar aluminum rolling mill. G. L. Stump. N A C A Bul 32:423-32 D '50

Bibliography

Bibliography on management of construction jobs. 9p pa $2 Engineering societies library, 29 W. 39th st, New York 18 '50
Manufacturers literature [cont as] Literature for the office. Published in monthly numbers of Architectural record

Cost

Construction cost indexes, labor and materials; for New York, Atlanta, St Louis and San Francisco; selected years 1925-1949 and monthly Aug.-Oct. 1950. C. Shute, comp. Arch Rec 109:26 Ja '51 [cont monthly]
Construction costs, 1950-1951. maps Eng N 146:119-67 Mr 29 '51
Expenditures for new construction by type; tabulation. Iron Age 167:333 Ja 4 '51
How costs are cut with power tools. il plans Am Bld 73:90-5 My '51
Non-load-bearing walls from a building contractor's point of view; abstract. J. P. H. Perry. Eng N 146:36 F 15 '51
Round table report of home building experts. Arch Forum 94:115-30 F '51; Discussion. 94:46+ My; 40+ Je '51
Round table report on commercial and industrial construction. Arch Forum 94:163-78 Mr '51
What price more space in the builder house? with cost data. il plans Arch Forum 94:130-1 My '51
What will it cost to rebuild your property (cont)? Rough Notes 94:32 Ja; 36 Ap; 34 Jl; 48 O '51

See also
School buildings—Cost

Estimates

Building estimator's reference book. F. R. Walker. 11th ed rev 1780p Frank R Walker co, 173 Madison st, Chicago '50
Vest-pocket estimator. F. R. Walker. 11th ed 220p Frank R. Walker co, 173 Madison st, Chicago '50

Extensions

Extension of the Science museum. il diag Engineer 191:410-11 Mr 30 '51

Finance

Construction financing; bond yields, loan rates. Eng N 146:150 Mr 29 '51
Construction's capacity to produce. map Eng N 146:85-7 Mr 29 '51
Dollar gap in construction. Eng N 145:27 N 30 '50
Little change in maximum mortgage amounts under broadened Regulation X. Eng N 146:25 Ja 25 '51
Pay-as-you-go industrial tract built; Los Angeles international industrial tract. Eng N 146:29 F 1 '51
Real estate credit; amendment to Regulation X effective March 5, 1951; new construction necessary to the national defense; with text. Fed Res Bul 37:271-3 Mr '51
Regulation of real estate credit on nonresidential construction; with text of amended Regulation X and supplement; effective Feb. 15, 1951. Fed Res Bul 37:132-3, 149-62 F '51

See also
Building loans
Federal national mortgage association
Housing finance
Mortgages

Heating aspects

Applying fiberglas perimeter insulation. il Sheet Metal Worker 42:61 Ap '51
Handling sun loads on buildings. W. B. Foxhall. bibliog diags Heat & Ven 48:76-80 Ap '51
New sun angle calculator simplifies solar engineering. D. W. Dunipace. il diags Heating-Piping 23:121-3 Ap '51
Solar irradiation of walls and windows, east and west; October-April; data sheet. F. W. Hutchinson. Heating-Piping 23:106-8 My '51
Solar irradiation of walls and windows; southeast and southwest; October-April; data sheet. F. W. Hutchinson. Heating-Piping 22:106-8 D '50

BUILDING—*Continued*

Rapid construction

Close organization pays off on tough building schedule; New York City's bus terminal. D. C. Andrews. il Eng N 145:32-4 D 14 '50

Kentucky AEC plant organized for fast job. il Constr Methods 33:54-6+ Ag '51

New precutting versatility and speed with patterns and power tools. il Am Bld 73:100-3 My '51

Power tools cut price in economy home. il plan Am Bld 73:110-11 My '51

Power tools make extras possible; low-cost homes built at Birmingham. il Am Bld 73:180+ Ag '51

Replacing foundry building accomplished in record time. il Foundry 79:214+ S '51

Under roof in two hours; new techniques speed construction for H. C. Huber construction co., Dayton, Ohio. il plans Am Bld 73:162-5 Ja '51

Repair and reconstruction

Concrete-wall surgery by mining methods. C. H. Vivian. il Comp Air Mag 56:123-6 My '51

Continuous mat put in fast as big store replaces itself; Jordan Marsh department store in Boston. C. B. Spencer. il diag Eng N 145:34-5 D 28 '50

Extra precautions make super-safe job; parapet replacement on Chicago's Wrigley building; illustrations with text. R. L. Moore. Constr Methods 32:45-7 N '50

New strength and beauty built into Capitol. il diag Eng N 147:30-2 Ag 9 '51

Technical guide for builders and craftsmen. il diags Am Bld 73:54+ Ja '51 [cont monthly]

See also

Houses, Remodeled

Safety aspects

Building construction and wind damage. S. D. Flora. Rough Notes 94:32+ Ag '51

Safety measures

Big Jim and safety first; Jim Woodruff dam; contractors and army engineers cooperated with Florida Industrial commission to start classes training foremen in safety practices. il Eng N 146:104 Mr 15 '51

Extra precautions make super-safe job; parapet replacement on Chicago's Wrigley building; illustrations with text. R. L. Moore. Constr Methods 32:45-7 N '50

I've enjoyed the work; attending safety congresses as representative of American institute of architects. S. R. Bishop. Nat Safety N 63:80-1 Ja '51

Safety at every stage for skyscraper construction. il Nat Safety N 63:22-3 Ap '51

Safety built into high tower hoists. R. L. Moore. il Constr Methods 33:75-6+ My '51

Safety group considers construction. Eng N 145:35 N 30 '50

Standards

A62 committee maps active program. Standardization 22:124-5 Ap '51

Addresses of trade, federal and professional organizations concerned with formulating and issuing standards, codes and manuals, helpful to architects. W. H. Deacy. Arch Rec 108:165 Ag; 163 D '50

Developments in modular coordination, other standards cited by ASA. Am Bld 73:280+ Ap '51

Group formed to advise HHFA on modular system. Arch Rec 110:11-12 Jl '51

How modular coordination works. W. Demarest, jr. il diags Standardization 22:122-3+ Ap '51; Same abr. Mech Eng 73:576-7 Jl '51

How to build more houses in 1952; an open letter to NAHB. Arch Forum 95:131-2 Jl '51

Less waste=more homes; building groups ask for action on standards. Standardization 22:120-1+ Ap '51

Modular coordination in frame houses; with time-saver standards. J. T. Lendrum. il plans diags Arch Rec 109:153-5, 177+ My '51

Modular coordination; prepared with the cooperation of Structural clay product institute; with time-saver standards. diags Arch Rec 108:167+ N; 159+ D '50; 109:153+ F '51

Modular coordination spotlighted as DPA's conservation group begins task. E. Mickel. Arch Rec 109:15-16+ Ap '51

NPA joins the attack on waste in building; editorial. Arch Forum 95:159+ S '51

New Orleans parking garage; series of unit buildings. il diags Arch Rec 110:168-71 S '51

Round table report; coordination; standardization is economy. Arch Forum 94:129-30 F; 173-4 Mr '51

Standards for eliminating waste in house-building; AIA-NAHB resolutions. Arch Forum 94:103+ Ap '51

Unit buildings cut construction costs; design of a parking garage. L. C. Farrant and W. C. Harry. bibliog il diags Am Concrete Inst J 22:669-79 My '51

See also

Building laws and regulations—New York (state)

Statistics

Building and construction. Published in Monthly labor review

Building; tricky to measure; ABC of what's behind some key statistics. il Bsns W p58+ Mr 17 '51

Construction activity in 1950; with figures for other years. Survey of Cur Bsns 31:17-19 F '51

Construction contracts awarded, by type of construction, monthly Jan. 1949-Nov. 1950 and yearly totals for 1949. Fed Res Bul 37:83 Ja '51 [cont monthly]

Construction; 1948 in review; annual report on construction activity and employment. U S Bur Labor Statistics Bul 984:1-49; pa 30c Supt. of doc. '50

Construction; tabulations and charts. Steel 128:148 Ja 1 '51

Construction's capacity to produce. map Eng N 146:85-7 Mr 29 '51

Industrial expansion; by states, July, 1945 through June, 1950, by metropolitan areas; tabulation. Eng N 145:27 D 21 '50

New construction; revised data; yearly, 1915-1950 and monthly, Jan. 1942-Dec. 1950. Survey of Cur Bsns 31:22-4 Ag '51

Study and teaching

Clinton, Iowa high school trains boys to build. il plans Am Bld 73:126-7 S '51

Training future home builders in Chicago high schools. il Am Bld 73:116-17 Je '51

Austria

Army engineers build Austrian homes. il Eng N 146:48+ Je 7 '51

Canada

News from Canada. J. C. Smith. il Arch Rec 109:16+ Ja '50 [cont monthly]

Havana

Unusual types of construction feature Cuban building boom. M. D. Morris. il Civil Eng 21:51 Ja '51

Italy

Tile-concrete pre-fab units used in Italian building construction. diags Brick & Clay Rec 119:38-9 Jl '51

Los Angeles

Weight saving means money saving on Los Angeles building group. il plan Eng N 146:39-41 Ap 26 '51

Miami

Letter from Miami. Eng N 146:112 Ja 18 '51

Nashville, Tennessee

New buildings change Nashville skyline. il Eng N 146:46 Ap 5 '51

Oklahoma City

Building permits in Oklahoma City this year to reach $50 million. il Eng N 145:60 N 16 '50

BUILDING—*Continued*

San Francisco

Multistory buildings designed to resist earthquakes. J. J. Gould. il plans Am Concrete Inst J 23:29-36 S '51

Southern states

1950 awards hit record $4,369,152,000. S. A. Lauver. il Manuf Rec 120:34-5 Ja '51

United States

Ban commercial construction in drastic freeze order. Eng N 146:23-4 Ja 18 '51

Building and furnace forecast for 1951. J. T. Anderson. Sheet Metal Worker 42:61-4 Ja '51

Building forecast for 1951. Arch Forum 93:9-10 D '50

Building freeze; NPA bars commercial starts. Bsns W p32 Ja 20 '51

Building outlook and loanable funds. A. Ihlefeld. Comm & Fin Chr 172:1489+ O 19 '50

Building outlook for 1951. Sheet Metal Worker 42:57+ Ja '51

Building shifts from housing to industrial construction. Eng N 145:23 N 9 '50

Construction jeopardized by NPA order, says AGC. Eng N 145:23 N 2 '50

Construction; 1948 in review; annual report on construction activity and employment. U S Bur Labor Statistics Bul 984:1-49; pa 30c Supt. of doc. '50

Construction to drop 19 per cent. Steel 127:88 N 20 '50

Designs that save materials favored for construction. Eng N 147:23-4 Ag 16 '51

Frivolous building halted, stiffer curbs seen likely; National production authority prohibits the building of amusement and recreational facilities. Eng N 145:23 O 26 '50

Housing slows, as planned. Bsns W p 19-20 F 17 '51

Industry ok's freeze, with reservation. Eng N 146:23-4 Ja 25 '51

Major projects; buildings and housing. il Eng N 146:170+ Mr 29 '51

Military building replaces loss in private construction. Eng N 146:23 Ja 25 '51

Mobilization, sharp turn for construction. il Eng N 146:75-7 Mr 29 '51

More curbs; less building. Bsns W p 100-1 Je 30 '51

NPA slaps complete controls on all construction work. V. B. Smith. Eng N 146:23-4 My 10 '51

New look at 1951 construction; volume estimate up. Arch Rec 109:9+ Mr '51

Strict rule book to govern administration of M-4 order. Eng N 146:23-4 My 24 '51

U.S. control agency shuffle forecasts early restrictions. Eng N 146:23 Ja 11 '51

Western states

Construction booms west of the Mississippi. Eng N 145:19 O 26 '50

BUILDING, Underground. See Underground construction

BUILDING accidents

Injuries and your purse. Eng N 146:124 F 8 '51

Work injuries in construction, 1948-49. F. S. McElroy and G. R. McCormack. U S Bur Labor Statistics Bul 1004:1-35; pa 25c Supt. of doc. '50

Work injury rates in construction, 1948-1949; tabulation. Eng N 146:137 Mr 29 '51

BUILDING and loan associations

Formation of regional committees for savings and loan associations; Voluntary credit restraint program. Fed Res Bul 37:755-7 Jl '51

Home financing business in partially mobilized economy. W. J. L. Ray. Comm & Fin Chr 174:506+ Ag 9 '51

Savings and loans watch business rise, see no mortgage stew. Arch Forum 95:55 Ag '51

Thin ice for savings and loan associations in New York; surplus ratios too low. Bsns W p 152-3 S 22 '51

See also

Federal savings and loan associations

Federal savings and loan insurance corporation

United States savings and loan league

Great Britain

Abbey national building society; statement by the chairman. H. Bellman. Economist 160:572 Mr 10 '51

Building societies' active year. Economist 160:566 Mr 10 '51

Building societies' boom. Economist 160:752-4 Mr 31 '51

BUILDING contracts

AFL drive on Pentagon against construction contract awards to nonunion contractors. Bsns W p 114+ O 21 '50

City sues contractor on legal technicality. Eng N 145:29 N 23 '50

Legal decisions concerning construction (cont). Constr Methods 32:100-1+ N; 93 D '50; 33:60-1+ Ja; 106+ F; 82-4 Mr; 103 Ap; 105-6+ My; 93 Je; 109-10 Ag; 106+ S; 105-6 O '51 (to be cont)

Legal decisions; summaries of decisions relating to construction (cont). I. V. Werbin. Eng N 145:44 O 26; 34 N 16; 45 N 23; 40 N 30; 45 D 7; 47 D 21; 28 D 28 '50; 146:41 Ja 11; 42 Ja 18; 48 Ja 25; 48 F 1; 48 F 15; 47 F 22; 37 Mr 22; 48 Ap 12; 40 My 3; 37 My 10; 41 My 17; 38 Je 7; 147:32 Jl 12; 34 Jl 19; 35 Je 26; 38 Ag 9; 43-4 Ag 30; 58 S 6; 46+ S 13; 33+ S 20 '51; 32 O 11; 48 O 18; 40 O 25 '51

McGraw's Strike: Hartford builder received largest government construction contract ever awarded. Fortune 43:100-1+ Ap '51

Separate versus single contract. il Eng N 147:148 S 13 '51

What constitutes adequacy of construction? W. D. Sadler. Civil Eng 21:205 Ap '51

BUILDING cycles

Frickey, Burns and Mitchell, and the transport-building cycle. W. Isard and L. Moses. bibliog R Econ & Stat 32:347-51 N '50

BUILDING documentation, International council for. See International council for building documentation

BUILDING fittings

Building products on review; photographs with text. Am Bld 73:68+, 112-28+ Ja '51

Hardware; hand of doors, casement windows, types of locks and latches, etc.; with time-saver standards. S. Howard. diags Arch Rec 106:146+ O; 144+ D '49; 107:138+ F; 172-3+ Ap; 108:147+ Jl; 161+ S '50; 109:143+ Ja; 159+ Mr; 199+ Je; 110:175, 177 Jl '51

Use of steel in homes; tabulation. Iron Age 167:324 Ja 4 '51

BUILDING laws and regulations

Background to building code progress. L. G. Haeger and J. H. Reed. Arch Rec 109:140-1 Ja '51

BOCA convention; industry begs for faster code reform. Arch Forum 94:26 Je '51

Codes vs. progress; codes apply unreal double standard to residential and industrial building. R. L. Davison. il plans diags Arch Forum 93:114-21 D '50; Discussion and reply. 94:238+ My '51

Plastics, in war and peace; changes in building codes permit use of acrylic plastics in signs. F. J. Rarig. il Standardization 22:141-3 My '51

Round table report; building codes. Arch Forum 94:174-5 Mr '51

Standard of living v. standard of waste. Fortune 43:21-2 Mr '51

Waste vs. health; American public health association joins attack on code-enforced waste. Arch Forum 94:112+ My '51

Widespread progress is evident in the modernization of building codes. Eng N 146:63-4 My 3 '51

Will the courts enforce waste? senseless code provisions; editorial. Arch Forum 94:111-12 My '51

See also

City planning—Zone system

Mechanics' liens

Georgia

Georgia tightens up on fire safety! D. Medsker. il Nat Safety N 62:20-1+ N '50

New York (state)

New York aims at a flexible state building code. E. J. Szendy. Eng N 146:35-6 My 17 '51

New York state building code commission; aims and accomplishments. W. Lescaze. il map diags Arch Rec 109:184-7+ Je '51

BUILDING loans
Mortgage and building loans tighten up. Bsns W p 114+ Je 2 '51
Should loan commitments be recorded? J Account 90:519-20 D '50
See also
Mortgages
Veterans—Loans

BUILDING materials
American Builder directory section; alphabetical list of building products and equipment; brand names. Am Bld 73:D58-84 Ap '51
Building panels combine workability of lumber with durability of concrete; Bildrok. il diag Arch Forum 94:266+ Mr '51
Building products on review; photographs with text. Am Bld 73:68+, 112-28+ Ja '51
Buying made easy with self-order service; Forest City material co., Cleveland. il diag Am Bld 73:118-19 Mr '51
Chemist helps to build. Chem Age (Lond) 63:911-12 D 30 '50
Clay products and the architecture of tomorrow. A. G. Lorimer. Am Cer Soc Bul 30:33-4 F 15 '51
DPA outlines ground rules for design to save critical building materials. Eng N 147:27 S 13 '51
Heat conductivity of building materials; abstract. A. Watzinger. Refrig Eng 58:1178 D '50
HHFA OK's model law for substitute materials. Eng N 147:100-1 Ag 16 '51
Housing materials analysis; review of Housing and the emergency, part 1, by L. Haeger. Arch Rec 110:11 Ag '51
How to get the best plant from the materials available. K. K. Stowell. il diags Factory Management 109:B70-3 pt 2 Ap '51
Inventory control order affects building materials. W. H. Harrison. Am Bld 72:172 N '50
Materials of construction in the chemical industry; abstracts of papers read at the conference in Birmingham, April 18-20, 1950. Chem & Ind p61-8 Ja 27 '51
Outlook still good despite housing cut-back. F. Henle. Barron's 31:21-2 Ja 8 '51
Radiant conditioning in use at Reflection Point. C. A. Mills. il Heating-Piping 22:88-91 D '50; Same cond. Arch Forum 93:127-31 N '50; Discussion. Heating-Piping 23:69-70 Mr '51
Research reports aid builders, designers. Eng N 147:62 Ag 2 '51
Residential cooling by reflective radiation. C. A. Mills. il Refrig Eng 58:1057-9 N '50; Discussion. 59:268+ Mr '51
Standards in use of materials in combination urged. E. K. Abberly; H. C. Plummer. Concrete 59:44 Ja '51
Unified labels spark sell-the-line merchandising plan for Pabco. il Sales Management 67:44-6+ S 15 '51
Wanted; substitutes the builder can use when critical supplies are diverted for war production. Arch Forum 94:110-11+ Ja '51
See also
Adobe
Aluminum, Structural
Bricks
Clay products
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Concrete, Reinforced
Concrete blocks
Flooring
Glass, Structural
Glass blocks
Gypsum products
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Mastics (asphalt composition, etc.)
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Plywood
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Sheet metal work, Architectural
Steel, Structural
Strength of materials
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Wall board
Wood

Advertising

See also
Celotex—Advertising

Prices

Construction materials prices; tabulations. Eng N 146:133+ Mr 29 '51
OPS juggles construction price rule. V. B. Smith. Eng N 147:23-4 Ag 2 '51
Price regulation affects materials and equipment. Eng N 146:23-4 My 3 '51
Wage-price pegs put brakes on rising construction costs. Eng N 146:23 F 1 '51

Standards

Addresses of trade, federal and professional organizations concerned with formulating and issuing standards, codes and manuals, helpful to architects. W. H. Deacy. Arch Rec 108:165 Ag; 163 D '50

Bibliography

Bibliography of standard codes and specifications. W. H. Deacy. Arch Rec 108:167+ Ag; 156 S; 163 D '50

Testing

Bases for building codes; tests conducted at National bureau of standards develop data on construction materials and methods. G. N. Thompson. il Nat Safety N 62:24-5+ D '50
Water-vapor permeability of building papers and other sheet materials. E. R. Bell and others. bibliog il diag Heating-Piping 22:109-15 D '50

BUILDING officials conference of America
Annual convention, 36th, Toronto. Arch Forum 94:26 Je '51

BUILDING owners and managers, National association of. See National association of building owners and managers

BUILDING paper. See Paper, Building

BUILDING research
Building research congress, London, Sept. 11-20, 1951. Eng N 146:52 Ja 4 '51
Building research station, D.S.I.R. il Chem & Ind p516 Je 30 '51

BUILDING research advisory board. See National research council—Building research advisory board

BUILDING service employees international union
Day in the life of a labor leader; William L. McFetridge. il Bsns W p42-6+ Ag 18 '51

BUILDING stone
Brownstone era. C. H. Vivian. il diags Comp Air Mag 56:198-205 Ag '51
Building stones of London; abstract and discussion. R. J. Schaffer. Chem & Ind p773-4 D 2 '50

BUILDING trades
Customer complaints; no problem for housebuilder Lester Robbins. il Arch Forum 93:50+ D '50
Industry's new year is ushered in with restrictive orders. Arch Forum 94:9+ Ja '51
Is there an American standard of waste? il Fortune 43:112-13+ My '51
Labor, steel, equipment shortage looms. Eng N 146:23+ Mr 15 '51
Mobilization, sharp turn for construction. il Eng N 146:75-7 Mr 29 '51
1951 building panorama. T. S. Holden. Comm & Fin Chr 173:1019 Mr 8 '51
Outlook for building. W. E. Hoadley, jr. Comm & Fin Chr 173:727 F 15 '51
Place of standardization in construction; abstracts of papers at National standardization conference. Standardization 22:20-1 Ja '51
Total building will drop. Bsns W p89-90 N 18 '50
Why Yale & Towne repeats "Keys to happiness"; co-op promotion with National association of home builders, and other hardware makers. Sales Management 66:79-80 My 20 '51
See also
Building officials conference of America
Houses, Model
Johns-Manville corporation
McGraw, F. H., and company
National association of home builders

Advertising

How a small city lumber dealer staged a National home week. il plan Am Bld 73:92-4 Je '51
Institutional ad use by builders is increasing. Ed & Pub 84:52 My 5 '51
Stage a home demonstration in your lumber yard during National home week. il Am Bld 73:95+ Je '51
See also
Wall board—Advertising

BUILDING trades—*Continued*

Directories

American Builder directory section; building products, manufacturers and brand names. Am Bld 73:D 1-84 Ap '51

Finance

Building outlook and loanable funds. A. Ihlefeld. Comm & Fin Chr 172:1489+ O 19 '50

For building material suppliers; lien law is a parachute. V. S. Tjossem. Credit & Fin Management 53:16-17+ Mr '51

Labor conditions

AFL drive on Pentagon against construction contract awards to nonunion contractors. Bsns W p 114+ O 21 '50

AGC, building trades sign master agreement. Eng N 145:26 D 14 '50

Base rates on compensation insurance for construction, Jan. 1, 1951; tabulation. Eng N 146:153 Mr 29 '51

Boss settles the arguments; construction workers in New York city's metropolitan area. Eng N 147:112 S 20 '51

Building labor wages and welfare set. Eng N 145:27 N 23 '50

Building polls; plumbers win plea to NLRB. Bsns W p33-4 Ap 7 '51

Building wage rises get priority. Eng N 146:65 Je 28 '51

Building wages rise in first quarter. Eng N 146:68-9 My 17 '51

Construction labor notes. J. Connolly. Constr Methods 33:96+ Je '51

Construction; 1948 in review; annual report on construction activity and employment. U S Bur Labor Statistics Bul 984:1-49; pa 30c Supt. of doc. '50

Construction wages; tabulations. maps Eng N 146:139+ Mr 29 '51

Fine distinction between primary and secondary boycotts; Denver case. N. C. Rockwood. Rock Prod 53:41+ N '50

High courts, state limit union powers. Eng N 146:77 Je 14 '51

Issue construction wage-salary order. Eng N 147:69+ Ag 2 '51

Labor's fringe benefits increasing. Eng N 146:19 Mr 22 '51

NLRB clarifies effect on commerce, restricts joint board's influence. Eng N 145:26 N 9 '50

Open-shop fight at Brown & Root, inc. Bsns W p 106+ O 28 '50

Payment by results in the building industry. Int Labour R 63:64-78 Ja '51

Stabilization board tackles construction wage problems. J. Gambatese. Eng N 146:23 F 15 '51

Strike halts San Francisco work. Eng N 147:94 Ag 16 '51

Texas contractor fights AFL unions in sweeping anti-closed-shop suit. J. A. Lee. Eng N 145:24 O 26 '50

Tobin sets AEC-Savannah River wages. Eng N 146:23-4 F 15 '51

Union rejects contract; AGC suit may proceed. Eng N 145:24 N 9 '50

Union wages and hours; building trades, July 1, 1950. J. F. Laciskey. U S Bur Labor Statistics Bul 1011:1-33; pa 20c Supt. of doc. '51; Excerpt. Mo Labor R 72:42-5 Ja '51

Wage-price pegs put brakes on rising construction costs. Eng N 146:23 F 1 '51

Wage rates, New York city; Canadian wage rates; tabulations. Eng N 146:137 Mr 29 '51

Regulation

All construction put under federal control machinery. Eng N 147:23-6 Ag 9 '51

Building control; NPA to delegate licensing power for new building projects. Bsns W p 132 Je 9 '51

Building controls get tough as defense hits stride. Arch Rec 110:11+ S '51

Building hit again; NPA tightens clamps. Bsns W p 128 Je 2 '51

Chaos in construction controls; an open letter to NPA. Arch Forum 95:157-8 S '51

Construction goes under CMP; questions and answers. Heating-Piping 23:206-7 S '51

CMP becomes effective for construction industry. Eng N 146:23-4 Je 28 '51

CMP begins as one-package program to spread materials; interview with Walter C. Skuce. Eng N 147:23-4 Jl 26 '51

CMP ordered for all construction on Oct. 1. Arch Forum 95:37-8 Ag '51

CMP quiz; construction questions and answers listed by NPA in simple form. Iron Age 168:117-20 S 13 '51

CMP reaches construction; N.A.H.B. looks at CMP. Arch Rec 109:24-6 Je '51

Controllers polish regulation putting building under CMP. Eng N 146:23-4 Je 14 '51

Government revises regulations on building. Am Bld 73:233 S '51

House building; yea and nay. Bsns W p25 S 8 '51

How to appeal NPA permit denials. E. Mickel. Arch Rec 109:246+ Je '51

Limitation order halts unnecessary building, raises question about other building types. Arch Forum 93:11-12 N '50

M-4 amendment. E. Mickel. Arch Rec 109:17 Je '51

More controls seen likely as mobilization gears up. V. B. Smith. Eng N 146:23 F 22 '51

NPA backs down on building. Bsns W p 106-7 N 11 '50

NPA clarifies application of broadened control order. Eng N 146:23 My 17 '51

NPA criteria to limit new building. Eng N 147:72 Ag 30 '51

National production authority tightens regulations; amendment to M-4. Concrete 59:34-5 Je '51

New curbs on building. Bsns W p 150 My 12 '51

New interpretations of NPA-CMP rules published for construction industry. Eng N 147:26 S 27 '51

Spell out details of CMP for construction industry. Eng N 146:23-4 My 31 '51

Squeeze on building. il Bsns W p26-8 Jl 21 '51

Strict rule book to govern administration of M-4 order. Eng N 146:23-4 My 24 '51

Securities

Another look at the building industry; with position of leading building materials stocks. Mag of Wall St 87:613-15+ Mr 10 '51

Shift and change in the building industry; with statistics of leading building material stocks. S. Devlin. Mag of Wall St 88:505-7+ Ag 11 '51

Stocks that ignore trends; building-materials shares. Bsns W p 114-15 N 11 '50

Statistics

Building shift; homes to factories. Bsns W p21 O 21 '50

Retail trade, 1948, for metropolitan areas. Ptr Ink 235:148+ My 25 '51

Taxation

AGC warns of pitfalls for excess-profits tax. Eng N 145:23-4 N 30 '50

Five-year write-off and you; how quick depreciation can backfire as well as help. Eng N 145:84 N 30 '50

Canada

Construction industry must prepare for tremendous expansion. R. Drummond. Roads & Eng Constr 89:69+ Jl '51

New York (city)

New York builders protected by termination clause. Eng N 146:27 Ap 26 '51

United States

What's ahead for building? cross-section of opinions from the industry; symposium. Am Bld 73:133-6 Ja '51

BUILDING-unit system. See Building—Standards

BUILDINGS

See also

Airport buildings
Architecture
Bank buildings
Building
College buildings
Concrete buildings
Electric utilities—Buildings
Exhibition buildings
Factories
Farm buildings
Gas companies—Buildings
Gasoline service stations
Gymnasiums
High buildings
Highway departments—Buildings
Hospitals
Hotels
Houses
Industrial buildings
Insurance company buildings
Library buildings
Medical buildings
Military buildings
Mine buildings
Municipal buildings
Office buildings
Public buildings
Railroads—Buildings and structures
School buildings
Shopping centers
Society buildings
Steel buildings
Store buildings
Telephone company buildings
Theaters
Warehouses

Demolition

See Wrecking

Exterior lighting

Bank tower floodlighting. il Illum Eng 46:76 F '51

Maintenance and repair

Maintenance chemicals; what the building superintendent wants. T. R. M. Coull. Soap & San Chem 27:134-5+ Je '51

Organisation for the maintenance of buildings and installations. R. Chalmers. Engineer 191:186-7 F 9 '51

Sunlight exposure

Sunshades for office buildings. il diags Arch Forum 93:92-5+ D '50

Vibration

Blasting vibrations' effects. L. D. Leet. il Explosives Eng 29:42-4 Mr '51

Vibrations due to blasting and their effects on building structures. G. Morris. bibliog il diag Engineer 190:394-5, 414-18 O 27-N 3 '50

Wrecking

See Wrecking

BUILDINGS, Demountable

New hangar comes apart in the middle. diags Aviation W 54:37 Ap 9 '51

BUILDINGS, Industrial. See Industrial buildings

BUILDINGS, Multiple use

New version of an old idea; combination store and law office building, St Petersburg, Fla. il plans diag Arch Rec 110:166-7 S '51

School today, stores tomorrow; Pearl River, N.Y. school has provisions for future conversion. il plan Arch Forum 94:164-5 Ap '51

Statler Center, Los Angeles. il plans diags Arch Rec 109:89-104, 147-8 Mr '51

BUILDINGS, Portable

Portability and compactness feature generator house and mud tank units. G. M. Wilson. il World Oil 132:96-7 F '51

See also

Buildings, Demountable

BUILDINGS, Prefabricated

Prefabricated steel toll booths on Penn turnpike extensions. il Eng N 147:44 Ag 2 '51

Tilt-up wall construction popular in Midwest. il Constr Methods 33:63+ Ag '51

BUILDINGS, Remodeled

First-World-War plant remodeled; alterations to Sun steel company shop building, Chicago. il Arch Rec 109:140-1 F '51

Garage remodeled as office building; Charlotte, N.C. il plans diags Arch Rec 110:145-8 S '51

Getting the most from remodeling dollars; Harper florist shop, Atlanta. il plan diags Am Bld 73:128-9 Ag '51

Grand Junction, Colo. city hall is old school with top lopped off. T. E. Moore and R. A. Van Deusen. il plan Arch Forum 94:141 Je '51

Lane Bryant, Brooklyn. il plans diags Arch Rec 110:113-18 Jl '51

Life begins at forty; San Jacinto hotel in Houston being converted into an office building. R. B. Reilly. il Eng N 146:32 Je 7 '51

Remodeling old structures is profitable; apartment units made from old masonry structure. il plans Am Bld 73:100-1 Mr '51

Remodeling services attract more clients for Oshkosh, Wis. builder. il plans Am Bld 72:96-7 N '50

Remodeling solves space problem; Fidelity investment company offices, Wichita. il plan Arch Rec 110:164-5 S '51

Welded frame allows re-use of century-old building. E. E. Goehringer. il Eng N 146:37 Je 14 '51

BUILT-in furniture. See Furniture, Built-in

BULGARIA

Commerce

U.S. suspends trade agreement concessions with regard to Bulgaria. For Comm W 45:26 O 1 '51

Commercial policy

Trade agreement with western Germany revised. For Comm W 42:8 Ja 8 '51

Foreign relations

Frontier mischief; Turkish minority in Bulgaria. Economist 159:582 O 7 '50

BULKHEADS

Bulkhead on scroll case allows one-pour encasement; hydroelectric units installed at Center Hill dam on Caney Fork river, Tenn. il Eng N 145:42 N 2 '50

BULKHEADS (naval architecture)

Mezzo folding deck and grain division. diags Engineering 171:611-12 My 18 '51

Stress studies of welded ship structure specimens. W. R. Campbell. il diags Welding J 30:sup68-76; Discussion. sup76-8 F '51

BULL SHOALS dam. See Dams, Concrete

BULLEN, Frederick

New men take reins of Wage stabilization board. por Bsns W p32 Ag 18 '51

BULLENE, E. F. 1895-

Bullene nominated to head Chemical corps. por(cover) Chem & Eng N 29:2476 Je 18 '51

BULLETIN boards

Hats off to good workers; Jensen printing company bulletin board. W. J. Henretty. Personnel J 29:333-5 F '51; Same. il Inland Ptr 127:47+ Jl '51

BULLION. See Precious metals

BUMSTEAD, John C.

Leaves ENR; joins Ohio Valley agency. Eng N 146:30 Ja 4 '51

BUNSEN, Robert Wilhelm Eberhard, 1811-1899

European chemical developments in the nineteenth century. H. S. van Klooster. J Chem Educ 28:359-60 Jl '51

BURDEN rate. See Overhead expense

BUREAU of accident and health underwriters

Review of 1950 activities. J. F. Follmann, jr. Weekly Underw 164:88-90 Ja 6 '51

BUREAU of advertising. See American newspaper publishers association—Bureau of advertising

BUREAU of contract information

Annual meeting, New York. East Underw 51:88+ D 15 '50; Nat Underw 54:22 D 14 '50

BURETS

Recently developed syringe microburet. R. H. Müller. il Anal Chem 23:sup23A-4A+ My '51

BURGLARY insurance. See Insurance, Burglary

BURIAL vaults. See Tombs

BURIED hills

Buried hill at Wilcox-Carrizo contact in east Texas. H. B. Stenzel. bibliog il map diags Am Assn Pet Geologists Bul 35:1815-28 Ag '51

BURLAP

Burlap outlook better, but Indian tax mars it. Barron's 31:19-20 S 24 '51

Burlap price too high for OPS, but others buy. Barron's 31:27-8 Ap 2 '51

Kashmir dispute dims hope for more burlap. Barron's 31:17 Jl 23 '51

BURLINGTON mills corporation

Ten potential market leaders for 1951; with comparative balance sheet items. Mag of Wall St 87:503 F 10 '51

BURMA

Burma off balance. map Economist 160:1355-6 Je 9 '51

Economic conditions

News by countries. For Comm W 43:9-10 Ap 2; 13 My 14; 10 Je 25; 44:9-10 Jl 23; 9-10 Ag 20; 10 S 24 '51

BURMAH oil company, limited

Statement by the chairman at 49th annual general meeting. K. B. Harper. Economist 161:126-7 Jl 14 '51

BURN, Sir Joseph, 1871-1950

Sketch. por East Underw 51:7 O 20 '50

BURNERS

British Combustion liquid fuel burner. il diags Engineer 192:supp 15-16 Ag 31 '51

High-velocity burners cut fuel costs and furnace size. L. C. Peskin. il diags Iron Age 168:63-6 Ag 9; 104-7 Ag 16 '51

How to use three fuels at once; refinery burner handles pulverized coal or coke, gases, and oil, tar, acid sludge, or pitch. A. R. Nichols. diags Pet Processing 6:1005-7 S '51

Multifuel burners. W. H. Decker. diags Mech Eng 73:633-8+ Ag '51

New high thermal burner; combination oil and gas burner. Blast F & Steel Pl 38:1204 O '50

See also

Gas burners

Oil burners

Sulfur burners

Advertising

Peabody makes a test of sales without advertising. il Ind Marketing 36:98 Ap '51

BURNERS, Gas. See Gas burners

BURNISHING. See Polishing

BURNS, Hendry Stuart MacKenzie, 1900-

Burns of Shell Oil. por Fortune 44:124-5 S '51

BURNS and scalds

Antihistaminics in the treatment of burns. M. M. Kessler. Ind Med 20:42-3 Ja '51

Once burned, twice shy; lesser injuries with first aid and professional treatment. F. E. Hall. il Safety Maint & Prod 100:58-61 D '50

BURROUGHS adding machine company

Burroughs drive; auto union tries to organize. Bsns W p 140 Mr 17 '51

BURROWS, Carl

Coleman company's v-p and national sales manager. H. Woodward. por Sales Management 66:42 Mr 15 '51

BURRS

Carbide burs simplify difficult machining operations. G. H. DeGroat. il diags Mach 57:155-8 D '50

What carbide burs do, and how. H. E. Linsley. il Am Mach 95:142-3 Je 11 '51

BURTON, Robert R.

Burton, new director, civil defense communications. Q S T 34:25 D '50

BUSBARS

Bus sectionalizing links reduce maintenance expense. J. F. Phelan. diags Elec World 136:122+ Ag 27 '51

Busbar lighting system; convenient and adaptable equipment. il Elec R (Lond) 148:358 F 16 '51

How to specify bus-transfer schemes. A. Conangla. il diags Power 95:78-9 Ap '51; Same. Elec World 136:130-1 S 10 '51

Induced currents in high-capacity bus enclosures. S. C. Killian. diags Elec Eng 70:116 F '51

Isolated-phase bus serves Coulee pumps. R. G. Lockett. il diag Elec West 106:68-9 Ap '51

Simplified 230-kv. bus effects economies. L. F. Hunt. il diags Elec West 106:60-1 Ja; 65 Mr '51

Square ventilated bus cuts service costs. G. Lufsey. il Elec World 134:118 D 4 '50

Painting

New tool quickly paints energized 110-kv buses. Elec World 134:121-2 N 6 '50

BUSH, Vannevar, 1890-

Vannevar Bush, John Fritz medalist for 1951; presentation address by E. S. Lee, response by V. Bush. por Elec Eng 70:197-201 Mr '51

BUSHINGS

American standard dimensions of guidepost bushings for punch-press die sets; data sheet. Mach 57:239 Ag '51

Quick-acting fixture for holding small bushings. I. Mansfield. diags Mach 57:190 N '50

Recommended interference fits for cast-iron and steel bushings in aluminum at room temperature; data sheet. Mach 57:263 Jl '51

Rivet bushes. il Engineer 192:161 Ag 3 '51

BUSHINGS, Insulating

New transformers over generator bushings save space. C. C. Sterrett and C. A. Woods. il Westinghouse Eng 11:98-9 My '51; Same cond. Elec World 136:104+ S 24 '51

Operation of bushings in carbonized oil; abstract. W. R. Wilson and L. Wetherill. Elec Eng 70:884 O '51

BUSINESS

American business and world peace. H. A. Bullis. Comm & Fin Chr 173:920 Mr 1 '51

American business strategy for the long war. G. A. Price. Edison Elec Inst Bul 19:5-8 Ja '51

Europe needs U.S. attitudes more than U.S. tools. L. Villalon. Mod Ind 22:48-50 S '51

Financing expansion; retained profits made possible bulk of postwar improvements; dividends low. Steel 127:82-3 D 4 '50

Gangland's grip on business; Kefauver report. Bsns W p22 My 12 '51

Is anybody listening? business must start doing more listening itself. il Fortune 42:77-83+ S '50; Same cond. Management R 39:574-7 O '50

Language of business. Fortune 42:113-17+ N '50

Long-term business outlook; review of What's ahead for American business, by S. H. Slichter. R. E. Freeman. Mech Eng 73:626+ Ag '51

Somebody is always listening. A. R. Heron. Paper Tr J 132:136-40 F 23 '51

Steel, oil, wheels, and electric power; big business has made America great. T. S. Petersen. Pub Util 47:758-65 Je 7 '51

What can business do with a 23 cent tax dollar? Brick & Clay Rec 119:66 S '51

Your business and the A-bomb; abstract of Risk Research memorandum. Comm & Fin Chr 173:157+ Ja 11 '51

See also

Accounting

Advertising

Applications for positions

Auditing

Banks and banking

Billing

Budget, Business

Business conditions and other headings beginning Business

Card system in business

Catalogs

Christmas business

Collecting of accounts

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Commercial correspondence

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Real estate business

Retail trade

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Sales letters

Salesmanship

Salesmen

Securities

Taxation

Telephone in business

Trade associations

Trade marks

Trust companies

Trusts, Industrial

Bibliography

Business bookshelf. Dun's R 59:30-2 Ja '51 [cont monthly]

BUSINESS—Bibliography—*Continued*

Business reference publications; catalogs, directories, buyers' guides, etc. Ind Marketing 35:119-21 S 15 '50

Business reference publications; catalogs, directories, buyers' guides, etc. Ind Marketing 36:107-9 Je 25 '51

Classified index to articles published in the Journal of business of the University of Chicago, 1928-51. J Bsns 24:150-62 Ap '51

52 business books of 1950-51. J. E. Cross. Library Journal [New York] 76:824-8 My 15 '51

Recent business books. Cleveland Pub Lib Business Information Bur Bul v 22, no 4: 11-14 Jl '51 (pa 10c)

New businesses

Business population by legal form of organization. B. C. Churchill. Survey of Cur Bsns 31:9-14+ Je '51

Small business

Defined, but leaderless; Small defense plants administration. Bsns W p24 S 15 '51

Does small business need a new concept of salesmanship? R. Weaver, jr. il Dun's R 59:18-19+ S '51

Financial problems of small business; a survey; abstract. Management R 40:93-4 F '51

Financing small business without government aid or subsidies. W. R. Bimson. Credit & Fin Management 52:8-10+ N '50

How a small company stays on top of shifting markets; Magnecord, inc. H. E. Green. il Ptr Ink 235:25-7 My 18 '51

How small business can sell to government today. Ind Marketing 36:33 My '51

Let's put more plants to work on defense! J. Sparkman. Sales Management 66:88+ Je 1 '51

Life insurance companies lend to small business. J. M. Bryan. Credit & Fin Management 52:11-13+ N '50

Little business holds its own. Bsns W p 144+ Je 16 '51

Mr Small Business meets the prime contractors at production seminar and display put on by air force Eastern procurement district in New York. il Bsns W p73-6 Mr 3 '51

Mobilization endangers small business. J. M. Mead. Comm & Fin Chr 173:1452 Ap 5 '51

NPA acts to clarify term small business. Oil Paint & Drug Rep 160:5+ S 3 '51

Problems of small business in defense. C. Gaines. Manuf Rec 120:33 My '51

Small business again bids for defense work; industrial pools. C. F. Berry. Barron's 31: 26 My 28 '51

Small business and defense contracts. P. F. Ashler. Harvard Bsns R 29:104-12 My '51

Small business gets a break; new Washington agency may clear way for production pools. Bsns W p80-2 Jl 14 '51

Small business; its fears are belied by its 1950 prosperity. M. Adams. Barron's 31:7-8 Ap 23 '51

Uncle spreads the word; government consultants hold clinics for small business. il Bsns W p74-6+ D 2 '50

What small firms will, and won't, get in defense contracts. Bsns W p 19-20 F 3 '51

What the Department of commerce is doing to aid small business on contracts; operating program of NPA. E. H. Lane. Credit & Fin Management 53:9-10 Mr '51

What's wrong with small business? safety panel discussion. Nat Safety N 64:104-5+ O '51

Who gets orders? small business share. Bsns W p 134 Je 9 '51

See also
Contracts, Government—Pooling

Social aspects

Business ethics and world conflict. R. J. Watkins. il Dun's R 59:15-17+ S '51

Terminology

Theory and facts of credit and financial terminology. E. O. Kallmann. Credit & Fin Management 53:8-10+ Jl '51

BUSINESS advisers. See Business consultants

BUSINESS budget. See Budget, Business

BUSINESS combinations
See also
Contracts, Government—Pooling

BUSINESS conditions

Battle of production and the business outlook. L. D. Edie. Comm & Fin Chr 173:535+ F 1 '51

Business and finance speaks after turn of the year; symposium on 1951 outlook. Comm & Fin Chr 173:249+ Ja 18 '51

Business and financial outlook for 1951. R. W. Babson. Comm & Fin Chr 172:2529+ D 28 '50

Business outlook. F. R. Peterson. Comm & Fin Chr 173:1633+ Ap 19 '51

Business outlook. R. Rodgers. Comm & Fin Chr 173:2244+ My 31 '51

Business outlook. W. Thomas. Comm & Fin Chr 172:1789+ N 9 '50

Business outlook. Q. F. Walker. Comm & Fin Chr 172:2276+ D 14 '50

Business outlook at mid-year. L. D. Edie. Comm & Fin Chr 173:2241+ My 31 '51

Business outlook to the end of the year. E. A. Krauss. Mag of Wall St 88:232-4+ Je 2 '51

Business pattern shaping up for 1951. E. A. Krauss. Mag of Wall St 87:367-9, 396 Ja 13 '51

Business probabilities in the rearmament economy. H. B. Dorsey. Comm & Fin Chr 172:2182+ D 7 '50

Business still holds steady; from Business bulletin of LaSalle extension university. Comm & Fin Chr 174:602+ Ag 16 '51

Compass points of business; with tables (cont). Dun's R 58:5-12 N '50; 59:5-12 F; 5-12 My; 5-12 Ag '51

Defense spending helps push economy sky-high; midyear review and forecast. Steel 129:45-8 Jl 2 '51

Economists view 1951 business trends; National industrial conference board symposium. Comm & Fin Chr 173:160+ Ja 11 '51

Fall outlook for industry and trade promising; from Business bulletin of LaSalle extension university. Comm & Fin Chr 174: 773+ Ag 30 '51

First year of Midwest stock exchange successful. H. P. Hargrave. Comm & Fin Chr 172:2197 D 7 '50

Good business seen into 1951. Steel 127:83 D 4 '50

Government controls and the business outlook. W. Lindow. Comm & Fin Chr 173: 1221+ Mr 22 '51

Has attitude changed about 1951 business prospects? Mill & Factory survey. Mill & Factory 47:69-72 N '50

Headache no. one; materials shortage heads businessmen's worries. Bsns W p25 D 16 '50

How does business stand on civilian production? Mill & Factory survey. Mill & Factory 49:67-8 Jl '51

How is business doing profit-wise? Mill & Factory survey. Mill & Factory 48:87-8 Je '51

How much fall business pick-up? E. A. Krauss. Mag of Wall St 89:8-10+ O 6 '51

Impact of the mobilization speed-up. F. R. Garfield. Comm & Fin Chr 173:1341+ Mr 29 '51

Inventory picture and the business outlook; National industrial conference board report; abstract. Comm & Fin Chr 173:1958-9 My 10 '51

Investment policies and business outlook. H. B. Dorsey. Comm & Fin Chr 173:429+ Ja 25 '51

Issues facing us. E. G. Nourse. Comm & Fin Chr 172:1584+ O 26 '50

Low 1951 earnings cut. E. P. Rubin. Barron's 31:31-2 Ja 8 '50

Marks of war on the U.S. economy. Bsns W p22-3 Ag 4 '51

Materials still number one worry. Bsns W p23 Mr 10 '51

Mid-year observations on business. M. Palyi. Comm & Fin Chr 173:2443+ Je 14 '51

Mobilization today and tomorrow; economic outlook. Elec World 135:120-3 My 21 '51

Mutual fund executives forecast 1951 industry results. P. A. Johnston. Barron's 31:25-7 Ja 15 '51

BUSINESS conditions—*Continued*

National association of purchasing agents' business survey committee, monthly report. Comm & Fin Chr 172:2545; 173:537, 942, 1442-3; 174:73, 874, 1264 D 28 '50, F 1, Mr 1, Ap 5, Jl 5, S 6, O 4 '51
National securities & research corp. sees high earnings continuing through 1951. P. A. Johnston. Barron's 31:15-17 S 17 '51
National summary of business conditions. Published in monthly numbers of Federal reserve bulletin
New, short, economic summary by Federal reserve bank gives picture of business conditions. J Account 92:99-100 Jl '51
Nobody's staying awake. Bsns W p26 Je 30 '51
Optimistic on business and security markets; abstract. V. L. Bassie. Comm & Fin Chr 173:2679 Je 28 '51
Outlook for business. B. Nichols. Comm & Fin Chr 173:1841+ My 3 '51
Plenty of business activity, but less civilian goods to be expected in 1951. H. Heimann. Credit & Fin Management 53:7 Ja '51
Prosperous but complicated year seen for industry; editors forecast. Ind Marketing 36:35+ Ja; 46+ F '51
Purchasing agent's view of business. Oil Paint & Drug Rep 159:5+ Ja 29 '51 [cont monthly]
Sales and advertising face a big job this fall. J. Hirsch. Ptr Ink 236:27-9 Ag 17 '51
Shortages remain threat, but inventories increase. M. E. Reiners. Ptr Ink 234:69+ Mr 30 '51
Soft spots showing up in various industries. W. Gates. il Mag of Wall St 88:343-5+ Je 30 '51
Survey of business expectations for fourth quarter of 1951. Dun's R 59:3-4 Ag '51
Survey of business problems. R. A. Foulke. Comm & Fin Chr 173:2351+ Je 7 '51
Survey shows buyers are counting on continued military activity. Credit & Fin Management 53:23 Mr '51
Survey view of business in 1951. M. R. Gainsbrugh. Comm & Fin Chr 173:53+ Ja 4 '51
Tough selling days lie ahead. E. R. Smith and D. L. McGowan. Sales Management 66:37-9 F 1 '51
What 80 major companies are doing today. il Product Eng 22:167-9 My '51
What if peace comes? C. ter Kuile. Comm & Fin Chr 173:1130 Mr 15 '51
What next, Mr Business Man? S. H. Slichter. Comm & Fin Chr 173:1756-7+ Ap 26 '51
What's ahead in business? C. F. Hughes. Comm & Fin Chr 172:1590 O 26 '50
What's ahead in 1951? W. Lindow. Comm & Fin Chr 173:809+ F 22 '51
Which industries offer best prospects for 1951? G. W. Mathis. il Mag of Wall St 87:370-3+, 436-9+ Ja 13-27 '51
Winter business outlook. R. W. Babson. Comm & Fin Chr 172:2197 D 7 '50

See also
Business failures
Business forecasting
Inflation (finance)

BUSINESS conferences

Conference method to formulate procedures. A. H. Pellenz. N A C A Bul 32:1024-32 My '51

BUSINESS consolidations

Amended Clayton act adds more controls over corporate mergers. Brick & Clay Rec 118:75 Mr '51
Effects of taxation on corporate mergers. J Account 92:202-5 Ag '51
Happy mergers; Carborundum-Minnesota Mining & Manufacturing deal. Bsns W p83-4 D 9 '50
Lintner-Butters analysis of the effect of mergers on industrial concentration, 1940-1947; reply. J. M. Blair and H. F. Houghton. R Econ & Stat 33:63-7; Rejoinder. 67-71; Comment. J. F. Weston. 71-3; Rejoinder. 73-5 F '51
New attacks on old sales problems lift volume 120 per cent for Schilling. J. D. Miller. il Sales Management 66:37-9+ Je 15 '51
Statutory mergers are favored. J. Curtis. J Account 91:615-16 Ap '51
Taxes and mergers. J. K. Butters and J. Lintner. Harvard Bsns R 29:69-81 Mr '51
Textile mergers; Cone and Dwight. Bsns W p90 Ja 6 '51

See also
Airlines—Consolidation
Bank consolidations
Motor bus lines—Consolidation
Railroads—Consolidation

Accounting

Can a net operating loss survive in a merger? J Account 90:512-13 D '50
Management's intention should determine accounting treatment of mergers. C. L. Kelly. J Account 91:866+ Je '51
New accounting research bulletin issued, number 40; Business combinations. J Account 90:490-1 D '50
Should parent company's statements reflect undistributed subsidiary earnings? J Account 91:622-3 Ap '51
Utter confusion said to mark law on tax consequences of mergers. R. B. Barker. J Account 92:94 Jl '51

BUSINESS consultants

Choosing the right business consultant; abstract. Management R 40:53-4 F '51

BUSINESS cycles

Anatomy of investment decisions; based on field study of Twin Cities manufacturing firms. W. W. Heller. Harvard Bsns R 29:95-103 Mr '51
Cyclical policy and the advertising appropriation. R. S. Vaile. J Marketing 16:81-2 Jl '51
Cyclical policy on the advertising appropriation. J. Dean. bibliog J Marketing 15:265-73 Ja '51
Inventories and business cycles; abstract. M. Abramovitz. Comm & Fin Chr 172:1990 N 23 '50
Non-linear theory of the cycle. R. M. Goodwin. R Econ & Stat 32:316-20 N '50
Schumpeter's contribution to business cycle theory. A. H. Hansen. R Econ & Stat 33:129-32 My '51
What causes business cycles? J Account 92:100-1 Jl '51

See also
Building cycles

BUSINESS depression

Business confidence and business activity; a case study of the recession of 1937. D. A. Hayes. (Mich. business studies v. 10, no. 5) 130p bibliog(p 127-30) Univ. of Michigan press, 311 Maynard st, Ann Arbor '51
Rogues' gallery; panics, scares, depressions; with charts for selected years, 1920-1951. Bsns W p86+ Ap 21 '51
That "recession" is behind us. Bsns W p 19-20 S 8 '51

See also
Business failures

BUSINESS education

Executive development through colleges and universities; with list of schools and information on courses. E. G. Planty and others. Advanced Management 15:14-18 D '50
Executives in embryo; students at Dartmouth's business school learn management principles by being managers. il Mod Ind 21:84-6+ Je '51
Management education; forum. bibliog Advanced Management 16:2-26 My '51
Management goes to school; advanced programs for top brass. Mod Ind 21:56-8+ Ap '51
Teach executives to think; Racine plan. il Bsns W p78+ Ja 6 '51
Why are office beginners trained in mock maneuvers? need for up-to-date equipment in school classrooms. M. French. Am Bsns 21:30+ S '51

See also
Business schools and colleges
English language—Business English
Harvard university—Graduate school of business administration
Junior achievement movement
Salesmanship—Study and teaching

Cooperative plan

Jones commercial high school students fill gaps in business in Chicago offices. M French. il Am Bsns 21:20+ My '51

BUSINESS education—*Continued*

Yearbooks

Synchronizing business education with business needs; 19th yearbook. S. S. Leff, ed. 202p $2 Commercial education assn. of the city of New York and vicinity; for sale by New York university bookstore, Washington square, East, New York 3 '50

BUSINESS English. See English language—Business English

BUSINESS ethics

Ad standards set up for consumer credit. T. Fischer, comp. Banking 43:76-8+ N '50

Business ethics and world conflict. R. J. Watkins. il Dun's R 59:15-17+ S '51

Business ethics; fact or fiction? M. Baum Advanced Management 16:18-21 F '51

Business says; halt! to scare-buying. E. Whitmore. il Am Bsns 20:8-9+ O '50

Code of ethics for manufacturers of industrial gas equipment. Am Gas J 175:22 Jl '51

Professors are peculiar people, an answer to DeVoto. E. B. Weiss. Ptr Ink 235:36+ Ap 13 '51

Transformation of American capitalism. il Fortune 43:78-83+ F '51

What Mother Aldrich might have sold; opportunities lost General Foods, A.&P. and others. L. Galantière. Fortune 42:76-7+ N '50

Where sales are concerned, what's unethical? J. L. Love. Ptr Ink 235:70 Je 15 '51

Why professors are suspicious of business. B. DeVoto. Fortune 43:114-15+ Ap '51; Discussion. 43:99-100+ Je '51

See also

Advertising ethics

Salesmen, Retail—Bonuses (manufacturers')

BUSINESS failures

Toting up business failures; ABC of what's behind some key statistics. Bsns W p 109-10 My 5 '51

Why do businesses fail? quarterly analysis. G. M. Jones. Dun's R 58:22-3+ D '50; 59:23-4 Mr; 22-3 Je; 27-9 S '51

See also

Bankruptcy

BUSINESS forecasting

Business and commodity outlook for 1951. A. C. Babson. Comm & Fin Chr 172:2080+ N 30 '50

Business prospects and pitfalls of 1951. L. L. Schellbach. Comm & Fin Chr 172:2280+ D 14 '50

Defense spending helps push economy sky-high; midyear review and forecast. Steel 129:45-8 Jl 2 '51

Forecasting the market. W. E. Hosken. Chem & Eng N 29:2992-3+ Jl 23 '51

Future sales ratings. Sales Management 66:105 Ja 15 '51

1951 management forecast. Advanced Management 16:2-7 Ja '51

Peace means boom without frenzy. Bsns W p 19-20 Jl 7 '51

Sales rating board forecast; possible decline; need of promotion. Sales Management 67:108-9 Jl 1 '51

What's ahead for American business by S. H. Slichter; review. Bsns W p56+ My 19 '51

What's ahead for business? Q. F. Walker. Comm & Fin Chr 172:1488 O 19 '50

Why forecast? R. L. Erion. Oil & Gas J 49:64+ Ja 18 '51

See also

Dow theory

Market research

Sales estimates

BUSINESS gifts. See Christmas gifts—Business gifts

BUSINESS information

See also

Libraries—Business service

BUSINESS insurance. See Insurance, Business

BUSINESS letters. See Commercial correspondence

BUSINESS libraries

Basic reference sources. Special Lib 42:67 F '51

Business library within a public library. R. L. Vormelker. Special Lib 42:128-32+ Ap '51

How to organize a company library; abstract. G. Glover. Management R 39:593-4 O '50

Resources of the Leeds public libraries for the study of commerce, science and technology. E. Hargreaves. Aslib Proc 3:123-30 My '51

Re-tooling is the byword in western libraries. M. Yearin. Special Lib 42:142-7 Ap '51

Sun oil company library, Public relations department. H. M. Pyle. Special Lib 42:140-1+ Ap '51

See also

Business schools and colleges—Libraries

Technical libraries

BUSINESS literature

Government information of interest to the banker; list of recent booklets. R. D. Stevens. Burroughs Clearing House 35:26 Je '51

Reading for profit; how do top management men arrive at decisions? Bsns W p60+ S 1 '51

Traveling library shows how to increase profits from oil operation; Cities Service takes business information to distributors, regional men. H. Ridder. il Nat Pet N 43:30-1+ Jl 25 '51

BUSINESS machines. See Office appliances

BUSINESS management

Arrival of Henry Kaiser. Fortune 44:68-73+ Jl '51

Avoiding business liquidation; alternatives to destruction of value. A. Eisemann, jr. Trusts & Estates 90:516-18 Ag '51

Behind the president's desk. S. C. Allyn and others. Dun's R 59:15+ Je; 13-15+ Jl; 21+ Ag '51

Bringing up the boss. Fortune 43:118-21+ Je '51

Business interest in estate planning. S. L. Zeigen. East Underw 52:68-9+ pt 2 O 5 '51

Carrots to chlorine; Food machinery & chemical corp. il Fortune 43:104-9+ Je '51

Crises can't crush Rollman. L. M. Hughes. Sales Management 66:37-9+ My 20 '51

Does small business need a new concept of salesmanship? R. Weaver, jr. il Dun's R 59:18-19+ S '51

Effect of government regulations on commercial chemical development; organizing business for coordination with the government. J. L. Burns. Chem & Eng N 29:1716-19 Ap 30 '51

Getting results from conferences. L. A. Allen. Personnel 27:276-81 Ja '51

How good is your company? score yourself; American institute of management rating chart. Bsns W p95-6 F 24 '51

Keep in the black through good business management. A. C. Kiechlin. Inland Ptr 126:42-3 F '51

Less paper means lower cost; Glidden co. cuts forms and reports. Bsns W p93+ N 18 '50

Liability of fiduciaries in operating business enterprises. D. F. McClatchey. Trusts & Estates 90:528-9 Ag '51

Making business decisions. J. O. Kamm. Advanced Management 16:10-13 F '51

Management committee; co-ordinator of policies and practices at Lukens steel co. C. L. Huston, jr. il Dun's R 59:16-18 Mr '51

Management's responsibilities in a complex world. F. W. Abrams. Harvard Bsns R 29:29-34 My '51

Moxie starts to stir again. L. M. Hughes. il Sales Management 66:97+ Je 15 '51

Population trends and management policy. P. F. Drucker. Harvard Bsns R 29:73-8 My '51; Excerpts. Management R 40:318-19 Je '51

Problem for the front office. Fortune 43:78-81+ My '51

Product-line policy. J. Dean. J Bsns 23:248-58 O '50

Samson finds gold in golden rule; Shwayders' luggage-folding furniture business. L. M. Hughes. Sales Management 67:37-9+ S 1 '51

Scott paper company. C. J. Swan. il Ptr Ink 236:42-4+ Jl 27; 38-40 Ag 3; 36-8+ Ag 10; 36-8 Ag 17 '51

Selling your business? how to soften the tax blow. Bsns W p73-4+ Jl 14 '51

BUSINESS management—*Continued*

Some business yardsticks; human relations, productivity, capital investment, accounting and statistics, executive development. H. A. Bullis. Advanced Management 16:5-7 Mr '51

Standard oil co. (N.J.); principles of management. G. Burck. il Fortune 44:99-103+ O '51

Ten companies illustrate ten points that are ideal for management; study by American institute of management. Am Bsns 21:28 F '51

Time to worry; Armco plans for rainy day. Bsns W p50-1 Ap 7 '51

To compete today, accept change; interview with Victor Lebow. il Bsns W p53-6+ Mr 3 '51

Tool for management control; combining operational review meetings with series of status and trend charts and graphs at RCA. J. R. Curley. Harvard Bsns R 29:45-59 Mr '51

Why follow the leader? E. C. Schleh. Management R 40:106-9 Mr '51

See also

Accounting
Advertising
Auditing
Branch management
Budget, Business
Business consultants
Committees in management
Complaints
Corporations—Directors
Credit
Credit departments
Diversification in industry
Employment management
Executives
Factory management
Forms and blanks, Business
Industrial development corporation
Industrial management
Instalment plan
Inventories
Jobbers
Mail order business
Marketing
Office management
Organization in industry
Planning
Profit
Public relations
Purchasing
Retail trade—Store management
Sales management
Sales policies
Sales promotion
Trade marks

Consolidated services

Possibilities in consolidated services. I. D. Robbins. il Advanced Management 16:9-11 S '51

Family business

Family corporations and estate taxes. E. S. MacNeill. Banking 43:72 D '50

BUSINESS men

Bread, freedom, and businessmen. S. Hook. Fortune 44:117+; Editorial comment. 85 S '51

Businessman's responsibilities in rearmament. E. L. Lindseth. Mech Eng 73:208-10+ Mr '51

Gulliver goes to Washington. R. Sheehan. Fortune 43:101-3+ Je '51

Now a pension for proprietors. A. J. Altmeyer. il Dun's R 58:17-19+ D '50

What can one man do? R. M. Besse. Am Gas Assn Mo 33:14+ Jl-Ag '51

Who's who in commerce and industry. 7th ed 1355p A. N. Marquis co, 210 E. Ohio st, Chicago 11 '51 ($15.85)

Wives of management. W. H. Whyte, jr. il Fortune 44:86-8+ O '51

Young businessmen and Germany's future. J. Winschuh. Harvard Bsns R 29:35-41 My '51

See also

Executives

BUSINESS periodicals

Business reading. R. E. Richman. Advanced Management 16:17 Ag '51

See also

Employees' magazines
Trade journals

BUSINESS publications, inc., National. See National business publications, inc.

BUSINESS purpose (term)

Defining business purpose. J Account 90:515-16 D '50

BUSINESS research

Needed; a common ground for business and university research. R. Ferber. Ptr Ink 234:43 Mr 23 '51

Research in business. L. C. Lockley. J Retailing 26:177-9 Winter '50

See also

Advertising research
Market research

BUSINESS schools and colleges

Cooperation between industry and education. H. A. Bullis. Advanced Management 16:13 My '51

Integrating university and adult education. C. C. Balderston. Advanced Management 16:9 My '51

Keynote for management industry partnership. T. H. Carroll. Advanced Management 16:2-4 My '51

See also

Columbia university—Graduate school of business
Harvard university—Graduate school of business administration

Libraries

Study of a business school library; Baker library, Graduate school of business administration, Harvard university. L. M. Daniells and R. W. Lovett. Special Lib 42:135-9 Ap '51

BUSINESS statistics

ABC of key statistics; exploring statistical measures on Figures of the Week page. Bsns W p38+ Mr 3; 60-2 Mr 10; 58+ Mr 17; 88-9+ Mr 24; 98-100 Ap 7; 42-4+ Ap 14; 70-2+ Ap 21; 79-82 Ap 28; 109-10 My 5; 60+ My 12; 63-4+ My 19; 117-18+ My 26; 47-8+ Je 2; 79-80+ Je 9; 106+ Je 16; 92-4+ Je 23; 71-2+ Jl 28; 92-5 Ag 4; 77-8+ Ag 25; 100-2+ S 22 '51

Annual sales totals, 1942-1950; inventories, new orders, foreign trade, businesses in operation, new business incorporations, discontinued businesses, etc.; tabulation and charts. Steel 128:144-5 Ja 1 '51

Business analyst; statistics of money and credit, industry, trade, commodities. Published in bi-weekly numbers of Magazine of Wall Street

Business indexes; industrial production, construction contracts, employment, etc.; index totals 1919-1949, monthly Dec. 1948-Dec. 1950. Fed Res Bul 37:75 Ja '51 [cont monthly]

Business investment and sales expectations in 1951. L. Bridge. Survey of Cur Bsns 31:11-15+ Ap '51

Business investment programs and their realization. I. Friend and J. Bronfenbrenner. Survey of Cur Bsns 30:11-22 D '50

Business population by legal form of organization. B. C. Churchill. Survey of Cur Bsns 31:9-14+ Je '51

Business population in 1950; with figures for other years. Survey of Cur Bsns 31:31-2 F '51

Business sales and inventories (millions of dollars), 1935-1950; tabulation. Iron Age 167:334 Ja 4 '51

Compass points of business; with tables (cont). Dun's R 58:5-12 N '50; 59:5-12 F; 5-12 My; 5-12 Ag '51

Monthly figures added to BW's weekly series. Bsns W p82 Ap 28 '51

Trend of business; production, prices, trade, finance. il map Dun's R 59:24-6+ Ja '51 [cont monthly]

See also

Advertising—Statistics
Index numbers (economics)
Industrial statistics
Manufactures—Statistics
Market statistics
Prices—Statistics

BUSINESS visitors. See Visitors

BUSINESS week (periodical)

A.R.F. studies American machinist, Chemical engineering and Business week. Adv Agency 43:78 N '50

Symposium on indexing. M. Washburn. Special Lib 42:65-6 F '51

BUSINESS year. See Fiscal year

BUSSE, Paul P. 1890-

Retired Sears copy chief reduced copywriters' training from 24 to 3 months. por Ptr Ink 234:72 F 9 '51

BUSTAMANTE, Inez Seruga

Portrait. Fortune 44:22 Jl '51

BUTADIENE
Absorption spectra and photo-isomerization of arylated dienes. Y. Hirshberg, E. Bergmann and F. Bergmann. bibliog Am Chem Soc J 72:5120-3 N '50
Alfin-catalyzed GR-S type polymers. W. K. Taft and H. Goldsmith. bibliog Ind & Eng Chem 42:2542-6 D '50
Apparatus for determining freezing points at saturation pressure from time-temperature freezing and melting experiments. A. R. Glasgow, jr., N. C. Krouskop and F. D. Rossini. diags Anal Chem 22:1521-4 D '50
Butadiene-styrene resinous copolymers. J. D. D'Ianni, L. D. Hess and W. C. Mast. bibliog(37 ref) Ind & Eng Chem 43:319-24 F '51
Fluoranthene derivatives; the reaction of acenaphthylene with butadiene derivatives. M. C. Kloetzel and H. E. Mertel. bibliog Am Chem Soc J 72:4786-91 O '50
Fluorescence of 1,4-diarylbutadienes and its relation to their configuration. Y. Hirshberg, E. Bergmann and F. Bergmann. Am Chem Soc J 72:5117-18 N '50
Formation of *trans*-1 : 2-divinylcyclobutane from butadiene. H. W. B. Reed. Chem Soc J p685-7 Mr '51
Ionic telomerization of butadiene. E. L. Jenner and R. S. Schreiber. bibliog Am Chem Soc J 73:4348-52 S '51
Mechanical noses sniff escaping gas; Goodyear tire and rubber co., Akron. il Nat Safety N 63:52-3 Ja '51
Methyl radical induced polymerization of gaseous butadiene. D. H. Volman. bibliog J Chem Phys 19:668-70 Je '51
Molecular structure of styrene-butadiene copolymers; dynamic mechanical measurements. L. E. Nielsen, R. Buchdahl and G. C. Claver. bibliog Ind & Eng Chem 43:341-5 F '51
Monomers containing large alkyl groups; the synthesis of 2-alkyl-1,3-butadienes. C. G. Overberger and others. bibliog Am Chem Soc J 73:2540-3 Je '51
Permanganate oxidation of polybutadiene rubbers. F. J. Naples and J. D. D'Ianni. bibliog Ind & Eng Chem 43:471-5 F '51
Polymerization of 2,3-difluorobutadiene and 2-chloro-3-fluorobutadiene. L. B. Wakefield. bibliog Ind & Eng Chem 43:2363-6 O '51
Preparation of amino ethers and diamines from chloromethyl ether and butadiene. L. H. Amundsen and W. F. Brill. bibliog Am Chem Soc J 73:1834-5 Ap '51
Preparation of some substituted butadienes. H. Gudgeon, R. Hill and E. Isaacs. Chem Soc J p 1926-8 Jl '51
Stereochemistry of 1,4-addition; the chlorination of butadiene. K. Mislow and H. M. Hellman. bibliog Am Chem Soc J 73:244-6 Ja '51
Structure of butadiene-styrene type copolymers; the butadiene-*o*-chlorostyrene copolymer. C. S. Marvel and R. E. Light, jr. Am Chem Soc J 72:3887-91 S '50
Studies of compounds related to natural perfumes; the application of the Diels-Alder reaction to the synthesis of β-*cyclo*citral analogues. J. C. Lunt and F. Sondheimer. Chem Soc J p2957-61 N '50
Study of styrene-butadiene copolymers. E. B. Storey and H. L. Williams. bibliog Rubber Age 68:571-7 F '51
Synthesis of fluoranthenes; cyclisation of arylbutadienes; syntheses of 1 : 3-dimethyl- and of 1 : 2 : 3-trimethylnaphthalene. S. H. Tucker, M. Whalley and J. Forrest. Chem Soc J p3194-9 D '49
Thermal dissociation of methyldihydrothiophene-1-dioxides. O. Grummitt, A. E. Ardis and J. Fick. bibliog Am Chem Soc J 72:5167-70 N '50
See also
Cyanobutadiene

Manufacture

Butadiene bonus. il Chem W 68:21-2 Je 9 '51
Butadiene manufacture. J. H. Boyd. Pet Eng 22:C40-1 N '50
Butadiene manufacture by Kellogg. il Pet Eng 23:C66 Jl '51
Butadiene plant reactivation completed 90 days after work started. il Oil & Gas J 49:208+ Ap 19 '51
Heat transfer by direct contact between liquid and vapor. R. J. O'Donnell, R. R. Bowles and E. E. Gullekson. diag Chem Eng Prog 47:309-13; Discussion. 313-14 Je '51

BUTADIYNE
Researches on acetylenic compounds; a new route to diacetylene and its symmetrical derivatives. J. B. Armitage, E. R. H. Jones and M. C. Whiting. diag Chem Soc J p44-7 Ja '51

BUTANE
Catalytic dehydrogenation of butanes. E. W. Howard. diags Ill U Eng Exp Sta Circ 61:1-44 bibliog(p42-4) '50 (pa 50c)
Deuterium tracers in the pyrolysis of butane and propylene. C. D. Hurd and J. L. Azorlosa. Am Chem Soc J 73:33-7 Ja '51
Efficiency characteristics of commercial absorbers. E. G. Ragatz. Pet Refiner 29:117-24 D '50
Hydrogen exchange between cracking catalyst and the butanes. S. G. Hindin, G. A. Mills and A. G. Oblad. bibliog Am Chem Soc J 73:278-81 Ja '51
Low temperature vapor-liquid equilibria in hydrogen-*n*-butane system. H. J. Aroyan and D. L. Katz. bibliog flow sheet Ind & Eng Chem 43:185-9 Ja '51
Lower paraffin hydrocarbons; catalytic conversion by boron fluoride with hydrogen fluoride. E. C. Hughes and S. M. Darling. bibliog Ind & Eng Chem 43:746-50 Mr '51
Mass spectra of propanes and butanes containing C^{13}. D. P. Stevenson. bibliog J Chem Phys 19:17-21 Ja '51
Mercury $(^3P_1)$ sensitized decomposition of normal and *iso*-butane at high temperatures. S. Bywater and E. W. R. Steacie. bibliog J Chem Phys 19:172-5 F '51
Percentage calculations butane-propane. A. M. Platt and G. L. Farrar. Pet Eng 23:C46 S '51
Phase equilibria in hydrocarbon systems; volumetric and phase behavior of the methane-*n*-butane-decane system. H. H. Reamer, B. H. Sage and W. N. Lacey. bibliog Ind & Eng Chem 43:1436-44 Je '51
Reforming of hydrocarbons as experienced by the Long Island lighting co. S. W. Horsfield. Am Gas Assn Proc 1950:778-80
Solubility of propane and the butanes in ethanol. C. B. Kretschmer and R. Wiebe. bibliog diag Am Chem Soc J 73:3778-81 Ag '51
Use of butane as town gas. Engineering 171:721 Je 15 '51
Vapor-liquid relation; system *n*-butane—*cis*-2-butene—furfural-water. F. Welty, J. A. Gerster and A. P. Colburn. bibliog Ind & Eng Chem 43:162-72 Ja '51

BUTANEDIOL. See Butylene glycol

BUTANOL. See Butyl alcohol

BUTANONE
Methyl ethyl ketone. diag Chem Eng 57:286+ D '50
Reaction of di-*tert.*-butyl peroxide with butan-2-one and *cyclo*hexanone. C. G. Moore. Chem Soc J p236-7 Ja '51
System methyl ethyl ketone-*sec*-butyl alcohol; vapor-liquid equilibria. E. H. Amick, jr., M. A. Weiss and M. S. Kirshenbaum. bibliog diag Ind & Eng Chem 43:969-73 Ap '51
Vapor-liquid equilibria in binary systems; systems involving *cis*- or *trans*-dichloroethylene and a ketone or ester. N. Alpert and P. J. Elving. bibliog Ind & Eng Chem 43:1182-6 My '51

BUTCHER, Cary Preston, 1898-1950
Sketch. J. N. Gregory. por Am Assn Pet Geologists Bul 35:767-8 Mr '51

BUTENE
Analysis of mixtures of olefin hydrocarbons produced by codimerization of butenes. A. R. Glasgow, jr. J Res Nat Bur Stand 46:43-50 Ja '51
Catalyzed reactions of unsaturated hydrocarbons with hydrogen and deuterium. T. I. Taylor and V. H. Dibeler. bibliog diag J Phys & Colloid Chem 55:1036-65; Discussion. 1065-6 Je '51
Compressibility of and an equation of state for gaseous 1-butene. J. A. Beattie and S. Marple, jr. bibliog Am Chem Soc J 72:4143-5 S '50

BUTENE—*Continued*

Hydrogen transfer over silica-alumina catalysts. R. W. Blue and C. J. Engle. bibliog Ind & Eng Chem 43:494-501 F '51

Vapor-liquid equilibrium of C_4 hydrocarbon-furfural-water mixtures, experimental and theoretical methods for three- and four-component systems. D. Jordan and others. bibliog Chem Eng Prog 46:601-13 D '50

Vapor-liquid relation; system *n*-butane—*cis*-2-butene—furfural-water. F. Welty, J. A. Gerster and A. P. Colburn. bibliog Ind & Eng Chem 43:162-72 Ja '51

BUTENENITRILE

Kinetics of halogen substitution; halogen addition; benzyl and allyl chloride, bromide, and cyanide. L. D. Swindale, B. E. Swedlund and P. W. Robertson. Chem Soc J p812-14 Mr '50

BUTENOLIDES. See Butyrolactone

BUTENYL chloride

Allylic rearrangements; the reaction of butenyl chlorides with diethylamine and triethylamine. W. G. Young, I. D. Webb and H. L. Goering. bibliog Am Chem Soc J 73:1076-83 Mr '51

Reactions of organometallic compounds with alkyl halides; on sodium ethyl and butenyl chlorides. S. E. Ulrich and J. F. Lane. bibliog Am Chem Soc J 73:5130-1 N '50

BUTLER, Frank

Atlantic City flag designed by columnist. por Ed & Pub 83:26 N 18 '50

BUTLER, Harold Beresford, 1883-1950

Service to the International labour organisation. Int Labour R 63:353-63 Ap '51

BUTLER, Kenneth B.

Busy Butler; teaching Northwestern's magazine production course while operating Wayside press. H. D. Bump. por Inland Ptr 127:40-3 S '51

BUTLER brothers

Revamping operations aids Butler brothers. Barron's 30:19-20 D 11 '50

BUTTER

Butter for bakers; new emulsified product. Bsns W p 110+ Mr 17 '51

Canada; butter subject to import and export controls. For Comm W 44:9 S 10 '51

High peg for butter brings CCC into market. Barron's 31:39-40 Ap 16 '51

Strong market bails CCC out of butter. Barron's 31:22 Ja 1 '51

Manufacture

Switch to continuous, it has brought processor six top benefits; Frank Pilley & sons. il Food Eng 23:98-9+ Ap '51

Prices

What price Danish butter? Economist 159:611 O 14 '50

BUTTER fat

Analysis

Unsaponifiable matter of butter fat. I. M. Morice. Chem Soc J p 1200-3 My '51

BUTTERLEY company, limited

Statement by the chairman. E. F. Wright. Economist 161:58-9 Jl 7 '51

BUTTERMILK

Buttermilk builds better ice cream. il Food Ind 23:90 Mr '51

BUTYL acrylate

Copolymerization. H. W. Melville, E. P. Bonsall and L. Valentine. J Ap Chem 1:249-53 Je '51

BUTYL alcohol

L(—)-2-Butanol from D(—)-2,3-butanediol. P. J. Leroux and H. J. Lucas. Am Chem Soc J 73:41-2 Ja '51

Electrical conductance and viscosity in the system tetra-*n*-butylammonium picrate-*n*-butyl alcohol at 91°. R. P. Seward. diags Am Chem Soc J 73:515-17 F '51

Evaporation errors in determination of trace concentrations of low molecular weight solutes in carbon tetrachloride. M. R. Meeks, V. E. Whittier and C. W. Young. Anal Chem 23:792-3 My '51

Fog formation in cooler-condensers; mixtures of nitrogen and vapors of sulfur, *n*-butyl alcohol, and water. H. F. Johnstone, M. D. Kelley and D. L. McKinley. bibliog diags Ind & Eng Chem 42:2298-302 N '50

Mechanism of sulfation of alcohols. N. C. Deno and M. S. Newman. bibliog Am Chem Soc J 72:3852-6 S '50

Separation of mixtures of solutes by distribution between solvents; the separation of the components of a fixed quantity of a mixture by a continuous counter-current extraction process. J. D. A. Johnson and A. Talbot. diags Chem Soc J p 1068-88 Ap '50

System methyl ethyl ketone-*sec*-butyl alcohol; vapor-liquid equilibria. E. H. Amick, jr., M. A. Weiss and M. S. Kirshenbaum. bibliog diag Ind & Eng Chem 43:969-73 Ap '51

Systems cobaltous nitrate-water-acetone and cobaltous nitrate-water-*t*-butyl alcohol at 25°. L. I. Katzin and J. R. Ferraro. bibliog Am Chem Soc J 72:5451-5 D '50

Tertiary butyl alcohol as a thermometric standard at 25° C. T. De Vries and H. Soffer. J Phys & Colloid Chem 55:406-8 Mr '51

Analysis

Analysis of three-component liquid mixtures by refractive index alone. W. M. Spicer and L. H. Meyer. bibliog Anal Chem 23:663-4 Ap '51

BUTYLAMINE

Titration of acids in nonaqueous solvents. J. S. Fritz and N. M. Lisicki. bibliog Anal Chem 23:589-91 Ap '51

BUTYL ammonium picrate

Electrical conductance and viscosity in the system tetra-*n*-butylammonium picrate-*n*-butyl alcohol at 91°. R. P. Seward. diags Am Chem Soc J 73:515-17 F '51

BUTYL benzene

Eight-membered carbocycles; identification of the $C_{10}H_{10}$ fraction from cyclooctatetraene preparations. L. E. Craig and C. E. Larrabee. bibliog Am Chem Soc J 73:1191-5 Mr '51

Electric dipole moment and stereochemistry of 2 : 5-dibromo-1 : 4-di-*tert.*-butylbenzene. H. Kofod, L. Kumar and L. E. Sutton. diags Chem Soc J p 1790-4 Jl '51

Studies in photochemistry and radiation chemistry of *i*-propylbenzene and *t*-butylbenzene. T. J. Sworski, R. R. Hentz and M. Burton. Am Chem Soc J 73:1998-2001 My '51

BUTYL bromide

Analysis of homogeneous ternary systems; the system benzene, *n*-butyl bromide and nitrobenzene. R. Ginell and H. Silverman. Am Chem Soc J 73:1596-7 Ap '51

Preparation and properties of *tert.*-butyl bromide. D. Bryce-Smith and K. E. Howlett. Chem Soc J p 1141-2 Ap '51

X-ray investigation of *t*-butyl chloride and *t*-butyl bromide. R. S. Schwartz, B. Post and I. Fankuchen. Am Chem Soc J 73:4490-1 S '51

BUTYL chloride

Kinetics of the dehydrochlorination of substituted hydrocarbons; the mechanisms of the thermal decompositions of *n*-propyl and *n*-butyl chloride and 2 : 2′-dichlorodiethyl ether. D. H. R. Barton, A. J. Head and R. J. Williams. Chem Soc J p2039-46 Ag '51

Reactions of organometallic compounds; the rates of reaction of phenyllithium and of methyllithium with *n*- and *t*-butyl chlorides. S. J. Cristol, J. W. Ragsdale and J. S. Meek. bibliog Am Chem Soc J 73:810-13 F '51

Use of equilibrium constants to calculate thermodynamic quantities; equilibria in the system *tert.*-butyl chloride, *iso*-butene, hydrogen chloride. K. E. Howlett. diag Chem Soc J p 1409-12 Je '51

X-ray investigation of *t*-butyl chloride and *t*-butyl bromide. R. S. Schwartz, B. Post and I. Fankuchen. Am Chem Soc J 73:4490-1 S '51

BUTYL compounds

Chemistry of indanthrone; *tert.*-butyl derivatives of indanthrone and flavanthrone; the mode of formation of flavanthrone in the alkali fusion of 2-aminoanthraquinone. W. Bradley and H. E. Nursten. Chem Soc J p2170-7 Ag '51

BUTYL hydroperoxide
Vapor phase decomposition of *t*-butyl hydroperoxide and reactions of the *t*-butylperoxy radical. F. H. Seubold, jr., F. F. Rust and W. E. Vaughan. bibliog Am Chem Soc J 73:18-20 Ja '51

BUTYL hydroxyanisole
Butylated hydroxyanisole in lard and shortening. J. H. Mahon and R. A. Chapman. bibliog Anal Chem 23:1120-3 Ag '51
Estimation of antioxidants in lard and shortening. J. H. Mahon and R. A. Chapman. bibliog Anal Chem 23:1116-20 Ag '51

BUTYL hypochlorite
Action of *t*-butyl hypochlorite on organic compounds; aromatic aldehydes. D. Ginsburg. Am Chem Soc J 73:702-4 F '51
Action of *t*-butyl hypochlorite on organic compounds; phenols. D. Ginsburg. bibliog Am Chem Soc J 73:2723-5 Je '51
Reaction of isoprene with *t*-butyl hypochlorite in hydroxylic solvents. W. Oroshnik and R. A. Mallory. bibliog Am Chem Soc J 72:4608-13 O '50
Reactions of tertiary butyl hypochlorite with vegetable oils and their derivatives; conversion of alkyl oleates and methyl linoleate to derivatives of ketostearic acids. H. M. Teeter and others. bibliog Am Chem Soc J 73:2302-3 My '51

BUTYL maleamic acid
Accelerator-activators from amic acids. M. C. Throdahl, R. O. Zerbe and D. J. Beaver. Ind & Eng Chem 43:926-30 Ap '51

BUTYL naphthalene
Acenaphthene series; preparation and orientation of the three nuclear-substituted mono-*tert.*-butylnaphthalenes; isolation of pure 1-*tert.*-butylnaphthalene. E. Illingworth and A. T. Peters. Chem Soc J p 1602-7 Je '51

BUTYL perbenzoate
Kinetics of the thermal decomposition of peresters. A. T. Blomquist and A. F. Ferris. bibliog Am Chem Soc J 73:3408-15 Jl '51

BUTYL peroxide
Reaction of di-*tert.*-butyl peroxide with butan-2-one and *cyclo*hexanone. C. G. Moore. Chem Soc J p236-7 Ja '51

BUTYLPHENOL
Ortho alkylated phenols; 2,6-di-*t*-butylphenol. H. Hart and F. A. Cassis, jr. bibliog Am Chem Soc J 73:3179-82 Jl '51

BUTYL phenylmethyl
Kinetics of the reaction of tri-*p*-biphenylmethyl and of tri-*p*-*t*-butylphenylmethyl with toluene. R. M. Dobres and P. W. Selwood. bibliog Am Chem Soc J 72:5731-3 D '50

BUTYL phenylenediamine
N,N′-di-*n*-butyl-*p*-phenylenediamine. J. V. Capinjola. Am Chem Soc J 73:1849 Ap '51

BUTYL phthalate
Critical solution temperatures for sulfur and butyl phthalate. M. Brooke. Am Chem Soc J 72:5748-9 D '50

BUTYL rubber. See Rubber, Artificial

BUTYL stearate
Butyl stearate to lubricate a surface. Chem Eng 58:164 Ag '51

BUTYL titanate
Butyl titanate; preparation, polymerization and use in paint. G. Winter. bibliog Paint Oil & Chem R 114:12+ Je 21 '51

BUTYL vinylsulfonate
Copolymerization of butyl vinylsulfonate; comments on sulfur shell expansion. C. G. Overberger, D. E. Baldwin and H. P. Gregor. bibliog Am Chem Soc J 72:4864-6 N '50

BUTYLATION
Acenaphthene series; orientation of *tert.*-butyl- and di-*tert.*-butyl-acenaphthene, and preparation of new derivatives. H. E. Nürsten and A. T. Peters. Chem Soc J p729-36 F '50

BUTYLENE
Aromatizing cracking of hydrocarbon oils; conversion of butylene into aromatics. C. Weizmann, V. Henri and E. Bergmann. bibliog Ind & Eng Chem 43:2325-6 O '51
Butylene from ethylene; cobalt-carbon catalyst; pilot plant. H. A. Cheney and others. bibliog il diags Ind & Eng Chem 42:2580-6 D '50
Progress in petrochemistry, a technical report; important chemical building blocks are ethylene, propylene, and the butylenes. W. J. Sweeney. Oil & Gas J 49:74-5+ N 2 '50

BUTYLENE glycol
2 : 3-Bis-*p*-dimethylaminophenylbutane-2 : 3-diol. M. J. Allen. Chem Soc J p 1598-9 Je '51
L(—)-2-Butanol from D(—)-2,3-butanediol. P. J. Leroux and H. J. Lucas. Am Chem Soc J 73:41-2 Ja '51
Coupling agent; 1,3 butylene glycol. Chem Eng 58:164-5 Mr '51
Preparation and hydrolysis of some acetals and esters of D(—)-2,3-butanediol. H. K. Garner and H. J. Lucas. bibliog Am Chem Soc J 72:5497-501 D '50
Studies on the mechanism of the pinacol rearrangement; compounds related to *meso*- and *dl*-2,3-butanediol. E. R. Alexander and D. C. Dittmer. bibliog Am Chem Soc J 73:1665-8 Ap '51
Synthesis of 2,3-bis-(*p*-carbethoxyphenyl)-2,3-butanediol by electrolytic reduction. M. J. Allen. diags Am Chem Soc J 73:3503-4 Jl '51

BUTYNE
Thermodynamics of 1-butyne from calorimetric and spectroscopic data. J. G. Aston, S. V. R. Mastrangelo and G. W. Moessen. bibliog Am Chem Soc J 72:5287-91 N '50

BUTYRALDEHYDE
Acetaldehyde, propionaldehyde, and *n*-butyraldehyde; some physical properties. T. E. Smith and R. F. Bonner. bibliog diag Ind & Eng Chem 43:1169-73 My '51
Photolysis of aliphatic aldehydes; the butyraldehydes with iodine vapor. F. E. Blacet and J. G. Calvert. bibliog Am Chem Soc J 73:667-74 F '51
Photolysis of the aliphatic aldehydes; the butyraldehydes. F. E. Blacet and J. G. Calvert. bibliog Am Chem Soc J 73:661-7 F '51

BUTYRIC acid
α-Amino-γ-2-pyridinebutyric acid. J. H. Burckhalter and V. C. Stephens. Am Chem Soc J 73:4460-1 S '51

BUTYRIC anhydride
Infra-red spectroscopic investigation of the reaction between acetic anhydride and butyric anhydride. L. Brown and I. F. Trotter. Chem Soc J p87-93 Ja '51

BUTYROIN. See Hydroxyoctanone

BUTYROLACTONE
Hydrolysis of β-butyrolactone. A. R. Olson and O. V. Youle. Am Chem Soc J 73:2468-71 Je '51
Salt effects on the acid-catalyzed hydrolysis of γ-butyrolactone. F. A. Long, W. F. McDevit and F. B. Dunkle. bibliog J Phys & Colloid Chem 55:813-42 Je '51
Some properties of pure γ-butyrolactone. C. McKinley and J. P. Copes. Am Chem Soc J 72:5331 N '50
Synthesis of some cycloalkenyl-substituted butyro- and valerolactones. J. English, jr. and J. E. Dayan. bibliog Am Chem Soc J 72:4187-9 S '50
Unsaturated lactones; phenolic butenolides related to hexœstrol and stilbœstrol. N. R. Campbell and J. H. Hunt. Chem Soc J p956-9 Ap '51
Unsaturated lactones; symmetrical aromatic dibutenolides. N. R. Campbell and J. H. Hunt. Chem Soc J p960-2 Ap '51

BUYING habits
Basement-store customer. D. F. Blankertz. J Marketing 15:336-40 Ja '51
Buying practices of out-of-town customers; study of credit sales by two department stores in Charlotte, N.C. E. Douglas. J Bsns 23:259-72 O '50
Du Pont study shows in-store decisions increasing over planned purchases. Ptr Ink 233:44 N 10 '50
Five shoppers' whims that stumped meat marketeers temporarily. D. G. Brauer. il Sales Management 65:70+ N 10 '50
How much of buying is just a reflex preconditioned by advertising? E. Stillman. Ptr Ink 234:30-1 Ja 12 '51
Media buyers request Appleton data book. C. L. Allen. Ed & Pub 83:18 N 18 '50

BUYING habits—*Continued*
Results of two years of study into impulse buying; cellophane in Canada. C. J. West. J Marketing 15:362-3 Ja '51
Studying customer behavior in retail stores. W. Applebaum. J Marketing 16:172-8 O '51
Vector hypothesis of consumer behavior. W. J. Bilkey. diags J Marketing 16:137-51 O '51
What the auto is doing to farm sales. W. B. Williams. il Ptr Ink 236:33-4 Ag 3 '51
See also
Women as purchasers

BUYING motives
Motives that move industrial buyers. Sales Management 65:80 N 1 '50

BUYING power. See Consumption (economics)

BYERS, A. M., company
Net may top $5 a share in 1951. Barron's 31: 27+ Ap 9 '51
No evidence; Kefauver committee apologizes to A. M. Byers & co. Bsns W p21 My 26 '51

C

C.I.O. See Congress of industrial organizations

CABINS
Concrete "logs" formed on curved metal lath makes rustic cabin. il diags Am Bld 73:178 My '51

CABLE cars. See Railroads, Cable

CABLE laying and supply ships
Planning pays off in laying world's largest submarine power cable. il map Elec World 135:83-6 Je 4 '51

CABLE railroads. See Railroads, Cable

CABLES
Cable-pulley friction. W. E. Schorr. il diags A S M E Trans 72:1173-8; Discussion. 1178-80 N '50
Tensioned cables will strengthen threatened Bombay water supply dam. il Eng N 147: 54+ Jl 5 '51
See also
Electric cables
Telephone cables
Wire rope

CABLES, Electric. See Electric cables

CABLES, Submarine. See Electric cables, Submarine

CABLES, Telephone. See Telephone cables

CABLEWAYS
Burns brick co. aerial tramway increases production; uses aluminum buckets. il Brick & Clay Rec 118:26-7+ My '51
Cableway spans Shasta spillway to facilitate repairs to apron. il Constr Methods 33:51 Ja '51; Eng N 146:34 F 8 '51
Clamp holds broken strands on tram cable. diags Eng & Min J 152:85 Mr '51
Everything is just right at Philpott dam; cableway places concrete and raises forms. il Constr Methods 32:62-3+ N '50
Will a construction cableway fit your job? J. G. Tripp. il diags Civil Eng 21:134-9 Mr '51
See also
Railroads, Suspended

CACAO
Cacao production and exports, Panama. For Comm W 44:22 Jl 30 '51
Cacao situation, Dominican Republic. For Comm W 43:19 Je 18; 44:17 S 10 '51
Ecuadoran 1950 cacao exports. For Comm W 43:20 Je 11 '51
Panama's cacao-bean industry. For Comm W 43:22 Ap 2 '51

CACAO butter
Solvent extraction of cocoa butter; premium soap ingredient from waste chocolate. il diag Chem Eng 58:254+ Jl '51

CACTUS
Cactus alkaloids; trichocereus terscheckii (Parmentier) Britton and Rose. L. Reti and J. A. Castrillón. bibliog Am Chem Soc J 73:1767-9 Ap '51

CADMIUM
Cadmium, 1950. R. H. Mote. Eng & Min J 152:91 F '51
Crystallographic angles for magnesium, zinc and cadmium. E. I. Salkovitz. J Metals 191:Trans 64 Ja '51
Dissociation energies of the Cd^{++} vacancy complex and of the double vacancy in sodium chloride. J. R. Reitz and J. L. Gammel. bibliog J Chem Phys 19:894-9 Jl '51
Effect of ionic strength on polarographic half-wave potentials. D. D. DeFord and D. L. Andersen. bibliog Am Chem Soc J 72: 3918-20 S '50
Effect of serum albumin on the polarographic diffusion current of cadmium. C. Tanford. bibliog Am Chem Soc J 73:2066-70 My '51
Inertia of the carrier of electricity in cadmium. G. G. Scott. Phys R 83:656 Ag 1 '51
Plastic deformation and diffusionless phase changes in metals; the gold-cadmium beta phase. L. C. Chang and T. A. Read. bibliog il J Metals 191:Trans 47-52 Ja '51
Polarographic studies of metal complexes; the cadmium(II), zinc(II) and iron(III) citrates. L. Meites. Am Chem Soc J 73:3727-31 Ag '51
Prices, production imports and exports; tabulations. Iron Age 167:307 Ja 4 '51
Relationships between germanium and cadmium in the electrolysis of zinc sulphate solutions. S. T. Ross and J. L. Bray. bibliog diag J Metals 3:Trans 465-7 Je '51
Resonant scattering of slow neutrons by cadmium. B. N. Brockhouse and others. bibliog diag Phys R 83:840-1 Ag 15 '51

Analysis

Alkalimetric determination of metals with the aid of acid-base indicators. J. F. Coetzee. Chem Soc J p997-1004 Ap '51
Electrolytic determination of cadmium in zinc sulfide-cadmium sulfide phosphors. R. Bastian and others. bibliog Electrochem Soc J 98:307-10 Ag '51
Manual polarograph for rapid determinations of lead and cadmium in zinc. L. C. Copeland and F. S. Griffith. bibliog il diag Anal Chem 22:1269-71 O '50
Polarographic determination of cadmium in aluminium alloys. W. Stross. diags Metallurgia 43:145-7 Mr '51

Isotopes

Beta-decay of isomeric Cd^{113}. W. L. Carss and others. Phys R 80:1028-9 D 15 '50
Beta-decay of 7.5-day Ag^{111} to a 0.1-microsecond excited state of Cd^{111}. D. Engelkemeir. Phys R 82:552-3 My 15 '51
Dual decay of the 50-day In^{114} isomer and angular momenta of the excited states of Cd^{114}. R. M. Steffen. bibliog Phys R 83:166 Jl 1 '51
Influence of the atomic shell on nuclear angular correlation in Cd^{111}. H. Aeppli and others. Phys R 82:550 My 15 '51
Isomeric level of Cd^{111m}. C. L. McGinnis. bibliog Phys R 83:686-7 Ag 1 '51
Measurement of some internal conversion coefficients. A. W. Sunyar. Phys R 83:864-5 Ag 15 '51
Radioactive isotopes of Ag and Cd. J. R. Gum and M. L. Pool. bibliog Phys R 80: 315-17 N 1 '50
Radioactivity of Ag^{111}, Cd^{111}, In^{111}, and Sn^{111}. C. L. McGinnis. bibliog Phys R 81:734-40 Mr 1 '51
Some properties of the 43-day isomer of Cd^{115}. P. S. Gill and others. Phys R 80: 284-5 O 15 '50

Prices

Nonferrous prices; tabulation. Steel 128:129 Ja 1 '51

CADMIUM alloys
Cadmium-tin alloy plating stops corrosion. B. E. Scott and R. D. Gray, jr. il Iron Age 167:59-62 Ja 18 '51
Coefficients of thermal expansion of Au-Cd alloys containing 47.5 atomic percent Cd. L. Chang. J Ap Phys 22:525-6 Ap '51
Thermodynamic properties of liquid ternary cadmium solutions. J. F. Elliott and J. Chipman. diags Am Chem Soc J 73:2682-93 Je '51

CADMIUM dimethyl
Reaction of dimethylcadmium with cyclobutanecarboxylic acid chloride. R. Pinson, jr. and S. L. Friess. bibliog Am Chem Soc J 72:5333-4 N '50

CADMIUM iodide

Determination of trace amounts of selenium in water. J. L. Lambert, P. Arthur and T. E. Moore. bibliog diag Anal Chem 23: 1101-6 Ag '51

Linear starch reagents; cadmium iodide, linear starch reagent. J. L. Lambert. bibliog Anal Chem 23:1247-51 S '51

Linear starch reagents; linear starch, iodate reagent selective for iodide ion. J. L. Lambert. Anal Chem 23:1251-5 S '51

Moving boundary systems formed by weak electrolytes; study of cadmium iodide complexes. R. A. Alberty and E. L. King. bibliog il Am Chem Soc J 73:517-23 F '51

CADMIUM oxide

Neutron-absorbing glass; $CdO\text{-}SiO_2\text{-}B_2O_3$ system. L. M. Melnick and others. bibliog diags Am Cer Soc J 34:82-6 Mr 1 '51

CADMIUM plating

Air force specifies policy for cadmium parts. Aviation W 54:43 Ja 29 '51

Continuous electroplating effects operational economy; Shakeproof's new Elgin, Ill. plant. D. Reebel. il plan Steel 128:64-6 F 19 '51

CADMIUM poisoning

Cadmium poisoning; report on five cases. L. H. Cotter and B. H. Cotter. A M A Archives Ind Hygiene & Occup Med 3:495-504 My '51

Possible hazards from chemical contamination in water supplies. C. W. Muehlberger. Am Water Works Assn J 42:1031-2 N '50

CADMIUM sulfide

Beam stabilizer for industrial X-rays; use of cadmium-sulfide crystals. J. E. Jacobs. bibliog il diags Electronics 24:125-7 Ag '51

Crystal-electric inspection discovery. il Automotive Ind 104:78+ F 15 '51; Chem & Eng N 29:664-5 F 19 '51; Steel 128:82 F 26 '51; Iron Age 167:132 Mr 1 '51; Elec Eng 70: 369 Ap '51

Economical industrial X-ray detector; the application of cadmium sulfide crystals. R. Frerichs and J. E. Jacobs. bibliog il diags Gen Elec R 54:42-5 Ag '51

Electrical conductivity of cadmium sulphide exposed to pulsating X radiation. J. E. Jacobs. bibliog il diag Elec Eng 70:667-71 Ag '51

Electron mobility and luminescence efficiency in cadmium sulfide. L. Gildart and A. W. Ewald. bibliog diags Phys R 83:359-63 Jl 15 '51

Inspecting, 1,000 times better; cadmium sulphide crystal increases efficiency of X-ray. il Bsns W p78+ Mr 3 '51

See also
Greenockite

Analysis

Electrolytic determination of cadmium in zinc sulfide-cadmium sulfide phosphors. R. Bastian and others. bibliog Electrochem Soc J 98:307-10 Ag '51

CAESIUM. See Cesium

CAFETERIAS. See Lunchrooms and cafeterias

CAFETERIAS, Employees'. See Lunchrooms and cafeterias, Employees'

CAFFEIN

Stimulants, lift or letdown? Chem Eng 58: 251-2+ F '51

Analysis

Infrared analysis of pharmaceutical products; acetylsalicylic acid, phenacetin, and caffeine, and combinations of these with codeine or thenylpyramine. T. V. Parke and others. bibliog Anal Chem 23:953-7 Jl '51

Spectrophotometric determination of aspirin, phenacetin, and caffeine in mixtures. M. Jones and R. L. Thatcher. Anal Chem 23: 957-60 Jl '51

CAISSON disease

Turkey and Chief Reid. B. H. Brittin. il U S Naval Inst Proc 77:610-13 Je '51

CAISSONS

Another surrender at Yorktown; first of six caissons for Yorktown bridge. il plans diags Eng N 145:32-6 D 21 '50

Building foundation sunk into place. il diags Eng N 147:40 S 20 '51

Caisson at Uskmouth power station. il Engineer 192:93-4 Jl 20 '51

Deep, lightweight piers for bridge at Yorktown, Va., built by caisson method. M. N. Quade and G. Vaccaro. il map diags Civil Eng 21:78-82 F '51

Floating caissons for Yorktown, Va. bridge sunk to 150-ft depth in swift-flowing tidal water. J. N. Newell. il diags Civil Eng 21: 406-10 Jl '51

Marine platforms for offshore drilling; caisson-pier type construction. C. A. Trexel. diags Oil & Gas J 49:76-7+ D 7 '50; Same cond. Eng N 145:46-7 D 7 '50

Pipe towers hold big caissons in swift tidal flow. il diags Constr Methods 33:42-6 Ja '51

Record caisson claimed; sunk in the river Usk near Newport, England. Comp Air Mag 55:278 D '50

War-harbor caissons towed to Stockholm for a pier. P. Leimdorfer. il diag Eng N 146:46 My 3 '51

CAKE

Flying cake box; sending sample cake to bakers by air in window cartons. il Mod Packaging 24:103 Mr '51

Heat penetration during baking and quality of shortened cakes varying in pH value; abstract. H. Charley. Food Eng 23:170-1 S '51

Testing

Sharper flavor ratings with improved profile test. L. C. Cartwright and P. H. Kelley. il Food Eng 23:71-3+ S '51

CAKE mixes

Quantity and quality; four graphic control panels key Pillsbury's large-scale output of prepared baking mixes. L. E. Slater. flow sheet il Food Eng 23:80-4+ Je '51

Time limit is vital in storing egg-type mix. L. L. Wherry and G. L. Tinklin. bibliog il Food Ind 22:2061-2+ D '50

Use of fats that fit your mixes. G. T. Carlin. Food Eng 23:113+ Jl '51

CALCINATION

Calcination studies of magnesium oxides. W. R. Eubank. bibliog il diags Am Cer Soc J 34:225-9 Ag 1 '51

Time for passage of material through rotary kilns. R. W. Pickering, F. Feakes and M. L. Fitzgerald. diags J Ap Chem 1:13-19 Ja '51

CALCITE

Temperatures of mineral formation in bottom-run lead-zinc deposits of the upper Mississippi valley, as indicated by liquid inclusions. S. W. Bailey and E. N. Cameron. map diags Econ Geol 46:626-51 bibliog(p650-1) S '51

CALCIUM

Anodic decalcification of mineralized tissue. J. De Ment and E. B. Jump. bibliog il diags Science 112:438-9 O 13 '50

Calcium in batteries proves superior to antimony alloy. Chem & Eng N 29:665-6 F 19 '51

Production of ductile vanadium by calcium reduction of vanadium trioxide. E. D. Gregory and others. bibliog il diags Electrochem Soc J 98:395-9 O '51

Sedimentation equilibria of polydisperse nonideal solutes; association in dilute cellulose acetate solutions. M. Wales and D. L. Swanson. bibliog J Phys & Colloid Chem 55:203-10 F '51

Analysis

Determination of microgram amounts of calcium and magnesium in vanadium metal. J. Rynasiewicz and others. bibliog Anal Chem 23:668-9 Ap '51

High frequency titrations of calcium and magnesium ions in aqueous solution. F. W. Jensen, G. M. Watson and L. G. Vela. bibliog diag Anal Chem 23:1327-9 S '51

Instrument for internal standard flame photometry; application to determination of calcium in rare earths. R. H. Heidel and V. A. Fassel. bibliog diags Anal Chem 23: 784-8 My '51

Precipitation in homogeneous solution; separation and determination of barium, strontium, and calcium. P. J. Elving and R. E. Van Atta. bibliog Anal Chem 22:1375-8 N '50

CALCIUM—Analysis—*Continued*

Qualitative separation of calcium ion from strontium ion in group IV. M. V. Davis and F. H. Heath. J Chem Educ 27:626 N '50

Spectrophotometric determination of nickel in calcium metal using 1,2-cyclohexanedionedioxime. R. C. Ferguson and C. V. Banks. bibliog Anal Chem 23:448-53 Mr '51

Volumetric determination of calcium and magnesium in leaf tissue. A. E. Willson. bibliog Anal Chem 22:1571-2 D '50

Isotopes

Ca^{45} beta-distribution obtained in a split crystal scintillation spectrometer. B. H. Ketelle. bibliog Phys R 80:758-9 N 15 '50

Radioactive calcium in the study of additive and native supplies in the soil. H. C. Harris and others. Science 113:328-9 Mr 23 '51

Radioactive decay of Ca^{41}. V. L. Sailor and J. J. Floyd. bibliog Phys R 82:960 Je 15 '51

CALCIUM alginate

Manufacture of algal chemicals; production of alginates from brown marine algae. L. A. Bashford, R. S. Thomas and F. N. Woodward. bibliog Soc Chem Ind J 69:337-43 N '50

CALCIUM carbide

Acetylene; CEN staff report. bibliog diag Chem & Eng N 28:4244-7 D 4 '50

Carbide; a third more. il Chem W 69:39 S 1 '51

Desulphurizing molten iron with calcium carbide. S. D. Baumer and P. M. Hulme. il diags J Metals 3:Trans 313-18 Ap '51; Discussion. 3:Trans 1051-2 N '51

CALCIUM carbonate

Calcareous depositions from formation waters. Z. V. Morgan. il Oil & Gas J 49:102-3+ Mr 22 '51

Carbonate-water isotopic temperature scale. S. Epstein and others. bibliog Geol Soc Bul 62:417-25 Ap '51

Formation of scale from hard waters at temperatures below the boiling point. A. H. Howland and W. A. Simmonds. bibliog J Ap Chem 1:320-8 Jl '51

Radiocarbon datability of peat, marl, caliche, and archaeological materials. H. H. Bartlett. Science 114:55-6 Jl 20 '51

CALCIUM chloride

Better bases made by stabilizing with calcium chloride. T. D. Williams. Pub Works 81:61-2+ D '50

Brine film resistance to heat flow of calcium chloride, sodium chloride, and ethylene glycol; with charts. C. T. Shields. Refrig Eng 59:880-4 S '51

Chloride feeder supplies paver drum. il Roads & Sts 94:43 Ag '51

Controlling frost effects on roads with calcium chloride. H. R. Smith. il Roads & Eng Constr 88:85-6+ D '50

Do salts used for ice control speed rusting of automobiles? il Eng N 146:39-41 My 17 '51

Ready mix plant uses new $CaCl_2$ dispenser; Clifton coal and supply co. il Concrete 59:10+ Mr '51

What freezeproofing can do to simplify winter ore unloading. il Eng & Min J 152:103 Ap '51

CALCIUM compounds

Chemical reaction equilibria in calcium and magnesium-base sulphite recovery systems. R. P. Whitney and others. bibliog Tappi 34:396-400 S '51

Extent of dissociation of salts in water; calcium salts of some amino-acids and dipeptides. C. W. Davies and G. M. Waind. Chem Soc J p301-3 Ja '50

Some properties of the calcium salts of the lower fatty acids; viscosity. W. B. Bonnor and C. G. Smith. Chem Soc J p 1359-67 My '50

CALCIUM cyanamide

Manufacture

Calcium cyanamide; staff-industry collaborative report. M. L. Kastens and W. G. McBurney. bibliog flow sheets il diags Ind & Eng Chem 43:1020-33 My '51

CALCIUM cyanide

Fibers spur cyanide boom. Chem Ind W 68:41-2 My 12 '51

CALCIUM fluoride

Analysis

Analytical use of the formation of the beryllium-fluoride complex. F. Feigl and A. Schaeffer. bibliog Anal Chem 23:351-3 F '51

CALCIUM galactonate

Improvements in the preparation of D-arabinose from calcium D-gluconate and of D-lyxose from calcium D-galactonate. H. G. Fletcher, jr., H. W. Diehl and C. S. Hudson. Am Chem Soc J 72:4546 O '50

CALCIUM gluconate

Improvements in the preparation of D-arabinose from calcium D-gluconate and of D-lyxose from calcium D-galactonate. H. G. Fletcher, jr., H. W. Diehl and C. S. Hudson. Am Chem Soc J 72:4546 O '50

CALCIUM hydride

Calcium hydride as a basic catalyst in the Perkin reaction. S. Zuffanti and J. J. Sardella. Am Chem Soc J 72:4322-3 S '50

Condensation of nitroparaffins with α,β-unsaturated ketones using calcium hydride. N. Fishman and S. Zuffanti. Am Chem Soc J 73:4466 S '51

Formation of metallic hydrides and nitrides and their significance in the synthesis of ammonia. A. Soliman. bibliog J Ap Chem 1:98-104 Mr '51

CALCIUM hydroxide

Dissociation constant of calcium hydroxide. C. W. Davies and B. E. Hoyle. Chem Soc J p233-4 Ja '51

Reaction between calcium hydroxide and uranyl nitrate solutions. C. Tanford, R. L. Tichenor and H. A. Young. Am Chem Soc J 73:4491-2 S '51

CALCIUM in the body

Calcium and life. L. V. Heilbrunn. il Sci Am 184:60-3 Je '51

CALCIUM lignosulfonate

Studies of lignin and related products; oxidation of basic calcium lignosulphonate with silver oxide and alkali. I. A. Pearl and D. L. Beyer. bibliog Tappi 33:508-12 O '50

CALCIUM nitride

Formation of metallic hydrides and nitrides and their significance in the synthesis of ammonia. A. Soliman. bibliog J Ap Chem 1:98-104 Mr '51

CALCIUM oxide. See Lime

CALCIUM phosphates

Calcium phosphate phosphor activated with cerium and manganese. H. C. Froelich and J. M. Margolis. bibliog Electrochem Soc J 98:400-5 O '51

Improved fertilizer plant design produces more than twice as much calcium metaphosphate. L. D. Yates and others. bibliog il diag Chem Eng 58:135-7 Je '51

Tracer studies with phosphate fertilizers. H. G. Dion and others. bibliog Can Chem & Process Ind 34:905-9 N '50

See also

Apatite

CALCIUM phytate

Phytates will stop cherry discoloration. R. F. Cohee and J. Nelson. il Food Ind 23:91-3 Mr '51

CALCIUM silicates

Heats of formation of crystalline calcium orthosilicate, tricalcium silicate and zinc orthosilicate. E. G. King. Am Chem Soc J 73:656-8 F '51

Hydrated calcium silicates; compound formation at ordinary temperatures. H. F. W. Taylor. Chem Soc J p3682-90 D '50

Low-temperature heat capacities and entropies at 298.16°K. of crystalline calcium orthosilicate, zinc orthosilicate and tricalcium silicate. S. S. Todd. Am Chem Soc J 73:3277-8 Jl '51

Phase equilibrium relationships in a portion of the system $MgO\text{-}Al_2O_3\text{-}2CaO\text{-}SiO_2$. A. T. Prince. bibliog Am Cer Soc J 34:44-51 F 1 '51

See also

Wollastonite

CALCIUM stearate

X-ray diffraction study of calcium stearate monohydrate-cetane systems. R. D. Vold and T. D. Smith. bibliog Am Chem Soc J 73:2006-12 My '51

CALCIUM sulfate

Measurements of solar extreme ultraviolet and X-rays from rockets by means of a $CaSO_4$:Mn phosphor. R. Tousey and others. bibliog Phys R 83:792-7 Ag 15 '51

Precipitation of calcium sulphate from supersaturated sulphite waste liquor; abstracts. A. Scholander. Pulp & Pa of Can 52:91 Ja '51; Paper Ind 33:320-1 Je '51

Properties of a $CaSO_4$:Mn phosphor under vacuum ultraviolet excitation. K. Watanabe. il Phys R 83:785-91 Ag 15 '51

See also

Anhydrite

CALCIUM sulfide

Thermodynamic study of the reaction $CaS+H_2O \rightleftarrows CaO+H_2S$ and the desulphurization of liquid metals with lime. T. Rosenqvist. bibliog diags J Metals 3:Trans 535-40 Jl '51; Discussion. 3:Trans 1047-8 N '51

CALCIUM sulfite

Fermentation to ethanol of concentrated calcium, magnesium, and ammonium sulphite waste liquors. H. D. Agar and J. L. McCarthy. bibliog diag Tappi 34:126-31 Mr '51

CALCIUM titanate

High-lime refractory resistant to phosphate melts; studies in the system $CaO-TiO_2$. H. G. Fisk. bibliog il Am Cer Soc J 34:9-13 Ja 1 '51

CALCIUM tungstate

Temperature coefficient of scintillation phosphors. W. L. Minarik and H. G. Drickamer. bibliog R Sci Instr 22:704-5 S '51

CALCULATING devices

Chart calculator instantly shows payroll costs. il Coal Age 56:109 Mr '51

Trigonometrical indicator. Engineering 171:667 Je 1 '51

See also

Slide rule

CALCULATING machines

Analog computer for flame gas composition. W. S. McEwan and S. Skolnik. diags R Sci Instr 22:125-32 Mr '51

Analog computer; Massachusetts institute of technology. il diag Instruments 24:772 Jl '51

Analog computer; new techniques, new components; Westinghouse Anacom. D. L. Whitehead. il diags Westinghouse Eng 10:235-9 N '50

Analog computers can assume the dynamic role of process simulation. R. H. Müller. il Anal Chem 23:sup25A-6A Je '51

Analog computers solve complex problems at University of California. L. L. Grandi and D. Lebell. il Elec West 105:70-2 D '50

Application of automatic digital computing methods to the prediction of phase behavior. T. J. Connolly and others. bibliog Elec Eng 70:47 Ja '51

Automatic computation at the N.P.L. il diag Engineering 171:6-8 Ja 5 '51

Automatic computing engine (ACE). il Engineer 190:560 D 8 '50; Elec R (Lond) 147:919-20 D 8 '50; Electrician 145:1343 D 8 '50

Automatic digital computer. il Elec R (Lond) 149:63-4 Jl 13 '51; Electrician 147:121 Jl 13 '51

Automatic digital computer at Manchester university. bibliog il plans diags Engineer 192:47-9, 91-3, 126-8 Jl 13-27 '51

Automatic digital computers; survey of fundamentals. Elec R (Lond) 149:273-5 Ag 10 '51

Automatic measurement computation and recording of dielectric constant and loss factor against temperature. E. B. Baker. il diags R Sci Instr 22:376-83 Je '51

Automatic stabilization of high-impedance d-c amplifiers; analog computer for the analysis of transient heat flow (the simulator). F. R. Smith. il diag Electronics 24:124+ F '51

Automotive arithmetic; Wayne university's computation laboratory to aid auto design. Bsns W p54 Mr 31 '51

Brain at work; Magnolia finds added chores for electronic calculator. C. Hoot. il Oil & Gas J 50:82-3 S 13 '51

Calculating machines; new tools for the designer. E. Bromberg and R. D. McCoy. bibliog il diags Product Eng 22:85-8 Mr '51

Computer solves military problems; constructed by the National bureau of standards under the sponsorship of the Department of the air force. Machine Design 23:114 Ja '51

Computer unit may replace vacuum tubes; illustrations with text. Product Eng 22:160 Mr '51

Computers. bibliog il diags Chem Eng 57:117-30 D '50

Computing machine boon to shipbuilders. Bsns W p67 F 3 '51

Computing machines. il Mech Eng 73:325-7 Ap '51

Computing machines in the chemical and chemical engineering field. Chem & Eng N 29:1505-6 Ap 16 '51

Design objectives of the Naval research laboratory electronic digital computer. D. H. Gridley and B. L. Sarahan. diag Elec Eng 70:111 F '51

Determination of temperature transients in cable systems by means of an analogue computer. J. H. Neher. diags Elec Eng 70:870 O '51

Digital computer timing unit. R. M. Goodman. diags Inst Radio Eng Proc 39:1051-4 S '51

Digital electronic correlator. H. E. Singleton. bibliog diags Inst Radio Eng Proc 38:1422-8 D '50

Digital information storage in three dimensions using magnetic cores. J. W. Forrester. diags J Ap Phys 22:44-8 Ja '51

Electric analogue computer using the photo cells as nonlinear element; abstracts. E. C. Koenig. diag Elec Eng 69:1063 D '50; Electronics 23:124+ D '50

Electronic computation of wave numbers. G. K. Werner and others. Opt Soc Am J 41:559-60 Ag '51

Electronic computors for defence. Economist 159:1027 D 9 '50

Electrostatic storage tube. S. H. Dodd and others. il diags Elec Eng 69:990-5 N '50

Federal computing machine program. M. Rees. Science 112:731-6 D 22 '50

Five sessions held at conference on electron tubes for computors, sponsored by the AIEE and Institute of radio engineers. Elec Eng 70:163-5 F '51

Graph-scope, an electronic graph plotter and graphical computer. A. L. Thomas, jr. diags Elec Eng 69:1097-100 D '50

High speed analog to digital converter; analog computers. il diags R Sci Instr 22:544-5 Jl '51

High-speed electronic reservoir analyzer. O. L. Patterson and others. il diags Oil & Gas J 49:87-8+ Ap 5 '51

Improved electrical network for determining the eigenvalues and eigenvectors of a real symmetric matrix. A. Many. il R Sci Instr 21:972-4 D '50

Inexpensive analog computer developed by the Boeing airplane co. il Electronics 24:124 F '51

Insurance companies warming up to magic brain calculators. Nat Underw (Life ed) 55:8 Ja 12 '51

Insurer problems where electronics may help. E. G. Crapser. Nat Underw 55:2 Ap 5 '51

Low-cost brain; electronic analogue computer offering wide utility in solving dynamic problems in aeronautical engineering research. Aviation W 53:36 N 6 '50

Low-cost electronic brain; integro-differential analyzer called Ida. il Automotive Ind 104:70+ Je 15 '51; Aviation W 54:50-1 Je 25 '51

Machine brains dissected at computing conference. H. C. Tuttle. Steel 128:112+ Ap 2 '51

Marginal checking as an aid to computer reliability. N. H. Taylor. bibliog diags Inst Radio Eng Proc 38:1418-21 D '50

Mechanical-electrical unit for calculating structure amplitudes. F. J. Llewellyn. il diags J Sci Instr 28:229-30 Ag '51

Mechanical X-ray structure-factor calculating machine. V. Vand. bibliog il diags J Sci Instr 27:257-61 O '50

Method of gating for parallel computers. A. G. Ratz and V. G. Smith. diag Elec Eng 70:424 My '51

Missouri Pacific office brain; new IBM electronic calculator. E. Whitmore. il Am Bsns 20:10-11 N '50

CALCULATING machines—*Continued*

NBS automatic computer. Mech Eng 73:656-7 Ag '51

National bureau of standards eastern automatic computer. il diag Engineer 191:215-17 F 16 '51

New analog computer; IDA (for Integro-differential analyzer). S. Bosworth. il Electronics 24:216+ Ag '51

New computer aids air defense; Project Typhoon. il Electronics 24:132 F '51

New electronic brain ready for its exam; National physical laboratory's automatic computing engine, known as Ace. Product Eng 22:176-7 Je '51

New pool analyzer; electronic reservoir device predicts future behavior of oil fields. L. S. McCaslin, jr. il Oil & Gas J 49:49-50 Mr 15 '51

New RCA electronic computer aids U.S. air defense. Franklin Inst J 251:313-15 F '51; Product Eng 22:154 Ja '51

New train performance calculator; abstract. S. V. Smith. il Elec Eng 70:586 Jl '51

No more clerks? development of electronic calculating machines. Economist 161:206-7 Jl 28 '51

Optical calculations with automatic computing machinery. D. P. Feder. diags Opt Soc Am J 41:630-5 S '51

Position synchronization of a rotating drum. F. C. Williams and J. C. West. bibliog diags Inst E E Proc 98 pt 2:29-34 F '51

Project Typhoon aids missile designers; new electronic computer. D. A. Anderton. il Aviation W 53:40+ D 18 '50

Project-Typhoon electronic analog computer. il Electronics 24:138, cover Ap '51

Quality control indicator; electric computer, which can monitor statistical control charts. C. J. Falk. Tv Eng 1:42-3 N '50

Quarter-square mutiplier using a segmented parabolic characteristic. B. Chance and others. bibliog il diags R Sci Instr 22:683-8 S '51

Ray tracing using the IBM card programmed electronic calculator. W. A. Allen and R. H. Stark. diags Opt Soc Am J 41:636-40 S '51

Reliability report on electronic computers. Product Eng 22:155 Je '51

Sale I never forgot; one sale that led to many more. E. B. Jessup. Ptr Ink 233:68-9 N 17 '50

Saving hours at Martin with electronic calculating equipment. F. Myers. Am Bsns 21:50-2 Mr '51

Science exhibition; digital computer, Nimrod. il Electrician 146:1923 Je 8 '51

Selective electrostatic storage tube. J. Rajchman. bibliog il diags RCA R 12:53-97 Mr '51

Simple analog computer for thermodynamic calculations. H. R. Davidson and D. L. Fuller. il diag J Phys & Colloid Chem 55:200-3 F '51

Simple machine capable of Fourier synthesis calculation. J. H. Robertson. diags J Sci Instr 27:276-8 O '50

Simple Simon; a small mechanical brain. E. C. Berkeley. il diags Sci Am 183:40-3 N '50

Sixty second genius; Project Typhoon; electronic analogue computer is designed to evaluate the performance of guided missiles, ships, airplanes, submarines and aid in the air protection of American cities. il Aero Digest 62:61 Ja '51

Solution of aeroelastic problems by electronic analogue computation. J. Winson. bibliog il diags J Aeronautical Sci 17:385-95 Jl '50; Discussion. 18:71-2 Ja '51

Static magnetic memory. il R Sci Instr 22:119 F '51

Static magnetic memory for low-cost computers. M. Kincaid and others. il diags Electronics 24:108-11 Ja '51

Step multiplier in guided missile computer. E. A. Goldberg. il diags Electronics 24:120-4 Ag '51

Storage system for use with binary-digital computing machines. F. C. Williams and T. Kilburn. bibliog il diags Inst E E Proc 96 pt 3:81-98 Mr '49; Same. 96 pt 2:183-200 Ap '49; Discussion. 96 pt 3:98-100; 97 pt 3:453-4 Mr '49, N '50; 96 pt 2:200-2 Ap '49

Super-human Univac; will it revolutionize mass statistics? Remington Rand's Goldberg electronic wizard. J. Shoenfeld. il Sales Management 67:42-4 Jl 15 '51

Switch and storage tubes. L. S. Allard and R. T. Hill. il diags Wireless Eng 28:187-91 Je '51

Systematization of tube surveillance in large scale computers. H. W. Spence. diags Elec Eng 70:605-8 Jl '51

32-channel high-speed commutator. N. Alpert and others. il diags Electronics 23:94-7 N '50

Train performance calculator. il Ry Mech & Elec Eng 125:75-7 Mr '51; Same. Ry Age 130:32-3 Mr 26 '51

Transition of an Eccles-Jordan circuit. J. R. Tillman. diag Wireless Eng 28:101-10 Ap '51

Universal high-speed digital computers; a small-scale experimental machine. F. C. Williams and others. bibliog diags Inst E E Proc 98 pt 2:13-28 F '51

Using mathematics for design, research and production; use of computing machines; interview with J. H. Curtiss. il Product Eng 22:156-9 Je '51

See also

Adding machines
Counting machines and devices
Differential analyzers
Integrators
Tabulating machines

Bibliography

Radio progress during 1950; electronic computers. Inst Radio Eng Proc 39:375-6 Ap '51

Manufacture

Getting more production at less cost; Friden calculating machine co. G. F. Burnley. flow chart il Mill & Factory 47:121-3 D '50

Holes molded to close tolerances; bakelite control panel for IBM electric accounting machine. W. M. Hoyt, jr. and F. R. Estabrook, jr. il Mod Plastics 28:66 F '51

Terminology

Standards on electronic computers; definitions of terms, 1950. Inst Radio Eng Proc 39:271-7 Mr '51

CALCULUS

Perturbation calculus in missile ballistics. R. Drenick. diag Franklin Inst J 251:423-36 Ap '51

Remainder theorem and its application to operational calculus techniques. A. S. Richardson, jr. Inst Radio Eng Proc 38:1336-9 N '50; Correction. 39:287 Mr '51

See also

Laplace transformation

Study and teaching

Coordinating calculus instruction in the engineering program. C. A. Johnson. J Eng Educ 41:537-41 My '51

CALDWELL, James Russell

How to boost sales 10,000 per cent; Jim Caldwell and Wooster rubber company. L. M. Hughes. il Sales Management 65:37-40+ N 10 '50

CALENDAR

Thirty days hath September; 21 working day months, as accounting method. L. P. Jennings. N A C A Bul 32:802-7 Mr '51

CALENDARS

1951 industrial calendar review. M. Kingman. il Ind Marketing 36:36-7+ Ja '51

Sales aid for dealers to spur use of oil heating. il Dom Eng 178:135 S '51

Wish you had done more with your '51 calendar? il Sales Management 65:105-7 D 15 '50

See also

Advertisements—Calendars

CALENDERS

Calenders for rubber and plastics. E. H. Johnson. il diags India Rubber World 123:315-20 D '50

Electric equipment for paper mill supercalenders. M. S. Smith. Tappi 34:189-92 Ap '51

Embossing process gives new effects; Echolux. il Mod Plastics 28:72-3 D '50

Skewed rolls; correct for deflection in calendering operations. G. F. Carrier. diag Machine Design 22:136 N '50

Some phases of wide-roll high-speed supercalendering; abstract. D. Sherman. Paper Ind 32:1110 Ja '51

Supercalender drives. C. D. Beck. il diags Paper Tr J 133:20+ Ag 17 '51

CALGARY, Canada

Sewerage

Calgary's system of sewage collection and treatment. J. I. Strong. Munic Util 88:29+ O '50

Water supply

Calgary's water supply and its operating problems. W. E. Robinson. map diags Munic Util 88:25-8+ O '50

CALGON. See Sodium hexametaphosphate

CALIFORNIA

See also

Architecture, Domestic—California
Central Valley project, California
Floods—California
Petroleum industry and trade—California
San Joaquin valley
Steel industry and trade—California
Tourist trade—California

Industries and resources

What 20 years of natural gas did in northern and central California. il Gas Age 108:53-5+ O 11 '51

CALIFORNIA, Gulf of

High sea levels of the Sonoran shore. R. L. Ives. bibliog maps diag Am J Sci 249:215-23, pl 1-2 Mr '51

CALIFORNIA central airlines

CCA air coach. T. M. Self. Aviation W 54: 58-63 Ja 15 '51

CCA switches to postwar planes. T. L. Self. il Aviation W 55:51-2 Ag 6 '51

CALIFORNIA electric power company

Earnings soon may improve. Barron's 31:11 Ag 6 '51

Securities offered. Comm & Fin Chr 172: 1626+ O 30 '50

CALIFORNIA fruit growers' exchange

Sunkist fruit is quickfrozen; California cooperatives in frozen concentrate line. Bsns W p 100-1 Jl 21 '51

CALIFORNIA Oregon power company

Bonds offered. Comm & Fin Chr 173:2494 Je 18 '51

Stock offered. Comm & Fin Chr 173:2386 Je 11 '51

CALIFORNIA packing corporation

Further gains in competitive position in canning industry expected this year. E. W. Binshadler. Barron's 31:26 Ja 29 '51

CALIFORNIA university

California oath. J. Peek and others. Science 114:1-4 Jl 6 '51

Movements of Sather tower measured by transit and Nilvar wires. N. P. Clyde and M. Polivka. il diags Civil Eng 21:282-3 My '51

Nuclear chemistry. I. Perlman and G. T. Seaborg. J Chem Educ 28:10-13 Ja '51

They'll be better engineers; Cory Hall provides students with diverse and ultramodern electrical engineering facilities. C. F. Dalziel. il Elec West 106:65-7 Ap '51

CALIFORNIUM. See Chemical elements—Atomic no. 98

CALIPERS

Know your measuring tools; simple and vernier calipers; micrometer calipers. H. E. Linsley. diags Am Mach 95:103-8 Ap 2 '51

CALOMEL. See Mercury chlorides

CALORIMETERS and calorimetry

Calorimeter for some corrosive liquids. B. H. Sage and E. W. Hough. bibliog il diags Anal Chem 22:1304-9 O '50

Calorimetric determination of the energy flux of 22.5-Mev X-rays. J. S. Laughlin and J. W. Beattie. il diags R Sci Instr 22:572-4 Ag '51

Calorimetric method for studying grinding in a tumbling medium. A. K. Schellinger. bibliog diags Min Eng 3:Trans 518-22 Je '51

Calorimetric properties of diphenyl ether from 0° to 570°K. G. T. Furukawa and others. bibliog diag J Res Nat Bur Stand 46:195-206 Mr '51

Calorimetry conference, Evanston, Ill. Refrig Eng 59:65 Ja '51; Science 112:727-8 D 15 '50

Calorimetry conference, 6th, New York. Chem & Eng N 29:4168+ O 8 '51

Condensed gas calorimetry; heat capacities, latent heats and entropies of pure parahydrogen from 12.7 to 20.3°K; description of the condensed gas calorimeter in use in the cryogenic laboratory of the Ohio state university. H. L. Johnston and others. bibliog diags Am Chem Soc J 72:3933-8 S '50

Condensed gas calorimetry; heat capacity of ortho-deuterium between 13.1 and 23.6°K., melting and boiling points, heats of fusion and vaporization; vapor pressures of liquid ortho-deuterium. E. C. Kerr and others. bibliog Am Chem Soc J 73:282-4 Ja '51

Heat capacity of organic vapors; a flow calorimeter requiring only 25 ml. of liquid sample. A. E. Reynolds and T. De Vries. bibliog diag Am Chem Soc J 72:5443-5 D '50

Heat of combustion and formation of cyanogen. J. W. Knowlton and E. J. Prosen. bibliog J Res Nat Bur Stand 46:489-95 Je '51

Heats of formation of TiO, Ti_2O_3, Ti_3O_5 and TiO_2 from combustion calorimetry. G. L. Humphrey. bibliog Am Chem Soc J 73:1587-90 Ap '51

Isobaric heat capacities at bubble point; *n*-hexane, methylcyclopentane, and *n*-octane. T. J. Connolly, B. H. Sage and W. N. Lacey. bibliog Ind & Eng Chem 43:946-50 Ap '51

Low temperature heat capacities of inorganic solids; the heat capacity of boric acid from 16 to 296° K; description of the Ohio state university solid calorimeters. H. L. Johnston and E. C. Kerr. bibliog il diags Am Chem Soc J 72:4733-8 O '50

New calorimetric method. A. Buzzell and J. M. Sturtevant. bibliog il diags Am Chem Soc J 73:2454-8 Je '51

Portable water-flow gas calorimeter. W. J. Gooderham. diags Soc Chem Ind J 69:377-9 D '50

Thermal switch for use at low temperatures. G. O. Jones. diag J Sci Instr 28:181 Je '51

Two calorimeters for industrial measurements. A. C. Werner. diags R Sci Instr 22: 245-7 Ap '51

CALVAN consolidated oil and gas company

Stock offered. Comm & Fin Chr 173:2494 Je 18 '51

CAMBRIDGE university, England

Engineering school

Engineering research. Engineering 171:507 Ap 27 '51

CAMERA insurance. See Insurance, Camera

CAMERAS

Aircraft camera mounts; their design and testing. P. D. Carman and R. A. F. Carruthers. diag Opt Soc Am J 41:311-14 My '51

Big Schmidt. A. G. Wilson. il diag Sci Am 183:34-41 D '50

Camera design based on slit principle; Beckman & Whitley slit type camera. il diags Machine Design 22:120-1 N '50

Camera sees like moving eye; rotating prism feature of Perkin-Elmer's panoramic camera. il diag Aviation W 54:32+ Mr 26 '51

Camera uses invisible electric images. Product Eng 22:153-4 F '51

Data camera triggered electrically. il diags Machine Design 23:136 F '51

f:1.0 camera for astronomical spectroscopy. A. Offner and W. B. Decker. il diags Opt Soc Am J 41:169-72 Mr '51

Fog-proof electric camera. Franklin Inst J 251:566 My '51

Geneva transmits film in camera. il Machine Design 23:126-7 Jl '51

Kerr cell photography of high speed phenomena. E. M. Pugh and others. il diag J Ap Phys 22:487-93 Ap '51

Microsecond photography. il diag Tech R 53: 138-9 Ja '51

New aerial camera permits speedy mapping of large areas. il diag Civil Eng 21:236 Ap '51

Nuclear multiple plate camera. J. C. Allred and others. il diag R Sci Instr 22:191-4 Mr '51

One-minute camera; agency money-saver. L. Brendel. il Adv Agency 44:76+ Je '51

Panoramic camera has electronic controls. il diags Product Eng 22:124-6 Je '51

Phenolic and polyester in aerial camera. il Mod Plastics 28:96-7 Ap '51

CAMERAS—*Continued*

Photographic sharpness and resolving power; the resolving-power cameras in the Kodak research laboratory. F. H. Perrin and J. H. Altman. bibliog il diag Opt Soc Am J 41: 265-72 Ap '51

Recording camera withstands high G. Aviation W 54:41-2 Mr 12 '51

Signal corps camera produces quick, radiation-proof pictures. Elec Eng 70:282 Mr '51

Versatility feature of new camera; 35-mm. unit for flight testing. diag Aviation W 54: 48-9 Ja 15 '51

See also

Lenses, Photographic
Moving picture cameras
Television cameras

Rating

Photographic equipment. il Consumers Res Bul 27:18-20 F '51

Single-lens reflex cameras. Consumers Res Bul 27:22 Ap '51

Small size

35mm. camera, Nikon, recommended. il Consumers Res Bul 27:23 My '51

CAMERAS, Electron diffraction

Electron-diffraction camera. il R Sci Instr 21:890-1 O '50

Improved electron diffraction camera. P. W. Allen and others. bibliog diags J Sci Instr 28:144-51 My '51

CAMERAS, Television. See Television cameras

CAMERAS, X ray. See X ray apparatus

CAMERON, William J. 1889-

Sketch. C. Axman. por East Underw 52:3+ Mr 30 '51

CAMMELL Laird and company, limited

Statement by the chairman. R. S. Johnson. Economist 160:1345-6 Je 2 '51

CAMOQUIN

Synthesis of 2-diethylaminomethyl-4-(7-chloro-4-quinolyl)-aminofluorobenzene dihydrobromide. A. Sveinbjornsson and C. A. VanderWerf. Am Chem Soc J 73:1378-9 Mr '51

CAMOUFLAGE

Colorful cover-up. il Chem Ind W 68:25-6 My 12 '51

CAMP sanitation

Standards for trailer and tourist camps. Pub Works 81:44-5 D '50

CAMPBELL, Laurence

Campbell writes again. Ed & Pub 83:36 D 30 '50

CAMPBELL, William Boyd, 1888-

Presentation of honorary life membership. W. W. Holland. Pulp & Pa of Can 52:74-5 Jl '51

CAMPHENE

Isobornylisothiuronium salts. L. A. Subluskey and L. C. King. bibliog Am Chem Soc J 73: 2647-50 Je '51

CAMPHENILANAMINE

Configuration of the camphenilyl amines. D. S. Noyce. bibliog Am Chem Soc J 73:20-1 Ja '51

CAMPHOR

Japan's camphor and menthol trade. For Comm W 43:23 Ap 30 '51

CAMPS, Military

See also

Water supply for armies

Costs

Housing, streets for government camp, Alaska; unit prices. Eng N 146:72 Ap 26 '51

CAMPS, Tourist. See Tourist camps, hostels, etc.

CAMPS reaction

Ring effects in autoxidation; a new type of Camps reaction. B. Witkop, J. B. Patrick and M. Rosenblum. il Am Chem Soc J 73: 2641-7 Je '51

CAMS

Calculating cam profiles. L. S. Linderoth, jr. bibliog diags Machine Design 23:115-19 Jl '51

Cam dynamics; is there a definitive criterion for profile design? A. S. Gutman. diag Machine Design 23:149-51+ Mr '51

Cam follower dynamics. D. B. Mitchell. il Machine Design 22:151-4 Je '50; Same. Mech Eng 72:467-71 Je '50; Discussion. diag 72:1009-11 D '50

Cam motion indicator; a new teaching aid. J. Scheinman. il J Eng Educ 41:111-14 O '50

Cycloidal cam charts for maximum pressure angle; reference book sheet. A. Lengyel and A. H. Church. Product Eng 22:183 Ag '51

Designing noncircular surfaces for pure rolling contact. F. W. Hannula. il diags Machine Design 23:111-14+ Jl '51

Generation of functions by windup mechanisms. R. A. Harrington. il diag R Sci Instr 22:701-2 S '51

Problem in precision cam design. J. Blum. diags J Res Nat Bur Stand 45:502-4 D '50

Radial disk cam design charts for maximum pressure angle; reference book sheet. A. Lengyel and A. H. Church. diag Product Eng 22:155, 157, 159 Mr '51

Manufacture

Honing finishes an automobile cam. M. P. Ellis. il Am Mach 95:114 Ap 30 '51

Making cams for automatic cigar and cigarette machinery. R. F. V. Stanton. il diags Mach 57:141-7 D '50

Simple milling fixture for profiling and slotting cam blanks. R. Mawson. diags Mach 57:199-200 F '51

Testing

Cam checker tests different shapes. R. H. Fry. diags Am Mach 95:154 Jl 23 '51

Differential gaging device for a cam. J. N. Edmondson. diags Tool Eng 26:41 Je '51

CAMSHAFTS

Cast camshafts; development and application of Monikrom high duty cast iron. il diag Automobile Eng 40:345-7 S-O '50

CAN filling machines

Device reduces overfill in oil canning operation; abstract. A. R. Dismukes. Nat Pet N 43:81 Ap 18 '51

CAN labels. See Labels

CAN openers

Rating

Can openers. il diags Consumers Res Bul 26:21-3 N '50

CANADA

Canada needs bolder development of roads, power, railroads and other utilities. C. S. Eaton. Roads & Eng Constr 89:36+ Ja '51

Engineer and his community; Roy V. Wright lecture. C. J. Mackenzie. Mech Eng 73:727-9+ S '51

Why thousands of Canadians wear Van Heusen shirts. J. C. Cumming. il Sales Management 67:86+ O 1 '51

See also

Budget—Canada
Cement industry and trade—Canada
Chemical industries—Canada
Cities and towns—Canada
Forests and forestry—Canada
Gold mines and mining—Canada
Immigration and emigration—Canada
Investments, Foreign—Canada
Investments, Foreign (in Canada)
Mines and mineral resources—Canada
Nickel industry and trade—Canada
Paper industry and trade—Canada
Printing trade—Canada
Public utilities—Canada
Tourist trade—Canada

Air force

Lion's share; RCAF will get major slice of Dominion's defense budget. Aviation W 54: 143+ F 26 '51

Commerce

Do you treat Canada as just another export market? Ekco products co. E. Keating. Sales Management 66:56+ My 20 '51

Dollar lifesaver; U.S. investment money cancels out Dominion's unfavorable balance of trade. Bsns W p 169-70 O 13 '51

Latin-American trade with Canada shows gain. J. Montagnes. Barron's 31:17 Ja 15 '51

CANADA—Commerce—*Continued*

Torquay pact shows Canadian trade shift. W. Wells. Barron's 31:6 Je 11 '51

You, too, should be doing business in Canada! J. C. Cumming. il Sales Management 67:110+ S 15 '51

Commercial policy

Canadian banker urges end of exchange controls. G. R. Ball. Comm & Fin Chr 172:2541 D 28 '50

Duty on imported engineering plans urged by C.C.A. Roads & Eng Constr 89:118+ Mr '51

Export-import permits act extended. For Comm W 43:10-11 Je 25 '51

Tariffs and trade controls. For Comm W 42:10-11 Ja 1; 10 Ja 15; 44:10 Jl 23 '51

Defenses

Canada's industrial potential. C. D. Howe. Mech Eng 73:618-20 Ag '51

Construction for defense; handling of construction program for defense effort by crown company known as Defense construction, ltd. R. G. Johnson. Roads & Eng Constr 89:98+ F '51

Crown agency handles Canada's defense needs. Eng N 145:16 D 28 '50

Doubled arms cost won't put Ottawa in the red. Barron's 30:12 O 16 '50

Highways in time of war. G. Walsh. Roads & Eng Constr 88:110+ O '50

Rearming Canada. Economist 159:695-6 N 4 '50

Economic conditions

Canada's expanding economy faces war conditions. S. M. Wedd. Comm & Fin Chr 172:2449-50 D 21 '50

Canada's fight against inflation. Economist 161:37 Jl 7 '51

Canada's possibilities of future progress; address at 76th annual meeting of Imperial bank of Canada, Toronto, Nov. 22. I. K. Johnston. Comm & Fin Chr 172:2092+ N 30 '50

Canada's progress and prosperity; report by Canadian securities committee of IBA. Comm & Fin Chr 172:2297+ D 14 '50

Canada's year of economic progress. B. C. Gardner. Comm & Fin Chr 172:2539+ D 28 '50

Canadian business. J. Montagnes. Barron's 30:11 O 16 '50

Canadian economic progress, restrospective and prospective. J. Stewart. Comm & Fin Chr 172:1784+ N 9 '50

Comfortable Canada. il Fortune 42:72-4 N '50

Economic and financial conditions affecting Canada. H. A. Stevenson. Comm & Fin Chr 172:2280+ D 14 '50

Inflationary pressures. Economist 159:896-7 N 25 '50

Mid-summer report on Canada. J. P. Walsh. il For Comm W 44:4+ Ag 13 '51

News by countries. For Comm W 41:11-13 N 20; 8-9 D 11; 11-12 D 18 '50; 42:9-10 Ja 1; 8-9 Ja 8; 11-12 F 12; 12-14 Mr 12; 43:13-14 Ap 16; 9-10 Je 11; 44:11 Jl 2; 10-11 Jl 16; 8-9 Ag 13; 8 S 10; 11-12 S 17; 45:9 O 8; 9-10 O 15 '51

North of the border. Banking 43:132-3 N '50

Some marketing differences between Canada and the United States. H. King. J Marketing 16:203-6 O '51

Economic policy

Canada and the war crisis. R. Rae. Comm & Fin Chr 172:2451 D 21 '50

Canada fights inflation; bars price, wage controls. R. Redler. Barron's 31:25 Jl 30 '51

Canada's progress under changed economic ideas. W. T. G. Hackett. Comm & Fin Chr 173:1641+ Ap 19 '51

Canada's prospects for a free economy. J. Muir. Comm & Fin Chr 173:446+ Ja 25 '51

Foreign relations

Canada as a world power. Economist 160:1543-5 Je 30 '51

Industries and resources

Business week reports to executives on Canada. il maps Bsns W p41-50 D 23 '50 (reprints 20c)

Canada builds; capital investment plans hit new high. Bsns W p 158-9 Ap 21 '51

Canada's industrial prospects enhanced in 1950. il For Comm W 43:3-4+ Ap 23 '51

Canada's opportunity through full development. C. S. Eaton. Comm & Fin Chr 172:2194+ D 7 '50

Canadian hydro keeps pace with industrial development. C. Bassett. Pub Util 48:135-46 Ag 2 '51

Development of Canada. Comp Air Mag 55:252 N '50

Investment outlook in Canada, and the more promising industries. A. S. Torrey. Comm & Fin Chr 173:2355+ Je 7 '51

New horizons for Canada. J. Dana. il map Mag of Wall St 87:663-4+ Mr 24 '51

Prospects for great industrial expansion in Canada; abstract. J. E. McCully. Comm & Fin Chr 173:447 Ja 25 '51

CANADA dry ginger ale, inc.

Five low-priced speculative stocks. Mag of Wall St 87:609 Mr 10 '51

CANADAY, Ward Murphey, 1885-

Conversion to war a cinch for jeeps. por(cover) Bsns W p32+ Ja 13 '51

CANADIAN association of British manufacturers and agencies

Formation. Roads & Eng Constr 89:34 Jl '51

CANADIAN association of equipment distributors

Annual meeting, 8th, Quebec, April 30-May 2. Roads & Eng Constr 89:83-9+ My '51

Canadian association of equipment distributors; list of members. Roads & Eng Constr 89:166 Je '51

CANADIAN chemical company, ltd.

Bonds offered. Comm & Fin Chr 174:1094 S 24 '51

CANADIAN construction association

Annual convention, 33d, Quebec. Arch Rec 109:16+ Mr '51

Annual meeting, 33d, Quebec. Eng N 146:30 F 8 '51

Annual meeting, 33d, Quebec, Jan. 21-24; abstracts of papers. Roads & Eng Constr 89:91-7+ F; 145+ Mr '51

Regional meeting, Jasper National Park, June 22-25. Roads & Eng Constr 89:96+ Ag '51

CANADIAN good roads association

Annual meeting, 31st, Winnipeg, Sept. 19-21. Roads & Eng Constr 88:95-104+ O '50

Appoints Dean Hardy to head research study. Roads & Eng Constr 89:38 Ja '51

Canada's continued progress demands greater roadbuilding effort. C. W. Gilchrist. Roads & Eng Constr 89:88+ S '51

Committee of seven to study plans for highway research institute. Roads & Eng Constr 89:122-4 My '51

CANADIAN institute of mining and metallurgy

Annual meeting, 53d, Quebec, April 8-11. Can Min J 72:75-6 My '51

CANADIAN institute on sewage and sanitation

Annual meeting, Toronto, Aug. 20-22; with guided discussions. Munic Util 89:27-34+ S '51

CANADIAN Pacific railway

Annual report, 70th. Comm & Fin Chr 173:1543-5 Ap 12 '51; Same. Ry Age 130:69-72 Ap 9 '51

Growth has paralleled that of the Dominion itself. W. T. Moran. Barron's 31:11-12 My 28 '51

Income account for calendar years 1947-1950. Comm & Fin Chr 173:1474-5 Ap 9 '51

CANADIAN pulp and paper association

Annual meeting, 38th, Montreal, Jan. 24-26. Paper Ind 32:1318+ Mr '51

Annual meeting, 38th, Montreal, Jan. 24-26. Pulp & Pa of Can (Convention no) 52:101-3, 331+ [F] '51; Paper Tr J 132:11-16+ F 2 '51

Technical section

Annual meeting, 37th, Montreal, Jan. 24-26. Pulp & Pa of Can (Convention no) 52:109-35+ [F] '51

Joint meeting of the Technical section executive council with branch and committee chairmen, March 28. Pulp & Pa of Can 52:94-8 My '51

Presentation of honorary life membership to Dr W. Boyd Campbell. W. W. Holland. Pulp & Pa of Can 52:74-5 Jl '51

CANADIAN pulp and paper association—Technical section—*Continued*

Summer meeting, Lake of Bays, Ont. June 7-9; program and abstracts of papers. Pulp & Pa of Can 52:68-73 Jl '51

Technical section council joint meeting with branch and committee chairmen, Montreal, Oct. 25; with abstracts of reports. Pulp & Pa of Can 51:80-7 D '50

Woodlands section

Annual meeting, 33d, Montreal, March 28-30; with abstracts of papers. Pulp & Pa of Can 52:118-26+ Ap '51

Chairman's annual report, 1950. G. Godwin. Pulp & Pa of Can (Convention no) 52:254-5 [F] '51

Meeting on forest fires, June 26-27. Pulp & Pa of Can 52:104-5 Jl '51; Paper Tr J 133: 60+ Jl 13 '51

CANADIAN sanitation equipment association

Annual meeting, Toronto. Munic Util 89:40+ S '51

CANADIAN silk and rayon institute

Annual meeting, 22d, Montreal, Sept. 13-14. Rayon 31:51 N '50

CANADIAN standards association

Operations of the Approvals laboratories. G. Moes and F. R. Whatmough. Elec Eng 70: 538-40 Je '51

CANAL lining

Asphalt for river or canal banks. W. L. Nelson. Oil & Gas J 50:338 Je 21 '51

CANALS

Harlingen looks to completion of Intracoastal canal. il Manuf Rec 120:32 Mr '51

Historic development of the theory of the flow of water in canals and rivers. S. L. Bey. diags Engineer 191:466-8, 498-501, 533-5, 565-7, 601-3 Ap 13-My 11 '51

Wellpoints dry excavation next to canal. il Eng N 146:38 Je 14 '51

See also

Irrigation canals

Sand traps

Cost

Control structures for Delaware-Raritan canal; unit prices. Eng N 147:105 Ag 16 '51

Canada

All-Canadian St Lawrence development. J. G. G. Kerry. Roads & Eng Constr 89:110+ My '51

Florida

Florida readies drive for barge canal. Eng N 146:31 Ja 18 '51

CANARIUM schweinfurthii

Triterpene resinols and related acids; isolation of a triterpene diol from canarium schweinfurthii resin. R. Bhuvanendram, W. Manson and F. S. Spring. Chem Soc J p3472-4 D '50

CANASTA (game)

Card shufflers and tray for canasta. il Mod Plastics 28:136 D '50

CANCER

Alteration of immunological response in malignancy; decline of proteus agglutinin. I. A. Parfentjev and others. bibliog Science 113: 523-4 My 4 '51

Arsenic and cancer; observations in the metallurgical industry. L. S. Snegireff and O. M. Lombard. bibliog A M A Archives Ind Hygiene & Occup Med 4:199-205 S '51

Atmospheric pollution in the vicinity of a chromate plant. H. G. Bourne, jr. and W. R. Rushin. bibliog il Ind Med 19:568-9 D '50

Cancer cure; Picture Post article. Sci Am 183:31-2 D '50

Cancer detection by machine. G. W. King. Ind Med 19:522 N '50

Cancer research and construction grants announced by FSA. Chem & Eng N 29:2392-3 Je 11 '51

Carcinogenic nitrogen compounds; derivatives of 1 : 2- and 3 : 4-benzophenarsazines. N. P. Buu-Hoï and R. Royer. Chem Soc J p795-8 Mr '51

Carcinolytic compounds; 1-(1′-glycityl)-benzimidazoles. F. W. Holly and others. Am Chem Soc J 73:332-3 Ja '51

Chemistry of carcinogenic nitrogen compounds; angular hydroxybenzacridines and hydroxydibenzacridines. N. P. Buu-Hoï. Chem Soc J p2096-9 Ag '50

Chemistry of carcinogenic nitrogen compounds; new substituted angular benzacridines and dibenzacridines. N. P. Buu-Hoï. Chem Soc J p 1146-52 Ap '50

Chemotherapy most popular method, cancer researchers say. Chem & Eng N 29:1949-50 My 14 '51

Chemotherapy of cancer. A. Haddow. Chem & Ind p318-20 Ap 28 '51; Abstract. Chem Age (Lond) 63:813-14 D 9 '50; Discussion. Chem & Ind p 10 Ja 6 '51

Chylomicrons as carriers for carcinogenic hydrocarbons. K. Setälä and P. Ermala. Science 114:151-2 Ag 10 '51

Competitive action of 2-thiouracil and uracil in AAF-induced cancer of the liver. K. E. Paschkis and others. bibliog Science 114: 264-5 S 7 '51

Environmental lung cancer. W. C. Hueper. il Ind Med 20:49-62 F '51

Etiologic factors in bronchiogenic carcinoma with special reference to industrial exposures; report of eight hundred fifty-seven proved cases. E. L. Wynder and E. A. Graham. bibliog A M A Archives Ind Hygiene & Occup Med 4:221-35 S '51

Folic acid-like compounds in blood; abstract. H. G. Frank and D. L. Gallant. Chem & Eng N 29:3949 S 24 '51

Gordon cancer conference, New London, N.H. Aug. 27-31. Science 114:111 Jl 27 '51

Immunochemical changes in chicken serum during development of Rous sarcoma. I. A. Parfentjev and F. Duran-Reynals. bibliog Science 113:690-1 Je 15 '51

Infra-red spectra of carcinogens; derivatives of stilbene. H. W. Thompson and others. Chem Soc J 214-18 Ja '50

Infra-red spectra of carcinogens; polynuclear hydrocarbons. S. F. D. Orr and H. W. Thompson. Chem Soc J p218-21 Ja '50

Inhibitory action of adrenalin on growth of rat sarcoma. M. R. Lewis and P. M. Aptekman. Science 113:557-8 My 11 '51

Instance of the occurrence of carcinogenic substances in certain barnacles. M. B. Shimkin and others. Science 113:650-1 Je 8 '51

Krebiozen. C. P. Rhoads. Science 114:285-6; Reply. A. C. Ivy. 286 S 14 '51

Mechanism for the origin of cancer foci; abstract. J. C. Fisher and J. H. Hollomon. Science 112:424 O 13 '50

Microfluorometric scanner for the differential detection of cells; application to exfoliative cytology. R. C. Mellors and R. Silver. bibliog il diags Science 114:356-60 O 5 '51

New anti-cancer weapon planned; radioactive cobalt. Electronics 24:277+ Ag '51; Same. il Elec Eng 70:841 S '51

Nucleic acids and cancer research. E. McDonald and W. A. Mosher. Franklin Inst J 251:183-7 Ja '51

Nucleic acids of normal and tumour tissues; the preparation and composition of a pentosenucleic acid from the fowl sarcoma G.R.C.H. 15. R. N. Beale, R. J. C. Harris and E. M. F. Roe. Chem Soc J p 1397-407 My '50

Occupational cancer and other health hazards in a chromate plant; clinical and toxicologic aspects. T. F. Mancuso. bibliog il Ind Med 20:393-407 S '51

Occupational cancer and other health hazards in a chromate plant; lung cancers in chromate workers. T. F. Mancuso and W. C. Hueper. bibliog il Ind Med 20:358-63 Ag '51

Occupational cancer in a chromate plant; environmental appraisal. H. G. Bourne, jr. and H. T. Yee. bibliog Ind Med 19:563-7 D '50

Organolead compounds containing an azo linkage. H. Gilman and C. G. Stuckwisch. bibliog Am Chem Soc J 72:4553-5 O '50

Physical examination in industry as a cancer case-finding procedure. C. D. Selby. Ind Med 20:284-5 Je '51

Pilot program for cancer detection in industry. B. N. Berg. A M A Archives Ind Hygiene & Occup Med 3:279-86 Mr '51

Polycyclic aromatic hydrocarbons; carcinogenic compounds. J. W. Cook. Chem Soc J p 1210-19 bibliog(78 ref, p 1218-19) Ap '50

Public Health grants $1,416,760 for cancer research. Chem & Eng N 29:3720-1 S 10 '51

CANCER—*Continued*

Pulmonary carcinoma in chromate workers. A. M. Baetjer. bibliog A M A Archives Ind Hygiene & Occup Med 2:487-516 N '50; Abstract. Nat Safety N 63:86-7 F '51

Recovery of tumor cells from effects of the tumor-inducing principle in crown gall. A. C. Braun. bibliog Science 113:651-3 Je 8 '51

Regression of lymphosarcoma transplants in mice. G. A. Emerson, E. Wurtz and M. E. Zanetti. Am Chem Soc J 72:4839 O '50

Roentgen irradiation of para-aminobenzoic acid solutions. P. G. Mar and I. C. C. Tchaperoff. bibliog Science 113:549-51 My 11 '51

Role of the unpaired electron in carcinogenesis. H. F. Park. J Phys & Colloid Chem 54:1383-4 D '50

Screening of potential cancer-inhibiting agents. M. Gordon and others. bibliog Science 113:61-4 Ja 19 '51

Simple method for extirpating an experimental tumor. P. A. Zahl. il Science 114:180-1 Ag 17 '51

Simplified silver impregnation method for vaginals smears. G. M. Riley and others. bibliog il Science 113:574-6 My 18 '51

Some compounds of interest in cancer chemotherapy. J. G. Burr, jr., W. F. Holton and C. N. Webb. bibliog Am Chem Soc J 72:4903-6 N '50

Studies on carcinolytic compounds; 6,7-dichloro-9-(1′-D-sorbityl)-isoalloxazine. F. W. Holly and others. bibliog Am Chem Soc J 72:5416-18 D '50

Sulfapyrazine precipitated in cancer tissue upon repeated glucose injections. C. D. Stevens and others. Science 112:561 N 10 '50

S^{35}-glutathione preparation from yeast and tracer studies in cancerous and non-cancerous rats. G. E. Woodward. bibliog Franklin Inst J 251:557-62 My '51

Thiophen derivatives of potential biological interest; thionaphthen analogues of stilbene and related compounds. N. P. Buu-Hoï and N. Hoán. Chem Soc J p251-5 F '51

Tracer techniques succeed in thyroid diagnoses. Chem & Eng N 28:4554 D 25 '50

Tubal malignancy; a method for collecting specimens for cytologic study. K. S. MacLean. Science 114:181 Ag 17 '51

Study and teaching

Achievement examination in the subject of cancer for medical school students. H. R. Bierman and J. N. McClelland. Pub Health Rep 66:769-78 Je 15 '51

Cancer program in medical schools; a review. R. F. Kaiser. bibliog Pub Health Rep 65:1397-402 O 27 '50

Oral cancer teaching program in dental schools. R. F. Kaiser. bibliog Pub Health Rep 66:757-61 Je 15 '51

CANCER research laboratories

Cancer research facilities construction grants awarded through the National cancer institute by the Public health service. R. G. Meader and W. W. Payne. Pub Health Rep 66:762-8 Je 15 '51

CANDIED fruit

Processing glace peels and allied items at Lyons-Magnus; special Food Industries report. E. E. Jacobs. flow sheet(p 1933-6) il Food Ind 22:1904-9 N '50

CANDY

How to vitaminize candies. A. E. Leighton. il Food Ind 23:104-6+ Mr; [cont as] Food Eng 23:169+ Ap '51

What refrigeration does for candies. J. G. Woodroof and H. H. Thompson. il Refrig Eng 58:1169-72+ D '50; Discussion. 59:50-1 Ja '51

Manufacture

Bottlenecks licked by mechanizing; Charms redesigns units for hard candy cooking and packaging. J. V. Ziemba. flow sheet(p2109-12) il Food Ind 22:2047-8+ D '50

Engineering is the answer to big demand; Thos. D. Richardson co., Philadelphia. J. V. Ziemba. il Food Ind 22:1885-90 N '50

How advanced units and technics will send up your volume. J. V. Ziemba. il Food Eng 23:96-101+ Je '51

Now, a readily made fondant for bakers, confectioners. R. N. Prince. il Food Eng 23:100-1+ Ag '51

Pure syrup from candy trims. W. H. Childs; V. R. Ciccone. il diag Food Eng 23:79-82 Jl '51

Simplified aerating process for foam-type confections; patent. diag Food Eng 23:171 Je '51

CANDY bar wrappers

Oh Henry! nominated for packaging's Hall of fame. il Mod Packaging 24:126-31+, cover Ap '51

CANDY boxes

Candy with imagination; industry can profit by work of student package designers. il Mod Packaging 24:112-13 F '51

New container reduces candy-cane breakage. il Mod Packaging 24:87 Ag '51

Sweet and pretty; Curries gift package combines candies with fresh corsage. il Mod Packaging 24:83 Ja '51

CANDY factories

Electric equipment

Chocolate cooling; Helm chocolate company's factory. il Elec R (Lond) 147:732 N 10 '50

Equipment

Bottlenecks licked by mechanizing; Charms redesigns units for hard candy cooking and packaging. J. V. Ziemba. flow sheet(p2109-12) il Food Ind 22:2047-8+ D '50

Candy maker shows how to boost plant efficiency: Walter H. Johnson plant, Chicago. C. L. Smessaert. il diags Food Eng 23:86-90+ My '51

Engineering is the answer to big demand; Thos. D. Richardson co., Philadelphia. J. V. Ziemba. il Food Ind 22:1885-90 N '50

How advanced units and technics will send up your volume. J. V. Ziemba. il Food Eng 23:96-101+ Je '51

CANDY trade

Candy salesmen stop knocking each other. Sales Management 66:87 Ap 1 '51

Easter convertibles; Overland candy co. solves post-holiday merchandising problem. il Mod Packaging 24:75 Mr '51

Witty packaging; it builds sales for Blum's. il Sales Management 66:96+ F 15 '51

Advertising

Copy clinic. B. Tyler. il Adv Agency 43:70 D '50

CANNED fish

Pack diced salmon in four-lb. cans. R. Bloomberg. il Food Eng 23:93 My '51

CANNED food

For protection keyed to the product; those synthetic can linings. S. L. Flugge. il Food Eng 23:114-16+ Ag '51

See also

Canned fish
Canned meat
Canneries
Canning and preserving

Testing

Device inspects more than 600 cans per minute. il diag Food Eng 23:135 Ap '51

New vacuum gauge for canned goods. J. C. Morpeth. Chem Age (Lond) 65:461-2+ O 6 '51

CANNED meat

Low-sodium meat for saltless diets. Bsns W p22 Je 9 '51

Partial cooking and regrinding before packing enhances quality of vacuum-canned meats; patent. Food Eng 23:133 Jl '51

CANNERIES

How coordinated expansion secures top label foods at low cost; Stokely-Van Camp, inc. A. J. Stokely. il Food Eng 23:80-2+ Ag '51

Preventive quality control; Crosse & Blackwell. B. W. Clarke. il Food Ind 23:74-9+ Mr '51

Tomato juice line. J. C. Moyer and others. bibliog flow sheet il plan Ind & Eng Chem 43:1874-80 Ag '51

Costs

High-profit claims fade under probe of canners. J. A. J. Jones. Food Eng 23:112-13 Ag '51

CANNERIES—*Continued*

Electric equipment

Fish cake fryer, Nelson bros. fisheries ltd.; data sheet. E. H. Tarrant. il Elec West 106:73 Mr '51

Employees

Investigation of occupational dermatoses in the citrus fruit canning industry. D. J. Birmingham and others. A M A Archives Ind Hygiene & Occup Med 3:57-63 Ja '51

Equipment

Aseptic canning in action; split-pea soup. C. R. Havighorst. flow diag il Food Ind 23:72-4 F '51

Award for progress to Andersen's Foods for continuous short-high aseptic canning system. flow sheet(p 134-7) il Food Eng 23:67-70 Je '51

Makes big strides in apple processing; Knouse foods cooperative, inc. J. V. Ziemba. flow sheet(p 136-9) il Food Ind 23:111-16 F '51

Mechanized apple butter and jelly lines; Knouse foods cooperative, inc.; picture flow sheet. Food Ind 23:138-41 Mr '51

Mechanized continuous process pays six extra benefits; precise Reich method for jam, jelly, marmalade and preserve production. I. C. Miller. flow sheet(p 134-7) il diags Food Eng 23:103-6 S '51

Moving to that X-street building? Nedick's experience in housing its drink-canning lines. E. F. Hansen. il Food Eng 23:149+ Je '51

New shear-press predicts quality of canned limas. A. Kramer and others. bibliog il diag Food Eng 23:112-13+ Ap '51

These new canning units caught eyes at Chicago; illustrations with text. Food Eng 23:114-18 Ap '51

They improved their processing eight ways; Mammoth Spring canning co., Sussex, Wis. I. C. Miller. il Food Ind 23:86-8+ Ja '51

Waste

Solves waste problem; saves too; citrus canner's recovery of molasses, oil, and feed. C. E. Wright. il Food Eng 23:107-8 S '51

Treatment and disposal of food canning wastes; abstract. R. J. Dougherty. Water & Sewage Works 98:327-8 Jl '51

CANNERS association, National. See National canners association

CANNING and preserving

Award for progress to Andersen's Foods for continuous short-high aseptic canning system. flow sheet(p 134-7) il Food Eng 23:67-70 Je '51

Canned fresh dates; vacuum packed by a new process. il Mod Packaging 24:94-5 Ag '51

Canned fresh milk now a reality. R. Bloomberg and F. E. Hessey. il diag Food Eng 23:71-4 Je '51

End over end rotation of cans during processing speeds heating and cooling, improves product; patent digest. diag Food Ind 23:169 F '51

Notes temp in fully agitated kettles. il Food Eng 23:5 Je '51

Results of studies on the preservative action of antibiotics in processed foods; abstract. J. D. Burroughs and I. E. Wheaton. Food Eng 23:158 My '51

CANNIZZARO reaction

Synthesis of 2,2-dimethyl-3-(4-morpholinyl)-1-propanol and analogous amino alcohols by the Mannich and crossed Cannizzaro reactions. L. C. Cheney. bibliog Am Chem Soc J 73:685-6 F '51

CANNULAS

Special cannula for determination of blood flow in the left common coronary artery of the dog. R. W. Eckstein and others. bibliog il Science 113:385-6 Ap 6 '51

CANS

New method for the rapid detection and location of microscopic leaks in cans; abstract. P. H. Lefebvre. Food Ind 23:171 Mr '51

Tinless cans stitch in time for NPA cuts. Iron Age 167:109 F 8 '51

See also

Tin cans

Manufacture

Plate for can stock improved; use of Bonderite K. Steel 129:104 Ag 20 '51

Standards

Packaging group adopts can standards. Nat Pet N 43:32 F 21 '51

CANS, Aluminum

Cans; a new rival for tinplate; Reynolds has two new processes; plastic-coated aluminum foil, and aluminum-coated steel. B. Packard. Iron Age 168:72 S 20 '51

Neither tin nor steel; Reynolds new container made of aluminum foil coated with plastic. il Chem W 69:32 O 6 '51

CANSO, Strait of

Causeway recommended for Canso Strait crossing instead of low-level bridge; with cost data. D. S. Ellis and others. il maps diags Roads & Eng Constr 89:65-8+ Jl '51

Is a causeway the solution for the Strait of Canso problem? editorial. Roads & Eng Constr 89:33+ S '51

CANTILEVER-STRUT (term)

Finite deflections of a cantilever-strut. R. A. Beth and C. P. Wells. diag J Ap Phys 22:742-6 Je '51

CANVASSING. See Door-to-door selling

CANYONS, Submarine

Deep-sea sands and submarine canyons. D. B. Ericson and others. map Geol Soc Bul 62:961-5 Ag '51

Stream gradients and Monterey sea valley. A. O. Woodford. maps diags Geol Soc Bul 62:799-851, pl 1 bibliog(p849-51) Jl '51

Submarine canyons; a joint product of rivers and submarine processes. F. P. Shepard. Science 114:7-9 Jl 6 '51

CAPACITORS. See Condensers (electricity)

CAPILLARIES

Improvements in a method for preparing plastic powder-sample capillary tubes. K. E. Beu. R Sci Instr 22:62 Ja '51

Measurement of the internal diameters of metallic capillary tubes. C. T. Collett and others. il diag J Res Nat Bur Stand 45:283-8 O '50

Physical adsorption of gases in capillaries and on small particles (nucleation of condensation). T. L. Hill. bibliog J Phys & Colloid Chem 54:1186-91 N '50

Rating the restrictor tube; method of determining flow capacities for Freon-12 and Freon-22. N. E. Hopkins. bibliog Refrig Eng 58:1087-95 N '50; Discussion. 59:49-50 Ja '51

Selection of capillaries with predetermined characteristics for the dropping mercury electrode; nomogram and directions. O. H. Müller. Anal Chem 23:1175-7 Ag '51

Self-diffusion and structure of liquid water; measurement of self-diffusion of liquid water with deuterium as tracer. J. H. Wang. bibliog diag Am Chem Soc J 73:510-13 F '51

CAPILLARITY

Capillary and imbibed water in assemblies of moist fibres. J. M. Preston and others. bibliog diag Textile Inst J Trans 42:T79-90 F '51

Capillary phenomena in cohesionless soils. T. W. Lambe. diags Am Soc C E Proc 76 [no 4]:1-23 F '50; Discussion. 76 [no D-4]:1-9 N '50

Capillary properties of some limestone cores. R. L. Whiting and E. T. Guerrero. bibliog diags Oil & Gas J 50:272-3+ Jl 26 '51

Chart for conversion of capillary pressure to height above free water table. J. C. Calhoun, jr. Oil & Gas J 49:87 Ja 18 '51

CAPITAL

Ample working capital for manufacturers; National industrial conference board survey. Comm & Fin Chr 174:1191 S 27 '51

Anatomy of investment decisions; based on field study of Twin Cities manufacturing firms. W. W. Heller. Harvard Bsns R 29:95-103 Mr '51

Before-the-fact control of capital outlay. F. L. Mettler. N A C A Bul 32:1242-50 Je '51

Can liberal dividends continue in the wake of rising capital needs? W. Gates. Mag of Wall St 88:391-3+ Jl 14 '51

Capital flotations in the United States in Dec. and for the twelve months of calendar year 1950. Comm & Fin Chr 173:1059-70 Mr 12 '51

CAPITAL—*Continued*

Capital that takes a chance; venture-capital firms. Bsns W p25-6 Ap 14 '51

Finance of stocks and commodities. Economist 160:1333-4 Je 2 '51

New-money pool starts drying up. Bsns W p 124-6 Ap 21 '51

New security issues, for new capital and for refunding, domestic totals, 1941-1949 and monthly Nov. 1949-Nov. 1950. Fed Res Bul 37:67 Ja '51 [cont monthly]

Private investment in a laboristic economy. F. C. Pierson. bibliog Ann Am Acad 274: 139-44 Mr '51

Raising capital, retail style; Kaiser Steel financing. il Mod Ind 21:62-3 Ja '51

See also

Assets, Fixed
Corporations—Finance
Dividends
Industrial and commercial finance corporation, ltd.
Interest
Investments
Profit

CAPITAL airlines

Capital air lines cuts its debt. S. Altschul. Aviation W 54:18 Mr 5 '51

Capital rings bell on N.Y.-Atlanta run. Aviation W 54:42-3 F 12 '51

Dividend possible by end of year. Barron's 31:15+ Ap 2 '51

CAPITAL gains tax. See Income tax—Capital gains tax

CAPITAL goods industries. See Equipment industries

CAPITAL spending. See Industrial expansion—Statistics

CAPITALISM

Big business sabotaged. H. B. du Pont. Pub Util 47:180-2 F 1 '51

Communism vs freedom; communism's lies; what the facts are. Coal Age 56:70 S '51

Defence of profits and dividends. E. Benn. Electrician 147:411-12 Ag 10 '51

Economics of the American system. E. Vennard. Edison Elec Inst Bul 19:184-6 Je '51

Free enterprise system, our best security! H. F. Byrd. Comm & Fin Chr 172:7+ sec 2 O 19 '50

Investors must fight enemies. R. S. Byfield. Comm & Fin Chr 172:2277+ D 14 '50; Same. Trusts & Estates 90:26-8 Ja '51

Jersey company. G. Burck. il map Fortune 44:98-113+ O '51

National liberation and social progress in Asia. J. Katz-Suchy. Ann Am Acad 276:48-59 Jl '51

Schumpeter on monopoly and the large firm. E. S. Mason. R Econ & Stat 33:139-44 My '51

Transformation of American capitalism. il Fortune 43:78-83+ F '51

U.S. production; target for termites; Communist scheme to destroy confidence in American business. B. F. Fairless. Comm & Fin Chr 173:623+ F 8 '51; Excerpts. Trusts & Estates 90:161 Mr '51

Wanted; a new name for capitalism; abstract. W. I. Nichols. Management R 40: 114 Mr '51

Which way American economy? P. S. Ehrlich. Paper Tr J 132:127-31 F 23 '51

CAPITOLS

Special lighting in new Capitol building. il Elec West 107:78-80 Ag '51

See also

United States—Capitol

CAPPERS. See Closures (containers)

CAPRALDEHYDE

Kinetics of the autoxidation of *n*-decanal. H. R. Cooper and H. W. Melville. diags Chem Soc J p 1984-2002 Ag '51

CAPRIC acid

Properties of freshly formed surfaces; further studies of the influence of surface expansion on soluble films of long-chain compounds. C. C. Addison and S. K. Hutchinson. Chem Soc J p3406-11 D '49

CAPROIC acid

Experiments relating to the resolution of tertiary alcohols; the resolution and deamination of α-naphthylphenyl-*p*-tolylmethylamine, and the Curtius, Hofmann, and Schmidt reactions with 2-methyl-2-phenylhexanoic acid. C. L. Arcus, J. Kenyon and S. Levin. Chem Soc J p407-10 F '51

CAPRYL alcohol. See Octyl alcohol

CAPSULES

Capsules by the million; Strong-Cobb & co. il Chem Ind W 68:14-15 Mr 10 '51

CAPSULES, Gelatin

Single-shots; liquid products in gelatin capsules. il Mod Packaging 24:148-50+ Ap '51

CAR axles

Manufacture

Tooling designed for turning railway car axles. E. A. Watson. il Mach 57:168-71 D '50

Repair

Handling axles during reconditioning. il Ry Mech & Elec Eng 125:64-5 F '51

Overhauling wheels and axles at London Transport Acton works. il Engineer 190: 658-9 D 29 '50; Engineering 171:12-13 Ja 5 '51

CAR cards. See Advertising cards

CAR cleaning

Box-car laundry track. il Ry Mech & Elec Eng 125:63-4 F '51

Cleaning and painting at coach yards; report of Car department officer's association. Ry Mech & Elec Eng 124:657-9 N '50

Cleaning can increase corrosion on passenger cars. A. M. Johnsen. il Ry Age 130:62-3 Je 25 '51

Washing plant for railway vehicles. il Engineering 171:738 Je 15 '51

CAR couplings

Couplers and draft gears; committee report, A.A.R. Mechanical division. Ry Age 131: 100+ Jl 9 '51; Same. diags Ry Mech & Elec Eng 125:57-60 Ag '51

Freight car coupler reclamation. il Ry Mech & Elec Eng 125:59-60 Jl '51

Reclaiming car couplers. il Ry Mech & Elec Eng 125:69 My '51

CAR department officers' association

Annual meeting, Chicago, Sept. 18-20. Ry Mech & Elec Eng 124:651-61 N '50

Annual meeting, Chicago, Sept. 17-19. Ry Age 131:56-8 S 24 '51; Same. Ry Mech & Elec Eng 125:59-62+ O '51

CAR departments. See Railroads—Car departments

CAR ferries. See Train ferries

CAR heating

How the Texas & Pacific uses steam generator cars. il Ry Age 131:59-60 S 3 '51

Simplified heating system. il Ry Mech & Elec Eng 125:87 Je '51

Steam heat requirements on passenger equipment; report of Master boilermakers' association. Ry Mech & Elec Eng 124:663-4 N '50

Texas & Pacific equips steam generator car for use in heating passenger trains. il Ry Age 129:29 D 23 '50

Transportation heating and air conditioning systems and controls. N. O. Kirkby. il plans diags Heating-Piping 23:151-6 Ap '51; Same abr. Ry Mech & Elec Eng 125:52-6 Mr '51

CAR lighting

A-c lighting for subways. Westinghouse Eng 10:256 N '50

Cold cathode lighting in a railway coach. il Engineer 191:574 My 4 '51

Development of a-c fluorescent lighting for New York city's subway cars. E. W. Beggs and H. W. Graybrook. il diag Illum Eng 45:617-21 O '50; Discussion. 45:757-9 D '50

Railway fluorescent lighting; first large scale application on transport vehicles. il Electrician 146:50 Ja 5 '51; Elec R (Lond) 148: 140 Ja 19 '51

Vehicle lighting; application of the fluorescent lamp. J. J. French. il diags Elec R (Lond) 148:1041-5 My 18 '51

CAR load. See Freight car service—Car load

CAR painting and finishing

Cleaning and painting at coach yards; report of Car department officer's association. Ry Mech & Elec Eng 124:657-9 N '50

Design of spray paint shop for cars. il Ry Age 131:34-5 Jl 30 '51

Layout for sand-blasting cars. il Ry Mech & Elec Eng 125:66-7 F '51

CAR retarders

Retarders and intensified supervision cut switching damage to equipment and lading at Potomac yard, Alexandria, Va. C. E. McCarty. il Ry Age 129:56-7 N 4 '50

CAR shops

New railway car-building and repair-shop methods. C. R. Strutz. il diag Ry Mech & Elec Eng 125:57-61 F '51

Equipment

Short cuts in car work from the Union Pacific; illustrations with text. Ry Mech & Elec Eng 125:61-3 S '51

Three Santa Fe car shop devices; illustrations with text. Ry Mech & Elec Eng 125:64-5 S '51

CAR springs

Mechanised laminated spring manufacturing plant. il Engineer 191:166-8 F 2 '51

Mechanised production of railway laminated springs. il plan Engineering 171:149-52, pl 6-7 F 9 '51

CAR trucks

Carriage bogie stabiliser units. il diags Engineer 191:490-1 Ap 13 '51

Shimmy in passenger-car trucks. S. G. Guins. diags Ry Age 130:117-19 F 12 '51

Truck side frames weakened by corrosion. il Ry Mech & Elec Eng 124:726-7 D '50

CAR wheels

Car wheel shop practices; report of Car department officer's association. Ry Mech & Elec Eng 124:655-6 N '50

Car wheel unloader chute. il Ry Mech & Elec Eng 124:727 D '50

Car wheels dynamically balanced at Burnside shops. il Ry Mech & Elec Eng 125:54-5 Ja '51

Former A.A.R.X.-1 chilled car wheel now in production. il diag Ry Age 130:29-30 F 19 '51; Same. Ry Mech & Elec Eng 125:85-7 Mr '51

Heat cracks in railway car wheels. J. O. Almen. il diag Product Eng 22:118-20 Mr '51

Increasing mileage of rolling stock between repairs; report of International railway congress. Engineering 171:136-7 F 2 '51

Milwaukee modernizes its wheel shop. il plan Ry Mech & Elec Eng 125:51-6 Je '51

Structural aspects of tellurium and graphite additions for chill control in cast iron. E. A. Loria. il Foundry 79:126-9+ Je '51

Wheel handling using elevated runway. il Ry Mech & Elec Eng 125:59-60 Ja '51

Wheel re-turning time halved. il Steel 127:99-100 D 4 '50

Wheels; committee report, A.A.R. Mechanical division. Ry Age 131:97-8+ Jl 9 '51; Same. Ry Mech & Elec Eng 125:61-3 Ag '51

Repair

Overhauling wheels and axles at London Transport Acton works. il Engineer 190:658-9 D 29 '50; Engineering 171:12-13 Ja 5 '51

Testing

Effect of brake shoe action on thermal cracking and on failure of wrought steel railway car wheels. H. R. Wetenkamp and others. il diags Ill U Eng Exp Sta Bul 387:1-101 '50 (pa 60c)

CARBAMATES

Chemical structure of some diamine carbamates. E. Katchalski, C. Berliner-Klibanski and A. Berger. bibliog Am Chem Soc J 73:1829-31 Ap '51

Conversion of carbamates into dithiocarbamates. D. O. Holland. Chem Soc J p2134-5 Ag '50

Quaternary carbon compounds; trisubstituted carbinylcarbamates. N. Sperber and others. Am Chem Soc J 73:2965-6 Je '51

CARBAZOLE

Carbazole aldehydes. N. P. Buu-Hoï and N. Hoán. bibliog Am Chem Soc J 73:98-100 Ja '51

Chemistry of the carbazoles; 1 : 2 : 3 : 4-tetrahydro-4-ketocarbazoles. G. R. Clemo and D. G. I. Felton. Chem Soc J p700-3 Mr '51

Chromatographic investigations of smokeless powder; derivatives of acardite, carbazole, and triphenylamine formed in double-base powder during accelerated aging. W. A. Schroeder, B. Keilin and R. M. Lemmon. bibliog Ind & Eng Chem 43:939-46 Ap '51

Cyanoethylation of some carbazole derivatives. N. L. Smith. Am Chem Soc J 72:4313-14 S '50

Experiments on the preparation of indolocarbazoles; some observations on the Graebe-Ullmann carbazole synthesis. G. G. Coker, S. G. P. Plant and P. B. Turner. Chem Soc J p 110-15 Ja '51

Formation of osazones; the reaction of 2-hydroxy*cyclo*hexanone with arylhydrazines. G. J. Bloink and K. H. Pausacker. Chem Soc J p 1328-31 My '50

Hydrogenolysis of carbazole. A. K. Mandal, H. B. Charmbury and C. C. Wright. bibliog Am Chem Soc J 72:4478-80 O '50

2- and 4-nitro-3-aminocarbazole. G. Anderson and N. Campbell. Chem Soc J p2904-5 O '50

Synthesis of heterocyclic compounds from aryl azides; bromo and nitro carbazoles. P. A. S. Smith and B. B. Brown. bibliog Am Chem Soc J 73:2435-7 Je '51

Synthesis of some pyridocarbazoles. R. H. F. Manske and M. Kulka. bibliog Am Chem Soc J 72:4997-9 N '50

CARBAZOLENINE. See Isocarbazole

CARBETHOXYCYCLOHEXANONE

Cyclic polyolefins; carbonyl-bridged compounds derived from the adduct of α-carbethoxycyclohexanone and acrolein. A. C. Cope and M. E. Synerholm. bibliog Am Chem Soc J 72:5228-32 N '50

CARBETHOXYCYCLOPROPANE

Synthesis of a cyclopropane derivative through exhaustive methylation. H. Rinderknecht and C. Niemann. Am Chem Soc J 73:4259-60 S '51

CARBIDE cutting tools. See Cutting tools, Carbide

CARBIDES

Carbides in long-tempered vanadium steels; study with the electron microscope. W. Crafts and J. L. Lamont. il J Metals 188: Trans 561-74 Mr '50; Discussion. 188:Trans 1354-5 N '50

Carbide's role in drilling gives it critical importance. A. H. Hubbell. il Eng & Min J 152:108-13 F '51

Certain refractory compounds as thermionic emitters. D. L. Goldwater and R. E. Haddad. diag J Ap Phys 22:70-3 Ja '51

Designing with modern materials; survey of latest developments in engineering materials. il Machine Design 23:324-5 O '51

Measurement of carbon diffusion in metallic carbides. G. C. Kuczynski and R. Landauer. diag J Ap Phys 22:952-5 Jl '51

Method X machines carbides by atom expulsion; described as the shaping of metallic parts in a dielectric fluid by a spark discharge. il Am Mach 95:194-5 S 3 '51

New method machines sintered carbides, sintered borides, hardened tool steels; Cavitron process. A. S. Cohan. il J Metals 3:216-17 Mr '51

Preparation of cemented carbides by infiltration; abstract. R. Kieffer and F. Kölbl. Metal Prog 60:118+ Ag '51

Recommended carbide grades for various applications; tabulation; engineering file facts. Materials & Methods 32:85 D '50

Sintered carbides; new tool of ceramics. J. W. Graham and W. L. Kennicott. il diags Cer Ind 55:93-4+ D '50

Some physical properties of eight refractory oxides and carbides. J. J. Gangler. bibliog il diag Am Cer Soc J 33:367-74; Discussion. 374-5 D 1 '50

Studies of the Fischer-Tropsch synthesis; phase changes of iron catalysts in the synthesis. R. B. Anderson and others. Am Chem Soc J 73:944-6 Mr '51

See also

Calcium carbide
Cutting tools, Carbide
Iron carbide
Titanium carbide
Tungsten carbide
Zirconium carbide

CARBINOLS

Acetylene and acetylenic compounds in organic synthesis. E. R. H. Jones. Chem Soc J p754-61 F '50

CARBINOLS—*Continued*

Alkenylation by use of lithium alkenyls; the condensation of *cyclo*hexenyl-lithium with aldehydes and ketones, and some reactions of the resulting carbinols; studies in molecular rearrangement. E. A. Braude and J. A. Coles. Chem Soc J p2014-19 Ag '50

Alkenylation by use of lithium alkenyls; the condensation of *iso*butenyl-lithium with acraldehyde and crotonaldehyde, and the oxotropic rearrangement of the resulting carbinols; studies in molecular rearrangement. E. A. Braude and C. J. Timmons. Chem Soc J p2007-11 Ag '50

Alkenylation by use of lithium alkenyls; the condensation of *iso*butenyl-lithium with benzaldehyde and acetophenone, and the oxotropic rearrangement of the resulting carbinols; studies in molecular rearrangement. E. A. Braude and C. J. Timmons. diag Chem Soc J p2000-6 Ag '50

Alkyl-oxygen fission in carboxylic esters; esters of *p*-methylthio- and *p*-methylsulphonyl-diphenylcarbinols. M. P. Balfe, R. E. Dabby and J. Kenyon. Chem Soc J p382-5 F '51

Alkyl-oxygen fission in carboxylic esters; methyl-2-thienylcarbinol. I. G. Anderson, M. P. Balfe and J. Kenyon. Chem Soc J p385-6 F '51

Alkyl-oxygen fission in carboxylic esters; phthalates of di-*p*-methoxyphenylcarbinol and of *tert.*-alcohols. M. P. Balfe, J. Kenyon and E. M. Thain. Chem Soc J p386-8 F '51

Alkyl-oxygen fission in carboxylic esters; solvolytic reactions of esters of optically active *cyclo*hexylphenyl-, methylphenyl-, and methyl-α-naphthyl-carbinols. M. P. Balfe, G. H. Beaven and J. Kenyon. Chem Soc J p376-80 F '51

Aminoalkyl tertiary carbinols and derived products; 3-amino-1 : 1-di-2′-thienyl-alkan-1-ols and -alk-1-enes. D. W. Adamson. Chem Soc J p885-90 Mr '50

Aminoalkyl tertiary carbinols and derived products; spasmolytics; phenyl- and *cyclo*hexylphenyl-carbinols. D. W. Adamson, P. A. Barrett and S. Wilkinson. Chem Soc J p52-60 Ja '51

Aminoalkyl tertiary carbinols and derived products; 3-tertiary-amino-1-aryl-1-(2-pyridyl)-1-ols and -prop-1-enes. D. W. Adamson and J. W. Billinghurst. Chem Soc J p 1039-45 Ap '50

Aryl carbonium ions in sulfuric acid. M. S. Newman and N. C. Deno. bibliog Am Chem Soc J 73:3644-50 Ag '51

Aryltrichloromethylcarbinols. E. D. Bergmann, D. Ginsburg and D. Lavie. bibliog Am Chem Soc J 72:5012-14 N '50

Chemistry of the benzylpyridines; nuclear substituted 2-benzylpyridines. N. Sperber and others. bibliog Am Chem Soc J 73:3856-8 Ag '51

Dehydration and isomerization of dimethylethynylcarbinol. E. D. Bergmann. bibliog Am Chem Soc J 73:1218-20 Mr '51

Dependence of optical rotatory power on chemical constitution; *cyclo*hexylphenylcarbinol. M. P. Balfe, G. H. Beaven and J. Kenyon. Chem Soc J p 1857-60 Jl '50

Dependence of optical rotatory power on chemical constitution; (-)-2-thienylmethylcarbinol. I. G. Anderson, M. P. Balfe and J. Kenyon. Chem Soc J p 1866-8 Jl '50

Experiments in the *cyclo*butane series. K. B. Alberman and F. B. Kipping. Chem Soc J p779-82 Mr '51

Fission of the alkyl-oxygen bond in carbinols and of the alkyl-sulphur bond in sulphides and sulphones. M. P. Balfe, J. Kenyon and C. E. Searle. Chem Soc J p3309-12 N '50

Ionisation of triarylcarbinol indicators in sulphuric acid-water mixtures. M. A. Murray and G. Williams. Chem Soc J p3322-6 N '50

Ionisation of triarylcarbinols in strong acids and the definition of a new acidity function. V. Gold and B. W. V. Hawes. diag Chem Soc J p2102-11 Ag '51

Oxidation of some secondary aliphatic-aromatic alcohols. H. A. Neidig and others. Am Chem Soc J 72:4617-18 O '50

(+)- and (–)*c*-tolyl-*p*-tolylcarbinols. M. P. Balfe, M. K. Hargreaves and J. Kenyon. Chem Soc J p375-6 F '51

Preparation of 3,4-dimethoxyphenyl- and 4-hydroxy-3-methoxyphenylalkylcarbinols. P. C. Roberti, R. F. York and W. S. MacGregor. bibliog Am Chem Soc J 72:5760-1 D '50

Reaction of nickel carbonyl with ethynyldimethylcarbinol and *iso*propenylacetylene. E. D. Bergmann and E. Zimkin. Chem Soc J p3455-7 D '50

Rearrangement of benzyl ethers to carbinols by potassium amide; mechanism of isomerization of carbanions involving 1,2-shifts. C. R. Hauser and S. W. Kantor. bibliog Am Chem Soc J 73:1437-41 Ap '51

Resolution of methylethylphenylcarbinol. H. H. Zeiss. Am Chem Soc J 73:2391-2 My '51

Schmidt reaction with arylcarbinols. C. L. Arcus and R. J. Mesley. bibliog Chem & Ind p701 Ag 18 '51

Studies in molecular rearrangement; the oxotropic rearrangement of *cis*-propenylcarbinols; the stereochemical course of anionotropy. E. A. Braude and J. A. Coles. Chem Soc J p2085-92 Ag '51

Studies in the polyene series; the synthesis of a C_{17} alcohol related to vitamin A. G. W. H. Cheeseman and others. Chem Soc J p3120-3 D '49

Synthetic analgesics; tertiary carbinols and derivatives from Mannich bases. A. L. Morrison and H. Rinderknecht. Chem Soc J p 1510-13 Je '50

CARBOHYDRATES

Isolation of a crystalline trisaccharide from the unfermentable carbohydrate produced enzymically from maltose. S. C. Pan, L. W. Nicholson and P. Kolachov. bibliog il Am Chem Soc J 73:2547-50 Je '51

Reactions of carbohydrates with nitrogenous substances; mutarotations of some glycosylamines. W. Pigman and others. Am Chem Soc J 73:1976-9 My '51

See also

Cellulose
Sugar

Analysis

Aldose end-group estimation by cyanide consumption. A. P. Yundt. Tappi 34:95-6 F '51

Detection of glycosides and non-reducing carbohydrate derivatives in paper partition chromatography. J. G. Buchanan, C. A. Dekker and A. G. Long. Chem Soc J p3162-7 N '50

Determination of carbohydrate residues in pentose nucleic acids. G. R. Barker. Chem Soc J p 1636-7 Je '50

Investigation of the carbohydrate fraction of spruce chlorite liquors. W. J. Bublitz. bibliog flow sheet Tappi 34:427-32 S '51

CARBOHYDRAZIDE

Reduction of carbohydrazide; the acidity of carbohydrazide, semicarbazide and urea. A. H. Corwin and J. D. Reinheimer. bibliog diag Am Chem Soc J 73:1184-6 Mr '51

CARBOLINE. See Pyridindole

CARBON

Acceleration of stripped C^{12} and C^{13} nuclei in the cyclotron. J. F. Miller and others. bibliog Phys R 80:486 N 1 '50

Apparatus for determining gas permeability of carbon and graphite. S. D. Fulkerson and F. J. Lambert. diags Anal Chem 22:1310-12 O '50

Atomic masses of H^1, C^{12}, and S^{32}. A. O. Nier. bibliog Phys R 81:624 F 15 '51

Atomic masses of H^1, D^2, and C^{12}. A. H. Wapstra. bibliog Phys R 82:756-7 Je 1 '51

Calculation of the latent heat of sublimation of carbon and the first C—H dissociation energy in methylene from electron impact data. F. H. Field. bibliog J Chem Phys 19:793 Je '51

Californium isotopes from bombardment of uranium with carbon ions. A. Ghiorso and others. bibliog Phys R 81:154 Ja 1 '51

Carbon and its effect on cast iron. D. J. Reese. Foundry 79:121+ Ja '51

Carbon formation in flames. W. G. Parker and H. G. Wolfhard. pl diags Chem Soc J p2038-49 Ag '50

Carbon skeleton of carpaine. H. Rapoport and H. D. Baldridge, jr. bibliog Am Chem Soc J 73:343-6 Ja '51

CARBON—*Continued*

Cross section for production of charged π-mesons in C and H at 90° to a 381-Mev proton beam. M. M. Block and others. Phys R 83:167 Jl 1 '51

Cross sections of gamma-proton reactions. J. Halpern and A. K. Mann. bibliog diag Phys R 83:370-3 Jl 15 '51

Diffusion coefficient of carbon in austenite. C. Wells and others. il J Metals 188:Trans 553-60 Mr '50; Discussion. 188:Trans 1375-6 N '50

Direct proof of the equivalence of carbon atoms 1 and 6 in D-mannitol and a new method of correlating certain higher-carbon sugars and alcohols. N. K. Richtmyer and C. S. Hudson. bibliog Am Chem Soc J 72:3880-2 S '50

Effect of carbon on the activity of sulphur in liquid iron. J. P. Morris and R. C. Buehl. bibliog diag J Metals 188:Trans 317-22 F '50; Discussion. 188:Trans 1349 N '50

Effect of halogen atoms on the SN1 reactivity of other halogen atoms attached to the same carbon atom. J. Hine and D. E. Lee. bibliog Am Chem Soc J 73:22-3 Ja '51

Effect of halogenation on the C-Br bond dissociation energy in halogenated bromomethanes. M. Szwarc and A. H. Sehon. bibliog diag J Chem Phys 19:656-7 My '51

Effects of three interstitial solutes (nitrogen, oxygen, and carbon) on the mechanical properties of high-purity alpha titanium. W. L. Finlay and J. A. Snyder. bibliog il J Metals 188:Trans 277-86 F '50; Discussion. 188:Trans 1368-9 N '50

Electrical and thermal conductivities of graphite and amorphous carbon. S. Mizushima and J. Okada. bibliog Phys R 82:94-5 Ap 1 '51

Equilibrium measurements in the system C-CH_4-H_2. L. C. Browning and P. H. Emmett. bibliog Am Chem Soc J 73:581-3 F '51

Excitation function of the reaction ($C^{12}(\gamma p)B^{11}$. A. K. Mann and J. Halpern. diag Phys R 80:470-1 N 1 '50

Fast neutron disintegration of C^{12} and B^{10}. J. L. Perkin. Phys R 81:892-3 Mr 1 '51

Free carbon in the air. T. W. Reynolds. Heat & Ven 48:93 F '51

Gasification of carbon; metal oxides in a fluidized powder bed. W. K. Lewis, E. R. Gilliland and M. P. Sweeney. bibliog diags Chem Eng Prog 47:251-6 My '51

High energy photo-protons from carbon. D. Walker. Phys R 81:634-5 F 15 '51

High energy protons emitted from carbon at 90° to a 240-Mev proton beam. G. M. Temmer. bibliog Phys R 83:1067-8 S 1 '51

Inelastic scattering of deuterons by C^{12}. K. K. Keller and others. Phys R 81:481-2 F 1 '51

Influence of aromatic substitution on the C—Br bond dissociation energy. M. Szwarc and others. J Chem Phys 19:657-8 My '51

Interaction of pi-mesons with carbon and aluminum nuclei. M. Camac and others. il diag Phys R 82:745-6 Je 1 '51

Long-range protons from the disintegration of carbon by deuterons and a study of the competing reactions. G. C. Phillips. bibliog Phys R 80:164-70 O 15 '50

Mean free path of penetrating shower producers. W. D. Walker and others. Phys R 80:546-8 N 15 '50

Measurement of carbon diffusion in metallic carbides. G. C. Kuczynski and R. Landauer. diag J Ap Phys 22:952-5 Jl '51

Metallography of carbon in silicon-iron alloys containing four per cent silicon. E. D. Harry. bibliog flow diag 4pls Iron & Steel Inst J 167:241-6 Mr '51

Neutron depolarization on scattering from carbon, paraffin, and phosphorus. W. E. Meyerhof and D. B. Nicodemus. bibliog diags Phys R 82:5-12 Ap 1 '51

Neutron energy distribution in proton bombardment of Be and C at 100 Mev. D. Bodansky and N. F. Ramsey. diags Phys R 82:831-6 Je 15 '51

Path of carbon in photosynthesis; photosynthesis, photoreduction and the hydrogen-oxygen-carbon dioxide dark reaction. E. J. Badin and M. Calvin. bibliog Am Chem Soc J 72:5266-70 N '50

Penetrating showers in carbon. J. R. Green. bibliog diag Phys R 80:832-41 D 1 '50

Photo-mesons from carbon. J. M. Peterson and others. diags Phys R 81:1003-11 Mr 15 '51

Photonuclear effects in carbon from 100-Mev betatron X-rays. E. R. Gaerttner and M. L. Yeater. Phys R 82:461 My 1 '51

Polymer carbon; abstract. W. O. Baker and others. Chem & Eng N 29:3951 S 24 '51

Precipitation of carbon and nitrogen in cold-worked alpha-iron. S. Harper. bibliog Phys R 83:709-12 Ag 15 '51

Preparation of carbon targets; cracking benzene on silver. G. C. Phillips and J. E. Richardson. R Sci Instr 21:885-6 O '50

Production of π^+ mesons in carbon. E. M. Henley and R. H. Huddlestone. Phys R 82:754 Je 1 '51

β-Propiolactone; the kinetics of attack by nucleophilic reagents upon the alcoholic carbon of β-propiolactone. P. D. Bartlett and G. Small, jr. bibliog Am Chem Soc J 72:4867-9 N '50

Pyrolytic film resistors; carbon and borocarbon. R. O. Grisdale and others. bibliog il diags Bell System Tech J 30:271-314 Ap '51

Relative energy and angle distribution of low energy π^- mesons from 390-Mev alpha-particles on carbon; π-meson endings. S. B. Jones and R. S. White. bibliog diag Phys R 82:374-7 My 1 '51

Stars produced in nuclear emulsions by carbon ions from the cyclotron. J. F. Miller. bibliog il Phys R 83:1261-2 S 15 '51

Stereochemical configuration of the number one carbon atom in β-D-xylopyranosylbenzene. W. A. Bonner and C. D. Hurd. bibliog Am Chem Soc J 73:4290-4 S '51

Study of precipitates of C and N in iron with an electron microscope. J. Radavich and C. Wert. il J Ap Phys 22:367-71 Ap '51

Total scattering cross section of neutrons by hydrogen and carbon. E. E. Lampi and others. diag Phys R 80:853-6 D 1 '50

See also

Coal	Graphite
Coke	Petroleum coke
Diamonds	

Analysis

Accurate determination of carbon in low-carbon steels. J. E. Wells. bibliog diags Iron & Steel Inst J 166:113-17 O '50

Carbon on cracking catalyst; determination by combustion and conductometry. C. H. Hale and M. N. Hale. bibliog diag Anal Chem 23:724-6 My '51

Carbon, oxygen, and sulfur content of Chilean coppers as related to cuprous-oxide rectifiers. C. C. Hein and W. M. Hickam. J Ap Phys 22:1192-5 S '51

Errors of combustion of compounds for C^{14} analysis. W. D. Armstrong and others. bibliog Science 112:531-3 N 3 '50

How to obtain accurate carbon analyses. W. H. White. Foundry 79:107 S '51

Isotopic determination of nitrogen and carbon by means of a microwave spectrograph. A. L. Southern and others. bibliog diag Anal Chem 23:1000-4 Jl '51

Microdetermination of carbon and hydrogen; a statistical study of factors. C. L. Ogg and others. Anal Chem 23:911-14 Je '51

Organic microanalysis. G. Ingram. Chem Age (Lond) 64:125-7 Ja 20 '51

Isotopes

Action of formaldehyde on L-ascorbic acid-1-C^{14}. E. H. Mosbach, J. J. Burns and C. G. King. Am Chem Soc J 73:1874-5 Ap '51

Adrenal conversion of C^{14} labeled cholesterol and acetate to adrenal cortical hormones. A. Zaffaroni, O. Hechter and G. Pincus. Am Chem Soc J 73:1390-1 Mr '51

Alpha-particle groups from the $N^{14}(d, \alpha)C^{12}$ and $N^{15}(d, \alpha)C^{13}$ reactions. R. Malm and W. W. Buechner. bibliog Phys R 81:519-22 F 15 '51

Application of radioactive indicators in biochemistry; application of ^{14}C in the study of metabolic depressors and accelerators. G. C. Hevesy. Chem Soc J p 1637-9 Je '51

Bombardment of Li_2O and C by alpha-particles and deuterons. I. B. Berlman. bibliog Phys R 80:775-81 D 1 '50

CARBON—Isotopes—*Continued*

Carbon-14 isotope effect in an inorganic equilibrium. D. R. Stranks and G. M. Harris. bibliog J Chem Phys 19:257-8 F '51

C^{14} labeled 4(5)-amino-5(4)-imidazole-carboxamide in the biosynthesis of purines. C. S. Miller and others. bibliog Science 112:654-5 D 1 '50

C^{14}-labeled polystyrene sheets for reference sources. Chem & Eng N 28:4482 D 18 '50

Carbon-14 synthetic studies; 2-methyl-1,4-naphthoquinone-8-C^{14}. C. J. Collins. bibliog diag Am Chem Soc J 73:1038-9 Mr '51

C^{14} tracer studies in the rearrangement of unsymmetrical α-diketones; the alkaline rearrangement of benzylideneacetophenone oxide. C. J. Collins and O. K. Neville. Am Chem Soc J 73:2471-3 Je '51

C^{14} tracer studies in the synthesis of malonic acid-2-C^{14} and diethyl malonate-2-C^{14}. G. A. Ropp. bibliog Am Chem Soc J 72:4459-61 O '50

Chemical methods for estimating the distribution of C^{14} in biosynthetic glucuronic acid. F. Eisenberg, jr. and S. Gurin. bibliog Am Chem Soc J 73:4440-3 S '51

Chemical oxidation of organic acids; some observations on the oxidation of propionate by alkaline permanganate. H. R. Mahler and A. Roberts. bibliog Am Chem Soc J 72:5095-8 N '50

Chemical preparation of asymmetrically labeled citric acid. P. E. Wilcox, C. Heidelberger and V. R. Potter. bibliog Am Chem Soc J 72:5019-24 N '50

Concerning the C^{14}-N^{14} β-decay. E. Gerjuoy. Phys R 81:62-3 Ja 1 '51

Cross section for the reaction $C^{12}(\gamma,n)C^{11}$. R. N. H. Haslam and others. bibliog Phys R 82:270-1 Ap 15 '51

Cross sections and *Q*-values for the $C^{13}+D^2$ reactions. C. W. Li and W. Whaling. bibliog Phys R 82:122-3 Ap 1 '51

Determination of isotope ratios, e.g., in tracer work, by an infrared absorption method. J. M. W. Milatz and others. bibliog J Chem Phys 19:887-8 Jl '51

Determination of penicillin G using C^{13} isotope as a tracer. J. T. Craig, J. B. Tindall and M. Senkus. Anal Chem 23:332-3 F '51

Deuteron bombardment of C^{14}. E. L. Hudspeth and others. Phys R 80:643-6 N 15 '50

Displacement of corresponding energy levels of C^{13} and N^{13}. J. B. Ehrman. Phys R 81:412-16 F 1 '51

Elastically scattered protons from carbon. G. Goldhaber and R. M. Williamson. diag Phys R 82:495-8 My 15 '51

Epimerization of glucose-1-C^{14}. A. A. Bothner-By and M. Gibbs. bibliog Am Chem Soc J 72:4805 O '50

Errors of combustion of compounds for C^{14} analysis. W. D. Armstrong and others. bibliog Science 112:531-3 N 3 '50

Excited state of C^{14} from the $C^{13}(d,p)C^{14}$ reaction. A. Sperduto and others. Phys R 80:769-70 N 15 '50

Existence of a one-Mev energy level in C^{13}. M. Blundell and J. Rotblat. bibliog Phys R 81:144 Ja 1 '51

Formation of formaldehyde from glycerol-C^{14} by propionibacterium. F. W. Leaver. Am Chem Soc J 73:2974-5 Je '51

Fractionation of the carbon isotopes in decarboxylation reactions; the relative rates of decomposition of 1-C^{12} and 1-C^{13} trichloracetate ions. J. Bigeleisen and T. L. Allen. diags J Chem Phys 19:760-4 Je '51

Fractionation of the carbon isotopes in decarboxylation reactions; the relative rates of decomposition of carboxyl-C^{12} and -C^{13} mesitoic acids. A. A. Bothner-By and J. Bigeleisen. bibliog diags J Chem Phys 19:755-9 Je '51

Half-life of carbon 14. G. G. Manov and L. F. Curtiss. bibliog diags J Res Nat Bur Stand 46:328-33 Ap '51

High energy neutrons from the disintegration of C^{13} by deuterons. J. E. Richardson. bibliog Phys R 80:850-2 D 1 '50

Identification of ribulose in $C^{14}O_2$ photosynthesis products. A. A. Benson. Am Chem Soc J 73:2971-2 Je '51

Improved syntheses of C^{14}-labeled malonic acid and malononitrile. E. M. Gal and A. T. Shulgin. Am Chem Soc J 73:2938-9 Je '51

Incorporation of glycine carbon into yeast lipides. S. Weinhouse, R. H. Millington and M. Strassman. bibliog Am Chem Soc J 73:1421-3 Ap '51

Isotope shift in the atomic spectrum of carbon. C. R. Burnett. Phys R 80:494 N 1 '50

Isotope shifts in some lines of carbon and nitrogen. J. R. Holmes. Opt Soc Am J 41:360-1 My '51

Labeling of steroids in the 4-position. G. I. Fujimoto. Am Chem Soc J 73:1856 Ap '51

Mass spectra of propanes and butanes containing C^{13}. D. P. Stevenson. bibliog J Chem Phys 19:17-21 Ja '51

Mass spectra of some simple isotopic molecules. V. H. Dibeler and others. bibliog J Res Nat Bur Stand 45:288-91 O '50

Measurement of low level radiocarbon. E. C. Anderson and others. bibliog il diags R Sci Instr 22:225-30 Ap '51

Measurement of specific disintegration rates by internal gas counting; radiocarbon. M. L. Eidinoff. bibliog diag Anal Chem 23:632-5 Ap '51

Mechanism of the chemical formation of lactic acid from glucose studied with C^{14} labeled glucose. M. Gibbs. bibliog Am Chem Soc J 72:3964-5 S '50

Micro syntheses with tracer elements; the synthesis of thiourea labeled with C^{14} and of thiourea labeled with S^{35}. C. W. Bills and A. R. Ronzio. Am Chem Soc J 72:5510-11 D '50

Microsynthesis of some ^{14}C-labelled organic compounds. W. J. Arrol and R. Glascock. diags Chem Soc J Supp no 2:S335-8 '49

Neutron yield from the $C^{13}(p,n)N^{13}$ reaction. R. E. Adamson, jr. and others. bibliog Phys R 80:985-7 D 15 '50

Nonequivalence of methyl and carboxyl groups in photometabolism of acetate by rhodospirillum rubrum. M. D. Kamen and others. Science 113:302 Mr 16 '51

One-carbon compounds in the biosynthesis of the biologically labile methyl group. V. du Vigneaud and others. bibliog Am Chem Soc J 73:2782-5 Je '51

Peat samples for radiocarbon analysis; problems in pollen statistics. E. S. Deevey, jr. and J. E. Potzger. bibliog Am J Sci 249:473-511, pl 1 Jl '51

Preparation of acetic-2-C^{14} acid. D. N. Hess. Am Chem Soc J 73:4038 Ag '51

Preparation of C^{14}-cyanide from C^{14}-carbonate. J. A. McCarter. Am Chem Soc J 73:483 Ja '51

Preparation of demerol-N-methyl-C^{14} by reductive methylation. W. Tarpey and others. diag Am Chem Soc J 72:5126-7 N '50

Preparation of ethyl D,L-glycerate-1-C^{14} and glycerol-1-C^{14}. A. P. Doerschuk. Am Chem Soc J 73:821-2 F '51

Preparation of propane-1-C^{13}; electroreduction of acetone to propane. A. S. Gordon and S. Heimel. Am Chem Soc J 73:2942-3 Je '51

Quinone-hydroquinone exchange reactions; non-exchange in duroquinhydrone. A. A. Bothner-By. bibliog Am Chem Soc J 73:4228-30 S '51

Radiocarbon age measurements and fossil man in Mexico. H. de Terra. Science 113:124-5 F 2 '51

Radiocarbon datability of peat, marl, caliche, and archaeological materials. H. H. Bartlett. Science 114:55-6 Jl 20 '51

Radiocarbon dates. J. R. Arnold and W. F. Libby. bibliog Science 113:111-20; 114:291-6 F 2, S 21 '51

Radiocarbon dating for samples from the British Isles. H. Godwin. bibliog Am J Sci 249:301-7 Ap '51

Radiocarbon dating of late-pleistocene events. R. F. Flint and E. S. Deevey, jr. Am J Sci 249:257-300 bibliog(p297-300) Ap '51

Rapid method for the measurement of carbon 14 in formamide solution. A. Schwebel and others. Science 113:465-6 Ap 20 '51

Reaction $C^{14}(p,n)N^{14}$; excited states in N^{15}. W. D. Roseborough and others. bibliog diag Phys R 83:1133-6 S 15 '51

Reaction of 9-formylfluorene-10-C^{14} with formaldehyde. J. G. Burr, jr. Am Chem Soc J 73:823 F '51

Rearrangements of carbon atoms in *t*-butyl and *t*-amyl derivatives. J. D. Roberts, R. E. McMahon and J. S. Hine. bibliog Am Chem Soc J 72:4237-44 S '50

CARBON—Isotopes—*Continued*

Spins and parities of the 3.7-3.9-Mev doublet in C^{13}. J. Rothblat. bibliog Phys R 83:1271-2 S 15 '51

Steroids; an improved method of preparation of cholestenone-4-C^{14}. R. D. H. Heard and P. Ziegler. Am Chem Soc J 73:4036-8 Ag '51

Studies on the mechanism of the Willgerodt reaction; the over-all mechanism. E. V. Brown, E. Cerwonka and R. C. Anderson. bibliog Am Chem Soc J 73:3735-8 Ag '51

Study of the carbon dioxide-carbon reaction using C^{14} as a tracer. F. Bonner and J. Turkevich. bibliog diag Am Chem Soc J 73:561-4 F '51

Syntheses with isotopic tracer elements. J. D. Cox, H. S. Turner and R. J. Warne. diags Chem Soc J p3167-80 N '50

Syntheses with isotopic tracer elements; the preparation of ethylene oxide and ethanol labelled with carbon isotopes. J. D. Cox and R. J. Warne. diags Chem Soc J p 1893-6 Jl '51

Syntheses with isotopic tracer elements; the preparation of methylamine and diazomethane labelled with carbon isotopes. J. D. Cox and R. J. Warne. diag Chem Soc J p 1896-7 Jl '51

Synthesis of adenine labelled with ^{14}C. V. M. Clark and H. M. Kalckar. Chem Soc J p 1029-30 Ap '50

Synthesis of DL-aspartic acid-4-C^{14}. S. C. Wang, T. Winnick and J. P. Hummel. Am Chem Soc J 73:2390 My '51

Synthesis of carbon-isotopic alkanes; methane-C^{13}, propane-1-C^{13}, *n*-butane-1-C^{13}, *n*-butane-1-C^{14}, isobutane-1-C^{13}, isobutane-1-C^{14} and isobutane-2-C^{13}. C. D. Wagner, D. P. Stevenson and J. W. Otvos. bibliog Am Chem Soc J 72:5786 D '50

Synthesis of C^{14}-labeled glycerol. H. Schlenk and B. W. DeHaas. Am Chem Soc J 73:3921-2 Ag '51

Synthesis of C^{14}-sodium cyanide from carbon dioxide. B. Belleau and R. D. H. Heard. bibliog Am Chem Soc J 72:4268-9 S '50

Synthesis of choline and acetylcholine labeled in the ethylene chain with isotopic carbon. D. E. Walz, M. Fields and J. A. Gibbs. bibliog Am Chem Soc J 73:2968 Je '51

Synthesis of ethyl acetamidocyanoacetate, DL-lysine, DL-ornithine and DL-tyrosine labeled with isotopic carbon. M. Fields, D. E. Walz and S. Rothschild. bibliog Am Chem Soc J 73:1000-2 Mr '51

Synthesis of oxalacetic acid-1-C^{14} and orotic acid-6-C^{14}. C. Heidelberger and R. B. Hurlbert. bibliog Am Chem Soc J 72:4704-6 O '50

Use of C^{14} in mechanism studies of methane fermentation; propionic acid. A. M. Buswell and others. bibliog Am Chem Soc J 73:1809-11 Ap '51

Use of C^{14}-labeled formaldehyde in the Mannich reaction. A. V. Logan, J. L. Huston and D. L. Dorward. Am Chem Soc J 73:2952-3 Je '51

Utilization of guanine by the rat. M. E. Balis, D. H. Marrian and G. B. Brown. bibliog Am Chem Soc J 73:3319-20 Jl '51

World-wide distribution of natural radiocarbon. E. C. Anderson and W. F. Libby. bibliog Phys R 81:64-9 Ja 1 '51

CARBON, Activated

Activated carbon in solvent recovery; gasoline vapourized during manufacture of asbestos sheet packing. il Can Chem & Process Ind 35:376-7+ My '51; Same cond. Heating-Piping 23:100-1 Jl '51; Abstracts. Heat & Ven 48:121 My '51; Chem Eng 58:198 Ag '51

Adsorption can control odors; activated carbon. A. Turk and K. A. Bownes. il diags Chem Eng 58:156-8 My '51

Controlling tastes and odors with activated carbon. E. A. Sigworth. il plan diags Water & Sewage Works 98:121-5 Mr '51

Double shelf life? it's in the bag; potato chips stay fresh when packet of absorbing and drying agents is slipped into the sack. R. N. Miller and W. E. Robertson. il Food Eng 23:38-9+ Jl '51

Exponential adsorption isotherms of fatty acids on activated charcoal. E. Glueckauf. Am Chem Soc J 73:849-50 F '51

Factors influencing the efficiency of activated carbon. D. Colebaugh and others. Am Water Works Assn J 43:322-6 Ap '51; Same. Munic Util 89:32+ Ag '51

Factors influencing the efficiency of activated carbon; abstract. A. Y. Hyndshaw. Water & Sewage Works 98:24 Ja '51

Reactivation of bone charcoal; abstract. W. L. Howe and A. M. Moult. Chem & Ind p292 Ap 14 '51

Treatment of chromium wastes by ion exchange. R. G. Tyler and others. Sewage & Ind Wastes 23:1032-5 Ag '51

Vacuum desorption of ethyl chloride from activated carbon. E. O. Wiig and S. B. Smith. bibliog diags J Phys & Colloid Chem 55:27-44 Ja '51

Standards

Tentative standard specifications for powdered activated carbon. Am Water Works Assn J 43:161-74 F '51

CARBON, Structural

Carbon and graphite; value of special properties to the chemical engineer. W. S. Norman. Chem Age (Lond) 63:711-12 N 18 '50

Carbon as a material of construction; abstract. A. W. Morrison. Chem & Ind p26 Ja 13 '51

Carbon block proposed for open-hearth bottoms. il diags Steel 128:82+ F 12 '51

Chemical engineering materials of construction; carbon and graphite. W. M. Gaylord. bibliog(53 ref) il Ind & Eng Chem 43:2199-202, 2284-5 O '51

Evolution of the all-carbon blast-furnace. J. H. Chesters and others. 2pls diags Iron & Steel Inst J 167:273-82 Mr '51; Abstract. Metal Prog 60:106+ D '51

Modern carbon composites. S. A. Murray. il Automobile Eng 41:182-4 My '51

Progress report on carbon in blast furnaces. T. J. Ess. diags Iron & Steel Eng 27:68-75 N '50

CARBON arc. See Electric lamps, Arc

CARBON bisulfide. See Carbon disulfide

CARBON black

Aging of black neoprene jackets. G. N. Vacca, R. H. Erickson and C. V. Lundberg. Ind & Eng Chem 43:443-6 F '51

Aqueous dispersion of carbon blacks. E. M. Dannenberg and K. P. Seltzer. bibliog Ind & Eng Chem 43:1389-96 Je '51

Areas of carbon blacks and other solids by gas absorption. M. L. Corrin. Am Chem Soc J 73:4061-5 S '51

Carbon black, its relationship to the natural-gasoline industry. G. Kiddoo. flow diags Oil & Gas J 49:81-2+ Ap 5 '51

Compounding acrylonitrile-type rubber for low temperature flexibility. R. A. Clark and J. B. Dennis. bibliog Ind & Eng Chem 43:771-8 Mr '51

Elastic modulus and swelling of butyl vulcanizates; influence of fillers. R. L. Zapp and E. Guth. bibliog il Ind & Eng Chem 43:430-8 F '51

Electrical properties of some carbon black-oil suspensions. M. J. Forster and D. J. Mead. bibliog il diags J Ap Phys 22:705-10 Je '51

Heats of adsorption on carbon black. M. H. Polley, W. D. Schaeffer and W. R. Smith. bibliog Am Chem Soc J 73:2161-5 My '51

Interaction between carbon black and polymer in cured elastomers. R. S. Stearns and B. L. Johnson. bibliog(53 ref) diag Ind & Eng Chem 43:146-54 Ja '51

Low angle X-ray diffraction of colloidal gold and carbon black. J. Turkevich and H. H. Hubbell. bibliog il diags Am Chem Soc J 73:1-7 Ja '51

Master batches from carbon blacks with GR-S latices. J. W. Adams, W. E. Messer and L. H. Howland. bibliog il diag Ind & Eng Chem 43:754-65 Mr '51

Oxidation of carbon black by solid potassium perchlorate. S. Patai and E. Hoffmann. bibliog Am Chem Soc J 72:5098-101 N '50

Shape factor and other fundamental properties of carbon black. L. H. Cohan and J. H. L. Watson. bibliog il diags Rubber Age 68:687-98 Mr '51

Soiling and soil retention in textile fibers; cotton fiber, grease-free carbon black systems. J. Compton and W. J. Hart. il Ind & Eng Chem 43:1564-9 Jl '51

CARBON black—*Continued*

Sorption of GR-S type rubber by carbon black; effect of variables on the sorption by Graphon. I. M. Kolthoff, R. G. Gutmacher and A. Kahn. bibliog J Phys & Colloid Chem 55:1240-6 O '51

Sorption of synthetic surface-active compounds by carbon black. G. R. F. Rose and others. bibliog Textile Res J 21:427-32 Je '51

Surface oxidation of furnace black and resulting rubber properties. M. R. Cines. bibliog Rubber Age 69:183-8 My '51

Temperature gradients and temperatures in carbon black flame. F. W. Jensen and K. Anderson. bibliog il diags Ind & Eng Chem 43:176-81 Ja '51

Vulcanization characteristics of *N,N'*-dithioamines in furnace black stocks. M. C. Throdahl and M. W. Harman. bibliog Ind & Eng Chem 43:421-9 F '51

Weathering studies on polyethylene; wire and cable applications. V. T. Wallder and others. il diag Ind & Eng Chem 42:2320-5 N '50

See also

Bone black

Manufacture

Britain gets sootless carbon-black plant. V. S. Swaminathan. flow diag il diag Oil & Gas J 49:75-6+ Ja 11 '51

Carbon black; pictured flow sheet. Chem Eng 58:176-9 Jl '51

Carbon black plant going up near oil field in Louisiana. Chem Eng 58:215-16 F '51

Carbon black; shift from natural gas to oil and from channel process to furnace processes. G. Kiddoo. diags Chem Eng 58:104-8 Mr '51

Growing plant; Huber raises carbon-black capacity. il Oil & Gas J 50:47 Je 28 '51

Manufacture of furnace carbon black from liquid hydrocarbons at Ellesmere Port. L. W. Cabot and others. 2pls diags Inst Pet J 36:707-18; Discussion. 718-26 D '50

More black; in the bag; Orlon filter bags recover carbon black. il Chem W 69:23 Jl 7 '51

Statistics

Sales of carbon black in 1950 increase 34 per cent above 1949 totals. Rubber Age 69:346 Je '51

CARBON compounds

Estimated bond energies in carbon, nitrogen, oxygen, and hydrogen compounds. G. Glockler. bibliog J Chem Phys 19:124-5 Ja '51

One-carbon compounds in the biosynthesis of the biologically labile methyl group. V. du Vigneaud and others. bibliog Am Chem Soc J 73:2782-5 Je '51

See also

Hydrocarbons

Analysis

Direct determination of oxygen in compounds containing carbon, hydrogen and oxygen; a physical-chemical technique; Unterzaucher carbon-reduction procedure. C. C. Harris, D. M. Smith and J. Mitchell, jr. bibliog diags Anal Chem 22:1297-304 O '50

CARBON dioxide

Absorption of carbon dioxide by liquid drops. B. E. Dixon and A. A. W. Russell. diag Soc Chem Ind J 69:284-8 S '50

Absorption spectra of water vapor and carbon dioxide in the region of 2.7 microns. W. S. Benedict and E. K. Plyler. bibliog J Res Nat Bur Stand 46:245-65 Mr '51

Assimilation of carbon dioxide in oxalate and citrate by aspergillus niger. K. F. Lewis and S. Weinhouse. bibliog Am Chem Soc J 73:2906-9 Je '51

Biosynthesis of radioactive asparagine from $C^{14}O_2$. D. G. Wilson and others. Science 113:695-6 Je 15 '51

Calculation of index of refraction of gases from absorption data. M. A. Greenfield and F. W. Brown. Opt Soc Am J 40:643-6 O '50

Carbon dioxide content of mine-fire atmospheres as an aid when fighting metal-mine fires. S. H. Ash. 7pls U S Bur Mines Information Circ 7590:1-25 bibliog(p23-5) '50

Chemical reaction in the torch discharge in carbon monoxide and carbon dioxide. S. Mizushima and others. diag Am Chem Soc J 72:5176-7 N '50

Corrected CO/CO_2 ratio for blast furnaces. S. T. Killian. J Metals 3:Trans 742-5 S '51

Effect of high pressures on the explosibility of mixtures of ethane, air, and carbon dioxide and of ethane, air, and nitrogen. R. E. Kennedy and others. bibliog 6pls U S Bur Mines Rep of Invest 4751:1-11 '50

Gasification of carbon; metal oxides in a fluidized powder bed. W. K. Lewis, E. R. Gilliland and M. P. Sweeney. bibliog diags Chem Eng Prog 47:251-6 My '51

Influence of argon, helium, oxygen, and carbon dioxide on emission spectra in the d.c. arc. B. L. Vallee and others. bibliog diag Opt Soc Am J 40:751-4 N '50

Intermolecular potentials; carbon tetrafluoride and sulfur hexafluoride; carbon dioxide. K. E. MacCormack and W. G. Schneider. bibliog J Chem Phys 19:849-55 Jl '51

Kinetics of the isotopic exchange reaction between carbon monoxide and carbon dioxide. T. H. Norris and S. Ruben. bibliog J Chem Phys 18:1595-600 D '50

LCAO self-consistent field calculation of the ground state of carbon dioxide. J. F. Mulligan. bibliog J Chem Phys 19:347-62 Mr '51

Measurement of specific disintegration rates by internal gas counting; radiocarbon. M. L. Eidinoff. bibliog diag Anal Chem 23:632-5 Ap '51

Measurements of the heat conductivity of nitrogen-carbon dioxide mixtures. F. G. Keyes. bibliog A S M E Trans 73:597-601; Discussion. 601-3 Jl '51

Microwave measurements of the dielectric properties of gases. G. Birnbaum and others. bibliog il diag J Ap Phys 22:95-102 Ja '51

New recovery technique, utilizes carbon dioxide; Orco process. G. Weber. Oil & Gas J 49:171-2 Ja 25 '51

Propagation of sound in carbon dioxide near the critical point. N. S. Anderson and L. P. Delsasso. bibliog il diag Acoustical Soc Am J 23:423-9 Jl '51

Quantitative recovery of carbon dioxide in lead tetraacetate oxidations of sugars and sugar derivatives. S. Abraham. bibliog diag Am Chem Soc J 72:4050-3 S '50

Study of the carbon dioxide-carbon reaction using C^{14} as a tracer. F. Bonner and J. Turkevich. bibliog diag Am Chem Soc J 73:561-4 F '51

Synthesis of C^{14}-sodium cyanide from carbon dioxide. B. Belleau and R. D. H. Heard. bibliog Am Chem Soc J 72:4268-9 S '50

Synthesis of methane from carbon dioxide and hydrogen. G. G. Binder and R. R. White. bibliog flow sheet Chem Eng Prog 46:563-74 N '50

Use of C^{14} in mechanism studies of methane fermentation; propionic acid. A. M. Buswell and others. bibliog Am Chem Soc J 73:1809-11 Ap '51

Analysis

Carbon monoxide and carbon dioxide gaseous mixtures. C. H. Toensing and D. S. McKinney. bibliog diag Anal Chem 22:1524-6 D '50

Determination of carbon dioxide and oxygen in natural gases. A. C. Lyles and R. A. Montague. il diags Pet Refiner 30:93-4 Ap '51

Determination of carbon dioxide in coal. W. C. Thomas and H. C. Wilkinson. bibliog diags Soc Chem Ind J 69:306-9 O '50

Determination of isotope ratios, e.g., in tracer work, by an infrared absorption method. J. M. W. Milatz and others. bibliog J Chem Phys 19:887-8 Jl '51

Industrial applications

Additional oil production through flooding with carbonated water. J. W. Martin. World Oil 133:179-80+ Ag '51; Same. Pet Eng 23:B58+ Ag '51; Same abr. Oil & Gas J 50:70-1+ Ag 30 '51

New recovery tool; use of carbon dioxide in water-flood operations. J. W. Martin. Oil & Gas J 49:53-4 My 3 '51

CARBON dioxide—Industrial applications—*Continued*

Use of oxygen/carbon dioxide instead of air in the final stage of the basic Bessemer process. B. Kalling and others. bibliog diag Iron & Steel Inst J 168:337-43 Ag '51

See also

Carbon dioxide, Solid

Fire extinguishers, Carbon dioxide

CARBON dioxide, Solid

Adjusts freezer space to shipment; movable bulkheads and dry ice permit trucks to carry mixed loads. il map Food Eng 23:139+ My '51

Cyanogen rarefaction using solid CO_2. W. J. Wark. il Opt Soc Am J 41:482 Jl '51

New systems for dry ice production. A. Tesikoff and W. Niebergall. Refrig Eng 59:156 F '51

Refrigerated strawberry cases; fibreboard container with dry ice for shipments in planes. W. R. Barger. il diags Mod Packaging 24:125-6+ N '50

CARBON dioxide fire extinguishers. See Fire extinguishers, Carbon dioxide

CARBON dioxide recorders

Comparison of CO_2 recorders. L. J. Flaws, W. Hill and W. J. Sparkes. Chem Age (Lond) 64:169-70 Ja 27 '51

CARBON disulfide

Bisulfide hard to garner. il Chem W 69:35 Ag 4 '51

Carbon disulphide; a new by-product of the oilfields. Chem Age (Lond) 64:557-8 Ap 14 '51

Evaporation errors in determination of trace concentrations of low molecular weight solutes in carbon tetrachloride. M. R. Meeks, V. E. Whittier and C. W. Young. Anal Chem 23:792-3 My '51

Experimental determination of the intensities of infrared absorption bands; measurements of the stretching vibrations of OCS and CS_2. D. Z. Robinson. bibliog J Chem Phys 19:881-6 Jl '51

Infrared-transmitting solvents; triethylamine addition as a means of increasing applicability. J. S. Ard and T. D. Fontaine. bibliog Anal Chem 23:133-7 Ja '51

Thermodynamic properties of carbon disulfide. L. J. O'Brien and W. J. Alford. bibliog Ind & Eng Chem 43:506-10 F '51

Ultrasonic absorption in liquids. C. J. Moen. bibliog il diag Acoustical Soc Am J 23:62-70 Ja '51

Manufacture

Carbon bisulphide; pictured flowsheet. Chem Eng 58:174-7 Ja '51

Carbon disulfide from natural gas and sulfur; reaction of methane and sulfur over a silica gel catalyst. H. O. Folkins, E. Miller and H. Hennig. bibliog flow diag Ind & Eng Chem 42:2202-7 N '50

Kinetics of catalytic sulfurization of methane. R. C. Forney and J. M. Smith. bibliog diag Ind & Eng Chem 43:1841-8 Ag '51

Preparation of highly reactive chars from coal and their interaction with sulphur. W. J. Kramers. bibliog diag J Ap Chem 1:189-95 My '51

Physiological effect

Carbon disulfide and hydrogen sulfide; follow-up clinical study of low grade exposure. H. H. Rubin and others. A M A Archives Ind Hygiene & Occup Med 2:529-33 N '50

CARBON monoxide

Carbon disintegration test for blast-furnace brick. L. J. Trostel. il diags Am Cer Soc J 34:76-81; Discussion. 81-2 Mr 1 '51

Carbonylation of alcohols with nickel carbonyl catalyst. H. Adkins and R. W. Rosenthal. bibliog Am Chem Soc J 72:4550-3 O '50

Chemical reaction in the torch discharge in carbon monoxide and carbon dioxide. S. Mizushima and others. diag Am Chem Soc J 72:5176-7 N '50

Chemiluminescence of the sodium or sodium halide catalyzed oxidation of carbon monoxide by nitrous oxide. C. P. Fenimore and J. R. Kelso. il Am Chem Soc J 72:5045-8 N '50

Chemisorption of carbon monoxide and the heterogeneity of the surface of iron catalysts. J. T. Kummer and P. H. Emmett. Am Chem Soc J 73:2886-9 Je '51

Corrected CO/CO_2 ratio for blast furnaces. S. T. Killian. J Metals 3:Trans 742-5 S '51

Emission of radiation from diatomic gases; experimental determination of effective average absorption coefficients of CO. S. S. Penner and D. Weber. bibliog J Ap Phys 22:1164-7 S '51

Heat of dissociation of carbon monoxide. G. Glockler. bibliog J Chem Phys 18:1517-18 N '50

Integrated absorption of the fundamental of CO from measurements using self-broadening of rotational lines. D. Weber and S. S. Penner. diag J Chem Phys 19:974-5 Jl '51

Isotopic exchange rates as criteria of surface heterogeneity. R. P. Eischens. J Chem Phys 19:377 Mr '51

Kinetics of the isotopic exchange reaction between carbon monoxide and carbon dioxide. T. H. Norris and S. Ruben. bibliog J Chem Phys 18:1595-600 D '50

Leak location by radioactive gases in buried pipes. A. Gemant and others. bibliog diags J Ap Phys 22:460-4 Ap '51

Loss of carbon monoxide from 1,2-diketones. P. H. Gore and G. K. Hughes. bibliog Am Chem Soc J 72:5770 D '50

Quantitative infrared intensity measurements; carbon monoxide pressurized with infrared-inactive gases. S. S. Penner and D. Weber. bibliog diags J Chem Phys 19:807-16 Jl '51

Quantitative infrared intensity measurements; studies on the first overtone of unpressurized CO. S. S. Penner and D. Weber. J Chem Phys 19:817-18 Jl '51

Studies in acetylene flames; dangers associated with carbon monoxide produced from acetylene lamps in coal mines. A. P. C. Cumming and J. A. Horn. bibliog J Ap Chem 1:198-202 My '51

Studies in acetylene flames; formation of carbon monoxide from 2-in. flame. A. P. C. Cumming and J. A. Horn. Soc Chem Ind J 69(sup no 1):S30-3 '50

Study of the carbon dioxide-carbon reaction using C^{14} as a tracer. F. Bonner and J. Turkevich. bibliog diag Am Chem Soc J 73:561-4 F '51

Treatment of brick to prevent CO disintegration. J. A. Shea. il Iron & Steel Eng 27:116-19 D '50; Same. Steel 127:74+ N 27 '50; Same. Blast F & Steel Pl 39:333-6 Mr '51; Same, without il. Brick & Clay Rec 118:84+ Ap '51

Analysis

Carbon monoxide and carbon dioxide gaseous mixtures. C. H. Toensing and D. S. McKinney. bibliog diag Anal Chem 22:1524-6 D '50

Two-path method for measuring flame temperatures and concentrations in low pressure combustion chambers. S. S. Penner. bibliog diag J Chem Phys 19:272-80 Mr '51

CARBON monoxide poisoning

Customer service responsibility is spelled out in New York city. H. W. Springborn. Gas Age 108:56-60+ O 11 '51

Toxicity of carbon monoxide and hydrogen cyanide gas mixtures. R. H. Moss and others. bibliog diags A M A Archives Ind Hygiene & Occup Med 4:53-64 Jl '51

CARBON monoxide recorders

Carbon monoxide control for garages. il Safety Maint & Prod 102:39-41 Ag '51; Same cond. Heat & Ven 48:99-100 O '51

Garages protected against CO fumes. Eng N 146:39 Je 28 '51

MSA carbon monoxide alarms give worker protection without constant ventilation. il Bus Transportation 30:121 Ag '51

New ventilation system in Holland tunnel. il Roads & Eng Constr 89:80 Mr '51

CARBON oxides

Mass spectra of some simple isotopic molecules. V. H. Dibeler and others. bibliog J Res Nat Bur Stand 45:288-91 O '50

Thermochemistry for the petrochemical industry; some C_3 oxygenated hydrocarbons; carbon suboxide. K. A. Kobe and others. bibliog Pet Refiner 30:119-22 Ag '51

CARBON oxysulfide. See Carbonyl sulfide

CARBON suboxide. See Carbon, oxides

CARBON tetrachloride

Absolute intensity of light scattering from pure liquids and solutions. C. I. Carr, jr. and B. H. Zimm. bibliog diags J Chem Phys 18:1616-26 D '50

Algebraic representation of vapor-liquid equilibria. W. H. Prahl. bibliog Ind & Eng Chem 43:1767-70 Ag '51

Apparent dipole moments of the chlorinated methanes in the liquid, dissolved, and gaseous states. G. A. Barclay and R. J. W. Le Fèvre. Chem Soc J p556-62 F '50

Decomposition of benzoyl peroxide in the presence of iodine; in carbon tetrachloride solution. G. S. Hammond and L. M. Soffer. bibliog Am Chem Soc J 72:4711-15 O '50

Demonstration of exchange and Friedel-Crafts reactions of gaseous organic chlorides on solid aluminum chloride. M. Blau and J. E. Willard. Am Chem Soc J 73:442-4 Ja '51

Dissociation of iodine monobromide in carbon tetrachloride solution. A. I. Popov and others. Am Chem Soc J 73:514-15 F '51

Effect of heat treatment on the surface properties of gibbsite; isotherms of carbon tetrachloride vapor at 25°C. S. J. Gregg and K. S. W. Sing. bibliog J Phys & Colloid Chem 55:597-604 Ap '51

Evaporation errors in determination of trace concentrations of low molecular weight solutes in carbon tetrachloride. M. R. Meeks, V. E. Whittier and C. W. Young. Anal Chem 23:792-3 My '51

Exchange reaction between aluminum chloride and carbon tetrachloride. C. H. Wallace and J. E. Willard. bibliog diag Am Chem Soc J 72:5275-81 N '50

Fire tests of bulb-type carbon-tetrachloride fire extinguishers. O. J. Hodge. il plans diags U S Nat Bur Stand Misc Pub 197:1-8; pa 10c Supt. of doc. '51

Infrared-transmitting solvents; triethylamine addition as a means of increasing applicability. J. S. Ard and T. D. Fontaine. bibliog Anal Chem 23:133-7 Ja '51

Interaction of bromine with benzene and certain of its derivatives. R. M. Keefer and L. J. Andrews. bibliog Am Chem Soc J 72:4677-81 O '50

Limiting negative pressure of acetic acid, benzene, aniline, carbon tetrachloride, and chloroform. L. J. Briggs. J Chem Phys 19:970-2 Jl '51

Photochemical reactions of diazomethane with carbon tetrachloride and bromotrichloromethane. W. H. Urry and J. R. Eiszner. Am Chem Soc J 73:2977 Je '51

Properties of freshly formed surfaces; dynamic tensions of sodium dodecyl sulphate solutions at the surface of liquid→air and liquid→liquid contracting jets. C. C. Addison and T. A. Elliott. Chem Soc J p3096-103 N '50

Rates of decomposition of acetyl peroxide in acetic acid and carbon tetrachloride. S. D. Ross and M. A. Fineman. bibliog Am Chem Soc J 73:2176-81 My '51

Solubility of perfluoro-*n*-heptane with benzene, carbon tetrachloride, chloroform *n*-heptane and 2,2,4-trimethylpentane. J. H. Hildebrand, B. B. Fisher and H. A. Benesi. bibliog Am Chem Soc J 72:4348-51 O '50

Spectrophotometric studies of dithizone and some dithizonates; molecular extinction coefficient of dithizone in carbon tetrachloride. S. S. Cooper and Sister M. L. Sullivan. bibliog Anal Chem 23:613-18 Ap '51

Spectroscopy in infrared by reflection and its use for highly absorbing substances. I. Šimon. bibliog il diags Opt Soc Am J 41:336-45 My '51

Substituted methanes; infrared spectra and calculated thermodynamic properties for some trichloromethanes. J. R. Madigan and F. F. Cleveland. J Chem Phys 19:119-23 Ja '51

Ultrasonic absorption in binary mixtures of unassociated liquids. D. Sette. J Chem Phys 18:1592-4 D '50

CARBON tetrachloride poisoning

Potential health hazards in the use of carbon tetrachloride. H. S. Gibbs. il Nat Safety N 63:38-9+ Je '51

CARBON tetrafluoride

Compressibility of gases at pressures up to 50 atmospheres; carbon tetrafluoride in the temperature range 0°-400°C; sulfur hexafluoride in the temperature range 0°-250° C. K. E. MacCormack and W. G. Schneider. J Chem Phys 19:845-8 Jl '51

Force fields of carbon and silicon tetrafluorides. J. W. Linnett and D. F. Heath. bibliog J Chem Phys 19:801-2 Je '51

Intermolecular potentials; carbon tetrafluoride and sulfur hexafluoride; carbon dioxide. K. E. MacCormack and W. G. Schneider. bibliog J Chem Phys 19:849-55 Jl '51

Neutron diffraction by the gases N_2, CF_4, and CH_4. N. Z. Alcock and D. G. Hurst. bibliog Phys R 83:1100-5 S 15 '51

Substituted methanes; force constants and calculated thermodynamic properties for some trifluoromethanes. C. E. Decker and others. bibliog J Chem Phys 19:784-8 Je '51

CARBON trifluoride group

Influence of a CF_3 group on an adjacent double bond. A. L. Henne, M. A. Smook and R. L. Pelley. Am Chem Soc J 72:4756-7 O '50

CARBONARA, Victor E.

Square D company's Kollsman division sold; Victor E. Carbonara to be president. por Aeronautical Eng R 10:11-12 F '51

CARBONATES

See also

Lead carbonate

CARBONATION

Carbonation of Grignard reagent solutions. A. S. Hussey. bibliog Am Chem Soc J 73:1364-5 Mr '51

CARBONIC anhydrase

Heteorcyclic sulfonamides as carbonic anhydrase inhibitors. W. H. Miller, A. M. Dessert and R. O. Roblin, jr. bibliog Am Chem Soc J 72:4893-6 N '50

Intracellular localization and distribution of carbonic anhydrase in plants. E. R. Waygood and K. A. Clendenning. bibliog Science 113:177-9 F 16 '51

CARBONITRIDING. See Case hardening

CARBONIUM compounds

Aryl carbonium ions in sulfuric acid. M. S. Newman and N. C. Deno. bibliog Am Chem Soc J 73:3644-50 Ag '51

Behavior of organic compounds in 100 per cent sulfuric acid. M. S. Newman and N. C. Deno. bibliog Am Chem Soc J 73:3651-3 Ag '51

Lack of resonance energy in gaseous carbonium ions. J. L. Franklin and H. E. Lumpkin. J Chem Phys 19:1073-4 Ag '51

Nature of the intermediate in carbonium ion-type interconversion reactions of cyclobutyl, cyclopropylcarbinyl and allylcarbinyl derivatives. J. D. Roberts and R. H. Mazur. diag Am Chem Soc J 73:3542-3 Jl '51

Small-ring compounds; interconversion reactions of cyclobutyl, cyclopropylcarbinyl and allylcarbinyl derivatives. J. D. Roberts and R. H. Mazur. diag Am Chem Soc J 73:2509-20 Je '51

CARBONYL chloride

Anhydrocarboxy-derivatives of hydroxy- and mercapto-acids. W. H. Davies. Chem Soc J p 1357-9 My '51

Dipole moments of ethylene oxide and carbonyl chloride in benzene solution, and a note on a useful modification of Barclay and Le Fèvre's equation. C. L. Angyal, G. A. Barclay and R. J. W. Le Fèvre. Chem Soc J p3370-3 D '50

CARBONYL compounds

Addition of heterocycles to conjugate unsaturated carbonyl compounds; difunctional derivatives. I. D. Webb and G. T. Borcherdt. bibliog Am Chem Soc J 73:752-3 F '51

Antibacterial properties of compounds containing the tricarbonylmethane group; syntheses of 3-alkylated or 3-acylated 4-hydroxycoumarins and of a related pyrone. T. Ukita, S. Nojima and M. Matsumoto. bibliog Am Chem Soc J 72:5143-4 N '50

Chemistry of vicinal tricarbonyl compounds; condensation reaction of 1,3-diphenylpropanetrione-1,2,3. D. B. Sharp and H. A. Hoffman. bibliog Am Chem Soc J 72:4311-13 S '50

CARBONYL compounds—*Continued*

Cyclic polyolefins; carbonyl-bridged compounds derived from the adduct of α-carbethoxycyclohexanone and acrolein. A. C. Cope and M. E. Synerholm. bibliog Am Chem Soc J 72:5228-32 N '50

Degradation of α-amino-acids to aldehydes and ketones by interaction with carbonyl compounds. R. Moubasher. Chem Soc J p 1928 Jl '51

Experiments on the synthesis of carbonyl compounds. R. E. Bowman and D. E. Ames. Chem Soc J p322-31 Ja '50

Hydroxy-carbonyl compounds; the syntheses of some *iso*coumarins. A. Kamal, A. Robertson and E. Tittensor. Chem Soc J p3375-80 D '50

Pyridine syntheses; some reactions of ene amines with 1,3-dicarbonyl derivatives. E. M. Bottorff and others. bibliog Am Chem Soc J 73:4380-3 S '51

Reaction of *o*-phenylenediamines with carbonyl compounds; aliphatic ketones. R. C. Elderfield and J. R. McCarthy. bibliog diag Am Chem Soc J 73:975-84 Mr '51

Synthesis of 11-hydroxylated cortical steroids; the preferential reduction of carbonyl systems in the presence of carbon-nitrogen multiple bonds. N. L. Wendler, Huang-Minlon and M. Tishler. Am Chem Soc J 73:3818-20 Ag '51

Vicinal tricarbonyl compounds; condensation of ethyl 3-phenyl-2,3-dioxopropanoate with malonic acid. D. B. Sharp and G. V. Hudson. Am Chem Soc J 73:3085-6 Jl '51

Analysis

Colorimetric method for determination of traces of carbonyl compounds. G. R. Lappin and L. C. Clark. Anal Chem 23:541-2 Mr '51

CARBONYL fluoride

Analysis of the 774 cm^{-1} (ν_6) absorption band of F_2CO. A. H. Nielsen. bibliog J Chem Phys 19:98-100 Ja '51

CARBONYL group

Carbonylation of alcohols with nickel carbonyl catalyst. H. Adkins and R. W. Rosenthal. bibliog Am Chem Soc J 72:4550-3 O '50

Decarbonylation of diphenyl triketone. J. D. Roberts, D. R. Smith and C. C. Lee. Am Chem Soc J 73:618-25 F '51

Shifted position of infrared absorption bands associated with the $C{=}O$ linkages in polycyclic compounds. M. L. Josien and N. Fuson. Am Chem Soc J 73:478-9 Ja '51

CARBONYL sulfide

Experimental determination of the intensities of infrared absorption bands; measurements of the stretching vibrations of OCS and CS_2. D. Z. Robinson. bibliog J Chem Phys 19:881-6 Jl '51

Thermal decomposition of carbonyl sulphide. J. R. Partington and H. H. Neville. diag Chem Soc J p 1230-7 My '51

CARBOXYAZELAIC acid

4-Carboxyazelaic acid. J. F. Tinker. Am Chem Soc J 73:4493-4 S '51

CARBOXYL group

Acidic properties of cotton cellulose and derived oxycelluloses; ion-exchange reactions with basic dyes. G. F. Davidson. bibliog Textile Inst J Trans 41:T361-80 O '50

Carboxy derivatives of benzylpenicillin. R. P. Holysz and H. E. Stavely. Am Chem Soc J 72:4760-3 O '50

Cyclic polyolefins; carbonyl-bridged compounds derived from the adduct of α-carbethoxycyclohexanone and acrolein. A. C. Cope and M. E. Synerholm. bibliog Am Chem Soc J 72:5228-32 N '50

Decarboxylation of methyl diacetyl-L-threuronate. M. Ikawa and K. P. Link. Am Chem Soc J 72:4287-8 S '50

Determination of an isotope effect in the decarboxylation of malonic-1-C^{14} acid. A. Roe and M. Hellmann. bibliog J Chem Phys 19:660 My '51

Formation of polypeptides by rearrangement of α-carboxy hydroxamic acids. C. D. Hurd and C. M. Buess. bibliog Am Chem Soc J 73:2409-12 Je '51

Fractionation of the carbon isotopes in decarboxylation reactions; the relative rates of decomposition of 1-C^{12} and 1-C^{13} trichloracetate ions. J. Bigeleisen and T. L. Allen. diags J Chem Phys 19:760-4 Je '51

Fractionation of the carbon isotopes in decarboxylation reactions; the relative rates of decomposition of carboxyl-C^{12} and -C^{13} mesitoic acids. A. A. Bothner-By and J. Bigeleisen. bibliog diags J Chem Phys 19:755-9 Je '51

Intramolecular displacement of carboxylate ion; the effect of some variations in structure of phenol-alcohols. C. O. Guss. bibliog Am Chem Soc J 73:608-11 F '51

Mechanism of decarboxylation; kinetics of the acid-catalysed decarboxylation of 2 : 4 : 6-trihydroxybenzoic acid. B. R. Brown, W. W. Elliott and D. L. Hammick. Chem Soc J p 1384-9 Je '51

Mechanism of decarboxylation; kinetics of the decarboxylation of hydroxybenzoic acids. B. R. Brown, D. L. Hammick and A. J. B. Scholefield. Chem Soc J p778-80 Mr '50

Metal ion-catalyzed decarboxylation; a model for an enzyme system. R. Steinberger and F. H. Westheimer. Am Chem Soc J 73:429-35 Ja '51

Researches on acetylenic compounds; catalytic and inhibitory effects in the Reppe carboxylation reaction. E. R. H. Jones, T. Y. Shen and M. C. Whiting. Chem Soc J p763-6 Mr '51

Researches on acetylenic compounds; some qualitative and quantitative aspects of the Reppe carboxylation reaction. E. R. H. Jones, T. Y. Shen and M. C. Whiting. Chem Soc J p766-71 Mr '51

Spectrophotometric determination of carboxyl in cellulose. F. H. Forziati and others. bibliog J Res Nat Bur Stand 46:288-91 Ap '51

Studies concerning the relationship between chemical constitution and biological activity in a group of reversed carboxyl (RC) analogues of acetylcholine. F. W. Schueler and others. bibliog Science 113:512-14 My 4 '51

Thermal decarboxylation of unsaturated acids. R. T. Arnold, O. C. Elmer and R. M. Dodson. bibliog Am Chem Soc J 72:4359-61 O '50

Triad prototropic systems; the mobility of the azomethine system during decarboxylation. F. G. Baddar. Chem Soc J p 136-9 Ja '50

CARBOXYLIC acids

Absorption of quinine by a carboxylic acid ion-exchange resin. L. Saunders and R. Srivastava. Chem Soc J p2915-19 N '50

Action of formaldehyde on *m*-hydroxybenzoic acid; stepwise degradation of the lactone of 6-hydroxymethyl-1,3-benzodioxan-5-carboxylic acid. C. A. Buehler and others. Am Chem Soc J 73:2347-9 My '51

Alkyl-oxygen fission in carboxylic esters. M. P. Balfe and others. Chem Soc J p376-88 F '51

Aminohydroxynaphthoic acids; attempted synthesis of 7-amino-4-hydroxy-2-naphthoic acid (carboxy J-acid) from 3-amino-2-naphthoic acid. W. F. Beech and N. Legg. Chem Soc J p961-6 Mr '50

Behavior of organic compounds in 100 per cent sulfuric acid. M. S. Newman and N. C. Deno. bibliog Am Chem Soc J 73:3651-3 Ag '51

Characteristic infra-red frequencies of the carboxylic acid group. M. S. Flett. Chem Soc J p962-7 Ap '51

Colchicine and related compounds. J. W. Cook, T. Y. Johnston and J. D. Loudon. Chem Soc J p537-43 F '50

Cyclic intermediates in substitution reactions; steric effects in the alkaline hydrolysis of the epimeric 3-chloro-6//7-cholestanedicarboxylic acids. D. W. Wujciak, R. L. Feller and J. F. Lane. bibliog Am Chem Soc J 73:2392-4 My '51

Dissociation constants of substituted 4-biphenylcarboxylic acids. E. Berliner and E. A. Blommers. bibliog Am Chem Soc J 73:2479-83 Je '51

Dissociation constants of the cupric salts of some monocarboxylic acids. M. Lloyd, V. Wycherley and C. B. Monk. Chem Soc J p 1786-9 Jl '51

CARBOXYLIC acids—*Continued*

Ethylindole-, 5-methylindole-, and 5-methoxyindole-3-carboxylate. G. F. Smith. Chem Soc J p 1637-8 Je '50

Fluorescent reagents; acyl chlorides and acyl hydrazides. W. Baker, C. N. Haksar and J. F. W. McOmie. Chem Soc J p 170-3 Ja '50

Fluorocarbon chemistry; the decomposition of undecafluorocyclohexanecarboxylic acid in aqueous solution. T. J. Brice and J. H. Simons. Am Chem Soc J 73:4017-18 Ag '51

4-Hydroxy*cyclo*hexane-1-carboxylic acid. N. R. Campbell and J. H. Hunt. Chem Soc J p 1379-82 My '50

Ionic telomerization of butadiene. E. L. Jenner and R. S. Schreiber. bibliog Am Chem Soc J 73:4348-52 S '51

Lithium aluminum hydride reduction of pyridine carboxylic esters; synthesis of vitamin B_6. R. G. Jones and E. C. Kornfeld. bibliog Am Chem Soc J 73:107-9 Ja '51

Nuclear structure of the water-soluble polycarboxylic acids from oxidation of bituminous coal. C. H. Ruof, T. R. Savich and H. C. Howard. Am Chem Soc J 73:3873-9 Ag '51

Plant growth-regulating and systemic fungicidal activity in the aryloxyalkylcarboxylic acids; abstract and discussion. R. L. Wain. Chem & Ind p 144-5 F 24 '51

Preparation of some 1-chloroalkane-1-carboxylic acids. R. H. Horn, R. B. Miller and S. N. Slater. Chem Soc J p2900-1 O '50

Purpurogallin; constitution of purpurogallincarboxylic acid. W. D. Crow and R. D. Haworth. Chem Soc J p 1325-7 My '51

Quantitative studies of the reactivities of mixed carboxylic anhydrides. A. R. Emery and V. Gold. Chem Soc J p 1443-60 Je '50

Reaction of dimethylcadmium with cyclobutanecarboxylic acid chloride. R. Pinson, jr. and S. L. Friess. bibliog Am Chem Soc J 72:5333-4 N '50

Relationship between solubility and stereochemical configuration in copper salts of unsaturated carboxylic acids. M. Crawford. Chem & Ind p234 Mr 24 '51

Studies in the cyclopentane series; the synthesis of two isomeric 3-(4-phenoxybutyl)-cyclopentane-1,2-dicarboxylic acids. M. N. Donin and others. Am Chem Soc J 73:4286-9 S '51

Synthesis of 4-carboxyvitamin-A acid. V. Petrow and O. Stephenson. Chem Soc J p 1310-15 My '50

Synthesis of fluoranthenes; 10- and 11-substituted fluoranthenes. S. H. Tucker and M. Whalley. Chem Soc J p3213-16 D '49

Synthesis of long-chain aliphatic acids from acetylenic compounds; the synthesis of linoleic acid. R. A. Raphael and F. Sondheimer. Chem Soc J p2100-3 Ag '50

Synthetic approaches to 1,2,3,4-cyclobutanetetracarboxylic acid. E. B. Reid and M. Sack. bibliog Am Chem Soc J 73:1985-8 My '51

Thermodynamic factors in stereo-specific processes; the transformation of diastereoisomers of brucine 2′-(2-hydroxy-2-propyl)-diphenyl-2-carboxylic acid. H. Kacser and A. R. Ubbelohde. Chem Soc J p2152-8 Ag '50

trans-8 : 9 - epoxy - 11 - ketoheptadecone - 1-carboxylic acid and *cis*-10 : 11-diketoheptadec-8-ene-1-carboxylic acid, with some observations on the ultra-violet absorption spectra of these and related compounds. G. King. Chem Soc J p2897-900 O '50

Vapor phase dissociation of some carboxylic acids; acetic acid. M. D. Taylor. Am Chem Soc J 73:315-17 Ja '51

See also

Dicarboxylic acids

CARBOXYMETHYL butenolide

Unsaturated lactones and related substances; lactonic products derived from muconic acid. J. A. Elvidge and others. Chem Soc J p2228-35 Ag '50

CARBOXYMETHYLENEBUTANOLIDE

Unsaturated lactones and related substances; α-ketoadipic acid and γ-carboxymethylenebutanolide. U. Eisner, J. A. Elvidge and R. P. Linstead. Chem Soc J p2223-8 Ag '50

CARBOXYPEPTIDASES

Kinetics of carboxypeptidase action; effect of various extrinsic factors on kinetic parameters. R. Lumry, E. L. Smith and R. R. Glantz. bibliog Am Chem Soc J 73:4330-40 S '51

Synthesis of naphthyl carbonate derivatives of amino acids as chromogenic substrates for carboxypeptidase. G. Wolf and A. M. Seligman. bibliog Am Chem Soc J 73:2080-2 My '51

Van der Waals factor in carboxypeptidase interaction with inhibitors and substrates. E. L. Smith, R. Lumry and W. J. Polglase. bibliog J Phys & Colloid Chem 55:125-34 Ja '51

CARBURETERS

Carburetor troubles on Chevrolets, Oldsmobiles, and Pontiacs. Consumers Res Bul 28:11 O '51

New look at motor gasoline quality; carburetor icing tendency. J. F. Kunc, jr. and others. diags S A E J 59:45-7 Ag '51; Abstract. Nat Pet N 43:46 Ja 17 '51

Throttle return check on powerglide carburetors. il Automotive Ind 104:40 Mr 1 '51

Manufacture

Automatics machine diecastings 150 per cent faster. H. Chase. il Iron Age 167:61-3 Ja 25 '51

CARBURIZING furnaces. See Furnaces, Carburizing

CARCINOGENIC substances. See Cancer

CARCINOLYTIC compounds. See Cancer

CARD cutting

Slitting attachments, either on cylinder or on rotary perforator, may solve problem. Inland Ptr 127:65 S '51

CARD games. See Cards

CARD system in business

Graphic records reveal new sales opportunities; the Kardex system at Frank N. Wood co. il Sales Management 65:53 N 20 '50

Inventory control system doubled turnover of stock; Barber and Ross co. E. E. Maust. il Am Bsns 21:12-13+ F '51

Modern production-control methods; Dayton pump and manufacturing co. L. Wozar and C. Rike. il Am Mach 95:129-31 My 14 '51

Simplified degree day delivery; McCall oil co. F. C. Sturtevant. il Nat Pet N 43:48-51 Jl 11 '51

Why our newest catalog is a card index file; American optical co. A. J. Oker. il Ptr Ink 235:34-5 My 11 '51

CARDANOL

Cashew nut shell liquid; a proof of structure of the mono-nitro and mono-amino derivatives of 3-pentadecylphenol (hydrocardanol). D. Wasserman and C. R. Dawson. bibliog Am Chem Soc J 72:4994-7 N '50

CARDBOARD

Furniture can be made from cardboard. J. Robinson. il Pulp & Pa of Can 52:51-2 F '51

CARDIACS. See Heart—Diseases

CARDING

How one mill eliminated clearer-waste slubs. E. H. Helliwell. il Textile World 101:111+ Jl '51

See also

Cotton carding

Wool carding

Tables, calculations, etc.

Look, no rules! for carding and spinning calculations; Textile World report to mill management. W. A. Thomason, jr. diags Textile World 101:131-5+ Ja '51

CARDING machines

Control of flat strips in carding. R. Cheng and W. E. Morton. diags Textile Inst J 42:P442-55; Discussion. P455-6 Ag '51

Function of the doffer in carding. A. de Swaan. Textile Inst J 42:P209-12 My '51

Keep card rooms running with organized maintenance. E. H. Helliwell. il Textile World 101:118-19 Je '51

Principles of carding and their application. G. Marshall. Textile Inst J 41:P725-32; Discussion. P732-6 O '50

See also

Cotton carding

CARDING machines—*Continued*

Lubrication

Card-room lubrication scheduled for best results; with schedule chart. E. H. Helliwell Textile World 101:149+ O '51

CARDING of cotton. See Cotton carding

CARDS

Red dog, blackjack and poker. R. Bellman and D. Blackwell. diags Sci Am 184:44-7 Ja '51

CARDWELL manufacturing company

Cardwell reaches silver anniversary; pioneer oil-field manufacturing firm. J. A. Kornfeld and others. il Oil & Gas J 50:sup A14-17+ Je 28 '51

CAREER, inc.

New publication previews career mart. Bsns W p76 D 16 '50

CAREY, James Barron, 1911-

Portrait. Bsns W p30 S 22 '51

CARGO. See Ships—Cargo

CARGO handling

Isthmian's Farrell gear experience. il Marine Eng 56:67+ O '51

New method of shoring general cargo. il Marine Eng 56:42-3 Ag '51

Ship terminal for fast cargo handling, port of La Guaira, Venezuela. A. D. Quinn. il plan diag Eng N 146:32-4 My 31 '51

CARIBBEAN region

See also

Petroleum—Caribbean region

CARIBBEAN sea

Importance of the Caribbean in the search for iron ore. J. B. Blackford. il U S Naval Inst Proc 77:582-9 Je '51

CARILLOY T1. See Steel alloys

CARL, Marion Eugene

Octave Chanute award for 1951. por Aeronautical Eng R 10:5 Ag '51

CARLSBAD caverns

Loose carbonate accretions. D. M. Black. diags Science 114:126-7 Ag 3 '51

CARLSTROM, C. W.

Landlord on a shoestring. por Bsns W p 104+ Ag 25 '51

CARNATION mosaic

Use of ultraviolet light as a means of diagnosing carnation mosaic. W. D. Thomas, jr. and others. bibliog Science 113:576-7 My 18 '51

CARNAUBA wax

Carnauba supply; National production authority conference; Washington, March 28. Soap & San Chem 27:159 Ap '51

Carnauba wax '50-51 output in Brazil. Oil Paint & Drug Rep 160:78 Jl 23 '51

Carnauba wax industry in Brazil needs capital for development. Chem & Eng N 29:3182 Ag 6 '51

Carnauba wax output expected to increase. Soap & San Chem 27:123+ My '51

Carnauba wax shortage doubted; abstract. J. F. Battley. Oil Paint & Drug Rep 159:63 Ja 22 '51

CARNEGIE institute of technology

Warner to expand graduate program as Carnegie president; new chemistry and chemical engineering building dedicated. il Chem & Eng N 28:3980-2 N 13 '50

CARNEY, Robert Forrest

Portrait. Fortune 44:130 O '51

CARNIVALS

Transportation

Railroad carnivals face a rate problem. il Ry Age 130:24-5 F 19 '51

CARNIVORA, Fossil

Habits and adaptation of the oligocene saber tooth carnivore, Hoplophoneus. J. Hough. U S Geol S Professional Pa 221-H:125-35, pl 26-31; pa 40c Supt. of doc. '50

CAROLINA power and light company

Bonds offered. Comm & Fin Chr 173:658 F 12 '51

Stock offered. Comm & Fin Chr 173:1270 Mr 26 '51

CAROTENE

Effect of germination on the carotene content of pulses and cereals. H. Chattopadhyay and S. Banerjee. bibliog Science 113:600-1 My 25 '51

Formation of stereoisomers of beta-carotene in alfalfa. C. R. Thompson, E. M. Bickoff and W. D. Maclay. bibliog Ind & Eng Chem 43:126-9 Ja '51

Microscopic structure of carrot chromoplasts. W. Straus. bibliog il Science 112:745-8 D 22 '50

Rich source of γ-carotene. B. L. Smits and H. L. Mitchell. bibliog Science 113:296-7 Mr 16 '51

Stability of carotene and vitamin A in dry mixtures. M. E. Wall and E. G. Kelley. bibliog Ind & Eng Chem 43:1146-50 My '51

Stability of carotene in alfalfa; effect of feed ingredients. H. L. Mitchell and R. E. Silker. bibliog Ind & Eng Chem 42:2325-7 N '50

Synthesis of β-carotene. N. A. Milas and others. Am Chem Soc J 72:4844 O '50

CARPAINE

Carbon skeleton of carpaine. H. Rapoport and H. D. Baldridge, jr. bibliog Am Chem Soc J 73:343-6 Ja '51

CARPAL injuries. See Wrist—Wounds and injuries

CARPENTRY

See also

Rafters

CARPET factories

How we handle bigger inventories; Bigelow-Sanford carpet co. A. O. Huck. il Factory Management 109:92-3 My '51

We use a plastic model to help solve big-plant problems. H. M. Catlin. il Textile World 101:103 Je '51

Employees

Keeping wages in line; administration policy, Alexander Smith, inc. il Mod Ind 21:50-2+ Je '51

Equipment

New fluid-drive mules reduce spinning costs; illustrations with text. E. H. Helliwell. Textile World 101:134-5 O '51

Power

Modern power system benefits Bigelow-Sanford. H. L. Stiegler and R. M. Crenshaw. il diag Textile World 101:138-9+ S '51

CARPET sweepers

Bissell sweeps up. Bsns W p97 Jl 21 '51

CARPETS

Bikaner wool, a leading carpet wool, and its improvement. G. S. Mahal and others. bibliog Textile Res J 21:94-101 F '51

Carpet makers' 1951 outlook clouded. J. S. Bowen. Barron's 30:15 D 18 '50

Ready rayon; Bigelow-Sanford carpet co. il Chem Ind W 68:41-2 Mr 31 '51

Report on habits and attitudes concerning rugs and carpets. E. Roper. Textile Res J 21:604-5 Ag '51; Same. Textile Inst J 42:P815-16 Ag '51

Synthetic fibers dig in on the carpet front. J. M. Morahan. il Rayon 32:32-3+ F '51

Welcome mat for cottons; carpet industry turns to rayon blends and cotton. il Bsns W p 114+ Ag 18 '51

CARR, George Watson, 1899-1950

Sketch. W. H. Newton. por Am Assn Pet Geologists Bul 35:768-70 Mr '51

CARRAGEEN

Polysaccharides of carragheen; confirmation of the 1 : 3-linkage in carragheenin, and the isolation of L-galactose derivatives from a resistant fragment. R. Johnston and E. G. V. Percival. Chem Soc J p 1994-8 Ag '50

CARRAGEENIN

Polysaccharides of carragheen; confirmation of the 1 : 3-linkage in carragheenin, and the isolation of L-galactose derivatives from a resistant fragment. R. Johnston and E. G. V. Percival. Chem Soc J p 1994-8 Ag '50

CARRIER, Willis Haviland, 1876-1950

Sketch. por Heat & Ven 47:105-6 N '50; Refrig Eng 58:1102 N '50

CARRIER corporation

Offering to stockholders. Comm & Fin Chr 173:2494-5 Je 18 '51

CARRIER current control

Automatic tie line load control solves power interchange problems. C. M. Clevenger and L. E. Ludekens. il diags Elec West 107:60-2 Jl '51

CARRIER current control—*Continued*

Carrier-controlled relay servos. J. C. Lozier. diag Elec Eng 69:1052-6 D '50

Carrier equipment modified for teletype network. Elec World 136:107-8 Jl 30 '51

Check carrier current equipment with play back unit. T. W. Dugdale. il diag Elec World 136:136+ Ag 13 '51

Fault-throwing tests on the 132-kv grid system under normal working conditions. W. Casson and F. H. Birch. diags Inst E E Proc 97 pt 1:279-96 N '50; Abstract. Elec R (Lond) 146:239 F 10 '50; Discussion. Inst E E Proc 97 pt 1:297-302; 98 pt 1:320-4 N '50, N '51; Elec R (Lond) 146:239-41 F 10 '50

New carrier-current frequency-shift system for use with differential protection of transformer banks. R. W. Beckwith. il diag Elec Eng 70:678-81 Ag '51

Street lighting costs, lamp wattage and carrier current control; charts; engineering reference sheet. C. J. Lake. Elec World 134:114 N 6 '50

Transmission considerations in the co-ordination of a power-line carrier network; abstract. G. E. Burridge and A. S. Jong. Elec Eng 70:803 S '51

Useful dispatching tools. E. D. Nuttall. bibliog diags Pet Eng (Ref annual) 23:D31-4 Jl 15 '51

CARRIER current telegraph. See Telegraph, Carrier current

CARRIER current telephone. See Telephone, Carrier current

CARRIER servomechanisms. See Servomechanisms

CARRIERS

Decisions affecting limitation of carriers' liability by receipts. H. S. Daynard. East Underw 52:27 My 4 '51; Same. Weekly Underw 164:1510 Je 16 '51

Recent decisions respecting liability of carrier. H. S. Daynard. Weekly Underw 165: 678+, 744+ S 22-29 '51; Excerpt. East Underw 52:33 N 2 '51

Supreme court rules on taxation by states of carriers engaged in interstate commerce exclusively. W. R. Montgomery. Credit & Fin Management 53:24 My '51

Transportation cover held vital despite responsibility of carriers. P. M. Corbett. East Underw 51:29 N 24 '50

See also

Air carriers
Air freight service
Airlines
Freight car service
Gas, Natural—Pipe lines
Interstate commerce commission
Motor bus lines
Motor trucks—Laws and regulations
Petroleum pipe lines
Pipe lines
Railroads
Shipping
Steamboat lines

CARRIZO sand

Buried hill at Wilcox-Carrizo contact in east Texas. H. B. Stenzel. bibliog il map diags Am Assn Pet Geologists Bul 35:1815-28 Ag '51

CARROTS

Microscopic structure of carrot chromoplasts. W. Straus. bibliog il Science 112:745-8 D 22 '50

Use of oxalate to produce free-living cells from carrot tissue cultures. R. D. Northcraft. bibliog Science 113:407-8 Ap 13 '51

CARS

New Great Northern passenger cars. il Ry Age 130:56-62 Je 11 '51

Passenger car utilization analyzed by I.C.C. bureau; other 1950 trends. Ry Age 130:33 Ja 29 '51

Railroad passenger cars; steel use in tons per car; tabulation. Iron Age 167:326 Ja 4 '51

They don't even look the same; railroad cars, 1900-1950. il Ry Age 129:146-9 O 28 '50

What a century did to Erie locomotives and cars. il Ry Age 130:70-5 My 14 '51

See also

Air brakes
Car axles and other headings beginning Car
Car department officer's association
Dining cars
Freight cars
Mine cars
Motor cars (railroad)
Railroads—Car departments
Railroads—Trains
Refrigerator cars
Sleeping cars

Air conditioning

Air conditioning operation and maintenance; report of Car department officer's association. Ry Mech & Elec Eng 124:652-3 N '50

A-c power plants for passenger cars. I. S. Ritter and H. H. Hanft. il Westinghouse Eng 11:87-90 My '51; Same abr. Ry Mech & Elec Eng 125:70-2+ My '51

Car air conditioning equipment; A.A.R. Electrical sections committee report. Ry Mech & Elec Eng 124:634-6 N '50

Controls for heating and air conditioning. N. O. Kirkby. diags Ry Mech & Elec Eng 125: 52-6 Mr '51

Freon filter and compressor. G. Kleaver. il Ry Mech & Elec Eng 125:81 Mr '51

How the Texas & Pacific uses steam generator cars. il Ry Age 131:59-60 S 3 '51

Bearings

Hot-box alarm devices; committee report, A.A.R. Mechanical division. Ry Age 131: 106+ Jl 9 '51; Same cond. Ry Mech & Elec Eng 125:74 Ag '51

Hot boxes; causes and remedies. A. H. Keys. Ry Mech & Elec Eng 125:56-7 Jl '51

Hyatt roller bearings for freight-cars. il diag Ry Age 131:80-1 S 17 '51; Same. Ry Mech & Elec Eng 125:96+ O '51

Illinois Central tests device to reduce hot boxes. il Ry Mech & Elec Eng 125:57-9 Je '51

Report on the hot box situation; Car department officer's association. Ry Mech & Elec Eng 124:653-5 N '50

Design

Burlington buys gallery suburban cars. il Ry Age 129:20-3 O 21 '50; Same. Ry Mech & Elec Eng 124:713-16 D '50

Corrosion of cars costs $191 million a year; how can it be reduced? F. K. Mitchell. il diags Ry Age 131:65-9 Ag 6 '51

Design of coaches for comfort; reports at International railway congress. Engineering 171:106-7 Ja 26 '51

New equipment for the Super Chief includes dome cars. il Ry Age 130:14-17 F 19 '51; Ry Mech & Elec Eng 125:49-51 Mr '51

Standard passenger cars in Britain. il Ry Age 131:29-31 Jl 30 '51

Double deck

British and German railways try out double-deck cars on electric lines. il Ry Age 131: 42-3 Ag 6 '51

Results of double-deck train trials. Engineer 190:601-2 D 15 '50

Electric equipment

A-c power plants for passenger cars. I. S. Ritter and H. H. Hanft. il Westinghouse Eng 11:87-90 My '51; Same abr. Ry Mech & Elec Eng 125:70-2+ My '51

Axle and engine power for buffet car; Denver & Rio Grande Western. il Ry Mech & Elec Eng 125:76-7 S '51

Car electrical equipment; A.A.R. Electrical sections committee report. Ry Mech & Elec Eng 124:631-3 N '50

Car electrical equipment; questions and answers. A. A. Dobie. diag Ry Mech & Elec Eng 125:78-9 Ap '51

Load testing axle generators. J. C. Alvarez and F. Lewis. il diag Ry Mech & Elec Eng 125:74-5 Je '51

Parallel operation of undercar power plants. G. W. Weber. il diag Ry Mech & Elec Eng 125-73-7 Ap '51

Railroad under-car power units. il diag Diesel Power 28:34-7 N '50

Sub-assembly methods speed car wiring at Budd. il Ry Mech & Elec Eng 125:39-42 Ja '51

Equipment

New equipment for the Super Chief includes dome cars. il Ry Age 130:14-17 F 19 '51; Ry Mech & Elec Eng 125:49-51 Mr '51

Replacing springs on roll-out carriage wheels. il Ry Mech & Elec Eng 125:81-2 Je '51

What's new in devices for cars and locomotives. il diag Ry Age 130:71-8 Je 25 '51

Interchange

Changes in 1951 interchange rules. T. J. Boring. Ry Mech & Elec Eng 125:59-61+ Ap; 61-3 My '51

CARS—Interchange—*Continued*

Interchange and billing for car repairs; report of Car department officer's association. Ry Mech & Elec Eng 124:659-61 N '50

Lubrication

A.A.R. lubrication tests progressing. il Ry Age 130:26-7 Ja 22 '51

Lubrication of cars and locomotives; committee report, A.A.R. Mechanical division. Ry Age 131:92-4 Jl 9 '51; Same cond. Ry Mech & Elec Eng 125:72-4 Ag '51

Manufacture

New railway car-building and repair-shop methods. C. R. Strutz. il diag Ry Mech & Elec Eng 125:57-61 F '51

Prices

Equipment prices reported in 1950. Ry Age 130:226 Ja 15 '51

Reconstruction

Coaches rebuilt for modern appearance; Aurora shops of the Burlington. il Ry Mech & Elec Eng 125:62-3 Ap '51

Repair

Corrosion of cars costs $191 million a year; how can it be reduced? F. K. Mitchell. il diags Ry Age 131:65-9 Ag 6 '51

Tool for bending center sill flanges. diag Ry Mech & Elec Eng 124:726 D '50

Standards

Nine basic car types proposed in passenger car standardization program. C. W. Wright. il Ry Age 130:72-3 My 21 '51

Standard coaches. Bsns W p47 Je 9 '51

Standard coaches for British railways. il Engineer 191:378-9 Mr 23 '51; Engineering 171: 370-1, pl 20-21 Mr 30 '51

Standardisation of new coaching stock on British railways. S. G. Smith. Engineering 171:87, 113 Ja 19-26 '51

Statistics

Backlog of passenger car orders reduced in 1950. C. B. Peck and F. C. Miles. il Ry Age 130:204-6 Ja 15 '51

Domestic railroad passenger cars ordered, 1929-1950; tabulation. Iron Age 167:328 Ja 4 '51

781 passenger-train cars delivered this year. Ry Age 129:150-1 O 28 '50

Weight

Passenger-car weights and energy consumption; with cost data. L. E. Blue. il Ry Age 130:42-4 Mr 19 '51

CARS (automobiles). See Automobiles

CARS, Aluminum

Aluminum alloy in car construction; 61S-T6. E. C. Hartmann and others. il Ry Mech & Elec Eng 124:717-21 D '50

Light-alloy coach for London Transport surface lines. il diags Engineering 171:705-7 Je 8 '51

CARS, Caboose

Twelve-volt caboose power for radio. il Ry Mech & Elec Eng 125:73-4 Mr '51

CARS, Dynamometer. See Dynamometer cars

CARS, Electric railroad

Light alloy rolling stock for London transport. il Engineering 191:552-3 Ap 27 '51

Modern tramcar design. Electrician 145:1023-4 N 17 '50

Multiple-unit car equipment for a-c electrified railways. H. G. Jungk and others. il diag Elec Eng 70:471-5 Je '51

Multiple-unit cars with new four-motor drives ride better and wear longer. R. A. Williamson and others. il Ry Age 130:22-4 Ap 30 '51

Rapid transit gets a new car. M. L. Sloman. il Westinghouse Eng 11:94-7 My '51

Transmission and suspension; report of International railway congress. Engineering 171: 197-8, 216-18 F 16-23 '51

Why four-motor multiple-unit car equipment. R. A. Williamson. Ry Mech & Elec Eng 125:71-3 F '51

CARS, Freight. See Freight cars

CARS, Steam generating

How the Texas & Pacific uses steam generator cars. il Ry Age 131:59-60 S 3 '51

Texas & Pacific equips steam generator car for use in heating passenger trains. il Ry Age 129:29 D 23 '50

CARS, Steel

Rust, how to combat it by proper design. H. M. Priest. il diags Ry Mech & Elec Eng 125:43-50+ Je '51

Stainless steel trains for New York subways. il Engineer 190:651 D 29 '50

CARS, Subway

Stainless steel trains for New York subways. il Engineer 190:651 D 29 '50

Lighting

See Car lighting

CARS, Testing

Instruments in rail transportation testing; testing car. D. E. Clifton. il Instruments 23:1307-9 D '50

CARTELS. See Trusts, Industrial—International trusts

CARTESIAN diver

Improved technique for weighing tissues with the Cartesian diver. J. A. Smith and M. Post. Science 112:471-3 O 20 '50; Discussion. bibliog diag 113:661-2 Je 8 '51

CARTESIAN manostats. See Pressure regulators

CARTILAGE

Method for evaluating the relation of glycogen to inorganic salt deposition in surviving cartilage slices in vitro. P. A. Marks and E. Shorr. bibliog Science 112:752-4 D 22 '50

CARTOGRAPHY

International cartography. R. H. Randall. Am Soc C E Proc 77[no 68]:1-6 My '51

CARTOONISTS

Bruce Shanks is new Buffalo News cartoonist. Ed & Pub 84:43 S 1 '51

Editorial jibes easier but Mullin takes sports. Ed & Pub 84:44 My 12 '51

Other cartoonists rate Crane as tops. J. McMaster. Ed & Pub 84:86 Ap 28 '51

Youngest cartoonist helped by famous; Art Wood. W. D. Bien. Ed & Pub 84:11 Ag 11 '51

See also

Cory, Fanny

Fischetti, John

Williams, James Robert

CARTOONS

Cartoons help interpret contracts at Gardner board & carton co. il Bsns W p36 Je 30 '51

CARTRIDGE, Power. See Power cartridge

CARTRIDGE belts, Machine gun. See Machine guns—Cartridge belts

CARTRIDGE cases

Extruded and drawn steel cartridge cases advance toward standardization. W. F. Stevenson. il Steel 129:72-6+ Jl 9 '51

CARVING knives. See Knives

CARVONE

l-Carvone from *d*-limonene. C. Bordenca, R. K. Allison and P. H. Dirstine. bibliog Ind & Eng Chem 43:1196-8 My '51

CARYOPHYLLENE

Carophyllenes; the synthesis of 2-carboxy-3 : 3-dimethyl*cyclo*butylacetic acid. T. L. Dawson and G. R. Ramage. Chem Soc J p3523-5 D '50

Constitution of caryophyllene. D. H. R. Barton and A. S. Lindsey. Chem & Ind p313-14 Ap 21 '51

Structure of caryophyllene. T. L. Dawson and others. Chem & Ind p465-6 Je 16 '51

Structure of the caryophyllenes. M. L. Wolfrom and A. Mishkin. Am Chem Soc J 72: 5350-1 N '50; Discussion. Chem & Ind p50 Ja 20 '51

See also

Humulene

CARYOPHYLLENIC acid

Synthesis of caryophyllenic acid. A. Campbell and H. N. Rydon. bibliog Chem & Ind p312-13 Ap 21 '51

CASE, J. I., company

Stocks that should do well in war or peace; with comparative balance sheet items. Mag of Wall St 87:328 D 30 '50

Ten potential market leaders for 1951; with comparative balance sheet items. Mag of Wall St 87:504 F 10 '51

CASE hardening

Boron steels. D. I. Brown. il diags Iron Age 168:85-90 Jl 12; 102-6 Jl 19; 68-72 Jl 26 '51

CASE hardening—*Continued*

Boron steels for constructional parts and for carburizing. P. R. Wray. Metal Prog 60:52-5 Jl '51

Bright hardening, carburizing and carbonitriding. H. Ipsen and R. Krogh. il diags Metal Prog 59:232-8 F '51

Carbonitriding. Engineer 190:652 D 29 '50

Carbo-nitriding. il diags Metallurgia 43:88-9 F '51

Carbonitriding gains wider acceptance. E. J. Pavesic and A. E. Uitti. il diag Iron Age 167:101-4 Mr 1 '51

Carbo-nitriding in present practice. W. H. Holcroft. Metal Prog 58:843-6 D '50

Carbonitriding on the increase, survey shows. M. B. Bever and others. il Iron Age 168:151-5 S 13 '51

Carbonitriding produces hard case at lower temperatures. S. Damon. il Materials & Methods 33:64-5 My '51

Co-deposited stopoff conserves tin. E. S. Coe. il Iron Age 167:86-8 Je 14 '51

Commercial flame hardening. E. J. Cox. il Welding J 30:229-33 Mr '51

Electronic control of production flamatic hardening. M. Garvin and D. Strauchen. il Welding J 29:981-5 N '50

Fatigue weakness of surfaces. J. O. Almen. bibliog il Product Eng 21:133-7 N '50

Flame-hardening as a versatile production tool. G. H. Silver. il Mach 57:187-9 F '51

Flame hardening bulldozer blades. il Welding J 30:836 S '51

Flame hardening of large surfaces. J. J. Barry. il diags Welding J 30:111-16 F '51

Function of energizers in pack carburizing. A. Hultgren. diags Iron & Steel Inst J 168:245-59 Jl '51

Gear distortion curbed sharply. Steel 129:106 Ag 6 '51

Good carburizing practice. T. A. Frischman. il diags Am Mach 94:131-5 O 16; 90-4 O 30; 104-7 N 27; 138-41 D 11; 89-93 D 25 '50; 95:90-3 Ja 8; 128-31 F 5; 138-41 F 19; 106-9 Mr 5; 138-41 Mr 19; 92-5 Ap 2; 140-2 Ap 16 '51

Hardening compound carburizes, nitrides and chromizes steel. E. M. Ellsworth. il diag Materials & Methods 34:86-8 Jl '51

Heat-treatment of crawler tractor gears. R. F. Kern. il plan S A E J 59:54-7 Ja '51

Heat treatment of three per cent nickel-chromium case-hardening steel. H. D. Mansion. il Metallurgia 44:57-62 Ag '51

Heat treatments, their selection and specification in design; hardness. N. N. Brown. il Machine Design 22:115-19 N '50

Induction and flame hardening simplified. J. Obrebski. diags Am Mach 95:136-7 S 17 '51

Installation of new furnaces for cyaniding cuts case hardening costs 66 per cent; Bassick co. il Mill & Factory 47:141 N '50

Mass marquenching speeds gear output. W. B. Cheney and W. C. Hiatt. il Steel 128:72-4 F 12 '51

Pearlitic malleable irons can be successfully surface hardened. S. H. Bush and others. il Materials & Methods 33:70-2 Ap '51

Prestressing processes and fracture barriers; improvement in fatigue strength of metal products. J. O. Almen. il diags Product Eng 22:102-11 Mr '51

Which process for case-hardening steel; carburizing, nitriding or carbonitriding? K. Rose. il Materials & Methods 33:62-4 F '51

Which surface hardening process? with chart for selecting a procedure. L. Spencer. il Product Eng 22:157-62 Ag '51

Electric hardening

Automatic rocker pad hardening machine. il Engineer 191:806 Je 15 '51

Controlling hardness and microstructure during induction hardening. G. A. Warwick. il Gen Elec R 53:21-6 N '50

High-frequency hardening; Birlec plant installed at the Humber works. il Automobile Eng 40:342 S-O '50

Induction hardening cuts cost 30 per cent; Thompson products co.; sodium filled aircraft engine valves. il Steel 127:66 O 30 '50

Induction hardening cuts costs at Studebaker. il Automotive Ind 103:50+ D 15 '50

Induction hardening tank turret bearing rings. A. H. Allen. il diag Steel 129:64-6 Jl 30 '51

Machining and hardening in the same setup. J. Geschelin. il Automotive Ind 104:50+ Ja 15 '51

Packard achieves production economies with induction hardening. R. E. Van Deventer and G. Bidigare. il Mach 57:154-8 My '51

Selective hardening enables machine speedup; Buick div., General motors corp. D. Godby. il Iron Age 166:93-4 N 2 '50

Small parts bore hardened on screw machines. A. H. Allen. il Steel 128:74-5 Mr 26 '51

Three million axle shafts induction hardened. S. L. Widrig and C. A. Payntor. il Iron Age 166:69-73 D 21 '50

Gas carburizing

Good carburizing practice; application of pack and gas carburizing. T. A. Frischman. il diags Am Mach 94:92-4 O 30; 104-7 N 27; 138-41 D 11 '50

Nitriding process

Nitriding stainless steels for better wear resistance; Malcomizing process. S. Low. il diag Steel 129:82+ Ag 6 '51

Two new gear materials. C. M. Schwitter. il Mach 57:179-82 D '50; Same cond. Automotive Ind 104:42-5+ Ja 1 '51

CASEIN

Animal protein factor for the rat present in crude casein and its relationships with vitamin B_{12}. M. Piccioni and others. il Science 113:179-81 F 16 '51

Casein heterogeneity and the rennet coagulation. G. T. Pyne. Chem & Ind p 171-2 Mr 3 '51

Casein summary, 1950. H. D. Wilson. Paper Tr J 132:82-3 F 23 '51

Effect of desiccated thyroid, iodinated casein, and casein on a rachitogenic diet. I. A. Schechet. Science 113:60-1 Ja 19 '51

Modernization of a casein sheet plant; installation of Electraulic pump system. il Mod Plastics 28:94-5 D '50

Selective absorption of optical antipodes by proteins. W. Bradley and G. C. Easty. Chem Soc J p499-503 F '51

Separation of γ-casein. N. J. Hipp and others. Am Chem Soc J 72:4928-31 N '50

Studies on antipodes; observations on D-amino acids and on casein derivatives containing D-amino acid residues. S. W. Fox and Y. Kobayashi. bibliog Am Chem Soc J 73:353-5 Ja '51

Water absorption of proteins; effect of guanidino groups in casein. E. F. Mellon and others. Am Chem Soc J 73:1870-1 Ap '51

Analysis

Alanine, glycine and proline contents of casein and its components. W. G. Gordon, W. F. Semmett and M. Bender. Am Chem Soc J 72:4282 S '50

CASH discount. See Discount, Cash

CASH handling

See also

Banks and banking—Cash handling

Department stores—Cash handling

CASH registers

Ringing up flights; cash registers solve check-in and weight problems for Hawaiian Airlines. il Bsns W p90+ Ag 11 '51

CASHEW nuts

Cashew nut shell liquid; a proof of structure of the mono-nitro and mono-amino derivatives of 3-pentadecylphenol (hydrocardanol). D. Wasserman and C. R. Dawson. bibliog Am Chem Soc J 72:4994-7 N '50

CASHMERE

Consider these points if you're handling cashmere. G. Zellnik. diag Textile World 101:139+ My '51

CASSIDY, Claudia

Mild Claudia Cassidy despises mediocrity, Chicago Tribune music and drama critic. G. A. Brandenburg. por Ed & Pub 84:28 Mr 10 '51

CASSIDY, Leslie Martin, 1904-

Johns-Manville corporation's new president. por Sales Management 66:44 F 15 '51; Fortune 43:16-17 Je '51

CAST iron

Acid pickle doubles tool life on CI. J. Datsko. il Am Mach 95:140-1 Je 11 '51

Aluminized cast iron. M. G. Whitfield and V. Sheshunoff. il Foundry 79:177-8+ S '51

Anneal ductile iron for better machinability. J. F. Kahles and R. Goldhoff. il Iron Age 166:105-8 D 14 '50

Bendable cast iron shows promise as useful new alloy. Pet Processing 6:12 Ja '51

Carbide drills for cast iron; reference book sheet. F. W. Lucht. diags Am Mach 95:131, 133 My 28 '51; Same. il Mach 57:195-7 Je '51; Same. Steel 128:92-3 Je 4 '51; Same cond. Automotive Ind 104:98+ Je 15 '51

Carbide drills increase tool life on cast iron. E. J. Weller and others. il diags Iron Age 167:75-9 My 31 '51

Carbon and its effect on cast iron. D. J. Reese. Foundry 79:121+ Ja '51

Cast camshafts; development and application of Monikrom high duty cast iron. il diag Automobile Eng 40:345-7 S-O '50

Cast iron radiation shipments; tabulation. Iron Age 167:340 Ja 4 '51

Cast irons are inexpensive engineering materials. M. G. Fontana. il Ind & Eng Chem 43:sup71A-2A+ Mr '51

Characteristic odor of nodular iron fractures and carbide slags. B. F. Brown. Foundry 79:174 O '51

Characteristics, limitations and applications of malleable iron castings. H. A. Schwartz. il Foundry 79:102-3+ My '51

Cupola mixture sheet; data sheet. Foundry 79:162 Ag '51

Determination of surface stresses in ingot moulds. M. W. Buttler and W. H. Glaisher. il diags Iron & Steel Inst J 168:287-99 Jl '51

Ductile cast iron. Engineer 191:684-5 My 25 '51

Ductile iron replaces alloy gear castings, forgings; Black-Clawson co. J. D. Sheley. il Iron Age 167:99-100 My 10 '51

Effect of boron on cast iron. W. G. Wilson. Foundry 79:88-9+ S '51

Effect of oxygen content on iron casting properties. F. S. Kleeman. bibliog il Foundry 79:100-3+ Ja '51

Effect of phosphorus content on mechanical properties of a nodular cast iron; abstract. J. E. Rehder. Foundry 79:126 Jl '51

Engineering properties of ductile iron; table. Machine Design 23:309 O '51

Engineering properties of iron castings can be improved by heat treatment. C. E. Herington. il diags Materials & Methods 32: 50-3 D '50

Foundries put heat on merchant iron market. B. Lloyd. Iron Age 166:103-4 N 16 '50

Gray iron castings, 1947-1950; malleable iron castings, 1935-1950; tabulations. Steel 128: 122 Ja 1 '51

High machinability and productivity of ductile iron. J. F. Kahles and others. il Metal Prog 59:238-42 F '51

Increasing productivity in production machining. M. Field and N. Zlatin. S A E J 59:38-43 Ap '51

Industrial status of ductile iron. A. P. Gagnebin. bibliog il Mech Eng 73:101-8 F '51

Influence of low percentages of certain elements on the microstructure of pure iron-carbon alloys and cast irons. W. J. Williams. bibliog 10 pls Iron & Steel Inst J 164:407-22 Ap '50; Discussion. 167:374-8 Ap '51

Malleable iron, then and now. J. H. Lansing. il diags Foundry 79:92-7+ O '51

Manganese and its effect on iron. Foundry 79:175 Jl '51

Meehanite castings find wide use in steel plants. C. E. Herington. il Steel 128:81-2 Ap 9 '51

Metallic and nonmetallic coatings for gray iron. C. O. Burgess. bibliog il Foundry 78: 76-9+ D '50; 79:96-9+ Ja; 108-11+ F '51

Metallic surface coatings for gray iron. C. O. Burgess. il Product Eng 21:108-13 D '50

New chromium alloy neutralizes effect of varying cooling rate in gray iron. R. A. Clark. il Foundry 79:94-7 Ag '51

Pearlitic malleable irons can be successfully surface hardened. S. H. Bush and others. il Materials & Methods 33:70-2 Ap '51

Poisson's ratio for cast iron used for ingot moulds. J. Woolman. 2pls diag Iron & Steel Inst J 168:273-7 Jl '51

Recent developments in casting alloys; abstract. Irvine. Chem Age (Lond) 64:849-50 Je 2 '51

Recirculation of cleaned air from cast iron machining. R. H. Avery. il Heat & Ven 48:69-72 O '51

Relief by heat-treatment of externally applied stresses to cast iron; abstract. G. N. Gilbert. Metal Prog 60:134 S '51

Research on cast iron; British cast iron research association. Engineering 170:469 D 8 '50

Review of the developments in the metallurgy of cast iron. J. E. Hurst. Metallurgia 42: 289-92 N '50

Section thickness in meehanite castings. C. R. Austin. il Machine Design 23:130-1 F '51

Silicon and its effect on cast iron. D. J. Reese. Foundry 79:182+ F '51

Silicon distribution between austenite and liquid metal in freezing hypo-eutectic cast iron. A. Hultgren and O. Carlsson. diag Iron & Steel Inst J 166:303-4 D '50

Steel castings shipments; gray iron castings shipments; malleable castings, shipments and orders. Iron Age 167:339 Ja 4 '51

Two new gear materials. C. M. Schwitter. il Mach 57:179-82 D '50; Same cond. Automotive Ind 104:42-5+ Ja 1 '51

See also
Chilled iron

Graphitization

Comparative growth of gray iron vs. nodular iron when cyclically heated to 1650°F. T. E. Eagan. il Foundry 78:96-9+ D '50

Crystal structure of graphite in cast iron. W. S. Owen and B. G. Street. bibliog 2pls diags Iron & Steel Inst J 167:113-16 F '51

Effect of heating rate on graphitization of white iron. M. Okamoto. il Foundry 79:101 F '51

Foundry shifts to nodular iron; Cooper-Bessemer. il Bsns W p57-8 O 13 '51

Machinability depends on microstructure. R. Le Grand. il diag Am Mach 94:111-19 N 27 '50

Nodular iron conference sponsored by Massachusetts institute of technology, Swampscott, Sept. 12-13. Foundry 78:156+ N '50

Nodular iron experiments. E. M. Stein. il Foundry 78:96-9+ N '50

Nodular iron for mechanical parts; abstract. T. E. Eagan. Steel 127:72 D 25 '50

Nodular iron; theory and practice. il Metal Prog 58:729-31 N '50

Spherulite formation in nodular cast iron. A. L. De Sy. il Metal Prog 59:798-801 Je '51

Structure of spherulites in nodular cast iron. H. E. Stauss and others. il J Metals 3: Trans 249 Mr '51

Growth

Comparative growth of gray iron vs. nodular iron when cyclically heated to 1650°F. T. E. Eagan. il Foundry 78:96-9+ D '50

Growth characteristics of some cast irons used for ingot moulds. W. C. Heselwood and F. B. Pickering. pl Iron & Steel Inst J 168:277-86 Jl '51

Specifications

Standard specifications for pearlitic malleable iron castings; data sheet. diags Foundry 79:141-2 My '51

Tentative specifications for gray iron castings for pressure-containing parts for temperatures up to 650 F; data sheet. diags Foundry 79:149-50 O '51 (to be cont)

Testing

Improved tests evaluate nodular iron. W. W. Austin, jr. bibliog il diags Iron Age 167: 86-9 Ap 19 '51

Mechanical properties of ingot mould irons. J. W. Grant. 2pls diags Iron & Steel Inst J 168:263-73 Jl '51

Relaxation tests on cast iron. J. Woolman. Iron & Steel Inst J 168:287 Jl '51

Static friction tests with various metal combinations and special lubricants. H. S. White and D. Zei. il J Res Nat Bur Stand 46:292-8 Ap '51

CAST iron—Testing—*Continued*
Tentative methods of impact testing of cast iron; data sheet. diags Foundry 79:151-2 Je; 179 Jl '51
Test pinpoints magnesium content. Steel 129: 94 Ag 13 '51
White coal pig iron; tests to determine the properties of castings. E. K. Smith. il Foundry 79:90-3+ Ja '51

Welding

Cast iron repair. A. J. Beldon. il Welding J 29:1001 N '50
Defective iron castings saved by repair welding. il Materials & Methods 33:86-8 Je '51
Joining cast iron. C. O. Burgess. il Machine Design 23:129-31 Mr '51

CAST iron pipes. See Pipes, Cast iron

CASTANOSPERUM australe. See Moreton-Bay chestnut

CASTERS
Industrial wheels and casters. E. L. Cady. il diags Mill & Factory 49:81-5 S '51

CASTILE soap
Soap advertising claims; cases and court decisions reviewed. Soap & San Chem 27:39-40+ F '51

CASTING, Centrifugal
Casting machine timing control speeds operation; illustrations and diagrams with text. Product Eng 22:130-1 F '51
Centrifugal casting for critical components. H. Cooper. il Machine Design 22:131-2 N '50
Centrifugal casting in permanent molds. W. F. Wilson. il diags Product Eng 21:112-16 N '50
Centrifugal casting of pipe in sandlined molds. K. R. Daniel. il plans diags Mech Eng 73: 644-8 Ag '51
Centrifugal re-babbitting. il Diesel Power 29:56-7 F '51
Centrifugal steel castings for gas turbines; abstract. J. Taylor and D. H. Armitage. Metal Prog 59:868+ Je '51
Centrifugally cast bronze-back bearings for heavy-duty operation. L. M. Tichvinsky. bibliog il diags A S M E Trans 73:391-8 My '51
Centrispun high-alloy steel aero-engine components; abstract. A. E. Thornton and J. I. Morley. Metal Prog 60:116+ S '51
Some recent developments in centrifugal casting. M. L. Samuels and A. E. Schuh. il Foundry 79:78-9+ Jl; 84-9 Ag '51

CASTING, Precision. See Lost wax process

CASTING machines
Bar solder cast automatically. il Steel 129: 112 Ag 6 '51
British continuously cast large aluminum sections. D. I. Brown. il Iron Age 168:166-8 S 13 '51
Casting machine timing control speeds operation; illustrations and diagrams with text. Product Eng 22:130-1 F '51
Continuous cast aluminum bars produced by the Properzi process. D. I. Brown. il diags Iron Age 167:87-90 F 15 '51
Continuous casting machines for brass. il Engineer 191:490 Ap 13 '51
Continuous casting of oxygen-free copper raises production; Rossi continuous casting machine. D. I. Brown. bibliog il diags Iron Age 168:63-7 Ag 30 '51
Continuous casting of steel. I. Rossi. J Metals 3:227-8 Mr '51
Continuous casting process employs a moving mold. D. I. Brown. il diags Iron Age 167:53-5 Ja 25 '51
Continuous casting revolutionizes the brass industry. D. I. Brown. il Iron Age 168:106-8 S 6 '51
Continuous steel casting pilot plant proves successful. D. I. Brown. il diags Iron Age 168:113-18 S 20 '51
Electric controls for casting machine. il diags Product Eng 22:110-11 Jl '51
Faster cooling, key to Jacquet continuous casting method. diags Steel 127:108+ D 4 '50
Horizontal continuous casting machine, patented by J. F. Jacquet. diags Iron & Steel Eng 28:144+ Ja '51
Interest in continuous steel casting gains momentum. Steel 127:68+ D 25 '50

CASTINGS
Cast metal gears. E. J. Tangerman. diags Am Mach 95:111 Ag 20 '51
Casting design for economical molding. C. T. Marek. diags Foundry 78:88-93+ N '50
Casting design for economical production. C. T. Marek. Machine Design 23:190+ O '51
Cup, saucer and spoon. P. Dwyer. il diags Foundry 79:106-9 My '51
Designing beryllium copper investment castings. J. T. Richards. il diags Machine Design 23:121-5 My '51
Development and evaluation of cast turbine rotors. N. J. Grant and others. bibliog il diag Foundry 78:86-93+ D '50
Drill jig with equalizers designed to handle an irregular casting. R. W. Newton. plan diags Mach 57:198-9 F '51
How to select the right cast heat resistant alloy. N. A. Matthews. il Steel 127:90-2+ N 6 '50
Integrally-stiffened skin revolutionizes aircraft construction; rolled and cast sections. P. E. Sandorff and G. W. Papen. il diag Iron Age 167:87-90 F 8 '51
New process quickly removes surface defects on castings. il Iron Age 168:101 Jl 19 '51
Nonferrous castings made at the U.S. naval gun factory. H. J. Roast. il Metal Prog 60:61-4 Jl '51
Properties of materials and the engineering uses of cast metals. R. W. Bailey. il diags Metallurgia 44:3-8 Jl '51; Same. Engineering 172:29-32 Jl 6 '51
Summarizing heat-resisting castings. W. L. Nelson. Oil & Gas J 50:90+ Ag 30 '51
Uses broaden for cast monel. N. S. Mott. il Iron Age 167:63-7 Ja 11 '51
What's wrong with castings. J. B. Caine. il Foundry 79:106-8+ Je '51
Why castings shrink. Foundry 79:222+ Je '51

See also
Die casting
Steel castings

Cleaning

Automatic transmission castings cleaned chemically. R. J. Peters. il Iron Age 167: 105-7 Mr 15 '51
Conveyerized blasting unit provides economical cleaning; foundry of Crompton & Knowles looms works. V. E. Hillman. il Foundry 78:204+ N '50
Foundry cleaning costs cut $250 per day; General foundries of Milwaukee. il Steel 128:76 Mr 19 '51
New tool removes casting defects quickly. R. H. Herrmann. il Foundry 79:164+ Mr '51
No broken castings with new cleaning method; Rotoblast equipment. il Automotive Ind 104:224+ Mr 15 '51
Operation of blast cleaning equipment. M. R. Wiard. il S A E J 59:46-8 Ap '51

Defects

Metal penetration. S. L. Gertsman. il diags Foundry 79:84-9 My '51
Radiocobalt reveals flaws in thick castings. R. B. Stanton. diag Am Mach 95:137 Je 11 '51

Repair

Helical inserts speed thread repair in castings. il Iron Age 167:104 F 15 '51
Impregnation cuts casting rejects. M. J. Nathason. flow sheet il diags Iron Age 168: 115-17 S 6 '51

Testing

Air vacuum test machine. il Comp Air Mag 55:283 D '50
Measurement of stress relief. C. R. Tottle. Metallurgia 43:148-50 Mr '51
Northrop checks all castings by fluoroscopy. T. E. Piper and J. G. Schneeman. il diags Mach 57:172-7 Jl '51
Plant and plant equipment sessions, A.F.S. annual meeting. Foundry 79:164+ Je '51
Targeting fixtures boost casting output. E. Preece. il diags Am Mach 95:114-16 Ja 8 '51

CASTLE and Cooke, ltd
Macadamia; Hawaiian experiment. il Bsns W p88-90+ Ag 18 '51

CASTOR beans
Double dose for Texas. il Chem Ind W 68: 13 My 19 '51

CASTOR oil
Castor oil for plastics. R. L. Van Boskirk. Mod Plastics 28:210+ Je '51
Castor oil inventories, uses are restricted. Oil Paint & Drug Rep 159:3+ Ap 9 '51
Electron diffraction by transmission through thin liquid films. C. W. Lufcy and others. bibliog J Chem Phys 19:217-19 F '51
Electron-microscope study of plasticized nitrocellulose. J. Ames and A. M. D. Sampson. bibliog il J Ap Chem 1:337-41 Ag '51
Improved dehydrated castor oil; abstract. R. Wilson. Paint Oil & Chem R 114:30+ Ap 26 '51
More castor oil. Bsns W p52 Mr 17 '51

Analysis

Rapid test for castor oil in soaps and lipsticks. Sister M. C. Mangold. J Chem Educ 28:266 My '51

CASUALTY actuarial society
Advisory group named; with list of committees. East Underw 52:32 Ja 19 '51
Annual meeting, 36th, New York, Nov. 17. East Underw 51:31+ N 24 '50; Nat Underw 54:26+ N 23 '50; Weekly Underw 163:1202 N 25 '50
Professional approach to insurance; with sketches of six new members. J. S. Daniel. East Underw 51:94-5 D 15 '50

CASUALTY and surety underwriters, International association of. See International association of casualty and surety underwriters

CASUALTY insurance. See Insurance, Casualty

CATALIN
Three-dimensional photoelasticity; new creeping method. A. J. Durelli and R. L. Lake. il diags Machine Design 22:122-5 D '50; Discussion. 23:208+ F '51

CATALOGING
Subject cataloguing in German libraries. K. Garside. bibliog J Doc 6:188-205 D '50

Manuscripts

Cataloguing of literary manuscripts. D. K. Coveney. J Doc 6:125-39 S '50

Recataloging

Reorganization of libraries. W. Ashworth. Aslib Proc 2:201-12 bibliog(49 titles, p211-12); Discussion. 212-15 N '50

CATALOGS
Give distributors' salesmen the sort of catalog they want; Smith welding equipment corp. N. N. Canfield. il Ptr Ink 233:30-1 N 3 '50
How to and how not to design a catalog. H. G. Sawyer. il Ind Marketing 36:44+ My '51
How to build an industrial catalog. G. Wedereit. il Ind Marketing 36:34-5+ Jl '51
How to make a better catalog cost less. A. Roffman. il Ptr Ink 236:38-40 Jl 20 '51
How to make a catalog of available literature. D. F. Haggerty. Ptr Ink 235:39-40 Ap 6 '51
How to make a parts catalog more useful and economical. R. Eagan. il diag Ptr Ink 236: 28-9 Ag 31 '51
How to organize your catalogs. H. G. Sawyer. il Ind Marketing 36:52+ S '51
How to write catalogs that go beyond advertising. H. G. Sawyer. il Ind Marketing 36: 40-1+ Ja; 44+ F '51
If I were an advertising man. H. Terry. Heat & Ven 47:78 D '50
Reform in drug trade lists. Chem Ind W 68: 27+ Mr 17 '51
Some questions about catalog make-up and costs. L. F. Thomann. il Ptr Ink 234:31 F 2 '51
This mail-order advertiser chose the byways; John Plain catalog for dealer's counter. il Ptr Ink 234:29-31 Mr 2 '51
Trade fair catalogues. P. Grodzinski. J Doc 6:185-7 D '50
Why our newest catalog is a card index file; American optical co. A. J. Oker. il Ptr Ink 235:34-5 My 11 '51

CATALOGS, Library
See also
Manuscripts—Catalogs

CATALYSIS
Catalysed transfer of hydrogen chloride from chlorohydrins to epoxides; a new method of preparing glycidol and some of its derivatives. W. Bradley, J. Forrest and O. Stephenson. Chem Soc J p 1589-98 Je '51
Catalysis and the poisoning of catalysts. E. B. Maxted. bibliog Chem & Ind p242-6 Mr 31 '51
Catalysis in fused salt systems. N. E. Norman and H. F. Johnstone. bibliog Ind & Eng Chem 43:1553-8 Jl '51
Catalytic activation of hydrogen by metals. A. Farkas. bibliog J Phys & Colloid Chem 55:1013-17 Je '51
Catalytic activity produced by tiny structural imperfections. H. S. Taylor. Chem & Eng N 29:2634 Je 25 '51
Catalytic reactions at high pressures and temperatures; decomposition of butanol-1 over an alumina-silicate catalyst investigated. C. M. Sliepcevich and G. G. Brown. bibliog flow sheet il Chem Eng Prog 46: 556-62 N '50
Concepts in catalysis; contributions of Paul Sabatier and of Max Bodenstein. E. K. Rideal. 2pls Chem Soc J p 1640-7 Je '51
Concerted displacement reactions; the mechanism of acid-base catalysis in water solution. C. G. Swain. bibliog Am Chem Soc J 72:4578-83 O '50
Heterogeneous catalysis; hydrogenation by binary alloys. P. W. Reynolds. Chem Soc J p265-71 Ja '50
Heterogeneous catalysis of the racemisation of (+)-1-phenyl-ethyl bromide. C. L. Arcus and G. V. Boyd. Chem Soc J p 1580-5 Je '51
Heterogeneous catalysis; theoretical basis. D. A. Dowden. diags Chem Soc J p242-65 Ja '50
Heterogeneous catalytic inversion of sucrose with cation exchange resins. G. Bodamer and R. Kunin. bibliog Ind & Eng Chem 43: 1082-5 My '51
Intraparticle diffusion in catalytic heterogeneous systems. N. L. Smith and N. R. Amundson. bibliog diag Ind & Eng Chem 43: 2156-67 S '51
Kinetics and mechanism of the acid-catalyzed reaction of diphenyldiazomethane with ethyl alcohol. J. D. Roberts and W. Watanabe. bibliog Am Chem Soc J 72:4869-79 N '50
Kinetics of catalytic sulfurization of methane. R. C. Forney and J. M. Smith. bibliog diag Ind & Eng Chem 43:1841-8 Ag '51
Kinetics of the catalytic hydrogenation of the nitro group on platinum. H. A. Smith and W. C. Bedoit, jr. bibliog J Phys & Colloid Chem 55:1085-104 Je '51
Kinetics of the Kjeldahl reaction. G.-M. Schwab and E. Schwab-Agallidis. diag Am Chem Soc J 73:803-9 F '51
Microchemical applications of catalytic and induced reactions. P. W. West. Anal Chem 23:176-80 bibliog(145 ref, p 178-80) Ja '51
Nomograph for calculating contact time for vapor-phase reactions. J. N. Pattison. Ind & Eng Chem 43:1444-6 Je '51
Nuclear relaxation in gases by surface catalysis. F. Bloch. Phys R 83:1062-3 S 1 '51
Polymerization induced by catalytic decomposition of hydrazine at palladium surfaces. G. Parravano. bibliog Am Chem Soc J 72: 3856-60 S '50
Solid and catalytic reactions; abstract and discussion. W. E. Garner. Chem & Ind p792-3 D 9 '50
See also
Catalysts
Kjeldahl reaction

CATALYSTS
Acetaldehyde by dehydrogenation of ethyl alcohol. J. M. Church and H. K. Joshi. bibliog diags Ind & Eng Chem 43:1804-11 Ag '51
Acid activation of some bentonite clays. G. A. Mills, J. Holmes and E. B. Cornelius. bibliog J Phys & Colloid Chem 54:1170-85 N '50
Acids and bases; aluminum chloride, ferric chloride and stannic chloride as acid catalysts in the reaction of metals with thionyl chloride. R. A. Hubbard, 2d and W. F. Luder. Am Chem Soc J 73:1327-9 Mr '51

CATALYSTS—*Continued*

Activation of a solid nickel catalyst for the hydrogenation of ethylene by heat treatment in a high vacuum. R. K. Sherburne and H. E. Farnsworth. bibliog J Chem Phys 19:387-8 Mr '51

Addition of hydrogen sulphide to *iso*pentene with aluminium chloride as catalyst. A. J. van Riemsdijk and others. diag Inst Pet J 37:265-9 My '51

Alfin-catalyzed GR-S type polymers. W. K. Taft and H. Goldsmith. bibliog Ind & Eng Chem 42:2542-6 D '50

Apparatus and procedure for rapid automatic adsorption, surface area, and pore volume measurement. W. B. Innes. bibliog diags Anal Chem 23:759-63 My '51

Bench-scale studies of the Fischer-Tropsch synthesis over iron, nickel, and nickel-cobalt catalysts (Japan). S. Watanabe. rev ed bibliog 12pls U S Bur Mines Information Circ 7611:1-26 '51

Butylene from ethylene; cobalt-carbon catalyst; pilot plant. H. A. Cheney and others. bibliog il diags Ind & Eng Chem 42:2580-6 D '50

Calcium hydride as a basic catalyst in the Perkin reaction. S. Zuffanti and J. J. Sardella. Am Chem Soc J 72:4322-3 S '50

Carbon on cracking catalyst; determination by combustion and conductometry. C. H. Hale and M. N. Hale. bibliog diag Anal Chem 23:724-6 My '51

Carbonyl nickel films as hydrogenation catalysts. L. L. Baker, jr. and R. B. Bernstein. bibliog Am Chem Soc J 73:4434-6 S '51

Catalysis and the poisoning of catalysts. E. B. Maxted. bibliog Chem & Ind p242-6 Mr 31 '51

Catalyst evaluation and middle oil preparation in an experimental high pressure coal hydrogenation plant. H. J. Kandiner, R. W. Hiteshue and E. L. Clark. flow diag plan diags Chem Eng Prog 47:392-6, 455-61 Ag-S '51

Catalyst specificity in Friedel-Crafts copolymerization. R. E. Florin. Am Chem Soc J 73:4468-70 S '51

Catalytic activity of reduced nickel tungstate. C. S. Rohrer, J. Rooley and O. W. Brown. bibliog J Phys & Colloid Chem 55:211-14 F '51

Catalytic esterification of olefins with organic acids. R. D. Morin and A. E. Bearse. bibliog Ind & Eng Chem 43:1596-600 Jl '51

Catalytic isomerization of 1-hexene. E. A. Naragon. bibliog diag Ind & Eng Chem 42:2490-3 D '50

Catalytic properties of element 84 (polonium 210). P. Bonet-Maury and M. Lefort. Chem Soc J supp no 2:S322-3 '49

Catalytic reactions of aromatic amines; alkylation with alcohols. A. G. Hill, J. H. Shipp and A. J. Hill. bibliog diag Ind & Eng Chem 43:1579-83 Jl '51

Catalytic reactions of aromatic amines; rearrangement of alkyl groups. A. G. Hill and A. J. Hill. Ind & Eng Chem 43:1583-5 Jl '51

Catalytic synthesis of heterocycles; dehydrocyclization of *o*-alkylbenzenes to indoles. C. Hansch and G. Helmkamp. bibliog Am Chem Soc J 73:3080-2 Jl '51

Catalytic synthesis of heterocycles; dehydrocyclization of anils to nitrogen heterocycles. C. Hansch and others. bibliog Am Chem Soc J 73:704-6 F '51

Catalytic synthesis of thiols. M. W. Farlow, W. A. Lazier and F. K. Signaigo. bibliog Ind & Eng Chem 42:2547-9 D '50

Chemical characterization of catalysts; oxygen exchange between water and cracking catalysts. G. A. Mills and S. G. Hindin. bibliog Am Chem Soc J 72:5549-54 D '50

Chemisorption of carbon monoxide and the heterogeneity of the surface of iron catalysts. J. T. Kummer and P. H. Emmett. Am Chem Soc J 73:2886-9 Je '51

Chloride poisoning of iron-copper Fischer-Tropsch catalysts. L. J. E. Hofer and others. bibliog J Phys & Colloid Chem 55:1201-6 O '51

Chopper type slide valve saves catalyst; patent. diag Pet Processing 6:649 Je '51

Coal hydrogenation catalysts; studies of catalyst distribution. S. Weller and M. G. Pelipetz. bibliog Ind & Eng Chem 43:1243-6 My '51

Condensations effected by acidic catalysts; the acylation of substituted and condensed thiophenes and furans. M. W. Farrar and R. Levine. bibliog Am Chem Soc J 72:4433-6 O '50

Cracker catalysts. il Chem Ind W 68:16 Ja 27 '51

Cuprous oxide as a catalyst; preparation and promotion by metallic oxides. F. E. Brown and others. bibliog Am Chem Soc J 72:5602-5 D '50

Dehydrogenation of methylcyclopentane over chromia-alumina catalysts. H. Heinemann. bibliog Ind & Eng Chem 43:2098-101 S '51

Design of fixed-bed catalytic reactors. H. B. Irvin, R. W. Olson and J. M. Smith. bibliog flow sheet Chem Eng Prog 47:287-94 Je '51

Developments in the theory of cationic polymerization. P. H. Plesch. bibliog J Ap Chem 1:269-72 Je '51

Exchange between N_2^{30} and N_2^{28} over iron catalysts. J. T. Kummer and P. H. Emmett. bibliog J Chem Phys 19:289-92 Mr '51

Factors controlling aging of cracking catalysts. G. A. Mills and H. A. Shabaker. Pet Refiner 30:97-102 S '51

Fischer-Tropsch oil circulation processes. J. H. Crowell and others. bibliog il diag Ind & Eng Chem 42:2376-84 N '50

Fischer-Tropsch reaction mechanism involving stepwise growth of carbon chain. R. B. Anderson and others. bibliog J Chem Phys 19:313-19 Mr '51

Fluid catalyst-gas mixing in commercial equipment. J. W. Askins, G. P. Hinds, jr. and F. Kunreuther. diags Chem Eng Prog 47:401-4 Ag '51

Gravity separation of inactive catalyst. C. K. Viland. flow diag il Oil & Gas J 49:74-5+ N 30 '50

Hydrocarbon synthesis catalyst studies; use of deuterochloric acid. H. I. Weck, S. Meyerson and H. S. Seelig. Am Chem Soc J 73:2331-3 My '51

Hydrogen-deuterium exchange activity of silica-alumina catalysts. V. C. F. Holm and R. W. Blue. bibliog diag Ind & Eng Chem 43:501-5 F '51

Hydrogen exchange between cracking catalyst and the butanes. S. G. Hindin, G. A. Mills and A. G. Oblad. bibliog Am Chem Soc J 73:278-81 Ja '51

Hydrogen transfer over silica-alumina catalysts. R. W. Blue and C. J. Engle. bibliog Ind & Eng Chem 43:494-501 F '51

Hydrogenolysis of thiophene over vanadium oxide. V. I. Komarewsky and E. A. Knaggs. bibliog diag Ind & Eng Chem 43:1414-18 Je '51

Impurities in catalyst materials; quantitative spectroscopic analysis using alternating current spark. D. D. Harmon and R. G. Russell. bibliog Anal Chem 23:125-8 Ja '51

Interaction of Friedel-Crafts catalysts with alkyl halides and aromatic hydrocarbons. H. C. Brown, H. Pearsall and L. P. Eddy. Am Chem Soc J 72:5347 N '50

Investigation of the properties of alumina *ex*-aluminum isopropoxide as a catalyst for dehydrations. H. Adkins and S. H. Watkins. bibliog Am Chem Soc J 73:2184-8 My '51

Investigations on the mechanism of catalytic hydrogenations; studies with colloidal iridium. W. P. Dunworth and F. F. Nord. bibliog Am Chem Soc J 72:4197-8 S '50

Lower paraffin hydrocarbons; catalytic conversion by boron fluoride with hydrogen fluoride. E. C. Hughes and S. M. Darling. bibliog Ind & Eng Chem 43:746-50 Mr '51

Midget fluid catalytic cracking units. H. W. Grote, J. Hoekstra and G. T. Tobiasson. flow sheet il Ind & Eng Chem 43:545-50 F '51

New catalytic process oxidizes wastes; Du Pont oxidizes organic content to carbon dioxide and water. flow sheet Chem Eng 58:183 Je '51

New reforming catalyst; Thermofor catalytic reforming process; abstract. E. C. Hughes and others. Oil & Gas J 50:167-8 S 20 '51

Particle size analysis of fluid cracking catalysts. F. E. Ivey, jr. bibliog Pet Refiner 30:99-103 Je; 141-5 Jl; 127-32 S '51

CATALYSTS—*Continued*

Peroxides from turpentine as catalysts for 5° C. GR-S polymerization. G. S. Fisher and others. bibliog Ind & Eng Chem 43:671-4 Mr '51

Phosphomolybdic acid as a catalyst for the bulk polymerization of styrene. J. H. Day and T. A. Solak. bibliog Am Chem Soc J 73:469 Ja '51

Platinum catalysts in petroleum refining; three major types of chemical reaction. Chem Age (Lond) 64:749-50 My 12 '51

Preparation of a platinum oxide catalyst of reproducible activity. V. L. Frampton, J. D. Edwards, jr. and H. R. Henze. diag Am Chem Soc J 73:4432-4 S '51

Preparation of metals in a finely divided state for use as catalysts. W. J. C. de Kok and H. I. Waterman. J Ap Chem 1:196-8 My '51

Rate equation of ammonia-synthesis on iron-type catalysts of different composition. R. Brill. bibliog J Chem Phys 19:1047-50 Ag '51

Reactions of paraffin hydrocarbons in the presence of sulfuric acid. V. I. Komarewsky and W. E. Ruther. Am Chem Soc J 72:5501-3 D '50

Sensitized catalysts; the ascorbic acid method. H. J. Kauffmann. Am Chem Soc J 73:4311-14 S '51

Small spheres make better catalyst. il Chem Ind W 68:26-7 Ap 21 '51

Spray dryer speeds up process; Davison Chemical catalyst processing. il Chem Eng 58:186 Je '51

Studies of the Fischer-Tropsch synthesis; phase changes of iron catalysts in the synthesis. R. B. Anderson and others. Am Chem Soc J 73:944-6 Mr '51

Studies of the Fischer-Tropsch synthesis; surface area and pore volume studies of iron catalysts. W. K. Hall, W. H. Tarn and R. B. Anderson. bibliog Am Chem Soc J 72:5436-43 D '50

Study of the amount of hydrogen left on the surface of a reduced and evacuated iron synthetic ammonia catalyst. J. T. Kummer and P. H. Emmett. bibliog J Phys & Colloid Chem 55:337-46 Mr '51

Sulfur-resistant catalysts for reforming propane; method for rating catalytic activity and sulfur resistance. J. J. S. Sebastian and C. H. Riesz. bibliog flow diag Ind & Eng Chem 43:860-6 Ap '51

Technique for the study of solid-gas surface reactions; the decomposition of nitrous oxide on iron oxide-zinc oxide catalysts. L. P. Bupp and A. B. Scott. diag Am Chem Soc J 73:4422-6 S '51

Thermomagnetic investigations of promoted and unpromoted iron oxide and iron catalysts. L. R. Maxwell and others. bibliog diag J Chem Phys 19:303-9 Mr '51

Venturi flow control reduces erosive wear from catalyst; patent. diag Pet Processing 6:62 Ja '51

What are forces which determine catalytic activity? Chem & Eng N 29:3822 S 17 '51

X-ray diffraction study on the structure of the Ni-Cu coprecipitation catalysts. N. Kadota and S. Ikeda. Am Chem Soc J 73:4475-6 S '51

See also

Antioxidants
Catalysis
Enzymes
Growth promoting substances
Hormones
Nickel—Raney nickel

CATAPHORESIS. See Electrophoresis

CATCH basins

Catch-basin construction in Edmonton, Alta. E. W. Nielsen. diags Munic Util 88:35-6+ O '50

CATCH basins, Concrete

Details of precast concrete catchbasin. R. H. Ward. il diags Pub Works 82:65 F '51

CATECHOL

Bromination of catechol. M. Kohn. Am Chem Soc J 73:480 Ja '51

D-Catechol and antihistaminogenesis. S. Malkiel and M. D. Werle. bibliog il Science 114:98-9 Jl 27 '51

Colorimetric determination of molybdate with catechol. S. Seifter and B. Novic. Anal Chem 23:188-9 Ja '51

New observations on the Elbs persulphate oxidation. J. Forrest and V. Petrow. Chem Soc J p2340-2 S '50

Peculiar kinetics of color formation in glycerol-catechol condensation. S. C. Harvey and V. Higby. Am Chem Soc J 73:4472 S '51

CATERERS and catering

Hygiene in catering establishments; report of the Catering trade working party. Chem & Ind p 183-4 Mr 10 '51

CATERPILLAR tractor company

$75,000,000 in export; the sun never sets on Caterpillar. J. Q. McDonald. il Sales Management 66:42-6 Ap 1 '51

CATHETERS

Applications of nylon catheters in physiology of the circulation. J. H. Last and others. bibliog diags Science 112:719-20 D 15 '50

CATHODE followers

Balance indicator with high input impedance using a cathode follower. D. T. R. Dighton. diag J Sci Instr 28:101-2 Ap '51

Cathode-follower fallacies. P. I. Richards. R Sci Instr 21:1026 D '50

Cathode-follower input impedance; effect of capacitive load. J. E. Flood. bibliog diags Wireless Eng 28:231-9 Ag '51

Cathode-follower performance. A. J. Shimmins. diags Wireless Eng 27:289-93 D '50

Transmission line reflection doubling amplifier. J. Marshall. diags R Sci Instr 21:1010-13 D '50

CATHODE ray oscillographs. See Oscillographs, Cathode ray

CATHODE ray tubes

Adhesion of phosphors on cathode-ray screens. W. Stericker and F. Hazel. bibliog il J Phys & Colloid Chem 54:1045-53 O '50

Cathode ray tubes; hazards and accident prevention; data sheet. il Nat Safety N 62:28-9+ D '50

Characteristics of all-glass television picture bulbs. J. L. Sheldon. bibliog il diags Soc Motion Picture & Tv Eng J 56:65-74 Ja '51

Charge storage in cathode-ray tubes. C. V. Parker. bibliog il diags Inst Radio Eng Proc 39:900-7 Ag '51

Color cathode-ray tube with three phosphor bands. C. S. Szegho. il diags Soc Motion Picture & Tv Eng J 55:367-76 O '50

Correction of deflection defocusing in cathode-ray tubes. J. E. Rosenthal. Inst Radio Eng Proc 39:10-15 Ja '51

Deflection of cathode-ray tubes in sequence. G. W. Gray and A. S. Jensen. il diag RCA R 11:527-33 D '50

Design of 90° deflection picture tubes. H. W. Grossbohlin. il diags Tele-Tech 10:42-4 Ag '51

Electronic instrumentation; cathode-ray tubes as metering devices. M. H. Dunbrack and R. A. Bradbury. il diag Q S T 35:16-17 F '51

Hollow cathode for positive ion studies in cathode-ray tubes. C. H. Bachman and others. il diags J Ap Phys 22:1208-10 S '51

Improvements in large-screen television projection. T. M. C. Lance. il diags Soc Motion Picture & Tv Eng J 55:509-24 N '50

Low-reflection pictures tubes. G. S. Szegho and others. il Electronics 24:97-9 Ja '51

Metal-backed tv picture tubes. C. T. Waugh. diags Tv Eng 1:12-14 D '50

New cathode ray tube unit. Electrician 145:1242 D 1 '50

Spiral time base; magnetic and electric deflection. il diags Wireless Eng 27:224-6 Ag-S '50

Steel-glass cathode ray tube. il Elec R (Lond) 147:992 D 15 '50

Transparent reference grid for cathode-ray tube. B. M. Horton. il Instruments 23:1005 O '50

Traveling-wave cathode-ray tube. K. Owaki and others. il diags Inst Radio Eng Proc 38:1172-80 O '50; Discussion. H. E. Hollmann. 39:194-5 F '51

See also

Electron gun
Oscillographs, Cathode ray

Manufacture

Cathode ray tube factory. il Engineer 191:540-1 Ap 27 '51; Engineering 171:496-7 Ap 27 '51; Elec R (Lond) 148:831-3 Ap 27 '51; Electrician 146:1365-7 Ap 27 '51

Modern television-tube manufacture; illustrations with text. Elec Com 27:262-7 D '50

CATHODE rays

Cathode rays recommended for food, drug sterilizing. B. E. Proctor and S. A. Goldblith. Chem & Eng N 29:2818 Jl 9 '51

Effect of high-voltage cathode rays on ascorbic acid; in vitro and in situ experiments. B. E. Proctor and J. P. O'Meara. bibliog Ind & Eng Chem 43:718-21 Mr '51

Effects of cathode rays on various materials; abstract. E. J. Lawton. Science 112:420 O 13 '50

Foods sterilized by radiation are nutritious but costly. B. E. Proctor. Food Ind 23:139 Ja '51

Low-temperature sterilization of organic tissue by high-voltage cathode-ray irradiation. I. A. Meeker, jr. and R. E. Gross. bibliog Science 114:283-5 S 14 '51

Sterilizing with electrons; cathode-ray technique permits low-temperature sterilization of foods and drugs on conveyor line after packaging. J. G. Trump and B. E. Proctor il Mod Packaging 24:105-6+ Jl '51

CATHODES

Barium oxide on tungsten cathode interface. H. P. Rooksby and E. G. Steward. J Ap Phys 22:358-9 Mr '51

Boride cathodes. J. M. Lafferty. il diags J Ap Phys 22:299-309 Mr '51; Abstract. Science 112:420 O 13 '50

Deterioration of oxide-coated cathodes under low duty-factor operation. J. F. Waymouth, jr. bibliog il diags J Ap Phys 22:80-6 Ja '51

Effect of coating composition of oxide-coated cathodes on electron emission. E. G. Widell and R. A. Hellar. bibliog il J Ap Phys 21:1115-18 N '50

Electrode deterioration in transmit-receive tubes. J. C. French. diags J Res Nat Bur Stand 45:310-15 O '50

Electrokinetics of hydrogen evolution; deuterium overvoltage on mercury. B. Post and C. F. Hiskey. Am Chem Soc J 73:161-4 Ja '51

Electrokinetics of hydrogen evolution; hydrogen overvoltage on mercury. B. Post and C. F. Hiskey. bibliog diag Am Chem Soc J 72:4203-8 S '50

Emissivity changes of thoria cathodes. O. A. Weinreich. bibliog J Ap Phys 21:1272-5 D '50

Enhanced emission from magnetron cathodes. R. L. Jepsen and M. W. Muller. bibliog diags J Ap Phys 22:1196-207 S '51

Evaporation products of barium oxide from various base metals and of strontium oxide from platinum. L. T. Aldrich. bibliog diag J Ap Phys 22:1168-74 S '51

Hydrodynamics of cathode films. G. H. Keulegan. bibliog J Res Nat Bur Stand 47:156-69 S '51

Initial decay of oxide-coated cathodes. T. Hibi and K. Ishikawa. J Ap Phys 22:986-7 Jl '51

Leaky-condenser oxide cathode interface. A. Eisenstein. bibliog il diags J Ap Phys 22:138-48 F '51

Life of valves with oxide-coated cathodes. C. C. Eaglesfield. bibliog il Elec Com 28:95-102 Je '51

Magnetic mercury cathode. E. J. Center, R. C. Overbeck and D. L. Chase. bibliog il diags Anal Chem 23:1134-8 Ag '51

New experiments on the cathodic deposition of radio-elements. M. Haissinsky and A. Coche. Chem Soc J supp no 2:S397-400 '49

Nickel alloys for oxide coated cathodes. A. M. Bounds and T. H. Briggs. bibliog il diag Inst Radio Eng Proc 39:788-99 Jl '51

Optical absorption and photoconductivity in barium oxide. W. W. Tyler and R. L. Sproull. bibliog diags Phys R 83:548-55 Ag 1 '51

Oxide cathode base metal studies; influence of magnesium in cathode nickel on the thermionic performance. R. Forman and G. F. Rouse. bibliog il diags J Res Nat Bur Stand 46:30-7 Ja '51

Photoconductivity of composite photoemissive cathodes. S. Pakswer and W. O. Reed. J Ap Phys 22:987-8 Jl '51

Poisoning of oxide cathodes by atmospheric sulfur. H. A. Stahl. Inst Radio Eng Proc 39:193 F '51

Refractory cermets. L. J. Cronin. bibliog diags Am Cer Soc Bul 30:234-8 Jl 15 '51

Role of current distribution in cathodic protection. H. D. Holler. bibliog diags J Res Nat Bur Stand 47:1-6 Jl '51

Secondary-emitting surfaces in the presence of oxide-coated cathodes. S. Nevin and H. Salinger. bibliog diags Inst Radio Eng Proc 39:191-3 F '51; Same. Elec Com 28:103-5 Je '51

Study of oxide-coated cathode by X-ray diffraction method. E. Yamaka. il J Ap Phys 22:1087-8 Ag '51

Thermionic emission from (Ba-Sr)O cathodes illuminated by the incandescent lamp. T. Hibi and K. Ishikawa. Phys R 83:659-60 Ag 1 '51

Thoria as a cathode emitter. W. E. Danforth. Franklin Inst J 251:515-20 My '51

CATHODIC protection. See Electric cables—Protection; Metal protection; Petroleum pipe lines—Protection; Pipe lines—Protection; Steel—Cathodic protection

CATHODOLUMINESCENCE. See Luminescence

CATIONS

Analysis of inorganic compounds by paper chromatography; a scheme for the qualitative analysis of an unknown mixture of cations. F. H. Pollard, J. F. W. McOmie and H. M. Stevens. Chem Soc J p771-4 Mr '51

Analysis of inorganic compounds by paper chromatography; an extended scheme for the qualitative analysis of an unknown mixture of cations. F. H. Pollard, J. F. W. McOmie and H. M. Stevens. Chem Soc J p 1863-5 Jl '51

Analysis of inorganic compounds by paper chromatography; analysis of cations and anions. F. H. Pollard, J. F. W. McOmie and I. I. M. Elbeih. Chem Soc J p470-4 F '51

Analysis of inorganic compounds by paper chromatography; movement of cations with complex-forming solvent mixtures. F. H. Pollard, J. F. W. McOmie and I. I. M. Elbeih. Chem Soc J p466-70 F '51

Influence of electrolytes on pulp and paper properties. W. E. Cohen and others. bibliog diags Paper Tr J 132:19-20+ Je 22 '51

Role of the cation in the electrical double layer. D. C. Grahame. bibliog Electrochem Soc J 98:343-50 S '51

CATTIER, Jean

Labor man takes over from diplomat-financier in western Germany. por Bsns W p42 Jl 14 '51

CATTLE

Effect on calves of prolonged oral administration of three potential molluscacides. J. R. Herdt and others. Pub Health Rep 66:1313-17 O 12 '51

See also

Ranches

Diseases and pests

Copper molybdenum relationships in disorders of ruminants; abstract and discussion. H. H. Green and R. Allcroft. Chem & Ind p 125-6 F 17 '51

Q fever studies in southern California; aureomycin treatment of dairy cattle naturally infected with coxiella burnetii. L. Luoto and others. bibliog Pub Health Rep 66:199-204 F 16 '51

Tracer experiments with radioactive dicumarol. L. B. Jaques and others. Can Chem & Process Ind 34:821-3 O '50

CATTLE breeding

Breeding ranches; traditionally a good investment. P. C. Raborg. Barron's 31:15 Ja 22 '51

Santa Gertrudis; a lot of beef. il Fortune 43:96-8+ My '51

CATTLE industry and trade

Beef raisers; rising land prices may yet pinch breeders. P. C. Raborg. Barron's 31:7+ Jl 2 '51

Finance

Cattle feeder financing. D. E. Crouley. Banking 44:58-9 Jl '51

Southern states

Dollars on the hoof; southern income raising potentiality. C. R. Walker. Manuf Rec 120:38 Jl '51

CAUCHY-RIEMANN integrals. See Integrals

CAUSALGIA

Treatment of causalgia and allied disorders in employed persons. B. B. Whitcomb. bibliog Ind Med 19:519-22 N '50

CAUSEWAYS

Causeways recommended for Canso Strait crossing instead of low-level bridge; with cost data. D. H. Ellis and others. il maps diags Roads & Eng Constr 89:65-8+ Jl '51

Is a causeway the solution for the Strait of Canso problem? editorial. Roads & Eng Constr 89:33+ S '51

CAVENTOU, Joseph, 1795-1877

Joseph Pelletier and Joseph Caventou. M. Delépine. bibliog pors J Chem Educ 28: 454-61 S '51

CAVES

See also

Carlsbad caverns

CAVITATION

Cavitation in ultrasonic depolymerization. A. Weissler. bibliog Acoustical Soc Am J 23: 370 My '51

Chemical effects produced by ultrasonic waves. O. Lindström and O. Lamm. bibliog diag J Phys & Colloid Chem 55:1139-46 O '51

Gas evolution in liquids and cavitation. P. H. Schweitzer and V. G. Szebehely. diags J Ap Phys 21:1218-24 D '50

Physical factors involved in ultrasonically induced changes in living systems; amplitude duration relations and the effect of hydrostatic pressure for nerve tissue. W. J. Fry and others. diag Acoustical Soc Am J 23:364-8 My '51

Some effects of cavitation near 30 cps. W. H. Pielemeier. bibliog il diag Acoustical Soc Am J 23:224-8 Mr '51

CEDAR

Cedar timber construction system cuts labor and material costs; Apex Easy-Bild lumber. il Arch Forum 94:232+ Je '51

Cedar waste cleans boilers. il Chem Ind W 68:28 F 17 '51

Methyl ester of dehydroperillic acid, an odoriferous constituent of western red cedar (thuja plicata). E. F. Kurth. Am Chem Soc J 72:5778-9 D '50

Production of insulating fibreboard from western red cedar shingle mill waste. F. W. King and F. Bender. il Pulp & Pa of Can 52:75-9 Ja '51

CEILINGS

Conductive rubber element furnishes electrical heat in radiant ceiling panels; Uskon system. il Am Bld 73:208+ Je '51

Electric ceiling panels heat floor added to building. il plan Heating-Piping 23:129-31 Ja '51

Flexible corrugated ceiling. il Mod Plastics 29:83 S '51

Flexible factory; Upjohns Kalamazoo plant has integrated ceiling. il plan diag Arch Forum 94:150-3 Ap '51

How to design your luminous ceilings. P. Moon and D. E. Spencer. il Illum Eng 46: 295-8 Je '51

Hung fireproofing; ceilings of lightweight aggregate plaster. il diags Arch Forum 95: 184 Ag '51

Laboratory studies of the thermal characteristics of plaster panels. C. M. Humphreys and others. il diags Heating-Piping 23:127-32 Jl '51

Luminous ceiling control room. A. A. Brainerd. il Illum Eng 46:39-40 Ja '51

Luminous ceiling lighting for a machine shop. D. E. Spencer and others. bibliog il diag Illum Eng 46:26-8 Ja '51

Luminous ceiling new in lighting; Saks Fifth Avenue fabric shop in Beverly Hills. il Elec West 106:83 Ap '51

Luminous ceilings for offices. R. C. Putnam. il diags Illum Eng 46:410-12 Ag '51

Quick new interiors with insulation board. il diags Am Bld 72:90-3 N '50

CEILINGS, Aluminum

Acoustic pan ceiling can be custom engineered for panel heating and cooling. il diag Arch Forum 94:186+ My '51

Aluminum ceiling panels for heating and cooling. E. S. Howarth and others. il diags Heating-Piping 23:125-33 S '51; Same abr. Heat & Ven 48:71 S '51

Multi-purpose suspended ceiling combines radiant heating with acoustical control and ventilation. diag Arch Rec 109:204 My '51

New-type suspended acoustical ceiling. il Am Bld 73:178 Mr '51

Panel cooling planned for two buildings; illustration with text. Arch Rec 109:146 Mr '51

Suspended acoustic ceiling uses new fiberglas board. il diag Arch Forum 95:270 S '51

CELANESE corporation of America

Celanese corporation of America; description of activities. il Pulp & Pa of Can 52:123-4 Je '51; Paper Ind 33:517 Ag '51

Celanese preferred; as a fiber and as an investment. I. U. Cobleigh. Comm & Fin Chr 173:2246 My 31 '51

Investment audit. H. F. Travis. Mag of Wall St 88:140-2+ My 5 '51

Preferred stock offering. Comm & Fin Chr 173:1578 Ap 16 '51

Security I like best. C. J. Collins. Comm & Fin Chr 173:1530+ Ap 12 '51

CELERY

Automatic stretch wrapping of celery stalks. il Mod Packaging 24:102 Jl '51

CELESTINE. See Celestite

CELESTITE

Celestine and strontianite. L. Sanderson. Can Min J 72:69-70 Mr '51

CELITE

Experimental study of chromatography on silicic acid-celite; the applicability of the theory of chromatography. K. N. Trueblood and E. W. Malmberg. bibliog Am Chem Soc J 72:4112-24 S '50

CELL biology, International society for. See International society for cell biology

CELL division (biology)

Relation between the constitution of arsenicals and their action on cell division. H. King and R. J. Ludford. Chem Soc J p2086-8 Ag '50

CELLOBOARD. See Fiber board

CELLOPHANE

Sunsweet and K-202; saran-coated cellophane provides visible package for dried fruit. T. A. Schwarz. il Mod Packaging 24:122-5+ Ap '51

Viscoelastic properties of several high polymers. M. Horio and others. bibliog diag J Ap Phys 22:966-70 Jl '51

CELLOSOLVE

Azeotropes of 2-ethoxyethanol with alkyl benzenes. W. F. Kieffer and C. E. Grabiel. bibliog Ind & Eng Chem 43:973-5 Ap '51

CELLS

Critical evaluation of quantitative histo- and cytochemical microscopic techniques. D. Glick and others. bibliog Science 114:253-8 S 7 '51

Microspectrophotometry and cytochemical analysis of nucleic acids. H. Naora. bibliog diags Science 114:279-80 S 14 '51

New developments in potassium and cell physiology, 1940-50. C. W. Sheppard. bibliog Science 114:85-91 Jl 27 '51

Quantitative cell morphology; abstract. P. Weiss and B. Garber. Science 113:476 Ap 27 '51

Radiation sensitivity of cells. Chem & Eng N 29:3815-16 S 17 '51

Selective damage to fibroblasts by desoxycorticosterone in cultures of mixed tissues. I. Cornman. bibliog il Science 113:37-9 Ja 12 '51

Study of grinding techniques for bacterial cells. W. B. Dockstader and H. O. Halvorson. Science 112:618-20 N 24 '50

Vibrating plate transducers for frequency studies of the breakdown rate of biological cells. E. Ackerman. diags R Sci Instr 22: 649-51 Ag '51

Viruses. F. M. Burnet. il Sci Am 184:43-51 My '51

See also

Chromatophores

Chromosomes

Mitochondria

Osmosis

Phagocytosis

Plant cells and tissues

CELLULAR glass. See Glass, Cellular

CELLULAR plastic materials. See Plastic materials, Cellular

CELLULOID

Viscoelastic properties of several high polymers. M. Horio and others. bibliog diag J Ap Phys 22:966-70 Jl '51

CELLULOSE

Absorption spectra of some cellulose derivatives in the 3-μ region. L. Brown, P. Holliday and I. F. Trotter. Chem Soc J p 1532-9 Je '51

Accessibility of cellulose. H. Tarkow. bibliog Tappi 33:595-9 D '50

Accessibility of cellulose by formic acid esterification. R. F. Nickerson. bibliog Textile Res J 21:195-202 Ap '51

Acidic properties of cotton cellulose and derived oxycelluloses; ion-exchange reactions with basic dyes. G. F. Davidson. bibliog Textile Inst J Trans 41:T361-80 O '50

A.C.S. Division of cellulose chemistry jubilee meeting, New York. Chem & Eng N 29:3816-17 S 17 '51

Bound water and hydration. A. J. Stamm. bibliog diag Tappi 33:435-9 S '50; Same. Pulp & Pa of Can 51:90-3 S '50

Cellulose manufacture; motor driving and pumping. il Elec R (Lond) 148:1219-21 Je 8 '51

Chain length and chain-length distribution of wood cellulose as compared with cotton. E. Heuser and L. Jörgensen. bibliog Tappi 34:57-67 F '51

Chemical progress during the 75 years of the American chemical society; cellulose chemistry. W. O. Kenyon. bibliog il Ind & Eng Chem 43:820-30 Ap '51

Chemistry of cellulose and wood. I. B. Douglas. bibliog Paper Tr J 131:99-100+ N 30 '50

Compressibility of natural and synthetic high polymers at high pressures. C. E. Weir. bibliog J Res Nat Bur Stand 46:207-12 Mr '51

Copper numbers of methanolyzed celluloses. E. Pacsu. Textile Res J 21:289 My '51

Degradation of cellulose during mechanical processing; action of beaters on cotton. J. C. Whitwell and others. bibliog flow sheet Textile Res J 21:556-64 Ag '51

Degradation rate of cellulosic pulps. R. L. Mitchell. bibliog Ind & Eng Chem 43:1786-9 Ag '51

Degree of polymerisation of cellulose; causes of errors in determination by the viscosimetric method. A. Parisot and J. Cyrot. bibliog diags Textile Inst J 42:P783-95; Discussion. P795-7 Ag '51

Dual dependence on substitution and molecular weight overcome. diags Chem & Eng N 29:1497-8 Ap 16 '51

Effect of changes in crystalline structure on the infrared absorption spectrum of cellulose. F. H. Forziati and J. W. Rowen. bibliog J Res Nat Bur Stand 46:38-42 Ja '51

Effect of drying and heating on the swelling of cellulose fibers and paper strength. L. M. Lyne and W. Gallay. bibliog Tappi 33:429-35 S '50; Same. Pulp & Pa of Can 51:129-34 S '50

Electrophoretic migration of cellulose in cupriethylenediamine solution. M. E. Adams, M. L. Karon and R. E. Reeves. Am Chem Soc J 73:2350-1 My '51

Experiments on the reduction of the crystallinity of cotton cellulose. L. Segal, M. L. Nelson and C. M. Conrad. bibliog il J Phys & Colloid Chem 55:325-36 Mr '51

Factors which influence the kinetics of cellulose reactions. E. Heuser. bibliog Textile Res J 20:828-37 D '50

Heterogeneous methanolysis of native and mercerized cotton cellulose. R. E. Reeves, L. W. Mazzeno, jr. and C. L. Hoffpauir. bibliog Am Chem Soc J 72:4773-7 O '50

Measurement and significance of swelling of cellulose fibers. W. Gallay. bibliog Tappi 33:425-9 S '50; Same. Pulp & Pa of Can 51:115-19 S '50

Mechanism of the hydrolytic cleavage of the interunit bonds in the cellulose molecule. G. Beall and L. Jörgensen. bibliog Textile Res J 21:203-14 Ap '51

Moisture relationships of cellulose; the heats of wetting of partially saturated viscose rayon and standard cellulose in water. M. Wahba. bibliog diags J Phys & Colloid Chem 54:1148-60 N '50

New color reaction of cationic soaps and its application to studies of their interactions with cellulose fibers. J. A. Hart and E. W. Lee. Tappi 34:77-9 F '51

New construction-formula for cellulose as a work-hypothesis. A. Cmentak. diags Paper Tr J 132:18+ Ap 13 '51

Now look at three; Tennessee Eastman corp. adds new water-soluble cellulosic, sodium cellulose sulfate. il Chem Ind 67:555-6 O '50

Oxidation of cellulose by chromium trioxide; new method for determining accessibility. R. E. Glegg. bibliog Textile Res J 21:143-8 Mr '51

Plant cell-wall constituents; International congress of pure and applied chemistry section meeting. Chem & Eng N 29:3975-6 S 24 '51

Proportion of water-accessible and nonaccessible cellulose in wood pulps as affected by beating. S. I. Bergman and M. M. Johnson. Tappi 33:586-7 D '50

Quantitative evaluation of small-angle X-ray scattering by various cellulose fibers for the determination of crystallite size with special reference to the problem of interparticle interference. A. N. J. Heyn. il Am Chem Soc J 72:5768-70 D '50

Reaction between methanol and hydrogen chloride at 0° C in the degradation of cellulose. R. E. Reeves and others. Textile Res J 21:81-2 F '51

Reaction of acrylonitrile with macromolecular hydroxy substances; general survey of the reaction. J. H. MacGregor. bibliog Soc Dyers & Col J 67:66-73 F '51

Reactivity of cellulose to acetylation; abstract. K. Borgin. diag Paper Ind 33:545 Ag '51

Relation between the viscosity and concentration of cellulose solutions in cuprammonium; and the calculation of the intrinsic viscosity of cellulose. M. A. Calvert and D. A. Clibbens. bibliog Textile Inst J Trans 42:T211-34 Je '51

Separation of α-amino acids on powdered cellulose columns. S. Blackburn. Chem & Ind p294-5 Ap 14 '51

Sodium cellulose sulphate. Chem Eng 57:198+ N '50

Some effects of high velocity electrons on wood. E. J. Lawton and others. Science 113:380-2 Ap 6 '51

Some new concepts in the structure of cellulose and its derivatives. F. Happey. bibliog il diags Textile Inst J Trans 41:T381-403 O '50

Spectrophotometric evidence for the absence of free aldehyde groups in periodate-oxidized cellulose. J. W. Rowen, F. H. Forziati and R. E. Reeves. bibliog Am Chem Soc J 73:4484-7 S '51

Structure and mechanical behavior of cellulose fibers. P. Herrent and A. Lude. diags Textile Res J 21:137-43 Mr '51

Structure of cellulose fibres; abstract. B. A. Tonnesen. Paper Tr J 132:26 Ap 6 '51

Studies on modified cellulose; alkali stability of oxidized, hydrolyzed, and methanolized celluloses. A. Meller. bibliog(52 titles) Tappi 34:171-9 Ap '51

Surface area of porous adsorbents. Ying Fu and F. E. Bartell. bibliog J Phys & Colloid Chem 55:662-75 My '51

Synthesis of acid-soluble derivatives of cellulose. D. S. Breslow. bibliog Am Chem Soc J 72:4244-6 S '50

System cellulose-sodium hydroxide-water; determination of the ionization constant of cellulose. J. B. Calkin. bibliog Tappi 34: sup 108A-12A S '51

Thermophilic fermentation of cellulosic and lignocellulosic materials. G. J. Hajny, C. H. Gardner and G. J. Ritter. bibliog Ind & Eng Chem 43:1384-9 Je '51

Toward a referee viscosity method for cellulose. A. F. Martin. Tappi 34:363-6 Ag '51

X-ray study of the soda-celluloses of jute treated with caustic soda at room temperature. R. R. Mukherjee and H. J. Woods. bibliog il Textile Inst J Trans 41:T422-8 N '50

CELLULOSE—*Continued*

X-ray study of the transition from water-cellulose to cellulose II in ramie, jute and sisal. R. R. Mukherjee and H. J. Woods. Textile Inst J Trans 42:T309-13 Jl-Ag '51

See also

Cotton
Ethyl cellulose
Hemicellulose
Hydroxyethyl cellulose
Lignin
Methyl cellulose
Rayon
Viscose

Analysis

Fractionation of cellulose by summative method. S. Coppick, O. A. Battista and M. R. Lytton. bibliog Ind & Eng Chem 42:2533-8 D '50

Glycosidic methoxyl groups in methanolyzed cellulose. R. E. Reeves and others. Textile Res J 21:78-81 F '51; Discussion (Nature of the methoxyl groups in methanolyzed celluloses). E. Pacsu. bibliog 21:289-92 My '51

Levulinic acid from wood cellulose. T. R. Frost and E. F. Kurth. diags Tappi 34:80-6 F '51

Quantitative application of the Kiliani reaction. V. L. Frampton and others. bibliog diag Anal Chem 23:1244-7 S '51

Rapid dispersion of cellulose in cupriethylenediamine. C. H. Lindsley. Textile Res J 21:286-7 My '51

Spectrophotometric determination of carboxyl in cellulose. F. H. Forziati and others. bibliog J Res Nat Bur Stand 46:288-91 Ap '51

See also

Cotton—Analysis

CELLULOSE acetate

Cellulose acetate printing; with methylcellulose thickener and strongly alcoholic solutions; patent. Am Dyestuff Rep 40:64-5 Ja 22 '51

Ester samples with narrow viscosity and acyl ranges isolated by cross fractionation; abstract. A. J. Rosenthal. diags Chem & Eng N 29:1497-8 Ap 16 '51

Sedimentation equilibria of polydisperse nonideal solutes; association in dilute cellulose acetate solutions. M. Wales and D. L. Swanson. bibliog J Phys & Colloid Chem 55:203-10 F '51

Solubility and structure of cellulose acetates. F. Howlett and A. R. Urquhart. bibliog Chem & Ind p82-7 F 3 '51

Structural orientation in cellulose acetate filaments and its relation to the dichroism of adsorbed dyes. D. R. Morey and E. V. Martin. bibliog il diag Textile Res J 21:607-20 S '51

Viscoelastic properties of several high polymers. M. Horio and others. bibliog diag J Ap Phys 22:966-70 Jl '51

Advertising

It takes new ideas to sell anything, especially an old product; Hercules cellulose acetate campaign. G. H. Daly. il Ptr Ink 234:39-40+ Mr 2 '51

Manufacture

Recovery and concentration of acetic acid in cellulose acetate manufacture; abstract and discussion. W. F. Hastie. Chem & Ind p71 Ja 27 '51

CELLULOSE acetate butyrate

Cellulose acetate butyrate melt casting. C. J. Malm, O. W. Kaul and G. D. Hiatt. bibliog il Ind & Eng Chem 43:1094-8 My '51

Ultraviolet inhibitors for cellulose acetate-butyrate plastics; phenyl hydroxybenzoates, hydroxyphenyl benzoates, and their methyl ethers. L. W. A. Meyer and W. M. Gearhart. bibliog il Ind & Eng Chem 43:1585-91 Jl '51

See also

Tenite

CELLULOSE acetate propionate

Film-forming properties of cellulose acetate propionates; effect of solvents, diluents, and plasticizers. A. G. Roberts and S. G. Weissberg. bibliog Ind & Eng Chem 43:2088-98 S '51

CELLULOSE esters

Aliphatic acid esters of cellulose. C. J. Malm and others. bibliog Ind & Eng Chem 43:684-91 Mr '51

Melting and glassy state transitions in cellulose esters and their mixtures with diluents. L. Mandelkern and P. J. Flory. bibliog Am Chem Soc J 73:3206-12 Jl '51

CELLULOSE ethers

Application of cellulose ethers to textiles on a laboratory scale; abstract. N. Lakshminarayanaiah. Am Dyestuff Rep 39:805 N 27 '50

Dyeing nonsubstantive dyes; dispersed in cellulose ethers; patent. Am Dyestuff Rep 40:372 Je 11 '51

CELLULOSE xanthate

Configuration and structure of cellulose xanthate. C. Chen and others. bibliog Tappi 34:420-7 S '51

CELLULOSE zincate

Cellulose zincate solutions; chloroaliphatic compounds added; patent. Am Dyestuff Rep 40:371-2 Je 11 '51

CELOTEX

Advertising

If you want to sell the farmer, show him proof of profit. H. W. Collins. il Sales Management 66:76+ Je 15 '51

CELSIAN

High-temperature modification of barium feldspar. B. Yoshiki and K. Matsumoto. il Am Cer Soc J 34:283-6 S 1 '51

CEMENT

Alkali-aggregate expansion corrected with portland-slag cement. F. Barona de la O. bibliog il Am Concrete Inst J 22:545-52 Mr '51

Coarse-ground cement makes more durable concrete. H. W. Brewer and R. W. Burrows. il Am Concrete Inst J 22:353-60 Ja '51; Discussion. 23:360^{1}-360^{12} pt 2 D '51

Comments on "imaginative" cement and concrete chemistry. N. C. Rockwood. Rock Prod 54:83-5+ My '51; Reply. D. W. Lewis. 54;90+ Jl '51

Influence of cement particle size on strength of concrete. bibliog diag Rock Prod 54:88-92 My '51

Physical properties of gel-cement. D. K. Smith. il Pet Eng 23:B7-12+ Ap '51

Ready mixed industry asks reconsideration of cement allocation. Concrete 58:15 N '50

See also

Cements
Concrete
Grouting
Petroleum—Well cementing and plugging

Analysis

Hydration products formed in cement pastes at 25 to 175 C. G. L. Kalousek and M. Adams. bibliog Am Concrete Inst J 23:77-90 S '51

Identification of dehydrated gypsum in portland cement. J. L. Gilliland. bibliog il Am Concrete Inst J 22:809-20 Je '51

Expansion and contraction

Measurement of cement specimen lengths; optical method. A. Beitlich. diags Rock Prod 54:138+ Je '51

Hydration

Hydration products formed in cement pastes at 25 to 175 C. G. L. Kalousek and M. Adams. bibliog Am Concrete Inst J 23:77-90 S '51

Study of the determination of the heat of hydration of portland cement. E. S. Newman. bibliog J Res Nat Bur Stand 45:411-17 N '50

Manufacture

Air blending of materials for dry process kiln feed; Fluxo homogenizer. N. Nielsen. il diags Rock Prod 54:158-9+ Ag '51

Cement mill rebuilt and converted from wet to dry process; Lehigh portland cement co. B. Nordberg. il diags Rock Prod 54:144-52 Ag '51

Compartment mill performance; tr. by B. M. Pearson. W. Anselm. diag Rock Prod 54:106-7 Mr '51

Cooling rate of clinker. B. M. Pearson. Rock Prod 53:86-9+ S '50; Discussion. 53:130+ D '50

False set in portland cement. R. F. Blanks and J. L. Gilliland. bibliog il Am Concrete Inst J 22:517-32 Mr '51

CEMENT—Manufacture—*Continued*

Lone Star's new Virginia plant sets high operating standards. B. Nordberg. il plan diags Rock Prod 54:112-26 Ag '51

Missouri portland cement co.'s new wet process plant. L. A. Wagner. il plan diags Rock Prod 54:127-35 Ag '51

Modern cement manufacture. il Elec R (Lond) 149:111-17 Jl 20 '51

Wet vs. dry process. S. Gottlieb. Rock Prod 53:75+ N '50

Testing

Effects of sodium chloride on setting properties of oil-well cements. N. C. Ludwig. bibliog Oil & Gas J 50:125-6+ My 24 '51

False set in portland cement. R. F. Blanks and J. L. Gilliland. bibliog il Am Concrete Inst J 22:517-32 Mr '51

Long-time study of cement performance in concrete; New York test road. F. H. Jackson and I. L. Tyler. il map diags Am Concrete Inst J 22:773-96 Je '51; Discussion. 23:796^1-796^4 pt 2 D '51

Sulfate susceptibility test; National bureau of standards. Rock Prod 54:154-5 Je '51

CEMENT, Effect of sulfates on

Rapid test measures cement's sulfate susceptibility; National bureau of standards report; abstracts. Concrete 58:26 N '50; Rock Prod 54:154-5 Je '51

CEMENT, Effect of sulfuric acid on

Corrosion of cement-bonded sewer pipes by acid and alkaline solutions. H. F. Ludwig and R. G. Ludwig. il Water & Sewage Works 98:404-7 S '51

CEMENT, Refractory

Manufacture and use of fireclay grog refractories. R. R. West and W. J. Sutton. bibliog Am Cer Soc Bul 30:35-40 F 15 '51

CEMENT clinkers

Cooling rate of clinker. B. M. Pearson. Rock Prod 53:86-9+ S '50; Discussion. 53:130+ D '50

CEMENT dust

Calaveras cement co. dust suit. W. W. Mein, jr. il Min Eng 3:Trans 534-6 Je '51

CEMENT handling

Conveying bulk cement by pump; V. Paturzo bros. & son, inc. W. B. Lenhart. il Rock Prod 54:175-9 Je '51

Machine empties cement sacks at C. J. Strike hydroelectric development. il Constr Methods 33:59+ S '51

CEMENT industry and trade

Cement industry's expansion program summarized. B. Nordberg. il Rock Prod 54:84-93+ Ja '51

Cement production overseas. Rock Prod 54:9 Jl '51

Cement shows spot shortages. Bsns W p56 N 11 '50

Labor-management relations in the cement industry. A. Bercowitz. Mo Labor R 72:17-21 Ja '51

Shipments pass output; cement stocks shrink. Eng N 145:24 N 23 '50

Directories

Directory of materials; cement, mortar, putty for chemical manufacture. Chem Eng 57:149-51 N '50

Finance

Cement makers expected to set new output record; with financial data, first six months, 1951. M. W. Schwarz. Barron's 31:20 O 8 '51

Securities

Outlook for cement industry; with statistical data on selected companies. H. S. Coffin. Mag of Wall St 87:283-5+ D 16 '50

Canada

New cement producing facilities in Canada. Concrete 59:38 Ja '51

Great Britain

Associated portland cement manufacturers; statement by the chairman. C. Earle. Economist 160:1137 My 12 '51

Expanding cement output. Economist 161:237 Jl 28 '51

Tunnel portland cement co.: statement by the chairman. N. M. Jensen. Economist 161:424-5 Ag 18 '51

Greece

Production of cement in Greece. A. B. Bekiaris. il Rock Prod 54:86-8+ S '51

India

Cement plants in India increase capacity. E. B. Mogensen. il Rock Prod 53:131+ D '50

Southern states

Cement, paper industries emphasize southern expansion. S. Fish. il Manuf Rec 120:36-7 S '51

Venezuela

New wet process mill in Venezuela. H. Thielen. il plan Rock Prod 54:169-72 Ag '51

Raw grinding in Venezuela plant. V. A. Aagaard. il Rock Prod 53:60-1 N '50

CEMENT kilns

Evaluation and development of kiln efficiencies. V. J. Azbe. diags Rock Prod 54:161-4+ Ag; 71-4 S '51

Heat efficiencies compared. Rock Prod 54:107 Mr '51

CEMENT-lined pipe

Cement lining cast iron and steel fittings. M. J. Shelton. il Pub Works 82:46-7 F '51

Internal pipe coating techniques. J. K. Alfred. diags Pet Eng 23:D30-4 Ja '51; Same. World Oil 132:183-4+ Ja '51; Same. Oil & Gas J 49:272-4 N 18 '50

Leaky sewers salvaged; saving pocketed. il Eng N 146:28-9 Je 28 '51

CEMENT plants

Calaveras cement co. dust suit. W. W. Mein, jr. il Min Eng 3:Trans 534-6 Je '51

Lone Star Cement builds two new plants. Concrete 59:9 Mr '51

Lone Star plant boosts cement capacity. Eng N 146:26 Je 7 '51

Million barrel cement plant under construction; Marquette cement manufacturing co. il Midwest Eng 3:17 Ap '51

Electric equipment

Modern cement manufacture. il Elec R (Lond) 149:111-17 Jl 20 '51

Employees

Company pension plan problems; case of Ideal cement co. N. C. Rockwood. Rock Prod 54:67+ Ja '51

Employers' illegal activities in fight between rival unions. N. C. Rockwood. Rock Prod 54:51+ S '51

Labor-management relations in the cement industry. A. Bercowitz. Mo Labor R 72:17-21 Ja '51

Marquette's public relations program; Marquette cement manufacturing co. H. C. Persons. il Rock Prod 54:136-43 Ag '51

Equipment

Cement mill rebuilt and converted from wet to dry process; Lehigh portland cement co. B. Nordberg. il diags Rock Prod 54:144-52 Ag '51

Huron's program to increase cement production. B. Nordberg. il plan diags Rock Prod 54:94-101+ Ja '51

Lone Star's new Virginia plant sets high operating standards. B. Nordberg. il plan diags Rock Prod 54:112-26 Ag '51

Maintenance reduced by air impact tools. il Rock Prod 54:160+ Ag '51

Medusa's current expansion program and summaries of other expansion programs. B. Nordberg. il Rock Prod 54:106-7 Je '51

Missouri portland cement co.'s new wet process plant. L. A. Wagner. il plan diags Rock Prod 54:127-35 Ag '51

New wet process mill in Venezuela. H. Thielen. il plan Rock Prod 54:169-72 Ag '51

Production of cement in Greece. A. B. Bekiaris. il Rock Prod 54:86-8+ S '51

Raw grinding in Venezuela plant. V. A. Aagaard. il Rock Prod 53:60-1 N '50

Shoreham cement works. il diags Engineer 192:122-6 Jl 27 '51; Engineering 172:97-101, pl 7-9 Jl 27 '51

See also

Cement kilns

CEMENT plants—*Continued*

Power

Dewey modernizes electrical distribution system; Dewey portland cement co. C. E. Kietzman. il plan Rock Prod 54:165-8 Ag '51

Halliburton cement plant powered by four dual-fuel engines. il Diesel Power 29:70-2 Je '51; Same. Power Eng 55:60-2 S '51; Abstract. Mill & Factory 48:111 Je '51

CEMENT research

Hydration products formed in cement pastes at 25 to 175 C. G. L. Kalousek and M. Adams. bibliog Am Concrete Inst J 23:77-90 S '51

Japan Cement engineering association 5th annual meeting, Tokyo, May 13-18; abstracts of papers. Rock Prod 54:98+ S '51

CEMENT roofs. See Roofs, Cement

CEMENTITE

Mode of transition from Hägg iron carbide to cementite. E. M. Cohn and L. J. E. Hofer. bibliog Am Chem Soc J 72:4662-4 O '50

CEMENTS

Chemical engineering materials of construction. C. R. Payne. il Ind & Eng Chem 43:2203-7, 2286-7 bibliog(105 ref, p2206-7) O '51

Chrysler paper-wall plant with bonded aluminum-paper panels. Bsns W p91 N 11 '50

Construction materials in the paper industry; acid pulping. R. B. Seymour. Chem Eng 57:226+ D '50

Corrosion-proof cements extend pickling tank life. C. F. Sauereisen. il diags Iron Age 168:66-8 Ag 23 '51

Corrosion-resistant cements; use of furfuryl-alcohol resins. il Mod Plastics 28:150-1 My '51

Improved corrosion resistant cements have many new applications. C. R. Simmons. il Materials & Methods 33:81 Je '51

New cement for gelatine light filters; Piccolyte WW 100. J. W. Nicholas and F. F. Pollak. J Sci Instr 28:23-4 Ja '51

Swell thread cement. il Westinghouse Eng 11:168 S '51

See also

Adhesives

CENSORSHIP

Censorship with a sting; federal agencies get right to "classify" information. Bsns W p 140+ S 29 '51

Clear, reasonable censorship. J. G. Lucas. Ed & Pub 84:14 F 3 '51

Editors use publicity to beat local censors. Ed & Pub 84:22 Ja 13 '51

8th army censors subject press to court-martial; with text of 8th army censorship rules. Ed & Pub 84:7-9 Ja 13 '51

How to clear security restrictions for your industrial advertising. I. R. Ogilvie. Ind Marketing 36:44+ Ap '51

Press demanded censorship. D. MacArthur Ed & Pub 84:7 Ja 20 '51

Rivalry forced strict rules. M. P. Echols. Ed & Pub 84:48a Ja 20 '51

Spain bases censorship on Atlantic City pact. H. E. Knoblaugh. Ed & Pub 84:13 Mr 31 '51

Too much secrecy. Fortune 43:65 Mr '51

War censorship program upheld. M. P. Echols. Ed & Pub 84:11 F 3 '51

CENSUS

Canada

New Canadian census adds business data. Barron's 31:14 Ap 23 '51

Great Britain

Census of 1951; notes on some of the more important figures. Economist 161:143-4 Jl 21 '51

Poland

Some points from Poland's census. Economist 160:1307 Je 2 '51

United States

Evaluation of census tracts. R. M. Cunningham. J Marketing 15:463-70 Ap '51

Source of bias in one of the samples of the 1950 census. P. O. Steiner. Am Stat Assn J 46:110-13 Mr '51

CENTERING (machine work)

Device aids accurate center punching. il Iron Age 167:113 Mr 1 '51

V-block indicator centers work under cutter. N. Arakawa. diags Am Mach 95:169 F 19 '51

CENTRAL Arizona light and power company

Prospects brighter. Barron's 30:14 O 23 '50

CENTRAL Eureka mining company

Gold mine beats price control. il Bsns W p 102-3+ Je 9 '51

CENTRAL foundry company

Five low-priced speculative stocks. Mag of Wall St 87:608 Mr 10 '51

CENTRAL Illinois electric and gas company

Preferred stock offered. Comm & Fin Chr 173:1374 Ap 2 '51

CENTRAL Illinois light company

Stock offered. Comm & Fin Chr 173:858-9 F 26 '51

CENTRAL Illinois public service company

Debentures offered. Comm & Fin Chr 172:2218 D 11 '50

Public utility securities. O. Ely. Comm & Fin Chr 173:2583 Je 21 '51

Stock subscription. Comm & Fin Chr 173:474 Ja 29 '51

CENTRAL Maine power company

Public utility securities. O. Ely. Comm & Fin Chr 173:2369 Je 7 '51

CENTRAL of Georgia railway

Ben J. Tarbutton assumes presidency. Ry Age 130:120 F 12 '51

CENTRAL power and light company

Bonds offered. Comm & Fin Chr 172:2118 D 4 '50

CENTRAL railroad of New Jersey

Jersey Central busy paying off debt. Barron's 31:17-18 My 21 '51

CENTRAL soya company

Latest stock dividend points up growth. Barron's 30:17 O 30 '50

Security I like best. H. H. Van Meter. Comm & Fin Chr 172:1914-15 N 16 '50

CENTRAL stations. See Electric plants (central stations)

CENTRAL Valley project, California

California's P.G.&E. il map Fortune 43:72-7+ Mr '51

Central Valley begins big operations. map Eng N 147:28 Ag 2 '51

Central Valley nets $29.9 million. Eng N 146:74 Mr 29 '51

Kings River controversy; integration of the Kings River district with the Central Valley project. C. L. Kaupke. Pub Util 48:207-15 Ag 16 '51

Operation of irrigation system begins. il Civil Eng 21:488 Ag '51

Self-perpetuating bureaucracy by the Bureau of reclamation. E. Abel. il Elec West 105:65-9 D '50

CENTRAL Vermont public service corporation

Bonds offered. Comm & Fin Chr 174:450-1 Ag 6 '51

CENTRIFUGAL force

Nomogram for the calculation of relative centrifugal force. V. P. Dole and G. C. Cotzias. Science 113:552-3 My 11 '51

CENTRIFUGAL pumps. See Pumps, Centrifugal

CENTRIFUGES

Approximate method of predicting and comparing expected results when dewatering coal by centrifuges. O. R. Lyons. bibliog Min Eng 3:Trans 417-25 My '51

Centrifugal clarification of waxes and varnishes. C. M. Ambler. il diags Soap & San Chem 27:118-20 F '51

Centrifuge developed for 40-G force. Aviation W 54:44 Mr 26 '51

Centrifuge, its process potentials. C. M. Ambler. bibliog flow diag il diags Chem Eng Prog 46:549-55 N '50

Centrifuging's big strides; special Food Industries report. A. V. Gemmill. bibliog il diags Food Ind 22:2070-81 D '50

Chemical engineering unit operations; sixth annual review; centrifugation. J. O. Maloney. bibliog(82 ref) il Ind & Eng Chem 43:55-8 Ja '51

Conifuge, a size-separating sampling device for airborne particles. K. F. Sawyer and W. H. Walton. il diags J Sci Instr 27:272-6 O '50

Density gradient centrifugation; a new separation technique. M. K. Brakke. il Am Chem Soc J 73:1847-8 Ap '51

CENTRIFUGES—*Continued*

Density of polystyrene latex by a centrifugal method. H. Kahler and B. J. Lloyd, jr. bibliog il Science 114:34-5 Jl 13 '51

Horizontal centrifuge desands contaminated mud. A. Gibbon. plan World Oil 132:99+ Mr '51

Magnetically suspended vacuum-type ultracentrifuge. J. W. Beams and others. il diags R Sci Instr 22:77-80 F '51

New twists in centrifuges. il Chem W 69:29-30 O 20 '51

Operating data for a Bird centrifuge. A. C. Richardson and O. R. Lyons. Min Eng 187: Trans 381-4 Mr '50; Discussion. 187:Trans 1166-7 N '50

Reviewing the principles of centrifugal purification. K. D. Reed. il diag Diesel Power 29:60-2 F '51

Sedimentation equilibria of polydisperse nonideal solutes; uses and limitations of the equilibrium ultracentrifuge. M. Wales. bibliog J Phys & Colloid Chem 55:282-92 F '51

Ultracentrifugal characterization and isolation of human blood lipids and lipoproteins with applications to the study of atherosclerosis. F. T. Lindgren, H. A. Elliott and J. W. Gofman. bibliog il diags J Phys & Colloid Chem 55:80-93 Ja '51

Ultracentrifuge. G. W. Gray. il Sci Am 184: 42-51 Je '51

Water-injection streamlines miscella clarification. J. M. Crockin. diags Chem Eng 57: 160-2 N '50

CEPHALIN

Synthesis of enantiomeric α-cephalins. E. Baer and others. bibliog Science 113:12-13 Ja 5 '51

CEPHALOPODA. See Squids

CERAMIC art

Makes realistic ceramic animals. il Cer Ind 56:136 Ap '51

See also

Pottery—Decoration

Exhibitions

California gift show, Los Angeles, Jan. 21-26. Cer Ind 56:81 F; 99+ Mr '51

Name winners in 15th Ceramic National; illustrations. Cer Ind 55:76-8 D '50

Pittsburgh show sets new records. il Cer Ind 56:84-5 Mr '51

CERAMIC coating. See Enamel and enameling

CERAMIC engineering

Study and teaching

Present engineering attitude. R. M. Campbell. Am Cer Soc Bul 30:152-4 Ap 15 '51

CERAMIC engineers, Institute of. See Institute of ceramic engineers

CERAMIC industries

In peace or war, the ceramic industry must grow. Cer Ind 56:55-7+ Je '51

Report of the ceramic film committee, Missouri School of mines chapter of Keramos. Am Cer Soc Bul 30:175-6 My 15 '51

See also

Brick industry and trade
Color in the ceramic industries
Enamel and enameling
Glass trade
Refractory materials

Directories

American ceramic society membership roster. Am Cer Soc Bul 29:355-74+ O 15 '50

Directory of materials; ceramics for chemical manufacture. Chem Eng 57:151 N '50

History

Glass and ceramics. E. W. Tillotson. il Ind & Eng Chem 43:307-9 F '51

Statistics

Scope and size of the ceramic industry in the United States. Am Cer Soc Bul 30:260-4 Ag 15 '51

Brazil

Brazil, its ceramic training. Am Cer Soc Bul 30:271 Ag 15 '51

Brazil's half-century of progress in ceramics. il Am Cer Soc Bul 30:304-5 S 15 '51

California

Ceramic industry and the Pacific Coast economy. F. B. Ortman. Am Cer Soc Bul 29:439-41 D 15 '50

Mexico

South of the border. H. R. Deeth. il Cer Ind 55:100-3 N '50

CERAMIC laboratories

W. Keith McAfee laboratory dedicated. il Am Cer Soc Bul 29:349-50 O 15 '50

CERAMIC materials

Ceramic compositions having negative linear thermal expansion; lithia-alumina-silica. E. J. Smoke. bibliog Am Cer Soc J 34:87-90 Mr 1 '51

Ceramic materials; a complete directory with information on formulas, physical characteristics, properties, and use in enamel, glass and pottery. Cer Ind 56:79-80+ Ja '51

Ceramic materials for industrial and electrical use. H. B. Michaelson. il diags Product Eng 22:145-51 Jl '51

Chemical engineering materials of construction. J. H. Koenig and N. H. Snyder. bibliog(59 ref) il Ind & Eng Chem 43:2208-17 O '51

Cone deformation study of a portion of the system $SrO-Al_2O_3-SiO_2$. A. S. Watts. diag Am Cer Soc J 34:63 F 1 '51

Crystal chemistry in ceramics. W. E. Hauth, jr. diags Am Cer Soc Bul 30:5-7, 47-9, 76-7, 137-42, 165-7, 203-5 bibliog(p205) Ja 15-Je 15 '51

Defense demands huge effort in new ceramics for electronics. A. Gunzenhauser and H. N. Norton. bibliog il Cer Ind 57:60-1+ Jl '51

Designing with modern materials; survey of latest developments in engineering materials. il Machine Design 23:327-31 O '51

Expansion chambers, utilizing porous ceramic baffles successfully employed in variable tuning capacitors, for airborne electronic equipment. il diags Machine Design 23:115-16 F '51

Ferromagnetic ceramics. H. A. Goldsmith. il Product Eng 22:97-102 Ap '51

Heavy-media separation. flow sheet il diag Am Cer Soc Bul 30:63-6 Mr 15 '51

High-temperature ceramic materials. H. B. Michaelson. bibliog il Product Eng 22:120-3 Ag '51

Measuring relative humidity; experiments with sintered ceramic blocks. A. G. Thomson. Elec R (Lond) 147:640-1 O 27 '50

Microsampling of ceramic materials. L. B. Bassett and V. D. Frechette. il diags Am Cer Soc Bul 29:410 N 15 '50

New ceramics. il Product Eng 22:162-3 My '51

Pine wood lignin as a ceramic deflocculant. L. R. Lawson, jr. and J. J. Keilen. Am Cer Soc Bul 30:143-7 Ap 15 '51

Rocket linings. W. H. Duckworth and H. Z. Schofield. Aviation W 54:31+ Je 25 '51

Strategic cost-cutter; Solaramic. il Chem W 69:19 Ag 18 '51

What is the material outlook for this year? Cer Ind 56:76-8 Ja '51

See also

Bricks
Cermets
Clay
Clay products
Enamel and enameling
Feldspar
Kyanite
Opacifiers
Porcelain, Refractory
Refractory materials
Silica
Silicates
Talc

Analysis

New unit speeds analysis work; X-ray spectrogoniometer at Alfred university. E. D. Padgett. il diags Cer Ind 57:54-5+ Ag '51

Cutting

Diamond bandsaw blade proved in production. H. J. Chamberland. Cer Ind 56:83 Mr '51

Electric properties

Properties of beryllium-barium titanate dielectrics. E. N. Bunting and others. bibliog J Res Nat Bur Stand 47:15-24 Jl '51

Joining to metal

Bonding of titanium carbide with metal. W. J. Engel. il Metal Prog 59:664-7 My '51

Bonding titanium carbide with various elements. Product Eng 22:162 Jl '51

Glass and ceramics soldered to metal. Materials & Methods 33:160+ Je '51

CERAMIC materials—Joining to metal—*Cont.*

Metal-ceramic sealing with manganese. H. J. Nolte and R. F. Spurck. il Tv Eng 1:14-16+ N '50

Outlook for ceramics in gas turbines. W. H. Duckworth and I. E. Campbell. Brick & Clay Rec 118:47-8 My '51

Vapor deposition of metals on ceramic particles. J. E. Cline and J. Wulff. bibliog il diag Electrochem Soc J 98:385-7 O '51

Testing

Precise tensile properties of ceramic bodies. W. H. Duckworth. bibliog il diags Am Cer Soc J 34:1-9 Ja 1 '51

Theory of the envelope type of thermal conductivity tests. A. L. Loeb. diags J Ap Phys 22:282-5 Mr '51; Correction. 22:849 Je '51

Thermal shock resistance of plain and metallized hollow ceramic cylinders; abstract. J. H. Westbrook and J. Wuff. il Brick & Clay Rec 119:54 Jl '51

CERAMIC research

Ceramics at Armour research foundation. il Am Cer Soc Bul 29:395-8, 421-4 O 15-N 15 '50

Growth of industrial research. C. E. K. Mees. Am Cer Soc Bul 29:448-53 D 15 '50

High-temperature vacuum induction furnace. H. T. Smyth and others. diags Am Cer Soc J 34:161-3 My 1 '51

List of ceramic research projects in 1951. Am Cer Soc Bul 30:297-300 S 15 '51

Porcelains within the beryllia field of the system beryllia-alumina-zirconia. S. M. Lang and others. bibliog diags J Res Nat Bur Stand 45:366-73 N '50

Research at North Carolina state college. W. G. Van Note. Am Cer Soc Bul 30:11-13 Ja 15 '51

CERAMIC societies

Notes to a future section chairman. J. S. Nordyke. Am Cer Soc Bul 30:149+ Ap 15 '51

CERAMICS

Ceramics and atomic energy. W. A. Lambertson. bibliog Am Cer Soc Bul 30:18 Ja 15 '51

Contribution to the interpretation of phase diagrams by ceramists. W. R. Foster. bibliog Am Cer Soc J 34:151-60 My 1 '51

Data on chemicals for ceramic use; formulas, molecular weights, colors, crystal forms, densities, refractive indices, melting points, boiling points, transition points, decomposition temperatures. Nat Res Council Bul 118: 1-193 bibliog(p151-93) '49 (pa $5)

Electronics for the ceramic industry. W. B. R. Agnew. Am Cer Soc Bul 29:416-18 N 15 '50

Laboratory hydrostatic pressing chamber. L. R. McCreight. bibliog il diag Am Cer Soc Bul 30:127-9; Discussion. D. G. Bennett. 129 Ap 15 '51

Reflecting microscope as applied to some ceramic products. C. Schouten. bibliog il diag Am Cer Soc Bul 30:130-6 Ap 15 '51

Sintered carbides: new tool of ceramics. J. W. Graham and W. L. Kennicott. il diags Cer Ind 55:93-4+ D '50

Some applications of colloid science in ceramics; abstract and discussion. D. A. Holdridge. Chem & Ind p792 S 22 '51

Ultrasonics in ceramics. J. A. Slyh and H. D. Bixby. bibliog(42 titles) il diags Am Cer Soc Bul 29:345-8 O 15 '50

See also

Brickmaking
Cement
Clay
Clay products
Enamel and enameling
Fire brick
Frits
Glass
Glass manufacture
Glazes
Kilns
Porcelain
Pottery
Refractory materials
Slips (ceramics)
Tiles

Bibliography

Ceramic abstracts. Published in monthly numbers of Journal of the American ceramic society

Terminology

Confusion in ceramic classification. L. E. Barringer. bibliog Am Cer Soc Bul 30: 13-15 Ja 15 '51

CEREAL factories

Employees

Flour and cereal-preparations industries; earnings in May 1950. A. N. Jarrell. Mo Labor R 72:163-4 F '51

CEREALS. See Grain

CEREALS, Prepared

Foil protection for a cereal carton. il Mod Packaging 24:86 D '50

Kellogg bowls over Mexican cereal trade. Bsns W p 174 S 22 '51

CEREBRAL cortex. See Brain

CEREBROSPINAL fluid

Ultraviolet absorption spectra of normal cerebrospinal fluid. L. H. Sophian and V. J. Connolly. bibliog J Phys & Colloid Chem 55:712-16 My '51

CERENKOV effect

Radiation from a reactor. W. H. Jordan. il diags Sci Am 185:54-5 O '51

ČERENKOV radiation counter. See Counters (electrons, ions, etc.)

CERIUM

Calcium phosphate phosphor activated with cerium and manganese. H. C. Froelich and J. M. Margolis. bibliog Electrochem Soc J 98:400-5 O '51

Cerium increases use of wrought stainless. il Iron Age 167:106 Je 7 '51

Isotope shift in the Ce II spectrum and the magic number 82. K. Murakawa and J. S. Ross. bibliog il Phys R 83:1272-3 S 15 '51

Kinetics of the exchange reaction between the two oxidation states of cerium in acid solution. J. W. Gryder and R. W. Dodson. bibliog Am Chem Soc J 73:2890-5 Je '51

New cerium-bearing alloy steels offer greater hot ductility. il Steel 128:98 Je 4 '51; Machine Design 23:119 Jl '51; Materials & Methods 34:152+ Jl '51

Radioactivity of cerium. R. D. Hill. bibliog Phys R 82:449 My 1 '51

Analysis

Spectrophotometric determination of cerium(IV). A. I. Medalia and B. J. Byrne. bibliog Anal Chem 23:453-6 Mr '51

Isotopes

Disintegration of Ce^{143} and Pr^{143}. E. Kondaiah. diag Phys R 83:471 Jl 15 '51

Gamma-transitions in the disintegration of cerium 144. W. S. Emmerich and others. Phys R 82:968 Je 15 '51

CERIUM compounds

Association of cerous ion with sulfite, phosphate and pyrophosphate ions. S. W. Mayer and S. D. Schwartz. bibliog Am Chem Soc J 72:5106-10 N '50

Coulometric titrations with electrically generated ceric ion. N. H. Furman, W. D. Cooke and C. N. Reilley. diags Anal Chem 23:945-6 Jl '51

Ion exchange measurements of activity coefficients and association constants of cerous salts in mixed electrolytes. R. E. Connick and S. W. Mayer. Am Chem Soc J 73:1176-9 Mr '51

Preparation and properties of the oxide-sulfides of cerium, zirconium, thorium and uranium. E. D. Eastman and others. Am Chem Soc J 73:3896-8 Ag '51

CERIUM halides

Association of cerous ion with iodide, bromide and fluoride ions. S. W. Mayer and S. D. Schwartz. bibliog Am Chem Soc J 73:222-4 Ja '51

CERIUM nitrate

Color reactions of thiophene derivatives and of other compounds with a ceric nitrate reagent. H. D. Hartough. bibliog Anal Chem 23:1128-30 Ag '51

Extraction of ceric nitrate by solvents. A. W. Wylie. Chem Soc J p 1474-80 Je '51

CERIUM oxalate

Solubility of the rare earth oxalates and complex ion formation in oxalate solution; neodymium and cerium (III). C. E. Crouthamel and D. S. Martin, jr. bibliog Am Chem Soc J 73:569-73 F '51

CERIUM sulfate

Kinetics of the oxidation of organic compounds by ceric sulphate; the oxidation of acetone. J. Shorter and C. Hinshelwood. Chem Soc J p3276-83 N '50

CERIUM sulfate—*Continued*
- Kinetics of the oxidation of organic compounds by ceric sulphate; the reactivities of aliphatic ketones and acetaldehyde. J. Shorter. Chem Soc J p3425-31 D '50
- Rate of dissolution of silver in aqueous ceric sulfate solutions. H. W. Salzberg and others. bibliog Electrochem Soc J 98:31-5 Ja '51

CERIUM sulfide
- Preparation and tests of refractory sulfide crucibles. E. D. Eastman and others. diags Am Cer Soc J 34:128-34 Ap 1 '51

CERMETS
- Cermets; alumina, chromium; abstract. A. R. Blackburn and T. S. Shevlin. Chem Eng 58:261-2 Jl '51
- Metal refractory alloys; development of metal-ceramic alloys. W. G. Lidman and H. J. Hamjian. il diags Product Eng 22:147-50 O '51
- Refractory cermets. L. J. Cronin. bibliog diags Am Cer Soc Bul 30:234-8 Jl 15 '51

CEROID
- In vitro and in vivo production of a ceroid-like substance from erythrocytes and certain lipids. W. S. Hartroft. bibliog il Science 113:673-4 Je 15 '51

CERRO de Pasco copper corporation
- Likely to resume dividends soon. Barron's 31:17 Mr 5 '51

CERTIFICATES of convenience and necessity
- Law defines convenience and necessity. L. T. Parker. Bus Transportation 29:32-4 D '50

See also
Chemical industries—Regulation

CERTIFICATION of products. See Products, Certification of

CERTIFIED grocers of California, ltd.
- Grocer's bid in wholesaling. Bsns W p66+ N 11 '50

CESIUM
- Cesium-vapor rectifier. A. W. Hull and others. bibliog il diags Gen Elec R 54:16-22 Ag '51
- Electron density and light intensity decay in cesium afterglows. P. Dandurand and R. B. Holt. Phys R 82:278-9 Ap 15 '51
- Reactions of cesium in trace amounts with ion-exchange resins. H. S. Miller and G. E. Kline. Am Chem Soc J 73:2741-3 Je '51

Analysis
- Analytical chemistry of the less common alkali metals; rubidium and caesium. T. S. West. bibliog Chem Age (Lond) 65:467-70+ O 6 '51

Isotopes
- Internal conversion of gamma-ray from Cs^{137}. M. A. Waggoner. bibliog Phys R 80:489 N 1 '50
- Internal conversion of gamma-rays from Co^{60}, Cs^{134}, Zn^{65}. M. A. Waggoner and others. bibliog diags Phys R 80:420-8 N 1 '50
- Molecular constants of $Cs^{133}Cl^{35}$. R. G. Luce and J. W. Trischka. Phys R 83:851-2 Ag 15 '51
- New short-lived isotope of cesium. R. W. Fink and E. O. Wiig. Am Chem Soc J 73:2365-6 My '51
- Nuclear spectroscopy of Ba^{131} and Cs^{131}. R. Canada and A. C. G. Mitchell. bibliog diag Phys R 83:76-9 Jl 1 '51
- Radioactive decay of Cs^{137}. M. A. Waggoner. Phys R 82:906-9 Je 15 '51
- Twice-forbidden transition of Cs^{137} and the law of beta-decay. L. M. Langer and R. J. D. Moffat. bibliog Phys R 82:635-8 Je 1 '51
- Two crystal spectrometer results with uncollimated γ-rays. J. K. Bair and others. Phys R 81:283-4 Ja 15 '51

CESIUM bromide
- Index of refraction as supplement to X-ray crystal analysis of solid solutions. L. J. Wood and A. J. Frank. bibliog Anal Chem 23:695-9 My '51
- Transmittance of cesium bromide crystals. E. K. Plyler and F. P. Phelps. Opt Soc Am J 41:209-10 Mr '51

CESIUM chloride
- Index of refraction as supplement to X-ray crystal analysis of solid solutions. L. J. Wood and A. J. Frank. bibliog Anal Chem 23:695-9 My '51
- Molecular constants of $Cs^{133}Cl^{35}$. R. G. Luce and J. W. Trischka. Phys R 83:851-2 Ag 15 '51

CESIUM sulfate
- Systems Ag_2SO_4-Rb_2SO_4-H_2O and Ag_2SO_4-Cs_2SO_4-H_2O at 25°. W. C. von Dohlen and E. L. Simons. Am Chem Soc J 73:461-2 Ja '51

CESSNA aircraft company
- $80 million backlog spurs rapid rise in sales. Barron's 31:11-12 S 17 '51

CETANE
- Thermal analysis of the system sodium stearate-cetane. F. H. Stross and S. T. Abrams. Am Chem Soc J 73:2825-8 Je '51
- Transitions in soap-oil systems by dielectric absorption. T. M. Doscher and S. Davis. bibliog diag J Phys & Colloid Chem 55:53-61 Ja '51
- X-ray diffraction study of calcium stearate monohydrate-cetane systems. R. D. Vold and T. D. Smith. bibliog Am Chem Soc J 73:2006-12 My '51

CETANE number
- Additives for cetane-number improvement. W. L. Nelson. bibliog Oil & Gas J 50:98 Je 28 '51
- Improving cetane number. J. Happel. Pet Eng 22:C38+ N '50

CEYLON
- Ceylon; technical cooperation with U.S. under Point-four program. For Comm W 41:17 D 11 '50

See also
Engineering—Ceylon
Irrigation—Ceylon

Commercial policy
- Import regulations for 1951. For Comm W 42:9-10 F 26 '51

Economic conditions
- News by countries. For Comm W 42:9-10 F 5; 14 Mr 12 '51

CHAGAS disease. See Trypanocides

CHAIN conveyors. See Conveying machinery—Chain conveyors

CHAIN gear
- Buying silent chain? J. Sparks. il diags Power 95:122-3 Jl '51
- Chain drive checkup. Sewage & Ind Wastes 23:1200 S '51
- Chain drive; Morse Hy-Vo. il diag Mech Eng 73:659-60 Ag '51
- Chain drives. Product Eng 22:178 My '51
- Chain drives are positive, adaptable and economical. J. E. Hyler. il Mill & Factory 47:105-9 D '50
- Chain drives no longer chained by speed restrictions. il Am Mach 95:142 My 28 '51; diags Iron Age 167:116 Je 7 '51; Machine Design 23:137-8 Je '51; Product Eng 22:188-9 Je '51
- Chain you can't hook up wrong. diags Aviation W 54:45 Ap 16 '51
- Distributors blessed the day Morse revamped its packages; factory-cut and packaged roller chain. il Sales Management 66:52+ Mr 15 '51
- Dynamic loading of chain drives. W. K. Stamets, jr. bibliog il diags A S M E Trans 73:655-62 Jl '51; Abstract. Machine Design 23:250+ Ap '51; Discussion. A S M E Trans 73:662-5 Jl '51
- Heavy-duty drive designed for high-speed transmissions. il diag Factory Management 109:144-5 Je '51
- Missing link in chains; nickel shortage plaguing makers. Steel 129:41 Ag 20 '51
- Morse high velocity chain drive. il diags Diesel Power 29:48-9 Jl '51
- Put chain drives to work. diags Power 95:116-17 Ap '51

Standards
- Silent-chain drives; reference book sheet. diags Am Mach 95:129, 131, 133 Ag 20 '51
- Sprockets for silent chains; reference book sheet. diags Am Mach 95:179, 181, 183 S 3 '51

CHAIN stores
- Chain grocers; despite retailing strides rising costs may trim profits. F. Henle. Barron's 31:17-18 S 10 '51

CHAIN stores—*Continued*

Drug chains; operations lag. F. Henle. Barron's 30:13-14 N 20 '50

Marketing pattern; United Cigar-Whelan stores corp. Bsns W p 102 Mr 24 '51

See also

Five- and ten-cent stores

Food fair stores, inc.

Marketing—Chain store outlets

Rexall drug, inc.

Schulte, D. A., inc.

Woolworth, F. W., company

Accounting

How Red Owl controls, accounts for, inventories in a chain of retail grocery stores. F. D. Scott. J Account 91:590-4 Ap '51

Advertising

Chicago National Tea tops in food linage. G. A. Brandenburg. Ed & Pub 84:11 Mr 10 '51

Finance

Diana Stores prospects for fiscal '51 bright. Barron's 30:23-5 N 13 '50

Operating results of limited price variety chains in 1950. E. M. Love. (Bur. of business research bul. no. 135) 26p pa $2 Harvard univ. Graduate school of business administration, Soldiers field, Boston 63 '51

Retailers increase sales productivity of invested dollars. J Retailing 26:141-7+ Winter '50

Mail order stores

How to sell through the mail order chains. J. C. Cumming. Sales Management 65:58+ N 20 '50

Management

Cunningham's catches your customers; $40 million drug chain moving 15,000 items. L. M. Hughes. il Sales Management 67:37-9+ O 15 '51

People-building pays for Grand Union. L. M. Hughes. il Sales Management 66:37-9+ Ja 15 '51

Purchasing

Want to sell to the five-and-tens? informal survey. M. Beuick. il Ptr Ink 236:33-5 Ag 10 '51

Securities

Slump in retail trade ahead? with statistics on merchandising stocks. R. Colston. Mag of Wall St 88:73-5+ Ap 21 '51

Statistics

Chain-store sales. Ptr Ink 234:94 Ja 26 '51

CHAINS

Chain for industrial use. il Nat Safety N 63:136 Mr '51

Safer lifts; care in selection, use and maintenance of sling chains. S. N. Morison. il Nat Safety N 62:34-5+ N '50

Test of American chain company grip-trip bundling chain in pulpwood logging. L. W. Hooker. il Pulp & Pa of Can 52:146+ S '51

Manufacture

Improved handling methods facilitate chain production. il Steel 128:59 Ap 30 '51

CHAINS, Chemical

Branched-chain super-esters. G. W. Youngson and H. W. Melville. diag Chem Soc J p 1613-22 Je '50

Bromination of hydrocarbons; neopentane and hydrogen chain lengths; efficiency of neopentane as a third body. F. E. Schweitzer and E. R. Van Artsdalen. J Chem Phys 19:1028-30 Ag '51

Chain length and chain-length distribution of wood cellulose as compared with cotton. E. Heuser and L. Jörgensen. bibliog Tappi 34:57-67 F '51

Chain transfer in the polymerization of styrene; chain transfer with styrene and benzoyl peroxide; the efficiency of initiation and the mechanism of chain termination. F. R. Mayo, R. A. Gregg and M. S. Matheson. bibliog Am Chem Soc J 73:1691-700 Ap '51

Effect of structure on the fiber properties of linear polymers; the orientation of side chains. J. H. Brewster. bibliog Am Chem Soc J 73:366-70 Ja '51

Fischer-Tropsch reaction mechanism involving stepwise growth of carbon chain. R. B. Anderson and others. bibliog J Chem Phys 19:313-19 Mr '51

Markoff chains and chain molecules. K. Suzuki. J Chem Phys 19:385 Mr '51

Starch; the uniformity of the degree of branching in amylopectin. A. L. Potter and W. Z. Hassid. bibliog Am Chem Soc J 73:997-8 Mr '51

Symposium on structure of protein chains; A.C.S. Division of polymer chemistry. Chem & Eng N 29:3840-1 S 17 '51

Two hydrogen-bonded spiral configurations of the polypeptide chain. L. Pauling and R. B. Corey. Am Chem Soc J 72:5349 N '50

CHAIRS, Metal

Diecast magnesium replaces wood chair parts. A. J. Herek. il Iron Age 166:96-7 N 2 '50

CHALCOCITE

Copper mineralization in the Fungurume region, Katanga. R. Oosterbosch; H. Schuiling. il diags Econ Geol 46:121-48 Mr '51

CHALCONES

Anthochlor pigments; the pigments of coreopsis stillmanii. M. K. Seikel and T. A. Geissman. bibliog Am Chem Soc J 72:5720-4 D '50

cis-Benzalacetophenone. R. E. Lutz and R. H. Jordan. Am Chem Soc J 72:4090-1 S '50

Chemistry of extractives from hardwoods; okanin and *iso*okanin, the isomeric 2 : 3 : 4 : 3′ : 4′-pentahydroxychalkones. F. E. King and T. J. King. Chem Soc J p569-71 F '51

Some addition reactions of chalcones; the preparation of some γ-ketoselenides. H. Gilman and L. F. Cason. bibliog Am Chem Soc J 73:1074-6 Mr '51

Structure of tannins; the reduction of chalkone. L. R. Finch and D. E. White. Chem Soc J p3367-9 D '50

CHALK

Mining Fort Randall tunnels in chalk. il Eng N 145:38-41 N 2 '50

CHALKONES. See Chalcones

CHAMBER of commerce of the United States

Annual meeting, 39th, Washington, April 30-May 2. Chem & Eng N 29:1950-2 My 14 '51

Insurance department

New officers. East Underw 52:27+ Je 15 '51; Nat Underw 55:1 Je 14 '51

Policy declarations. East Underw 52:36 Mr 2 '51; Nat Underw (Life ed) 55:24 F 23 '51

CHAMBERLIN, Edward Hastings, 1899-

Economists. J. McDonald. por Fortune 42:108-13+ D '50

CHAMBERS of commerce

It's good business; Illinois Chamber of commerce educational drive against job bias. il Bsns W p38-40 Mr 31 '51

Old house, new spirit spark communications program of Chamber of commerce at Winston-Salem, N.C. R. Newcomb and M. Sammons. il Ind Marketing 36:66+ Ag '51

Small industries get expert advice free; Worcester, Mass. Chamber of commerce. Bsns W p87 Ja 20 '51

Worcester story; Management consulting services of the Worcester Mass. Chamber of commerce. J. P. Cleaver. il Advanced Management 16:2-5 Ag '51

See also

International chamber of commerce

CHAMFERING machines

Internal chamfering machine. il Electrician 145:1333 D 8 '50

CHAMPION paper and fibre company, Hamilton, Ohio

Five well situated stocks offering good yields; with comparative balance sheet items. Mag of Wall St 87:123 N 4 '50

CHANCE

Red dog, blackjack and poker. R. Bellman and D. Blackwell. diags Sci Am 184:44-7 Ja '51

CHANCELLOR, Christopher John, 1904-

General manager of Reuters. D. Willens. por Ed & Pub 84:9 Je 9 '51

CHANDLER medal

Chandler medal award to Milton C. Whitaker. Chem & Eng N 29:384-5 Ja 29 '51

CHANGE houses. See Mine buildings

CHANNELS

Airplane model profiles tested in water channel; development of an electronic depth indicating probe mechanism. il Product Eng 21:162 N '50

Regime theory for self-informed sediment-bearing channels. T. Blench. bibliog il Am Soc C E Proc 77 [no 70]:1-18 My '51

River channel roughness. H. A. Einstein and N. L. Barbarossa. il diag Am Soc C E Proc 77[no 78]:1-12 Jl '51

Turbulent transfer mechanism and suspended sediment in closed channels. H. M. Ismail. bibliog diags Am Soc C E Proc 77 [no 56]:1-26 F '51

Universal diagram gives critical depth in trapezoidal channels. S. Kolupaila. diag Civil Eng 20:785-6 D '50; Discussion. C. Grant. 21:159 Mr '51

CHAPEL HILL, North Carolina

Water supply

Model filtration plant for a problem town. J. L. Morrison. il map diag Pub Works 81:38-9 N '50

CHAPELS

Lutheran student center and chapel, Ann Arbor, Mich. il plans Arch Rec 110:140-1 Ag '51

Wayfarer's chapel, Palos Verdes, Calif. il plans Arch Forum 95:153-5 Ag '51

CHAPLAINS, Industrial

Christianity with its sleeves rolled up; industrial chaplain in textile community. M. B. Andrews. Textile World 101:164 Je '51

CHAPMAN, Oscar Littleton, 1896-

Portrait. Bsns W p25 Jl 7 '51

CHARACTER

Character building; the job of a lifetime. H. R. Medina. Tech R 53:476-8 Jl '51

CHARACTERISTIC values. See Differential equations

CHARCOAL

Adsorption equilibria of liquid mixtures of benzene and methanol with charcoal. H. H. Rowley, R. B. Olney and W. B. Innes. Am Chem Soc J 72:5180-2 N '50

Expansion of charcoal upon the adsorption of gases and vapors. R. I. Razouk and M. A. ElGobeily. bibliog diag J Phys & Colloid Chem 54:1087-98 N '50

Study of the carbon dioxide—carbon reaction using C^{14} as a tracer. F. Bonner and J. Turkevich. bibliog diag Am Chem Soc J 73:561-4 F '51

CHARCOAL, Activated. See Carbon, Activated

CHARGE accounts (retail trade)

Bank's Charg-It plan for merchants; serves as a credit department. C. K. Fuller. il Burroughs Clearing House 35:28-9+ N '50

Buying practices of out-of-town customers; study of credit sales by two department stores in Charlotte, N.C. E. Douglas. J Bsns 23:259-72 O '50

Community charge account; charge it at the store; pay for it at the bank; Paterson savings and trust co. il Banking 43:84 O '50

CHARITIES

Charitable institutions held liable for servants' torts notwithstanding traditional concept of public policy; Ray v. Tucson medical center. Weekly Underw 164:1480 Je 9 '51

Iowa high court sweeps aside hospital immunity; charity no defense; Haynes vs. Presbyterian hospital association. Nat Underw 55:21 Ja 18 '51

See also

Corporations—Charities

Money raising campaigns

Accounting

Audits of charitable organizations with weak internal control. J Account 90:447-9 N '50

CHARITIES, Business. See Corporations—Charities

CHARLESTON, South Carolina

Water supply

Ten billion gallon industrial water supply; Cooper River Water supply project. maps Pub Works 82:59 S '51

CHARLOTTE, North Carolina

Charlotte; unsouthern, untypical. il map Bsns W p70-2+ Ag 11 '51

See also

Retail trade—Charlotte, North Carolina

Water supply

Water fluoridation at Charlotte. R. S. Phillips. bibliog il Water & Sewage Works 98:98-102 Mr '51

CHARPY impact test. See Impact

CHART reading integrators. See Integrators

CHARTERED buses. See Motor buses—Chartering

CHARTERED life underwriters, American society of. See American society of chartered life underwriters

CHARTERED property and casualty underwriters. See American institute for property and liability underwriters

CHARTS (calculating)

Air-supply grille sizes; data sheet. J. D. Constance. Power 95:146 S '51

Chart for the resolution of angles; reference book sheet. diags Product Eng 22:187 Je '51

Charts aid selection of pipe wall thickness; data sheet. Heating-Piping 23:97-9 Ag '51

Charts determine concrete pavement design for airports. A. A. Anderson. il Civil Eng 21:22-3 Ja '51

Charts simplify refinery piping design. diags Pet Eng 23:C16-18+ Jl '51

Conversion chart for dimensional tolerances, angular and linear; reference book sheet. K. F. Stone. diags Product Eng 21:169 N '50

Cycloidal cam charts for maximum pressure angle; reference book sheet. A. Lengyel and A. H. Church. Product Eng 22:183 Ag '51

Design capacity charts for signalized street and highway intersections. J. E. Leisch. plans Pub Roads 26:105-39 F '51

Design of a two-variable metrology chart. K. L. Jackson. diags Engineering 171:714-15 Je 15 '51

Discontinuity tuning charts for resonant coax lines. J. G. Stephenson. diags Tv Eng 1:30-2 N '50; 2:24-5+ F '51

Distribution charts for stabilization materials. Roads & Sts 94:46-7 Ag '51

Earth pressure on retaining walls determined by diagram. K. Chu. Civil Eng 20:725-6 N '50

Field-power conversion; reference sheet. R. E. Perry. Electronics 24:134 Ag '51

Inductance chart for solenoid coil. H. A. Wheeler. bibliog diags Inst Radio Eng Proc 38:1398-400 D '50

Methods of calculating with graph paper. W. H. Burrows. Product Eng 22:140-5 Ap; 168-71 Je '51

Mixer harmonic chart; reference sheet. T. T. Brown. Electronics 24:132, 134 Ap '51

Network design charts; reference sheet. T. U. Foley. diags Electronics 24:132+ S '51

Now you can use break-even charts without fuss, muss or bother. R. D. Newton and R. S. Aries. Chem Eng 58:148-50 F '51

Picker lap-weight charts expose operating faults. E. H. Helliwell. Textile World 101:112+ Ap '51

Pipe fluid flow friction loss determination. E. M. De Forest. bibliog Pet Refiner 30:97-106 Mr '51

Production rate chart for AISI 8640; reference book sheet. Am Mach 95:181, 183 O 1 '51

Reactance chart. H. A. Wheeler. bibliog diags Inst Radio Eng Proc 38:1392-7 D '50

Regulation charts. R. O. Kapp. Electrician 146:1845-8 Je 1 '51

Sheet metal bend allowance and correction charts; reference book sheet. diags Product Eng 22:207 O '51

Simplified heating lessons; how to use the friction and other charts in determining pipe sizes. diag Sheet Metal Worker 42:66+ Je; 78+ S '51

Temperature-pressure-concentration chart for ammonia-water solutions. W. L. Bulkley and R. H. Swartz. Refrig Eng 59:660-2 Jl '51

Ternary diagram simplifies figuring raw materials costs. F. C. Byrnes. Chem Eng 58:125-6 Mr '51

CHARTS (calculating)—*Continued*
Three charts to aid in solving geological problems. C. Fox. diag Eng & Min J 152: 126-7 F '51
Torsion spring charts for round or square wire; reference book sheet. H. F. Ross. diags Product Eng 22:203, 205 O '51
Universal diagram gives critical depth in trapezoidal channels. S. Kolupaila. diag Civil Eng 20:785-6 D '50; Discussion. C. Grant. 21:159 Mr '51
Versatile chart aids Δp calculations. J. Happel and N. Epstein. Chem Eng 57:137-8 D '50
Viscosity conversion charts; reference book sheet. N. M. Sverdrup. Product Eng 22: 179, 181 Ag '51
See also
Nomographs

CHARTS, Aeronautic. See Air navigation—Charts

CHASE, Harrie Brigham, 1889-
Portrait. Fortune 43:95 Ja '51

CHASE aircraft company
Chase grows up. Bsns W p36 N 11 '50
Kaiser deal spurs new drive on C-123. B. S. Lee. il Aviation W 54:13-14 My 21 '51

CHASERS. See Thread cutting

CHATTAHOOCHEE river
Good land-use practices cut turbidity in river water. il map Eng N 146:40-1+ F 8 '51

CHATTANOOGA gas company
Common stock offered. Comm & Fin Chr 173: 2 Ja 1 '51

CHATTEL mortgages
Law and your profits. W. H. Hillyer. Heating-Piping 23:96 Ag '51

CHECK cashing companies
Give 'em cash, then take it; Seattle food store cashes aircraft workers' checks; sells canned goods by case. il Bsns W p46-8 S 22 '51

CHECKER cab manufacturing corporation
Stock offered. Comm & Fin Chr 174:451 Ag 6 '51

CHECKING accounts. See Banks and banking—Checking accounts

CHECKS
Check-sorting system saves time; devised by E. L. Tait. Am Bsns 21:34 Ag '51
Monthly dividends; a new service to stockholders; automatic check deposits optional; Republic national bank of Dallas. F. F. Florence. il Burroughs Clearing House 35: 34-5+ Je '51

Collection

Federal Reserve reduces period of credit deferment on checks deposited for collection. Credit & Fin Management 53:28-9 F '51

Design

Roadblock to economy; the eccentric check. F. A. Zara. il diag Standardization 21:248-51 O '50; Same abr. Bankers Mo 47:14+ O '50
Why endorse the backs of checks? Oklahoma natural gas co.'s work simplification program. E. Whitmore. il Am Bsns 21:18-19+ My '51

Law

Appeal from judgment on note; Schmelzle vs. Transportation investment corp. C. R. Rosenberg, jr. Burroughs Clearing House 35: 67-8 Mr '51
Bank liable for bond money; cashing of voucher check designated for purchase of government savings bonds. C. R. Rosenberg, jr. Burroughs Clearing House 35:71-3 Je '51
Bank officer commits crime in allowing kiters to cash checks; United States v. Matsinger. Banking 43:78+ Ja '51
Bankrupt's check. C. R. Rosenberg, jr. Burroughs Clearing House 35:85-6+ F '51
Check kiting; U.S. vs. Matsinger. C. R. Rosenberg, jr. Burroughs Clearing House 35:66 Ja '51
Decedent's check; Griffin vs. Trust co. C. R. Rosenberg, jr. Burroughs Clearing House 35:69-70 O '50
Lunatic's note; Gramatan national bank & trust co. vs. Lavine et al. Burroughs Clearing House 35:76 Ja 51
Notice to drawer; Arterburn vs. Wakefield et al. C. R. Rosenberg, jr. Burroughs Clearing House 35:70-1 O '50
Oral evidence on checks ruled admissible; Azzarello vs. Richards. C. R. Rosenberg, jr. Burroughs Clearing House 35:67-8 Ap '51
Receipt of check constitutes payment, even though drawer later stops payment; Diskin v. city of Philadelphia Police pension fund association. Banking 43:84 F '51
See also
Checks, Fraudulent

Standards

Bankers ask help of accountants in getting wider use of standard-size bank checks. F. B. Stocker, jr. J Account 91:104-5 Ja '51

Stop payment

Payee may recover amount of stopped check from holder: Friddell v. Greathouse. Banking 43:84+ N '50
Stop payments are risky. F. George. Bankers Mo 68:22+ Je '51
Stopping payment; Ohio and Tennessee court decisions. Banking 43:92-3 O '50

CHECKS, Fraudulent
Bank not liable on guarantee of impersonator's signature; U.S. v. First national bank and trust co. Banking 43:81 Ja '51
Bearer instrument; Hillman et al vs. Kropp forge co. C. R. Rosenberg, jr. Burroughs Clearing House 35:67+ O '50
Fictitious payee. Banking 43:90 O '50
Forged endorsement; digest of recent cases. Banking 43:80+ F '51
How an actual payee can be a fictitious payee; Ellis weaving mills v. Citizens and southern national bank. Banking 43:78 Ja '51
Joint loss on forgery; Supreme court of Kansas' review of question. F. C. Fiechter, jr. Burroughs Clearing House 35:63-4 S '51
What is a bad check? C. B. Everberg. Credit & Fin Management 53:20-2 Jl; 14+ Ag; 24+ S '51

CHEESE
Super premium; colorful aluminum tumbler package for Borden's cottage cheese. il Mod Packaging 24:94-5+ F '51

Advertising

Small budget and a bright idea rescue business with name trouble; Pollio cheese called Polly-O. V. J. Dallaire. il Ptr Ink 234:32-3 F 9 '51

Manufacture

Don't let quats ruin that flavor; presence in cheese milk curbs growth of aroma bacteria. E. Lundstedt. il Food Ind 22:2056-8 D '50
Simplified cheddar cheese making process reduces labor, cuts trimming losses; patent digest. diag Food Eng 23:157 My '51

CHELATION
Chelate formation between copper and 8-quinolinols. J. P. Phillips and F. J. O'Hara. Am Chem Soc J 73:583-5 F '51
Chelation and association of some ethylenediamine Schiff bases. L. N. Ferguson and I. Kelly. Am Chem Soc J 73:3707-9 Ag '51
Covalency, co-ordination, and chelation. W. J. Lile and R. C. Menzies. Chem Soc J p617-21 F '50
Demineralization of hard tissues by organic chelating agents. L. M. Sreebny and G. Nikiforuk. Science 113:560 My 11 '51
Determination of bond fixation in cyclic systems; naphthalene. I. M. Hunsberger. bibliog Am Chem Soc J 72:5626-35 D '50
Sexadentate metal complexes; magnetic studies. F. P. Dwyer, F. Lions and D. P. Mellor. bibliog Am Chem Soc J 72:5037-9 N '50
Spectrophotometric study of 8-hydroxyquinaldine chelates; notes on 8-quinolinol chelates. J. P. Phillips and H. P. Price. bibliog Am Chem Soc J 73:4414-15 S '51

CHELIDONINE
Synthetical experiments in the chelidonine-sanguinarine group of the alkaloids. A. S. Bailey, R. Robinson, and R. S. Staunton. Chem Soc J p 1375-9, 2277-81 My, S '50

CHEMECHOL
Chemechol; nonexplosive device for breaking down coal. Mech Eng 73:582 Jl '51

CHEMICAL abstracts (periodical)
Anglo-American abstracts? Chem Age (Lond) 63:629-30 N 4 '50
Official report for 1950. Chem & Eng N 29: 790-1 F 26 '51
Scientists share and serve, Priestley medal address. E. J. Crane. Chem & Eng N 29: 4250-3 O 15 '51

CHEMICAL and dyestuffs traders' association, British. See British chemical and dyestuffs traders' association

CHEMICAL and engineering news (periodical)

Junior chemical products award

C&EN presents award to Chicago Junior Achievement firm. Chem & Eng N 29:1002+ Mr 12 '51

CHEMICAL apparatus
Analytical instruments used in the modern water plant laboratory. S. K. Love. bibliog Am Water Works Assn J 43:725-35; Discussion. J. R. Baylis. 735-40 S '51
Apparatus for comparing the stabilities of polyvinyl chloride latices. H. G. Drinkwater and N. Payne. diags Chem & Ind p683-4 Ag 11 '51
Apparatus for determining freezing points at saturation pressure from time-temperature freezing and melting experiments. A. R. Glasgow, jr., N. C. Krouskop and F. D. Rossini. diags Anal Chem 22:1521-4 D '50
Automatic chromatogram fraction cutter. J. O. Harris. diags Chem & Ind p255 Mr 31 '51
Automatic constant volume fraction collector for chromatography. A. R. Gilson. bibliog il diags Chem & Ind p 185 Mr 10 '51
Automatic fraction collector for chromatographic separations. D. F. Durso, E. D. Schall and R. L. Whistler. il diags Anal Chem 23:425-7 Mr '51
Chemical progress during the 75 years of the American chemical society; analytical chemistry; high-speed tools. C. K. Deischer. bibliog il Ind & Eng Chem 43:1283-7 Je '51
Constant liquid-feed apparatus. I. Michaeli. bibliog diag Chem & Ind p 120 F 17 '51
Continuous analyzers. B. W. Thomas. Instruments 23:1130-1+ N '50; Same. Pet Refiner 30:81-4 F '51
Designing to meet sanitary needs. F. Mittelberger. il diags Product Eng 21:144-9 D '50
Device for introduction of solid reagents. H. M. Andersen and R. P. Zelinski. diags Anal Chem 22:1461-2 N '50
Direct determination of oxygen in compounds containing carbon, hydrogen and oxygen; a physical-chemical technique; Underzaucher carbon-reduction procedure. C. C. Harris, D. M. Smith and J. Mitchell, jr. bibliog diags Anal Chem 22:1297-304 O '50
Improved apparatus for determining organic nitrogen. D. B. Williams. il Water & Sewage Works 98:87-8 F '51
Improved water separator. R. N. Blomberg and W. F. Bruce. il Science 112:655 D 1 '50
Inexpensive transference number apparatus. T. J. Roemer and R. A. Cooley. bibliog diag J Chem Educ 28:37-8 Ja '51
Liquid fraction collector. E. M. Crook and S. P. Datta. bibliog il diags Chem & Ind p718-19 Ag 25 '51
Slicer for sampling liquids. M. L. Randolph and R. R. Ryan. diag Science 112:528 N 3 '50
Syringe-type apparatus for quantitative hydrogenation at constant pressures above one atmosphere. C. W. Gould and H. J. Drake. il diags Anal Chem 23:1157-60 Ag '51
Versatile cryophorus. P. S. Baker. diag J Chem Educ 27:617-18 N '50
Versatile laboratory concentration device. L. C. Craig, J. D. Gregory and W. Hausmann. diag Anal Chem 22:1462 N '50
Volume actuated fraction collector for use in chromatography. R. A. Grant and S. R. Stitch. il diags Chem & Ind p230 Mr 24 '51
What is new in chemical equipment? il Can Chem & Process Ind 34:833-6 O '50
See also
Agitators
Autoclaves
Balances
Centrifuges
Chemical plants—Equipment
Distillation apparatus
Electric heaters, Laboratory
Emulsifiers
Evaporators
Extraction apparatus
Filters and filtration (technical chemistry)
Gases—Apparatus
Lyophile apparatus
Microchemistry—Apparatus
Pipets
Reductors
Scrubbers
Stirrers
Sublimation apparatus
Thermobalance
Vacuum pumps
Viscosimeters
Volumetric analysis—Apparatus

CHEMICAL bonds
Averaged field calculation of the polarity of the carbon-hydrogen bond. C. R. Mueller and H. Eyring. bibliog J Chem Phys 19:193-6 F '51
Bonding of trihalide and bifluoride ions by the molecular orbital method. G. C. Pimentel. bibliog J Chem Phys 19:446-8 Ap '51
Bromination of hydrocarbons; neopentane and hydrogen chain lengths; efficiency of neopentane as a third body. F. E. Schweitzer and E. R. Van Artsdalen. J Chem Phys 19:1028-30 Ag '51
Bromination of hydrocarbons; photochemical and thermal bromination of neopentane in the gas phase; the C—H bond strength in neopentane. E. I. Hormats and E. R. Van Artsdalen. bibliog J Chem Phys 19:778-83 Je '51
C-Br bond dissociation energy in trichlorobromomethane. M. Szwarc and A. H. Sehon. bibliog J Chem Phys 18:1685-6 D '50
Cleavage of the carbon-sulfur bond in divalent sulfur compounds. D. S. Tarbell and D. P. Harnish. Chem R 49:1-90 bibliog(460 ref, p81-90) Ag '51
Competition in the binding of long chain fatty acids and methyl orange to bovine serum albumin. G. E. Cogin and B. D. Davis. bibliog Am Chem Soc J 73:3135-8 Jl '51
Connection between the size of an atom and the magnitude of its mesomeric and electromeric effects. G. Baddeley. Chem Soc J p663-6 F '50
Determination of bond fixation in cyclic systems; naphthalene. I. M. Hunsberger. bibliog Am Chem Soc J 72:5626-35 D '50
Dodecahedral octacovalent bond orbitals. G. H. Duffey. J Chem Phys 18:1444-5 N '50
Effect of bond structure on the transformation of *o*-aroyloxy-acetoarones into *o*-hydroxydiaroylmethanes; Baker-Venkataraman transformation. N. V. Nowlan, P. A. Slavin and T. S. Wheeler. Chem Soc J p340-4 Ja '50
Estimated bond energies in carbon, nitrogen, oxygen, and hydrogen compounds. G. Glockler. bibliog J Chem Phys 19:124-5 Ja '51
Force constants, frequency assignments, and thermodynamic properties of ozone. M. J. Klein and others. bibliog J Chem Phys 19:1068-9 Ag '51
Heterogeneous catalysis; theoretical basis. D. A. Dowden. diags Chem Soc J p242-65 Ja '50
Heterolytic fission of the carbon-iodine bond in trifluoroiodomethane. J. Banus, H. J. Emeléus and R. N. Haszeldine. Chem Soc J p60-4 Ja '51
Hexacovalent bond orbitals. G. H. Duffey. bibliog J Chem Phys 17:1328-9; 18:128-9, 510-11; 19:92-3 D '49-Ja, Ap '50, Ja '51
High energy phosphate bonds of biochemical interest. T. L. Hill and M. F. Morales. bibliog Am Chem Soc J 73:1656-60 Ap '51
Hydrogen bond formation with saturated cyclic ethers. S. Searles and M. Tamres. bibliog Am Chem Soc J 73:3704-6 Ag '51
Hydrogen bonding and relative adsorption affinities on silicic acid of certain derivatives of diphenylamine and N-ethylaniline. W. A. Schroeder. bibliog Am Chem Soc J 73:1122-7 Mr '51

CHEMICAL bonds—*Continued*

Infrared spectra and force constants of chloroform and trichlorosilane. T. G. Gibian and D. S. McKinney. bibliog Am Chem Soc J 73:1431-4 Ap '51

Intensities of bands due to free and bonded hydroxyl groups in the three micron region. S. A. Francis. J Chem Phys 19:505-6 Ap '51

Mechanism of the hydrolytic cleavage of carbon-carbon bonds; alcoholysis of acetylacetone and some 2-ketoalkylpyridinium salts. R. G. Pearson and A. C. Sandy. Am Chem Soc J 73:931-4 Mr '51

Mechanism of the hydrolytic cleavage of carbon-carbon bonds; alkaline hydrolysis of β-diketones. R. G. Pearson and E. A. Mayerle. bibliog Am Chem Soc J 73:926-30 Mr '51

Orbital hybridisation and some other considerations concerning the transition state of bimolecular organic substitution reactions. V. Gold. Chem Soc J p 1430-4 Je '51

Overlap integrals and chemical binding. R. S. Mulliken. bibliog Am Chem Soc J 72:4493-503 O '50

Pseudo-metallic bonding of hydrides. A. R. Ubbelohde. diag Chem Soc J p 1143-6 Ap '50

Raman spectra study of hydrogen bond in acetoxime. C. N. Caughlan, H. V. Tartar and E. C. Lingafelter. bibliog Am Chem Soc J 73:1180-2 Mr '51

Role of hybridization and resonance in molecular structure. J. Duchesne. bibliog J Chem Phys 19:246-7 F '51

Some considerations on the strengths of hybrid bonds in excited states of the hydrogen molecule-ion. H. O. Pritchard and H. A. Skinner. Chem Soc J p945-52 Ap '51

Soviets blast Pauling, repudiate resonance theory. Chem & Eng N 29:3712-14 S 10 '51

Stereochemistry of steroids; the concept of equatorial and polar bonds. D. H. R. Barton and W. J. Rosenfelder. Chem Soc J p 1048-54 Ap '51

Theoretical investigation of reactivities of conjugated bonds. R. D. Brown. Chem Soc J p3249-54 N '50; 1950-5 Ag '51

Tripyramidal bond orbitals. G. H. Duffey. bibliog J Chem Phys 19:553-4 My '51

See also
Double bonds
Valence

CHEMICAL chains. See Chains, Chemical

CHEMICAL congresses

Congress at Karlsruhe, 1860. C. deMilt. bibliog J Chem Educ 28:421-5 Ag '51

CHEMICAL corps. See United States—Army—Chemical corps

CHEMICAL development association, Commercial. See Commercial chemical development association

CHEMICAL education

A.C.S. Division of chemical education jubilee meeting, New York. Chem & Eng N 29:3818-19 S 17 '51

Chemistry as a liberal art. S. Buchanan. J Chem Educ 28:318-21 Je '51

Chemistry as a social and disciplinary subject. W. J. Murphy. Chem & Eng N 29:989 Mr 12 '51

Foundations of chemistry. A. S. Richardson. Chem & Eng N 29:2134-6 My 28 '51

Midwest award winner, W. S. Haldeman, accents importance of graduate work. Chem & Eng N 28:4080-1 N 20 '50

Professional training in chemistry; International congress of pure and applied chemistry papers. Chem & Eng N 29:3977-8 S 24 '51

Progress report no. 23; ACS committee on professional training; with list of approved schools. Chem & Eng N 29:396-7 Ja 29 '51

Role of the liberal arts college in the professional training of chemists. H. F. Lewis. J Chem Educ 28:104-7 F '51

Statistics training for chemists. H. M. Smallwood. Ind & Eng Chem 43:2071-3 S '51

Training of the scientist; symposium. Chem & Ind p356-7 My 5 '51

University's rôle; Glasgow's influence since 1747. Chem Age (Lond) 64:282 F 17 '51

See also
American chemical society—Chemical education division
Chemical engineering—Study and teaching
Chemistry—Study and teaching
Chemistry, Analytic—Study and teaching
Chemistry, Inorganic—Study and teaching
Chemistry students

Cooperative plan

Analytical chemistry and the cooperative plan. J. F. Corwin and A. R. Wilson. J Chem Educ 28:244-5 My '51

History

Chemical progress during the 75 years of the American chemical society. H. Hale. bibliog il Ind & Eng Chem 43:1034-8 My '51

CHEMICAL elements

Half-life of I^{129} and the age of the elements. S. Katcoff and others. bibliog Phys R 82:688-90 Je 1 '51

I^{129} and the age of the elements. H. E. Suess and H. Brown. Phys R 83:1254-5 S 15 '51

New chemical elements. S. Dushman. Gen Elec R 54:20-1 Ap '51

Origin of the lighter elements. W. Band. Phys R 80:813-18 D 1 '50

Some of the physical properties of various elements; data sheet. Foundry 79:180 Jl '51

See also
Actinide series
Atoms
Isotopes
Periodic system
Valence
also names of elements, e.g. Carbon; Oxygen; Plutonium; Sulfur

Atomic no. 61

See Promethium

Atomic no. 97

New element berkelium (atomic number 97). S. G. Thompson and others. bibliog il Phys R 80:781-9 D 1 '50

Atomic no. 98

Californium isotopes from bombardment of uranium with carbon ions. A. Ghiorso and others. bibliog Phys R 81:154 Ja 1 '51

Chemical properties of californium. K. Street, jr., S. G. Thompson and G. T. Seaborg. bibliog Am Chem Soc J 72:4832-5 O '50

New element californium (atomic number 98). S. G. Thompson and others. Phys R 80:790-6 D 1 '50

CHEMICAL engineering

Chemical engineering aspects of industrial wastes control. C. F. Gurnham. Sewage & Ind Wastes 23:82-8 Ja '51

Chemical engineering economics, what it holds for you. R. Stahl and J. E. Kasch. Chem Eng 58:270+ F '51

Chemical engineering in a small development organization. F. S. McCarthy. Chem Eng Prog 47:102-4 F '51

Chemical engineering in the frozen food industry. V. C. Praschan. flow diags il diags Chem Eng Prog 47:325-30 Je '51

Chemical engineering in the meat-packing industry. M. D. Sanders and others. flow diags il diag Chem Eng Prog 47:443-8 S '51

Chemical engineering problems in large scale culture of algae. P. M. Cook. flow diag il diags Ind & Eng Chem 43:2385-9 O '51

Chemical engineering research; work of British Hydromechanics. Chem Age (Lond) 65:93-5 Jl 21 '51

Chemical engineering unit operations; sixth annual review. bibliog il Ind & Eng Chem 43:37-116 Ja '51 (reprints 50c)

Evolution of a process; moving-bed process, Thermofor, Houdriflow, pyrolytic cracking, etc. M. Sittig. diag Chem Eng 57:106-8+ D '50

How a great engineering organization operates; Kellogg engineering department. il Pet Eng 23:C70-3 Jl '51

How to make research pay; how Wyandotte does it. T. H. Vaughn. Chem Eng 58:143-5 S '51

CHEMICAL engineering—*Continued*

Hydrogen peroxide; chemical engineering and electrochemistry combined in modern H_2O_2 plants. G. A. Zotos. diag Chem Eng 58: 114-16 Ap '51

Improving liaison between research and engineering. il Chem Eng Prog 47:161-7 Ap '51

Industrial and engineering chemistry. W. A. Pardee and others. bibliog il Ind & Eng Chem 43:295-310 F '51

Problems in chemical engineering research. E. R. Gilliland. Chem Eng Prog 47:sup 11-12+ Ja '51

Unit processes; Chemical Engineering report, March 1951. diags Chem Eng 58:129-41 Mr '51

See also

Chemical plants
Chemistry, Technical
Cooling, Industrial
Countercurrent processes
Distillation
Distillation apparatus
Drying
Evaporation
Extraction processes
Feed water purification
Filters and filtration (technical chemistry)
Flotation process
Fluidization
Food factories
Hydrogenation
Metallurgy
Mixing
Petroleum refineries
Refrigeration and refrigerating machinery
Refuse disposal
Sewage disposal
Sublimation
Unit processes
Water purification

Apparatus and supplies

Carbon and graphite; value of special properties to the chemical engineer. W. S. Norman. Chem Age (Lond) 63:711-12 N 18 '50

Cutting-tool chemistry; Cimmac reactor. il Chem Ind W 68:11-12 F 24 '51

Design trends in key industries; chemical industry. il diags Product Eng 22:107-8 My '51

Engineering, marine and welding exhibition, Olympia; plant and equipment. il Chem Age (Lond) 65:279-84 S 1 '51

14th report on materials of construction. il diags Chem Eng 57:107-54 N '50

Packaged unit operations laboratory equipment. R. Stephenson and G. W. Preckshot. il J Eng Educ 41:435-47 Ap '51

See also

Agitators
Autoclaves
Centrifuges
Chemical industries—Exhibitions
Chemical plants—Equipment
Concentrators
Drying apparatus
Emulsifiers
Evaporators
Extraction apparatus
Heat exchangers
Homogenizers
Mixers
Pressure vessels
Proportioning equipment
Vacuum apparatus

Estimates

Estimating requirements for process steam and process water. Chem Eng 58:110-11 Ap '51

Examinations

Chemical engineers' examination. Chem Age (Lond) 64:17-18 Ja 6 '51

History

Some memorials of early chemical engineers. D. M. Newitt. bibliog Chem & Ind p746-9 S 8 '51; Same. Engineering 172:91-2 Jl 20 '51; Same cond. Chem Age (Lond) 64:923-6 Je 16 '51

Study and teaching

German scientists discuss training of chemical engineers. H. Bretschneider. Chem & Eng N 29:3298+ Ag 13 '51

Graduate education in chemical engineering. G. G. Brown. Chem Eng Prog 47:sup46 Mr '51

Jet propulsion; chemical engineering elective for senior and graduate students. R. A. Cooley. J Eng Educ 41:87-90 O '50

Practical training in universities. W. K. Lewis. Chem & Eng N 29:1397-8 Ap 9 '51

Results of questionnaire regarding graduate degrees in chemical engineering. T. E. Corrigan. J Eng Educ 41:170 N '50

Survey of faculty teaching loads in chemical engineering. M. L. Jackson. J Eng Educ 41:552-4 My '51

Tables, calculations, etc.

Continuous stirred tank reactor systems; further development of transient equations, applications, and experimental confirmation. D. R. Mason and E. L. Piret. bibliog Ind & Eng Chem 43:1210-19 My '51

Degrees of freedom for steady state flow systems. P. L. Morse. diags Ind & Eng Chem 43:1863-71 Ag '51

Design of experiments for most precise slope estimation. C. Daniel. Ind & Eng Chem 43:1298-300 Je '51

Dispersions in gases; seventeenth annual chemical engineering symposium. bibliog flow sheets il diags Ind & Eng Chem 43: 1311-80 Je '51

General graphical analysis of continuous reactions in series of agitated vessels. R. W. Jones. diag Chem Eng Prog 47:46-8 Ja '51

Momentum, mass, and heat transfer in free jets. T. Baron and L. G. Alexander. bibliog(40 ref) Chem Eng Prog 47:181-5 Ap '51

Principles of reactor design; homogeneous reactions. J. R. Caddell and D. M. Hurt. Chem Eng Prog 47:333-8 Jl '51

Steady-state transfer problems; graphical solutions. E. B. Fitch. bibliog diags Chem Eng Prog 47:83-90 F '51

Thermodynamic properties of aqueous lithium chloride solutions; evaluation of the gas current method for the determination of the thermodynamic properties of aqueous salt solutions. E. F. Johnson, jr. and M. C. Molstad. bibliog il diags J Phys & Colloid Chem 55:257-81 F '51

See also

Cooling towers—Tables, calculations, etc.
Distillation—Tables, calculations, etc.

CHEMICAL engineering (periodical)

A.R.F. studies American machinist, Chemical engineering and Business week. Adv Agency 43:78 N '50

CHEMICAL engineering award

Help find the winner of the 11th award for chemical engineering achievement. Chem Eng 58:159-61 My '51

CHEMICAL engineering laboratories

Packaged unit operations laboratory equipment. R. Stephenson and G. W. Preckshot. il J Eng Educ 41:435-47 Ap '51

Simon group's new laboratories; firm to conduct specialised research. il Chem Age (Lond) 65:81-4 Jl 21 '51; Engineer 192:96-8 Jl 20 '51; Engineering 172:75-6, pl 5 Jl 20 '51

CHEMICAL engineers

Chemical engineer and atomic energy. A. M. Weinberg. Chem Eng Prog 47:sup 19+ Mr '51

Chemical engineer, his function in industry. W. L. Badger. Tappi 34:sup12A+ Je '51

Distribution of chemical engineers. Chem Age (Lond) 63:669-70 N 11 '50

Employment practices for chemists and chemical engineers; committee on economic status of chemists. Chem & Eng N 29:274-7 Ja 22 '51

Key to personal success in engineering. P. W. Swain. Chem Eng 58:230+ Ag '51

Opportunities in design. W. M. Hathaway. diag Chem Eng 58:247-8 Ja '51

Problem of selling new ideas to management. W. von Pechmann. Ind & Eng Chem 43:sup 109A-10A S '51

Some memorials of early chemical engineers. D. M. Newitt. bibliog Chem & Ind p746-9 S 8 '51; Same. Engineering 172:91-2 Jl 20 '51; Same cond. Chem Age (Lond) 64:923-6 Je 16 '51

Training chemical engineers for the pulp and paper industry. L. C. Jenness. Paper Ind 33:50-1 Ap '51

Young engineer looks at his profession. J. B. Weaver. bibliog Chem Eng Prog 47:sup 17+ F '51

See also

Howard, Henry

CHEMICAL engineers, American institute of. See American institute of chemical engineers

CHEMICAL engineers, Institution of. See Institution of chemical engineers

CHEMICAL equilibrium

Carbon-14 isotope effect in an inorganic equilibrium. D. R. Stranks and G. M. Harris. bibliog J Chem Phys 19:257-8 F '51

Chemical engineering unit processes fourth annual review; kinetics and equilibria. R. H. Wilhelm and R. K. Toner. bibliog(83 ref) Ind & Eng Chem 43:1903-7 S '51

Chemical reaction equilibria in calcium and magnesium-base sulphite recovery systems. R. P. Whitney and others. bibliog Tappi 34:396-400 S '51

Equilibria in the system boron trifluoride-water at 25°. C. A. Wamser. bibliog Am Chem Soc J 73:409-16 Ja '51

Equilibria in the systems Fe_2C-Fe-CH_4-H_2 and Fe_3C-Fe-CH_4-H_2. L. C. Browning, T. W. DeWitt and P. H. Emmett. bibliog diag Am Chem Soc J 72:4211-17 S '50

Equilibria of two basic bismuth nitrates in dilute nitric acid at 25°. D. F. Swinehart and A. B. Garrett. bibliog Am Chem Soc J 73:507-10 F '51

Equilibrium and rate of aluminum monochloride formation from aluminum chloride and aluminum. A. S. Russell, K. E. Martin and C. N. Cochran. bibliog diag Am Chem Soc J 73:1466-9 Ap '51

Equilibrium hypothesis in chemical kinetics. I. Prigogine. bibliog J Phys & Colloid Chem 55:765-72; Discussion. 772-4 Je '51

Equilibrium measurements in the system C-CH_4-H_2. L. C. Browning and P. H. Emmett. bibliog Am Chem Soc J 73:581-3 F '51

Gibbs-Donnan equilibria in ion exchange resin systems. H. P. Gregor. bibliog diag Am Chem Soc J 73:642-50 F '51

Ion exchange measurements of activity coefficients and association constants of cerous salts in mixed electrolytes. R. E. Connick and S. W. Mayer. Am Chem Soc J 73:1176-9 Mr '51

Ionic theory of slag-metal equilibria. P. Herasymenko and G. E. Speight. bibliog Iron & Steel Inst J 166:169-83, 289-30 N-D '50

Measurement of chemical equilibria by means of the critical flow orifice. H. Wise and D. Altman. bibliog J Chem Phys 19:515-16 Ap '51

Nuclear spin relaxation studies in dilute sodium-liquid ammonia solutions. R. Newman and R. A. Ogg, jr. bibliog J Chem Phys 19:214-17 F '51

Potential of the Pu(III)-Pu(IV) couple and the equilibrium constants for some complex ions of Pu(IV). S. W. Rabideau and J. F. Lemons. bibliog Am Chem Soc J 73:2895-9 Je '51

Salt effects on the acid-catalyzed hydrolysis of γ-butyrolactone; chemical activity and equilibrium. F. A. Long, W. F. McDevit and F. B. Dunkle. bibliog J Phys & Colloid Chem 55:813-29 Je '51

Sulphur activities in liquid copper sulphides. R. Schuhmann, jr. and O. W. Moles. bibliog diags J Metals 3:Trans 235-41 Mr '51

System oxalic acid-sodium hydroxide-water. W. H. H. Norris. diags Chem Soc J p 1708-15 Jl '51

Vanadium-oxygen equilibrium in liquid iron. J. Chipman and M. [illegible] Dastur. bibliog il J Metals 191:Trans 111-15 F '51

CHEMICAL formulas

New construction-formula for cellulose as a work-hypothesis. A. Cmentak. diags Paper Tr J 132:18+ Ap 13 '51

Spectrophotometric methods of establishing empirical formulas of colored complexes in solution. A. E. Harvey, jr. and D. L. Manning. Am Chem Soc J 72:4488-93 O '50

CHEMICAL industries

Another mobilization, new demands. Bsns W p68+ O 28 '50

Basic chemical materials listed according to present availability. Oil Paint & Drug Rep 159:4 Je 25 '51

Big potential market for pesticide makers. M. W. Schwarz. Barron's 31:22 Jl 9 '51

Bottled-in-bond chemicals; National distillers products corp. il Chem Ind W 68:12-13 My 5 '51

Can your new product pass these tests? Ansul Chemical. Sales Management 66:45-6 My 20 '51

Careers in chemistry and chemical engineering; chemically trained business executive. J. E. McKeen. Chem & Eng N 28:4437-9 D 18 '50

Careers in chemistry and chemical engineering; commercial chemical development man. C. D. Goodale. Chem & Eng N 28:4248-9 D 4 '50

Careers in chemistry and chemical engineering; the chemist in business for himself. O. Eisenschiml. Chem & Eng N 28:4533-4 D 25 '50

Changing face of chemical industry. H. W. Cremer. Chem & Ind p808-12 S 29 '51; Abstracts. Chem Age (Lond) 65:186 Ag 11 '51; Engineer 192:231-2 Ag 24 '51

Changing face of chemical industry; abstract. A. C. Monkhouse. Chem & Ind p771-2 D 2 '50

Chemical and related markets in 1950. Oil Paint & Drug Rep 159:3 sec 2 Ja 29 '51

Chemical buyers group looks at supply phase. Oil Paint & Drug Rep 159:7+ Je 11 '51

Chemical expansion; products, new and old, reach out to ever-widening horizons. S. B. Self. Barron's 31:9 S 10 '51

Chemical growth, 1951 model. Chem Eng 58:259-60 Ap '51

Chemical industry opposes changes in customs practices; threat of reduced tariff. Chem & Eng N 29:3534-6+ Ag 27 '51

CMRA role in aiding purchasing functions of a company. L. J. Finnan, jr. Oil Paint & Drug Rep 158:4+ D 11 '50

Chemicals output boost spurred by tax aid; list of new projects approved for fast amortization. Oil Paint & Drug Rep 159:3+ Ap 16; 3 My 14 '51

Chemist's place in sales and advertising. P. B. Slawter, jr. J Chem Educ 27:666-9 D '50

Cominco, two in one; integrated chemicals and metallurgical production. il Chem Ind W 68:17 Ap 14 '51

CCDA-CMRA symposium on industry needs. il Chem & Eng N 29:448-55, 545-51, 644-9, 744-52 F 5-26 '51

Custom poundage; R.S.A. corp. Chem Ind W 68:13+ F 17 '51

Defense means development. il Chem Ind 67:720-1 N '50

Effect of government regulations on commercial chemical development; from annual meeting of Commercial chemical development association, New York, March 21. Chem & Eng N 29:1716-23, 1816-23, 1933-9 Ap 30-My 14 '51

Evaluation rules out profitless projects. C. R. Howey. Chem Ind 67:724-5+ N '50

Government stockpiling called chief culprit in defense economy. Chem & Eng N 28:4442 D 18 '50

Information please; symposium. M. H. Baker and others. maps Ind & Eng Chem 43:831-59 Ap '51 (reprints 50c)

Know the law! recent decisions that will affect chemical industry and business. L. T. Parker. Chem Ind 67:899-901 D '50

Magic of petrochemistry opens new horizons for oil and gas. flow chart il diag Oil & Gas J 49:50-68 N 2 '50

Mobilization means change in use-patterns for CPI. Chem Eng 58:281 Ja '51

NPA acts to clarify term small business; with classification of chemical industry. Oil Paint & Drug Rep 160:5+ S 3 '51

NPA initiates one-time survey of chemical industry to determine production capacity, raw materials used, and end uses. R. Gibbs. Chem & Eng N 29:1802-3 My 7 '51

New product development programs. W. von Pechmann. Ind & Eng Chem 43:sup 93A-4A+ Je '51

News by commodities. Published in Foreign commerce weekly

News from abroad. Published in monthly numbers of Chemical engineering

Next ten years. Chem Eng 57:158-9 N '50

Our number one growth industry. J. A. Woods. Comm & Fin Chr 174:1060+ S 20 '51

Production viewed as key to ultimate victory; plant maintenance show and conference, Cleveland, Jan. 15-18. Chem & Eng N 29:382-3 Ja 29 '51

CHEMICAL industries—*Continued*

Public relations program expanded for chemical industry. Chem & Eng N 29:2628-30 Je 25 '51

Rapid growth of chemical industry. H. Jephcott. Chem Age (Lond) 63:561-2 O 21 '50

Skeptical chemist looks into the crystal ball. J. B. Conant. Chem & Eng N 29:3847-9 S 17 '51

Some growing pains of our chemical industry; Chandler medal address. M. C. Whitaker. Ind & Eng Chem 43:1057-61 My '51

Taxes and the chemical industry. C. R. Peterson and others. bibliog Chem & Eng N 29:1724-6, 2369-72+, 2724-8 Ap 30, Je 11, Jl 2 '51

World chemical trade. C. C. Concannon. il Chem & Eng N 29:3612-15 S 3 '51

See also

Alcohol industry
Brewing industries
Chemical workers
Chemicals
Chemistry, Technical
Dye industry
Electrochemistry
Fermentation
Fertilizer industry
Fertilizers
Food machinery and chemical corporation
Glass
Leather industry and trade
Metallurgy
Oil industries
Paint industry and trade
Paper
Paper chemicals
Paper industry and trade
Plastic industries
Pottery
Rubber
Rubber industry and trade
Salt
Silicones
Soap
Soap industry and trade
Solvents
Sugar industry and trade
Tanning
Tanning materials
Textile industry

also

American cyanamid company
Chemical market research association
Commercial chemical development association
Southwide chemical conference
Wyandotte chemicals corporation

Accounting

Comprehensive budgetary control; a case study; Davison chemical corp., Baltimore. F. Z. Oles. N A C A Bul 33:123-45 O '51

Material control in a chemical company. K. Schweller. diag N A C A Bul 32:296-308 N '50

Advertising

Advertising new chemical products. J. M. Rogers. Ind & Eng Chem 43:855-8 Ap '51

Careers in chemistry and chemical engineering; writing for the chemical industry. H. A. Marple. Chem & Eng N 28:4066-8 N 20 '50

New product literature. L. D. Berger, jr. Ind & Eng Chem 43:849-51 Ap '51

Sales cues for products lost in manufacture. il Sales Management 66:46+ Je 15 '51

Shorter the copy, bigger the sales. L. F. Thomann. il Ptr Ink 236:41 Jl 6 '51

Translating laboratory data into new product literature. J. R. Dudley and J. M. Salsbury. Ind & Eng Chem 43:845-9 Ap '51

Exhibitions

Blowers and bubbles stop chemical buyers at ACS Chicago show. B. Aitchison. il Ind Marketing 35:36-7 O '50

Chemistry in the modern community; Public works and municipal services exhibition, London. il Chem Age (Lond) 63:706-7 N 18 '50

Finance

Chemical industry; defense program expected to narrow gain in profits. S. B. Self. Barron's 31:9-10 Ja 8 '51

Chemical industry growth seen in 1949 survey of manufacturers. Oil Paint & Drug Rep 160:5 Jl 30 '51

Chemicals gain; analysis of twenty five companies for 1950. M. Pescatello. Barron's 31:13-14 Je 25 '51

Effect of government regulations on commercial chemical development; labor, capital, and materials. W. Lindow. Chem & Eng N 29:1816-19 My 7 '51

Financing the chemical and chemical process industries; bank loans. B.-F. Sessel. Chem & Eng N 28:4338-40+ D 11 '50

Financing the chemical and chemical process industries; equity financing. R. T. Gilmartin. il Chem & Eng N 28:3960-3 N 13 '50

Financing the chemical and chemical process industries; help for working capital. H. McAshan. Chem & Eng N 28:4431-3 D 18 '50

Financing the chemical and chemical process industries; new factor in chemical financing. R. Dunwoody. Chem & Eng N 28:4539-41 D 25 '50

How size affects profits. Chem W 69:16 S 15 '51

Mock stockholders' meeting teaches engineers finance; A.I.Ch.E. technical sessions. Chem & Eng N 29:2138 My 28 '51

Never had it so good; chemical company profits reached a new high in 1950. Chem Ind W 68:11-13 F 17 '51

Oasis for outside money. il Chem Ind W 68:53-4 Ja 27 '51

Profit and loss. Chem Eng 58:139-41 F '51

Profits up despite taxes; first quarter of 1951. Chem W 68:12-13 Je 2 '51

What CPR-22 means to chemical profits. Chem Eng 58:279-80 Je '51

What's ahead for the chemical industry. J. F. Bohmfalk, jr. Chem & Eng N 29:2994-8 Jl 23 '51

See also

Chemical plants—
  Costs

History

Chemical progress during the 75 years of the American chemical society. bibliog il Ind & Eng Chem 43:264-314, 564-602, 795-830, 1034-56 F-My '51

European chemical developments in the nineteenth century; symposium. L. N. Markwood and others. bibliog J Chem Educ 28:348-68 Jl '51

Growth of the American chemical industry. R. S. Aries and R. M. Cziner. bibliog Ind & Eng Chem 43:1712-22 Ag '51

Outstanding events of 1950. il Chem Age (Lond) 64:49-70 Ja 13 '51

Seventy-five years of chemical progress; a story in pictures. Chem & Eng N 29:3321-44 Ag 13 '51

Public relations

Chemical industry warned to make friends with the public. W. M. Rand. Chem & Eng N 28:4072-3 N 20 '50

Regulation

Chemical allocation machinery set. Oil Paint & Drug Rep 159:3 Mr 19 '51

Chemical byproducts distribution control powers given over to NPA. Oil Paint & Drug Rep 158:4+ O 16 '50

Chemicals availability re-examined by NPA. Oil Paint & Drug Rep 160:3+ S 3 '51

Complete text of NPA's M-45 allocating chemicals and allied products. Chem & Eng N 29:1225-8 Mr 26 '51

Control roundup. Chem Ind W 68:34 F 10 '51

CMP-rated chemical orders restricted to two US agencies. Oil Paint & Drug Rep 160:3 O 1 '51

Effect of government regulations on commercial chemical development; NPA's chemical division. J. S. Bates. Chem & Eng N 29:1820-2 My 7 '51

Industry takes over; plan for allocation of chemicals. Chem W 69:19+ Ag 18 '51

Many granted, more ahead; over 200 certificates of necessity granted to chemical industry. Chem W 69:11-13 Ag 4 '51

OPS realigns curbs, removes some chemicals from CPR 22. Oil Paint & Drug Rep 160:3 Ag 27 '51

US acts to halt flow of chemicals to Russia. Oil Paint & Drug Rep 159:3+ Je 11 '51

Securities

Chemicals, bluest chips. Chem Ind W 68:37-8 F 17 '51

Chemicals for growth earnings and net profits. I. U. Cobleigh. Comm & Fin Chr 174:503+ Ag 9 '51

Chemicals; with statistics on leading companies. S. Devlin. Mag of Wall St 88:27-9+ Ap 7 '51

CHEMICAL industries—Securities—*Continued*

Chemistry's progress; with position of leading companies. S. Devlin. il Mag of Wall St 88:606-9+ S 8 '51

Developments in chemicals and the drug industries. J. C. Jenks. Comm & Fin Chr 174:1247+ O 4 '51

Down to earth chemicals. I. U. Cobleigh. Comm & Fin Chr 174:1154 S 27 '51

Financing the chemical and chemical process industries; long term debt. R. G. Woodbridge, 3d. Chem & Eng N 28:4158-62 N 27 '50

See also
Allied chemical and dye corporation

Statistics

Chemical growth outruns economic trends. R. H. Ewell. Chem Ind 67:726-30+ N '50

Drugs and fine chemicals. Published in weekly numbers of Oil, paint and drug reporter

Economics of the fine chemical industry. J. D. Pratt. Chem & Ind p38-43 Ja 20 '51

Foreign consumers re-enter U.S. market. C. C. Concannon. Chem & Eng N 29:17-20 Ja 1 '51

Growth of the American chemical industry. R. S. Aries and R. M. Cziner. bibliog Ind & Eng Chem 43:1712-22 Ag '51

Heavy chemicals. Published in weekly numbers of Oil, paint and drug reporter

Output of chemical industries in 1950 in Canada. H. McLeod. Can Chem & Process Ind 35:378-92+ My '51

Supply and demand. Chem Eng 58:130-6 F '51

U.S. chemical trade in first nine months of 1950; with table of exports of selected chemicals, Jan.-Sept. 1949 and 1950. For Comm W 42:4 Ja 15 '51

Wholesale trade, 1948; chemicals, allied products; number of establishments, sales for metropolitan areas and for specific fields. Ptr Ink 235:210+ My 25 '51

World's chemical production score. K. Falk. Chem Eng 58:137-9 Jl '51

Alberta

Alberta's imminent chemical growth. J. E. Oberholtzer. flow diags Can Chem Process 35:712-15 S '51

Australia

Australian chemical industry. F. H. Campbell. Chem Age (Lond) 64:274 F 17 '51

Australian newsletter. Chem & Ind p758-9 S 8 '51

Brazil

Brazilian market for chemicals. Chem Age (Lond) 63:687-8 N 11 '50

Brazil's flourishing chemical industry. Chem Age (Lond) 64:664; 65:126-7 Ap 28, Jl 28 '51

California

California's chemical industries, compared to those in the East, have ample space and raw materials, but supplies and equipment are not always available. W. von Pechmann. Ind & Eng Chem 43:sup77A-8A+ Mr '51

Canada

Canadian chemicals plan multi-million expansion; Sarnia factories. Barron's 31:33 Mr 19 '51

Chemical engineering in a small development organization. F. S. McCarthy. Chem Eng Prog 47:102-4 F '51

Chemical industry's imminent expansion in western Canada. Can Chem Process 35:556-9 Jl '51

Future of the Canadian chemical industry. A. H. Smith. il Chem & Eng N 28:3758-61 O 30 '50

Output of chemical industries in 1950 in Canada. H. McLeod. Can Chem & Process Ind 35:378-92+ My '51

See also
Chemical institute of Canada

Caribbean region

Chemicals and dollar exports; value of the Caribbean zone countries. Chem Age (Lond) 64:389-90 Mr 10 '51

China

Small chemical industries for China; sugar and insecticides manufacture. J. E. Stepanek and C. H. Prien. bibliog il Chem & Eng N 28:4250-3 D 4 '50

Small chemical industries for China; sulfuric acid manufacture. J. E. Stepanek and C. H. Prien. il Chem & Eng N 28:4062-5 N 20 '50

Cleveland

Best industrial location in the Nation. K. S. Willson. il map Chem & Eng N 29:1094-7 Mr 19 '51

Europe

European chemical developments in the nineteenth century; symposium. L. N. Markwood and others. bibliog J Chem Educ 28:348-68 Jl '51

Finland

Chemical developments in Finland; sulphuric acid a major product. Chem Age (Lond) 64:523-4 Ap 7 '51

France

European chemical industry, France; production and planning. il map Chem & Eng N 29:2362-8 Je 11 '51

Newsletter from France. Y. Prax. Chem & Ind p88-9, 384-5 F 3, My 19 '51

Germany

Allied grip on German chemical output eased. Oil Paint & Drug Rep 159:5 Ap 9 '51

Chemical industry in Germany. Chem & Ind p370 My 12 '51

Coal shortage hits German industry; international co-operation urged. Chem Age (Lond) 65:80 Jl 21 '51

German chemicals are coming back. J. J. Christie. diag Chem Eng 57:163-5 N '50

German industry expands. Chem Age (Lond) 64:953-4 Je 23 '51

German research and production. Chem Age (Lond) 63:652 N 4 '50

Germany on the road back. R. L. Kenyon. il map Chem & Eng N 29:856-61 Mr 5 '51

More German potash for export; natural gas find at Wolfskehlen. Chem Age (Lond) 65:493-4 O 13 '51

New products and higher outputs; fresh progress in German chemical and oil industries. Chem Age (Lond) 63:613-14 O 28 '50

Post-restrictions hangover; fuelless outlook. Chem Age (Lond) 64:599-600 Ap 21 '51

Production gains in Germany. Chem Age (Lond) 64:13 Ja 6 '51

Verband der Deutschen chemischen industrie. Chem & Eng N 29:576 F 12 '51

Great Britain

Britain's healthy chemical industry; comprehensive survey in alkali inspectors' report. Chem Age (Lond) 65:113-15 Jl 28 '51

British chemical and dyestuffs traders' association 28th annual meeting, London, July 17. Chem Age (Lond) 64:593-4 Ap 21 '51

British chemical exports showed increase in 1950; tabulation. Oil Paint & Drug Rep 159:57 Mr 12 '51

Century of British industry. Lord McGowan. Chem Age (Lond) 64:139-40 Ja 20 '51; Abstract. Chem & Ind p87 F 3 '51

Chemical manufacturers' dinner, London, Oct. 11. Chem Age (Lond) 63:563-4 O 21 '50

Chemicals from oil. Economist 161:522-3, 579-81 S 1-8 '51

Chemistry at the Great exhibition, 1851. Chem Age (Lond) 64:627-8 Ap 28 '51

Economics of the fine chemical industry. J. D. Pratt. Chem & Ind p38-43 Ja 20 '51

European chemical industry; growth in Great Britain. il map Chem & Eng N 29:1810-15 My 7 '51

European chemical industry in the nineteenth century. L. N. Markwood. J Chem Educ 28:348-50 Jl '51

Firm celebrates diamond jubilee; J. M. Steel & co. Chem Age (Lond) 64:665-6 Ap 28 '51

Higher alkyl chloride industry; important germicidal uses for surface-active compounds; Leda Chemicals. il Chem Age (Lond) 64:415-17 Mr 17 '51

CHEMICAL industries—Great Britain—*Cont.*

Labour relations in the British chemical industry. W. H. Garrett. Chem & Ind p712-15 Ag 25 '51

Laporte chemicals, limited; statement by the chairman at 41th annual general meeting. L. P. O'Brien. Economist 161:131 Jl 14 '51

One hundred years of chemistry; British chemists' contribution. McGowan. Chem Age (Lond) 65:453-8 O 6 '51

Outstanding events of 1950. il Chem Age (Lond) 64:49-70 Ja 13 '51

Rearmament's effect on industry. Chem Age (Lond) 64:847-8 Je 2 '51

Some aspects of the U.K. petroleum chemicals industry. J. M. Butler and H. L. Bennister. bibliog Chem & Ind p638-44 Jl 28 '51

See also

British chemical plant manufacturers' association

Imperial chemical industries

Hungary

Advanced engineering in Hungary; current work on special autoclaves. P. Farkas. il Chem Age (Lond) 63:577-8 O 21 '50

India

Here's India's stake in a chemical industry. S. C. Dholakia. il map Chem Eng 58:224+ F '51

India plans self-sufficiency. Chem Age (Lond) 63:719 N 18 '50

National plan for India. Chem Age (Lond) 65:79 Jl 21 '51

Ireland

Cultivation of medicinal herbs encouraged in Ireland. Chem & Eng N 28:4568 D 25 '50

Italy

Italy's chemical progress. Chem Age (Lond) 63:868 D 23 '50

Italy's organic chemical industry. Chem Age (Lond) 63:720 N 18 '50

Level of operation of Italy's industry generally high in 1950. For Comm W 43:19 Ap 2 '51

Japan

Chemical industry of Japan. J. Z. Reday and W. R. Sprague, jr. il Chem & Eng N 29:370-3 Ja 29 '51

Japanese chemical exports in '50; table. Oil Paint & Drug Rep 160:62 Jl 16 '51

Japanese chemical recovery. Chem Age (Lond) 63:835-6 D 16 '50

Kansas City area

Predicted discoveries may keep chemists busy, consumer happy; Kansas City section, ACS, 50th anniversary. Chem & Eng N 28:4076 N 20 '50

Kansas-Missouri area

Kansas City area pushes postflood cleanup. map Chem & Eng N 29:3168 Ag 6 '51

Mexico

See also

Syntex, S.A., Mexico city

Poland

Poland's six year plan; independence from imports sought. Chem Age (Lond) 65:149-50 Ag 4 '51

Progress reported under Polish six-year plan. Chem & Eng N 29:3636 S 3 '51

Russia

Soviet chemical industry has far to go. Chem Ind W 68:13-14 Ap 21 '51

South Africa

Chemicals in South Africa, shortages affecting local industries. Chem Age (Lond) 65:499 O 13 '51

South African news. Chem Age (Lond) 65:259-60 Ag 25 '51

Southwestern states

Petrochemicals in the Southwest. G. Weber. il Oil & Gas J 49:112-17+ My 3 '51

Resources for the chemical industry in the Southwest. bibliog il maps Ind & Eng Chem 43:1723-54 Ag '51

Southwest chemical industry, 1950. F. W. Jessen. bibliog map Ind & Eng Chem 43:1724-7 Ag '51

Switzerland

Swiss chemicals in 1950. Chem Age (Lond) 64:200 F 3 '51

Texas

Houston area on threshold of new chemical expansion. F. A. Buechel. Manuf Rec 120:132 Je '51

United States

Expanding fastest; the chemical trade. Bsns W p 123-4+ Ag 11 '51

Expansion rate speeds up. Chem Eng 58:365+ S '51

Imports at United States ports; list by ports of chemical products, with amounts and consignors. Published in weekly numbers of Oil, paint and drug reporter

Military and industry needs for chemicals get airing. Chem Eng 57:219-20+ N '50

Petrochemicals. J. V. Sherman. Barron's 30:11-12 N 13 '50

Western states

Chemical industry in Far West now well established; symposium. Chem & Eng N 29:3827-9 S 17 '51

CHEMICAL institute of Canada

Annual conference, Winnipeg, June 18-20. Chem & Eng N 29:2730+ Jl 2 '51

Rubber chemistry division conference, Kitchener, Ont. June 15; abstracts of papers. India Rubber World 124:455-6 Jl '51

CHEMICAL laboratories

Ancient Hindu concept of a chemical laboratory. O. N. Perti. J Chem Educ 28:485 S '51

Chemical research laboratory; Department of scientific and industrial research, Great Britain. Science 113:261-3 Mr 9 '51; Excerpts. Chem & Ind p514 Je 30 '51

Du Pont's engineers at research. il Chem Eng 58:192 Je '51; Rayon 32:88 Je '51

Imperial college of science and technology. il Chem & Ind p557 Je 30 '51

Laporte Chemicals; Central research laboratory extension. il Chem & Ind p401-3 My 26 '51

New laboratory section opened; Laporte Chemicals build new floor. il Chem Age (Lond) 64:751-3 My 12 '51

Service lab aids salesmen; Sharples Chemical's sales service laboratory; illustrations with text. Chem Ind W 68:14-15 Mr 17 '51

South African council for scientific and industrial research, National chemical research laboratory. W. S. Rapson. bibliog Chem & Ind p366-8 My 12 '51

University of Akron Knight laboratory dedication. India Rubber World 123:582 F '51

See also

Chemical engineering laboratories

Pharmaceutical laboratories

Petroleum laboratories

Equipment

Apparatus for use in connexion with the sulphuric acid digestion of protein-containing material. A. J. G. Barnett and T. B. Miller. diag Chem & Ind p246 Mr 31 '51

Automatic test tube washer. R. E. Parks, jr., G. W. Kidder and V. C. Dewey. diag Anal Chem 23:1193-4 Ag '51

Buyers' guide of laboratory equipment and apparatus, 1951 edition. Chem & Ind sup S3-69 D 2 '50

Continuous laboratory fractionation would be simplified by control equipment. R. H. Munch. diags Ind & Eng Chem 43:sup99A-100A+ O '51

Industrial and laboratory instruments; Towers heating block, apparatus dryers, etc. il Chem Age (Lond) 65:329-30 S 8 '51

Large scale samples laboratory; Hercules powder co. R. W. Cairns. il Ind & Eng Chem 43:2419-22 O '51

New laboratory instruments. il diag Chem Age (Lond) 64:633-53 Ap 28 '51

CHEMICAL laboratories—Equipment—*Cont.*

Power plant laboratory. S. M. Sperry. il plan diags Power Eng 55:64-7+ Ap '51

Work of the chemical research laboratory. il Chem Age (Lond) 65:419-22 S 29 '51

Safety measures

Symposium on industrial health and safety; laboratory safety. H. H. Fawcett. bibliog il Chem & Eng N 29:1302-5 Ap 2 '51

Waste

Concentration of radioactive liquid waste by evaporation. G. E. McCullough. flow diag il Ind & Eng Chem 43:1505-9 Jl '51

Removal of plutonium from laboratory wastes. C. W. Christenson and others. flow diags Ind & Eng Chem 43:1509-15 Jl '51

Treatment of radioactive waste by ion exchange. J. A. Ayres. bibliog Ind & Eng Chem 43:1526-31 Jl '51

CHEMICAL libraries

Current status of departmental libraries in chemistry. J. W. Broberg and R. E. Dunbar. J Chem Educ 28:435-6 Ag '51

Davis library acquired by Edgar Fahs Smith collection. Chem & Eng N 28:4561 D 25 '50

Microcards for the chemistry library. Sister A. A. Green. il J Chem Educ 28:549-52 O '51

CHEMICAL literature

Abstracting and indexing services. Chem & Eng N 29:1499-500 Ap 16 '51

A.C.S. Division of chemical literature jubilee meeting, New York. Chem & Eng N 29:3820-1 S 17 '51

Art of searching the literature; the literature survey proper. L. O. Lewton. J Chem Educ 28:539-43 O '51

Careers in chemistry and chemical engineering; literature chemist; relation to research; indexing, writing, etc. J. W. Perry. Chem & Eng N 28:4530-2 D 25 '50

Chemical progress during the 75 years of the American chemical society. J. F. Smith. bibliog il Ind & Eng Chem 43:1288-91 Je '51

Foundations of chemistry. A. S. Richardson. Chem & Eng N 29:2134-6 My 28 '51

Scientific literature cited by Russian organic chemists. J. G. Tolpin and others. bibliog J Chem Educ 28:254-8 My '51

Too much publication; abstract. A. S. Richardson. Chem & Eng N 29:1612 Ap 23 '51

See also

Chemical abstracts (periodical)

Chemistry—Periodicals

CHEMICAL market research association

Increased production planned for major tonnage chemicals. Chem & Eng N 28:4454-5 D 18 '50

Meeting, Chicago, Feb. 28. Oil Paint & Drug Rep 159:5+ Mr 5 '51

Meeting, New York, Dec. 6. Oil Paint & Drug Rep 158:4+ D 11 '50

Meeting on rubber, New York, June 7. India Rubber World 124:458-9 Jl '51

CHEMICAL patents

Can you use your own discoveries? W. L. Cheesman. Chem & Eng N 29:642-3; Discussion. I. P. Stevenson. 638 F 19 '51

Careers in chemistry and chemical engineering; the chemist in patent law. A. J. Nydick. Chem & Eng N 28:4341-2 D 11 '50

Changes deemed necessary in Patent office practices. Chem & Eng N 29:1498-9 Ap 16 '51

Patent assignment. B. L. Emling. J Chem Educ 28:133 Mr '51

Patents act, 1949, in relation to the fine chemical industry; abstract and discussion. J. G. Fife. Chem & Ind p405 My 26 '51

Skies brighten for the chemical inventor. R. Calvert. Chem & Eng N 29:186-8 Ja 15 '51

See also

Glass manufacture—Patents

Paper making—Patents

Petroleum refining—Patents

Rubber—Patents

CHEMICAL plant manufacturers' association, British. See British chemical plant manufacturers' association

CHEMICAL plants

Bottled-in-bond chemicals; National distillers products corp. il Chem Ind W 68:12-13 My 5 '51

Choosing the right materials means economical plant; Interchemical's Hawthorne, N.J. plant. il Factory Management 109:B84-5 pt 2 Ap '51

Commercial development of glyoxal. J. F. Bohmfalk, jr., R. W. McNamee and R. P. Barry. bibliog flow sheet il diags Ind & Eng Chem 43:786-94 Ap '51

First stage at Newport completed; visitors inspect Monsanto's new factory. Chem Age (Lond) 65:111-12 Jl 28 '51; il Chem & Ind p755-7 S 8 '51

How Virginia-Carolina makes phosphorus; sound engineering, one unit process, four unit operations. J. R. Callaham. il diag Chem Eng 58:102-6 Ap '51

Imperial chemical industries unlimited. il Chem Ind W 68:41 F 17 '51

Integrated operation; six-plant settlement starts with crude oil, winds up with rubber, plastics, petrochemicals, and more. F. L. Resen. diag Oil & Gas J 50:58 Jl 12 '51

Lion Chemical produces 1,200 tons daily of petrochemicals from natural gas. F. L. Resen. il diag Oil & Gas J 50:76-9 Jl 12 '51

Magic of petrochemistry opens new horizons for oil and gas. flow chart il diag Oil & Gas J 49:50-68 N 2 '50

Materials of construction in the chemical industry; abstracts of papers read at the conference in Birmingham, April 18-20, 1950. Chem & Ind p61-8 Ja 27 '51

New plant for textile dye and inks; Interchemical corp. Hawthorne, N.J. il diag Arch Rec 109:136-9 F '51

New £300,000 solvent plant; Bromborough pool works. il Chem & Ind p44 Ja 20 '51

Outstanding petrochemical plant in England; Shell plant at Stanlow. V. S. Swaminathan. il Pet Eng 23:C5-8 F '51

Progress at Wilton; illustrations with text. Chem Age (Lond) 63:838-9 D 16 '50

Resources for the chemical industry in the Southwest; construction requirements. C. W. Roberts. il Ind & Eng Chem 43:1737-9 Ag '51

To increase production; these projects were under way in 1950. Chem Eng 58:122-6 F '51

Trona process and its unique features; with flow sheets. J. V. Hightower. Chem Eng 58:104-6 Ag '51

Vertical Pittsburgh Coke & Chemical. il Chem W 69:16-17 Jl 21 '51

Yankee enterprise; Humphrey-Wilkinson sodium reduction service. il Chem Ind 67:556-7 O '50

See also

Canneries

Cement plants

Clay products plants

Cleaning compositions—Manufacture

Corn products plants

Drug factories

Food factories

Glass factories

Paper mills

Petroleum refineries

Rubber, Artificial—Manufacture

Rubber factories

Soap factories

Varnish factories

Accidents

Accident trends in the chemical industry. S. M. MacCutcheon. Chem & Eng N 29:3609-11 S 3 '51

Du Pont's accident frequency rate has been reduced to one twenty-fifth of its accident rate 25 years ago. V. R. Croswell. Ind & Eng Chem 42:sup 119A-20A N '50

Accounting

See Chemical industries—Accounting

Control

Construction and use of statistical control charts on continuous variables. K. A. Brownlee. Ind & Eng Chem 43:1307-10 Je '51

Controllability and plant design. L. Walter. bibliog il diags Chem Age (Lond) 65:359-62, 391-5 S 15-22 '51

Instrumentation and process control; A.C.S. symposium. Chem & Eng N 29:1625-6 Ap 23 '51

Instrumentation in a modern chlorine handling plant. J. M. Hildyard. flow sheet diags Electrochem Soc J 97:367-76 N '50

CHEMICAL plants—Control—*Continued*

Question and answer session at Texas A & M's fifth annual symposium on instrumentation for the process industries. Instruments 24:160-2+ F '51

Some developments in electronic instrumentation including process control. W. T. Marchment. il diags Instruments 24:42-4+ Ja '51

Cost of construction

Chemical plant construction cost; indoors versus outdoors. J. R. Minevitch and others. il Chem Eng Prog 47:385-9; Discussion. 389-91 Ag '51

Estimating construction costs in chemical process industries. T. W. Bean. Ind & Eng Chem 43:2302-4 O '51

Costs

Cost estimating simplified. C. H. Chilton. bibliog Chem Eng 58:108-11 Je '51

How process equipment costs varied; Marshall and Stevens annual indexes of comparative equipment costs, 1913 to 1950. Chem Eng 58:158 F '51

Inflation factors in estimating costs considered by panel. Chem & Eng N 29:1624 Ap 23 '51

Next time, give the boss a precise capital cost estimate. W. T. Nichols. Chem Eng 58:248+ Je '51

Process labor requirements; chart to help predict operating costs for proposed new plant. C. H. Chilton. Chem Eng 58:151 F '51

Statistical analysis of cost estimates. P. Ferencz. Chem & Eng N 29:4158-60 O 8 '51

Symposium on plant cost estimation. W. T. Nichols and others. bibliog Ind & Eng Chem 43:2295-311 O '51 (reprints 50 cents)

What does maintenance cost? J. D. Leonard. Chem Eng 58:149-53 S '51

What price process plants? data for over 125 products and processes tabulated. Chem Eng 58:164-5 My '51

Design

Bacitracin; product of biochemical engineering. G. C. Inskeep and others. bibliog flow sheet il diags Ind & Eng Chem 43:1488-98 Jl '51

Continuous flow stirred tank reactor systems; agitation requirements. R. W. MacDonald and E. L. Piret. bibliog il diags Chem Eng Prog 47:363-9 Jl '51

Continuous stirred tank reactor systems; further development of transient equations, applications, and experimental confirmation. D. R. Mason and E. L. Piret. bibliog Ind & Eng Chem 43:1210-19 My '51

Controllability and plant design. L. Walter. bibliog il diags Chem Age (Lond) 65:359-62, 391-5 S 15-22 '51

Degrees of freedom for steady state flow system. P. L. Morse. diags Ind & Eng Chem 43:1863-71 Ag '51

Design engineering goes to modern production methods. L. Clayton. Chem Eng 57:254+ D '50

Design in chemical factories; Building research congress papers. Chem Age (Lond) 65:463-4 O 6 '51

Design of fixed-bed catalytic reactors. H. B. Irvin, R. W. Olson and J. M. Smith. bibliog flow sheet Chem Eng Prog 47:287-94 Je '51

Improving liaison between research and engineering. il Chem Eng Prog 47:161-7 Ap '51

Industrial hygiene considerations in plant location and design. W. R. Bradley. il Chem & Eng N 29:1198-200 Mr 26 '51

Principles of reactor design; homogeneous reactions. J. R. Caddell and D. M. Hurt. Chem Eng Prog 47:333-8 Jl '51

See also
Chemical plants—Open-air construction

Electric equipment

Electrical installations in large chemical factories. D. B. Hogg. bibliog il diags Inst E E Proc 98 pt 2:125-37 Ap '51; Abstracts. Engineering 170:573 D 29 '50; Elec R (Lond) 147:840 N 24 '50; Chem Age (Lond) 64:313-14 F 24 '51; Discussion. Inst E E Proc 98 pt 2:137-42 Ap '51

Motors and motor control; Chemical Engineering report. V. J. Kropf. il diags Chem Eng 58:123-36 Jl '51

Equipment

Before you buy used equipment. S. A. Savitt. il Chem Eng 58:110-11 Ag '51

Chemical engineering materials of construction; fifth annual review; with 3d tabular data compilation, p2283-94. bibliog il Ind & Eng Chem 43:2193-294 O '51 (reprints 75 cents)

Chemical engineering unit operations; sixth annual review; materials handling. R. E. Wright. bibliog(31 ref) il Ind & Eng Chem 43:108-11 Ja '51

Corrosion forum; construction materials vs. hydrocarbon solvents. il Chem Eng 58:220+ Je; 222+ Jl '51

Design of fixed-bed catalytic reactors. H. B. Irvin. R. W. Olson and J. M. Smith. bibliog flow sheet Chem Eng Prog 47:287-94 Je '51

Equipment and design. C. O. Brown. Published in monthly numbers of Industrial and engineering chemistry

Five problems and five answers at Shell Chemical. J. A. Parker. il diag Chem Eng 57:109-11 D '50

Flexible, corrosion resistant plastic solves gasket problems; Teflon rings and tape for use in chemical processing equipment. B. G. Staples. il Materials & Methods 32:48-9 D '50

Food yeast from sulfite liquor. G. C. Inskeep and others. bibliog flow sheet il diags Ind & Eng Chem 43:1702-11 Ag '51

14th report on materials of construction. il diags Chem Eng 57:107-54 N '50

Glass, its place in chemical processing. J. C. Smith. bibliog il Chem Eng 58:117-29 Ap '51

Good understanding of light metal welding is essential to chemist and chemical engineer. C. O. Brown. Ind & Eng Chem 43:sup93A-4A+ O '51

How analogs speed process instrumentation. il Chem W 68:30-1 Je 23 '51

How process equipment costs varied; Marshall and Stevens annual indexes of comparative equipment costs, 1913 to 1950. Chem Eng 58:158 F '51

How to save money; speed delivery of equipment. W. W. DaLee. Chem Ind 67:732-3+ N '50

Instruments for chemical plant. il diags Chem Age (Lond) 64:807-12, 885-90, 945-50; 65:41-5, 121-5+ My 26, Je 9, 23 Jl 14, 28 '51

Mass spectrometer for monitoring continuous processes. C. F. Robinson and others. il diags Instruments 24:25-9 F '51

Materials handling in the chemical industry. il Can Chem Process 35:497-9+ Je '51

Materials of construction in the chemical industry; abstracts of papers read at the conference in Birmingham, April 18-20, 1950. Chem & Ind p61-8 Ja 27 '51

Materials of construction vs. phenol. W. Z. Friend and others. Chem Eng 58:222+ Ag '51

Most persistent pumping problems for chemical plant designers. I. Taylor. il diags Chem Eng Prog 46:637-42 D '50

New Hood household chemical plant. il Soap & San Chem 26:114-15+ O '50

New reactor uses compartmented design; Kellogg's alkylation reactor. il diag Chem Eng 58:142-3 Ap '51

Plastics for protective coatings and linings of chemical plant. E. E. Halls. Metallurgia 42:376-81 D '50

Separation of the stable isotope of sulfur 34. E. D. North and R. R. White. flow sheet Ind & Eng Chem 43:2390-7 O '51

Sulphur vs. construction materials. J. R. West and others. il Chem Eng 58:276+ S '51

Systematic investigation leads to economies through mechanization. il Can Chem Process 35:736-8 S '51

Two decades of progress in use of glass as material of construction. C. O. Brown. Ind & Eng Chem 43:sup53A-4A+ Ag '51

207-ft. hypersorber tower raised into place in two hours. R. Merims. il Pet Processing 6:837-9 Ag '51

CHEMICAL plants—Equipment—*Continued*

Used or secondhand chemical equipment. C. O. Brown. Ind & Eng Chem 42:sup89A-90A N '50

Vinyl resins; how vinyl chloride is made. C. F. Ruebensaal. il diags Chem Eng 57:102-5 D '50

See also

Agitators
Autoclaves
Centrifuges
Cooling towers
Distillation apparatus
Evaporators
Heat exchangers
Mixers
Pressure vessels

Experimental plants

DuPont company dedicates addition to experimental station. il Chem Eng Prog 47:sup24+ Je '51

Experimental unit for recovery of volatile flavors. G. W. M. Phillips and others. bibliog il diag Ind & Eng Chem 43:1672-5 Jl '51

Experts probe pilot plants. il Chem Ind W 68:35 Mr 31 '51

Factorial experiments in pilot plant studies. J. R. Bainbridge. flow sheet Ind & Eng Chem 43:1300-6 Je '51

Fluorine chemicals. L. C. Mosier and W. E. White. il plan diag Ind & Eng Chem 43:246-8 Ja '51

High-rate sulfur melter. B. A. Axelrad and L. A. Nelson, jr. bibliog flow sheet plan diag Ind & Eng Chem 42:2212-15 N '50

Pilot plant study of fluorine and its derivatives. F. R. Lowdermilk and others. bibliog il J Chem Educ 28:246-52 My '51

Portable heater using chlorinated biphenyl. R. E. Howard. flow diag il Ind & Eng Chem 43:782-4 Mr '51

Radial chromatographic pilot plant. C. G. Lynam and H. Weil. bibliog plans diags Can Chem Process 35:471-8 Je '51

Scale-up of pilot plant data keynotes engineering symposium. Chem & Eng N 29:1203-4 Mr 26 '51

Some aspects of semi-technical scale experimentation in chemical industry. R. Holroyd. Chem & Ind p782-7 S 22 '51

Unit process pilot plant. H. L. Shulman. il diags Ind & Eng Chem 43:1257-60 My '51

Layout

Plant management. W. von Pechmann. plan Ind & Eng Chem 43:sup75A-6A+ My '51

Lighting

Special problems in lighting a chemical plant. J. H. Snow. il Illum Eng 46:329-34 Jl '51

Location

Industrial hygiene considerations in plant location and design. W. R. Bradley. il Chem & Eng N 29:1198-200 Mr 26 '51

Maintenance and repair

What does maintenance cost? cost data to help you prepare estimates of maintenance cost for new plants; sharpen up cost-reduction programs on your old plants. J. D. Leonard. Chem Eng 58:149-53 S '51

Management

California's chemical industries, compared to those in the East, have ample space and raw materials, but supplies and equipment are not always available. W. von Pechmann. Ind & Eng Chem 43:sup77A-8A+ Mr '51

Efficient use of labour and plant in a chemical works. E. H. Ingram. Chem & Ind sup S873-4 D 30 '50

Experience and advice of superintendents and foremen should be utilized. W. von Pechmann. Ind & Eng Chem 42:sup77A-8A D '50

Management star; American institute of management study. Chem Ind W 68:59 Ja 20 '51

New science of trouble shooting. L. A. Seder. bibliog Ind & Eng Chem 43:2053-9 S '51

Plant management. W. von Pechmann. Published in monthly numbers of Industrial and engineering chemistry

Production clinic; problems of a chemical specialties manufacturing plant. E. G. Thomssen. Soap & San Chem 27:87 Ag '51

Some aspects of management in chemical manufacture. W. G. Hiscock. Chem & Ind p 176-82 Mr 10 '51

Tape and wire recorders in controlling chemical manufacturing operations. W. von Pechmann. il Ind & Eng Chem 43:sup95A-6A Jl '51

Techniques for investigating job and operation performances. W. von Pechmann. Ind & Eng Chem 42:sup 103A-4A N '50

Open-air construction

Chemical plant operations and the weather; indoor versus outdoor construction. W. H. Williams and others. il Chem Eng Prog 47:277-82, 339-43, 385-9 Je-Ag '51; Discussion. 47:389-91 Ag '51

Power

Gas turbines and the chemical industry; great flexibility aids variety of processes. Chem Age (Lond) 64:521-2 Ap 7 '51

Motors and motor control; Chemical engineering report. V. J. Kropf. il diags Chem Eng 58:123-36 Jl '51

Power for the small chemical plant. R. L. Miller. il Chem Eng 58:122-4 Je '51

Power squeeze for '52. il Chem W 69:11-12 O 20 '51

Process power requirements. Chem Eng 58:115 Mr '51; Same. Elec World 136:120 Ag 27 '51

Quality control

Statistical methods in chemical production; symposium. bibliog Ind & Eng Chem 43:2053-73 S '51

Safety measures

American institute of chemical engineers safety symposium. Ind & Eng Chem 43:sup 115A-16A+ Jl '51

$D=P/S$; Texas co. increased S factor at new cycling plant. J. A. Lee. il diag Chem Eng 58:107-9 Ag '51

Designed fire prevention. J. J. Duggan. il plans diags Chem Eng 58:125-34 Je '51

Getting the most out of your safety engineer. A. L. Cobb. il Chem Eng 58:120-2 Jl '51

Hazards of chemicals and training personnel in safe handling. T. W. Rodes. Ind & Eng Chem 43:sup 121A-2A+ Jl '51

Insecticide formulation; Plant Protection factory at Yalding. Chem Age (Lond) 64:379-80 Mr 10 '51

Safe but not safest. Chem W 69:16 Ag 11 '51

Safety and outdoor construction; Commercial solvents corp. H. Kieweg. il Chem Eng Prog 47:341-3 Jl '51

Three papers presented before chemical section of National safety council. Ind & Eng Chem 43:sup87A-8A Ja '51

Training for disaster; American Cyanamid. il Chem Ind W 68:29+ Mr 3 '51

Waste

Chemical waste disposal at Victoria, Texas, plant of the Du Pont company. H. W. de Ropp. Sewage & Ind Wastes 23:194-7 F '51

Complex water-pollution problems solved by applied research; Southwest research institute stands guard for the Celanese corporation of America. il Eng N 146:44-5+ F 8 '51

Control of air pollution in the chemical industry. M. Sittenfield. Chem Eng Prog 47:481-3 S '51

Diffused air floats particles for waste disposal. A. I. Barry. flow diag il Chem Eng 58:107-10 Ap '51

Down the drain; Du Pont to try underground disposal of chemical wastes. F. L. Resen. il Oil & Gas J 50:53 S 27 '51

Effluent disposal in DDT manufacture; abstract. J. Grindley. Sewage & Ind Wastes 23:1211 S '51

Hoffman-La Roche exhibits waste disposal facilities. il Chem & Eng N 29:2468 Je 18 '51

How to use submerged combustion to neutralize alkaline wastes. W. I. Weisman. diag Chem Eng 57:169-70 N '50

Industrial wastes. H. R. Murdock. Published in monthly numbers of Industrial and engineering chemistry

Informed public helpful in solving pollution problems. Chem & Eng N 29:1734-6 Ap 30 '51

CHEMICAL plants—Waste—*Continued*

MCA conference studies progress in air, water pollution abatement. Oil Paint & Drug Rep 159:5+ Ap 23 '51

New catalytic process oxidizes wastes; DuPont oxidizes organic content to carbon dioxide and water. flow sheet Chem Eng 58:183 Je '51

Size up your liquid waste problem. F. W. Mohlman. Chem Eng 58:119-21 My '51

Stack disposal of chemical waste. C. A. Gosline. A M A Archives Ind Hygiene & Occup Med 2:621-30 D '50

Waste disposal at a synthetic rubber plant. L. D. Dougan and J. C. Bell. diag Sewage & Ind Wastes 23:181-7 F '51

Waste utilization and waste treatment. H. R. Murdock. Ind & Eng Chem 43:sup83A-4A+ Mr '51

What process wastes cause air pollution? L. Silverman. Chem Eng 58:132-5 My '51

CHEMICAL reaction

Clock reaction. M. G. Suryaraman and A. Viswanathan. bibliog J Chem Educ 28:386-7 Jl '51

Elementary reactions in the gas phase involving excited electronic states. K. J. Laidler and K. E. Shuler. diags Chem R 48:153-224 bibliog(231 ref, p219-24) Ap '51

Encyclopedia of chemical reactions. C. A. Jacobson, ed. v4 790p $14 Reinhold pub. corp, 330 W. 42d st, New York '51

Four-centre, broad-side approach as a mechanism of reaction. W. Gerrard. Chem & Ind p463-4 Je 16 '51

Introduction to chemical reaction calculations. A. M. Platt and G. L. Farrar. il Pet Refiner 30:83-9 Ag; 147-52 O; 137-42 N '51

Isotopic exchange between metal ions of different valency. J. Weiss. J Chem Phys 19:1066-7 Ag '51

Kinetic analysis of consecutive irreversible second order reactions. D. French. Am Chem Soc J 72:4806-7 O '50

Kinetics of continuous reaction processes; application to polymerization. K. G. Denbigh. bibliog J Ap Chem 1:227-36 My '51

Kinetics of OH radicals from flame emission spectra. K. E. Shuler. bibliog J Chem Phys 18:1221-6, 1466-70; 19:888-94 S, N '50, Jl '51

Mechanism of the reaction between silver and sulfur in mineral oil. R. T. Foley and others. bibliog J Phys & Colloid Chem 54:1281-92 D '50

New type of high-temperature X-ray camera for chemical reactions in the solid state. T. Kubo and H. Akabori. bibliog il diags J Phys & Colloid Chem 54:1121-31 N '50

Nomograph for calculating contact time for vapor-phase reactions. J. N. Pattison. Ind & Eng Chem 43:1444-6 Je '51

Oxo reactions gaining ground in industry; abstract. C. L. Levesque. Chem & Eng N 28:3881 N 6 '50

Reaction of dinitrogen tri- and tetr- oxides with olefins; ethylbut-1-ene and dec-1-ene. C. R. Porter and B. Wood. Inst Pet J 37:388-95 Jl '51

Reaction of methylcyclopentane with Hg $6(^3P_1)$ atoms. M. Schlochauer and H. E. Gunning. bibliog J Chem Phys 19:474-81 Ap '51

Reactions of methyl radicals; the abstraction of hydrogen atoms from cyclic hydrocarbons, butynes, amines, alcohols, ethers, and ammonia. A. F. Trotman-Dickenson and E. W. R. Steacie. bibliog J Chem Phys 19:329-36 Mr '51

Reactions of radicals produced by the action of sodium on alkyl iodides. A. A. Comstock and G. K. Rollefson. bibliog diags J Chem Phys 19:441-6 Ap '51

Solid-state reactions in phase equilibrium research. W. R. Foster. bibliog Am Cer Soc Bul 30:267-70, 291-6 Ag 15-S 15 '51

Sulphur reactions in sulphite cooking; fundamental chemical considerations. W. H. Rapson and M. Wayman. bibliog Pulp & Pa of Can 52:88-90 Jl '51

Symposium on anomalies in reaction kinetics. M. Burton and others. bibliog diags J Phys & Colloid Chem 55:763-1104 Je '51

Thermodynamic study of the reaction $CaS+H_2O \rightleftarrows CaO+H_2S$ and the desulphurization of liquid metals with lime. T. Rosenqvist. bibliog diags J Metals 3:Trans 535-40 Jl '51

Wall reactions and diffusion in static and flow systems. R. Gomer. J Chem Phys 19:284-9 Mr '51

See also

Addition compounds
Antigens and antibodies
Bromination
Catalysis
Catalysts
Chains, Chemical
Chemical equilibrium
Chugaev reaction
Combustion
Condensation, Chemical
Dakin-West reaction
Dehydration
Dehydrogenation
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Hydrolysis
Kiliani reaction
Knoevenagel reaction
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Michael reaction
Molecular rearrangements
Nitration
Oxidation
Perkin reaction
Photochemistry
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Reduction, Chemical
Reformatsky reaction
Schmidt reaction
Steric hindrance
Substitution (chemistry)
Synthesis
Unit processes
Willgerodt reaction
Willgerodt-Kindler reaction
Wolff-Kishner reaction

Velocity

Action of hot ionized gases upon zirconium and copper. A. Dravnieks. bibliog diags J Phys & Colloid Chem 55:540-9 Ap '51

Apparatus for measuring the rates of some rapid reactions. C. D. McKinney, jr. and M. Kilpatrick. bibliog il diags R Sci Instr 22:590-7 Ag '51

Aromatic sulphonation; kinetics of sulphonation in fuming sulphuric acid. J. C. D. Brand. Chem Soc J p 1004-17 Mr '50

Calculating rates of some radical reactions. M. Szwarc. J Chem Phys 19:256-7 F '51

Chemical engineering unit processes fourth annual review; kinetics and equilibria. R. H. Wilhelm and R. K. Toner. Ind & Eng Chem 43:1898-1903 bibliog(135 ref, p 1902-3) S '51

Effect of halogen atoms on the S_N1 reactivity of other halogen atoms attached to the same carbon atom. J. Hine and D. E. Lee. bibliog Am Chem Soc J 73:22-3 Ja '51

Effect of structure on reactivity; aminolysis of esters with primary amines. E. M. Arnett, J. G. Miller and A. R. Day. Am Chem Soc J 72:5635-8 D '50

Electrolytic effect upon the kinetics of the bromoacetate-thiosulfate reaction in *n*-propyl alcohol-water solutions. F. G. Ciapetta and H. M. Tomlinson. bibliog J Phys & Colloid Chem 55:429-39 Mr '51

Fischer indole synthesis; a kinetic investigation. K. H. Pausacker and C. I. Schubert. Chem Soc J p 1814-16 Jl '50

Inductive effect and chemical reactivity; general theory of the inductive effect and application to electric dipole moments of haloalkanes. R. P. Smith and others. bibliog Am Chem Soc J 73:2263-8 My '51

Intraparticle diffusion in catalytic heterogeneous systems. N. L. Smith and N. R. Amundson. bibliog diag Ind & Eng Chem 43:2156-67 S '51

Kinetics and mechanism of aromatic nitration. E. D. Hughes and others. Chem Soc J p2400-73 S '50

Kinetics and mechanism of solid phase reactions in oxide films on pure iron. E. A. Gulbransen and R. Ruka. bibliog il diags Ind & Eng Chem 43:697-703 Mr '51

Kinetics and mechanism of the heat inactivation of pepsin. E. J. Casey and K. J. Laidler. bibliog Am Chem Soc J 73:1455-7 Ap '51

Kinetics and mechanism of the reaction of diphenyldiazomethane and benzoic acid in ethanol. J. D. Roberts, W. Watanabe and R. E. McMahon. bibliog Am Chem Soc J 73:760-5 F '51

Kinetics of anionotropic rearrangement; the effects of polycyclic aromatic substituents on reactivity; a comparison of the electronic properties of the phenyl, 1-naphthyl, 2-naphthyl, 9-anthryl, and 9-phenanthryl groups. E. A. Braude and J. S. Fawcett. Chem Soc J p800-8 Mr '50

CHEMICAL reaction—Velocity—*Continued*

Kinetics of carboxypeptidase action; effect of various extrinsic factors on kinetic parameters. R. Lumry, E. L. Smith and R. R. Glantz. bibliog Am Chem Soc J 73:4330-40 S '51

Kinetics of catalytic sulfurization of methane. R. C. Forney and J. M. Smith. bibliog diag Ind & Eng Chem 43:1841-8 Ag '51

Kinetics of chlorohydrin formation; the reaction between hypochlorous acid and allyl alcohol in aqueous solution. G. C. Israel, J. K. Martin, and F. G. Soper. Chem Soc J p 1282-5 My '50

Kinetics of chlorohydrin formation; the reaction between hypochlorous acid and allyl alcohol in the presence of sodium acetate-acetic acid buffers of constant *pH*. G. C. Israel. Chem Soc J p 1286-9 My '50

Kinetics of exchange reactions; substituted phenyl and benzyl bromides. S. Sugden and J. B. Willis. Chem Soc J p 1360-3 My '51

Kinetics of halogen addition to unsaturated compounds; iodine addition. P. W. Robertson and others. Chem Soc J p2191-4 Ag '50

Kinetics of halogen addition to unsaturated compounds; the αβ-ethylenic nitriles. D. A. Evans and P. W. Robertson. Chem Soc J p2834-5 O '50

Kinetics of halogen addition to unsaturated compounds; the mechanisms of addition reactions. P. B. D. de la Mare and P. W. Robertson. Chem Soc J p2838-42 O '50

Kinetics of halogen addition to unsaturated compounds; αβ-unsaturated sulphones. I. R. C. McDonald, R. M. Milburn and P. W. Robertson. Chem Soc J p2836-8 O '50

Kinetics of hexose formation from trioses in alkaline solution. W. G. Berl and C. E. Feazel. Am Chem Soc J 73:2054-7 My '51

Kinetics of peptide bond formation. D. E. Koshland, jr. bibliog Am Chem Soc J 73:4103-8 S '51

Kinetics of pyrolysis of diborane. J. K. Bragg, L. V. McCarty and F. J. Norton. Am Chem Soc J 73:2134-40 My '51

Kinetics of the acid decomposition of sodium thiosulfate in dilute solutions. R. H. Dinegar, R. H. Smellie and V. K. La Mer. Am Chem Soc J 73:2050-4 My '51

Kinetics of the ammonia-deuterium exchange by a microwave method. J. Weber and K. J. Laidler. J Chem Phys 19:381-2 Mr '51

Kinetics of the autoxidation of *n*-decanal. H. R. Cooper and H. W. Melville. diags Chem Soc J p 1984-2002 Ag '51

Kinetics of the catalytic formation of phosgene. C. Potter and S. Baron. bibliog flow sheet diag Chem Eng Prog 47:473-80 S '51

Kinetics of the decomposition of nickel formate. L. L. Bircumshaw and J. Edwards. diags Chem Soc J p 1800-9 Jl '50

Kinetics of the decomposition of solid mercurous formate. G. A. Miller and G. W. Murphy. Am Chem Soc J 73:1871-2 Ap '51

Kinetics of the exchange reaction between the two oxidation states of cerium in acid solution. J. W. Gryder and R. W. Dodson. bibliog Am Chem Soc J 73:2890-5 Je '51

Kinetics of the isotopic exchange reaction between carbon monoxide and carbon dioxide. T. H. Norris and S. Ruben. bibliog J Chem Phys 18:1595-600 D '50

Kinetics of the Kjeldahl reaction. G.-M. Schwab and E. Schwab-Agallidis. diag Am Chem Soc J 73:803-9 F '51

Kinetics of the manganous-permanganate reaction. A. W. Adamson. bibliog J Phys & Colloid Chem 55:293-303 F '51

Kinetics of the rapid gas phase reaction between NO, NO_2, and H_2O. L. G. Wayne and D. M. Yost. bibliog il diag J Chem Phys 19:41-7 Ja '51

Kinetics of the reaction of atomic hydrogen with acetylene. J. R. Dingle and D. J. Le Roy. diags J Chem Phys 18:1632-7 D '50

Kinetics of the reaction of germanium and oxygen. R. B. Bernstein and D. Cubicciotti. Am Chem Soc J 73:4112-14 S '51

Kinetics of the reaction of lithium borohydride in aqueous acid solution. M. Kilpatrick and C. D. McKinney, jr. bibliog diag Am Chem Soc J 72:5474-6 D '50

Kinetics of the thermal decomposition of nitric acid vapor. H. S. Johnston and others. Am Chem Soc J 73:2319-21 My '51

Mechanisms of chain termination in chlorine atom reactions. R. M. Noyes and L. Fowler. bibliog Am Chem Soc J 73:3043-5 Jl '51

Mechanisms of elimination reactions; the kinetics of the alkaline dehydrochlorination of the benzene hexachloride isomers. S. J. Cristol, N. L. Hause and J. S. Meek. bibliog Am Chem Soc J 73:674-9 F '51

Osmium tetroxide catalyzed oxidation of fumaric and maleic acids. M. Zelikoff and H. A. Taylor. Am Chem Soc J 72:5039-42 N '50

Outlines absolute rate theory for chemical reactions. H. Eyring. Chem & Eng N 29:1100 Mr 19 '51

Polyalkylene sulfides; the rate of formation in emulsion. C. S. Marvel and A. H. Markhart, jr. Am Chem Soc J 73:1064-5 Mr '51

Preliminary study of the kinetics of pyrolysis of diborane. R. P. Clarke and R. N. Pease. Am Chem Soc J 73:2132-4 My '51

Quantitative studies of the reactivities of mixed carboxylic anhydrides; the determination of some reaction velocities involving acetic chloroacetic anhydride. A. R. Emery and V. Gold. Chem Soc J p 1447-55 Je '50

Rate constant of ethane formation from methyl radicals. R. Gomer and G. B. Kistiakowsky. bibliog J Chem Phys 19:85-91 Ja '51

Rate equation of ammonia-synthesis on iron-type catalysts of different composition. R. Brill. bibliog J Chem Phys 19:1047-50 Ag '51

Rate law and mechanism of the reaction of iodine with thiosulfate ion; the formation of the intermediate $S_2O_3I^-$. A. D. Awtrey and R. E. Connick. bibliog diag Am Chem Soc J 73:1341-8 Mr '51

Rates and temperature coefficients in the hydration of gaseous isobutene by dilute aqueous nitric acid. J. B. Levy and others. diag Am Chem Soc J 73:3792-6 Ag '51

Rates, heats, and entropies of polymerization. F. S. Dainton. bibliog Can Chem & Process Ind 35:36-9+ Ja '51

Reaction-kinetic investigations of the incomplete dissociation of salts; the hydrolysis of carbethoxymethyltriethylammonium iodide and of ethyl acetate by solutions of metal hydroxides. R. P. Bell and G. M. Waind. Chem Soc J p 1979-83 Ag '50

Reaction rates by distillation; the effect of changes in structure on the rate of the Knoevenagel reaction. E. F. Pratt and E. Werble. bibliog Am Chem Soc J 72:4638-41 O '50

Reactions of nitrous acid. J. H. Dusenbury and R. E. Powell. Am Chem Soc J 73:3266-70 Jl '51

Reactions of the alkyl-sulphate ion; kinetics and mechanism of the reaction with hydroxide ion. G. H. Green and J. Kenyon. Chem Soc J p 1389-91 My '50

Reactions of the alkyl-sulphate ion; kinetics and mechanism of the reaction with phenoxide ion and the polar effects of substituents in the phenol nucleus. G. H. Green and J. Kenyon. Chem Soc J p 1589-96 Je '50

Relative rates of reaction of hydrogen and tritium hydride with chlorine. W. M. Jones. bibliog diag J Chem Phys 19:78-85 Ja '51

Significance of the frequency factor in unimolecular reactions. S. W. Benson. J Chem Phys 19:802-3 Je '51

Solvent dependence of specific rates treated as a problem in activity coefficients. E. Grunwald. bibliog J Phys & Colloid Chem 55:881-4 Je '51

Some factors affecting the useful rates of reaction in the industrial polymerization of styrene. J. Elly, R. N. Haward and W. Simpson. bibliog J Ap Chem 1:347-53 Ag '51

Symposium on anomalies in reaction kinetics. M. Burton and others. bibliog diags J Phys & Colloid Chem 55:763-1104 Je '51

Thermal hydrogen-oxygen reaction at relatively low temperatures. H. P. Broida and O. Oldenberg. bibliog J Chem Phys 19:196-202 F '51

Thermodynamics and chemical kinetics of one-dimensional nonviscous flow through a Laval nozzle. S. S. Penner. J Chem Phys 19:877-81 Jl '51

CHEMICAL reaction—Velocity—*Continued*

Vapor-phase catalytic esterification rates. R. A. Buckley and R. J. Altpeter. bibliog flow sheet Chem Eng Prog 47:243-50 My '51

Wall effects in photochemically induced chain reactions. R. M. Noyes. bibliog Am Chem Soc J 73:3039-43 Jl '51

CHEMICAL reagents

Coulometric titrations with externally generated reagents. D. D. DeFord, J. N. Pitts and C. J. Johns. bibliog diags Anal Chem 23:938-44 Jl '51

Linear starch reagents. J. L. Lambert. bibliog Anal Chem 23:1247-55 S '51

Publication of Reagent chemicals culminates 30-year effort. Chem & Eng N 29:2132-3 My 28 '51

Separation by precipitation from homogeneous solution. H. H. Willard. bibliog Anal Chem 22:1372-4 N '50

Substituted benzidines and related compounds as reagents in analytical chemistry. R. Belcher and A. J. Nutten. Chem Soc J p544-51 F '51

Sweetening and desulfurization of light petroleum products; alkaline reagents. V. A. Kalichevsky. il Pet Refiner 30:111-18 bibliog and patent list(p 117-18) Ap '51

See also

Bial's reagent
Fischer reagent
Grignard reagents
Nessler's reagent

CHEMICAL research

Application of isotopes in chemical industry. H. Seligman. il Chem & Ind p724-7 S 1 '51

Applied research in new product development. W. A. Jordan. Ind & Eng Chem 43:832-4 Ap '51

Careers in chemistry and chemical engineering; academic research as a career. L. Pauling. Chem & Eng N 28:3970-1 N 13 '50

Careers in chemistry and chemical engineering; literature chemist; relation to research; indexing, writing, etc. J. W. Perry. Chem & Eng N 28:4530-2 D 25 '50

Chemical research serves as a barometer of future growth possibilities. J. V. Sherman. Barron's 31:11-12 Ap 16 '51

Chemistry and the future; abstract. N. H. Furman. Comm & Fin Chr 174:1062 S 20 '51

Chemistry branch, Physical sciences division, Office of naval research; new contracts. Science 112:485-6 O 20 '50

Chemistry research; report of the Chemistry research board. Engineering 171:79 Ja 19 '51

Chemists meet and discuss new discoveries. A. Glenn. Barron's 31:15-16 Ap 16 '51

CCDA-CMRA symposium on industry needs. il Chem & Eng N 29:448-55, 545-51, 644-9, 744-52 F 5-26 '51

Commercial chemical development association outlines gains of industrial research. Oil Paint & Drug Rep 159:7+ Ja 22 '51

Cortisone shortage; vast search is under way. diag Fortune 43:82-5+ My '51

Despite war effort, basic research must continue; abstract. E. U. Condon. Chem & Eng N 29:906 Mr 5 '51

Diversification research. N. W. Flodin. Chem & Eng N 29:44-9 F 5 '51

High-pressure chemical research at 150,000 psi; abstract. C. O. Strother. Steel 128:112 Je 11 '51

How to make research pay; how Wyandotte does it. T. H. Vaughn. Chem Eng 58:143-5 S '51

Importance of research in growth of chemical industry. C. H. Greenewalt. Comm & Fin Chr 173:2551+ Je 21 '51

Joseph Pelletier and Joseph Caventou. M. Delépine. bibliog il J Chem Educ 28:454-61 S '51

Kinetics of ordering in the alloy AuCu. G. J. Dienes. bibliog J Ap Phys 22:1020-6 Ag '51

Mellon institute reports progress of 38th year; list of projects of chemical interest. Chem & Eng N 29:3372+ Ag 13 '51

New chemicals from seaweed; Gulland laboratory at Institute of seaweed research. Chem Age (Lond) 64:47-8 Ja 13 '51

1949-50 at Georgia Tech engineering experiment station. B. H. Weil and H. H. Cudd. il Chem & Eng N 28:4069-70 N 20 '50

Progress report, third quarter, 1949 from Northeastern divisional laboratories to National council on science and technology. J. H. Pomeroy. Chem & Eng N 28:4566-7 D 25 '50

Pulse-annealing for the study of relaxation processes in solids. W. E. Parkins and others. il diags J Ap Phys 22:1012-19 Ag '51

Quantum theory and chemistry. L. Pauling. Science 113:92-4 Ja 26 '51

Randolph T. Major gets IRI award for work at Merck. Chem & Eng N 29:2144 My 28 '51

Research corp. announces impressive program. Chem & Eng N 29:3093-4, 3175-7, 3376 Jl 30-Ag 13 '51

Research grants received by Department of chemistry, Florida state university. Science 112:636 N 24 '50

Research in analytical chemistry; school at Birmingham solves industrial problems. Chem Age (Lond) 64:769-71 My 19 '51

Research leads the way at Hercules. C. H. Vivian. il Comp Air Mag 56:2-6 Ja '51

Research themes at the CRL. Chem Age (Lond) 63:567 O 21 '50

Role of chance in chemical discoveries. P. Walden. J Chem Educ 28:304-8 Je '51

Some aspects of semi-technical scale experimentation in chemical industry. R. Holroyd. Chem & Ind p782-7 S 22 '51

Statistical design in chemical experimentation. W. L. Gore. Ind & Eng Chem 43:2327-8 O '51

Undergraduate chemical research. E. H. Cortelyou. Science 113:528-9 My 4 '51

Who'll do the basic work? foreign chemists wonder too; Younger chemists international project summation dinner, Newark, Oct. 3. Chem & Eng N 29:4261-2 O 15 '51

See also

Chemical laboratories
Electron microscope
Gas research
Metallurgical research
Paper research
Petroleum research
Pharmaceutical research
Rubber, Artificial—Research
Rubber research
Textile research

CHEMICAL research laboratory. See Great Britain—Scientific and industrial research, Department of—Chemical research laboratory

CHEMICAL societies

ACS diamond jubilee meeting, New York; foreign societies and delegates; domestic societies and delegates. Chem & Eng N 29:3795-6 S 17 '51

International chemical meetings in the United States in Sept. 1951. Chem & Ind p740-1 N 18 '50

Local sections-in-miniature. B. R. Stanerson. Chem & Eng N 29:1731-3 Ap 30 '51

See also

American chemical society
International union of pure and applied chemistry

CHEMICAL society, London

Anniversary meetings, 1951. Chem & Ind p266-8 Ap 7 '51

Chemical society, a mid-century review; presidential address. I. Heilbron. Chem Soc J p 1641-53 Je '50

Chemical society's anniversary. Chem Age (Lond) 64:487-90 Mr 31 '51

CHEMICAL specialties manufacturers association

Annual meeting, 37th, New York, Dec. 3-6. Chem & Eng N 28:4442 D 18 '50

Annual meeting, 37th, New York, Dec. 3-6. Oil Paint & Drug Rep 158:5+ D 11 '50; Soap & San Chem 27:98-101+ Ja '51

Annual mid-year meeting, 37th, Chicago, April 30-May 1. Chem & Eng N 29:1946+ My 14 '51

Midyear meeting, 37th, Chicago; with abstracts of papers. Oil Paint & Drug Rep 159:5+ My 7 '51; Soap & San Chem 27:116A-116H My '51

CHEMICAL stability

Stability of gaseous diatomic oxides. L. Brewer and D. F. Mastick. bibliog J Chem Phys 19:834-43 Jl '51

Stability of the ferrate(VI) ion in aqueous solution. J. M. Schreyer and L. T. Ockerman. bibliog Anal Chem 23:1312-14 S '51

CHEMICAL stability—*Continued*
Theoretical calculation of the stability of solid and gaseous alkali and alkaline earth oxides. L. Brewer and D. F. Mastick. bibliog Am Chem Soc J 73:2045-50 My '51

CHEMICAL symbols
Symbols, signs, and abbreviations recommended for British scientific publications. Chem Soc J p 1677-92 Je '51

CHEMICAL warfare
New civil defense manual, Health services and special weapons defense. R. Gibbs. Chem & Eng N 29:178-9 Ja 15 '51
See also
Gases, Asphyxiating and poisonous

CHEMICAL workers
Alkali pattern; conditions of soda ash strike settlement. Chem Ind 67:553-4 O '50
Chemical workers deemed essential in manpower list. Oil Paint & Drug Rep 159: 3 Ap 16 '51
Employee benefit increases on upswing in chemical industry. Chem & Eng N 28: 4082+ N 20 '50
Employees in uniform. il Chem W 69:9-10 Ag 4 '51
Hazards of chemicals and training personnel in safe handling. T. W. Rodes. Ind & Eng Chem 43:sup 121A-2A+ Jl '51
Labor. Chem Eng 58:137-9 F '51
Labour and the chemical industry. Chem Age (Lond) 63:837; 64:45 D 16 '50, Ja 13 '51
Labour relations in the British chemical industry. W. H. Garrett. Chem & Ind p712-15 Ag 25 '51
Last frontier; labor is trying to organize chemical industry. Fortune 43:43-4 Ja '51
Manpower is top problem in chemical plant management. J. W. Irwin. Chem & Eng N 28:4480 D 18 '50

CHEMICAL writing
Careers in chemistry and chemical engineering; literature chemist; relation to research; indexing, writing, etc. J. W. Perry. Chem & Eng N 28:4530-2 D 25 '50
Careers in chemistry and chemical engineering; writing for the chemical industry. H. A. Marple. Chem & Eng N 28:4066-8 N 20 '50
I&EC award improves quality of paper presentation; awards to Clarke L. Coldren and Lloyd G. Alexander. Chem & Eng N 29: 192 Ja 15 '51
Progress report, third quarter, 1949 from Northeastern divisional laboratories to National council on science and technology. J. H. Pomeroy. Chem & Eng N 28:4566-7 D 25 '50

CHEMICALS
Aviation chemicals. W. H. Shearon, jr. il Chem & Eng N 28:3964-5 N 13 '50
Chemical growth outruns economic trends. R. H. Ewell. Chem Ind 67:726-30+ N '50
Chemical, waste disposal; reference book sheet. E. G. Meiter. Am Mach 95:143 Mr 5 '51
Chemistry and the electrical engineer. F. M. Clark. bibliog il Gen Elec R 54:11-23 F '51
Data on chemicals for ceramic use; formulas, molecular weights, colors, crystal forms, densities, refractive indices, melting points, boiling points, transition points, decomposition temperatures. Nat Res Council Bul 118:1-193 bibliog(p151-93) '49 (pa $5)
Economics of the fine chemical industry; definition of fine chemicals. J. D. Pratt. Chem & Ind p38-43 Ja 20 '51
Heavy chemicals; industry's big ten; the situation and what can be done. il Mod Ind 21:50-61 Ja '51
How the new NPA list rates chemicals. Chem Eng 58:280-1 Jl '51
Importance of chemical products to automobiles. C. L. McCuen. Automotive Ind 103:46-7+ N 15 '50
Increased economic importance seen for natural gas pipe lines; chemicals from natural gas. H. J. Carswell. il Am Gas J 174: 14-15+ Je '51
Increased utilization of natural gas; abstract. P. C. Keith and J. H. Arnold. Gas Age 108:87 O 11 '51
Materials of construction for chemical process industries. J. A. Lee. 468p $6.50 McGraw-Hill book co. 330 W. 42d st, New York 18 '50
Monomer mart; Zomlefer and Halpern specialties. il Chem Ind W 68:13 Mr 10 '51
Products; their use and misuse. D. D. Irish. Chem & Eng N 29:1729-30 Ap 30 '51
Research leads the way at Hercules. C. H. Vivian. il Comp Air Mag 56:2-6 Ja '51
Specialties farm; Sudbury laboratories, small but versatile. il Chem Ind W 68:34+ My 12 '51
Using substitute chemicals in plating baths. diags Metal Finishing 49:63-4+ F '51
See also
Acids
Agricultural chemicals
Alcohols
Catalysts
Chemical industries
Chemical reagents
Chemistry, Technical
Cleaning compositions
Drugs
Drying agents
Dyes and dyeing—Chemistry
Flotation agents
Glyoxal
Hydrogen peroxide
Insecticides
Ion exchangers
Oils and fats
Paint materials
Paper chemicals
Petroleum chemicals
Plasticizers
Rubber chemicals
Sanitary chemicals
Solvents
Tanning materials
Tariff—United States—Chemicals
Textile chemicals
Wetting agents

Prices

Chemical prices begin slow but steady decline. Chem & Eng N 29:1318+ Ap 2 '51
Chemicals, oils and drugs price changes, Jan. 1, 1950 and Jan. 1, 1951 compared; tabulation by commodity. Oil Paint & Drug Rep 159:9-10+ sec 2 Ja 29 '51
Chemicals, oils and drugs price record, selected years, 1939-1950; tabulations. Oil Paint & Drug Rep 159:7 sec 2 Ja 29 '51
Current market quotations; chemicals and related materials. Published in weekly numbers of Oil, paint and drug reporter
OPS acts to clarify CPR-22 for chemical manufacturers. Oil Paint & Drug Rep 159: 3+ Je 25 '51
OPS freeze puts chemicals under both GCPR, CPR 22. Oil Paint & Drug Rep 160:3+ Jl 9 '51

Purchasing

Now chemical buyers must sell. H. Jones. Chem Ind W 68:13-14 Ap 14 '51

Standards

British chemical standards. Chem Age (Lond) 63:841-2 D 16 '50
Chemical industry seen awake now to need for standardization. J. G. Henderson. Oil Paint & Drug Rep 160:5+ O 15 '51
Push for standards. il Chem W 69:21-2 Ag 4 '51
Standards for the chemical industry. J. G. Henderson. il Standardization 22:216-19 Jl '51

Statistics

Heavy chemicals. Published in weekly numbers of Oil, paint and drug reporter
Synthetic organic chemicals production in 1950; tabulation. Oil Paint & Drug Rep 159: 72 Mr 12 '51
US '50 chemical exports in relation to production; table. Oil Paint & Drug Rep 160: 56 Ag 13 '51

Transportation

Chemical industry given DTA assurance on tankcar supplies. Oil Paint & Drug Rep 160:3+ O 8 '51
Chemical packaging in polythene. J. H. Childs. Can Chem & Process Ind 35:236-7 Mr '51
Chemicals for export. W. H. Shearon, jr. il Chem & Eng N 29:4256-8 O 15 '51
Chemicals on the waterways. A. J. Dawson. il Chem & Eng N 29:2813-17 Jl 9 '51
Chemicals take to the road. C. A. Sutherland. il Chem & Eng N 29:2460-3 Je 18 '51
Fiber drum safely handles 400 pounds of liquid chemicals. il Chem & Eng N 28:3833 O 30 '50
ICC regulations changes. Chem Ind 67:618+, 946+ O, D '50

CHEMICALS—Transportation—*Continued*

More ICC regulation changes for your files. Chem Eng 57:211-12 D '50

Packaging notebook; metal drums. il Chem Eng 57:239-40+ N '50

Resources for the chemical industry in the Southwest; transportation. W. H. Atack. Ind & Eng Chem 43:1740-3 Ag '51

Seagoing chemicals. O. E. Beutel. il Chem & Eng N 29:3526-8 Ag 27 '51

Shipping dangerous chemicals. Chem Eng 58:232+ F '51

Tank trucks, barges, and full-scale tankers for shipping liquid chemicals in bulk. T. W. Rodes. Ind & Eng Chem 43:sup 135A-6A+ S '51

Transportation by railroad. J. R. Spraul. Chem & Eng N 29:2029-32 My 21 '51

Uses

Uses and applications of chemicals. Published irregularly in Oil, paint and drug reporter

CHEMILUMINESCENCE. See Luminescence

CHEMISORPTION. See Adsorption

CHEMISTRY

AAAS annual meeting, Cleveland. Chem & Eng N 29:194+ Ja 15 '51

American chemical society, North Jersey section 3d annual meeting-in-miniature, Newark, Jan. 8. Chem & Eng N 29:287-8 Ja 22 '51

Chemistry at the mid-century. C. Hinshelwood. Chem & Ind p674-7 Ag 11 '51; Same cond. Chem Age (Lond) 65:181-5 Ag 11 '51

Chemistry in metal extraction. F. D. Richardson. Metallurgia 44:87-8 Ag '51

Chemists look into a bright new world at American chemical society diamond jubilee meeting, New York. il Bsns W p 19-22 S 15 '51

Role of chemistry in promoting international understanding. A. W. Barkley. Comm & Fin Chr 174:1054 S 20 '51

Skeptical chemist looks into the crystal ball. J. B. Conant. Comm & Fin Chr 174:1045+ S 20 '51

Symposium on archaeological chemistry. E. R. Caley and others. bibliog il map J Chem Educ 28:63-96 F '51

View ahead in chemistry. C. E. K. Mees. Chem & Eng N 29:4062-4 O 1 '51; Same. Comm & Fin Chr 174:1050+ S 20 '51

See also

Acids
Atoms
Bases (chemistry)
Biological chemistry
Catalysis
Chemical reaction and other headings beginning Chemical
Chemicals
Chemists
Colloids
Combustion
Condensation, Chemical
Crystallization
Crystallography
Dyes and dyeing—Chemistry
Electrochemistry
Electrolysis
Electrolytes
Electrons
Evaporation
Explosives
Fermentation
Food—Chemistry
Gases
Geochemistry
Hydrolysis
Ions
Liquids
Metallurgy
Metals
Molecules
Oxidation
Photochemistry
Photographic chemistry
Poisons
Poisons, Industrial
Radioactive substances
Reduction, Chemical
Resonance (chemistry)
Rubber—Chemistry
Rubber, Artificial—Chemistry
Salt
Salts
Solids
Solution (chemistry)
Solvents
Spectrum
Stereochemistry
Synthesis
Textile chemicals
Textile chemistry
Thermochemistry
Waxes
Wood—Chemistry

Bibliography

Art of searching the literature. L. O. Lewton. J Chem Educ 28:487-91, 539-43 S-O '51

Book reviews. Chem & Ind p 199-216 Mr 17 '51

Chemical progress during the 75 years of the American chemical society; chemical literature. J. F. Smith. bibliog il Ind & Eng Chem 43:1288-91 Je '51

French bibliographical digest, no. 8, chemistry. 72p Cultural division of the French embassy, 934 Fifth av, New York 21 '51

List of books on display at the Chemical education book exhibit, New York, Sept. 3-7. J Chem Educ 28:sup46+ S '51

Ph.D. theses in chemistry and chemical engineering. Chem & Eng N 29:3876, 4289 S 17, O 15 '51

Short guide to chemical literature. G. M. Dyson. 144p $2 Longmans, Green and co, 55 Fifth av, New York '51

See also

Chemical abstracts (periodical)

Experiments

Demonstration on the chemistry of color. S. C. Bunce and H. F. Hammer. bibliog J Chem Educ 28:546-8 O '51

History

A.C.S. Division of the history of chemistry jubilee meeting, New York. Chem & Eng N 29:3826-7 S 17 '51

Auguste Laurent; guide and inspiration of Gerhardt. C. deMilt. bibliog J Chem Educ 28:198-204 Ap '51

Chemical progress during the 75 years of the American chemical society. bibliog il Ind & Eng Chem 43:264-314, 564-602, 795-830, 1034-56, 1272-91 F-Je '51

Chemistry and the spectrum before Bunsen and Kirchhoff. T. H. Pearson and A. J. Ihde. bibliog il J Chem Educ 28:267-71 My '51

Chemistry in our daily life, 1851-1951; a century of British science; abstract. D. McKie. Chem Age (Lond) 64:279-80 F 17 '51

Chemistry in the twentieth century. H. C. Urey. Franklin Inst J 251:23-32 Ja '51

Congress at Karlsruhe, 1860. C. deMilt. bibliog J Chem Educ 28:421-5 Ag '51

Early history and literature of archaeological chemistry. E. R. Caley. bibliog J Chem Educ 28:64-6 F '51

European chemical developments in the nineteenth century; symposium. L. N. Markwood and others. bibliog J Chem Educ 28:348-68 Jl '51

Fats; 1900-1950; an essay in historical chemistry; abstract. T. P. Hilditch. Chem & Ind p821-2 D 23 '50

Friedrich Wilhelm Sertürner, the discoverer of morphine. G. Lockemann. il J Chem Educ 28:277-9 My '51

Goethe and chemistry. J. E. Cluskey. bibliog J Chem Educ 28:536-8 O '51

Men of the Priestley centennial; William K. Kedzie from Kansas. Sister M. G. Waring. bibliog il J Chem Educ 28:216-20 Ap '51

One hundred years of chemistry; British chemists' contribution. McGowan. Chem Age (Lond) 65:453-8 O 6 '51

Robert Boyle and his background. D. Reilly. bibliog il J Chem Educ 28:178-83 Ap '51

Trend of inorganic and physical chemistry since 1950; abstract. F. A. Paneth. Chem & Ind p732-3 S 1 '51

See also

Descroizilles, François

Methodology

Statistical procedures for counter-current distribution and differential spectroscopy. J. E. Bacher. bibliog Am Chem Soc J 73:1023-7 Mr '51

Nomenclature

International union of pure and applied chemistry nomenclature commission. A. M. Patterson. Chem & Eng N 29:3488 Ag 20 '51

Symposium on chemical nomenclature; A.C.S. Division of chemical literature. Chem & Eng N 29:3821 S 17 '51

Today's chemists need a generalized system for chemical nomenclature. A. M. Patterson. Chem & Eng N 29:3036 Jl 23 '51

Tungsten favored over wolfram by English-speaking scientists; names and symbols expected to be used hereafter in United States. Chem & Eng N 28:4002 N 13 '50

Use of the capital letter prefixes L and D. H. B. Vickery. bibliog Science 113:314-15 Mr 23 '51

CHEMISTRY—Nomenclature—*Continued*

Words about words. A. M. Patterson. Chem & Eng N 29:3191, 4116 Ag 6, O 1 '51

Words about words; ACS divisional nomenclature committees. A. M. Patterson. Chem & Eng N 29:3652 S 3 '51

See also

Chemistry, Organic—Nomenclature

Steroids—Nomenclature

Periodicals

Chemical society, a mid-century review; presidential address. I. Heilbron. Chem Soc J p 1641-53 Je '50

See also

Chemical abstracts (periodical)

Study and teaching

A.C.S. Division of chemical education 2d annual conference on teaching of general chemistry, Stillwater, Okla. Chem & Eng N 29:2916 Jl 16 '51

Chemistry and education. J. H. Hildebrand. Chem & Eng N 29:3279-81 Ag 13 '51

Future of high-school chemistry. E. C. Weaver and H. A. Webb. J Chem Educ 28:430-3 Ag '51

General chemistry workshop. J. A. Shotton. J Chem Educ 27:619-21 N '50

Lanthanide contraction as a teaching aid. R. N. Keller. bibliog J Chem Educ 28:312-17 Je '51

Place of the scientific method in the first course in chemistry. W. F. Kieffer. J Chem Educ 28:300-3 Je '51

Sequence of topics in a beginner's course. K. J. Mysels and C. S. Copeland. J Chem Educ 28:165-7 Mr '51

Undergraduate chemical research. E. H. Cortelyou. Science 113:528-9 My 4 '51

Why study chemistry? J. H. Day. J Chem Educ 28:154 Mr '51

See also

Chemistry, Analytic—Study and teaching

Chemistry, Inorganic—Study and teaching

Chemistry, Organic—Study and teaching

Tables, calculations, etc.

Titers. P. W. West. J Chem Educ 28:437-9 Ag '51

Tests and scales

Engineering norms for the Iowa chemistry aptitude test, form M. W. C. Krathwohl. J Eng Educ 41:607-9 Je '51

Evaluation of achievement in chemistry. M. D. Engelhart. J Chem Educ 28:373-9 Jl '51

Testing the outcomes of chemical education. B. Levy. J Chem Educ 28:43-6 Ja '51

France

See also

Descroizilles, François

Great Britain

Chemistry in our daily life, 1851-1951; a century of British science; abstract. D. McKie. Chem Age (Lond) 64:279-80 F 17 '51

Russia

Scientific literature cited by Russian organic chemists. J. G. Tolpin and others. bibliog J Chem Educ 28:254-8 My '51

Soviets blast Pauling, repudiate resonance theory. Chem & Eng N 29:3712-14 S 10 '51

CHEMISTRY, Analytic

A.C.S. Division of analytical chemistry jubilee meeting, New York. Chem & Eng N 29:3811-14 S 17 '51

Analysis of three-component liquid mixtures by refractive index alone. W. M. Spicer and L. H. Meyer. bibliog Anal Chem 23:663-4 Ap '51

Analytical chemistry of phosphorus; Midlands analytical methods discussion group. Chem Age (Lond) 64:197-9 F 3 '51

Analytical distillation; digest of round-table discussion. bibliog Anal Chem 23:529-30 Mr '51

Analytical division speakers; list, 1951-52. Anal Chem 23:1190-2 Ag '51

Analytical research highlights petroleum refiners' meeting, 16th, Tulsa; 16-paper symposium. Chem & Eng N 29:1956-7 My 14 '51

Annual summer symposium on standards and standard methods, 4th, Washington, June 14-16 pays tribute to National bureau of standards. Chem & Eng N 29:2734+ Jl 2 '51

Annual symposium on modern methods of analytical chemistry, 4th, Baton Rouge, Jan. 29-Feb. 1; abstracts of papers. Anal Chem 23:390-2 F '51

Application of microscopic fusion methods to inorganic compounds. D. G. Grabar and W. C. McCrone. bibliog il diags J Chem Educ 27:649-53 D '50

British chemical standards. Chem Age (Lond) 63:841-2 D 16 '50

Chemical analysis by neutron spectroscopy. T. I. Taylor and others. bibliog diags Science 114:341-55 O 5 '51

Continuous analyzers. B. W. Thomas. Instruments 23:1130-1+ N '50; Same. Pet Refiner 30:81-4 F '51

Determination of sodium and potassium in lithium metal by flame photometer. W. R. Inman, R. A. Rogers and J. A. Fournier. bibliog Anal Chem 23:482-3 Mr '51

Further examination of reproducibility in chemical analysis. J. O. Lay. Iron & Steel Inst J 167:42-3 Ja '51

Instruments for chemical plant; composition analysis. il diags Chem Age (Lond) 64:885-90 Je 9 '51

Liquid-liquid extraction analysis. C. Golumbic. bibliog(73 ref) il Anal Chem 23:1210-17 S '51

Low-temperature fractional analysis of liquids and gases. W. J. Podbielniak. bibliog il diags Pet Refiner 30:145-55 My '51

Mass spectrometer leads swing to instrumentation in analysis; conference on analytical chemistry and applied spectroscopy, Pittsburgh. Chem & Eng N 29:1102+ Mr 19 '51

Methods of estimating moisture. A. H. Ward. Chem Age (Lond) 63:803-8 D 9 '50

Microchemical applications of catalytic and induced reactions. P. W. West. Anal Chem 23:176-80 bibliog(145 ref, p 178-80) Ja '51

Polychromatic X-ray beams; nonlinear relationship between composition and absorbance. H. A. Liebhafsky and P. D. Zemany. bibliog Anal Chem 23:970-2 Jl '51

Purity determination with the electron microscope. M. A. Lauffer. Am Chem Soc J 73:2370-1 My '51

Radioactive tracers in analysis. Chem Age (Lond) 64:876+ Je 9 '51

Research in analytical chemistry; school at Birmingham solves industrial problems. Chem Age (Lond) 64:769-71 My 19 '51

Role of heterogeneous equilibria in analytical chemistry. P. J. Elving. bibliog Anal Chem 23:1202-9 S '51

Separations in analytical chemistry; 3d annual summer symposium. M. G. Mellon and others. bibliog flow sheets il diags Anal Chem 22:1342-97 N '50

Society of public analysts and other analytical chemists 77th annual general meeting, London, March 16. Chem Age (Lond) 64:495-6 Mr 31 '51

Symposium sheds light on use of flame photometer. Chem & Eng N 29:2824+ Jl 9 '51

Third annual review of analytical chemistry. bibliog il diags Anal Chem 23:2-101, 212-57 Ja-F '51

Use of an electric analog device to solve questions of purity and characterization. R. H. Müller. Anal Chem 23:sup23A-4A+ Ag '51

Vapor diffusion methods in qualitative and quantitative analysis. H. Hughes. diags J Chem Educ 28:195-7 Ap '51

See also

Chromatographic analysis

Colorimetric analysis

Combustion analysis

Electrochemical analysis

Electrographic analysis

Fluorometric analysis

Gas analysis

Gravimetric analysis

Indicators and test papers

Iodometry

Metallurgical analysis

Microanalysis

Mineralogical analysis

Oil analysis

Plants—Chemical analysis

Polarographic analysis

Spectrum analysis

Sugar analysis

Textile analysis

Volumetric analysis

CHEMISTRY, Analytic—See also—*Continued*

also subdivision Analysis under names of substances, e.g.

Acids—Analysis
Air—Analysis
Amino acids—Analysis
Cellulose—Analysis
Petroleum—Analysis
Steel—Analysis
Water—Analysis
Wood—Analysis

Bibliography

Chemicals and allied products; pt. 2, analytical chemistry; subject index (annotated) to Bibliography of scientific and industrial reports, v. 1-13, January 1946-June 1950. 162p Technical information service, 732 Woodward bldg, 15th and H st, N.W. Washington 5, D.C. '51

Third annual review of analytical chemistry. bibliog il diags Anal Chem 23:2-101, 212-57 Ja-F '51

History

Chemical progress during the 75 years of the American chemical society; analytical chemistry; high-speed tools. C. K. Deischer. bibliog il Ind & Eng Chem 43:1283-7 Je '51

Qualitative

Qualitative analysis from mass spectra. S. M. Rock. bibliog Anal Chem 23:261-8 F '51

Scheme for the qualitative identification of amino acids. M. S. Dunn and W. Drell. bibliog J Chem Educ 28:480-4 S '51

Study and teaching

Inverted course in analytical chemistry. T. H. Dunkelberger. J Chem Educ 27:680-2 D '50

Proposal for a reversal of trends. E. H. Swift. J Chem Educ 27:677-9 D '50

Qualitative analysis in college chemistry; committee report. J Chem Educ 27:675-7 D '50

Unknowns in high-school chemistry. B. Jurale. J Chem Educ 28:102-3 F '51

Use of fluorescence in qualitative analysis. C. E. White. bibliog diags J Chem Educ 28:369-72 Jl '51

Quantitative

Analysis of binary and ternary mixtures; system acetone-chloroform-methyl isobutyl ketone. A. E. Karr, W. M. Bowes and E. G. Scheibel. bibliog diag Anal Chem 23:459-63 Mr '51

Analytical applications of ion exchange separations. J. Schubert. bibliog(82 ref) flow sheets Anal Chem 22:1359-68 N '50

Application of the specific gravity gradient column to the quantitative determination of additives in a base material; concentration of melamine resin, applied to wool. C. R. Stock and E. R. Scofield. il Textile Res J 21:521-6 Jl '51

Automatic operations in analytical chemistry. G. D. Patterson, jr. and M. G. Mellon. Anal Chem 23:101-15 bibliog(483 ref, p 111-15) Ja '51

Copper compounds in latex and in rubber; the quantitative determination of minute amounts of copper. G. J. van der Bie. bibliog(61 titles) diag Rubber Age 69:309-15 Je '51

Determination of functionality in organic compounds. S. Veibel. bibliog Anal Chem 23:665-7 Ap '51

Determination of sodium monoxide in sodium. L. P. Pepkowitz and W. C. Judd. bibliog il diag Anal Chem 22:1283-6 O '50

Direct determination of oxygen in compounds containing carbon, hydrogen and oxygen; a physical-chemical technique; Unterzaucher carbon-reduction procedure. C. C. Harris, D. M. Smith and J. Mitchell, jr. bibliog diags Anal Chem 22:1297-304 O '50

New unit speeds analysis work; X-ray spectrogoniometer at Alfred university. E. D. Padgett. il diags Cer Ind 57:54-5+ Ag '51

Quantitative application of the Kiliani reaction. V. L. Frampton and others. bibliog diag Anal Chem 23:1244-7 S '51

Quantitative functional group determination in the identification of organic compounds. S. Siggia. Anal Chem 23:667-8 Ap '51

Stable internal standard flame photometer for potassium and sodium analyses. C. L. Fox, jr. bibliog il diags Anal Chem 23:137-42 Ja '51

See also

Gravimetric analysis
Polarographic analysis
Volumetric analysis

Study and teaching

Ion-exchange experiment for quantitative analysis. W. M. MacNevin and others. diag J Chem Educ 28:389-90 Jl '51

See also

Volumetric analysis—Study and teaching

Statistical methods

Locating sources of variability in a process. W. J. Youden. Ind & Eng Chem 43:2059-62 S '51

Study and teaching

Analytical chemistry and the cooperative plan. J. F. Corwin and A. R. Wilson. J Chem Educ 28:244-5 My '51

Analytical chemistry, how it should be taught. R. W. Bremner. J Chem Educ 28:391-3 Jl '51

Course in instrumental analysis. L. G. Bassett and others. bibliog il J Chem Educ 28:466-71 S '51

Course on the determination of organic compounds. K. G. Stone. bibliog J Chem Educ 28:26-8 Ja '51

Experiment for the pH meter. R. L. Pecsok. il J Chem Educ 28:252-3 My '51

Sodium-fusion tests on plastics. H. Nechamkin. J Chem Educ 28:97-8 F '51

Teaching analytical chemistry. L. Lykken. J Chem Educ 28:440-2 Ag '51

Tables, calculations, etc.

Analysis of quaternary mixtures; application of a graphical solution of four simultaneous linear equations. J. Tadayon. Anal Chem 23:1184-6 Ag '51

Graphical analysis of twenty-four transfer countercurrent distribution. W. R. Slaunwhite, jr. Anal Chem 23:687-8 Ap '51

CHEMISTRY, Inorganic

History

Physical and inorganic chemistry. L. F. Audrieth and F. Daniels. il Ind & Eng Chem 43:269-78 F '51

Study and teaching

Graduate inorganic chemistry at the Massachusetts institute of technology. W. C. Schumb. bibliog J Chem Educ 28:297-9 Je '51

CHEMISTRY, Medical and pharmaceutical

A.C.S. Division of medicinal chemistry jubilee meeting, New York. Chem & Eng N 29:3831-2 S 17 '51

Chemistry of antihistamine and related drugs. D. W. Adamson. bibliog(52 ref) Chem & Ind p2-7 Ja 6 '51

Decisive influence of chemical industry on medicine. E. C. Dodds. Chem & Ind p620-3 Jl 21 '51

Effect of fluorine substitution on medicinal agents; synthesis of 2-trifluoromethyl-1,4-naphthoquinone. A. F. Helin, A. Sveinbjornsson and C. A. VanderWerf. Am Chem Soc J 73:1189-90 Mr '51

Progress during 1950 in drugs and medicinal chemicals. G. C. Green. Chem Age (Lond) 64:77-81 Ja 13 '51

Third annual review of analytical chemistry; pharmaceuticals and natural drugs. W. W. Hilty and M. M. Marsh. Anal Chem 23:237-43 bibliog(174 ref, p241-3) F '51

See also

Alkaloids
Aminobenzoic acid
Analgesics
Anesthetics
Anesthetics, Local
Antihistamines
Antiseptics
Antispasmodics
Chemotherapy
Disinfection and disinfectants
Drugs
Dyes as antiseptics and disinfectants
Histamine
Hormones
Immunity
Kellin
Pharmaceutical research
Vaccines
Vitamins

CHEMISTRY, Medical and pharmaceutical—*Continued*

Bibliography

Squibb abstract bulletin. Special Lib 41:365 D '50

History

Chemical progress during the 75 years of the American chemical society; medicinal chemistry. M. L. Moore. il Ind & Eng Chem 43:557-88 Mr '51

Nomenclature

See also
Drugs—Terminology

CHEMISTRY, Organic

Characterization of organic compounds; review of 1950. R. L. Peck. Anal Chem 23:97-101 bibliog(129 ref, p 100-1) Ja '51

National organic chemistry symposium, 12th, Denver. Chem & Eng N 29:2737-8+ Jl 2 '51

Physical properties of some aliphatic compounds. S. A. Mumford and J. W. C Phillips. Chem Soc J p75-84 Ja '50

Studies of the localization theory of organic reactions; the effects of annelation and of introducing hetero-atoms. R. D. Brown. Chem Soc J p 1955-61 Ag '51

See also
Acids, Fatty
Alcohols
Aldehydes
Alkaloids
Amines
Carbon
Cellulose
Condensation, Chemical
Cyclic compounds
Essential oils
Esterification
Esters
Ethers
Grignard reagents
Hydrocarbons
Ketones
Polymerization
Proteins
Stereochemistry
Sugars

History

Hundred years of organic chemistry. A. R. Todd. Chem Age (Lond) 65:213-14 Ag 18 '51; Same. Chem & Ind p733-4 S 1 '51

Organic chemistry; creative ingenuity of the organic chemists. H. L. Fisher. bibliog il Ind & Eng Chem 43:289-94 F '51

Nomenclature

Reevaluation of steroid nomenclature. F. Kipnis. bibliog Science 113:40-2 Ja 12 '51

Specification of configuration about quadricovalent asymmetric atoms. R. S. Cahn and C. K. Ingold. Chem Soc J p612-22 F '51

Study and teaching

Course on the determination of organic compounds. K. G. Stone. bibliog J Chem Educ 28:26-8 Ja '51

Use of lantern slides in undergraduate organic chemistry. N. Kharasch. J Chem Educ 28:280-1 My '51

Textbooks

Errors in printing of structural formulæ of organic compounds. L. J. Harris. Chem & Ind p821 D 23 '50

CHEMISTRY, Physical and theoretical

Outlines absolute rate theory for chemical reactions. H. Eyring. Chem & Eng N 29:1100 Mr 19 '51

Physics society forms chemical physics group. Chem & Eng N 29:1210-11 Mr 26 '51

Symposium on anomalies in reaction kinetics. M. Burton and others. bibliog diags J Phys & Colloid Chem 55:763-1104 Je '51

See also
Absorption
Adsorption
Allotropy
Atoms
Azeotropes
Catalysis
Catalysts
Chemical bonds
Chemical equilibrium
Chemical reaction
Clausius-Clapeyron equation
Colloids
Compressibility
Condensation, Chemical
Conjugation (chemistry)
Crystallization
Crystallography
Diffusion
Electrochemistry
Electrolysis
Electrolytes
Electrons
Emulsions
Entropy
Equation of state
Evaporation
Fluorescence
Freezing points
Gases
Ionization, Electrolytic
Ionization, Gaseous
Ions
Isotopes
Magnetochemistry
Melting points
Mixtures
Molecular rearrangements
Molecular weights
Molecules
Osmotic pressure
Phase rule and equilibrium
Photochemistry
Polymers
Precipitation
Quantum theory
Resonance (chemistry)
Solids
Solubility
Solution (chemistry)
Stereochemistry
Surface tension
Thermodynamics
Valence
Vapor pressure
Wave mechanics

Experiments

Laboratory exercises in nuclear chemistry; basic student counting circuit. W. H. Hamill and others. bibliog il diags J Chem Educ 28:98-101 F '51

History

Physical and inorganic chemistry. L. F. Audrieth and F. Daniels. il Ind & Eng Chem 43:278-88 F '51

Study and teaching

Course in physical chemistry for mechanical engineers. M. Kerker. J Eng Educ 41:297-9 Ja '51

Symposium on the teaching of nuclear chemistry. R. T. Overman and others. il J Chem Educ 28:2-20 Ja '51

Tests and scales

Automatic rating thesaurus of physical chemistry questions. R. A. Cooley and T. J. Roemer. il J Chem Educ 28:158-9 Mr '51

CHEMISTRY, Technical

Application of isotopes in chemical industry. H. Seligman. il Chem & Ind p724-7 S 1 '51

For higher productivity, these processes were developed last year. Chem Eng 58:128-9 F '51

See also
Acid resisting materials
Alcohol
Alloys
Ammonia
Bleaching
Cellulose
Cement
Ceramics
Chemical engineering
Chemical industries
Chemical patents
Chemicals
Chemurgy
Clay
Coal distillation
Coal tar products
Corrosion and anticorrosives
Cosmetics
Cyanide process
Dehydration
Distillation
Drying
Dyes and dyeing—Chemistry
Emulsions
Essential oils
Explosives
Extraction processes
Fertilizers
Filters and filtration (technical chemistry)
Fuel
Gas
Gas manufacture
Glass manufacture
Glue
Gums and resins
Ion exchangers
Metallurgy
Oils and fats
Ore treatment
Paint
Paper
Paper making
Petroleum—Chemistry
Petroleum distillation
Petroleum refining
Plastic materials
Pottery
Rayon
Refractory materials
Resinous products
Rubber
Rubber—Chemistry
Rubber, Artificial
Soap
Soap, Metallic
Soap manufacture
Solvents
Soybeans
Sugar
Sulfuric acid
Synthesis
Tanning
Tanning materials
Textile chemistry
Textile fibers, Synthetic
Unit processes
Varnish and varnishing
Vulcanization
Water purification
Wood—Chemistry
Wood preservation

Bibliography

Industrial advertising as a source of information. W. G. Kessel. J Chem Educ 28:383-5 Jl '51

History

Fats, 1900-1950; essay in historical chemistry. T. P. Hilditch. Chem & Ind p 154-9 Mr 3 '51

Industrial and engineering chemistry. W. A. Pardee and others. bibliog il Ind & Eng Chem 43:295-310 F '51

CHEMISTRY buildings
Chemistry at the University of Sydney. R. J. W. Le Fèvre. il Chem & Ind p415-16 Je 2 '51
University of Illinois moves into $3 million chemistry building. il Chem & Eng N 29: 764-5 F 26 '51

CHEMISTRY students
Science students considered as resources for stockpiling; ACS-AIChE Southwest regional student meeting. Chem & Eng N 29:1004-5 Mr 12 '51

CHEMISTRY teachers
Careers in chemistry and chemical engineering; college chemistry teachers. B. D. Van Evera. Chem & Eng N 28:3871-3 N 6 '50
First Norris award for teaching of chemistry goes to Forbes. Chem & Eng N 29: 2274-5, 2278 Je 4 '51
More reliable letters of evaluation. E. A. Metcalf. J Chem Educ 28:40-1 Ja '51
Pacific Southwest association of chemistry teachers; officers for 1951. J Chem Educ 28:224-5 Ap '51

See also
Haldeman, W. S.
Kedzie, William Knowlton
Pummerer, Rudolf

CHEMISTRY teachers, New England association of. See New England association of chemistry teachers

CHEMISTRY teachers, Pacific southwest association of. See Pacific southwest association of chemistry teachers

CHEMISTS
ACS candidates for 1951. Chem & Eng N 28: 3820-1 O 30 '50
Broadening the chemist's outlook. Chem Age (Lond) 64:425-6 Mr 17 '51
Careers in chemistry and chemical engineering; college chemistry teacher. B. D. Van Evera. Chem & Eng N 28:3871-3 N 6 '50
Careers in chemistry and chemical engineering; commercial chemical development man. C. D. Goodale. Chem & Eng N 28:4248-9 D 4 '50
Careers in chemistry and chemical engineering; consulting chemist. C. S. Miner. Chem & Eng N 28:3762-4 O 30 '50
Careers in chemistry and chemical engineering; instrumentation in the plant and laboratory. S. D. Ross. il Chem & Eng N 28:4434-6 D 18 '50
Careers in chemistry and chemical engineering; literature chemist; relation to research; indexing, writing, etc. J. W. Perry. Chem & Eng N 28:4530-2 D 25 '50
Careers in chemistry and chemical engineering; professional relations; American chemical society committee. Chem & Eng N 28: 4535-8 D 25 '50
Careers in chemistry and chemical engineering; technical salesman. H. D. Hughes. Chem & Eng N 28:4163-4 N 27 '50
Careers in chemistry and chemical engineering; the chemist in business for himself. O. Eisenschiml. Chem & Eng N 28:4533-4 D 25 '50
Careers in chemistry and chemical engineering; the chemist in patent law. A. J. Nydick. Chem & Eng N 28:4341-2 D 11 '50
Chemical progress during the 75 years of the American chemical society; history of chemistry. H. M. Leicester. bibliog il Ind & Eng Chem 43:1053-6 My '51
Chemists and the building of international bridges. J. B. Conant. Chem & Eng N 29: 4254-5 O 15 '51
Chemist's place in sales and advertising. P. B. Slawter, jr. J Chem Educ 27:666-9 D '50
Employment practices for chemists and chemical engineers; committee on economic status of chemists. Chem & Eng N 29:274-7 Ja 22 '51
Industrial training of chemists and engineers in industry. C. H. Kline; P. D. V. Manning and others. bibliog Chem & Eng N 29:1394-8, 1513-16, 1637-9 Ap 9-23 '51
Notes from the life of a chemist. P. Walden. J Chem Educ 28:160-3 Mr '51
Role of the liberal arts college in the professional training of chemists. H. F. Lewis. J Chem Educ 28:104-7 F '51
What the chemist should bring to his profession. T. D. Stewart and others. J Chem Educ 28:334-7 Je '51
Who'll do the basic work? foreign chemists wonder too; Younger chemists international project summation dinner, Newark, Oct. 3. Chem & Eng N 29:4261-2 O 15 '51
Why a chemical consultant? J. W. McCutcheon. Soap & San Chem 26:40-3 N '50

See also
Brönsted, Johannes Nicolaus
Descroizilles, François
Duval, Clément
Hall of fame for great Americans
Hedvall, Johan Arvid
Hückel, Erich
Kendall, Edward Calvin
Laurent, Auguste
Laurie, Arthur Pillans
Meyer, Kurt Heinrich
Ochoa, Severo
Reichstein, Tadeus
Robertson, Robert
Sertürner, Friedrich Wilhelm
Votoček, Emil
Williams, Roger

Biography
Chemical who's who, 1951. W. Haynes and W. S. Downs, eds. 3d ed 895p $15 Lewis historical pub. co, 80 8th av, New York 11 '51

Public relations
Chemist's responsibility in averting world crisis outlined. Chem & Eng N 29:2146-7 My 28 '51

Great Britain
Chemists' salary scales. Chem Age (Lond) 64:748 My 12 '51
Work of the government chemist. Chem Age (Lond) 63:907-8 D 30 '50

CHEMISTS, French
See also
Pelletier, Joseph

CHEMISTS as artists
Chemist-artists win laurels; A.C.S. diamond jubilee, New York. il Chem & Eng N 29: 3808-9 S 17 '51

CHEMISTS as executives
Careers in chemistry and chemical engineering; chemically trained business executive. J. E. McKeen. Chem & Eng N 28:4437-9 D 18 '50

CHEM-LARV. See Insecticides

CHEMO PURO manufacturing corporation
Policy; avoid the obvious. Chem W 69:14-15 Ag 4 '51

CHEMOSTAT. See Bacteriological apparatus

CHEMOTHERAPY
Chemotherapy most popular method, cancer researchers say. Chem & Eng N 29:1949-50 My 14 '51
Chemotherapy of cancer. A. Haddow. Chem & Ind p318-20 Ap 28 '51; Abstract. Chem Age (Lond) 63:813-14 D 9 '50; Discussion. Chem & Ind p 10 Ja 6 '51
Chemotherapy of experimental tuberculosis; the synthesis of thiosemicarbazones and related compounds. J. Bernstein and others. bibliog Am Chem Soc J 73:906-12 Mr '51
Chemotherapy of tuberculosis; some substituted N-4-diphenylylamidines. L. Bauer and J. Cymerman. Chem Soc J p 1826-9 Jl '50
Chemotherapy of tuberculosis; some *N*-substituted *p*-phenylbenzamidines. L. Bauer and J. Cymerman. Chem Soc J p2078-80 Ag '50
Decisive influence of chemical industry on medicine. E. C. Dodds. Chem & Ind p620-3 Jl 21 '51
Imitative drugs. R. O. Roblin, jr. Sci Am 184: 60-3 Ap '51
New therapeutic agents of the quinoline series; 2-, 3-, and 4-pyridylquinolines, 4-pyridylquinaldines, and 2-pyridyl-lepidines. D. H. Hey and J. M. Williams. Chem Soc J p 1678-83 Jl '50
Some compounds of interest in cancer chemotherapy. J. G. Burr, jr., W. F. Holton and C. N. Webb. bibliog Am Chem Soc J 72: 4903-6 N '50
Tuberculosis chemotherapy summed up in Dublin meeting, July 10-13. Chem & Eng N 29:3292+ Ag 13 '51

See also
Aminobenzoic acid
Trypanocides

CHEMURGIC council, National farm. See National farm chemurgic council

CHEMURGY

Chemurgists discuss role in industry at National farm chemurgic council 16th annual meeting, Cincinnati, April 19. Oil Paint & Drug Rep 159:7+ Ap 23 '51

CHERRIES

Determination of residual glyoxalidine fungicides on apples and cherries. E. F. Hillenbrand, jr., W. W. Sutherland and J. N. Hogsett. Anal Chem 23:626-9 Ap '51

New data on cherries; Department of agriculture compares various films in prepackaging. F. Gerhardt and G. Lindell. il Mod Packaging 24:116-19+ Mr '51

Phytates will stop cherry discoloration. R. F. Cohee and J. Nelson. il Food Ind 23:91-3 Mr '51

Diseases and pests

Separation of rusty mottle of cherry from a ring-spot-rusty mottle complex. J. A. Milbrath. il Science 113:606-7 My 25 '51

CHERRY gum

Cherry gum; an examination of the products of hydrolysis of methylated degraded cherry gum, using the method of paper partition chromatography. J. K. N. Jones. Chem Soc J p3141-5 D '49

CHESAPEAKE and Ohio railway

Equipment trust certificates. Comm & Fin Chr 173:378 Ja 22 '51

In earnings comeback. Barron's 30:13-14 N 6 '50

Railroad securities. Comm & Fin Chr 173:729 F 15 '51

Three dollar dividend may be restored by year-end. J. B. Skalka. Barron's 31:13-14 Je 11 '51

CHESAPEAKE bay

Six contractors tackle first bridge over Chesapeake. il map diag Eng N 145:32-4 O 26 '50

CHEST

Community-wide chest X-ray survey. S. Bloom. Pub Health Rep 66:139-56 F 2 '51

Community-wide chest X-ray survey. Z. Bryant and G. S. Jones. Pub Health Rep 65:1573-87 D 1 '50

Community-wide chest X-ray survey; diagnostic clinic. D. Reisner and A. Rikli. Pub Health Rep 66:423-43 Ap 6 '51

CHESTER, Pennsylvania

Water supply

Adjustment of water treatment to pollution loading. K. C. Armstrong. Am Water Works Assn J 43:42-4 Ja '51

CHESTER group

Ste Genevieve-Chester contact in Illinois-Kentucky fluorspar district. A. H. Sutton. bibliog il maps Am Assn Pet Geologists Bul 35:1661-8 Jl '51

CHEWING gum

Advertising

How Wrigley uses car card advertising H. L. Webster. il Adv Agency 43:52-3+ N '50

CHEWING tobacco. See Tobacco

CHI square test

Goodness of fit and the distribution of particle sizes. F. Kottler. bibliog Franklin Inst J 251:499-514, 617-41 My-Je '51

CHICAGO

Chicago builds $230,000,000 superhighway system. V. E. Gunlock. il plan Civil Eng 21:88-9 F '51

Chicago civil defense committee. B. B. Smith. Midwest Eng 3:10-11, 23 D '50

Giant of the plains. W. J. Brons. il Bankers Mo 68:8-10+ S '51

Port authority for Chicago would smooth growing traffic on waterway. L. Castle. Nat Pet N 43:27 Ap 25 '51

Quality concrete paving methods stressed on new Edens expressway. W. J. Mortimer. il map diags Roads & Sts 94:40-5 S '51

See also

Banks and banking—Chicago

Electric plants (central stations)—Chicago

Wages—Chicago

Harbor

New technique traces underwater structure of harbor. Elec Eng 70:940-1 O '51

Supersonic sound waves sweep Chicago harbors; used to locate under water obstacles. J. E. Tripp. diag Eng N 145:54+ D 7 '50

Ultrasonics sweep Chicago harbors. diag Electronics 24:192+ Ap '51

Museum of science and industry

See Museum of science and industry, Chicago

Railroads

Chicago's railroads prepare for A bomb attacks. Ry Age 129:20-1 D 23 '50

Markham yards gets a face lifting. il diags Midwest Eng 3:6-8+ F '51

Rapid transit

See also Chicago transit authority

Sanitary affairs

Metropolitan menace; air pollution. J. R. Allan. Midwest Eng 3:10-11+ N '50

Sanitary supplies for the Chicago market. H. H. Slawson. il Soap & San Chem 26:121-3+, 149+ D '50

Sewerage

Long-boomed backhoe digs deep trench. il diag Eng N 145:32-4 N 23 '50

Stockyards

See Stockyards—Chicago

Streets

Elevated walkways for downtown Chicago. A. L. Tholin. il plan Midwest Eng 4:10-13+ S '51

Emergent urban problems of intercity motor transportation. J. D. Fellmann. plans Land Econ 27:91-101 My '51

Subways

Chicago extends subway under La Salle Street station. D. Van Corp. il plan diag Civil Eng 20:705-7 N '50

Water supply

Chicago water system serves growing population with decreased pumpage. W. W. DeBerard. il plan diag Civil Eng 20:699-703 N '50

Furnishing water to outlying municipal districts. L. D. Gayton. maps Am Water Works Assn J 43:539-44 Jl '51; Correction. 43:688 S '51

High rate water filtration at Chicago. Pub Works 82:58 S '51

Limit use of water for air conditioning? views expressed at conference in Chicago. Heating-Piping 23:97-8+ Mr '51

Short tunnel readies more water for Chicago's heavy summer demand. A. G. Anderson. il plans diags Eng N 147:41-3 Ag 2 '51

What if an A-bomb hits water supply? il Eng N 146:36-7 Ap 26 '51

CHICAGO and eastern Illinois railroad

Earnings are higher. Barron's 31:21 Mr 5 '51

Equipment trust certificates offered. Comm & Fin Chr 172:1730 N 6 '50

Railroad securities. Comm & Fin Chr 173:2680 Je 28 '51

CHICAGO and north western railway

Equipment trust certificates offered. Comm & Fin Chr 173:963 Mr 5 '51

Operating cost reductions expected to bring substantial earnings gain. J. E. Winn. Barron's 31:15-16 Ja 1 '51

Railroad securities. Comm & Fin Chr 173:839; 174:432 F 22, Ag 2 '51

CHICAGO board of trade

Staker of wheat. A. G. Allison. il Bankers Mo 68:24+ S '51

CHICAGO board of underwriters

Annual meeting, Chicago. Nat Underw 55:15 F 1 '51

CHICAGO great western railway

Railroad securities. Comm & Fin Chr 172:1801; 173:1963 N 9 '50, My 10 '51

CHICAGO, Indianapolis and Louisville railway

Equipment trust certificates offered. Comm & Fin Chr 173:102 Ja 8 '51

CHICAGO, Indianapolis and Louisville railway *—Continued*
Monon soon may pay initial dividend on Class A stock. Barron's 30:23 N 13 '50
Railroad securities. Comm & Fin Chr 173:2480 Je 14 '51

CHICAGO journal of commerce
Ridders sell Chicago J of C to Dow Jones. Ed & Pub 84:9 Ja 6 '51

CHICAGO, Lake. See Glacial lakes

CHICAGO mercantile exchange
Chicago mercantile exchange. il Bankers Mo 68:39 S '51
Sharing the commodity risk; interview with Oscar W. Olson. Bsns W p38+ Ja 27 '51

CHICAGO, Milwaukee, St Paul and Pacific railroad
Likely to resume bond buying. Barron's 31:18-19 O 8 '51
Milwaukee road centennial feature. il maps diag Ry Age 129:53-78 N 11 '50
Milwaukee's common comes out of doghouse. Bsns W p 100 O 21 '50

CHICAGO river
Chicago river. il map Fortune 44:99-103 Ag '51

CHICAGO, Rock Island and Pacific railway
Railroad securities. Comm & Fin Chr 174:253 Jl 19 '51

CHICAGO transit authority
CTA profit goes into improvements. Midwest Eng 3:13 Ja '51

CHICHIBABIN synthesis
Pyridines; polypyridyls by the Chichibabin synthesis. R. L. Frank and E. F. Riener. bibliog Am Chem Soc J 72:4182-3 S '50

CHICLE
Chicle; *cis*- and *trans*-polyisoprenes from a single plant species. W. Schlesinger and H. M. Leeper. bibliog il Ind & Eng Chem 43:398-403 F '51

CHILD labor laws
Employment of minors; minimum age laws. Mo Labor R 71:701-4 D '50
Hazardous occupations order no. nine; mining. Mo Labor R 72:183 F '51

CHILD welfare
Nutrition of the preschool child. P. C. Jeans. Pub Health Rep 66:834-6 Je 29 '51
Outlook for women in social case work with children. U S Women's Bur Bul 235-3:1-69 bibliog(p64-9); pa 25c Supt. of doc. '51
White House conference on children and youth, 5th, Dec. 3-7. Mo Labor R 72:188-90 F '51
See also
Day nurseries

CHILDREN
Hopalong cashidy; movie-video cowpoke persuades small fry to start savings accounts. Bsns W p 123-4 F 17 '51
Study toys for crippled children. Nat Safety N 63:86-7 Ap '51

Care and hygiene

Child health. Pub Health Rep 65:1671-8 D 15 '50
Health and the child. K. F. Lenroot and others. Pub Health Rep 65:1525-8 N 17 '50
Significance of the early diagnosis of hearing impairment in children of preschool age. J. E. Bordley and W. G. Hardy. Pub Health Rep 66:521-8 Ap 27 '51
See also
Day nurseries

Law

Legal and tax problems inherent in gifts to minors. M. A. Shattuck. Comm & Fin Chr 174:1251+ O 4 '51
See also
Child labor laws

Mortality

Changing causes of death in childhood. H. A. Kahn. Pub Health Rep 66:1246-7 S 28 '51

CHILDREN, Gifted. See Ability

CHILDREN'S aid society building, New York
Welfare building planned around garden court. K. Gibbons and W. H. Heidtmann. il plans Arch Forum 94:192-4 Je '51

CHILDREN'S literature

Bibliography

Subject index to books for intermediate grades. E. Rue, comp. 2d ed 493p American library association, 50 E. Huron st, Chicago 11 '50 ($6)

CHILDREN'S rooms
See also
Playrooms

CHILDREN'S shoes. See Shoes, Children's

CHILDS company
Another chance for Childs; adopted and rejuvenated by kindly men from Wall Street. il Fortune 43:84-6+ Mr '51

CHILE
See also
Copper mines and mining—Chile
Mines and mineral resources—Chile
Oil industries—Chile
Steel works—Chile

Economic conditions

Chile's economy marked by inflation in 1950. H. G. Smith. il For Comm W 43:3-4+ Je 11 '51
News by countries. For Comm W 40:19-20 S 4; 13 S 25; 41:16 D 4 '50; 42;11 Ja 1; 10 F 5; 13 Mr 5; 13 Mr 26; 43:11 Ap 30; 14 Je 4; 11 Je 25; 44:11-12 Ag 6; 16-17 S 3; 10-11 S 24 '51

Industries and resources

Adventures of a U.S. loan to Chile. il Mod Ind 22:74-5 Jl '51

CHILLED iron
Structural aspects of tellurium and graphite additions for chill control in cast iron. E. A. Loria. il Foundry 79:126-9+ Je '51

CHILTE
Rapid extraction of resins from chilte and guayule rubbers. J. W. Wood and R. J. Fanning. il Rubber Age 68:195-7 N '50

CHILTON, Thomas Hamilton, 1899-
Man of the month. por Chem Eng 58:233 Ja '51

CHIMNEYS
Graphical methods aid in stack foundation design. C. H. Fork. diags Pet Refiner 30:81-5 Mr '51
Higher stacks help to reduce smog; abstract. M. L. Barad. Nat Safety N 63:129-30 My '51
Let's modernize the chimney too! W. M. Myler, jr. diags Am Bld 73:168+ Mr '51
New look at your chimney. A. M. Clark. il Factory Management 109:92-6 S '51
Prefab chimney uses outside air for insulation, can be set next to combustible materials; Thulman chimney. il diag Arch Forum 94:198+ F '51
Prefabricated chimneys help achieve economy in Chicago housing project; Vitroliner. il Am Bld 73:188-9 F '51
Stresses in guys anchoring tall stacks. R. B. Yule. diags Eng N 146:50 My 24 '51
Theoretical natural draft for stacks; chart; data sheet. J. F. Hyam. Power 95:142 Ja '51
Venturi design keeps stack top flyash-free. H. A. Pietzner. il Elec World 135:136+ F 12 '51

CHIMNEYS, Concrete
Reinforced concrete chimney built to record height of 611 ft. A. M. Clark. il Civil Eng 21:74-5 F '51; Excerpts. Mech Eng 73:320-1 Ap '51

CHIMNEYS, Steel
Gin poles set 200-ft stacks; illustrations with text. Constr Methods 33:96-7 Ja '51

CHIMPANZEES
Child chimp. Sci Am 185:32+ Jl '51

CHINA
See also
Communism—China
Far Eastern question
Land tenure—China

Commerce

Asian view of American policy; suggested blockade. Economist 160:1574 Je 30 '51
British trade with China. Economist 160:1114-16 My 12 '51

CHINA—Commerce—*Continued*

Can trade with the enemy be halted? il Bsns W p 137-8 Je 2 '51

Trade with China controlled. Economist 160: 1521-2 Je 23 '51

Trading with the enemy. Fortune 42:70+ N '50

Commercial policy

Red China trade; allied embargo balks west German deal. J. Joesten. Barron's 31:9 Jl 9 '51

Economic conditions

China; not so strong. il Bsns W p 141-2 F 17 '51

China's economic strength. Economist 160: 547-8, 603-4 Mr 10-17 '51

Foreign relations

China and Japan. Economist 161:268-70 Ag 4 '51

Chinese Communist strategy in foreign relations. O. E. Clubb. bibliog Ann Am Acad 277:156-66 S '51

Trouble with China. Economist 159:1128-9 D 23 '50; Correction. 159:1194 D 30 '50

Great Britain

Hong Kong and the British position in China. E. S. Kirby. Ann Am Acad 277: 193-202 S '51

United States

China and the election; recognition of the Reds would threaten more than security. F. Morley. Barron's 30:3 O 30 '50

New policy; tie China down. Bsns W p23 Ja 27 '51

Outside pressures on China, 1945-1950. P. M. A. Linebarger. Ann Am Acad 277:177-81 S '51

Politics and government

Leaders in Peking. Economist 159:1207-8 D 30 '50

National liberation and social progress in Asia. J. Katz-Suchy. Ann Am Acad 276: 48-59 Jl '51

New order in China. map Economist 159:747-8, 819-20 N 11-18 '50

Report on China. H. A. Steiner, ed. bibliog map Ann Am Acad 277:1-228 S '51

Treaties

Pattern of Sino-Soviet treaties, 1945-1950. W. B. Ballis. bibliog Ann Am Acad 277:167-76 S '51

CHINAWARE. See Pottery; Tableware

CHINESE glassware. See Glassware, Chinese

CHINESE in southeastern Asia

Overseas Chinese and Communist policy. C. A. Buss. Ann Am Acad 277:203-12 S '51

CHINTZ

Chintz effects; ureaformaldehyde preparations mixed with wetting oils; patent. Am Dyestuff Rep 40:198 Mr 19 '51

CHISELS

Chisel guard. il Bus Transportation 30:54 Ja '51

CHLAMYDOMONAS

Obligate autotrophy in chlamydomonas moewusii Gerloff. J. C. Lewin. bibliog Science 112:652-3 D 1 '50

CHLORAL

Heats of hydrolysis of chloral and bromal, and the C-C bond dissociation energies in chloral and bromal. H. O. Pritchard and H. A. Skinner. Chem Soc J p 1928-31 Jl '50

Mechanism of the molecular rearrangement produced by the action of alkali on chloralquinaldine [2-(3 : 3 : 3-trichloro-2-hydroxypropyl)-quinoline]. B. R. Brown, D. L. Hammick and R. Robinson. Chem Soc J p780-3 Mr '50

Studies on 4-hydroxycoumarins; the condensation of chloral with 4-hydroxycoumarin and the mechanism of aldehyde condensations with 4-hydroxycoumarin. M. Ikawa and K. P. Link. Am Chem Soc J 72:4373-4 O '50

CHLORAMINE

Reaction of wool with organic chloroamines; conditions for rendering wool non-felting. P. Alexander and others. bibliog Soc Dyers & Col J 66:538-43 O '50

Reaction of wool with organic chloroamines; the nature of the reaction. P. Alexander and others. bibliog Soc Dyers & Col J 67: 17-22 Ja '51

Analysis

Mono- and dichloramine determinations in water. D. B. Williams. bibliog Water & Sewage Works 98:429-33 O '51 (to be cont)

CHLORAMPHENICOL. See Chloromycetin

CHLORANIL

Kinetics of the *cyclo*pentadiene-chloranil reaction; a note on the configuration of transition states in diene synthesis. W. Rubin and A. Wassermann. Chem Soc J p2205-7 Ag '50

CHLORDANE

Curb on chlordane. Chem W 69:35-6 S 29 '51

Study of workers exposed to the insecticides chlordan, aldrin, dieldrin. F. Princi and G. H. Spurbeck. bibliog A M A Archives Ind Hygiene & Occup Med 3:64-72 Ja '51

CHLORELLA

Chemical engineering problems in large scale culture of algae. P. M. Cook. flow diag il diags Ind & Eng Chem 43:2385-9 O '51

CHLORIDES

Allylic chlorides; preparation and properties of *cis*- and *trans*-cinnamyl chloride. L. F. Hatch and H. E. Alexander. bibliog Am Chem Soc J 72:5643-5 D '50

Allylic chlorides; relative reactivities of *cis*- and *trans*-crotyl chloride. L. F. Hatch and S. S. Nesbitt. Am Chem Soc J 73:358-60 Ja '51

Allylic chlorides; the preparation and properties of *cis*- and *trans*-1,2,3-trichloro-2-butene. L. F. Hatch and J. J. D'Amico. bibliog Am Chem Soc J 73:4393-400 S '51

Chloride ethoxides of zirconium. D. C. Bradley, F. M. Abd-el Halim and W. Wardlaw. Chem Soc J p3450-4 D '50

Chloride poisoning of iron-copper Fischer-Tropsch catalysts. L. J. E. Hofer and others. bibliog J Phys & Colloid Chem 55: 1201-6 O '51

Demonstration of exchange and Friedel-Crafts reactions of gaseous organic chlorides on solid aluminum chloride. M. Blau and J. E. Willard. Am Chem Soc J 73:442-4 Ja '51

Effects of added chlorides on the absorption spectra of cobaltous chloride in water and in formamide. L. R. Dawson and J. H. Chaudet. bibliog J Chem Phys 19:771-4 Je '51

Fluorescent reagents; acyl chlorides and acyl hydrazides. W. Baker, C. N. Haksar and J. F. W. McOmie. Chem Soc J p 170-3 Ja '50

Four-centre, broad-side approach as a mechanism of reaction. W. Gerrard. Chem & Ind p463-4 Je 16 '51

1-Hydroxy*cyclo*hexyl 1-hydroperoxide; its thermal decomposition and its reaction with acyl chlorides. W. Cooper. Chem Soc J p 1340-3 My '51

Ketones from acyl chlorides and alkyl aluminum chlorides; a selective keto-ester synthesis. H. Adkins and C. Scanley. bibliog Am Chem Soc J 73:2854-6 Je '51

Mechanism of hydrolysis of acid chlorides; the effect of hydroxyl ions, temperature, and substituents on the rate of hydrolysis of benzoyl chloride. R. F. Hudson and J. E. Wardill. diag Chem Soc J p 1729-33 Jl '50

Mechanism of the hydrolysis of acid chlorides; the effect of temperature and solvent composition. B. L. Archer and R. F. Hudson. diags Chem Soc J p3259-69 N '50

Solar evaporation of salt brines. M. R. Bloch, L. Farkas and K. S. Spiegler. bibliog il diag Ind & Eng Chem 43:1544-53 Jl '51

Study of protein-ion interaction by the moving boundary method; the combination of bovine serum albumin with chloride ion. R. A. Alberty and H. H. Marvin, jr. bibliog Am Chem Soc J 73:3220-3 Jl '51

Study of some complex chlorides and oxalates by solubility measurements. J. E. Barney, 2d, W. J. Argersinger, jr. and C. A. Reynolds. bibliog Am Chem Soc J 73:3785-8 Ag '51

Synthesis, properties and dehydrohalogenation of some α-phenoxy and 2,4-dichlorophenoxy substituted acid chlorides. C. M. Hill and others. Am Chem Soc J 73:1660-2 Ap '51

CHLORIDES—*Continued*

Thermodynamic data of the metallic chlorides. H. Villa. bibliog Soc Chem Ind J 69(sup no 1):S9-18 '50

Thermodynamics of fluorine-chlorine exchange reactions; the systems NaF-NaCl, BaF_2-$BaCl_2$, NiF_2-$NiCl_2$ and PbClF-$PbCl_2$. G. C. Hood and M. M. Woyski. bibliog Am Chem Soc J 73:2738-41 Je '51

See also

Ruthenium chlorides

Analysis

Argentometric amperometric titration of traces of chloride with the rotated platinum electrode as indicator electrode. I. M. Kolthoff and P. K. Kuroda. Anal Chem 23:1306-9 S '51

Determination of chloride in presence of iodate. L. S. Stanton. Anal Chem 23:1331 S '51

Determination of chloride in water; preparation and effect of mercuric nitrate reagent. F. E. Clarke. Anal Chem 22:1458 N '50

Determination of traces of chloride; potentiometric titration to the apparent equivalence potential. I. M. Kolthoff and P. K. Kuroda. Anal Chem 23:1304-6 S '51

High frequency titrations; mercurimetric determination of chloride. W. J. Blaedel and H. V. Malmstadt. Anal Chem 22:1410-12 N '50

CHLORINATION

Acid-catalysed chlorination by means of hypochlorous acid. D. H. Derbyshire and W. A. Waters. Chem Soc J p73-5 Ja '51

Benzothiophenes and their 1-dioxides. A. H. Schlesinger and D. T. Mowry. bibliog Am Chem Soc J 73:2614-16 Je '51

Chemical engineering unit processes fourth annual review; halogenation. E. T. McBee and O. R. Pierce. bibliog(104 ref) il Ind & Eng Chem 43:1974-8 S '51

Chlorination maintains supply line capacity. L. A. Jackson and W. A. Mayhan. il Water & Sewage Works 98:248-52 Je '51

Chlorination method for disposal of cyanide wastes; abstract. J. E. Tarman and others. Steel 128:111-12 Ap 9 '51

Chlorination of aliphatic amines. L. H. Amundsen and L. S. Pitts. bibliog Am Chem Soc J 73:1494-7 Ap '51

Chlorination of 1-chloro-2-naphthol. P. M. James and D. Woodcock. Chem Soc J p 1931-2 Jl '51

Chlorination of α-chloroethylbenzene. E. Galitzenstein and C. Woolf. bibliog Soc Chem Ind J 69:349-52 N '50

Chlorination of ethylene and propylene. E. Galitzenstein and C. Woolf. bibliog Soc Chem Ind J 69:289-94 O '50

Chlorination of ethylene dichloride. E. Galitzenstein and C. Woolf. bibliog Soc Chem Ind J 69:294-8 O '50

Destruction of cyanide in waste waters by chlorination; abstract. G. E. Eden and others. Sewage & Ind Wastes 23:1213 S '51

Developments in bleaching processes. H. W. Giertz. bibliog Tappi 34:209-12 My '51

Experience with chlorination of cyanides in the General motors corporation. D. Milne and others. flow diag il Sewage & Ind Wastes 23:64-81 Ja '51

Flammability of benzene-chlorine mixtures. G. Calingaert and W. E. Burt. Ind & Eng Chem 43:2341-3 O '51

Improved yields of *p*-dichlorobenzene; substitutive chlorination of benzene. H. F. Wiegandt and P. R. Lantos. bibliog diags Ind & Eng Chem 43:2167-72 S '51

Mechanism of the low temperature chlorination of isobutylene. W. Reeve and D. H. Chambers. Am Chem Soc J 73:4499 S '51

Methane chlorination using hydrogen chloride and oxygen. H. P. Meissner and E. F. Thode. bibliog Ind & Eng Chem 43:129-33 Ja '51

Nature of the co-ordinate link; the non-ionic complex compounds of tri-*n*-propylphosphine with platinic and platinous chlorides. J. Chatt. Chem Soc J p2301-10 S '50

Nuclear chlorination of toluene; 2 : 3 : 4- and 2 : 3 : 6-trichlorotoluene. H. C. Brimelow, R. L. Jones and T. P. Metcalfe. Chem Soc J p 1208-12 My '51

Photochlorination. M. Ritchie and W. I. H. Winning. Chem Soc J p3579-89 D '50

Plating room chlorinator solves cyanide disposal problem. N. S. Chamberlin. il plan Metal Finishing 49:54-5+ Ag '51

Recording chlorine analyzer. J. F. Arbogast and R. H. Osborn. bibliog flow diag il diags Anal Chem 23:950-3 Jl '51

Selenoaldehydes; selenoformaldehyde (trimethylene triselenide) and its chlorination products. H. J. Bridger and R. W. Pittman. Chem Soc J p 1371-5 My '50

Stereochemistry of 1,4-addition; the chlorination of butadiene. K. Mislow and H. M. Hellman. bibliog Am Chem Soc J 73:244-6 Ja '51

Study of the chlorination of methylchlorosilanes. J. L. Speier. Am Chem Soc J 73:824-6 F '51

Study of the peroxide-catalyzed chlorination of the bromotoluenes with sulfuryl chloride. G. L. Goerner and R. C. Nametz. Am Chem Soc J 73:2940-1 Je '51

Unit processes; Chemical Engineering report, March 1951; halogenation. P. H. Groggins. diag Chem Eng 58:133-4 Mr '51

See also

Rubber—Chlorination
Sewage disposal—Chlorination
Water purification—Chlorination
Wool—Chlorination

CHLORINE

Beta-spectrum of Cl^{36}. C. S. Wu and L. Feldman. bibliog Phys R 82:457-8 My 1 '51

Call for chlorine. Bsns W p95-6 Ap 14 '51

Captive chlorine. il Chem Ind W 68:10 F 3 '51

Determination of liquid-film absorption coefficients; a new type of column and its application to problems of absorption in presence of chemical reaction. E. J. Stephens and G. A. Morris. bibliog diags Chem Eng Prog 47:232-42 My '51

Doan of Dow predicts end of chlorine shortage. Chem & Eng N 29:1528 Ap 16 '51

Efficiency of the primary photochemical process for halogens in water; the photochemical reaction of Mn(II) and Cl_2. A. C. Rutenberg and H. Taube. Am Chem Soc J 72:5561-4 D '50

Exchange reaction between hydrogen chloride and chlorine in the gaseous state. W. H. Johnston and W. F. Libby. Am Chem Soc J 73:854-5 F '51

Handling and use of chlorine. bibliog diags Water & Sewage Works 98:R103-8 Ap '51

Influence of irradiation on the low frequency electrodeless discharge in chlorine. W. L. Harries and A. von Engel. bibliog J Chem Phys 19:514 Ap '51

Interaction of chlorine with benzene and *m*-xylene. L. J. Andrews and R. M. Keefer. Am Chem Soc J 73:462-3 Ja '51

Mechanisms of chain termination in chlorine atom reactions. R. M. Noyes and L. Fowler. bibliog Am Chem Soc J 73:3043-5 Jl '51

Production of hydrazine by the reaction of chlorine with anhydrous ammonia. R. Mattair and H. H. Sisler. diags Am Chem Soc J 73:1619-22 Ap '51

Recovering well capacity with chlorine. W. E. Huston. Water & Sewage Works 98:R57 Ap '51

Relative rates of reaction of hydrogen and tritium hydride with chlorine. W. M. Jones. bibliog diag J Chem Phys 19:78-85 Ja '51

Role of a positive column in the reduction of current due to external light in an electrodeless discharge. V. V. Agashe. bibliog il diag J Chem Phys 19:1002-6 Ag '51

Role of chlorine in the luminescence of ZnS: Cu phosphors. R. H. Bube. J Chem Phys 19:985 Jl '51

Sorption of gases on metals at room temperature. A. L. McClellan and N. Hackerman. bibliog J Phys & Colloid Chem 55:374-82 Mr '51

Text of chlorine order controlling distribution and use. Water & Sewage Works 98: 119-20 Mr '51

Analysis

Detects chlorine in low ranges; Davis electro conductivity analyzer. il Nat Safety N 64: 42 Ag '51

CHLORINE—Analysis—*Continued*

Determination of sulfur and chlorine in organic materials; reduced scale oxygen bomb. E. J. Agazzi, T. D. Parks and F. R. Brooks. bibliog il Anal Chem 23:1011-13 Jl '51

Determination of total chlorine in inorganic salts. W. A. James and R. E. Belser. Anal Chem 23:1037-8 Jl '51

Flow colorimeter adapted to chlorine analysis. R. C. Hawes and others. il diags Anal Chem 23:503-6 Mr '51

Recording chlorine analyzer. J. F. Arbogast and R. H. Osborn. bibliog flow diag il diags Anal Chem 23:950-3 Jl '51

Isotopes

Beta-spectrum of Cl^{36}. H. W. Fulbright and J. C. D. Milton. bibliog Phys R 82:274 Ap 15 '51

Beta-spectrum of Cl^{36}. C. S. Wu and L. Feldman. bibliog Phys R 82:457-8 My 1 '51

Decay scheme of Cl^{39}. R. N. H. Haslam and others. bibliog diag Phys R 80:318-20 N 1 '50

Internal conversion electrons and other radiations from Cl^{34}. L. Ruby and J. R. Richardson. Phys R 80:760 N 15 '50

Mass of Cl^{39}. D. H. Wilkinson and J. H. Carver. bibliog Phys R 83:466-7 Jl 15 '51

Molecular constants of Cs^{133} Cl^{35}. R. G. Luce and J. W. Trischka. Phys R 83:851-2 Ag 15 '51

Polarization of the nucleus by electric fields. G. R. Gunther-Mohr and others. Phys R 81:289-90 Ja 15 '51

Pure quadrupole spectrum of solid chlorine. R. Livingston. J Chem Phys 19:803 Je '51

Quadrupole moment ratio of Cl^{35} and Cl^{37} from pure quadrupole spectra. R. Livingston. Phys R 82:289 Ap 15 '51

Radiations from F^{18}, Mo^{93}, Cl^{34}. L. Ruby and J. R. Richardson. bibliog Phys R 83:698-700 Ag 15 '51

Ratio of the nuclear magnetic and electric quadrupole interactions for atomic Cl^{35} and Cl^{37}. V. Jaccarino and J. G. King. Phys R 83:471-2 Jl 15 '51

Ratio of the quadrupole moments of Cl^{35} and Cl^{37}. S. Geschwind and others. Phys R 81:288-9 Ja 15 '51

Spin and quadrupole moment of Cl^{36}. C. M. Johnson and others. il Phys R 83:1249 S 15 '51

Yields of α-, *n*-, and γ-radiation from chlorine bombarded with protons. K. J. Brostrøm and others. bibliog Phys R 83:1265-6 S 15 '51

Manufacture

Chlorine. il diags Chem & Eng N 29:364-9 Ja 29 '51

Consumer market development; Diamond alkali co., Houston, caustic soda-chlorine plant. G. F. Rugar. il Ind & Eng Chem 43:1751-3 Ag '51

French group here for chlorine study. Chem & Eng N 29:3170 Ag 6 '51

Materials of construction report. il Chem Eng 57:116-18 N '50

Studies in local production of chlorine; panel discussion. C. A. Black; C. M. Hoskinson. bibliog diags Am Water Works Assn J 43:513-21 Jl '51

Safety measures

Chlorine dispersion with fog nozzles. E. S. Hopkins and H. A. Faber. il Water & Sewage Works 98:350-2 Ag '51

Transportation

Chlorine in crates? il Chem W 69:17 Ag 25 '51

CHLORINE, Liquid

Manufacture

Instrumentation in a modern chlorine handling plant. J. M. Hildyard. flow sheet diags Electrochem Soc J 97:367-76 N '50

CHLORINE compounds

Chlorine bleaching of chemical pulp. J. L. Parsons. diags Paper Tr J 131:216-17+ N 30 '50

Determination of residual chlorine compounds. H. C. Marks and others. bibliog Am Water Works Assn J 43:201-7 Mr '51

Halogen gift. Chem Ind W 68:26 My 12 '51

Preparation of chlorine bleach liquors for paper pulp. N. R. Phillips. bibliog Paper Tr J 131:211-12+ N 30 '50

Some new reactions of cycloöctatetraene. R. E. Benson and T. L. Cairns. Am Chem Soc J 72:5355-6 D '50

CHLORINE dioxide. See Chlorine oxides

CHLORINE fluorides

Determination of the liquid density of chlorine trifluoride. A. A. Banks and A. J. Rudge. diags Chem Soc J p 191-3 Ja '50

Halogenation in the liquid phase by means of chlorine trifluoride. J. F. Ellis and W. K. R. Musgrave. diag Chem Soc J p3608-12 D '50

Reactions of fluorocarbon radicals; the reaction of trifluoroiodomethane with acetylene. R. N. Haszeldine. diag Chem Soc J p3037-41 N '50

CHLORINE oxides

Action of chlorine dioxide on wool. D. B. Das and J. B. Speakman. 2pls Soc Dyers & Col J 66:583-8 N '50

Bleaching kraft pulp with mixtures of sodium chlorite and chlorine. W. A. Stone and J. G. Matarese. Pulp & Pa of Can 52:85-8 Ja '51

Chlorine dioxide and alkaline peroxide in kraft bleaching. F. Casciani and G. K. Storin. bibliog Tappi 33:588-94 D '50

Chlorine dioxide controls serious taste problem. J. G. K. Silvey. Pub Works 82:112-13 Ap '51

Explosion of liquid chlorine dioxide. Chem & Eng N 29:3196 Ag 6 '51

Infrared spectra of Cl_2O and ClO_2. K. Hedberg. bibliog J Chem Phys 19:509 Ap '51

Progressive delignification of jute fibre with chlorine dioxide. A. B. Sen Gupta and H. J. Callow. bibliog Textile Inst J Trans 42:T375-84 S '51

Relation between chlorine oxide (ClO) and dichlorine hexoxide. Z. G. Szabó. Chem Soc J p 1356-9 My '50

CHLOROACENAPHTHENE

Acylation of 5-bromo- and 5-chloroacenaphthene by the Friedel-Crafts procedure. D. V. Nightingale and R. M. Brooker. bibliog Am Chem Soc J 72:5539-43 D '50

CHLOROACETIC acid

Chloro- and iodo-acetates of dihydro-lanosterol and dihydroagnosterol. R. G. Curtis. Chem Soc J p 1017-18 Mr '50

Effect of temperature on the thermodynamic properties and interfacial tension of water with some alkyl esters of monochloroacetic acid. J. J. Jasper and W. J. Mayer. bibliog Am Chem Soc J 72:4767-9 O '50

Preparation of α-naphthaleneacetic acid by the condensation of naphthalene with chloroacetic acid. Y. Ogata and J. Ishiguro. bibliog Am Chem Soc J 72:4302 S '50

CHLOROACETOPHENONE

Reaction of phenylhydrazine with α-haloacetophenones. D. Y. Curtin and E. W. Tristram. bibliog Am Chem Soc J 72:5238-42 N '50

CHLOROACETYLENE. See Acetylene compounds

CHLOROARSENOUS acid

Diethyl chloroarsenite as a reagent for the preparation of peptides. J. R. Vaughan, jr. Am Chem Soc J 73:1389 Mr '51

CHLOROBENZENE

Apparent polarities of a number of substituted chloro-, nitro-, methyl-, methoxy-, and acetyl-benzenes. C. G. Le Fèvre and R. J. W. Le Fèvre. Chem Soc J p 1829-33 Jl '50

CHLOROBENZHYDROL

Resolution of *p*-chlorobenzhydrol. G. H. Green and J. Kenyon. Chem Soc J p751-2 F '50

CHLOROBENZOIC acid

Esters of benzoic and chlorobenzoic acids. E. Monroe and C. R. Hand. Am Chem Soc J 73:487-8 Ja '51

CHLOROBUTADIENE. See Chloroprene

CHLOROBUTANE

Optical rotation of 2-chlorobutane. R. L. Letsinger, L. G. Maury and R. L. Burwell, jr. Am Chem Soc J 73:2373 My '51

CHLOROBUTYNE

Preparation and properties of 3-chloro-1-propyne and 1-chloro-2-butyne. L. F. Hatch and V. Chiola. Am Chem Soc J 73:360-2 Ja '51

CHLOROBUTYRALDEHYDE

γ-Chlorobutyraldehyde and its diethyl acetal. R. B. Loftfield. Am Chem Soc J 73:1365-6 Mr '51

CHLOROCAMPHANE

4-Chlorocamphane. W. V. Doering and E. F. Schoenewaldt. bibliog Am Chem Soc J 73:2333-5 My '51

CHLOROCYCLOHEXANONE

Preparation of tetrahydrocarbazoles from 2-chloro*cyclo*hexanone. N. Campbell and E. B. McCall. Chem Soc J p2870-4 O '50

CHLORODIFLUOROETHYLENE

1-Phenyl-1,2-difluoro-2-chloroethylene and phenyltrichloroethylene. S. G. Cohen, H. T. Wolosinski and P. J. Scheuer. Am Chem Soc J 72:3952-3 S '50

CHLORODIFLUOROMETHANE

Rating the restrictor tube; method of determining flow capacities for Freon-12 and Freon-22. N. E. Hopkins. bibliog Refrig Eng 58:1087-95 N '50; Discussion. 59:49-50 Ja '51

Solubility of air in Freon-12 and Freon-22. H. M. Parmelee. diags Refrig Eng 59:573-7 Je '51; Discussion. 59:669+ Jl '51

CHLORODINITROBENZENE

Reaction between amines and 1-chloro-2 : 4-dinitrobenzene. O. L. Brady and F. R. Cropper. Chem Soc J p507-16 F '50

CHLOROETHYLAMINE

Adrenergic blocking agents; N-aralkyl-β-haloethylamines. J. F. Kerwin and others. bibliog Am Chem Soc J 72:3983-6 S '50

Adrenergic blocking agents; N-(2-chloroethyl)-N-(2-phenoxyethyl)-amine hydrochlorides. W. S. Gump and E. J. Nikawitz. bibliog Am Chem Soc J 72:3846-51 S '50

See also

Nitrogen mustards

CHLOROETHYLANISIDINE

Aryl-2-halogenoalkylamines; reactions with certain organic sulphur compounds. W. C. J. Ross. Chem Soc J p815-18 Mr '50

CHLOROETHYLBENZENE

Chlorination of α-chloroethylbenzene. E. Galitzenstein and C. Woolf. bibliog Soc Chem Ind J 69:349-52 N '50

CHLOROETHYLDIBENZYLAMINE. See Dibenamine

CHLOROFLUOROBUTADIENE

Polymerization of 2,3-difluorobutadiene and 2-chloro-3-fluorobutadiene. L. B. Wakefield. bibliog Ind & Eng Chem 43:2363-6 O '51

CHLOROFLUOROETHANE

Alkyl-substituted chlorofluoroethanes. J. R Barr, J. D. Gibson and R. H. Lafferty, jr Am Chem Soc J 73:1352 Mr '51

Thermal dehydrohalogenation of some chlorofluoroethanes. C. W. Huskins and others. bibliog diag Ind & Eng Chem 43:1253-6 My '51

CHLOROFLUOROMETHANES

Heat transfer coefficients in horizontal tube evaporators. W. L. Bryan and G. W. Quaint. bibliog diags Refrig Eng 59:67-72; Discussion. 72 Ja '51

Infrared spectrum of chlorofluoromethane. E. K. Plyler and M. A. Lamb. J Res Nat Bur Stand 45:204-8 S '50

Substituted methanes; force constants and calculated thermodynamic properties for some trifluoromethanes. C. E. Decker and others. bibliog J Chem Phys 19:784-8 Je '51

CHLOROFORM

Absorption spectra of thioindigo dyes in benzene and chloroform. W. R. Brode and G. M. Wyman. J Res Nat Bur Stand 47:170-8 S '51

Analysis of binary and ternary mixtures; system acetone-chloroform-methyl isobutyl ketone. A. E. Karr, W. M. Bowes and E. G. Scheibel. bibliog diag Anal Chem 23:459-63 Mr '51

Apparent dipole moments of the chlorinated methanes in the liquid, dissolved, and gaseous states. G. A. Barclay and R. J. W. Le Fèvre. Chem Soc J p556-62 F '50

Composition of vapors from boiling solutions; systems containing acetone, chloroform, and methyl isobutyl ketone. A. E. Karr and others. bibliog Ind & Eng Chem 43:961-8 Ap '51

Infrared spectra and force constants of chloroform and trichlorosilane. T. G. Gibian and D. S. McKinney. bibliog Am Chem Soc J 73:1431-4 Ap '51

Interaction between polynitro-compounds and aromatic hydrocarbons and bases; picric acid and alkylated benzene derivatives in chloroform solution. H. D. Anderson and D. L. Hammick. Chem Soc J p 1089-94 Ap '50

Investigation of the deuterohaloform synthesis; a new preparation of chloroform-*d*. W. M. Boyer and others. bibliog Am Chem Soc J 73:770-2 F '51

Isotope effect on dissociation probabilities in the mass spectra of chloroform and chloroform-*d*. V. H. Dibeler and R. B. Bernstein. bibliog J Chem Phys 19:404-6 Ap '51

Isotope exchange reaction of chloroform-*d* with bromoform. G. P. Semeluk and R. B. Bernstein. Am Chem Soc J 72:4830-1 O '50

Kinetics of the forward and reverse reactions for the vapor phase thermal bromination of chloroform. J. H. Sullivan and N. Davidson. bibliog J Chem Phys 19:143-8 F '51

Limiting negative pressure of acetic acid, benzene, aniline, carbon tetrachloride, and chloroform. L. J. Briggs. J Chem Phys 19:970-2 Jl '51

New synthesis of chloroform-*d*. M. H. Earing and J. B. Cloke. diag Am Chem Soc J 73:769-70 F '51

Solubility of perfluoro-*n*-heptane with benzene, carbon tetrachloride, chloroform, *n*-heptane and 2,2,4-trimethylpentane. J. H. Hildebrand, B. B. Fisher and H. A. Benesi. bibliog Am Chem Soc J 72:4348-51 O '50

Solvents for extracting nicotine from aqueous solutions. C. O. Badgett. bibliog Ind & Eng Chem 42:2530-1 D '50

Substituted methanes; infrared spectra and calculated thermodynamic properties for some trichloromethanes. J. R. Madigan and F. F. Cleveland. J Chem Phys 19:119-23 Ja '51

CHLOROGENIC acid

Isochlorogenic acid; isolation from coffee and structure studies. H. M. Barnes, J. R. Feldman and W. V. White. bibliog Am Chem Soc J 72:4178-82 S '50

CHLOROHEPTANONE

α-Halo ketones; solid-liquid equilibrium in the system 2-chloro-3-heptanone and 4-chloro-3-heptanone. J. D. Newkirk and J. G. Aston. Am Chem Soc J 73:3898-900 Ag '51

α-Halo ketones; the isomeric α-chloroketones derived from 3-heptanone. J. G. Aston and J. D. Newkirk. Am Chem Soc J 73:3900-2 Ag '51

CHLOROHYDRINS

Catalysed transfer of hydrogen chloride from chlorohydrins to epoxides; a new method of preparing glycidol and some of its derivatives. W. Bradley, J. Forrest and O. Stephenson. Chem Soc J p 1589-98 Je '51

Concerning the reaction of *o*-chlorotoluene with propylene chlorohydrin. G. H. Stempel, jr. and B. Sobel. bibliog Am Chem Soc J 72:4314-15 S '50

Kinetics of chlorohydrin formation; the reaction between hypochlorous acid and allyl alcohol in aqueous solution. G. C. Israel, J. K. Martin and F. G. Soper. Chem Soc J p 1282-5 My '50

Kinetics of chlorohydrin formation; the reaction between hypochlorous acid and allyl alcohol in the presence of sodium acetate-acetic acid buffers of constant *pH*. G. C. Israel. Chem Soc J p 1286-9 My '50

CHLOROIODOBENZENE

Solubility measurements in the critical temperature region. D. Atack and W. G. Schneider. bibliog diags J Phys & Colloid Chem 54:1323-36 D '50

CHLOROMETHYL benzoyl chloride

Dibasic acids based on *p*-chloromethylbenzoyl chloride containing ether, thioether or sulfone groups. W. S. Emerson and R. A. Heimsch. Am Chem Soc J 73:1297-8 Mr '51

CHLOROMETHYL benzoyl chloride—*Cont.*
Dibasic aminoacids based on *p*-chloromethylbenzoyl chloride. W. S. Emerson and R. A. Heimsch. Am Chem Soc J 73:1299-300 Mr '51

CHLOROMETHYL propene
Polymerization of 3-chloro-2-chloromethyl-1-propene. W. S. Ropp and others. Am Chem Soc J 73:3024-7 Jl '51

CHLOROMETHYLQUINOLINE
Some derivatives of 6-bromo-8-methylquinoline and 6-chloro-8-methylquinoline. T. A. Irving and others. bibliog Am Chem Soc J 72:4069-71 S '50

CHLOROMETHYLTHIAZOLE
Synthesis of 4-chloromethylthiazole hydrochloride and β-(4-thiazolyl)-alanine hydrochloride. W. T. Caldwell and S. M. Fox. Am Chem Soc J 73:2935-6 Je '51

CHLOROMETHYLATION
Application of the chloromethylation reaction to the syntheses of certain polymethylbenzenes. C. D. Shacklett and H. A. Smith. bibliog Am Chem Soc J 73:766-8 F '51

CHLOROMYCETIN
Chloramphenicol (chloromycetin); related compounds. L. M. Long and N. Jenesel. Am Chem Soc J 72:4299-300 S '50
Chloramphenicol (chloromycetin); the synthesis of ring halogenated compounds. L. L. Bambas, H. D. Troutman and L. M. Long. Am Chem Soc J 72:4445-7 O '50
Chloromycetin (chloramphenicol); related compounds having alkyl side chain variations. M. C. Rebstock and others. bibliog Am Chem Soc J 73:3666-70 Ag '51
Chloromycetin (chloramphenicol); the synthesis of 3-methyl and 3-*p*-nitrophenyl substituted compounds. M. C. Rebstock. Am Chem Soc J 73:3671-4 Ag '51
Chloromycetin; synthesis of DL-*threo*-2-dichloroacetamido-1-(4-nitro-1-naphthyl)-1,3-propanediol. L. M. Long and H. D. Troutman. Am Chem Soc J 73:542-4 F '51
Chloromycetin; synthesis of α-dichloroacetamido-β-hydroxy-*p*-nitropropiophenone. L. M. Long and H. D. Troutman. Am Chem Soc J 73:481-2 Ja '51
Chloromycetin used to treat influenzal meningitis. Franklin Inst J 251:315 F '51
Configurational correlation of chloramphenicol with nor-ψ-ephedrine. G. Fodor, J. Kiss and I. Sallay. Chem Soc J p 1858-63 Jl '51
Life-saving chloromycetin. A. M. Brodine. flow chart il Comp Air Mag 56:14-17 Ja '51
Reaction of chloramphenicol (chloromycetin) with α-chymotrypsin. H. T. Huang and C. Niemann. Am Chem Soc J 73:4039-40 Ag '51

CHLOROMYCETIN, Analogs of
Chloramphenicol (chloromycetin); some analogs having variations of the acyl group. M. C. Rebstock. bibliog Am Chem Soc J 72:4800-3 O '50
Nuclear halogen-containing analogues of chloramphenicol. N. P. Buu-Hoï and others. Chem Soc J p2766-9 O '50
Synthesis of chloramphenicol analogs. C. F. Huebner and C. R. Scholz. bibliog Am Chem Soc J 73:2089-94 My '51
Three new analogues of chloramphenicol. N. P. Buu-Hoï, N. D. Xuong and N. H. Khoï. Chem Soc J p255-7 F '51

CHLORONAPHTHOIC acid
Some halogeno-derivatives of 2 : 3-benzacridine. B. Cairns and W. O. Kermack. Chem Soc J p 1322-7 My '50

CHLORONAPHTHOL
Chlorination of 1-chloro-2-naphthol. P. M. James and D. Woodcock. Chem Soc J p 1931-2 Jl '51

CHLORONAPHTHOQUINONE
Preparation of amine derivatives of 2-chloro-1,4-naphthoquinone. J. C. Calandra and E. C. Adams, jr. Am Chem Soc J 72:4804 O '50

CHLORONITROANILINE
2-Chloro-5-nitroaniline. C. Buchanan and S. H. Graham. Chem Soc J p3435-6 D '49

CHLORONITROBENZENE
Aromatic sulphonation; the ionisation constants of *p*-nitrotoluene, nitrobenzene, and *p*-chloronitrobenzene, and the acidity function of oleum. J. C. D. Brand. Chem Soc J p997-1003 Mr '50

CHLORONITROFLUORENE
New synthesis of 2-chloro-7-nitrofluorene. H. R. Gutmann and F. E. Ray. Am Chem Soc J 73:4033 Ag '51

CHLORONITROSOCAMPHANE
Rotatory dispersion and circular dichroism of (—)-2-chloro-2-nitrosocamphane and the pyridine salt of (+)-2-chloro-2-nitrosocamphane-10-sulphonic acid. S. Mitchell, J. S. Watson and W. Dunlop. Chem Soc J p3440-3 D '50

CHLOROÖCTANE
Reactions of organometallic compounds with alkyl halides; on sodium ethyl and (+)2-chloroöctane. S. E. Ulrich and others. bibliog Am Chem Soc J 72:5127-30 N '50

CHLOROPHENAZINE
Halogen-activating effect of the N-oxide group in chlorophenazine-N-oxides; synthesis of an isomer of iodinin. D. L. Vivian. bibliog Am Chem Soc J 73:457-8 Ja '51

CHLOROPHENYL methane
Hyperconjugative effect of methylene groups in 5-indanylphenylchloromethane and 5,6,7,8-tetrahydro-2-naphthylphenylchloromethane. R. T. Arnold, K. Murai and R. M. Dodson. bibliog Am Chem Soc J 72:4193-5 S '50

CHLOROPHORIN
Constitution of chlorophorin, a constituent of iroko, the timber of chlorophora excelsa. F. E. King and M. F. Grundon. Chem Soc J p3348-52 D '49
Constitution of chlorophorin; further oxidation experiments, and the completion of the structural problem. F. E. King and M. F. Grundon. Chem Soc J p3547-52 D '50
Phenolic resin of the wood of chlorophora excelsa (Benth. and Hook f.). J. R. Nunn and W. S. Rapson. Chem Soc J p3151-5 D '49

CHLOROPHOSPHOROUS acid
Diethyl chlorophosphite as a reagent for peptide syntheses. G. W. Anderson, A. D. Welcher and R. W. Young. Am Chem Soc J 73:501-2 Ja '51

CHLOROPHYL
Absorption spectra of chlorophyll and related compounds. S. Aronoff. bibliog Chem R 47:175-95 O '50
Absorption spectra of chlorophylls in solutions at low temperatures, equilibria between isomers. S. Freed and K. M. Sancier. Science 114:275-6 S 14 '51
Accent on scent. il Chem W 68:27+ Je 16 '51
Spectrophotometric study of the Molisch phase test of chlorophyll. B. Dunicz and others. diag Am Chem Soc J 73:3388-90 Jl '51

CHLOROPLATINATES
Adsorption and reduction of tetrachloroplatinate(II) ion at the dropping mercury electrode. H. A. Laitinen and E. I. Onstott. bibliog Am Chem Soc J 72:4565-70 O '50

CHLOROPLATINIC acid
Determination of the structures of complex molecules and ions from X-ray diffraction by their solutions; the structures of the groups $PtBr_6^{--}$, $PtCl_6^{--}$, $Nb_6Cl_{12}^{++}$, $Ta_6Br_{12}^{++}$, and $Ta_6Cl_{12}^{++}$. P. A. Vaughan, J. H. Sturdivant and L. Pauling. bibliog Am Chem Soc J 72:5477-86 D '50
Hydrogenation of nitro compounds with Raney nickel treated with chloroplatinic acid and with alkali. G. S. Samuelsen, V. L. Garik and G. B. L. Smith. bibliog Am Chem Soc J 72:3872-4 S '50

CHLOROPRENE
Copolymerization; the copolymerization of 2-chlorobutadiene, 2,3-dichlorobutadiene and 1,1-diphenylethylenes with olefins. K. W. Doak and D. L. Dineen. Am Chem Soc J 73:1084-7 Mr '51
Depilatory action of the intermediary polymers of chloroprene. P. Flesch and S. B. Goldstone. bibliog il Science 113:126-7 F 2 '51
Structure-property relationships for neoprene type W. W. E. Mochel and J. B. Nichols. bibliog Ind & Eng Chem 43:154-7 Ja '51

CHLOROPROCAINE
Chemical kinetics of procaine and chloroprocaine hydrolysis. M. Aven and F. F. Foldes. Science 114:206-8 Ag 24 '51

CHLOROPROPYNE

Preparation and properties of 3-chloro-1-propyne and 1-chloro-2-butyne. L. F. Hatch and V. Chiola. Am Chem Soc J 73:360-2 Ja '51

CHLOROPYRIMIDINE

Monosubstituted pyrimidines, and the action of thiourea on chloropyrimidines. M. P. V. Boarland and J. F. W. McOmie. Chem Soc J p 1218-21 My '51

CHLOROQUINALDINE

Nitration of 4-hydroxy- and 4-chloro-3-methylquinoline. A. Adams and D. H. Hey. Chem Soc J p2092-6 Ag '50

CHLOROQUINOLINE

Attempts to find new antimalarials; the synthesis of derivatives of quinolino(4′ : 3′-2 : 3)quinoline. W. O. Kermack and N. E. Storey. Chem Soc J p 1389-92 Je '51

Role of phenol in the reaction of 4,7-dichloroquinoline with novol diamine. A. R. Surrey and R. A. Cutler. Am Chem Soc J 73: 2623-6 Je '51

CHLOROSILANE

Electric moments of organosilicon compounds; fluorides and chlorides. C. Curran, R. M. Witucki and P. A. McCusker. bibliog Am Chem Soc J 72:4471-4 O '50

Interaction of alcohols with silicon tetrachloride. W. Gerrard and A. H. Woodhead. Chem Soc J p519-22 F '51

Preparation of some chlorinated aryl silanes for the examination of their insecticidal properties. H. Gilman and L. S. Miller. bibliog Am Chem Soc J 73:968-70 Mr '51

Unsaturated chlorosilanes. R. E. Scott and K. C. Frisch. bibliog Am Chem Soc J 73: 2599-600 Je '51

Vibration-rotation spectrum and structure of monochlorosilane. A. Monfils. bibliog J Chem Phys 19:138-9 Ja '51

CHLOROSTYRENE

Polymerization of *p*-chlorostyrene in the presence of polymethylacrylate. R. B. Carlin and D. L. Hufford. Am Chem Soc J 72: 4200-3 S '50

Structure of butadiene-styrene type copolymers; the butadiene-*o*-chlorostyrene copolymer. C. S. Marvel and R. E. Light, jr. Am Chem Soc J 72:3887-91 S '50

CHLOROSULFINATES

Experiments on the interaction of hydroxy-compounds and phosphorus and thionyl halides in the absence and in the presence of tertiary bases. K. H. V. French and W. Gerrard. Chem Soc J p3326-30 D '49

CHLOROTOLUENE

Concerning the reaction of *o*-chlorotoluene with propylene chlorohydrin. G. H. Stempel, jr. and B. Sobel. bibliog Am Chem Soc J 72:4314-15 S '50

Reaction of benzyl chloride with *n*-heptylmagnesium bromide. R. W. Schiessler, R. M. Speck and J. A. Dixon. Am Chem Soc J 73:3524-6 Jl '51

CHLOROTOLUYL chloride

Some esters based on *p*-chloromethylbenzoyl chloride. W. S. Emerson and R. A. Heimsch. bibliog Am Chem Soc J 72:5152-4 N '50

CHLOROTRIFLUOROETHYLENE

Chlorotrifluoroethylene polymers; physical properties. W. H. Reysen and J. D. Gibson. bibliog Ind & Eng Chem 42:2468-71 D '50

Decomposition temperatures of polytetrafluoroethylene and polymonochlorotrifluoroethylene as indicated by halogen liberation. H. A. Watson and others. 3pls U S Bur Mines Rep of Invest 4756:1-6 '50

Effect of chemicals on fluorothene. S. E. Frey, J. D. Gibson and R. H. Lafferty, jr. bibliog Ind & Eng Chem 42:2314-17 N '50

Electrical properties of solids; polytrifluoromonochloroethylene as a polyphase dielectric. S. I. Reynolds and others. bibliog il Am Chem Soc J 73:3714-17 Ag '51

Fritted fluorothene filters. W. H. Reysen and others. il Mod Plastics 28:102+ F '51

Phase equilibria between fluorothene and solvents. R. E. McHenry and others. bibliog Ind & Eng Chem 42:2317-19 N '50

Progress in fluorinates. R. L. Van Boskirk. Mod Plastics 29:196+ S '51

Target; continuous operation. il Chem Ind W 68:29-30 Ap 14 '51

Trifluorochloroethylene; development of dispersions for protective coatings. il Chem Age (Lond) 63:715 N 18 '50

CHLOROTRIFLUOROPROPANE

Compounds derived from 3-halo-1,1,1-trifluoropropane. E. T. McBee, A. E. Kelley and E. Rapkin. bibliog Am Chem Soc J 72:5071-3 N '50

CHOCOLATE

Use and abuse of chocolate; abstract. W. T. Clarke. Food Eng 23:170-1 Ag '51

Testing

Jiffy test of chocolate temper. N. R. Easton and others. diag Food Eng 23:147+ Ag '51

CHOLADIENEDIOL

Formation of an acrylal in side chain degradation of the bile acids. T. F. Gallagher and E. Elisberg. Am Chem Soc J 73:194-6 Ja '51

CHOLECYSTOGRAPHIC agents. See Gall bladder

CHOLEIC acid

New method for ascertaining the coordination number in choleic acids. G. Cilento. bibliog Am Chem Soc J 72:4272-3 S '50

CHOLERETICS

Synthetic choleretics; naphthol derivatives. R. R. Burtner and J. M. Brown. Am Chem Soc J 73:897-900 Mr '51

CHOLESTADIENE

Bisteroids; bicholestanyl; the structure of bicholesteryl and 3,3′-bis-3,5-cholestadiene. E. N. Squire. bibliog Am Chem Soc J 73: 2586-9 Je '51

CHOLESTANETRIOL

Steroids and related compounds; further experiments on the bromination of oxidation products of cholestane-3β : 5α : 6β-triol. B. Ellis and V. Petrow. Chem Soc J p2194-8 Ag '50

CHOLESTANOL

Bisteroids; bicholestanyl; the structure of bicholesteryl and 3,3′-bis-3,5-cholestadiene. E. N. Squire. bibliog Am Chem Soc J 73: 2586-9 Je '51

11-Ketolithocholic acid and 11-ketocholestanol from the $\Delta^{7,9(11)}$-dienes. L. F. Fieser, J. E. Herz and W. Huang. Am Chem Soc J 73: 2397 My '51

Improved hydrogenation of cholesterol to cholestanol. H. R. Nace. Am Chem Soc J 73:2379 My '51

CHOLESTENETRIOL

Δ^5-Cholestene-3β,4β,7α-triol and the inhibition of the oxidation of hydroxyl groups by vicinal substituents. S. Lieberman and D. K. Fukushima. bibliog Am Chem Soc J 72:5211-18 N '50

CHOLESTENONE

Action of 2,4-dinitrophenylhydrazine on 6-halogeno-Δ^4-cholestenones. D. H. R. Barton and E. Miller. Am Chem Soc J 72:5309 N '50

Conversion of cholest-4-en-3-one into cholesterol. A. J. Birch. Chem Soc J p2325-6 S '50

Conversion of cholestanone to cholesterol. W. G. Dauben and J. F. Eastham. Am Chem Soc J 73:3260-3 Jl '51

Conversion of Δ^4-cholestene-3-one to cholesterol. B. Belleau and T. F. Gallagher. bibliog Am Chem Soc J 73:4458-60 S '51

Reduction of cholestenone enol acetate by sodium borohydride. W. G. Dauben and J. F. Eastham. Am Chem Soc J 73:4463-4 S '51

Steroids; an improved method of preparation of cholestenone-4-C^{14}. R. D. H. Heard and P. Ziegler. Am Chem Soc J 73:4036-8 Ag '51

Steroids and the Walden inversion; reduction of cholest-5-en-3-one with lithium aluminium hydride. C. W. Shoppee and G. H. R. Summers. Chem Soc J p687-9 F '50

CHOLESTERILENE

Study of α-cholesterylene. J. L. Owades and A. E. Sobel. bibliog Am Chem Soc J 73:4223-5 S '51

CHOLESTEROL

Action of hydroxyl radicals on cholesterol and some of its esters. G. R. Clemo, M. Keller and J. Weiss. Chem Soc J p3470-2 D '50

Adrenal cholesterol in the scorbutic guinea pig. M. J. Oesterling and C. N. H. Long. bibliog Science 113:241-2 Mr 2 '51

CHOLESTEROL—*Continued*

Adrenal conversion of C^{14} labeled cholesterol and acetate to adrenal cortical hormones. A. Zaffaroni, O. Hechter and G. Pincus. Am Chem Soc J 73:1390-1 Mr '51

Bisteroids; bicholestanyl; the structure of bicholesteryl and 3,3′-bis-3,5-cholestadiene. E. N. Squire. bibliog Am Chem Soc J 73: 2586-9 Je '51

Catalytic hydrogenation of cholesterol. E. B. Hershberg and others. bibliog Am Chem Soc J 73:1144-5 Mr '51

Changes in biliary cholesterol in abnormal thyroid states. R. H. Rosenman and others. bibliog Science 114:210-11 Ag 24 '51

Chemical actions of ionising radiations in solution; radiation chemistry of sterols; the action of X-rays on cholesterol and 3β-hydroxypregn-5-en-20-one. M. Keller and J. Weiss. Chem Soc J p2709-14 O '50

Conversion of cholest-4-en-3-one into cholesterol. A. J. Birch. Chem Soc J p2325-6 S '50

Conversion of cholestanone to cholesterol. W. G. Dauben and J. F. Eastham. Am Chem Soc J 73:3260-3 Jl '51

Conversion of Δ^4-cholestene-3-one to cholesterol. B. Belleau and T. F. Gallagher. bibliog Am Chem Soc J 73:4458-60 S '51

Harvard chemists report total synthesis of hormones, cholesterol. Chem & Eng N 29: 3014 Jl 23 '51

Improved hydrogenation of cholesterol to cholestanol. H. R. Nace. Am Chem Soc J 73:2379 My '51

Lipoid-lipoprotein cholesterol. M. Feldman, jr. and T. Weinberg. Science 113:697 Je 15 '51

Preparation of cholesterol from 25-ketonorcholesterol. A. I. Ryer, W. H. Gebert and N. M. Murrill. bibliog Am Chem Soc J 72: 4247-8 S '50

Preparation of cholesterol from Δ^5-norcholestene-3β-ol-25-one. W. G. Dauben and H. L. Bradlow. Am Chem Soc J 72:4248-50 S '50

Significance of endogenous cholesterol in arteriosclerosis; synthesis in arterial tissue. M. D. Siperstein and others. bibliog Science 113:747-9 Je 29 '51

Steroid changes in incubating adrenal homogenates. C. S. Vestling and G. F. Lata. bibliog Science 113:582-3 My 18 '51

Total synthesis of cholesterol. R. B. Woodward, F. Sondheimer and D. Taub. Am Chem Soc J 73:3548 Jl '51

Analysis

Cholesterol in blood serum; studies of microestimation as the pyridinium cholesteryl sulfate. A. E. Sobel, J. Goodman and M. Blau. bibliog Anal Chem 23:516-19 Mr '51

CHOLESTERYLACETIC acid

Derived steroids; 3-α-Cholesterylacetic acid. R. H. Baker and Q. R. Petersen. Am Chem Soc J 73:4080-1 S '51

Inhibition of trypsin by cholesteryl malonic acids and by *i*-cholesteryl acetic acid. E. Kaiser and R. Hubata. bibliog Am Chem Soc J 72:4289-91 S '50

CHOLESTERYL compounds

Cleavage of cholesteryl and 7-dehydrocholesteryl ethers. K. H. Schaaf and W. L. Ruigh. bibliog Am Chem Soc J 73:1263-7 Mr '51

Mechanism of formation of cholesterylisothiuronium tosylate from thiourea and cholesteryl tosylate. R. G. Pearson, L. C. King and S. H. Langer. bibliog Am Chem Soc J 73:4149-52 S '51

Analysis

Microscopic fusion analysis of sterols. V. Gilpin. il Anal Chem 23:365-8 F '51

CHOLESTERYLENE. See Cholesterilene

CHOLESTERYL malonic acid

Inhibition of trypsin by cholesteryl malonic acids and by *i*-cholesteryl aceteic acid. E. Kaiser and R. Hubata. bibliog Am Chem Soc J 72:4289-91 S '50

CHOLESTERYL methyl ether

$\Delta^{5,7}$-Steroids; 7-dehydrocholesteryl methyl ether. S. Bernstein and K. J. Sax. Am Chem Soc J 73:846-7 F '51

CHOLIC acid

Chemical actions of ionising radiations in solution; radiation chemistry of sterols; the action of X-rays on cholic acid in aqueous solution. M. Keller and J. Weiss. Chem Soc J p25-6 Ja '51

Conversion of cholic acid into 3α-hydroxy-12-keto-$\Delta^{9(11)}$-cholenic acid. L. F. Fieser and others. Am Chem Soc J 73:4133-5 S '51

CHOLINE

Chromatographic separation of choline-containing phospholipids from phospholipid mixtures. T. H. Bevan and others. Chem Soc J p841-2 Mr '51

Molecular configuration and biological activity of substances resembling acetylcholine. J. H. Welsh and R. Taub. bibliog Science 112:467-9 O 20 '50

Some new choline type thiols. J. Weijlard and M. Tishler. Am Chem Soc J 73:1497-500 Ap '51

Synthesis of choline and acetylcholine labeled in the ethylene chain with isotopic carbon. D. E. Walz, M. Fields and J. A. Gibbs. bibliog Am Chem Soc J 73:2968 Je '51

Analysis

Estimation of choline as the reineckate. J. A. Lovern. Chem & Ind p707 O 21 '50

CHOLINESTERASE

Determination of cholinesterase activity in whole brains of developing rats. C. J. Metzler and D. G. Humm. bibliog Science 113:382-3 Ap 6 '51

Loss of choline esterase activity in nerve tissue resulting from processes of histological preparation. W. L. Hard and M. D. Fox. bibliog Science 112:598-9 N 17 '50

CHOREA, Hereditary

Social fitness versus reproductive fitness. S. C. Reed and J. D. Palm. bibliog Science 113: 294-6 Mr 16 '51

CHRISTMAS

See also

Newspapers—Christmas activities

Santa Claus

CHRISTMAS advertising

Christmas ad plans are off to early start. Ed & Pub 84:16 My 5 '51

Only 55 more days until Christmas! il Dom Eng 176:104-5+ N '50

Wanna shoot Santa Claus? J. H. Leonard. Ptr Ink 233:98 D 22 '50

CHRISTMAS business

Retailing is rosy; Christmas prospects. Bsns W p20-1 D 9 '50

Sell the gifts that keep on giving; suggestions for Christmas business. il Dom Eng 176:86-8+ D '50

CHRISTMAS cards

Merry Xmas; three-billion times; Hallmark company produces sizable slice of supply. il Bsns W p89-90 D 16 '50

CHRISTMAS gifts

Business gifts

How will you say Merry Christmas? Mrs H. J. Ashe. Inland Ptr 126:40 N '50

When a corporation says Merry Christmas to its friends. il Sales Management 67:50-2+ O 1 '51

CHRISTMAS gifts, Employees'

Xmas bonus; gift or compensation? Bsns W p57-8 D 2 '50

CHRISTMAS greetings

Operation Christmas. il Inland Ptr 126:50-1 N '50

CHRISTMAS lighting

Christmas tricks; illustrations with text. Illum Eng 45:694 N '50

CHRISTMAS parties, Employees'

How Christmas parties can be successful. M. G. French. Am Bsns 20:22+ N '50

Memo; to all personnel; subject; Xmas party. il Fortune 42:91-3 D '50

CHRISTMAS seals

Optimist saw story and TB seals began. J. W. Dragonetti. Ed & Pub 83:20 D 30 '50

CHRISTMAS tree decorations

Rating

Christmas tree lights. il diags Consumers Res Bul 26:11-13 N '50

CHRISTMAS trees
Tallest Christmas tree packs shopping center at Northgate, Wash. il Bsns W p22-3 D 9 '50

CHROMALLOYING. See Metal protection

CHROMAN
Some chroman and 1 : 2-benzopyran derivatives. H. V. Taylor and M. L. Tomlinson. Chem Soc J p2724-5 O '50

CHROMANONES
Action of sodium ethoxide on chroman-4-ones. E. M. Padfield and M. L. Tomlinson. Chem Soc J p2272-7 S '50
Amebacidal chromanones. P. F. Wiley. bibliog Am Chem Soc J 73:4205-9 S '51

CHROMATES
Chromate finishes in war and peace. H. C. Irvin. il Metal Finishing 49:109-13 Jl '51

Physiological effect

Atmospheric pollution in the vicinity of a chromate plant. H. G. Bourne, jr. and W. R. Rushin. bibliog il Ind Med 19:568-9 D '50
Occupational cancer and other health hazards in a chromate plant. T. F. Mancuso and W. C. Hueper. bibliog il Ind Med 20:358-63, 393-407 Ag-S '51; Abstract. Nat Safety N 65:58 Ja '52
Occupational cancer in a chromate plant; environmental appraisal. H. G. Bourne, jr. and H. T. Yee. bibliog Ind Med 19:563-7 D '50

CHROMATOGRAPHIC analysis
Adsorption system for the fractionation of nitrocellulose with respect to molecular weight. M. C. Brooks and R. M. Badger. bibliog Am Chem Soc J 72:4384-8 O '50
Analogous nitro and nitroso compounds; separation, identification, and quantitative estimation. W. R. Edwards, jr. and C. W. Tate. bibliog Anal Chem 23:826-30 Je '51
Analysis by electromigration plus chromatography. H. H. Strain and J. C. Sullivan. bibliog diags Anal Chem 23:816-23 Je '51
Analysis of inorganic compounds by paper chromatography. F. H. Pollard, J. F. W. McOmie and I. I. M. Elbeih. Chem Soc J p466-74 F '51
Analysis of inorganic compounds by paper chromatography; a scheme for the qualitative analysis of an unknown mixture of cations. F. H. Pollard, J. F. W. McOmie and H. M. Stevens. Chem Soc J p771-4 Mr '51
Analysis of inorganic compounds by paper chromatography; an extended scheme for the qualitative analysis of an unknown mixture of cations. F. H. Pollard, J. F. W. McOmie and H. M. Stevens. Chem Soc J p 1863-5 Jl '51
Application of paper chromatography to the analysis of chlorinated organic insecticides. P. Moynihan and P. O'Colla. bibliog Chem & Ind p407 My 26 '51
Applications of paper chromatographic methods in the sugar and allied industries; abstract and discussion. H. C. S. de Whalley and others. Chem & Ind p 126-7 F 17 '51
Buffered filter paper chromatography of the amino acids. E. F. McFarren. bibliog il Anal Chem 23:168-74 Ja '51
Cherry gum; an examination of the products of hydrolysis of methylated degraded cherry gum, using the method of paper partition chromatography. J. K. N. Jones. Chem Soc J p3141-5 D '49
Chromatographic analysis in Germany; new techniques for colourless compounds. diags Chem Age (Lond) 64:911-13 Je 16 '51
Chromatographic fractionation of cane blackstrap molasses and of its fermentation residue. W. W. Binkley and M. L. Wolfrom. bibliog Am Chem Soc J 72:4778-82 O '50
Chromatographic investigations of smokeless powder; derivatives of acardite, carbazole, and triphenylamine formed in double-base powder during accelerated aging. W. A. Schroeder, B. Keilin and R. M. Lemmon. bibliog Ind & Eng Chem 43:939-46 Ap '51
Chromatographic separation employing ultraviolet absorbancy ratios. M. Beroza. bibliog Anal Chem 22:1507-10 D '50
Chromatographic separation of amino sugars and amino acids, using the N-(2:4-dinitrophenyl) derivatives. P. W. Kent and others. bibliog Science 113:354-5 Mr 30 '51
Chromatographic separation of choline-containing phospholipids from phospholipid mixtures. T. H. Bevan and others. Chem Soc J p841-2 Mr '51
Chromatographic separation of phenol from cresylic acids. R. J. Zahner and W. B. Swann. diag Anal Chem 23:1093-5 Ag '51
Chromatographic separation of some dyestuffs. J. Shott, 3d and H. W. Heine. diag J Chem Educ 28:39-40 Ja '51
Chromatographic study of sulfite waste liquor sugars. P. K. Mulvany and others. bibliog Am Chem Soc J 73:1255-7 Mr '51
Chromatographic systems; review of 1950. H. H. Strain. diags Anal Chem 23:25-38 bibliog(420 ref, p35-8) Ja '51
Chromatography expands in application and utility; abstracts of papers before International congress of pure and applied chemistry. R. A. Wells and others. Chem & Eng N 29:3945-6 S 24 '51
Chromatography of proteins; ribonuclease. C. H. W. Hirs, W. H. Stein and S. Moore. Am Chem Soc J 73:1893 Ap '51
Chromatography of sugars and their derivatives; aldonamides. M. L. Wolfrom, R. S. Bower and G. G. Maher. Am Chem Soc J 73:875 F '51
Detection of acids on paper partition chromatograms. D. N. Gore. il Chem & Ind p479 Je 23 '51
Detection of glycosides and non-reducing carbohydrate derivatives in paper partition chromatography. J. G. Buchanan, C. A. Dekker and A. G. Long. Chem Soc J p3162-7 N '50
Detection of tritiated compounds in paper chromatography. I. Gray and others. diag R Sci Instr 21:1022 D '50
Determination of aromatics and olefins in wide boiling petroleum fractions. A. E. Spakowski, A. Evans and R. R. Hibbard. Anal Chem 22:1419-22 N '50
Determination of glutamine and asparagine in plant tissue extracts. G. W. Butler. bibliog Anal Chem 23:1300-4 S '51
Determination of small quantities of niacin in presence of niacinamide; separation by paper partition chromatography. E. G. Wollish, M. Schmall and E. G. E. Shafer. bibliog il diag Anal Chem 23:768-71 My '51
Displacement analysis of lipids; carrier displacement separation of saturated fatty acids. R. T. Holman. bibliog Am Chem Soc J 73:1261-3 Mr '51
Effect of side chain on the chromatographic adsorption of some ketones. E. D. Smith and A. L. LeRosen. bibliog Anal Chem 23:732-5 My '51
Experimental study of chromatography on silicic acid-celite; the applicability of the theory of chromatography. K. N. Trueblood and E. W. Malmberg. bibliog Am Chem Soc J 72:4112-24 S '50
Improved techniques in paper chromatography of carbohydrates. A. Jeanes, C. S. Wise and R. J. Dimler. bibliog diag Anal Chem 23:415-20 Mr '51
Inorganic chromatography on cellulose; the separation and detection of metals and acid radicals on strips of absorbent paper. F. H. Burstall and others. 2pls diags Chem Soc J p516-28 F '50
Metal impurities in food and drugs spotted by new technique; abstract. A. J. Glasko. Food Eng 23:165-6 My '51
Multiple-paper chromatogram. W. L. Porter. bibliog il Anal Chem 23:412-13 Mr '51
New method for the detection and determination of uranium. T. V. Arden, F. H. Burstall and R. P. Linstead. diags Chem Soc J supp no 2:S311-13 '49
Paper chromatographic identification of the amino acids of glutathione. F. Lionetti. J Chem Educ 28:152-3 Mr '51
Paper chromatography in the separation of estradiol-17α from estradiol-17β and of equilin from equilenin. E. Heftmann. Am Chem Soc J 73:851-2 F '51
Paper chromatography of amino acids; effect of pH of sample. A. J. Landua, R. Fuerst and J. Awapara. il Anal Chem 23:162-8 Ja '51
Paper chromatography of pH indicators. M. Lederer. Science 112:504-5 O 27 '50
Paper chromatography of organic acids. J. B. Stark, A. E. Goodban and H. S. Owens. bibliog Anal Chem 23:413-15 Mr '51

CHROMATOGRAPHIC analysis—*Continued*

Paper chromatography of steroids. D. Kritchevsky and M. Calvin. bibliog Am Chem Soc J 72:4330 S '50

Paper chromatography of volatile acids. E. P. Kennedy and H. A. Barker. bibliog Anal Chem 23:1033-4 Jl '51

Paper partition chromatography of simple phenols. R. L. Hossfeld. il Am Chem Soc J 73:852-4 F '51

Paper partition chromatography of some simple phenols. R. F. Riley. Am Chem Soc J 72:5782-3 D '50

Partition chromatography of synthetic anthocyanidin mixtures. E. C. Spaeth and D. H. Rosenblatt. bibliog il diags Anal Chem 22:1321-6 O '50

Permanganate oxidation of polybutadiene rubbers. F. J. Naples and J. D. D'Ianni. bibliog Ind & Eng Chem 43:471-5 F '51

Photoelectric spot analysis of antimony and bismuth. T. Sudo and K. Hayase. Science 113:11-12 Ja 5 '51

Qualitative analysis of capsular polysaccharides from cryptococcus neoformans by filter paper chromatography. E. E. Evans and J. W. Mehl. bibliog Science 114:10-11 Jl 6 '51

Quantitative analysis of mixtures of sugars by the method of partition chromatography; improved methods for the separation and detection of the sugars and their methylated derivatives on the paper chromatogram. L. Hough, J. K. N. Jones and W. H. Wadman. Chem Soc J p 1702-6 Jl '50

Quantitative determination of sugars on filter paper chromatograms by direct photometry. E. F. McFarren, K. Brand and H. R. Rutkowski. bibliog Anal Chem 23:1146-9 Ag '51

Quantitative microdetermination of amino acids after paper chromatography. A. Pereira and J. A. Serra. bibliog Science 113:387-8 Ap 6 '51

Radioactive tracer-paper chromatography techniques: abstract. F. P. W. Winteringham and others. Chem Age (Lond) 64:876 Je 9 '51

Rapid micromethod for alkaline nitrobenzene oxidation of lignin and determination of aldehydes. J. E. Stone and M. J. Blundell. bibliog il diag Anal Chem 23:771-4 My '51

Resolution into optical isomers of some amino acids by paper chromatography. M. Kotake and others. Am Chem Soc J 73:2973-4 Je '51

Reversed phase partition chromatography of steroids on silicone-treated paper. T. H. Kritchevsky and A. Tiselius. bibliog Science 114:299-300 S 21 '51

Separating asphalt into its chemical constituents. G. O'Donnell. bibliog il diag Anal Chem 23:894-8 Je '51

Separation and identification of 2,4-dinitrophenylhydrazones of aldehydes and ketones, and 3,5-dinitrobenzoates of alcohols by filter-paper chromatography. R. G. Rice, G. J. Keller and J. G. Kirchner. bibliog Anal Chem 23:194-5 Ja '51

Separation and identification of some terpenes by a new chromatographic technique; adsorbent-coated glass strips. J. G. Kirchner, J. M. Miller and G. J. Keller. bibliog il diag Anal Chem 23:420-5 Mr '51

Separation of acids by paper partition chromatography. A. G. Long, J. R. Quayle and R. J. Stedman. Chem Soc J p2197-201 Ag '51

Separation of adenosine polyphosphates by ion exchange and paper chromatography. W. E. Cohn and C. E. Carter. bibliog Am Chem Soc J 72:4273-5 S '50

Separation of anions by paper partition chromatography. W. S. DeLoach and C. Drinkard. J Chem Educ 28:461 S '51

Separation of seventh group anions by ion-exchange chromatography. R. W. Atteberry and G. E. Boyd. Am Chem Soc J 72:4805-6 O '50

Separation of the tocopherols by paper chromatography. F. Brown and K. L. Blaxter. Chem & Ind p633-4 Jl 21 '51

Simple technique for the identification of raffinose and sucrose by enzymatic hydrolysis on paper chromatograms and the subsequent separation of the hydrolyzed products by paper chromatography. K. T. Williams and A. Bevenue. Science 113:582 My 18 '51

Small scale filter paper chromatography; filter papers and solvents. L. B. Rockland, J. L. Blatt and M. S. Dunn. bibliog il Anal Chem 23:1142-6 Ag '51

Specificity of chromatographic adsorbents. A. L. LeRosen and others. bibliog Anal Chem 23:730-2 My '51

Structure of sterculia setigera gum; an investigation by the method of paper partition chromatography of the products of hydrolysis of the gum. E. L. Hirst, L. Hough and J. K. N. Jones. Chem Soc J p3145-51 D '49

Structure of sterculia setigera gum; an investigation by the method of paper partition chromatography of the products of hydrolysis of the methylated gum. L. Hough and J. K. N. Jones. Chem Soc J p 1199-203 Ap '50

Studies on lignin and related products; separation of syringaldehyde and vanillin by chromatography. I. A. Pearl and E. E. Dickey. Am Chem Soc J 73:863-4 F '51

Talc as an adsorbent for sulfonated azo dyestuffs. R. M. Hanson and C. A. Gould. bibliog Anal Chem 23:670-3 Ap '51

Techniques and reagents for paper chromatography. G. Toennies and J. J. Kolb. il Anal Chem 23:823-6 Je '51

Theory of chromatography; precision measurements of adsorption and exchange isotherms from column-elution data. E. Glueckauf. diag Chem Soc J p3280-5 D '49

Tiselius-Claesson interferometric adsorption analysis apparatus. R. T. Holman and L. Hagdahl. bibliog il Anal Chem 23:794-7 My '51

Use of beta-ray densitometry in paper chromatography. R. H. Müller and E. N. Wise. diags Anal Chem 23:207-8 Ja '51

Use of silver nitrate and sodium dichromate in the detection of purines by paper partition chromatography. R. M. Reguera and I. Asimov. Am Chem Soc J 72:5781-2 D '50

Versatile paper partition chromatographic apparatus. A. J. Singer and L. Kenner. bibliog diags Anal Chem 23:387-8 F '51

CHROMATOGRAPHY

Admittance concept in the kinetics of chromatography. J. B. Rosen and W. E. Winsche. bibliog diags J Chem Phys 18:1587-92 D '50

Adsorbing aromatics; chromatography separates xylenes, toluene and benzene; Arosorb process. diags Chem Eng 58:234+ S '51

Apparatus for the simultaneous production of many two-dimensional paper chromatograms. S. P. Datta and others. il diag Science 112:621-3 N 24 '50

Automatic constant volume fraction collector for chromatography. A. R. Gilson. bibliog il diags Chem & Ind p 185 Mr 10 '51

Automatic fraction collector for chromatographic separations. D. F. Durso, E. D. Schall and R. L. Whistler. il diags Anal Chem 23:425-7 Mr '51

Chromatography. W. H. Stein and S. Moore. il Sci Am 184:35-41 Mr '51

Destruction of amino acids during filter paper chromatography. M. K. Brush and others. bibliog il Science 113:4-6 Ja 5 '51

Jones reductor; a model for the kinetics of chromatography. K. Knox and H. C. Thomas. J Chem Phys 19:224-7 F '51

Liquid fraction collector. E. M. Crook and S. P. Datta. bibiog il diags Chem & Ind p718-19 Ag 25 '51

New type of chromatographic column. J. M. Miller and J. G. Kirchner. il diag Anal Chem 23:428-30 Mr '51

Paper chromatography. R. H. Müller and L. Clegg. bibliog il diags Anal Chem 23:396-411 Mr '51

Paper disk columns in glass chromatographic tubes. L. Zechmeister. bibliog diags Science 113:35-6 Ja 12 '51

Partition chromatography and countercurrent distribution. L. C. Craig. bibliog il diags Anal Chem 22:1346-52 N '50

Radial chromatographic pilot plant. C. G. Lynam and H. Weil. bibliog plans diags Can Chem Process 35:471-8 Je '51

Reversed-phase chromatography. M. W. Partridge and J. Chilton. Chem & Eng N 29:664 F 19 '51

Some developments in chromatography. T. R. E. Kressman; R. A. Wells. Chem Age (Lond) 64:743-7 My 12 '51

CHROMATOGRAPHY—*Continued*

Use of pH meters in conjunction with chromatographic columns. R. N. Jeffrey. Anal Chem 23:937 Je '51

Volume actuated fraction collector for use in chromatography. R. A. Grant and S. R Stitch. il diags Chem & Ind p230 Mr 24 '51

CHROMATOPHORES

Relationship of muscle potassium to the melanophore-concentrating effect of pressure on the trout. O. H. Robertson. Science 114:11-12 Jl 6 '51

CHROMEL

Reference tables for thermocouples. H. Shenker and others. U S Nat Bur Stand Circ 508:1-71; pa 35c Supt. of doc. '51

CHROMIC acid

Acute pulmonary complications following inhalation of chromic acid mist. J. B. Meyers. bibliog A M A Archives Ind Hygiene & Occup Med 2:742-7 D '50

Calculating chromic acid consumption in chrome plating; chart; engineering data sheet. Metal Finishing 49:73 F '51

Corrosion forum; chromic acid. il Chem Eng 58:147+ F '51

Decomposition of chromic acid in sulphuric acid; the first-order thermal reaction. E. E. Aynsley. Chem Soc J p368-71 Ja '50

Designer's delight. Chem Ind 67:877 D '50

Mechanism of the chromic acid oxidation of isopropyl alcohol; the chromic acid ester. F. Holloway, M. Cohen and F. H. Westheimer. bibliog Am Chem Soc J 73:65-8 Ja '51

New system gives economic recovery of chromic acid. diag Chem Eng 58:198-9 Je '51

Oxidation of isoborneol with chromic acid. W. A. Mosher and E. O. Langerak. Am Chem Soc J 73:1302-4 Mr '51

Oxidation of manganous sulphate by chromic acid in sulphuric acid solution. M. Bobtelsky and A. Glasner. Chem Soc J p3085-9 D '49

CHROMIC anhydride

Acid process for the production of chromic anhydride from chromite ore. J. L. Clay, J. F. Pearse and D. H. Trethewey. bibliog il diags Soc Chem Ind J 69:275-82 S '50; Abstract. Chem Eng 58:256-8 Ja '51

CHROMIC oxide

Reactions of unsaturated compounds; the oxidation of *as*- di*neo*pentylethylene by chromic oxide. W. J. Hickinbottom and D. G. M. Wood. Chem Soc J p 1600-2 Je '51

CHROMITE

Acid process for the production of chromic anhydride from chromite ore. J. L. Clay, J. F. Pearse and D. H. Trethewey. bibliog il diags Soc Chem Ind J 69:275-82 S '50; Abstract. Chem Eng 58:256-8 Ja '51

Chromite deposits; Sweetwater, Castro, Trinidad, New London, and Hilltop mines, San Luis Obispo county, Calif. M. C. Smith and S. Ricker. 9pls U S Bur Mines Rep of Invest 4783:1-7 '51

Chromite investigations in South Africa; utilisation of Transvaal ores. I. H. Kahn and A. M. Schady. Chem Age (Lond) 64:851-2 Je 2 '51

Chromite, 1950. N. B. Melcher. Eng & Min J 152:95 F '51

Formation of late magmatic oxide ores. A. M. Bateman. il diags Econ Geol 46:404-26 Je '51

Heavy-media separation. flow sheet il diag Am Cer Soc Bul 30:63-6 Mr 15 '51

Magnetic exploration for chromite. H. E. Hawkes. maps U S Geol S Bul 973-A:1-21 bibliog(p18-19); pa 15c Supt. of doc. '51

Oxidation of chromium(III) with potassium ferrate(VI). J. M. Schreyer, G. W. Thompson and L. T. Ockerman. Anal Chem 22:1426-7 N '50

World production of chromite, 1942-1949; chromite imports for consumption, 1943-1950; chromite ore shipments, 1917-1950; tabulations. Iron Age 167:320 Ja 4 '51

CHROMIUM

Carrier-free radioisotopes from cyclotron targets; preparation and isolation of Mn^{52} from chromium. H. R. Haymond and others. bibliog J Chem Phys 19:382-3 Mr '51

Chromium salvage. Chem Ind W 68:21+ Mr 3 '51

Deep configurations of V I and Cr II. A. A. Schweizer. Phys R 80:1080-2 D 15 '50

Effect of chromium on the oxidation resistance of titanium carbide. J. D. Roach. bibliog Electrochem Soc J 98:160-5 Ap '51

Feast or famine? Bsns W p 122-3 Jl 28 '51

Relative f-values for lines of Cr I. A. J. Hill and R. B. King. bibliog Opt Soc Am J 41:315-21 My '51

Sorption of gases on metals at room temperature. A. L. McClellan and N. Hackerman. bibliog J Phys & Colloid Chem 55:374-82 Mr '51

Transitions in chromium. M. E. Fine and others. bibliog J Metals 191:Trans 56-8 Ja '51; Discussion. 3:Trans 1066-7 N '51

Treatment of chromium wastes by ion exchange. R. G. Tyler and others. Sewage & Ind Wastes 23:1032-5 Ag '51

Vapor pressure of inorganic substances; chromium between 1283 and 1561°K. R. Speiser, H. L. Johnston and P. Blackburn. bibliog Am Chem Soc J 72:4142-3 S '50

Analysis

Chemical analysis of soda-lime-silica glasses for trace quantities of several colorants. P. Close and others. Am Cer Soc J 33:345-6 N 1 '50

Determination of small amounts of chromium in human blood, tissues, and urine; colorimetric method. P. F. Urone and H. K. Anders. bibliog Anal Chem 22:1317-21 O '50

Microdetermination of chromium in catgut sutures. H. V. Weiss, V. E. Siler and P. R. Buechler. bibliog Anal Chem 23:797-8 My '51

Separation of chromium and vanadium salts by liquid-liquid extraction. A. E. Weinhardt and A. N. Hixson. bibliog Ind & Eng Chem 43:1676-84 Jl '51

Separation of chromium from vanadium by extraction of perchromic acid with ethyl acetate. R. K. Brookshier and H. Freund. bibliog Anal Chem 23:1110-13 Ag '51

Isotopes

(p,n) Reaction on scandium and vanadium; energy levels of Ti^{46} and Cr^{52}. W. D. Baker and others. Phys R 81:48-50 Ja 1 '51

$V^{51}(p,n)Cr^{51}$ neutron spectrum. P. H. Stelson and others. Phys R 80:287 O 15 '50

CHROMIUM alloys

Cast alloy reference sheet; abrasion, heat and corrosion resistant hardenable 12 per cent chromium alloy. N. S. Mott. Chem Eng Prog 47:382 Jl '51

Cast alloy reference sheet; alloy applications and remarks. N. S. Mott. Chem Eng Prog 47:440 Ag '51

Cast alloy reference sheet; heat-erosion and corrosion resistant 28 per cent chromium alloy. N. S. Mott. Chem Eng Prog 47:494 S '51

Crystal structure of the sigma-phase in the Co-Cr system. J. S. Kasper and others. J Ap Phys 22:361-2 Mr '51

Preparation and properties of titanium-chromium binary alloys; abstract. D. J. McPherson and M. G. Fontana. Materials & Methods 32:108+ D '50

Russians have new heat-resistant alloys. Iron Age 167:65-9 Mr 22 '51

See also

Chromel

Chromium nickel steel

Chromium steel

Iron alloys—Chromium alloys

Worthite

CHROMIUM boride

Thermal stability of the chromium, iron, and tungsten borides in streaming ammonia and the existence of a new tungsten nitride. R. Kiessling and Y. H. Liu. bibliog J Metals 3:Trans 639-42 Ag '51

CHROMIUM chloride

Titration of dissolved oxygen using acid-chromous reagent. H. W. Stone and R. L. Eichelberger. bibliog diags Anal Chem 23:868-71 Je '51

Analysis

Polarographic study of chromium(III) chloride solutions. R. E. Hamm and C. M. Shull, jr. bibliog Am Chem Soc J 73:1240-3 Mr '51

CHROMIUM compounds

Chromium prospects bright. il Chem Ind W 68:47 My 26 '51

CHROMIUM compounds—*Continued*

Fluorination of compounds of vanadium, chromium, and manganese by bromine trifluoride. A. G. Sharpe and A. A. Woolf. Chem Soc J p798-801 Mr '51

Physiological effect

Pulmonary carcinoma in chromate workers. A. M. Baetjer. bibliog A M A Archives Ind Hygiene & Occup Med 2:487-516 N '50; Abstract. Nat Safety N 63:86-7 F '51

CHROMIUM iodides

Study of the chromous-chromic iodide equilibrium. L. L. Handy and N. W. Gregory. bibliog Am Chem Soc J 72:5049-51 N '50

CHROMIUM metallurgy

Chromite investigations in South Africa; utilization of Transvaal ores. I. H. Kahn and A. M. Schady. Chem Age (Lond) 64: 851-2 Je 2 '51

Contribution to the metallurgy of chromium. W. J. Kroll and others. bibliog 7pls U S Bur Mines Rep of Invest 4752:1-19 '50

Electrometallurgy

Improvements in the electrowinning of chromium. R. R. Lloyd and others. flow sheet il diags Electrochem Soc J 97:227-34 Jl '50; Abstract. Steel 127:92-4 D 4 '50

CHROMIUM molybdenum steel

General tensional relaxation properties of a bolting steel. D. N. Frey. A S M E Trans 73:755-60 Ag '51

High-temperature properties and characteristics of a ferritic steam-piping steel. A. W. Rankin and W. A. Reich. il A S M E Trans 73:891-8; Discussion. 898-904 O '51

New alloy for springs; chromium-molybdenum-vanadium alloy steel, called Rauenloy. il Steel 129:40 Jl 23 '51

CHROMIUM nickel steel

Carbide precipitation in type 304 stainless steel; an electron microscope study. E. M. Mahla and N. A. Nielsen. il Ind & Eng Chem 42:sup73A-4A D '50

Columbium does not stabilize 18-8 stainless steel under certain conditions. M. G. Fontana. il Ind & Eng Chem 42:sup99A-100A N '50

18-8 can be cured after intergranular attack. R. N. Gillmor. bibliog il Iron Age 168:81-5 Ag 2 '51

Interchangeability of Cb and Ta in type 347 stainless. W. O. Binder. il Metal Prog 59: 219-27 F '51

Passivity of Type 304. R. Knox, jr. Metal Prog 60:77-8 S '51

Physical metallurgy of austenitic stainless steels. H. Thielsch. il Welding J 29:sup577-621 bibliog(257 ref, p620-1) D '50

Stainless by induction melting. R. J. Wilcox. il J Metals 188:1311D-12 N '50

CHROMIUM ores

See also

Chromite

CHROMIUM oxides

Allyl alcohol; isomerization of propylene oxide over a chromic oxide catalyst. L. G. Lundsted and others. bibliog Ind & Eng Chem 43:728-30 Mr '51

Investigations on the passage of light through suspensions. A. H. M. Andreasen and others. il diags Soc Chem Ind J 69: 312-17 O '50

Magnetic susceptibilities of Cr_2O_3-Al_2O_3 and of Fe_2O_3-Al_2O_3 solid solutions. P. W. Selwood, L. Lyon and M. Ellis. Am Chem Soc J 73:2310-11 My '51

Oxidation of cellulose by chromium trioxide; new method for determining accessibility. R. E. Glegg. bibliog Textile Res J 21:143-8 Mr '51

See also

Chromite

CHROMIUM plating

Adjusting sulfuric acid in chrome baths; tabulation; engineering data sheet. Metal Finishing 48:82 N '50

Advantages of simplicity in the electroplating of automobile bumpers; abstract. D. H. Schantz. Steel 129:120+ S 10 '51

Aluminum cylinders without cast iron liners; recent developments in Germany demonstrate feasibility of chrome plating. P. M. Heldt. il diag Automotive Ind 104:32-3+ F 15 '51

Calculating chromic acid consumption in chrome plating; chart; engineering data sheet. Metal Finishing 49:73 F '51

Chrome dose for worn metal surface; Cro-Plate co. method; illustrations with text. Mod Ind 22:109 S '51

Corrosion resistance of hard-chrome coatings; abstract. H. W. Dettner. Metal Finishing 49:58 Ja '51

Decorative chrome plated coatings with agate-like or similar stone-color effects; abstract. V. T. Safroniev. Metal Finishing 49:65 Ag '51

Effect of chromium plating on the plastic deformation of SAE 4130 steel. H. L. Logan. il diag J Res Nat Bur Stand 46:472-9 Je '51

Experiments in chromium plating from non-aqueous media. A. L. Hanson and others. bibliog il Metal Finishing 49:48-9+ Ap '51

Fatigue loss and gain by electroplating. J. O. Almen. bibliog il diag Product Eng 22:109-16 Je '51

Hard chrome plating, the industrial workhorse. J. A. Williams. il Metal Finishing 49:100-2+ Jl '51

Hardness of hard chrome plate; abstract. H. Arend. Metal Finishing 49:65+ Ag '51

Influence of hard chromium plating on the fatigue strength of aluminum alloys; abstract. E. Raub. Metal Prog 59:412+ Mr '51

Light metal chromed cylinders. il diag Engineer 192:115-17 Jl 27 '51

Plastic deformation of chromium-plated steel. Steel 128:108+ Je 18 '51; Aviation W 55: 28-9 Jl 2 '51; il Metal Finishing 49:53+ Ag '51; Iron Age 168:101 O 18 '51; Mech Eng 73:823-4 O '51

Surface properties of hard chrome coatings; abstract. W. Eilander and others. Metal Finishing 49:59-60 Ja '51

Wet blasting permits direct chrome plating on aluminum. H. E. Linsley. il Am Mach 95:120-1 Ag 20 '51

What platers can do about the nickel shortage. diags Steel 128:81-3 Ap 2 '51

Testing

Effect of operating conditions on the hardness of chromium plate. R. E. Howell. bibliog Metal Finishing 49:50-6+ Mr '51

CHROMIUM poisoning

Occupational cancer and other health hazards in a chromate plant. T. F. Mancuso and W. C. Hueper. bibliog il Ind Med 20: 358-63, 393-407 Ag-S '51

Possible hazards from chemical contamination in water supplies. C. W. Muehlberger. Am Water Works Assn J 42:1029-31 N '50

CHROMIUM steel

Isothermal formation of martensite at subzero temperatures in a high chromium steel. S. C. Das Gupta and B. S. Lement. bibliog il diags J Metals 3:Trans 727-31 S '51

Molybdenum can replace chromium in bearing steels. A. S. Jameson and others. il Iron Age 167:102-7 Ap 5 '51

Nickel shortage shifts focus to type 430 stainless. il Steel 129:66-8+ Ag 20 '51

Physical and welding metallurgy of chromium stainless steels. H. Thielsch. il Welding J 30:sup209-50 bibliog(213 ref, sup248-50) My '51

Selecting and processing steels for lamination dies. L. F. Spencer. bibliog il Tool Eng 26:25-7 My; 42-4 Je '51

Straight chromium type stainless available. Sheet Metal Worker 42:87+ My '51

Tempering of chromium steels. R. W. Balluffi and others. Automotive Ind 103:132 N 15 '50

Vacuum-melted high chromium steels. Engineer 191:864 Je 29 '51

See also

Chromium nickel steel

CHROMIUM workers

Pulmonary carcinoma in chromate workers. A. M. Baetjer. bibliog A M A Archives Ind Hygiene & Occup Med 2:487-516 N '50

CHROMIZING

Bright chromizing, the Onera process. P. Galmiche. il diags Metal Finishing 49:61-4 Ja '51

CHROMIZING—*Continued*
Chromising by chromium fluoride; ONERA process. P. Galmiche. diag Engineer 190:497 N 24 '50
Hardening compound carburizes, nitrides and chromizes steel. E. M. Ellsworth. il diag Materials & Methods 34:86-8 Jl '51
Magnesium alloy surface treatment; importance of chemical buffering. L. F. Le Brocq and H. G. Cole. il Metallurgia 43:53-61 F '51

CHROMOBACTERIUM
Phenazine series; the constitution of the pigment of chromobacterium iodinum. G. R. Clemo and A. F. Daglish. Chem Soc J p 1481-5 Je '50

CHROMOGENS
Synthesis of ketomethyldihydronaphthoic acid derivatives as possible chromogenic substrates. G. Wolf and A. M. Seligman. bibliog Am Chem Soc J 73:2082-5 My '51
Synthesis of naphthyl carbonate derivatives of amino acids as chromogenic substrates for carboxypeptidase. G. Wolf and A. M. Seligman. bibliog Am Chem Soc J 73:2080-2 My '51
Synthesis of peptides and esters of phenylalanine as chromogenic substrates for chymotrypsin. A. M. Seligman and G. Wolf. bibliog Am Chem Soc J 73:2086-9 My '51

CHROMONE
Chromones, a total synthesis of khellin. T. A. Geissman and T. G. Halsall. bibliog Am Chem Soc J 73:1280-4 Mr '51
Chromones; the conversion of khellol into visnagin; derivatives of khellol and visnagin. T. A. Geissman. bibliog Am Chem Soc J 73:3355-7 Jl '51
Chromones; the preparation of 2-methyl-7-hydroxychromone and 2-methyl-5,8-dimethoxy-7-hydroxychromone. T. A. Geissman. Am Chem Soc J 73:3514-15 Jl '51
Chromones; the synthesis of visnaginone. T. A. Geissman and E. Hinreiner. bibliog Am Chem Soc J 73:782-6 F '51

CHROMOSOMES
Amino acid constituents of prochromosomes isolated from blood cells of various animals. G. Yasuzumi and G. Miyao. bibliog Science 114:38-9 Jl 13 '51
Cataclysmic evolution. G. L. Stebbins, jr. il diags Sci Am 184:54-9 Ap '51
Effect of X-irradiation in oxygen and in hydrogen at normal and positive pressures on chromosome aberration frequency in tradescantia microspores. N. H. Giles, jr. and A. V. Beatty. bibliog Science 112:643-5 D 1 '50
Preparations for electron microscopy of residual chromosomes. A. R. T. Denues. bibliog il Science 113:203-6 F 23 '51
Scrambled chromosomes. Sci Am 185:34+ O '51

CHROMYL chloride
Chromyl chloride oxidation of methylcyclohexane. A. Tillotson and B. Houston. bibliog Am Chem Soc J 73:221-2 Ja '51
Reaction of chromyl chloride with olefins. S. J. Cristol and K. R. Eilar. bibliog Am Chem Soc J 72:4353-6 O '50

CHRONIC diseases. See Diseases, Chronic

CHRONOGRAPH
Automatic device computes timepiece correction. Franklin Inst J 252:171-2 Ag '51
Comparing outputs from precision time standards; intercomparison of crystal clocks. J. M. Shaull and C. M. Kortman. il diags Electronics 24:102-7 Ap '51
Correction-computing chronograph. il Machine Design 23:113-14 My '51
New spark chronograph and chronoscope. Franklin Inst J 251:385-7 Mr '51; il Instruments 24:288+ Mr '51

CHRONOSCOPE
Wide-range electronic chronoscope. R. G. Roush. il diags Electronics 24:120-4 S '51

CHRYSANTHEMIC acids
Lactonisation and abnormal esterification of the chrysanthemic acids; abstract. L. Crombie and others. Chem & Ind p 169 Mr 3 '51

CHRYSENE
Crystallographic data. J. Krc, jr. il diags Anal Chem 23:932-3 Je '51

CHRYSLER corporation
Earnings, dividends better protected than in World war II; with income and per share data, 1940-1949. W. P. Black. Barron's 31:17-18 Ja 8 '51
Young men who will run Chrysler. Bsns W p68-71 S 15 '51

CHRYSOBERYL
Occurrence of chrysoberyl at Greenfield, N.Y. R. A. Navias and J. H. Ostrom. map Am J Sci 249:308-11 Ap '51

CHUCKING
Split bushing for chucking square bars. T. Brown. diags Tool Eng 26:52 Je '51
Why and how of automatic turret lathes for chucking work. M. J. Rowan. il diags Am Mach 95:113-28 Je 25 '51

CHUCKING machines
All carbide tools used on chucking machine. G. Elwers. il diag Iron Age 167:88-9 My 17 '51
Converted chucker mills five surfaces on segment. B. P. Fortin. diags Am Mach 95:106-7 Je 25 '51

CHUCKS
Chucks and adapters for machining unsymmetrical work. R. W. Newton. diag Mach 57:197-8 D '50
Chucks for holding work-pieces by threaded portions. R. W. Newton. diag Mach 57:200-1 Ja '51
Chucks for irregular shapes. Steel 127:104 D 18 '50
Eight-jaw ring chuck has speedy uniform action. F. Corti. diags Am Mach 95:170 Ap 16 '51
Faceplate chuck designed for two operations on similar parts. R. W. Newton. diag Mach 58:190-1 S '51
Handy safety device for mounting heavy lathe chucks. J. J. Baule. diag Mach 57:194 Je '51
How to get the most from your lathes; chucks, air cylinders, automatic stops. J. E. Hyler. il Iron Age 168:120-5 S 20 '51
Lapping method on lathe trues jaws on scroll chuck. C. B. Winch. diags Am Mach 95:164 My 14 '51
On or off center chuck jaws. G. Hooey. diags Tool Eng 26:53 Je '51
Quick-acting chuck for tapered parts. W. M. Halliday. diags Mach 57:200-1 F '51
Quick-change chuck for portable electric tool. H. Conn. diags Mach 57:200 Mr '51
Rubber chucks set up small parts. D. G. Nolle. diags Am Mach 95:134 Ag 6 '51
Two spring chucks clamp odd lathe work. O. N. Olson. il diags Am Mach 95:120 Ja 8 '51

CHUCKS, Magnetic
Magnetic chucks halve planing time. W. M. Stockel, jr. il Am Mach 95:100-1 My 28 '51

CHUGAEV reaction
Studies on the mechanism of Chugaev and acetate thermal decompositions; *cis* and *trans*-2-methyl-1-indanol. E. R. Alexander and A. Mudrak. bibliog diags Am Chem Soc J 73:59-62 Ja '51

CHUN KING sales, inc.
Minnesota money promotes chop suey. il Bsns W p87 S 1 '51

CHURCH advertising
Book preaches advertising by all churches. Ed & Pub 84:25 Mr 3 '51

CHURCH and college
Training leaders in science and religion. J. R. Sampey. Science 114:332 S 28 '51

CHURCH and labor
See also
Chaplains, Industrial

CHURCH and social problems
Church problems in marriage education. L. F. Wood. Ann Am Acad 272:171-8 N '50

CHURCH and state
See also
Religious liberty

CHURCH architecture
Church design for music; contemporary churches and pipe organs. R. Berry. Arch Forum 95:116+ S '51
Religious buildings; building types study. il Arch Rec 110:124-6 Ag '51

CHURCH finance
Church financing; survey questionnaire of Florida bankers association. Burroughs Clearing House 35:24 S '51

CHURCH finance—*Continued*

Prudent advice on how to invest a church legacy. J. B. Shober. Comm & Fin Chr 173:1245 Mr 22 '51

Should banks make church loans? C. N. Millican. il Bankers Mo 68:7-8+ Ag '51

CHURCHES

Church of St Columba, St Paul. il plans diags Arch Rec 109:87-91 F '51

Church of St Francis Xavier, Kansas City. il plans Arch Rec 109:92-5 F '51

First Baptist church, Long Beach, Calif. il plans Arch Rec 110:142-7 Ag '51

Holy Trinity church, Honolulu. il Arch Rec 108:124 N '50

Resurrection church, St Louis, Mo. il plan Arch Rec 110:132-5 Ag '51

Salem Lutheran church, Spokane, Wash. il plans diags Arch Rec 108:106-11 D '50

Work on a Brooklyn church. il Sheet Metal Worker 42:40+ F '51

Zion Lutheran church by architect Belluschi; Portland, Ore. il plan diag Arch Forum 94:142-6 Ja '51

See also

New York (city)—
Churches

Air conditioning

Air conditioning for churches. M. J. Williams. il diags Heat & Ven 47:59-62 D '50

How air conditioning system meets church's requirements. A. Naman. il diags Heating-Piping 22:84-6 N '50

Heating and ventilation

Church installation; St Mary's church, Great Shefford. il Elec R (Lond) 148:1307-8 Je 22 '51

Unit heating solves problem of Parma church. Heat & Ven 48:103 Ap '51

What is best heating system for a church? Power Eng 55:92+ Mr; 94+ Ap; 98-9 Je '51

Insurance requirements

Church burglary, robbery, theft and larceny policy; analysis; underwriting. Rough Notes 94:73-4 Ag '51

Methodist Episcopal church self insurance is called threat. Nat Underw 55:51 S 13 '51

Lighting

Church lighting; St Peter Mancroft at Norwich. G. C. Jones. il Elec R (Lond) 148:764-5 Ap 13 '51

CHYMOTRYPSIN

Effect of competitive inhibitors on the milk clotting activity of α-chymotrypsin. H. T. Huang and C. Niemann. Am Chem Soc J 73:4471-2 S '51

Effect of ultraviolet light on the specific activity of chymotrypsin and trypsin. H. Goldenberg and A. D. McLaren. bibliog Am Chem Soc J 73:1131-3 Mr '51

Enzyme-inhibitor dissociation constants of α-chymotrypsin and several competitive inhibitors of the unnatural or D-configuration. H. T. Huang and C. Niemann. bibliog Am Chem Soc J 73:1555-8 Ap '51

Enzyme-inhibitor dissociation constants of α-chymotrypsin and three enantiomorphic pairs of competitive inhibitors. H. T. Huang and C. Niemann. bibliog Am Chem Soc J 73:3223-7 Jl '51

Evaluation of the enzyme-inhibitor dissociation constant of α-chymotrypsin and acetyl-D-tryptophan methyl ester. H. T. Huang and C. Niemann. Am Chem Soc J 73:3228-31 Jl '51

Inertness of crystalline ovalbumin in systems containing α-chymotrypsin and hydrolyzable substrates. H. T. Huang and C. Niemann. Am Chem Soc J 72:4286-7 S '50

Kinetics of the α-chymotrypsin-catalyzed competitive hydrolysis of acetyl-L-tryptophanamide and acetyl-L-tyrosinamide in aqueous solutions at 25° and *p*H 7.9. R. J. Foster and C. Niemann. bibliog Am Chem Soc J 73:1552-4 Ap '51

Kinetics of the α-chymotrypsin catalyzed hydrolysis of acetyl- and nicotinyl-L-tryptophanamide in aqueous solutions at 25° and *p*H 7.9. H. T. Huang and C. Niemann. bibliog Am Chem Soc J 73:1541-8 Ap '51

Kinetics of the α-chymotrypsin catalyzed hydrolysis of acetyl-L-tyrosinamide in aqueous solutions at 25° and *p*H 7.8-8.0. D. W. Thomas, R. V. MacAllister and C. Niemann. bibliog Am Chem Soc J 73:1548-52 Ap '51

Kinetics of the α-chymotrypsin catalyzed hydrolysis of nicotinyl-L-tyrosinamide in aqueous solutions at 25° and *p*H 7.9. H. T. Huang and others. Am Chem Soc J 73:3231-4 Jl '51

Photochemistry of proteins; the influence of reagents and conditions on the quantum yield for the inactivation-denaturation of chymotrypsin. A. D. McLaren and P. Finkelstein. bibliog Am Chem Soc J 72:5423-6 D '50

Reaction of chloramphenicol (chloromycetin) with α-chymotrypsin. H. T. Huang and C. Niemann. Am Chem Soc J 73:4039-40 Ag '51

Several derivatives of acetyl-*dl*-phenylalanine. V. Goldenberg, H. Goldenberg and A. D. McLaren. Am Chem Soc J 72:5317 N '50

Synthesis of peptides and esters of phenylalanine as chromogenic substrates for chymotrypsin. A. M. Seligman and G. Wolf. bibliog Am Chem Soc J 73:2086-9 My '51

Synthesis of protein-like substances by chymotrypsin. H. Tauber. bibliog il Am Chem Soc J 73:1288-90 Mr '51

CIDER

Cider making; electrical applications at the works of H. P. Bulmer & co. il Elec R (Lond) 148:523-8 Mr 16 '51

CIGAR boxes

Cigar box; all-plastic hinged box molded of Dow Styron. il Mod Plastics 28:184 Je '51

CIGAR factories

Equipment

Interchangeable parts, key to cigar maker. il diags Product Eng 21:94-7 D '50

Making cams for automatic cigar and cigarette machinery. R. F. V. Stanton. il diags Mach 57:141-7 D '50

CIGAR industry and trade

Cigar industry hikes sales via two-month drive. Sales Management 65:46 N 20 '50

CIGARET factories

Equipment

Better methods that save manpower; camera tour of Philip Morris & co. Factory Management 109:94-7 Je '51

Making cams for automatic cigar and cigarette machinery. R. F. V. Stanton. il diags Mach 57:141-7 D '50

CIGARET industry and trade

American Tobacco; leadership is based on three brands of cigarettes; with financial data 1940-49 and tabulations. R. B. Fant. Barron's 30:9-10 D 25 '50

See also

Morris, Philip, and
company

Advertising

Assignment in Utopia; how would you handle Lucky Strike advertising? Aesop Glim. Ptr Ink 234:96 Mr 23 '51

Lucky unhappy over FTC gag on ad claims. Ed & Pub 84:49 Jl 7 '51

Televised Lucky Strike Hit Parade's rating zooms. B. Tolk. il Ptr Ink 233:68+ D 29 '50

Finance

Spiraling smoke; cigarette companies' outlook. R. Vogel. Barron's 31:15-16 Jl 30 '51

Statistics

Cigarette sales hit 395 billion. G. R. Dunhill. Adv Agency 44:67+ Ja '51

Cigarettes up two per cent in record output; Pall Mall up 38.2 per cent, sets sales pace; Philip Morris and Old Gold are runner-ups. H. M. Wootten. il Ptr Ink 234:34-7 Ja 5 '51

1950; banner cigarette year. Bsns W p53 D 30 '50

CIGARET lighters

Product ideas, Flaminaire cigarette lighter; illustrations with text. Mod Ind 21:87 F '51

CIGARETS

Analysis

Proportional balance for routine analysis; proportion of paper to tobacco in cigarettes. C. F. M. Fryd. il diags Chem & Ind p362-3 My 12 '51

Manufacture

Getting our supplies on pallets saves labor, materials, space; Philip Morris & co. W. C. Foley. il Factory Management 109:74-6 F '51

CIGARS

Counter action; Robert Burns gets it with counter carton for little cigars. il Mod Packaging 24:106-7 D '50

Multiple merchandiser; multi-brand display unit on cigar counters. il Mod Packaging 24:163 Ap '51

CIMMAC reactor. See Chemical engineering—Apparatus and supplies

CINCHONA

Cinchona industry in Indonesia. For Comm W 44:20 Jl 30 '51

CINCHONA alkaloids

See also

Quinamine

CINCHONAMINE

Quinamine; *epi*quinamine and *epi*cinchonamine. C. C. J. Culvenor and others. Chem Soc J p 1485-93 Je '50

CINCHONINIC acid

Polarographic reduction of some heterocyclic molecules; the reduction of cinchoninic acid. D. J. Casimir and L. E. Lyons. Chem Soc J p783-6 Mr '50

CINCINNATI

Sewerage

Sewage disposal program for Cincinnati and vicinity. F. C. Tolles and others. il maps Sewage & Ind Wastes 22:1387-402 N '50

Water supply

Adjustment of water treatment to pollution loading. E. B. Evans. Am Water Works Assn J 43:45-8 Ja '51

CINDERS

Collection and burning of locomotive cinders. E. J. Boer and others. diag A S M E Trans 73:543-50; Discussion. 550-1 Jl '51

CINERIN

Experiments on the synthesis of the pyrethrins; synthesis of cinerone, cinerolone, and cinerin-I. L. Crombie and S. H. Harper. Chem Soc J p 1152-60 Ap '50

Experiments on the synthesis of the pyrethrins; synthesis of side-chain isomers and analogues of cinerone, cinerolone, and cinerin-I. L. Crombie and others. Chem Soc J p3552-63 D '50

CINEROLONE

Experiments on the synthesis of the pyrethrins; synthesis of cinerone, cinerolone, and cinerin-I. L. Crombie and S. H. Harper. Chem Soc J p 1152-60 Ap '50

Experiments on the synthesis of the pyrethrins; synthesis of side-chain isomers and analogues of cinerone, cinerolone, and cinerin-I. L. Crombie and others. Chem Soc J p3552-63 D '50

Infrared spectra of cinerolone and synthetic *trans*-(2-butenyl)-4-hydroxy-3-methyl-2-cyclopenten-1-one. H. L. Cupples. bibliog Am Chem Soc J 72-4522-3 O '50

CINERONE

Experiments on the synthesis of the pyrethrins; synthesis of cinerone, cinerolone, and cinerin-I. L. Crombie and S. H. Harper. Chem Soc J p 1152-60 Ap '50

Experiments on the synthesis of the pyrethrins; synthesis of side-chain isomers and analogues of cinerone, cinerolone, and cinerin-I. L. Crombie and others. Chem Soc J p3552-63 D '50

CINNAMALDEHYDE

Synthesis of 4-carboxyvitamin-A acid. V. Petrow and O. Stephenson. Chem Soc J p 1310-15 My '50

CINNAMIC acid

Internuclear cyclisation; the application of the Pschorr reaction to some substituted derivatives of *o*-amino-*a*-phenylcinnamic acid. D. H. Hey and J. M. Osbond. Chem Soc J p3172-7 D '49

Preparation of the mononitrobenzaldehydes. W. Davey and J. R. Gwilt. Chem Soc J p204-8 Ja '50

CINNAMYL chloride

Allylic chlorides; preparation and properties of *cis*- and *trans*-cinnamyl chloride. L. F. Hatch and H. E. Alexander. bibliog Am Chem Soc J 72:5643-5 D '50

CINNOLINE

Chemistry of simple heterocyclic systems; a comparative study of some 4-substituted cinnolines, quinazolines, and quinolines. J. R. Keneford and others. Chem Soc J p 1104-11 Ap '50

Cinnolines; experiments with 3-halogeno-4-hydroxycinnolines; some halogen exchange reactions. K. Schofield and T. Swain. Chem Soc J p384-92 Ja '50

Cinnolines; some 4-cinnolylhydrazines, their preparation and oxidation; miscellaneous quinoline derivatives. K. Schofield and T. Swain. Chem Soc J p392-5 Ja '50

Cinnolines; the preparation and nitration of cinnoline. J. S. Morley. Chem Soc J p 1971-5 Ag '51

CIRCLE wire and cable corporation

Stock offered. Comm & Fin Chr 173:1070 Mr 12 '51

CIRCLES

Chart for determining area of a ring or concentric circle. Water & Sewage Works 98: R53 Ap '51

Constructing arcs tangent to circles. W. W. Quist. diags Mach 57:185-6 N '50

CIRCUIT breakers, Electric. See Electric circuit breakers

CIRCULATION managers association, International. See International circulation managers association

CITIES and towns

Cities at a disadvantage in road improvement. L. D. Jackson. Roads & Eng Constr 89:114+ Mr '51

Selection of cities for consumer expenditures survey, 1950. M. Kogan. Mo Labor R 72:430-6 Ap '51

See also

City planning — Metropolitan districts
Market areas — Municipal finance

Growth

Is city growth controlled by mathematics or physical laws? H. Hoyt. Land Econ 27: 259-62 Ag '51

Industries

Factory and the town. C. Feiss. il Arch Rec 109:111-15 My '51

Unexploited; little towns seeking to bring factories into their localities. Eng N 146: 108 Ap 19 '51

Canada

Canadian municipalities show rapid expansion. J. Montagnes. Barron's 30:8 D 25 '50

England

British new towns, a case study of Stevenage. R. B. Black. Land Econ 27:41-8 F '51

Great Britain

Britain builds her new towns. M. Rosenauer. il maps plans Arch Rec 108:100-5+ D '50

New towns program in Great Britain. T. C. Coote. il map plans Am Soc C E Proc 77 [no 62]:1-14 Mr '51

Town planners' apology; summary of progress report, 1943-1951. Economist 160:1085-6 My 12 '51

What happened to the new towns? a report on a British experiment. F. R. Brewster. il map plan Eng N 146:39-41 Ja 4 '51; Discussion. G. B. Taylor. 146:48 F 22 '51

United States

Are we reaching city limits. R. P. Wolff and F. H. Bair, jr. il map Dun's R 59:22-3+ Ap '51

Hammond's city street map atlas and trip guide for the executive, commercial traveler and tourist. 208p $1.95 C. S. Hammond and company, Maplewood, N.J. '51

Seams burst in little boom towns; with Business Week survey of six typical towns. il Bsns W p70-2+ O 13 '51

CITIES and towns, Company. See Company towns

CITIES service company

Cities Service 1950 income will exceed $15 a share. Barron's 30:15-16 O 16 '50

Cities Service's big mistake. il Fortune 42:48+ D '50

Security I like best. J. C. Luitweiler. Comm & Fin Chr 173:744 F 15 '51

CITIES service gas company

Cities Service plans to grow. S. B. Irelan. Am Gas J 174:32 Mr '51

CITIZENSHIP

Busy, busy citizen. Fortune 43:96-9+ F '51

Management's role in good government; abstract. E. T. Weir. Management R 40:454-6 Ag '51

Standards for citizenship. A. T. Vanderbilt. Mech Eng 72:897-900 N '50

CITRACONIC anhydride

Citraconic anhydride; its properties and some likely industrial uses. Chem Age (Lond) 63:775 D 2 '50

Itaconic acid; the condensation of itaconic anhydride with some conjugated olefins. D. E. A. Rivett. bibliog J Ap Chem 1:377-80 S '51

CITRATES

Assimilation of carbon dioxide in oxalate and citrate by aspergillus niger. K. F. Lewis and S. Weinhouse. bibliog Am Chem Soc J 73:2906-9 Je '51

Polarographic studies of metal complexes; the cadmium(II), zinc(II) and iron(III) citrates. L. Meites. Am Chem Soc J 73:3727-31 Ag '51

Uranyl; citrate system; polarographic studies of the 1 : 1 complex. W. F. Neuman, J. R. Havill and I. Feldman. Am Chem Soc J 73:3593-5 Ag '51

Uranyl-citrate system; spectrophotometric studies in acid solution. I. Feldman and W. F. Neuman. Am Chem Soc J 73:2312-15 My '51

CITRIC acid

Chemical preparation of asymmetrically labeled citric acid. P. E. Wilcox, C. Heidelberger and V. R. Potter. bibliog Am Chem Soc J 72:5019-24 N '50

Citric surge. Chem Ind W 68:20 Ja 20 '51

Citric to ease. Chem W 69:33-4 Jl 7 '51

Enzymes of the citric acid cycle in tumors. C. E. Wenner, M. A. Spirtes and S. Weinhouse. Am Chem Soc J 72:4333 S '50

Materials of construction vs. citric acid. il Chem Eng 58:211-12+ Mr '51

Occurrence of the citric acid cycle in tumors. S. Weinhouse, R. H. Millington and C. E. Wenner. Am Chem Soc J 72:4332-3 S '50

Studies on the mechanism of citric acid production in aspergillus niger. K. F. Lewis and S. Weinhouse. bibliog Am Chem Soc J 73:2500-3 Je '51

Analysis

Determination of citric and *d*-isocitric acids. C. A. Hargreaves, 2d, M. D. Abrahams and H. B. Vickery. bibliog Anal Chem 23:467-70 Mr '51

CITRININ

Chemistry of fungi; citrinin. D. H. Johnson, A. Robertson and W. B. Whalley. Chem Soc J p2971-5 N '50

CITROMYCETIN

Chemistry of fungi; the degradation of methyl *O*-dimethylcitromycetin. A. Robertson, W. B. Whalley and J. Yates. Chem Soc J p2013-18 Ag '51

Chemistry of fungi; 3 : 4-dihydrocoumarins. F. M. Dean, A. Robertson and W. B. Whalley. Chem Soc J p895-902 Mr '50

Chemistry of fungi; the synthesis of 4-hydroxy-3-acetylcoumarins. G. G. Badcock and others. Chem Soc J p903-8 Mr '50

CITRONELLAL

Infra-red examination of terpenoid substances. M. F. Carroll and others. Chem Soc J p3457-61 D '50

CITRONELLE formation

Pleistocene history of coastal Alabama. C. W. Carlston. bibliog Geol Soc Bul 61:1119-29, pl 1-3 O '50

Profile sections in Citronelle formation in southwestern Alabama. C. W. Carlston. diags Am Assn Pet Geologists Bul 35:1888-92 Ag '51

CITRONELLIC acid

Cyclisation of citronellic acid. J. C. Bardhan and K. C. Bhattacharyya. bibliog Chem & Ind p800 S 22 '51

CITRONELLOL

Citronellol problem and the isolation of α-citronellol. M. D. Sutherland. Am Chem Soc J 73:2385 My '51

Infra-red examination of terpenoid substances. M. F. Carroll and others. Chem Soc J p3457-61 D '50

CITROVORUM factor. See Liver extracts

CITRUS fruit

Australia's citrus industry. For Comm W 44:13-14 Ag 13 '51

Bitter principles of citrus; relation of nomilin and obacunone. O. H. Emerson. Am Chem Soc J 73:2621-3 Je '51

Citrus investments; Florida orange groves bring high return at present prices. E. J. Mann. Barron's 31:7 S 3 '51

Cuban fruit production and trade. For Comm W 44:21 Jl 30 '51

French Moroccan citrus production and trade. For Comm W 44:20 Jl 23 '51

Investigation of occupational dermatoses in the citrus fruit canning industry. D. J. Birmingham and others. A M A Archives Ind Hygiene & Occup Med 3:57-63 Ja '51

Israel citrus growers present ultimatum to government. For Comm W 42:17-18 Ja 8 '51

Israel's 1950-51 citrus crop; production and exports of Japanese citrus fruit. For Comm W 44:21 Ag 6 '51

Italy produces record citrus crop. For Comm W 44:19-20 Jl 16 '51

Lebanese citrus-fruit production increases. For Comm W 44:21 Jl 30 '51

New treatment ups fruit life; gas process enables shipment without refrigeration. C. E. Wright. il Food Eng 23:88-9+ Je '51

Prevention of the phytotoxic action of sodium orthophenylphenate on citrus fruits by hexamine. E. F. Hopkins and K. W. Loucks. il Science 112:720-1 D 15 '50

See also

California fruit growers' exchange

Florida citrus exchange

Grapefruit

Analysis

Determination of citrus pectic substances by optical rotation. R. M. McCready and others. Anal Chem 23:975-7 Jl '51

By-products

Cull fruit, after juice processing, yields pulp and peel liquor. H. R. Murdock. Ind & Eng Chem 43:sup81A-2A+ My '51

Sell that oil in citrus seeds. C. E. Wright. Food Eng 23:102 My '51

Solves waste problem; saves too; citrus canner's recovery of molasses, oil, and feed. C. E. Wright. il Food Eng 23:107-8 S '51

See also

Limonene

CITRUS fruit juices, Frozen

Blend in citrus; Florida growers line up purchase of Snow Crop. Bsns W p 146+ O 6 '51

Comparison of low temperature evaporators; abstract. H. W. Schwarz. bibliog il Refrig Eng 59:864-6 S '51

Developing the Carrier-Howard concentrator; abstract. J. B. Merrill. il Refrig Eng 59:868 S '51

Full use of your steam; harvest low-cost electrical power by using non-condensing turbine. B. L. Skinner. il Food Eng 23:40-1 Jl '51

Quickest to quality; process banishes shortcomings in flavor of frozen citrus purees; Frosted fruit products. J. S. Lawless. il Food Ind 23:100-1 Mr '51

Storage temperature effects on frozen citrus concentrates. C. W. DuBois and T. J. Kew. bibliog il Refrig Eng 59:772-5+ Ag '51

Sunkist fruit is quickfrozen; California cooperatives in frozen concentrate line. Bsns W p 100-1 Jl 21 '51

CITRUS oils

Test for microdetection of parathion in orange and lemon oils. F. A. Gunther and R. C. Blinn. Anal Chem 22:1450 N '50

CITRUS seed oil

Sell that oil in citrus seeds. C. E. Wright. Food Eng 23:102 My '51

CITY halls. See Municipal buildings

CITY planning

Best land use, first redevelopment plan. S. H. Mott. Midwest Eng 3:22 Ja '51

Britain builds her new towns. M. Rosenauer. il maps plans Arch Rec 108:100-5+ D '50

Britain's new towns lag. il Bsns W p 122-3 D 2 '50

British new towns, a case study of Stevenage. R. B. Black. Land Econ 27:41-8 F '51

Central national bank, Chicago joins in community redevelopment. J. R. Humphreys. il Banking 43:56-7+ Ja '51

City redevelopment; a look at the cities where progress is greatest. H. S. Churchill. il map plan Arch Forum 93:72-7 D '50

Community and climate; history shows how to plan a settlement; microclimatology diagrams the method. maps plans Arch Forum 94:192-4 Mr '51

Expressways and railroads integrated in Louisville's city plan. C. E. De Leuw. il plan Civil Eng 21:390-1 Jl '51

Factory and the town. C. Feiss. il Arch Rec 109:111-15 My '51

Land values in relation to planning and housing in the United States; reprinted from Feb. '41 issue. R. Unwin. Land Econ 27:280-6 Ag '51

Little city with big plans; Oak Park, Mich. il Bsns W p55-7 O 28 '50

Map rack facilitates planning. F. M. Seguin. il diag Pub Works 82:48-9+ Je '51

New towns program in Great Britain. T. C. Coote. il map plans Am Soc C E Proc 77 [no 62]:1-14 Mr '51

One city's traffic solution; decentralization project for Washington. map Bsns W p26 D 2 '50

100 per cent backing for Columbus, Ohio improvement program. Bsns W p98+ Ap 21 '51

Park Forest, Ill.; proving ground for community planning techniques. il plans diags Arch Rec 109:94-110 My '51

Philadelphia's planners report on industrial land. Eng N 146:50+ Je 21 '51

Pittsburgh cleans up for company. il Bsns W p22-3 Ja 6 '51

Planning the national capital; objectives and problems of attainment. U. S. Grant, 3d. Am Soc C E Proc 77 [no 64]:1-9 Ap '51

Slum surgery in St Louis. il plans Arch Forum 94:128-36 Ap '51

Streets should not be overlooked in urban redevelopment. S. H. Mott. Roads & Eng Constr 89:100+ S '51

Surveying and mapping requirements for modern city planning. C. A. Blessing. bibliog Am Soc C E Proc 77 [no 60]:1-11 F '51

Town planners' apology; summary of progress report, 1943-1951. Economist 160:1085-6 My 12 '51

Town planners' dream. Economist 160:470-1 Mr 3 '51

U.S. municipal experts make Sao Paulo survey. Eng N 146:54+ F 8 '51

Bibliography

Selected bibliography on city and regional planning. S. Spielvogel. 276p $5.50 Scarecrow press, 3341 Prospect av. N.W., Washington 7, D.C. '51

Selected bibliography on urban redevelopment. 31p pa $2 American society of planning officials, 1313 E. 60th st, Chicago 37 '51

Study and teaching

Curricula in city and regional planning at the University of Wisconsin. F. A. Clarenbach. Land Econ 26:394-7 N '50

Zone system

New kind of zoning; revolutionary proposal for improving wasteful land planning. C. K. Agle. plans diags Arch Forum 95:176-7+ Jl '51

NYC planning commission proposes a radical change in zoning regulations. diags Eng N 146:26-7 My 3 '51

CITY stores company

Preferred stock offered. Comm & Fin Chr 173:379 Ja 22 '51

CIVIC centers. See Municipal centers

CIVIL aeronautics administration

CAA activities during term as administrator reviewed. D. W. Rentzel. CAA J 11:132 N 15 '50

CAA establishes defense office for priorities. CAA J 12:13+ F 20 '51

CAA spending will decline. Aviation W 54:14 Ja 22 '51

Directory of government construction officials; CAA regional and district offices. Arch Rec 109:16b-16d Mr '51

Get the facts and build upon them, basis of CAA's technical development. CAA J 12:60+ Je 20 '51

Lee named deputy; Beardslee, Tippets get airway posts. CAA J 12:71 Je 20 '51

Many who aided in CAA founding still with agency. CAA J 12:57-8 Je 20 '51

CIVIL aeronautics board

ATA is opposed to widening CAB rule. Aviation W 54:46 Ap 2 '51

Board adopts rule on disclosure of data on accidents by employees. CAA J 11:125 N 15 '50

Bureau of air operations established. CAA J 12:6 Ja 20 '51

CAB blueprint; Rentzel outlines agency proposals. Aviation W 54:45-6 Ja 22 '51

CAB powers; Rentzel asks Senate unit for more authority over airlines. Aviation W 54:16-17 Mr 26 '51

CAB role may hinge on new chief. Aviation W 54:51 Mr 12 '51

CAB sets up new code of ethics. Aviation W 54:18 Ap 9 '51

CAB starts special operations bureau. Aviation W 54:50 Ja 8 '51

Conduct of practitioners is subject of Board's procedural regulations. CAA J 12:51 My 20 '51

Reshuffles economic bureau. Aviation W 54:46-7 Ja 22 '51

CIVIL air patrol

CAP-mobile support for civil defense. S. L. Tulin and H. B. Nelson. il Pub Works 82:31-2 My '51

CIVIL engineering

Application of geology to engineering practice; Berkey volume. 327p $2.75 Geological society of America, 419 W. 117th st, New York 27 '50

Ceylonese learn American methods quickly on Gal Oya dam. D. J. Bleifuss. il plan diags Civil Eng 21:525-8 S '51

Civil engineering handbook. L. C. Urquhart, ed. 3d ed 1002p $8.50 McGraw-Hill book co, 330 W. 42d st, New York 18 '50

Civil engineering volume tops $12.3 billion for year. Eng N 145:13+ D 28 '50

Hydro-electric schemes; modern trends in civil engineering. T. A. L. Paton. Engineering 172:253-4 Ag 24 '51; Discussion. Engineer 192:206-7 Ag 17 '51

Influence of soil mechanics on civil engineering. H. J. B. Harding and H. Q. Golder. bibliog Engineering 170:419-21 N 24 '50

Marshalling men and methods for half-billion dollar atom plant. J. R. Carr. il Eng N 147:28-31 Jl 19; 37-8 Jl 26; 38-9 Ag 2 '51

Mechanical engineer in the construction industry. J. A. Warren, jr. Mech Eng 73:289-92 Ap '51

Pioneering the East; drawings by J. B. Moll, jr. Explosives Eng 29:47-50 Mr '51

Some unsolved problems in civil engineering. G. A. Maunsell. Engineering 171:699-700, 737, 768-9 Je 8-22 '51

There is no substitute for brains. C. W. Wood. il Civil Eng 21:202-4 Ap '51

Trends and techniques; development in the many fields of interest of civil engineers, architects and construction men. il Eng N 146:91-114 Mr 29 '51

See also

Airports
Airways
Aqueducts
Blasting
Breakwaters
Bridges
Building
Cofferdams
Dams
Drainage
Drilling and boring (earth and rocks)
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Engineering geology
Filling
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Foundations
Highway engineering

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Irrigation
Marine engineering
Mechanical engineering
Mining engineering
Moving of structures
Piers
Piles and pile driving
Pipe laying
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Railroads—Construction
Reclamation of land
Regional planning
Rivers
Roads
Sanitary engineering
Sewerage
Soil mechanics
Steel construction
Strains and stresses
Strength of materials
Structural engineering
Surveying
Tunnels and tunneling
Underground construction
Water supply engineering

Bibliography

Papers placed in Engineering societies library for reference. Civil Eng 20:732-3 N '50

Study and teaching

Practical training of civil engineers; abstract and discussion. H. J. B. Harding. Engineering 172:201-2 Ag 17 '51

Water resources planning and development in the civil engineering curriculum. M. O. Schmidt. J Eng Educ 41:284-7 Ja '51

See also
Surveying—Study and teaching

CIVIL engineers

Salaries

Survey of salaries for civil engineering positions. Civil Eng 21:457-63 Ag '51

CIVIL rights

Civil rights in America. R. K. Carr, ed. bibliog Ann Am Acad 275:1-161 My '51

18 papers to survey U.S. civil liberties. Ed & Pub 83:12 D 2 '50

Holmes was wrong; his philosophy needs reversing. Fortune 43:85-6 Je '51

16 U.S. dailies find civil rights upheld. Ed & Pub 83:9 D 16 '50

CIVIL rights associations

Organizations promoting civil rights and liberties. J. B. Robison. Ann Am Acad 275: 18-26 My '51

CIVIL service

Emergency procedures for civil service personnel. Mo Labor R 72:53 Ja '51

How defense officials are chosen who'll run government controls. J. Schoenfeld. Sales Management 66:62+ Ja 15 '51

See also
Public officials

Great Britain

Highest civil service. Economist 161:204 Jl 28 '51

CIVILIAN defense

Amateur bands for civil defense. Electronics 24:148 Mr '51

Amateur radio in civil defense; editorial. Q S T 34:9-12 D '50

Amateur radio in Detroit civil defense. F. Gary. il Q S T 35:52-3+ S '51

Architects speed participation in civil defense. il Arch Rec 109:9+ Ja '51

Are we prepared? W. R. G. Baker. Nat Safety N 63:23+ F '51

Aviation mobilization, basis of program suggested to states. CAA J 12:108 S 20 '51

Chicago civil defense committee. B. B. Smith. Midwest Eng 3:10-11, 23 D '50

CAP-mobile support for civil defense. S. L. Tulin and H. B. Nelson. il Pub Works 82: 31-2 My '51

Civil defense begins at home; Florida's program. C. E. Wright. Pub Util 47:218-23 F 15 '51

Civil defense club project; Tri-county radio association program provides emergency stations and promotes v.h.f. activity in northern New Jersey. M. P. Rehm. il Q S T 35:15-17+ O '51

Civil defense communications. Electronics 24: 94-6 Je '51

Civil defense in the water works industry. J. S. Longwell. Am Water Works Assn J 43:505-12 Jl '51

Civil defense manuals for apartment, office, industrial and loft buildings. Safety Maint & Prod 102:32-3 Jl '51

Civil-defense measures as applied to municipal water systems. W. E. MacDonald. il Munic Util 89:44-6+ Je '51

Civil defense; National security resources board plan. Mech Eng 72:992 D '50

Civil defense portable. E. P. Tilton. il diag Q S T 35:35-8+ My '51

Civil defense; study, planning, organization. il maps plans Pub Works 82:59-80+ Ap '51

Civil self-defense. O. Eisenschiml. Chem & Eng N 29:2898-901 Jl 16 '51

Civilian defense station. F. Heubner. il diag Radio & Tv N 45:42-3+ My '51

Community civil defense communications plan; Onondaga county, N.Y. N. F. Harmon. il Electronics 24:88-91 Jl '51; Same. Pub Works 82:31-3 Jl '51

Contractors rally for civil defense. Constr Methods 33:59+ Je '51

Cooperation of utilities with civil defense. A. R. Nelson. Edison Elec Inst Bul 19: 192-3 Je '51

Coordination of utilities and state in civil defense planned by NJUA. Elec World 135: 115 My 21 '51

Creation of Federal civil defense administration. R. Gibbs. Chem & Eng N 29:102 Ja 8 '51

Health resources in defense of the Nation. F. Feiman and others. Pub Health Rep 65:1493-528 N 17 '50

How civil defense is organized in a critical area; Wichita-Sedgwick county, Kan. R. K. Rush. il map Pub Works 82:54-5+ Ag '51

Illinois roads map civil defense setup. Ry Age 130:40-1 Ja 29 '51

Korean reverses spur civil defense action. Eng N 145:23 D 14 '50

Large-city bomb shelter policy is still debated. E. Mickel. Arch Rec 109:15-16+ Mr '51

Mobile converter for civil defense. R. M. Smith. il diag Q S T 35:46-9 S '51

National safety council and civil defense. Nat Safety N 64:46 S '51

New civil defense communications system. Safety Maint & Prod 101:62 Ap '51

New Jersey men blueprint plan for civil defense corporation. Gas Age 107:66+ My 24 '51

Newspapers plan defense programs, bomb shelters. Ed & Pub 84:9 Ja 20 '51

Organized self-protection. Sci Am 183:24-5 N '50

Outline for action for civil defense, Oshkosh, Wis. R. C. Rutledge. il Pub Works 82:43-4 Je '51

Phony civil defense. il Fortune 43:63-5 Mr '51

Prepared for the worst; British citizens are being trained in methods of survival. G. Gretton. il Nat Safety N 63:32+ Ap '51

Protective shelters in modern warfare. W. Viessman. il plan diags Heating-Piping 23: 77-82 Mr; 111-16 Ap '51

Public utilities and civil defense. B. F. Feinberg. Pub Util 46:727-34 N 23 '50

Radio's job in civil defense. J. H. Battison. il diags Tele-Tech 10:36-8+ Ap '51

Radio's place in civil defense. D. E. Noble. il Pub Works 82:50-1 S '51

Roads for civil defense. F. F. Worthington. Roads & Eng Constr 88:181-2 O '50

Serious defense problems face water authorities of Vancouver area. J. C. Oliver. Munic Util 89:52+ Je '51

Sheltering 135,000 from bombs; Rockefeller Center. il Bsns W p22-3 F 3 '51

Study of 150 cities shows impatience with federal civil defense planning. Eng N 145:24 N 30 '50

$3-billion for civil defense. il Bsns W p21 D 16 '50

Transit's powder is dry! transit radio as aid in civilian defense. G. W. Keith. Pub Util 38:407-12 S 27 '51

Two meter transmitter-receiver for civil defense operation. M. Kirchhoff and D. D. Bulkley. il diag Radio & Tv N 46:45-7 Ag '51

Utilities are mobilized for disaster relief. Elec West 106:67-8 My '51

Utilities should plan now for civil defense. F. L. Beadle. Elec West 106:78-9 Je '51

CIVILIAN defense—*Continued*

War-emergency operation of broadcast stations; how to prevent their being used as targets for enemy missiles. il diag Electronics 24:94-5 Ag '51

Washington adopts automatic c-d warning system. H. A. Friede. il map Electronics 24:90-1 My '51

Waterworks planning in Halifax area to meet civil-defense needs. I. P. Macnab. map Munic Util 89:48+ Je '51

What happens when alert comes at New York Port authority building; illustrations with text. Factory Management 109:86-9 F '51

See also

Air raids—Protective measures

Atomic bombs—Protective measures

Bibliography

Civil defense protection. Cleveland Pub Lib Business Information Bur Bul v 22, no 2: 5-8 Mr '51 (pa 10c)

Insurance aspects

Bohlinger approves endorsements for defense workers. East Underw 52:29 Jl 6 '51; Excerpt. Nat Underw 55:16 Jl 5 '51

New York changes code phraseology; Compensation insurance rating board takes steps in relation to civil defense activities. East Underw 52:27 S 28 '51

CIVILIAN requirements, Office of. See National production authority—Civilian requirements, Office of

CIVILIZATION

Science and the future. V. E. Smith. Chem & Eng N 29:3272-7 Ag 13 '51

See also

Culture

CLAIM association, International. See International claim association

CLAIMS

Hague convention and its bearing on Okinawa accident case; term "foreign country" in Federal tort claims act construed. Spectator (Property ed) 17:44+ S '51

See also

Damages

Insurance—Adjustment of claims

Railroads—Claims

CLAISEN rearrangement. See Molecular rearrangements

CLAMPS

Bosshead clamps. O. Kantorowicz; C. W. Couling. il diag J Sci Instr 28:252-3 Ag '51

Clamp for piercing die aligns yoke-shaped part. F. A. Adams. diags Mach 57:196 Mr '51

Clamp for pipe welding. diags Pet Eng 23: D36 S '51

Clamping cylinder has positive catch. F. J. Zarnowski. diag Am Mach 95:173 Je 11 '51

Copper plating on clamps resists weld-spattering. C. F. Brown. diag Am Mach 94:118 O 30 '50

Equalizer clamp aligns work edge. H. G. Frommer. diags Am Mach 95:122 My 28 '51

Equalizing-locking clamp. J. C. Grady. diags Tool Eng 26:58 F '51

Forming-die clamp retracts after power stroke. C. Bossman. diags Am Mach 94: 120 D 25 '50

New clamping device for jigs and fixtures. P. Grodzinski. il diags Tool Eng 27:40-2 Ag '51

Pipe clamp for welding. il Engineer 191:232 F 16 '51

Quick-acting clamp. C. Bossman. diag Tool Eng 26:65 Mr '51

Simple clamp for accurately locating fixtures on a machine table. W. M. Halliday. diags Mach 57:198-9 D '50

See also

Hose clamps

CLAPEYRON equation. See Clausius-Clapeyron equation

CLARIFIERS

Centrifugal clarification of waxes and varnishes. C. M. Ambler. il diags Soap & San Chem 27:118-20 F '51

Water-injection streamlines miscella clarification. J. M. Crockin. diags Chem Eng 57: 160-2 N '50

CLARK, Charles Edward, 1889-

Portrait. Fortune 43:95 Ja '51

CLARK, John

Why a copper strike? por Fortune 44:59-60 O '51

CLARK, John Maurice, 1884-

Economists. J. McDonald. por Fortune 42: 108-13+ D '50

CLARK controller company

Preferred stock sold. Comm & Fin Chr 173: 379 Ja 22 '51

Prospects favorable. Barron's 31:14 Je 4 '51

CLARK equipment company

Clark Equipment to repeat 1950 profit performance. Barron's 31:15 My 21 '51

CLARVAN corporation

Pill inflates toys and mystifies customers; valveless plastic toys. il Bsns W p 138-40 S 15 '51

CLARVOE, Frank A.

Two poll victories cap 25-year record. C. Watson. por Ed & Pub 83:64 N 18 '50

CLASSIFICATION

Classification and communication. S. R. Ranganathan. 291p Delhi univ. library, Delhi 8, India; 25s Blunt & sons, 100 Great Russell st, London, WC 1 '51

Classification system for architectural files; time-saver standards. Arch Rec 109:155+ Mr '51

Classifications; keys to know-how in instrument work. M. F. Behar. diags Instruments 24:393-9 Ap '51

Colon classification. S. R. Ranganathan. 3d ed 4 pts in 1 v Madras lib. assn, 4 Sami Pillai st, Triplicane, Madras 5; 30s G. Blunt & sons, 100 Great Russell st, London, W.C.1 '50

Filing scheme for pamphlets. B. A. Evans. Aslib Proc 3:165-8 Ag '51

How to choose a classification for your special library. A. J. Wells. Aslib Proc 3:107-20; Discussion. 120-2 My '51

Library classification system for the literature of industrial hygiene and allied subjects. L. Sullivan and W. C. L. Hemeon. 70p Industrial hygiene foundation, Mellon institute, 4400 Fifth av, Pittsburgh 13 '51

Material available for loan from headquarters by SLA members. Special Lib 42:223 Jl-Ag '51

Subject cataloguing in German libraries. K. Garside. bibliog J Doc 6:188-205 D '50

CLASSIFICATION, Decimal

Decimal classification. M. Dewey. 15th ed 661p $16 Forest press inc, Lake Placid club, New York; for sale by H. W. Wilson co, New York '51

CLASSIFICATION of sciences

Differential systematics. W. H. Womble. bibliog diags Science 114:315-22 S 28 '51

CLASSIFIED advertising managers, Association of newspaper. See Association of newspaper classified advertising managers

CLASSIFIERS

Calculate classifier data accurately by new method. F. C. Bond. Eng & Min J 151:90-1 D '50

High-speed classification and desliming with the liquid-solid cyclone. D. A. Dahlstrom. bibliog flow sheet il diags Min Eng 190: Trans153-65 F '51

Metallurgical applications of the DorrClone. F. T. Weems. bibliog diags Min Eng 3: Trans 681-90 Ag '51

CLASSROOMS

Classroom salvage saves sight too. C. W. Jarrett. il Elec West 107:81-3 S '51

Testing design; study of natural ventilation and lighting of buildings at Texas engineering experiment station. il diags Arch Forum 94:170-8 My '51

CLATHRATE compounds. See Molecular compounds

CLAUSIUS, Rudolf Julius Emanuel, 1822-1888

Rudolf Julius Emanuel Clausius. Engineer 191:253 F 23 '51

CLAUSIUS-CLAPEYRON equation

Clausius-Clapeyron equation. O. L. I. Brown. J Chem Educ 28:428-9 Ag '51

CLAY, Lucius DuBignon, 1897-

Portrait. Bsns W p26 Ja 6 '51

CLAY

Acid activation of some bentonite clays. G. A. Mills, J. Holmes and E. B. Cornelius. bibliog J Phys & Colloid Chem 54:1170-85 N '50

CLAY—*Continued*

Cation-exchange studies with the colloidal clay salts of silver. S. K. Mukherjee and S. Ghosh. bibliog J Phys & Colloid Chem 54:1110-21 N '50

Clay; commonest industrial raw material. il Fortune 43:80-8 Ja '51

Clay mineralogy and the petroleum industry. R. E. Grim. bibliog il World Oil 132:61-2+ Mr '51

Clay replaces blueprints; Royal restyles with clay models. il Bsns W p46+ D 9 '50

Crystal chemistry in ceramics; the clays and mica. W. E. Hauth, jr. diags Am Cer Soc Bul 30:140-2 Ap 15 '51

Distribution of starch in clay coatings. J. W. Dappen. bibliog diags Tappi 34:324-35 Jl '51

Electrochemical properties of mineral membranes; membrane characteristics of clay pastes. S. K. Mukherjee and C. E. Marshall. J Phys & Colloid Chem 55:61-8 Ja '51

Fundamental study of clay; note on the effect of fluoride ions on a clay suspension. W. D. Kingery. Am Cer Soc J 34:242-4 Ag 1 '51

Increased and cheaper production of clay pipe by raw material standardization. A. Hawley, jr. Am Cer Soc Bul 30:206-7 Je 15 '51

Influence of clay in oil production. B. B. Cox. bibliog World Oil 131:174+ D '50

Puddled-clay cutoff walls stop sea-water infiltration; subsidence basin of the Wilmington and Long Beach, Calif., harbor areas. A. D. Rhodes. il Civil Eng 21:71-3 F '51

Sintering clay into lightweight aggregates; Dwight-Lloyd sintering process. W. B. Lenhart. il plan Rock Prod 54:108-11 Ag '51

Surface structure and composition of colloidal siliceous matter. E. A. Hauser, D. S. le Beau and P. P. Pevear. bibliog il J Phys & Colloid Chem 55:68-79 Ja '51

Viscosity control of concentrated clay suspensions. N. Millman. diag Paper Tr J 132: 28+ F 16 '51

See also

Bentonite
Ceramic materials
Fire clay
Fuller's earth
Pottery
Slips (ceramics)

Analysis

Determination of sodium and potassium in clays. B. B. Osthaus. bibliog Am Cer Soc J 33:377 D 1 '50

Bloating

Relation of chemical properties to the bloating of clays. C. M. Riley. bibliog diags Am Cer Soc J 34:121-8 Ap 1 '51

Therapeutic use

Canamin clay and its properties. E. A. Hauser. Can Chem & Process Ind 34:979 D '50

Arkansas

Refractory and thermal observations on an Arkansas clay deposit. W. J. Smothers and T. Dziemianowicz. il map Am Cer Soc Bul 30:74-5 Mr 15 '51

British Columbia

Canamin clay and its properties. E. A. Hauser. Can Chem & Process Ind 34:979; 35:123 D '50, F '51

Ontario

Glacial clays in Steep Rock lake, Ontario, Canada. E. Antevs. maps Geol Soc Bul 62:1223-62, pl 1-6 bibliog(p 1261-2) O '51

Texas

Buried hill at Wilcox-Carrizo contact in east Texas. H. B. Stenzel. bibliog il map diags Am Assn Pet Geologists Bul 35:1815-28 Ag '51

CLAY drying

Directional air flow solution to drying problem. R. H. Anwyl. il Brick & Clay Rec 119:41-2+ Jl '51

Fundamentals of the drying process. H. J. Beckemeyer. bibliog Brick & Clay Rec 117: 47+ O; 50+ N '50

CLAY handling

Burns brick co. aerial tramway increases production; uses aluminum buckets. il Brick & Clay Rec 118:26-7+ My '51

Long boomed loaders speed clay piling. il Brick & Clay Rec 118:70 My '51

Selective loading delivers proper clay mix from pit; Burns brick co. il Brick & Clay Rec 119:54 S '51

CLAY industries

Clay; commonest industrial raw material. il Fortune 43:80-8 Ja '51

Great Britain

Directory of quarries, clayworks, sand and gravel pits, etc. 1950-1951. 12th ed 428p 15s Quarry managers' journal, Salisbury square house, Fleet st, London, E.C.4 '51

CLAY products

Building with brick and clay. il plan Am Bld 73:112-14 My '51

Clay block pavement endures. il Brick & Clay Rec 118:37 My '51

Clay products and the architecture of tomorrow. A. G. Lorimer. Am Cer Soc Bul 30:33-4 F 15 '51

Electronic drying of ceramic bodies. C. J. Kohler, jr. Am Cer Soc Bul 30:285-6 S 15 '51; Same. Cer Ind 57:55+ S '51

Enthusiasm keynote of SCPI Research Foundation report. Brick & Clay Rec 117:27+ N '50

Pointers for building in cold weather with structural clay products. il Am Bld 73:122-3 My '51

Reinforced clay block solves problem of highway damage. il diags Brick & Clay Rec 118:67+ Ap '51

Research needed for structural clay products. L. R. Whitaker. Am Cer Soc Bul 30:148 Ap 15 '51

Structural clay products research foundation reports on projects. diags Brick & Clay Rec 118:31+ My '51

20 billion brick market in sight; greater markets to clay industry. il Brick & Clay Rec 119:33-4 S '51

See also

Tiles

Manufacture

Directional air flow solution to drying problem. R. H. Anwyl. il Brick & Clay Rec 119:41-2+ Jl '51

Effect of water quality on the manufacture of ceramic ware and porcelain enamel. J. B. Smith. bibliog flow diag il Am Cer Soc Bul 30:301-3 S 15 '51

Fundamentals of the drying process. H. J. Beckemeyer. bibliog Brick & Clay Rec 117: 47+ O; 50+ N '50

How to boost rotary kiln fuel efficiency. W. G. Bauer. diags Brick & Clay Rec 118:32-4 F '51

Papers on tunnel kilns hold interest at structural clay products sessions at A.C.S. convention, Chicago, April 22-26; abstracts. Brick & Clay Rec 118:41, 68+ Je '51

Use of concrete block machine in production of clay building tile. N. P. Vest. Brick & Clay Rec 117:48 D '50

See also

Kilns—Firing

Standards

Modular coordination; prepared with the cooperation of Structural clay products institute; with time-saver standards. diags Arch Rec 108:167+ N; 159+ D '50

Transportation

Recorder leads way in transit tests. P. W. Bush. il Cer Ind 56:50-1+ My '51

CLAY products plants

Around and about the clay pipe plants. il Brick & Clay Rec 118:35-6+ Mr '51

Increased and cheaper production of clay pipe by raw material standardization. A. Hawley, jr. Am Cer Soc Bul 30:206-7 Je 15 '51

Accidents

Injuries and accident causes in the manufacture of clay construction products; with tables. F. S. McElroy and G. R. McCormack. U S Bur Labor Statistics Bul 1023: 1-49; pa 30c Supt. of doc. '51; Excerpts. Mo Labor R 70:270-5 Mr '50

New record for clay products industry; Gladding McBean & co. Nat Safety N 63: 120+ My '51

CLAY products plants—*Continued*

Accounting

Process and standard costs for ceramics. D. E. Gustafson. N A C A Bul 32:1365-70 Jl '51

Electric equipment

Engineered motor drives boost efficiency and save maintenance; Clay city pipe co. il Brick & Clay Rec 118:39 Mr '51

Employees

Personnel training pays off. R. H. Ellis-Anwyl. il Brick & Clay Rec 118:41+ F '51

Equipment

Better methods section; illustrations with text. Brick & Clay Rec 118:37+, 38-9 Ja '51 [cont monthly]

Evens & Howard sewer pipe co. feature compartment drying in plant rebuilding program. flow diag il diags Brick & Clay Rec 118:30-2+ Mr '51

Gas and oil combustion equipment for the clay products industry. E. R. Brooks, jr. il diags Brick & Clay Rec 117:36-7+ D '50; 118:68-70 Ja '51

Gyratory screen developed for sizing fine materials. il Rock Prod 54:69 Jl '51

Huge tunnel kiln cuts production costs; Kankakee clay products co. il Brick & Clay Rec 118:41-3 Ap '51

Licks minimums to start production; Angeleno corp. tile plant. il Cer Ind 56:86-7+ Mr '51

1950 equipment and material review. il Brick & Clay Rec 117:33-7+ N '50

Management

Know your operations costs in time to control them. il Brick & Clay Rec 118:40-1+ Ja '51

CLAYTON anti-trust act

Amended Clayton act adds more controls over corporate mergers. Brick & Clay Rec 118:75 Mr '51

CLEANING

AATCC looks into drycleaning. Rayon 32:68 Jl '51

Cleaning radioactive contaminated surfaces. D. H. Ross. bibliog il Soap & San Chem 27:30-2 Jl '51

Dry cleaners are in despair about rayons. A. E. Johnson. il Rayon 32:54+ Ja '51

Microscopic study of oiled textile fibres immersed in aqueous media. D. G. Stevenson. bibliog il diags Textile Inst J Trans 42: T 194-206 My '51

Non-ionics in the dry cleaning industry. C. E. Barker and H. J. Ranauto. il Soap & San Chem 27:43+ Je '51

Reactions of garment fabrics, accessories, and methods of garment manufacture to dry-cleaning. E. J. Davies. Textile Inst J 42:P820-6 Ag '51

See also

Boiler cleaning
Car cleaning
Castings—Cleaning
Coal cleaning
Cotton cleaning
Degreasing
Dishwashing
Factories—Cleaning
Floor cleaning
Heat exchangers—Cleaning
Laundry
Lighting fixtures—Cleaning
Metal cleaning
Oil tanks—Cleaning
Soap
Steel—Cleaning

CLEANING compositions

Appraisal of detergency through radioactive isotopes. C. P. McCord and R. L. Robertson. il Ind Med 19:554-7 D '50

Auto cleaning products. M. A. Lesser. bibliog il Soap & San Chem 27:37-9+ Ap; 31-4+ My '51

Back-to-liquid trend. il Chem Ind W 68:33-4 Ap 28 '51

CMRA told detergents future hurt by raw materials shortage. Oil Paint & Drug Rep 159:5+ Mr 5 '51

Clean business; Kelite products. Chem W 68:28-9 Je 2 '51

Cleaning radioactive contaminated surfaces. D. H. Ross. bibliog il Soap & San Chem 27:30-2 Jl '51

Copper for copper; Cameo's new cleanser label; metallic tone on foil helps identify product use. il Mod Packaging 24:136-7 Ap '51

Detergent sanitizers. M. A. Lesser. bibliog il Soap & San Chem 27:37-9+ Ag '51

Detergents; a dilemma. S. M. Edelstein. Am Dyestuff Rep 40:519-23+ Ag 20 '51; Same. il Soap & San Chem 27:35-8+ S; 51+ O '51; Abstract. Textile World 101:124-5 Ag '51

Detergents and sewage treatment plant foaming. R. E. Anderson and others. Pub Works 82:96-7 Je '51

Detergents; Chemical market research association meeting, Chicago, Feb. 28. Soap & San Chem 27:35-6 Ap '51

Detergents for mechanical dishwashing. C. A. Tyler. bibliog il Soap & San Chem 26: 37-9+ D '50

Detergents for printers type. P. I. Smith. Soap & San Chem 26:44-5+ D '50

Detergents in sewage. Soap & San Chem 27:79+ Je '51

Effect of added hydrocarbons upon critical concentrations of soap and detergent solutions. H. B. Klevens. bibliog J Phys & Colloid Chem 54:1012-16 O '50

Fire hazards of paints and cleaners. Safety Maint & Prod 101:55-7 Mr '51

Flake form nonionic detergents. C. R. Pacifico and others. Soap & San Chem 26:40-3+ O '50

Flakes without ions; Wyandotte detergent with solid nonionic. Chem Ind 67:714-15 N '50

Hand cleaners and protectants. M. A. Lesser. bibliog il Soap & San Chem 27:30-3+ Je; 34-7+ Jl '51

Hercules powder co. ethylene oxide adducts of rosin-derived bases. Chem W 69:17 S 22 '51

High viscosity detergent solutions. H. L. Sanders and E. A. Knaggs. diags Soap & San Chem 27:41-3+ F '51

How to select a skin cleanser. L. W. Staples. il Safety Maint & Prod 102:25-6+ S '51

Increases in syndet use mean bigger problems for sanitation. il Chem & Eng N 29: 1635-6 Ap 23 '51

Industrial cleaning agents. Soap & San Chem 27:83 Je '51

Liquid detergent surge. Chem Ind W 68:19-20 Mr 24 '51

Lots of grit. il Chem Ind W 68:45-6 Ja 20 '51

Mothproofing; detergent combinations. H. C. Borghetty and others. Am Dyestuff Rep 40:119-21 F 19 '51

1950 operators' forum; effect of detergents on sewage treatment plants. C. C. Larson. Sewage & Ind Wastes 23:675-80 My '51

Non-ionic detergents; Wyandotte flaked solid. Chem Ind 67:934+ D '50

Non-ionics in the dry cleaning industry. G. E. Barker and H. J. Ranauto. il Soap & San Chem 27:43+ Je '51

Packeted cleansers; single-use, measured-quantity envelopes. il Mod Packaging 24: 90-1 Mr '51

Pluronic paradox. il Chem W 69:15 O 13 '51

Press-open pouring carton for detergent; Oakite Products. il Mod Packaging 24:95 Jl '51

Production clinic; synthetic detergents. E. G. Thomssen. Soap & San Chem 26:75+ N; 75+ D '50

Redefining soap; bill would put soap and detergents under same regulation as cosmetics. Bsns W p 138-9 O 13 '51

Relationship between detergency and adsorption by the fibre. K. McLaren. bibliog diag Soc Dyers & Col J 66:521-9 O '50

Reports on cleanser research. Soap & San Chem 27:75 F '51

Requirements of a detergent; abstract and discussion. A. S. C. Lawrence. Chem & Ind p795-6 S 22 '51

Scouring with synthetic detergents; abstract. Am Dyestuff Rep 39:685 O 16 '50

Season for foam; rug and upholstery cleaner. il Chem Ind W 68:29-30 Ap 21 '51

Selling invisible suds; Armour's Giant. il Chem Ind W 68:25 Mr 3 '51

Show new cleaning compounds at 32d annual National restaurant association's exposition, Chicago, May 7-11. Soap & San Chem 27:55+ Je '51

Soap plant observer; a study of detergent sales; with tabular data on leading brands. J. W. McCutcheon. Soap & San Chem 26: 83+ N '50

CLEANING composition—*Continued*

Soaps and syndets, present and future. F. D. Snell and C. S. Kimball. Soap & San Chem 27:27-9 Je '51

Soaps vs. synthetic detergents; abstract. Soap & San Chem 27:65 My '51

Solvent-detergent products. A. Davidsohn. Soap & San Chem 27:47+ Ag '51

Sorption of anionic detergents by wool. K. Swanston and R. C. Palmer. bibliog diag Soc Dyers & Col J 66:632-8 D '50

Syndets hit first billion pound year; C&EN annual review. F. D. Snell. il Chem & Eng N 29:36-8 Ja 1 '51

Syndets offer future markets for petroleum benzene plants. Pet Processing 6:695 Jl '51

Syndets to continue inroads on soap markets; Chemical market research association meeting. Chem & Eng N 29:1008 Mr 12 '51

Synthetic detergents. L. M. Kushner and J. I. Hoffman. diags Sci Am 185:26-30 O '51

Synthetic detergents; are they here to stay? O. M. Morgan. il Rayon 32:93-4+ S '51

Synthetic detergents topped billion-pound mark in '50. Chem & Eng N 29:554-5 F 12 '51

Synthetics in cotton detergency. H. L. Sanders and J. M. Lambert. bibliog Textile Res J 21:680-4 S '51

Tailored to a building trend; Preenet, new finish for asphalt and rubber tile. Chem Ind W 68:33 My 19 '51

Toilet bar form synthetics. V. J. Keenan. il Soap & San Chem 27:27-30+ My '51

Vapor pressures of aqueous solutions of some detergents. H. Huff, J. W. McBain and A. P. Brady. bibliog J Phys & Colloid Chem 55:311-21 F '51

See also

Santomerse

Shampoos—Rating

Soap

Advertising

How to get distributors for a new, premium-priced product; Piatt and Smillie germicide-detergent. N. Kelne. il Ptr Ink 235:25-7 Ap 27 '51

Starch reports best-read advertisements. il Adv Agency 44:72 F '51

Why Babbitt is as firmly wedded to premiums today as it was in 1851. R. Brenner. il Ptr Ink 235:80-2 Je 29 '51

Analysis

Analysis of detergents. Soap & San Chem 26:69+ D '50

Determination of anionic synthetic detergents in sewage. H. C. Evans. bibliog Soc Chem Ind J 69(sup no 2):S76-80 '50

Estimation of anionic detergents in solution by Hartley titrations. K. Swanston and R. C. Palmer. bibliog Soc Dyers & Col J 66:630-2 D '50

Bibliography

Bibliography of 105 titles reprinted from Survey of recent literature on soaps versus synthetic detergents. J. Kanegis. Soap & San Chem 26:51+ D '50

Manufacture

New Lever St Louis plant. il Soap & San Chem 27:90+ F '51

Spray-drying synthetic detergents. M. W. Smith. Chem Age (Lond) 64:443-6 Mr 24 '51; Abstract. Soap & San Chem 27:63+ My '51

Physiological effect

Detergent skin effects; abstract. R. Kuchinka. Soap & San Chem 27:65+ My '51

Rating

Detergents used in dishwashing. il Consumers Res Bul 28:15-18 O '51

Household synthetic detergents. il Consumers Res Bul 27:20-2 Mr '51

Statistics

Detergent use at peak; with table, 1921-1950. Soap & San Chem 27:43+ Ag '51

Testing

Built detergent performance; abstract. H. Stupel and A. von Segesser. Soap & San Chem 27:79+ Ag '51

Detergency properties of systems containing a solid nonionic detergent. H. R. Suter and M. G. Kramer. Soap & San Chem 27:33-6+ Ag '51

Development of metal cleaners using radioisotopic evaluation methods. J. C. Harris and R. E. Kamp. il Metal Finishing 48:75-8 N '50

Evaluation of detergents; correlation of washing performance with dissolving and wetting ability. C. C. Ruchhoft and F. I. Norris. Pub Health Rep 66:655-67 My 25 '51; Abstract. Soap & San Chem 27:81 Ag '51

Hard surface cleaners. J. C. Harris. bibliog Soap & San Chem 27:49+ Je; 38-9+ Jl '51

Improvement of cotton cloth in resistance to soiling and in ease of washing. W. P. Utermohlen, jr. and others. bibliog Textile Res J 21:510-21 Jl '51

No rinse. J. W. McCutcheon. Soap & San Chem 27:85 F '51

Synthetic detergents for domestic dishwashing machines. H. L. Sanders and J. A. Yeager. bibliog Ind & Eng Chem 43:866-71 Ap '51

CLEANING industry

Dry cleaners are in despair about rayons. A. E. Johnson. il Rayon 32:54+ Ja '51

Valeteria takes phone order, clothes; delivers them cleaned four hours later; illustrations with text. Bsns W p26 S 15 '51

Safety measures

Safety in the laundry and dry cleaning plant. B. P. Frank and L. M. Merritt. il Safety Maint & Prod 101:28-30 Ja '51

CLEANLINESS

See also

Factories—Cleanliness

Printing offices—Cleanliness

CLEARING houses

Chicago's clearing house. il Banking 44:180-1 S '51

CLEARING of land

Ball-and-chain and paired tractors make quick work of land clearing; Hungry Horse dam, Montana. il Roads & Eng Constr 89:80+ Jl '51

Comparison of ammonium sulfamate vs 2,4-D and 2,4,5-T for brush control; engineering reference sheet. Elec World 136:148 Ag 13 '51

Earthmoving; an art and a science. D. K. Heiple. il Constr Methods 33:60-4 F '51

Heavy roller destroys right-of-way underbrush; with cost data. W. P. Carter. il Elec World 134:104 D 18 '50

Highball method speeds clearing. il Roads & Sts 93:40-1 N '50

Multiple Diesel use in Hungry Horse Dam site construction. il Diesel Power 29:52-3 My '51

Saw-nose cat clears 1¼ acres per hour. il Constr Methods 33:57-8 Je '51; Eng N 146:49 Je 21 '51; Roads & Eng Constr 89:76 Ag '51

Treedozers now built in Australia; illustrations with text. Constr Methods 33:69 Ja '51

United gas pipe line co. uses new weapon in its battle against brush; use of ammonium sulfamate, known as Ammate weed killer. A. E. Carlson. il Oil & Gas J 50:127 S 13 '51

CLEMATIS dioscoreifolia

Antimicrobial principle of clematis dioscoreifolia. W. Herz and others. Science 114:206 Ag 24 '51

CLEMMENSEN reduction. See Reduction, Chemical

CLERGY

See also

Chaplains, Industrial

CLERICAL workers. See Office workers

CLEVELAND

Best industrial and cultural location in the Nation. K. S. Willson. il map Chem & Eng N 29:1094-8 Mr 19 '51

Cleveland rebuilds its rapid transit, spends millions on other projects. il Eng N 146:50+ Mr 15 '51

River of commerce; how Cleveland is improving its business artery. il Eng N 147:112 Ag 23 '51

Industries

Utility sells Cleveland, at a profit. il Bsns W p22-4 D 2 '50

CLEVELAND—*Continued*

Sanitary affairs

Bacterial survey of streams and bathing beaches. J. S. Delos. map Sewage & Ind Wastes 22:1618-24 D '50

Water supply

End in sight for water pinch. Bsns W p 120 Je 23 '51

CLEVELAND electric illuminating company

Bond offering. Comm & Fin Chr 174:103 Jl 9 '51

Institutional investors consider it a blue chip utility; with financial data 1941-1950. J. F. Ferriter. map Barron's 31:9-10 S 24 '51

Public utility securities. O. Ely. Comm & Fin Chr 172:1997 N 23 '50

CLEVELAND union terminals company

Bonds offered. Comm & Fin Chr 172:2219 D 11 '50

CLIMATE

Climate and culture, new evidence. P. B. Sears. Science 114:46-7 Jl 13 '51

Temperate house; how to do something about the weather by natural means. V. G. Olgyay. il maps plans diags Arch Forum 94:179-91 Mr '51

See also

Atmospheric temperature

Paleoclimatology

Plants, Effect of climate on

Rain and rainfall

Labrador

Present-day snowfall of Labrador-Ungava; origin of Wisconsin ice. F. K. Hare. bibliog maps Am J Sci 249:654-70 S '51

CLIMATOLOGY

Climatology as an aid in heat pump design. G. S. Smith. il Heating-Piping 23:101-7 Je '51; Discussion. 23:137-8 S '51

See also

Microclimatology

Paleoclimatology

CLIMAX molybdenum company

Climax Molybdenum; can it develop into a growth situation? S. Devlin. il Mag of Wall St 88:249-51+ Je 2 '51

CLINICAL chemists, American board of. See American board of clinical chemists

CLINICAL thermometers. See Thermometers, Clinical

CLINICS

Truman lays cornerstone of government clinical center, Bethesda, Md. il Chem & Eng N 29:2832-3 Jl 9 '51

CLINICS, Dental. See Dental clinics

CLINTON, Iowa

See also

Floods—Clinton, Iowa

CLINTON foods, inc.

Blend in citrus; Florida growers line up purchase of Snow Crop. Bsns W p 146+ O 6 '51

Plant fights it out with Mississippi. il Bsns W p24-5 My 5 '51

CLOCKS

British magnetic clock escapement cuts friction loss. il diags Product Eng 22:112-13 Ap '51

Watchmakers' and clockmakers' encyclopaedic dictionary. D. de Carle. 252p 30s N.A.G. press, 226 Latymer court, Hammersmith, London, W. 6 '50

CLOCKS, Automobile

Self-winding car watch. il Product Eng 22:195 S '51

CLOCKS, Crystal. See Clocks, Electric

CLOCKS, Electric

Accurate time for broadcast studios. J. H. Greenwood. il diags Electronics 24:97-9 Je '51

Automatically wound tower clocks. Elec R (Lond) 148:674 Ap 6 '51

Comparing outputs from precision time standards; intercomparison of crystal clocks. J. M. Shaull and C. M. Kortman. il diags Electronics 24:102-7 Ap '51

Manufacture

Better product at lower cost with statistical quality control; camera tour of Telechron inc. Factory Management 109:88-93 Mr '51

CLOCKS, Electric impulse

Amateur astronomer; Hope-Jones clock. A. G. Ingalls. diags Sci Am 185:68-71 Jl '51

CLOCKS, Synchronome. See Clocks, Electric impulse

CLOROBEN. See Deodorizers

CLOSE corporations. See Corporations—Close corporations

CLOSED shop. See Open and closed shop

CLOSETS

New feature in every project; Revolvodor closets. il plan Am Bld 73:154 F '51

CLOSTRIDIUM butyricum

Amylopectin-type polysaccharide synthesised from sucrose by Cl. butyricum. P. N. Hobson and H. Nasr. Chem Soc J p 1855-7 Jl '51

CLOSTRIDIUM perfringens

Inhibition of the lecithinase of clostridium perfringens by some reducing agents. L. D. Smith and M. V. Gardner. bibliog Franklin Inst J 250:465-71 N '50

CLOSURES (containers)

Automatic capper. il Can Chem Process 35:653 Ag '51

Foolproof closure for parenterals; Baxter's intravenous packaging. il Mod Packaging 24:98-9 Je '51

What women like and dislike about packages today; new survey on grocery store products. A. R. Hahn. il Sales Management 67:50-2+ Jl 15 '51

Testing

New PI proposals; two test methods for screw-cap liners. il Mod Packaging 24:113-14+ Ag '51

CLOTH cutting machines

Modern fabrics require modern cutting methods. H. J. Chamberland. il Rayon 31:55 O '50

CLOTHES dryers

Clothes dryer venting in Chicago. W. D. Egan. il diag Am Gas Assn Mo 33:15-17+ Jl-Ag '51

How to sell laundry dryers. il Gas Age 107:32-4 F 15 '51

Opportunity unlimited. F. M. Foster. Am Gas Assn Proc 1950:230-2; Same. Gas Age 106:24-6 N 9 '50

Opportunity unlimited. I. L. Muntz. Am Gas Assn Proc 1950:233-4; Same. Gas Age 106:26+ N 9 '50

Opportunity unlimited. C. H. Rippe. Am Gas Assn Proc 1950:228-30; Same cond. Gas Age 106:22-4 N 9 '50; Same cond. Am Gas Assn Mo 32:24-6+ D '50

Venting of clothes dryers. diags Dom Eng 178:100-1+ S '51

What's new in home laundering. H. W. Kendall. Gas Age 107:28-9+ Mr 1 '51

Rating

Clothes dryers. il Consumers Res Bul 27:22-3 Ja '51

CLOTHESPINS

Clothespins are holding up nicely; Miss Meguschar's Spencer wood products co. il Bsns W p89-90 N 4 '50

CLOTHING, Protective

Aluminum fire suit. il Light Metal Age 9:22 Je '51

Clothing protects rocket fuel handlers. Aviation W 54:34 Ja 15 '51

Man in white fuels rockets for flight into wild blue. il Chem Eng 58:207-8 F '51

New safety uniform puts accent on curves; for women workers in army arsenal. il Bsns W p38+ Ap 7 '51

New trends in body and leg protection. il Safety Maint & Prod 101:24-5+ Ja '51

Safety clothing. il Nat Safety N 63:94 Mr '51

Safety clothing of Geon vinyl chloride resin. il Mod Plastics 28:165 Ap '51

Safety clothing; protection against dangers in handling liquid rocket propellants afforded to U.S. air force ground crews. il Mod Plastics 28:163 Jl '51

Semantical strike; Chrysler workers won't wear smocks. il Bsns W p40-1 Je 9 '51

Veto the protective clothing veto. C. R. Reid. Safety Maint & Prod 100:14-15+ D '50

CLOTHING, Protective—*Continued*

What to wear, when to wear it; chart. Nat Safety N 63:9 Mr '51

See also

Shoes, Safety

CLOTHING and dress

Clothing an expanding population. D. Traill. bibliog Textile Inst J 42:P221-36 Je '51

See also

Clothing, Protective
Costume
Fashion
Hosiery
Pajamas
Textile fabrics
Underwear
United States—Army —Clothing
Women's apparel
Work clothes

Hygienic aspects

Thermal efficiency of clothing. Can Min J 72:65 Ag '51

Warm clothes. M. E. Barker. il Sci Am 184:56-60 Mr '51

CLOTHING stores

See also

Women's apparel shops

CLOTHING trade

All wrapped up in synthetics. il Bsns W p75-6 N 18 '50

New deal in clothing; advent of the new synthetic fibers. Rayon 32:78+ S '51

Some problems in distribution. Lord Hollenden. Textile Inst J 41:P701-6 S '50

See also

Fashion
Garment industry
Sportswear
Work clothes

Advertising

Builds campaign around localized outdoor postings; hidden product advertised to consumers; Reeves army twill. il Ptr Ink 234:36-7 Ja 12 '51

Hart Schaffner & Marx takes dealers inside newspapers. G. A. Brandenburg. Ed & Pub 84:22 Jl 28 '51

How to put more personality into your advertising. il Ptr Ink 236:36-7 Ag 24 '51

(R)obert (H)all factor in pipe rack success. R. B. McIntyre. Ed & Pub 84:20 S 8 '51

Stitch in time urged to bag clothing ads. R. B. McIntyre. Ed & Pub 84:16 Jl 7 '51

Two different treatments visualize hard-to-define quality of product; Don Richards line of men's suits. il Ptr Ink 233:29 N 3 '50

See also

Overalls—Advertising
Underwear—Advertising

Labor conditions

Employment outlook in men's tailored clothing industry. il U S Bur Labor Statistics Bul 1010:1-32; pa 25c Supt. of doc. '51

Men's dress shirts and nightwear; effect of minimum wage. J. F. Walker. Mo Labor R 73:166-70 Ag '51

Statistics

Apparel stocks high; with table of personal consumption expenditures for apparel, 1929-1950. Survey of Cur Bsns 31:2-3 Ag '51

Men's wear market gains above retail average 1939-1948. Sales Management 65:82+ N 20 '50

Retail trade, 1948, for metropolitan areas. Ptr Ink 235:114+ My 25 '51

Great Britain

Utility clothing prices. Economist 160:1469-70 Je 16 '51

CLOUD chambers

Cloud-chamber analysis of stopped particles in the sea-level cosmic radiation. G. M. Nonnemaker and J. C. Street. diags Phys R 82:564-5 My 15 '51

Cloud-chamber observations of the neutral *V*-particle disintegration. R. W. Thompson and others. il Phys R 83:175 Jl 1 '51

Cloud-chamber study of nuclear interactions in lead and aluminum. B. P. Gregory and J. H. Tinlot. bibliog il diags Phys R 81:667-82 Mr 1 '51

Cloud-chamber study of the new unstable particles. H. S. Bridge and M. Annis. il Phys R 82:445-6 My 1 '51

Cloud-ionization chamber for the study of cosmic-ray nuclear interactions. H. W. Lewis and others. bibliog il diags R Sci Instr 22:259-63 Ap '51

Continuously sensitive cloud chamber. T. S. Needels and C. E. Nielsen. il R Sci Instr 21:976-7 D '50

Continuously sensitive diffusion cloud chambers. E. W. Cowan. il diag R Sci Instr 21:991-6 D '50

Cosmic-ray showers; scintillation counters; cloud chambers; abstracts of papers at American physical society meeting. Phys R 81:322-5 Ja 15 '51

Design of permanent magnets for cloud-chamber work. R. P. Shutt and W. L. Whittemore. diags R Sci Instr 22:73-6 F '51

Diffusion cloud chambers. C. E. Nielsen and others. il diags R Sci Instr 22:673-7 S '51

New cloud chamber operates on continuous basis. Chem & Eng N 29:568 F 12 '51

Nuclear interactions in gold of secondary particles emitted in penetrating showers. A. J. Hartzler. il diags Phys R 82:359-72 My 1 '51

Operation of a diffusion cloud chamber with hydrogen at pressures up to 15 atmospheres. D. H. Miller and others. il R Sci Instr 22:280 Ap '51

Penetrating showers in carbon. J. R. Green. bibliog diag Phys R 80:832-41 D 1 '50

Properties of particles producing high energy nuclear collisions in gold. M. B. Gottlieb. il diags Phys R 82:349-58 My 1 '51

Range-momentum measurements for electrons in gases. G. F. O'Neill and W. T. Scott. il Phys R 80:473 N 1 '50

Recipe for cloud chamber. Sci Am 184:29-30 Ja '51

See also

Wilson cloud chamber

CLOUD point

Diesel oil cold tests and method for cloud point determination. Y. C. Young. bibliog il diag Pet Eng 23:C40+ S '51; Same abr. Oil & Gas J 50:121 My 31; 115 Je 7 '51

CLOUD seeding. See Rain making

CLOUDS

Cloud base and top indicator. il Electronics 23:190+ D '50

Instruments for cloud research. Engineering 171:96 Ja 26 '51

CLOVER

Crop and soil reactions to applications of hydrofluoric acid. W. H. MacIntire and others. bibliog il Ind & Eng Chem 43:1800-3 Ag '51

CLUBS

See also

Foremen's clubs
4-H clubs

CLUBS, Merchandizing

Book trade hits new trouble; with FTC. il Bsns W p47-8+ Jl 28 '51

Club plan of selling; what it is, how it operates. E. A. Malloy. Sales Management 66:76+ My 1 '51

Electronic accounting for small orders; Doubleday's book clubs. J. Garth. il Am Bsns 20:14-15 O '50

How to get action by mail; International gift of the month club. W. J. Granberg. il Ptr Ink 236:41-2 S 7 '51

CLUSIUS, Klaus, 1903-

Sketch. R. E. Oesper. por(front) J Chem Educ 28:321 Je '51

CLUTCHES

Accessibility features clutch and brake unit. il diag Product Eng 22:192 Je '51

Aluminum cone clutch put in press line. il Am Mach 94:148 N 27 '50

Clutches can give you versatility in power transmission. J. E. Hyler. il Mill & Factory 48:88-92 F '51

Construction details of over-riding clutches; drawings with text. A. DeFeo. Product Eng 21:148-9 N '50

Determination of dynamic coefficient of friction for transient conditions. G. G. Gould. A S M E Trans 73:649-54 Jl '51; Excerpts. Machine Design 23:153-4 Ja '51

Electric brakes and clutches. il diag Product Eng 22:174-5 My '51

High-speed crystal clutch uses nearly zero current. Elec Eng 70:943 O '51

Magnetic particle and hysteresis clutches for servo systems. il Product Eng 22:176-7 Jl '51

CLUTCHES—*Continued*

Shifting sleeve for clutch reduces friction wear. il diags Product Eng 22:181 F '51

See also

Automobiles—
Clutches

CLUTCHES, Magnetic

Developing seals for abrasive-fluid mixtures. J. Rabinow. il diags Machine Design 23:128-31 Je '51

Electromagnetic clutching and braking units. diags Mach 57:198 My '51

Electromagnetic devices. diag Mech Eng 72:1001-2 D '50

Further developments of the NBS magnetic fluid clutch. Marine Eng 56:63 F '51

Generator output controlled by magnetic clutch. il Machine Design 23:138 Mr '51

Graphite powder transmits torque; illustration and diagrams with text. Product Eng 22:100 Mr '51

Improved magnetic fluid clutch; illustrations and drawings with text. Product Eng 22:114-16 Ap '51

Magneclutch permits two speed drive. il diag Product Eng 22:161 Mr '51; Steel 128:72 F 19 '51

Magnetic fluid and electromagnetic clutches. diags Product Eng 22:172 My '51

Magnetic fluid clutch. il diags Mech Eng 73:328-30 Ap '51

Magnetic fluid clutch. S. F. Blunden. il diag Engineer 191:244-6 F 23 '51

Magnetic-particle power clutch. P. H. Trickey and W. G. Martin, 3d. il diags Elec Eng 70:57-9 Ja '51

New magnetic clutches use iron-graphite mixture. diags Automotive Ind 103:86+ D 15 '50; Iron Age 166:67 N 23 '50; Steel 127:102 D 4 '50

COAGULATION

Coagulation effects of thorium nitrate on aqueous sols of silver halides in statu nascendi. B. Težak, E. Matijevič and K. Schulz. bibliog Am Chem Soc J 73:1602-9 Ap '51

Coagulation isotherm of thorium. J. D. Kurbatov and A. M. Silverstein. J Phys & Colloid Chem 54:1250-2 N '50

Modern colloidchemical concepts of the phenomenon of coagulation. E. A. Hauser. bibliog diag J Phys & Colloid Chem 55:605-11 Ap '51

COAL

ASME-AIME joint fuels conference, Cleveland, Oct. 24-25. Coal Age 55:140-1+ D '50

Coal-heating value from ultimate analysis; chart; data sheet. J. F. Hyam. Power 95:138 F '51

Coal still leading as household fuel. E. R. Abrams. Barron's 31:26 Je 25 '51

Coal's possibilities in the next ten years. J. Pursglove, jr. Manuf Rec 120:42-3 S '51

Design of large boiler plant for using high-ash coal. W. G. Marskell. Engineering 172:189-90 Ag 10 '51; Same abr. Engineer 192:218-19 Ag 17 '51

Humic acids from coal; controlled air-oxidation of coals and carbons at 150° to 400° C. L. D. Friedman and C. R. Kinney. bibliog Ind & Eng Chem 42:2525-9 D '50

Power handbook; fuels and combustion. P. W. Swain, comp. Power 95:86-9 Jl '51

Selection and use of anthracite for cupola fuel. C. C. Wright. il Foundry 79:96-7+ Mr '51

Simultaneous firing of Midwest coal and natural gas. diags Power Eng 55:80-1 Ag '51

Structure of coal; new Belgian evidence for a molecular entity. bibliog Chem Age (Lond) 65:147-8+ Ag 4 '51

Use of high-ash coals in the electricity-supply industry. A. A. Taylor. Engineering 172:188 Ag 10 '51

Will mixing sawdust with coal in bunker increase fire danger? Power Eng 55:85-6 Jl; 93-4 Ag '51

See also

Boilers—Firing
Coal burning equipment and other headings beginning Coal
Lignite
Locomotives—Fuel

Analysis

Converting proximate to ultimate analysis; coals used in steam generation; data sheet. E. O. Smith. Power 95:152 Jl '51

Determination of carbon dioxide in coal. W. C. Thomas and H. C. Wilkinson. bibliog diags Soc Chem Ind J 69:306-9 O '50

Distribution of minor elements in vitrain; three vitrains from the Barnsley seam. L. Horton and K. V. Aubrey. bibliog Soc Chem Ind J 69(sup no 1):S41-8 '50

Methods of analyzing coal and coke. A. C. Fieldner and W. A. Selvig. bibliog il diags U S Bur Mines Bul 492:1-51; pa 50c Supt. of doc. '51

Observations on the inefficacy of a desiccator in determining the moisture in coal. R. Belcher and R. A. Mott. diags J Ap Chem 1:204-9 My '51

Study of coal analysis from the standpoint of the user. F. M. Reiter. il diag Power Eng 55:68-73+ F '51

Ash content

Preparation characteristics of some coals available for the synthetic liquid fuels industry. T. Fraser and others. U S Bur Mines Bul 495:1-132; pa 50c Supt. of doc. '50

Chemistry

A.C.S. Division of gas and fuel chemistry jubilee meeting, New York; techniques in research on coal and related products. Chem & Eng N 29:3825-6 S 17 '51

Chemical progress during the 75 years of the American chemical society; gas and fuel chemistry. A. C. Fieldner, A. W. Gauger and G. R. Yohe. bibliog il Ind & Eng Chem 43:1039-48 My '51

Nuclear structure of the water-soluble polycarboxylic acids from oxidation of bituminous coal. C. H. Ruof, T. R. Savich and H. C. Howard. Am Chem Soc J 73:3873-9 Ag '51

Versatile coal; more data on a valuable chemical storehouse. bibliog Chem Age (Lond) 64:95-8 Ja 13 '51

Geology

Metamorphism of coal. A. Lahiri. bibliog Econ Geol 46:252-66 My '51

Petrography of American lignites. B. C. Parks. il map diag Econ Geol 46:23-50 Ja '51

Type of boghead coal from Illinois. R. M. Kosanke. bibliog Am J Sci 249:444-50, pl 1 Je '51

Moisture content

Observations on the inefficacy of a desiccator in determining the moisture in coal. R. Belcher and R. A. Mott. diags J Ap Chem 1:204-9 My '51

Nitrogen content

Abundance of N^{15} in the nitrogen present in crude oil and coal. P. V. Smith, jr. and B. E. Hudson, jr. Science 113:577 My 18 '51

Testing

Carbonizing properties; Pocahontas no. six, Davy Sewell, and Fire Creek coals from West Virginia and upper and lower Kittanning and upper and lower Freeport coals from Pennsylvania. J. D. Davis and others. 7pls U S Bur Mines Bul 496:1-42 bibliog(p40-2); pa 30c Supt. of doc. '50

Carbonizing properties; West Virginia coals from the Eagle, no. 2 gas, Pocahontas no. 3, and Pocahontas no. 4 beds. J. D. Davis and others. bibliog il U S Bur Mines Bul 493:1-39; pa 30c Supt. of doc. '50

Comparison of BM—AGA and slot oven experimental methods of carbonization, with results for eleven coals. J. D. Davis and others. bibliog il U S Bur Mines Bul 480:1-37; pa 20c Supt. of doc. '50

Investigation of the abrasiveness of coal and its associated impurities. H. F. Yancey and others. bibliog il Min Eng 3:Trans 262-8 Mr '51

Significance of laboratory tests of coal and coke for combustion. J. F. Barkley, comp. U S Bur Mines Information Circ 7619:1-46 '51

Survey of carbonizing properties of American coals, Bureau of mines Coal-carbonization laboratory, 1949-50. J. D. Davis. Am Gas Assn Proc 1950:402-9

COAL—*Continued*

Transportation

Belt conveyors, coal pipelines; a start in 1951? Steel 128:41 F 19 '51

Coal pipeline. Heat & Ven 48:124+ Ap '51; diag Coal Age 56:127 Mr '51

Forty-ton coal haulers at Harmattan mine; with cost data. L. E. Briscoe and A. S. McClimon. il Min Cong J 37:40-4 Mr '51

Integrated coal barge fleet for Central barge company placed in service on upper Mississippi. il Marine Eng 55:56-7 N '50

Moving coal by pipeline; Pittsburgh Consol will build demonstration line. Bsns W p25 F 17 '51

Norfolk & Western turns coal to gold. map Bsns W p 112-14+ N 18 '50

Outlook for the coal roads. H. G. Smyth. Comm & Fin Chr 174:1354 O 11 '51

Pipeline to move coal to be constructed in Ohio. Elec World News ed 135:13 F 19 '51

Transportation of coal by pipeline studied. Chem & Eng N 29:3469 Ag 20 '51

Illinois

Type of boghead coal from Illinois. R. M. Kosanke. bibliog Am J Sci 249:444-50, pl 1 Je '51

Kentucky

Estimate of known recoverable reserves of coking coal in Floyd county, Ky. J. J. Dowd and others. 6pls U S Bur Mines Rep of Invest 4813:1-16 '51

New Mexico

Miller gulch and Cook & White coal beds near Cerrillos, Santa Fe county, N. Mex.; reserves; coking, petrographic, and chemical properties. L. A. Turnbull and others. bibliog 5pls U S Bur Mines Rep of Invest 4814:1-29 '51

Pennsylvania

Carbonizing properties; Pocahontas no. six, Davy Sewell, and Fire Creek coals from West Virginia and upper and lower Kittanning and upper and lower Freeport coals from Pennsylvania. J. D. Davis and others. 7pls U S Bur Mines Bur 496:1-42 bibliog(p40-2); pa 30c Supt. of doc. '50

Estimate of known recoverable reserves of coking coal in Indiana county, Pa. J. J. Dowd and others. 5pls U S Bur Mines Rep of Invest 4757:1-22 '50

Preparation characteristics of coal from Fayette county, Pa. W. L. Crentz and others. 37pls U S Bur Mines Rep of Invest 4815:1-16 '51

Preparation characteristics of coal occurring in Armstrong county, Pa. W. L. Crentz and others. 17pls U S Bur Mines Rep of Invest 4788:1-25 '51

Preparation characteristics of coal occurring in Cambria county, Pa. W. L. Crentz and F. Steele. 19pls U S Bur Mines Rep of Invest 4747:1-40 '50

Preparation characteristics of coal occurring in Indiana county, Pa. W. L. Crentz and others. 20pls U S Bur Mines Rep of Invest 4763:1-33 '51

United States

Appraisal of minable coking-coal reserves in the United States. A. L. Toenges. Iron & Steel Eng 28:101 My '51

Petrography of American lignites. B. C. Parks. il map diag Econ Geol 46:23-50 Ja '51

West Virginia

Carbonizing properties; Pocahontas no. six, Davy Sewell, and Fire Creek coals from West Virginia and upper and lower Kittanning and upper and lower Freeport coals from Pennsylvania. J. D. Davis and others. 7pls U S Bur Mines Bul 496:1-42 bibliog(p40-2); pa 30c Supt. of doc. '50

Carbonizing properties; West Virginia coals from the Eagle, no. 2 gas, Pocahontas no. 3, and Pocahontas no. 4 beds. J. D. Davis and others. bibliog U S Bur Mines Bul 493:1-39; pa 30c Supt. of doc. '50

COAL, Pulverized

Density control of coal charged to coke ovens. C. W. Stahl and J. K. Kurtz. il Iron & Steel Eng 28:93-9; Discussion. 99-101 My '51

How should small plant store and handle high-moisture coal? D. M. Given. Power Eng 55:99 Je '51

Laboratory-scale work on synthesis-gas production. J. J. S. Sebastian and others. bibliog 21pls U S Bur Mines Rep of Invest 4742:1-41 '51

Morgantown fluidized feeder. J. H. Holden and C. W. Albright. il diags Am Gas Assn Proc 1950:493-500

Moving coal by pipeline; Pittsburgh Consol will build demonstration line. Bsns W p25 F 17 '51

Pilot-plant gasification of pulverized coal with oxygen and highly superheated steam. G. R. Strimbeck and others. bibliog 45pls U S Bur Mines Rep of Invest 4733:1-41 '50; Same. Am Gas Assn Proc 1950:501-63

Pressure drop in flow of dense coal-air mixtures. C. W. Albright and others. bibliog diag Ind & Eng Chem 43:1837-40 Ag '51

Pressure feeder for powdered coal or other finely divided solids. K. R. Barker and others. il diag Ind & Eng Chem 43:1204-9 My '51

Synthesis gas from pulverized coal, oxygen, and highly superheated steam is produced in pilot plant. L. D. Schmidt. flow sheet diags Am Gas J 175:10-14+ Jl '51

Technique for entraining fine powders in an air stream at a constant rate. B. R. Atkins. diag J Sci Instr 28:221 Jl '51

Preparation

Acoustic mill-feed controller. Electronics 24:136+ Jl '51

Crushers cinch fuel sizing, cleaning. T. Hicks. il diags Power 95:73-5 Jl '51

Feed controller for pulverised fuel mills. il Engineer 191:427-8 Mr 30 '51; Electrician 146:972-3 Mr 23 '51; Elec R (Lond) 148:973 My 11 '51

Fluid-energy pulverizer and its application to steam generation. L. D. Bechtel and G. M. Croft. il Blast F & Steel Pl 38:1190-2+, 1332-5 O-N '50; Same cond. Mech Eng 72:742-4 S '50

Pick the right coal crusher for better firing. T. Hicks. il diag Power 95:84-5 Ag '51

COAL age (periodical)

How to put Coal age to work for you. Coal Age 55:73-5 D '50

COAL as filter medium

Anthrafilt and rotary surface wash for filters. C. E. Palmer. il Water & Sewage Works 98:258-61 Je '51

COAL bins

Design of large coal bunkers. P. Rogers. bibliog diags Am Soc C E Proc 77[no 72]:1-12 Je '51

COAL burning equipment

Coal bids for fuel dominance with coal-burning gas turbine. Iron Age 166:84-5 O 26 '50

Coal-burning gas turbine. J. I. Yellott. Mech Eng 73:582-3 Jl '51

Coal-burning gas-turbine moves ahead. J. I. Yellott and others. il diags Ry Age 130:39-43 Je 18 '51

Coal-burning gas turbine steps ahead fast in 1950 and 1951. J. I. Yellott. il diags Power Eng 55:60-3 Jl '51

Efficiency of bituminous-coal-burning space heaters. J. W. Tieman and F. L. Bagby. diags Heating-Piping 23:117-23 F '51

Industry mobilization; coal utilization; American mining congress Coal division annual meeting, Cleveland, May 14-17; abstracts of papers. Min Cong J 37:80-2 Je '51

Tests of coal-burning gas turbine under way; abstracts. J. I. Yellott and others. il diags Ry Mech & Elec Eng 125:49-54 Jl '51; Power 95:104-7 Je; 90-1 Ag '51

COAL cleaning

Air cleaning for better fuel. il plan diag Coal Age 56:96-8 Jl '51

Complex materials-handling problems solved at new Concord mine and plant. Coal Age 56:85-6 Ja '51

Demand for high quality coal taxes mechanical cleaning units. J. Griffen. flow sheet Steel 129:84+ Jl 2 '51

Georgetown preparation plant. flow diag il Coal Age 56:78-83 S '51

Laboratory performance tests of the Humphreys spiral as a cleaner of fine coal. M. R. Greer and others. bibliog il diag Min Eng 187:Trans 1057-67 O '50; Discussion. 187:Trans 1160-2 N '50

COAL cleaning—*Continued*

Largest bituminous coal cleaning plant begins operations. il Min Cong J 37:20-3 Ag '51

Mechanical cleaning plants; abstract. F. P. Calhoun. Coal Age 56:194+ F '51

Modern coal cleaning in Pittsburgh area; abstracts. R. P. Bremer. Steel 128:98+ My 28 '51; flow sheet Iron & Steel Eng 28:127-9 Ag '51

Mountaintop coal cleaning. W. F. Deaderick and M. E. Haworth. flow sheet il Coal Age 56:86-9 Ap '51

Operating factors in heavy-media processing. L. J. Erck. il Min Cong J 37:88-91 Ap '51

Quantitative efficiency of separation of coal cleaning equipment. W. W. Anderson. Min Eng 187:Trans 256-64 F '50; Discussion. 187: Trans 1162-6 N '50

Rheolaveur system of fine coal cleaning. J. Griffen. Min Eng 187:Trans 1137-8 N '50

Trends in coal cleaning. J. Griffen. flow sheets il diags Coal Age 56:96-102 Ap '51

See also

Coal preparation

COAL cutters

Anthracite mechanical mining investigations; preliminary testing of Korfmann universal shearing machine, model SK 20. J. W. Buch and A. Allan, jr. 14pls U S Bur Mines Rep of Invest 4794:1-11 '51

Anthracite mechanical mining investigations; status of Bureau of mines underground experimental work with lightweight shearing machines in pitching anthracite beds. J. W. Buch and others. 7pls U S Bur Mines Rep of Invest 4798:1-11 '51

Equipment, methods and results in planer mining. E. Anderheggen. il diags Coal Age 55:90-7 N '50

COAL distillation

Carbonizing properties; Pocahontas no. six, Davy Sewell, and Fire Creek coals from West Virginia and upper and lower Kittanning and upper and lower Freeport coals from Pennsylvania. J. D. Davis and others. 7pls U S Bur Mines Bul 496:1-42 bibliog(p40-2); pa 30c Supt. of doc. '50

Chemical engineering unit processes fourth annual review; pyrolysis of coal and shale. C. H. Prien. il Ind & Eng Chem 43:2006-15 bibliog(277 ref, p2013-15) S '51

Comparison of BM—AGA and slot oven experimental methods of carbonization, with results for eleven coals. J. D. Davis and others. bibliog il U S Bur Mines Bul 480: 1-37; pa 20c Supt. of doc. '50

Less pressure, more product; continuous coal tar distillation reduces cracking and formation of carbon during final distillation. il Chem W 69:29 Jl 14 '51

Lignite process hits the mark; turns out crude tars and a char fuel. il diag Chem Eng 58:219+ S '51

Preparation of highly reactive chars from coal and their interaction with sulphur. W. J. Kramers. bibliog diag J Ap Chem 1:189-95 My '51

Disco process

Insulating at service temperatures eliminates cracking; carbonizers at Disco corp. Iron Age 167:89 My 17 '51

COAL drying

Approximate method of predicting and comparing expected results when dewatering coal by centrifuges. O. R. Lyons. bibliog Min Eng 3:Trans 417-25 My '51

Drying wet-washed fine coal. E. R. McMillan. il diag Min Cong J 37:28-31 Ag '51

Fines dried efficiently; central preparation plant of the Northwestern improvement co. il Coal Age 56:90-1 Mr '51

Operating data for a Bird centrifuge. A. C. Richardson and O. R. Lyons. Min Eng 187:Trans 381-4 Mr '50; Discussion. 187: Trans 1166-7 N '50

Wyoming pilot-plant studies develop efficient method for drying fine coal. il Coal Age 55: 154 D '50

COAL dust

Bag filter system saves 25 tons of coal dust per day; coal pulverizing mills at East River generating station of Consolidated Edison co. of New York. il diag Elec World 135:107-8 My 7 '51

Coal workers' pneumoconiosis. A. G. Heppleston. bibliog il A M A Archives Ind Hygiene & Occup Med 4:270-88 S '51

Effect of bituminous coal dust and smoke on the lungs; animal experiments; effects on susceptibility to pneumonia. F. J. Vintinner and A. M. Baetjer. A M A Archives Ind Hygiene & Occup Med 4:206-16 S '51

How air-borne dust is reduced by pillar-soaking at Kenilworth. il plan Coal Age 56: 100-2 Ag '51

COAL handling

Barge unloader lowers handling costs. E. M. Hays. il diag Power 95:83-5 Je '51

Coal-fired steam-generating plant is clean and efficient. E. D. White. il Textile World 101:116-17+ Je '51

Developments in the design of coal and ore bridges. B. A. Rose. il diags Iron & Steel Eng 27:60-4; Discussion. 64-5 O '50

Elevated shuttle conveyor loads 26 cars without spotting. il Coal Age 56:104 Jl '51

How can we stop bunker coal jams? T. Hicks. il diags Power 95:138-9 Je '51

Trolley cable solves barge handling problem at Philip Sporn plant. P. T. Schneider. diag Elec World 135:70 Ja 1 '51

COAL lands

See also

Coal mines and mining

COAL liquefaction

Catalyst evaluation and middle oil preparation in an experimental high pressure coal hydrogenation plant. H. J. Kandiner, R. W. Hiteshue and E. L. Clark. flow diag plan diags Chem Eng Prog 47:392-6, 455-61 Ag-S '51

Characterization of tar acids from coal-hydrogenation oils. E. O. Woolfolk and others. U S Bur Mines Bul 487:1-56; pa 35c Supt. of doc. '50

Coal hydrogenation catalysts; studies of catalyst distribution. S. Weller and M. G. Pelipetz. bibliog Ind & Eng Chem 43:1243-6 My '51

Coal industry in the modern crisis. J. C. O'Mahoney. il Min Cong J 37:34-5+ Je '51

Coal-plant snag; Eberstadt project. Bsns W p 163 S 15 '51

Coal to oil at coal-hydrogenation demonstration plant of the Bureau of mines. Louisiana, Mo. Mech Eng 73:657 Ag '51

Hydrogenation of coal at high temperatures (report no. 3). C. H. Stockman and J. L. Bray. bibliog Purdue Univ Eng Exp Sta, Research Ser 111:1-44 '50

Kinetics of coal hydrogenation. S. Weller, M. G. Pelipetz and S. Friedman. bibliog Ind & Eng Chem 43:1572-9 Jl '51

Output of coal hydrogenation plant reaches 250 barrels per day; illustrations. Chem & Eng N 28:3900-1 N 6 '50

Preparation characteristics of some coals available for the synthetic liquid fuels industry. T. Fraser and others. U S Bur Mines Bul 495:1-132; pa 50c Supt. of doc. '50

Recovery of sulfur from synthesis gas. A. E. Sands and L. D. Schmidt. bibliog flow diag il Ind & Eng Chem 42:2277-87 N '50

Role of oxygen in the production of synthetic liquid fuels from coal. H. R. Batchelder and others. bibliog 3pls U S Bur Mines Rep of Invest 4775:1-15 '51

Synthesis gasoline plant will start in South Africa. Mech Eng 73:581-2 Jl '51

Synthetic fuel; F. Eberstadt & co. proposed coal hydrogenation plant. Bsns W p27 Ag 11 '51

Synthetic liquid fuel; British and American research; abstract and discussion. C. C. Hall. Chem Age (Lond) 64:385-6 Mr 10 '51

Synthetic liquid fuels; annual report of the Secretary of the interior for 1950; oil from coal. 66pls U S Bur Mines Rep of Invest 4770:1-74 bibliog(p72-4) '51

Bibliography

Bibliography of pressure hydrogenation; review and compilation of the literature on pressure hydrogenation of liquid and solid carbonaceous materials. J. L. Wiley and H. C. Anderson. U S Bur Mines Bul 485:1-306; pa $1.25 Supt. of doc. '50

COAL loading machines

Characteristics of mechanized mining sections. A. W. Asman and A. W. Bitner. plans Min Eng 3:Trans 803-8 S '51

Converted loaders 50 per cent better; converting track machines to rubber tires. il diag Coal Age 56:92-3 Mr '51

Loader and cleaner sales. W. H. Young and R. L. Anderson. Coal Age 56:85-7 F '51

COAL miners

Coal employment and wages; bituminous production; tabulation. Iron Age 167:316 Ja 4 '51

Confidence in Moses pays dividends in peace; coal grants voluntary wage hike. J. Delaney. Iron Age 167:80-1 Ja 25 '51

Employe magazine; Peabody coal co. G. Van Hagen. il Min Cong J 37:54-7 My '51

Making meetings pay. E. A. Lynch. Coal Age 56:90-1 Jl '51

Outlook for union relations. Coal Age 55:62-6 N '50

Supervisory officials and labor relations. C. J. Flippen. il Min Cong J 37:30-3 Jl '51

Training for better mining; technical institute proposed for coal mine maintenance men and machine operators. il Coal Age 56:70-5 Je '51

Union Pacific fetes miners and wives. il Coal Age 55:128 N '50

Voluntary amendment boosts bituminous wages. Coal Age 56:139+ F '51

See also

United mine workers of America

Diseases and hygiene

Coal workers' pneumoconiosis. A. G. Heppleston. bibliog il A M A Archives Ind Hygiene & Occup Med 4:270-88 S '51

Great Britain

Enhancing status of miners. C. H. Hartwell. Can Min J 72:73 Mr '51

Fuel in the fifties; how many miners? Economist 160:209-10 Ja 27 '51

Pensions in nationalised industry; summary of Acton Society Trust pamphlet. Economist 160:1151-2 My 19 '51

Ring up the curtain; Italian miners in British coal pits. Economist 159:868-9 N 25 '50

United States

Lewis' welfare plan stumbles again. il Bsns W p36+ My 12 '51

Wage chronology, bituminous-coal mines; supplement number one. Mo Labor R 72: 676-8 Je '51

COAL mines and mining

AIME Central Appalachian meeting, Middlesboro, Ky. June 15-16. Coal Age 56:130+ Ag '51

AIME Coal division annual meeting, St Louis, Feb. 19-21; with abstracts of papers. Coal Age 56:128-9+ Ap '51

American mining congress, Coal division annual conference of committees, Pittsburgh, Nov. 9; with abstracts of papers. Min Cong J 36:44-50 D '50

American mining congress, Coal division annual meeting, Cleveland, May 14-17; with abstracts of papers. Coal Age 56:100-11 Je '51; Min Cong J 37:58-82 Je '51

Chieftain 20 story. flow sheet il diag Coal Age 56:60-9 Ja '51

Coal; annual review. C. F. Hardy and D. R. Mitchell. il Min Eng 190:126-8 F '51

Coal mining institute of America 64th annual meeting, Pittsburgh, Dec. 14-15; with abstracts of papers. Coal Age 56:146-7+ F '51

Controlling underground curves with offset line plugs. D. C. Shewmon. Coal Age 56: 116+ F '51

Dewatering flooded mine; Packer colliery. Duryea anthracite co. il plan diag Coal Age 55:98-100 N '50

Getting ahead with ideas; how can you get ideas in coal mining? Coal Age 55:70-3 D '50

Illinois mining institute 58th annual meeting, Springfield, Nov. 17. Coal Age 56:124+ Ja '51

Kentucky mining institute 11th annual meeting, Lexington, Nov. 10-11. Coal Age 56: 121+ Ja '51

Making high-quality fuel; Elliot coal mining co. il Coal Age 56:96-9 Ag '51

Mining progress in 1950. il Coal Age 56:80-4 F '51

1950, new start for coal. il Coal Age 56:74-9 F '51

Pleasant View story. flow sheet il diags Coal Age 55:68-81 N '50

Porter tunnel will open up ten million tons of coal for Philadelphia & Reading. E. F. Young. il diag Min Eng 3:223-5 Mr '51

Rocky Mountain coal mining institute 47th meeting, Salt Lake City, June 7-9. Coal Age 56:132-3+ Jl '51

Roof-bolting benefits ventilation; with cost data. W. D. Meakin. il diags Min Cong J 37:41-3 Ja '51

Roof bolts up efficiency 50 per cent. il Coal Age 56:86-8 S '51

Two groups hold joint W. Va. meet; Central Appalachian section, AIME and West Virginia coal mining institute, White Sulphur Springs, Nov. 25-26. Coal Age 56:122+ Ja '51

West Virginia coal mining institute summer meeting, Bluefield, June 22-23. Coal Age 56:132+ Ag '51

What's ahead in coal mining. il Coal Age 56:70-3 My '51

See also

Coal miners

Accidents and explosions

Analysis of haulage fatalities in bituminous-coal mines in 1950. M. J. Ankeny and D. S. Kingery. U S Bur Mines Information Circ 7604:1-28 '51

Coal mines set new safety marks in 1950; abstract. O. V. Simpson. Nat Safety N 63: 126-7 My '51

Falls of roof; the number one killer in bituminous-coal mines. J. J. Forbes and others. U S Bur Mines Information Circ 7605:1-11 '51; il Excerpts. Coal Age 56:100+ Jl '51; Abstract. Mo Labor R 73:180-2 Ag '51

Mine accidents. Engineering 171:352 Mr 23 '51

Physiological aspects of electrical accidents in the coal-mining industry. S. J. Davenport and G. G. Morgis. bibliog U S Bur Mines Information Circ 7620:1-19 '51

Safety in mines. A. Bryan. Engineering 171: 608-10 My 18 '51

Safety, new high in 1950. F. T. Moyer. Coal Age 56:88-9 F '51

Blasting

Delay-type air shooting saves time and increases safety. il diags Coal Age 56:92 Ja '51

Shooting with millisecond connectors. il diags Coal Age 56:86-9 Je '51

Electric equipment

Ac power cables in coal mines. R. C. Givens. il diags Min Cong J 37:21-3+ Ja '51

Changing power requirements of mechanized mining. C. B. Peck, jr. Coal Age 55:80-1 D '50

Determining trolley-locomotive position for maximum voltage drop with current from three sources. M. H. Hall. Coal Age 56:104 Ag '51

Drum controller, what it is and what it does. diags Coal Age 56:102+ Mr '51

Five years of trouble-free operation marked up with gas-filled transformer. il Coal Age 55:67 N '50

Grounding and circuit protection. C. R. Huffman. il diags Min Cong J 37:48-51+ Jl '51

How to insure full protection with electrical safety devices. F. J. Bucher. il diags Coal Age 56:89-95 S '51

Mine cable splicing. diags Min Cong J 36:48-51 N '50

New cable-splicing method. C. Conrad. il Coal Age 56:70-3 Ja '51

Safe communication in inflammable gas or vapour hazards. R. C. Woods. Inst E E Proc 98 pt 1:12-13 Ja '51; Abstract. Elec R (Lond) 147:594 O 20 '50

Six years experience with operation maintenance of mercury arc rectifiers. J. A. Dunn. il Min Cong J 37:52-3 S '51

Telephony in mines. R. C. Woods. Elec R (Lond) 147:594 O 20 '50

COAL mines and mining—Electric equipment—*Continued*

Trolley phone in coal mining. E. Adams. il Min Cong J 37:35-7+ Mr '51

Equipment

Advances in underground transportation. P. R. Paulick. il Min Cong J 37:71-3 F '51
Air losses cut and roof and ribs protected by sealing with plastic film. O. C. Prickett. il Coal Age 56:98-100 Mr '51
Aluminum pipe in low coal. il Coal Age 56:81 Je '51
Complex materials-handling problems solved at new Concord mine and plant. flow sheet il diag Coal Age 56:80-6 Ja '51
Double deck slope serves Pleasant View; West Kentucky coal co. D. Read. il diag Min Cong J 36:42-4 N '50
Equipment show tops record; American mining congress, Coal division, Cleveland. il diags Coal Age 56:112-18+ Je '51
Exposition preview. Min Cong J 37:63-80 Ap '51
How Glen Alden coal co. employs a wood-preserving plant to get longer life from timber. E. M. Griffith. il diag Coal Age 56:74-6 Ja '51
How Vesta uses powder-power; installation of anchors for hanging wire, cable, pipe and equipment with powder-powered tool for shooting studs. il Coal Age 56:98-9 Je '51
Large clutch drum winder at Barnsburgh colliery. il diags Engineer 192:8-11 Jl 6 '51
Mechanical engineering at collieries. J. M. Reynolds. Inst Mech Eng Proc 162 no 4: 429-32, pl 1-2 '50
Modern machines and methods assure efficient trackless mining. J. H. Edwards. il plans diags Coal Age 56:80-5 My '51
Modern underground shop; Old Ben number nine mine. il plan Coal Age 56:92-5 Jl '51
Modern underground transportation. G. M. Rigg. il plans Min Cong J 36:27-9+ N '50
Modernizing for efficiency; Brophy coal co. il plan diag Coal Age 56:76-80 Ap '51
Modernizing Gay haulage. il Coal Age 55:98-100 D '50
Mountaintop coal cleaning. W. F. Deaderick and M. E. Haworth. flow sheet il Coal Age 56:86-9 Ap '51
1951 coal show; what's what in equipment. Coal Age 56:88-93 My '51
Price plant story. flow diags il map plan Coal Age 56:90-102 F '51
Sealing roof and stoppings; plastic film applied with spray gun. F. R. Zachar. il Coal Age 56:90-2 Ap '51
Settling of coal-breaker wash water prevents black-silt stream pollution. il diag Eng N 146:34-5 Mr 22 '51
Trackless mining at Lida B. il Coal Age 56:100-2 S '51
Turbine-pump installation slashes mine-drainage costs; New river co. il map diag Coal Age 56:84-8 Ag '51
Underground-haulage trends at bituminous mines. W. H. Young and R. L. Anderson. Coal Age 56:96-7 Je '51

See also
Coal cutters
Coal loading machines
Coal mining machinery
Coal tipples
Mine cars

Fires and fire protection

Colonial mine fire. W. D. Snell. il plan Coal Age 56:110+ S; 110+ O '51
Efficient trucks for underground fire-fighting. il Coal Age 56:106 S '51

Gas generation

Carbonizing underground coal beds. Power 95:134+ F '51
Fresh try at underground gasification. diags Chem Eng 58:182 Ap '51
Gorgas gasification test operates gas turbine; new-type firing planned. Coal Age 56:128+ Mr '51; Same. Mech Eng 73:421-2 My '51
Techniques for gasifying coal in place may fill future fuel requirements. C. O. Brown. Ind & Eng Chem 43:sup59A-60A+ Ap '51
Underground gasification; new experiments in Worcestershire. Chem Age (Lond) 64: 840 Je 2 '51
Underground gasification of coal in the United States. J. L. Elder and E. T. Wilkins. diags Engineering 171:513-15 Ap 27 '51
Unmined coal gasified by electric power. il Coal Age 55:130 D '50

See also
Gas manufacture—Coal mine gasification

Government operation

Pewee case; plant seizure jeopardized. Bsns W p30 My 5 '51

Haulage

See Mine haulage

Management

Benefits of supervisory training. R. B. Hewes. Coal Age 56:87-9 Ja '51
British collieries; planning and sinking of new shafts. A. Nelson. maps Can Min J 72:61-5 Mr '51
Foreman's role in labor relations. A. J. Bartlett. Coal Age 56:98+ Ja '51
How an efficient maintenance organization functions. D. G. Buchanan. il diag Min Cong J 36:25-7+ O '50
Make the eagle scream! two approaches to coal's problem of costs. Coal Age 56:104-5 Ap '51
Sage advice to mine foremen. J. J. Rutledge. il Explosives Eng 29:118-19 Jl '51

Methods

Alabama by-products corp. typifies trend to mechanized mining and coal preparation. H. J. Hager. flow sheets il diag Min Eng 187:1244-8 D '50
Auger mining underground. J. K. Berry. il Coal Age 56:74-7 S '51
Characteristics of mechanized mining sections. A. W. Asman and A. W. Bitner. plans Min Eng 3:Trans 803-8 S '51
Continuous-face mining. il plans Coal Age 56:76-80 Je '51
Economical panel mining; Renton number three mine, Pittsburgh coal co. il plans Coal Age 56:74-7 Ag '51
Greater coal production at Gorgas mine by roof bolting and continuous miner. M. H. Fies. flow sheet il plans Min Eng 187:1238-43 D '50
Lower cost coal to meet competition; improve direct mining operations. M. A. Evans. il Min Cong J 37:98-9+ Ap '51
Main entry development in low coal. W. D. Hawley. il diags Min Cong J 37:39-41 Je '51
Mining Kentucky coal for International harvester co. R. L. Talbert. il Explosives Eng 29:7-9+ Ja '51
Modern mechanical coal mining. J. L. Hamilton. il Min Cong J 37:36-9 F '51
Modern methods for recovering anthracite feature; operations at Porter tunnel. E. F. Young. il diags Coal Age 56:106-11 F '51
Multiple-seam mining. C. T. Holland. diags Coal Age 56:89-93 Ag '51
Operations at Island Creek coal company's latest underground mine development. N. T. Camicia. il Explosives Eng 28:144-7+ S '50
Pleasant View story. il diags Coal Age 55: 68-75 N '50
Primary and secondary mining with auger equipment. D. M. Bondurant. il Min Eng 3:Trans 431-5 My '51
Simultaneous vs consecutive working of coal beds. H. H. Hasler. il map diag Min Eng 3:Trans 436-40 My '51
Thick-seam mining in Utah; Knight-Ideal coal co. il plans Coal Age 55:76-9 D '50
Trackless mining improves ore production for TCI. L. H. Johnson. il plans diags Min Eng 187:1225-9 D '50

See also
Coal mines and mining—Stripping operations

Power

Ac power underground. D. Stoetzel, jr. il diags Coal Age 55:94-7 D '50
Coal mine power; current trends show continued growth in the application of electric power. Min Cong J 36:46-7 O '50
Coal plan; survey of power requirements Elec R (Lond) 147:827 N 24 '50

COAL mines and mining—Power—*Continued*

Colliery generating plant; Kingsbury colliery. il Elec R (Lond) 147:636 O 27 '50
Modernizing service to face units with mine power centers. H. S. Gates. il Coal Age 56:93-5 Ap '51
Power at the pithead. Economist 160:1254-5 My 26 '51
Power requirements for the continuous miner. F. R. Hugus. il Min Cong J 37:51-2 S '51
Relationship of electric power to coal mining. C. C. Darrah. il Min Cong J 37:50-1 S '51

Safety measures

Annual Holmes safety awards honor individuals and mining companies. Coal Age 56: 128+ Jl '51
British mark a century of progress in coal mine health and safety. V. S. Swaminathan. il Min Eng 187:1114-15 N '50
Chemechol; nonexplosive device for breaking down coal. Mech Eng 73:582 Jl '51; Same. Safety Maint & Prod 102:35 Jl '51
Chemical soup; Du Pont's Chemechol. Bsns W p 118 Ap 28 '51
Evaluation of safety-consciousness. S. M. Walker. Coal Age 56:108+ My '51
How air-borne dust is reduced by pillar-soaking at Kenilworth. il plan Coal Age 56: 100-2 Ag '51
How to insure full protection with electrical safety devices. F. J. Bucher. il diags Coal Age 56:89-95 S '51
Hudson coal company's Birdseye mine awarded Sentinels of safety trophy. il Explosives Eng 29:111-12+ Jl '51
Importance of eye protection in coal mining. W. J. Maher. il Coal Age 56:77-9 Ja '51
Mine inspectors' institute of America 41st annual meeting, Lexington, Ky. June 4-6. Coal Age 56:140-1+ Jl '51
National safety congress Coal mining section meeting, Chicago. Oct. 16-19. Coal Age 55: 136-7+ D '50
Pickands Mather & company honors Embarrass miners; Sentinels of Safety trophy awarded. il Explosives Eng 29:10-11 Ja '51
Practical points in maintaining safety; Union Pacific coal co. F. J. Peternell. Min Cong J 37:45+ Ag '51
Reliance number seven mine again wins safety honors. Explosives Eng 29:24-5+ Ja '51
Roof bolting in West Virginia. E. H. Brown and J. Bierer. il plans diags Min Cong J 37:31-5 My '51
Safety; American mining congress Coal division annual meeting, Cleveland, May 14-17; abstracts of papers. Min Cong J 37:76-8 Je '51
Safety and mine lighting. E. J. Gleim. il Min Cong J 36:36 O '50
Safety director uses postcards to sell safety on a family basis. Coal Age 56:94-5 Ag '51
Safety then and now. J. T. Ryan, jr. il Safety Maint & Prod 101:28-9+ Je '51
Safety under bad conditions; DeAngelis coal co. il Coal Age 55:88-91 D '50
Selling safety to new miners. il Coal Age 56:74-7 Jl '51
Shaft safety increased by three shop-made cage attachments. il Coal Age 56:108 Ap '51
Short-circuiting contactor as an electrical protective device for coal mine service. L. H. Harrison. 5pls U S Bur Mines Rep of Invest 4759:1-11 '51; Same. il diags Coal Age 56:83-7 Mr '51
Stevens shaft mine wins Sentinels of Safety trophy. Explosives Eng 28:188-9 N '50
Studies in acetylene flames; dangers associated with carbon monoxide produced from acetylene lamps in coal mines. A. P. C. Cumming and J. A. Horn. bibliog J Ap Chem 1:198-202 My '51

Statistics

Coal; how you get it and count it; ABC of what's behind some key statistics. il Bsns W p42-4+ Ap 14 '51

Stripping operations

Better overburden drilling. il Coal Age 56: 112-14 F '51
Buffalo Creek story. il Coal Age 55:82-7 D '50
Bulldozer stripping. il Coal Age 56:80-2 Jl '51
Chieftain 20 story. il diag Coal Age 56:60-4 Ja '51
Cutting strip-haulage costs. il Coal Age 56: 84-5 Ap '51
Double-shift strip loading. il Coal Age 56: 88-9 Mr '51
Forty-ton coal haulers at Harmattan mine; with cost data. L. E. Briscoe and A. S. McClimon. il Min Cong J 37:40-4 Mr '51
Giant shovels dig coal fast for Great Northern; illustrations with text. Bsns W p 106-7 Ja 20 '51
Maumee refines tandem plan. il diags Coal Age 56:84-5 S '51
Open-pit forum; annual review. H. N. Underhill. il Min Eng 3:226-7 Mr '51
Overburden preparation at Enos mine. W. J. Crawford. il Min Cong J 37:46-9 Ap '51
Quality and efficiency boosted in moving Osage strip. F. J. Foresman. il Coal Age 55:82-7 N '50
Shooting with millisecond connectors. il diags Coal Age 56:86-9 Je '51
Strip mining of coal. W. L. Burt. il Min Cong J 37:62-3 F '51
Strip-mining pillar coal. il Coal Age 56:98-9 My '51
Stripping Ohio coal at Cumberland no. three mine. J. H. Schindler, jr. il Explosives Eng 28:171-5+ N '50
Stripping progress; American mining congress, Coal division annual meeting, Cleveland; abstracts of papers. Coal Age 56:107-10 Je '51; Min Cong J 37:71-4 Je '51
Stripping waterlogged valleys; Strain coal co, Seattle, Washington. W. E. Crane. il plan diag Coal Age 56:94-7 Mr '51

Waste

Acid drainage from coal mines. S. A. Braley. Min Eng 3:Trans 703-7 Ag '51
Heavy-media plant for profitable bank reclamation. il diag Coal Age 56:96-9 S '51
Mellon institute bearish on abating mine wastes. Eng N 146:67 Je 21 '51

Waste disposal

No gob fires, more goodwill; fires in old piles smothered by stepping, trenching and earth-filling; Christopher coal co. division of Pittsburgh consolidated coal co. il Coal Age 56:90-3 Je '51

Alabama

T.C.I's Concord mine is world's most modern. il Manuf Rec 120:48 Ja '51

Belgium

Belgian mines and the Schuman plan. Economist 160:1569-70 Je 30 '51

Canada

Conditions and practices in the Canadian coal mining industry. A. Ignatieff and others. bibliog il map Can Min J 72:55-65 Ag; 74-81 S '51 (to be cont)

Germany

Mechanized cutting and face stripping in the Ruhr. R. R. Estill. il diags Min Eng 187: Trans 1260-6 D '50

Great Britain

Balancing the Board's books; Substitute for policy. Economist 160:338-9 F 10 '51
British collieries; planning and sinking of new shafts. A. Nelson. maps Can Min J 72:61-5 Mr '51
British mark a century of progress in coal mine health and safety. V. S. Swaminathan. il Min Eng 187:1114-15 N '50
Century of engineering progress in British coal mines (1851-1951); abstracts. B. L. Metcalf. Engineer 191:877 Je 29 '51; Engineering 172:232; Discussion. 232 Ag 24 '51
Coal in 1950. R. A. S. Redmayne. Engineer 191:49-50, 89-91 Ja 12-19 '51
Coal industry in 1950. Elec R (Lond) 148: 1245 Je 15 '51
Coal production increased in 1950; Board's report. Chem Age (Lond) 64:951-2 Je 23 '51
Desperation in coal. Economist 159:1063-4 D 16 '50

COAL mines and mining—Great Britain—*Cont.*

Fuel in the fifties. Economist 160:209-10, 278-80 Ja 27-F 3 '51

Looking ahead in coal-mining. E. H. Browne. Engineer 191:662-4 My 18 '51

National coal board's anthracite project. Engineer 192:95 Jl 20 '51

National plan for the coal industry. Engineer 190:465 N 17 '50

Report of the National coal board. Engineering 171:726 Je 15 '51

Greece

Lignite in Greece. A. L. Toenges and others. il maps plans U S Bur Mines Bul 502:1-57; pa 45c Supt. of doc. '51

Kentucky

Mining Kentucky coal for International harvester co. R. L. Talbert. il Explosives Eng 29:7-9+ Ja '51

New Mexico

Miller gulch and Cook & White coal beds near Cerrillos, Santa Fe county, N. Mex.; reserves; coking, petrographic, and chemical properties. L. A. Turnbull and others. bibliog 5pls U S Bur Mines Rep of Invest 4814:1-29 '51

Pennsylvania

Buried valley of the Susquehanna river; anthracite region of Pennsylvania. S. H. Ash. bibliog maps diags 35 fold pls [pl 7-35 in box] U S Bur Mines Bul 494:1-27 '50

South America

Development of the South American coal industry. T. Fraser. bibliog il maps diags Min Eng 3:Trans 356-72 Ap '51

United States

Anthracite mid-century. il Coal Age 56:70-5 Ap '51

Planning ten years ahead; executives' forum. Coal Age 56:54-7 Ja '51

See also

Coal miners—United States

West Virginia

Coal washery wastes in West Virginia. L. E. Gillenwater. bibliog Sewage & Ind Wastes 23:869-74 Jl '51

Majestic collieries co., Cedar, W.Va. J. W. Loud, jr. il Explosives Eng 29:108-10 Jl '51

COAL mining institute of America

Annual meeting, 64th, Pittsburgh, Dec. 14-15; with abstracts of papers. Coal Age 56:146-7+ F '51

COAL mining machinery

Anthracite mechanical mining investigations. J. W. Buch and A. Allan, jr. 40pls U S Bur Mines Rep of Invest 4500:1-9; 4501:1-14 '49; 4794:1-11; 4798:1-11 '51

Auger mining underground. J. K. Berry. il Coal Age 56:74-7 S '51

Automatic mining. il Coal Age 56:70-3 Ag '51

Changing power requirements of mechanized mining. C. B. Peck, jr. Coal Age 55:80-1 D '50

Coal mine equipment sales. W. H. Young and R. L. Anderson. il Min Cong J 37:96-8 F '51

Continuous mining; American mining congress Coal division annual meeting, Cleveland, May 14-17; abstracts of papers. Min Cong J 37:78-80 Je '51

Drum controller, what it is and what it does. diags Coal Age 56:102+ Mr '51

Efficient pitch development; scoop loader cuts cost of sinking slopes. il plans diags Coal Age 56:100-6 My '51

Engineering outlook; coal machinery, steam-raising plant and heavy electrical plant. Engineering 171:122-3 F 2 '51

Giant shovels dig coal fast for Great Northern; illustrations with text. Bsns W p 106-7 Ja 20 '51

Greater coal production at Gorgas mine by roof bolting and continuous miner. M. H. Fies. flow sheet il plans Min Eng 187:1238-43 D '50

Joy to the mines again: cutter and loader for narrow seams; illustrations with text. Bsns W p25 F 10 '51

Large augers for highwall mining. D. M. Bondurant and C. E. Compton. il Min Cong J 37:38-41 Jl '51

Maintenance and power; American mining congress Coal division annual meeting, Cleveland, May 14-17; abstracts of papers. Min Cong J 37:67-9 Je '51

Mechanical mining; American mining congress Coal division annual meeting, Cleveland, May 14-17; abstracts of papers. Min Cong J 37:74-6 Je '51

Mechanical mining in anthracite. W. I. Stonebraker and E. E. Young. il Min Cong J 37:30-3 S '51

Mechanized cutting and face stripping in the Ruhr. R. R. Estill. il diags Min Eng 187: Trans 1260-6 D '50

Modern mechanical coal mining. J. L. Hamilton. il Min Cong J 37:36-9 F '51

New continuous machine; Koal-Master. il Coal Age 56:94-5 Je '51

New continuous-mining machine makes 42-inch cut, loads two tpm. Coal Age 56:114 Mr '51

Power requirements for the continuous miner. F. R. Hugus. il Min Cong J 37:51-2 S '51

Primary and secondary mining with auger equipment. D. M. Bondurant. il Min Eng 3:Trans 431-5 My '51

Slope driving with a continuous machine. H. A. Treadwell. il plan diags Min Cong J 37:22-6+ My '51

Trackless mining improves ore production for TCI. L. H. Johnson. il plans diags Min Eng 187:1225-9 D '50

$20-million upset; Sunnyhill sues Jeffrey. Bsns W p98 Je 9 '51

Water-filled tires on underground machines lower operating costs and boost tire life. il Coal Age 56:108 Ag '51

See also

Coal cutters

Conveyors

Belt storage and handling. C. W. Thompson and A. E. Long. il Min Cong J 37:30-1 Ja '51

C. W. & F. slope belt sets new record. il Coal Age 56:140 F '51

Efficient conveyor mining; West Exeter coal mining co. H. Davis. il diag Coal Age 56:74-7 Mr '51

Efficient mining in low coal facilitated by gathering conveyors on wheels. il plan Coal Age 56:58-9 Ja '51

How new hydraulic spotter helps in cutting trip-changing time. il diags Coal Age 56:103-5 F '51

Lubrication, maintenance and inspection of belt conveyors. il Min Cong J 36:31-4 D '50

Mining development committee evolves new unit for continuous conveying. il diags Coal Age 56:81-3 Ap '51

Modern underground transportation. G. M. Rigg. il plans Min Cong J 36:27-9+ N '50

Modernizing Gay haulage. il Coal Age 55:98-100 D '50

New self-propelled rubber-tired conveyor train provides continuous transportation. C. H. Snyder. il Coal Age 56:77-9 My '51

Practical design considerations for high tension belt conveyor installations. J. W. Snavely. diags Min Eng 3:Trans 237-51 Mr '51

Exhibitions

Engineering in the Festival of Britain. il diag Engineering 172:33-5 Jl 13 '51

Mechanized mining changes everything; Cleveland show. il Bsns W p68+ My 26 '51

Lubrication

Mine-developed method of filling oil reservoirs cuts down time for continuous mining machines. Coal Age 56:106 Mr '51

Maintenance and repair

Big oaks from little acorns grow. W. Baumgardner. Coal Age 56:110+ Ag '51

Controlled maintenance; Providence repair shops of the Hudson coal co. H. Davis. il Coal Age 56:78-83 Ag '51

How an efficient maintenance organization functions. D. G. Buchanan. il diag Min Cong J 36:25-7+ O '50

Mine welding saves 50 per cent in dipper-stick cost. il diag Coal Age 55:109-10 N '50

COAL mining machinery—Maintenance and repair—*Continued*

Planned maintenance. W. E. Wolfe. il Min Cong J 37:101-3 Ap '51

Training for better mining; technical institute proposed for coal mine maintenance men and machine operators. il Coal Age 56:70-5 Je '51

Statistics

Loader and cleaner sales. W. H. Young and R. L. Anderson. Coal Age 56:85-7 F '51

Testing

New Joy research center to have experimental mine. Coal Age 56:140 My '51

COAL oiling

Density control of coal charged to coke ovens. C. W. Stahl and J. K. Kurtz. il Iron & Steel Eng 28:93-9; Discussion. 99-101 My '51

Dustproofing with oil. G. A. Martin and R. W. Cloyd. il diags Coal Age 56:86-9 Jl '51

COAL preparation

Alabama by-products corp. typifies trend to mechanized mining and coal preparation. H. J. Hager. flow sheets il diag Min Eng 187:1244-8 D '50

Application of cyclone thickeners to preparation plant water circuits. G. H. Kennedy and H. E. Criner. diags Min Eng 3:Trans 259-61 Mr '51

Buffalo Creek story. il Coal Age 55:85-7 D '50

Chieftain 20 story; jig and trough washing, centrifugal and heat drying, crushing, sizing and oil-treating. flowsheet il Coal Age 56:65-9 Ja '51

Coal preparation; American mining congress, Coal division annual meeting, Cleveland; abstracts of papers. Coal Age 56:110-11 Je '51; Min Cong J 37:65-7 Je '51

Coal preparation in England and Holland. J. Griffen. Min Eng 190:Trans 183-4 F '51

Coal preparation, 1950. R. L. Llewellyn. il Min Cong J 37:43-6 F '51

Crushers cinch fuel sizing, cleaning. T. Hicks. il diags Power 95:73-5 Jl '51

Description of coal preparation plants; abstract. J. Hyslop. Coal Age 56:147+ F '51

Fines dried efficiently; central preparation plant of the Northwestern improvement co. il Coal Age 56:90-1 Mr '51

High-speed classification and desliming with the liquid-solid cyclone. D. A. Dahlstrom. bibliog flow sheet il diags Min Eng 190: Trans 153-65 F '51

Making high-quality fuel; Elliot coal mining co. il Coal Age 56:99 Ag '51

Modern coal preparation cuts Inland's pig iron costs. il Steel 128:74+ Ja 29 '51

New bituminous and anthracite preparation facilities in 1950; tabulations. Coal Age 56: 82-4 F '51

New preparation plant features modern design and equipment; Tennessee coal, iron and railroad co. W. S. Springer. diags Min Eng 187:1249-1250B D '50

Pleasant View story; mechanical cleaning, drying, screening. flow sheet il Coal Age 55:76-81 N '50

Preparation characteristics of coal from Fayette county, Pa. W. L. Crentz and others. 37pls U S Bur Mines Rep of Invest 4815:1-16 '51

Preparation characteristics of coal occurring in Armstrong county, Pa. W. L. Crentz and others. 17pls U S Bur Mines Rep of Invest 4788:1-25 '51

Preparation characteristics of coal occurring in Cambria county, Pa. W. L. Crentz and F. Steele. 19pls U S Bur Mines Rep of Invest 4747:1-40 '50

Preparation characteristics of coal occurring in Indiana county, Pa. W. L. Crentz and others. 20pls U S Bur Mines Rep of Invest 4763:1-33 '51

Price plant story. flow diags il map plan Coal Age 56:90-102 F '51

Quality and efficiency boosted in moving Osage strip. F. J. Foresman. il Coal Age 55:85-7 N '50

Sludge recovery in anthracite fields. W. B. Petzold and E. T. Powell. flow sheets il Min Cong J 37:54-6 Mr '51

Surface coal; Hanna, new washing process. Bsns W p64 Ag 11 '51

Tennessee coal, iron & railroad co. opens Concord mine. Iron & Steel Eng 28:148+ Ja '51

See also

Coal cleaning
Coal tipples
Flotation process (coal)

COAL products

Gain of three million tons is seen for coke oven capacity in 1952; American coke and coal chemicals institute meeting, Skytop, Pa. Sept. 24-26. Chem & Eng N 29:4270+ O 15 '51

Versatile coal; more data on a valuable chemical storehouse. bibliog Chem Age (Lond) 64:95-8 Ja 13 '51

COAL purchasing

Basic power plant figuring; how to buy the best coal for your power plant. W. H. Engelman. Power Eng 54:85-6 D '50

Coal pact signed by Peabody and Edison. Bsns W p94-5 Ap 14 '51

Pattern for sound fuel procurement. M. Pease, jr. and R. J. Brandon. il Min Eng 190:Trans 177-82 F '51

COAL research

British coal utilisation research association annual meeting, Surrey. Engineering 171: 762 Je 22 '51

British coal utilisation research association annual report for 1949. Engineer 191:318 Mr 9 '51

Coal as an essential raw material. C. Ellis. Chem & Ind p596-7 Jl 7 '51

Coal industry must boost research expenditures tenfold; abstracts. C. C. Furnas. Chem & Eng N 29:1206 Mr 26 '51; Mech Eng 73:511 Je '51

Coal research; major efforts develop basic information. J. W. Igoe and H. J. Rose. il Min Cong J 37:55-8 F '51

Coal research; plans for its 1951 research program announced by Bituminous coal research, inc. Mech Eng 72:1000 D '50

Economic significance of recent technologic research on solid fuels. A. C. Fieldner and R. L. Brown. bibliog Min Eng 3:Trans 597-601 Jl '51

1951 BCR research work to total over $1,000,000. Coal Age 55:178+ N '50

Physicochemical aspects of the combustion of solid fuels; effects of additives. J. R. Arthur and J. R. Bowring. bibliog diags Ind & Eng Chem 43:528-33 F '51

Seven years of fuel research. Chem Age (Lond) 63:834 D 16 '50; Same cond. Chem & Ind p43 Ja 20 '51

Topochemistry of fuel beds. J. R. Arthur, D. H. Bangham and H. G. Crone. bibliog diags Ind & Eng Chem 43:525-8 F '51

Work of the BCURA. Chem Age (Lond) 65: 117-18 Jl 28 '51

See also

Bituminous coal research, inc.
Humic acids

COAL sampling

Coal sampling by large-increment weights. B. A. Landry and W. W. Anderson. A S M E Trans 73:989-95; Discussion. 995-6 O '51

Study of coal analyses from the standpoint of the user. F. M. Reiter. il diag Power Eng 55:68-73+ F '51

COAL-steel pool (proposed)

Belgian mines and the Schuman plan. Economist 160:1569-70 Je 30 '51

Cartels and the Schuman plan. Economist 160: 188 Ja 27 '51

Europe's bright light; the Schuman plan. il Mod Ind 21:66 My '51

Fate of the Schuman plan. Economist 160: 523-4 Mr 10 '51

France says Schuman plan is a must; question of German rearmament. Bsns W p 137-8 N 4 '50

Progress slow on the Schuman plan. Steel 127:65-6 N 6 '50

Saar menaces the Schuman plan. map Economist 160:1283-4 Je 2 '51

Schuman community. Economist 160:1216-18 My 26 '51

Schuman plan. J. Chastenet. Harvard Bsns R 29:60-8 Mr '51

Schuman plan approval hits snag; west Germans balk at scheme. Steel 129:51 Jl 16 '51

COAL-steel pool (proposed)—*Continued*
Schuman plan in perspective; summary of survey by Economic commission for Europe. Economist 159:953 D 2 '50
Schuman plan; its hopes, risks and danger. P. Cortney. Comm & Fin Chr 173:2146+ My 24 '51
Schuman plan progress. Economist 159:598 O 14 '50
Schuman plan takes form. Barron's 31:6 Ap 23 '51
Schuman plan treaty. Economist 160:1236-8 My 26 '51
Schuman plan's final stage. Economist 159: 871, 1072 N 25, D 16 '50
Steel pool gains. Bsns W p 138 N 11 '50
West Europe O.K.'s Schuman plan draft. Bsns W p 117-18+ D 2 '50

COAL storage
Aerial stockpile inventory cuts costs 25 percent. E. F. Sheehan. il map Civil Eng 21:157 Mr '51
Air mapping of coal piles saves cash. il map Power 95:107 Ja '51; Am Gas J 174:35-6 Ja '51; Eng & Min J 152:107 Ja '51; Gas Age 107:30+ Ja 18 '51
Fuel stockpiles inventoried by air at saving of 25 per cent, using modern three dimensional aerial photography; Philadelphia electric co. E. A. Schuch. il map diag Elec World 134:88-90 D 18 '50

COAL supply
Review of world coal and iron ore resources and their utilization for manufacture of steel. W. C. Rueckel. bibliog maps Blast F & Steel Pl 39:195-9, 327-32, 426-38, 540-8 F-My '51
World reserves of iron ore and coking coal; tabulation. Iron Age 167:314 Ja 4 '51

Europe

American coal for Europe. Economist 161: 234 Jl 28 '51
Britain and European coal. Economist 161: 466-7 Ag 25 '51
Coal allocation fails. Economist 160:1570 Je 30 '51
Eastern Europe tackles the coal problem. Economist 159:1091-2 D 16 '50
European coal stringency. Economist 159:587 O 7 '50
Sharing-out Europe's coal. Economist 160:28 Ja 6 '51

Great Britain

Britain's fuel policy. C. Gibb. flow diag map Engineer 191:711-14 Je 1 '51
Coal plan; survey of power requirements. Elec R (Lond) 147:827 N 24 '50
More coal, but not enough. Economist 159: 1161 D 23 '50

United States

Bureau of mines program of appraising minable reserves of coking coal. R. L. Brown. Am Gas Assn Proc 1950:483-6
Coal industry in the modern crisis. J. C. O'Mahoney. il Min Cong J 37:34-5+ Je '51
How DSFA sees its job. C. W. Connor. Coal Age 56:70-3 Jl '51

COAL tar
Coal tar as a colloid; abstract and discussion. L. J. Wood. Chem & Ind p357 My 5 '51
Hot applied coal tar coatings. N. T. Shideler. il Pet Eng 23:D5-8+ F; D 18+ Mr '51
How coal tar tape solved distribution problems. M. G. Markle. il Gas Age 108:13-14+ Ag 2 '51

COAL tar pitch. See Pitch

COAL tar products
Average monthly quotations in 1950; tabulation. Steel 128:128 Ja 1 '51
Characterization of tar acids from coal-hydrogenation oils. E. O. Woolfolk and others. U S Bur Mines Bul 487:1-56; pa 35c Supt. of doc. '50
Phenol and cresols in coal tar from coals carbonized at 800° and 900° C. E. Bengtsson. U S Bur Mines Rep of Invest 4755:1-10 bibliog(p9-10) '50
Studies of coal tar bases; by-products of the hydrogenation of pyridine with Raney nickel. J. I. Jones. Chem Soc J p 1392-7 My '50
Tar oils for potato spraying; substitute for sulphuric acid. Chem Age (Lond) 64:776 My 19 '51
US coaltar chemical imports rise in 1950. Oil Paint & Drug Rep 160:3+ Ag 13 '51
See also
Anthracene
Benzene
Coal distillation
Naphthalene
Tar distillation plants
Toluene
Xylene

Bibliography

Review of coal tar technology. Published twice a year by Coal tar research assn, Oxford road, Gomersal near Leeds, England

Prices

Coaltar chemicals; 1950 market trends. Oil Paint & Drug Rep 159:60-3 sec 2 Ja 29 '51

Statistics

Coal tar chemicals. Published in weekly numbers of Oil, paint and drug reporter
Intermediates output up 40 percent in '50. Oil Paint & Drug Rep 160:5 Jl 23 '51

COAL tipples
Biggest little tipple; Spruce River coal co. il diag Coal Age 55:92-3 D '50

COAL trade
Annual Anthracite conference, 9th, Bethlehem, Pa. May 4. Coal Age 56:168+ Je '51
Anthracite production in 1950. C. M. Dodson. il Min Cong J 37:67-8 F '51
Bituminous coal; upward trend in consumption matched by increased production. G. A. Lamb and J. L. Ziercher. il Min Cong J 37:81-3 F '51
How top coal men see 1951. Coal Age 56:70-3 F '51
In coal; it pays to be big and smart; Pitt Consol. Bsns W p79-80 Mr 24 '51
1950, new start for coal. il Coal Age 56:74-9 F '51
Soft coal stocks pile up. Bsns W p42 Jl 21 '51
You can get along with controls. Coal Age 56:70-3 Mr '51

Accounting

What is auditor's responsibility for quantities of coal stored in piles? J Account 91:303-5 F '51

Advertising

Multiple media comics buck a trend. R. W. Hoover. il Ptr Ink 236:35 Ag 3 '51

Statistics

Coal; how you get it and count it; ABC of what's behind some key statistics. il Bsns W p42-4+ Ap 14 '51
U.S. coal production, consumption, exports; 1930-1950; tabulations. Iron Age 167:317 Ja 4 '51

Europe

See also
Coal-steel pool (proposed)

Germany

Low German coal price spells economic waste. Barron's 31:8 Ag 6 '51
Tussle for German coal. Economist 160:1155 My 19 '51
West Germans want full say on controls. Bsns W p 157 S 8 '51

Great Britain

Coal exports flagging. Economist 159:586-7 O 7 '50
Consumers and coal. Economist 161:179-80 Jl 21 '51
Critics' plan for coal. Economist 160:1466+ Je 16 '51
Exporting the coal shortage. Economist 159: 767 N 11 '50
Next coal board; with figures on output and costs, and financial results, 1947-50. Economist 160:1385-7 Je 9 '51
Plan for coal. Economist 159:824-6 N 18 '50
Second coal board and the next coal winner. Economist 161:44+ Jl 7 '51

New England

Speaking of coal; how New England goes about the job; Speakers' bureau of the Bituminous coal institute. J. L. Johnson. Coal Age 55:88-9 N '50

COAL trade—*Continued*

United States

Anthracite mid-century. il Coal Age 56:70-5 Ap '51
Planning ten years ahead; executives' forum. Coal Age 56:54-7 Ja '51

COAL washing

Coal washery wastes in West Virginia. L. E. Gillenwater. bibliog Sewage & Ind Wastes 23:869-74 Jl '51
Cyclone thickener applications in the coal industry. M. G. Driessen and H. E. Criner. bibliog il diags Min Eng 187:Trans 102-7 Ja '50; Discussion. 187:Trans 1158-9 N '50
Cyclone thickeners, a practical solution for closed water circuit operation. V. Phillips and J. P. Blair. il Min Eng 3:Trans 699-702 Ag '51
Efficiency and sharpness of separation in evaluating coal-washery performance. H. F. Yancey and M. R. Geer. bibliog Min Eng 3: Trans 507-17 Je '51; Discussion. 3:Trans 994-1000 N '51
Inland installs new coal preparation plant. il Iron & Steel Eng 28:112+ F '51

See also
Flotation process
(coal)

COAL waste

Coal washery wastes in West Virginia. L. E. Gillenwater. bibliog Sewage & Ind Wastes 23:869-74 Jl '51
Park fine-coal plant. il diag Coal Age 56:82-5 Je '51
Settling of coal-breaker wash water prevents black-silt stream pollution. il diag Eng N 146:34-5 Mr 22 '51
Sludge recovery in anthracite fields. W. B. Petzold and E. T. Powell. flow sheets il Min Cong J 37:54-6 Mr '51

COAL weighing

Signal light keeps tabs on coal scale. W. M. Montgomery. diags Power 95:133 Je '51

COALITE and chemical products, ltd.

Widening range of chemical products. Chem Age (Lond) 65:54 Jl 14 '51

COAT hangers. See Hangers, Coat, dress, etc.

COATED paper. See Paper, Coated

COATS, J. & P., limited

Statement by the chairman. R. Laidlaw. Economist 160:1595 Je 30 '51

COAXIAL cables. See Radio lines; Telephone cables—Coaxial cables; Television cables

COBALT, Ontario

Cobalt camp comes back. G. P. Lutjen. il diag Eng & Min J 151:86-91 N '50

COBALT

Absorption spectra of certain nickel(II) and cobalt(II) complex ions. G. L. Roberts and F. H. Field. bibliog Am Chem Soc J 72: 4232-5 S '50
After eight years, U.S. cobalt. il Bsns W p22-3 Jl 28 '51
Butylene from ethylene; cobalt-carbon catalyst; pilot plant. H. A. Cheney and others. bibliog il diags Ind & Eng Chem 42:2580-6 D '50
Cobalt. Mech Eng 73:231-2 Mr '51
Cobalt, 1950. H. W. Davis. Eng & Min J 152: 90 F '51
Cobalt production. Can Chem & Process Ind 34:980 D '50
Cobalt; report to industry on a strategic metal, discussing sources, use limitations, and future supply possibilities. il J Metals 191:17-24 Ja '51; Same. Min Eng 190:17-24 Ja '51
Cobalt self-diffusion; study of the method of decrease in surface activity. R. C. Ruder and C. E. Birchenall. J Metals 191:Trans 142-6 F '51
Cobalt used in steel for many military uses. Blast F & Steel Pl 39:sup46 Ap '51; Same. Sheet Metal Worker 42:45 Ap '51
Composition of Fischer-Tropsch Diesel fuel; cobalt catalyst. C. C. Ward, F. G. Schwartz and N. G. Adams. bibliog Ind & Eng Chem 43:1117-19 My '51
Cross sections of gamma-proton reactions. J. Halpern and A. K. Mann. bibliog diag Phys R 83:370-3 Jl 15 '51
Crystal structure of V_3Co. P. Duwez. J Metals 3:Trans 564 Jl '51
Interaction between the *d*-shells in the transition metals; calculation of the Weiss factors in Fe, Co, and Ni. C. Zener. Phys R 83:299-301 Jl 15 '51
Isothermal adsorption of cobalt from dilute solutions. M. H. Kurbatov, G. B. Wood and J. D. Kurbatov. bibliog J Phys & Colloid Chem 55:1170-82 O '51
Kinetics of the oxidation of cobalt. E. A. Gulbransen and K. F. Andrew. bibliog il Electrochem Soc J 98:241-51 Je '51
Magnetic susceptibility of Co^{+++} aq. H. L. Friedman and others. bibliog Am Chem Soc J 73:4028-30 Ag '51
Mechanism of exchange between radioactive ions in solution and metal surfaces. M. T. Simnad and R. C. Ruder. bibliog il diag Electrochem Soc J 98:301-6 Ag '51
NPA slashes cobalt use seventy percent. Cer Ind 55:60 D '50; Oil Paint & Drug Rep 158:3 N 27 '50
Oxidation kinetics of nickel and cobalt. W. J. Moore and J. K. Lee. J Chem Phys 19: 255 F '51
Price of cobalt increased. Can Min J 72:72 Mr '51
Production and consumption of cobalt, prices; tabulations. Iron Age 167:305 Ja 4 '51
Reactions of the cobaltic ion. C. E. H. Bawn and A. G. White. Chem Soc J p331-49 F '51
Role of oxide composition in oxidation of nickel and cobalt. R. L. Tichenor. J Chem Phys 19:796-7 Je '51
Self-diffusion in cobalt. F. C. Nix and F. E. Jaumot, jr. bibliog Phys R 82:72-4 Ap 1 '51
Slow neutron velocity spectrometer studies; Au, Ag, Br, Fe, Co, Ni, Zn. W. W. Havens, jr. and L. J. Rainwater. bibliog Phys R 83: 1123-33 S 15 '51
Story of nickel and cobalt. C. A. Scarlott. il Westinghouse Eng 11:117-23 Jl '51; Same cond. diags Materials & Methods 34:61-5 Jl '51
Strategic cobalt used in many military applications. Iron Age 167:162+ Mr 1 '51
Thermal neutron capture cross section of Co^{59}. L. Yaffe and others. bibliog Phys R 82:553 My 15 '51
U.S. cobalt; Idaho mine to produce 40 per cent of our yearly needs. Bsns W p70+ F 24 '51

Analysis

Alkalimetric determination of metals with the aid of acid-base indicators. J. F. Coetzee. Chem Soc J p997-1004 Ap '51
Chemical analysis of soda-lime-silica glasses for trace quantities of several colorants. P. Close and others. Am Cer Soc J 33:346-8 N 1 '50
Iodometric determination of cobalt. H. A. Laitinen and L. W. Burdett. bibliog Anal Chem 23:1268-70 S '51
Isolation and determination of cobalt as nitroso R salt complex by chromatographic ion exchange. J. A. Dean. bibliog Anal Chem 23:1096-7 Ag '51
Nature of the cobalt-thiocyanate reaction. P. W. West and C. G. de Vries. bibliog Anal Chem 23:334-7 F '51
Polarographic determination of cobalt as trioxalatocobaltate(III). I. M. Kolthoff and J. I. Watters. bibliog Anal Chem 22:1422-6 N '50
Precipitation of cobalt as potassium cobaltinitrite. S. Kallmann. bibliog Anal Chem 22:1519-21 D '50
Tetrahydroxy cobalt(II) ion as a qualitative test for cobalt. S. Gordon and J. M. Schreyer. bibliog Anal Chem 23:381-2 F '51

Isotopes

Cobalt aids metals study; Armour researchers convert abandoned garage into radiographic laboratory. il Steel 128:94+ Mr 26 '51
Cobalt gamma-ray source used for studies in radiation chemistry. J. A. Ghormley and C. J. Hochanadel. il diags R Sci Instr 22: 473-5 Jl '51
Cobalt 60 labeled vitamin B_{12} of high specific activity. C. Rosenblum and D. T. Woodbury. Science 113:215 F 23 '51
Decay of 10.7-min Co^{60m}. M. Deutsch and G. Scharff-Goldhaber. bibliog Phys R 83:1059 S 1 '51
Half-life of Fe^{55} and Co^{60}. G. L. Brownell and C. J. Maletskos. bibliog Phys R 80: 1102-3 D 15 '50

COBALT Isotopes—*Continued*
Internal conversion of gamma-rays from Co^{60}, Cs^{134}, Zn^{65}. M. A. Waggoner and others. bibliog diags Phys R 80:420-8 N 1 '50
New anti-cancer weapon planned; radioactive cobalt. Electronics 24:277+ Ag '51; Same. il Elec Eng 70:841 S '51
Penetration and diffusion of Co^{60} gamma-rays in water using spherical geometry. G. R. White. bibliog diag Phys R 80:154-6 O 15 '50
Preparation of Co^{58m} by a (γ,n) reaction. D. Christian and D. S. Martin, jr. Phys R 80: 1110 D 15 '50
Preparation of radioactive vitamin B$_{12}$ by direct neutron irradiation. R. C. Anderson and Y. Delabarre. Am Chem Soc J 73:4051-2 Ag '51
Radioactive indicators for blast-furnace refractory wear. E. W. Voice. Iron & Steel Inst J 167:157-61 F '51
Radiocobalt reveals flaws in thick castings. R. B. Stanton. diag Am Mach 95:137 Je 11 '51
Telemetering system for radioactive snow gage; snowfall measured in terms of radiation between slug of cobalt-60 and Geiger-Müller tube. J. A. Doremus. il diag Electronics 24:88-91 F '51
Two crystal spectrometer results with uncollimated γ-rays. J. K. Bair and others. Phys R 81:283-4 Ja 15 '51

Prices

Nonferrous prices; tabulation. Steel 128:129 Ja 1 '51

COBALT alloys
Crystal structure of the sigma-phase in the Co-Cr system. J. S. Kasper and others. J Ap Phys 22:361-2 Mr '51
Phase equilibria in an ordering alloy system. J. B. Newkirk and others. bibliog il diags J Ap Phys 22:290-8 Mr '51
Precision investment nonferrous casting alloys; tabulation; engineering file facts. Materials & Methods 32:97 N '50
Production evaluation of cutting tool materials; cast alloys. T. Badger. Tool Eng 27: 44-6 Jl '51

COBALTAMMINES
Amperometric titrations with hexamminecobalt(III) chloride. H. A. Laitinen and L. W. Burdett. bibliog Anal Chem 23:1265-7 S '51
Electron transfer (exchange) between cobaltous and cobaltic amine complexes. W. B. Lewis, C. D. Coryell and J. W. Irvine, jr. Chem Soc J supp no 2:S386-92 '49
Hexamminecobalt(III) benzylpenicillinate. R. W. Shortridge and C. Carr. Am Chem Soc J 72:3870-1 S '50

COBALT bromide
Osmotic and activity coefficients of cobalt bromide and cobalt iodide. R. A. Robinson, H. J. McCoach and C. K. Lim. Am Chem Soc J 72:5783-4 D '50

COBALT chlorides
Conductivities of some complex cobalt chlorides and sulphates. I. L. Jenkins and C. B. Monk. Chem Soc J p68-73 Ja '51
Effects of added chlorides on the absorption spectra of cobaltous chloride in water and in formamide. L. R. Dawson and J. H. Chaudet. bibliog J Chem Phys 19:771-4 Je '51
Extraction of cobaltous chloride with capryl alcohol in a spray tower. R. L. Kylander and L. Garwin. bibliog diags Chem Eng Prog 47:186-90 Ap '51
Polarographic reduction of *cis*- and *trans*-dinitrotetramminecobalt(III) chloride in chloride, tartrate and citrate media. H. F. Holtzclaw, jr. Am Chem Soc J 73:1821-2 Ap '51
Spectrophotometric studies of cobaltous chloride. L. I. Katzin and E. Gebert. bibliog Am Chem Soc J 72:5464-71 D '50

COBALT compounds
Absorption spectra of some cobalt(III) coördination compounds. F. Basolo. bibliog Am Chem Soc J 72:4393-7 O '50
New method for the preparation of hydroxoaquobis-(ethylenediamine)-cobalt(III) and hydroxoamminebis-(ethylenediamine)-cobalt (III) salts. F. Basolo and D. H. Steninger. Am Chem Soc J 72:5748 D '50
Organocobalt compounds. D. A. E. Briggs and J. B. Polya. Chem Soc J p 1615-16 Je '51
Some new pyridine compounds of cobalt(II) salts. L. I. Katzin, J. R. Ferraro and E. Gebert. bibliog Am Chem Soc J 72:5471-4 D '50
Studies in co-ordination chemistry; complexes of bivalent and tervalent cobalt with a di(tertiary arsine). R. S. Nyholm. Chem Soc J p2071-8 Ag '50

COBALT fluorides
Action of elementary fluorine upon organic compounds; fluorine and cobaltic fluoride as fluorinating agents for ketones. F. F. Holub and L. A. Bigelow. bibliog diags Am Chem Soc J 72:4879-84 N '50
Fluorination of pentanes by cobalt trifluoride. E. J. Barber, L. L. Burger and G. H. Cady. Am Chem Soc J 73:4241-3 S '51
Organic fluorides; fluorination of hydrocarbons with cobalt trifluoride. R. N. Haszeldine and F. Smith. diag Chem Soc J p3617-23 D '50

COBALT hexammines. See Cobaltammines

COBALT hydroxide
Solubility of cobalt hydroxide, Co(OH)$_2$, in solutions of hydrochloric acid and sodium hydroxide at 25°. K. H. Gayer and A. B. Garrett. bibliog Am Chem Soc J 72:3921-3 S '50

COBALT iodides
Osmotic and activity coefficients of cobalt bromide and cobalt iodide. R. A. Robinson, H. J. McCoach and C. K. Lim. Am Chem Soc J 72:5783-4 D '50

COBALT metallurgy
Metallurgy of cobalt production from cupriferous pyrite. S. Nakabe. flow sheet J Metals 3:Trans 445-51 Je '51

COBALT naphthenate
Cobalt naphthenate for initiating and accelerating gelation of polyester resins in styrene monomer. Chem Age (Lond) 63: 914 D 30 '50

COBALT nitrate
Spectrophotometric investigation of cobaltous nitrate in organic solvents. L. I. Katzin and E. Gebert. bibliog Am Chem Soc J 72: 5455-63 D '50
Systems cobaltous nitrate-water-acetone and cobaltous nitrate-water-*t*-butyl alcohol at 25°. L. I. Katzin and J. R. Ferraro. bibliog Am Chem Soc J 72:5451-5 D '50

COBALT nitrosonaphtholate
Recovery of organic material from cobalt 1-nitroso-2-naphtholate. A. D. Dargaville, D. L. Ingles and J. B. Polya. J Ap Chem 1: 345-6 Ag '51

COBALT oxide
Cobalt-reduction theory for the adherence of sheet-iron ground coats. J. H. Healy and A. I. Andrews. il diag Am Cer Soc J 34: 207-14 bibliog(p212-14); Discussion. 219-21 Jl 1 '51

COBALT sulfates
Conductivities of some complex cobalt chlorides and sulphates. I. L. Jenkins and C. B. Monk. Chem Soc J p68-73 Ja '51

COBALT thiocyanate
Nature of the cobalt-thiocyanate reaction. P. W. West and C. G. de Vries. bibliog Anal Chem 23:334-7 F '51
Spectrophotometric studies of cobalt(II) thiocyanate complexes in organic solvents. L. I. Katzin and E. Gebert. Am Chem Soc J 72:5659-62 D '50

COCA COLA
Death of 5c Coke. Bsns W p50 Ja 13 '51
Packaging's Hall of fame. il Mod Packaging 24:78-85+ Ag '51
Rolling control of quality; Coca-Cola's mobile labs. A. V. Gemmill. il map Food Eng 23: 63-5+ My '51

COCA COLA company
Nickel drink is groggy. il Fortune 43:78-9+ Ja '51

COCHLEA. See Ear

COCKE, Charles Francis
New chief for ABA. por Bsns W p 148 O 13 '51
Sketch. por Banking 43:47 N '50

COCKROACHES
Fate of vertebrate erythrocytes and hemoglobin injected into the blood of the American cockroach, (periplaneta americana L.). S. Bettini and others. il Science 113:9-10 Ja 5 '51

COCKROACHES—*Continued*

Protection of paper and textile products from insect damage. S. S. Block. bibliog il Ind & Eng Chem 43:1558-63 Jl '51

COCKSHUTT plow company, limited

Security I like best. A. J. O'Donohoe. Comm & Fin Chr 174:686+ Ag 23 '51

COCLAURINE

Synthesis of *dl*-coclaurine. J. Finkelstein. bibliog Am Chem Soc J 73:550-3 F '51

COCOA, Florida

Harbor

Cocoa harbor development seen as boon to shippers. Manuf Rec 120:44 S '51

COCOA

Ample cocoa forces Brazil to cut price peg. Barron's 31:19-20 S 17 '51

Bigger cocoa crops expected. Barron's 31:27-8 Je 25 '51

Cadbury brothers, limited; statement by the chairman. L. J. Cadbury. Economist 161:57-8 Jl 7 '51

Cocoa supplies; with table of world production, 1938, 1946-50. Economist 161:533 S 1 '51

Lower cocoa crop bolsters prices. Barron's 31:32 Ja 15 '51

Market quiet but can move sharply. Barron's 31:18 Ap 30 '51

Private trading in cocoa; with tabulation of world cocoa crop, 1949-50; 1950-51 (provisional). Economist 159:1166+ D 23 '50

COCONUT milk

Tissue culture form potato tuber; the synergistic action of 2,4-D and of coconut milk. F. C. Steward and S. M. Caplin. bibliog il Science 113:518-20 My 4 '51

COCONUT oil

Hydrolysis of fats at high temperatures. A. Sturzenegger and H. Sturm. bibliog diag Ind & Eng Chem 43:510-15 F '51

Philippine copra and coconut-oil exports; with table of exports, Jan.-Aug. 1949 and 1950. For Comm W 41:19 O 23 '50

US copra, coconut oil '50 imports up 11 percent. Oil Paint & Drug Rep 159:4 Ap 2 '51

COD liver oil

Cod-liver-oil output, Iceland; tabulation of exports of Icelandic cod-liver oil, 1949-50. For Comm W 41:20 N 13 '50

Norwegian cod-liver-oil production in 1951. For Comm W 44:16 S 10 '51

CODECARBOXYLASE

Phosphates of the vitamin B_6 group. D. Heyl and others. bibliog Am Chem Soc J 73:3430-9 Jl '51

CODEINE

See also

Desoxycodeine

Analysis

Infrared analysis of pharmaceutical products; acetylsalicylic acid, phenacetin, and caffeine, and combinations of these with codeine or thenylpyramine. T. V. Parke and others. bibliog Anal Chem 23:953-7 Jl '51

CODEINONE

Acid-catalyzed conversion of codeinone to 8-hydroxydihydrocodeinone. S. P. Findlay and L. F. Small. bibliog Am Chem Soc J 73:4001-4 Ag '51

CODFISH

Mechanizing halves their handling costs; saving on salt-fish operations at Beardsley's Newark plant. G. N. Collins. il Food Ind 22:1879-82+ N '50

COENZYMES

Purification of coenzyme A from fermentation sources and its further partial identification. W. H. DeVries and others. Am Chem Soc J 72:4838 O '50

Structure of coenzyme A. J. Baddiley and E. M. Thain. bibliog Chem & Ind p337-8 Ap 28 '51

Synthesis of pantothenic acid-2′ and -4′ phosphates as possible degradation products of coenzyme A. J. Baddiley and E. M. Thain. Chem Soc J p246-51 F '51

COFFEE

Coffee comes, employees stay put at Mutual Life of New York. il Bsns W p54-5 Je 2 '51

Coffee time is a smash hit; national distribution coming; new carbonated coffee beverage. B. G. Priestley. il Sales Management 67:56+ O 15 '51

Coffee treat; more plants serve free coffee to employees. Bsns W p 128 D 16 '50

Coffeeman's on the job; industrial coffee service. il Bsns W p 104-6+ F 10 '51

Analysis

Determination of trigonelline in coffee; ultraviolet absorption spectrophotometry. R. G. Moores and D. M. Greninger. bibliog Anal Chem 23:327-31 F '51

Isochlorogenic acid; isolation from coffee and structure studies. H. M. Barnes, J. R. Feldman and W. V. White. bibliog Am Chem Soc J 72:4178-82 S '50

COFFEE, Soluble

Improved soluble coffee; patent digest. Food Ind 23:174+ F '51

COFFEE bags

One-cup coffee bag; filter-paper packet for quick coffee making. il Mod Packaging 24:107 My '51

COFFEE pots

Million dollar drip; Tricolator. H. Woodward. il Sales Management 66:40 Je 15 '51

COFFEE roasting

Roasting coffee at home. Consumers Res Bul 27:24-5 Mr '51

COFFEE trade

Coffee price props resisted by consumers. Barron's 31:27 Ap 2 '51

Coffee prices ease off as buyers hold sidelines. Barron's 30:21 N 6 '50

Coffee seen tight despite larger crop. Barron's 30:21 D 25 '50

1951 coffee supply may outweigh demand. Barron's 31:19-20 Je 4 '51

Advertising

Starch reports best-read advertisements. il Adv Agency 44:68-9 O '51

Angola

Big coffee crop forecast for Angola. For Comm W 41:19 N 6 '50

Brazil

Brazil may have trouble holding up coffee price. Barron's 31:19 Ag 27 '51

Brazil's coffee support raised above world price. Barron's 31:23 Jl 9 '51

Coffee sparks boom for Brazil. il Bsns W p 160-2 Je 23 '51

Sterling shortage poser; Brazil might ship coffee to Britain. Bsns W p 121-2 N 25 '50

Colombia

Colombian coffee trade. For Comm W 45:19 O 1 '51

Guatemala

1949-50 export coffee crop. For Comm W 41:15-16 D 25 '50

Haiti

1949-50 export coffee crop. For Comm W 41:15 D 25 '50

COFFERDAMS

Chemicals stop cofferdam leaks. C. M. Riedel. il plan diags Civil Eng 21:195-6 Ap '51

Construction of a cellular cofferdam; Belle Vernon bridge. il diag Engineer 191:392-3 Mr 23 '51

Everything is just right at Philpott dam; Ohio River box-type cofferdams revived. il diag Constr Methods 32:53-4 N '50

Mammoth tremie seal poured in 7½-day continuous operation; building anchorage piers for Delaware memorial bridge. C. H. Cotter. il Civil Eng 20:711-14 N '50

New Mississippi port for Minneapolis. il map diag Eng N 147:37-9 S 13 '51

Prefab cofferdam simplifies pier repair; Keokuk (Iowa) municipal bridge. J. E. Vollmar, jr. il Constr Methods 32:51-3 D '50

Single bridge piers built in cellular cofferdams. R. B. Howard. il Civil Eng 21:20-1 Ja '51

Unique cofferdam foils Old Man River; building intake to supply cooling water for Venice no. 2 plant. G. F. Flay. il diag Civil Eng 20:780-4 D '50

Vertical spacing of cofferdam bracing. F. J. Sanger. diags Eng N 145:44-5 D 7 '50

COFFIN foundation
Georgia power company wins Charles A. Coffin award. il Edison Elec Inst Bul 19:206 Jl '51; Elec World News ed 135:5-6 Je 11 '51

COGGESHALL, Ivan S. 1896-
Sketch. por Inst Radio Eng Proc 39:2 Ja '51

COHEN, Wilbur
Portrait. Bsns W p41 S 1 '51

COILS, Pipe
Pre-fab coils eliminate repair headaches. il Pet Processing 6:165 F '51
Steam coil fabrication combines latest forming, welding methods. D. Reebel. il Steel 128:76-8 F 5 '51
Thermal characteristics of soils for ground coil design. W. Parkerson. bibliog diag Heat & Ven 48:83-6 O '51
Tube coiling; illustrations with text. J. Miller; W. C. Keeran. diag Am Mach 94:107-9 D 25 '50

COIN machines. See Vending machines

COINAGE
See also
United States—Mint

COINCIDENCE counting
Chart recording of microsecond pulse amplitudes. J. T. Dewan and K. W. Allen. diags R Sci Instr 21:823-6 O '50
Coincidence methods of measuring disintegration rates of radioactive sources. J. Barnothy and M. Forro. bibliog R Sci Instr 22:415-23 Je '51
Coincidence studies on the radiations from Ba^{131}. W. H. Cuffey. bibliog Phys R 82:461-2 My 1 '51
Delayed coincidence circuit for scintillation counters. A. Lundby. diags R Sci Instr 22: 324-7 My '51
Deuteron-proton scattering at 10.0 Mev by a coincidence method. H. J. Karr and others. diags Phys R 81:37-48 Ja 1 '51
Distributed coincidence circuit. C. Wiegand. diag R Sci Instr 21:975-6 D '50
Divided light guide for coincidence counting of scintillations due to alpha particles. B. Makiej. diag J Sci Instr 28:188-9 Je '51
Emission of short-range charged particles in the slow neutron fission of uranium. K. W. Allen and J. T. Dewan. bibliog diags Phys R 82:527-30 My 15 '51
Geometry of Geiger counter telescopes. H. E. Newell, jr. and E. C. Pressly. diags R Sci Instr 21:918-22 N '50
High speed short resolving time coincidence circuit for use with scintillation counters. E. F. Shrader. diag R Sci Instr 21:883 O '50
Measurements of short-lived isomers. W. J. MacIntyre. bibliog diags Phys R 80:1018-23 D 15 '50
Measuring very short half-lives. Z. Bay and others. Phys R 82:754-5 Je 1 '51
New type of high speed coincidence circuit. Z. Bay. diags R Sci Instr 22:397-400 Je '51
Passive pulse sharpening circuits. L. Reiffel. il diags R Sci Instr 22:214-16 Mr '51; Abstract. Electronics 24:162+ Jl '51
Scintillation decay times. A. Lundby. Phys R 80:477 N 1 '50
Use of gated-beam tubes in coincidence circuits. B. Smaller and E. Avery. diags R Sci Instr 22:341 My '51

COKE
A-one steel from low grade coke. J. R. Killian, jr. Steel 127:121-2 N 20 '50
Determination of particle density of crushed porous solids; gas flow method. S. Ergun. bibliog Anal Chem 23:151-6 Ja '51
How to use the cupola. B. P. Mulcahy. Foundry 79:186+ Jl; 184+ Ag '51
Need stronger foundry coke. H. W. Lownie, jr. il Foundry 79:72-6 Jl '51
Superfine grinding of coke and other materials. R. A. Mott. Soc Chem Ind J 69: 346-9 N '50
See also
Petroleum coke

Analysis
Methods of analyzing coal and coke. A. C. Fieldner and W. A. Selvig. bibliog il diags U S Bur Mines Bul 492:1-51; pa 50c Supt. of doc. '51

Moisture content
Moisture content of various coke sizes. D. C. Hills and C. R. Holmes. bibliog Ind & Eng Chem 43:1635-8 Jl '51

Prices
Average monthly quotations in 1950; tabulation. Steel 128:128 Ja 1 '51
Beehive metallurgical coke, oven foundry coke; tabulations. Steel 128:126 Ja 1 '51
Coke prices, 1928-1950; tabulations. Iron Age 167:318 Ja 4 '51

Size
Moisture content of various coke sizes. D. C. Hills and C. R. Holmes. bibliog Ind & Eng Chem 43:1635-8 Jl '51

Testing
Physical properties of coke; size and its measurement. H. S. Auvil and J. B. Gayle. 9pls U S Bur Mines Rep of Invest 4735:1-27 '50
Significance of laboratory tests of coal and coke for combustion. J. F. Barkley, comp. U S Bur Mines Information Circ 7619:1-46 '51

COKE handling
See also
Coke screening

COKE industry
Coke oven in war. W. R. Morris. bibliog Am Gas Assn Proc 1950:374-94; Excerpts. Am Gas J 173:19-21 D '50
Coke production increases 13 per cent. Am Gas J 174:36 Ap '51
Coke production up 14 per cent despite troubles. Am Gas J 175:14 S '51

Statistics
Coke and by-products in 1949. Iron & Steel Eng 27:126-32 N '50
Production, shipments, 1928-1950; tabulations. Iron Age 167:318 Ja 4 '51
Steel industry statistics; coke making capacity in the United States. Steel 129:124-5 O 1 '51

COKE manufacture
Bureau of mines program of appraising minable reserves of coking coal. R. L. Brown. Am Gas Assn Proc 1950:483-6
Coke oven in war. W. R. Morris. bibliog Am Gas Assn Proc 1950:374-94; Excerpts. Can Chem & Process Ind 35:118-22 F '51; Am Gas J 173:19-21 D '50
Density control of coal charged to coke ovens. C. W. Stahl and J. K. Kurtz. il Iron & Steel Eng 28:93-9; Discussion. 99-101 My '51
Survey of carbonizing properties of American coals, Bureau of mines Coal-carbonization laboratory, 1949-50. J. D. Davis. Am Gas Assn Proc 1950:402-9

By-products
Coke and by-products in 1949. Iron & Steel Eng 27:126-32 N '50
Cyanides from the coke oven. M. L. Kastens and R. Barraclough. bibliog flow sheet il diags Ind & Eng Chem 43:1882-92 S '51
Fuel oil as an absorbent in recovery of light oil. C. R. Montgomery. il Iron & Steel Eng 27:74-8; Discussion. 78-81 D '50

COKE oven gas
Coke oven in war. W. R. Morris. bibliog Am Gas Assn Proc 1950:374-94; Excerpts. Can Chem & Process Ind 35:118-22 F '51; Am Gas J 173:19-21 D '50
Cyanides from the coke oven. M. L. Kastens and R. Barraclough. bibliog flow sheet il diags Ind & Eng Chem 43:1882-92 S '51
Fuel oil as an absorbent in recovery of light oil. C. R. Montgomery. il Iron & Steel Eng 27:74-8; Discussion. 78-81 D '50
Koppers recovers H_2S and HCN from coke oven gas. Chem & Eng N 29:2470 Je 18 '51

COKE ovens
Coke-oven plant at East Greenwich gasworks. il Engineering 170:499-501 D 15 '50
Coke ovens repaired hot. Steel 129:122 S 24 '51
Controlled cooling of a Koppers-Becker battery. J. D. Price. il diag Blast F & Steel Pl 39:203-13 F '51

COKE ovens—*Continued*
National open hearth steel committee and the blast furnace, coke oven and raw materials committee of the A.I.M.E. 34th joint conference, Cleveland, April 2-4; program. Blast F & Steel Pl 39:sup20-4+ Ap '51; J Metals 3:301, 302A-303D Ap '51
New byproduct ovens make Wheeling self-sufficient. Chem Eng 58:208 Ag '51
New small by-product coke ovens. C. O. Brown. Ind & Eng Chem 43:sup57A-8A+ My '51
Shutting down coke oven batteries; abstract. C. A. Covington and A. H. Parthum. Iron & Steel Eng 27:132 N '50

COKE plants

Waste

Ozone kills phenols in waste. il Chem Eng 58:224+ S '51

COKE plants, By-product
Coke-oven plant at East Greenwich gasworks. il Engineering 170:499-501 D 15 '50
New coke facilities; illustrations with text. Chem & Eng N 29:48-9 Ja 1 '51
Steel industry statistics; coke making capacity in the United States. Steel 129:124-5 O 1 '51
Steel's coke capacity grows for expansion. J. Delaney. Iron Age 166:79-80 N 23 '50

COKE preparation
See also
Coke screening

COKE screening
Coke screening. A. A. Milkie. il Blast F & Steel Pl 39:1091-3 S '51

COLBERT, Lester Lum, 1905-
Chrysler corp.'s new president. por(p16) Fortune 43:17 Ap '51
In Keller's shoes; Chrysler corp. president. por Bsns W p26 N 11 '50
Portrait. Bsns W p68 S 15 '51

COLCHICINE
Colchicine; abstract. J. D. Loudon. Chem & Ind p 13 Ja 6 '51
Colchicine and related compounds. J. W. Cook and others. Chem Soc J p 139-47, 537-43 Ja-F '50
Colchicine and related compounds; synthesis of *N*-acetylcolchinol methyl ether. J. W. Cook and others. Chem Soc J p 1397-403 Je '51
Colchicine; nature of the B-ring. R. Horowitz and others. bibliog Am Chem Soc J 72:4330-2 S '50
Colchicine; structure of Windaus anhydride. E. C. Horning and others. Am Chem Soc J 72:4840-1 O '50
Degradation of colchicine to octahydrodemethoxydesoxydesacetamidocolchicine. H. Rapoport and A. R. Williams. Am Chem Soc J 73:1896-7 Ap '51
Effect of colchicine on regeneration in pelmatohydra oligactis. F. M. Sturtevant, jr. and others. bibliog Science 114:241-2 Ag 31 '51
Oncological aspect of the immunity of colchicum to colchicine. L. J. Havas and A. Baldensperger. bibliog Science 114:208-10 Ag 24 '51
Tropoline. W. V. Doering and L. H. Knox. bibliog Am Chem Soc J 73:828-38 F '51

COLCHINOL methyl ether
Colchicine and related compounds; synthesis of *N*-acetylcolchinol methyl ether. J. W. Cook and others. Chem Soc J p 1397-403 Je '51
Synthesis of DL-colchinol methyl ether. H. Rapoport, A. R. Williams and M. E. Cisney. bibliog Am Chem Soc J 73:1414-21 Ap '51

COLD
See also
Cooling
Refrigeration and refrigerating machinery
Temperature, Low

Physiological effect

Low-temperature properties of man. R. W. Beal. il S A E J 58:46-7 D '50

COLD (disease)
Cold cure doubts. Chem Ind W 68:16-17 F 17 '51
Common cold. C. H. Andrewes. il Sci Am 184:39-45 F '51
Reducing absenteeism in cold weather; purifying air in offices with Glyco-Master vaporizer. Am Bsns 21:50-1 Ja '51
Symptomatic treatment of the common cold; usefulness of antihistaminics. R. F. Buchan and others. bibliog A M A Archives Ind Hygiene & Occup Med 4:32-42 Jl '51; Abstract. Nat Safety N 64:118+ O '51

COLD storage
Cold storage food stock sets new record. Refrig Eng 59:77 Ja '51
Discoloration of stored meat. Refrig Eng 58:1189 D '50
Ground heat in cold storages. G. F. Sainsbury. diags Refrig Eng 58:1066-9+ N '50
See also
Refrigeration and refrigerating machinery

COLD storage locker plants
Communal deep-freeze plant. il Elec R (Lond) 148:217-18 F 2 '51
Locker room usage heat loads. R. D. Haynes and W. E. Garner. il plans Refrig Eng 59:359-63 Ap '51

COLD storage warehouses
Ammonia refrigeration for new merchants warehouse. Refrig Eng 59:897+ S '51
Design of standardized refrigerated warehouses in Russia. A. Sheffer. diag Refrig Eng 59:156 F '51
How three refrigeration plants serve cooling and freezing loads. W. Brownlow. il map diag Power 95:92-4+ Ja '51
Warehouse goes underground. il Bsns W p85-6 Je 23 '51
Warehouses with fresh twists; Cashmere Fruit Growers. il Food Ind 23:99+ Mr '51

COLD welding. See Welding—Cold welding

COLD working of metals. See Metals, Cold working of; Steel, Cold working of

COLD working of steel. See Steel, Cold working of

COLDREN, Clarke L.
I&EC award improves quality of paper presentation; award to C. L. Coldren. por(cover) Chem & Eng N 29:192 Ja 15 '51

COLEMAN, Sheldon
New president of Coleman company. H. Woodward. por Sales Management 66:41 Je 1 '51

COLEMAN company
Earnings in 1950 may exceed $8 a share. Barron's 30:15 D 4 '50
Sales training, even now. il Bsns W p 114-15 Mr 17 '51

COLGATE-PALMOLIVE-PEET company
Six stocks behind the market; ready to move. J. C. Clifford. Mag of Wall St 88:657+ S 22 '51

COLLAGEN
Collagen-gelatin transformation; abstract and discussion. K. G. A. Pankhurst. Chem & Ind p794-5 S 22 '51
Extensibility and minimum number of polypeptide chains in the collagen micelle. P. O. Mustacchi. bibliog il Science 113:405-7 Ap 13 '51
High-pressure apparatus for compressibility studies and its application to measurements on leather and collagen. C. E. Weir. bibliog diags J Res Nat Bur Stand 45:468-76 D '50
Periodic statistical distortion of unidirectionally ordered diffractors, with application to collagen. R. S. Bear and O. E. A. Bolduan. il diags J Ap Phys 22:191-8 F '51

COLLAPSIBLE corporations. See Corporations—Collapsible corporations

COLLAPSIBLE tanks. See Tanks, Collapsible

COLLATING machines
Macey collator. il Inland Ptr 126:71 N '50; Machine Design 23:128 Ja '51

COLLECTING of accounts
Bill collection stations in large cities; panel discussion. W. R. LaDue and others. Am Water Works Assn J 43:136-44 F '51
Collection policy your customer will buy. C. L. Havener. Am Gas Assn Proc 1950:192-4; Same. Am Gas J 173:23+ D '50
Collections and complaints. A. E. Clark. Water & Sewage Works 98:385-6 S '51
Credit and collection experience of United States electric and gas industries; first six months of 1950 as compared with the first half of 1949. Edison Elec Inst Bul 18:382 O '50

COLLECTING of accounts—*Continued*

Credit and collection policies relative to gas space heating business. G. A. Borgo and A. B. Russell. Gas Age 106:48+ D 7 '50

Credit picture reveals abnormal increase in net charge-off. Edison Elec Inst Bul 19:128-9 Ap '51; Same. Am Gas Assn Mo 33:11+ My '51

How to boost collections; southern seed processor's bonus scheme boosts driver-collected receipts. S. Covington. Am Bsns 21:24+ Je '51

Pointers on collections. H. J. Ashe. Inland Ptr 127:34-5 Jl '51

Procedures in handling water accounts; guided discussion. Munic Util 89:41-2+ Je '51

Winners in collection letter contest. Credit & Fin Management 53:14+ Ja; 11-13 F; 18-20 Mr; 27+ My '51

You don't have to lose money; examples of collection letters. Dom Eng 178:104-5 Ag '51

See also

Billing
Credit

COLLECTIVE bargaining

Arbitration under the labor contract, its nature, function and use. J. J. Justin. Personnel 27:286-300 Ja '51

Collective bargaining and the democratic process. E. E. Witte. Ann Am Acad 274:85-93 Mr '51

Collective bargaining in a defense economy. G. W. Taylor. Mo Labor R 72:140-2 F '51

Collective bargaining in the meat-packing industry. A. Bercowitz. Mo Labor R 73:156-9 Ag '51

Collective bargaining; past, present and future. N. B. Winstanley. Personnel 28:83-5 Jl '51

Controller and collective bargaining. Management R 39:672-3 N '50

Employer-employe relationships. H. S. Hall. Rock Prod 54:90-2 Mr '51

Employer unit in collective bargaining. J. C. Nix and L. C. Chase. Mo Labor R 71:695-7 D '50

Expanding scope of collective bargaining. R. C. Smyth. bibliog Personnel J 29:373-5 Mr '51

Growing demands of labor for share in profits will give accountants new role in management-employee negotiations. R. S. Cole. J Account 91:125-6 Ja '51

Labor's advances under collective bargaining. H. J. King. Comm & Fin Chr 174:1164-5 S 27 '51

Labor's share in the national income. L. R. Tripp. Ann Am Acad 274:47-56 Mr '51

Management view of collective bargaining. D. P. Loomis. Ann Am Acad 274:161-5 Mr '51

National labor policy. G. W. Taylor. Ann Am Acad 274:185-94 Mr '51

New look in collective bargaining; fact-finding, fact-using and fact-facing. F. Plasha. Personnel 27:472-9 My '51

See also

Atomic energy labor relations panel
Employees' representation in management
Trade agreements
Trade unions—Jurisdictional disputes

Industry-wide bargaining

Multi-employer bargaining; good or bad? L. Teplow. Management R 39:650-1 N '50

COLLEGE and school journalism

NYU students publish professional journal. D. Bentel. Ed & Pub 84:50 My 19 '51

COLLEGE architecture

Architects lift old Harvard's face. il Bsns W p60-2 S 22 '51

Florida southern college; chapel and circular library; views; designed by F. L. Wright. Arch Forum 94:102-3 Ja '51

Panama university planned like a modern acropolis. il plan Arch Forum 95:160-3 S '51

See also

Dormitories

COLLEGE athletics

Handling 200,000 mailing pieces a season; Keysort cards used at Northwestern university for handling football ticket orders. il Am Bsns 20:14-15+ N '50

COLLEGE buildings

Art building, Carleton college, Northfield, Minn. il plans Arch Rec 108:102-7 N '50

Art center for state university's campus in Fayetteville, Ark. il plans Arch Forum 95:164-9 S '51

Building designed for adult education; Cleveland college. il plans Arch Forum 94:146-9 Je '51

Chemical engineering building, University of Minnesota. il plans Arch Rec 109:126-31 My '51

Clemson House and Clemson Homes. il plans Arch Rec 110:106-13 Ag '51

Functional design of buildings for electrical education. J. R. Ryder and W. B. Boast. il plans Elec Eng 69:1081-6 D '50

General science and housecraft unit, Queen's college, Bridgetown, Barbados, B.W.I. il plans diag Arch Rec 109:106-7 F '51

Mexico builds its version of ivied halls. il Bsns W p 156-7 Ap 21 '51

Trinity university starts off series of buildings erected by Youtz-Slick lift-slab concrete method. il plans Arch Forum 95:180-3 S '51

See also

Chemistry buildings
Dormitories
Stadiums

Electric equipment

Leeds university; electrical equipment of new extension. il Elec R (Lond) 147:739-40 N 10 '50

Heating and ventilation

Extension to the steam plant at the University of Idaho. H. F. Gauss. il plan diag Power Eng 55:74-6+ Je '51

Heating job goes to school; Illinois institute of technology. il diags Dom Eng 177:152+ Ap '51

Matching increasing heat demands with efficient, low cost service; Illinois institute of technology. L. C. Hardison and W. J. Parduhn. il Heating-Piping 23:69-72 Ag '51

Lighting

Dual purpose lighting in new Wisconsin Engineering building. L. C. Larson. il Illum Eng 46:169-70 Ap '51

Lighting system for Worcester art center, Appleton, Wis. il plan Arch Rec 110:172-3 S '51

Oregon state college lights basketball floor. B. H. Nichols. il Elec West 106:74-5 Mr '51

COLLEGE education

Youth. G. D. Stoddard. il Sci Am 185:101-2+ S '51

COLLEGE graduates

New publication previews career mart; Career, inc. Bsns W p76 D 16 '50

COLLEGE housing projects. See Housing projects, College

COLLEGE journalism

Student editors get code to avoid conflict. Ed & Pub 84:44 S 22 '51

COLLEGE libraries

Building up of a library in the social studies at Nuffield college, Oxford. N. M. Lock. J Doc 7:1-9 Mr '51

Library in college instruction; a syllabus on the improvement of college instruction through library use. L. R. Wilson, M. H. Lowell and S. R. Reed. 347p $3.75 H. W. Wilson co, New York '51

Two techniques in school libraries. il Illum Eng 45:604-5 O '50

See also

Birmingham university—Library
Business schools and colleges—Libraries
Engineering colleges—Libraries
Leeds university—Library

Architecture

See Library architecture

Departmental libraries

Current status of departmental libraries in chemistry. J. W. Broberg and R. E. Dunbar. J Chem Educ 28:435-6 Ag '51

COLLEGE libraries—*Continued*

Student assistants

Student help in a small college of pharmacy library; Philadelphia college of pharmacy and science. E. W. Johnson. Special Lib 42: 97-8+ Mr '51

COLLEGE newspapers

College daily saves by offset process. Ed & Pub 83:60 D 9 '50

Journalism school helps solve UCLA newspaper tiff. D. Bentel. Ed & Pub 84:32 My 5 '51

COLLEGE professors and instructors

College professors go to business! summer sessions at company plants. N. Keine. il Ptr Ink 236:31-2 Jl 20 '51

Evansville, Ind. professors tour industry, learn new management techniques. Am Bsns 21:36 Ap '51

Training

Professional training of college teachers. T. H. Matthews. Science 113:466 Ap 20 '51

COLLEGE students

College students may expect some draft deferment. Eng N 146:55 Ja 25 '51

Deferment of superior students urged by draft advisory board. Civil Eng 21:47 Ja '51

How draft test was made. il Bsns W p70+ Jl 7 '51

Michigan state college Career carnival lures employee-hungry companies. il Am Bsns 21:32+ Ag '51

Today's students called men with a mission. J. R. Killian, jr. Tech R 53:20-1+ N '50

Where we found apprentices for district work. S. Herndon. Gas Age 107:36+ F 1 '51

Housing

See Housing projects, College

COLLEGES and universities

University's responsibility to science. J. R. Killian, jr. Chem & Eng N 29:2033-5 My 21 '51

See also

Academic freedom

Church and college

Engineering colleges

Accounting

Is there a need for separate accounting principles for nonprofit enterprises? L. Morey. J Account 91:562-5 Ap '51

Curriculum

Collegiate education for marriage and family living. H. A. Bowman. Ann Am Acad 272: 148-55 N '50

Finance

Colleges face a private depression. Bsns W p52+ Ap 7 '51

Colleges in trouble. Bsns W p 100+ Ja 20 '51

Plight of the colleges; with tabulation of largest American endowments, 1950 and 1940. F. Morley. Barron's 31:5-6 Ja 29 '51

See also

Colleges and universities—Investments

Investments

Alumni gift test plan to use mutual shares; Knobloch plan at Yale. P. A. Johnston. Barron's 31:17 Jl 2 '51

College investments; alumni gifts swell total, but income yields shrink. J. S. Bowen. Barron's 31:5+ Je 25 '51

Harvard's investments yielding better return. J. S. Bowen. Barron's 31:21-2 O 8 '51

St Louis Car works for Lafayette college. Bsns W p 138-9 Je 23 '51

Research

Careers in chemistry and chemical engineering; academic research as a career. L. Pauling. Chem & Eng N 28:3970-1 N 13 '50

General industrial practice regarding fellowships. M. J. Bergen. J Eng Educ 41:513-17 My '51

Industrial fellowships for graduate study from the university viewpoint. W. L. Everitt. J Eng Educ 41:508-12 My '51

Industrial relations research at universities; progress report, 1950-51. Personnel 28:86-96, 178-96 Jl-S '51 (to be cont)

Needed; a common ground for business and university research. R. Ferber. Ptr Ink 234: 43 Mr 23 '51

Promoting research in the Southeast; a progress report. J. R. Sampey. bibliog(54 ref) J Chem Educ 28:32-3 Ja '51

Research corp. announces impressive program. Chem & Eng N 29:3093-4, 3175-7, 3376 Jl 30-Ag 13 '51

Service to industry; University of Maine research. J. B. Calkin. il J Chem Educ 28: 394-6 Jl '51

Texas research center aids oil industry; Off-campus research center. F. D. Thompson. il World Oil 133:69-70 Jl '51; Same cond. Pet Eng 23:B50+ Je '51

To make survey of research facilities of all American colleges and universities. Eng N 146:52 Ap 5 '51

Undergraduate research. C. F. Brown. J Chem Educ 28:382-3 Jl '51

Undergraduate research. W. V. Evans and others. J Chem Educ 28:143 Mr '51

Universities and research for national defense. E. A. Walker. J Eng Educ 41:505-7 My '51

Bibliography

Faculty research and publications, July 1, 1948-June 30, 1950. 66p Tulane university, New Orleans '50

Service to business

Business and colleges. R. W. Babson. Comm & Fin Chr 173:1339 Mr 29 '51

Nine ways to multiply profits in business; cooperation between business and colleges. C. Schoenfeld. il Am Bsns 20:8-9+ N '50

Student records

More reliable letters of evaluation. E. A. Metcalf. J Chem Educ 28:40-1 Ja '51

Australia

See also

Australian national university, Canberra

Great Britain

British universities. Economist 160:668-70, 726-7 Mr 24-31 '51

United States

Origins of U.S. scientists. H. B. Goodrich and others. map Sci Am 185:15-17 Jl '51

COLLETS

Collet stop backs second-operation turnings. C. H. Willey. diags Am Mach 95:171 Ap 16 '51

Pneumatic mechanism works manual collet closer. G. Hirsch. diags Am Mach 95:173 Ap 16 '51

Steep-taper arbors and collet shanks for milling and boring machines; tentative standard; reference book sheet. diags Am Mach 94:135 N 27 '50

Stubby collet attachment mounts on machine table. F. L. Keller. diags Am Mach 95:170 Ap 16 '51

COLLINS radio company

Has $100 million backlog. Barron's 31:17 F 19 '51

Security I like best. P. L. Carret. Comm & Fin Chr 174:1246 O 4 '51

COLLISION phenomena

Angular distribution of the pions produced in high energy nuclear collisions. E. Fermi. diag Phys R 81:683-7 Mr 1 '51

Differential cross section for high energy nucleon-nucleon collisions. H. S. Green and H. Messel. Phys R 83:842-3 Ag 15 '51

Mean square angle of emission of nucleons in high energy nucleon-nucleus collisions. H. Messel and H. S. Green. Phys R 83:1279 S 15 '51

COLLOIDS

A.C.S. Division of colloid chemistry jubilee meeting, New York. Chem & Eng N 29: 3822-4 S 17 '51

Applications of colloid science to industry; symposium at Royal college of science. Chem & Ind p791-7 S 22 '51

COLLOIDS—*Continued*

Cation-exchange studies with the colloidal clay salts of silver. S. K. Mukherjee and S. Ghosh. bibliog J Phys & Colloid Chem 54:1110-21 N '50

Chemical progress during the 75 years of the American chemical society; colloid chemistry. W. O. Milligan, J. W. Williams and E. J. Miller. il Ind & Eng Chem 43: 1049-52 My '51

Coagulation effects of thorium nitrate on aqueous sols of silver halides in statu nascendi. B. Težak, E. Matijević and K. Schulz. bibliog Am Chem Soc J 73:1602-9 Ap '51

Colloid technology in papermaking. E. F. Thode. Paper Tr J 131:287-90 N 30 '50

Colloidal phenomena of antibiotics. E. A. Hauser and G. J. Marlowe. bibliog J Phys & Colloid Chem 54:1077-87 N '50

Colloidophagy in the human thyroid gland. C. A. Hellwig. bibliog il Science 113:725-6 Je 22 '51

Concept of critical zeta potential for hydrophobic sols. H. B. Weiser and P. Merrifield. bibliog diag J Phys & Colloid Chem 54:990-8 O '50

Concerning the measurement of pH, ion activities, and membrane potentials in colloidal systems. H. Jenny and others. diags Science 112:164-6 Ag 11 '50; Discussion. C. E. Marshall. 113:43-4 Ja 12 '51

Effect of a Gaussian distribution on flow birefringence. H. A. Scheraga. bibliog J Chem Phys 19:983-4 Jl '51

Effect of certain reagents upon the properties of bentonite colloids; inorganic salts. W. H. Slabaugh and J. L. Culbertson. bibliog diag J Phys & Colloid Chem 55:744-57 My '51

Effect of certain reagents upon the properties of bentonite colloids; reactions between hydrogen bentonite and organic amines. W. H. Slabaugh and J. L. Culbertson. bibliog diags J Phys & Colloid Chem 55:1131-9 O '51

Effect of colloidal noncarbon pigments on elastomer properties. E. Schmidt. bibliog il Ind & Eng Chem 43:679-83 Mr '51

Effect of gegen ions on the light scattering by solutions of colloidal electrolytes. T. M. Doscher and K. J. Mysels. J Chem Phys 19: 254-5 F '51

Effects of ultrasonic waves and nitrous acid on the production of colloidal sulfur. S. Akiya and others. bibliog Science 112:463-5 O 20 '50

Elastic constants of gelatinous substances. A. M. Srivastava. il Am Chem Soc J 73:489-90 Ja '51

Fluorescence quenching by colloid anions and cations. J. E. Lovelock. Chem Soc J p 115-20 Ja '51

Formation of colloidal sulfur. J. O. Edwards. Science 113:392 Ap 6 '51

Formulation studies of vinyl resin organosols. G. M. Powell and others. bibliog il Mod Plastics 28:129-30+ Je '51

Gold number studies, with some observations on sensitization and protection. H. B. Williams and L. T. Chang. bibliog J Phys & Colloid Chem 55:719-25 My '51

Growth of uniform colloidal dispersions. H. Reiss. bibliog J Chem Phys 19:482-7 Ap '51

Investigations on the mechanism of catalytic hydrogenations; studies with colloidal iridium. W. P. Dunworth and F. F. Nord. bibliog Am Chem Soc J 72:4197-8 S '50

Low angle X-ray diffraction of colloidal gold and carbon black. J. Turkevich and H. H. Hubbell. bibliog il diags Am Chem Soc J 73:1-7 Ja '51

Modern colloidchemical concepts of the phenomenon of coagulation. E. A. Hauser. bibliog diag J Phys & Colloid Chem 55: 605-11 Ap '51

Motion and precipitation of suspensoids in divergent electric fields. H. A. Pohl. diag J Ap Phys 22:869-71 Jl '51

Organophilic bentonites; organic liquid gels. J. W. Jordan, B. J. Hook and C. M. Finlayson. bibliog J Phys & Colloid Chem 54: 1196-208 N '50

Polyamide resin suspensoids. H. Wittcoff and others. India Rubber World 124:189-91 My '51

Preparation of silver colloid. G. Matsumura. Am Chem Soc J 73:2375 My '51

Solutions of metal soaps in organic solvents; peptisation and micelle size in solutions of some zinc soaps in toluene. V. D. Tughan and R. C. Pink. Chem Soc J p 1804-8 Jl '51

Some properties of the calcium salts of the lower fatty acids; viscosity. W. B. Bonnor and C. G. Smith. Chem Soc J p 1359-67 My '50

Some properties of thorium in very dilute aqueous solutions. M. H. Kurbatov, H. B. Webster and J. D. Kurbatov. bibliog J Phys & Colloid Chem 54:1239-50 N '50

Surface structure and composition of colloidal siliceous matter. E. A. Hauser, D. S. le Beau and P. P. Pevear. bibliog il J Phys & Colloid Chem 55:68-79 Ja '51

Symposium on complex ions and polyelectrolytes, Ithaca, N.Y. June 18-21. Chem & Eng N 29:2746-7 Jl 2 '51

Theory, production and mechanism of formation of monodispersed hydrosols. V. K. LaMer and R. H. Dinegar. bibliog Am Chem Soc J 72:4847-54 N '50

Ultrasonic studies of gels. A. M. Srivastava. il Acoustical Soc Am J 23:232-3 Mr '51

Ultrasonic studies of Weimarn gels. A. M. Srivastava. bibliog il diags Acoustical Soc Am J 23:553-8 S '51

See also

Adsorption
Aerosols
Brownian movements
Electric double layer
Electrophoresis
Emulsions
Gelation
Micelles
Polysaccharides
Silica gel
Soap

COLOMBIA

See also

Investments, Foreign (in Colombia)
Paleontology—Colombia
Petroleum laws and regulations—Colombia

Commercial policy

Allocations for importations. For Comm W 42:9-10 Ja 8 '51

Commodity controls; exchange allocation. For Comm W 42:11-12 Ja 15 '51

Compensating payments for imports from contiguous countries; list of prohibited imports modified. For Comm W 44:9 S 10 '51

Import controls. For Comm W 41:9-10 N 6 '50

Imports tax credit facilities as quotas are liberalized; import quotas. For Comm W 41:11-12 O 23 '50

Tariffs and trade controls. For Comm W 42: 18 F 19; 43:11-13 Ap 2; 44:12 Ag 6 '51

Economic conditions

News by countries. For Comm W 40:13-14 S 25; 41:11-12 O 23; 9-10 N 27 '50; 42:11-13 Ja 1; 9-10 Ja 8; 11 Ja 29; 10-11 F 5; 14-15 Mr 12; 43:10-13 Ap 2; 11 My 28; 44:11-12 Jl 9; 10 Ag 20; 17-18 S 3 '51

Foreign relations

United States

Treaty of friendship, commerce, and navigation between the United States and Colombia signed April 26, 1951. For Comm W 43: 10 My 28 '51

Industries and resources

Colombia bids for foreign capital. il Bsns W p 113-14 Je 30 '51

COLONIAL acceptance corporation

Offering of securities. Comm & Fin Chr 173: 475 Ja 29 '51

COLONIAL airlines

Janas quits as Colonial president. Aviation W 55:51-2 Jl 2 '51

U.S. attorney files action against Janas. Aviation W 55:73-4 Jl 16 '51

COLOR

Color and constitution; absorption of cyanines derived from 3-methylisoquinoline; a rule relating basicity and absorption in symmetrical cyanines. L. G. S. Brooker, F. L. White and R. H. Sprague. Am Chem Soc J 73:1087-93 Mr '51

Colour and constitution; basic dyes. M. J. S. Dewar. Chem Soc J p2329-34 S '50

Color card saves time and paint. Eng N 147:38 Jl 19 '51

COLOR—*Continued*

Color centers in additively colored alkali halide crystals containing alkaline earth ions. F. Seitz. Phys R 83:134-40 Jl 1 '51

Color change from daylight to night light, calculated and observed. I. H. Godlove. Opt Soc Am J 41:396-401 Je '51

Color change of ferrous hydroxide upon oxidation. R. R. Shively, jr. and W. A. Weyl. J Phys & Colloid Chem 55:512-15 Ap '51

Color fundamentals for tv engineers. D. G. Fink. diags Electronics 23:88-93 D '50; 24: 78-83 Ja; 104-9 F '51

Colour of organic compounds; a general colour rule. E. B. Knott. Chem Soc J p 1024-8 Ap '51

Colour of organic compounds; a new method of assessing the ± *M* effect of heterocyclic nuclei. E. B. Knott and L. A. Williams. Chem Soc J p 1586-9 Je '51

Colour of organic compounds; colour phenomena of bis-2-(3 : 5-diphenylpyrrole)methins. R. A. Jeffreys and E. B. Knott. Chem Soc J p 1028-30 Ap '51

Colour of organic compounds; indigo and related dyes. E. B. Knott. bibliog Soc Dyers & Col J 67:302-6 Ag '51

Color reactions of human antibody and normal human gamma globulin. S. M. Beiser and E. A. Kabat. bibliog Am Chem Soc J 73: 3501-2 Jl '51

Color reactions of thiophene derivatives and of other compounds with a ceric nitrate reagent. H. D. Hartough. bibliog Anal Chem 23:1128-30 Ag '51

Color yardstick measures microinches; abstract. K. B. Blodgett. Instruments 24:659 Je '51

Demonstration on the chemistry of color. S. C. Bunce and H. F. Hammer. bibliog J Chem Educ 28:546-8 O '51

Light absorption as a result of an interaction of two states of valency of the same element. W. A. Weyl. bibliog il J Phys & Colloid Chem 55:507-12 Ap '51

Munsell color book in textiles. H. R. Davidson and H. Luttringhaus. Opt Soc Am J 41:623-5 S '51

Paramagnetic resonance absorption crystals containing color centers. M. Tinkham and A. F. Kip. Phys R 83:657-8 Ag 1 '51

Psychological aspects of color and illumination. R. M. Evans. Illum Eng 46:176-81 Ap '51

Sensitive color of chromatic polarization. H. Kubota and others. bibliog diag Opt Soc Am J 41:537-46 Ag '51

Some adsorption colors and their significance for tautomeric and thermochromic effects. A. Schönberg and W. Asker. bibliog Science 113:56-7 Ja 19 '51

Spectrophotometric investigation of cobaltous nitrate in organic solvents. L. I. Katzin and E. Gebert. bibliog Am Chem Soc J 72: 5455-63 D '50

Spectrophotometric methods of establishing empirical formulas of colored complexes in solution. A. E. Harvey, jr. and D. L. Manning. Am Chem Soc J 72:4488-93 O '50

Spectrophotometric studies of cobaltous chloride. L. I. Katzin and E. Gebert. bibliog Am Chem Soc J 72:5464-71 D '50

Structural aspects of the color reaction of lignin with phenols. J. C. Pew. bibliog Am Chem Soc J 73:1678-85 Ap '51

Study of color centers produced in quartz by X-radiation. G. Forman. Opt Soc Am J 41:377-80 Je '51

See also

Bricks—Color
Color printing
Color sense
Colorimeters and colorimetry
Colorimetric analysis
Dyes and dyeing
Enamel and enameling—Color
Glass, Colored
Inter-Society color council
Light, Colored
Moving pictures, Colored
Paper—Color
Pigments
Pleochroism
Television—Color
Thermochromism

Standards

Accuracy of visual judgments of color differences on wool flannel. H. R. Davidson. diags Am Dyestuff Rep 40:247-54 Ap 16 '51

American standard methods of measuring and specifying color; Z58.7.1, Z58.7.2, and Z58.7. 3-1951. bibliog Opt Soc Am J 41:431-9 Jl '51

Color standards. C. Villalobos and J. Villalobos. Science 112:628 N 24 '50

Color tolerance specifications for paint. T. F. Boyd. Opt Soc Am J 41:552-7 Ag '51

Federal color card for paint reduces color from 600 to 187. Paint Oil & Chem R 114: 12B Je 21 '51

COLOR blindness

Color blindness. A. Chapanis. il diags Sci Am 184:48-53 Mr '51

Physiological mechanisms of color blindness. M. Ebe and others. Science 113:353-4 Mr 30 '51

Tritanopia with abnormally heavy ocular pigmentation. D. B. Judd and others. bibliog diags Opt Soc Am J 40:833-41 D '50

COLOR codes

Choice of colours for identification. W. E. K. Middleton. diags Can Chem Process 35: 649-51 Ag '51

Color coded switchboards; newest step in control room design. W. B. Morton. il Elec World 136:83-6 S 24 '51

COLOR codes, Safety

Color at work. il Nat Safety N 63:16+ Mr '51

Color for farm machines. A. Nicholson. Safety Maint & Prod 101:39 Ap '51

Color in industry; data sheet. Nat Safety N 63:90-2 F '51

Safety in color. D. A. Klemme. World Oil 131:115-16+ N '50

COLOR filters. See Light filters

COLOR glazes. See Glazes

COLOR in advertising

Alex Smith r.o.p. color test finds readership, costs high. R. B. McIntyre. Ed & Pub 84:9 Ag 11 '51

Color dominates highest scoring ads in ARF's business-paper readership study. Ptr Ink 233:86+ O 27 '50

Color for profit. L. Cheskin. 164p $3.50 Liveright pub. corp, 386 Fourth av, New York 16 '51

Color inserts; too lavish for industrial advertisers? Nordstrom valves. W. F. Weimer. il Sales Management 66:52+ Je 1 '51

Color sells a train, sells a color; Budd co., Southern Pacific railroad, Harper's Bazaar combine in traveling fashion show. il Bsns W p21 F 10 '51

Give distributors' salesmen the sort of catalog they want; Smith welding equipment corp. N. N. Canfield. il Ptr Ink 233:30-1 N 3 '50

Importance of color in marketing; abstract. H. K. Vahle. Management R 40:144-5 Mr '51

New color for advertisers; Day-Glo daylight fluorescent colors. L. Lapsley. il Adv Agency 44:76+ Mr '51

Thinking behind Smith's color ad tests. R. B. McIntyre. Ed & Pub 84:15-16 Mr 24 '51

See also

Advertisements—
Inserts

COLOR in architecture

Houses in uniform; planned harmony in exterior colors gives individuality. il Am Bld 73:166-7+ Ja '51

How color helped to sell these ranch homes. il plans Am Bld 73:128-9 S '51

COLOR in industry

Color at work. il Nat Safety N 63:16+ Mr '51

Color in industry. il Fortune 43:122-8 Je '51

Color in industry; data sheet. bibliog il Nat Safety N 63:32-3+ F '51

Dollar value of color for interiors of banks. F. Birren. il Banking 43:14 D '50

Good lighting and color stimulate high industrial production. C. E. Egeler. il Elec World 135:84-6+ F 26 '51

How to plan product colors. H. Ketcham. il Product Eng 22:139-46 Ag '51

Importance of color in marketing; abstract. H. K. Vahle. Management R 40:144-5 Mr '51

Light plus color, a pick-up for business. H. Ketcham. il Illum Eng 45:673-5 N '50

COLOR in industry—*Continued*

Painting and decorating pays dividends; abstract. A. D. Buschmann. Chem Eng 58:279-80+ F '51

See also

Color codes

Color codes, Safety

COLOR in newspapers

Many dailies ready to meet color television with color. Ed & Pub 84:7-8 Je 2 '51

COLOR in office management

Use of color in clerical work. Management R 39:703-4 D '50

COLOR in plastic materials

Color problems in vinyl film and sheeting. F. G. Clark. il India Rubber World 123:571-3 F '51

Coloring of plastics; abstract. D. L. Turner. Am Dyestuff Rep 40:8 Ja 8 '51

Latest advances in dry coloring styrene molding material. S. E. Glick. il diags Mod Plastics 28:79-83 F '51

Proven techniques for dry coloring thermoplastics. S. E. Glick. il India Rubber World 123:687-9 Mr '51

COLOR in the ceramic industry

Developing color in engobes. Cer Ind 57:85 S '51

See also

Bricks—Color

Enamel and enameling—Color

Glazes

COLOR in the textile industry

See also

Dyes and dyeing

COLOR matching

Accuracy of visual judgments of color differences on wool flannel. H. R. Davidson. diags Am Dyestuff Rep 40:247-54 Ap 16 '51

Color discrimination. W. D. Wright. il diags Rayon 31:79-80 Ap; 80 Je '50; 32:59-60+ Mr; 56-8+ Ag '51 (to be cont)

Industrial tristimulus color matcher. G. P. Bentley. diags Electronics 24:102-3 Ag '51

COLOR measurement

American standard methods of measuring and specifying color; Z58.7.1, Z58.7.2, and Z58.7, 3-1951. bibliog Opt Soc Am J 41:431-9 Jl '51

Color and gloss measurements; abstract. Product Eng 22:240-1 Je '51

Color change from daylight to night light, calculated and observed. I. H. Godlove. Opt Soc Am J 41:396-401 Je '51

Color control by instrument? C. F. King. Inland Ptr 126:45-8 D '50

Further study on the interference color. H. Kubota and T. Ara. diags Opt Soc Am J 41:16-23 Ja '51

Guide for measurement of color. D. L. MacAdam. il Standardization 22:176-8 Je '51; Same. Rayon 32:64+ Je '51

Illuminant-converting filter for use with the automatic tristimulus integrator. H. R. Davidson and others. Opt Soc Am J 40:817-18 D '50

Instrument quickly and accurately measures color; tristimulus photometer. il Product Eng 22:170 F '51

Measurements of fading colours. E. Waters. Chem Age (Lond) 63:865-6 D 23 '50

New electronic device facilitates color measurement. G. C. Sziklai. Franklin Inst J 251: 207-8 Ja '51

Quality of color reproduction. D. L. MacAdam. bibliog diags Inst Radio Eng Proc 39:468-85 My '51; Same. Soc Motion Picture & Tv Eng J 56:487-512 My '51

Sensitive color of chromatic polarization. H. Kubota and others. bibliog diag Opt Soc Am J 41:537-46 Ag '51

This meter gives better color evaluations; Hunter color-difference meter for tomato juice. A. Kramer. bibliog il diags Food Ind 22:1897-900 N '50

Tristimulus photometer. G. C. Sziklai. il diag Opt Soc Am J 41:321-3 My '51

Visual sensitivity to surface color differences. H. R. Davidson. bibliog Opt Soc Am J 41: 104-11 F '51

See also

Colorimeters and colorimetry

COLOR of animals

See also

Chromatophores

COLOR photography

Direct-reading equivalent densitometer. A. F. Thiels. bibliog il diags Soc Motion Picture & Tv Eng J 56:13-22 Ja '51

How its done; photos showing how Eastman Kodak company produced Colorama from small color negatives. Adv Agency 44:62-3 Mr '51

Kodak colour materials. R. C. Davey. Chem & Ind p 145-6 F 24 '51

Natural color photography in colloidal silver. R. D. Bensley. Science 112:553-7 N 10 '50

Quality of color reproduction. D. L. MacAdam. bibliog diags Inst Radio Eng Proc 39:468-85 My '51; Same. Soc Motion Picture & Tv Eng J 56:487-512 My '51

Semiautomatic color analyzer. L. E. Varden. bibliog il diag Soc Motion Picture & Tv Eng J 56:197-204 F '51

Synthetic color-forming binders for photographic emulsions. A. B. Jennings and others. bibliog il diag Soc Motion Picture & Tv Eng J 55:455-76 N '50

Versatile densitometer for color films. A. C. Lapsley and J. P. Weiss. il diags Soc Motion Picture & Tv Eng J 56:23-9 Ja '51

See also

Moving pictures, Colored

COLOR printing

Color analyst proves worth in many ways. J. E. McMullen. Ed & Pub 84:64 F 10 '51

Color control by instrument? C. F. King. Inland Ptr 126:45-8 D '50

Craftsmen are eager to improve color ads. G. A. Brandenburg. Ed & Pub 84:12+ Je 16 '51

Do the paste-up yourself and save money on plates. H. C. Latimer. il Ptr Ink 235:42-3 Je 22 '51

Every color the Grand Canyon has. J. Kovec. Inland Ptr 126:46 Mr '51

Hart Schaffner & Marx reports uniform results in color ads. Ed & Pub 84:11 Ap 14 '51

How Curtis color analyst operates in the Milwaukee journal. G. Eaton. il Inland Ptr 127:44-5 My '51

Inkometer measures length and tack of inks. C. F. King. il Inland Ptr 127:78-9 Ag; 66 S '51

Lithography and contemporary color reproduction by offset. J. T. Morgan, jr. il Inland Ptr 127:37-9+ S '51

Luke S. Johnsos is not a bear when it comes to aniline printing. G. Eaton. Inland Ptr 126:31-2 Mr '51

New Curtis analyst speeds color work. diag Ed & Pub 84:63 Mr 10 '51; Ptr Ink 234:70 Mr 2 '51

Peculiar multicolor problem. E. St John. Inland Ptr 127:74-5 Je '51

Seattle Times has $2,500,000 expansion; color from soft packing effects saving. C. Watson. Ed & Pub 83:57-8 N 11 '50

Simple method for taking quick proofs in color. G. H. Petty. il Inland Ptr 127:75 Ag '51

Two-color press produces admirable work when proper procedure is followed. E. St John. il Inland Ptr 127:43-5 Ap '51

What agencies should know about lithography. H. C. Latimer. diags Adv Agency 43: 72+ D '50

See also

Color in newspapers

Silk screen printing

COLOR sense

Binocular fusion of yellow in relation to color theories. L. M. Hurvich and D. Jameson. bibliog Science 114:199-202 Ag 24 '51

Color discrimination. W. D. Wright. il diags Rayon 31:79-80 Ap; 80 Je '50; 32:59-60+ Mr; 56-8+ Ag '51 (to be cont)

Human color vision; abstract. W. R. Lang. Am Dyestuff Rep 40:558-9 S 3 '51

Influence of visual adaptation on loci of constant hue and saturation. D. L. MacAdam. bibliog Opt Soc Am J 41:615-19 S '51

Psychophysical study of white. L. M. Hurvich and D. Jameson. bibliog diag Opt Soc Am J 41:521-36 Ag '51

Some consequences of the additivity of luminosities. R. H. Sinden. bibliog Opt Soc Am J 40:647-52 O '50

COLOR sense—*Continued*

Subjective spectral band limits under controlled conditions. Z. V. Harvalik and J. H. Bowen. bibliog Opt Soc Am J 40:755-6 N '50

Visual sensitivity to surface color differences. H. R. Davidson. bibliog Opt Soc Am J 41: 104-11 F '51

COLOR television. See Television—Color

COLOR temperature

Psychophysical study of white; neutral adaptation. L. M. Hurvich and D. Jameson. bibliog diag Opt Soc Am J 41:521-7 Ag '51

Simplified index for color of illuminants. F. F. Crandell and others. il diag Soc Motion Picture & Tv Eng J 56:386-97 Ap '51

COLORADO

See also

Mines and mineral resources—Colorado

Paper industry and trade—Colorado

COLORADO fuel and iron corporation

CF&I improvements to cost $26.2 million. Steel 127:76 N 13 '50

COLORADO river

Retrogression on the lower Colorado river after 1935. J. W. Stanley. map Am Soc C E Proc 76 [no 28]:1-12 Ag '50; Discussion. 77 [no D-28]:1-3 My '51

Ten-dam program on upper Colorado is proposed in Reclamation report. Elec World 135:90 F 12 '51; Same. Eng N 146:24 F 15 '51

COLORADO university

Colorado university's steam-jet-powered supersonic wind tunnel. il diag Aeronautical Eng R 10:38-9+ Mr '51

COLORED moving pictures. See Moving pictures, Colored

COLORIMETERS and colorimetry

Absorptiometric colorimetry; discussion of instruments and terminology. C. H. Giles. bibliog(89 ref) diags Soc Dyers & Col J 66:615-29 D '50

Circuit for the Barnes color meter. P. H. Dowling. diag R Sci Instr 22:538-9 Jl '51

Confined spot filtration apparatus. J. L. Lambert, T. E. Moore and P. Arthur. diag Anal Chem 23:1193 Ag '51

Flow colorimeter adapted to chlorine analysis. R. C. Hawes and others. il diags Anal Chem 23:503-6 Mr '51

Industrial tristimulus color matcher. G. P. Bentley. diags Electronics 24:102-3 Ag '51

Instrumentation studies; study of photoelectric instruments for the measurement of color; reflectance and transmittance; Hunter color and color-difference meter. J. A. Van den Akker and others. bibliog il Tappi 34:sup 143A-58A S '51

Measurement of light and colour. G. T. Winch. il diags Inst E E Proc 96 pt 2:452-66 bibliog(52 titles, p464-6) Je '49; Discussion. 96 pt 2:466-70; 97 pt 2:821-6 Je '49, D '50

New automatic cotton colorimeter for use in cotton quality specification. D. Nickerson. il diags Textile Res J 21:33-8 Ja '51

Seagoing photoelectric colorimeter. W. L. Ford. il diags Anal Chem 22:1431-5 N '50

See also

Reflectometers

COLORIMETRIC analysis

Acid colorimetric test for metals. P. Reboul. Chem Age (Lond) 64:19 Ja 6 '51

Butylated hydroxyanisole in lard and shortening. J. H. Mahon and R. A. Chapman. bibliog Anal Chem 23:1120-3 Ag '51

Chemical determination of thorium in ores. J. C. Ingles. bibliog Can Chem & Process Ind 35:397-8+ My '51

Chemical differentiation between nicotinic acid and nicotinamide. J. P. Sweeney and W. L. Hall. bibliog Anal Chem 23:983-6 Jl '51

Chemical studies on insecticides; determination of parathion and dimethylparathion. J. A. A. Ketelaar and J. E. Hellingman. bibliog Anal Chem 23:646-50 Ap '51

Colorimetric assay of diacyl amides. J. B. Polya and P. L. Tardew. Anal Chem 23: 1036-7 Jl '51

Colorimetric determination of alkaloids in tissues by means of methyl orange. A. O. Gettler and I. Sunshine. bibliog Anal Chem 23:779-81 My '51

Colorimetric determination of aluminium in water using ammonium aurin tricarboxylate. A. C. Rolfe, F. R. Russell and N. T. Wilkinson. bibliog diag J Ap Chem 1:170-8 Ap '51

Colorimetric determination of copper in aluminium alloys. S. A. Shrager and G. Norwitz. bibliog J Ap Chem 1:354-5 Ag '51

Colorimetric determination of copper in steel with rubeanic acid. W. L. Miller, I. Geld and M. Quatinetz. bibliog Anal Chem 22: 1572-3 D '50

Colorimetric determination of ethyl alcohol. M. B. Williams and H. D. Reese. bibliog Anal Chem 22:1556-61 D '50

Colorimetric determination of glucosamine. B. Schloss. bibliog Anal Chem 23:1321-5 S '51

Colorimetric determination of hydrogen sulphide and methyl mercaptan in sulphate pulp mill effluents and of sodium sulphide in black liquor. R. H. Wright and others. bibliog il Tappi 34:289-94 Jl '51

Colorimetric determination of iron. T. S. West. bibliog Metallurgia 43:204-6, 260-1+, 311-13+ Ap-Je '51

Colorimetric determination of metals in sewage and industrial wastes. P. G. Butts and others. Sewage & Ind Wastes 22:1543-62 D '50; Same. Metal Finishing 49:50-60+ Ap '51

Colorimetric determination of methylated sugars; an improved micro-method of end-group assay. J. K. Bartlett and others. bibliog Chem & Ind p76 Ja 27 '51

Colorimetric determination of molybdate with catechol. S. Seifter and B. Novic. Anal Chem 23:188-9 Ja '51

Colorimetric determination of molybdenum by means of nitric and perchloric acids. H. J. Evans, E. R. Purvis and F. E. Bear. bibliog Anal Chem 22:1568-9 D '50

Colorimetric determination of nickel with alpha-furildioxime. A. R. Gahler, A. M. Mitchell and M. G. Mellon. bibliog Anal Chem 23:500-3 Mr '51

Colorimetric determination of 2-nitro-1,1-bis(*p*-chlorophenyl)alkanes. L. R. Jones and J. A. Riddick. bibliog Anal Chem 23:349-51 F '51

Colorimetric determination of rhenium. E. E. Malouf and M. G. White. bibliog Anal Chem 23:497-9 Mr '51

Colorimetric determination of rosin and rosin esters. M. H. Swann. bibliog Anal Chem 23:885-8 Je '51

Colorimetric determination of tungsten; study of variables involved in stannous chloride-thiocyanate method. H. Freund, M. L. Wright and R. K. Brookshier. bibliog Anal Chem 23:781-4 My '51

Colorimetric determination of vanadium with benzoylphenylhydroxylamine. S. C. Shome. bibliog Anal Chem 23:1186-8 Ag '51

Colorimetric estimation of tetrachloronitrobenzene. M. E. Auerbach. Anal Chem 22: 1287-8 O '50

Colorimetric estimation of various metal derivatives of sodium diethyldithiocarbamate. R. J. Lacoste, M. H. Earing and S. E. Wiberley. bibliog Anal Chem 23:871-4 Je '51

Colorimetric method for determination of traces of carbonyl compounds. G. R. Lappin and L. C. Clark. Anal Chem 23:541-2 Mr '51

Colorimetric method for the determination of thiophene in synthesis gas. H. W. Wainwright and G. I. Lambert. bibliog 7pls U S Bur Mines Rep of Invest 4753:1-11 '50

Determination of chlorine demands and chlorine residuals in sewage. I. Nusbaum and L. A. Meyerson. bibliog Sewage & Ind Wastes 23:968-76 Ag '51

Determination of fluorine in monofluorinated organic compounds in air and water. J. M. Salsbury and others. bibliog il diag Anal Chem 23:603-8 Ap '51

Determination of germanium; colorimetric determination of microgram amounts with oxidized hematoxylin. H. Newcombe and others. bibliog diag Anal Chem 23:1023-7 Jl '51

Determination of lactose in biological materials. M. G. Horowitz and others. bibliog Anal Chem 23:375-7 F '51

COLORIMETRIC analysis—*Continued*

Determination of molybdenum in soils and rocks; geochemical semimicro field method. F. N. Ward. bibliog Anal Chem 23:788-91 My '51

Determination of organic nitrogen; control of variables in the use of Nessler's reagent. J. F. Thompson and G. R. Morrison. bibliog Anal Chem 23:1153-7 Ag '51

Determination of organic peroxides by reaction with ferrous iron. U. M. Kolthoff and A. I. Medalia. bibliog Anal Chem 23:595-603 Ap '51

Determination of pentoses; effect of varying proportions of components of Bial's color reagent. G. L. Miller, R. H. Golder and E. E. Miller. bibliog Anal Chem 23:903-5 Je '51

Determination of small amounts of chromium in human blood, tissues, and urine; colorimetric method. P. F. Urone and H. K. Anders. bibliog Anal Chem 22:1317-21 O '50

Determination of small quantities of niacin in presence of niacinamide; separation by paper partition chromatography. E. G. Wollish, M. Schmall and E. G. E. Shafer. bibliog il diag Anal Chem 23:768-71 My '51

Determination of sodium and copper pentachlorophenates in dilute aqueous solutions. W. T. Haskins. Pub Health Rep 66:1047-51 Ag 17 '51

Determination of the miticide, 2-thenyl salicylate. J. Goldenson and S. Sass. Anal Chem 23:1170-2 Ag '51

Determination of trace amounts of selenium in water. J. L. Lambert, P. Arthur and T. E. Moore. bibliog diag Anal Chem 23:1101-6 Ag '51

Differential spectrophotometric determination of high percentages of nickel. R. Bastian. bibliog Anal Chem 23:580-6 Ap '51

Effect of high-voltage cathode rays on ascorbic acid; in vitro and in situ experiments. B. E. Proctor and J. P. O'Meara. bibliog Ind & Eng Chem 43:718-21 Mr '51

Estimation of antioxidants in lard and shortening. J. H. Mahon and R. A. Chapman. bibliog Anal Chem 23:1116-20 Ag '51

Estimation of gold in biological materials. S. Natelson and J. L. Zuckerman. bibliog Anal Chem 23:653-5 Ap '51

Estimation of nicotinic acid in tissues by the cyanogen bromide reaction. H. C. Goldthorpe and D. Tippit. Anal Chem 23:484-7 Mr '51

Evaluation of three iron methods using a factorial experiment; phenanthroline. L. K. Reitz, A. S. O'Brien and T. L. Davis. Anal Chem 22:1470-3 D '50

Flow colorimeter adapted to chlorine analysis. R. C. Hawes and others. il diags Anal Chem 23:503-6 Mr '51

Folin colorimetric procedure for amino acids. N. H. Furman, G. H. Morrison and A. F. Wagner. bibliog Anal Chem 22:1561-2 D '50

Geochemical techniques as applied in recent investigations in the Tintic district, Utah. H. Almond and H. T. Morris. bibliog maps diags Econ Geol 46:608-25 S '51

Improved method for the estimation of combined fucose in seaweeds. W. A. P. Black and others. bibliog Soc Chem Ind J 69:317-20 O '50

Inorganic phosphates and phosphate esters in tissue extracts. B. L. Griswold, F. L. Humoller and A. R. McIntyre. Anal Chem 23:192-4 Ja '51

Iridium in perchloric, phosphoric, and nitric acid mixtures; a spectrophotometric study. G. H. Ayres and Q. Quick. bibliog Anal Chem 22:1403-8 N '50

Isolation and determination of cobalt as nitroso R salt complex by chromatographic ion exchange. J. A. Dean. bibliog Anal Chem 23:1096-7 Ag '51

Linear starch reagents. J. L. Lambert. bibliog Anal Chem 23:1247-55 S '51

Metals present in nature; improved methods of colorimetric analysis. Y. Murakami. Chem Age (Lond) 64:356-7 Mr 3 '51

Microdetermination of arsenic and its application to biological material. G. R. Kingsley and R. R. Schaffert. bibliog diag Anal Chem 23:914-19 Je '51

Microdetermination of fluorine in solid halocarbons. R. R. Rickard, F. L. Ball and W. W. Harris. bibliog diag Anal Chem 23:919-21 Je '51

Microdetermination of free formaldehyde. M. Tanenbaum and C. E. Bricker. bibliog Anal Chem 23:354-7 F '51

Modification of Sanchez color test for nicotine. L. Feinstein and E. T. McCabe. Anal Chem 23:385 F '51

Modified colorimetric assay of pteroylglutamic acid. R. A. Kaselis and others. bibliog Anal Chem 23:746-51 My '51

Nature of the cobalt-thiocyanate reaction. P. W. West and C. G. de Vries. bibliog Anal Chem 23:334-7 F '51

New color reaction of cationic soaps and its application to studies of their interactions with cellulose fibers. J. A. Hart and E. W. Lee. Tappi 34:77-9 F '51

Peculiar kinetics of color formation in glycerol-catechol condensation. S. C. Harvey and V. Higby. Am Chem Soc J 73:4472 S '51

Phenyl mercuric or ethyl mercuric compounds; direct determination of several compounds in dilute aqueous solution. V. L. Miller, D. Polley and C. J. Gould. bibliog Anal Chem 23:1286-8 S '51

Photocolorimetric method for the analysis of nickel in nickel plating baths. G. C. H. Stone. bibliog il diag Metal Finishing 49:44-8 F '51

Photometric determination of phenols; application to blending of new lubricating oils. R. E. Snyder and R. O. Clark. bibliog Anal Chem 22:1428-31 N '50

Physical methods of food analysis. Chem Age (Lond) 63:877-8 D 23 '50

Polyoxyethylene stearate; colorimetric determination in dilute solutions. R. V. MacAllister and R. J. Lisk. Anal Chem 23:609-10 Ap '51

Precision colorimetry; application to determination of manganese. I. G. Young and C. F. Hiskey. bibliog Anal Chem 23:506-8 Mr '51

Principles of precision colorimetry; absorption law deviations in measurements of relative transmittance. C. F. Hiskey and I. G. Young. bibliog diags Anal Chem 23:1196-201 S '51

Principles of precision colorimetry; measuring maximum precision attainable with commercial instruments. C. F. Hiskey, J. Rabinowitz and I. G. Young. bibliog Anal Chem 22:1464-70 D '50

Quantitative phloroglucinol-HCL test in the evaluation of lignin preparations. R. M. De Baun and F. F. Nord. bibliog Tappi 34:71-3 F '51

Quantitative test for nornicotine. L. Feinstein and E. T. McCabe. Anal Chem 23:924-5 Je '51

Rapid analysis cuts furnace holding time. L. Silverman and others. bibliog Iron Age 167:70-2 Ja 18 '51

Reaction of nickel(II) and beta-isothioureidopropionic acid. L. J. Uhlig and H. Freiser. Anal Chem 23:1014-16 Jl '51

Reactions of activated glycerol dichlorohydrin with vitamin A. R. S. Allen and S. W. Fox. bibliog Anal Chem 22:1291-5 O '50

Sensitive field test for detecting heavy metals in soil or sediment. L. C. Huff. bibliog diags Econ Geol 46:524-40 Ag '51

Some aspects of boron analysis; Midlands analytical methods discussion group. Chem Age (Lond) 64:517-20 Ap 7 '51

Spectrophotometric determination of cerium(IV). A. I. Medalia and B. J. Byrne. bibliog Anal Chem 23:453-6 Mr '51

Spectrophotometric determination of molybdenum with phenylhydrazine hydrochloride. G. H. Ayres and B. L. Tuffly. bibliog Anal Chem 23:304-8 F '51

Spectrophotometric determination of nickel in calcium metal using 1,2-cyclohexanedionedioxime. R. C. Ferguson and C. V. Banks. bibliog Anal Chem 23:448-53 Mr '51

Spectrophotometric determination of 8-quinolinol and some of its halogenated derivatives. W. T. Haskins and G. W. Luttermoser. bibliog Anal Chem 23:456-8 Mr '51

Spectrophotometric studies on refined sugars in solution. F. W. Zerban, L. Sattler and J. Martin. bibliog Anal Chem 23:308-13 F '51

COLORIMETRIC analysis—*Continued*
Spectrophotometric study of the platinum(IV)-tin(II) chloride system. G. H. Ayres and A. S. Meyer, jr. bibliog Anal Chem 23:299-304 F '51
Spectrophotometric study of the ruthenium-dithio-oxamide complex. G. H. Ayres and F. Young. bibliog Anal Chem 22:1281-3 O '50
Spectrophotometric study of the ruthenium-thiourea complex. G. H. Ayres and F. Young. bibliog Anal Chem 22:1277-80 O '50
Streptomycin and mannosidostreptomycin in fermentation broths; ion exchange resin separation and spectrophotometric determination. C. V. St John, D. E. Flick and J. P. Tepe. bibliog Anal Chem 23:1289-91 S '51
Transmission characteristics in the visible spectral region of the quinalizarin and beryllium-quinalizarin complex in N/4 sodium hydroxide solution. G. W. Marks and H. T. Hall. 3pls U S Bur Mines Rep of Invest 4741:1-5 '50
See also
Chromogens

COLORING matter in food
Canadian food colour regulations. F. W. Atack. Can Chem & Process Ind 35:210-13+ Mr '51

COLTHROP board and paper mills, limited
Statement by the chairman. F. W. J. Smith. Economist 161:315 Ag 4 '51

COLUMBIA broadcasting system
CBS redraws its organization chart. Bsns W p48-50 Jl 21 '51
Revolutionizing radio; CBS wants to buy ABC and Hytron. Bsns W p21 My 12 '51

COLUMBIA cellulose company
Columbia Cellulose dedicates new sulphite mill at Prince Rupert. flow diag il Paper Ind 33:508-17 Ag '51
Dedication. J. N. Stephenson. Pulp & Pa of Can 52:96-7 Je '51

COLUMBIA gas system, inc.
Five low-priced speculative stocks. Mag of Wall St 87:609 Mr 10 '51
Public utility securities. O. Ely. Comm & Fin Chr 172:2101; 174:1173 N 30 '50, S 27 '51
World's largest system is still growing; with financial data, 1941-50. P. Hallingby, jr. map Barron's 31:9-10 O 8 '51

COLUMBIA river
BPA to record automatically flow of Columbia. D. L. Wylie. map diag Elec World 134:95 D 18 '50
Comprehensive plan for the Columbia basin. W. Whipple, jr. il maps Am Soc C E Proc 76 [no 45]:1-23 N '50
Relationship of hydroelectric power to the Columbia River basin development. O. E. Walsh. Elec Eng 70:861-5 O '51

Grand Coulee dam

World's largest pump starts to fill Coulee reservoir for Basin project. il Elec World News ed 135:6 Je 25 '51
World's largest pumping plant begins operation at Grand Coulee dam. S. J. Bohman. il diag Civil Eng 21:330-5 Je '51

COLUMBIA university

Graduate school of business

Columbia starts life insurance management research center. East Underw 52:20+ Mr 30 '51; Nat Underw (Life ed) 55:3+ Mr 30 '51
Columbia's school of business. il East Underw 51:3+ N 24 '50

COLUMBIUM
Columbium does not stabilize 18-8 stainless steel under certain conditions. M. G. Fontana. il Ind & Eng Chem 42:sup99A-100A N '50
Conservation of columbium. J. F. Tyrrell. bibliog il Metal Prog 58:63-8 Jl '50; Abstract. S A E J 59:108-9 F '51; Discussion. Metal Prog 58:691-708+ N '50
Conservation of niobium. Engineer 190:652-3 D 29 '50
Cross sections of gamma-proton reactions. J. Halpern and A. K. Mann. bibliog diag Phys R 83:370-3 Jl 15 '51
Geology, mining, and uses of strategic pegmatites. R. H. Jahns. bibliog il diags Min Eng 190:Trans 48-9 Ja '51
High temperature structure and thermal expansion of some metals as determined by X-ray diffraction data; platinum, tantalum, niobium, and molybdenum. J. W. Edwards and others. bibliog J Ap Phys 22:424-8 Ap '51
Importance of silicon in niobium-bearing steels and alloys. H. J. Goldschmidt. il Metallurgia 43:157-60 Ap '51
Interchangeability of Cb and Ta in type 347 stainless. W. O. Binder. il Metal Prog 59:219-27 F '51
Sintering mechanism between zirconium carbide and columbium; abstract. H. J. Hamjian and W. G. Lidman. Metal Prog 59:548+ Ap '51
Superconductivity of columbium. D. B. Cook and others. bibliog diag Phys R 80:737-43 N 15 '50
Tantalum partly replaces columbium content of electrodes. R. D. Thomas, jr. Iron Age 167:109-11 Ap 5 '51

Analysis

Anion exchange of zirconium, hafnium, niobium and tantalum in hydrochloric acid solutions. E. H. Huffman, G. M. Iddings and R. C. Lilly. Am Chem Soc J 73:4474-5 S '51
Anion exchange studies; protactinium in some HCl-HF mixtures; separation of niobium, tantalum and protactinium. K. A. Kraus and G. E. Moore. Am Chem Soc J 73:2900-2 Je '51
Anion exchange studies; separation of zirconium and niobium in HCl-HF mixtures. K. A. Kraus and G. E. Moore. bibliog il Am Chem Soc J 73:9-13 Ja '51

COLUMBIUM bromides
Anhydrous niobium tribromide and trichloride; preparation and properties. C. H. Brubaker, jr. and R. C. Young. diags Am Chem Soc J 73:4179-80 S '51

COLUMBIUM chlorides
Anhydrous niobium tribromide and trichloride; preparation and properties. C. H. Brubaker, jr. and R. C. Young. diags Am Chem Soc J 73:4179-80 S '51

COLUMBIUM compounds
Preparation of hexafluoroniobates, hexafluorotantalates, and hexafluorobismuthates by means of bromine trifluoride. V. Gutmann and H. J. Emeléus. Chem Soc J p 1046-50 Ap '50

COLUMBIUM fluorides
Fluorides of niobium, tantalum, tungsten, and rhenium. H. J. Emeléus and V. Gutmann. Chem Soc J p2115-18 Ag '50

COLUMBIUM halides
Determination of the structures of complex molecules and ions from X-ray diffraction by their solutions; the structures of the groups $PtBr_6^{--}$, $PtCl_6^{--}$, $Nb_6Cl_{12}^{++}$, $Ta_6Br_{12}^{++}$, and $Ta_6Cl_{12}^{++}$. P. A. Vaughan, J. H. Sturdivant and L. Pauling. bibliog Am Chem Soc J 72:5477-86 D '50

COLUMBUS, Indiana
Seams burst in little boom towns. Bsns W p76+ O 13 '51

COLUMBUS, Ohio
100 per cent backing for multimillion-dollar improvement program. Bsns W p98+ Ap 21 '51

COLUMBUS and southern Ohio electric company
Bonds offered. Comm & Fin Chr 174:898, 994-5 S 10, 17 '51
Ohio utility shrugs off rate reduction. Barron's 31:12 My 14 '51
Public utility securities. O. Ely. Comm & Fin Chr 172:2199; 173:2267 D 7 '50, My 31 '51
Stock offered. Comm & Fin Chr 173:1698 Ap 23 '51

COLUMNS
Base plates for fixed-end columns should be designed to resist uplift. S. W. Waterman, jr. diag Civil Eng 21:218-19 Ap '51
Buckling load of a stepped column. F. M. Hoblit. diags J Aeronautical Sci 18:124-6+ F '51
Buckling of a pretwisted pin-ended column. G. V. R. Rao. diag J Aeronautical Sci 18:211-12 Mr '51
Calculating the strength of pipe for columns. W. F. Schaphorst. Heat & Ven 48:70 Ag '51

COLUMNS—*Continued*

Column behavior in the plastic stress range. K. E. Duberg and T. W. Wilder, 3d. diags J Aeronautical Sci 17:323-7 Je '50; Discussion. N. J. Hoff. 17:743-4 N '50

Column nomograph; reference book sheet. C. A. Kulmann. diags Product Eng 21:171 N '50

Design formulas for wood columns. Eng N 145:23 D 28 '50

Eccentrically loaded corner columns. L. S. Muller. diags Am Concrete Inst J 22:562-5 Mr '51

Lateral buckling of eccentrically loaded I-section columns. H. N. Hill and J. W. Clark. bibliog il diag Am Soc C E Proc 76 [no 34]: 1-13 S '50; Discussion. 77 [no D-34]:1-5 S '51

COLUMNS, Concrete

Testing

Testing stresses and strains in power plant step column. il Concrete 59:14 F '51

COLUMNS, Steel

Effect of eccentricity on steel columns cannot be safely ignored. P. Rogers. diag Civil Eng 21:475-6 Ag '51

Leveling screws simplify setting column bases. C. Macklin. diags Am Concrete Inst J 23:93-4 S '51

Steel columns support 3,370-ft span across Delaware River reservoir. J. R. Stover and T. S. Cowen. il diag Elec World 134:108-10 N 20 '50

COMAN, Thomas F.

Portrait. Bsns W p46 S 15 '51

COMBINES. See Harvesting machinery

COMBUSTION

Chemical engineering unit processes fourth annual review, 1948-1950. B. Lewis and G. von Elbe. Ind & Eng Chem 43:1925-41 bibliog(834 ref, p 1933-41) S '51

Combustion in the open hearth furnace. J. M. Brashear. Blast F & Steel Pl 39:421-5+ Ap '51

Combustion profiles of a double-base nitrocellulose propellant. S. Patai and J. Jordan. il J Ap Chem 1:179-82 Ap '51

Effect of combustor-inlet conditions on performance of an annular turbojet combustor. J. H. Childs and others. il diags U S Nat Advisory Com for Aeronautics 1947:445-69 '50

Effect of gas composition on pre-mixer performance and the resulting pre-mix combustion characteristics. E. X. Schmidt. diags Am Gas Assn Proc 1950:715-20

Effect of initial mixture temperature on burning velocity. G. L. Dugger. Am Chem Soc J 73:2398 My '51

Efficient combustion of natural gas. E. M. Bingham. il Power Eng 55:91-2 Je '51

Flame propagation; the determination of fundamental burning velocities of hydrocarbons by a revised tube method. M. Gerstein, O. Levine and E. L. Wong. bibliog il diags Am Chem Soc J 73:418-22 Ja '51

Flame propagation; theoretical consideration of the burning velocities of hydrocarbons. D. M. Simon. bibliog Am Chem Soc J 73: 422-5 Ja '51

Flow patterns in furnaces. J. H. Chesters. bibliog il diags Chem & Ind p448-55 Je 16 '51

Historical approach to the teaching of science; development of oxygen theory as illustration. L. K. Nash. J Chem Educ 28: 146-51 Mr '51

How to work combustion problems. F. S. Drechsler. diag Power Eng 55:77-9 Jl '51

Increasing combustion efficiency in the steel industry. J. G. Sparks. il diags Iron & Steel Eng 28:89-94; Discussion. 94-6 Ap '51

Influence of carbon smokes on the corrosion of metal surfaces exposed to flue gases containing sulphur trioxide. R. W. Kear. diag J Ap Chem 1:393-9 S '51

Influence of carbon smokes on the dew-point and sulphur trioxide content of flame gases. G. Whittingham. bibliog diag J Ap Chem 1:382-8 S '51

Kinetic mechanisms and hydrocarbon flame spectra. R. C. Herman and others. bibliog Science 112:497-8 O 27 '50

Oxygen measurement as a guide to combustion efficiency. L. D. Cipriano and O. W. Riggs. il diags Oil & Gas J 50:90-2+ Jl 12 '51

Physicochemical aspects of the combustion of solid fuels; effects of additives. J. R. Arthur and J. R. Bowring. bibliog diags Ind & Eng Chem 43:528-33 F '51

Power handbook; fuels and combustion. P. W. Swain, comp. Power 95:86-9 Jl '51

Review of combustion phenomena for the gas turbine. D. G. Shepherd. bibliog(54 titles) A S M E Trans 73:921-32; Discussion. 932-4 O '51

Thermal hydrogen-oxygen reaction at relatively low temperatures. H. P. Broida and O. Oldenberg. bibliog J Chem Phys 19:196-202 F '51

Topochemistry of fuel beds. J. R. Arthur, D. H. Bangham and H. G. Crone. bibliog diags Ind & Eng Chem 43:525-8 F '51

Value of hot combustion air. I. Warner. Rock Prod 53:82+ N '50

See also

Boilers—Firing
Flames
Fuel
Gas burners
Internal combustion engines—Combustion research
Oxyacetylene flame
Spontaneous combustion

COMBUSTION, Heat of

Heat of combustion and formation of cyanogen. J. W. Knowlton and E. J. Prosen. bibliog J Res Nat Bur Stand 46:489-95 Je '51

Heat of combustion of biphenyl. G. S. Parks and L. M. Vaughan. Am Chem Soc J 73: 2380-1 My '51

Heat of polymerization of alpha-methyl-styrene from heats of combustion of monomer and four polymer fractions. D. E. Roberts and R. S. Jessup. bibliog J Res Nat Bur Stand 46:11-17 Ja '51

Heats of combustion, formation, and isomerization of ten C_4 hydrocarbons. E. J. Prosen and others. bibliog J Res Nat Bur Stand 46:106-12 F '51

Net heat of combustion of AN-F-58 aircraft fuels. S. Rothberg and R. S. Jessup. bibliog Ind & Eng Chem 43:981-5 Ap '51

Preparation and heats of combustion of some amine nitrates. T. L. Cottrell and J. E. Gill. Chem Soc J p 1798-800 Jl '51

COMBUSTION, Submerged

How to use submerged combustion to neutralize alkaline wastes. W. I. Weisman. diag Chem Eng 57:169-70 N '50

Submerged combustion now fully automatic. il Chem Eng 58:144-5 Jl '51

COMBUSTION analysis

Carbon on cracking catalyst; determination by combustion and conductometry. C. H. Hale and M. N. Hale. bibliog diag Anal Chem 23:724-6 My '51

Determination of fluorine in organic compounds; microcombustion method. H. S. Clark. bibliog diag Anal Chem 23:659-61 Ap '51

Dumas microdetermination of nitrogen in refractory organic compounds; modification of Zimmermann's method. P. D. Sternglanz, R. C. Thompson and W. L. Savell. bibliog diags Anal Chem 23:1027-30 Jl '51

Modification of lamp method for sulfur in naphthalene. J. J. Tighe, J. S. McNulty and E. J. Center. il Anal Chem 23:669-70 Ap '51

Organic microanalysis. G. Ingram. Chem Age (Lond) 64:125-7 Ja 20 '51

Recovery of inorganic ash from petroleum oils; radiochemical evaluation. L. O. Morgan and S. E. Turner. Anal Chem 23:978-9 Jl '51

See also

Oxygen bombs

COMBUSTION research

Chemical engineering unit processes fourth annual review; combustion, 1948-1950. B. Lewis and G. von Elbe. Ind & Eng Chem 43:1925-41 bibliog(834 ref, p 1933-41) S '51

See also Internal combustion engines—Combustion research

COMETS

Comets. F. L. Whipple. il Sci Am 185:22-6 Jl '51

Origin of planets and comets; abstract. F. L. Whipple. Science 112:454 O 20 '50

COMICS (books, strips, etc.)
Comic books sell water systems. il Dom Eng 178:112-13 S '51
Crime probers' study reduces heat on comics. Ed & Pub 83:10 N 18 '50
Jury acquits comic strips in mock trial. Ed & Pub 84:22 Ja 27 '51
Look who's buying comics now! E. M. Kelley. il Sales Management 66:118+ F 15; 68-72 Mr 1 '51
Multiple media comics buck a trend. R. W. Hoover. il Ptr Ink 236:35 Ag 3 '51
Smith-Mann to launch comics supplement. E. Knoll. Ed & Pub 84:43 Jl 21 '51
You can help fight inflation with this new comic book. E. J. Dever, jr. il Ptr Ink 235:59 Je 22 '51
See also
Advertisements, Pictorial—Comic strip
Newspapers—Comic strip

COMMEMORATIVE stamps. See Postage stamps

COMMERCE
Better balance in world trade; selections from report of Bank for international settlements. Fed Res Bul 37:1113-16 S '51
Foreign trade and national preparedness. L. D. Clay. Comm & Fin Chr 172:1781+ N 9 '50
Foreign trade faces 1951. E. E. Schnellbacher. il For Comm W 42:3-4 F 5 '51
Trade, strength of the free world. C. Sawyer. For Comm W 41:3-4+ N 13 '50
Trends in international trade and payments. Fed Res Bul 37:363-76 Ap '51
World trade in the melting pot. P. Einzig. Comm & Fin Chr 173:1151 Mr 15 '51
See also
Aeronautics, Commercial
Balance of payments
Banks and banking
Business
Commercial policy
Commercial statistics
Competition
Competition, International
Credit
Exhibitions
Export trade
Foreign exchange
Imports
Insurance, Marine
Interstate commerce commission
Marketing
Merchandizing
Merchant marine
Money
Ports
Prices
Purchasing
Shipment of goods
Shipping
Stock exchange
Stocks
Tariff
Transportation
Trusts, Industrial—International trusts

COMMERCIAL arbitration. See Arbitration

COMMERCIAL buildings
When controls end; more new stores than ever. il Bsns W p 108-10+ Ag 25 '51

COMMERCIAL chemical development association
Annual meeting, New York, March 21. Oil Paint & Drug Rep 159:5+ Mr 26 '51; Can Chem & Process Ind 35:313-15 Ap '51
Meeting, Detroit, Jan. 16. Oil Paint & Drug Rep 159:7+ Ja 22 '51; Chem & Eng N 29:374-5 Ja 29 '51

COMMERCIAL correspondence
Accentuate the positive, eliminate the negative! J. P. Riebel. Refrig Eng 59:663-5+ Jl '51
Congratulations by letter. W. H. Butterfield. Banking 43:54-5+ My '51
How to train letter writers; Johns-Manville nationwide correspondence training from home office. L. J. Brennan. il Ptr Ink 234:33-5 Mr 16 '51
Our grim struggle with English. W. H. Butterfield. Banking 44:49 Jl; 89 Ag '51
Take your letters out of the freezer. J. P. Riebel. Refrig Eng 59:566-7 Je '51
There's no excuse for stuffy letters. W. H. Butterfield. Banking 44:94-5 S '51
Wasted words mean wasted money. L. Baldwin. Bankers Mo 68:36+ Ag '51
What is your most important asset? business letter should build good will. N. B. Sigband. Credit & Fin Management 53:19-20+ F '51
You-attitude in correspondence. L. Baldwin. Bankers Mo 68:12+ Ja; 38+ F '51
Yours of the 17th received and contents noted; Gulf insurance co. correspondence. B. Adams. Sales Management 66:92+ Ap 15 '51
See also
Applications for positions
Collecting of accounts
Complaints
English language—Business English
Letterheads
Mail order business
Sales letters

COMMERCIAL credit company
Annual report, 39th. Comm & Fin Chr 173:963 Mr 5 '51
Insurance operations. East Underw 52:30 Mr 9 '51
Notes offered. Comm & Fin Chr 173:2602 Je 25 '51
Securities disturbing investors. R. Colston. Mag of Wall St 87:334-5 D 30 '50

COMMERCIAL discount corporation
Stock offered. Comm & Fin Chr 172:1434 O 16 '50

COMMERCIAL law
Legal news and notes of interest to financial executives. C. B. Everberg. Published in monthly numbers of Credit and financial management
Legislative and judicial development in marketing. W. F. Brown. ed. J Marketing 15:493-501 Ap '51 [cont quarterly]
New light on the legal headaches of the advertising agency; what about a Kefauver show? D. Miller. Ptr Ink 235:36-7 My 11 '51
Review of new lawsuits affecting the paper and pulpwood industry. L. T. Parker. Paper Ind 31:943-5; 32:504-6, 969-71 N '49, Ag, D '50
See also
Advertising—Laws and regulations
Banking law
Bankruptcy
Carriers
Checks—Law
Corporation law
Debtor and creditor
Foreign exchange
Government regulation of industry
Income tax
Insurance law
Liens
Liquidation
Mortgages
Negotiable instruments
Patent laws and legislation
Prices—Regulation
Promissory notes
Sales
Sales, Conditional
Trade marks—Law
Trusts, Industrial
Trusts and trustees

Examinations

Answers to uniform certified public accountant examination in commercial law, Nov. 1950. F. C. Bradley. J Account 91:718-25 My '51

COMMERCIAL paper
Commercial paper and bankers' acceptances outstanding, end of month Oct. 1949-Nov. 1950. Fed Res Bul 37:65 Ja '51 [cont monthly]

COMMERCIAL policy
Current trends in foreign trade policies; review of 1950. H. Chalmers. il For Comm W 42:3-10 F 19 '51
Foreign trade and national preparedness. L. D. Clay. Comm & Fin Chr 172:1781+ N 9 '50
General agreement on tariffs and trade; standards for operating trade controls approved at Torquay conference. H. Chalmers. For Comm W 42:3 Ja 15 '51
Import license and exchange control regulations in principal foreign countries applying to imports from the United States, revised as of Jan. 25, 1951; tabular summary. For Comm W 42:27-8 F 12 '51
Modern techniques in trade development; report on proceedings at the first joint trade development conference, Paris. M. J. Wasserman. For Comm W 42:3-4+ Ja 29 '51
No justification for foreign trade restraints. A. M. Strong. Comm & Fin Chr 172:1985 N 23 '50
Will rearmament impede trade barrier removals? P. Einzig. Comm & Fin Chr 172:1799 N 9 '50
See also
Far Eastern question

COMMERCIAL statistics
Balance of international payments, fourth quarter of 1950; with tabulations. W. Lederer. Survey of Cus Bsns 31:6-11+ Mr '51
Foreign trade in 1950. Survey of Cur Bsns 31:24-6 F '51

COMMERCIAL statistics—*Continued*

United States foreign trade; total trade; distribution by countries and areas and by leading commodities; 1936-1938 annual average, figures for selected months Dec. 1949-Dec. 1950 and annual figures, 1949 and 1950. For Comm W 42:5-8+ Mr 5 '51 [cont quarterly]

United States, the largest importer; with data on British and U.S. exports and imports, 1948-1950. Economist 160:99 Ja 13 '51

World trade; dollar volume by countries; 1950 monthly figures and Jan.-Sept. totals and annual totals for 1949 and 1950. For Comm W 42:3-5 Mr 5 '51 [cont quarterly]

COMMERCIAL treaties and agreements

Anglo-Argentine agreement; bad bargain in beef. Economist 160:1000-4 Ap 28 '51

Anglo-Argentine trade agreement signed April 23, 1951. For Comm W 43:8 My 28 '51

Anglo-Russian trade agreement. P. Einzig. Comm & Fin Chr 172:1999 N 23 '50

Argentina; trade agreement for exchange of goods concluded with Austria. For Comm W 44:9 S 24 '51

Argentina; trade agreement with Denmark supplemented. For Comm W 45:8-9 O 15 '51

Argentina; trade agreement with France signed. For Comm W 42:16 F 19 '51

Argentina; trade agreement with Hungary reactivated. For Comm W 44:8 Ag 27 '51

Argentina; trade agreement with Rumania concluded. For Comm W 45:11 O 1 '51

Australia signs trade agreement with western Germany. For Comm W 44:10 Ag 6 '51

Austria; agreement with France on exchange of commodities effective; trade and payments agreement with Czechoslovakia signed. For Comm W 42:9 F 5 '51

Austria; agreement with India on exchange of goods extended; trade agreement signed with western Germany. For Comm W 42:11-12 Mr 12 '51

Austria; protocol to trade agreement with western Germany. For Comm W 44:11 Ag 6 '51

Austria; trade and payments agreements with Belgium-Luxembourg concluded. For Comm W 44:9 Jl 9 '51

Austria; trade and payments agreement with Indonesia and with the Netherlands. For Comm W 43:10 My 7 '51

Austria; trade and payments agreement with Portugal initialed. For Comm W 44:8 Ag 20 '51

Austria; trade and payments agreement with Sweden extended. For Comm W 43:11-12 My 14 '51

Austria; trade protocol signed with Switzerland. For Comm W 42:7 F 26 '51

Brazil; commercial agreement signed with France. For Comm W 45:13 O 1 '51

Britain's trade agreement with Cuba. Economist 161:417 Ag 18 '51

Calendar of trade agreements as of June 30, 1951. For Comm W 44:24 Jl 16 '51

Czechoslovakia; United States trade-agreement concessions suspended with respect to imports. For Comm W 45:27 O 15 '51

Denmark; bilateral agreement with Finland provides for increased trade. For Comm W 44:10-11 Ag 20 '51

Denmark; bilateral trade and payments agreements with Indonesia. For Comm W 44:12 Ag 6 '51

Denmark; new trade agreement with Hungary signed; agreement for exchange of goods with Sweden signed. For Comm W 42:13 Mr 19 '51

Denmark; new 12-month trade agreement with Netherlands signed. For Comm W 44:10 Ag 13 '51

Ecuador; commercial agreement with Norway negotiated. For Comm W 42:13 F 12 '51

Ecuador; trade and payments agreements with Italy. For Comm W 44:13 Ag 6 '51

Effects of paper imports. D. K. Brown. Paper Tr J 132:125-7 F 23 '51

France; agreement with western Germany for commodity exchange effective. For Comm W 42:12-13 F 5 '51

France; commercial agreement signed with Yugoslavia. For Comm W 44:13 Jl 16 '51

France; commercial agreement with Spain signed. For Comm W 42:14 Mr 19 '51

France; commercial agreement with the Netherlands extended; agreement with Indonesia signed. For Comm W 43:12 My 21 '51

France; new trade agreement with Belgium-Luxembourg signed. For Comm W 43:14 Ap 9 '51

Future of GATT. Economist 159:799-800 N 18 '50

General agreement on tariffs and trade; achievements at Torquay. Economist 159:1163-4 D 23 '50

General agreement on tariffs and trade; Austria, a member. For Comm W 44:10 Jl 30 '51

General agreement on tariffs and trade; Austria signs Torquay protocol. For Comm W 45:26 O 8 '51

General agreement on tariffs and trade; commercial conduct rules. Economist 159:1219+ D 30 '50

General agreement on tariffs and trade; effective date of Norway's concessions. For Comm W 44:22 Ag 13 '51

General agreement on tariffs and trade; German signature of Torquay protocol. For Comm W 44:26-7 S 17 '51

General agreement on tariffs and trade; goodbye to all GATT; close of Torquay conference. Economist 160:901-2 Ap 21 '51

General agreement on tariffs and trade; 1942 trade agreement with Peru to be superseded by GATT. For Comm W 45:27 O 15 '51

General agreement on tariffs and trade; outlook for import-export trade under tariff cutting in Torquay. il map Mag of Wall St 88:299-301+ Je 16 '51

General agreement on tariffs and trade; Peru signs Torquay protocol. For Comm W 44:28 S 24 '51

General agreement on tariffs and trade; results of consultation on trade problems by contracting parties. For Comm W 42:4 Ja 15 '51

General agreement on tariffs and trade; standards for operating trade controls approved at Torquay conference. H. Chalmers. For Comm W 42:3 Ja 15 '51

General agreement on tariffs and trade; Sweden, Czechoslovakia sign Torquay protocol. For Comm W 43:27 Je 25 '51

General agreement on tariffs and trade; Syria withdraws from Gatt. For Comm W 44:24 Jl 16 '51

General agreement on tariffs and trade; tariff negotiations at Torquay completed. For Comm W 43:4+ My 28 '51

General agreement on tariffs and trade; Turkey signs Torquay protocol. For Comm W 45:26 O 1 '51

General agreement on tariffs and trade; U.S. concessions withdrawn from Czechoslovakia. For Comm W 44:21-2 Ag 13 '51

Germany (western); trade agreement with Egypt effective. For Comm W 44:13-14 Jl 16 '51

Germany (western); trade agreement with Netherlands concluded; new interzonal agreement with eastern Germany for exchange of goods. For Comm W 42:16 Mr 26 '51

Germany, western; trade protocol signed with Turkey. For Comm W 43:13 My 7 '51

Guatemala; commercial treaty with Denmark. For Comm W 44:16-17 Ag 6 '51

Japan signs sterling payments agreement with United Kingdom. For Comm W 45:12 O 15 '51

Japan; trade and financial agreements with western Germany signed; trade plan with Burma concluded. For Comm W 44:20-1 S 3 '51

Mutual assistance on United States imports and exports; strategic materials and commodities in short supply. For Comm W 44:27 Jl 30 '51

New code cuts red tape on trade and exchange. Bsns W p 109-10 Ja 13 '51

Nicaragua; free trade treaty concluded with El Salvador. For Comm W 44:14 S 17 '51

Norway; first trade agreement with Israel concluded. For Comm W 43:17 Je 4 '51

Norway; first trade agreement with Pakistan concluded. For Comm W 44:17 Jl 30 '51

COMMERCIAL treaties and agreements—*Cont.*
Norway; trade agreement with Indonesia signed; commodity-exchange and payments agreement concluded with Spain. For Comm W 42:18 Mr 12 '51
Reciprocal trade-agreements announcements. Published in Foreign commerce weekly
Reciprocal trade agreements program. H. P. Macgowan. il For Comm W 44:3-5+ Jl 30 '51
Reciprocal trade agreements program extension voted with peril point clause. Oil Paint & Drug Rep 159:4 F 12 '51
Reciprocal trade agreements under fire. Bsns W p 103 F 3 '51
Reciprocal trade law amendments; House reverts to protective tariffs. Bsns W p 144-6 F 17 '51
Turkey and Spain concluded trade and payments agreement. For Comm W 44:4 Ag 6 '51
Uruguay; payments agreement with Greece. For Comm W 44:26 Ag 6 '51
Venezuela; trade-agreement negotiations. For Comm W 44:23-4 S 10 '51
Yugoslavia; trade agreement signed with Greece. For Comm W 43:16 Je 18 '51

COMMISSION merchants
See also
Factors
Food brokers

COMMITTEES (in management)
Certainly we like committee management! C. R. Cary. Advanced Management 16:2-3 S '51

COMMODITY credit corporation
CCC is off the hook again. Bsns W p 108 F 17 '51

COMMODITY exchanges. See Exchanges

COMMON disaster law. See Survivorship, Presumption of

COMMON trust funds. See Trusts and trustees—Common trust funds

COMMONWEALTH and southern corporation
Missing; 15,000 stockholders. Am Gas J 175:11-12 Ag '51

COMMONWEALTH Edison company
Debentures offered. Comm & Fin Chr 173:199 Ja 15 '51
Earnings are stable. Barron's 31:20 F 19 '51
Gale keeps Commonwealth policies. il Elec World News ed 136:4-5 Ag 20 '51

COMMONWEALTH natural gas corporation
Security I like best. H. E. Greene. Comm & Fin Chr 172:2178 D 7 '50
Stock offering underwritten. Comm & Fin Chr 172:1434 O 16 '50

COMMONWEALTH telephone company
Preferred stock offered. Comm & Fin Chr 173:1070 Mr 12 '51

COMMUNICATION
Communication in the work group. H. O. Ronken. Harvard Bsns R 29:108-14 Jl '51
Communication patterns in task-oriented groups. A. Bavelas. diags Acoustical Soc Am J 22:725-30 N '50
Coordination of research and development work. J. A. Leermakers. Chem & Eng N 29:3152-4 Ag 6 '51
Experimental approach to organizational communication. A. Bavelas and D. Barrett. diags Personnel 27:366-71 Mr '51
How to get an idea across. R. P. Cort. Personnel 28:46-51 Jl '51
Information, measurement, and quantum mechanics. J. Rothstein. bibliog diag Science 114:171-5 Ag 17 '51
Information theory and most efficient codings for communication or memory devices. L. Brillouin. J Ap Phys 22:1108-11 S '51
Maxwell's demon cannot operate; information and entropy. L. Brillouin. J Ap Phys 22:334-43 Mr '51
Nervous system as a communication network; summary and discussion. J. A. V. Bates. Inst E E Proc 98 pt 3:112 Mr '51; Same. Elec R (Lond) 147:873-4 D 1 '50
Private vs. party line; MIT research on communications systems. Bsns W p 106 Ap 28 '51
Problem for the front office. Fortune 43:78-81+ My '51
Spotlight on an unsolved problem, communication. E. Ahern. bibliog Personnel J 29:306-7 Ja '51
Who's in the communication business? J. Perry. Adv Agency 44:64+ Ag '51
See also
Speech

COMMUNICATION, Electric. See Electric communication

COMMUNICATION, Factory. See Factory communication

COMMUNICATION, Military
Naval communications. J. R. Redman. il diag Radio & Tv N 44:47-9+ D '50
Technical aspects of naval communications. J. A. Morrison. il Radio & Tv N 44:50-1+ D '50
See also
Military telephone
Radio communication, Military
United States—Army—Signal corps

COMMUNICATION, Naval. See Communication, Military

COMMUNICATION, Psychology of
People in groups; three aspects of the problem; communication, leadership and interaction. D. B. Hertz and S. L. Lesser. il Sci Am 184:26-8 F '51

COMMUNICATION, Theory of
Application of correlation analysis to the detection of periodic signals in noise. Y. W. Lee and others. il diags Inst Radio Eng Proc 38:1165-71 O '50; Discussion. 39:1094-6 S '51
Definition of information. E. Reich. bibliog Inst Radio Eng Proc 39:290 Mr '51
Digital electronic correlator. H. E. Singleton. bibliog diags Inst Radio Eng Proc 38:1422-8 D '50
Information theory applied to system design. W. G. Tuller. diags Elec Eng 70:124-6 F '51
Information theory point of view in speech communication. R. M. Fano. Acoustical Soc Am J 22:691-6 N '50
Prediction and entropy of printed English. C. E. Shannon. diag Bell System Tech J 30:50-64 Ja '51
Relation of phonetics and linguistics to communication theory. O. H. Straus. Acoustical Soc Am J 22:709-11 N '50
Speech, language, and learning. N. Wiener. Acoustical Soc Am J 22:696-7 N '50

COMMUNICATION and traffic
See also
Airlines
Airways
Carriers
Factory communication
Highway transportation
Motor vehicles
Pipe lines—Communication systems
Radio communication
Railroads
Rapid transit
Roads
Shipping
Street traffic
Telegraph
Telephone
Teletype
Television
Transportation
Waterways

Finland

Finland's communication facilities expanded for 1952 olympic games. For Comm W 45:23 O 8 '51

Germany

Communication facilities expanded in western Germany. For Comm W 44:29 S 3 '51

Sweden

Résumé of communication facilities in Sweden. For Comm W 44:26 Jl 23 '51

COMMUNISM
Communism and the naval officer. B. M. Kassell. il U S Naval Inst Proc 77:490-7 My '51
Communism and the peasants. D. Mitrany. Ann Am Acad 276:99-104 Jl '51
Communism vs freedom; communism's lies; what the facts are. Coal Age 56:70 S '51
Do antisubversive efforts threaten academic freedom? E. C. Kirkland. Ann Am Acad 275:132-9 My '51
Gage and the measure. A. A. Ageton. il U S Naval Inst Proc 77:346-57 Ap '51
How you can help in turning the red tide. Coal Age 56:71-3 S '51
Investment in underdeveloped areas no curb to communism. P. Einzig. Comm & Fin Chr 174:1172 S 27 '51
It's hard to get rid of a Communist employee. Bsns W p 120-1 N 11 '50

COMMUNISM—*Continued*

Labor leaders denounce communism. W. Green; P. Murray. Comm & Fin Chr 174: 881 S 6 '51

Navy and fringe war. H. B. Seim. il U S Naval Inst Proc 77:834-41 Ag '51

Rousset case. Economist 160:141 Ja 20 '51

Russia's new kind of war. B. Anderson. il U S Naval Inst Proc 76:1170-81 N '50

Ultimate property in America; self-possession of soul the key to ideological differences. T. V. Smith. Trusts & Estates 90: 112-15 F '51

What Mother Aldrich might have sold; opportunities lost General Foods, A.&P. and others. L. Galantière. Fortune 42:76-7+ N '50

See also

Communistic settlements

Trade unions—Communist problem

Asia

Communism in Asia. Economist 159:1147-8, 1205-6 D 23-30 '50

Soviet policy and the revolution in Asia. P. E. Mosely. Ann Am Acad 276:91-8 Jl '51

Asia, Southeastern

Overseas Chinese and Communist policy. C. A. Buss. Ann Am Acad 277:203-12 S '51

Austria

Communists in the Austrian police. Economist 160:805-6 Ap 7 '51

China

Chinese myths; nature of Chinese communism. W. H. Judd. Barron's 31:11-12 Mr 19 '51

Is Chinese communism different? Economist 160:142-3 Ja 20 '51

Propaganda of Chinese communism. Economist 160:691-2 Mr 24 '51

Report on China. H. A. Steiner, ed. bibliog map Ann Am Acad 277:1-228 S '51

Europe

Trade with the Communists; controversy about east-west trade. Economist 161:488-90 S 1 '51

Great Britain

How strong are the Communists? Economist 160:582-3 Mr 17 '51

Russia

Czar's communism. C. P. von Wrangell. il U S Naval Inst Proc 77:392-403 Ap '51

Influence of Leninism-Stalinism on China. K. A. Wittfogel. bibliog Ann Am Acad 277:22-34 S '51

COMMUNIST party (China)

Peking claims the lead in Asia. Economist 161:220-1 Jl 28 '51

COMMUNIST party (Czechoslovakia)

Feuds of Czech Communists. Economist 161: 165-6 Jl 21 '51

Slovak Communists on the mat. Economist 160:1109 My 12 '51

COMMUNIST party (Italy)

Communist defections in Italy. Economist 160:326+ F 10 '51

COMMUNISTIC settlements

See also

Hutterian brethren

COMMUNISTS

Editors see no press threat in Communist indictments. R. U. Brown. Ed & Pub 84:7+ S 1 '51

Ogden R. Reid hits reds in Herald trib. R. Erwin. Ed & Pub 84:38 S 15 '51

See also

Subversive activities

COMMUNITY advertising

Birmingham's $600,000 drive by committee of 100. Sales Management 67:100 Ag 1 '51

More industry for your town, if you hustle for it. S. B. Topf. Manuf Rec 119:38-9 D '50

Pooled funds finance selected service ads; Greensboro news-record. J. A. McLeod, jr. Ed & Pub 84:28 Mr 24 '51

COMMUNITY centers

Jewish community center, Roslyn Heights, L.I. il plan Arch Rec 110:136-9 Ag '51

See also

Health centers

COMMUNITY life

Busy, busy citizen. il Fortune 43:96-9+ F '51

COMMUNITY property

How to provide for changes in marital deduction values between tax date and final distribution. F. Smith. Trusts & Estates 90:16+ Ja '51

Residue formula for maximum marital deduction; will drafting problems. T. S. Kiley and J. R. Golden. Trusts & Estates 89:744-7+ N '50

When and how to take marital deduction; A.B.A. committee report. Trusts & Estates 89:644-7+ O '50

COMMUNITY relations. See Public relations

COMMUTATORS

Commutation in universal-type motors. L. C. Packer. diag Elec Eng 70:318 Ap '51

Effects of surface film on commutation. C. Lynn and H. M. Elsey. diags Power Eng 55: 87-9 Je '51

Electronic instrumentation for overvoltage measurements. D. Staicopoulos and others. il diags Electrochem Soc J 98:68-73 F '51

How to turn down commutators; illustrated instructions. Power 95:142 Ag '51

Maintaining good d-c motor commutation. T. Trail. diags Power Eng 55:84-6 My '51

Polyphase commutator machines. B. Adkins and W. J. Gibbs. bibliog diags Inst E E Proc 96 pt 2:233-46 Ap '49; Discussion. 96 pt 2:246-52; 97 pt 2:818-21 Ap '49, D '50

Resistance commutation. F. D. Olney. diags Elec Eng 69:974 N '50

Should we undercut our commutators? Power 95:138+ Jl '51

Small commutator lathe. il Engineer 190:510 N 24 '50; Engineering 170:466 D 8 '50; Elec R (Lond) 147:718 N 3 '50

Stator-fed a.c. commutator machine with induction regulator control. B. Schwarz. bibliog diags Inst E E Proc 96 pt 2:755-67 O '49; Discussion. 97 pt 2:725-6 D '50

32-channel high-speed commutator. N. Alpert and others. il diags Electronics 23:94-7 N '50

See also

Brushes (electric machinery)

COMPANDOR

Instantaneous compandors. C. O. Mallinckrodt. bibliog diags Bell System Tech J 30: 706-20 Jl '51

COMPANY names. See Corporate names

COMPANY towns

Better towns mean better workers; interview with Clarence Randall. N. Ford. il Am Bsns 21:10-11 S '51

Devon, Alberta; Canada's model boom town. B. Shiels. il World Oil 133:260-2 Ag '51

For sale, a town; Nahma, Mich. il Bsns W p62-4+ Ap 28 '51

COMPARATORS

Photoelectric setting device for a spectrum plate comparator. F. S. Tomkins and M. Fred. diags Opt Soc Am J 41:641-3 S '51

COMPASS

Inductor compass; discussion. Electrician 146: 558 F 16 '51

Sun dial to check compass. J. W. Patterson. diags Can Min J 72:56 Ja '51

COMPENSATION, Deferred. See Deferred compensation

COMPENSATORS, Optical

Use of a half-shadow plate with uniform field compensators. H. G. Jerrard. bibliog diag J Sci Instr 28:10-14 Ja '51

COMPETITION

Champion case; what is competition? H. L. Hansen and M. N. Smith. Harvard Bsns R 29:89-103 My '51

Competition from tax-exempt business. H. G. Guthmann. Edison Elec Inst Bul 19:272-8 Ag '51

He who steals your business is also a customer. E. B. Weiss. Ptr Ink 234:27 Ja 5 '51

Must affiliates compete? Timken case. Bsns W p25 Ap 28 '51

Sale I never forgot; RCA promotes competition in television. F. M. Folsom. il Ptr Ink 233:67+ N 24 '50

COMPETITION—*Continued*

Your competition; what to know about it; how to find out. J. R. Sargent. Ind Marketing 36:60+ Ag '51

See also

Newspapers—Competition
Price fixing
Railroads—Competition transportation
Restraint of trade
Trusts, Industrial

COMPETITION, International

British mills and Japanese competition. P. Einzig. Comm & Fin Chr 174:335 Jl 26 '51

COMPETITION, Unfair

Miller knocks out Blatz in battle of the beer bottles. il Sales Management 67:136+ S 15 '51

Product diversification and the public interest. K. R. Andrews. Harvard Bsns R 29:91-107 Jl '51

COMPLAINTS

Cory's Mr Red Face is sorry, but. il Sales Management 67:68-9 Jl 1 '51

Customer complaints; no problem for housebuilder Lester Robbins. il Arch Forum 93:50+ D '50

How Dow handles complaints. H. C. E. Johnson. Chem Ind 67:731+ N '50

Should the president answer complaints? Ptr Ink 234:36-8 Mr 2; 43-4 Mr 9 '51

So I wrote the company president a letter. L. McCracken. Ptr Ink 234:104 F 16 '51

Symposium on complaints. Chem & Eng N 29:542-4 F 12 '51

See also

Insurance companies—Complaints

COMPLEX salts. See Salts, Complex

COMPOSING machines. See Typewriters (composing machines)

COMPOSITAE

See also

Heliopsis

COMPOSTS. See Refuse as fertilizer

COMPOUND F. See Hydroxycorticosterone

COMPOUND words

Compounding and hyphenation of English words. A. M. Ball. 246p $4 Funk & Wagnalls co, 153 E. 24th st, New York 10 '51

COMPRESSED air

Air bubbles keep sawmill log pond free of ice. plan Comp Air Mag 56:162 Je '51

Air drilling the Spraberry sand. O. H. Berry. il diag World Oil 133:169-72 S '51

Air drilling tried; using compressed air instead of mud. il Oil & Gas J 50:152 Je 21 '51

Air power solves papermakers' problem. il Comp Air Mag 56:47 F '51

Air-powered tubing slips for oil wells. il Comp Air Mag 56:22 Ja '51

Air separation plants; packaged units will produce oxygen and nitrogen. il Chem Eng 58:190+ S '51

Compressed air aids oil-field prospectors. P. Shannon. il Comp Air Mag 56:11-13 Ja '51

Compressed air at work; illustrations with text. il Comp Air Mag 56:74-5, 128-9 Mr, My '51

Compressed air device speeds glove inspection. C. A. Bivenour and others. il Elec World 134:114 D 18 '50

Compressed air provides versatile power supply; Schaefer-Goodnow foundries, inc. il Foundry 79:146+ F '51

Contribution of compressed air to better production and improved labor relations. E. B. Erickson. il Rubber Age 69:441-3 Jl '51

Dewatering mains with compressed air. A. C. King. Water & Sewage Works 98:R55 Ap '51

Effect on water vapour pressure of superimposed air pressure. T. J. Webster. diags Soc Chem Ind J 69:343-6 N '50

Factory air power pays off; Food machinery & chemical corporation's Packing equipment division. K. Dawson. il Comp Air Mag 56:187-8 Jl '51

Gas and air drilling. il diag Oil & Gas J 50:219-20+ S 20 '51

Good mixer; compressed air eases dairyman's job of agitating milk. R. E. Stork. il diags Comp Air Mag 56:184-6 Jl '51

How seven companies are using compressed air to cut production costs; illustrations with text. Factory Management 108:110-13 D '50

How to get top efficiency from compressed air power. E. C. Powers. il Heating-Piping 23:103-7 Ap; 88-91 My '51

How to keep air pressure up. C. W. Gibbs. il Factory Management 109:78-81 Jl '51

Jetting power-line poles in place with air. Comp Air Mag 55:254 N '50

Laminated plastics for industry; use of compressed air in their production. C. C. Porter. il Comp Air Mag 56:38-41 F '51

No-load pneumatic transients in air blast circuit breakers. K. K. Schiller. bibliog il diags Engineer 192:200-3 Ag 17 '51

No pump needed in wet blaster. il diag Product Eng 22:128-9 Je '51

Oil recovery by directional air drive. F. R. Cozzens. il diag Comp Air Mag 56:98-9 Ap '51

Recommended practice for the application of mortar by pneumatic pressure (ACI 805-51). Am Concrete Inst J 22:709-19 My '51; Discussion. 23:720^1-720^8 pt 2 D '51

Salvaging a sunken river dredge. R. K. Graul. il Comp Air Mag 56:177-9 Jl '51

Sizing fine particles with air; new Infrasizer. H. E. T. Haultain. il Comp Air Mag 55:281 D '50

Small air leaks can be costly. il Comp Air Mag 56:65-7 Mr '51

Twenty miles of air lines; North American aviation company plants. il Comp Air Mag 56:239-40 S '51

Watch air pressure. E. C. Powers. Am Mach 95:162-3 S 3 '51

See also

Air compressors
Air receivers
Pneumatic conveying
Pneumatic machinery

Storage

Off-peak air storage for peaking gas turbines. diags Elec World 135:64-5 Ja 15 '51

COMPRESSED air disease. See Caisson disease

COMPRESSED air lines

How to maintain your air lines. W. A. Parker. diags Mill & Factory 48:93-5 F '51

Quick-action air-line coupling. diags Engineer 192:30 Jl 6 '51

Small air leaks can be costly. il Comp Air Mag 56:65-7 Mr '51

COMPRESSED gases. See Gases, Compressed

COMPRESSIBILITY

Compressibility of and an equation of state for gaseous 1-butene. J. A. Beattie and S. Marple, jr. bibliog Am Chem Soc J 72:4143-5 S '50

Compressibility of ethane-propylene vapor mixtures. H. W. Prengle, jr. and H. Marchman. bibliog Ind & Eng Chem 42:2371-4 N '50

Compressibility of gases at pressures up to 50 atmospheres; carbon tetrafluoride in the temperature range 0°-400°C; sulfur hexafluoride in the temperature range 0°-250°C. K. E. MacCormack and W. G. Schneider. J Chem Phys 19:845-8 Jl '51

Compressibility of natural and synthetic high polymers at high pressures. C. E. Weir. bibliog J Res Nat Bur Stand 46:207-12 Mr '51

Compressibility studies on polymers at National bureau of standards. il Rubber Age 68:443-4 Ja '51; Same. Franklin Inst J 251:467-9 Ap '51

High-pressure apparatus for compressibility studies and its application to measurements on leather and collagen. C. E. Weir. bibliog diags J Res Nat Bur Stand 45:468-76 D '50

New compressibility correction for two-dimensional subsonic flow. E. V. Laitone. J Aeronautical Sci 18:350 My '51

Properties of freshly formed surfaces; the compressibility of soluble films of decyl and other alcohols. C. C. Addison and S. K. Hutchinson. Chem Soc J p3404-6 D '49

Radiographic method of dilatometry. A. H. Smith and others. il diags R Sci Instr 22:138-40 Mr '51

Volumetric behavior of nitric oxide. B. H. Golding and B. H. Sage. bibliog Ind & Eng Chem 43:160-1 Ja '51

COMPRESSORS

Capacity control system regulates compressor. il diags Machine Design 23:121-2 Ag '51

Centrifugal compressors in petroleum engineering. il diags Pet Eng 23:C32-6 Mr; C 18+ Ap '51

Charge centrifugals right. J. G. Manning. il Power 95:122-3 Je '51

Compressor using water for gas-turbine research. Engineering 170:485 D 8 '50; Same abr. Mech Eng 73:229-30 Mr '51

Construction of refrigerating machinery and apparatus in the Soviet Union; abstract. B. Weinberg and others. Refrig Eng 59:678-9 Jl '51

Don't baby centrifugals; tips on refrigeration jobs for easy running. J. G. Manning. il Power 95:118-19 My '51

Heat pump efficiency improved with variable capacity compressor. R. A. Gonzalez. diag Refrig Eng 59:260-1 Mr '51

Hermetic vs open type compressors. H. D. Moore. il Refrig Eng 59:264-5 Mr '51

How to keep centrifugal compressors rolling. J. G. Manning. il diags Power 95:118-19 Ap '51

Know your centrifugal compressors; illustration and drawings with text. J. G. Manning. Power 95:114-15+ Mr '51

Let's get down to facts on booster operation. R. E. Miller. il diags Refrig Eng 59:873-6+ S '51

New French refrigerating compressors; abstract. E. Castan. il diag Refrig Eng 59:358 Ap '51

Performance of centrifugal compressor operated as radial-inflow turbo-expander. H. Kottas. bibliog il diags Refrig Eng 59:762-6 Ag '51

Power handbook; compressors and fans. T. G. Hicks, comp. diags Power 95:96-7 Jl '51

Predicting maximum power in reciprocating compressors. E. G. Thomsen. Refrig Eng 59:269-71+ Mr '51

Principles of foundation design for engines and compressors. W. K. Newcomb. bibliog diags A S M E Trans 73:307-12; Discussion. 313-18 Ap '51

See also

Air compressors
Ammonia compressors
Gas compressors

Lubrication

Compressor lubricants, and how to select the right ones. K. L. Hollister. Pet Processing 6:272-4 Mr '51

Manufacture

Automatic sorting speeds piston and wrist-pin production; refrigerator compressor parts. il Steel 127:91-2 D 11 '50

How to cut large mixed-flow impeller vanes. A. Hammer. il diags Am Mach 95:92-8 Ap 30 '51

Longitudinal operations performed on automatic transfer machine. il Mach 57:173-5 Ap '51

COMPTON, Karl Taylor, 1887-

Compton awarded Hoover medal for 1950. por(cover) Elec World News ed 134:6 D 25 '50; Civil Eng 21:42 Ja '51

Karl Taylor Compton, Hoover medalist for 1950; presentation address by C. G. Suits, response by K. T. Compton. por Elec Eng 70:190-6 Mr '51

COMPTROLLERS, Bank. See Bank comptrollers

COMPULSORY labor. See Labor, Compulsory

COMPUTERS. See Calculating machines

CONCENTRATED milk. See Milk, Concentrated

CONCENTRATORS

Improved method of gravity concentration in the fine-size range. A. Thunaes and H. R. Spedden. flow sheet il Min Eng 187:Trans 897-82 Ag '50; Discussion. 187:Trans 1156-7 N '50

Laboratory performance tests of the Humphreys spiral as a cleaner of fine coal. M. R. Geer and others. bibliog il diag Min Eng 187:Trans 1057-67 O '50; Discussion. 187:Trans 1160-2 N '50

New method for recovery of flake mica. R. Adair and others. flow sheets Min Eng 3:Trans 252-4 Mr '51

Point of no return; Pritchard sand classifier and flotation separator. il Chem W 69:8-9 Ag 25 '51

CONCESSIONS

See also

Petroleum—Concessions

CONCRETE

Cellular concrete; Thermo-Con. il diags Arch Rec 110:159 Ag '51

Comments on "imaginative" cement and concrete chemistry. Rock Prod 54:83-5+ My '51

Concrete-coated pipe for swampy terrain. A. Gibbon. il World Oil 131:247-8+ N '50

Crystallography for study of concrete. N. C. Rockwood. Rock Prod 54:49+ My '51

Economies effected on New Brunswick bridge by special deep-water pier design; use of Prepakt concrete. R. A. Malloy. il diags Roads & Eng Constr 89:69-74 S '51

Properties of lightweight concrete (korrelbeton); abstract. O. Graf. Am Concrete Inst J 22:344 D '50

Using powdered-coal flyash. W. H. Cobbs, jr. il Power 95:87-9 bibliog and patent list (p88-9) My '51

What you should know about pozzolans. R. E. Davis. Eng N 146:37-40 Ap 5 '51

See also

Bridges, Concrete
Cement
Concrete, Reinforced
Concrete construction
Pavements, Concrete
Roads, Concrete

Aggregate

Aggregates industries comment on current problems. W. B. Lenhart. il Rock Prod 54:118-21+ Ja '51

Alkali-aggregate expansion corrected with portland-slag cement. F. Barona de la O. bibliog il Am Concrete Inst J 22:545-52 Mr '51

Barytes aggregates make heavy concrete for shielding. E. G. Tirpak. il Civil Eng 21:453-6 Ag '51

Besser and Marietta Concrete form firm to produce lightweight aggregate plants. Concrete 59:5 My '51

Building panels combine workability of lumber with durability of concrete; Bildrok. il diag Arch Forum 94:266+ Mr '51

Elaborate aggregate plant hangs on cliffs at Detroit dam. il plans diags Constr Methods 33:54-9 F '51

Everything is just right at Philpott dam; aggregates are processed at quarry. flow diag il Constr Methods 32:55-6 N '50

Kansas City perlite expanding plant; Panacalite perlite, inc. T. Brown. il Rock Prod 54:116-17 Je '51

Lightweight aggregate from phosphate slimes. P. Maynard. Eng & Min J 152:92-3 My '51

Lightweight concrete for lower construction costs. J. A. Murlin. il diags Am Concrete Inst J 23:37-44 S '51

Manufacture of concrete masonry units; concrete aggregates. W. Grant. Concrete 58:5-7+ N; 18+ D '50; 59:24+ Ja; 40+ Mr; 38+ Ap '51

New approach to inhibiting alkali-aggregate expansion. W. J. McCoy and A. G. Caldwell. bibliog Am Concrete Inst J 22:693-706 My '51

Observations from a year of travel. W. B. Lenhart. il Rock Prod 54:131-4+ Ja '51

Perlite institute advocates aggregate standards. Concrete 58:7 D '50

Perlite; new contender for the lightweight aggregate title. F. Kutnewsky. il Comp Air Mag 56:172-6 Jl '51

Poston brick and concrete products co. finds profit opportunity in light-weight clay aggregate plant; Shalite. il Brick & Clay Rec 117:44-6 N '50

Processing tailings into lightweight aggregates; Lehigh materials co. W. B. Lenhart. il Rock Prod 54:94-5+ S '51

Produces air-cooled slag block; Chicago block co. il Rock Prod 53:184-5+ D '50

Produces 45 cubic yards of lightweight aggregate per hour; Johnson concrete co., Salisbury, N. C.; illustrations with text. Brick & Clay Rec 118:34-6 Je '51

CONCRETE—Aggregate—*Continued*

Producing gravel for McNary dam. W. B. Lenhart. flow plan il map diags Rock Prod 53:66-70+ N '50

Producing sand and gravel aggregates for Hungry Horse dam. W. B. Lenhart. flow sheets il Rock Prod 54:98-105 F '51

Production of light weight aggregate from blast furnace slag. Iron & Steel Eng 27: 138 N '50

Progress in the manufacture of lightweight aggregates by the sintering process; abstract. R. W. Hyde. Rock Prod 54:147 Mr '51

Pumice, lightweight aggregate. L. I. Neher. bibliog Am Concrete Inst J 23:65-75 S '51

Quick determination of concrete aggregate proportions; with chart. H. R. Grant. Rock Prod 54:156 F '51

Ramp speeds delivery of aggregate to plant. R. A. Phelps. il Eng N 146:52 Ap 19 '51

Red aggregates make attractive block. B. Walker. il Concrete 59:18+ S '51

Relation of chemical properties to the bloating of clays. C. M. Riley. bibliog diags Am Cer Soc J 34:121-8 Ap 1 '51

Relationship of fly ash and corrosion in reinforced concrete. J. P. Ryan. bibliog Am Concrete Inst J 22:481-4 F '51

Sintering clay into lightweight aggregates; Dwight-Lloyd sintering process. W. B. Lenhart. il plan Rock Prod 54:108-11 Ag '51

Tennessee Lightweight Aggregate plant. W. B. Lenhart. il diag Rock Prod 54:103-5 Je '51

Virginia firm finds ready markets for lightweight aggregate products; Solite. il Manuf Rec 120:36-7 Jl '51; Excerpt. Concrete 59: 41 Ag '51

Volume changes in sand-gravel concrete. F. H. Jackson and A. G. Timms. il diag Pub Roads 26:162-72 Je '51

Air entrainment

Air-entraining agents packaged in pill form. L. C. Kirkpatrick. Am Concrete Inst J 22: 747-8 My '51

Air-gravel concrete. Heat & Ven 48:122+ Ag '51; Same. Concrete 59:32-4 S '51; Same. Pub Works 82:64+ S '51; Same cond. Rock Prod 54:143-4 S '51

Air replaces sand in no-fines concrete. R. C. Valore, jr. and W. C. Green. bibliog il Am Concrete Inst J 22:833-46 Je '51

Controlling air content; abstract. J. A. Nicholson. Concrete 59:25+ Ap '51

Design and control of air-entrained concrete mixtures. il Pub Works 81:48-50 D '50

Entrained air simplifies winter curing. J. J. Shideler and others. Am Concrete Inst J 22:449-59 F '51

Finishing air-entraining concrete pavements. C. W. Allen. Am Concrete Inst J 22:373-6 Ja '51

New precast concrete headwall. il Concrete 58:30 N '50

Bibliography

Current reviews of significant contributions in foreign and domestic publications. Published in monthly numbers of Journal of the American concrete institute

Cinder concrete

National cinder concrete products association 28th annual meeting, Boston, Aug. 6-8. Rock Prod 54:132-4 S '51

Texas block plant uses volcanic cinders; Atlas building products, inc. J. W. Shaver. il Concrete 59:20-3+ Mr '51

Color

Color glamorizes concrete units; use of black light. W. B. Lenhart. il Rock Prod 53: 181-3+ D '50

Colored masonry units. il Rock Prod 54:138 My '51

Control of efflorescence in colored concrete products. il Rock Prod 53:233+ Ag '50; Same. Brick & Clay Rec 117:30 D '50

Red aggregates make attractive block. B. Walker. il Concrete 59:18+ S '51

Cooling

Cool concrete at Detroit dam. R. R. Clark and others. il diags Eng N 145:39-42 D 21; 31-3 D 28 '50

Everything is just right at Philpott dam; cooling plant utilizes ice, cold water and air. il diag Constr Methods 32:56+ N '50

700-ton plant cools huge Detroit dam. il Power 95:99 S '51

Copper content

Effect of copper-bearing concrete on molds. R. F. Robinson and C. R. Austin. il Ind & Eng Chem 43:2077-82 S '51

Cracks

Manufacture of concrete masonry units; cracks in block walls. W. Grant. plans diags Concrete 59:36+ S '51

Curing

Coordinating tests on block with curing; manufacture of concrete masonry units. il Concrete 59:3-4 Ag '51

Curing block with high-pressure steam; Harter marblecrete stone co. J. W. Shaver. il Concrete 59:20-2 S '51

Curing block with unique steam generator. il Concrete 59:6-7 My '51

Curing concrete pavements with membranes. C. C. Rhodes. bibliog il Am Concrete Inst J 22:277-95 D '50

Entrained air simplifies winter curing. J. J. Shideler and others. Am Concrete Inst J 22:449-59 F '51

Essential factors for adequate curing. W. J. Shore. Rock Prod 54:154-5+ F '51

Factors influencing concrete strength. W. H. Price. Am Concrete Inst J 22:421-3 F '51

Finishing and curing; a key to durable concrete surfaces. M. A. Swayze. bibliog il Am Concrete Inst J 22:317-31 D '50; Discussion. 23:332^{1}-332^{8} pt 2 D '51

Forum on curing concrete products. W. J. Shore. Rock Prod 54:188 Je '51 [cont monthly]

High pressure steam-cured units; Superior building units, inc. W. B. Lenhart. il Rock Prod 54:232-4 Ag '51

Manufacture of concrete masonry units. W. Grant. Concrete 59:32+ Jl; 36-9 Ag '51

New package unit for curing block. il Concrete 59:20+ Jl '51

Plant uses effective curing system; Superior concrete products co. il Rock Prod 54:130-1 S '51

Shrinkage of concrete blocks calls for 30-day curing period prior to use. P. C. Ness. Civil Eng 20:724-5 N '50

Steam curing protects winter concreting. C. O. Crane. il Am Concrete Inst J 22:213-16 N '50

Steam curing with direct firing unit at Syracuse, N.Y. plant of Barnes & Cone. B. Nordberg. il diag Rock Prod 54:191-2+ Ja '51

Tilt-up wall construction; vacuum curing of slabs at Peoria. il Constr Methods 33:67-8 Ag '51

Cutting

Concrete-wall surgery by mining methods. C. H. Vivian. il Comp Air Mag 56:123-6 My '51

Horizontal holes for joint supports on edge of concrete pavement are drilled rapidly by two jack hammers mounted on a single frame. il Eng N 146:48 Je 14 '51

Machine cuts conduit grooves after slab is poured. il Eng N 146:55 Ja 18 '51

Tricks in dismantling concrete structures. H. B. McDermid. Power Eng 55:86-7 Je '51

Twin saws on concrete-cutting machine speed pavement-removal jobs. il Eng N 145:121 N 16 '50

Durability

Coarse-ground cement makes more durable concrete. H. W. Brewer and R. W. Burrows. il Am Concrete Inst J 22:353-60 Ja '51; Discussion. 23:360^{1}-360^{12} pt 2 D '51

Freeze-thaw testing indicates concrete durability. I. V. Walter. il Refrig Eng 59:372-4 Ap '51

How temperature and moisture changes may affect the durability of concrete. S. L. Meyers. bibliog Rock Prod 54:153-7+; Discussion (Water, thermally incompatible aggregate). N. C. Rockwood. 93 Ag '51

CONCRETE—*Continued*

Expansion and contraction

Alkali-aggregate expansion corrected with portland-slag cement. F. Barona de la O. bibliog il Am Concrete Inst J 22:545-52 Mr '51

Comparative shrinkage data for heavy and lightweight concrete units. P. C. Ness. Rock Prod 54:128-9 S '51

New approach to inhibiting alkali-aggregate expansion. W. J. McCoy and A. G. Caldwell. bibliog Am Concrete Inst J 22:693-706 My '51

Shrinkage of concrete blocks calls for 30-day curing period prior to use. P. C. Ness. Civil Eng 20:724-5 N '50

Volume changes in sand-gravel concrete. F. H. Jackson and A. G. Timms. il diag Pub Roads 26:162-72 Je '51

Finishing

Finishing air-entraining concrete pavements. C. W. Allen. Am Concrete Inst J 22:373-6 Ja '51

Finishing and curing; a key to durable concrete surfaces. M. A. Swayze. bibliog il Am Concrete Inst J 22:317-31 D '50; Discussion. 23:332^1-332^8 pt 2 D '51

Freezing

Freeze-thaw testing indicates concrete durability. I. V. Walter. il Refrig Eng 59:372-4 Ap '51

Painting

How to avoid pitfalls in painting concrete and masonry. H. L. Vanderwerp. il Am Bld 72:169+ D '50

Painted concrete masonry walls; Portland cement association general office building. il diag Concrete 59:5-8+ S '51

Prestressing

Apply prestress with glass. I. A. Rubinsky. Eng N 146:45 Mr 1 '51

Are prestressed bridges cheaper? with cost data. S. Mitchell. il diags Am Concrete Inst J 22:761-72 Je '51; Discussion. 23:772^1-772^2 pt 2 D '51

Bridge built of blocks strung like beads; technique converts strings of concrete block into prestressed beams. il diags Eng N 146:39-42 Ja 18 '51

California builds its first prestressed concrete bridge. L. C. Hollister. Eng N 145:42 N 23 '50

Concrete beams can take it; illustrations with text. Bsns W p52-3 Ag 25 '51

Concrete-block lighthouse 125 ft. high prestressed with vertical cables. il Eng N 146:47 My 31 '51

Concrete prestressed in tension. K. Billig. Eng N 146:33 My 3 '51

Design of prestressed concrete cylinder pipe. H. F. Kennison. bibliog diag Am Water Works Assn J 42:1049-64 N '50

Designing for continuity in prestressed concrete structures. A. L. Parme and G. H. Paris. diags Am Concrete Inst J 23:45-64 S '51

Determining optimum cross sections for prestressed concrete girders. F. J. Uziel. diag Am Concrete Inst J 22:197-212 N '50

Developments in prestressed concrete. Roads & Eng Constr 89:122+ Ap '51

Economical cross section of prestressed I-beams and box girders determined graphically. K. P. Billner. diags Am Concrete Inst J 22:565-7 Mr '51

Experimental prestressed concrete bridge in California. il Engineer 192:151 Ag 3 '51

Factors in prestressed girder design; Walnut Lane bridge, Philadelphia. M. Fornerod. diags Am Concrete Inst J 22:469-80 F '51; Discussion. 23:480^1-480^7 pt 2 D '51

First prestressed concrete conference; sponsored by the Massachusetts institute of technology, Cambridge, Aug. 14-16. Concrete 59:24-8 S; 24-7+ O '51

First prestressed piles carry tank platform. J. J. Parrett. il diag Eng N 147:38-9 Jl 5 '51

Franklin institute honors Freyssinet and Magnel. Concrete 58:24 N '50; Same abr. Roads & Eng Constr 88:58+ N '50

How much prestress? P. W. Abeles. diag Eng N 147:32-3 Jl 5 '51

How to design a prestressed concrete tee-beam. V. J. Brown. diags Roads & Sts 94:47-54 Je '51

New ways with concrete. il diags Fortune 44:106-10+ Ag '51

Prestressed assembly of masonry units; Basalt rock co.'s Strestcrete system. il Rock Prod 54:109-11 Jl '51

Prestressed beams with bond. P. W. Abeles. diags Eng N 146:42-3 Ap 12 '51

Prestressed concrete arch spans 353 ft. A. E. Komendant. il diags Eng N 145:48 D 7 '50

Prestressed concrete beams for industrial buildings, tested to destruction by Austin co. il Arch Forum 95:192-3 S '51

Prestressed concrete bridges over the Marne river; abstract. A. Starink. Am Concrete Inst J 22:343-4 D '50

Prestressed concrete for industrial building studied. il Civil Eng 21:553 S '51

Prestressed concrete; MIT conference clears way for progress. il Arch Forum 95:189-92+ S '51

Prestressed concrete pipe saves steel. il Pub Works 81:36 N '50

Prestressed-concrete principles and practices. D. A. Hopkins. il diags Roads & Eng Constr 89:110-16+ Ap; 95-102+ My; 70-9+ Jl '51

Prestressed concrete road at Crawley, Sussex. Engineering 171:185, pl 8 F 16 '51

Prestressed-concrete tanks at Hartlepool. il diags Engineering 172:235-6, 240 Ag 24 '51; Engineer 192:217 Ag 17 '51

Prestressed 84-in. concrete pipe for Montreal waterworks intake; construction of prestressed tanks. D. A. Hopkins. il Munic Util 89:25-8 My '51

Principles of prestressed concrete. D. Peabody, jr. diags Roads & Eng Constr 88:77-9+ N '50

Prototype prestressed beam justifies Walnut Lane Bridge design. G. Magnel. diags Am Concrete Inst J 22:301-16 D '50

Revolutionary staircase built of prestressed concrete. G. Magnel. il diags Civil Eng 21:505-7 S '51

Rigid-frame bridge of prestressed concrete in Oxford, England. il diags Eng N 146:35 Mr 15 '51

Road prestressed to prevent cracks. il Eng N 146:37 Ap 12 '51

Simple equipment economically explores prestressing. M. L. Mass and J. R. Janney. il Am Concrete Inst J 22:361-4 Ja '51

Simple prestressing system for pedestrian bridge. il Eng N 146:40-1 My 10 '51

Tests of prestressed concrete cylinder pipe. F. E. Seaman. il Am Water Works Assn J 42:1065-82 N '50

20-ton prestressed trestle slab tested to failure. il Concrete 58:3-4 N '50; Civil Eng 20:742 N '50; Rock Prod 53:119 N '50

U.S. progress in prestressed concrete. il plan diags Arch Rec 110:148-55 Ag '51

Walnut Lane bridge at Philadelphia. il diags Engineer 190:629-30 D 22 '50

Wanted; guide in developing prestressed concrete. R. A. Caughey; M. Hirschthal. Am Concrete Inst J 22:561-2 Mr '51; Discussion. F. N. Menefee. 22:751-2 My '51

Wide interest in prestressed concrete shown by attendance at MIT meeting. Eng N 147:24-5 Ag 23 '51

Scaling

New York treats new road slab to prevent scaling. Concrete 58:14 N '50

Strength

Concrete strength variations; 60 contributory causes. L. B. Mercer. Am Concrete Inst J 22:745-7 My '51

Factors influencing concrete strength. E. L. Howard. Am Concrete Inst J 23:94-5 S '51

Factors influencing concrete strength. W. H. Price. bibliog Am Concrete Inst J 22:417-32 F '51

Influence of cement particle size on strength of concrete. bibliog diag Rock Prod 54:88-92 My '51

Strength of no-fines concrete. E. Fenney and H. J. Cowan. il Engineering 170:398 N 24 '50

CONCRETE—*Continued*

Testing

Air replaces sand in no-fines concrete. R. C. Valore, jr. and W. C. Green. bibliog il Am Concrete Inst J 22:833-46 Je '51
Apparatus for testing concrete specimens in combined bending and torsion. D. Fisher and N. S. J. Grassam. il diag Engineering 171:21 Ja 5 '51
Coarse-ground cement makes more durable concrete. H. W. Brewer and R. W. Burrows. il Am Concrete Inst J 22:353-60 Ja '51; Discussion. 23:360^1-360^{12} pt 2 D '51
Entrained air simplifies winter curing. J. J. Shideler and others. Am Concrete Inst J 22:449-59 F '51
Freeze-thaw testing indicates concrete durability. I. V. Walter. il Refrig Eng 59:372-4 Ap '51
How to use strain gages on concrete. A. R. Anderson. il Eng N 146:46-7 Mr 8 '51; Discussion. R. E. Latham. 146:42 My 31 '51
Non-destructive concrete tester. il Concrete 59:34-5 Ag '51
Postage-stamp size gage measures stresses and strains. il Am Concrete Inst J 22:sup 6+ Je '51
Simple equipment economically explores prestressing. M. L. Mass and J. R. Janney. il Am Concrete Inst J 22:361-4 Ja '51
Soniscope tests concrete structures. E. A. Whitehurst. il Am Concrete Inst J 22:433-44 F '51; Discussion. 23:444^1-444^4 pt 2 D '51
Use of concrete test data. E. L. Howard. Rock Prod 54:153 F '51

Vibration

Immersion vibrators for concrete. Engineer 191:662 My 18 '51; il Engineering 172:32 Jl 6 '51
Preparing vibrated laboratory test specimens. il Concrete 58:30-1 D '50

CONCRETE, Effect of alkalies on
Alkali-aggregate expansion corrected with portland-slag cement. F. Barona de la O. bibliog il Am Concrete Inst J 22:545-52 Mr '51
New approach to inhibiting alkali-aggregate expansion. W. J. McCoy and A. G. Caldwell. bibliog Am Concrete Inst J 22:693-706 My '51

CONCRETE, Ornamental
Adding beauty to concrete masonry construction. il Rock Prod 54:182-3 Je '51

CONCRETE, Porous
Draining excess water from sand; use of porous concrete slabs. R. E. Fowle. il diags Rock Prod 53:71+ N '50

CONCRETE, Ready mixed. See Concrete mixing—Ready-mixed concrete

CONCRETE, Refractory
Preparation and properties of high temperature concretes; report of investigation at National bureau of standards. R. A. Heindl and Z. A. Post. Brick & Clay Rec 117:64+ D '50

CONCRETE, Reinforced
Concrete beams with compression reinforcement. E. Hognestad. Am Concrete Inst J 22:567-9 Mr '51
Direct design of T-beams. H. J. Cowan. bibliog diags Am Concrete Inst J 22:533-44 Mr '51; Discussion. 23:544^1-544^4 pt 2 D '51
Manufacture of pipe in Australia. F. L. Fitzpatrick. il Rock Prod 54:149+ F '51
Parallel reinforced concrete Venturi tubes gage sewage flow entering treatment plant. il plan diag Eng N 145:48 N 23 '50
Plain and reinforced concrete arches. Am Concrete Inst J 22:681-91 My '51; Discussion. 23:692^1-692^{11} pt 2 D '51
Prefabrication of reinforcing and forms halves time for multiple footing pours. il diags Constr Methods 33:100-1+ My '51
Preserving reinforced concrete buildings. il Sheet Metal Worker 42:64-5 D '50
Some preliminary investigations in the use of bamboo for reinforcing concrete; abstract. S. R. Mehra and others. Am Concrete Inst J 22:853 Je '51
Thin reinforced concrete members form Turin exhibition halls. P. L. Nervi. il diags Civil Eng 21:6-11 Ja '51
Tile-concrete pre-fab units used in Italian building construction. diags Brick & Clay Rec 119:38-9 Jl '51
See also
Concrete construction
Pavements, Concrete—Reinforcement
Steel, Reinforcing

Standards

ACI standard building code requirements for reinforced concrete (ACI 318-51). diags Am Concrete Inst J 22:589-652 Ap '51
Proposed revision of building code requirements for reinforced concrete (ACI 318-47). Am Concrete Inst J 22:269-75 D '50
Proposed revisions to manual of standard practice for detailing reinforced concrete structures (ACI 315-48). diags Am Concrete Inst J 22:349-51 Ja '51

Testing

Corrosion protection of thin precast concrete sections. D. H. Pletta and others. il diags Am Concrete Inst J 21:513-25 Mr '50; Discussion. 22:402-3 Ja '51
Laboratory tests of spaced and tied reinforcing bars. W. T. Walker. il diags Am Concrete Inst J 22:365-72 Ja '51

CONCRETE arches. See Arches, Concrete

CONCRETE bear dens. See Bear dens, Concrete

CONCRETE blocks
Block manufacturer's office sells his products; Vander Heyden, inc. il Rock Prod 54:158 F '51
Block producer devises new control joint. il Concrete 59:7 Je '51
Bridge built of blocks strung like beads; technique converts strings of concrete block into prestressed beams. il diags Eng N 146:39-42 Ja 18 '51
Colored masonry units. il Rock Prod 54:138 My '51
Dimensional changes in unit masonry; abstract. J. J. Wegner. Rock Prod 54:88-9 Jl '51
National cinder concrete products association 28th annual meeting, Boston, Aug. 6-8. Rock Prod 54:132-4 S '51
Painted concrete masonry walls; Portland cement association general office building. il diag Concrete 59:5-8+ S '51
Precast concrete blocks divert Columbia at McNary dam. il Constr Methods 33:47-8 Ja '51
Red aggregates make attractive block. B. Walker. il Concrete 59:18+ S '51
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Twin walled dual insulating construction; Alcon. il diags Am Bld 72:136-7 D '50
Wisconsin concrete products association 31st annual convention, Milwaukee, Feb. 8-9; abstracts of papers. Concrete 59:24-7+ Mr '51

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Adding beauty to concrete masonry construction. il Rock Prod 54:182-3 Je '51
Conotex block plant has solid future. G. Bickel. il Concrete 58:16-17+ N '50
Conveying bulk cement by pump; V. Paturzo bros. & son, inc. W. B. Lenhart. il Rock Prod 54:175-9 Je '51
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Curing block with high-pressure steam; Harter marblecrete stone co. J. W. Shaver. il Concrete 59:20-2 S '51
Curing block with unique steam generator. il Concrete 59:6-7 My '51
Essential factors for adequate curing. W. J. Shore. Rock Prod 54:154-5+ F '51
High capacity single-unit plant; North Hollywood concrete tile co. il Rock Prod 54:229+ Ag '51
High pressure steam-cured units; Superior building units, inc. W. B. Lenhart. il Rock Prod 54:232-4 Ag '51
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New package unit for curing block. il Concrete 59:20+ Jl '51

One-unit Zipper is latest Stearns machine. il Concrete 59:44 F '51

Produces air-cooled slag block; Chicago block co. il Rock Prod 53:184-5+ D '50

Selling block throughout wide area; Campbell supply co. mechanized plant. il Rock Prod 54:116+ Jl '51

Shrinkage of concrete blocks calls for 30-day curing period prior to use. P. C. Ness. Civil Eng 20:724-5 N '50

Small plant makes perlite block. il Rock Prod 53:118 N '50

Small plant produces both block and ready mix. il Concrete 59:8 F '51

Texas block plant uses volcanic cinders; Atlas building products, inc. J. W. Shaver. il Concrete 59:20-3+ Mr '51

Marble facing

Making marble-face block. il Concrete 59:14-16 Je '51

Testing

Comparative shrinkage data for heavy and lightweight concrete units. P. C. Ness. Rock Prod 54:128-9 S '51

Coordinating tests on block with curing; manufacture of concrete masonry units. il Concrete 58:3-4 Ag '51

Preparing vibrated laboratory test specimens. il Concrete 58:30-1 D '50

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Manufacture of slump block and brick. W. E. Scott. il Concrete 59:10-12+ Ap '51

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CONCRETE buildings

Better school for the South; E. Rivers school in Atlanta. il plan diag Arch Forum 94:160-3 Ap '51

Building warmth into concrete stadium seats. il Concrete 59:34 Ap '51

Prestressed concrete for industrial building studied. il Civil Eng 21:553 S '51

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Buggies replace hoists on big building. W. J. Pouchot. il Constr Methods 33:48-50 Je '51

Chemical plant frame pierced for piping; Hoffman-LaRoche, inc. il plan diag Eng N 147:39 Ag 23 '51

Concrete-block lighthouse 125 ft. high prestressed with vertical cables. il Eng N 146:47 My 31 '51

Cylindrical roof for circular coliseum; Alabama's live-stock coliseum in Montgomery. B. G. Anderson. il diags Eng N 145:30-3 N 2 '50

Economies effected on New Brunswick bridge by special deep-water pier design; use of Prepakt concrete. R. A. Malloy. il diags Roads & Eng Constr 89:69-74+ S '51

Fifteen floors cantilevered from concrete core; research and development building of S. C. Johnson and son, inc. il diag Concrete 59:32 Ja '51

Forms for big digester tanks easy to handle, rigid in use. il Eng N 146:47-8 F 15 '51

Foundation for large circular tanks. il diag Engineer 190:623-4 D 22 '50

Garage roof supports 46 housing units; 46 two-story apartment units built on top of a three-level, side-hill garage. il plan diags Eng N 146:39-41 My 31 '51

Industry board aims to improve concrete construction quality. Concrete 59:6 Jl '51

Leveling screws simplify setting column bases. C. Macklin. diags Am Concrete Inst J 23:93-4 S '51

New Orleans parking garage; series of unit buildings. il diags Arch Rec 110:168-71 S '51

New ways with concrete. il diags Fortune 44:106-10+ Ag '51

Partitions function as columns in scheme for apartment buildings; called cellular construction. P. Weidlinger. il plans diags Arch Rec 109:134-9 Ja '51

Pier Luigi Nervi's exhibition hall in Turin, Italy. il diags Arch Forum 95:190-4 Jl '51

Pouring concrete slabs from the top down; Decimbrar-Cimbrando, Mexican system. il Arch Forum 93:149 N '50

Precast concrete construction in Canada. O. Safir. il diag Am Concrete Inst J 22:461-8 F '51

Precasting concrete foundations cuts cost by ten per cent; Continental Can plant. il Factory Management 109:B82-3 pt 2 Ap '51

Precasting cuts cost of hospital. il diag Eng N 146:39 Mr 8 '51

Precastructural concrete; developments from West Coast proving grounds in tilt-up wall technique, with cost data. P. De Huff. il diags Arch Forum 95:194-5 S '51

Prestressed assembly of masonry units; Basalt rock co.'s Strestcrete system. il Rock Prod 54:109-11 Jl '51

Ready mix in Los Angeles terminal. M. E. Sylvester. il Concrete 58:12-13 D '50

Reinforced concrete sheds to keep snow off highway; Snoqualmie Pass highway. il Eng N 146:42-3 Mr 15 '51

Sand fill makes marine stadium a dry-land job at Jones beach. il plan diags Eng N 147:41-2+ Jl 26 '51

Sandwich walls precast for pulp mill. S. B. Roberts. il diags Eng N 146:32-4 F 22 '51

San Francisco steel-saving school has zig-zag roof; Y-shaped concrete slabs separate classrooms. il plans diag Arch Forum 95:132-3 Ag '51

Seattle tilt-up job cuts building costs. il Concrete 59:36-7 Jl '51

Ship terminal for fast cargo handling, port of La Guaira, Venezuela. A. D. Quinn. il plan diag Eng N 146:32-4 My 31 '51

Steel plant rises from Pennsylvania farmland; Fairless works, U.S. Steel. il map plan Eng N 147:28-31 S 6 '51

Steel saved in lightweight building; Republic National Life building, Dallas; with cost data. J. A. Murlin. il Arch Rec 109:188-90 Je '51

Store roof hangs from concrete frames; Portland, Ore. shopping center. il plan diags Arch Rec 108:149-51 D '50

Structures laboratory of the Cement and concrete association. il Engineer 191:695-6 My 25 '51; Engineering 171:602-3 My 18 '51; Eng N 146:56-7 Je 28 '51

Tile-concrete pre-fab units used in Italian building construction. diags Brick & Clay Rec 119:38-9 Jl '51

Tilt-up method saves on precast concrete building. il Constr Methods 32:94+ D '50

Tilt-up wall construction popular in Midwest. il Constr Methods 33:63+ Ag '51

Trinity university starts off series of buildings erected by Youtz-Slick lift-slab concrete method. il plans Arch Forum 95:180-8 S '51

U.S. progress in prestressed concrete. il plan diags Arch Rec 110:148-55 Ag '51

Walls of this plant were built lying down, then tilted into position; illustrations with text. Factory Management 109:B74-6 pt 2 Ap '51

War memorial to serve many purposes; Onondaga County war memorial; with cost data. F. S. Merritt. il plan diags Eng N 145:39-43 N 16 '50

CONCRETE construction—*Continued*

World's largest pumping plant begins operation at Grand Coulee dam. S. J. Bohman. il diag Civil Eng 21:330-5 Je '51

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Bibliography

Current reviews of significant contributions in foreign and domestic publications. Published in monthly numbers of Journal of the American concrete institute

Cost

Concrete piles, footings, South Carolina hospital; unit prices. Eng N 146:72 Ap 26 '51

Lift-slab housing in San Antonio and Corpus Christi; with cost data. il plans Arch Forum 95:184-7 S '51

Lightweight concrete for lower construction costs. J. A. Murlin. il diags Am Concrete Inst J 23:37-44 S '51

Design

Analysis of continuous circular curved beams. B. Velutini. diags Am Concrete Inst J 22:217-28 N '50

Comprehensive numerical method for the analysis of earthquake resistant structures. C. S. Whitney and others. bibliog diags Am Concrete Inst J 23:5-28 S '51

Cost cut in office building design. il plan diags Eng N 146:28-30 Je 7 '51

Designing for continuity in prestressed concrete structures. A. L. Parme and G. H. Paris. diags Am Concrete Inst J 23:45-64 S '51

Determining optimum cross sections for prestressed concrete girders. F. J. Uziel. diag Am Concrete Inst J 22:197-212 N '50

Direct design of T-beams. H. J. Cowan. bibliog diags Am Concrete Inst J 22:533-44 Mr '51; Discussion. 23:544^1-544^4 pt 2 D '51

Distribution of uniform loads on two-way slabs. R. P. V. Marquardsen. diags Concrete 59:32 Je '51

Earthquake resistant design considerations. R. R. Martel. Am Concrete Inst J 23:1-4 S '51

Eccentrically loaded corner columns. L. S. Muller. diags Am Concrete Inst J 22:562-5 Mr '51

Factors in prestressed girder design; Walnut Lane bridge, Philadelphia. M. Fornerod. diags Am Concrete Inst J 22:469-80 F '51; Discussion. 23:480^1-480^7 pt 2 D '51

Formwork simplified for apartment house. il plan diags Eng N 147:35-6 Ag 16 '51

Getting more for our concrete dollar. I. E. Morris. diags Am Concrete Inst J 22:389-96 Ja; 23:396^1-396^3 pt 2 D '51

How to design a prestressed concrete teebeam. V. J. Brown. diags Roads & Sts 94:47-54 Je '51

Huge arched roofs built of precast units; Palazzo Esposizioni (Exhibition Palace) in Turin, Italy. il Eng N 146:46-7 Ja 4 '51

Multistory buildings designed to resist earthquakes. J. J. Gould. il plans Am Concrete Inst J 23:29-36 S '51

Plain and reinforced concrete arches. Am Concrete Inst J 22:681-91 My '51; Discussion. 23:692^1-692^{11} pt 2 D '51

Precast concrete offers protection against atomic blast. A. Amirikian. il plans diags Am Concrete Inst J 22:497-516 Mr '51

Prestressed-concrete principles and practices. D. A. Hopkins. diags Roads & Eng Constr 89:70-9+ Jl '51

Rational use of ACI building code for economical structures. I. E. Morris. Am Concrete Inst J 23:96-7 S '51

Roof suspended from lightweight concrete frames. L. Poole. il diags Am Concrete Inst J 22:260-3 N '50

Skepticism regarding the plastic theory of design. H. M. Hadley. il Am Concrete Inst J 22:257-60 N '50; Discussion. bibliog diag 22:398-400, 485-8, 570-2, 748-51; 23:99-103 Ja-Mr, My, S '51

Solution of difficult structural problems by finite differences. A. Parme. bibliog diags Am Concrete Inst J 22:237-56 N '50

Thin reinforced concrete members form Turin exhibition halls. P. L. Nervi. il diags Civil Eng 21:6-11 Ja '51

Unit buildings cut construction costs; design of a parking garage. L. C. Farrant and W. C. Harry. bibliog il diags Am Concrete Inst J 22:669-79 My '51

Expansion joints

Copper expansion joints get strong flexing test. il Eng N 145:60 N 9 '50

Fire resistance

Light perlite curtain wall saves cost. il Eng N 146:23 Mr 22 '51

Zonolite announces four-hour fire ratings for vermiculite uses. Concrete 59:32-3 Je '51

Forms

Everything is just right at Philpott dam; steel forms are full cantilever. il Constr Methods 32:67 N '50

Flexible square steel pans form low-cost modular roof. R. L. Reid and F. P. Johnston. il Eng N 147:38-9 Ag 30 '51

Formwork simplified for apartment house. il plan diags Eng N 147:35-6 Ag 16 '51

How to erect slab formwork fast. il Eng N 147:48 Ag 2 '51

Improved stripping float. il Constr Methods 32:82-3 N '50

New economies for concrete houses; Pollman forms. il plan Am Bld 73:160-1 Ja '51

100 basement units in 112 days, with prefabricated steel forms. il Constr Methods 33:52-3 F '51

Pier form for two-span highway bridge assembled on shore, set in cofferdam. il Eng N 146:31 Mr 22 '51

Plywood form details on Tacoma Narrows bridge. il diags Concrete 59:28-30 Mr '51

Slip form speedily erects grain building. J. W. McDonald, jr. il diags Civil Eng 21:148-50 Mr '51

Slip forms reduce cost of tall bridge piers. R. Holt. il Civil Eng 20:777-9 D '50

Steel-pan forms provide economical longspan roof. R. L. Reid. il plan Civil Eng 21:512-13 S '51

Traveling forms speed tough arch culverts. R. B. Howard. il Constr Methods 33:74-6 Mr '51

Joints

Block producer devises new control joint. il Concrete 59:7 Je '51

Pipe embedment

11 miles of snow-melting pipe in bus ramps; New York City's Port Authority bus terminal. il Constr Methods 33:64-6 Ja '51

100-mile heating job; installing piping; housing project now under construction near Springfield, Mass. il plan Dom Eng 176:100-1+ D '50

Radiant heat for air base residences at Westover Field air base. il Heat & Ven 48:108+ Ja '51

Steel pipe and brains cut heating-job costs; illustrations with text. Constr Methods 33:60-1 Mr '51

Welding takes spotlight on arena floor construction. il Constr Methods 32:54-7 D '50

Rapid construction

Mammoth tremie seal poured in 7½-day continuous operation; building anchorage piers for Delaware memorial bridge. C. H. Cotter. il Civil Eng 20:711-14 N '50

Plan your work; then work your plan; illustrations with text. Am Concrete Inst J 22: sup8-9 My '51

Repair

Preserving reinforced concrete buildings. il Sheet Metal Worker 42:64-5 D '50

Safety measures

Safety on the hilltops; Bell System's concrete relay stations. E. S. Hannaford. il Nat Safety N 64:22-3+ Ag '51

CONCRETE construction—*Continued*

Standards

ACI standard building code requirements for reinforced concrete (ACI 318-51). diags Am Concrete Inst J 22:589-652 Ap '51

Proposed revision of building code requirements for reinforced concrete (ACI 318-47). Am Concrete Inst J 22:269-75 D '50

Proposed revisions to manual of standard practice for detailing reinforced concrete structures (ACI 315-48). diags Am Concrete Inst J 22:349-51 Ja '51

CONCRETE construction, Subaqueous

Another surrender at Yorktown; first of six caissons for Yorktown bridge. il plans diags Eng N 145:32-6 D 21 '50

How would you stop this leak in a concrete wall? H. B. McDermid. diags Power Eng 55:87-8 Ap '51

Mammoth tremie seal poured in 7½-day continuous operation; building anchorage piers for Delaware memorial bridge. C. H. Cotter. il Civil Eng 20:711-14 N '50

Money saving methods at Woodruff dam. F. S. Merritt. il Eng N 146:33-5 Je 14 '51

Sinking 300-ft. concrete tunnel section beneath the Elizabeth river. il Concrete 59: 9-10 Ag '51

Stave River highway bridge follows new pattern. G. Sheldon. il Roads & Eng Constr 89:63-7+ Ja '51

Unique cofferdam foils Old Man River; building intake to supply cooling water for Venice no. 2 plant. G. F. Flay. il diag Civil Eng 20:780-4 D '50

Unusual concreting operations and floated steel spans on Boston's Long Island viaduct. J. M. Connolly. il Constr Methods 33: 56-8 Mr '51

Valved-tremie applied to subaqueous concrete structures. A. B. Hunicke. bibliog il diags Franklin Inst J 252:105-36 Ag '51

CONCRETE construction, Underground

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Concrete construction in mines

CONCRETE construction in mines

Concreting pays for slushing and haulage drifts. J. Bernhardt. il Eng & Min J 151: 82-6 D '50

Excavation and concreting of the crusher station at Johnson's company Thetford mines. E. Futterer. il plans diags Can Min J 72: 66-9 Jl '51

Shaft guide anchors permit easy alignment. diags Eng & Min J 152:93 Ja '51

CONCRETE construction in winter

Entrained air simplifies winter curing. J. J. Shideler and others. Am Concrete Inst J 22:449-59 F '51

Low-cost winter concrete; Hudson builders material co. jets live steam into hoppers. M. D. Morris. il Rock Prod 54:230-1 Ag '51

Steam curing protects winter concreting. C. O. Crane. il Am Concrete Inst J 22:213-16 N '50

Winter concreting, intrusion method combined on barge canal lock repair. il Eng N 146:32-3 Mr 22 '51

CONCRETE dams. See Dams, Concrete

CONCRETE fence posts. See Fence posts, Concrete

CONCRETE floors. See Floors, Concrete

CONCRETE houses

Benjamin Adelman house in Milwaukee built of concrete block; designed by F. L. Wright. il plan Arch Forum 94:86-9 Ja '51

Concrete "logs" formed on curved metal lath makes rustic cabin. il diags Am Bld 73:178 My '51

Ingenuity adds extra value for home buyers; concrete block houses. il plan Am Bld 73: 116-17 Mr '51

New economies for concrete houses; Pollman forms. il plan Am Bld 73:160-1 Ja '51

Versatility of concrete products shown in unique model home. il plans diags Am Bld 73:100-3 S '51

CONCRETE industry

Ready mixed industry asks reconsideration of cement allocation. Concrete 58:15 N '50

Directories

Ready-mix concrete suppliers, Canada. Roads & Eng Constr 89:126 Je '51

Exhibitions

Concrete industries exposition, Cleveland; preview. plan Concrete 59:7-11+ Ja '51

Florida

Block and ready mix invade our last frontier; Shirley brothers' operations in the Everglades. J. W. Shaver. il Concrete 59: 10-12+ My '51

CONCRETE joists. See Joists, Concrete

CONCRETE laboratories

Armour foundation opens new $25,000 concrete laboratory. Concrete 59:25 Jl '51

Chemistry and concrete-making; new structures laboratory opened at Wexham Springs. Chem Age (Lond) 64:781-2 My 19 '51

Structures laboratory of the Cement and concrete association. il Engineer 191:695-6 My 25 '51; Engineering 171:602-3 My 18 '51; Eng N 146:56-7 Je 28 '51; Chem & Ind p457-8 Je 16 '51

CONCRETE lining

Full circle, continuous concreting preserves tunnel's rock bore; Baltimore's Patapsco River water-supply project. il diag Eng N 146:32-4 Ja 4 '51

Garrison's big tunnels are moving fast. Eng N 146:35 Ja 18 '51

Sink tubes fast for Norfolk tunnel. H. T. Perez. il diag Constr Methods 33:48-53+ My '51

Trials develop best way to line three-mile sewer tunnel; Portland, Ore. il Eng N 145: 36 N 9 '50

CONCRETE manholes. See Manholes, Concrete

CONCRETE masonry association, National. See National concrete masonry association

CONCRETE mixers

Batching unit for concrete mixers. il Engineer 191:171 F 2 '51; Engineering 171:147 F 2 '51

Blade changes improve tilting mixer. G. Maxon. diags Am Concrete Inst J 22:297-300 D '50

Hard facing mixer blades. L. J. Johnson. diag Rock Prod 54:185 Je '51

Newly improved Jaeger Hi-Dump truck mixer. il Concrete 59:30 F '51

CONCRETE mixing

Chloride feeder supplies paver drum. il Roads & Sts 94:43 Ag '51

Concrete placement on Oregon dam. il Concrete 59:16+ Jl '51

Davis Dam project, U.S.A. il Engineer 192: 139-40 Ag 3 '51

Design and control of air-entrained concrete mixtures. il Pub Works 81:48-50 D '50

Factors influencing concrete strength. W. H. Price. Am Concrete Inst J 22:418-21 F '51

False set in portland cement. R. F. Blanks and J. L. Gilliland. bibliog il Am Concrete Inst J 22:517-32 Mr '51

Field control of concrete mixing. J. C. Thompson. Pulp & Pa of Can 52:86-8 Ap '51

Fly ash; a pozzolanic material of great usefulness. M. Palmieri. Concrete 59:20-2 Je '51

Lean mass concrete used for interior of dams. B. W. Steele. il Am Concrete Inst J 22: 553-60 Mr '51

Manufacture of concrete masonry units; mixing and processing concrete. W. Grant. Concrete 59:38+ My '51

Natural pozzolans for concrete. R. C. Mielenz and others. il Econ Geol 46:311-28 My '51

Perlite mix properties available in table form. Eng N 147:42 S 13 '51

Quick determination of concrete aggregate proportions; with chart. H. R. Grant. Rock Prod 54:156 F '51

Recommended mixes for perlite concrete. Concrete 59:46 S '51

Strength of no-fines concrete. E. Fenney and H. J. Cowan. il Engineering 170:398 N 24 '50

See also

Concrete—Aggregate

Ready-mixed concrete

Accurate batching of concrete; Central premix concrete co. W. B. Lenhart. il Rock Prod 53:113-15 N '50

Chicago's ready mix industry continues rapid growth; Material service corp. L. D. Minsk. il map plan Rock Prod 54:112-15 Jl '51

CONCRETE mixing—Ready-mixed concrete—*Continued*

Getting quality in ready mixed concrete. il Concrete 59:3-6 Je '51
Integrate concrete operations at sand and gravel pit; block and ready-mixed concrete; Janesville sand and gravel co. il Rock Prod 53:116-18 N '50
Interplant tube speeds ready mix orders. il Concrete 58:8-9 D '50
Merchandising to small communities. il Rock Prod 54:184-5 Je '51
New central-mix plant in Dallas' Trinity district. il Concrete 59:20+ Ja '51
Ohio ready mix producers discuss costs. Concrete 59:22+ Ap '51
Open house dedicates ready mix plant; Loomis coal and supply co. Akron, Ohio. J. W. Shaver. il Concrete 59:3-6 Jl '51
Packaged central mixing plant; J. P. Loomis coal & supply co. B. Nordberg. il Rock Prod 54:225-8+ Ag '51
Radio use open to ready mix operators. Concrete 59:24-6 Je '51
Ready mix in Los Angeles terminal. M. E. Sylvester. il Concrete 58:12-13 D '50
Ready mix plant is adjunct of aggregate processing. il Concrete 59:28+ Je '51
Ready mix plant uses new $CaCl_2$ dispenser; Clifton coal and supply co. il Concrete 59:10+ Mr '51
Ready-mixed insulating concrete; vermiculite concrete; Genovese coal & mason's material co. T. Sabia. il Rock Prod 54:152-3 F '51
Small plant produces both block and ready mix. il Concrete 59:8 F '51
Somers-Barr delivers year-round ready mix. il Concrete 59:3-5 My '51
Special ready mix plant for housing project. il Concrete 59:3-4 Ap '51
Status of ready mixed concrete under new law. Concrete 59:8 My '51
Wabash Valley ready mixed concrete association annual convention, Chicago, March 19-20; with abstracts of papers. Concrete 59:28+ Ap '51

CONCRETE piling

Concrete platforms solve water-location problems; interview with M. B. Willey. il Oil & Gas J 50:289-90 Je 21 '51
First prestressed piles carry tank platform. J. J. Parrett. il diags Eng N 147:38-9 Jl 5 '51
How they cast concrete piles for 15-year job in Tasmania; illustrations with text. Constr Methods 33:88-90 Je '51
90-ton pedestal piles for iron-titanium plant. T. E. Smith. il diags Eng N 146:35-7 Ja 4 '51

Testing

California's portable pile-testing rig. G. C. Smith. il Concrete 59:10-11 F '51

CONCRETE placing

Concrete placement on Oregon dam. il Concrete 59:16+ Jl '51
Concrete rides high at Diablo dam. il Constr Methods 33:54-5 My '51
Continuous mat put in fast as big store replaces itself; Jordan Marsh department store in Boston. C. B. Spencer. il diag Eng N 145:34-5 D 28 '50
Davis Dam project, U.S.A. il Engineer 192:140-1 Ag 3 '51
Everything is just right at Philpott dam; cableway places concrete and raises forms. il Constr Methods 32:62-3+ N '50
Largest single construction job ever carried out in Quebec City; preparation of a new site for Laval university. il Roads & Eng Constr 88:79-83+ D '50
Machines conquer tough slope-paving job; dikes for U.S. government power plant at the Soo. il diags Eng N 147:28-9 Ag 9 '51
Prefabrication of reinforcing and forms halves time for multiple footing pours. il diags Constr Methods 33:100-1+ My '51
Proposed recommended practice for the application of mortar by pneumatic pressure; Shotcrete. Am Concrete Inst J 22:185-95 N '50
Recommended practice for the application of mortar by pneumatic pressure (ACI 805-51). Am Concrete Inst J 22:709-19 My '51; Discussion. 23:720^1-720^8 pt 2 D '51
Scroll case placed in week with one concrete pour. il Elec World 134:98 D 18 '50

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Concrete construction, Subaqueous

CONCRETE plants

Unorthodox concrete plant. il Constr Methods 32:87-8 N '50

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Concrete construction
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Employees

Ready mix producer marks 60 years with stock gift; Harry T. Campbell sons' corp. Concrete 59:44 Je '51

Equipment

Accurate batching of concrete; Central premix concrete co. W. B. Lenhart. il Rock Prod 53:113-15 N '50
Chicago's ready mix industry continues rapid growth; Material service corp. L. D. Minsk. il map plan Rock Prod 54:112-15 Jl '51
Cooling materials for mass concrete; Detroit dam. H. H. Roberts. il plans diags Am Concrete Inst J 22:821-32 Je '51
Interplant tube speeds ready mix orders. il Concrete 58:8-9 D '50
Many factors considered in ready-mix plant construction. il Am Concrete Inst J 22: sup21-2 Je '51
New central-mix plant in Dallas' Trinity district. il Concrete 59:20+ Ja '51
Open house dedicates ready mix plant; Loomis coal and supply co. Akron, Ohio. J. W. Shaver. il Concrete 59:3-6 Jl '51
Packaged central mixing plant; J. P. Loomis coal & supply co. B. Nordberg. il Rock Prod 54:225-8+ Ag '51
Preview of new equipment, materials, services, and processes for 1951. il Concrete 59:16-18+ F '51
Somers-Barr delivers year-round ready mix. il Concrete 59:3-5 My '51

Quality control

Getting quality in ready mixed concrete. il Concrete 59:3-6 Je '51

Safety measures

Ready mix safety pays $7 to $1; W. E. Anderson sons co., Columbus. J. W. Shaver. il Concrete 59:5-8 Ag '51

CONCRETE products

New precast concrete headwall. il Concrete 58:30 N '50
Precast lightweight concrete planks. il diag Rock Prod 54:127+ S '51

See also
Concrete blocks
Concrete piling
Concrete staves
Joists, Concrete
Pipes, Concrete
Sewer pipes, Concrete

Manufacture

Advertising pays off in specialty concrete making; Arrowcrete corp. il Concrete 59:14-16 Ag '51
Color glamorizes concrete units; plant of H. A. Von Loon, Bishop, Calif. W. B. Lenhart. il Rock Prod 53:181-3+ D '50

CONCRETE products association, National. See National concrete products association

CONCRETE products industry

Advertising

Advertising pays off in specialty concrete making; Arrowcrete corp. il Concrete 59:14-16 Ag '51
Merchandising blocks and ready mix; Pinellas lumber co. W. E. Scott. il Concrete 59:10-11+ S '51

CONCRETE products plants

High capacity single-unit plant; North Hollywood concrete tile co. il Rock Prod 54:229+ Ag '51
Integrated concrete block plant; Northern concrete products co. il Rock Prod 54:181 Je '51
New plant casts concrete steps and specials. il Concrete 59:38+ Jl '51

CONCRETE products plants—*Continued*

Precasting concrete window frames. il diag Eng N 146:45-6 Mr 15 '51

Accidents

Accidents dropping in products plants. Concrete 59:44 Ag '51

Employees

Group incentives in products plant; Neff concrete products, inc. J. W. Shaver. il Concrete 59:8-9 Jl '51

Equipment

Bi-annual Concrete industries exposition, Cleveland. il Rock Prod 54:185-8 Ap '51

Color glamorizes concrete units; plant of H. V. Von Loon, Bishop, Calif. W. B. Lenhart. il Rock Prod 53:181-3+ D '50

Conotex block plant has solid future. G. Bickel. il Concrete 58:16-17+ N '50

Conveying bulk cement by pump; V. Paturzo bros. & son, inc. W. B. Lenhart. il Rock Prod 54:175-9 Je '51

Diversification builds volume production at Badger concrete co. il Rock Prod 54:150-1+ F '51

Essential factors for adequate curing. W. J. Shore. Rock Prod 54:154-5+ F '51

Group incentives in products plant; Neff concrete products, inc. J. W. Shaver. il Concrete 59:8-12 Jl '51

Integrate concrete operations at sand and gravel pit; block and ready-mixed concrete; Janesville sand and gravel co. il Rock Prod 53:116-18 N '50

Plant uses effective curing system; Superior concrete products co. il Rock Prod 54:130-1 S '51

Preview of new equipment, materials, services and processes for 1951. il Concrete 59:16-18+ F '51

Selling block throughout wide area; Campbell supply co. mechanized plant. il Rock Prod 54:116+ Jl '51

Small plant produces both block and ready mix. il Concrete 59:8 F '51

Steam curing with direct firing unit at Syracuse, N.Y. plant of Barnes & Cone. B. Nordberg. il diag Rock Prod 54:191-2+ Ja '51

Straight line joist production. J. W. Shaver. il Concrete 59:8-10+ Je '51

CONCRETE research

Cement and concrete research. Chem Age (Lond) 63:776 D 2 '50

Directing and using research. N. C. Rockwood. il Rock Prod 54:124-7+ Ja '51

How temperature and moisture changes may affect the durability of concrete. S. L. Meyers. bibliog Rock Prod 54:153-7+; Discussion (Water; thermally incompatible aggregate). N. C. Rockwood. 93 Ag '51

See also

Concrete laboratories

CONCRETE roofs. See Roofs, Concrete

CONCRETE slabs

FHA approves new method of installing flooring over concrete slabs. il Am Bld 73:218+ S '51

Getting more for our concrete dollar. I. E. Morris. diags Am Concrete Inst J 22:389-96 Ja; 23:396^1-396^3 pt 2 D '51

Grouted preplaced aggregate for eight-foot slab. il plan diag Eng N 147:32-5 S 27 '51

Install vault of precast slabs in one day. W. A. Heineck and E. F. Johnson. il Elec World 136:136+ S 10 '51

Marietta building precast panel plant. il Concrete 59:17 S '51; Same cond. Rock Prod 54:119 S '51

Precast manhole roofs do away with traffic delays. A. L. Hisler. il diags Elec World 135:121-2 Ap 23 '51

Precast slabs permit eight-foot overhang; Flexicore; motor court, St Petersburg, Fla. il diag Am Bld 73:181-3 Ap '51

Seattle tilt-up job cuts building costs. il Concrete 59:36-7 Jl '51

Slab warping affects pavement joint performance. F. N. Hveem. il Am Concrete Inst J 22:797-808 Je '51

Testing

20-ton prestressed trestle slab tested to failure. il Concrete 58:3-4 N '50; Civil Eng 20:742 N '50; Rock Prod 53:119 N '50

CONCRETE stairways. See Stairways, Concrete

CONCRETE staves

Conveyor handling of silo staves. il Rock Prod 54:180 Je '51

CONCRETE steps. See Steps, Concrete

CONCRETE tile

High capacity single-unit plant; North Hollywood concrete tile co. il Rock Prod 54:229+ Ag '51

CONCRETE vats. See Vats, Concrete

CONCRETE wharves. See Wharves, Concrete

CONCRETE window frames. See Window frames, Concrete

CONDEMNATION of land. See Eminent domain

CONDENSATION

Air condensation in hypersonic flow. P. Wegener and others. bibliog il diag J Ap Phys 22:1077-83 Ag '51

Condensation of water vapor in the shock tube below 150°K. P. Wegener and G. Lundquist. il J Ap Phys 22:233 F '51

Condensation on cold air ducts; reference data. Heat & Ven 48:136a Ag '51

Heat-transfer coefficient of condensing vapours. J. C. Chu and others. bibliog flow sheet J Ap Chem 1:73-80 F '51

Heat transfer during condensation of steam. H. Hampson. il Engineering 172:221-3 Ag 17 '51; Discussion. 172:244-5 Ag 24 '51

Nucleation mechanisms acquire significance in aeronautics; formation of rain particles, sheet ice, and supersonic condensation shock waves. Chem & Eng N 29:3616-17 S 3 '51

Point of condensation and the volume dependency of cluster integrals. S. Katsura. and H. Fujita. J Chem Phys 19:795 Je '51

Time lag in the self-nucleation of a supersaturated vapor. R. F. Probstein. bibliog J Chem Phys 19:619-26 My '51

See also

Condensers (steam)

CONDENSATION, Chemical

Condensation of acetoacetic ester with some unsymmetrical epoxides. R. M. Adams and C. A. VanderWerf. bibliog Am Chem Soc J 72:4368-73 O '50

Condensation of acetylenes with esters; 3-dialkylamino-1-propynes with alkyl carbonates and alkyl benzoates and phenylacetylene with methyl oxalate. W. J. Croxall, J. O. Van Hook and H. J. Schneider. Am Chem Soc J 73:2713-16 Je '51

Condensation of *o*- and *p*-bromobenzyl alcohols with phenol and 2,6-dibromophenol in the presence of aluminum chloride. D. Y. Wu, R. L. Guile and R. C. Huston. bibliog Am Chem Soc J 73:3443-4 Jl '51

Condensation of 1,1-dinitroethane with electronegatively substituted unsaturated compounds; the synthesis of 3,3-dinitro-1-butene. H. Shechter and L. Zeldin. bibliog Am Chem Soc J 73:1276-8 Mr '51

Condensation of ketones with acylpyridinium salts. W. V. Doering and W. E. McEwen. bibliog Am Chem Soc J 73:2104-9 My '51

Condensation of nitroparaffins with α,β-unsaturated ketones using calcium hydride. N. Fishman and S. Zuffanti. Am Chem Soc J 73:4466 S '51

Condensation of thiophene and homologs with ketones. J. W. Schick and D. J. Crowley. Am Chem Soc J 73:1377 Mr '51

Condensation products of ethylene chlorohydrin and boron trichloride. D. R. Martin and L. S. Mako. Am Chem Soc J 73:2674-6 Je '51

Condensation products of phenols and ketones. W. Baker and others. Chem Soc J p76-87 Ja '51

Condensations by sodium; the effect of salts and other substances on the alkylation of toluene, a modified Wurtz reaction. A. A. Morton and A. E. Brachman. bibliog Am Chem Soc J 73:4363-7 S '51

Condensations effected by acidic catalysts; the acylation of substituted and condensed thiophenes and furans. M. W. Farrar and R. Levine. bibliog Am Chem Soc J 72:4433-6 O '50

Condensations effected by the alkali amides; studies in the acylation of methyl 2-thienyl ketone. J. K. Sneed and R. Levine. bibliog Am Chem Soc J 72:5219-20 N '50

CONDENSATION, Chemical—*Continued*

Cyclized products from the Stobbe condensation with δ-keto-esters. D. L. Turner. bibliog Am Chem Soc J 73:1284-7 Mr '51

Intramolecular reaction in polycondensations; ring-chain equilibrium in polydecamethylene adipate. H. Jacobson and others. bibliog J Chem Phys 18:1607-12 D '50

Intramolecular reaction in polycondensations; the theory of linear systems. H. Jacobson and W. H. Stockmayer. bibliog diags J Chem Phys 18:1600-6 D '50

Kinetics of the ammonium acetate-catalyzed condensation of vanillin and nitromethane. T. I. Crowell and F. A. Ramirez. bibliog Am Chem Soc J 73:2268-70 My '51

Kinetics of the condensation of anilines with formaldehyde. Y. Ogata, M. Okano and M. Sugawara. Am Chem Soc J 73:1715-17 Ap '51

Kinetics of the uncatalyzed reactions between resorcinol and formaldehyde. R. A. V. Raff and B. H. Silverman. bibliog Ind & Eng Chem 43:1423-7 Je '51

Preparation of some 2,3-diaryl-2-pentenenitriles by the Knoevenagel condensation. K. Rorig. bibliog Am Chem Soc J 73:1290-2 Mr '51

Stobbe condensation between *meso*benzanthrone and ethyl succinate. G. R. Clemo, L. Munday and G. A. Swan. Chem Soc J p 1513-14 Je '50

Stobbe condensation with methyl γ-benzoylbutyrate. D. L. Turner. bibliog Am Chem Soc J 73:3017-21 Jl '51

Studies on 4-hydroxycoumarins; the condensation of chloral with 4-hydroxycoumarin and the mechanism of aldehyde condensations with 4-hydroxycoumarin. M. Ikawa and K. P. Link. Am Chem Soc J 72:4373-4 O '50

See also

Knoevenagel reaction
Michael reaction
Perkin reaction

CONDENSERS

Ammonia condensing cycle. E. R. Michel. il Refrig Eng 58:1173+ D '50

Cathodic protection of condensers and heat exchangers. M. E. Parker. Oil & Gas J 49:244 Ap 19 '51

Condenser repair. M. W. Shaffer. diag Power 95:115 S '51

Evaporative condensers; abstract. E. E. Moertstedt. Refrig Eng 58:1079 N '50

Fog formation in cooler-condensers; mixtures of nitrogen and vapors of sulfur, *n*-butyl alcohol, and water. H. F. Johnstone, M. D. Kelley and D. L. McKinley. bibliog diags Ind & Eng Chem 42:2298-302 N '50

High capacity laboratory condensers and adapters. E. B. Hershberg. diags Ind & Eng Chem 42:2531-2 D '50

Niagara flower co. high capacity condenser. diag Refrig Eng 59:86 Ja '51

Manufacture

Copper tubes spot annealed in deoxidizing atmosphere. W. W. Swarthout. il Steel 128:84 Mr 12 '51

Testing

Effect of water distribution on evaporative condenser efficiency. H. Vetter. diags Refrig Eng 59:366-8+ Ap '51

CONDENSERS (electricity)

Application of shunt capacitors at transmission and distribution stations. F. M. Porter and C. P. Zimmerman. il Elec Eng 70:487 Je '51

BPA's new 230-kv series capacitor. R. E. Marbury. il Elec World 135:108 Ap 23 '51

Capacitor installation for motor-generator welders; data sheet. il Elec West 105:83 D '50

Capacitors cure motor burn-outs. U. G. Karrer. Elec West 106:61 Ja '51

Capacitors earn $1,000 per month for Delaware rural electric cooperative system. F. Hershey, jr. and R. R. Jefferson. Elec World 135:132+ F 12 '51

Capacitors effect large savings. il Elec West 107:67 Ag '51

Capacitors in oil-field pumping. W. B. Helms and W. R. Horrigan. Oil & Gas J 49:159-60+ F 22 '51

Clean design safeguards transformers and capacitors. il Elec World 136:138 S 10 '51

Economic limit of capacitor application for load relief. G. Stangland. Power Eng 54:78-80+ N '50

Electrical charge storage in polystyrene capacitors. L. A. Matheson and V. J. Caldecourt. J Ap Phys 22:1176-8 S '51

Electrical method for investigating the nature and behavior of small, airborne, charged particles. J. H. Daniel and F. S. Brackett. bibliog diag J Ap Phys 22:542-54 My '51

Expansion chambers, utilizing porous ceramic baffles successfully employed in variable tuning capacitors, for airborne electronic equipment. il diags Machine Design 23:115-16 F '51

Frequency compensation of a-c instruments. J. H. Miller. diag Elec Eng 70:494-7 Je '51

Fundamental effects of series capacitors in high-voltage transmission lines; abstract. A. A. Johnson and others. Elec Eng 70:702 Ag '51

Good capacitors, a must in quality ballasts. R. F. Rowe and L. E. Gregory. il diags Illum Eng 46:406-9 Ag '51

High-voltage, open-type capacitor banks. R. E. Marbury. il diag Westinghouse Eng 11:82-6 My '51

H-v series capacitors can be relayed. J. E. Barkle. il diags Elec West 107:96-7 S '51

How series capacitors can improve today's transmission performance. J. E. Barkle and A. A. Johnson. diags Elec World 135:105-9 Ap 23 '51

How to sell capacitors to your top management; illustrations with text. Power 95:124-7 Ap '51

Instrument electronics; circuit elements. M. H. Aronson. il diags Instruments 24:888-90+ Ag '51

Oil switch and voltage control give low-cost capacitor switching. W. R. Smith and others. il diag Elec World 135:57-60 Ja 1 '51

Packaging 50-mva condenser cuts erection time 33 per cent. C. H. Bjorquist. il Elec World 135:118 F 12 '51

Series capacitor and the high-voltage line. R. E. Marbury. il diags Westinghouse Eng 11:138-43 S '51

Stability of mica standards of capacitance. G. H. Rayner and L. H. Ford. J Sci Instr 28:168-71 Je '51

Switching high-voltage shunt capacitor banks; abstract. A. W. Funkhouser and others. il diag Elec Eng 70:596 Jl '51

Switching of distribution capacitors by manual and automatic devices. R. J. Hopkins and N. R. Schultz. il diags Gen Elec R 54:36:42 Ap '51

Tests show restrikes in capacitor switching. A. W. Funkhouser and R. C. Van Sickle. il diag Elec World 136:74-7 Jl 2 '51

See also

Radio condensers

CONDENSERS (steam)

Alloys and design fight condenser ills. W. Lynes. diags Power 95:122-3 Mr '51

Condenser-mounted turbine shows little vibration. R. F. Cummings. Elec World 135:114 F 26 '51

Improving surface condenser performance through the use of supervisory instruments. J. G. Dobson. diag Elec Eng 70:38 Ja '51

Sink inside-out condenser in canal; pumping plant for irrigation. B. S. Nelson. il diags Power 94:119 N '50

CONDITIONAL sales. See Sales, Conditional

CONDON, Edward Uhler, 1902-

Portrait. Fortune 44:132 S '51

CONDUCT of life

Contemplation; its status in our society. J. A. Joffe. bibliog Tech R 53:26-9 N '50

Engineering the humanities. E. E. Wilson. S A E J 59:17-19 Ap '51

Ultimate objective of life. H. B. Phillips. Tech R 53:298-9 Ap '51

CONDUCTANCE bridge. See Electric instruments

CONDUCTIVITY, Electric. See Electric conductivity

CONDUITS

See also

Electric conduits
Water conduits

CONE mills corporation
Stock offering oversubscribed. Comm & Fin Chr 174:1094 S 24 '51

CONES
Locating cones in V-blocks. E. J. Rychlik. diags Am Mach 95:133 Je 25 '51

CONESSINE
Constitution of conessine. R. D. Haworth, J. McKenna and G. H. Whitfield. Chem Soc J p3127-31 D '49
Constitution of conessine. R. D. Haworth and others. Chem Soc J p 1736-40 Jl '51
3 : 5 : 30-Pregnatriene as a degradation product of conessine. R. D. Haworth and J. McKenna. bibliog Chem & Ind p312 Ap 21 '51

CONFECTIONERY
See also
Fondants
Marshmallow cream

CONFEDERATE state flag. See Flags—Confederate states of America

CONFEDERATION of free trade unions, International. See International confederation of free trade unions

CONFERENCES
Conference at Corning, Living in industrial civilization. il Fortune 44:88-92 Ag '51
Highbrows; bait for top business brass; Corning Glass sponsors conference on Living in industrial civilization. Bsns W p22-3 My 26 '51

CONFIDENTIAL communications. See Privileged communications

CONFLICT of laws
Conflict of laws in automobile insurance. J. P. Faude. Weekly Underw 163:1152-4, 1207-8, 1263-4 N 18-D 2 '50; Excerpts. East Underw 51:58+ O 13 '50

CONGO, Belgian
Economic developments in 1950. For Comm W 43:13 Je 4 '51
U.S. loan granted for development. For Comm W 44:10 Jl 30 '51
See also
Transportation—Congo, Belgian

Economic conditions

Highlights of the first six months of 1951. For Comm W 45:8-9 O 8 '51

CONGRESS of industrial organizations
AFL-CIO split overdramatized. Bsns W p30+ Ag 25 '51
Annual meeting, Chicago. Bsns W p 104-5 N 25 '50
CIO crossroads; political decision. Bsns W p 110+ D 2 '50
CIO store union; drive to organize department store workers. Bsns W p 122 Mr 3 '51
Constitutional convention, 12th, Chicago, Nov. 20-24. Mo Labor R 72:8-12 Ja '51
End of functional unity. Fortune 44:60+ O '51
Get together; AFL and CIO. Bsns W p 132 Mr 17 '51
Most CIO union shops voided. Bsns W p32-4 Jl 21 '51
Old serpent tooth bites again; CIO's stentorious father blasts Reuther. Mod Ind 22:81-2 Jl '51
Too busy on defense for AFL-CIO merger. Bsns W p 124 Mr 3 '51
Toward one big union federation. Bsns W p30 Ap 7 '51
Who will boss CIO after 1952? Bsns W p30+ S 15 '51

CONIDENDRIN
Conidendrin; its isomerization and demethylation. W. M. Hearon, H. B. Lackey and W. W. Moyer. bibliog Am Chem Soc J 73:4005-7 Ag '51
Wood pulpers' dividend; norconidendrin, antioxidant from sulfite pulping wastes. il Chem W 69:23 S 22 '51

CONIFERS
Production of essential oils from coniferous foliage. A. C. Shaw. bibliog Can Chem & Process Ind 35:44-5 Ja '51
See also
Douglas fir
Pine
Spruce

CONIFUGE. See Centrifuges

CONJUGATION (chemistry)
Hyperconjugative effect of methylene groups in 5-indanylphenylchloromethane and 5,6,7,8-tetrahydro-2-naphthylphenylchloromethane. R. T. Arnold, K. Murai and R. M. Dodson. bibliog Am Chem Soc J 72:4193-5 S '50
Studies on the mechanism of conjugate addition; the addition of Grignard reagents to 2-cyclohexenone and some open chain analogs. E. R. Alexander and G. R. Coraor. Am Chem Soc J 73:2721-3 Je '51
Theoretical investigation of reactivities of conjugated bonds. R. D. Brown. Chem Soc J p3249-54, 1950-5 N '50, Ag '51

CONJUNCTIVITIS
Phlyctenular keratoconjunctivitis among Alaskan Indians and Eskimos. M. H. Fritz and P. Thygeson. bibliog Pub Health Rep 66:934-9 Jl 20 '51

CONNECTICUT
See also
Brass industry and trade—Connecticut

Sanitary affairs

Review of some industrial waste treatment plants in Connecticut; abstract. W. J. Snow. Water & Sewage Works 98:400-1 S '51

CONNECTICUT agricultural experiment station
Connecticut agricultural experiment station library, 1875-1950. R. M. H. Giandonato. bibliog Special Lib 41:352-8+ D '50

CONNECTING rods
See also
Locomotives—Rods

Manufacture

Boring the big rods; Cooper-Bessemer corp. J. A. Stevenson. il diags Am Mach 94:116-17 O 30 '50
Engine detail machining; Ford Consul and Zephyr connecting rods and crankshafts. il Automobile Eng 41:287-95 Ag '51

Testing

How Chrysler builds quality into the firepower engine; connecting-rod methods approach aircraft-engine practice. R. Le Grand. il diags Am Mach 95:150-1 S 17 '51
Snyder connecting rod balancing machine. il Automotive Ind 104:54 Ja 1 '51

CONNECTIVE tissue. See Tissues

CONODONTS
Devonian microfossils, Andrews county, Texas. S. P. Ellison, jr. and W. T. Wynn. map diag Am J Sci 248:794-9, pl 1 N '50

CONSCRIPTION. See Military service, Compulsory

CONSERVATION of energy. See Force and energy

CONSERVATION of resources
Building a greater America. L. A. Pick. Am Pet Inst Proc 30(5):13-15 '50
Role of conservation in mobilization planning. H. Coonley. Mech Eng 73:3-4+ Ja '51
See also
Gas, Natural—Conservation
Mines and mineral resources
Petroleum—Conservation
Reclamation of land
Soil conservation
Water conservation

CONSERVATISM
When you call me conservative, smile. D. M. Wright. Fortune 43:76-7+ My '51

CONSERVATIVE party (Great Britain)
Party of privilege. Economist 161:430-1 Ag 25 '51

CONSERVATOIRE national des arts et metiers. See Paris—Conservatoire national des arts et metiers

CONSISTOMETERS
Comparison of viscosities of rubbers from the McKee worker-consistometer and from the Mooney viscometer. A. B. Bestul and others. bibliog J Res Nat Bur Stand 46:283-7 Ap '51
Grease consistometer is modified to operate at constant shear rates, higher viscosities. il Pet Processing 6:285+ Mr '51; Pet Eng 23:C47 Ag '51

CONSISTOMETERS—*Continued*

Lubricant tester improved by Bureau of standards; McKee worker-consistometer. il Product Eng 22:151 Mr '51

McKee worker-consistometer with constant-speed drives. S. A. McKee and H. S. White. il diags J Res Nat Bur Stand 46:18-29 Ja '51

CONSOLIDATED Edison company of New York

Bonds offered. Comm & Fin Chr 173:963, 1887 Mr 5, My 7 '51

New York Public service commission approves merger to avoid duplicate regulation. Am Gas J 174:38 Mr '51

Two subsidiaries merge with Consolidated Edison. Am Gas Assn Mo 33:38 Mr '51

CONSOLIDATED gas, electric light and power company of Baltimore

Bonds offered. Comm & Fin Chr 173:475 Ja 29 '51

CONSOLIDATED grocers corporation

1951 net to exceed $3 a share. Barron's 31:23 Ja 22 '51

So big it splits. Bsns W p 119 Je 9 '51

CONSOLIDATED mining and smelting company of Canada, ltd.

Security I like best. A. B. Johnson. Comm & Fin Chr 174:594 Ag 16 '51

CONSOLIDATED natural gas company

Debenture offering oversubscribed. Comm & Fin Chr 173:2087-8 My 21 '51

CONSOLIDATED services. See Business management—Consolidated services

CONSOLIDATED statements

Should tax be deferred on intercompany profits eliminated in consolidation? J Account 92:220-1 Ag '51

CONSOLIDATED textile company

Battle for stock. Bsns W p 124 Mr 17 '51

CONSOLIDATED Vultee aircraft corporation

$10.24 million profit reported by Convair. Aviation W 54:15 Mr 5 '51

CONSTRUCTION battalions. See United States —Navy—Construction battalions

CONSTRUCTION equipment

Biggest sale brings low bids; Manassas, Va. auction of pipeline construction equipment. il Bsns W p26-7 Ag 18 '51

Buggies replace hoists on big building. W. J. Pouchot. il Constr Methods 33:48-50 Je '51

Buyer's guide; international directory of construction equipment. Roads & Eng Constr 89:298+ Je '51

Construction equipment booms with expansion. Bsns W p82 Jl 28 '51

Cost to own construction equipment; rental rates; tabulations. Eng N 146:154 Mr 29 '51

Customs tariff; rates levied on importation of construction equipment. Roads & Eng Constr 89:70+ Je '51

Design trends in key industries; construction equipment. il Product Eng 22:113-14 My '51

Diesels on the Columbia River projects. W. J. Granberg. il Diesel Power 29:76-7 Ja '51

Earthmoving; an art and a science. D. K. Heiple. il Constr Methods 33:56-7+ Ja; 60-4 F; 62-4+ Mr; 58-9+ Ap; 64+ My; 60-4+ Je; 68+ Jl; 84+ Ag; 79+ O '51 (to be cont)

Earthmoving industry and the Corps of engineers in war and peace. D. C. Hammond. S A E J 59:82-3 Je '51

Equipment for waterworks construction and maintenance. R. T. Hollies. il Munic Util 88:30-2 O '50

Equipment modified for air transportation. il Product Eng 22:152-3 F '51

Equipment outlook good for '51. H. W. Richardson. Constr Methods 32:58-63 D '50

Equipment ownership and operating costs. D. K. Heiple. il Constr Methods 33:58-9+ Ap '51

German construction machine. il Fortune 44:43 S '51

How costs are cut with power tools. il plans Am Bld 73:90-5 My '51

How to keep heavy equipment operating efficiently in wet weather. il Roads & Eng Constr 89:117+ Ap '51; Same abr. Constr Methods 33:100-1 Ap '51

Huge canal rigs circumnavigate obstructions. il Constr Methods 33:52-3 Ap '51

Labor saving equipment; aided contractor on Whitehurst freeway viaduct job. il diag Roads & Sts 93:56-9 N '50

LeTourneau announces electric-drive Tournatow with no clutch, no transmission and no differential. il diags Roads & Eng Constr 88:56+ D '50; Roads & Sts 93:49+ D '50; Steel 127:112 D 18 '50

LeTourneau puts power at the wheels; vehicle can also be used as a portable or standby electric generator. H. W. Richardson. il diags Constr Methods 32:88-90 D '50

Machinery manufacturers face enforced vacations; can't get steel needed. Eng N 147:106+ S 27 '51

NPA controls to hit heavy equipment. Eng N 146:23-4 F 1 '51

New airborne construction equipment being groomed by military engineers. il Roads & Sts 94:92+ Je '51

Outlook, 1951. Eng N 145:24 D 14 '50

Power equipment builds a city; Lakewood Park, Los Angeles. il plan Am Bld 73:96-9 My '51

There is no substitute for brains. C. W. Wood. il Civil Eng 21:202-4 Ap '51

Toolbuilder keeps its hedge; Warner & Swasey's construction equipment business. Bsns W p56 My 12 '51

V-belt drives in public works. F. J. Donahue. Pub Works 82:60-2 Je '51

Will a construction cableway fit your job? J. G. Tripp. il diags Civil Eng 21:134-9 Mr '51

See also

Cranes, derricks, etc.
Excavating machinery
Hoisting machinery
Motor trucks in construction work
Roads—Construction equipment
Tractors

Cold weather operation

Designing construction equipment for Arctic service; abstract. R. W. Beal. Machine Design 23:204+ F '51

Winterization of construction equipment; abstract. R. W. Beal. Automotive Ind 103:120+ D 15 '50

Cost of operation

Earthmoving, an art and a science; production and cost estimates. D. K. Heiple. il Constr Methods 33:60-4+ Je '51

Operating costs of construction equipment; Water bureau, Hartford, Conn. S. L. Rogers. il Water & Sewage Works 98:103-6 Mr '51

Exhibitions

Public works and municipal services congress and exhibition, London, Nov. 13-18. il Engineer 190:427-30 N 10 '50

Public works and municipal services congress and exhibition, London, Nov. 13-18. il diag Engineering 170:369-72, 401-3, 444-6, pl 30, 36-7 N 17-D 1 '50

Public works exhibition; electrical aids to municipal services. Elec R (Lond) 147:828 N 24 '50

Length of service

Construction equipment depreciation schedule. Eng N 146:159 Mr 29 '51

Lubrication

Contractor's special lubrication trucks keep 'em rolling on New Jersey turnpike. il Constr Methods 33:72-4+ Ja '51

Keep the wheels turning. H. C. Campbell. Constr Methods 32:77-8 D '50

Maintenance and repair

Amis believes in central shop maintenance. il Constr Methods 33:50-3 Jl '51

Bechtel depends upon distributors for service and repairs. il Constr Methods 33:54-5 Jl '51

Better welding for better equipment maintenance and repair. G. L. Wiley. il Roads & Sts 94:39-43 Je '51

Conserve your equipment by hard-facing it against wear. il diags Roads & Sts 94:33-7+ F '51

Earthmoving, an art and a science; maintenance or repair. D. K. Heiple. il Constr Methods 33:68+ Jl '51

Electric hoist maintenance; it can make or break your building job. F. C. Grover. il Constr Methods 33:107+ Jl '51

Hard-facing is making a name in contractors' maintenance programs. il diags Constr Methods 33:56-9 Jl '51

CONSTRUCTION equipment—Maintenance and repair—*Continued*

How big British contractor keeps equipment rolling with central shops. il Constr Methods 33:60-3 Jl '51

Lowbidders and overloaders. H. C. Campbell. Constr Methods 32:71-2 N '50

Maintenance shop. Constr Methods 33:100-1 Mr '51 [cont monthly]

Navy rebuilds wartime equipment. L. L. Wise; J. Joseph. il Constr Methods 33:64-7 Jl '51

Preventive maintenance. H. C. Campbell. Constr Methods 33:88 Ja; 94-6 F; 100-2+ Mr '51

Servicing equipment on the job. R. G. Swisher. il Roads & Eng Constr 88:80-1 N '50

Simple records promote better equipment servicing. H. C. Campbell. Constr Methods 33:71 Ap '51

Wire rope, so what? H. W. Richardson. il Constr Methods 33:94-6+ Jl '51

Prices

Price regulation affects materials and equipment. Eng N 146:23-4 My 3 '51

Storage

Idle-spell storage of powered equipment. Eng N 145:48 N 2 '50

Transportation

Air lift hauls tractors and scrapers to Labrador. il Constr Methods 33:40-3 Ag '51

CONSTRUCTIVE receipt

Would constructive receipt doctrine close deferred compensation loopholes? bibliog J Account 92:214-16 Ag '51

CONSULTANTS

Careers in chemistry and chemical engineering; consulting chemist. C. S. Miner. Chem & Eng N 28:3762-4 O 30 '50

Consultants told to advertise aggressively. Chem & Eng N 28:3877 N 6 '50

CONSULTANTS, Business. See Business consultants

CONSULTANTS, Technical. See Technical consultants

CONSULTING chemists and chemical engineers, Association of. See Association of consulting chemists and chemical engineers

CONSUMER credit. See Credit; Instalment plan

CONSUMER panels

Human analyzers; new techniques add precision to sensory testing. Chem Ind 67:721-2 N '50

J. Walter Thompson's consumer purchase panel. Adv Agency 43:56-7+ D '50

CONSUMERS

Cautious consumer; nationwide sample consumer survey by University of Michigan. Banking 44:56 S '51

Consumer demand; graphical analysis into component elements. R. T. Hancock. Elec R (Lond) 148:371-3 F 23 '51

Consumer finances survey, 1951; preliminary findings. Mo Labor R 72:678-80 Je '51

Consumer knowledge; its measurement and extent. A. R. Oxenfeldt. R Econ & Stat 32:300-14 N '50

Consumer reactions. H. F. W. Brooks. Textile Inst J 42:P798-804 Ag '51

Industrial research and the consumer target. A. G. Ashcroft. Textile Res J 21:597-605 Ag '51; Same. bibliog Textile Inst J 42:P805-16 Ag '51

Military spending, a leverage for consumer buying. W. Witherspoon. Comm & Fin Chr 174:423 Ag 2 '51

Small homes are often big markets. L. F. Thomann. il Ptr Ink 236:29 Ag 17 '51

U.S. taste buds want it bland. Bsns W p 102-3 Jl 14 '51

Vector hypothesis of consumer behavior. W. J. Bilkey. diags J Marketing 16:137-51 O '51

See also

Buying habits

Consumer panels

CONSUMERS power company

Bonds offered. Comm & Fin Chr 173:1374-5 Ap 2 '51

Courtesy by the kilowatt; reprinted from Jan. 1951 Coronet. K. Sagendorph. Edison Elec Inst Bul 19:18-19 Ja '51

Power for peace ready for defense; Consumers power co. of Michigan has dual-purpose construction program. map Elec World 135:80-1 Mr 12 '51

CONSUMPTION (economics)

Buying plans; big but hazy; summary of FRB study of consumer finances. Bsns W p25 Ap 21 '51

Consumer spending; bound to rise. Bsns W p 112-16 Ag 11 '51

Continued high civilian output; is there a market for it? with graphs. Bsns W p 101-2+ Ap 14 '51

Illusion of scarcities. W. Gates. Mag of Wall St 87:595-7+ Mr 10 '51

Saving vs. spending; review of consumers' attitudes. E. A. Krauss. Mag of Wall St 88:592-4 S 8 '51

Selected preliminary results of the 1951 survey of consumer finances. Fed Res Bul 37:385-8 Ap '51

Selection of cities for consumer expenditures survey, 1950. M. Kogan. Mo Labor R 72:430-6 Ap '51

Today's defense expansion justified by rapid growth of our population. W. Gates. il Mag of Wall St 87:546-7+ F 24 '51

Vector hypothesis of consumer behavior. W. J. Bilkey. diags J Marketing 16:137-51 O '51

See also

Buying habits

Consumers

Market research

Prices

Purchasing

Supply and demand

Statistics

Consumer buying and credit developments. Survey of Cur Bsns 30:10-13+ N '50

Consumer expenditure study, 1950; field methods and purposes; technical note. Mo Labor R 72:56-9 Ja '51

Dollar's worth; table and graph showing purchasing power of the dollar in wholesale commodity markets, 1801-1950. Banking 43:56-7 Je '51

Estimated annual rates of disposable income and spending, third quarter 1950 and end of 1951; tabulation. Comm & Fin Chr 172:2207 D 7 '50

Expansion in personal consumption in first quarter of 1951. Survey of Cur Bsns 31:6-8 Ap '51

Expenditures and incomes in 1950. Fed Res Bul 36:1565-76 D '50

Family spending in Memphis, 1949. M. C. Ruark and G. H. Mulcahy. Mo Labor R 72:655-60 Je '51

1950 survey of consumer finances. Fed Res Bul 36:643-54, 780-94, 948-65, 1441-55, 1584-611 Je-Ag, N-D '50; Excerpts (pt 1). Mo Labor R 71:239-40 Ag '50

1951 survey of consumer finances. Fed Res Bul 37:627-44, 759-76, 920-37, 1061-78 Je-S '51 (to be cont)

Personal consumption expenditures, seasonally adjusted at annual rates; revised figures, quarterly and yearly, 1946-1949. Survey of Cur Bsns 30:23 D '50

Study of consumer spending trends. J. D. C. Weldon. Mag of Wall St 88:130-1+ My 5 '51

What's U.S. consumer worth? summary of FRB survey on assets, liabilities and net worth of consumers. Bsns W p68-9 Ja 6 '51

Where will the consumer's dollar go this time? Bsns W p36-8 O 28 '50

Work time required to buy food, 1937-50, in United States and 19 foreign countries; with technical notes on methodology. I. B. Kravis. Mo Labor R 72:143-51, 195-7 F '51

CONTACT angle

Contact angle and surface coverage for potassium ethyl xanthate on galena according to free acid collector theory. M. E. Wadsworth, R. G. Conrady and M. A. Cook. bibliog J Phys & Colloid Chem 55:1219-30 O '51

Contact angles and surface tensions in liquid/solid systems. G. A. H. Elton. bibliog J Chem Phys 19:1066 Ag '51

CONTACT lenses

Deposition of rhodium on Perspex. B. L. Ginsborg and O. S. Heavens. R Sci Instr 22:114-15 F '51

CONTACT potential. See Potential, Electric

CONTACTORS, Electric. See Electric contactors

CONTACTS, Electric. See Electric contacts

CONTAINER industry

Too many containers. H. Benjamin. Barron's 31:7-8 S 24 '51

Statistics

Containers and closures; various statistics. Steel 128:125 Ja 1 '51

CONTAINER system (freight handling)

How Little Rock station employs modern devices for l.c.l. handling. il map Ry Age 131:62-4 Ag 6 '51

Missouri Pacific offers merchandise-service package; newly designed freight cars, containers, known as Speedboxes, for handling of l.c.l. freight, plus a proposed third class all commodity rate. il Ry Age 130:30-1 Ja 8 '51

Speedbox eases shipping pains; Missouri Pacific container for l-c-l orders. il Bsns W p94-5 D 16 '50

CONTAINERS

Military packaging; container requirements. A. V. Grundy and F. Rubinate. il Food Eng 23:111-14+ S '51

What women like and dislike about packages today; cardboard, plastic, and glass containers. A. R. Hahn. il Sales Management 67:66-8+ Ag 1 '51

See also

Bags
Beer containers
Bottles
Cans
Closures (containers)
Container industry
Food containers
Gas containers
Glass containers
Hoppers
Labels
Oil containers
Package design
Package goods
Paper bags
Paper boxes
Paper containers
Pressure vessels
Tanks
Tin cans

Re-use

Super premium; colorful aluminum tumbler package for Borden's cottage cheese. il Mod Packaging 24:94-5+ F '51

Two aids for bakers; Dugan's model boat cut-outs on cake cartons and polyethylene bags for rolls boost sales. il Mod Packaging 24:91 N '50

CONTAINERS (for air transport)

Flying cake box; sending sample cake to bakers by air in window cartons. il Mod Packaging 24:103 Mr '51

Pack simplifies cargo handling; aluminum unit designed to integrate air and surface handling. A. McSurely. il Aviation W 54: 18 Je 4 '51

Refrigerated strawberry cases; fibreboard container with dry ice for shipments in planes. W. R. Barger. il diags Mod Packaging 24:125-6+ N '50

CONTAINERS (for shipping)

American life and industry; their effect on the paper shipping sack situation. F. Pocta. Paper Tr J 132:80+ F 23 '51

Boxboard from wheat straw to replace wood veneer in wire-bound shipping containers. E. C. Lathrop and others. flow sheet il Tappi 34:145-52 Ap '51

Collapsible drum; flexible rubber-fabric container can be deflated for return shipment. il Mod Packaging 24:89 My '51; Iron Age 167:67 My 31 '51; Rubber Age 69:211 My '51; Metal Finishing 49:84-5 Je '51; Food Eng 23:85 Jl '51

Drumming up trade; collapsible rubber drums; illustrations with text. Mod Ind 21: 81 My '51

Economics of container design; principles of calculus applied to proportioning of containers can effect substantial savings in materials. C. F. Carr. diags Mod Packaging 24:186-8+ Ap '51

Fiber drum safely handles 400 pounds of liquid chemicals. il Chem & Eng N 28:3833 O 30 '50

How Little Rock station employs modern devices for l.c.l. handling. il Ry Age 131:63 Ag 6 '51

Jet engine cans give protection. Aviation W 54:29 My 21 '51; Product Eng 22:180 Je '51

Liquids in film-lined fibre; fibre-plastic envelope-boot drum package. E. S. Schneider. il Mod Packaging 24:181-5 Ap '51

Mechanical handling of bulk storage mail. il Ry Age 129:40-3 D 16 '50

Moving highway trucks on trains. il Ry Age 129:50-3 N 4 '50

Now, corrugated cartons for citrus fruit. C. E. Wright. il Paper Tr J 132:22-3 My 11 '51

Packaging notebook; metal drums. il Chem Eng 57:239-40+ N '50

Prints cases as you use 'em; four-header case printer developed by Adolph Gottscho. il Food Ind 23:117+ F '51

Saving $7.18 per container. il Mill & Factory 49:136 S '51

Shipping containers for Waukesha ice engine units. il Ry Mech & Elec Eng 124:738 D '50

Shipping containers make safe storage for dynamite. il Roads & Eng Constr 89:60 Jl '51

Shipping containers that carry part of the sales story. il Sales Management 67:42-3 S 15 '51

Steel partitions cartoned at 28 per cent labor saving. il Steel 128:90 Je 11 '51

Your package; from shipping room to retail shelf; abstract. J. R. Whitaker. Mod Packaging 24:122 My '51

See also

Boxes, Wirebound
Containers, Steel
Crates
Packing for shipment

CONTAINERS, Aluminum

Pack simplifies cargo handling; aluminum unit designed to integrate air and surface handling. A. McSurely. il Aviation W 54: 18 Je 4 '51

CONTAINERS, Dispensing

Dispenser carton with slot for unreeling coils of automobile door gasket. il Mod Packaging 24:103 F '51

Jet-propelled lather; aerosols invade shampoo and shaving-cream fields. il Mod Packaging 24:94-5 N '50

Mechanized squeeze-bottling; Ciba's improved nebulizer. il diag Mod Packaging 24:68-70+ Ag '51

Rope buyers okay self-display carton; New Bedford Cordage pre-measured rope. Sales Management 66:74 My 1 '51

Utility extras; Max Factor's new signature line; polyethylene squeeze bottles. il Mod Packaging 24:75-7 Ag '51

CONTAINERS, Plastic

Display containers for shirts. il Mod Plastics 28:162 N '50

Eyes have it; tiny plastic purse case for Aziza eye make-up products. il Mod Packaging 24:99 N '50

Olive-packing mechanized; plastic trees used in process of First national stores. il Food Eng 23:75 Jl '51

Plastic plus magnets; illustrations with text. Mod Plastics 28:77 N '50

Switch-proof display; plastic package provides convenient carrying case and brand-protected merchandising for sun glasses. il Mod Packaging 24:120-1 Ap '51; Mod Plastics 28:78-9 My '51

Yarn kept under control; plastics containers of styrene, vinyl, and acetate aid knitters. il Mod Plastics 28:66 D '50

See also

Bottles, Plastic
Boxes, Plastic

CONTAINERS, Returnable

Accounting

Depreciation and valuation of returnable containers. N A C A Bul 32:1508-10+ Ag '51

CONTAINERS, Rubber

Collapsible storage tank. il World Oil 132: 236+ Je '51; Same cond. Rubber Age 69:584 Ag '51

CONTAINERS, Steel

Containers and closures; various statistics. Steel 128:125 Ja 1 '51

Drum handling made safer. G. L. Stenberg. il Safety Maint & Prod 101:26 Ja '51

NPA orders reduction in use and inventories of steel drums. Oil Paint & Drug Rep 160: 4+ Jl 16 '51

CONTAINERS, Steel—*Continued*

Returnable metal drums. il Chem Eng 58:210+ Ja '51

Shortage of steel containers grows despite production hikes in 1950. Nat Pet N 43:31 Ja 3 '51

Steel used in a container; tabulation. Iron Age 167:324 Ja 4 '51

Manufacture

Captive drums; Diamond Alkali plant makes it's own. il Chem Ind W 68:27 F 10 '51

Mobile factory on show; steel drum plant in production at Olympia. il Chem Age (Lond) 64:201-3 F 3 '51; Engineer 191:229-30 F 16 '51

Seam welding containers automatically. C. S. Seltzer. il diags Welding J 30:791-800 S '51

Welding stainless steel containers to meet sanitary standards. P. H. Mounts. il diags Welding J 30:33-9 Ja '51

CONTAINERS, Transparent

Transparent can; frozen oysters and fish in acetate-bodied cans. il Mod Packaging 24:83 D '50

CONTAINERS, Vacuum. See Vacuum containers

CONTINENTAL air lines

CAL; progressive Midwest carrier. G. L. Christian. il Aviation W 53:37-8 D 4 '50

Continental asks O.K. on Mid-West purchase. Aviation W 54:51 Mr 12 '51

61 Convair-Liner 340s ordered since Jan. 1. Aviation W 54:16-17 F 19 '51

CONTINENTAL copper and steel industries, inc.

Metal products maker headed for new record. Barron's 31:14-15 Mr 26 '51

CONTINENTAL foundry and machine company

Another good year seen for Continental Foundry. Barron's 31:19 Ap 2 '51

CONTINENTAL motors corporation

Continental Motors expects this fiscal year's sales to be two-thirds greater than in 1950. H. C. Tuttle. il Steel 129:73-4 S 3 '51

Securities disturbing investors. R. Colston. Mag of Wall St 88:363+ Je 30 '51

CONTINENTAL shelf

Continental slope off Apalachicola river, Fla. G. F. Jordan. il maps Am Assn Pet Geologists Bul 35:1978-93 S '51

Origin of abrupt change in slope at continental shelf margin. R. S. Dietz and H. W. Menard. bibliog il map diags Am Assn Pet Geologists Bul 35:1994-2016 S '51

Sea bottom off the coast of California; a review of Special paper 31, Geological society of America, by Shepard and Emery. A. C. Lawson. diag Geol Soc Bul 61:1225-41 N '50

CONTINENTS

Crustal layers of the continents and oceans. B. Gutenberg. bibliog map diags Geol Soc Bul 62:427-39, pl 1 My '51

CONTRACT bonds. See Insurance, Surety and fidelity—Contract bonds

CONTRACT information, Bureau of. See Bureau of contract information

CONTRACTORS

Contractors are bigger in 1950 and there are more of them. Eng N 147:70 Jl 12 '51

Contractors rally for civil defense. Constr Methods 33:59+ Je '51

Enter the consulting contractor; he expedited construction and helped keep costs down; First national building, Tulsa, Okla. il plans Eng N 145:42-4 O 26 '50

How to collect on unexpected subsurface difficulties. J. W. Gaskins. Eng N 146:30-1 My 3 '51

Joint-venture contracting; phenomenon of the construction industry. J. G. Tripp. il Civil Eng 21:326-9 Je '51

Law; independent contractor or employee? W. C. Sadler. Civil Eng 21:92 F '51

McGraw's Strike; Hartford builder received largest government construction contract ever awarded. Fortune 43:100-1+ Ap '51

Million dollar contractors increase. Eng N 147:70 S 20 '51

See also

Building contracts
Construction equipment
Electric contractors
Engineering contracts
Insurance, Surety and fidelity—Contract bonds
Subcontracting

Accounting

Accounting problems of construction contractors. J. F. Lee. N A C A Bul 32:570-6 Ja '51

Construction cost control. 62p American society of civil engineers, Construction division, 33 W. 39th st, New York 18 '51

Contractor's equipment records. W. D. Hamilton. N A C A Bul 32:1071-8 My '51

How to establish and operate accounts for small contractor. A. Kaplan. J Account 91:112-15 Ja '51

System the hard way; a general contractor's story. H. L. Tandy. N A C A Bul 32:577-92 Ja '51

Advertising

Millions in new-business leads in combined research, advertising and publicity program for client, Bank building & equipment corp. R. J. Armbruster. il Adv Agency 44:76-8 My '51

Ryerson's offer draws war contract seekers; advertisements in house organs. Sales Management 67:70 Jl 1 '51

Canada

Contractors; roadbuilding, earthmoving, engineering construction; directory. Roads & Eng Constr 89:94+ Je '51

CONTRACTORS' equipment floater insurance. See Insurance, Contractors' equipment floater

CONTRACTORS' liability insurance. See Insurance, Contractors' liability

CONTRACTORS' offices

Builder builds his own office; Buttress & McClellan, Los Angeles. il plan Am Bld 73:176+ Ag '51

Builder's home at rear of office serves as display model. il plans diags Am Bld 73:104-5 S '51

Trailer office pays for itself on second job. il Am Bsns 21:26 F '51

CONTRACTS

According to law; review of legal decisions which will help plumbing and heating contractors to avoid law suits (cont). Dom Eng 176:115-16+ D '50; 177:112+ Ja; 95+ Ap; 123+ Je; 178:114+ Ag; 130+ S; 114-15+ O '51 (to be cont)

Contract forms. Dom Eng 176:112-13+ N '50

Corporations are liable to exact terms of appliance sales contracts. L. T. Parker. Am Gas J 174:31-2+ Je '51

Law and your profits. W. H. Hillyer. Heating-Piping 23:96 Ag; 103 S '51

Public liability considerations involved in utility-contractor relationship. M. Springer. bibliog Am Gas J 174:19-21 Mr '51

Sellers may recover expected profits in breach of contract cases. L. T. Parker. Am Gas J 173:27-8+ N '50

See also

Building contracts
Engineering contracts
Exclusive agencies
Labor contracts
Mortgages
Petroleum—Well drilling—Contracts
Roads—Contracts
Sales
Subcontracting

CONTRACTS, Government

Accountant's guide to procurement procedures in the Department of defense. H. W. Bordner. J Account 90:464-73 D '50

Agents are O.K.; five percenter has lost his stigma. Bsns W p49-50 N 18 '50

Air force contracts. Aviation W 53:17 N 27 '50 [cont weekly]

Armed services rely on industry. il diag Mill & Factory 48:75-82 Mr '51

Bid rules ease for air force $500 million dormitory plans. Eng N 147:23-4 S 20 '51

Big business in atomic energy. Steel 128:45 Je 18 '51

Business asks about war contracts; meeting with government experts staged by American university. Bsns W p 100-1 Mr 31 '51

Buying change; new procurement rule lets small firms bid on negotiated contracts. Aviation W 55:13 Jl 16 '51

Case for government research contracts. R. C. Gunness. Chem Eng Prog 47:331 Jl '51

Contract relief for loss due to errors made in hasty negotiations. Bsns W p 152+ My 12 '51

CONTRACTS, Government—*Continued*

Defense contract awards; list taken from news pages of American machinist beginning with issue of Aug. 7, 1950, and continuing up through Jan. 8, 1951. Am Mach 95:158-64 Ja 22 '51

Defense contracts; who gets the business? S. Gerstin. Tele-Tech 10:28-9+ S '51

Defense outlines DO plan. Steel 127:68 D 18 '50

Deliveries lag. Bsns W p 139-40 Ap 28 '51

Doing business with Uncle Sam; Business Week reports to executives. Bsns W p93-100 My 26 '51 (reprints 20c)

Eight questions government asks about your agents. Sales Management 66:44 Je 1 '51

$87-billion worth of contracts; Defense dept. program. Bsns W p24 Ja 27 '51

Engineers and architects join in recommending improved procedures for award of architect-engineer contracts. Civil Eng 21: 479-82 Ag '51

Experts explain contract anomaly. Chem Ind W 68:11-12 Ap 7 '51

Facts that refute alleged concentration of defense contracts. Automotive Ind 105:33+ Ag 15 '51

Fit your tools to the defense pattern. G. Hubbard. il Steel 128:72-3 F 26 '51

Five contractors take over defense jobs. il Dom Eng 177:82-3+ Mr '51

Five-percenter o.k.'d; tax court allows hiring of agent to get government contract. Bsns W p48 O 28 '50

Fixed-price contracts get built-in incentive; redetermination. Bsns W p 111-12 Jl 21 '51

Getting orders for war work; Gibson refrigerator co. Bsns W p78+ Ag 18 '51

Getting security clearances for war contracts. Management R 39:710-11 D '50

Getting your materials; more method than magic; Z & W machine products inc. il Steel 128:34-5 Ap 30 '51

Here's how to get defense contracts. Dom Eng 177:83+ F '51

How army and navy defense construction contracts are handled; with addresses of division engineer offices and district engineers, and district public works offices. R. G. Lovett and others. Roads & Sts 94:50+ Jl '51

How small business can sell to government today. Ind Marketing 36:33 My '51

How the U.S. negotiates its contracts with industry. Bsns W p70-2+ Ag 18 '51

How to collect on unexpected subsurface difficulties. J. W. Gaskins. Eng N 146:30-1 My 3 '51

How to find your role in military production. W. Lord. Factory Management 109:284+ Je '51

How to lose a contract, and a war; complying with security regulations. Factory Management 109:67 Jl '51

How to participate in the production allocation program. map Mill & Factory 47:121-2 N '50

How to sell to Uncle Sam. B. Brownell. il Ptr Ink 234:25-7+ F 2 '51

How widespread are government contracts? Mill and Factory survey. Mil & Factory 48:67-70 My '51

It will pay business to study government controls, buying methods. S. Fish. Manuf Rec 120:40-1 Ap '51

Latest defense awards. Am Mach 94:167 S 4; 145 S 18; 134-5 O 30; 178-9 N 13; 144-5 N 27; 182-3 D 11 '50; 95:133-4 Ja 8; 174-6 F 5; 233-6 F 19; 197-8+ Mr 5 '51

Look before you sign; defense contracts pitfalls. Bsns W p30+ F 10 '51

New "facilities books" promote defense orders. il Ind Marketing 36:50 Ag '51

New look on Washington's five per centers. Sales Management 66:89-91 Ja 1 '51

No cash needed; V-loans. Chem Ind 67:874 D '50

Open-end contracts. Rock Prod 54:102 S '51

Problems of small business in defense. C. Gaines. Manuf Rec 120:33 My '51

Questions you'll have to answer if your agents sell to government. Sales Management 66:48+ Ja 1 '51

Sale I never forgot; selling a factory's ability to make an army airborne tractor. J. C. Vander Pyl. Ptr Ink 235:46 Je 1 '51

Seeking government orders? learn what makes a good brochure. il maps plans Mod Ind 21:40-4 My '51

Small business and defense contracts. P. F. Ashler. Harvard Bsns R 29:104-12 My '51

So you want to change government specs. Sales Management 66:94-7 Je 1 '51

Target pricing of contracts helps solve problem of increasing costs. Am Mach 95:181 F 19 '51

Tighter security; Munitions board clamps down. Bsns W p 162-3 S 22 '51

Types of contracts which are permitted under today's procurement laws and regulations. T. R. Rampy. J Account 92:342-3 S '51

Want a government contract? J. Kent. Chem Eng 58:143 F '51

Watch packaging specs in figuring military contracts. E. Karpick. il Steel 129:70-3 Jl 16 '51

What agencies can do in today's emergency; learn how to sell to U.S. government. F. R. Otte. il Adv Agency 44:60-1+ Ap '51

What the Department of commerce is doing to aid small business on contracts; operating program of NPA. E. H. Lane. Credit & Fin Management 53:9-10 Mr '51

What's the score on defense contracts? S. Gerstin. Tele-Tech 10:24-5+ Jl '51

What's your part in plane building? il Steel 128:43-5 F 12 '51

Who gets orders? small business share. Bsns W p 134 Je 9 '51

Why industry spreads the work. Aviation W 5:153-5+ S 24 '51

You don't need a five percenter. C. F. Johnson. Am Bsns 21:16-17+ Mr '51

See also

Purchasing, Government

Accounting

Accelerated amortization of facilities for military production; how it works today. J. J. Fox. J Account 91:816-21 Je '51

Access to classified government contracts. J Account 91:138-9 Ja '51

Accounting for procurement contracts subject to Renegotiation act of 1948. D. E. Currier. J Account 91:554-61 Ap '51

Allowable costs under government contracts. H. T. McAnly. N A C A Bul 32:675-87 F '51

Auditing defense contracts today. K. W. Hurst. N A C A Bul 32:544-9 Ja '51

Burden problem in government contract costs. L. E. Zraick. N A C A Bul 32:1207-15 Je '51

Cost plus fixed-fee materials cost reimbursements at less cost. R. W. Harwell. N A C A Bul 33:58-65 S '51

Cost proposal in defense contract accounting. T. R. Rampy. N A C A Bul 32:536-43 Ja '51

Costs and war contracts. P. W. Kelly. il Dun's R 59:16-17+ Jl '51

Key records for renegotiable sales. R. J. Halloran. N A C A Bul 32:550-5 Ja '51

Public accountant's suggestions to his client about to take war contracts. T. D. Flynn. J Account 91:252-5 F '51

System the hard way; a general contractor's story. H. L. Tandy. N A C A Bul 32:577-92 Ja '51

Threat to quick writeoffs; DPA policy on pricing defense contracts. Bsns W p 144 My 12 '51

What shall be considered costs and profits under government procurement contracts? M. E. Peloubet. J Account 92:87-90 Jl '51

Assignment of claims

Assignment of claims act amended. Banking 43:80+ Je '51

Assignment of claims act of 1940; text of amendment. Fed Res Bul 37:508-9 My '51

Bureau stymies defense loans; General accounting office ruling on set-offs. Bsns W p24 F 3 '51

Defense loans come easier; amendment to Assignment of claims act. Bsns W p 132-3 My 26 '51

Insurance aspects

Bid bond waiver criticised by Congress group. Nat Underw 55:15+ Je 28 '51

Bond outlook under defense program. M. W. Lewis. Nat Underw 55:19+ Mr 29 '51; Excerpts. East Underw 52:36+ Mr 30 '51

CONTRACTS, Government—Insurance aspects —*Continued*

Competitive bidding is possibility. T. L. Kane. Nat Underw 55:11 F 15 '51

Compulsory bond bill introduced by Rep. Ford. Nat Underw 55:18 S 6 '51

Confer on joint rating plan reactivation. Nat Underw 54:16 N 30 '50

Defense department holds parleys with surety people. Nat Underw 55:15+ Ja 18; 17+ Ja 25 '51

Defense job rating plan approved in 35 states. East Underw 52:45+ My 25 '51

Defense projects rating plan committee reports. East Underw 52:37 S 14 '51; Nat Underw 55:17 S 13 '51; Discussion. 55:16 S 27 '51

Defense rating plan less harsh than former setup. Nat Underw 55:25+ Ap 19 '51; Same abr. East Underw 52:35+ Ap 20 '51

Exact duties of advisors and companies under rating plan. T. L. Kane. East Underw 52:29+ O 5 '51; Same abr. Nat Underw 55:29+ O 4 '51

Hold first meeting on defense projects plan. East Underw 51:31 D 8 '50

New defense rating plan. W. Leslie. East Underw 52:25+ My 18 '51; Excerpts. Nat Underw 55:35 My 17 '51

O.K. bill to waive bonds on armed forces contracts. Nat Underw 55:28 Mr 15 '51

Payment bonds do not guarantee an account. J. A. Nickerson. Credit & Fin Management 53:8-10+ S '51

Rating defense projects. G. Baker. Spectator (Property ed) 16:42+ My '51

T. L. Kane insurance chief of Department of defense. Nat Underw 54:2+ N 16 '50

Labor problems

AFL drive on Pentagon against construction contract awards to nonunion contractors. Bsns W p 114+ O 21 '50

Chemical wages for government contract work set at 85c-$1.40. Oil Paint & Drug Rep 159:4+ Ja 1 '51

Higher wage floors go with defense work; check Walsh-Healey rules. Bsns W p 100-2+ Ja 6 '51

Security check set up for defense plants. Bsns W p 106 N 4 '50

Threat of the Walsh-Healey act. G. D. Reilly and others. Harvard Bsns R 29:86-98 Ja '51

Tobin bars high-wage lure; government contractors must stick to area's prevailing wage scales. Bsns W p 134 F 17 '51

Pooling

Governmental red tape tangles production pools. Am Mach 95:186 Jl 9 '51

NPA announces pool contracts for general purpose machine tools. Am Mach 95:178 Mr 19 '51

Pitfalls in formation of small business production pools. R. G. Gibbs. Chem & Eng N 29:3448-9 Ag 20 '51

Pooled resources; NPA plan to make production pools legal. Bsns W p48+ Mr 24 '51

Small business again bids for defense work; industrial pools. C. F. Berry. Barron's 31:26 My 28 '51

Small business gets a break; new Washington agency may clear way for production pools. Bsns W p80-2 Jl 14 '51

Small shops play ace; production pool in Omaha goes after defense work. Steel 128:91 My 7 '51

Renegotiation

Accounting for procurement contracts subject to Renegotiation act of 1948. D. E. Currier. J Account 91:554-61 Ap '51

Bill seeks U.S. redress on excessive profits. Iron Age 167:127 F 1 '51

Bill sets up new renegotiations board. Aviation W 54:16 Mr 19 '51

Congress passes new version of World war II renegotiation law. Am Mach 95:134 Ap 2 '51

Defense profits; how much will Uncle take back? Renegotiation act. il Mod Ind 20:60-1 D '50

Few contracts with government escape renegotiation in new act. Am Mach 95:180 F 19 '51

How to protect yourself for renegotiation. K. G. Smith. Automotive Ind 105:32-3+ Jl 15 '51

Industry starts preparing for contract renegotiation later. Iron Age 167:113 My 24 '51

Key records for renegotiable sales. R. J. Halloran. N A C A Bul 32:550-5 Ja '51

Leslie Mills presents American institute of accountants advice on renegotiation to Senate committee. J Account 91:449-52 Mr '51

New profit lid. Bsns W p24 Jl 7 '51

New profit net. Bsns W p23 Ja 13 '51

Renegotiation act of 1951 analyzed and compared with acts of 1943 and 1948. L. Mills. J Account 91:690-703 My '51

Renegotiation; an old acquaintance in a new dress. T. B. Worsley. il Dun's R 59:22-3+ My '51

Renegotiation; stitch in time saves trouble, money. J. S. Morgan. Steel 128:48-50 Ap 9 '51

Renegotiation, the present picture. J. N. Cole. N A C A Bul 32:690-4 F '51

Renegotiation wringer; new bill, HR-1724. Bsns W p26 F 3 '51

Status of ready mixed concrete under new law. Concrete 59:8 My '51

Tax court background of renegotiation and its effect on income and excess-profits taxation. S. S. Starr. J Account 92:316-21 S '51

Ten per cent profit before taxes; new renegotiation law. Bsns W p30+ Mr 17 '51

Tight profit controls loom for defense. Eng N 146:26 Ja 11 '50

Truman names four to Renegotiation board. Bsns W p 120 S 1 '51

War contract profits; investors have much at stake in pending renegotiation bill. N. C. Parkin. Barron's 31:5-6 F 19 '51

What renegotiation means to you. B. V. Tornborgh. Mill & Factory 48:107-8 My '51

Subcontracting

Aircraft industry using 60,851 subcontractors. Am Mach 95:242 Je 11 '51

Aircraft subcontracting, it's here to stay. N. Lynn. map Steel 129:48-9 Jl 23 '51

Aviation subcontractor. W. Schweizer. Aero Digest 61:42-3 S; 37+ N '50

Can you make it? Iron Age service to bring prime contractors and subcontractors together on military orders. il diags Iron Age 167:93 Mr 22; 111 Mr 29; 123 Ap 5; 125 Ap 12; 107 Ap 19; 115 Ap 26 '51

Case study; what subcontracting is, and what a plant needs. Aviation W 55:161-2+ S 24 '51

Clinic charts new business path; first joint procurement show. il Aviation W 54:18-19 My 28 '51

For example; one Gilfillan contract gives work to several thousand companies. Aviation W 55:168-70 S 24 '51

How GE subcontracts its jet production. diags Bsns W p61-2+ N 4 '50

How to get subcontracts; with list of U.S. Dept. of commerce field offices. Sheet Metal Worker 42:32-3 F '51

How to land subcontracts. Mod Ind 21:114+ F '51

Military view of subcontracts; commanding generals of AF's largest procurement districts report on work loads. T. M. Self; E. J. Bulban. Aviation W 55:174+ S 24 '51

Mr Small Business meets the prime contractors at production seminar and display put on by air force Eastern procurement district in New York. il Bsns W p73-6 Mr 3 '51

More USAF clinics for subcontractors. Aviation W 54:17 Ap 23 '51

New way to get defense orders; prospective subcontractors get chance to inspect items at area exhibits sponsored by AMC. il Aviation W 54:13 Mr 5 '51

Opportunity knocks; subcontract clinics. il Steel 128:41-2 Mr 19 '51

Poll shows rise in subcontracts. W. Kroger. Aviation W 54:15-16 My 28; 13-15 Je 4; 39-41 Je 11 '51

Small shops are important to the defense effort. C. A. Simmons. Mach 57:180 Ja '51

Subcontracting in war production. E. E. Zideck. Sheet Metal Worker 42:65+ Ja '51

Subcontracting news. Am Mach 95:231-7 F 19 '51 [cont biweekly]

Subcontracting pointers for small plants. M. B. Pfeiffer. Sheet Metal Worker 42:41-2 Mr '51; Excerpts. Dun's R 59:19+ S '51

CONTRACTS, Government—Subcontracting—*Continued*
Subcontracting swells as USAF expands. il diag Aviation W 54:18-19 Ja 1 '51
Subcontractors become vip's in defense program. Steel 129:40 O 1 '51
Subcontracts; how to learn of, lasso, and land them. il Mod Ind 21:46-9 Je '51
Wanted; subcontracts. Steel 128:44-5 F 26 '51
What small firms will, and won't get in defense contracts. Bsns W p 19-20 F 3 '51
What to watch in sub-contracts. K. F. Kirchhofer. Am Mach 95:156-7 F 5 '51
WAC sets subcontracting pattern. E. J. Bulban. Aviation W 54:23-4 Mr 26 '51
York plan; defense job, too big for big business alone. E. P. Reiley. il Dun's R 58:20-3+ N '50

CONTRACTS, Letting of
Court upholds low bidder in California estimating error. Eng N 146:82 Je 21 '51

CONTRACTS, Municipal
New York builders protected by termination clause. Eng N 146:27 Ap 26 '51

CONTRIBUTORY negligence. See Negligence, Contributory

CONTROL, Electric. See Electric control

CONTROL boards
Keeping an eye on production progress. il Mill & Factory 48:118-19 Je '51

CONTROL charts
Control chart as a tool for analyzing experimental data. E. B. Ferrell. Inst Radio Eng Proc 39:132-7 F '51
Keeping an eye on production progress. il Mill & Factory 48:118-19 Je '51
Quality control charts with constant limits for subgroups of different size; use of Shewhart control charts. J. F. Langmaid, jr. and H. W. Cobb. Tappi 33:485-6 O '50

CONTROL equipment
Apparatus makers prepared for emergency production peaks. Chem & Eng N 28:3778 O 30 '50
Automatic bypass controls pay off. B. J. Yeager. il diag Power 95:75-7 Ap '51
Automatic control; abstract. B. Lockspeiser. Engineer 192:162-3 Ag 3 '51
Automatic control for multiple fuel-fired boilers. M. J. Boho. il diags Iron & Steel Eng 28:96-9; Discussion. 99-100 F '51
Automatic control of drying plant. L. Walter. bibliog diags Chem & Ind p728-31 S 1 '51
Automatic control of sulphur combustion. W. T. Butler. il Pulp & Pa of Can (Convention no) 52:243-8 [F] '51
Automatic control systems for multi-fuel firing. R. L. Willis. diags Iron & Steel Eng 28:84-8 My '51
Automatic controls increase openhearth tonnage. A. Robinson and J. H. Chester. il diag Iron Age 167:92-6 Mr 8 '51
Automatic factory. Sci Am 185:58+ S '51
Central control of operations started at Hunts Point gas plant; Consolidated Edison company of New York. il diag Am Gas J 174:17-18 Ap '51
Centralized control board for steam-electric generating plants. H. L. Lowe and R. L. Hodgkins. il plans Elec Eng 70:304-7 Ap '51
Centralized control poses new instrumentation problems; Instrument society of America, conference on process control, New York, Jan. 26-27. Chem & Eng N 29:558-9 F 12 '51
Control in generating stations. W. Szwander. il plans diags Elec R (Lond) 147:219-23, 311-16, 459-65, 555-60 Ag 11, 25, S 22, O 13 '50
Control of hydroelectric plant. A. C. H. Frost and W. Brittlebank. bibliog diags Engineer 190:569-73 D 8 '50
Control valves; their action and selection. W. G. Holzbock. bibliog Chem Eng 58:118-21 Mr '51
Controller action on startup. Oil & Gas J 49:365 N 16 '50
Controller settings for optimum control. W. A. Wolfe. diags A S M E Trans 73:413-18 My '51
Effect of automatic controls on open hearth production at Lackawanna. R. M. Jordan. il Iron & Steel Eng 28:63-6 Ag '51
Graphic panels. A. V. Novak. Instruments 23:1128-9+ N '50
Hermetically sealed components for industrial control. E. B. Steinberg. bibliog il Elec Eng 70:804-7 S '51
How a robot factory would work; Harvard business school study. il Bsns W p56-60 Jl 21 '51
If robots run the works; abstract. J. K. Lagemann. Management R 40:322-3 Je '51
Increased productivity through automatic combustion control. J. A. Perry, jr. diags Paper Tr J 131:24-6+ N 2 '50
Infrared instrument for industrial product control. N. C. Jamison, T. R. Kohler and O. G. Koppius. bibliog il diags Anal Chem 23:551-4 Ap '51
Instrumentation and automatic reversal system of open hearth furnaces. C. E. Mortensen. il diags Blast F & Steel Pl 39:533-9 My '51
Instrumentation and control for mixed fuels and oxygen in open hearth furnaces. M. J. Conway and E. H. Cauger. il diags Iron & Steel Eng 28:106-14 Jl '51
Instrumentation and control for small power plants. P. S. Dickey. il diags Blast F & Steel Pl 39:694-6+ Je '51; Same. Gen Elec R 54:37-41 Jl '51; Same cond. Power Eng 55:78-9+ Je '51
Instrumentation as an aid to paper drying. R. B. Lundy. Pulp & Pa of Can 52:58-60 F '51
Instrumentation of an ammonia plant. P. Hart and R. C. King. diags Instruments 24:158+ F '51
Instruments take hold in brewing. L. E. Slater. il diag Food Eng 23:93-7+ Ap '51
Mechanical systems for controlling speed and tension. J. H. Gepfert. il diags Product Eng 21:85-9 D '50
Miniature controls cut centralized panel space; Bailey Meter's Mini-line system; illustrations with text. il Factory Management 109:126-7 Ag '51
New concept of automatic control. R. E. Clarridge. diags Instruments 23:1248-51+ D '50
New control system. R. H. Munch. diags Ind & Eng Chem 42:sup69A-70A D '50
New graphic panels and control desks. L. Walter. il diag Chem Age (Lond) 65:489-92 O 13 '51 (to be cont)
Nondimensional study of proportional-plus-reset control of a single-capacity system. J. A. Hrones and J. B. Reswick. bibliog diags A S M E Trans 73:511-16; Discussion. 516-17 Jl '51
One knob production control; corn syrup refinery. C. F. Adeszko. flow diags il diags Instruments 24:215-21 F '51
Package controls for Diesel-electric locomotives. M. D. Henshaw. il Ry Age 131:50-4 Ag 20 '51
Process instrumentation. W. S. Yunker. il diags Pulp & Pa of Can (Convention no) 52:199-207 [F] '51
Process monitoring system. E. J. Grace, jr. diags Oil & Gas J 49:202+ O 5 '50; Same. Instruments 23:1070-3 O '50; Same. il Pet Processing 5:1188-91 N '50
Progress in automatic control systems. A. Tustin. diags Engineering 170:360-3 N 10 '50
Relation of instrumentation to modernization. il Rayon 32:72-4 F '51
Review of new plant equipment; temperature, pressure regulators, and many other mechanical controls. il Power 95:149-50 Mid-Je '51
Robotizing bakery operations. L. E. Slater. il diags Food Eng 23:73-9 Ag '51
Selection of instruments and controls for small steam power plants. F. E. Hutton. Tappi 34:104-7 Mr '51
Self control for machines; discussions at Cranfield. Economist 161:357-9 Ag 11 '51
Solutions to extrusion and coating problems in the rubber manufacturing industry. J. H. Gepfert. diags Rubber Age 68:325-7 D '50
Speed control and synchronization of multi-unit internal combustion engine plants. H. C. Givens. il diags Instruments 23:1244-7 D '50; Same abr. Oil & Gas J 49:69-70+ Mr 1 '51
Study your control instruments for best dyehouse service. L. Walter. diags Textile World 101:157+ S '51
Superdraulic remote control. il R Sci Instr 22:548 Jl '51
Taylor instrument companies; control instruments for rayon mills. E. Weller. il diag Rayon 32:67-8+ F '51

CONTROL equipment—*Continued*

Time and temperature control, two important factors in dyeing. H. G. Olson. il Am Dyestuff Rep 40:6-8 Ja 8 '51

Unbalanced force reactions in control valve plugs and their influence on diaphragm motor design and operation. R. A. Rockwell. il diags Pet Eng 23:C9-12+ F; C17-18+ Mr '51

Use of measuring and automatic process control instruments. L. Walter. il diags Can Chem & Process Ind 35:204-9+ Mr '51

See also

Airplanes—Control
Brakes
Carrier current control
Dashpots
Electric control
Electrohydraulic control
Governors (machinery)
Graphic panels
Hydraulic control
Liquid level control
Machinery, Automatic
Magnetic control
Petroleum refineries—Control equipment
Pneumatic control
Pressure regulators
Servomechanisms
Temperature regulators
Vacuum tubes—Control uses

Maintenance and repair

Don't forget your control equipment. H. A. Wright. il Mill & Factory 48:83-8 Mr '51

CONTROLLED materials plan. See National production authority—Controlled materials plan

CONTROLLERS

Ten qualifications of a plant controller. D. F. Lincoln. N A C A Bul 32:940-5 Ap '51

CONTROLLERS, Bank. See Bank comptrollers

CONTROLLERS institute of America

Annual meeting, Chicago. J Account 90:414-18 N '50

CONTROLS guide (periodical)

New York Journal of commerce keeps controls under control. Ed & Pub 84:44 Ag 25 '51

CONVENTIONS

National meeting data evaluated; condensed from report of committee on data for evaluating national meetings. M. H. Arveson. map Chem & Eng N 29:3155-60 Ag 6 '51

1951 calendar of meetings and events. Chem & Eng N 29:684-6 F 19 '51

So you're going to a convention. J. S. Morgan. Steel 129:69-70 S 3 '51

CONVENTS

Convent of Mount St Mary, Wrentham, Mass. il plans diag Arch Rec 110:127-31 Ag '51

CONVERGENCE

Convergence of Cauchy-Riemann sums to Cauchy-Riemann integrals. O. Szász and J. Todd. J Res Nat Bur Stand 47:191-6 S '51

CONVERSION of factories. See Factories—Conversion

CONVERSION tables

Conversion factors; crude oil; conversion factors for lengths, areas, weight and volumes. World Oil 133:92 Jl 15 '51

Conversion of pounds into decimal parts of a gross ton; data sheet. Foundry 78:162 N '50

Equivalents and conversion factors. Water & Sewage Works 98:R176-7 Ap '51

Table converting one to 1000 millimeters to inches; data sheet. Foundry 79:213-14 Ap '51

Tables for rapid conversion of gross tons into pounds; data sheet. Foundry 78:161 N '50

CONVERTAPLANES. See Airplanes—Design—Convertaplanes

CONVERTERS

Experiments on the gas and fluid flow in a side-blown converter model. M. P. Newby. bibliog 4pls diags Iron & Steel Inst J 162:452-6 Ag '49; Discussion. 166:186-93 N '50

CONVERTIBLE bonds. See Bonds, Convertible

CONVERTIBLE stocks. See Stocks, Preferred—Convertible stocks

CONVEYING machinery

Automatic conveyer handles 400-lb doors. il Iron Age 166:95 N 2 '50

Automatic self-centering rolls and pulleys. E. T. Lorig. diags Iron & Steel Eng 27:57-67 N '50

Automatic transfer makes handling truly automatic; combination of trolley and belt conveyors used in pump chassis assembly at Bowser plant. L. A. Snyder. il Factory Management 108:74-5 N '50

Bucket elevators, effective movers of bulk materials. E. L. Cady. il Mill & Factory 48:120-4 Je '51

Bulk-Flo proves its versatility; Link-Belt conveyor-elevator observing its tenth anniversary. il Chem Eng 58:142-3 Ag '51

Closed-type continuous flow conveyers for processing with fluidized materials. C. O. Brown. Ind & Eng Chem 42:sup65A-6A D '50

Completely conveyorized paint shop operation; DeSoto body plant. J. Geschelin. il diag Automotive Ind 103:38-9+ D 1 '50

Conveying equipment index; average sales 1935 to 1948; tabulation. Iron Age 167:349 Ja 4 '51

Conveyor quick dip saves space, paint. il Steel 128:126 My 14 '51

Conveyor system for automatic gear finisher; illustrations with text. diag Product Eng 21:102-3 N '50

Conveyor system handles screw machine parts 50 per cent faster. il Steel 129:68 Jl 30 '51

Conveyor vibrates at natural frequency. il Chem Eng 58:180-1 S '51

Conveyorized finishing system utilizes penthouse ovens. il Steel 128:80 Ap 9 '51

Cycle components; factory of Walton and Brown, ltd. il Elec R (Lond) 148:1069-74 My 25 '51

De Soto's body plant has eight miles of conveyors. J. Geschelin. il Automotive Ind 103:46-8+ N 1 '50

Faster shipping at 20 per cent less cost; how Aluminum cooking utensil co. packs and ships ware. R. M. Smith. il Factory Management 109:107-9 My '51

Flow diverter. il Paper Tr J 133:36 Ag 17 '51

From assembly to storage automatically; handling telephone sets at Western Electric's Indianapolis plant. il diag Factory Management 109:80-1 Mr '51

How Buick cuts forging cleaning cost; new conveyor-fed blasting system. H. Chase. il Steel 128:60-1 Ja 8 '51

How Startex streamlined its carton handling; illustrations with text. Textile World 101:153 O '51

How to handle chips with the continuous flow conveyor. W. G. Hudson. diags Paper Ind 33:404-6 Jl '51

How to lick a carton storage problem; overhead storage balcony equipped with chutes and conveyors at Westinghouse Electric's Beaver, Pa. plant. J. C. Hencel. il Factory Management 108:114-15 N '50

How to plan for vertical conveyors. il plan Eng N 147:42-3 S 20 '51

Ingenious blast cleaning adapted to mass production. W. I. Gladfelter. il diags Iron Age 167:100-4 My 3 '51

Integrated system doubled our production; Ohio rubber co. M. D. Covert. il Factory Management 109:88-90 My '51

Interfloor handling; illustrations and diagrams with text. Mill & Factory 48:101-5 Ap '51

Making the equipment fit the job; Jeffrey teams trucks and trolleys in chain division. J. H. Garard. il plan Factory Management 109:104-6 My '51

Materials handling; a review of the methods and equipment in the new Vauxhall factory. il diag Automobile Eng 41:17-24 Ja '51

Mechanical-handling plant for wood waste. il diags Engineering 171:674-5 Je 1 '51

Mechanical handling; Vauxhall scheme for dealing with wheels and tyres. il Automobile Eng 41:301-2 Ag '51

Multideck conveyors multiply our output; Formfit's Plaza plant, Chicago. E. P. Hesser. il plan Factory Management 109:96-9 My '51

One-man conveyor dispatches work to 165 machine operators; Cushman motor works, Lincoln, Neb. E. L. Emens. il diag Factory Management 108:72-3 D '50

Overhead and floor tow conveyers for air cargo; abstract. J. C. Webb. Mech Eng 73:233 Mr '51

CONVEYING machinery—*Continued*

Roll your own to increased production; Miami margarine co. il Mill & Factory 49:118-19 Jl '51

Run-around conveyor layout cuts costs; handling fiberboard and sheets at Woodall industries. N. H. Daehn. il plan Factory Management 109:58-9 Ap '51

Storage bin discharging equipment. Engineer 191:264 F 23 '51

3,000-ft. conveyor keeps finished goods moving; Mount Hope finishing co. il Textile World 101:118-19 Jl '51

Up goes output on continuous boning line. il Food Ind 23:94-5 Mr '51

See also

Cableways
Coal mining machinery—Conveyors
Cranes, derricks, etc.
Electric driving—Conveying machinery
Hoisting machinery
Loading and unloading
Mechanical handling
Monorail conveyors
Pneumatic conveying

Belt conveyors

Belt conveyors at Bull Shoals dam prove their economy. flow sheet il diag Rock Prod 54:78-83 S '51

Belt conveyors for low-cost continuous transport. il Eng & Min J 152:105-7 Jl '51

Belt handling moves press blanks. E. B. Fassel. il Am Mach 95:146 Ap 16 '51

Conveyor belt stackers facilitate iron ore handling. il Steel 129:96 Jl 9 '51

Conveyor belt subway passenger system proposed in New York. il Rubber Age 69:72-3 Ap '51; Excerpt. Product Eng 22:200 My '51

Conveyor expedites orders for industrial "Sears, Roebuck"; Fisher scientific co., Pittsburgh. G. D. Crain, jr. il Ind Marketing 36:38-9+ Mr '51

Conveyorized testing of generator regulators. R. Smith. il diag Automotive Ind 104:40-3 My 1 '51

For sale; seven miles of belt; used at Arkansas' Bull Shoals dam. il Bsns W p38+ N 18 '50

Handling large tonnages of gravel; mining operation in Nevada employs belt conveyors. W. B. Lenhart. flow sheet il diag Rock Prod 54:56-9+ Jl '51

Lubrication, maintenance and inspection of belt conveyors. il Min Cong J 36:31-4 D '50

Operation of long belt conveyors. W. B. Lenhart. il diags Rock Prod 54:108-12 Je '51

Overhung driving pulley cuts conveyor maintenance costs. il Steel 128:72 F 19 '51

Practical design considerations for high tension belt conveyor installations. J. W. Snavely. diags Min Eng 3:Trans 237-51 Mr '51

Seven-mile conveyor builds Bull Shoals dam. il Power 95:142 Mr '51

Tiny subway cars would ride belts in New York subway; illustrations with text. Bsns W p26 Mr 31 '51

Zipper conveyor belt for carbon black handling at Goodrich. il Rubber Age 69:188 My '51

Chain conveyors

Chain transporting rigs transfer work. F. H. Mayoh. il diag Am Mach 95:123 My 28 '51

Chassis assembly at the Leyland works. il Engineer 191:94-5 Ja 19 '51; Engineering 171:42-3, 46 Ja 12 '51; Automobile Eng 41:65-8 F '51

Maintenance and repair

Conveyor stoppages reduced 90 per cent. il Mill & Factory 48:106 Je '51

Safety measures

It goes where man can't; conveyor keeps materials flowing. J. C. Webb. il Nat Safety N 64:94-5+ O '51

Screw conveyors

Mill makes flights for dewaxing unit screw conveyors in single operation. diags Pet Processing 6:165-6 F '51

Tables, calculations, etc.

Power calculations for chain and cable pulpwood conveyors. R. E. Kirkpatrick. diags Pulp & Pa of Can 51:130+ O '50; Correction. 51:147 N '50

CONVEYING machinery (long distance)

Belt conveyors, coal pipelines; a start in 1951? Steel 128:41 F 19 '51

Engineering work on lake to river belt line completed. Blast F & Steel Pl 39:sup82 Ap '51

Rise of the rubber railroad. il maps diags Fortune 43:120-4+ Ap '51

Military use

Military conveyors; abstract. H. Von Thaden. Mech Eng 72:997 D '50

CONVEYING machinery, Portable

Barber-Greene portable conveyors to handle dry-batch materials. il Roads & Eng Constr 89:80 F '51

Conveyor handling of silo staves. il Rock Prod 54:180 Je '51

'Scope conveyor solves tough problem; delivers goods direct from trucks on street to subway retail bakery. il diag Food Ind 22:2052+ D '50

CONVULSIONS

Self-selection of diet in relation to audiogenic seizures in rats. W. J. Griffiths, jr. bibliog Science 112:786-7 D 29 '50

COOKBOOKS

Why Betty Crocker's cookbook is a runaway best seller. il Sales Management 65:84+ N 10 '50

COOKERY

See also

Electric cooking
Fryers
Gas cooking

COOKIES

Non-wicking bakery tray; high-speed mechanical handling on cookie lines at Farm Crest. flow chart il Mod Packaging 24:76-8 Mr '51

COOKING and heating appliance manufacturers, Institute of. See Institute of cooking and heating appliance manufacturers

COOKING ware

Making ceramic cooking ware. Cer Ind 56:131 Ap '51

COOL flame. See Flames

COOLEY, James

Portrait. Bsns W p57 Jl 7 '51

COOLING

Acoustic pan ceiling can be custom engineered for panel heating and cooling. il diag Arch Forum 94:186+ My '51

Air conditioning for churches. M. J. Williams. il diags Heat & Ven 47:59-62 D '50

Aluminum ceiling panels for heating and cooling. E. S. Howarth and others. il diags Heating-Piping 23:125-33 S '51; Same abr. Heat & Ven 48:71 S '51

Application of the heat pump to hydroelectric power house. F. T. Downing. il diag Heating-Piping 23:84-7 Je '51

Atomic research for peace; cooling the atomic pile as well as the many experimental laboratories at Brookhaven national laboratory. il diag Refrig Eng 58:1064-5+ N '50

Check data for air conditioning and ventilating design. G. B. Priester. Heat & Ven 48:74-6 Jl '51

Cool spot in a hot lot; air conditioning an outdoor parking lot's offices. il diag Refrig Eng 59:369 Ap '51

Cooling an egg grading plant. plans diag Heat & Ven 48:69-71 Jl '51

Design factors in panel and air cooling systems. C. S. Leopold. il diags Heating-Piping 23:115-25; Discussion. 125-8 My '51

Heat-pump installations for residential use. E. R. Ambrose. il diags Mech Eng 73:115-20 F '51

Heater-cooler home installation. il Sheet Metal Worker 42:57+ Je '51

Heating and cooling media other than water; physical properties; abstract. D. G. Lewis. Heat & Ven 48:84-6 Mr '51

Heating and cooling with air in a radiant tile floor. L. B. Nye, jr. il plan diag Heat & Ven 48:72-3 Jl '51

COOLING—*Continued*

High velocity air system is used to cool famous store; Kaufmann department store, Pittsburgh. A. T. Spangler. il diag Refrig Eng 58:1060-3+ N '50

How Magma's new cooling plant combats the mine heat problem. G. L. Augustadt. il diags Eng & Min J 152:72-9 S '51

Machine drills air intakes for room conditioning units. W. D. Sampson. il diags Heating-Piping 23:82-4 Jl '51

Panel cooling; Leopold system. il diag Arch Forum 94:166-8 Ap '51

Panel cooling planned for two buildings; illustration with text. Arch Rec 109:146 Mr '51

Practical application of the heat pump. A. B. Newton. il diags Refrig Eng 59:143-7+ F '51

Progress report on the heat pump. W. F. Friend. Refrig Eng 59:44-7+ Ja '51

Radiant conditioning in use at Reflection Point. C. A. Mills. il Heating-Piping 22:88-91 D '50; Same cond. Arch Forum 93:127-31 N '50; Discussion. Heating-Piping 23:69-70 Mr; 69-70 D '51

Residential cooling by reflective radiation. C. A. Mills. il Refrig Eng 58:1057-9 N '50; Discussion. 59:268+ Mr '51

Two way job gives year-round comfort; combination oil-fired heating and mechanical cooling. il plans diag Dom Eng 177:158+ Ja '51

Ventilating, cooling a laundry. Heating-Piping 23:107-8 S '51

See also

Air conditioning
Cold storage
Cooling from central stations
Cooling towers
Factories—Air conditioning
Refrigeration and refrigerating machinery

COOLING, industrial

Cooling and film drying system for a developing machine. J. E. Schechter and G. Marcus. diags Heat & Ven 48:72-3 S '51

Cooling atom pile poses gigantic problems in heat transfer and air movement. Heat & Ven 48:128+ My '51; il Heating-Piping 23:96 My '51

Cooling materials for mass concrete; Detroit dam. H. H. Roberts. il plans diags Am Concrete Inst J 22:821-32 Je '51

Cooling rate of clinker. B. M. Pearson. Rock Prod 53:86-9+ S '50; Discussion. 53:130+ D '50

Effect of cooling rate and composition on the embrittlement of weld metal. E. C. Rollason and R. R. Roberts. 4pls diags Iron & Steel Inst J 166:105-12 O '50; Discussion. il 168:259-60 Jl '51

Freeze-grinding; cooling tough materials with liquid nitrogen. il Chem Ind 67:554-5 O '50

Machine-tool oil cooler. il diag Mech Eng 73:580-1 Jl '51

Meeting cooling water problems; gas conversion plant of Long Island lighting co. il Gas Age 107:60+ Ap 26 '51; Same. Am Gas J 174:34 Je '51

Natural gasoline; today's equipment; cooling equipment; abstract. G. H. Dieter. Pet Processing 5:1321 D '50

New nitrogen technic assures fine grinding, in only one pass. G. Miller. il diags Food Eng 23:36-7 Jl '51

Salt solutions for cooling. D. Wittenberg. diags Chem Eng 58:141 Je '51

Shop operation of cooling fans on Diesel locomotives to ventilate engine room. R. H. Herman. diags Ry Mech & Elec Eng 124:620-2 N '50

Smart kinks in acid cooling. il diag Chem Eng 58:230+ S '51

Trona process and its unique features; with flow sheets. J. V. Hightower. Chem Eng 58:104-6 Ag '51

Unique operation; grinding with liquid N_2. il diags Chem Eng 58:106-7 Je '51

See also

Cold storage
Concrete—Cooling
Cooling towers
Electric rectifiers—Cooling
Quenching
Steel, Quenching of
Testing laboratories—Cold rooms

COOLING equipment

Absorption equipment for apartments analyzed; abstract. W. S. Scott. Heating-Piping 23:87-8 Jl '51

Absorption machines cool New York building from top down. G. V. Bond. il diag Refrig Eng 59:243-5 Mr '51

Big gain in steam use for New York air conditioning. Heating-Piping 23:91-3 Jl '51

Cooling equipment installed in giant supermarket. il Heat & Ven 48:86 F '51

Evaporative coolers. J. L. Parker. il Comp Air Mag 56:93-5 Ap '51

Hermetic centrifugal water chiller; CenTraVac. il diag Arch Forum 94:260+ Mr '51

High velocity air system is used to cool famous store; Kaufmann department store, Pittsburgh. A. T. Spangler. il diag Refrig Eng 58:1060-3+ N '50

New centrifugal features hermetic design. il Refrig Eng 59:157-8 F '51

Performance of cooling equipment. H. A. Dresser. il diag Pet Refiner 30:110-13 My '51; Abstract. Pet Processing 5:1324 D '50

Servel industrial air conditioner. Steel 128:103-4 My 28 '51

Small units handle big air conditioning job. il Elec World 136:102 Jl 2 '51

Unique window air conditioner isolates condensing unit outside the cooled space. il Refrig Eng 59:798 Ag '51

York corporation. C. H. Vivian. il Comp Air Mag 56:30-7 F '51

See also

Cooling towers

Specifications

Store cooler specifications. il Refrig Eng 59:346-50, 368 Ap '51

COOLING from central stations

Big gain in steam use for New York air conditioning. Heating-Piping 23:91-3 Jl '51

Steam-generating station as a source and sink for the heat pump. J. A. Eibling and B. A. Landry. diag Mech Eng 73:554-8+ Jl '51

COOLING of fruits and vegetables

Heaters keep perishables cool in Pennsylvania Railroad pier in New York. il Food Ind 23:84 F '51

Improved fruit cooling methods. G. F. Sainsbury. il Refrig Eng 59:464-9+ My '51

Refrigeration is key to corn quality. J. D. Winter and others. bibliog il Refrig Eng 59:354-7+ Ap '51

COOLING of water

Air-water contact operations in a packed column. F. Yoshida and T. Tanaka. diags Ind & Eng Chem 43:1467-73 Je '51

How to predict lake cooling action. R. F. Throne. diags Power 95:86-9+ S '51

Water cooling equipment. H. Dresser. il diags Pet Eng (Ref annual) 23:C27+ Jl 15 '51

See also

Cooling towers

COOLING ponds

Cooling pond insures higher output. diag Elec World 136:153-4 Ag 13 '51

COOLING tower institute

Cooling tower institute formed. Chem & Eng N 29:571 F 12 '51; Same. Heat & Ven 48:110+ Mr '51

COOLING towers

Better cooling towers. il diags Elec R (Lond) 147:1067-8 D 22 '50

British natural draft cooling towers contrast with U.S.A. fan types. il diag Elec World 135:110-11 F 12 '51

Controlling scale in cooling towers without increasing water use. M. A. Enquist. il diag Oil & Gas J 49:88+ Mr 15 '51

Cooling tower spray water cools lube oil. R. D. Ricketts. flow diag il World Oil 132:215-16 My '51

Cooling tower wood deterioration; abstract. D. R. Baker. Heat & Ven 48:135 My '51

Cooling towers; elimination of precipitation. il diag Electrician 145:1425-6 D 15 '50

Delignification of redwood cooling tower. M. Brooke. Pet Eng 23:C38-9 Ap '51

Eliminating precipitation from cooling towers. il diags Engineer 190:589-90 D 15 '50

COOLING towers—*Continued*

Europe's biggest water cooling towers are at French mine-head power plant. il diag Eng N 147:50-1 Jl 26 '51

Examination of basic factors underlying design and operation of cooling towers. G. L. Farrar. diag Pet Eng 23:C119-22 Jl '51

Heat transfer by direct contact between liquid and vapor. R. J. O'Donnell, R. R. Bowles and E. E. Gullekson. diag Chem Eng Prog 47:309-13; Discussion. 313-14 Je '51

How cooling tower noise has been reduced. R. D. Lemmerman. il plan diag Heating-Piping 23:108-10 Ap '51

Improvised sulfur burner saves half billion gallons per year of tower blowdown. V. F. Estcourt. diags Oil & Gas J 50:105+ Je 14 '51

Induced draught cooling towers in Germany. diags Engineer 192:29 Jl 6 '51

Low voltage and cooling towers. T. W. Reynolds. Heat & Ven 48:84 Ag '51

Maintenance of water-cooling towers. H. E. Degler. il diag Diesel Power 29:110-12 Je '51; Abstract. Pet Eng 23:C40-1 Ja '51

Recirculation in cooling towers. J. Lichtenstein. diags Refrig Eng 59:474-7+ My '51

Selection, operation, and maintenance of cooling towers and air-cooled exchangers. H. E. Degler. diags Oil & Gas J 50:76-8+ S 6 '51

Selection, operation and maintenance of industrial cooling equipment. H. E. Degler. flow diag il diags Heat & Ven 48:65-71 S '51

Water cooling equipment. H. Dresser. il diags Pet Eng (Ref annual) 23:C27+ Jl 15 '51

Wheatstone bridge in cooling tower control. M. J. Crowley, jr. il diags Pet Eng 23:C26-8+ Ag '51

Wood deterioration in cooling towers. D. R. Baker. il Pet Eng 23:C76+ Ap '51

Tables, calculations, etc.

Plant operating chart for cooling tower systems. R. L. Ahlness. Chem Eng 58:176 S '51

COOLING water

Concrete condenser box skims cooling water. il Oil & Gas J 49:102 D 7 '50

Cooling water design adds economy, efficiency; Transcontinental gas pipe line corporation's Plan II compressor stations. R. D. Ricketts. flow diag il World Oil 132:232+ Je '51

Cooling water shortage prompts four-source supply; with cost data. J. H. Hochuli. il plan Elec World 134:82-3 D 18 '50

Dam performs multiple duty for cooling-water service. F. B. Maes. diags Power 94:130 N '50

Doctor prescribes for cooling water. J. I. Montel. il Refrig Eng 59:680-1 Jl '51

Effect of water distribution on evaporative condenser efficiency. H. Vetter. diags Refrig Eng 59:366-8+ Ap '51

How sea water is utilized for cooling loads. il Pet Refiner 30:107 My '51

How Standard of Indiana achieves stabilization of cooling-tower water at its Sugar Creek refinery. H. Shields and L. V. Sorg. il diag Oil & Gas J 49:52+ Mr 1 '51

Increased water usage makes selection of water cooling equipment for re-use of water vital. H. E. Degler. Heat & Ven 48:130+ Ap '51

Meeting cooling water problems; gas conversion plant of Long Island lighting co. il Gas Age 107:60+ Ap 26 '51

Objectives and techniques of cooling-water treatment. D. Miller. bibliog Oil & Gas J 50:139+ Ag 23 '51; Abstract. Heat & Ven 48:135-6 My '51

Scale scats fast now. diags Power 95:120-1 Jl '51

Selection, operation and maintenance of industrial cooling equipment. H. E. Degler. flow diag il diags Heat & Ven 48:65-71 S '51

Thermocouples for testing steam turbine plant. il diags Engineer 190:525-6 D 1 '50

Using cooling water waste heat to heat and air condition a plant; Western blue print co. M. D. Pugh. il diags Diesel Power 29:50-2 Mr '51

Water cools lining in cupola bosh. diag Foundry 78:127 D '50

See also

Cooling towers

COONLEY, Howard, 1876-

Howard Coonley medal. por Standardization 22:13 Ja '51

COOPER-Bessemer corporation

Earnings put at last year's level. Barron's 31:13 Jl 9 '51

COOPERAGE

See also

Barrels

COOPERATION

Co-operative movement and the welfare of the worker. J. Orizet. Int Labour R 64:1-23 Jl '51

Handicrafts and small-scale industries in Asian countries; possibilities of co-operative organisation. Int Labour R 62:500-24 D '50

See also

Advertising, Co-operative
Building and loan associations
Cooperative associations
Credit unions
Electric service, Rural—Cooperative lines
Farmers' cooperative associations
Insurance, Mutual
Medical service—Group and prepayment plans
Motor bus lines, Co-operative
Petroleum cooperative associations
Profit sharing
Purchasing, Cooperative
Trade unions—Co-operation with management

COOPERATIVE agriculture. See Agriculture, Cooperative

COOPERATIVE associations

Competition from tax-exempt business. H. G. Guthmann. Edison Elec Inst Bul 19:272-8 Ag '51

Consumers' cooperatives in 1949; operations and developments. U S Bur Labor Statistics Bul 1013:1-33; pa 25c Supt. of doc. '51

Cut credit, sales rise, Southern States finds. T. K. Wolfe. Sales Management 66:120+ Mr 15 '51

Developments among consumers' cooperatives in 1950. F. E. Parker. Mo Labor R 72:545-9 My '51

Famous 50-50 letter woos lost customers; Southern states cooperative. T. K. Wolfe. il Sales Management 66:91-3 F 15 '51

Note on Consumer actions and nonprofit co-operation, by D. F. Blankertz. V. Kebker. J Marketing 15:457-62; Rejoinder. 462-3 Ap '51

See also

Certified grocers of California, ltd.
Credit unions
Farmers' cooperative associations
Petroleum cooperative associations

Taxation

Big tax potential; co-ops could provide $1 billion annually in revenues. E. R. Abrams. Barron's 31:11 F 26 '51

Competition from tax exempt business. H. G. Guthmann. Comm & Fin Chr 173:161+ Ja 11 '51

Co-op tax plan draws fire. Pub Util 48:430-1 S 27 '51

Co-op taxation regulation. Pub Util 47:448-50 Mr 29 '51

Hopes for tax equality brightened as lawmakers hit co-op exemptions. Nat Pet N 43:21 Jl 25 '51

New Treasury report explains how Congress may tax farmer co-ops. Nat Pet N 43:25 My 2 '51

Treasury admits it was wrong on co-op taxes; editorial. Nat Pet N 43:35-6 My 2 '51

Treasury says full co-op taxes constitutional. Nat Pet N 43:17 Ap 25 '51

COOPERATIVE education. See Business education—Cooperative plan

COOPERATIVE housing projects. See Housing projects, Cooperative

COOPERATIVE purchasing. See Purchasing, Cooperative

COORDINATES

Construction of nomographs with hyperbolic coordinates; general hyperbolic coordinates. W. H. Burrows. diags Ind & Eng Chem 43:1193-6 My '51

COORDINATES—*Continued*

Cylindrical and rotational coordinate systems. P. Moon and D. E. Spencer. bibliog diags Franklin Inst J 252:327-44 O '51

Determination of normal coordinates. B. L. Crawford, jr. and W. H. Fletcher. J Chem Phys 19:141-2 Ja '51

Generalised co-ordinates in vibration problems. T. M. Charlton. Engineering 172: 276 Ag 31 '51

COORDINATING research council

Coordinating research council activity swings back to military problems. S A E J 58: 76-8 N '50

COORDINATION (chemistry)

Absorption spectra of some cobalt(III) coördination compounds. F. Basolo. bibliog Am Chem Soc J 72:4393-7 O '50

Covalency, co-ordination, and chelation. W. J. Lile and R. C. Menzies. Chem Soc J p617-21 F '50

Electrochemistry of boron trifluoride co-ordination compounds; boron trifluoride-ethyl ether. N. N. Greenwood, R. L. Martin and H. J. Emeléus. diags Chem Soc J p3030-6 N '50

Electro-chemistry of boron trifluoride coordination compounds; boron trifluoride-mono(acetic acid). N. N. Greenwood, R. L. Martin and H. J. Emeléus. diags Chem Soc J p 1328-32, 1795-8, 1915-21 My, Jl '51

Olefin co-ordination compounds; discussion of proposed structures; the system ethylene-trimethylborine. J. Chatt. diags Chem Soc J p3340-8 D '49

Organic fluorides; co-ordination compounds of fluoroacetylacetones. R. N. Haszeldine and others. Chem Soc J p609-12 F '51

Studies in co-ordination chemistry. R. S. Nyholm. Chem Soc J p843-59 Mr '50

Studies in co-ordination chemistry; complexes of bivalent and tervalent cobalt with a di(tertiary arsine). R. S. Nyholm. Chem Soc J p2071-8 Ag '50

Studies in co-ordination chemistry; complexes of bivalent and tervalent nickel with a di(tertiary arsine). R. S. Nyholm. Chem Soc J p2061-71 Ag '50

Studies in co-ordination chemistry; complexes of univalent copper with a (ditertiary arsine). A. Kabesh and R. S. Nyholm. Chem Soc J p38-43 Ja '51

Studies in co-ordination chemistry; the structure of the blue and the brown cuprous-cupric complexes of methyldiphenylarsine. R. S. Nyholm. Chem Soc J p 1767-74 Jl '51

Trimethylgallium; the relative stabilities of its coordination compounds with the methyl derivatives of groups VB and VIB, and the thermal decomposition of some trimethylgallium-amine complexes. G. E. Coates. diag Chem Soc J p2003-13 Ag '51

CO-PARTNERSHIP. See Employees as stockholders

COPELAND refrigerator company

Common stock offered. Comm & Fin Chr 172: 1632 O 30 '50

COPENHAGEN

Libraries

Co-operation between the research libraries. K. Larsen. J Doc 7:83-91 Je '51

COPOLYMERIZATION. See Polymerization

COPPER

Absolute rate of the chemisorption of hydrogen on reduced copper. T. Kwan and M. Kujirai. J Chem Phys 19:798-9 Je '51

Action of copper on some aryldiazonium sulphates, and the isolation of copper salts. H. H. Hodgson and J. Habeshaw. Chem Soc J p405-6 Ja '50

Action of hot ionized gases upon zirconium and copper. A. Dravnieks. bibliog diags J Phys & Colloid Chem 55:540-9 Ap '51

Ancient Syrian coppers and bronzes. R. J. Braidwood and others. il map J Chem Educ 28:87-96 F '51

Angular dependence of hyperfine structure for the copper ion. E. F. Carr and C. Kikuchi. bibliog Phys R 80:1107 D 15 '50

Anisotropy of nitrogen adsorption on single crystal copper surfaces. T. N. Rhodin, jr. bibliog Am Chem Soc J 72:5691-9 D '50

Autoxidation of hydrazine; effect of dissolved metals and deactivators. L. F. Audrieth and P. H. Mohr. bibliog Ind & Eng Chem 43: 1774-9 Ag '51

Behaviour of the copper electrode in dilute copper sulphate solutions. A. A. Mousa. Chem Soc J p403-4 Ja '50

Bright nickel plating on metallic single crystals in the absence of addition agent. H. Leidheiser, jr. and A. T. Gwathmey. il Electrochem Soc J 98:225-30 Je '51

Calculations of surface energy for a free-electron metal. H. B. Huntington. Phys R 81:1035-9 Mr 15 '51

Casting-in of Inconel tubes in copper blocks. F. J. Lambert. il Metal Prog 59:809-11 Je '51

Chelate formation between copper and 8-quinolinols. J. P. Phillips and F. J. O'Hara. Am Chem Soc J 73:583-5 F '51

Chemical engineering materials of construction; wrought copper and copper-base alloys. C. L. Bulow. Ind & Eng Chem 43: 2218-26 bibliog(162 ref, p2225-6) O '51

Chemical removal of copper from boilers. R. G. Call and W. L. Webb. diags A S M E Trans 73:125-9; Discussion. 129-33 F '51

Coefficient of self-diffusion of copper. G. Cohen and G. C. Kuczynski. bibliog J Ap Phys 21:1339-40 D '50

Continuous casting of oxygen-free copper raises production; Rossi continuous casting machine. D. I. Brown. bibliog il diags Iron Age 168:63-7 Ag 30 '51

Copper-activated aluminosilicate phosphors. E. W. Claffy and J. H. Schulman. bibliog Electrochem Soc J 98:409-13 O '51

Copper and copper alloys; technical progress in 1950. E. Voce. Metallurgia 42:382-91 bibliog(135 titles, p389-91) D '50

Copper-catalysed decomposition of aliphatic diazo-compounds; the formation of paraffins of high molecular weight. G. D. Buckley, L. H. Cross and N. H. Ray. Chem Soc J p2714-18 O '50

Copper-copper interfacial free energy; abstract. G. W. Sears. Science 112:449 O 20 '50

Copper during Metallurgia's lifetime. E. Voce. Metallurgia 42:299-302 N '50

Copper molybdenum relationships in disorders of ruminants; abstract and discussion. H. H. Green and R. Allcroft. Chem & Ind p 125-6 F 17 '51

Copper requirements for power systems. H. E. Campbell and W. L. Kelly. diags Elec World 136:123-5 S 10 '51

Copper technique for dyeing acrylonitrile fibers. T. A. Feild, jr. and G. H. Fremon. bibliog il Textile Res J 21:531-9 Ag '51

Corrosion resistance of copper and copper alloys. Chem Eng 58:108-12 Ja '51

Creep behavior of zinc modified by copper in the surface layer. M. R. Pickus and E. R. Parker. bibliog il diags J Metals 3:Trans 792-6 S '51

Crystallography and interfacial free energy of noncoherent twin boundaries in copper. R. L. Fullman. il diags J Ap Phys 22:456-60 Ap '51

Decision on copper resistivity by International electrotechnical commission. Standardization 22:86+ Mr '51

Designing with modern materials; survey of latest developments in engineering materials. il Machine Design 23:316-18 O '51

Effect of infra-red on emission and trapping in ZnS:Cu phosphors. R. H. Bube. Phys R 80:764-5 N 15 '50

Equilibrium between copper and cupric and cuprous ions and the behavior of the copper electrode in dilute copper sulphate solutions. S. E. S. El Wakkad. Chem Soc J p3563-6 D '50

Equilibrium currents induced in zincblende by electron bombardment of negative electrode. M. F. Distad. bibliog diags Phys R 80:879-86 D 1 '50

Excitation functions for spallation reactions on Cu. F. O. Bartell and others. bibliog Phys R 80:1006-10 D 15 '50

Fission of medium weight elements. R. E. Batzel and G. T. Seaborg. bibliog Phys R 82:607-15 Je 1 '51

Growth and properties of the cuprene fiber. J. H. L. Watson, A. E. Léger and C. Ouellet. bibliog il J Phys & Colloid Chem 54:969-79 O '50

COPPER—*Continued*

Interfacial free energy of coherent twin boundaries in copper. R. L. Fullman. bibliog il diags J Ap Phys 22:448-55 Ap '51

Internal friction of cold-worked single crystals of copper. R. R. Hasiguti and T. Hirai. bibliog J Ap Phys 22:1084-5 Ag '51

Low temperature oxidation of copper; physical mechanism. T. N. Rhodin, jr. bibliog Am Chem Soc J 72:5102-6 N '50

Low temperature oxidation of copper; reaction rate anisotropy. T. N. Rhodin, jr. Am Chem Soc J 73:3143-6 Jl '51

Luminescence and trapping in zinc sulfide phosphors with and without copper activator. R. H. Bube. bibliog Phys R 80:655-66 N 15 '50

Materials casebook; copper, not enough to go around. il Product Eng 22:144 O '51

Millicoulometry; the polarographic reduction of copper(II) from thiocyanate solutions. L. Meites. bibliog Am Chem Soc J 73:4479-81 S '51

Overvoltage at the copper electrode. T. Rubin. J Chem Phys 19:803 Je '51

Photo-disintegration of copper. P. R. Byerly, jr. and W. E. Stephens. bibliog diag Phys R 81:473-4; 83:54-62 F 1, Jl 1 '51

Photo-luminescence efficiency of ZnS:Cu phosphors as a function of temperature. R. H. Bube. bibliog Phys R 81:633-4 F 15 '51

Plastic deformation of pure single crystals of lead and copper. P. W. Neurath and J. S. Koehler. diags J Ap Phys 22:621-6 My '51

Polarographic investigations of reactions in aqueous solutions containing copper and cysteine (cystine). W. Stricks and I. M. Kolthoff. bibliog Am Chem Soc J 73:1723-33 Ap '51

Polarography in liquid ammonia; the polarography of thallium(I), copper(II), and ammonium ions and of molecular oxygen. H. A. Laitinen and C. E. Shoemaker. bibliog Am Chem Soc J 72:4975-7 N '50

Quick patina on copper, brass or nickel alloys. W. G. Schneider. il Metal Prog 60:74-6 S '51

Radiographic method of dilatometry. A. H. Smith and others. il diags R Sci Instr 22:138-40 Mr '51

Range and straggling of protons between 35 and 120 Mev. N. Bloembergen and P. J. van Heerden. bibliog diags Phys R 83:561-6 Ag 1 '51

Raw materials for electric cable-making. A. King and D. McAlister. il Electrician 145:911-16 N 10 '50

Role of chlorine in the luminescence of ZnS:Cu phosphors. R. H. Bube. J Chem Phys 19:985 Jl '51

Room temperature solubility of iron in copper. T. S. Hutchison and J. Reekie. bibliog Phys R 83:854-5 Ag 15 '51

Separation of copper from zinc by ion exchange. E. J. Breton, jr. and A. W. Schlechten. bibliog diag J Metals 3:Trans 517-21 Jl '51

Stainless on copper halts lithium attack. Iron Age 168:114 Ag 16 '51

Structure of metal deposits obtained by electrochemical displacement upon zinc. M. E. Straumanis and C. C. Fang. bibliog il diag Electrochem Soc J 98:9-13 Ja '51

Studies in the corrosion of metals occasioned by aqueous solutions of some surface-active agents; copper. H. Holness and T. K. Ross. bibliog J Ap Chem 1:158-69 Ap '51

Studies of copper surfaces by low temperature adsorption isotherms. T. N. Rhodin, jr. bibliog diag Am Chem Soc J 72:4343-8 O '50

Studies on galvanic couples; polarization and cathodic protection. H. D. Holler. diags Electrochem Soc J 97:453-61 D '50

Thermodynamics of metalloprotein combinations; buffer effects in copper-albumin complexes. I. M. Klotz and H. A. Fiess. J Phys & Colloid Chem 55:101-11 Ja '51

Third spectrum of copper (CuIII). A. G. Shenstone and L. Wilets. bibliog Phys R 83:104-8 Jl 1 '51

Transport rates of the helium II film over various surfaces. J. G. Dash and H. A. Boorse. bibliog diags Phys R 82:851-6 Je 15 '51

Using copper for coloring glazes. S. S. Singer. bibliog Cer Ind 57:72+ Ag; 69-70+ S '51

Variation of amplitude-dependent internal friction in single crystals of copper with frequency and temperature. A. S. Nowick. bibliog Phys R 80:249-57 O 15 '50

X-ray diffraction study on the structure of the Ni-Cu coprecipitation catalysts. N. Kadota and S. Ikeda. Am Chem Soc J 73:4475-6 S '51

Analysis

Alkalimetric determination of metals with the aid of acid-base indicators. J. F. Coetzee. Chem Soc J p2098-102 Ag '51

Analysis by permanganate titrations of 8-quinolinols. J. P. Phillips and F. J. O'Hara. Anal Chem 23:535-6 Mr '51

Carbon, oxygen, and sulfur content of Chilean coppers as related to cuprous-oxide rectifiers. C. C. Hein and W. M. Hickam. J Ap Phys 22:1192-5 S '51

Colorimetric determination of copper in aluminium alloys. S. A. Shrager and G. Norwitz. bibliog J Ap Chem 1:354-5 Ag '51

Colorimetric determination of copper in steel with rubeanic acid. W. L. Miller, I. Geld and M. Quatinetz. bibliog Anal Chem 22:1572-3 D '50

Copper in textiles to be rubberized; proposed new method for determination of injurious copper. M. W. Weiss and others. bibliog Am Dyestuff Rep 40:41-3 Ja 22 '51

Determination of copper and iron in oils by amperometric titration. T. D. Parks and L. Lykken. bibliog Anal Chem 22:1503-5 D '50

Determination of copper by dithio-oxamide in lead and lead alloys. P. W. Wright. Soc Chem Ind J 69(sup no 2):S69-70 '50

Determination of selenium in metallic copper and pyritic materials. J. S. McNulty, E. J. Center and R. M. MacIntosh. bibliog diag Anal Chem 23:123-5 Ja '51

Determination of traces of mercury in copper alloys; titration with dithizone. W. L. Miller and L. E. Wachter. bibliog diag Anal Chem 22:1312-14 O '50

Geochemical techniques as applied in recent investigations in the Tintic district, Utah. H. Almond and H. T. Morris. bibliog maps diags Econ Geol 46:608-25 S '51

Method for the quantitative estimation of copper with particular reference to proofed jute fabrics. W. G. Macmillan and P. C. Das. J Ap Chem 1:132-5 Mr '51

Modified photometric determination of copper in ferrous alloys. K. W. Nance. Anal Chem 23:1034-5 Jl '51

Non-injurious copper in textiles to be rubberized. S. Lee and others. bibliog India Rubber World 124:58-61 Ap '51

Polarographic investigations of reactions in aqueous solutions containing copper and cysteine (cystine); amperometric titration of traces of cysteine and cystine with cupric copper as reagent. I. M. Kolthoff and W. Stricks. bibliog Anal Chem 23:763-8 My '51

Reductometric titration of antimony, copper, and tin with chromous ion. J. J. Lingane and C. Auerbach. bibliog Anal Chem 23:986-91 Jl '51

Isotopes

Angular correlation of successive gamma-ray quanta in Cu^{65}. T. Wiedling and A. Carlsson. Phys R 83:181-2 Jl 1 '51

Chemical effects of the Cu^{63} (γ,n) Cu^{62} reaction with copper salicylaldehyde-*o*-phenylenediimine. O. G. Holmes and K. J. McCallum. Am Chem Soc J 72:5319-20 N '50

Gamma-neutron cross sections. H. E. Johns and others. bibliog diag Phys R 80:1062-8 D 15 '50

Half-life of Cu^{66}. A. G. W. Cameron and L. Katz. Phys R 80:904 D 1 '50

K-capture/positron branching ratio for Cu^{61}. C. S. Cook. Phys R 83:462-3 Jl 15 '51

Nuclear gamma-absorption cross section of Cu^{63}. L. Marshall and others. bibliog diag Phys R 83:305-7 Jl 15 '51

Preparation of Zn^{65} of high specific activity from copper bombarded with 16-Mev deuterons. G. J. Maletskos and others. diag J Chem Phys 19:796 Je '51

COPPER—Isotopes—*Continued*

Properties of (γ,*n*) cross sections. L. Marshall. bibliog Phys R 83:345-8 Jl 15 '51

Metallography

Activation energy for recrystallization in rolled copper. B. F. Decker and D. Harker. J Metals 188:Trans 887-90 Je '50; Discussion. 3:Trans 548-9 Jl '51

Creep of high-purity copper. W. D. Jenkins and T. G. Digges. bibliog il J Res Nat Bur Stand 45:153-73 Ag '50; Abstract. Metal Prog 58:900+ D '50

Grain boundary effect in surface tension measurement. H. Udin. J Metals 191:Trans 63 Ja '51

Origin of the cube texture in face-centered cubic metals. P. A. Beck. bibliog J Metals 3:Trans 474-5 Je '51

Secondary recrystallization in copper wire. G. Bassi. bibliog il J Metals 3:Trans 533-4 Jl '51

Torsion texture of copper. W. A. Backofen. bibliog il diags J Metals 188:Trans 1454-9 D '50; Discussion. 3:Trans 1062-4 N '51

Physiological effect

Copper in foods; metallic contamination subcommittee of food standards committee: report. Chem Age (Lond) 65:225-6 Ag 18 '51

Prices

Nonferrous prices; tabulation. Steel 128:129 Ja 1 '51

Sulfur content

Thermodynamic study of the reaction $CaS+H_2O \rightleftarrows CaO+H_2S$ and the desulphurization of liquid metals with lime. T. Rosenqvist. diags J Metals 3:Trans 536-8 Jl '51; Discussion. 3:Trans 1047-8 N '51

Testing

ASTM standards on copper and copper alloys. 530p pa $4.35 Am. soc. for testing materials, 1916 Race st, Philadelphia 3 '51

Creep of high-purity copper. W. D. Jenkins and T. G. Digges. bibliog il J Res Nat Bur Stand 45:153-73 Ag '50

Creep pattern of annealed high-purity copper analyzed. Product Eng 22:124 Ja '51

Flexing tests on copper. il Sheet Metal Worker 42:60 D '50

COPPER, Powdered

Average copper powder price, shipments; tabulation. Iron Age 167:342 Ja 4 '51

Behavior of pores during the sintering of copper compacts. F. N. Rhines and others. bibliog il diags J Metals 188:Trans 378-88 F '50; Discussion. 188:Trans 1372-3 N '50

Corrosion of copper powder; recent Russian research. bibliog Chem Age (Lond) 65:471-3 O 6 '51

Influence of oxide on the pressing and sintering of copper compacts; abstracts. T. P. Hoar and J. M. Butler. Engineer 191:376-8 Mr 23 '51; Engineering 171:340 Mr 23 '51; Discussion. Engineer 191:378 Mr 23 '51

Rate of sintering of copper under a dead load. F. N. Rhines and H. S. Cannon. il J Metals 3:Trans 529-30 Jl '51

COPPER alloys

Aging effects in copper-lead alloy plating solutions of the cyanide-tartrate type. N. W. Hovey and others. Electrochem Soc J 98:155-9 Ap '51

Aircomatic welding of copper-base alloys. H. Robinson and J. H. Berryman. il diags Welding J 30:7-25 Ja '51

Alloys of copper and iron. C. S. Smith and E. W. Palmer. bibliog il J Metals 188: Trans 1486-99 D '50

Average mechanical properties of tellurium copper; table. Machine Design 23:315 O '51

Beryllium copper parts designed for investment casting. J. T. Richards. il Product Eng 22:114-17 F '51

Beryllium copper sand castings. J. T. Richards. bibliog il Foundry 79:90-3+ Ag '51

Beryllium copper shoulders defense jobs. J. T. Richards. il Steel 128:83-4 My 14 '51

Chemical engineering materials of construction; wrought copper and copper-base alloys. C. L. Bulow. Ind & Eng Chem 43: 2218-26 bibliog(162 ref, p2225-6) O '51

Constitution and precipitation-hardening properties of copper-rich copper-tin-beryllium alloys. R. A. Cresswell and J. W. Cuthbertson. bibliog il J Metals 3:Trans 782-91 S '51

Copper alloy brazing for production economy. C. E. Swift and E. B. Brown. il Welding J 29:1089-93 D '50

Copper and copper alloys; technical progress in 1950. E. Voce. Metallurgia 42:382-91 bibliog(135 titles, p389-91) D '50

Copper during Metallurgia's lifetime. E. Voce. Metallurgia 42:299-302 N '50

Corrosion resistance of copper and copper alloys. Chem Eng 58:108-12 Ja '51

Designing beryllium copper investment castings. J. T. Richards. il diags Machine Design 23:121-5 My '51

Designing with modern materials; survey of latest developments in engineering materials. il Machine Design 23:316-18 O '51

Effect of ternary additions on the age-hardening of a copper-silver alloy. H. Margolin and W. R. Hibbard, jr. bibliog il J Metals 191:Trans 174-80 F '51

Electrodeposition of copper-lead alloys. A. L. Ferguson and N. W. Hovey. bibliog il Electrochem Soc J 98:146-54 Ap '51; Discussion. 98:515-17 D '51

Faults in the structure of copper-silicon alloys. C. S. Barrett. bibliog il J Metals 188:Trans 123-35 Ja '50; Discussion. 188: Trans 1358-60 N '50

Gold-copper alloys in ancient America. W. C. Root. il J Chem Educ 28:76-8 F '51

Hot working of copper and copper alloys; abstract. M. Cook and E. Davis. Metal Prog 59:116+ Ja '51

How copper-base casting alloys are used in electrical industry. R. A. Colton. il Materials & Methods 32:57-61 D '50

Interface and marker movements in diffusion in solid solutions of metals. L. C. Correa da Silva and R. F. Mehl. bibliog il diags J Metals 191:Trans 155-73 F '51

Kinetics of ordering in the alloy AuCu. G. J. Dienes. bibliog J Ap Phys 22:1020-6 Ag '51

Letter to the editor, dealing with beryllium copper. J. T. Richards. Materials & Methods 33:136+ Je '51

Long-range order in beta-brass and Cu_3Au. D. T. Keating and B. E. Warren. bibliog J Ap Phys 22:286-90 Mr '51

Metallographic study of diffusion interfaces. G. C. Kuczynski and B. H. Alexander. il J Ap Phys 22:344-9 Mr '51

Microscopic observation of the solidification of Cu-Ni alloy droplets. R. E. Cech and D. Turnbull. bibliog il J Metals 3:Trans 242-3 Mr '51

Plasticity and conductivity, analogous flow phenomena in copper alloys. R. S. French. J Ap Phys 22:105-6 Ja '51

Precision investment nonferrous casting alloys; tabulation; engineering file facts. Materials & Methods 32:97 N '50

Pressure-welding characteristics of some copper-base alloys; abstract and discussion. E. Davis and E. Holmes. Engineering 170:399 N 24 '50

Properties of nickel-copper alloys; tabulation; engineering reference sheet. Elec World 136:124 Jl 16 '51

Recent developments in casting alloys; abstract. Irvine. Chem Age (Lond) 64:849-50 Je 2 '51

Reference tables for thermocouples. H. Shenker and others. U S Nat Bur Stand Circ 508:1-71; pa 35c Supt. of doc. '51

Re-solution of precipitated silver in copper-silver alloys. H. Margolin and W. R. Hibbard, jr. il J Metals 3:Trans 247 Mr '51

Welding electrodes and rods for ferrous and non-ferrous metals; filler metals for copper-base alloys. H. R. Clauser. il Materials & Methods 32:76-9 D '50

See also

Aluminum bronze
Brass
Bronze
Manganese bronze
Monel metal

Analysis

Determination of traces of mercury in copper alloys; titration with dithizone. W. L. Miller and L. E. Wachter. bibliog diag Anal Chem 22:1312-14 O '50

COPPER alloys—Analysis—*Continued*

Rapid polarographic determination of zinc in copper-base alloys. M. Sherman. il Foundry 78:94-5 N '50

Testing

ASTM standards on copper and copper alloys. 530p pa $4.35 Am. soc. for testing materials, 1916 Race st, Philadelphia 3 '51

COPPER chloride

Paramagnetic resonance absorption in three chlorides of copper. J. Itoh and others. Phys R 83:852-3 Ag 15 '51

Skelly Oil successfully treats 600° end point distillate with cupric chloride slurry. flow diag il Oil & Gas J 49:107-8 D 14 '50

Sweetening and desulfurization of light petroleum products; sweetening with copper chloride. V. A. Kalichevsky. bibliog il Pet Refiner 30:122-5 Mr '51

COPPER compounds

Action of copper on some aryldiazonium sulphates, and the isolation of copper salts. H. H. Hodgson and J. Habeshaw. Chem Soc J p405-6 Ja '50

Complexes between metal salts and long-chain aliphatic amines; the complexes of cupric salts with long-chain amines. A. R. Burkin. Chem Soc J p 122-7 Ja '50

Complexes between metal salts and long-chain aliphatic amines; the oxidation of copper(I) complexes to copper(II) complexes. R. G. Wilkins and A. R. Burkin. Chem Soc J p 132-6 Ja '50

Complexes of copper phenylacetate and diphenylacetate with alcohols. M. Crawford. Chem Soc J p2187-90 Ag '50

Copper compounds in latex and in rubber. G. J. van der Bie. bibliog(61 titles) diag Rubber Age 69:309-15 Je '51

Crystal structure of cupric tropolone and the dimensions of the tropolone ring. J. M. Robertson. diags Chem Soc J p 1222-9 My '51

Dissociation constants of the cupric salts of some monocarboxylic acids. M. Lloyd, V. Wycherley and C. B. Monk. Chem Soc J p 1786-9 Jl '51

Effect of copper-bearing concrete on molds. R. F. Robinson and C. R. Austin. il Ind & Eng Chem 43:2077-82 S '51

Electrophoretic migration of cellulose in cupriethylenediamine solution. M. E. Adams, M. L. Karon and R. E. Reeves. Am Chem Soc J 73:2350-1 My '51

Inorganic complex compounds containing polydentate groups; formation constants of diethylenetriamine-nickel(II) and -copper (II) complexes. H. B. Jonassen, R. B. LeBlanc and R. M. Rogan. Am Chem Soc J 72:4968-71 N '50

Inorganic complex compounds containing polydentate groups; formation constants of the triethylenetetramine-copper(II) and nickel(II) complex ions. H. B. Jonassen and A. W. Meibohm. bibliog J Phys & Colloid Chem 55:726-33 My '51

Oxidation of sulphurous acid. H. Bassett and W. G. Parker. Chem Soc J p 1540-60 Je '51

Polarography of copper complexes; dipyridyl, orthophenanthroline and thiourea complexes; a double complex system. E. I. Onstott and H. A. Laitinen. bibliog Am Chem Soc J 72:4724-8 O '50

Polarography of copper complexes; pyrophosphate complexes. H. A. Laitinen and E. I. Onstott. bibliog Am Chem Soc J 72:4729-33 O '50

Rapid dispersion of cellulose in cupriethylenediamine. C. H. Lindsley. Textile Res J 21:286-7 My '51

Relationship between solubility and stereochemical configuration in copper salts of unsaturated carboxylic acids. M. Crawford. Chem & Ind p234 Mr 24 '51

Salts of perrhenic acid; the group II cations, copper(II) and lead(II). W. T. Smith, jr. and G. E. Maxwell. bibliog Am Chem Soc J 73:658-60 F '51

Studies in co-ordination chemistry; complexes of univalent copper with a (ditertiary arsine). A. Kabesh and R. S. Nyholm. Chem Soc J p38-43 Ja '51

Studies in co-ordination chemistry; the structure of the blue and the brown cuprous-cupric complexes of methyldiphenylarsine. R. S. Nyholm. Chem Soc J p 1767-74 Jl '51

COPPER cyanide

Violet water-soluble copper cyanide. A. Glasner and K. R. S. Asher. Chem Soc J p3296-9 D '49

COPPER foil

Printed circuits on foil-clad plastics. R. L. Swiggett. il diags Mod Plastics 28:99-100+ Ag '51

COPPER halides

Complexes between metal salts and long-chain aliphatic amines; the complexes of cuprous halides with long-chain aliphatic amines. R. G. Wilkins and A. R. Burkin. diag Chem Soc J p 127-32 Ja '50

COPPER industry and trade

CMP metals; steel, aluminum, and copper. Survey of Cur Bsns 31:4-6 My '51

Copper cutback to hit construction hardest of any orders issued so far. Eng N 146: 25 Ja 4 '51

Copper moving into period of controls. Barron's 30:29-30 D 11 '50

Copper, 1950. C. H. Winship, jr. il Min Cong J 37:50 F '51

Copper, our current and future needs and supply. C. A. Scarlott. flow chart Materials & Methods 33:61-5 Je '51

Copper, the problem and prospects. C. A. Scarlott. il diags Westinghouse Eng 11: 74-80 My '51

Copper's not just pennies; ABC of what's behind some key statistics. il Bsns W p47-8+ Je 2 '51

Demands push copper toward further control. Barron's 31:17-18 F 12 '51

M-12 order curtails copper; with list of articles and products affected of interest to sheet metal industry. Sheet Metal Worker 42:34-6 F; 36 Mr '51

More copper from Chile. W. F. Boericke. Automotive Ind 104:49 Je 1 '51

No solution to copper shortage. Bsns W p23 O 6 '51

Nonferrous metals, annual review. S. D. Strauss. Min Eng 190:110-12 F '51

Outlook for more copper dimmed by strike threat. Barron's 31:19 Ag 20 '51

Vexations of Revere. il Fortune 42:97-9+ D '50

What can U.S. do about copper? Bsns W p 100-2+ S 29 '51

Statistics

Copper castings shipments, 1947-1950; tabulation. Iron Age 167:341 Ja 4 '51

Copper, 1950. H. H. Wanders. Eng & Min J 152:79-81 F '51

Copper production, recovery, consumption, imports and exports; copper scrap and electrolytic copper prices; tabulations. Iron Age 167:302 Ja 4 '51

Copper production, shipments and stocks, imports and exports; copper and copper-base alloy castings shipments, copper and brass mill fabricator statistics; tabulations. Steel 128:130 Ja 1 '51

World production of copper from ores by countries, 1941-1949; tabulation. Iron Age 167:301 Ja 4 '51

Great Britain

Zinc and copper restrictions. Chem Age (Lond) 64:5-6 Ja 6 '51

Rhodesia

Copper belt boom. Economist 159:900-2 N 25 '50

COPPER metallurgy

Copper reverberatory furnace. W. H. Dennis. flow sheet diags Metallurgia 43:107-11 Mr '51

New precipitation plant at Butte; Anaconda recovers copper from mine water. A. C. Bigley and others. il diag Min Cong J 37: 48-53 Mr '51

Plans for treating Greater Butte Project ores. F. F. Frick. il Min Cong J 37:42-3+ Ag '51

Progress report on grinding at Tennessee copper co. J. F. Myers and F. M. Lewis. il diags Min Eng 187:Trans 1133-6 N '50; Discussion. 3:Trans 990-1 N '51

Rebuilding Lepanto, the Far East's largest copper producer. G. Murray and H. H. Bein. flow sheet il Eng & Min J 152:110-13 Ap '51

Sulphur activities in liquid copper sulphides. R. Schuhmann, jr. and O. W. Moles. bibliog diags J Metals 3:Trans 235-41 Mr '51

COPPER metallurgy—*Continued*

Electrometallurgy

Electric furnace melting of copper at Baltimore. P. R. Drummond. il diags J Metals 3:Trans 468-72 Je '51

El Paso refinery of Phelps Dodge refining corp. B. B. Kunkle. flow sheet J Metals 3:Trans 229-34 Mr '51

From low-grade ore to pure copper; Kennecott's new setup. il Bsns W p48-50+ N 11 '50

Improved plant design marks new Utah refinery. S. Hughes. il plan diags Eng & Min J 152:72-9 Je '51

Integrated copper; electric copper refinery, built by the Utah copper division of Kennecott copper corp. il Elec West 105:76 O '50

COPPER miners

Copper slowup. Bsns W p23 S 1 '51

How Anaconda works employe clubs; run your own, pay as you go. R. Newcomb and M. Sammons. il Ind Marketing 36:52+ Ja '51

Peace or truce in copper. Bsns W p33 S 8 '51

COPPER mines and mining

Copper's not just pennies; ABC of what's behind some key statistics. il Bsns W p47-8+ Je 2 '51

Ore control at Inspiration. J. L. Carne. il Min Eng 3:501-2 Je '51

Alaska

Copper deposits of the Prince William Sound district, Alaska. F. H. Moffit and R. E. Fellows. maps U S Geol S Bul 963-B:47-80, pl 3-6[in pocket]; pa 75c Supt. of doc. '50

Arizona

Alteration and metallization in the Bagdad porphyry copper deposit, Arizona. C. A. Anderson. bibliog maps diags Econ Geol 45:609-28 N '50

Further biogeochemical data from the San Manuel copper deposit, Pinal county, Ariz. H. V. Warren and others. bibliog maps Geol Soc Bul 62:919-29 Ag '51

How Magma's new cooling plant combats the mine heat problem. G. L. Augustadt. il diags Eng & Min J 152:72-9 S '51

California

Investigation of West Belt copper-zinc mines, El Dorado, Amador, Calaveras, and Mariposa counties, Calif. F. J. Wiebelt and others. 13pls U S Bur Mines Rep of Invest 4760:1-62 '51

Chile

Touch and go on Chile copper. il Bsns W p 136-8 Jl 14 '51

Colorado

Modern equipment cuts costs at Bagdad. E. R. Dickie. il Min Eng 3:767 S '51

Michigan

White Pine mine; potential major copper producer. F. A. Ayer. il map Min Cong J 36:26-30+ D '50

Montana

New copper reserves; mining developments at Butte. il Elec West 105:77 O '50

New precipitation plant at Butte; Anaconda recovers copper from mine water. A. C. Bigley and others. il diag Min Cong J 37:48-53 Mr '51

Plans for treating Greater Butte Project ores. F. F. Frick. il Min Cong J 37:42-3+ Ag '51

New Jersey

Mystery of Pahaquarry copper. C. H. Vivian. il maps Comp Air Mag 56:58-64 Mr '51

New Mexico

Investigation of the Torpedo copper deposit, Organ mining district, Dona Ana county, N. Mex. J. H. Soulé. 6pls U S Bur Mines Rep of Invest 4791:1-10 '51

Philippine Islands

Rebuilding Lepanto, the Far East's largest producer of copper. G. Murray and H. H. Bein. flow sheet il Eng & Min J 152:72-5 Mr; 110-13 Ap '51

Rhodesia

Bumper profits from Rhodesian copper. Economist 161:582+ S 8 '51

Copper belt boom. Economist 159:900-2 N 25 '50

Tennessee

Sinking Tennessee Copper's circular shaft. L. Weaver. il plan diag Min Eng 187:1106-9 N '50

Utah

Employee training reduces costs, increases labor efficiency at Utah Copper. H. B. Gundersen. il Min Eng 3:768-71 S '51

From low-grade ore to pure copper; Kennecott's new setup. il Bsns W p48-50+ N 11 '50

Recent operating improvements at Kennecott's Utah copper mine. L. F. Pett. Min Eng 3:Trans 592-6 Jl '51

COPPER ores

Age of the granites of the northern Rhodesian copperbelt. W. G. Garlick and J. J. Brummer. bibliog maps diags Econ Geol 46:478-97 Ag '51

Alteration and metallization in the Bagdad porphyry copper deposit, Arizona. C. A. Anderson. bibliog maps diags Econ Geol 45:609-28 N '50

Alteration features at Silver Bell, Ariz. P. F. Kerr. bibliog maps diags Geol Soc Bul 62:451-80, pl 1-4 My '51

Copper mineralization in the Fungurume region, Katanga. R. Oosterbosch; H. Schuiling. il diags Econ Geol 46:121-48 Mr '51

Differentiation in lavas of the Keweenawan series and the origin of the copper deposits of Michigan. H. R. Cornwall. bibliog fold maps (pl 1, 4) diags Geol Soc Bul 62:159-201, pl 2-3 F '51

Emerald Isle copper deposit. B. E. Thomas. bibliog Econ Geol 44:700-5 D '49; Discussion. F. Searles, jr. 45:175-6 Mr '50; Reply. 46:231-3 Mr '51

Further biogeochemical data from the San Manuel copper deposit, Pinal county, Ariz. H. V. Warren and others. bibliog maps Geol Soc Bul 62:919-29 Ag '51

See also

Bornite

COPPER oxides

Asymmetric heat conduction in copper-copper oxide rectifiers. F. H. Horn. J Ap Phys 22:1214 S '51

Constitution of copper peroxide and the catalytic decomposition of hydrogen peroxide. A. Glasner. Chem Soc J p904-10 Ap '51

Cuprous oxide as a catalyst; preparation and promotion by metallic oxides. F. E. Brown and others. bibliog Am Chem Soc J 72:5602-5 D '50

Studies on lignin and related products; the oxidation of fermented sulphite spent liquor with cupric oxide under pressure. I. A. Pearl and D. L. Beyer. bibliog Tappi 33:544-8 N '50

Use of a semiconducting porcelain enamel as a means of producing copper-copper oxide rectifiers. P. C. Gaertner, jr. diag Am Cer Soc Bul 30:265-6 Ag 15 '51

COPPER paste

New copper paste permits brazing economies. K. Rose. il Materials & Methods 33:79-80 F '51

COPPER pentachlorophenate

Effect on calves of prolonged oral administration of three potential molluscacides. J. R. Herdt and others. Pub Health Rep 66:1313-17 O 12 '51

Analysis

Determination of sodium and copper pentachlorophenates in dilute aqueous solutions. W. T. Haskins. Pub Health Rep 66:1047-51 Ag 17 '51

COPPER pentachlorophenol

Toxicity of some related halogenated derivatives of phenol. E. F. Stohlman. bibliog Pub Health Rep 66:1303-12 O 12 '51

COPPER phthalocyanine
One-electron oxidation of copper phthalocyanine. A. E. Cahill and H. Taube. Am Chem Soc J 73:2847-51 Je '51
Use of positron-emitting radioisotopes for the localization of brain tumors. F. R. Wrenn, jr. and others. bibliog diags Science 113: 525-7 My 4 '51

COPPER plating
Co-deposited stopoff conserves tin. E. S. Coe. il Iron Age 167:86-8 Je 14 '51

COPPER roofing. See Roofing, Copper

COPPER sulfate
Behaviour of the copper electrode in dilute copper sulphate solutions. A. A. Mousa. Chem Soc J p403-4 Ja '50
Cathode polarization potential during electrodeposition of copper; nonreproducibility in acid copper sulfate solutions. L. L. Shreir and J. W. Smith. bibliog il Electrochem Soc J 98:193-202 My '51
Copper with ammonia and chlorine in finished water. M. C. Smith. Am Water Works Assn J 43:763-9 S '51
Corrosion forum; materials of construction used to fight corrosion. W. W. Palmquist. il Chem Eng 58:206+ Ap '51
Effect of agitation on rate of growth of single crystals. A. W. Hixson and K. L. Knox. bibliog diag Ind & Eng Chem 43:2144-51 S '51
Electrolytic dissociation of zinc sulphate, copper sulphate, and zinc malonate in mixed solvents. J. C. James. Chem Soc J p 153-7 Ja '51
Equilibrium between copper and cupric and cuprous ions and the behavior of the copper electrode in dilute copper sulphate solutions. S. E. S. El Wakkad. Chem Soc J p3563-6 D '50
Laboratory tests on the rapidity of molluscacidal action of copper sulfate in high concentration. M. O. Nolan. bibliog Pub Health Rep 65:1481-5 N 10 '50
Rate of growth of crystals in aqueous solutions. W. L. McCabe and R. P. Stevens. bibliog diags Chem Eng Prog 47:168-74 Ap '51

COPPER sulfides
Sulphur activities in liquid copper sulphides. R. Schuhmann, jr. and O. W. Moles. bibliog diags J Metals 3:Trans 235-41 Mr '51
See also
Bornite

COPPER tartrate
Stability of carbonate buffered cupritartrate reagents of low *p*H for estimating micro and macro quantities of reducing sugars. L. J. Heidt and K. A. Moon. Am Chem Soc J 72:4130-5 S '50

COPPER tubes. See Tubes, Copper

COPPERWELD steel company
Likely to net over $5 a share in 1951. Barron's 31:13 Ag 6 '51

COPPERWORK
Extruding copper and brass. W. W. Cotter. il diags J Metals 3:440-2 Je '51
Hot working of copper and copper alloys; abstract. M. Cook and E. Davis. Metal Prog 59:116+ Ja '51
Tensile tests and metallurgical studies of welded copper joints. R. J. Mosborg and others. il diags Welding J 30:sup519-28 O '51

COPPERWORK, Architectural
Work on a Brooklyn church. il Sheet Metal Worker 42:40+ F '51
See also
Roofing, Copper

COPPOCK, Fred D. 1878-
President of American aggregates corp. N. C. Rockwood. por Rock Prod 54:107-10 Ja '51

COPRA
Copra exports in 1950 seen nearing '49 level. Oil Paint & Drug Rep 158:5 N 20 '50
Copra products output seen increased in 1950. Oil Paint & Drug Rep 158:5 D 25 '50
Philippine copra and coconut-oil exports; with table of exports, Jan.-Aug. 1949 and 1950. For Comm W 41:19 O 23 '50
Sagging soap demand unsettles copra price. Barron's 31:21-2 O 1 '51
US copra, coconut oil '50 imports up 11 per-cent. Oil Paint & Drug Rep 159:4 Ap 2 '51
Unloading copra on the Southern. il Ry Age 130:46-7 Mr 5 '51

COPYING processes
Inkless, fume-less copying machine uses the BW Diazo process. il Automotive Ind 104: 58 Ja 1 '51
New system eliminates rewriting for back orders; Timken-Detroit axle co.'s Ditto one-writing order-invoice system. K. P. Hayes. il Am Bsns 21:30 Je '51
Quick photo prints from master drawings at Consolidated Vultee Aircraft. T. A. Dickinson. il diag Mill & Factory 48:87 F '51
See also
Photomechanical processes
Whiteprint machines

COPYING processes (machine work). See Machine work—Copying processes

COPYRIGHT
Copyright and the right to credit. R. R. Shaw. Science 113:571-3 My 18 '51
Giving credit doesn't absolve infringement. A. W. Gray. Ed & Pub 84:47 Ag 4 '51
New handbook describes U.S. copyright law. Ed & Pub 83:54 O 28 '50

CORAL reefs and islands
Reef limestones of Hermosa formation, San Juan canyon, Utah. S. A. Wengard. bibliog il maps diags Am Assn Pet Geologists Bul 35:1038-51 My '51

CORALS
Faunal lists and descriptions of paleozoic corals. R. S. Bassler. (Memoir 44) 315p, 20pls Geological soc. of America, 419 W. 117th st, New York 27 '50

CORALS, Fossil
Middle Devonian coral beds of central New York. W. A. Oliver, jr. map diags Am J Sci 249:705-28, pl 1-2 bibliog(p727-8) O '51

CORALYDINE
Alkaloids of fumariaceous plants; coreximine, a naturally occurring coralydine. R. H. F. Manske. bibliog Am Chem Soc J 72:4796-7 O '50

CORBETT, Sir Julian, 1854-1922
Work of Sir J. Corbett in the dreadnought era. P. M. Stanford. por U S Naval Inst Proc 77:60-71 Ja '51

CORBINO effect
Corbino effect and the change of resistance in a magnetic field. K. M. Koch. diags Phys R 82:460 My 1 '51

CORCHORIN
Constituents of the seeds of corchorus olitorius, L; corchorin and its identity with strophanthidin. G. Soliman and W. Saleh. Chem Soc J p2198-200 Ag '50

CORCHORUS. See Jute

CORDAGE fibers

Testing

Mechanics of elastic performance of textile materials; mechanical properties of hard fibers with reference to their use in cordage structures. E. R. Kaswell and M. M. Platt. bibliog Textile Res J 21:263-76 My '51

CORDINER, Ralph Jarron, 1900-
Cordiner, new president of General electric co. por(cover) Elec World News ed 135: 27-8 Ja 8 '51
GE's new boss. Bsns W p26 D 23 '50
Portrait. Bsns W p25 F 3 '51

CORE blowers. See Foundry machinery

CORE ovens
Drying of foundry moulds and cores. G. T. Hampton and W. H. Taylor. Engineering 171:125, 174 F 2-9 '51
Electronic dryer makes better cores and working conditions. il Elec World 135:82 Ja 1 '51

COREOPSIS stillmanii
Anthochlor pigments; the pigments of coreopsis stillmanii. M. K. Seikel and T. A. Geissman. bibliog Am Chem Soc J 72:5720-4 D '50

CORES
Core sands. Foundry 79:175-6 Jl; 153 Ag '51
Design of core setting and rubbing fixtures; abstract. F. J. Oklessen. Foundry 79:135 Jl '51
Effect of time and temperature on strength of baked cores. C. E. Fausel. il Foundry 79:118-19+ F '51
Electronic core baking; United foundries co. B. Hopkins. il Foundry 79:154+ Mr '51
Gas evolution from molds and cores. W. H. Moore. il diag Foundry 79:80-7 Jl '51

CORES—*Continued*

Glass solves delicate coring problems; production of radar tube-feed antenna units by investment casting. D. D. Malcomb. il diags Iron Age 167:107-9 Ap 12 '51

Homemade devices give core work economies; gray iron foundry of Buick motor div. H. Chase. il Iron Age 167:95-8 Ap 19 '51

J. I. Case co. modernizes coremaking facilities. il Foundry 78:212+ N '50

Pneumatic deflashing jig speeds core flash removal. J. Starr. il diag Tool Eng 26:29 Ja '51

Reinforced plastic core driers developed for electronic baking. F. A. Vainosky. il Foundry 79:144+ O '51

Synthetic resins in the foundry. Engineer 191:807 Je 15 '51

COREXIMINE

Alkaloids of fumariaceous plants; coreximine, a naturally occurring coralydine. R. H. F. Manske. bibliog Am Chem Soc J 72:4796-7 O '50

COREY, Lester S. 1880-

Moles to honor two at annual award dinner. por Comp Air Mag 55:278 D '50

CORK

Insulation handbook; how to use cork for cold jobs. P. Swain. diags Power 95:76-80 My '51

Investigations on lignin and lignification; lignin of cork. R. M. DeBaun and F. F. Nord. bibliog Am Chem Soc J 73:1358-9 Mr '51

What is cork good for? illustrations with text. Mill & Factory 48:127-30 Ja '51

CORK, Substitutes for

Production of cork substitute in Brazil said to have future. Chem & Eng N 28:3819 O 30 '50

CORKSCREWS

Rating

Corkscrews. il Consumers Res Bul 28:19-20 Jl '51

CORN

Corn seed bank. Sci Am 185:60 S '51

Government grip on corn points to squeeze ahead. Barron's 30:20 O 23 '50

Heat spell could halt decline of corn prices. Barron's 31:17-18 Jl 23 '51

Heavy livestock feeding may boost corn prices. Barron's 31:19-20 S 3 '51

Hybrid corn. P. C. Mangelsdorf. il diag Sci Am 185:39-47 Ag '51

Moral of corn slump; prices can fall, too. Barron's 31:27 F 26 '51

Record feeding will cut Nation's corn reserves. Barron's 31:31 Ja 15 '51

Refrigeration is key to corn quality. J. D. Winter and others. bibliog il Refrig Eng 59:354-7+ Ap '51

Sitosterols from corn gluten. D. M. Rathmann and L. R. Morrow. bibliog Am Chem Soc J 72:5647-50 D '50

CORN chips

From scratch to $15,000,000; Frito's striking story. B. Crow, jr. flow sheet(p 154-7) il Food Eng 23:102-4+ Ap '51

CORN products

Corn products play an essential role in manufacture of textiles. F. A. Lewis. il Rayon 32:85-6+ S '51

See also

Cornstarch

Inositol

CORN products plants

From scratch to $15,000,000; Frito's striking story. B. Crow, jr. flow sheet(p 154-7) il Food Eng 23:102-4+ Ap '51

Topnotch wet corn mill house; Staley manufacturing co. W. Bishop and J. Dustin. flow diag il diags Food Ind 23:121-4+ Mr '51

Waste

Waste reduction by American maize products co.; abstract. G. H. McIntosh and E. M. Van Patten. Water & Sewage Works 98:328 Jl '51

CORN products refining company

Staking out new markets. C. A. Clark, jr. Barron's 31:13-14 Ja 15 '51

CORN sirup

Manufacture

One knob production control; corn syrup refinery. C. F. Adeszko. flow diags il diags Instruments 24:215-21 F '51

CORN starch. See Cornstarch

CORNCOBS

Corncob stymie. il Chem Ind W 68:13-14 Ap 28 '51

Dry cleaning with corn cob grits. E. W. Shoff. il Iron & Steel Eng 28:126-8; Discussion. 128-30 S '51

CORNELL university

Establishes Geer laboratory. Rubber Age 69:728 S '51

Guggenheim aviation safety center

Center aims to make air travel safest. A. McSurely. Aviation W 54:15-16 Ap 2 '51

Daniel and Florence Guggenheim aviation safety center established. Aeronautical Eng R 9:6-7 N '50

CORNER Brook, Newfoundland

Community comes to maturity; pulp and paper industry in Newfoundland, with special reference to mills and town of Corner Brook. J. C. Fitzgerald. il Pulp & Pa of Can 52:60-2 Mr '51

CORNICES

Installing cornice 26 floors up; combination sheet metal parapet, sign and cornice. il diag Sheet Metal Worker 42:39+ S '51

CORNING glass works

One hundred years of progress. il Glass Ind 32:351-5+ Jl '51

Security I like best. R. V. Wood. Comm & Fin Chr 174:58+ Jl 5 '51

CORNSTALKS

Measurement of the extract of cornstalks. H. C. Gore. bibliog Science 112:561-2 N 10 '50

CORNSTARCH

Acylation of corn starch, amylose and amylopectin. I. A. Wolff, D. W. Olds and G. E. Hilbert. bibliog Am Chem Soc J 73:346-9 Ja '51

Methylation and ethylation of corn starch, amylose and amylopectin in liquid ammonia. J. E. Hodge, S. A. Karjala and G. E. Hilbert. bibliog Am Chem Soc J 73:3312-16 Jl '51

Molecular magnitude of amylopectin. R. W. Kerr, F. C. Cleveland and W. J. Katzbeck. bibliog Am Chem Soc J 73:111-17 Ja '51

Starch; the uniformity of the degree of branching in amylopectin. A. L. Potter and W. Z. Hassid. bibliog Am Chem Soc J 73:997-8 Mr '51

Topnotch wet corn mill house; Staley manufacturing co. W. Bishop and J. Dustin. flow diag il diags Food Ind 23:121-4+ Mr '51

Triesters of corn starch, amylose, and amylopectin; properties. I. A. Wolff, D. W. Olds and G. E. Hilbert. bibliog il Ind & Eng Chem 43:911-14 Ap '51

CORONA, California

Seams burst in little boom towns. il Bsns W p72+ O 13 '51

CORONA (electricity)

Calculation of the corona losses on 400 kv transmission lines; abstract. V. A. Venikov and D. A. Fedorov. Elec R (Lond) 148:1113-14 My 25 '51

Corona from ice points. H. W. Bandel. il diag J Ap Phys 22:984-5 Jl '51

Corona investigation on extra-high-voltage lines; 500-kv test project of the American gas and electric co. I. W. Gross and others. bibliog Elec Eng 70:224-30 Mr '51

Corona loss at extra-high voltages. R. L. Tremaine and others. bibliog il diags Westinghouse Eng 11:144-50 S '51

Corona loss variation for different conductors and weather conditions; charts; engineering reference sheet. Elec World 135:104 F 26 '51

Corona problems on 400kv lines; abstract. N. V. Bogdanova. Elec R (Lond) 148:1218 Je 8 '51

High-voltage stabilization by means of the corona discharge between coaxial cylinders. S. W. Lichtman. bibliog il diags Inst Radio Eng Proc 39:419-24 Ap '51

Negative coaxial cylindrical corona discharges in pure N_2, O_2, and mixtures thereof. C. G. Miller and L. B. Loeb. J Ap Phys 22:614-21 My '51

Positive coaxial cylindrical corona discharges in pure N_2, O_2, and mixtures thereof. C. G. Miller and L. B. Loeb. bibliog diags J Ap Phys 22:494-503 Ap '51

CORONA (electricity)—*Continued*

Research station with artificial climate for testing the corona losses in high voltage overhead lines; abstract. A. Kornfehl. il diag Refrig Eng 59:767 Ag '51

Starting potentials of positive and negative coronas with coaxial geometry in pure N_2, pure O_2, and various mixtures at pressures from atmospheric to 27 mm. C. G. Miller and L. B. Loeb. J Ap Phys 22:740-1 Je '51

Techniques of corona loss measurement and analysis; 500-kv test project of the American gas and electric co. O. Naef and others. il Elec Eng 70:423 My '51

CORONAGRAPH

Servo guider for solar telescopes. F. E. Fowler and D. S. Johnson. il diags Electronics 24:118-22 My '51

CORONARY arteries

Diseases

Acute coronary artery disease, and effort. A. M. Master. Ind Med 19:512 N '50

CORONARY thrombosis. See Thrombosis

CORONENE

Eight- and higher-membered ring compounds; di-*m*-xylylene, tri-*p*-xylylene, and new syntheses of pyrene and of coronene. W. Baker, J. F. W. McOmie and J. M. Norman. Chem Soc J p 1114-18 Ap '51

Eight- and higher-membered ring compounds; di(naphthalene-2 : 7-dimethylene) and its conversion into coronene. W. Baker, F. Glockling and J. F. W. McOmie. Chem Soc J p 1118-21 Ap '51

CORPORATE names

"National" now nasty word; little advertised law change necessitates Hoosier firm rebaptism. Nat Underw 55:15 Jl 26 '51; Same abr. Nat Underw (Life ed) 55:7 Jl 27 '51

CORPORATION law

Close corporation stock redemption for death taxes. R. O. Schwartz. Trusts & Estates 89:824-5 D '50

What kind of corporate assets may be paid as distribution in kind? R. T. Molloy. bibliog J Account 91:617-18 Ap '51

CORPORATIONS

Business population by legal form of organization. B. C. Churchill. Survey of Cur Bsns 31:9-14+ Je '51

New audit program based on quarterly transactions takes pressure from year-end peak. L. F. Beckers. J Account 91:822-6 Je '51

Should a sole proprietorship incorporate? J. S. Platt. J Account 91:458 Mr '51

Should your agency be a corporation or a partnership? N. Fields. Adv Agency 44:56-7+ Je '51

Wives of management. W. H. Whyte, jr. il Fortune 44:86-8+ O '51

See also

Banks and banking
Building and loan associations
Controllers
Corporation law
Electric utilities
Gas companies
Insurance companies
Investment trusts
Oil companies
Proxies
Public utilities
Railroads
Standard oil company (New Jersey)
Stockholders
Stocks
Trust companies
Trusts, Industrial

Accounting

Corporate treasurer's and controller's handbook. L. Doris, ed. 1277p $12.50 Prentice-Hall, 70 Fifth av, New York 11 '50

Dilemma of the corporation in tax accounting for dividends in kind. R. E. Nelson. J Account 91:96-9 Ja '51

How to handle debt discount and expense for tax purposes. R. J. Baker. bibliog J Account 92:347-8 S '51

How to use current listed stock market prices in fixing value of close corporation stock. W. R. Ginder. J Account 92:198-200 Ag '51

Milestones on the path of accounting. P. F. Brundage. Harvard Bsns R 29:71-81 Jl '51

Original cost vs. market value as a basis for depreciation. J. R. Hock. il Dun's R 58:20-1+; Reply. F. H. McDonald. 21+ D '50

Profits and replacement in last quarter of 1950; with tabulation; need for agreed definition of what profits are. Economist 160:212-13 Ja 27 '51

Roadblocks in the path of accounting. P. F. Brundage. Harvard Bsns R 29:110-19 S '51

Transfers of earnings and deficits in tax-free reorganizations; Ralph S. Rice's analysis of the Sansome doctrine. J Account 90:441-2 N '50

Understated earnings in annual corporate reports. C. J. Clifford. Mag of Wall St 87:656-7+ Mr 24 '51

See also

Accounting departments
Business consolidations—Accounting
Financial statements
Fiscal year

Charities

Corporate giving; a survey. Management R 40:262 My '51

It doesn't hurt much to give; tax advantages of five per cent gift deduction. Bsns W p28 Ag 18 '51

Save by giving; Lehigh Valley Steel foundation to use charity tax deductions. Bsns W p66+ S 22 '51

Employees' cooperation

Charity overtime; Southern Line Material workers give premium pay to local charity. Bsns W p 126-7 N 11 '50

Close corporations

Close corporation stock redemption for death taxes. R. O. Schwartz. Trusts & Estates 89:824-5 D '50

Valuation of close corporation securities. K. J. Bushman. Trusts & Estates 90:228-30+ Ap '51

When can you retain earnings? owners of closely held corporations can save taxes. Bsns W p63-4 Je 30 '51

Collapsible corporations

How to run a collapsible corporation. J Account 92:216-17 Ag '51

Directors

Ad agency executives join clients' directors? B. Tolk. Ptr Ink 234:79 F 16 '51

Board behavior; American institute of management recommendations. Bsns W p98-9 N 18 '50

Camera watches International-Harvester directors at work. Bsns W p37-8 F 3 '51

Do boards of directors satisfy to-day's needs? B. Ruml. il Dun's R 59:23-5+ F '51

Men who direct; stock ownership by directors. H. E. Dickhuth. Pub Util 47:833-8 Je 21 '51

S. 1659; Humphrey bill would ban multiple directorates; editorial. Bsns W p 164 Je 23 '51; Discussion. H. H. Humphrey. p 106+; Reply. 148 Ag 18 '51; Rejoinder. p 108+ O 20 '51

See also

Interlocking directorates

Directors, Junior

Adventure in multiple management; Industrial tape corp. J. S. Nicholls, jr. Personnel 27:170-5 N '50

Junior bosses; Boston plastics molder uses multiple-management plan. Bsns W p92 Ja 20 '51

Finance

Boom in new-issues market. Bsns W p 108+ N 4 '50

Business financing in the defense period. Fed Res Bul 37:481-9 My '51

Business investment and sales expectations in 1951. L. Bridge. Survey of Cur Bsns 31:11-15+ Ap '51

Business investment programs and their realization. I. Friend and J. Bronfenbrenner. Survey of Cur Bsns 30:11-22 D '50

Companies building future earning power by retained profits; with table. P. Dobbs. Mag of Wall St 89:22-3+ O 6 '51

Companies with big earnings cushions; with tabulation of companies' earnings. J. C. Clifford. Mag of Wall St 87:163-5+ N 18 '50

Corporate financing by direct placement. E. R. Corey. Harvard Bsns R 28:67-76 N '50

Corporate treasurer's and controller's handbook. L. Doris, ed. 1277p $12.50 Prentice-Hall, 70 Fifth av, New York 11 '50

CORPORATIONS—Finance—*Continued*

Corporate working capital at new peak. Comm & Fin Chr 174:431 Ag 2 '51

Eating the seed corn; abstract. F. A. Harper. Management R 40:9-10 Ja '51

Efficiency and profitability in relation to size. R. C. Osborn. bibliog Harvard Bsns R 29:82-94 Mr '51

FTC & SEC present composite financial statements for all U.S. manufacturing corporations. J Account 91:341-2+ Mr '51

FTC list 1000 manufacturers in order of total assets. Chem & Eng N 29:4089 O 1 '51

Finance of stocks and commodities. Economist 160:1333-4 Je 2 '51

Fixed-charge coverage test under changing economic conditions. S. M. Robbins. J Bsns 24:203-19 Jl '51

Halsey, Stuart & co. foresees sustained capital financing in 1951; year-end bond survey. Comm & Fin Chr 173:72 Ja 4 '51

How dependable are 1951 dividend increases? with data on selected companies. G. W. Mathis. Mag of Wall St 87:543-5+ F 24 '51

IBA committee sees sharp decline in industrial security offerings. Comm & Fin Chr 172:2294+ D 14 '50

Millionaires are made, not born; abstract. D. C. Coyle. Management R 40:520-2 S '51

New factor in 1951 corporate earnings outlook. W. Beecher. il Mag of Wall St 87:380-2 Ja 13 '51

1951 midyear re-appraisals of values, earnings and dividend forecasts. Mag of Wall St 88:452-9+, 504-11+, 554-63+, 605-17+ Jl 28-S 8 '51

Raising capital, retail style; Kaiser Steel financing. il Mod Ind 21:62-3 Ja '51

Soft goods industries in 1951; with statistical data on selected companies. G. W. Mathis. Mag of Wall St 87:318-19+ D 30 '50

Voluntary credit restraint committee statement on restriction of business capital expenditure financing. Fed Res Bul 37:495-6 My '51

What will war profits tax do to corporate earnings? W. Gates. Mag of Wall St 87:212-14, 264-5+, 315-17, 353 D 2-30 '50

Working capital hits peak; debts up too, in third quarter of 1950. Bsns W p63 D 30 '50

See also

Capital
Dividends
Railroads—Finance
Stocks

Statistics

Bigger billion-dollar clubs; financial data for 1950 and comparison with 1939. Bsns W p 136 My 12 '51

Changes in corporate financial positions; with data on recent balance sheet changes of representative manufacturing companies. il Mag of Wall St 87:665-7+ Mr 24 '51

Companies earning above average return on capital; with tabulation. J. C. Clifford. Mag of Wall St 88:11-13+ Ap 7 '51

Companies that can increase profits despite higher taxes; with table. J. C. Clifford. Mag of Wall St 88:543-5+ Ag 25 '51

Companies that should maintain their dividends in 1951; with comparative balance sheet items. Mag of Wall St 88:354-6 Je 30 '51

Companies to benefit from industrial expansion; with comparative balance sheet items. Mag of Wall St 87:277-9 D 16 '50

Companies undertaking new expansion pointing to higher earnings potential; with statistics on selected companies. S. Devlin. Mag of Wall St 88:294-5+ Je 16 '51

Corporate profits; first quarter earnings. R. M. Bleiberg. Barron's 31:5 Ap 30 '51

Current financial position of corporations. L. F. McHugh. Survey of Cur Bsns 31:12-19 Ja '51

Financial developments in 1950; corporate financing. Survey of Cur Bsns 31:27-8 F '51

Financing of large corporations in 1950; with tables. E. J. Stockwell. Fed Res Bul 37:913-19 Ag '51

First quarter earnings, and the clues they furnish to excess profits tax inroads; with tables. J. C. Clifford. Mag of Wall St 88:235-7+ Je 2 '51

First quarter earnings; with table of net income of leading corporations by industry groups. Nat City Bank p51-2 My '51

Five companies expanding into new fields; with comparative balance sheet items. Mag of Wall St 88:501-3 Ag 11 '51

Five companies that should earn more in 1951; with comparative balance sheet items. Mag of Wall St 88:246-8 Je 2 '51

Five companies with big order backlogs; with comparative balance sheet items. Mag of Wall St 88:302-4 Je 16 '51

Genuine growth companies; with statistics of selected companies. W. Gates. Mag of Wall St 88:183-5 My 19 '51

Half year's earnings; net income of leading corporations for second quarter and first half year; with table. Nat City Bank p86-8 Ag '51

Industry's finances; with analysis of company balance sheets, January-March, 1951. Economist 160:1192+ My 19 '51

More earnings than ever, but; third quarter position. Bsns W p 19-20 O 28 '50

National income and corporate profits, first quarter 1951; with figures for 1948-1950. Survey of Cur Bsns 31:8+ Jl '51

National income and corporate profits in the second quarter of 1950. Survey of Cur Bsns 30:4-7 O '50

National income and corporate profits in the third quarter of 1950. Survey of Cur Bsns 31:5+ Ja '51

New corporate security issues; proposed uses of proceeds, all issuers, yearly 1936-1949 and monthly Nov. 1949-Nov. 1950. Fed Res Bul 37:68 Ja '51 [cont monthly]

1950 corporate earnings; with preliminary summary of net income of leading corporations for the years 1949 and 1950. Nat City Bank p34-5 Mr '51

1950 corporate earnings; with tabulation of net income of leading corporations by industrial groups for 1949 and 1950. Nat City Bank p43-6 Ap '51

1950 industry profits hit all-time peak. Bsns W p 114-16 F 10 '51

Profits under the last defense program, 1940-1943; tabulation by company. Bsns W p89 Ja 13 '51

Sales, profits, and dividends of large corporations, yearly 1939-1949 and quarterly 1948-1950. Fed Res Bul 37:69 Ja '51 [cont monthly]

Sampling 1949 corporation income tax returns. A. C. Rosander and others. Am Stat Assn J 46:233-41 Je '51

Second quarter earnings; quarterly sales; profit margin and earnings of selected companies. J. C. Clifford. Mag of Wall St 88:442-3+, 492-3+ Jl 28-Ag 11 '51

Slicing the corporate income pie; with tabulations. W. Gates. Mag of Wall St 88:70-2+ Ap 21 '51

Study of third quarter earnings; with tabulation of quarterly comparison of sales and earnings. J. C. Clifford. Mag of Wall St 87:114-15+ N 4 '50

Taxes bite into profits; with data on first-quarter earnings and sales of 50 companies. Bsns W p 125-7 Ap 28 '51

Taxes, costs drag down profits despite soaring sales; second-quarter reports. Bsns W p 110-13 Jl 28 '51

Third quarter corporation earnings; with income tables. Nat City Bank p 126-8 N '50

Third-quarter profits; a gloomy preview; table. Bsns W p 145 O 13 '51

Trends in first quarter reports; with quarterly comparison of sales and earnings of selected companies for 1950-51. H. S. Coffin. Mag of Wall St 88:191-3, 224 My 19 '51

Working capital keeps climbing, SEC's report, 1939-June 1950; tabulation. Bsns W p 109 O 21 '50

Working capital up $5.7-billion; tabulations from SEC's report, 1939-1950. Bsns W p 143 My 12 '51

Year-end corporate statements and first quarter trends; with tabulation of comparative sales, earnings and operating margins of leading companies. G. W. Mathis. Mag of Wall St 87:491-3+ F 10 '51

Foreign subsidiaries

French farmalls; International Harvester starts production at Saint Dizier. Bsns W p 121 D 2 '50

CORPORATIONS—Foreign subsidiaries—*Cont.*

How a large oil company adjusted its accounts during postwar inflation behind the Iron Curtain; American company in Hungary. L. Paxton. J Account 92:190-7 Ag '51

More restraint than freedom. Chem W 69: 15-16 Jl 7 '51

Timken loses; Supreme court rules it conspired with overseas affiliates in restraint of trade. Bsns W p22 Je 9 '51

Presidents

Behind the president's desk. S. C. Allyn and others. Dun's R 59:15+ Je; 13-15+ Jl; 21+ Ag '51

Stock boy to president; John Sevcik of Burton-Dixie corp. W. Norris. Am Bsns 21: 14-15+ Jl '51

These young presidents reached the top before turning 39. P. Eastman. pors Am Bsns 21:12-13+ Je '51

What are your chances of being president? survey by American institute of management. Am Bsns 20:32 N '50

Reorganization

How to avoid personal holding company pitfalls in corporate reorganizations. T. J. Dolan. J Account 91:704-9 My '51

Transfers of earnings and deficits in taxfree reorganizations; Ralph S. Rice's analysis of the Sansome doctrine. J Account 90:441-2 N '50

See also

Railroads—Receiverships

Reports and yearbooks

Corporate reports directed toward four major groups; no longer for shareholders alone; abstract. M. Lorimore. J Account 91:836-7 Je '51

Here's a model report; abstracts. G. S. Crowder. Am Bsns 20:59-60 N '50; J Account 90:510 D '50

How to merchandise your annual report. H. G. Smith. Am Gas Assn Mo 33:20-2+ Ap '51

How to plan an annual report. G. Fry. Adv Agency 44:60-1+ Ag '51

How to show true profits in annual report. L. H. Haney. Comm & Fin Chr 172:2087 N 30 '50

Is business language fuzzy? J. McElroy. Dun's R 59:21-2+ Jl '51

New book lampoons annual reports; Dear stockholder. il Mod Ind 20:52-3 N '50

Recent statements show new techniques in annual reporting are being widely used. J. B. Inglis. J Account 90:474-8 D '50

Should annual reports be glamourized? O. Ely. Pub Util 47:564-7 Ap 26 '51

Some conclusions drawn from new study of annual reports. J Account 91:300-3 F '51

Stockholders prefer plain annual reports; survey by Allegheny Ludlum steel corp. Comm & Fin Chr 173:538 F 1 '51

Treasurer looks at his own annual report. J. E. Turner. J Account 92:224-6 Ag '51

Bibliography

Corporation reports. Cleveland Pub Lib Business Information Bur Bul v 21, no 1:1-4 My; no2:5-10B Je '50

Size

Efficiency and profitability in relation to size. R. C. Osborn. bibliog Harvard Bsns R 29:82-94 Mr '51

How size affects profits. Chem W 69:16 S 15 '51

Is bigness bad? University of Michigan survey on public attitude. Bsns W p50 Jl 21 '51

Justified bigness; FTC's new concept. Bsns W p75 D 23 '50

Lintner-Butters analysis of the effect of mergers on industrial concentration, 1940-1947; reply. J. M. Blair and H. F. Houghton. R Econ & Stat 33:63-71; Rejoinder. 67-71; Comment. J. F. Weston. 71-3; Rejoinder. 73-5 F '51

Smaller companies also growing; with partial list of manufacturing corporations which began publication of financial statements since Jan. 1, 1945. Nat City Bank p 141-3 D '50

Subsidiaries

Jersey company; its affiliates in practice. G. Burck. il map Fortune 44:104-7+ O '51

Taxation

Abolish corporate taxes. B. Ruml. Comm & Fin Chr 174:59+ Jl 5 '51

Accelerated amortization. R. Schlaifer and others. Harvard Bsns R 29:113-24 My '51

Amortization for everybody. Bsns W p26 Mr 17 '51

Amortization rush. Bsns W p36+ N 4 '50

Benefits to corporate taxpayer obtainable from Section 115(g). J Account 92:348+ S '51

Can a net operating loss survive in a merger? J Account 90:512-13 D '50

Competition from tax exempt business. H. G. Guthmann. Comm & Fin Chr 173:161+ Ja 11 '51

Corporate distribution of appreciated assets. J Account 91:455 Mr '51

Corporation tax fictions. E. M. Friedman. Comm & Fin Chr 172:2286 D 14 '50

Corporation taxes for defense. C. R. Peterson. Chem & Eng N 29:1724-6 Ap 30 '51

Deductions for unpaid salaries by closed corporations under 24(c) E. J. Mann. J Account 91:614 Ap '51

Effect of high taxes on corporate earnings. P. Dobbs. Mag of Wall St 88:346-7+ Je 30 '51

Effects of taxation on corporate mergers. J Account 92:202-5 Ag '51

Expansion roll call; NSRB approves fast tax writeoffs for 109 companies; with list. Bsns W p37-8+ F 17 '51

Go easy on tax relief; accelerated amortization. Bsns W p61 O 21 '50

Hitch in quick writeoffs. Bsns W p25 D 9 '50

How agencies can avoid excess profits taxes. J. K. Lasser. Adv Agency 44:64-5+ My '51

How personal holding company tax affects operations of corporations. G. E. Cleary. J Account 92:95-6 Jl '51

How to analyze business taxpayer to get minimum taxes under 1950-1951 rates. J. K. Lasser. J Account 90:379-83 N '50

How to avoid personal holding company pitfalls in corporate reorganizations. T. J. Dolan. J Account 91:704-9 My '51

How to escape double taxation in corporate liquidation; abstract. F. Youngman. J Account 90:506-7 D '50

How to minimize the 1951 tax boosts; abstract. Management R 40:367 Je '51

Industrial taxation and the special library. G. W. Gibson. Special Lib 42:23+ Ja '51

NSRB speed-up amortization rules for tax benefits outlined. Oil Paint & Drug Rep 158:4+ N 6 '50

New Canadian legislation reduces double taxation of corporate income. K. L. Carter. J Account 92:209-13 Ag '51

New Revenue act closes loopholes, removes perplexities in old law, adds new ones. B. Harrow. J Account 90:479-85 D '50

New tax bite and forthcoming dividends. W. Witherspoon. Comm & Fin Chr 173:2152 My 24 '51

Quickie tax write-offs. J. C. Perham. Barron's 31:3 Ap 16 '51

Research stymie; tax law says lab projects are capital items. Bsns W p44+ O 28 '50

Review of significant 1950 federal tax decisions. M. M. Lore. J Account 91:78-85 Ja '51

Tax court background of renegotiation and its effect on income and excess-profits taxation. S. S. Starr. J Account 92:316-21 S '51

Tax education of Mr Jones; defense of rapid amortization. I. S. Olds. Comm & Fin Chr 173:1937+ My 10 '51; Same abr. Factory Management 109:238+ Ag '51

Tax effects of splitting a corporation into two or more units. W. M. Jensen. J Account 92:294-303 S '51

Tax payments by large corporations. Nat City Bank p77-80 Jl '51; Excerpt. Comm & Fin Chr 174:79 Jl 5 '51

Taxes and mergers. J. K. Butters and J. Lintner. Harvard Bsns R 29:69-81 Mr '51

Taxes and the chemical industry; impact of tax structures on industrial research. F. Olsen and T. G. Blake. bibliog il Chem & Eng N 29:2724-8 Jl 2 '51

CORPORATIONS—Taxation—*Continued*

Taxes and the chemical industry; World war II tax amortization revived. R. A. Irwin. Chem & Eng N 29:2369-72+ Je 11 '51

What tax rise will do to corporate profits. J. C. Clifford. Mag of Wall St 89:11-13 O 6 '51

What you should know about fast amortization. E. C. Kreutzberg. Steel 127:62-3 D 11 '50

When can you retain earnings? owners of closely held corporations can save taxes. Bsns W p63-4 Je 30 '51

See also

Excess profits tax

Insurance companies—Taxation

Railroads—Taxation

CORPULENCE

Caloric requirements of the obese. A. W. Pennington. bibliog Ind Med 20:267-71 Je '51

Free selection of nutrients by hereditarily obese mice. J. Mayer and others. Science 113:745-6 Je 29 '51

Hereditary diabetes in genetically obese mice. J. Mayer and others. bibliog Science 113: 746-7 Je 29 '51

Obesity and the surface area law. A. W. Pennington. bibliog Ind Med 20:69-73 F '51

Weight control; a simplified concept. A. L. Chapman. bibliog Pub Health Rep 66:725-31 Je 8 '51

CORPUS CHRISTI

Sewerage

Storm water pumping stations solve problems. il Water & Sewage Works 98:416-17 O '51

CORRELATION (geology)

Correlation of Jurassic formations along Defiance monocline, Arizona-New Mexico. H. E. Wright, jr. and R. M. Becker. bibliog map diags Am Assn Pet Geologists Bul 35: 607-14 Mr '51

CORRELATION (statistics)

Application of correlation analysis to the detection of periodic signals in noise. Y. W. Lee and others. il diags Inst Radio Eng Proc 38:1165-71 O '50; Discussion. 39:1094-6 S '51

Correlation methods applied to production process data. K. A. Brownlee. Ind & Eng Chem 43:2068-71 S '51

Perturbation and correlation methods for enhancing the space resolution of directional receivers. F. V. Hunt. Inst Radio Eng Proc 39:840 Jl '51

Short-cut measure of correlation. W. A. Spurr. Am Stat Assn J 46:89-94 Mr '51

CORRESPONDENCE schools and courses

See also

International correspondence schools

Advertising

Will sales costs drop when you cut inquiry costs? study of mail-order results, Washington school of art. R. Y. Giles. Ptr Ink 236:51-2 S 21 '51

CORRESPONDENT banks. See Banks and banking—Correspondent banks

CORRIGAN, Emmett d. 1950

Sketch. por East Underw 51:19 N 10 '50

CORROSION and anti-corrosives

Ammonia controls corrosion of oil field equipment. il Safety Maint & Prod 101:21+ Ja '51

Aqueous nonflammable hydraulic fluids; Hydrolubes. J. E. Brophy and others. bibliog Ind & Eng Chem 43:884-96 Ap '51

Barrier materials seal out corrosion. il Steel 129:98 S 10 '51

Carbide precipitation in type 304 stainless steel; an electron microscope study. E. M. Mahla and N. A. Nielsen. il Ind & Eng Chem 42:sup73A-4A D '50

Cargocaire protects tanker; Sinclair Superflame. il plans diag Marine Eng 56:50-2+ S '51

Casing failures traced to bacterial action. R. Sneddon. il plan diag Pet Eng 23:B7-12 Ag '51

Cleaning can increase corrosion on passenger cars. A. M. Johnsen. il Ry Age 130:62-3 Je 25 '51

Control of pH in stills with boiler blowdown water. flow diag il Pet Refiner 30:90-1 F '51

Corrosion and field lining of sulphate digesters. T. T. Collins, jr. and others. il Paper Tr J 132:24+ F 9; 18+ bibliog(62 titles, p24+) F 16 '51

Corrosion and its control. M. E. Parker. diags Oil & Gas J 49:111 F 8; 116-17 F 15; 194+ F 22; 65-6 Mr 1; 95+ Mr 8; 85 Mr 15; 50:131 My 3; 144 My 10; 136 My 17; 144 My 24; 119 My 31; 85 Je 7; 109 Je 14; 339 Je 21; 94 Je 28; 81 Jl 5; 110 Jl 12; 100 Jl 19; 344 Jl 26; 81 Ag 2; 108 Ag 9; 136 Ag 16; 163 Ag 23; 89 Ag 30; 111 S 6; 327 S 20; 113 S 27 '51

Corrosion characteristics of various duct materials; abstract. J. W. McWilliams. Heat & Ven 48:85-6 Jl '51

Corrosion control for cooling systems of electric apparatus. E. J. Remscheid. bibliog il diags Gen Elec R 54:36-40 Mr '51

Corrosion data helps select ventilation equipment; open-tank operations. J. W. McWilliams. il diags Standardization 22:111-14 Ap '51

Corrosion factors in design. F. M. Reinhart. il diags Product Eng 22:101-7 Jl '51

Corrosion fundamentals in field application. A. Chatenever. diags World Oil 133:194+ Jl '51

Corrosion in amine gas treating plants. F. C. Riesenfeld and C. L. Hughes. bibliog flow diag il diags Pet Refiner 30:97-106 F '51; Excerpt. Mech Eng 72:1008 D '50

Corrosion mitigation viewed by management. H. H. Anderson. Pet Eng 23:D30+ Ap '51

Corrosion of cars costs $191 million a year; how can it be reduced? F. K. Mitchell. il diags Ry Age 131:65-9 Ag 6 '51

Corrosion of condensers, purifying equipment and precipitators. J. L. Adkins. diags Am Gas Assn Proc 1950:706-11

Corrosion of ice rink piping. F. W. Knowles. il Refrig Eng 59:370-1 Ap '51

Corrosion of steel by sea salt of given moisture content. S. J. Duly. bibliog Soc Chem Ind J 69:304-6 O '50

Corrosion processes and their prevention; abstract. W. H. J. Vernon. Chem Age (Lond) 64:715-16 My 5 '51

Corrosion products of an ancient Chinese bronze. R. J. Gettens. bibliog il J Chem Educ 28:67-71 F '51

Corrosion resistance of typical laminated metals; chart; reference book sheet. Product Eng 22:211 My '51

Corrosion resistance of wrought iron and steel pipe. S. L. Case. il diags Metal Prog 59:378-84 Mr '51

Corrosion resistance performance record; hot applied Bitumastic enamel. Marine Eng 56:51 Je '51

Corrosion situation; past, present and future. U. R. Evans. il Chem & Ind p706-11 Ag 25 '51

Cost of corrosion to the U.S. H. H. Uhlig. bibliog Chem & Eng N 27:2764-7 S 26 '49; Abstracts. Chem Eng 56:278+ O '49; Product Eng 20:153-4 S '49; Metal Prog 59:414+ Mr '51

Deformation and corrosion; recent Russian work on the corrosion of metals. E. M. Zaretskii. bibliog diag Chem Age (Lond) 65:153-5, 158, 299-300 Ag 4, S 1 '51

Dichromate reduction rate at a steel surface in air-free, acetic acid solution. N. Hackerman and R. M. Hurd. bibliog diag Electrochem Soc J 98:51-6 F '51

Digester corrosion; experience of a sulphate mill. T. C. Johnson. diags Tappi 33:481-4 O '50

Dissolution of magnesium in hydrochloric acid. B. Roald and W. Beck. bibliog il Electrochem Soc J 98:277-90 Jl '51

Do salts used for ice control speed rusting of automobiles? il Eng N 146:39-41 My 17 '51

18-8 can be cured after intergranular attack. R. N. Gillmor. bibliog il Iron Age 168:81-5 Ag 2 '51

Electrolytic corrosion of metals. A. E. Durkin. bibliog il Gen Elec R 54:45-8 F '51

Ersatz sweat fights metal corrosion. il Bsns W p50-2 Je 16 '51

External corrosion of gas and oil well casings. C. I. Sims. World Oil 133:262+ S '51

CORROSION and anti-corrosives—*Continued*

Fundamentals of galvanic corrosion. A. B. Lauderbaugh. diags Am Gas Assn Proc 1950:900-12

Hot corrosion spotlighted. Steel 129:92+ Ag 20 '51

How Atlantic refining co.'s oil-producing department functions in planning corrosion studies. J. A. Kornfeld. Oil & Gas J 49: 186+ F 22 '51

How engineers solved Ventura's leaking-well case. H. D. Ralph. il Oil & Gas J 50:69-70 Je 14 '51

How to avoid galvanic corrosion. bibliog il diags Steel 128:82-3+ My 21 '51

How to check corrosion in your plant. J. C. McQuay. il Mill & Factory 48:104-5 My '51

Illustrations of galvanic corrosion given in tabloid primer. A. B. Lauderbaugh. il diags Am Gas J 173:26-30 D '50

Inhibitor control for sulfide corrosion. J. A. Caldwell. World Oil 132:191-2 Ap '51; Same abr. il Oil & Gas J 49:95+ F 8 '51; Same. Pet Eng 23:B58+ Mr '51

Institute of metals autumn meeting, 42d, Bournemouth, Sept. 18-22; with abstracts of papers on corrosion. Foundry 78:197-8 N '50

Kinetic study of organic inhibitors of the reaction between magnesium and acids. R. Hurst and M. A. Jermyn. Chem Soc J p 158-62 Ja '50

Mechanism of inhibition of the corrosion of iron by sodium hydroxide solution. J. E. O. Mayne, J. W. Menter and M. J. Pryor. pl diags Chem Soc J p3229-36 N '50

Mechanism of the inhibition of the corrosion of iron by solutions of sodium orthophosphate. M. J. Pryor and M. Cohen. bibliog il diags Electrochem Soc J 98:263-72 Jl '51

Metal parts corrosion-proofed in vapor envelopes. il Steel 128:100+ Mr 12 '51

Mitigation of corrosion within cargo compartments aboard a T-2 tanker. G. D. Harden. il diags Am Pet Inst Proc 30(5):115-20 '50

Molybdate and tungstate as corrosion inhibitors and the mechanism of inhibition. W. D. Robertson. bibliog diag Electrochem Soc J 98:94-100 Mr '51; Discussion. 98:513-15 D '51

National association of corrosion engineers 7th annual meeting, New York. Chem & Eng N 29:1208-9 Mr 26 '51

New corrosion inhibitor gets job done; RD-119 to prevent corrosion in products pipe lines. K. T. Feldman and F. M. Watkins. Oil & Gas J 49:340-4 N 16 '50

New vapor wrapper. G. A. Daubert. Paper Tr J 132:44 Je 15 '51

Non-chromate corrosion inhibitor for the cooling systems of Diesel locomotives. Ry Age 130:28-9 My 28 '51

Nylon, a factor in stress corrosion of aluminum bronze. E. J. Silk. il J Metals 3:600 Ag '51

Organic corrosion preventive. C. M. Blair, jr. il diags World Oil 131:159-60+ N '50

Plant stops return line corrosion; saves $14,200 a year; use of Permacol; Glenn L. Martin co. E. Elliott and P. J. Gaughan. il diag Power Eng 55:104+ Ag '51

Potential-pH diagram of lead and its applications to the study of lead corrosion and to the lead storage battery. P. Delahay and others. bibliog Electrochem Soc J 98:57-64 F '51

Potential-pH diagram of silver. P. Delahay and others. bibliog Electrochem Soc J 98: 65-7 F '51

Potential-*p*H diagram of zinc and its applications to the study of zinc corrosion. P. Delahay and others. bibliog Electrochem Soc J 98:101-5 Mr '51

Prediction of corrosion in oil and gas wells. D. A. Shock and J. D. Sudbury. bibliog il Pet Eng (Ref annual) 23:B86+; Discussion. B98 Jl 15 '51

Protection of electric equipment from corrosion in pulp and paper mills. G. W. Knapp. il Paper Tr J 132:18+ Ja 19 '51

Protection of rails from salt-air corrosion. il Ry Age 130:21-3 F 19 '51

Protection of well casings against external corrosion. R. E. Hammond and S. P. Ewing. il World Oil 132:154-6+ F '51

Protective coatings prevent pulp mill corrosion; Insul-Mastic coatings. R. H. Maloy. Paper Tr J 131:18+ D 21 '50

Quantitative removal of corrosion products from zinc. E. G. Stroud. J Ap Chem 1:93-5 Mr '51

Radiography in corrosion studies; abstract. H. A. Liebhafsky and A. E. Newkirk. Science 112:426-7 O 13 '50

Recommended design details to reduce corrosion; drawings with text. Product Eng 22:158-9 Jl '51

Relationship of fly ash and corrosion in reinforced concrete. J. P. Ryan. bibliog Am Concrete Inst J 22:481-4 F '51

Research engineers delve deeper into corrosion at high temperatures. il Materials & Methods 34:10 S '51

Ringworm corrosion in oil well equipment; structure of metals and alloys. M. G. Fontana. il diag Ind & Eng Chem 43:sup63A-4A+ F '51

Role of peroxides in the corrosion of lead by lubricating oils. B. S. Wilson and F. H. Garner. bibliog pl Inst Pet J 37:225-38 My '51

Rust formation and the action of red lead. M. Ragg. Paint Oil & Chem R 113:21-2+ O 26 '50

Rust, how to combat it by proper design. H. M. Priest. il diags Ry Mech & Elec Eng 125:43-50+ Je '51

Ship bottom corrosion. P. Ffield. il Marine Eng 55:64-7 D '50; Discussion. 56:62-3 F; 69+ Ap '51

Stainless steel castings, valves and fittings beat corrosion in paper industry. N. S. Mott. bibliog il Paper Tr J 132:31-2+ Ja 26 '51

Stress-corrosion cracking in welded steel structures. C. E. Pearson and R. N. Parkins. Metal Prog 59:568+ Ap '51

Stress corrosion resistance of wrought magnesium alloys. Automotive Ind 103:82+ O 15 '50; Same cond. Product Eng 21:144 N '50

Studies of copper surfaces by low temperature adsorption isotherms. T. N. Rhodin, jr. bibliog diag Am Chem Soc J 72:4343-8 O '50

Substituted amines as inhibitors in the acid corrosion of steel. L. E. Swearingen and A. F. Schram. bibliog J Phys & Colloid Chem 55:180-7 F '51

Symposium on corrosion by water; A.C.S. Division of water, sewage, and sanitation chemistry. Chem & Eng N 29:3845 S 17 '51

Symposium on corrosion of materials at elevated temperatures; presented at the fifty-third annual meeting, American society for testing materials, Atlantic City, June 26, 1950. (Special tech. pub. no. 108) 121p pa $2.25 Am. soc. for testing materials, 1916 Race st, Philadelphia 3 '51

Truck side frames weakened by corrosion. il Ry Mech & Elec Eng 124:726-7 D '50

Use of lead in the pulp and paper industry. V. P. Edwardes. il Paper Tr J 131:18-19+ O 26 '50

Use of nickel containing alloys in the pulp and paper industry; corrosion problems. H. O. Teeple. il Paper Tr J 131:28+ N 9; 19-23 N 16; 14-15+ bibliog(80 titles, p23-5) N 23 '50

Vanadium in crude oils; effect on steels or alloys. W. L. Nelson. Oil & Gas J 49:65 Ja 4 '51

Vapor corrosion control; military services replacing grease with chemically impregnated paper and cardboard. il Chem W 68:24 Je 30 '51

Vapor packaging keeps rust off weapons, tools. G. Foster. il Iron Age 167:99-103 Je 7 '51

Vapor-phase inhibitor goes to war; anti-corrosion packaging in the new armaments program. il Mod Packaging 24:92-5 Jl '51

VPI joins fight against rust; anti-corrosion powder. S. H. Reiniger. il Aviation W 55: 48-9 S 10 '51

VPI to protect in transit. il Am Mach 95:129 Jl 23 '51

Vapor stops rust; Shell's VPI inhibitor. Bsns W p52 Ap 28 '51

CORROSION and anti-corrosives—*Continued*

White rust formation on zinc; abstract. P. T. Gilbert and S. E. Hadden. Metal Prog 59:264+ F '51

See also

Acid resisting materials
Aluminum—Corrosion
Aluminum—Protection
Boilers—Corrosion
Brass—Corrosion
Corrosion research
Corrosion resisting materials
Electrolytic corrosion
Gas, Natural—Distillate wells—Corrosion problem
Metal protection
Paint, Protective
Passivity
Petroleum refineries—Corrosion
Pipe coating
Pipe lines—Corrosion
Pipe lines—Protection
Steam pipes—Corrosion
Steel—Protection
Tarnishing of metals
Water pipes—Corrosion
Water purification—Corrosion control

Bibliography

Some historical developments relating to corrosion. W. Lynes and others. Electrochem Soc J 98:sup3C-10C Ja '51

History

Some historical developments relating to corrosion. W. Lynes and others. Electrochem Soc J 98:sup3C-10C Ja '51

Testing

Cadmium-tin alloy plating stops corrosion. B. E. Scott and R. D. Gray, jr. il Iron Age 167:59-62 Ja 18 '51

Corrosion and its control; how to locate hot spots. M. E. Parker. Oil & Gas J 49:116-17 F 15 '51

Corrosion data of welded low-carbon stainless steel. H. F. Ebling and M. A. Scheil. bibliog il diag Welding J 30:sup511-18 O '51

Corrosion instruments. M. E. Parker. diags Oil & Gas J 50:108 Ag 9; 136 Ag 16; 163 Ag 23 '51

Corrosion of bare iron or steel in sea water. J. C. Hudson. il Iron & Steel Inst J 166:123-36 O '50

Corrosion of mild steel and mild steel welds in sulphate digesters. R. A. Huseby and M. A. Scheil. il diags Tappi 34:202-9 My '51

Corrosion of steel railway sleepers; final report. J. C. Hudson. il Iron & Steel Inst J 169:13-16 S '51

Corrosion protection of thin precast concrete sections. D. H. Pletta and others. il diags Am Concrete Inst J 21:513-25 Mr '50; Discussion. 22:402-3 Ja '51

Corrosion tests with zinc alloy die castings in damp gypsum plaster. L. A. J. Lodder and S. Baumgarten. il Metallurgia 43:273-9 Je '51

Data in chart form presenting temperatures and concentrations for corrosion of steel by sulfuric acid. M. G. Fontana. Ind & Eng Chem 43:sup65A-6A+ Ag '51

Data in chart form presents concentrations and temperatures for corrosion of Durimet 20 by sulfuric acid. M. G. Fontana. Ind & Eng Chem 43:sup 107A-8A+ O '51

Data in chart form presents temperatures and concentrations for the corrosion of lead by sulfuric acid. M. G. Fontana. Ind & Eng Chem 43:sup 105A-6A S '51

Effect of silicates on digester corrosion. J. C. Hair and A. W. Duskin. Tappi 34:252-4 Je '51

Field test service aids steel selection. Steel 128:120+ Je 18 '51

Influence of surface contamination on the corrosion of magnesium manganese sheet. L. Rakowski. il Metallurgia 42:362-6 D '50

Interim report of the I.P. oxidation panel of standardization sub-committee no. 6. diags Inst Pet J 36:336-44, 669-71 Je, O '50

New corrosion plan; exposure-test-site system remodeled by A.S.T.M. Oil & Gas J 49:51 Ja 11 '51

Nondestructive test for corrosion-fatigue cracks in drill pipe; Magnaglo dry fluorescent magnetic powder and technique. S. A. Wenk and H. M. Banta. il Oil & Gas J 50:90-2+ My 17 '51

Pipe-to-soil potentials as an indication of corrosion. M. E. Parker. diags Oil & Gas J 49:65-6 Mr 1 '51

Pipe-to-soil potentials as an indication of protection. M. E. Parker. Oil & Gas J 49:95+ Mr 8 '51

Practical and relative simple corrosion tests found effective. F. L. La Que. il diags Pet Refiner 30:120-2 F '51

Role of sodium silicate in inhibiting corrosion by film formation on water piping. L. Lehrman and H. L. Shuldener. bibliog il Am Water Works Assn J 43:175-88 Mr '51

Standard laboratory corrosion test for metals in phosphoric-acid service. H. F. Ebling and M. A. Scheil. il A S M E Trans 73:975-87 O '51

Stress corrosion of cast bronzes evaluated. J. T. Clenny. il Iron Age 167:85-9 Je 21 '51

Stress corrosion of wrought magnesium base alloys. H. L. Logan and H. Hessing. il J Res Nat Bur Stand 44:233-43 Mr '50; Abstracts. Light Metal Age 8:12-13 O '50; Iron Age 166:82 N 16 '50; Metal Prog 59:408 Mr '51

Taking corrosion measurements; Susquehanna electrolysis meter and vacuum tube voltmeter. F. Ringer. il Pet Eng 23:D115-16+ My '51

Underground corrosion

Cathodic protection measures stop cable sheath corrosion failures. W. T. Rose. il plan diags Elec World 135:87-8 F 26 '51

Electrolytic probe for underground corrosion studies. W. Beck. bibliog diags J Metals 3:706-11 S '51

Field measurements in pipe line corrosion. M. E. Parker. Gas Age 107:18-20+ Mr 29 '51

Potential and current requirements for the cathodic protection of steel in soils. W. J. Schwerdtfeger and O. N. McDorman. bibliog il diag J Res Nat Bur Stand 47:104-12 Ag '51

Underground pipelines corrosion mitigated by proper design and protection. M. G. Fontana. Ind & Eng Chem 43:sup69A-70A+ My '51

Use and abuse of insulated joints. M. E. Parker. il diags Oil & Gas J 49:70-2+ F 1 '51

CORROSION engineers, National association of. See National association of corrosion engineers

CORROSION research

Anodic corrosion of lead in H_2SO_4 solutions. J. J. Lander. bibliog diag Electrochem Soc J 98:213-19 Je '51

Attacking corrosion; billion-dollar problem; International Nickel's Harbor Island testing station; photo visit. Mod Ind 21:18+ Ja '51

By the sea; Harbor Island, International nickel co.'s corrosion testing station. il Chem & Eng N 29:798-9 F 26 '51

Corrosion of copper powder; recent Russian research. bibliog Chem Age (Lond) 65:471-3 O 6 '51

Electrochemical behaviour of paint films in sea-water. J. E. O. Mayne. bibliog Chem & Ind p293-4 Ap 14 '51

Engineering group meeting, 6th, Wrightsville Beach, N.C. June 6-8. Marine Eng 56:48-9+ Ag '51

Fundamental researches on corrosion, and their importance to the engineer. U. R. Evans. Engineering 171:443-4 Ap 13 '51

Influence of stress on corrosion; abstract. J. J. Harwood. Automobile Eng 41:134 Ap '51

Influence of temperature on corrosion rates in moving conditions. F. Wormwell and H. C. K. Ison. Chem & Ind p293 Ap 14 '51

Kure Beach corrosion studies extended to new marine lab. il Chem & Eng N 28:4176 N 27 '50

New corrosion testing station of International nickel co., Harbor Island, N.C. il Marine Eng 56:62-5 Ja '51; Same cond. Mech Eng 73:224-5 Mr '51

New technique developed to study corrosion. Materials & Methods 33:13+ My '51

New technique for study of corrosion similar to television scanning. H. T. Francis. Munic Util 89:20 S '51

Ocean put into another test tube; Kure Beach cooperative corrosion-testing project. il Power 95:140+ Ja '51

Ocean test tube corrosion research at Kure Beach and Wrightsville Beach. W. A. Shrader. il Aeronautical Eng R 10:24-7 Ja '51

CORROSION research—*Continued*

Partnership. E. A. Evans. Inst Mech Eng Proc (Auto div pt 1):1-6 '50-51

Recent progress in the study of metallic oxidation and corrosion; abstract. W. H. J. Vernon. Chem & Ind p371 My 12 '51

Some preliminary studies of positive grid corrosion in the lead-acid cell. J. J. Lander. bibliog Electrochem Soc J 98:220-4 Je '51

Studies in the corrosion of metals occasioned by aqueous solutions of some surface-active agents; copper. H. Holness and T. K. Ross. bibliog J Ap Chem 1:158-69 Ap '51

CORROSION resisting materials

Calorimeter for some corrosive liquids. B. H. Sage and E. W. Hough. bibliog il diags Anal Chem 22:1304-9 O '50

Cast irons are inexpensive engineering materials. M. G. Fontana. il Ind & Eng Chem 43:sup71A-2A+ Mr '51

Ceramic coatings prevent exhaust gas corrosion. Steel 128:98+ Je 18 '51; Same. Automotive Ind 105:36-7+ Ag 1 '51; Same. Franklin Inst J 252:347-8 O '51; Same abr. Product Eng 22:165-7 Jl '51; Same cond. Materials & Methods 34:142+ Jl '51; Same cond. Iron Age 168:118 S 6 '51

Chemical engineering materials of construction; cements. C. R. Payne. il Ind & Eng Chem 43:2203-7, 2286-7 bibliog(105 ref, p2206-7) O '51

Chemical engineering materials of construction; wrought copper and copper-base alloys. C. L. Bulow. Ind & Eng Chem 43:2218-26 bibliog(162 ref, p2225-6) O '51

Construction materials in the paper industry; symposium. il Chem Eng 57:217-18 O; 255-6+ N; 223-4+ D '50; 58:217-18+ Ja '51

Corrosion experiments with gaseous boron trifluoride. F. Hudswell, J. S. Nairn and K. L. Wilkinson. diags J Ap Chem 1:333-6 Ag '51

Corrosion forum; construction materials vs. hydrocarbon solvents. il Chem Eng 58:220+ Je; 222+ Jl '51

Corrosion forum; materials of construction used to fight corrosion. W. W. Palmquist. il Chem Eng 58:206+ Ap '51

Corrosion prevention; changing techniques in synthetic resins. il Chem Age (Lond) 65:189-92 Ag 11 '51

Corrosion-proof cements extend pickling tank life. C. F. Sauereisen. il diags Iron Age 168:66-8 Ag 23 '51

Corrosion resistance of anodized and unanodized titanium; effect of common mineral acid solutions. C. Ma and E. M. Peres, jr. bibliog il Ind & Eng Chem 43:675-9 Mr '51

Corrosion resistance of copper and copper alloys. Chem Eng 58:108-12 Ja '51

Corrosion resistance of pure alumina as a glass refractory. F. Day, jr. and J. P. Ambrosone. Am Cer Soc J 34:163-4 My 1 '51

Corrosion-resistant cements; use of furfuryl-alcohol resins. il Mod Plastics 28:150-1 My '51

Corrosion resistant materials; abstract. L. W. Johnson and E. J. Bradbury. Engineer 191:391 Mr 23 '51

Corrosion-resistant metals for the pulp and paper industry. D. L. Horigan. il Paper Tr J 133:24+ O 5; 20+ O 12 '51

Corrosion-resistant pump. Mech Eng 73:19-20 Ja '51

Flexible, corrosion resistant plastic solves gasket problems; Teflon rings and tape for use in chemical processing equipment. B. G. Staples. il Materials & Methods 32:48-9 D '50

14th report on materials of construction. il diags Chem Eng 57:107-54 N '50

Improved corrosion resistant cements have many new applications. C. R. Simmons. il Materials & Methods 33:81 Je '51

Materials of construction for chemical process industries. J. A. Lee. 468p $6.50 McGraw-Hill book co, 330 W. 42d st, New York 18 '50

Materials of construction in the chemical industry; abstracts of papers read at the conference in Birmingham, April 18-20, 1950. Chem & Ind p61-8 Ja 27 '51

Materials of construction vs. ferric chloride. Chem Eng 58:244+ My '51

Materials of construction vs. phenol. W. Z. Friend and others. Chem Eng 58:222+ Ag '51

Metals and alloys for high-sulfur, high-temperature processes. B. B. Morton. Oil & Gas J 50:146 My 10 '51

Metals for high-pressure hydrogenation plants. G. A. Nelson. bibliog il A S M E Trans 73:205-11 F '51; Same. Pet Refiner 29:104-10 S '50; Discussion. A S M E Trans 73:211-13 F '51

Sulphur vs. construction materials. J. R. West and others. il Chem Eng 58:276+ S '51

Titanium resists stress corrosion. H. H. Uhlig and J. R. Cobb, jr. Metal Prog 59:816 Je '51

Wrought aluminum alloys; corrosion and chemical resistance. P. O'Keefe. il Materials & Methods 33:99-100 Je '51

See also

Acid resisting materials
Chromium nickel steel
Chromium steel
Corrosion and anticorrosives
Monel metal
Paint, Protective
Steel, Corrosion resisting
Steel, Stainless

CORRUGATED paper board. See Paper board, Corrugated

CORSETS

Sales training by mail lifts retail know-how 29 per cent; course in corset fitting. C. J. Swan. il Ptr Ink 234:40-1 Mr 23 '51

CORTICOSTEROIDS

Steroids; the synthesis of adrenal corticosteroids and analogs from allopregnan-3β-ol-20-one. G. Rosenkranz and others. bibliog Am Chem Soc J 72:4081-5 S '50

CORTICOSTERONE

Synthesis of 11-hydroxylated cortical steroids; the preferential reduction of carbonyl systems in the presence of carbon-nitrogen multiple bonds. N. L. Wendler, Huang-Minlon and M. Tishler. Am Chem Soc J 73:3818-20 Ag '51

See also

Cortisone
Desoxyhydroxy corticosterone
Hydroxycorticosterone

CORTICOTROPIN. See Adrenocorticotropic hormone

CORTISONE

Adrenocortical hormones; third Lister memorial lecture. G. F. Marrian. bibliog Chem & Ind p804-7 S 29 '51

Big boost for cortisone; new synthesis. il Chem W 69:25 Jl 21 '51

Chemistry and medical science. Chem & Ind p761-2 D 2 '50

Constitutional factors in resistance to infection; the effect of cortisone on the pathogenesis of tuberculosis. M. B. Lurie and others. bibliog Science 113:234-7 Mr 2 '51

Correlation of a synthetic steroid with an intermediate to cortisone. H. Heymann and L. F. Fieser. Am Chem Soc J 73:4054-5 Ag '51

Cortisone conquered. il Chem W 69:29-30 Ag 18 '51

Cortisone output increase likely with new process. Oil Paint & Drug Rep 159:5 Ap 30 '51

Cortisone shortage; vast search is under way. diag Fortune 43:82-5+ My '51

Cortisone synthesized from Mexican yam root. I. V. Sollins. Oil Paint & Drug Rep 160:5+ Jl 9 '51

Cure for deadly industrial disease; abstract. H. E. Tebrock. Mill & Factory 48:300+ Je '51

Cytological changes in human hypophyses after cortisone and ACTH treatment. G. L. Laqueur. Science 112:429-30 O 13 '50

Effect of ACTH and some adrenocortical steroids on the metabolism of tyrosine and phenylalanine in premature infants. S. Z. Levine and others. bibliog Science 113:311-12 Mr 23 '51

Effectiveness of cortisone administered orally. R. H. Freyberg and others. Science 112:429 O 13 '50

Eosinopenic response of adrenalectomized mice to a cutaneous application of cortisone. R. S. Speirs. bibliog Science 113:621-3 Je 1 '51

CORTISONE—*Continued*

In vitro production of cortisone by mammalian cells. H. Seneca and others. bibliog Science 112:524-5 N 3 '50; Reply. A. Grevenstuk. 114:74; Rejoinder. 74-5 Jl 20 '51

Inhibitory effect of cortisone on dietary necrotic liver degeneration in the rat. K. Schwartz. bibliog Science 113:485-6 Ap 27 '51

Intermediates from ergosterol may yield cortisone; symposium, A.C.S. Division of medicinal chemistry. Chem & Eng N 29:3831-2 S 17 '51

Lew Sarett worked alone to solve cortisone synthesis. Chem & Eng N 29:1741 Ap 30 '51

Merck synthesizing cortisone from four new substances. Oil Paint & Drug Rep 160:5 Ag 13 '51

Mexican firm claims synthesis of cortisone from yam root. Chem & Eng N 29:2913 Jl 16 '51

New hope of cortisone for all; Syntex uses wild Mexican yam. il Bsns W p26 Jl 14 '51

New progress toward cortisone synthesis. Can Chem Process 35:481-2 Je '51

Obstacles overcome in search for simplified cortisone synthesis; abstract. L. F. Fieser. Chem & Eng N 29:2737 Jl 2 '51

Potential raw materials for cortisone offer abundant supply. Chem & Eng N 29:1736+ Ap 30 '51

Progress towards the production of cortisone by total synthesis. C. A. Friedmann and R. Robinson. bibliog Chem & Ind p777-8 S 15 '51

Recent advances in the chemistry of the steroids. F. S. Spring. Chem Soc J p3354-7 N '50

Regression of lymphosarcoma transplants in mice. G. A. Emerson, E. Wurtz and M. E. Zanetti. Am Chem Soc J 72:4839 O '50

Some possible cortisone-like compounds. J. A. Alexander and others. Chem & Ind p 112 F 10 '51

Source of hecogenin. R. K. Callow and others. bibliog Chem & Ind p699-700 Ag 18 '51

Step closer to cortisone. il Chem Ind W 68:22 My 5 '51

Steroids; synthesis of cortisone. G. Rosenkranz, J. Pataki and C. Djerassi. bibliog Am Chem Soc J 73:4055-6 Ag '51

Subcutaneous implantation of cortisone pellets in rheumatoid arthritis. E. Henderson and others. bibliog Science 114:243 Ag 31 '51

Supplies of cortisone. Economist 159:774 N 11 '50

Symposium on the treatment of chronic beryllium poisoning with ACTH and cortisone. bibliog il A M A Archives Ind Hygiene & Occup Med 3:543-630 Je '51

Synthesis of cortisone acetate. J. M. Chemerda and others. Am Chem Soc J 73:4052-3 Ag '51

Synthesis of 11-hydroxylated cortical steroids; the preferential reduction of carbonyl systems in the presence of carbon-nitrogen multiple bonds. N. L. Wendler, Huang-Minlon and M. Tishler. Am Chem Soc J 73:3818-20 Ag '51

Total synthesis of cortisone. R. B. Woodward, F. Sondheimer and D. Taub. Am Chem Soc J 73:4057 Ag '51

Physiological effect

Interpretation of results of ACTH and cortisone therapy in chronic beryllium poisoning; data obtained by pretherapy and post-therapy studies of pulmonary function. G. W. Wright. il A M A Archives Ind Hygiene & Occup Med 3:617-21 Je '51

CORUNDUM

Absorption spectra of samples of quartz and corundum in ultraviolet; electric and thermic treatment of quartz. R. Bauple and others. bibliog Opt Soc Am J 40:788-9 N '50

Corundum deposits of Gallatin and Madison counties, Montana. S. E. Clabaugh and F. C. Armstrong. U S Geol S Bul 969-B:29-53, pl 11-15[in pocket]; pa 75c Supt. of doc. '50

See also
Rubies
Sapphires

CORY, Fanny

Fanny Cory, 72, keeps young drawing kids. J. McMaster. por Ed & Pub 84:44 My 19 '51

CORYNE diphtheriae. See Diphtheria

COSDEN petroleum corporation

Prospects are bright. Barron's 31:15-16 O 1 '51

COSMETIC chemists, Society of. See Society of cosmetic chemists

COSMETICS

Drugs, medicines, and cosmetics; plant workers' earnings, May 1950. A. N. Jarrell. Mo Labor R 72:50-1 Ja '51

Eyes have it; tiny plastic purse case for Aziza eye make-up products. il Mod Packaging 24:99 N '50

Less glamour, or more? diversity of this year's cosmetic gift packaging. il Mod Packaging 24:78-82+ N '50

Medal of Society of cosmetic chemists. Chem & Eng N 28:4449 D 18 '50

Soap and cosmetic trademarks. A. W. Gray. Soap & San Chem 27:46-7 Ap '51

Stability of mineral oils in toilet and cosmetic preparations. W. W. Myddleton. bibliog 2pls Inst Pet J 37:45-58; Discussion. 59-66 F '51

This letter opens door to more direct sales; Charmante's Beauty Planalysis. Sales Management 67:64 Ag 15 '51

See also
Lipsticks
Nail polish
Toilet goods association

COSMIC physics

See also
Auroras

COSMIC radio noise. See Radio noise, Cosmic

COSMIC rays

Absorption of cosmic radiation at high altitudes. M. A. Pomerantz. Phys R 83:459-60 Jl 15 '51

Abundance of lithium, beryllium, boron, and other light nuclei in the primary cosmic radiation and the problem of cosmic-ray origin. H. L. Bradt and B. Peters. bibliog il Phys R 80:943-53 D 15 '50

American physical society meeting; cosmic rays, mainly showers and stars; abstracts of papers. Phys R 83:197-9 Jl 1 '51

Cascade processes recorded in an emulsion chamber exposed in the stratosphere. H. Yagoda. diags Phys R 80:753-4 N 15 '50

Cloud-chamber analysis of stopped particles in the sea-level cosmic radiation. G. M. Nonnemaker and J. C. Street. diags Phys R 82:564-5 My 15 '51

Cloud-chamber observations of the neutral V-particle disintegration. R. W. Thompson and others. il Phys R 83:175 Jl 1 '51

Cloud-chamber study of nuclear interactions in lead and aluminum. B. P. Gregory and J. H. Tinlot. bibliog il diags Phys R 81:667-75 Mr 1 '51

Cloud-chamber study of the new unstable particles. H. S. Bridge and M. Annis. il Phys R 82:445-6 My 1 '51

Cloud-ionization chamber for the study of cosmic-ray nuclear interactions. H. W. Lewis and others. bibliog il diags R Sci Instr 22:259-63 Ap '51

Collimated and wide-angle meson groups in a hard-shower star. M. M. Shapiro and H. Yagoda. bibliog diag Phys R 80:283-4 O 15 '50

Cosmic radiation; abstract. C. F. Powell. Engineering 171:229 F 23 '51

Cosmic radiation and cosmic magnetic fields; origin and propagation of cosmic rays in our galaxy. A. Unsöld. bibliog Phys R 82:857-63 Je 15 '51

Cosmic radiation and cosmic magnetic fields; origin of cosmic magnetic fields. L. Biermann and A. Schlüter. bibliog Phys R 82:863-8 Je 15 '51

Cosmic ray mystery held near solution. Franklin Inst J 251:409-11 Mr '51

Cosmic-ray nucleon-nucleon collisions in photographic emulsions. E. Pickup and L. Voyvodic. Phys R 82:265 Ap 15 '51

Cosmic-ray star production in argon at sea level. W. W. Brown and E. W. Hones. il diag Phys R 83:1263-4 S 15 '51

Cosmic rays; over-all survey; origin. W. F. G. Swann. diags Franklin Inst J 251:120-55 Ja '51

COSMIC rays—*Continued*

Crab nebula as an observed point source of cosmic rays. Y. Sekido and others. bibliog Phys R 83:658-9 Ag 1 '51

Decay of neutral *V*-particles. R. B. Leighton and others. Phys R 83:843-5 Ag 15 '51

Differential cross section for high energy nucleon-nucleon collisions. H. S. Green and M. Messel. Phys R 83:842-3 Ag 15 '51

Differential multiplicity in meson production. K. Sitte. bibliog Phys R 81:484-5 F 1 '51

Differential range spectrum of cosmic-ray mesons. L. Germain. bibliog diags Phys R 80:616-19 N 15 '50

Distribution of slow neutrons in free atmosphere up to 100,000 feet. L. C. L. Yuan. bibliog diags Phys R 81:175-84 Ja 15 '51

Diurnal variation of primary cosmic-ray heavy nuclei. J. J. Lord and M. Schein. bibliog Phys R 80:304-5 O 15 '50

Emulsion studies of cosmic-ray stars produced in metal foils. I. Barbour. Phys R 82:280-1 Ap 15 '51

Energy and density distribution of cosmic-ray neutrons. W. O. Davis. bibliog Phys R 80:150-4 O 15 '50

Energy degeneration of cosmic-ray primaries. F. J. Milford and L. L. Foldy. bibliog Phys R 81:13-19 Ja 1 '51

Energy distribution of the primary cosmic radiation. H. V. Neher. bibliog Phys R 83:649-50 Ag 1 '51

Evidence concerning the existence of the new unstable elementary neutral particle. V. D. Hopper and S. Biswas. bibliog il Phys R 80:1099-100 D 15 '50

Evidence for the multiple production of mesons in a single nucleon-nucleon collision. J. J. Lord and others. bibliog diags Phys R 80:970-3 D 15 '50

Evidence of long-range secondary electrons accompanying cosmic rays in a proportional counter. S. D. Chatterjee. bibliog diag Phys R 82:114-15 Ap 1 '51

Existence of Rossi second and third maxima. P. K. S. Chaudhary. bibliog Phys R 81:274 Ja 15 '51

Fermi's theory of the origin of cosmic radiation. C. Fan. bibliog Phys R 82:211-16 Ap 15 '51

Heavy elements from space. E. P. Ney. il Sci Am 184:26-30 My '51

Interaction of the Dirac magnetic monopole with matter. W. V. R. Malkus. diag Phys R 83:899-905 S 1 '51

Mean square angle of emission of nucleons in high energy nucleon-nucleus collisions. H. Messel and H. S. Green. Phys R 83:1279 S 15 '51

Momentum distribution of charged cosmic-ray particles at sea level. D. A. Glaser and others. bibliog diag Phys R 80:625-30 N 15 '50

Nature of wide-angle sprays. R. R. Rau and A. S. Wightman. bibliog Phys R 80:914-15 D 1 '50

Neutron production by cosmic rays at sea level. A. R. Tobey and C. G. Montgomery. bibliog diags Phys R 81:517-19 F 15 '51

Neutrons produced in the atmosphere by the cosmic radiations. J. A. Simpson. bibliog diags Phys R 83:1175-88 S 15 '51

New cosmic ray observatory. Can Min J 72:67 Je '51

Origin of the cosmic radiation. G. Cocconi. bibliog Phys R 83:1193-5 S 15 '51

Production of mesons by primary cosmic rays. H. D. Rathgeber. bibliog diag Phys R 81:544-51 F 15 '51

Qualitative similarity of origin of the main cosmic radiation and of showers. J. Clay. Phys R 81:645 F 15 '51

Radioactive nuclei emitted in cosmic-ray stars. E. Pickup and L. Voyvodic. diag Phys R 80:1100-1 D 15 '50

Ratio of negative to positive π-mesons in the stratosphere. W. F. Fry. bibliog Phys R 82:747 Je 1 '51

Scintillations produced by cosmic rays. C. G. Montgomery and D. D. Montgomery. Phys R 80:757 N 15 '50

Search for cosmic-ray diurnal effects at balloon altitudes. T. A. Bergstralh and C. A. Schroeder. bibliog diags Phys R 81:244-7 Ja 15 '51

Search for primary cosmic gamma-radiation. G. J. Perlow and C. W. Kissinger. bibliog diags Phys R 81:552-4 F 15 '51

Secondary nucleons in lead. E. Schopper and others. Phys R 82:445 My 1 '51

Transition effect in Pb of the star-producing radiation in the stratosphere. M. M. Shapiro and others. il diag Phys R 83:455-7 Jl 15 '51

Transition effects of star-producing cosmic radiation in lead. E. Schopper and others. bibliog diag Phys R 82:444-5 My 1 '51

World-wide distribution of natural radiocarbon. E. C. Anderson and W. F. Libby. bibliog Phys R 81:64-9 Ja 1 '51

Zenith angle and momentum spectrum of μ-mesons at sea level. J. L. Zar. diags Phys R 83:761-7 Ag 15 '51

Components

Development of the nucleon component of the cosmic radiation in air when ionization losses are accounted for. H. Messel. bibliog Phys R 83:26-30 Jl 1 '51

Nucleon cascade with ionization loss. H. Messel. bibliog Phys R 83:21-5 Jl 1 '51

Proton component of the cosmic radiation at sea level. E. L. Goldwasser and T. C. Merkle, jr. bibliog diags Phys R 83:43-6 Jl 1 '51

Soft gamma-component of cosmic rays. F. G. Rest and others. diags Phys R 81:894 Mr 1 '51

Intensity

High altitude measurements of the penetrating component intensity of cosmic radiation near the geomagnetic equator. A. S. Rao and others. Phys R 83:173 Jl 1 '51

Increase of the primary cosmic-ray intensity following a solar flare. M. A. Pomerantz. bibliog Phys R 81:731-3 Mr 1 '51

Intensity of the total and of the hard component of the cosmic radiation as a function of altitude at geomagnetic latitudes of 28° N and 55° N. M. Vidale and M. Schein. Phys R 81:1064-5 Mr 15 '51

Neutrons from the nucleonic component as an indicator of changes in primary intensities. J. A. Simpson, jr. bibliog Phys R 81:895-6 Mr 1 '51

Ionization effects

Barometric and temperature coefficients of frequency of small cosmic-ray bursts and of burst-corrected cosmic-ray ionization. J. W. Broxon. bibliog Phys R 81:555-64 F 15 '51

Ionization chamber bursts at high altitudes. T. Coor, jr. bibliog diag Phys R 82:478-85 My 15 '51

Nucleon cascade with ionization loss. H. Messel. bibliog Phys R 83:21-5 Jl 1 '51

See also

Cosmic rays—Showers

Latitude effect

Altitude and latitude dependence of bursts in a lead-shielded ionization chamber. A. J. McMahon and others. bibliog il diags Phys R 80:157-63 O 15 '50

Altitude and latitude variation in the rate of occurrence of nuclear disintegrations produced in the stratosphere by cosmic rays. J. J. Lord. bibliog Phys R 81:901-9 Mr 15 '51

Cosmic rays at airplane altitudes. A. T. Biehl and H. V. Neher. bibliog diag Phys R 83:1169-74 S 15 '51

Latitude and altitude dependence of the local hard showers of cosmic rays. T. G. Walsh and O. Piccioni. bibliog diag Phys R 80:619-24 N 15 '50

Latitude effect of cosmic-ray neutrons. W. P. Stakers and others. bibliog Phys R 81:889-90 Mr 1 '51

Measurement

Calculations on the number of neutrons in the atmosphere. S. Lattimore. bibliog Phys R 81:643 F 15 '51

Change of cosmic-ray neutron intensity following solar disturbances. J. A. Simpson, jr. Phys R 81:639-40 F 15 '51

Cosmic-ray radiosonde and telemetering system. M. A. Pomerantz. il diags Electronics 24:88-92 Ap '51

Multiple-anode anticoincidence ring counter. C. H. Raeth and others. il diags R Sci Instr 22:461-3 Jl '51

COSMIC rays—Measurement—*Continued*

Scintillation counter measurement of heavy nuclei. E. P. Ney and D. M. Thon. Phys R 81:1069-70 Mr 15 '51

Scintillation counting of cosmic-ray particles. E. P. Ney and D. M. Thon. diag Phys R 81: 1068-9 Mr 15 '51

Scintillation spectrum from cosmic rays at 30,000 feet. L. Reiffel and others. Phys R 82:121-2 Ap 1 '51

Varying nuclear emulsion sensitivity with altitude. A. Beiser. R Sci Instr 21:1025-6 D '50

Showers

Absorption of penetrating showers. H. A. Meyer and others. bibliog diags Phys R 82: 424-7 My 1 '51

Altitude and latitude dependence of bursts in a lead-shielded ionization chamber. A. J. McMahon and others. bibliog il diags Phys R 80:157-63 O 15 '50

Angular and radial distributions of particles in cascade showers. L. Eyges and S. Fernbach. bibliog Phys R 82:23-9 Ap 1 '51

Angular distributions of shower particles as a function of depth. L. Eyges and S. Fernbach. Phys R 82:287-8 Ap 15 '51

Angular distribution of V^0-particle decay products. W. B. Fretter. Phys R 83:1053 S 1 '51

Barometric and temperature coefficients of frequency of small cosmic-ray bursts and of burst-corrected cosmic-ray ionization. J. W. Broxon. bibliog Phys R 81:555-64 F 15 '51

Barometric effect for large cosmic-ray bursts under thick absorbers at 11,500 feet elevation and the absorption mean free path for very high energy nuclear collisions. T. G. Stinchcomb. Phys R 80:479-80 N 1 '50

Cosmic-ray bursts and the nucleonic cascade. G. N. Whyte. bibliog diag Phys R 82:204-8 Ap 15 '51

Cosmic-ray showers; scintillation counters; cloud chambers; abstracts of papers at American physical society meeting. Phys R 81:322-5 Ja 15 '51

Cosmic rays at airplane altitudes. A. T. Biehl and H. V. Neher. bibliog diag Phys R 83: 1169-74 S 15 '51

Delays of penetrating particles in atmospheric showers. L. Mezzetti and others. diag Phys R 81:629-30 F 15 '51

Density spectrum and structure of extensive air showers. S. F. Singer. bibliog diags Phys R 81:579-92 F 15 '51

Difference equation method in cosmic-ray shower theory. W. T. Scott. bibliog Phys R 80:611-15 N 15 '50

Diurnal variation of extensive air showers of high density at 3500 m above sea level. C. Ballario and others. bibliog Phys R 83: 666-7 Ag 1 '51

Experiments on large cosmic-ray bursts under thick absorbers at 11,500-feet elevation. T. G. Stinchcomb. bibliog diags Phys R 83: 422-31 Jl 15 '51

Fluctuations and the general distribution problem in electron cascades. W. T. Scott. Phys R 82:893-900 Je 15 '51

High energy cosmic-ray showers in nuclear emulsions. L. S. Osborne. bibliog Phys R 81:239-44 Ja 15 '51

Improved calculations on cascade shower theory. I. B. Bernstein. bibliog Phys R 80: 995-1005 D 15 '50

Investigations on large cosmic-ray bursts. E. F. Fahy. bibliog il diags Phys R 83:413-21 Jl 15 '51

Latitude and altitude dependence of the local hard showers of cosmic rays. T. G. Walsh and O. Piccioni. bibliog diag Phys R 80: 619-24 N 15 '50

Mean free path of penetrating shower producers. W. D. Walker and others. Phys R 80:546-8 N 15 '50

Narrow air showers of cosmic rays; further absorption measurements. J. P. N. Wei and C. G. Montgomery. Phys R 80:480 N 1 '50

N-Component in extensive air showers. K. Greisen and others. bibliog diags Phys R 80:535-45 N 15 '50

Nuclear interactions in gold of secondary particles emitted in penetrating showers. A. J. Hartzler. il diags Phys R 82:359-72 My 1 '51

Penetrating showers from lithium. W. B. Fretter. Phys R 80:921-2 D 1 '50

Penetrating showers in carbon. J. R. Green. bibliog diag Phys R 80:832-41 D 1 '50

Penetrating showers of cosmic rays. A. G. Voisin. Phys R 80:920 D 1 '50

Properties of particles producing high energy nuclear collisions in gold. M. B. Gottlieb. il diags Phys R 82:349-58 My 1 '51

Radial distribution of shower electrons as a function of depth. S. Fernbach. Phys R 82: 288-9 Ap 15 '51

Relative arrival times of air shower particles. V. C. Officer. Phys R 83:458-9 Jl 15 '51

Some recent calculations on cascade shower theory. H. Messel. Phys R 82:259-60 Ap 15 '51

Tentative interpretation of the second maximum in the transition curve for cosmic-ray showers. Tsai-Chü. bibliog Phys R 83: 867-8 Ag 15 '51

Underground studies

Ratio of electrons to mesons 1100 feet underground. C. A. Randall and W. E. Hazen. Phys R 81:144-5 Ja 1 '51

COSMOLOGY

General motion of matter at the cosmological scale. A. Gião. Phys R 80:755-6 N 15 '50

COSMOTRON. See Proton accelerator

COST

Cost control adds strength to war-bred expansions. S. Fish. Manuf Rec 119:31-2 N '50

Cost-cutting the homemade way; Servel's work simplification program. il Bsns W p52+ N 18 '50

Less paper means lower cost; Glidden co. cuts forms and reports. Bsns W p93+ N 18 '50

See also

Cost accounting
Cost of living
Factory costs
Labor cost
Power cost
Sales costs

COST accounting

Allowable costs under government contracts. H. T. McAnly. N A C A Bul 32:675-87 F '51

Assignment of nonmanufacturing costs for managerial decisions; determining the incidence by products, territories, customer classes, etc. N A C A Bul 32:1135-72 sec 4 My '51

Assignment of non-manufacturing costs for the purpose of making managerial decisions. S. K. Atkinson. J Account 92:326-30 S '51

Assignment of nonmanufacturing costs to products. N A C A Bul 32:1559-89 sec 4 Ag '51

Bases for allocating distribution costs. R. H. Watson. J Marketing 16:29-42 Jl '51

Before-the-fact control of capital outlay. F. L. Mettler. N A C A Bul 32:1242-50 Je '51

Controlling costs in the publishing industry. W. T. Gayle. N A C A Bul 33:66-78 S '51

Cost accounting for a research laboratory. J. A. McFadden, jr. N A C A Bul 32:822-38 Mr '51

Cost and operating control in a small company. W. E. Westerdahl. N A C A Bul 32: 1085-90 My '51

Costs and war contracts. P. W. Kelly. il Dun's R 59:16-17+ Jl '51

Critique of cost center size and account detail. H. White. N A C A Bul 32:383-90 D '50

Determining your break-even point. J. L. O'Brien. Am Bsns 21:16-17+ Ap '51

Distribution cost analysis points the way to more profitable business. A. H. Smith. Management R 39:675-7 N '50

Fear of figures; comments on the productivity team report on management accounting. Economist 160:34+ Ja 6 '51

Grade costs in wood flour manufacturing. M. D. Gardner. N A C A Bul 32:309-16 N '50

How direct costing can work for management; Dewey and Almy chemical co. W. W. Neikirk. N A C A Bul 32:523-35 Ja '51

Job cost procedure. E. J. Cossett, jr. and others. N A C A Bul 32:593-610 Ja '51

Large firm uses simple cost methods. il Sheet Metal Worker 42:50-1 S '51

COST accounting—*Continued*

Management accounting in the United States; excerpt from productivity report by Anglo-American council on productivity. N A C A Bul 32:763-81 Mr '51

Now you can use break-even charts without fuss, muss or bother. R. D. Newton and R. S. Aries. Chem Eng 58:148-50 F '51

Paper mill accounts for its selling costs. I. C. Barnes. Paper Ind 32:1181-2+ F '51

Paradoxes in applying profit planning doctrines. N. A. Coan. N A C A Bul 32:1179-92 Je '51

Planned specification cost for sales policy determination; cost projected for the future; abstract. H. T. McAnly. J Account 91:837-8 Je '51

Symposium on plant cost estimation. W. T. Nichols and others. bibliog Ind & Eng Chem 43:2295-311 O '51 (reprints 50 cents)

Up-to-the-minute costs for management planning; Armstrong Cork. I. W. Keller. N A C A Bul 32:782-94 Mr '51

Use of per diem costing can help establish sound hospital rates. J. Weiner. J Account 91:439-43 Mr '51

When does part of a business break even? R. J. Barber, jr. N A C A Bul 32:1040-7 My '51

See also

Bank accounting
Budget, Business
Depreciation
Estimates
Foundry accounting
Machinery, Replacement of
Material control

also subdivision Accounting under special subjects, e. g.

Contracts, Government
Factories
Inventories
Labor cost
Marketing
Payrolls
Sales costs

Standard costs

Functioning of standards in cost control. P. C. Taylor. N A C A Bul 32:795-801 Mr '51

How charts can help lower your variable hour costs. M. D. Binford. Inland Ptr 126:34-5 Ja '51

Standard costs [in paper making, sugar refining, wire cloth manufacture, rayon finishers, steel company, plastics company, ceramics]. G. R. Case and others. N A C A Bul 32:1299-370 Jl '51

Standards for re-work and unscheduled operations. A. O. Schroeder. N A C A Bul 32:1385-6 Jl '51

Standards to meet product changes. A. L. Hunt and H. J. Walker. N A C A Bul 32:658-63 F '51

Variance analysis for cost reduction and control; abstract. J. Pugsley. Management R 40:439-40 Jl '51

COST control department

Departmentalizing cost control. H. K. Payne. N A C A Bul 32:1082-4 My '51

COST of living

Cost of living index is overhauled as indicator of controlled economy. Elec World 135:86 My 7 '51

Wives strike to teach mates a union lesson; Philadelphia transport workers do week-end shopping. Bsns W p 130 F 24 '51

See also

Rent

Statistics

Adjusted consumers' price index; relative importance of items. Mo Labor R 72:697-702 Je '51

Consumer expenditures, classified, 1935-1950; tabulation. Iron Age 167:334 Ja 4 '51

Consumers' price index, 1947-1950; chart and tables. Automotive Ind 104:81 Mr 15 '51

Consumers' price index for moderate income families in large cities, selected years, 1929-1949 and monthly Oct. 1949-Nov. 1950. Fed Res Bul 37:88 Ja '51 [cont monthly]

Consumers' price index in large cities, 1913-Sept. 1950; tabulation. Iron Age 167:361 Ja 4 '51

Cost of living, United States, Canada, United Kingdom, France, Netherlands and Switzerland, 1941-1949 and monthly Nov. 1949-Nov. 1950. Fed Res Bul 37:119 Ja '51 [cont monthly]

Effects of outlet type and location on price; revision of Consumers' price index. R. Rosakrans. Mo Labor R 73:63-7 Jl '51

Face lifting for cost-of-living index. Bsns W p 104-5 O 28 '50

Four changes in the cost-of-living; effects on the index. E. Clague. Dun's R 59:18-20+ Je '51

How much it costs to live in 34 principal cities; chart. Bsns W p39 Ap 14 '51

Interim adjustment of consumers' price index. D. P. Rothwell. Mo Labor R 72:421-9 Ap '51

Prices and cost of living. Published in Monthly labor review

Snags ahead in wage contracts tied to price index. E. Clague. Comm & Fin Chr 173:437+ Ja 25 '51

What's happening to the cost of living; monthly statistics. Published in Business week

Which cost-of-living index? Bsns W p 112+ Mr 10 '51

Work time required to buy food, 1937-50, in United States and 19 foreign countries; with technical notes on methodology. I. B. Kravis. Mo Labor R 72:143-51, 195-7 F '51

Alaska

Feb. 1951 spot survey. Mo Labor R 73:62 Jl '51

Canada

Record high cost-of-living index. For Comm W 44:8 S 10 '51

COST of living adjustments. See Wage payment plans—Cost of living adjustments

COSTA RICA

Economic conditions

Family expenditures; San José, 1949. T. F. Mosimann and M. H. Gillim. Mo Labor R 71:443-5 O '50

News by countries. For Comm W 41:10 D 25 '50; 42:12 Ja 15; 10-11 F 26; 43:12 Ap 9; 11-12 Ap 30; 11-12 My 28; 44:11-12 Jl 2; 9-10 Ag 13; 12 S 17; 11-12 S 24 '51

COSTUME

History in costume. A. M. Buck. Textile Inst J 42:P213-15 My '51

COTARNINE

Isomerization of berberine and cotarnine bases in presence of alkali. B. Skinner. Chem Soc J p823-7 Mr '50

COTTAGE industries

See also

Home labor

COTTON

Acidic properties of cotton cellulose and derived oxycelluloses; ion-exchange reactions with basic dyes. G. F. Davidson. bibliog Textile Inst J Trans 41:T361-80 O '50

Alumni technical meeting, School of textiles, N.C. state college, Raleigh. Textile World 101:155+ F '51

Chain length and chain-length distribution of wood cellulose as compared with cotton. E. Heuser and L. Jörgensen. bibliog Tappi 34:57-67 F '51

Chemical progress during the 75 years of the American chemical society; cellulose chemistry. W. O. Kenyon. bibliog il Ind & Eng Chem 43:820-30 Ap '51

Cotton men take a lick at cotton problems; Cotton spinner-breeder conference, 7th, El Paso, Tex. Textile World 101:118-19 Ja '51

Heterogeneous methanolysis of native and mercerized cotton cellulose. R. E. Reeves, L. W. Mazzeno, jr. and C. L. Hoffpauir. bibliog Am Chem Soc J 72:4773-7 O '50

Inhibition of a strain of brucella abortus by medium filtered through cotton. D. M. Boyd and E. P. Casman. bibliog il Pub Health Rep 66:44-9 Ja 12 '51

King Cotton; deified and mechanized; ABC of what's behind some key statistics. il Bsns W p106+ Je 16 '51

Oxidation of cotton cellulose by nitrogen dioxide. T. P. Nevell. bibliog diags Textile Inst J Trans 42:T91-129 Mr '51

Qualitative X-ray study of the oxidation of cotton cellulose by nitrogen dioxide. T. P. Nevell. bibliog il Textile Inst J Trans 42:T130-40 Mr '51

Reaction of formaldehyde with cotton. C. F. Goldthwait. bibliog Textile Res J 21:55-62 Ja '51

COTTON—*Continued*

Some relations, economical and technical, between the pulp and paper trade and the textile trade. G. Ullman. Soc Dyers & Col J 66:576-8 N '50

What and why of super-cottons. G. Buck. Textile World 101:119-21 Ja '51

See also

Bleaching—Cotton
Cellulose
Cotton carding and other headings beginning Cotton
Cottonseed oil
Dyes and dyeing—Cotton

Analysis

Chemical composition of cotton. E. R. McCall and J. F. Jurgens. bibliog Textile Res J 21:19-21 Ja '51

Demonstration of the presence of a galactoaraban in raw cotton fiber. J. D. Guthrie and W. A. Reeves. bibliog Textile Res J 20:859-61 D '50

Glycosidic methoxyl groups in methanolyzed cellulose. R. E. Reeves and others. Textile Res J 21:78-81 F '51

Separation of cotton and rayon or cotton and acetate for analytical purposes; addendum. O. Heim. Anal Chem 23:1314 S '51

Spot test analysis of the ash of natural cellulosic fibers. N. A. Matlin. Am Dyestuff Rep 40:44-8 Ja 22 '51

Trace metals in cotton fiber. D. C. Heinzelman and R. T. O'Connor. bibliog Textile Res J 20:805-7 N '50

Color

New automatic cotton colorimeter for use in cotton quality specification. D. Nickerson. il diags Textile Res J 21:33-8 Ja '51

Diseases and pests

Cavitomic cotton. J. P. Elting. bibliog il maps Science 113:297-300 Mr 16 '51

Cavitomic cotton; a progress report. L. T. Hall and J. P. Elting. bibliog il maps Textile Res J 21:580-90 Ag '51

SOS for cotton cure; chemical defoliation. Chem W 69:19 Jl 7 '51

Grading

Artificial light used for classing cotton. E. D. White. il Textile World 100:139+ O '50

Effect of manufacturing processes on the fiber length distribution and staple length of raw cotton used in grey yarn and grey cloth. J. F. Williams and others. bibliog Textile Res J 20:719-26 O '50

Metal content

Trace metals in cotton fiber. D. C. Heinzelman and R. T. O'Connor. bibliog Textile Res J 20:805-7 N '50

Prices

DiSalle braves the farmers; ceiling on cotton. Bsns W p25 Mr 17 '51

Testing

Here's a mill man's lab; Durham div. lab., Erwin mills. W. A. Thomason, jr. il Textile World 100:89-91 O '50

Wax content

Relationship of wax content to maturity of cotton. A. N. J. Heyn. Textile Res J 20:771-2 N '50

COTTON, Powdered

Cotton powder for infrared transmission measurements. F. H. Forziati and others. bibliog il J Res Nat Bur Stand 45:109-13 Ag '50

Vibratory ball mill, developed at the National bureau of standards; rapidly and completely grinds cotton. il Mech Eng 72:903 N '50; Product Eng 21:163 N '50; Machine Design 22:121 D '50

COTTON belt railway. See St Louis southwestern railway

COTTON carding

Answers to 12 carding problems by Georgia operating executives. Textile World 101:106-9+ My '51

Card study on production cotton for coarse goods. H. E. Kieke and L. E. Hessler. il Textile Res J 21:170-4 Mr '51

Control of flat strips in carding. R. Cheng and W. E. Morton. diags Textile Inst J 42:P442-55; Discussion. P455-6 Ag '51

Function of the doffer in carding. A. de Swaan. Textile Inst J 42:P209-12 My '51

Here's how Alabama men tackle these mill problems; carding and spinning practices. Textile World 101:104-5+ Ja '51

How much work does each flat do? E. H. Helliwell. il Textile World 101:145 My '51

Picker lap-weight charts expose operating faults. E. H. Helliwell. Textile World 101:112+ Ap '51

STA meetings cover carding, spinning and weaving. Textile World 101:149+ F '51

Women on card-tender tasks. E. H. Helliwell. Textile World 101:147 S '51

COTTON cleaning

Improvement of cotton cloth in resistance to soiling and in ease of washing. W. P. Utermohlen, jr. and others. bibliog Textile Res J 21:510-21 Jl '51

Synthetics in cotton detergency. H. L. Sanders and J. M. Lambert. bibliog Textile Res J 21:680-4 S '51

Tension cleans dirt from yarn. il Textile World 101:151-2 Je '51

COTTON cords

Preconditioning cotton yarn and tire cord before testing breaking strength and elongation-at-break. W. S. Lewis. Textile Res J 21:256-8 Ap '51

Testing

Effect of gage length on fiber strength measurements. J. K. Phillips. Textile Res J 21:287-8 My '51

COTTON fabrics

New type of non-woven fabric; Webril-R fibers are entangled and twisted and interlocked. J. F. Ryan. Am Dyestuff Rep 40:262-4 Ap 16 '51

Stabilization of cotton fabrics; abstract. C. Wills. Am Dyestuff Rep 40:255 Ap 16 '51

Welcome mat for cottons; carpet industry turns to rayon blends and cotton. il Bsns W p 114+ Ag 18 '51

See also

Cotton weaving
Duck (textile)

Advertising

Builds campaign around localized outdoor postings; hidden product advertised to consumers; Reeves army twill. il Ptr Ink 234:36-7 Ja 12 '51

Porosity

Pore-size distribution in a selected series of closely woven fabrics. E. Honold and E. L. Skau. diag Textile Res J 21:419-27 Je '51

Protection

Correlation studies of accelerated and natural weathering tests of protectively finished cotton duck. P. J. Fynn and others. bibliog Textile Res J 21:116-23 F '51

Rayon mixtures

See Rayon fabrics—Cotton mixtures

Shrinkage

Carter-set process. Am Dyestuff Rep 40:454 Jl 9 '51

Stabilizing cellulose textiles (shrink-proofing); glyoxal plus magnesium-silico-fluoride; patent. Am Dyestuff Rep 40:68 Ja 22 '51

Stabilizing cellulose; vinyl sulfone polymers used. Am Dyestuff Rep 40:197 Mr 19 '51

Testing

Accelerated aging of fabric; effects of elimination of sunshine on weather-exposed fabric and subsequent deterioration in storage. J. Maas. bibliog diags Am Dyestuff Rep 39:693-8+ O 16 '50

Effect of laundering on dimensions and elastic properties of certain plain and rib knit cotton fabrics. H. M. Fletcher and W. D. Graham. bibliog Am Dyestuff Rep 39:759-64 N 13 '50

How to set up a small testing lab. F. C. Williams, jr. il Textile World 101:136-7+ O '51

Studies of worn and aged cotton fabrics. M. E. Murdison and J. S. Roberts. Textile Inst J Trans 41:T429-45 N '50

COTTON fibers

Demonstration of the presence of a galactoaraban in raw cotton fiber. J. D. Guthrie and W. A. Reeves. bibliog Textile Res J 20:859-61 D '50

Experiments on the reduction of the crystallinity of cotton cellulose. L. Segal, M. L. Nelson and C. M. Conrad. bibliog il J Phys & Colloid Chem 55:325-36 Mr '51

Fiber control featured at quality-control meeting. Textile World 101:133+ Jl '51

Fibre motion in roller drafting. G. A. R. Foster. bibliog diags Textile Inst J Trans 42:T335-74 S '51

Relationship of wax content to maturity of cotton. A. N. J. Heyn. Textile Res J 20:771-2 N '50

Soiling and soil retention in textile fibers; cotton fiber, grease-free carbon black systems. J. Compton and W. J. Hart. il Ind & Eng Chem 43:1564-9 Jl '51

Stabilization of neutral hypochlorite-oxidized cotton fiber. R. E. Reeves and J. R. Jung, jr. bibliog Textile Res J 21:22-5 Ja '51

Technique of measuring orientation in cotton by X-rays. R. Meredith. bibliog il diags Textile Inst J Trans 42:T275-90 Jl-Ag '51

To get the most from cotton-fiber properties. il Textile World 101:116-17 My '51

Trace metals in cotton fiber. D. C. Heinzelman and R. T. O'Connor. bibliog Textile Res J 20:805-7 N '50

Use of a microscopic technique in studying the filtration characteristics of wool and cotton fibers. C. A. Rodman and A. W. Pansey. il Textile Res J 20:873-9 D '50

Measurement

Measurement of fiber orientation. C. H. Lindsley. il diag Textile Res J 21:39-46 Ja '51

Strength

Cotton fibre tensile strength and X-ray orientation. R. Meredith. bibliog diag Textile Inst J Trans 42:T291-9 Jl-Ag '51

Testing

Effect of gage length on fiber strength measurements. J. K. Phillips. Textile Res J 21:287-8 My '51

Effect of manufacturing processes on the fiber length distribution and staple length of raw cotton used in grey yarn and grey cloth. J. F. Williams and others. bibliog Textile Res J 20:719-26 O '50

How to set up a small testing lab. F. C. Williams, jr. il Textile World 101:136-7+ O '51

Influence of weathering and of microorganisms on the aqueous-extract pH of cotton fiber. P. B. Marsh and others. bibliog il Textile Res J 21:565-79 Ag '51

Orifice test as a method for studying closing capacity of cotton fiber in the raw state. L. W. Scott and others. bibliog il diag Textile Res J 21:148-55 Mr '51

Relation of length to other physical properties of cotton fibers. O. W. Morlier and others. bibliog diags Textile Res J 21:6-13 Ja '51

Spot test analysis of the ash of natural cellulose fibers. N. A. Matlin. Am Dyestuff Rep 40:44-8 Ja 22 '51

Strength and weakness of cotton fibers. H. Wakeham and N. Spicer. bibliog il Textile Res J 21:187-94 Ap '51

Ulster instrument for the stapling of cotton and rayon fibres. E. Honegger. bibliog il Textile Inst J 42:P57-74 F '51

COTTON finishing

Chemicals you live by in the textile industry. L. P. Seyb. Rayon 31:79+ O '50

Improvement of cotton cloth in resistance to soiling and in ease of washing. W. P. Utermohlen, jr. and others. bibliog Textile Res J 21:510-21 Jl '51

Influence of urea and melamine resin finishes on the mechanical properties of cotton fibers. R. Aenishaenslin. Am Dyestuff Rep 40:432 Jl 9 '51

New dyeing and finishing plant features modern engineering; Gregg dyeing & finishing plant of Graniteville co. E. D. White. il Textile World 101:120-1, 292+ Mr '51

Stabilizing cellulosic fabrics, with stannates or zincates, urea added; patent. Am Dyestuff Rep 40:277 Ap 30 '51

Trends in the chemical processing of cotton fabrics. W. M. Scott. Am Dyestuff Rep 40:473-6 Jl 23 '51

See also
Cotton sizing
Mercerizing

COTTON handling

How to stack cotton bales more efficiently; drawings with text. Textile World 100:151 D '50

COTTON insurance. See Insurance, Cotton

COTTON linters

Cotton stew; cottonseed and linters hit new price records. Bsns W p78+ N 11 '50

Oxidation of cellulose by chromium trioxide; new method for determining accessibility. R. E. Glegg. bibliog Textile Res J 21:143-8 Mr '51

Weight factors for cotton linters. I. H. Isenberg and C. L. Peckham. Tappi 33:527-8 O '50

COTTON machinery

Fiber control featured at quality-control meeting. Textile World 101:133+ Jl '51

Picker improvements can be applied to all models. Textile World 101:165 O '51

Precision picker knock-off developed at Southern regional research laboratory. G. A. Pettit. diag Textile World 101:153 F '51

Raw cotton preparation; pneumatic handling of materials. il Elec R (Lond) 148:651-5 Mr 30 '51

Traps in opener line remove foreign matter. Textile World 101:278+ S '51

COTTON manufacture

Degradation of cellulose during mechanical processing; action of beaters on cotton. J. C. Whitwell and others. bibliog flow sheet Textile Res J 21:556-64 Ag '51

See also
Cotton carding
Cotton mills
Cotton sizing
Cotton waste
Cotton yarn

COTTON mills

Dan River mass-produces high style. il Bsns W p56-7 Ap 21 '51

Erwin modernizes a run-down mill. H. M. Rogers, jr. plans Textile World 100:104-5+ D '50

Spindale mills; illustrations with text. W. A. Thomason, jr. Textile World 101:98-101 Ag '51

Textron plant was first and is still the largest in Puerto Rico. C. W. Bendigo. il Textile World 101:110-15 Mr '51

Air conditioning

Bemis bag co. installs complete air conditioning. S. P. Agnew. il Textile World 101:132-3 O '51

Central air-washing systems pay off at Spartan mills. E. D. White. il Textile World 101:112-14 Jl '51

Cleaning

Automatic cleaning pays off for Gastonia combed yarn corp; illustrations with text. W. A. Thomason, jr. Textile World 101:126-9 F '51

Electric equipment

Electric tractor train saves over $25,000 yearly. W. B. McGuire. il Textile World 101:106-7+ Ap '51

Electricity in the cotton industry. F. W. Cox and W. E. Swale. bibliog diags Inst E E Proc 97 pt 2:311-28 Je '50; Discussion. 97 pt 2:329-31; 98 pt 2:86-94 Je '50, F '51

Prevent tomorrow's fires by good electrical installations today. S. Cowan. il Textile World 101:131+ Ag '51

Raw cotton preparation; pneumatic handling of materials. il Elec R (Lond) 148:651-5 Mr 30 '51

Employees

Cotton and rayon textiles; earnings in April 1950; with tabulations. C. Rubenstein. Mo Labor R 71:466-70 O '50

How Avondale mills works its human-relations program. P. M. Thomas. il Textile World 100:121-8 O '50

Women on card-tender tasks. E. H. Helliwell. Textile World 101:147 S '51

COTTON mills—*Continued*

Equipment

Experimental, gas-fired, infrared textile slasher. R. A. Rusca and G. J. Kyame. il diags Textile Res J 21:445-50 Je '51
Fulton bag & cotton mills wanted a modern opening room. E. D. White. il Textile World 101:153+ S '51
How Startex streamlined its carton handling; illustrations with text. Textile World 101: 153 O '51
Modernized cotton mill; Kendall mills Oakland plant; illustrations with text. W. A. Thomason, jr. Textile World 101:126-9 O '51
New dyeing and finishing plant features modern engineering; Gregg dyeing & finishing plant of Graniteville co. E. D. White. il Textile World 101:120-1, 292+ Mr '51
New homogenizer helps Jefferson mills. S. F. Bryan. il Textile World 101:123+ O '51
Spartan mills modernizes its slasher room. E. D. White. il Textile World 101:124-5 Mr '51

Fires and fire protection

Prevent tomorrow's fires by good electrical installations today. S. Cowan. il Textile World 101:131+ Ag '51

Floors

Hard-topped cement floors please Springs engineers; Springs cotton mills. il Textile World 101:147+ O '51

Lighting

Artificial light used for classing cotton. E. D. White. il Textile World 100:139+ O '50

Management

Cleaning, spinning, controlling problems discussed by Georgia men. Textile World 101: 106-11+ Je '51
Let's work on positioning in cutting handling costs. H. L. Werner. il diags Textile World 101:136-7+ F '51
Perpetual-inventory system safeguards our spare-parts supply; Gastonia combed yarn corp. S. Funderburk. Textile World 101: 270+ S '51

Power

Diesel waste heat used by Swiss mill. il Textile World 101:149 Je '51
How much power does a spindle use? speed, package size, and oil viscosity influence consumption. il Textile World 100:122-3 D '50
Textile mills in Egypt; unusual power distribution system. J. G. Clements and R. V. R. Weston. il Elec R (Lond) 149:237-40 Ag 3 '51

Quality control

Fiber control featured at quality-control meeting. Textile World 101:133+ Jl '51
Here's a testing program for the cotton-yarn mill. D. S. Hamby. il Textile World 101: 99-105 My '51
How about quality control for small mills? W. A. Thomason, jr. il Textile World 101: 99-101 Ja '51
Statistical quality control at work in a cotton mill. E. S. Rudnick. Textile Res J 20:727-34 O '50

Waste

Here's the new Pneumafil-central system. W. A. Thomason, jr. il Textile World 101: 141-3 S '51
Nutritional requirements during aerobic biological stabilization of cotton kiering waste. E. N. Helmers and C. N. Sawyer. bibliog il Textile Res J 21:671-80 S '51

See also
Cotton waste

COTTON-MOUTON effect
Measurement of Faraday effect and Cotton-Mouton effect using transient magnetic fields and a photo-multiplier-type compensator. M. J. Walker and R. C. Raymond. il diags Opt Soc Am J 40:766-8 N '50

COTTON openers. See Cotton machinery

COTTON research
Cotton research points to road ahead; conference report. Textile World 101:108-9+ Ap '51
Cotton; years of experiment. W. L. Balls. Textile Inst J 42:P316-24 Ag '51
Effect of manufacturing processes on the fiber length distribution and staple length of raw cotton used in grey yarn and grey cloth. J. F. Williams and others. bibliog Textile Res J 20:719-26 O '50
Nep-research program; abstract. J. F. Bogdan. Textile World 101:218+ F '51
Reaction of formaldehyde with cotton. C. F. Goldthwait. bibliog Textile Res J 21:55-62 Ja '51

COTTON sampling
Mechanized fiber blender. L. E. Hessler and H. E. Kieke. il diags Textile Res J 20:802-4 N '50

COTTON sizing
Experimental, gas-fired, infrared textile slasher. R. A. Rusca and G. J. Kyame. il diags Textile Res J 21:445-50 Je '51
Georgia men give data on slashing and weaving. Textile World 101:112-13+ Ja '51
New homogenizer helps Jefferson mills. S. F. Bryan. il Textile World 101:123+ O '51
Spartan mills modernizes its slasher room. E. D. White. il Textile World 101:124-5 Mr '51

COTTON spinning
Application of the index of irregularity to the study of spinning on the cotton system. R. Temmerman and L. Hermanne. Textile Inst J Trans 41:T411-21 N '50
Cleaning, spinning, controlling problems discussed by Georgia men. Textile World 101: 106-11+ Je '51
Conversion of the Saco-Lowell sliver tester to electrical recording. R. A. Rusca. bibliog il diags Textile Res J 20:780-6 N '50
Defective drafting arising from imperfections in front rollers of mules and ring frames. J. Gregory and A. Tyson. il diags Textile Inst J Trans 42:T 147-67 Ap '51
Fibre motion in roller drafting. G. A. R. Foster. bibliog diags Textile Inst J Trans 42:T335-74 S '51
Here's a testing program for the cotton-yarn mill. D. S. Hamby. il Textile World 101:99-105 My '51
Here's how Alabama men tackle these mill problems; carding and spinning practices. Textile World 101:104-5+ Ja '51
Here's how to up Barber-Colman spooler production. H. P. Lynch. il Textile World 100: 129+ O '50
Here's the new Pneumafil-central system. W. A. Thomason, jr. il Textile World 101: 141-3 S '51
How much power does a spindle use? speed, package size, and oil viscosity influence consumption. il Textile World 100:122-3 D '50
Radioactivity in textile production. Electronics 24:172+ Ja '51
Review of the development of cotton spinning machinery. G. Dakin. diags Textile Inst J 42:P457-78 Ag '51
STA meetings cover carding, spinning and weaving. Textile World 101:149+ F '51
Spindle adapter cuts cost of spinning; Joanna cotton mills co. W. A. Thomason, jr. il Textile World 101:161+ S '51
Use of tabulator data in the analysis of sliver and roving uniformity. J. P. Elting and J. C. Barnes. bibliog Textile Res J 20:773-9 N '50

Tables, calculations, etc.

New lay gear formula gives more accurate results. J. F. Bogdan. Textile World 100: 135+ O '50
Spinning value of raw cotton. W. E. Morton. bibliog Textile Res J 21:259-62 My '51

COTTON stalks
What about cotton stalk pulp; A. J. Ernst and others. bibliog Paper Ind 33:46-8 Ap '51

COTTON trade
Big crop; out of it, cotton senators seek to produce a grab-bag. J. Bosse. Barron's 31: 5 S 10 '51
Cotton prices slump; heavy crop expected. Barron's 31:19 My 7 '51
Cotton stew; cottonseed and linters hit new price records. Bsns W p78+ N 11 '50
Cotton trade wants freeze off middlemen. Barron's 31:27-8 F 5 '51

COTTON trade—*Continued*

Export limits stir cotton commotion. Barron's 30:20-1 O 23 '50

King Cotton; its fall would drag down many other prices. R. M. Bleiberg. Barron's 31:5 Mr 19 '51

More cotton, higher prices. Bsns W p 113-14 O 6 '51

No relief seen for tightness in cotton. Barron's 30:28-9 D 18 '50

Quota changes spotlight battle on cotton policy. Barron's 30:29-30 N 20 '50

Textile ceilings. Bsns W p 146 My 19 '51

Textiles pinched by excessive military, civilian demand. J. A. Daly. Manuf Rec 119:36-7 D '50

World cotton growers may plant record crop. Barron's 31:35 Je 18 '51

See also

Insurance, Cotton

Finance

Cotton production financing. J. W. Bellamy, jr. il Banking 44:82+ S '51

Great Britain

Combined Egyptian mills; statement by the chairman at ordinary annual general meeting. J. Reynolds. Economist 159:1172 D 23 '50

Cotton commission report. Economist 160:1466 Je 16 '51

Cotton output. Economist 160:1470-1 Je 16 '51

Mexico

Cotton shortage hits Mexico's textile boom. A. Geiger. Barron's 30:16 D 11 '50

Sudan

New class on the cotton farms. Economist 161:101-2 Jl 14 '51

Uganda

Cotton and discontent in Uganda. Economist 160:1107 My 12 '51

COTTON waste

Cotton waste; with glossary of terms. G. H. Dockray and others. il diags Textile Res J 20:684-718 bibliog(168 titles, p714-18) O '50

COTTON wax. See Cotton—Wax content

COTTON weaving

Georgia men give data on slashing and weaving. Textile World 101:112-13+ Ja '51

Here's how to cut out jerked-in filling. W. A. Thomason, jr. Textile World 101:145 Mr '51

How Erwin mills uses loom gauges; illustrations and drawings with text. J. K. Bruton. Textile World 101:127-9 S '51

New loom attachment weaves extra-tight, waterproof cotton fabrics; Southern regional research laboratory. il diags Textile World 101:143 Ag '51; Rayon 32:146 S '51

STA meetings cover carding, spinning and weaving. Textile World 101:149+ F '51

To weave duck on plain looms. W. C. Westbrook. il Textile World 101:117+ O '51

COTTON workers

See also

Cotton mills—Employees

COTTON yarn

Defective drafting arising from imperfections in front rollers of mules and ring frames. J. Gregory and A. Tyson. il diags Textile Inst J Trans 42:T 147-67 Ap '51

How Gurney keeps yarn quality high. E. D. White. il Textile World 101:100+ Jl '51

Improvement of luster of cotton; measurement of reflectance characteristics related to luster. L. Fourt and A. M. Sookne. bibliog diags Textile Res J 21:469-79 Jl '51

Strength

Preconditioning cotton yarn and tire cord before testing breaking strength and elongation-at-break. W. S. Lewis. Textile Res J 21:256-8 Ap '51

Tables, calculations, etc.

Fibers in cotton yarn cross-sections; attempt to evolve formulae to calculate numbers. S. Blackshaw. Rayon 32:50+ My '51

Testing

Can you trust averages? E. S. Rudnick. diags Textile World 101:155+ O '51

Here's a testing program for the cotton-yarn mill. D. S. Hamby. il Textile World 101:99-105 My '51

How to set up a small testing lab. F. C. Williams, jr. il Textile World 101:136-7+ O '51

Preconditioning cotton yarn and tire cord before testing breaking strength and elongation-at-break. W. S. Lewis. Textile Res J 21:256-8 Ap '51

COTTONSEED

Changes in composition of cottonseed during development and ripening; abstract. D. N. Grindley. Food Eng 23:166 My '51

Cotton stew; cottonseed and linters hit new price records. Bsns W p78+ N 11 '50

Sleuthing oilseed allergens wins Hillebrand prize for three; Henry Stevens, E. Jack Coulson and Joseph R. Spies. Chem & Eng N 29:663 F 19 '51

COTTONSEED oil

Cottonseed oil loan confused the market. Barron's 31:17-18 Ag 13 '51

Cottonseed-oil production and utilization, Egypt. For Comm W 42:21 Ja 1 '51

New extraction process available to cottonseed industry. flow diag Chem Eng 58:226-7 My '51

New extraction process pays off; gets more oil from cottonseed, soybeans, peanuts. il Chem Eng 58:204 Jl '51

New oil extractor; Exolex. Bsns W p91 My 19 '51

COTTRELL precipitators. See Electric precipitation

COUCH grass. See Grasses

COUCHES. See Sofas

COULOMB wave function. See Wave mechanics

COULOMETRIC titrations. See Volumetric analysis

COULSON, Emery Jack, 1904-

Sleuthing oilseed allergens wins Hillebrand prize for three. por(cover) Chem & Eng N 29:663 F 19 '51

COUMARAN. See Dihydrobenzofuran

COUMARANDIONE. See Dihydrobenzofurandione

COUMARILIC acid

Basic derivatives of coumarilic acids. R. O. Clinton and M. Wilson. Am Chem Soc J 73:1852-3 Ap '51

COUMARILOYL peroxide

Coumariloyl peroxide and its decomposition in organic solvents. M. C. Ford and W. A. Waters. Chem Soc J p824-6 Mr '51

COUMARIN

Chemistry of fungi; 3 : 4-dihydrocoumarins. F. M. Dean, A. Robertson and W. B. Whalley. Chem Soc J p895-902 Mr '50

Chemistry of fungi; the synthesis of 4-hydroxy-3-acetylcoumarins. G. G. Badcock and others. Chem Soc J p903-8 Mr '50

Coumarins; derivatives of coumarin-3- and -4-acetic acids. S. C. Laskowski and R. O. Clinton. bibliog Am Chem Soc J 72:3987-91 S '50

Experiments on the synthesis of rotenone and its derivatives; the rotenonone nucleus. G. Parker and A. Robertson. Chem Soc J p 1121-4 Ap '50

Photochemical reactions; photopolymerisation of coumarins and related substances; photo-addition and -reduction processes of aromatic ketones. A. Schönberg and others. Chem Soc J p374-9 Ja '50

Polarographic reduction of some heterocyclic molecules; coumarin and certain derivatives thereof. A. J. Harle and L. E. Lyons. Chem Soc J p 1575-8 Je '50

Synthesis of octahydrocoumarins and their reaction with phosphorus pentoxide. R. L. Frank and R. C. Pierle. bibliog Am Chem Soc J 73:724-30 F '51

COUMARONE. See Benzofuran

COUNCIL of economic advisers. See United States—Council of economic advisers

COUNCIL of Europe

Calm in the Council of Europe. Economist 159:725-6 N 11 '50

Strasbourg in two minds; 2d session of Consultative assembly. Economist 159:950 D 2 '50

Strasbourg on stilts. Economist 160:266-7 F 3 '51

COUNCIL of national library associations
Council of national library associations. B. J. Cole. Special Lib 42:70-1 F '51

COUNTER display. See Display of merchandize

COUNTERBORES
Angle nomograph shows cutter clearances. D. E. Sweet. diags Am Mach 95:158 O 15 '51

COUNTERCURRENT apparatus
Critical conditions of two-phase flow in packed columns. B. J. Lerner and C. S. Grove, jr. bibliog diags Ind & Eng Chem 43:216-25 Ja '51
Derivation of the concentration distribution equation for the Craig counter current apparatus. R. M. Bock. Am Chem Soc J 72:4269-70 S '50

COUNTERCURRENT extraction column. See Extraction apparatus

COUNTERCURRENT processes
Analysis of fat acid oxidation product by countercurrent distribution methods; model compounds. K. T. Zilch and H. J. Dutton. bibliog Anal Chem 23:775-8 My '51
Analysis of fat acid oxidation products by countercurrent distribution methods; methyl oleate. J. Fugger and others. bibliog Am Chem Soc J 73:2861-4 Je '51
Countercurrent distribution of insulin. E. J. Harfenist and L. C. Craig. Am Chem Soc J 73:877-8 F '51
Countercurrent solid-gas fractionation process. A. F. Reid. diags Ind & Eng Chem 43:2151-3 S '51
Identity of the neomycin complex, as measured by countercurrent distribution and microbiological analyses. E. A. Swart, H. A. Lechevalier and S. A. Waksman. bibliog Am Chem Soc J 73:3253-5 Jl '51
Liquid-liquid extraction analysis. C. Golumbic. bibliog(73 ref) il Anal Chem 23:1210-17 S '51
Partition chromatography and countercurrent distribution. L. C. Craig. bibliog il diags Anal Chem 22:1346-52 N '50
Purification of subtilin concentrates by counter-current distribution. N. G. Brink, J. Mayfield and K. Folkers. bibliog Am Chem Soc J 73:330-1 Ja '51
Separation of mixtures of solutes by distribution between solvents; the separation of the components of a fixed quantity of a mixture by a continuous counter-current extraction process. J. D. A. Johnson and A. Talbot. diags Chem Soc J p 1068-88 Ap '50
Statistical procedures for counter-current distribution and differential spectroscopy. J. E. Bacher. bibliog Am Chem Soc J 73:1023-7 Mr '51

COUNTERFEITS and counterfeiting
Bank's Tel-A-Phony device helps customers detect counterfeit bills. il Bankers Mo 68:45 Mr '51; Burroughs Clearing House 35:22-3 Mr '51

COUNTERS (electrons, ions, etc.)
Absolute standardization of radioisotopes by 4π counting. H. H. Seliger and L. Cavallo. bibliog il J Res Nat Bur Stand 47:41-4 Jl '51
Accurate logarithmic counting-rate meter covering a wide range. E. H. Cooke-Yarborough and E. W. Pulsford. diag Inst E E Proc 98 pt 2:196-203; Discussion. 204-8 Ap '51
Addition of specified elements to liquid counters. S. A. Colgate. R Sci Instr 22:346 My '51
Application of proportional scintillation γ-ray counters to the determination of the decay scheme of Au^{198}. P. E. Cavanagh. Phys R 82:791-5 Je 15 '51
Automatic sample changer for windowless gas flow counters. W. N. Nye and J. D. Teresi. il plan diags Anal Chem 23:643-6 Ap '51
Behavior of space charge in diamond crystal counters under illumination; under beta-ray bombardment. A. G. Chynoweth. bibliog diag Phys R 83:254-68 Jl 15 '51
Cascaded binary counter with feedback. G. F. Montgomery. bibliog diags J Ap Phys 22:780-2 Je '51
Čerenkov radiation counter for fast electrons. J. Marshall. diag Phys R 81:275-6 Ja 15 '51
Comparison of the experimental and computed fast neutron efficiencies of a scintillation counter. G. E. Owen and others. bibliog Phys R 83:675-6 Ag 1 '51
Comprehensive counting system for nuclear physics research. N. F. Moody and others. bibliog il diags R Sci Instr 22:439-61, 551-63 Jl-Ag '51
Cosmic-ray showers; scintillation counters; cloud chambers; abstracts of papers at American physical society meeting. Phys R 81:322-5 Ja 15 '51
Counting-rate meter of high accuracy. E. H. Cooke-Yarborough and E. W. Pulsford. bibliog diags Inst E E Proc 98 pt 2:191-5; Discussion. 204-8 Ap '51
Delayed coincidence circuit for scintillation counters. A. Lundby. diags R Sci Instr 22:324-7 My '51
Design of neutron counters using multiple detecting layers. R. D. Lowde. bibliog il diags R Sci Instr 21:835-42 O '50
Detection of X-rays by means of NaI(Tl) scintillation counters. H. I. West, jr. and others. Phys R 81:141-2 Ja 1 '51
Determination of radioactivity by solution in a liquid scintillator. M. S. Raben and N. Bloembergen. Science 114:363-4 O 5 '51
Directional scintillation counter for clinical measurements. E. H. Belcher and H. D. Evans. bibliog il diags J Sci Instr 28:71-5 Mr '51
Distributed coincidence circuit. C. Wiegand. diag R Sci Instr 21:975-6 D '50
Electron energy studies with the anthracene scintillation counter. J. I. Hopkins. bibliog R Sci Instr 22:29-33 Ja '51
Elimination of the end effects in counters. A. L. Cockroft and S. C. Curran. bibliog diags R Sci Instr 22:37-42 Ja '51
Evidence of long-range secondary electrons accompanying cosmic rays in a proportional counter. S. D. Chatterjee. bibliog diag Phys R 82:114-15 Ap 1 '51
Fluorescence efficiencies of some crystals for electrons and heavy particles. W. K. Jentschke and others. Phys R 83:170-1 Jl 1 '51
Growth of large single crystals of alkali halides for scintillation counting. R. B. Owen. diag J Sci Instr 28:221-2 Jl '51
High speed short resolving time coincidence circuit for use with scintillation counters. E. F. Shrader. diag R Sci Instr 21:883 O '50
Laboratory exercises in nuclear chemistry; basic student counting circuit. W. H. Hamill and others. bibliog il diags J Chem Educ 28:98-101 F '51
Logarithmic counting rate meter. W. F. Goodyear. il diags Electronics 24:208+ Jl '51
Magnetic scaling circuit. H. Hertz. diags J Ap Phys 22:107-8 Ja '51
Measurement of specific disintegration rates by internal gas counting; radiocarbon. M. L. Eidinoff. bibliog diag Anal Chem 23:632-5 Ap '51
Mechanical or electronic design? G. J. Giel. il diags Machine Design 23:118-20 F '51
Methane, proportional counting method for the assay of tritium. C. V. Robinson. bibliog diags R Sci Instr 22:353-5 Je '51
Nuclear particle and radiation detectors. D. Taylor and J. Sharpe. bibliog(109 titles) il diags Inst E E Proc 98 pt 2:174-90, 209-30; Discussion. 204-8, 252-5 Ap '51
Passive pulse sharpening circuits. L. Reiffel. il diags R Sci Instr 22:214-16 Mr '51; Abstract. Electronics 24:162+ Jl '51
Photon counter measurements of solar X-rays and extreme ultraviolet light. H. Friedman and others. bibliog Phys R 83:1025-30 S 1 '51
Phototube improves nuclear scintillation counter. il Product Eng 21:176 D '50
Precision method of counting radioactive liquid samples. A. J. Freedman and D. N. Hume. Science 112:461-3 O 20 '50
Problem of using scintillation crystals as proportional counters for high energy particles. F. X. Roser and T. Bowen. Phys R 82:284-5 Ap 15 '51
Properties of proportional tubes and ion chambers with glass envelopes and external graphite electrodes. A. L. Cockroft and J. M. Valentine. diags J Sci Instr 27:262-3 O '50

COUNTERS (electrons, ions, etc.)—*Cont.*
Radiation counter announced by General Electric's Special products division. Mech Eng 72:902 N '50
Radiation counters aid brain tumor diagnosis. R. G. Davis. il diags Electronics 23:72-5 N '50
Radiation monitoring; symposium on nucleonic instrumentation. Electrician 145:1240-2 D 1 '50
Response of an anthracene scintillation counter to protons. H. B. Frey and others. bibliog Phys R 82:372-3 My 1 '51
Response of some scintillation crystals to heavy particles. C. J. Taylor and others. bibliog Phys R 83:169-70 Jl 1 '51
Scintillating advance; Tracerlab, new phosphorescent plastic. il Chem Ind W 68:19 F 24 '51
Scintillating liquids as neutron detectors. C. E. Falk and others. bibliog Phys R 83:176-7 Jl 1 '51
Scintillation counter for fast neutrons. H. B Frey. R Sci Instr 21:886 O '50
Scintillation counter for thermal neutrons. J. E. Draper. R Sci Instr 22:543 Jl '51
Scintillation counter studies of neutron capture gamma-ray spectra. B. Hamermesh and V. Hummel. bibliog Phys R 83:663-4 Ag 1 '51
Scintillation counting equipments. R. B. Owen and E. A. Sayle. il diags Inst E E Proc 98 pt 2:245-51; Discussion. 252-5 Ap '51
Scintillation counting of cosmic-ray particles. E. P. Ney and D. M. Thon. diag Phys R 81:1068-9 Mr 15 '51
Scintillation counting with an EMI 5311 photomultiplier tube. J. S. Allen and T. C. Engelder. R Sci Instr 22:401-2 Je '51
Scintillations in some phosphor-plastic systems. W. S. Koski. bibliog Phys R 82:230-2 Ap 15 '51
Silver bromide crystal counters. K. A. Yamakawa. bibliog Phys R 82:522-6 My 15 '51
Single-channel analyzer. J. E. Francis, jr. and others. diags R Sci Instr 22:133-7 Mr '51
Single channel pulse analyser for nuclear experiments. J. S. Eppstein. diags J Sci Instr 28:41-4 F '51
Solid non-crystalline scintillation phosphors. M. G. Schorr and F. L. Torney. bibliog Phys R 80:474 N 1 '50
Statistical limitations on the resolving time of a scintillation counter. R. F. Post and L. I. Schiff. bibliog Phys R 80:1113 D 15 '50
Temperature coefficient of scintillation phosphors. W. L. Minarik and H. G. Drickamer. bibliog R Sci Instr 22:704-5 S '51
Use of positron-emitting radioisotopes for the localization of brain tumors. F. R. Wrenn, jr. and others. bibliog diags Science 113:525-7 My 4 '51
Zero inefficiency anticoincidence circuit. M. Degallier. diag R Sci Instr 21:1025 D '50
See also
Coincidence counting
Geiger-Müller counters

Power supply

Precision regulated high voltage supplies. W. A. Higinbotham. diags R Sci Instr 22:429-31 Je '51

COUNTERSINKS
Portable countersink tool developed at Boeing. il Automotive Ind 105:56+ Jl 1 '51

COUNTING
Hurry-up way to count small parts. il Mill & Factory 48:123 F '51

COUNTING machines and devices
Automatic plate counter. J. L. Lerner and D. F. Uecker. bibliog diags R Sci Instr 22:575-8 Ag '51
Conversion of the Saco-Lowell sliver tester to electrical recording. R. A. Rusca. bibliog il diags Textile Res J 20:780-6 N '50
Counters record big total. Steel 129:47 Ag 27 '51
Counting device repeats predetermined count. il Product Eng 22:165 F '51
Electronic counter has high capacity. il Product Eng 22:208 S '51
Electronic counting of paper money. il Comp Air Mag 56:100-1 Ap '51; Electronics 24:160+ Ap '51; Elec Eng 70:388 My '51; Mech Eng 73:418-19 My '51
Eput meter; Events-Per-Unit-Time. il R Sci Instr 22:284-5 Ap '51
Fault location by pulse time modulation. R. W. Hughes and N. Weintraub. map diags Elec Eng 69:1009-11 N '50; Same. il Elec Com 28:90-4 Je '51
Gas-discharge tubes for electronic counting circuits. Engineering 171:527 My 4 '51
Industry takes the count; counters tabulate liquids, packages, strokes of a drill press. il Mod Ind 22:57-60 S '51
Multiple-output predetermined counter. D. L. Gerlough and H. R. Kaiser. il diags Electronics 24:122+ F '51
New electronic counting unit; Walkirt Type M 1731 Eventometer. Aviation W 55:26+ Jl 2 '51
Plastics count metal out; Denominator to keep count of the frequency of any occurrence. il Mod Plastics 28:108 Je '51
Positive gate counter circuit. A. G. Ratz. diag Electronics 23:194+ N '50
Projection method speeds bacteria counts. T. Knowles. il Food Ind 23:129-30 F '51
Research pulse counter. il Tv Eng 2:7-8 Ja '51
32-channel high-speed commutator. N. Alpert and others. il diags Electronics 23:94-7 N '50
Vehicle computer. il Engineer 191:394 Mr 23 '51; Engineering 171:295 Mr 9 '51
Wood counter for hydraulic-type grinders. P. X. Laberge. il Pulp & Pa of Can 52:99-100 Mr '51

COUNTRY banks. Banks and banking—Country banks

COUNTRY houses
Blends with its surroundings; Milwaukee builder's own rural home. il plans diag Am Bld 73:124-5 Ag '51
Designed to face the sun; lakefront home. il plans diags Am Bld 73:110-11 S '51
Spacious wings planned around compact circulation core. E. L. Barnes. il Arch Forum 94:181-4 Je '51
This is a laboratory; Stotesbury's Whitemarsh Hall is research laboratory of Pennsylvania salt manufacturing co. il Fortune 44:89-92 O '51
See also
Vacation houses

COUNTY buildings
Multi-purpose building for rural county; Wake county office building, Raleigh, N.C. il plans diag Arch Rec 110:149-51 S '51

COUNTY engineering
Equipment used by county engineers. il Pub Works 82:42-3 Ja '51

COUNTY engineers

Directories

County engineers in Ontario. Roads & Eng Constr 89:128 Je '51

COUPLINGS
Centrifugal pumps; couplings and bedplates. I. J. Karassik and R. Carter. il diags Paper Ind 32:1282-4 Mr '51
Dihedral tooth makes coupling more flexible. il diags Product Eng 21:170 D '50
Eddy current couplings and brakes. diags Product Eng 22:173 My '51
Endless cable links. il diags Machine Design 23:195 Ap '51
First rig equipped with dynamatic couplings being used on deep test. K. M. Fagin. il Pet Eng 22:B39+ N '50
Nonreversing coupling. E. L. Thearle. diags Machine Design 23:181-4 Ap '51
Quick-action air-line coupling. diags Engineer 192:30 Jl 6 '51
Quick-release coupling for hydraulic lines between tractor and trailer. il diags Machine Design 22:112 N '50
Toothed couplings. il Product Eng 22:176 My '51

COUPONS
Cash coupons in disappearing act. B. Tolk. Ptr Ink 235:316 My 25 '51
Grocers offer co-op plan to lick coupon redemption headache. Sales Management 65:96 N 10 '50
How to give away $4 million; Donnelly coupon campaign. A. M. Andersen. il Sales Management 66:72+ Je 1 '51
1911 coupons are honored; offer closed. Ed & Pub 84:59 Ja 27 '51
Pittsburgh proves ads stimulate coupon plan. Ed & Pub 84:31 Ja 6 '51

COURAGE
Soldiers of public service; heroism of utility employees; Carnegie medal awards. H. F. Unger. Pub Util 48:477-85 O 11 '51

COURBONIA virgata
Isolation and identification of (—)-stachydrine ethyl ester periodide from the root of courbonia virgata. A. J. Henry and H. King. Chem Soc J p2866-8 O '50

COURTAULDS, limited
Courtaulds re-enter America. Economist 161: 176 Jl 21 '51

COURTESY
Does it pay to keep 'em waiting? W. A. Lowen. Ptr Ink 237:120 O 12 '51
Mainspring of good human relations; abstract. Management R 40:523 S '51

COURTS
See also
Jurisdiction

United States

Top U.S. commercial court; New York's second circuit. J. P. Frank. Fortune 43: 92-6+ Ja '51

COURTS, Motor. See Tourist camps, hostels, etc.

COVENANT on human rights. See United nations—Covenant on human rights

COVER paper. See Paper, Cover

COVERED bridges. See Bridges, Wooden

COVERS (printing)
Sell a book by its cover? case for use of cover papers. F. Rundell. Inland Ptr 126: 47-8 F '51

COWIE scraper. See Paper making machinery

COWS
See also
Cattle breeding

COXSACKIE viruses. See Viruses

COZYMASES
Codehydrogenases; the synthesis of dihydronicotinamide-D-ribofuranoside[N-D-ribofuranosidyl-1 : 2(or 6)-dihydronicotinamide]. L. J. Haynes and A. R. Todd. Chem Soc J p303-8 Ja '50

CRABGRASS
Crabgrass massacre means dollars; potent crabgrass killers. il Chem W 69:28-9 Ag 25 '51

CRACKERS
Cracker-filling achievement; new system of weighing; Megowen-Educator food co. il diag Mod Packaging 24:140-3 Ap '51

CRACKING processes. See Petroleum distillation

CRAIG, Cleo Frank, 1893-
New AT&T head. por Nat Safety N 64:37 S '51
Portrait. Bsns W p28 Jl 14 '51

CRAIG, John William, 1907-
Portrait. Fortune 43:75 Ja '51

CRANE, Evan Jay, 1889-
Top chemical abstractor receives top chemical award. por(cover) Chem & Eng N 29: 4272 O 15 '51

CRANE, Roy
Other cartoonists rate Crane as tops. J. McMaster. por Ed & Pub 84:86 Ap 28 '51

CRANE and company
Marks 150th year. il Paper Ind 33:384-5 Jl '51

CRANE cabs
Plexiglas dome cuts glare. il Eng N 146:55 Ja 18 '51; Safety Maint & Prod 101:60 Ap '51

CRANE hooks
Heavy crane hook supported by shop-designed bearing. B. A. Lee. diag Am Mach 95:163 My 14 '51

CRANES, derricks, etc.
Applying torque converters to cranes. R. E. Orton. il diags Machine Design 23:119-24 Je; 138-44+ Jl; 113-16+ Ag '51
Barges place girder spans in Chesapeake Bay bridge. il Constr Methods 33:100-1+ S '51
Big derrick boosts small yard's storage capacity. il diag Factory Management 108: 100-1 D '50
Can you top this 155-ft truck-crane boom? illustration with text. Constr Methods 33:59 My '51
Crane on skids rises with building to erect steel on 17-story apartment. il Constr Methods 33:54-5 S '51
Diesel-hydraulic unit applied to crane. il Ry Age 130:27 My 28 '51
E.J.&E. Dieselizes wrecking crane. il Ry Age 130:38-9 Ap 16 '51
Flexible monorail crane handles variety of bar stock at General Electric's Lynn, Mass. plant; illustration with text. Factory Management 109:100 S '51
How to evaluate a crane proposal. F. M. Blum. il Iron & Steel Eng 27:125-30+ D '50
Light alloys in monotower crane construction. il Engineer 191:519 Ap 20 '51
Locomotive unloading gantry. il diags Engineer 190:597-8 D 15 '50
Milwaukee installs heavy-lift crane. il Marine Eng 55:68+ D '50
New British mobile crane; Jones KL 66. il Roads & Eng Constr 89:62 Mr '51
New crane truck speeds brick handling; illustrations with text. Brick & Clay Rec 118:44 My '51
New device saves manpower and reduces hazard on headworks gantries. il Roads & Eng Constr 89:68 My '51
New method speeds checking of crane rails. A. Zanotta. il Am Mach 95:128A Mr 5 '51
Overhead tiering expands storage space. F. A. Miller. il plan diags Steel 127:104-6 N 20 '50; Abstracts. Am Mach 95:106 Ja 8 '51; Chem Eng 58:250+ Je '51
Preventive maintenance for electric overhead cranes. H. C. Mullings. il diags Iron & Steel Eng 28:76-82; Discussion. 82-3 My '51
Reaching the high spots; scaffold suspended from crane useful for construction and maintenance jobs. il Nat Safety N 63:26-7 Ja '51
Simple psychology saves cranes. il Constr Methods 33:103-4 Jl '51
Six-ton mobile crane. il Engineer 191:297 Mr 2 '51
Ten-ton mobile crane. il diags Engineer 191: 246-7 F 23 '51
350-ton overhead travelling crane. il diags Engineer 191:316-18 Mr 9 '51; Engineering 171:314-15, pl 13 Mr 16 '51
Tilt-up wall construction; crane sets panels from inside. il Constr Methods 33:63+ Ag '51
Tilt-up wall construction; truck crane sets panels from outside. il Constr Methods 33: 66-7 Ag '51
Tower crane with aluminium-alloy jib. il Engineering 171:771 Je 22 '51
Track-laying cranes. Engineer 192:94-5 Jl 20 '51
Unusual tower cranes are being used in Europe. Eng N 146:52 Ja 11 '51

Control

Design of crane control. J. D. Leitch. diags Iron & Steel Eng 28:70-7; Discussion. 83-6 Mr '51
Dynaflow drive increases efficiency of Orton crane. Steel 128:110+ Mr 26 '51
Electric control of twin bridge drives with no torque shafts. H. Ball. il Iron & Steel Eng 28:78-81; Discussion. 84-6 Mr '51
Possibilities of standardizing crane control. J. A. Cortelli. Iron & Steel Eng 28:81-3; Discussion. 84-6 Mr '51

Electric equipment

Crane resistor design. M. A. DuBois. Iron & Steel Eng 28:77-8 Mr '51
Diesel electric cranes speeding up railway track relaying. il Elec R (Lond) 149:65 Jl 13 '51
Garrison dam; electric gantry cranes, placing concrete and reinforcing steel. il(cover) Constr Methods 33:99-100 F '51
Improved d-c crane hoist control. S. Rifkin. il diags Iron & Steel Eng 27:90-6; Discussion. 96-9 O '50
Nonsynchronized gantry crane drive. il diag Machine Design 23:172 Ap '51
350-ton electric overhead crane. il Metallurgia 43:135-7 Mr '51
Turnable crane lorry. il Electrician 146:1136 Ap 6 '51

Lubrication

Centralized lubrication on cranes pays for itself in one year; U.S. Pipe & Foundry's plant, Burlington, N.J. il Factory Management 108:91 N '50

CRANES, derricks, etc.—*Continued*

Safety measures

Ten safeguards to cut bridge crane accidents. W. E. Burbank and others. il diag Factory Management 109:84-7 Ag '51

Specifications

Proposed method of specifying travel-motion performance for steelworks overhead cranes. D. A. Wise and L. N. Bramley. Iron & Steel Inst J 164:439-51 Ap '50; Discussion. 166:246-52 N '50

CRANKCASE explosions. See Crankcases—Explosions

CRANKCASES

Explosions

Crankcase explosion investigation. G. W. Ferguson. diag Diesel Power 29:55-8 Jl; 56-9 Ag '51

Crankcase explosions. F. V. Cook. diags World Oil 131:213-14+ N '50; Same. Oil & Gas J 49:291+ N 16 '50; Same. Pet Eng 22:D15-16+ D '50; Same cond. Pet Processing 5:1304-5 D '50; Discussion. World Oil 131:201-2+ D '50; Pet Processing 5:1305-6 D '50

Crankcase explosions and how to limit the damage; abstracted from papers by A. C. Cavileer and G. W. Ferguson. il Ry Mech & Elec Eng 125:50-3 S '51; Same abr. Ry Age 131:45-8 Ag 13 '51

More on crankcase explosions. W. L. Nelson. Oil & Gas J 49:118 O 26 '50

CRANKPINS

Next shutdown, check crankpin bolts; illustrations and drawings with text. Power 95:114-15 Ap '51

CRANKSHAFTS

Crankshaft reconditioning; new centreless grinder for journals and crankpins. il Automobile Eng 41:107-8 Mr '51

Some considerations of crankshaft regrinding. F. P. Healy. il Diesel Power 28:62-5 D '50

Manufacture

Ausco's diversified production facilities. J. Geschelin. il Automotive Ind 104:38-9+ Mr 1 '51

Casting steel crankshafts; Auto specialties manufacturing co. E. Bremer. il plan Foundry 79:84-7+ Mr '51

Chrysler V-8 pistons, rods and crankshafts in production. J. Geschelin. il Automotive Ind 104:46-9+ My 15 '51

Engine detail machining; Ford Consul and Zephyr connecting rods and crankshafts. il Automobile Eng 41:287-95 Ag '51

From ingots to crankshafts; production story; Ellwood City forge co. il Diesel Power 29:46-7 Mr '51

New crankshaft notching machine doubles production at Pontiac. W. G. Patton. il diag Iron Age 168:95-6 Jl 5 '51

Turning and polishing Rocket engine crankshafts; Oldsmobile's plant at Lansing, Mich. H. Chase. il diags Automotive Ind 103:34-7 D 1 '50

Testing

Checking V-8 crankshaft by air gaging machine. il Automotive Ind 105:53 Jl 1 '51

Deflection-test your crankshaft once a year; illustrated instructions. S. Elonka. Power 95:110-11 S '51

How Chrysler builds quality into the firepower engine; eleven checks made on crankshaft in one air-gaging setup. R. Le Grand. il diags Am Mach 95:148-9 S 17 '51

CRATERS, Meteorite. See Meteorite craters

CRATES

Handling costs cut, pallets eliminated by fingerlift truck. il Iron Age 167:82 Ja 11 '51; Steel 128:105 Ja 15 '51

How to move a crate with a finger tip; A. O. Smith's lift assemblies work like giant metal hands. il Bsns W p42+ D 30 '50; Factory Management 109:98-9 F '51

We pack four times as fast; Wayne Pump's new shipping crate. P. W. Brannon. il Factory Management 109:90-1 S '51

CRAYONS

Circus in a box; Swingzy stage play carton for crayons. il Mod Packaging 24:104-6 My '51

CRAZING of plastics. See Plastic materials—Crazing

CREAM, Whipped

Refrigerated trucks speed canned-whip to market. il Food Eng 23:114 Je '51

CREAM separators

Power spinning eliminates annealing and descaling; stainless steel bowls for cream separators. L. W. Court. il diag Am Mach 94:114-15 D 25 '50

CREAMERIES

Equipment

Newly developed unit checks pH right on line; acidity of cream continuously tabbed. L. E. Slater. il diag Food Eng 23:98-9+ S '51

CREAMS, Protective. See Ointments

CREASING of textiles

Creaseproofing nylon; patent. Am Dyestuff Rep 40:373 Je 11 '51

Creaseproofing textiles; sulfurdioxide treated rubber as impregnating agent; patent. Am Dyestuff Rep 39:926 D 25 '50

New wrinkle resistant finish by DuPont; Zeset. Rayon 32:153 S '51

Wrinkle-resistant finishes. M. A. Falcone. Rayon 32:53-4 Ag '51

CREATINE phosphoric acid

Analysis

Inorganic phosphates and phosphate esters in tissue extracts. B. L. Griswold, F. L. Humoller and A. R. McIntyre. Anal Chem 23:192-4 Ja '51

CREATIVE ability

Lords of creation. S. Chandler. Ptr Ink 233:92 D 29 '50

CREDIT

Adventure in American finance; voluntary credit restraint plan. L. Stafford. Banking 43:33-5+ Je '51

C.P.A. as a source of credit data verification. K. J. Berylson. Credit & Fin Management 53:27-8 Ja '51

Check credit after you get the order. W. S. Kraus. Ptr Ink 236:50+ Ag 31 '51

Credit controllers take stock; Wilson report. Bsns W p 127-8 Je 9 '51

Credit controls and fiscal policy. J. F. Weston. Comm & Fin Chr 173:1759+ Ap 26 '51

Credit curbs are justified. R. M. Evans. Comm & Fin Chr 173:1134 Mr 15 '51

Credit; fundamental function of marketing. E. V. W. Read. Credit & Fin Management 52:14-15+ N '50

Credit in sales development. S. Cohn. Credit & Fin Management 52:16-18 N '50

Credit looks safe to consumer loan groups. Bsns W p58+ Ja 27 '51

Credit management in a transitory economy. R. H. Collacott. Credit & Fin Management 52:17-18+ D '50

Credit problems peculiar to the oil field. O. E. Wynn. Credit & Fin Management 53:23-5+ Ag '51

Cut credit, sales rise, Southern States finds. T. K. Wolfe. Sales Management 66:120+ Mr 15 '51

Developments in selective credit control; reprinted from Midland bank review. Comm & Fin Chr 174:604+ Ag 16 '51

Divergent trends in credit buying. Survey of Cur Bsns 31:4-6 Je '51

Evaluating credit risks in the light of changing economic conditions. F. H. Jones. Credit & Fin Management 53:8-9+ Ag '51

Financial developments in 1950; consumer financing. Survey of Cur Bsns 31:28-9 F '51

Growing importance of credit; feed industry problem. T. W. Staley. Credit & Fin Management 53:17-18 F '51

Inflation and credit. J. A. Walker. Credit & Fin Management 53:13-15 Jl '51

Insurance companies and the program for voluntary credit restraint. C. M. Shanks. East Underw 52:20+ pt 2 O '51

Investment bankers' role in the voluntary credit restraint program. O. S. Powell. Comm & Fin Chr 173:1763+ Ap 26 '51

It's all a question (cont). H. M. Sommers. Credit & Fin Management 52:4-6+ N; 10-12+ D '50; 53:18-22+ Ja; 22-4+ F; 18-21+ My; 16+ Je '51

Mainly, the Wilson report; voluntary credit restraint program. L. Stafford. Banking 44:34-5+ Jl '51

CREDIT—*Continued*

New loan rise tests credit restraint; with graph. Bsns W p 148+ S 22 '51

No further credit controls needed. R. L. Reierson. Comm & Fin Chr 173:2568+ Je 21 '51

Outlook for credit. R. Colston. Mag of Wall St 87:389-91+ Ja 13 '51

President's credit policy committee reports; text. Comm & Fin Chr 173:2364-5 Je 7 '51

Price of success can be the loss of credit. F. M. Nicodemus. Credit & Fin Management 53:20-1+ S '51

Program for voluntary credit restraint. Credit & Fin Management 53:13-14+ Je '51; Same abr. Fed Res Bul 37:263-6 Mr '51

Progress of voluntary credit restraint program in New York. D. C. Barry. Comm & Fin Chr 173:2668 Je 28 '51

Recent credit report clue to bond market. D. H. Stevens. Barron's 31:33-4 Je 18 '51

Recent monetary and credit developments. Fed Res Bul 37:739-47 Jl '51

Research Foundation survey shows mixed feelings on 1951 prospects. Credit & Fin Management 53:29 F '51

Restraints upon credit; explains purpose of voluntary credit restraint committee. O. S. Powell. Comm & Fin Chr 173:1946 My 10 '51

Role of credit control in a defense economy. W. M. Martin. Comm & Fin Chr 173:2051+ My 17 '51; Same. Fed Res Bul 37:490-4 My '51

Seeks unified plan on credit policies; text of memorandum. H. S. Truman. Comm & Fin Chr 173:926 Mr 1 '51

Serious impacts of credit restrictions on business. H. R. Silverman. Comm & Fin Chr 173:1330+ Mr 29 '51

Status of the voluntary credit restraint program, Sept. 11, 1951. Fed Res Bul 37:1058-60 S '51

Study on credit to be made by Treasury, FRB, CEA, and ODM heads. Bsns W p25 Mr 3 '51

Theory and facts of credit and financial terminology. E. O. Kallmann. Credit & Fin Management 53:8-10+ Jl '51

Three M's of today's credits. B. H. Davis. Credit & Fin Management 53:18-19 Ap '51

Voluntary credit restraint. N. P. Gregory. Burroughs Clearing House 35:38+ Ap '51

Voluntary credit restraint bulletins; excerpts from numbers five and six. Banking 44:128 S '51

Voluntary credit restraint committees. Fed Res Bul 37:378-84, 624-6, 753-8, 939-41 Ap, Je-Ag '51; Excerpts. Banking 43:38-9+ Je '51; Comm & Fin Chr 173:1236 Mr 22 '51

Voluntary credit restraint plan progresses. N. P. Gregory. Burroughs Clearing House 35:41-2 My '51

Voluntary credit restraint programs. Nat City Bank p42-3, 54-5, 67-71 Ap-Je '51

Voluntary credit restraint releases. Fed Res Bul 37:495-500, 624-6, 752-3, 983-41 My-Ag '51

Where voluntary credit restraint stands. Burroughs Clearing House 35:3-4+ S '51

Wrong war; price controls, not credit restraint, should go. Barron's 31:1 Je 11 '51

Your customers can still finance eight-ways. Dom Eng 178:106-7 Jl '51

See also

Accounts receivable
Agricultural credit
Bankruptcy
Banks and banking
Billing
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Credit, Bank
Credit unions
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Debtor and creditor
Discount, Cash
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Government loans and grants
Instalment plan
Letters of credit
Loans
Loans, Bank—Collateral
Maine development credit corporation
Promissory notes
Salesmen and credit
Taxation—Credit aspects

Accounting aspects

Using the figures for credit appraisal. R. Young. N A C A Bul 32:810-17 Mr '51

Law

See also
Instalment plan—Regulation

Statistics

Consumer buying and credit developments. Survey of Cur Bsns 30:10-13+ N '50

Consumer credit statistics, total credit, by major parts; consumer instalment loans, selected years 1929-1949 and monthly Oct. 1949-Nov. 1950. Fed Res Bul 37:92 Ja '51 [cont monthly]

Measurement of consumer credit. R. A. Young. Fed Res Bul 36:1456-64 N '50

Revised estimates of consumer credit; with monthly figures Jan. 1929-Sept. 1950. Fed Res Bul 36:1465-6 N '50

Latin America

All Latin-American countries improve their credit standing; 45th semi-annual survey. P. J. Gray. Credit & Fin Management 53:7-9 F '51

Haiti and Panama lead in 46th semi-annual Latin-American credit survey. P. J. Gray. Credit & Fin Management 53:5-7 S '51

CREDIT, Agricultural. See Agricultural credit

CREDIT, Bank

Bank credit and the riddle of inflation. Banking 43:33-5 N '50

Banker looks at the pulp and paper industry. A. N. Rumpf. Tappi 33:sup 14A+ D '50

Developments in selective credit control; reprinted from Midland bank review. Comm & Fin Chr 174:604+ Ag 16 '51

Expanding bank credit minor inflation cause. W. R. Burgess. Comm & Fin Chr 173:2661+ Je 28 '51; Excerpts. Banking 44:78+ Ag '51

Insurance factor in bank credit; recent Banking survey. Banking 43:82 N '50

Mercantile and retail credit today. R. Rodgers. Credit & Fin Management 53:14-16+ F '51

New loan criteria for bankers; management engineer looks at loan policies. J. A. Patton. Bankers Mo 68:7-8+ Je '51

What bankers would like to find in audit reports submitted for credit purposes. R. L. Stauffer. J Account 91:416-21 Mr '51

See also
Agricultural credit
Federal reserve board—Credit policy
Loans, Bank

CREDIT, Foreign

See also
Credit—Latin America

CREDIT, Letters of. See Letters of credit

CREDIT agencies, Government. See Government loans and grants

CREDIT and salesmen. See Salesmen and credit

CREDIT associations

See also
National association of credit men
National retail credit association

Directories

Credit associations affiliated with NACM; list by states and by cities. Credit & Fin Management 53:36-8 Ja '51

CREDIT cards. See Restaurants—Credit cards

CREDIT departments

Credit policy for an over-bought market. M. J. Slikas. Credit & Fin Management 53:11-12+ My '51

Salesmen view the credit department. J. P. Maloney. Credit & Fin Management 53:10-12+ Ag '51; Excerpt. Management R 40:573 S '51

Why, when and how of personal interviews with customers. O. E. Barnum. Credit & Fin Management 53:11-12+ Mr; 9-10+ Ap '51

See also
Salesmen and credit

Records

We broke with custom; handling accounts receivable. F. G. Phillips. il Credit & Fin Management 53:26-7+ Ag '51

CREDIT departments—*Continued*

Service

We started a special credit department service for our smaller customers. L. D. Holland. Credit & Fin Management 53:9-11+ Ja '51

CREDIT education

Fifth session of graduate school closes at Dartmouth college. il Credit & Fin Management 53:30-2 S '51

What the educational program means to your association. H. S. Almy. Credit & Fin Management 53:18-20+ Ag '51

CREDIT insurance. See Insurance, Export credit

CREDIT managers

Are credit men scorekeepers or players? P. J. Kelly. Credit & Fin Management 52:13-14+ D '50

Credit manager's personal statement. L. Hageman. Credit & Fin Management 52:20-3 N '50

Get out on the road. M. D. Stevens. Credit & Fin Management 53:5-7+ Ag '51

How to take longer strides to bigger things. G. Purvis and others. Credit & Fin Management 52:7 N '50

In credit you're the doctor. W. H. Carhart. Credit & Fin Management 53:25+ My '51

Memo to management. J. J. Steig. Credit & Fin Management 52:18 N '50

To his customers the credit executive should act as a one-man business clinic. E. W. Walrath. Credit & Fin Management 53:14+ My '51

CREDIT unions

Credit unions have four-million members. J. R. Dunkerley. Banking 43:54-5+ Ja '51

CREEP of materials

Creep and relaxation. B. Gross and H. Pelzer. bibliog J Ap Phys 18:212-21; 19:257-64; 22:1035-9 F '47, Mr '48, Ag '51

Creep properties of lucite and plexiglas for tension, compression, bending, and torsion. J. Marin and others. bibliog il diags A S M E Trans 73:705-18; Discussion. 718-19 Jl '51

Creep rates of acrylic plastics; reference book sheet. J. Marin. Product Eng 22:171, 173, 175 Jl '51

Primary creep and stiffness of vulcanized rubbers. D. H. Cooper. il Ind & Eng Chem 43:365-73 F '51

Three-dimensional photoelasticity; new creeping method. A. J. Durelli and R. L. Lake. il diags Machine Design 22:122-5 D '50; Discussion. 23:208+ F '51

CREEP of metals

Aluminum creep studied. Steel 128:115-16 Mr 26 '51; Same abr. Iron Age 167:89 Mr 29 '51; Same abr. Materials & Methods 33:148+ Je '51

Creep and fatigue properties of non-ferrous metals at elevated temperatures; recommended scope of research programmes. Metallurgia 44:38-9 Jl '51; Same abr. Engineer 191:869-70 Je 29 '51

Creep behavior of zinc modified by copper in the surface layer. M. R. Pickus and E. R. Parker. bibliog il diags J Metals 3:Trans 792-6 S '51

Creep characteristics of some platinum metals at 1382°F. R. H. Atkinson and D. E. Furman. il J Metals 3:Trans 806-8 S '51

Creep of a nominally isotropic magnesium alloy at normal and elevated temperatures under complex stress systems. A. E. Johnson. bibliog diags Metallurgia 42:249-62 O '50

Creep of high-purity aluminum. W. D. Jenkins. bibliog il J Res Nat Bur Stand 46:310-17 Ap '51

Creep of high-purity copper. W. D. Jenkins and T. G. Digges. bibliog il J Res Nat Bur Stand 45:153-73 Ag '50; Abstract. Metal Prog 58:900+ D '50

Creep pattern of annealed high-purity copper analyzed. Product Eng 22:124 Ja '51

Creep properties of some aluminium alloys at temperatures up to 300°C. J. McKeown and R. D. S. Lushey. diags Metallurgia 43:15-19 Ja '51

Flow of zinc under constant stress; abstract. A. H. Cottrell and V. Aytekin. Metal Prog 59:290+ F '51

Fracture under combined stress creep conditions of 0.5 per cent Mo steel. A. E. Johnson and N. E. Frost. Engineer 191:434-7 Ap 6 '51

Fundamental effects of cold working on the creep resistance of an austenitic alloy. D. N. Frey and J. W. Freeman. bibliog il J Metals 3:Trans 755-60 S '51

Mechanism of creep as revealed by X-ray methods; abstract. G. B. Greenough and E. M. Smith. Metal Prog 59:424 Mr '51

Mechanism of primary creep in metals; abstract. W. A. Wood and R. F. Scrutton. Metal Prog 59:410+ Mr '51

Microscopical examination of creep specimens. E. A. Jenkinson. il Engineer 191:469-72 Ap 13 '51

Relaxation of austenitic steel at room temperature; abstract. I. A. Oding and E. N. Volosatova. Metal Prog 59:546+ Ap '51

Surface conditions and the creep of extruded high-purity lead. R. C. Gifkins. Metallurgia 44:122 S '51

Survey of the development of creep-resisting alloys. N. P. Allen. Engineering 171:235-8 F 23 '51

CREOLE petroleum corporation

Debt-free companies; with comparative balance sheet items. Mag of Wall St 88:403 Jl 14 '51

Prospects are bright. Barron's 31:14-15 Jl 2 '51

Security I like best. W. W. Cumberland and M. Peckman. Comm & Fin Chr 174:322+ Jl 26 '51

CREOSOTE bush

Extraction and purification of nordihydroguaiaretic acid. J. O. Page. bibliog(38 ref) Anal Chem 23:296-8 F '51

CRESOL

Anaerobic persistence of phenol and *o*-cresol. M. B. Ettinger, W. A. Moore and R. J. Lishka. bibliog diag Ind & Eng Chem 43:1132-5 My '51

Chloro substituted diphenylmethanes, phenyl benzyl ethers and benzophenones prepared from ortho- or para-cresol. R. C. Huston and K. R. Robinson. bibliog Am Chem Soc J 73:2483-6 Je '51

Cresol from toluene. il Chem W 68:16 Je 2 '51

Infrared determination of ortho and meta isomers in *p*-cresol; freezing points of pure cresols. O. E. Knapp, H. S. Moe and R. B. Bernstein. Anal Chem 22:1408-10 N '50

Oxidation of phenols with the free hydroxyl radical. S. L. Cosgrove and W. A. Waters. Chem Soc J p 1726-30 Jl '51

Phenol and cresols in coal tar from coals carbonized at 800° and 900°C. E. Bengtsson. U S Bur Mines Rep of Invest 4755:1-10 bibliog(p9-10) '50

Reactions of ferric chloride with *o*- and *p*-cresol. K. Bowden and C. H. Reece. Chem Soc J p2249 Ag '50

Retardation of benzaldehyde autoxidation by *p*-cresol. W. A. Waters and C. Wickham-Jones. Chem Soc J p812-23 Mr '51

Substituted diphenylmethanes and phenyl benzyl ethers prepared from *o*- or *p*-cresol and *o*-, *m*- or *p*-bromobenzyl chloride. R. C. Huston and H. H. Gyorgy. bibliog Am Chem Soc J 72:4171-3 S '50

Analysis

Chromatographic separation of phenol from cresylic acids. R. J. Zahner and W. B. Swann. diag Anal Chem 23:1093-5 Ag '51

CRESOTIDES

Eight- and higher-membered ring compounds di-, tri-, and tetra-cresotides. W. Baker and others. Chem Soc J p209-13 Ja '51

CRESOXYACETIC acid. See Toloxyacetic acid

CREVASSES. See Glacial geology

CRICHTON, Andrew B. 1882-

Crichton honored by Johnstown leaders. por Coal Age 55:130 N '50

CRIME and criminals

Gangland's grip on business; Kefauver report. Bsns W p22 My 12 '51

CRIME and criminals—*Continued*

No evidence; Kefauver committee apologizes to A. M. Byer & co. Bsns W p21 My 26 '51

See also

Embezzlement

Fraud

Newspapers—Crime investigation

Theft

Great Britain

Crime in 1950; with graph. Economist 161:330+ Ag 11 '51

CRIME investigation. See United States—Federal bureau of investigation—Laboratory

CRIMINAL law

See also

Justice, Administration of

CRIMPING of textiles

Textralizing process imparts permanent crimp to fibers. J. H. Pfau and W. D. Hay. il diags Textile World 100:106-7+ D '50

CRITICAL constants

Correlation of critical temperature, boiling point, and critical pressure. L. H. Thomas. Chem Soc J p3411-15 D '49

Correlation of critical temperature, vapour pressure, and latent heat of vaporisation. L. H. Thomas. Chem Soc J p3415-19 D '49

Critical constants, boiling points, triple point constants, and vapor pressures of the six isotopic hydrogen molecules, based on a simple mass relationship. A. S. Friedman and others. J Chem Phys 19:126-7 Ja '51

Critical constants of polar gases. J. S. Rowlinson. bibliog J Chem Phys 19:831-3 Jl '51

Critical temperatures, pressures, and volumes of hydrogen, deuterium, and hydrogen deuteride. H. J. Hoge and J. W. Lassiter. bibliog J Res Nat Bur Stand 47:75-9 Ag '51

Direct determination of the critical temperature and critical pressure of normal deuterium; vapor pressures between the boiling and critical points. A. S. Friedman, D. White and H. L. Johnston. Am Chem Soc J 73:1310-11 Mr '51

Symposium on critical phenomena. O. K. Rice and others. bibliog il diags J Phys & Colloid Chem 54:1293-357 D '50

2,2,4-Trimethylpentane (iso-octane); vapor pressure, critical constants, and saturated vapor and liquid densities. W. B. Kay and F. M. Warzel. bibliog Ind & Eng Chem 43:1150-2 My '51

Vapor pressure and critical constants of neopentane. J. A. Beattie and others. J Chem Phys 19:948-9 Jl '51

Vapor pressure, critical point, heat of vaporization, and entropy of liquid He^3. B. M. Abraham and others. bibliog diag Phys R 80:366-71 N 1 '50

CRITICAL materials. See Strategic materials

CRITICAL point

Coexistence curve of sulfur hexafluoride in the critical region. D. Atack and W. G. Schneider. il diags J Phys & Colloid Chem 55:532-9 Ap '51

Contribution to the theory of critical phenomena. B. H. Zimm. bibliog J Chem Phys 19:1019-23 Ag '51

Opalescence of a two-component liquid system near the critical mixing point. B. H. Zimm. bibliog J Phys & Colloid Chem 54:1306-17 D '50

Theory of critical phenomena. J. E. Mayer. J Chem Phys 19:1024-6 Ag '51

Theory of critical points. L. Tisza. bibliog J Phys & Colloid Chem 54:1317-23 D '50

Thermodynamics of the critical point. C. F. Curtiss and others. J Chem Phys 19:801 Je '51

CRITICAL solution temperature

Solubility measurements in the critical temperature region. D. Atack and W. G. Schneider. bibliog diags J Phys & Colloid Chem 54:1323-36 D '50

CRITICAL temperatures. See Critical constants

CRITTALL manufacturing company limited

Statement by the chairman at 26th annual general meeting. Lord Braintree. Economist 159:1171 D 23 '50

CROMPTON Parkinson limited

Statement by the chairman at 37th annual general meeting. A. Parkinson. Economist 159:1121 D 16 '50

CROP insurance corporation, Federal. See Federal crop insurance corporation

CROPPER and company, limited

Statement by the chairman. F. W. J. Smith. Economist 161:601 S 8 '51

CROPS

Crop prospects. R. W. Babson. Comm & Fin Chr 174:525 Ag 9 '51

Crop shock; farmers planning to plant less. Bsns W p24-5 Mr 31 '51

Winter helped wheat, hit vegetables hard. Bsns W p88+ Mr 10 '51

See also

Alfalfa

Cotton

Drying (crops)

Grain

Hay

Rice

Soybeans

Wheat

CROSBY, Victor A.

Iron Age salutes. por Iron Age 168:67 Jl 5 '51

CROSS ties. See Railroad ties

CROTALARIA

Agricultural residue pulps; crotalaria pulps. A. J. Ernst and others. Tappi 34:247-51 Je '51

CROTONALDEHYDE

Alkenylation by use of lithium alkenyls; the condensation of *iso*butenyl-lithium with acraldehyde and crotonaldehyde, and the oxotropic rearrangement of the resulting carbinols; studies in molecular rearrangement. E. A. Braude and C. J. Timmons. Chem Soc J p2007-11 Ag '50

Studies of compounds related to natural perfumes; the application of the Diels-Alder reaction to the synthesis of β-*cyclo*citral analogues. J. C. Lunt and F. Sondheimer. Chem Soc J p2957-61 N '50

CROTONIC acid

2-Nitratoethyl esters of acrylic, crotonic and methacrylic acids. N. S. Marans and R. P. Zelinski. Am Chem Soc J 72:5330-1 N '50

CROTONOSIDE

Synthesis of crotonoside. J. Davoll. Am Chem Soc J 73:3174-6 Jl '51

CROTYL chloride

Allylic chlorides; relative reactivities of *cis*- and *trans*-crotyl chloride. L. F. Hatch and S. S. Nesbitt. Am Chem Soc J 73:358-60 Ja '51

CROWLEY, Raymond L. 1895-

Crowley (long O) edits in Pulitzer tradition. por Ed & Pub 84:90 Ap 21 '51

CROWN, Walter James, 1901-1951

Memorial. E. R. Murray-Aaron. por Am Assn Pet Geologists Bul 35:1919-20 Ag '51

CROWN drug company

Stockholders subscribe for $220,000 of convertible debenture notes. Comm & Fin Chr 172:1434-5 O 16 '50

CROWN galls. See Galls (botany)

CROWN Zellerbach corporation

Companies that should maintain their dividends in 1951; with comparative balance sheet items. Mag of Wall St 88:354 Je 30 '51

Ten potential market leaders for 1951; with comparative balance sheet items. Mag of Wall St 87:504 F 10 '51

CRUCIBLE steel company

Companies that should earn more in 1951; with comparative balance sheet items. Mag of Wall St 88:246 Je 2 '51

CRUCIBLES

Air force develops high temperature material; aluminum oxide, formed into crucibles. Product Eng 22:153 Mr '51

High-lime refractory resistant to phosphate melts; studies in the system $CaO\text{-}TiO_2$. H. G. Fisk. bibliog il Am Cer Soc J 34:9-13 Ja 1 '51

New sapphire laboratory crucibles developed by air force scientists. il Materials & Methods 33:146+ Je '51

Preparation and tests of refractory sulfide crucibles. E. D. Eastman and others. diags Am Cer Soc J 34:128-34 Ap 1 '51

Sintered oxide crucibles withstand temperatures exceeding 2000° centigrade. il Brick & Clay Rec 118:72-3 Ap '51

Zirconium for sodium peroxide fusions. G. J. Petretic. Anal Chem 23:1183-4 Ag '51

CRUSHING

Chemical engineering unit operations; sixth annual review; size reduction. L. T. Work. bibliog(68 ref) Ind & Eng Chem 43:114-16 Ja '51

CRUSHING—*Continued*

Control of dusts by water mists. K. W. Nelson. bibliog il A M A Archives Ind Hygiene & Occup Med 4:25-31 Jl '51

Crushing practice and theory. B. McGrew. il diags Rock Prod 53:118-20 Je; 95 S; 116-17+ O; 62-3 N; 128-9, 158-9 D '50; 54:106-7+ F; 118-21 Je '51

Effect of grinding on particles. B. C. Bradshaw. bibliog J Chem Phys 19:1057-9 Ag '51

Milling and crushing emphasized at A.I.M.E. beneficiation meeting, Salt Lake City, Sept. 1. Rock Prod 53:83-4 N '50

Need increased mill capacity? E. H. Cox. il Paint Oil & Chem R 114:24+ Mr 15 '51

New theory of comminution. F. C. Bond and J. Wang. bibliog Min Eng 187:Trans 871-8 Ag '50; Discussion. 3:Trans 983-6 N '51

See also

Ball mills

CRUSHING machinery

Controlled impact action in new breaker. il Roads & Eng Constr 89:70 Ap '51

Crusher employs hydraulic reset. il diag Machine Design 23:129 S '51

Crusher plates for diamonds. R. S. Young. il J Metals 191:97 F '51

Crushers cinch fuel sizing, cleaning. T. Hicks. il diags Power 95:73-5 Jl '51

Crushing, hoisting and conveying; Kerr-Addison mine. il Can Min J 72:119-20 Ap '51

Crushing practice and theory. B. McGrew. il diags Rock Prod 53:118-20 Je; 95 S; 116-17+ O; 62-3 N; 128-9, 158-9 D '50; 54:106-7+ F; 118-21 Je '51

Feeder control prevents crusher plugging. il Coal Age 56:104 S '51

Grinding mills as conditioners in sulphide flotation. C. G. McLachlan. bibliog flow sheet diag Min Eng 3:Trans 347-50 Ap '51

How to choose the drive for your grinding mill. E. J. Klovers. il diags Eng & Min J 152:80-2 S '51

How to get more tonnage through your present mill. J. J. Burns. Eng & Min J 152:120-1 Jl '51

Jaw crusher capacities; abstract. D. H. Gieskieng. Rock Prod 53:83-4 N '50

Pick the right coal crusher for better firing. T. Hicks. il diag Power 95:84-5 Ag '51

Portable unit aggregate plant turns out 6,000 tons daily for Jersey pike. flow diag il Constr Methods 33:50-3 Ag '51

Producing washed uncrushed gravel and unwashed crushed gravel; Livingston rock and gravel co. W. B. Lenhart. flow diags il Rock Prod 53:56-9+ N '50

Rock-crushing operation designed for maximum flexibility; Limestone products ltd. il Roads & Eng Constr 89:70-3+ Ja '51

Rock crushing with Diesels. il Diesel Power 28:40 N '50

Symposium on production problems; joint meeting of operating men and equipment manufacturers for National crushed stone association and the Agricultural limestone institute. Rock Prod 54:92-8+ Mr '51

Tertiary crusher for soft home ores. C. Lang. diags Iron & Steel Inst J 168:164 Je '51

Welded crusher is lighter, cheaper, stronger. C. G. Herbruck. il Iron Age 167:102-3 Ap 12 '51

See also

Ball mills
Pulverizers
Tube mills
Wood grinders

CRYOGENIC laboratory, Ohio state university. See Ohio state university—Cryogenic laboratory

CRYOLITE

Synthetic-cryolite output, Italy. For Comm W 42:19 Ja 1 '51

CRYOSCOPY. See Freezing points

CRYOSTATS

Low temperature Raman cryostat. W. J. Taylor and others. il diags Opt Soc Am J 41:91-3 F '51

New 15 cu ft cryostat in operation at MIT. il Refrig Eng 58:1196+ D '50; Machine Design 23:172 Mr '51

Reduction in starting time of Collins helium cryostat. R. P. Cavileer. diag R Sci Instr 22:708 S '51

Small gas-cooled cryostat for temperatures between 4°K and 14°K. L. C. Jackson and H. Preston-Thomas. diags J Sci Instr 28:99-101 Ap '51

Temperatures close to absolute zero; Collins helium cryostat. Can Min J 71:75 N '50

CRYPTOCOCCUS neoformans

Qualitative analysis of capsular polysaccharides from cryptococcus neoformans by filter paper chromatography. E. E. Evans and J. W. Mehl. bibliog Science 114:10-11 Jl 6 '51

CRYSTAL clocks. See Clocks, Electric

CRYSTAL diode

Characteristics and some applications of varistors. F. R. Stansel. bibliog il diags Inst Radio Eng Proc 39:342-58 Ap '51

Characteristics of germanium diodes. B. F. Osbahr. il diags Tele-Tech 9:33-4 D '50

Crystal diodes. R. W. Douglas and E. G. James. bibliog diags Inst E E Proc 98 pt 3: 157-68; Discussion. 177-83 My '51

Crystal diodes in modern electronics. D. T. Armstrong. il diags Radio & Tv N 46: 47-50+ O; 66-8 N '51 (to be cont)

Crystal diodes in tv studio equipment. R. Kuehn. diags Electronics 23:114-16 D '50

Current transformers for audio measurements. L. T. Fleming. diags Electronics 24: 188+ Jl '51

Practical crystal noise generator. W. I. Orr. il diags Radio & Tv N 45:46-7 Je '51

Semiconductor diodes; characteristics of silicon and germanium crystal diodes, with dimensions and terminal data; tabulation and diagrams. Electronics 24:112-13 Mr '51

Semiconductors will become a major field of electrical engineering; germanium diodes. il Product Eng 22:133 My '51

Versatile crystal probe. J. T. Frye. il diags Radio & Tv N 45:43-5 Ap '51

CRYSTAL oscillators. See Oscillators, Crystal

CRYSTAL triodes. See Transistors

CRYSTAL violet

Acid-base titrations in glacial acetic acid; potassium phthalate as primary standard and behavior of crystal violet indicator. W. Seaman and E. Allen. bibliog Anal Chem 23:592-4 Ap '51

CRYSTALLINITY of cellulose. See Cellulose

CRYSTALLIZATION

Activation energy for recrystallization in rolled copper. B. F. Decker and D. Harker. J Metals 188:Trans 887-90 Je '50; Discussion. 3:Trans 548-9 Jl '51

Chemical engineering unit operations; sixth annual review. C. S. Grove, jr. and J. B. Gray. bibliog(106 ref) il Ind & Eng Chem 43:58-62 Ja '51

Crystal growth and direction of solution flow. R. M. Garrels. il diags Econ Geol 46: 228-30 Mr '51

Crystallization in high polymers; heat of fusion of poly-(N,N′-sebacoylpiperazine) and its interaction with diluents. P. J. Flory, L. Mandelkern and H. K. Hall. bibliog Am Chem Soc J 73:2532-8 Je '51

Crystallization phenomena in fibre-forming synthetic polymers; abstract and discussion. L. B. Morgan. Chem & Ind p796 S 22 '51

Crystallization velocity of liquid phosphorus. R. E. Powell, T. S. Gilman and J. H. Hildebrand. diag Am Chem Soc J 73:2525-6 Je '51

Crystals grow as helices; abstract. P. C. Frank. Chem & Eng N 29:2639 Je 25 '51

Deformation and recrystallization texture of cold-drawn OFHC copper wire. W. A. Backofen. il J Metals 3:Trans 250 Mr '51

Dendritic crystallization of alloys. B. H. Alexander and F. N. Rhines. bibliog il diags J Metals 188:Trans 1267-73 O '50; Discussion. 3:Trans 561-3 Jl '51

Determination of alpha- and beta-lactose in dry products of milk from rates of crystallization. R. P. Choi, C. W. Tatter and C. M. O'Malley. bibliog Anal Chem 23:888-90 Je '51

Drying oils and resins; segregation of fatty acids and their derivatives by extractive crystallization with urea. H. A. Newey and others. bibliog il Ind & Eng Chem 42:2538-41 D '50

Effect of agitation on rate of growth of single crystals. A. W. Hixson and K. L. Knox. bibliog diag Ind & Eng Chem 43:2144-51 S '51

Epitaxy of alkali chlorides on metals. G. W. Johnson. bibliog il J Ap Phys 22:797-805 Je '51

CRYSTALLIZATION—*Continued*

Ferromagnetic domains in bicrystals of nickel. U. M. Martius and others. bibliog il Phys R 82:106-7 Ap 1 '51

Flame-fusion synthesis of several types of silicate structures. W. H. Bauer and I. Gordon. bibliog Am Cer Soc J 34:250-4 Ag 1 '51

Formation of annealing twins. J. E. Burke. bibliog il diags J Metals 188:Trans 1324-8 N '50

Growing of synthetic crystals; abstract and discussion. L. A. Dauncey and J. E. Still. Chem & Ind p600-1 Jl 7 '51

Growing piezoelectric crystals. A. C. Walker. bibliog il diags Franklin Inst J 250:481-524 D '50

Growth and manipulation of barium oxide crystals. R. L. Sproull and others. bibliog il diags R Sci Instr 22:410-14 Je '51

Growth of germanium single crystals containing *p-n* junctions. G. K. Teal and others. Phys R 81:637 F 15 '51

Growth of large single crystals of alkali halides for scintillation counting. R. B. Owen. diag J Sci Instr 28:221-2 Jl '51

Immiscibility in the system H_2O-Na_2O-SiO_2. I. Friedman. Am Chem Soc J 72:4570-4 O '50

Oriented growth in primary recrystallization. J. J. Becker. J Metals 191:Trans 115 F '51

Phase diagram of the BaO-TiO_2 system. W. O. Statton. bibliog il diag J Chem Phys 19:33-40 Ja '51

Process instrumentation for crystal growing equipment. S. A. Hluchan. il diags Instruments 24:585-90 My '51

Rate of growth of crystals in aqueous solutions. W. L. McCabe and R. P. Stevens. bibliog diags Chem Eng Prog 47:168-74 Ap '51

Retraction test for serviceability of elastomers at low temperatures. O. H. Smith and others. bibliog il Anal Chem 23:322-7 F '51

Secondary recrystallization in copper wire. G. Bassi. bibliog il J Metals 3:Trans 533-4 Jl '51

Studies in polymorphism; a further investigation of the linear rate of transformation of monoclinic into rhombic sulphur. N. H. Hartshorne and M. H. Roberts. 2pls diags Chem Soc J p 1097-114 Ap '51

System K_2O-MgO-SiO_2. E. W. Roedder. pl Am J Sci 249:224-48 bibliog(p244-8) Mr '51

Theory of grain boundary migration rates. D. Turnbull. bibliog J Metals 3:Trans 661-5 Ag '51

Urea extractive crystallization of straight-chain hydrocarbons. W. A. Bailey, jr. and others. bibliog flow diag Ind & Eng Chem 43:2125-9 S '51

Vacuum furnace for metal single crystals. D. Lazarus and D. R. Chipman. diag R Sci Instr 22:211-12 Mr '51

See also

Rubber—Crystallization

CRYSTALLOGRAPHY

Approximate crystal structure for the beta phase of uranium; abstract. C. W. Tucker, jr. Science 112:448 O 20 '50

Atomic arrangements in gold-nickel solid solutions. P. A. Flinn and B. L. Averbach. Phys R 83:1070 S 1 '51

Crystal chemistry in ceramics. W. E. Hauth, jr. diags Am Cer Soc Bul 30:5-7, 47-9, 76-7, 137-42, 165-7, 203-5 bibliog(p205) Ja 15-Je 15 '51

Crystal structure of a sigma phase, FeCr. D. P. Shoemaker and B. G. Bergman. Am Chem Soc J 72:5793 D '50

Crystal structure of $NaPt_3O_4$. J. Waser and E. D. McClanahan, jr. bibliog diags J Chem Phys 19:413-16 Ap '51

Crystal structure of the sigma-phase in the Co-Cr system. J. S. Kasper and others. J Ap Phys 22:361-2 Mr '51

Crystal structure transitions in antiferromagnetic compounds at the Curie temperature. J. S. Smart and S. Greenwald. bibliog diags Phys R 82:113-14 Ap 1 '51

Crystal structures of the acid salts of some monobasic acids; potassium hydrogen bisphenylacetate. J. C. Speakman. il Chem Soc J p3357-65 D '49

Crystal structures of the acid salts of some monobasic acids; potassium hydrogen di-*p*-hydroxybenzoate hydrate. J. M. Skinner and J. C. Speakman. diags Chem Soc J p 185-91 Ja '51

Crystallographic angles for magnesium, zinc and cadmium. E. I. Salkovitz. J Metals 191:Trans 64 Ja '51

Crystallographic data. Published in monthly numbers of Analytical chemistry

Crystallography and interfacial free energy of noncoherent twin boundaries in copper. R. L. Fullman. il diags J Ap Phys 22:456-60 Ap '51

Crystallography for study of concrete. N. C. Rockwood. Rock Prod 54:49+ My '51

Crystallography of cubic-tetragonal transformation in the indium-thallium system. J. S. Bowles and others. bibliog il diags J Metals 188:Trans 1478-85 D '50

Deformation of yule marble. D. Griggs and others. bibliog 6pls diags Geol Soc Bul 62:853-905 Ag '51

Dipolar domains in paramagnetic crystals at low temperatures. C. Kittel. Phys R 82:965-6 Je 15 '51

Domain structure of tungsten trioxide. R. Ueda and T. Ichinokawa. il Phys R 80:1106 D 15 '50

Effect of changes in crystalline structure on the infrared absorption spectrum of cellulose. F. H. Forziati and J. W. Rowen. bibliog J Res Nat Bur Stand 46:38-42 Ja '51

Ferroelectricity. B. T. Matthias. bibliog il diag Science 113:591-6 My 25 '51

Interaction between the *d* shells in the transition metals. C. Zener. diags Phys R 81:440-4 F 1 '51

Interfacial free energy of coherent twin boundaries in copper. R. L. Fullman. bibliog il diags J Ap Phys 22:448-55 Ap '51

Lattice and grain boundary self-diffusion in silver. R. E. Hoffman and D. Turnbull. bibliog il diag J Ap Phys 22:634-9 My '51

Lattice defects in silver bromide. C. R. Berry. bibliog Phys R 82:422-3 My 1 '51

Lattice defects in silver bromide. H. Kanzaki. bibliog Phys R 81:884 Mr 1 '51

Lattice parameter of InSb. T. S. Liu and E. A. Peretti. J Metals 3:Trans 791 S '51

Maxima of the Patterson functions. P. Hartman and A. Wintner. Phys R 81:271-3 Ja 15 '51

Microscopic analysis of benzene hexachloride. C. J. Arceneaux. il Anal Chem 23:906-11 Je '51

Multiple projector for the Huggins masks. D. McLachlan, jr. and R. H. Woolley. il diags R Sci Instr 22:423-7 Je '51

Overlap forces and elastic constants of body-centered cubic metals. I. Isenberg. Phys R 83:637-40 Ag 1 '51

Partition functions of cubic lattices. E. Fisher. bibliog J Chem Phys 19:632-40 My '51

Phase transition of tungsten trioxide. R. Ueda and T. Ichinokawa. il Phys R 82:563-4 My 15 '51

Polyethylene; structure, crystallinity and properties. R. B. Richards. bibliog il J Ap Chem 1:370-6 Ag '51

Precision of determination of the lattice constants of zinc oxide. R. R. Heller and others. J Ap Phys 21:1283-4 D '50

Production and detection of a non-equilibrium number of vacancies in a metal. A. S. Nowick. Phys R 82:551-2 My 15 '51

Progress of the physics of solids. F. Seitz. Franklin Inst J 251:156-66 Ja '51

Propagation of order in the simple cubic lattice. T. Oguchi. bibliog J Chem Phys 18:1517 N '50

Relation of antiferromagnetic structure to the binding energies of some b.c.c. transition metals. Y. Hsu. bibliog Phys R 83:975-9 S 1 '51

Relations among the crystal structure factors. H. Hauptman and J. Karle. Phys R 80:244-8 O 15 '50

Sodium stannate, $Na_2Sn(OH)_6$. J. Krc, jr. il diags Anal Chem 23:675-6 Ap '51

Solid solutions of the alkali halides; theoretical calculation of lattice constants, heats of mixing, and distributions between solid and aqueous phases. G. S. Durham and J. A. Hawkins. bibliog J Chem Phys 19:149-56 F '51

CRYSTALLOGRAPHY—*Continued*

Space group of the σ-FeCr crystal structure. B. G. Bergman and D. P. Shoemaker. J Chem Phys 19:515 Ap '51

Structures of inorganic oxy-acids; the crystal structure of selenic acid. M. Bailey and A. F. Wells. diags Chem Soc J p 968-73 Ap '51

Theory of cooperative phenomena. R. Kikuchi. bibliog diags Phys R 81:988-1003 Mr 15 '51

Unusual fracture traverse in fluorite. C. A. Zapffe. il Science 114:33-4 Jl 13 '51

Widened lattice interval and its essential role in the behavior of crystalline metal. D. P. Smith. bibliog Science 113:348-52 Mr 30 '51

World's crystallographers observe great progress. Chem & Eng N 29:3082-3 Jl 30 '51

See also

Feldspar
Polymorphism
Solutions, Solid

X ray studies

Analogies in the gallia and alumina systems; the preparation and properties of some low-alkali gallates. L. M. Foster and H. C. Stumpf. il Am Chem Soc J 73:1590-5 Ap '51

Carbide phase in iron-carbon-silicon alloys. W. S. Owen. bibliog pl Iron & Steel Inst J 167:117-20 F '51

Crystal structure and particle size of the carbide phase in tempered steel; abstract. M. P. Arbuzov. Metal Prog 59:878+ Je '51

Crystal structure of cupric tropolone and the dimensions of the tropolone ring. J. M. Robertson. diags Chem Soc J p 1222-9 My '51

Crystal structure of 1,4-diselenane. R. E. Marsh and J. D. McCullough. diags Am Chem Soc J 73:1106-9 Mr '51

Crystal structure of graphite in cast iron. W. S. Owen and B. G. Street. bibliog 2pls diags Iron & Steel Inst J 167:113-16 F '51

Crystal structure of sulfamic acid. F. A. Kanda and A. J. King. bibliog Am Chem Soc J 73:2315-19 My '51

Crystal structure of thorium tetrabromide. R. W. M. D'Eye. Chem Soc J p2764-6 O '50

Crystal structure of Ti_5Si_3, Ti_5Ge_3, and Ti_5Sn_3. P. Pietrokowsky and P. Duwez. bibliog diag J Metals 3:Trans 772-3 S '51

Crystal structure of UAl_4. B. S. Borie, jr. diags J Metals 3:Trans 800-2 S '51

Crystal structure of V_3Co. P. Duwez. J Metals 3:Trans 564 Jl '51

High temperature structure and thermal expansion of some metals as determined by X-ray diffraction data; platinum, tantalum, niobium, and molybdenum. J. W. Edwards and others. bibliog J Ap Phys 22:424-8 Ap '51

Hydrothermal chemistry of silicates; synthetic lithium aluminosilicates. R. M. Barrer and E. A. D. White. Chem Soc J p 1267-78, pl 1-9 My '51

Lattice parameters of magnesium alloys. R. S. Busk. bibliog J Metals 188:Trans 1460-4 D '50

Lorentz and polarization correction for the Buerger precession method. J. Waser. R Sci Instr 22:567-8 Ag '51

Lorentz factor for the Buerger precession method. J. Waser. diags R Sci Instr 22:563-6 Ag '51

Mechanism of creep as revealed by X-ray methods; abstract. G. B. Greenough and E. M. Smith. Metal Prog 59:424 Mr '51

New X-ray diffraction method for studying imperfections of crystal structure in polycrystalline specimens. A. J. Reis and others. il J Ap Phys 22:665-72 My '51

Plastic deformation and diffusionless phase changes in metals; the gold-cadmium beta phase. L. C. Chang and T. A. Read. bibliog il J Metals 191:Trans 47-52 Ja '51

Preparation of single crystals of manganous fluoride; the crystal structure from X-ray diffraction; the melting point and density. M. Griffel and J. W. Stout. bibliog Am Chem Soc J 72:4351-3 O '50

Recent developments in *X*-ray diffraction studies of high polymers. C. W. Bunn. bibliog J Ap Chem 1:266-8 Je '51

Sigma-phase in the Co-Cr and Fe-Cr systems. G. J. Dickins and others. bibliog Iron & Steel Inst J 167:27 Ja '51

Single crystal X-ray camera for direct recording of the reciprocal lattice. J. M. Torroja and others. il diag J Sci Instr 28:44-6 F '51

Structural transformations in the tempering of high-carbon martensitic steels. K. H. Jack. bibliog 2pls diags Iron & Steel Inst J 169:26-36 S '51

Structure of the dinitrososulphite and sulphamate ions. G. A. Jeffrey and H. P. Stadler. Chem Soc J p 1467-74 Je '51

Studies on the Schardinger dextrins; the molecular size and structure of the γ-dextrin. D. French, I. W. Knapp and J. H. Pazur. bibliog Am Chem Soc J 72:5150-2 N '50

X-ray absorption in a crystal set at the Bragg angle. H. N. Campbell. bibliog il J Ap Phys 22:1139-42 S '51

X-ray analysis of some antibiotic substances. J. D. Dunitz and J. E. Leonard. Am Chem Soc J 72:4276-7 S '50

X-ray investigation of *t*-butyl chloride and *t*-butyl bromide. R. S. Schwartz, B. Post and I. Fankuchen. Am Chem Soc J 73:4490-1 S '51

X-ray investigation of 2 : 2′-dihydroxy-5 : 5′-dimethyldiphenylmethane and its 3-, 4-, and 5-ring polymers and *p*-cresol novolak resins. R. F. Hunter and V. Vand. bibliog il J Ap Chem 1:298-300 Jl '51

X-ray measurement of long-range order in β-AgZn. L. Muldawer. J Ap Phys 22:663-5 My '51

X-ray measurement of short range order in Ag-Au. N. Norman and B. E. Warren. maps J Ap Phys 22:483-6 Ap '51

X-ray study of the phase transition in lead titanate. G. Shirane and others. Phys R 80:1105-6 D 15 '50

X-ray study of triphenylselenonium chloride. J. D. McCullough and R. E. Marsh. diag Am Chem Soc J 72:4556-7 O '50

CRYSTALS

Absorption spectra of pure and colored alkali halide crystals. D. L. Dexter. Phys R 83:435-8 Jl 15 '51

Achromatic doublet of silicon and germanium. R. G. Treuting. il Opt Soc Am J 41:454-6 Jl '51

Anisotropy of nitrogen adsorption on single crystal copper surfaces. T. N. Rhodin, jr. bibliog Am Chem Soc J 72:5691-9 D '50

Antiferroelectric structure of lead zirconate. E. Sawaguchi and others. bibliog diag Phys R 83:1078 S 1 '51

Antiferromagnetism in a single crystal. N. J. Poulis and others. bibliog Phys R 82:552 My 15 '51

Apparatus for cutting metals strain-free. R. Maddin and W. R. Asher. il diags R Sci Instr 21:881-3 O '50

Approximation method for the determination of the elastic constants of cubic single crystals. J. R. Neighbours and C. S. Smith. J Ap Phys 21:1338-9 D '50

Atomic relationships in the cubic twinned state. W. C. Ellis and R. G. Treuting. bibliog diags J Metals 191:Trans 53-5 Ja '51

Behavior of space charge in diamond crystal counters under illumination; under beta-ray bombardment. A. G. Chynoweth. bibliog diag Phys R 83:254-68 Jl 15 '51

Better than prospecting; growing importance of decade-old synthetic crystal industry. il Chem W 69:19-20 S 1 '51

Bright nickel plating on metallic single crystals in the absence of addition agent. H. Leidheiser, jr. and A. T. Gwathmey. il Electrochem Soc J 98:225-30 Je '51

Burst phenomenon in the martensitic transformation. E. S. Machlin and M. Cohen. bibliog il J Metals 3:Trans 746-54 S '51

Calculation of degree of crystallinity in polymers from density measurements. F. P. Price. J Chem Phys 19:973 Jl '51

Cohesive energy of metallic lithium. R. A. Silverman and W. Kohn. bibliog Phys R 80:912-13 D 1 '50

Color centers in additively colored alkali halide crystals containing alkaline earth ions. F. Seitz. Phys R 83:134-40 Jl 1 '51

CRYSTALS—*Continued*

Contribution to the theory of impurity centers in silicon. W. Baltensperger. Phys R 83:1055-6 S 1 '51

Creep behavior of zinc modified by copper in the surface layer. M. R. Pickus and E. R. Parker. bibliog il diags J Metals 3:Trans 792-6 S '51

Crystal-electric inspection discovery. il Automotive Ind 104:78+ F 15 '51; Chem & Eng N 29:664-5 F 19 '51; Steel 128:82 F 26 '51; Elec Eng 70:369 Ap '51

Crystal structure of graphite in cast iron. W. S. Owen and B. G. Street. bibliog 2pls diags Iron & Steel Inst J 167:113-16 F '51

Crystal structure of UAl_4. B. S. Borie, jr. diags J Metals 3:Trans 800-2 S '51

Crystal structures and transformations in indium-thallium solid solutions. L. Guttman. bibliog il J Metals 188:Trans 1472-7 D '50; Discussion. 3:Trans 1056-7 N '51

Crystallographic data; aureomycin hydrochloride. J. Krc and W. C. McCrone. il diags Anal Chem 22:1576-7 D '50

Crystals and Geiger counters for scintillation counting. C. E. Mandeville and H. O. Albrecht. Phys R 80:299-300 O 15 '50

Crystals for the scintillation Geiger counter. H. O. Albrecht and C. E. Mandeville. Phys R 81:163 Ja 1 '51

Crystals suitable for double crystal X-ray spectroscopy in the region 3 to 15A. S. T. Stephenson and D. L. Martin. R Sci Instr 21:1023-4 D '50

Decays of luminescent KBr and LiF. A. H. Morrish and A. J. Dekker. Phys R 80:1030-4 D 15 '50

Detection of gamma-ray-induced scintillation from crystals in a photo-sensitive Geiger-Müller counter. C. E. Mandeville and H. O. Albrecht. Phys R 80:300 O 15 '50

Determination of the energy of a ferromagnetic domain boundary. H. Kaplan. diags Phys R 81:885-6 Mr 1 '51

Directional properties of single crystal of anthracene regarding fluorescence phenomena. S. C. Ganguly and N. K. Chaudhuri. il diags J Chem Phys 19:617-18 My '51

Dissociation energies of the Cd^{++} vacancy complex and of the double vacancy in sodium chloride. J. R. Reitz and J. L. Gammel. bibliog J Chem Phys 19:894-9 Jl '51

Domain patterns on nickel. H. J. Williams and J. G. Walker. il diags Phys R 83:634-6 Ag 1 '51

Elastic parameters of beta-brass. R. A. Artman and D. O. Thompson. bibliog J Ap Phys 22:358 Mr '51

Electrical properties of αFe_2O_3 and αFe_2O_3 containing titanium. F. J. Morin. diag Phys R 83:1005-10 S 1 '51

Electrical properties of selenium; single crystals. H. W. Henkels. bibliog il diag J Ap Phys 22:916-25 Jl '51

Electron mobility and luminescence efficiency in cadmium sulfide. L. Gildart and A. W. Ewald. bibliog diags Phys R 83:359-63 Jl 15 '51

Electronic energy levels of molecular crystals. H. Winston bibliog J Chem Phys 19:156-60 F '51

Energy storage and light stimulated phosphorescence in activated NaCl crystals induced by gamma-rays. H. Kallmann and M. Furst. Phys R 83:674-5 Ag 1 '51

Entropies of melting of metals. R. A. Oriani. bibliog diag J Chem Phys 19:93-7 Ja '51

Entropy of crystalline benzene calculated from molecular data. I. Ichishima and S. Mizushima. bibliog J Chem Phys 19:388 Mr '51

Equilibrium currents induced in zincblende by electron bombardment of negative electrode. M. F. Distad. bibliog diags Phys R 80:879-86 D 1 '50

Etched surfaces of nickel single crystals. S. Yamaguchi. il J Ap Phys 22:983-4 Jl '51

Evidence for the noncubic high temperature phase of $BaTiO_3$. E. A. Wood. il J Chem Phys 19:976 Jl '51

Experimental survey of deformation and annealing processes in zinc. D. C. Jillson. bibliog(61 titles) il diags J Metals 188:Trans 1009-18 Ag '50; Discussion. 3:Trans 541-4 Jl '51

Fluorescent decay of scintillation crystals. S. H. Liebson and others. bibliog Phys R 80:907-8 D 1 '50

Fluorescence efficiencies of some crystals for electrons and heavy particles. W. K. Jentschke and others. Phys R 83:170-1 Jl 1 '51

Forces exerted on dislocations and the stress fields produced by them. M. Peach and J. S. Koehler. bibliog diags Phys R 80:436-9 N 1 '50

Formation and behavior of subboundaries in silicon iron crystals. C. G. Dunn and F. W. Daniels. bibliog il diags J Metals 191:Trans 147-54 F '51

Fundamental vibrations and crystal structure of H_2S and D_2S. J. B. Lohman and others. bibliog J Chem Phys 19:252-3 F '51

Growth and manipulation of barium oxide crystals. R. L. Sproull and others. bibliog il diags R Sci Instr 22:410-14 Je '51

Growth of molybdenum single crystals. N. K. Chen and others. il diags J Metals 3:Trans 461-4 Je '51

Growth of quartz in alkali halide solutions. J. F. Corwin and A. C. Swinnerton. bibliog Am Chem Soc J 73:3598-601 Ag '51

Hall coefficient and resistivity of evaporated bismuth layers. W. F. Leverton and A. J. Dekker. bibliog Phys R 81:156-7 Ja 1 '51

Hardness of single crystal of steel determined by instrument. Mach 57:169 N '50

Homogeneous extension of single crystals. F. D. Rosi. il diags R Sci Instr 22:708-10 S '51

Hydrothermal chemistry of silicates; synthetic lithium aluminosilicates. R. M. Barrer and E. A. D. White. Chem Soc J p 1267-78, pl 1-9 My '51

Identification of chemical substances by goniometry; Barker index of crystals. G. M. Bennett. Chem & Ind p472-3 Je 23 '51

Index of refraction as supplement to X-ray crystal analysis of solid solutions. L. J. Wood and A. J. Frank. bibliog Anal Chem 23:695-9 My '51

Inertia of oscillating ferromagnetic domain walls. G. T. Rado. diags Phys R 83:821-6 Ag 15 '51

Influence of magnetization on ultrasonic attenuation in a single crystal of nickel or iron-silicon. S. Levy and R. Truell. il Phys R 83:668-9 Ag 1 '51

Influence of optical working on surface structure of plastic crystals. A. Smakula and M. W. Klein. il diags Opt Soc Am J 40:748-50 N '50

Influence of plastic flow on the electrical and photographic properties of the alkali halide crystals. F. Seitz. bibliog Phys R 80:239-43 O 15 '50

Injected light emission of silicon carbide crystals. K. Lehovec and others. il diags Phys R 83:603-7 Ag 1 '51

Interaction of slow electrons and surface films of ionic crystals. H. Jacobs and D. Dobischek. diags Phys R 81:1019-22 Mr 15 '51

Internal friction of cold-worked single crystals of copper. R. R. Hasiguti and T. Hirai. bibliog J Ap Phys 22:1084-5 Ag '51

Interpretation of the vibration spectrum of mix-crystals. F. Matossi. J Chem Phys 19:161-3 F '51

Inverse voltage characteristic of a point contact on *n*-type germanium. L. P. Hunter. Phys R 81:151-2 Ja 1 '51

Lattice frequencies of benzene crystal. I. Ichishima and S. Mizushima. J Chem Phys 18:1686-7 D '50

Luminescent efficiency of organic solutions and crystals. P. D. Johnson and F. E. Williams. Phys R 81:146 Ja 1 '51

Magnetic anisotropy of manganous fluoride between 12 and 295° K. M. Griffel and J. W. Stout. bibliog J Chem Phys 18:1455-8 N '50

Magnetic anisotropy of α— $NiSO_4 \cdot 6H_2O$ between 13 and 295° K; a torsion balance for magnetic anisotropy measurements. J. W. Stout and M. Griffel. bibliog diag J Chem Phys 18:1449-54 N '50

Magnetic domain patterns on nickel crystals. M. Yamamoto and T. Iwata. il diags Phys R 81:887-8 Mr 1 '51

Magnetic moments and eddy currents in spheres of superconducting tin. J. J. Fritz and others. bibliog diag Phys R 80:894-9 D 1 '50

CRYSTALS—*Continued*

Magnetic neutron diffraction from exchange-coupled lattices at high temperatures. M. Slotnick. bibliog Phys R 83:1226-30 S 15 '51

Magneto-resistance effect in oriented single crystals of germanium. G. L. Pearson and H. Suhl. bibliog il diag Phys R 83:768-76 Ag 15 '51

Magnetostriction of single crystals of iron-silicon alloys. W. J. Carr, jr. and R. Smoluchowski. bibliog il Phys R 83:1236-43 S 15 '51

Making small spheres. W. L. Bond. il diags R Sci Instr 22:344-5 My '51

Measurement of gamma-ray energies with single crystals of NaI(Tl). R. Hofstadter and J. A. McIntyre. bibliog il Phys R 80: 631-7 N 15 '50

Measurement of hole diffusion in *n*-type germanium. F. S. Goucher. bibliog diag Phys R 81:475 F 1 '51

Measurement of relative interface energies in twin related crystals. C. G. Dunn and others. bibliog il diags J Metals 188:Trans 368-77 F '50; Discussion. 188:Trans 1361-2 N '50

Measurement of the elastic constants of silicon single crystals and their thermal coefficients. H. J. McSkimin and others. Phys R 83:1080 S 1 '51

Measurements of the underwater sound field generated by quartz transducers. W. Keck and others. bibliog il diags Acoustical Soc Am J 23:168-72 Mr '51

Mechanical and thermal properties of certain optical crystalline materials. L. S. Combes and others. bibliog diags Opt Soc Am J 41:215-22 Ap '51

Method for measuring the thermal conductivity of small samples of poorly conducting materials such as optical crystals. S. S. Ballard and others. bibliog diags R Sci Instr 21:905-7 N '50

Mobilities of electrons in high electric fields. E. J. Ryder and W. Shockley. diag Phys R 81:139-40 Ja 1 '51

Mobility and life of injected holes and electrons in germanium. J. R. Haynes and W. Shockley. il diags Phys R 81:835-43 Mr 1 '51

Mobility of electrons in silver chloride. J. R. Haynes and W. Shockley. bibliog il diags Phys R 82:935-43 Je 15 '51

Nature of the second-order transition in ND$_4$Br. H. A. Levy and S. W. Peterson. Phys R 83:1270-1 S 15 '51

Neutron crystal monochromators. R. J. Weiss and others. Phys R 83:863-4 Ag 15 '51

New anodic-film method for studying orientation in aluminum. A. Hone and E. C. Pearson. il Metal Prog 58:713-15 N '50

New type of short wavelength absorption band in alkali halides containing color centers. C. J. Delbecq and others. bibliog J Chem Phys 19:574-7 My '51

New viewpoint in computing crystal frequencies. W. A. Nierenberg. J Chem Phys 19: 659 My '51

Nuclear resonance shift in metallic lithium. W. Kohn and N. Bloembergen. bibliog Phys R 80:913 D 1 '50

Nuclear spin relaxation times in single crystals of LiF. R. V. Pound. bibliog Phys R 81:156 Ja 1 '51

Observations of Zener current in germanium *p-n* junctions. K. B. McAfee and others. bibliog Phys R 83:650-1 Ag 1 '51

Observations on cleavage and polygonization of molybdenum single crystals. N. Chen and R. Maddin. bibliog il diag J Metals 3:Trans 531-2 Jl '51

Optical absorption and photoconductivity in barium oxide. W. W. Tyler and R. L. Sproull. bibliog diags Phys R 83:548-55 Ag 1 '51

Optical absorption and photoconductivity of rutile. D. C. Cronemeyer and M. A. Gilleo. Phys R 82:975-6 Je 15 '51

Optical absorption of barium oxide with excess barium. E. O. Kane. J Ap Phys 22: 1214-15 S '51

Optical society meeting investigates synthetic crystals. Glass Ind 31:627-8 D '50

Orientation of crystals using a Geiger counter X-ray spectrometer. J. A. James. diag J Sci Instr 27:326 D '50

Orientations of zinc crystals produced by the Bridgman method. L. M. Slifkin. J Ap Phys 22:1216 S '51

Oriented crystals in the rolled plates of alloys. S. Yamaguchi. il J Ap Phys 22:680-1 My '51

Orienting unit crystals; I. M. Diller has patents pending. Steel 128:93 Je 25 '51

Origin of low frequency Raman lines in organic crystals. S. C. Sirkar. J Chem Phys 19:256 F '51

Oscillator strengths for the α- and β-bands in alkali halide crystals. D. L. Dexter. bibliog Phys R 83:1044-6 S 1 '51

Paramagnetic resonance absorption crystals containing color centers. M. Tinkham and A. F. Kip. Phys R 83:657-8 Ag 1 '51

Phase transition in lead zirconate. G. Shirane and others. Phys R 80:485 N 1 '50

Phenomenological derivation of the first- and second-order magnetostriction and morphic effects for a nickel crystal. W. P. Mason. Phys R 82:715-23 Je 1 '51

Phosphorescent effects with high energy radiation. M. Furst and H. Kallmann. Phys R 82:964 Je 15 '51

Plastic behavior of high-purity aluminum single crystals at various temperatures. F. D. Rosi and C. H. Mathewson. bibliog il diags J Metals 188:Trans 1159-67 S '50; Discussion. 3:Trans 545-7 Jl '51

Plastic deformation and diffusionless phase changes in metals; the gold-cadmium beta phase. L. C. Chang and T. A. Read. bibliog il J Metals 191:Trans 47-52 Ja '51

Plastic deformation of pure single crystals of lead and copper. P. W. Neurath and J. S. Koehler. diags J Ap Phys 22:621-6 My '51

Polarizabilities of ions in perovskite-type crystals. S. Roberts. bibliog Phys R 81: 865-8 Mr 1 '51

Problem of using scintillation crystals as proportional counters for high energy particles. F. X. Roser and T. Bowen. Phys R 82:284-5 Ap 15 '51

Producing single crystals of metal. M. A. Steinberg. il diag J Metals 3:387-8 My '51

Production and examination of zinc single crystals. D. C. Jillson. bibliog il plan diags J Metals 188:Trans 1005-8 Ag '50; Discussion. 3:Trans 550-1 Jl '51

Production of highly polarized neutron beams by Bragg reflection from ferromagnetic crystals. C. G. Shull. Phys R 81:626 F 15 '51

Pulse measurement of the inverse voltage characteristic of germanium point contacts. A. I. Bennett and L. P. Hunter. Phys R 81: 152 Ja 1 '51

Radiographic method of dilatometry. A. H. Smith and others. il diags R Sci Instr 22: 138-40 Mr '51

Relation between lattice vibration and London theories of superconductivity. J. Bardeen. bibliog Phys R 81:829-34 Mr 1 '51

Researches on dichroism of planar complexes. S. Yamada. bibliog Am Chem Soc J 73:1182-4 Mr '51

Response of some scintillation crystals to heavy particles. C. J. Taylor and others. bibliog Phys R 83:169-70 Jl 1 '51

Revised dielectric parameters of alkali and halide ions. S. Roberts. Phys R 81:161 Ja 1 '51

Scattering and polarization of neutrons in an iron single crystal. D. J. Hughes and others. bibliog Phys R 80:481-2 N 1 '50

Silver bromide crystal counters. K. A. Yamakawa. bibliog Phys R 82:522-6 My 15 '51

Simple goniometer for the study of crystal surfaces. P. R. Rowland. il diag J Sci Instr 28:61-2 F '51

Single crystal magnetostriction constants of an iron-cobalt alloy. J. E. Goldman. bibliog Phys R 80:301-2 O 15 '50

Some effects of vibration on X-ray diffraction by crystals. J. E. White. il diag Acoustical Soc Am J 23:16-18 Ja '51

Some theorems on the free energies of crystal surfaces. C. Herring. bibliog diags Phys R 82:87-93 Ap 1 '51

Source of the glow in crystals; caused by escaping electrons. Chem Age (Lond) 65: 429-30 S 29 '51

Structural studies of plastic deformation in aluminum single crystals. N. K. Chen and C. H. Mathewson. bibliog il J Metals 3:Trans 653-60 Ag '51

CRYSTALS—*Continued*

Structure of para-di-chloro-benzene. B. D. Saksena. bibliog il J Chem Phys 18:1653-6 D '50

Structure of the yellow crystalline fraction of blast-furnace salamander. J. R. Weeks and others. il diag J Metals 3:Trans 393-4 My '51

Temperature dependence of the energy gap in semiconductors. H. Y. Fan. bibliog Phys R 82:900-5 Je 15 '51

Theory and experiment for a germanium *p-n* junction. F. S. Goucher and others. Phys R 81:637-8 F 15 '51

Theory of antiferroelectric crystals. C. Kittel. bibliog Phys R 82:729-32 Je 1 '51

Theory of spin waves in ferromagnetic media. C. Herring and C. Kittel. bibliog diags Phys R 81:869-80 Mr 1 '51

Thermal stability of *F*-centers in alkali halides. A. B. Scott and W. A. Smith. bibliog Phys R 83:982-6 S 1 '51

Thickness-shear and flexural vibrations of crystal plates. R. D. Mindlin. bibliog J Ap Phys 22:316-23 Mr '51

Third-order elastic coefficients of crystals. F. G. Fumi. Phys R 83:1274-5 S 15 '51

Transmittance of cesium bromide crystals. E. K. Plyler and F. P. Phelps. Opt Soc Am J 41:209-10 Mr '51

Triple-dipole interaction; cohesion in crystals of the rare gases. B. M. Axilrod. J Chem Phys 19:724-9 Je '51

V-centers in alkali halides. R. Casler and others. bibliog J Chem Phys 18:1564-71 D '50

Variation of amplitude-dependent internal friction in single crystals of copper with frequency and temperature. A. S. Nowick. bibliog Phys R 80:249-57 O 15 '50

Variation of dielectric constants of ionic crystals with pressure. S. Mayburg. Phys R 83:1072-3 S 1 '51

Variation of dielectric constants of ionic crystals with pressure. D. A. A. S. Narayana Rao. Phys R 82:118-19 Ap 1 '51

Vibrational spectra of molecules and complex ions in crystals; ammonia and deuteroammonia. F. P. Reding and D. F. Hornig. bibliog J Chem Phys 19:594-601 My '51

See also

Crystallization
Crystallography
Ferroelectric effect
Pleochroism

CRYSTALS, Piezoelectric

Amplitude of vibration in piezoelectric crystals. E. A. Gerber. bibliog Electronics 24:142+ Ap '51; Correction. 24:326-7 S '51

Crystal controlled two-meter converter. H. G. Pratt. il diags Radio & Tv N 45:52-4 Ja '51

Crystal filter for 'phone reception. W. E. Good. diags Q S T 35:56-8+ O '51

Crystal-filter s.s.b. exciter. F. E. Edmunds. il diags Q S T 34:11-15 N '50

Crystal lattice filters for transmitting and receiving. C. E. Weaver and J. N. Brown. il diags Q S T 35:48-51 Je; 52-6 Ag '51

Crystal-plates without overtones. J. J. Vormer. diags Inst Radio Eng Proc 39:1086-7 S '51

Crystal systems with low loss. R. B. Fry and W. J. Fry. diag J Ap Phys 22:198-200 F '51

Design of variable resonant frequency crystal transducers. W. L. Hall and W. J. Fry. diags R Sci Instr 22:155-61 Mr '51

Domain boundary motion in ferroelectric crystals and the dielectric constant at high frequency. C. Kittel. Phys R 83:458 Jl 15 '51

Elastic and electromechanical coupling coefficients of single-crystal barium titanate. W. L. Bond and others. Phys R 82:442-3 My 1 '51

Electromechanical behavior of $BaTiO_3$ single-domain crystals. M. E. Caspari and W. J. Merz. bibliog diags Phys R 80:1082-9 D 15 '50

Growing piezoelectric crystals. A. C. Walker. bibliog il diags Franklin Inst J 250:481-524 D '50

Growing quartz crystals for military needs. A. C. Walker. bibliog il diags Electronics 24:96-9 Ap '51

High-speed crystal clutch uses nearly zero current. Elec Eng 70:943 O '51

Lattice-type crystal filter. R. Lowrie. il diags Electronics 24:129-31 Ap '51

Lithium ammonium tartrate monohydrate, a new ferroelectric crystal. W. J. Merz. Phys R 82:562-3 My 15 '51

Loading quartz crystals to improve performance. Instruments 23:1020-2 O '50

Lorentz correction in hexagonal barium titanate. J. R. Tessman. Phys R 83:677-8 Ag 1 '51

Measurement of the electrical behaviour of piezo-electric resonators. C. F. Floyd and R. L. Corke. il diags Inst E E Proc 98 pt 3:123-32 Mr '51

Mechanical breakdown of quartz transducers at resonance. T. F. Hueter. Acoustical Soc Am J 23:590 S '51

New ferroelectric tartrates. B. T. Matthias and J. K. Hulm. bibliog Phys R 82:108-9 Ap 1 '51

Overtone crystals and maintaining oscillators operating in the frequency range of 33-55 mc/s. J. B. Supper. diags Inst E E Proc 98 pt 3:240-7 My '51

Piezoelectric constant of zinc-sulfide. B. D. Saksena. bibliog Phys R 81:1012-15 Mr 15 '51

Piezoelectric constants of alpha- and beta-quartz at various temperatures. R. K. Cook and P. G. Weissler. bibliog il diags Phys R 80:712-16 N 15 '50

Piezoelectric crystals as sensing elements of pressure, temperature, and humidity. E. A. Roberts and P. Goldsmith. il diags Elec Eng 70:776-80 S '51

Piezoelectric crystals in flexural vibration; values of equivalent circuit elements. H. Keller. bibliog diags Wireless Eng 28:179-86 Je '51

Self-generating accelerometers. G. K. Guttwein and A. I. Dranetz. bibliog il diags Electronics 24:120-3 O '51

Simple crystal discriminator for fm oscillator stabilization. J. Ruston. diags Inst Radio Eng Proc 39:783-8 Jl '51

Ultrasonic underwater point source probe. L. Fein. diag Acoustical Soc Am J 22:876-7 N '50

Use of the piezoelectric gauge for internal friction measurements. J. Marx. bibliog diags R Sci Instr 22:503-9 Jl '51

Variable resonant frequency crystal systems. W. J. Fry and others. diags Acoustical Soc Am J 23:94-110 Ja '51

X-cut quartz crystal; equivalent circuit as an ultrasonic generator. F. M. Leslie. Wireless Eng 27:180-1 Je '50; Discussion. H. Grayson. 27:270-1 O-N '50

Zero temperature coefficient quartz crystals for very high temperatures. W. P. Mason. Bell System Tech J 30:366-80 Ap '51

See also

Barium titanate
Oscillators, Crystal
Radio frequency—Crystal control

Bibliography

Radio progress during 1950; piezoelectric crystals. Inst Radio Eng Proc 39:383-6 Ap '51

Testing

Mixer crystal checker. P. D. Strum. il diag Electronics 23:94-7 D '50

Progress in development of test oscillators for crystal units. L. F. Koerner. il diags Inst Radio Eng Proc 39:16-26 Ja '51

CTENOMYCES

New wool-destroying fungus; ctenomyces species. S. R. Sen Gupta and others. bibliog il Textile Res J 20:671-5 O '50

CUBA

See also

Insurance, Social—Cuba

Economic conditions

News by countries. For Comm W 40:12-13 Ag 28; 15 S 25; 41:12 O 23; 9-10 D 11 '50; 42:13 Ja 1; 12-13 Ja 22; 11-12 F 26; 43:12-13 Ap 9; 12 Ap 30; 11 My 21; 11-12 Je 25; 44:10-11 Jl 23; 10-11 Ag 27; 12-13 S 24 '51

CUBES

Calculation of the electrical capacitance of a cube. D. K. Reitan and T. J. Higgins. diags J Ap Phys 22:223-6 F '51

CUCUMBERS

Ascorbic acid oxidase of cucumber. D. H. F. Clayson and J. A. Beesley. bibliog Chem & Ind p 191-2 Mr 10 '51

CUÉNOT, Lucien Claude Jules Marie, 1866-1951
L. Cuénot, French biologist. R. Goldschmidt. Science 113:309-10 Mr 23 '51

CULLEN, Hugh Roy
Portrait. Fortune 44:128 S '51

CULLIMORE, Allan Reginald, 1884-
Lamme award, 1951. por J Eng Educ 42:24-6 S '51

CULTIVATORS
Hard-face cultivator sweeps for longer wear. L. C. Richmann. il Welding J 30:172 F '51

CULTURE
Culture theory and industrial analysis. P. Meadows. bibliog Ann Am Acad 274:9-16 Mr '51

CULTURE mediums
Growth of an aneurin-requiring yeast strain in various substrates related to the tricarboxylic acid cycle. S. Jackson and B. C. Kilkenny. Chem Soc J p 1561-4 Je '51
See also
Bacteriology—Culture mediums
Tissues—Culture mediums

CULVER, Bernard Mott, d 1951
Sketch. por East Underw 52:21+ Ja 19 '51
Sketch. por. East Underw 52:16+ Jl 27 '51; Nat Underw 55:2 Jl 26 '51

CULVERTS
In place fabrication found impractical, culvert is floated and sunk to grade. il Eng N 146:41 Je 21 '51
Novel sack rip-rap used in lieu of culvert headwalls. il Roads & Sts 94:81 Ag '51

CULVERTS, Concrete
Fast culvert job presents no hold-up for scrapers. il diag Constr Methods 33:75+ Ap '51
Traveling forms speed tough arch culverts. R. B. Howard. il Constr Methods 33:74-6 Mr '51

CUMENE
Autoxidation of *iso*propylbenzene. G. P. Armstrong, R. H. Hall and D. C. Quin. diag Chem Soc J p666-70 F '50
Effect of nuclear substitution on the rate of silica-zirconia-alumina-catalyzed depropylation of cumene. R. M. Roberts and G. M. Good. bibliog Am Chem Soc J 73:1320-2 Mr '51
Mononitration of cumene. J. W. Haun and K. A. Kobe. bibliog il diags Ind & Eng Chem 43:2355-62 O '51
Now, phenol from cumene. Chem W 69:23-4 Ag 25 '51

CUMENE hydroperoxide
Cumene hydroperoxide-iron(II) reaction in the absence of oxygen. J. W. L. Fordham and H. L. Williams. Am Chem Soc J 73:1634-7 Ap '51
Decomposition of cumene hydroperoxide by ferrous iron in the presence of oxygen. J. W. L. Fordham and H. L. Williams. bibliog Am Chem Soc J 72:4465-9 O '50
Reactions of organic peroxides; reactions of αα-dimethylbenzyl hydroperoxide (*iso*propylbenzene hydroperoxide). E. G. E. Hawkins. Chem Soc J p2169-73 Ag '50

CUNARD steam-ship company, limited
Statement of the chairman. F. A. Bates. Economist 160:1073-4 My 5 '51

CUNLIFFE, Percy Walmsley
Portrait. Soc Dyers & Col J 67:236A Je '51

CUPOLA furnaces
Determining spout analysis from raw materials charged in the cupola; data sheet. Foundry 79:161 Ag '51
How to use the cupola. B. P. Mulcahy. Foundry 79:138+ Ja; 186 F; 202+ Mr; 171+ Ap; 180 My; 256-7 Je; 186+ Jl; 184+ Ag; 154+ S; 204+ O; 250+ N; 250+ D '51; 80: 152+ Ja '52
Midget cupola used in research work. il diag Foundry 79:146 Ja '51
Need stronger foundry coke. H. W. Lownie, jr. il Foundry 79:72-6 Jl '51
New cupola design has many features. diag Foundry 79:192 Ap '51
New type of cupola. T. Bishop. Metal Prog 59:376 Mr '51
New type of cupola. R. Doat. il Foundry 78: 172+ N '50
Selection and use of anthracite for cupola fuel. C. C. Wright. il Foundry 79:96-7+ Mr '51
Water-cooled cupolas; abstract. W. H. Bamford. Metal Prog 58:916+ D '50

Air supply

Current hot blast cupola practice; abstract. W. J. Driscoll. Metal Prog 58:920+ D '50
Diameter of pipes for transmitting blast from blower to cupola; air pressure and velocity through pipes; tabulations and charts; data sheet. Foundry 79:157-8 Ja '51
How to use the cupola. B. P. Mulcahy. Foundry 79:154+ S; 204+ O '51
Improving cupola operation with oxygen-enriched blast. R. O. Day. diag Foundry 79: 84-7 S '51
Oxygen enrichment in the cupola; abstract. W. C. Newell. Metal Prog 58:918+ D '50
Refrigeration controls blast moisture. W. K. Mitchell. il Foundry 79:134-7 Ap '51

Charging

Handling cupola charges; facilitated by power trucks. H. G. Mouat. il Foundry 79:190+ F '51
Installs modern cupola charging equipment; Hajoca corp. il Foundry 79:136+ Mr '51

Lining

Basic cupola melting and its possibilities; abstract. E. A. Renshaw. diag Brick & Clay Rec 118:64 Je '51
Iron on the alkaline side; foundrymen shift from acid to basic linings. il Bsns W p74-5 Mr 10 '51; Same. Brick & Clay Rec 118: 96+ Ap '51
Water cools lining in cupola bosh. diag Foundry 78:127 D '50

CUPRAMMONIUM solution
Cuprammonium-glycoside complexes; the D-mannosan complex. R. E. Reeves. Am Chem Soc J 73:957-9 Mr '51
Relation between the viscosity and concentration of cellulose solutions in cuprammonium; and the calculation of the intrinsic viscosity of cellulose. M. A. Calvert and D. A. Clibbens. bibliog Textile Inst J Trans 42:T211-34 Je '51

CUPRENE
Growth and properties of the cuprene fiber. J. H. L. Watson, A. E. Léger and C. Ouellet. bibliog il J Phys & Colloid Chem 54:969-79 O '50

CUPRIETHYLENEDIAMINE. See Copper compounds

CUPS, Paper. See Paper cups

CURARE
Curare alkaloids; some alkaloids of strychnos toxifera Rob. Schomb. H. King. Chem Soc J p3263-71 D '49
Curariform activity and chemical structure; lactones derived from quinolizidine. V. Boekelheide and E. J. Agnello. bibliog Am Chem Soc J 72:5005-9 N '50
Respiratory effect of Ro 2-3198 (3-hydroxyphenyldimethylethylammonium bromide) in syncurinized dogs. H. H. Su and others. bibliog Science 113:743-5 Je 29 '51
Synthetic curare substitutes from stilbazoline quaternary ammonium salts. A. P. Phillips and J. C. Castillo. bibliog Am Chem Soc J 73:3949-51 Ag '51
Synthetic neuromuscular blocking agents; heterocyclic decamethylenebis(quaternary ammonium salts). E. P. Taylor. Chem Soc J p 1150-7 My '51

CURARE, Substitutes for
Dicarboxylic acid bis-(β-tertiaryaminoalkyl) amides as curare substitutes. A. P. Phillips. Science 112:536 N 3 '50
Some new curarising agents. J. Walker. Chem Soc J p 193-7 Ja '50

CURB exchange. See New York curb exchange

CURBS, Concrete
Pouring curb and gutter direct from dump truck. A. J. Kronbach. Pub Works 82:36 F '51

CURIE point
Ferroelectric Curie point of tungsten oxide. S. Sawada and others. Phys R 82:952-3 Je 15 '51

CURIUM
Emission spectrum of curium. J. G. Conway, M. F. Moore and W. W. T. Crane. diags Am Chem Soc J 73:1308-9 Mr '51
Preparation and some properties of curium metal. J. C. Wallmann, W. W. T. Crane and B. B. Cunningham. Am Chem Soc J 73:493-4 Ja '51

CURIUM—*Continued*

Spontaneous fission in Cm^{242}. G. C. Hanna and others. Phys R 81:466-7 F 1 '51

Isotopes

Mass-spectrographic identification of Cm^{243} and Cm^{244}. F. L. Reynolds and others. il Phys R 80:467 N 1 '50

CURLING (game)

Curling stones; are we missing the broom? L. H. Cole. Can Min J 72:67-9 My '51

CURRENCY. See Money

CURTAINS

See also

Window shades

CURTIS, Francis Joseph, 1894-

Commercial chemical development association 1951 honor award. por Chem & Eng N 29:1936-9 My 14 '51

Honored for work on chemical development. por(cover) Chem & Eng N 29:470 F 5 '51

Man of the month. por Chem Eng 58:230 Mr '51

CURTIS publishing company

Pooled votes. Bsns W p 132+ Je 16 '51

Information section

Curtis information section. J. P. Wood. Special Lib 42:58-61+ F '51

CURTISS-WRIGHT corporation

Developing substantial earning power. Barron's 31:15 S 3 '51

CURTIUS reaction

Hofmann, Lossen and Curtius rearrangements. C. R. Hauser and S. W. Kantor. bibliog Am Chem Soc J 72:4284-5 S '50

CURVE fitting

Thermochemistry for the petrochemical industry; curve fitting; a method for minimum percentage deviation. K. A. Kobe and C. W. Arnold. bibliog Pet Refiner 30:123-4 Ap '51

CURVE plotting

Device plots automatically. Blast F & Steel Pl 39:721 Je '51

Graph-scope, an electronic graph plotter and graphical computer. A. L. Thomas, jr. diags Elec Eng 69:1097-100 D '50

Transmission-line impedance curves. H. A. Wheeler. bibliog Inst Radio Eng Proc 38:1400-3 D '50

Universal design curves for intermediate-frequency amplifiers with particular reference to phase and amplitude distortion and their compensation. W. Hackett. Inst Radio Eng Proc 38:1408-17 D '50

CURVES

Duplicator with centerless attachment machines extra-large curves. A. B. Harvest. il diags Am Mach 95:158 F 5 '51

Graphical methods of curvature measurement; abstract. Product Eng 22:151 Ja '51

Second degree curves in product design. D. L. McFarland. il diags Product Eng 22:116-19 Ag '51

CURVES in engineering

Controlling underground curves with offset line plugs. D. C. Shewmon. Coal Age 56:116+ F '51

CUSTOMER relations

Businesses are built one customer at a time. E. Whitmore. il Am Bsns 20:8-9+ D '50

Cory's Mr Red Face is sorry, but. il Sales Management 67:68-9 Jl 1 '51

Customer relations manager. Am Bsns 20:10-11+ D '50

Executive innovation; vice-president for customer; Metal electric processing co. officer talks for man-who-pays. B. Olson. Iron Age 167:105 Je 14 '51

Four ways to keep customers coming back. Dom Eng 178:109+ Ag '51

How do you rate? checklist. Dom Eng 178:105+ Jl '51

How to prevent allocation allergies. il Mod Ind 22:46-9 Jl '51

If you can't sell 'em, teach 'em; General Electric, Public service electric & gas meetings to teach industries how to boost production and conserve machinery and power. il Mod Ind 21:107 Je '51

Keeping customers happy though unsupplied. il Mod Ind 21:38-41 Ja '51

Mr Cummings had a problem maintaining good customer relations; Clinton plumbing & heating co. il Dom Eng 177:96-9 Ap '51

We believe in customer participation! Abraham and Straus. N. R. Domer. J Retailing 26:148-52+ Winter '50

Why Rhinelander paper co. employes studied the Kleenex package; see importance of customer satisfaction. R. Newcomb and M. Sammons. il Ind Marketing 35:102+ N '50

Why we audit our sales policies; Interstate tractor and equipment co. C. Johnson. Sales Management 67:60+ Jl 1 '51

Why Yale & Towne repeats "Keys to happiness"; co-op promotion with National association of home builders, and other hardware makers. Sales Management 66:79-80 My 20 '51

See also

Advertising, Institutional

Banks and banking—Customer relations

Complaints

Electric utilities—Customer relations

Gas companies—Customer relations

Sales letters—Lost customers

CUSTOMS service

United States

Customs simplification bill hearings. Oil Paint & Drug Rep 160:5+ Ag 20; 3+ S 24 '51

Customs simplification bill would upset organic chemical industry. S. C. Moody. Comm & Fin Chr 174:1062 S 20 '51

Treasury asks bill to revise tariff rules; simplifying customs rigamarole. Bsns W p 130-1 S 1 '51

CUSTOMS unions

See also

Benelux union

CUTLER-HAMMER, inc.

Companies to benefit from industrial expansion; with comparative balance sheet items. Mag of Wall St 87:277 D 16 '50

CUTLERY

Advertising

Promoting a new product; agency and sales staff increased sales of Carvel Hall cutlery. D. J. Loden. il Adv Agency 44:75+ F '51

CUTOUTS, Advertising. See Advertising cutouts

CUTTING

See also

Electric cutting

Gear cutting

Glass cutting

Metal cutting

Milling

Oxyacetylene cutting

Pipe cutting

Plastic materials—Cutting

Steel cutting

Thread cutting

CUTTING lubricants. See Lubrication and lubricants (cutting and grinding)

CUTTING machines

Automatic wet abrasive cutting machine with sequence timing. il Mach 57:203 My '51

Black Rock SC-6 cutting machine. il Rubber Age 69:478 Jl '51

Hydraulic cropping machine. il Engineer 190:509 N 24 '50

New method machines sintered carbides, sintered borides, hardened tool steels; Cavitron process. A. S. Cohan. il J Metals 3:216-17 Mr '51

New process for producing holes in hard metal; Cavitron process. A. Kuris. il Mach 57:175-6 Je '51

No master pattern used in sprocket cutter. il diags Product Eng 22:116-17 Jl '51

Special bar cutting machine speeds pipe and tube manufacture; illustrations with text. Steel 128:85 F 19 '51

Vibrating abrasive cuts the hard-to-cut; Cavitron machine. Bsns W p80+ Mr 3 '51

See also

Cloth cutting machines

Cutting tools

Gear cutting machines

Metal cutting

Milling cutters

Oxyacetylene cutting

Paper cutting machines

Reamers

Screw machines

Shears (machines)

Slitting machines

Straw cutting machines

CUTTING machines—*Continued*

Safety devices

Guarded shear cutters; Tenite division of Tennessee Eastman corp. il Nat Safety N 63:44 Ap '51

CUTTING of metals. See Metal cutting

CUTTING off machines

Brown & Sharpe automatic cutting-off machine. il Mach 57:206-7 Mr '51

Careful analysis can lower your cutoff costs. H. J. Chamberland. il Steel 129:70-2 O 1 '51

1951 production preview. il Am Mach 95:211-12 Ja 22 '51

See also

Saws, Metal working

CUTTING oils. See Lubrication and lubricants (cutting and grinding)

CUTTING tools

Check list on tool planning and design; data sheet. M. Conklin. Tool Eng 26:49-50 My '51

Combination spotfacer and chamfering tool. G. J. Whitley. diags Tool Eng 26:51 My '51

Cutters designed for machining seats and grooves in air-valve parts. R. W. Newton. diags Mach 57:187-9 Ag '51

Cutting tools; industry groups surveyed; tabulation. Iron Age 167:355 Ja 4 '51

Effect of fluids on tool tip temperatures. J. D. Pigott and L. P. Richardson. diags Tool Eng 26:35-7 Ja '51

Effect of the cutting fluid upon chip-tool interface temperature. M. C. Shaw and others. bibliog il diags A S M E Trans 73:45-52; Discussion. 52-6 Ja '51

Electric spark treatment of hard alloy tools. Metallurgia 43:94 F '51

Improved cutting tool for spectroscopic electrodes. A. T. Myers. bibliog diags Anal Chem 23:209-10 Ja '51

Machinability depends on microstructure. R. Le Grand. il diags Am Mach 94:109-24 N 27 '50

Maximum-strength recessing tool; reference book sheet. J. R. Nick. diags Am Mach 95:161, 163 Jl 23 '51

Measuring lathe cutting tool loads with strain gages. il Mach 57:246 Ag '51

Metallurgical considerations in machining. M. C. Shaw and P. A. Smith. il diags Am Mach 95:89-92 Ag 20; 139-42 S 17; 130-2 O 15; 100-3 O 29 '51 (to be cont)

Metallurgy in tool design and production. E. D. Wiard. il Mach 58:144-8 S '51

Modern shop tools and visual instruction in their use. F. E. Molloy. il Ry Mech & Elec Eng 125:47-51 Ap '51

Pontiac saves $100,000 annually with a tool-control program. R. LeGrand. il diags Am Mach 95:85-7 Ja 8 '51

Production evaluation of cutting tool materials. T. Badger. il Tool Eng 26:31-4 Je; 27:44-8 Jl '51

Single point cutting tools; theory and practice. K. E. H. Moltrecht. diags Tool Eng 25:24-7 N; 32-4+ D '50

Surface treatments for cutting tools; reference book sheet. Am Mach 95:183 Jl 9 '51

Tools for high production. S. K. Rudorf. il Metal Prog 59:81-5 Ja '51

See also

Hobs

Metal cutting

Milling cutters

Repair

Incentives for tool grinding. E. A. Cyrol and W. R. Olson. il Mill & Factory 48:115-17 F '51

CUTTING tools, Carbide

Adjustable tool for cutting internal oil-grooves. R. Mawson. diag Mach 57:199 Ap '51

All carbide tools used on chucking machine. G. Elwers. il diag Iron Age 167:88-9 My 17 '51

Buick uses carbide to broach at 120 feet per minute. S. J. White. il diags Mach 57:152-7 Mr '51

Carbide burs simplify difficult machining operations. G. H. DeGroat. il diags Mach 57:155-8 D '50

Carbide drills for cast iron; reference book sheet. F. W. Lucht. diags Am Mach 95:131, 133 My 28 '51; Same. il Mach 57:195-7 Je '51; Same. Steel 128:92-3 Je 4 '51; Same cond. Automotive Ind 104:98+ Je 15 '51

Carbide drills increase tool life on cast iron. E. J. Weller and others. il diags Iron Age 167:75-9 My 31 '51

Carbide high-velocity turning. L. Fersing. il diags A S M E Trans 73:359-74 My '51

Carbide problems in contract tool and die shops; panel discussion. diags Am Mach 95:172+ Mr 5 '51

Check cutting tools for cracks; Dy Chek process. il Mill & Factory 48:141 F '51

Coolant flood improves carbide performance. W. Iwascheff. il Iron Age 168:112-14 Jl 19 '51

Cutting tools, amount and trend of carbide tool use; tabulation. Iron Age 167:355 Ja 4 '51

Designing carbide dies. M. J. Blackstrom and E. J. Reitler. il diags Mach 57:170-6 Ag '51

Electrical and allied developments during 1950; cemented carbides, more new fields. G. Bartlett. il Gen Elec R 54:60 Ja '51

Fast carbide turning studied. Steel 128:103+ Ap 23 '51

15,000,000 stampings per grind on carbide dies. J. E. Spofford, jr. il diags Steel 128:80-2 Mr 5 '51

Getting the most out of machines and tools. il diag Steel 128:80-3+ Mr 12 '51

Greater output with novel control gages. C. W. Heppenstall. il Steel 128:85-6 My 28 '51

Hard steel grilled at a mile a minute. J. O. Outwater. diag Am Mach 95:87 Ap 2 '51

High-speed turning qualifies shafts and gears; illustrations and diagrams with text. J. M. Finally. Am Mach 95:136-7 F 19 '51

How to mill die blocks with carbides. A. O. Schmidt. il Am Mach 95:111-13 Ap 30 '51

How tool life is affected by heat resisting alloys. Automotive Ind 104:52+ Ap 1 '51

Metallurgical considerations in machining; physical characteristics of cast alloys and carbides. M. C. Shaw and P. A. Smith. il Am Mach 95:130-2 O 15 '51

Modified standard carbide tool. il diags Automotive Ind 104:224 Mr 15 '51

Practical application of carbide tools. A. E. Rylander. diags Tool Eng 25:34-6 N; 36-8 D '50

Preparation of cemented carbides by infiltration; abstract. R. Kieffer and F. Kölbl. Metal Prog 60:118+ Ag '51

Production evaluation of cutting tool materials. T. Badger. Tool Eng 27:44-8 Jl '51

Raising the limits on carbide machining. W. P. Coomey. il Tool Eng 27:29-31 Ag '51

Recommended carbide grades for various applications; tabulation; engineering file facts. Materials & Methods 32:85 D '50

Retracting facing tool eliminates second lathe operation. F. E. Riley. diag Steel 129:77-8 O 1 '51

Solid carbide saws cut clean and fast. C. S. Ricker. il diags Am Mach 95:120-1 My 28 '51

What carbide burs do, and how. H. E. Linsley. il Am Mach 95:142-3 Je 11 '51

Manufacture

Carbide department for a job shop; reference book sheet. A. Tilston. il diags Am Mach 95:171, 173, 175 Mr 19 '51

Carbide tips sandwich brazed. Steel 127:101 N 6 '50

Now you can machine green carbide compacts. H. Swenson. il Am Mach 95:131-3 O 1 '51

Standards

American standard shapes and sizes of sintered-carbide tips for single-point tools; data sheet. Mach 57:239 Je '51

CUYAHOGA river

Cuyahoga river vital defense project. B. Taylor. il Iron Age 168:123 Ag 16 '51

River of commerce; how Cleveland is improving its business artery. il Eng N 147:112 Ag 23 '51

CYANAMIDE

Cyanamides; N-aryl-N′-arylsulphonylureas. F. Kurzer. Chem Soc J p 1258-62 My '51

CYANAMIDE—*Continued*

Cyanamides; the interaction of arylthioureas and aromatic sulphonyl chlorides. F. Kurzer. Chem Soc J p3269-76 N '50

Preparation of glycocyamidines from substituted cyanamides. E. I. Hoegberg and P. Adams. Am Chem Soc J 73:2942 Je '51

See also

Sulphanilylcyanamide

CYANIC acid

See also

Isocyanic acid

CYANIDE process

Sodium chloride in cyanidation at Renabie. E. G. Kearney and W. J. Fenton. bibliog Can Min J 72:63-7 Je '51

CYANIDES

Chemical, waste disposal; reference book sheet. E. G. Meiter. Am Mach 95:143 Mr 5 '51

Chemistry of waste cyanide treatment. D. Milne. Sewage & Ind Wastes 23:174-80 F '51

Cyanide disposal; Boeing airplane co. il Chem Ind W 68:28 Mr 24 '51

Destruction of cyanide in waste waters by chlorination; abstract. G. E. Eden and others. Sewage & Ind Wastes 23:1213 S '51

Equilibrium between vitamin B_{12} (cyanocobalamin) and cyanide ion. J. B. Conn and others. bibliog Science 113:658-9 Je 8 '51

Exchange reactions of tetracyanonickelate ion; the structure of nickel cyanide. F. A. Long. bibliog Am Chem Soc J 73:537-40 F '51

Exchange studies with complex ions; the exchange of radiocyanide with certain heavy metal complex cyanides. A. W. Adamson, J. P. Welker and M. Volpe. bibliog Am Chem Soc J 72:4030-6 S '50

Experience with chlorination of cyanides in the General motors corporation. D. Milne and others. flow diag il Sewage & Ind Wastes 23:64-81 Ja '51

Function of sulphites and bisulphites in cyanide plating solutions. J. Haas. bibliog Metal Finishing 49:64-5 Ap '51

How to get rid of toxic industrial wastes. il Eng N 146:30-1 Je 14 '51

Method of continuous chlorination to destroy cyanides in rinse waters; abstract. C. F. Hauri. Water & Sewage Works 98:326 Jl '51

Ozonation of cyanide wastes. R. G. Tyler and others. Sewage & Ind Wastes 23:1150-8 S '51

Plating room chlorinator solves cyanide disposal problem. N. S. Chamberlin. il plan Metal Finishing 49:54-5+ Ag '51

Preparation of C^{14}-cyanide from C^{14}-carbonate. J. A. McCarter. Am Chem Soc J 73:483 Ja '51

Reactions of ethylene oxides; the interaction of alkali cyanides with epichlorohydrin. C. C. J. Culvenor, W. Davies and F. G. Haley. Chem Soc J p3123-5 N '50

Structure of the isomeric quinoline dicyanides. M. G. Seeley, R. E. Yates and C. R. Noller. bibliog Am Chem Soc J 73:772-4 F '51

Synthetic analgesics and related compounds; amidines and 4 : 5-dihydro-glyoxalines. W. Wilson. Chem Soc J p2173-6 Ag '50

Analysis

Determination of cyanides in sewage and polluted waters. I. Nusbaum and P. Skupeko. bibliog Sewage & Ind Wastes 23:875-9 Jl '51; Same. Metal Finishing 49:61-3 O '51

CYANINES

Color and constitution; absorption of cyanines derived from 3-methylisoquinoline; a rule relating basicity and absorption in symmetrical cyanines. L. G. S. Brooker, F. L. White and R. H. Sprague. Am Chem Soc J 73:1087-93 Mr '51

Colour of organic compounds; a new method of assessing the *+M* effect of heterocyclic nuclei. E. B. Knott and L. A. Williams. Chem Soc J p 1586-9 Je '51

Cyanine dyes and intermediates therefor; Tri- and tetra-nuclear cyanine dyes; patents. Soc Dyers & Col J 67:88-9 F '51

Cyanine dyes containing the pyrrocoline nucleus. F. G. Holliman and H. A. Schickerling. Chem Soc J p914-20 Ap '51

Dimethin*mero*cyanines derived from 2-substituted azol-5-ones. P. Aubert, E. B. Knott and L. A. Williams. Chem Soc J p2185-95 Ag '51

Problem navy blue; abstract. A. Carpenter. Am Dyestuff Rep 40:360-1 My 28 '51

Some trinuclear cyanine dyes; the action of acid on dinuclear intermediate dyes. F. M. Hamer. Chem Soc J p294-9 F '51

Studies in the cyanine dye series; reactivity of the methyl group in quaternary salts of 3-methylisoquinoline. L. G. S. Brooker and F. L. White. Am Chem Soc J 73:1094-7 Mr '51

See also

Phthalocyanines

CYANITE. See Kyanite

CYANO compounds

See also

Vitamins—Vitamin B_{12}

CYANOACETAMIDE

Cyanoacetamide. Chem Eng 58:165 Jl '51

CYANOACETATES

Synthesis of ethyl *t*-alkylcyanoacetates. E. R. Alexander, J. D. McCollum and D. E. Paul. Am Chem Soc J 72:4791-2 O '50

CYANOACETIC acid

Preparation of α-substituted glutaric acids. M. F. Ansell and D. H. Hey. Chem Soc J p 1683-6 Jl '50

CYANOALKYLATION

Cyanoalkylation; structural effects in the reaction of mercaptans with α-alkylacrylonitriles. R. M. Ross and others. Am Chem Soc J 73:540-2 F '51

Cyanoalkylation; the addition of mercaptans to 1-cyano-1-cyclohexene. R. M. Ross and F. W. Raths. Am Chem Soc J 73:129-30 Ja '51

CYANOBUTADIENE

1-Cyano-1,3-butadienes; Diels-Alder reaction with dienes. H. R. Snyder and G. I. Poos. bibliog Am Chem Soc J 72:4096-103 S '50

1-Cyano-1,3-butadienes; the Diels-Alder adducts of 1-cyano-1,3-butadiene with ethyl and metehyl acrylate. H. R. Snyder and G. I. Poos. bibliog Am Chem Soc J 72:4104-7 S '50

Reactions of α-cyanoprene (1-cyanobuta-1 :3-diene); dimers. J. L. Charlish and W. H. Davies. Chem Soc J p 1385-8 My '50

CYANOETHYL cellulose ethers

Reaction of acrylonitrile with macromolecular hydroxy substances; the production and uses of water-insoluble, alkali-soluble cyanoethyl cellulose ethers as soluble yarns. J. H. MacGregor and C. Pugh. bibliog Soc Dyers & Col J 67:74-80+ F '51

CYANOETHYLATION

Cyanoethylation of α-amino acids; dicyanoethyl and tricyanoethyl derivatives. L. L. McKinney and others. Am Chem Soc J 73:1641-4 Ap '51

Cyanoethylation of some carbazole derivatives. N. L. Smith. Am Chem Soc J 72:4313-14 S '50

Novel cyanoethylation reaction. L. Bauer and J. Cymerman. bibliog Chem & Ind p615-16 Jl 14 '51

CYANOGEN

Cyanogen rarefaction using solid CO_2. W. J. Wark. il Opt Soc Am J 41:482 Jl '51

Heat of combustion and formation of cyanogen. J. W. Knowlton and E. J. Prosen. bibliog J Res Nat Bur Stand 46:489-95 Je '51

Heat of formation of CN and the dissociation energies of N_2 and C_2N_2. L. Brewer, L. K. Templeton and F. A. Jenkins. bibliog Am Chem Soc J 73:1462-5 Ap '51

CYANOGEN bromide

Estimation of nicotinic acid in tissues by the cyanogen bromide reaction. H. C. Goldthorpe and D. Tippit. Anal Chem 23:484-7 Mr '51

CYANOGEN chloride

Role of hybridization and resonance in molecular structure. J. Duchesne. bibliog J Chem Phys 19:246-7 F '51

Ultraviolet absorption of cyanogen chloride. D. P. Stevenson and others. J Chem Phys 19:128 Ja '51

CYANOGEN halides

Electrolytic dissociation processes; the dielectric polarisation of iodine cyanide and the ionisation of the cyanogen halides. F. Fairbrother. Chem Soc J p 180-5 Ja '50

Microwave determination of the centrifugal distortion constants of CH_3Cl, CH_3Br, CH_3I, BrCN, and ICN. J. W. Simmons and W. E. Anderson. bibliog Phys R 80:338-42 N 1 '50

CYANOGEN iodide

Electrolytic dissociation processes; the dielectric polarisation of iodine cyanide and the ionisation of the cyanogen halides. F. Fairbrother. Chem Soc J p 180-5 Ja '50

CYANOGUANIDINE

Amidines; preparation of diguanides and guanidines from cyanoguanidine and ammonium sulphonates. P. Oxley and W. F. Short. Chem Soc J p 1252-6 My '51

CYANOHYDRINS

Synthesis of hydroxylysine from the cyanohydrin of γ-acetamido-γ,γ-dicarbethoxybutyraldehyde. O. Touster. Am Chem Soc J 73:491 Ja '51

CYANOPRENE. See Cyanobutadiene

CYANURIC acid

Anticonvulsant drugs; some cyanurates. M. A. Spielman, W. J. Close and I. J. Wilk. bibliog Am Chem Soc J 73:1775-7 Ap '51

CYANURIC chloride

Cyanuric chloride derivatives. J. T. Thurston and others. bibliog Am Chem Soc J 73:2981-3008 Jl '51

Triazine dividend. Chem Ind W 68:25 My 12 '51

CYCLEWELD cement. See Cements

CYCLIC compounds

Acid catalyzed cyclization of α-acylamino acids. J. L. O'Brien and C. Niemann. bibliog Am Chem Soc J 72:5348-9 N '50

Addition of ketene to cyclic conjugated dienes. A. T. Blomquist and J. Kwiatek. bibliog Am Chem Soc J 73:2098-100 My '51

Alicyclic glycols; 3-hydroxymethyl*cyclo*-hexanol. M. F. Clarke and L. N. Owen. Chem Soc J p2108-15 Ag '50

Alicyclic glycols; toluene-*p*-sulphonyl and methanesulphonyl derivatives of *cyclo*-hexane-1 : 3-diol. M. F. Clarke and L. N. Owen. Chem Soc J p2103-8 Ag '50

Anhydrides of polyhydric alcohols; observations on the ring; scission of 1 : 2-5 : 6-diepoxyhexane and 3 : 4-*iso*propylidene 1 : 2-5 : 6-dianhydromannitol. L. F. Wiggins and D. J. C. Wood. Chem Soc J p 1566-75 Je '50

Aromatic cyclodehydrogenation; studies on ring oxygen compounds; dinaphtho[1,2,1′,2′]-furan. M. Orchin and L. Reggel. Am Chem Soc J 73:1877-8 Ap '51

Aromatization and rearrangement of cyclic ketones; 3 - phenyl - 5,5 - dimethylcyclohexenone. M. Beringer and I. Kuntz. bibliog Am Chem Soc J 73:364-6 Ja '51

Aromatization of cyclic compounds by solid potassium perchlorate. S. Patai and L. Rajbenbach. Am Chem Soc J 73:862-3 F '51

Bredt's rule of double bonds in atomic-bridged-ring structures. F. S. Fawcett. Chem R 47:219-74 bibliog(204 ref, p269-74) O '50

Chemistry of eight-membered carbocycles. L. E. Craig. diags Chem R 49:103-236 bibliog (174 ref, p232-6) Ag '51

Chemistry of indanthrone; the cyclisation of 2-amino-1 : 2′-dianthraquinonylamine. W. Bradley, E. Leete and D. S. Stephens. Chem Soc J p2158-62 Ag '51

Colchicine and related compounds. J. W. Cook and others. Chem Soc J p 139-47 Ja '50

Cyclic conjugated polyenes; attempted synthesis of 6-methyl-4 : 5-benzazulene. J. R. Nunn. Chem Soc J p 1352-3 My '50

Cyclic intermediates in substitution reactions; steric effects in the alkaline hydrolysis of the epimeric 3-chloro-6//7-cholestanedicarboxylic acids. D. W. Wujciak, R. L. Feller and J. F. Lane. bibliog Am Chem Soc J 73:2392-4 My '51

Cyclic intermediates in substitution reactions; the alkaline hydrolysis of some aliphatic bromoacids. J. F. Lane and H. W. Heine. bibliog Am Chem Soc J 73:1348-50 Mr '51

Cyclic meso-ionic compounds; ψ-4-aryl-2 : 4-dihydro-2-thio-1-thia-3 : 4-diazoles (*endo*-thiodihydrothiodiazoles). W. Baker and others. Chem Soc J p289-91 F '51

Cyclic meso-ionic compounds derived from quinoline. B. R. Brown and D. L. Hammick. Chem Soc J p628-33 F '50

Cyclic meso-ionic compounds; further properties of the sydnones and the mechanism of their formation. W. Baker, W. D. Ollis and V. D. Poole. Chem Soc J p 1542-51 Je '50

Cyclic phosphites of some aliphatic glycols. H. J. Lucas, F. W. Mitchell, jr. and C. N. Scully. bibliog diag Am Chem Soc J 72:5491-7 D '50

Cyclic polyolefins; allylic rearrangement in the reactions of *cis*- and *trans*- 3,5-dibromocyclopentenes with dimethylamine. A. C. Cope and others. bibliog Am Chem Soc J 73:1199-204 Mr '51

Cyclic polyolefins; carbonyl-bridged compounds derived from the adduct of α-carbethoxycyclohexanone and acrolein. A. C. Cope and M. E. Synerholm. bibliog Am Chem Soc J 72:5228-32 N '50

Cyclic polyolefins; isolation of vinylcycloöctatetraene and *cis*-1-phenyl-1,3-butadiene from acetylene polymers. A. C. Cope and S. W. Fenton. bibliog Am Chem Soc J 73:1195-8 Mr '51

Cyclic polyolefins; phenylcycloheptatriene and phenylcycloöctatriene. A. C. Cope and A. A. D'Addieco. bibliog Am Chem Soc J 73:3419-24 Jl '51

Cyclic polyolefins; preparation of arylcycloöctatetraenes from cycloöctatetraene and organometallic compounds. A. C. Cope and M. R. Kinter. bibliog Am Chem Soc J 73:3424-30 Jl '51

Cyclic sulfones; alkylation of 2,5-diphenyl-3,4-dihydroxythiophene-1-dioxide with methyl and ethyl iodide; an extension of a method for the alkylation of benzyl sulfone. C. G. Overberger and J. M. Hoyt. Am Chem Soc J 73:3957-8 Ag '51

Cyclic sulfones; methylation of 2,5-diphenyl-3,4-dihydroxythiophene-1-dixoide with methyl sulfate and diazomethane. C. G. Overberger and J. M. Hoyt. bibliog Am Chem Soc J 73:3305-8 Jl '51

Cyclization of a diiodinated diphenyl sulfide. P. Block, jr. bibliog Am Chem Soc J 72:5641-3 D '50

Cyclization of β-(6-tetralyl)-isovaleric acid, and of 6-senecioyltetralin. L. I. Smith and P. N. Gordon. Am Chem Soc J 73:3747-9 Ag '51

Cyclized products from the Stobbe condensation with δ-keto-esters. D. L. Turner. bibliog Am Chem Soc J 73:1284-7 Mr '51

Determination of bond fixation in cyclic systems; naphthalene. I. M. Hunsberger. bibliog Am Chem Soc J 72:5626-35 D '50

Dicyclic hydrocarbons; 2-alkylbicyclohexyls I. A. Goodman and P. H. Wise. Am Chem Soc J 73:850-1 F '51

Direction of ring opening of some unsymmetrical ethylene oxides and sulphides. W. Davies and W. E. Savige. Chem Soc J p774-9 Mr '51

Eight- and higher-membered ring compounds. W. Baker and others. diag Chem Soc J p200-13, 1114-21 Ja, Ap '51

Endocyclic α,β-unsaturated ketones; dehydration-rearrangement of 1,4-dihydronaphthalene-1-ols to naphthalenes. N. H. Cromwell, H. H. Eby and D. B. Capps. Am Chem Soc J 73:1224-6 Mr '51

Endocyclic α,β-unsaturated ketones; reaction of 2-bromo-4,4-dimethyl-1-keto-1,4-dihydronaphthalene with amines. N. H. Cromwell, H. H. Eby and D. B. Capps. Am Chem Soc J 73:1230-2 Mr '51

Endocyclic α,β-unsaturated ketones; reactions of 8-bromoperinaphthenone-7 with amines. N. H. Cromwell, D. B. Capps and S. E. Palmer. Am Chem Soc J 73:1226-9 Mr '51

Fischer indole synthesis; the cyclisation of the phenylhydrazones of some 2-substituted *cyclo*hexanones. K. H. Pausacker. Chem Soc J p621-4 F '50

Formation and ring-opening of alkene sulfides. E. E. van Tamelen. bibliog Am Chem Soc J 73:3444-8 Jl '51

CYCLIC compounds—*Continued*

Formation of five and six-membered rings by the acyloin condensation; the cyclization of dimethyl hexahydrohomophthalate. J. C. Sheehan and R. C. O'Neill. bibliog Am Chem Soc J 72:4614-16 O '50

Halogenation of olefins in heterocyclic tertiary amines; cycloalkenes. F. N. Hayes, H. K. Suzuki and D. E. Peterson. bibliog Am Chem Soc J 72:4524-5 O '50

Hydrogen bond formation with saturated cyclic ethers. S. Searles and M. Tamres. bibliog Am Chem Soc J 73:3704-6 Ag '51

I-Strain as a factor in the chemistry of ring compounds. H. C. Brown, R. S. Fletcher and R. B. Johannesen. bibliog diags Am Chem Soc J 73:212-21 Ja '51

Improvement of the synthesis of bisdehydrodoisynolic acid. D. L. Turner and others. bibliog Am Chem Soc J 72:5654-9 D '50

Indene series; the cyclisation of 1-benzyl*cyclo*pentene and isomeric compounds. L. H. Groves and G. A. Swan. Chem Soc J p871-2 Ap '51

Internuclear cyclisation; modifications and extensions of the Pschorr reaction. D. H. Hey and J. M. Osbond. Chem Soc J p3164-71 D '49

Internuclear cyclisation; the application of the Pschorr reaction to some substituted derivatives of *o*-amino-α-phenylcinnamic acid. D. H. Hey and J. M. Osbond. Chem Soc J p3172-7 D '49

Intramolecular acylation; the ring closure of some α-substituted glutaric acids. M. F. Ansell and D. H. Hey. Chem Soc J p2874-81 O '50

Intramolecular acylation; the ring closure of some β-substituted glutaric acids. D. H. Hey and D. H. Kohn. Chem Soc J p3177-81 D '49

Intramolecular displacement of carboxylate ion; the effect of some variations in structure of phenol-alcohols. C. O. Guss. bibliog Am Chem Soc J 73:608-11 F '51

Kinetics of cyclization of hevea latex. M. Gordon. bibliog il Ind & Eng Chem 43:386-93 F '51

Newer developments of the chemistry of many-membered ring compounds. V. Prelog. bibliog pl Chem Soc J p420-8 Ja '50

Phenylpropiolic acids; the effect of substituents on the mode of cyclisation of substituted phenylpropiolic anhydrides. F. G. Baddar and L. S. El-Assal. Chem Soc J p 1844-7 Jl '51

Polycyclic aromatic hydrocarbons; carcinogenic compounds. J. W. Cook. Chem Soc J p 1210-19 bibliog(78 ref, p 1218-19) Ap '50

Polycyclic aromatic hydrocarbons; synthesis of the metabolic oxidation products of 3 : 4-benzpyrene. J. W. Cook, R. S. Ludwiczak and R. Schoental. Chem Soc J p 1112-21 Ap '50

Polycyclic compounds; reactions of the Mannich base of levulinic acid. R. M. Dodson and P. Sollman. bibliog Am Chem Soc J 73:4197-9 S '51

Polycyclic compounds; the Reimer-Tiemann reaction with 1-alkyl-2-naphthols. R. M. Dodson and W. P. Webb. Am Chem Soc J 73:2767-9 Je '51

Preparation and physical properties of sulfur compounds related to petroleum; cyclic sulfides. E. V. Whitehead, R. A. Dean and F. A. Fidler. bibliog Am Chem Soc J 73:3632-5 Ag '51

Reactions of methyl radicals; the abstraction of hydrogen atoms from cyclic hydrocarbons, butynes, amines, alcohols, ethers, and ammonia. A. F. Trotman-Dickenson and E. W. R. Steacie. bibliog J Chem Phys 19:329-36 Mr '51

Reactions of αβ-unsaturated cyclic aldehydes and ketones; alcohols derived from (—)-piperitone. C. S. Barnes, L. M. Jackman and A. K. Macbeth. Chem Soc J p 1848-51 Jl '51

Reductive cyclization; a general method for the synthesis of 1-azabicyclo compounds. N. J. Leonard and W. E. Goode. bibliog Am Chem Soc J 72:5404-7 D '50

Reductive cyclization; synthesis of 1-ethyl-3-phenylpyrrolidine. N. J. Leonard, A. B. Simon and D. L. Felley. Am Chem Soc J 73:857-8 F '51

Ring analysis of hydrocarbon mixtures. R. E. Hersh and others. bibliog Inst Pet J 36:624-68 O '50

Ring effects in autoxidation; a new type of Camps reaction. B. Witkop, J. B. Patrick and M. Rosenblum. il Am Chem Soc J 73:2641-7 Je '51

Seven-membered ring compounds; 7,8,9,10-tetrahydrocyclohepta[de]naphthalene. R. C. Gilmore, jr. and W. J. Horton. bibliog Am Chem Soc J 73:1411-14 Ap '51

Shifted position of infrared absorption bands associated with the C=O linkages in polycyclic compounds. M. L. Josien and N. Fuson. Am Chem Soc J 73:478-9 Ja '51

Small-ring compounds; cyclopropanol, cyclopropyl bromide and cyclopropylamine. J. D. Roberts and V. C. Chambers. Am Chem Soc J 73:3176-9 Jl '51

Small-ring compounds; interconversion reaction of cyclobutyl, cyclopropylcarbinyl and allylcarbinyl derivatives. J. D. Roberts and R. H. Mazur. diag Am Chem Soc J 73:2509-20 Je '51

Small-ring compounds; synthesis of cyclopropanecarboxaldehyde by the MacFadyen-Stevens reduction. J. D. Roberts. bibliog Am Chem Soc J 73:2959 Je '51

Some cyclic acetals of D-glucose and its derivatives. R. L. Mellies, C. L. Mehltretter and C. E. Rist. bibliog Am Chem Soc J 73:294-6 Ja '51

Some cyclic acetals of glyoxal. M. M. Sprung and F. O. Guenther. Am Chem Soc J 73:1884-6 Ap '51

Some five-membered ring α-aminoketones. N. J. Leonard and others. Am Chem Soc J 73:2371-3 My '51

Stereochemical course of hydrogenation of ring D-unsaturated equilenane derivatives. A. L. Wilds, J. A. Johnson, jr. and R. E. Sutton. bibliog Am Chem Soc J 72:5524-9 D '50

Stereochemical studies of olefinic compounds; ring scission of 2-1′-halogenoalkyltetrahydrofurans and 3-halogeno-2-alkyl-tetrahydropyrans as a route to alk-4-en-1-ols of known configuration and as a method of chain extension by five methylene groups. L. Crombie and S. H. Harper. Chem Soc J p 1707-14 Jl '50

Stereochemical studies of olefinic compounds; ring scission of 3-halogeno-2-alkyltetrahydrofurans as a route to alk-3-en-1-ols of known configuration and as a method of chain extension by four methylene groups. L. Crombie and S. H. Harper. Chem Soc J p 1714-22 Jl '50

Stereochemistry of simple ring systems. J. Figueras, jr. J Chem Educ 28:134-5 Mr '51

Structure and polarity of some polycyclic spirans. E. D. Bergmann, A. Weizmann and E. Fischer. bibliog Am Chem Soc J 72:5009-12 N '50

Thermal cyclization of *o*-aroyloxyacetoarones; a new synthesis of flavones. A. T. M. Dunne and others. Chem Soc J p 1252-9 My '50

X-ray diagnostics; halogenated polycyclic compounds. D. Papa and others. bibliog Am Chem Soc J 72:4909-11 N '50

See also

Cyclopropane

CYCLOALKYLATION

Studies in the terpene series; isomerization accompanying cycloalkylation of benzene. V. N. Ipatieff, H. R. Appell and H. Pines. bibliog Am Chem Soc J 72:4260-2 S '50

CYCLOBUTANE

Experiments in the *cyclo*butane series. K. B. Alberman and F. B. Kipping. Chem Soc J p779-82 Mr '51

Synthetic approaches to 1,2,3,4-cyclobutanetetracarboxylic acid. E. B. Reid and M. Sack. bibliog Am Chem Soc J 73:1985-8 My '51

Thermal decomposition of cyclobutane. C. T. Genaux and W. D. Walters. Am Chem Soc J 73:4497-8 S '51

CYCLOBUTANECARBOXYLIC acid

Derivatives of cyclobutanecarboxylic acid. D. L. Kantro and H. E. Gunning. Am Chem Soc J 73:480-1 Ja '51

CYCLOCITRAL. See Cyclohexenealdehydes

CYCLODEHYDRATION. See Dehydration

CYCLODEHYDROGENATION. See Dehydrogenation

CYCLOHEPTADIENE

Ultraviolet absorption spectrum of 1,3-cycloheptadiene. E. Pesch and S. L. Friess. Am Chem Soc J 72:5756-7 D '50

CYCLOHEPTANONE

Synthesis of cycloheptanone by a nitromethane condensation sequence. H. J. Dauben, jr. and others. Am Chem Soc J 73:2359-61 My '51

CYCLOHEPTATRIENE

Cyclic polyolefins; 1-methylene-2,3,6,7-dibenzcycloheptatriene. A. C. Cope and S. W. Fenton. bibliog Am Chem Soc J 73:1673-8 Ap '51

CYCLOHEPTATRIENOLONE

Crystal structure of cupric tropolone and the dimensions of the tropolone ring. J. M. Robertson. diags Chem Soc J p 1222-9 My '51

CYCLOHEPTATRIENONE

4-Hydroxy-2′ : 3′-dimethoxybenz*cyclo*heptatrien-3-one and related topics. J. A. Barltrop, A. J. Johnson and G. D. Meakins. Chem Soc J p 181-5 Ja '51

Synthesis of tropone. H. J. Dauben, jr. and H. J. Ringold. Am Chem Soc J 73:876 F '51

CYCLOHEPTATRIENYLIUM oxide

Cycloheptatrienylium oxide. W. V. Doering and F. L. Detert. Am Chem Soc J 73:876-7 F '51

CYCLOHEPTENE

Rearrangement in the Nenitzescu reaction of cycloheptene with acetyl chloride and aluminum chloride. S. L. Friess and R. Pinson, jr. bibliog Am Chem Soc J 73:3512-14 Jl '51

CYCLOHEXANE

1,4-Addition reactions; the synthesis of substituted cyclohexenes and cyclohexanes. O. A. Moe, D. T. Warner and M. I. Buckley. Am Chem Soc J 73:1062-4 Mr '51

Adsorption of benzene and cyclohexane by graphite. R. N. Smith, C. Pierce and H. Cordes. bibliog Am Chem Soc J 72:5595-7 D '50

4-Hydroxy*cyclo*hexane-1-carboxylic acid. N. R. Campbell and J. H. Hunt. Chem Soc J p 1379-82 My '50

Kinetics of acid-catalyzed esterification of cyclohexanedicarboxylic acids. H. A. Smith and F. P. Byrne. bibliog il Am Chem Soc J 72:4406-10 O '50

Methylene-nitramines. K. W. Dunning and W. J. Dunning. Chem Soc J p2928-32 N '50

Methylene-nitramines; an investigation of some properties of 1-alkoxymethyl-3 : 5-dinitro-1 : 3 : 5-triaza*cyclo*hexane and of related compounds. K. W. Dunning and W. J. Dunning. Chem Soc J p2925-8 N '50

Radical mechanisms in saturated and olefinic systems; liquid-phase reaction of the *tert.*-butoxy-radical with olefins and with *cyclo*hexane. E. H. Farmer and C. G. Moore. Chem Soc J p 131-41 Ja '51

Solubilization of four typical hydrocarbons in aqueous solution by three typical detergents. J. W. McBain and K. J. Lissant. bibliog J Phys & Colloid Chem 55:655-62 My '51

CYCLOHEXANEDIOL

Alicyclic glycols; toluene-*p*-sulphonyl and methanesulphonyl derivatives of *cyclo*hexane-1 : 3-diol. M. F. Clarke and L. N. Owen. Chem Soc J p2103-8 Ag '50

CYCLOHEXANEDIONE

Synthesis of 1-(3′-methoxy-4′-acetoxyphenyl)-2,6-dicarbethoxycyclohexanedione-3, 5; related oximes and *p,p′*-disazo-diphenyl derivatives. P. E. Papadakis and others. bibliog Am Chem Soc J 72:4256-7 S '50

CYCLOHEXANEDIONEDIOXIME

Spectrophotometric determination of nickel in calcium metal using 1,2-cyclohexanedionedioxime. R. C. Ferguson and C. V. Banks. bibliog Anal Chem 23:448-53 Mr '51

CYCLOHEXANOL

1-Nitromethyl*cyclo*hexanol. G. A. R. Kon. Chem Soc J p843 Mr '51

CYCLOHEXANONE

Acid-catalyzed reactions of nitriles; condensation of cyclohexanone with nitriles. E. E. Magat. Am Chem Soc J 73:1367-8 Mr '51

Attempted synthesis of a morphine degradation product. M. S. Newman and W. L. Mosby. bibliog Am Chem Soc J 73:3738-40 Ag '51

Fischer indole synthesis; a kinetic investigation. K. H. Pausacker and C. I. Schubert. Chem Soc J p 1814-16 Jl '50

Fischer indole synthesis; the cyclisation of some *cyclo*hexanone *o*-substituted hydrazones. C. S. Barnes, K. H. Pausacker and W. E. Badcock. Chem Soc J p730-3 Mr '51

Fischer indole synthesis; the cyclisation of the phenylhydrazones of some 2-substituted *cyclo*hexanones. K. H. Pausacker. Chem Soc J p621-4 F '50

Formation of osazones; the reaction of 2-hydroxy*cyclo*hexanone with arylhydrazines. G. J. Bloink and K. H. Pausacker. Chem Soc J p 1328-31 My '50

Reaction of 1-acetyl-2-methylcyclohexene with cyclohexanone. R. B. Turner and D. M. Voitle. bibliog Am Chem Soc J 72:4166-8 S '50

Reaction of di-*tert.*-butyl peroxide with butan-2-one and *cyclo*hexanone. C. G. Moore. Chem Soc J p236-7 Ja '51

Reaction of unsymmetrical cycloalkanones and hydrazoic acid; synthesis of *d,l*-lysine. H. Schechter and J. C. Kirk. bibliog Am Chem Soc J 73:3087-91 Jl '51

Reactions of 2-arylcyclohexanones; Michael addition of malonic ester to 2-phenyl-Δ^2-cyclohexenone. W. E. Bachmann and E. J. Fornefeld. Am Chem Soc J 72:5529-30 D '50

Reactions of 2-arylcyclohexanones; 1-phenylcyclohexaneethylamine, 1-methyl-9-phenyl-Δ^7-hexahydroindole and related compounds. W. E. Bachmann and E. J. Fornefeld. Am Chem Soc J 73:51-4 Ja '51

Substituted cyclohexanones; 2-(2′,3′-dimethoxyphenyl)-2-ethylcyclohexanone. E. C. Horning and A. F. Finelli. Am Chem Soc J 73:3741 Ag '51

Synthesis of 2-(2 : 3-dimethoxyphenyl)*cyclo*hexanone. E. D. Bergmann, R. Pappo and D. Ginsburg. Chem Soc J p 1369-71 My '50

CYCLOHEXENE

1,4-Addition reactions; the synthesis of substituted cyclohexenes and cyclohexanes. O. A. Moe, D. T. Warner and M. I. Buckley. Am Chem Soc J 73:1062-4 Mr '51

Cyanoalkylation; the addition of mercaptans to 1-cyano-1-cyclohexene. R. M. Ross and F. W. Raths. Am Chem Soc J 73:129-30 Ja '51

Dehydrogenation of methylcyclopentane over chromia-alumina catalysts. H. Heinemann. bibliog Ind & Eng Chem 43:2098-101 S '51

Reaction of 1-acetyl-2-methylcyclohexene with cyclohexanone. R. B. Turner and D. M. Voitle. bibliog Am Chem Soc J 72:4166-8 S '50

Solubilization of four typical hydrocarbons in aqueous solution by three typical detergents. J. W. McBain and K. J. Lissant. bibliog J Phys & Colloid Chem 55:655-62 My '51

CYCLOHEXENEALDEHYDES

Studies of compounds related to natural perfumes; the application of the Diels-Alder reaction to the synthesis of β-*cyclo*citral analogues. J. C. Lunt and F. Sondheimer. Chem Soc J p2957-61 N '50

CYCLOHEXENONE

m-Diarylbenzenes. G. F. Woods and others. Am Chem Soc J 73:3854-6 Ag '51

Preliminary syntheses in the morphine series; Michael condensations with 2-aryl*cyclo*hex-2-enones and cyclisation of the products to octahydrophenanthrene derivatives. D. Ginsburg and R. Pappo. Chem Soc J p938-45 Ap '51

Preliminary synthesis in the morphine series; the synthesis of 2-aryl*cyclo*hex-2-enones. D. Ginsburg and R. Pappo. Chem Soc J p516-19 F '51

Pyridines; conversion of 2-cyclohexenones to pyridines. R. L. Frank and R. W. Meikle. bibliog Am Chem Soc J 72:4184-5 S '50

Studies on the mechanism of conjugate addition; the addition of Grignard reagents to 2-cyclohexenone and some open chain analogs. E. R. Alexander and G. R. Coraor. Am Chem Soc J 73:2721-3 Je '51

CYCLOHEXYLDIETHYLTHIOCARBAMYL sulfenamide

N-Cyclohexyl-N′, N′-diethylthiocarbamyl sulfenamide as an accelerator. G. Alliger and S. R. Harrison. bibliog India Rubber World 123:181-5 N '50

CYCLOHEXYLHYDROPEROXIDE

1-Hydroxy*cyclo*hexyl 1-hydroperoxide; its thermal decomposition and its reaction with acyl chlorides. W. Cooper. Chem Soc J p 1340-3 My '51

CYCLONES

Disaster control; cyclone and earthquake; handbook for metalworking. Am Mach 94: 145 N 13 '50

CYCLONITE

Tripotassium 1,3,5-triazacyclohexane-1,3,5-trisulfonate. W. P. Binnie, H. L. Cohen and G. F. Wright. bibliog Am Chem Soc J 72: 4457-9 O '50

CYCLOÖCTADIENE

Cyclic polyolefins; 3,7-dibromo-1,2,5,6-dibenzcycloöctadiene and 1,2,5,6,-dibenzcycloöctatetraene. A. C. Cope and S. W. Fenton. bibliog Am Chem Soc J 73:1668-73 Ap '51

CYCLOÖCTANE

1-Acetoxymethyl-3,5,7-trinitro-1,3,5,7-tetrazacycloöctane and its reactions; significance in the nitrolysis of hexamethylenetetramine and related compounds. W. E. Bachmann and E. L. Jenner. Am Chem Soc J 73:2773-5 Je '51

CYCLOÖCTANONE

Chemistry of eight-membered carbocycles. L. E. Craig. diags Chem R 49:103-236 bibliog (174 ref, p232-6) Ag '51

CYCLOÖCTATETRAENE

Chemistry of eight-membered carbocycles. L. E. Craig. diags Chem R 49:103-236 bibliog (174 ref, p232-6) Ag '51

Cyclic polyolefins; 3,7-dibromo-1,2,5,6-dibenzcycloöctadiene and 1,2,5,6-dibenzcycloöctatetraene. A. C. Cope and S. W. Fenton. bibliog Am Chem Soc J 73:1668-73 Ap '51

Cyclic polyolefins; preparation of arylcycloöctatetraenes from cycloöctatetraene and organometallic compounds. A. C. Cope and M. R. Kinter. bibliog Am Chem Soc J 73:3424-30 Jl '51

Cyclic polyolefins; rearrangement of cycloöctatetraene oxide to 1,3,5-cycloöctatrien-7-one. A. C. Cope and B. D. Tiffany. Am Chem Soc J 73:4158-61 S '51

Eight-membered carbocycles; identification of the $C_{10}H_{10}$ fraction from cycloöctatetraene preparations. L. E. Craig and C. E. Larrabee. bibliog Am Chem Soc J 73:1191-5 Mr '51

Purification and some physical properties of cyclöoctatetraene. B. H. Eccleston, H. J. Coleman and N. G. Adams. bibliog diags Am Chem Soc J 72:3866-70 S '50

Some new reactions of cycloöctatetraene. R. E. Benson and T. L. Cairns. Am Chem Soc J 72:5355-6 D '50

Substituted cycloöctatetraenes from substituted acetylenes. A. C. Cope and H. C. Campbell. Am Chem Soc J 73:3536-7 Jl '51

Thermodynamic functions of cycloöctatetraene. E. R. Lippincott and R. C. Lord. Am Chem Soc J 73:3889-91 Ag '51

Vibrational spectra and structure of cycloöctatetraene. E. R. Lippincott, R. C. Lord and R. S. McDonald. bibliog diags Am Chem Soc J 73:3370-85 Jl '51

CYCLOÖCTATRIENE

Chemistry of eight-membered carbocycles. L. E. Craig. diags Chem R 49:103-236 bibliog(174 ref, p232-6) Ag '51

CYCLOÖCTATRIENONE

Cyclic polyolefins; rearrangements of cycloöctatetraene oxide to 1,3,5-cycloöctatrien-7-one. A. C. Cope and B. D. Tiffany. Am Chem Soc J 73:4158-61 S '51

CYCLOPARAFFINS

Characteristic absorption bands in the 10-μ region of the infra-red spectra of *cyclo*paraffin derivatives. L. W. Marrison. Chem Soc J p 1614-15 Je '51

Configuration of flexible polymethylene molecules in the gas phase. J. C. McCoubrey, J. N. McCrea and A. R. Ubbelohde. diag Chem Soc J p 1961-71 Ag '51

Exchange reactions of normal paraffins and unsubstituted cycloparaffins with alkyl halides, catalyzed by aluminum halides. C. P. Brewer and B. S. Greensfelder. bibliog Am Chem Soc J 73:2257-9 My '51

Formation of cycloparaffins in petroleums. B. T. Brooks. bibliog Science 114:240-1 Ag 31 '51

CYCLOPENTADIENE

1-Cyano-1,3-butadienes; Diels-Alder reactions with dienes. H. R. Snyder and G. I. Poos. bibliog Am Chem Soc J 72:4096-103 S '50

Experiments with cyclopentadiene. E. C. Wagner and W. C. Hunt. J Chem Educ 28: 309-11 Je '51

Kinetics of the *cyclo*pentadiene-chloranil reaction; a note on the configuration of transition states in diene synthesis. W. Rubin and A. Wassermann. Chem Soc J p2205-7 Ag '50

CYCLOPENTADIENONE

Dimerization of cyclopentadienones. C. F. H. Allen and J. A. VanAllan. bibliog Am Chem Soc J 72:5165-7 N '50

CYCLOPENTANE

Indene series; the cyclisation of 1-benzyl-*cyclo*pentene and isomeric compounds. L. H. Groves and G. A. Swan. Chem Soc J p871-2 Ap '51

Infra-red and Raman spectra of cyclopentane, cyclopentane-d_1, and cyclopentane-d_{10}. F. A. Miller and R. G. Inskeep. bibiog diag J Chem Phys 18:1519-31 D '50

Studies in the cyclopentane series; the synthesis of two isomeric 3-(4-phenoxybutyl)-cyclopentane-1,2-dicarboxylic acids. M. N. Donin and others. Am Chem Soc J 73:4286-9 S '51

Studies in the cyclopentane series; the synthesis of 1,2-ureylenecyclopentane and related compounds. J. H. Müller and others. bibliog Am Chem Soc J 73:2487-91 Je '51

CYCLOPENTANONE

Reaction of unsymmetrical cycloalkanones and hydrazoic acid; synthesis of *d,l*-lysine. H. Schechter and J. C. Kirk. bibliog Am Chem Soc J 73:3087-91 Jl '51

CYCLOPENTENE

Studies in molecular rearrangement; syntheses and oxotropic rearrangements in the *cyclo*pentenyl series. E. A. Braude and W. F. Forbes. Chem Soc J p 1755-61 Jl '51

CYCLOPENTENONE

Experiments on the synthesis of the pyrethrins; synthesis of dihydrocinerin-I and tetrahydropyrethrin-I; a study of the action of *N*-bromosuccinimide on 3-methyl-2-*n*-alkyl (and alkenyl)-*cyclo*pent-2-en-1-ones. L. Crombie, M. Elliott and S. H. Harper. Chem Soc J p971-8 Mr '50

Infrared spectra of cinerolone and synthetic *trans*- (2-butenyl)-4- hydroxy-3- methyl-2-cyclopenten-l-one. H. L. Cupples. bibliog Am Chem Soc J 72:4522-3 O '50

CYCLOPENTINDENE

Attempts to prepare new aromatic systems; *cyclo*pent[*a*]indene. W. Baker and P. G. Jones. Chem Soc J p787-93 Mr '51

CYCLOPENTYLNAPHTHALENE

Preparation and reactions of 1-cyclopentylnaphthalene. W. E. Bachmann and L. H. Klemm. bibliog Am Chem Soc J 72:4911-15 N '50

CYCLOPROPANE

Cyclopropanes; cyclopropanecarboxaldehyde. L. I. Smith and E. R. Rogier. Am Chem Soc J 73:4047-9 Ag '51

Cyclopropanes; cyclopropyl nitrocyclopropyl ketones, and their behavior toward alkaline reagents. L. I. Smith and E. R. Rogier. bibliog Am Chem Soc J 73:3831-7 Ag '51

Cyclopropanes; methyl cyclopropyl ketone. L. I. Smith and E. R. Rogier. Am Chem Soc J 73:4049-50 Ag '51

Cyclopropanes; 2-phenylbicyclopropyl. L. I. Smith and E. R. Rogier. Am Chem Soc J 73:3840-2 Ag '51

Cyclopropanes; the configuration and reduction of the stereoisomers of cyclopropyl 3-phenyl-2-nitro-1-cyclopropyl ketone. L. I. Smith and E. R. Rogier. Am Chem Soc J 73:3837-40 Ag '51

Small-ring compounds; synthesis of cyclopropanecarboxaldehyde by the MacFadyen-Stevens reduction. J. D. Roberts. bibliog Am Chem Soc J 73:2959 Je '51

Suggested biosynthesis of cyclopropane rings. E. M. Kosower. bibliog Science 113:605-6 My 25 '51

Synthesis of a cyclopropane derivative through exhaustive methylation. H. Rinderknecht and C. Niemann. Am Chem Soc J 73:4259-60 S '51

CYCLOPROPANE—*Continued*

Thermochemistry for the petrochemical industry; some miscellaneous hydrocarbons. K. A. Kobe and R. E. Pennington. bibliog Pet Refiner 29:93-6 D '50

CYCLOPROPANOL

Small-ring compounds; cyclopropanol, cyclopropyl bromide and cyclopropylamine. J. D. Roberts and V. C. Chambers. Am Chem Soc J 73:3176-9 Jl '51

CYCLOPROPYLAMINE

Small-ring compounds; cyclopropanol, cyclopropyl bromide and cyclopropylamine. J. D. Roberts and V. C. Chambers. Am Chem Soc J 73:3176-9 Jl '51

CYCLOTRON

Absolute energy loss of 18-Mev protons in various materials. D. C. Sachs and J. R. Richardson. bibliog diags Phys R 83:834-7 Ag 15 '51

Acceleration of stripped C^{12} and C^{13} nuclei in the cyclotron. J. F. Miller and others. bibliog Phys R 80:486 N 1 '50

Beam oscillations in an f-m cyclotron. T. Teichmann. J Ap Phys 21:1251-7 D '50

Carrier-free radioisotopes from cyclotron targets; preparation and isolation of Be^7 from lithium. H. R. Haymond and others. J Chem Phys 18:1685 D '50

Carrier-free radioisotopes from cyclotron targets; preparation and isolation of $Bi^{204,206}$ from lead. J. D. Gile and others. J Chem Phys 19:256 F '51

Carrier-free radioisotopes from cyclotron targets; preparation and isolation of Mn^{52} from chromium. H. R. Haymond and others. bibliog J Chem Phys 18:382-3 Mr '51

Carrier-free radioisotopes from cyclotron targets; preparation and isolation of Pd^{103} from rhodium. J. D. Gile and others. bibliog J Chem Phys 19:660-1 My '51

Carrier-free radioisotopes from cyclotron targets; preparation and isolation of Sc 44, 46, 47, 48 from titanium. J. D. Gile and others. J Chem Phys 18:1685 D '50

Dee biasing system for a frequency modulated cyclotron. L. L. Davenport and others. diags R Sci Instr 22:601-4 Ag '51

Design of a cyclotron magnet; pole design using a half-magnet. M. Foss and others. diags R Sci Instr 22:469-72 Jl '51

Design of cyclotron oscillators. J. Backus. diags R Sci Instr 22:84-92 F '51

Excitation functions with an internal cyclotron beam. N. M. Hintz. diags Phys R 83:185-6 Jl 1 '51

Extra-heavy concrete shields cyclotron. il Eng N 147:65 Jl 26 '51

Fixed-frequency cyclotron. Mech Eng 73:660-1 Ag '51

Instrumentation of the M.I.T. cyclotron for the study of nuclear reactions. K. Boyer and others. il diags R Sci Instr 22:310-20 My '51

Measurement of *e/M* by cyclotron resonance. H. Sommer and others. bibliog diags Phys R 82:697-702 Je 1 '51

Millimicroampere current integrator for a cyclotron. R. J. Watts. diags R Sci Instr 22:356-9 Je '51

Multiple traversals of high energy particles in a cyclotron beam through thin targets. W. J. Knox. Phys R 81:693-7 Mr 1 '51

Negative ions and charge neutralization in the cyclotron. E. J. Lofgren. il diag R Sci Instr 22:321-3 My '51

Production by the cyclotron of some useful radio-nuclides. J. W. Irvine, jr. Chem Soc J supp no 2:S356-60 '49

Production of a π^+ meson beam using the deflected proton beam of the 184-inch synchro-cyclotron. C. Richman and others. diag Phys R 80:900 D 1 '50

Proton deuteron rf system for the Berkeley synchrocyclotron. K. R. MacKenzie. il diags R Sci Instr 22:302-9 My '51

Reactions of high-energy particles with nuclei. G. Wilkinson. Chem Soc J supp no 2: S366-9 '49

Shielded milling machine for cyclotron targets. M. S. Livingston. il R Sci Instr 22: 428-9 Je '51

Stars produced in nuclear emulsions by carbon ions from the cyclotron. J. F. Miller. bibliog il Phys R 83:1261-2 S 15 '51

Studies of neutron-deficient radioactive isotopes. G. Wilkinson. Chem Soc J supp no 2: S360-3 '49

Synchro-cyclotron for Liverpool university. il Engineer 191:425 Mr 30 '51; Elec R (Lond) 148:701 Ap 6 '51

Values of μ_p, F, and M_p/m_e using the omegatron. H. Sommer and others. bibliog Phys R 80:487 N 1 '50

Physiological effect

Changes in the total circulating eosinophile count in cyclotron workers. C. Moses and M. Platt. bibliog Science 113:676 Je 15 '51

Experimental confirmation of a previously reported unusual finding in the blood of cyclotron workers. M. Ingram and S. W. Barnes. il Science 113:32-4 Ja 12 '51

CYCLOVERSION process. See Gasoline—Manufacture

CYLINDERS

Buckling of sandwich cylinders under axial compression. F. K. Teichmann and others. il diag J Aeronautical Sci 18:398-406 Je '51

Compression test extensometer for cylindrical specimens. A. M. Scott and J. M. McCaughey. il diags Product Eng 22:157-60 Ap '51

Contents of horizontal cylinders. J. Tarrant. Water & Sewage Works 98:R174-5 Ap '51

Electric dipoles in the presence of elliptic and circular cylinders. W. S. Lucke. diags J Ap Phys 22:14-19 Ja '51

Residual contact stresses in built-up cylinders. W. R. D. Manning. Engineering 170: 464 D 8 '50

CYLINDERS (engines, etc.)

Aluminum cylinders without cast iron liners; recent developments in Germany demonstrate feasibility of chrome plating. P. M. Heldt. il diag Automotive Ind 104:32-3+ F 15 '51

Cylinder bores; a new treatment to cover the running-in process. Automobile Eng 41:158 Ap '51

Inside information; Boroscope for inspecting insides of aircraft engine cylinders. il Aviation W 54:54+ Je 4 '51

Light metal chromed cylinders. il diag Engineer 192:115-17 Jl 27 '51

Metal transfer from piston rings to cylinders during run-in. C. D. Strang and J. T. Burwell. bibliog Inst Mech Eng Proc (Auto div pt4):169-72, pl 1-2; Discussion. 173-5 '49-50

Manufacture

Cylinder heads for sleeve-valve aero engines. J. Hinde. il Metallurgia 43:11-14 Ja '51

Testing

Sound waves test cylinder heads. il diag Electronics 24:90-1 O '51

Wear

Cylinder, ring and valve wear; abstract. A. M. Brenneke and A. J. Weigand. Automotive Ind 105:136+ S 15 '51

Design features affecting wear. H. G. Braendel. diags S A E J 58:29-32 N '50

How do you reduce wear? W. E. Jominy. Am Mach 95:141 Mr 19 '51

CYMENE

By-product of spruce wood seen as styrene substitute. K. A. Kobe and R. T. Romans. Rubber Age 68:586 F '51

p-Cymene-2-sulphonamides. S. M. Brown and G. H. Thomson. Chem Soc J p 1019 Mr '50

Dehydrogenation of *p*-cymene. K. A. Kobe and R. T. Romans. bibliog diag Ind & Eng Chem 43:1755-8 Ag '51

Hydrogen transfer; reaction of *m*-cymene and *o*-cymene with methylcyclohexene in the presence of hydrogen fluoride. H. Pines, D. R. Strehlau and V. N. Ipatieff. bibliog Am Chem Soc J 72:5521-3 D '50

Mechanism of disproportionation of *d*-limonene. H. E. Eschinazi and E. D. Bergmann. bibliog Am Chem Soc J 72:5651-4 D '50

Rate of oxime formation of isomeric ketones from *p*-cymene. M. J. Craft and C. T. Lester. Am Chem Soc J 73:1127-8 Mr '51

CYPERONE
Structure of β-cyperone. F. J. McQuillin. Chem Soc J p716-18 Mr '51

CYSTATHIONINE
Preparation of the diastereoisomers of cystathionine and homolanthionine. S. Weiss and J. A. Stekol. bibliog Am Chem Soc J 73:2497-9 Je '51

CYSTEINE
Inhibition of the lecithinase of clostridium perfringens by some reducing agents. L. D. Smith and M. V. Gardner. bibliog Franklin Inst J 250:465-71 N '50
Polarographic investigations of reactions in aqueous solutions containing copper and cysteine (cystine). W. Stricks and I. M. Kolthoff. bibliog Am Chem Soc J 73:1723-33 Ap '51
Studies in the azole series; syntheses of peptides of substituted cysteines. A. H. Cook and J. R. A. Pollock. Chem Soc J p 1898-902 Jl '50

Analysis

Polarographic investigations of reactions in aqueous solutions containing copper and cysteine (cystine); amperometric titration of traces of cysteine and cystine with cupric copper as reagent. I. M. Kolthoff and W. Stricks. bibliog Anal Chem 23:763-8 My '51

CYSTINE
New syntheses of cystine. J. C. Crawhall and D. F. Elliott. Chem Soc J p2071-7 Ag '51
Reaction of combined cystine of wool with sodium bisulfite. G. J. Schuringa and others. bibliog Textile Res J 21:281-5 My '51

Analysis

Polarographic investigations of reactions in aqueous solutions containing copper and cysteine (cystine); amperometric titration of traces of cysteine and cystine with cupric copper as reagent. I. M. Kolthoff and W. Stricks. bibliog Anal Chem 23:763-8 My '51

CYTIDINE
Isolation of uridine and cytidine from yeast ribonucleic acid. D. T. Elmore. Chem Soc J p2084-5 Ag '50
Synthetic ribonucleoside-2′ phosphates. D. M. Brown, L. J. Haynes and A. R. Todd. Chem Soc J p408 Ja '50

CYTIDYLIC acid
Isolation and identification of desoxy-5-methylcytidylic acid from thymus nucleic acid. W. E. Cohn. bibliog Am Chem Soc J 73:1539-41 Ap '51
Isolation in crystalline form and characterization of the two isomeric cytidylic acids derived from yeast nucleic acid. H. S. Loring and N. G. Luthy. bibliog il Am Chem Soc J 73:4215-18 S '51

CYTOCHROME oxidase
Mechanism of action of organic mercury compounds on cytochrome oxidase. M. A. Seibert and others. bibliog Science 112:649-51 D 1 '50

CYTOSINE
Synthesis of nucleosides of cytosine and 5-methylcytosine. J. J. Fox and I. Goodman. bibliog Am Chem Soc J 73:3256-8 Jl '51

CZECHOSLOVAKIA

Commerce

General agreement on tariffs and trade; U.S. concessions withdrawn from Czechoslovakia. For Comm W 44:21-2 Ag 13 '51

Economic conditions

Economic life in Russia's orbit. S. K. Margold. Harvard Bsns R 28:65-78 S; 86-113 N '50

D

DCB
Toxicologic studies of compounds investigated for use as inhibitors of biologic processes; toxicity of 1,3-dimethyl-4,6-bis(chloromethyl)benzene. A. M. Ambrose. A M A Archives Ind Hygiene & Occup Med 3:52-6 Ja '51

DDT (dichlorodiphenyltrichloroethane)
DDT for termite protection. Eng N 145:44 S 21 '50; Pub Works 81:56 N '50
DDT-type compound as source material in organic synthesis. F. A. Gunther and R. C. Blinn. bibliog(44 ref) J Chem Educ 27:654-8 D '50
Insect resistance to DDT; new explanation of toxic effects. Chem Age (Lond) 64:265-7 F 17 '51
Insecticides in industry and public health. H. Pirie. Chem & Ind p 100-4 F 10 '51
Potentiation of DDT against resistant houseflies by several structurally related compounds. W. T. Sumerford and others. bibliog Science 114:6-7 Jl 6 '51
Resistance of DDT-resistant drosophila to other insecticides. R. Weiner and J. F. Crow. bibliog Science 113:403-4 Ap 13 '51
Rosin as an insecticide adhesive in outdoor DDT residual sprays. J. A. Jensen and others. Soap & San Chem 26:121+ N '50
Structural and insecticidal relationships in rotenone, methoxychlor, and DDT. R. W. Hummer and E. E. Kenaga. bibliog il Science 113:653-5 Je 8 '51
Synthesis of 1,1,1-trichloro-2,2-bis-(4′-chlorophenyl-4′-C^{14})-ethane. M. Fields and others. bibliog Science 112:591-2 N 17 '50
Where are we going with fly resistance? G. C. Decker and W. N. Bruce. Soap & San Chem 27:139+ Je '51

Analysis

Elimination of interferences in determination of DDT residues. L. B. Norton and B. Schmalzriedt. Anal Chem 22:1451 N '50
Improved procedure for extraction of DDT in milk. H. D. Mann and R. H. Carter. Anal Chem 23:929-30 Je '51

Manufacture

DDT; pictured flow sheet. Chem Eng 57:204-7 N '50
Effluent disposal in DDT manufacture; abstract. J. Grindley. Sewage & Ind Wastes 23:1211 S '51

Mosquito control

Duration of action of residual DDT deposits on adobe surfaces. W. G. Downs and others. bibliog Science 114:259-62 S 7 '51
Large-scale DDT spraying reduces mosquito nuisance. il maps Eng N 145:30-2 N 30 '50

Physiological effect

Occurrence of DDT in human fat and milk. E. P. Laug and others. bibliog A M A Archives Ind Hygiene & Occup Med 3:245-6 Mr '51
USDA experts refute DDT poison claims of physician. Soap & San Chem 27:139 My '51

Rat flea control

Evaluation of county-wide DDT dusting operations in murine typhus control, 1950. H. B. Morlan and V. D. Hines. Pub Health Rep 66:1052-7 Ag 17 '51

DDT, Analogs of
Dichlorodiphenyltrichloroethane; analogs; *p,p′*-DFDT and its degradation products. F. A. Gunther and R. C. Blinn. Am Chem Soc J 72:4282-4 S '50
Insecticidal activity and chemical constitution; synthesis of some analogues of DDT. E. J. Skerrett and D. Woodcock. Chem Soc J p2718-24 O '50
Potentiation of DDT against resistant houseflies by several structurally related compounds. W. T. Sumerford and others. bibliog Science 114:6-7 Jl 6 '51

DACRON. See Textile fibers, Synthetic

DAHLIAS
Studies on fructosans; inulin from dahlia tubers. E. L. Hirst, D. I. McGilvray and E. G. V. Percival. Chem Soc J p 1297-302 My '50

DAILY news, limited
Statement by the chairman. L. J. Cadbury. Economist 160:1266 My 26 '51

DAILY worker (newspaper)
Daily Worker ban hearing is postponed. Ed & Pub 83:8 D 9 '50

DAIRIES

Electric equipment

Dairy show; prominence of ice-cream equipment. il Elec R (Lond) 147:692-4 N 3 '50

DAIRIES—*Continued*

Employees

Simplified work simplification; Bowman Dairy workers develop sharp eye for spotting wasted actions. R. A. Baer. il Food Eng 23: 76-7+ Jl '51

Equipment

Good mixer; compressed air eases dairyman's job of agitating milk. R. E. Stork. il diags Comp Air Mag 56:184-6 Jl '51

New at the Dairy show; equipment exhibited at Atlantic City; illustrations with text. Food Ind 22:2063-6 D '50

Test units nip costly shutdowns. W. O. Whitney. il Food Eng 23:75+ Je '51

They call it the world's most modern dairy; Philadelphia plant of Supplee-Wills-Jones milk co. A. C. Gemmill. il map plan diag Food Eng 23:60-71 Jl '51

Two refrigeration kinks; Lehigh Valley dairy co. diags Food Eng 23:5+ Ag '51

Welding stainless steel containers to meet sanitary standards. P. H. Mounts. il diags Welding J 30:33-9 Ja '51

See also

Cream separators

Dairy machinery

DAIRY bacteriology

Studies to formulate new media for the standard plate count of dairy products. L. Buchbinder and others. Pub Health Rep 66:327-40 Mr 16 '51

DAIRY buildings. See Dairies

DAIRY farms

Finance

Dairy cattle loans. N. A. Jamba. Banking 43:57+ Mr '51

Sanitation

New methods of house fly control in dairy barns. D. Pimentel and others. bibliog il Soap & San Chem 27:102-3+ Ja '51

Quaternary-type detergent sanitizers on the dairy farm. R. G. Puhle. bibliog Soap & San Chem 26:133+ D '50

DAIRY laws

Sanitary milk and ice cream legislation in the United States. A. C. Dahlberg and H. S. Adams, comps. map tables Nat Res Council Bul 121:1-59 '50

DAIRY machinery

See also

Pasteurizers, Electric

DAIRY products

Dairy growth; heavy demand for milk products presages record sales. L. Strick. Barron's 31:11-12 F 5 '51

Outlook for food and dairy companies in the second half; with statistics on leading processors. S. Devlin. Mag of Wall St 88: 453-5+ Jl 28 '51

Studies to formulate new media for the standard plate count of dairy products. L. Buchbinder and others. Pub Health Rep 66:327-40 Mr 16 '51

See also

Butter

Casein

Cheese

Milk

Transportation

Marine transport of butter, eggs and cheese; abstract. K. C. Hales. Chem & Ind p292 Ap 14 '51

DAIRY research

Dairy research gets big boost; National dairy research laboratories, Oakdale, Long Island. A. V. Gemmill. il Food Ind 23:61-4 Ja '51

DAIRY waste

Aeration gives low-cost waste disposal for milk bottling plant. W. A. Hasfurther. il plan Food Ind 23:90-3 F '51

Assimilation of dairy wastes by activated sludge. S. R. Hoover and others. bibliog Sewage & Ind Wastes 23:167-73 F '51

Milk waste treatment on an experimental trickling filter. E. F. Gloyna. bibliog flow diag Water & Sewage Works 97:473-8 N '50

New design of activated sludge plant to treat milk wastes; abstract. P. M. Thayer. Water & Sewage Works 98:325 Jl '51

Utilization of total solids in dairy milk. H. R. Murdock. Ind & Eng Chem 43:sup 99A-100A+ Jl '51

DAIRYING

Dairy growth; heavy demand for milk products presages record sales. L. Strick. Barron's 31:11-12 F 5 '51

See also

Milk plants

Argentina

Production of dairy processing equipment, Argentina. For Comm W 41:22 N 13 '50

Canada

Dairy-product output and trade, Canada. For Comm W 45:17-18 O 15 '51

Cuba

Cuban dairy industry. For Comm W 41:19 O 23 '50

DAKIN-WEST reaction

Mechanism of the Dakin and Westcott reaction. J. W. Cornforth and D. F. Elliott. bibliog Science 112:534-5 N 3 '50

DALLAS, Charles Donald, 1881-

Portrait. Fortune 42:97 D '50

DALLAS

Industries

Dallas' decade of growth. T. W. Finney. Manuf Rec 120:37 My '51

Industrial area enjoys big year. il Manuf Rec 120:29 Jl '51

Water supply

Dallas is winning its battle for water. il Eng N 146:35-7 My 3 '51

Dallas spends millions for water works improvements. il Pub Works 82:52 F '51

DALZELL towing company

Tugboat gives businessmen an anniversary ride; illustrations with text. Bsns W p98-9 S 29 '51

DAMAGES

Shampoo damage award reversed on appeal; suit against Watkins co. Soap & San Chem 27:31-2+ Ja '51

Trial attorney outlines what he seeks to show in damage action. H. A. Gair. Nat Underw 55:9 S 20 '51

See also

Employers' liability

Manufacturers' liability

Negligence

Personal injuries

DAMODAR river

India's TVA; Damodar Valley project. W. G. Bowman. il map Eng N 146:33-6 My 24 '51

DAMPERS

Barometric draft-control analysis. H. B. Nottage and others. il diags Heating-Piping 23:115-22 Je '51

DAMPNESS in buildings

Dampness in basements. Consumers Res Bul 28:25 O '51

39¢ gadget backbones a business; device reduces paint peeling. il Bsns W p 112 Jl 7 '51

DAMS

Avalanche buries Peruvian dam work. Eng N 145:24 N 16 '50

Bhakra-Nangal project in the Punjab. maps plan diags Engineer 192:170-2 Ag 10 '51

Big Jim and safety first; Jim Woodruff dam; contractors and army engineers cooperated with Florida Industrial commission to start classes training foremen in safety practices. il Eng N 146:104 Mr 15 '51

Compaction of cohesive soils; progress report of the subcommittee on consolidation of materials in earth dams and their foundations of the committee on earth dams of the Soil mechanics and foundations division. Am Soc C E Proc 76 [no 48]:1-9 D '50

Concrete going in at Lookout Point dam. Eng N 146:26 Je 21 '51

Dam higher than Hoover dam proposed for Kosi river in India. Eng N 146:34 Ja 4 '51

Dam performs multiple duty for cooling-water service. F. B. Maes. diags Power 94:130 N '50

Davis dam now in service. il Comp Air Mag 56:48 F '51

Davis Dam project, U.S.A. il map plans diags Engineer 192:74-6, 106-8, 138-41 Jl 20-Ag 3 '51

DAMS—*Continued*

Dirt really flies at Oahe dam. il Eng N 146:32-4 Mr 15 '51

Dirt rolls at Oahe dam. il Constr Methods 33:85-6 Ja '51

Enders dam completed. U. V. Engstrom. il map plan diags Civil Eng 21:15-19 Ja '51

First dams for India's great barren plateau. W. G. Bowman. il map diag Eng N 146:35-8 Je 7 '51

Fourth congress on large dams, New Delhi; summary of questions discussed. Engineer 191:169 F 2 '51

India stakes future on her rivers. il map Eng N 116:32-6 Mr 1 '51

India's TVA; Damodar Valley project. W. G. Bowman. il map Eng N 146:33-6 My 24 '51

International irrigation developments along Rio Grande started. C. M. Ainsworth. il Civil Eng 21:268-71 My '51

McNary Dam project; with cost data. J. R. Thatcher; R. R. Garnett. il maps diags Civil Eng 21:337-44 Je '51

Military uses of ice dams. H. A. Pax. Refrig Eng 58:1072 N '50

Money-saving methods at Woodruff dam. F. S. Merritt. il Eng N 146:33-5 Je 14 '51

New lock and dam provide for expanding river traffic. R. B. Jackson. il plan Civil Eng 20:759-60 D '50

New Mississippi port for Minneapolis. il map diag Eng N 147:37-9 S 13 '51

Nile Valley reclamation project negotiations under way again. map Eng N 147:46+ S 20 '51

Petenwell hydroelectric project. E. M. Fucik. il map plan diags Am Soc C E Proc 77[no 81]:1-15 Jl '51

Precast concrete blocks divert Columbia at McNary dam. il Constr Methods 33:47-8 Ja '51

Submersible hydro plants increase low-head output; hydraulic turbines mounted in conduits through the base of low overflow dams. diags Eng N 145:35-6 N 16 '50

Taming the Rio Grande. il map Bsns W p122+ Je 23 '51

Ten-dam program on upper Colorado is proposed in Reclamation report. Elec World 135:90 F 12 '51; Same. map Eng N 146:24 F 15 '51

Unusual rock-fill dam built for power in Sweden; Harspranget project. il diags Eng N 146:47-8 Ja 18 '51

Water power and water storage in 1950. il map Engineer 191:42-4, 98-100, pl 10 Ja 12-19 '51

Water use and control. il maps Eng N 146:192+ Mr 29 '51

See also

Dikes (engineering)
Hydroelectric plants
Reservoirs

Cost

Chief Joseph dam on Columbia river; unit prices. Eng N 145:68 D 14 '50

Falcon dam and power plants, Texas-Mexico; unit prices. Eng N 145:61 D 21 '50

Folsom dam, Central Valley project, Calif.; unit prices. Eng N 147:115 S 27 '51

Demolition

Destruction and protection of dams. O. Kirschmer. il maps diag Electrician 145:1593-8; 146:45-9 D 29 '50-Ja 5 '51

Design

Buttress-type dam with curved upstream face proposed. H. P. Boardman. diag Civil Eng 21:346 Je '51; Discussion. L. A. Schmidt, jr. 21:534 S '51

Capacities of uncontrolled spillways increased by lengthening the crests. il diags Eng N 146:30-1 Je 28 '51

Construction technique of passing floods over earth dams. A. Weiss. il diag Am Soc C E Proc 76 [no 40]:1-16 O '50; Discussion. 77 [no D-40]:1-5 S '51

Curved wall at dam keeps sand out of irrigational canal. il Eng N 146:32-3 Ap 12 '51

Hungry Horse dam; variable-thickness arch fits V-shaped canyon. L. G. Puls. il map plan diags Civil Eng 20:764-8 D '50

Hydro-electric schemes; modern trends in civil engineering. T. A. L. Paton. Engineering 172:253-4 Ag 24 '51; Discussion. Engineer 192:206-7 Ag 17 '51

Large savings estimated from constant-angle dam design. J. J. Polivka. Civil Eng 20:727 N '50

Model study aids designers of spillway for Lyman Run dam. A. L. Jorissen and V. L. Dutton. il plan diag Civil Eng 21:514-15 S '51

Overflow-type dam diverts water to city. il diags Eng N 146:38-40 Mr 1 '51

Rock-fill dams. L. F. Harza. diags Engineer 191:298-300 Mr 2 '51

Unusual abutment required for arch dam in Portugal. il Eng N 147:31 Ag 16 '51

Warped-surface layout method aids dam construction. G. W. Mattson. plan diags Civil Eng 21:216 Ap '51

Fish problem

Columbia Cellulose fish ladder. Pulp & Pa of Can 52:165 Je '51

Foundations

Compaction of cohesive soils; progress report of the subcommittee on consolidation of materials in earth dams and their foundations of the committee on earth dams of the Soil mechanics and foundations division. Am Soc C E Proc 76 [no 48]:1-9 D '50

Grouted preplaced aggregate for eight-foot slab. il plan diag Eng N 147:32-5 S 27 '51

Treatment of foundations for large dams by grouting methods. A. W. Simonds and others. il diags Am Soc C E Proc 76 [no 3]:1-20 F '50; Discussion. 76 [no D-3]:1-7 D '50

Protection

Cathodic protection at Imperial dam. J. P. Collopy and W. D. Freeman. il Eng N 146:43-4 Ja 4 '51

Problem of wave action on earth slopes. M. A. Mason. Am Soc C E Proc 76 [no 44]:1-6 N '50

USBR seeks to avoid cost of importing riprap, studies other slope protection. il Eng N 146:48 Ap 26 '51

Repair

Grouting a leaking dam. H. Burgess. plan diags Pub Works 82:63-4 Je '51

Old but not unwanted, dam gets seepage repairs; DeRuyter dam near Syracuse, N.Y. il plan diags Eng N 146:39-41 Ja 25 '51

Seepage

Leakage through arch dam stopped after many attempts; Bowman arch dam. Eng N 145:42-3 D 14 '50

Old but not unwanted, dam gets seepage repairs; DeRuyter dam near Syracuse, N.Y. il plan diags Eng N 146:39-41 Ja 25 '51

Uplift pressure

Uplift pressure in concrete dams. K. B. Keener. plans diags Am Soc C E Proc 76 [no 25]:1-20 Je '50; Abstract. Civil Eng 19:774 N '49; Discussion. Am Soc C E Proc 77[no D-25 K]:1-27 Je '51

DAMS, Concrete

Belt conveyors at Bull Shoals dam prove their economy. flow sheet il diag Rock Prod 54:78-83 S '51

Ceylonese learn American methods quickly on Gal Oya dam. D. J. Bleifuss. il plan diags Civil Eng 21:525-8 S '51

Concrete placement on Oregon dam. il Concrete 59:16+ Jl '51

Concrete rides high at Diablo dam. il Constr Methods 33:54-5 My '51

Construction of Clark dam on the Derwent river, Butler's gorge, Tasmania; abstract. J. A. Slayter and others. Am Concrete Inst J 22:345-6 D '50

Cool concrete at Detroit dam. R. R. Clark and others. il diags Eng N 145:39-42 D 21; 31-3 D 28 '50

Cooling materials for mass concrete; Detroit dam. H. H. Roberts. il plans diags Am Concrete Inst J 22:821-32 Je '51

Elaborate aggregate plant hangs on cliffs at Detroit dam. il plans diags Constr Methods 33:54-9 F '51

Everything is just right at Philpott dam. flow diag il plan diags Constr Methods 32:52-6+ N '50

DAMS, Concrete—*Continued*

- Falcon dam; two jobs in one. il Constr Methods 33:48-53 S '51
- Fast progress at Bull Shoals dam. il Constr Methods 32:48 N '50
- French touch in dams. W. G. Bowman. il map diags Eng N 146:28-33 My 10 '51
- Garrison dam; electric gantry cranes, placing concrete and reinforcing steel. il(cover) Constr Methods 33:99-100 F '51
- Harlan County dam in Nebraska. W. T. Logsdon. il Explosives Eng 29:114-17 Jl '51
- Hells canyon challenges dam builders. il Comp Air Mag 56:42-3 F '51
- High concrete output at Bull Shoals dam. il Concrete 58:8-12+ N '50
- Hungry Horse dam tops million yards in short season. H. W. Richardson. il plan Constr Methods 33:50-5 Mr '51
- Hungry Horse dam; variable-thickness arch fits V-shaped canyon. L. G. Puls. il map plan diags Civil Eng 20:764-8 D '50
- Hungry Horse project; concrete poured at rate of 6,000 cu yd per day. C. F. Palmetier. il diag Civil Eng 20:768-71 D '50
- Lean mass concrete used for interior of dams. B. W. Steele. il Am Concrete Inst J 22:553-60 Mr '51
- McNary dam diversion's toughest part. il Eng N 145:31 D 14 '50
- Mexico completes Morelos dam. il map Eng N 145:45-6 N 30 '50
- Mt Morris dam. C. P. Dintruff. il Explosives Eng 29:39-41+ Mr '51
- Moving roads and rails for McNary dam. il map Eng N 145:39-41 O 26 '50
- Multiple Diesel use in Hungry Horse Dam site construction. il Diesel Power 29:52-3 My '51
- Observations from a year of travel. W. B. Lenhart. il Rock Prod 54:131-4+ Ja '51
- Ottawa River power development; Chenaux project. W. M. Goodwin. il map Comp Air Mag 55:248-50 N '50
- Producing gravel for McNary dam. W. B. Lenhart. flow plan il map diags Rock Prod 53:66-70+ N '50
- Producing sand and gravel aggregates for Hungry Horse dam. W. B. Lenhart. flow sheets il Rock Prod 54:98-105 F '51
- Seven-mile conveyor builds Bull Shoals dam. il Power 95:142 Mr '51
- 700-ton plant cools huge Detroit dam. il Power 95:99 S '51
- Swiss complete new power dam. il Eng N 146:59 F 1 '51
- Tensioned cables will strengthen threatened Bombay water supply dam. il Eng N 147: 54+ Jl 5 '51
- Tummel-Garry scheme of the North of Scotland hydro-electric board. il plans diags Engineering 170:425-9, 440, pl 34-5 D 1 '50
- Uplift pressures in concrete dams. K. B. Keener. plans diags Am Soc C E Proc 76 [no 25]:1-20 Je '50; Discussion. 77 [no D-25 K]:1-27 Je '51
- Wolf Creek dam starts key Cumberland role. il Eng N 147:27 S 6 '51

Cost

- Denver, Colorado, dam; unit prices. Eng N 146:83 Je 14 '51
- Hungry Horse dam and power plant in Montana; unit prices. Eng N 146:80 Ap 12; 71 Ap 19 '51
- Liberty dam, Gate house, Patapsco river, Md.; unit prices. Eng N 147:90 S 13 '51

Repair

- Leakage through arch dam stopped after many attempts; Bowman arch dam. Eng N 145:42-3 D 14 '50

Testing

- Soniscope tests concrete structures. E. A. Whitehurst. il Am Concrete Inst J 22:439-41 F '51; Discussion. 23:444^1-444^4 pt 2 D '51

DAMS, Movable

- Engineers test pilot model of wicket positioning device. il Eng N 145:51 O 26 '50

DAN RIVER mills

- Dan River mass-produces high style. il Bsns W p56-7 Ap 21 '51

DANA, Marshall Newport, 1885-

- M. Dana retires, ex-printer, F. T. Humphrey, now editor. por Ed & Pub 83:18 D 30 '50

DANIELS, Warren Albert

- Direct sales approach stressed by Daniels. G. A. Brandenburg. por Ed & Pub 84:46 Mr 31 '51

D'ARCY, William Cheever, 1873-1948

- Two added to advertising Hall of fame. por Ed & Pub 84:9 Je 16 '51

DARK adaptation. See Eye—Accommodation and refraction

DARTMOUTH college

- Executives in embryo; students at Dartmouth's business school learn management principles by being managers. il Mod Ind 21:84-6+ Je '51

DASHPOTS

- Automatic cushioning dashpot. J. H. Stewart. diags Power Eng 55:93-4 Ap '51
- Designing an integral dashpot for a hydraulic cylinder. W. E. Soong. diags Machine Design 23:129-32+ Jl '51

DATES (fruit)

- Canned fresh dates; vacuum packed by a new process. il Mod Packaging 24:94-5 Ag '51
- Iraq's date trade, 1951-52 crop. For Comm W 45:18 O 15 '51
- Methyl bromide fumigation and control in the date-packing industry. F. R. Ingram. A M A Archives Ind Hygiene & Occup Med 4:193-8 S '51

DAVIDSON brothers, inc.

- Stock offering. Comm & Fin Chr 172:2125 D 4 '50

DAVIES, Paul Lewis, 1899-

- Carrots to chlorine; Food machinery & chemical corp. por Fortune 43:104-9+ Je '51

DAVIS, Clark Warren

- C. W. Davis heads Rubber, chemicals, and drugs division of the Office of price stabilization. por Chem & Eng N 29:1320 Ap 2 '51

DAVIS, Dudley

- Sketch. por East Underw 52:8 F 16 '51

DAVIS, Horace L. 1889-

- 300 Appleton friends honor Horace Davis. por Ed & Pub 84:38 Ja 20 '51

DAVIS, Nathanael V.

- Portrait. Fortune 43:96 Je '51

DAVISON chemical corporation

- New products contributing to Davison chemical net. Barron's 30:19 N 13 '50

DAVY, Humphry, 1778-1829

- European chemical developments in the nineteenth century. H. M. Leicester. J Chem Educ 28:352-4 Jl '51

DAY, Charles, 1879-1931

- Dedication to public service. H. B. Bryans. Franklin Inst J 252:1-10 Jl '51

DAY nurseries

- Child care facilities for women workers. bibliog Int Labour R 62:389-406 N '50
- Day care; centers should not be industry-operated. Safety Maint & Prod 102:61 Jl '51

DAY nurseries, Factory

- Nursery can help solve manpower problem. M. B. Andrews. Textile World 101:161+ F '51

DAYLIGHT

- Brightness and polarization of the daylight sky at altitudes of 18,000 to 38,000 feet above sea level. D. M. Packer and C. Lock. il diag Opt Soc Am J 41:473-8 Jl '51
- Daylight in classrooms; multilateral lighting R. L. Biesele, jr. il plans diags Illum Eng 46:212-19; Discussion. 219-20 Ap '51; Reply 46:316-17 Je '51
- Daylight is free. H. C. Bauer. Special Lib 42:218+ Jl-Ag '51
- Development of prismatic glass block and the daylighting laboratory; abstract. il Arch Rec 109:172 Ap '51
- How to compute illumination distribution. il diags Eng N 146:42-4 My 3 '51
- Integral-equation solution of the daylighting problem. D. E. Spencer and V. J. Stakutis. bibliog diag Franklin Inst J 252: 225-37 S '51
- Recording daylight illuminometer. N. B. Foster. il diag Illum Eng 46:59-62 F '51
- School with controlled daylighting; Southgate elementary school, Seattle. il plans diags Arch Forum 95:158-61 Jl '51
- Simple daylighting survey technique. R. W. McKinley. bibliog diags Illum Eng 46:172-4 Ap '51

DAYLIGHT—*Continued*

Testing design; study of natural ventilation and lighting of buildings at Texas engineering experiment station. il diags Arch Forum 94:170-8 My '51

DAYLIGHT, Artificial

Judging furs by artificial light. F. W. Sell. il Illum Eng 46:389-91 Ag '51

DAYSTROM, incorporated

ATF incorporated now Daystrom, incorporated. Comm & Fin Chr 173:728 F 15 '51

Five companies expanding into new fields; with comparative balance sheet items. Mag of Wall St 88:502 Ag 11 '51

DAYTON malleable iron company

Net is rebounding rapidly. Barron's 31:17 F 5 '51

DAYTON power and light company

Dayton Power net speedily making up common dilution. Barron's 30:19 O 30 '50

DAYTONA BEACH, Florida

Sewerage

How the Daytona Beach process shapes up over long run. il Eng N 147:32 Ag 23 '51

Streets

How a big engineering firm handles a paving program. H. C. Suter. il Pub Works 82:34-5+ My '51

Wholesale street improvements make city look better, motorists feel better. C. Zwally. il diag Eng N 146:43-4 F 1 '51

DEAD SEA brines. See Brine

DEAERATION

Deculator process for deaerating stock. diag Paper Ind 33:168-9 My '51

DEAF

British speech visualizer; device that will enable deaf to read speech by means of two-dimensional pictures of sounds. Electronics 23:239 D '50

See also

Parmly foundation for auditory research

DEAFNESS

Noise as cause of hearing impairment. Safety Maint & Prod 102:71 S '51

Pathology in speech communication. I. J. Hirsh. bibliog Acoustical Soc Am J 22:717-19 N '50

See also

Ear—Injuries
Hearing

DEALER helps

Clinical thermometer for business; the operating forecast; Marshall-Wells plan for franchised dealers. A. A. Western. Credit & Fin Management 53:14+ Ap '51

Dealer salesmen can say, let's prove it pays for itself; fill out a home freezer prospect survey form. il Sales Management 66:48 F 1 '51

Dental group packages training meetings for dealers. V. W. Rooke, jr. il Sales Management 67:102-5 Ag 15 '51

Display unit, offered in trade ads, is open sesame for consumer line; Breinig wood finishes. il Ptr Ink 234:27 Ja 12 '51

Eighty years young, still pioneering; I. B. Kleinert rubber co. R. K. Guinzburg. J Retailing 26:122-7 Fall '50

Fat increases in dealer sales when Brown's shows 'em how. B. L. Gough. il Sales Management 67:53-5+ S 15 '51

How a small company can turn its size to advantage; national sales plan and local advertising for women's swimsuits. L. F. Thomann. il Ptr Ink 236:58-9 S 7 '51

Missing link; Sherwin-Williams style guide. il Chem Ind W 68:12-13 Ja 27 '51

Plough plows it back; cultivated little dealers in smaller towns. L. M. Hughes. il Sales Management 66:37-9+ Je 1 '51

Recording of popular radio star is effective promotional come-on; records offered free at Western-Holly dealers. il Ptr Ink 234:34-5 Mr 2 '51

Sales girls can say, it's made this way; booklets issued by De De Johnson, designer. Sales Management 65:64 N 1 '50

Scott Paper distributes a carload of help with every carton. C. J. Swan. Ptr Ink 236:42-4+ Jl 27 '51

Taking the guess out of color; Sherwin-Williams new set of guides. il Bsns W p60-1 Ja 20 '51

What retailers want during shortages; honesty about delivery and sales training and merchandising aids. D. W. Heath. Adv Agency 44:79 Jl '51

See also

Advertising—Dealer helps
Advertising, Point-of-sale
Models, Miniature

DEALER panels

What dealer panels can do for you. M. A. Hasselmann. Adv Agency 44:48-9+ F '51

DEALER relations

Adventures in shopping. Sales Management 65:37-9 D 15 '50; 66:53-4+ Ja 1 '51

Appliance dealer's seven tips to manufacturers. H. B. Price, jr. Sales Management 66:52-3 Je 15 '51

Brown Shoe helps dad groom son to take reins of his retail store. Sales Management 66:78+ Ja 15 '51

Dealer advisory board heads off sales tangles for Bendix. A. E. Cascino. Sales Management 66:73+ F 1 '51

Dealer organization the foundation for sales at National Gypsum. L. J. Fitzpatrick. il Rock Prod 53:124-7 D '50

Dealer should have authority, dignity to make station click. W. W. Wright. Nat Pet N 43:55-8 Jl 11 '51

Dealers tell Du Mont how they sell the television line. Sales Management 65:45-6 N 1 '50

Every plumber a retailer; program of American-Standard. Bsns W p94-6 Mr 10 '51

Grocers offer co-op plan to lick coupon redemption headache. Sales Management 65:96 N 10 '50

Mill and merchant relationship. C. Canfield. Paper Tr J 132:54-5 Je 15 '51

Retail inventory control, how to set it up and operate it; P.I. sales executives clinic report. Ptr Ink 234:40+ Ja 12 '51

Retail inventory control, why is it important to sales today? P.I. sales executives clinic reports. il Ptr Ink 233:33-6+ O 13; 36-9 N 10 '50

See also

Electric utilities—Dealer relations
Exclusive agencies
Gas companies—Dealer relations

DEALERS' contests. See Sales contests, Dealers'

DEALKYLATION. See Alkyl group

DEAMINATION

Chemical actions of ionising radiations on aqueous solutions; the action of X-rays on some amino-acids. G. Stein and J. Weiss. Chem Soc J p3256-63 D '49

Deamination of amino-acids by nitrous acid with particular reference to glycine; the chemistry underlying the Van Slyke determination of α-amino-acids. A. T. Austin. diag Chem Soc J p 149-57 Ja '50

Deamination of crystalline egg albumin. P. H. Maurer, M. Heidelberger and D. H. Moore. bibliog Am Chem Soc J 73:2070-80 My '51

Experiments relating to the resolution of tertiary alcohols; the resolution and deamination of α-naphthylphenyl-*p*-tolylmethylamine, and the Curtius, Hofmann, and Schmidt reactions with 2-methyl-2-phenylhexanoic acid. C. L. Arcus, J. Kenyon and S. Levin. Chem Soc J p407-10 F '51

DEAN, Gordon Evans, 1905-

Portrait. Bsns W p 103 Jl 28 '51

DEARBORN national casualty company

Court will determine Dearborn companies' status. East Underw 52:28 Ag 10 '51; Same abr. Nat Underw 55:24 Ag 2 '51

Dearborn National petition against Forbes dismissed. Nat Underw 54:7 N 30 '50

Michigan high court decision goes against Broderick. Nat Underw 54:21 D 7 '50

DEATH (biology)

Artificial respiration. S. Jellinek. il Sci Am 185:18-21 Jl '51

DEBENZYLATION

Acylation reactions catalysed by strong acids; the acetylium ion as a debenzylating agent. H. Burton and P. F. G. Praill. Chem Soc J p522-9 F '51

DEBENZYLATION—*Continued*

Studies on phosphorylation; the action of salts on neutral benzyl esters of the oxy-acids of phosphorus; a new method of selective debenzylation. V. M. Clark and A. R. Todd. Chem Soc J p2030-4 Ag '50

DEBERARD, Wilford Willis, 1874-

W. W. DeBerard celebrates 75th birthday. por Midwest Eng 3:20 N '50

DE BRETTEVILLE, Charles, 1913-

Portrait. Fortune 44:25 Ag '51

DEBROMINATION

Aromatic reductive debromination with a glycol-alkali mixture. H. Gilman, D. L. Esmay and R. K. Ingham. Am Chem Soc J 73:470-1 Ja '51

DEBT

How much debt? J. H. G. Pell. Barron's 31:5-6 Mr 5 '51

More informative description of long-term debt might be helpful in financial statements. R. O. Berger, jr. J Account 92:313-15 S '51

1950 survey of consumer finances; liabilities. Fed Res Bul 36:1602-6 D '50

Public and private debt in 1949; with tabulations for selected years, 1916-1949. E. T. Bonnell. Survey of Cur Bsns 30:9-15 O '50

Public and private debt in 1950; with tables. E. T. Bonnell and A. E. Turner. Survey of Cur Bsns 31:20-4 S '51

See also

Bankruptcy
Credit

DEBTOR and creditor

As a creditor; what you can and cannot do. C. B. Everberg. Credit & Fin Management 53:13 My '51

See also

Bankruptcy
Limitation of actions

DEBTS, Public

See also

Bonds, Government
Municipal finance

Germany

German debt discussions. Economist 160:277-8 F 3 '51

German debt talks. Economist 160:1586 Je 30 '51

Germany's external debts. Economist 160:563 Mr 10 '51

Great Britain

Should Britain waive the waiver? United States and Canadian lines of credit. Economist 160:555-6 Mr 10 '51

Guatemala

Guatemala clears all foreign debt. Barron's 31:16 Ag 27 '51

Japan

Future of Japan's credit; problem of prewar loans. E. J. Speyer. Comm & Fin Chr 173:2555 Je 21 '51

United States

Basic inflation problem is the national debt. C. F. Distelhorst. Comm & Fin Chr 173:1654-5 Ap 19 '51

Financial mobilization; Snyder's debt management policies. Nat City Bank p 16-19 F '51

Gross national debt outstanding, 1935-1950; tabulation. Iron Age 167:335 Ja 4 '51

Managing the national debt. T. I. Parkinson. Comm & Fin Chr 173:828 F 22 '51

Our towering debt. J. D. C. Weldon. Mag of Wall St 88:238-9+ Je 2 '51

Public and private debt in 1949; with tabulations for selected years, 1916-1949. E. T. Bonnell. Survey of Cur Bsns 30:9-15 O '50

Public and private debt in 1950; with tables. E. T. Bonnell and A. E. Turner. Survey of Cur Bsns 31:20-4 S '51

United States government debt, volume and kind of securities, December 1943 and June and December 1944-1949 and monthly Jan.-Dec. 1950. Fed Res Bul 37:71 Ja '51 [cont monthly]

What are our tax and debt burdens? V. J. Wyckoff. il Dun's R 59:18-20+ Jl '51

See also

Bonds, Government—United States

DEBYE'S equation

Effect of small refractive index differences between the solution and the solvent on light-scattering molecular weight. R. Rivest and M. Rinfret. J Chem Phys 18:1513-14 N '50

DECABORANE. See Boron hydrides

DECAHYDRONAPHTHALENE. See Decalin

DECAHYDRONAPHTHOIC acid

cis-Decahydro-2-naphthoic acids and their relationship to the *cis*-2-decalols and *cis*-2-decalylamines. W. G. Dauben and E. Hoerger. bibliog Am Chem Soc J 73:1504-8 Ap '51

DECAHYDRONAPHTHOL

cis-Decahydro-2-naphthoic acids and their relationship to the *cis*-2-decalols and *cis*-2-decalylamines. W. G. Dauben and E. Hoerger. bibliog Am Chem Soc J 73:1504-8 Ap '51

DECALCIFICATION. See Calcium

DECALCOMANIA

Applying decals. il Cer Ind 55:83 D '50; 56:79 F '51

Decals get long life at the point of sale. A. Bihr. il Ptr Ink 234:32-3 Ja 5 '51

How to use water mount decals; illustrations with text. Cer Ind 55:88 N '50

DECALIN

Hydrogen transfer over silica-alumina catalysts. R. W. Blue and C. J. Engle. bibliog Ind & Eng Chem 43:494-501 F '51

Infrared analysis of *cis*- and *trans*-decahydronaphthalene. J. Seldman. Anal Chem 23:559-63 Ap '51

Interfacial tension of some hydrocarbons against water. W. E. Rose and W. F. Seyer. bibliog diags J Phys & Colloid Chem 55:439-47 Mr '51

DECALOL. See Decahydronaphthol

DECAMETHYLENE adipate

Intramolecular reaction in polycondensations; ring-chain equilibrium in polydecamethylene adipate. H. Jacobson and others. bibliog J Chem Phys 18:1607-12 D '50

DECANAL. See Capraldehyde

DECANE

Heats of adsorption on carbon black. M. H. Polley, W. D. Schaeffer and W. R. Smith. bibliog Am Chem Soc J 73:2161-5 My '51

Interfacial tension at elevated pressure and temperature; interfacial properties of hydrocarbon-water systems. A. S. Michaels and E. A. Hauser. bibliog il J Phys & Colloid Chem 55:408-21 Mr '51

Phase equilibria in hydrocarbon systems; volumetric and phase behavior of the methane-*n*-butane-decane system. H. H. Reamer, B. H. Sage and W. N. Lacey. bibliog Ind & Eng Chem 43:1436-44 Je '51

DECARBONYLATION. See Carbonyl group

DECARBOXYLATION. See Carboxyl group

DECCA navigation system

Low-frequency radio-wave propagation by the ionosphere, with particular reference to long-distance navigation. C. Williams. bibliog diags Inst E E Proc 98 pt 3:81-99; Discussion. 99-103 Mr '51

DECEDENTS' estates. See Estates, Decedents'

DECENE

Hydrocarbons; synthesis of nineteen decenes. C. J. Stehman and others. bibliog Am Chem Soc J 72:4163-5 S '50

DECENTRALIZATION of industry. See Industry—Decentralization

DECIBEL (transmission unit)

Practical sound engineering; decibel, its definition and how it is used. H. M. Tremaine. il diags Radio & Tv N 45:60-2+ My '51

DECIMAL system

Let's rationalize the inch. H. G. Conway. il diags Machine Design 23:123-6 S '51

DECLARATORY judgments

Jury trial in declaratory judgment action denied where same issue would fail in pending law action; Employers liability assurance corp. v. Tibbetts et al. Weekly Underw 163:1110 N 11 '50

DECOLORIZATION

Sugar liquor defecation with soybean flours. Lie Tien Chang. bibliog Ind & Eng Chem 43:654-9 Mr '51

See also

Glass—Decolorization

DECOMPOSITION

Ammonia decomposition and related phenomena on rhenium catlysts. J. P. McGeer and H. S. Taylor. bibliog Am Chem Soc J 73:2743-51 Je '51
1-Azo-bis-1-arylalkanes and their decomposition. S. G. Cohen, S. J. Groszos and D. B. Sparrow. bibliog Am Chem Soc J 72:3947-51 S '50
Azo-bis-nitriles; the preparation and decomposition of azo-nitriles; steric factors. C. G. Overberger and M. B. Berenbaum. Am Chem Soc J 73:2618-21 Je '51
Base-catalyzed decomposition of N-nitroso-N-cyclohexylurethan. F. W. Bollinger, F. N. Hayes and S. Siegel. bibliog Am Chem Soc J 72:5592-4 D '50
Catalytic decomposition of highly concentrated hydrazine by Raney nickel. L. F. Audrieth and W. L. Jolly. bibliog J Phys & Colloid Chem 55:524-31 Ap '51
Catalytic reactions at high pressures and temperatures; decomposition of butanol-1 over an alumina-silicate catalyst investigated. C. M. Sliepcevich and G. G. Brown. bibliog flow sheet il Chem Eng Prog 46:556-62 N '50
Chemistry of persulfate; the kinetics and mechanism of the decomposition of the persulfate ion in aqueous medium. I. M. Kolthoff and I. K. Miller. bibliog Am Chem Soc J 73:3055-9 Jl '51
Constitution of copper peroxide and the catalytic decomposition of hydrogen peroxide. A. Glasner. Chem Soc J p904-10 Ap '51
Copper-catalysed decomposition of aliphatic diazo-compounds; the formation of paraffins of high molecular weight. G. D. Buckley, L. H. Cross and N. H. Ray. Chem Soc J p2714-18 O '50
Coumariloyl peroxide and its decomposition in organic solvents. M. C. Ford and W. A. Waters. Chem Soc J p824-6 Mr '51
Decomposition of benzoyl peroxide in the presence of iodine; in carbon tetrachloride solution. G. S. Hammond and L. M. Soffer. bibliog Am Chem Soc J 72:4711-15 O '50
Decomposition of cumene hydroperoxide by ferrous iron in the presence of oxygen. J. W. L. Fordham and H. L. Williams. bibliog Am Chem Soc J 72:4465-9 O '50
Decomposition of diacylhydroxylamines. J. E. Leffler. Am Chem Soc J 72:4292-5 S '50
Decomposition of excited ethylene. B. D. Darwent. J Chem Phys 19:258 F '51
Decomposition of lauroyl peroxide in benzene and diethyl ether. W. E. Cass. Am Chem Soc J 72:4915-17 N '50
Decomposition of nitrogen pentoxide in the presence of nitric oxide. R. L. Mills and H. S. Johnston. bibliog diags Am Chem Soc J 73:938-44 Mr '51
Decomposition of primary nitramines in alkaline solutions. J. Barrott, M. I. Gillibrand and A. H. Lamberton. diag Chem Soc J p 1282-9 My '51
Decomposition of radicals produced by mercury photo-sensitization. A. F. Trotman-Dickenson. J Chem Phys 19:261 F '51
Decomposition of *sym*-substituted benzoyl peroxides. A. T. Blomquist and A. J. Buselli. bibliog Am Chem Soc J 73:3883-8 Ag '51
Decomposition reactions of the aromatic diazo-compounds; the reaction between diazo-compounds and potassium ferrocyanide. M. C. Ford, W. A. Waters and H. T. Young. Chem Soc J p833-40 Mr '50
Decomposition temperatures of polytetrafluoroethylene and polymonochlorotrifluoroethylene as indicated by halogen liberation. H. A. Watson and others. 3pls U S Bur Mines Rep of Invest 4756:1-6 '50
Effect of added gases upon the thermal decomposition of tetrahydrofuran. G. McDonald, N. M. Lodge and W. D. Walters. bibliog Am Chem Soc J 73:1757-60 Ap '51
Effect of structure on the rate of spontaneous thermal decomposition of substituted benzoyl peroxides. C. G. Swain, W. H. Stockmayer and J. T. Clarke. bibliog Am Chem Soc J 72:5426-34 D '50
Ferric-catalyzed hydrogen peroxide decomposition; effect of nitrate ion. S. Peterson. bibliog Am Chem Soc J 73:3521-2 Jl '51
Fractionation of the carbon isotopes in decarboxylation reactions; the relative rates of decomposition of 1-C^{12} and 1-C^{13} trichloracetate ions. J. Bigeleisen and T. L. Allen. diags J Chem Phys 19:760-4 Je '51
Fractionation of the carbon isotopes in decarboxylation reactions; the relative rates of decomposition of carboxyl-C^{12} and -C^{13} mesitoic acids. A. A. Bothner-By and J. Bigeleisen. bibliog diags J Chem Phys 19:755-9 Je '51
1-Hydroxy*cyclo*hexyl 1-hydroperoxide; its thermal decomposition and its reaction with acyl chlorides. W. Cooper. Chem Soc J p 1340-3 My '51
Interpretation of the data on the thermal decomposition of nitrous oxide. H. S. Johnston. bibliog J Chem Phys 19:663-7 Je '51
Isothermal decomposition of nickel carbide. L. J. E. Hofer, E. M. Cohn and W. C. Peebles. bibliog J Phys & Colloid Chem 54:1161-9 N '50
Kinetics of the acid decomposition of sodium thiosulfate in dilute solutions. R. H. Dinegar, R. H. Smellie and V. K. La Mer. Am Chem Soc J 73:2050-4 My '51
Kinetics of the decomposition of nickel formate. L. L. Bircumshaw and J. Edwards. diags Chem Soc J p 1800-9 Jl '50
Kinetics of the decomposition of solid mercurous formate. G. A. Miller and G. W. Murphy. Am Chem Soc J 73:1871-2 Ap '51
Kinetics of the decomposition of tertiary hydroperoxides in solvents. V. Stannett and R. B. Mesrobian. Am Chem Soc J 72:4125-30 S '50
Kinetics of the dehydrochlorination of substituted hydrocarbons; the mechanism of the thermal decompositions of 1 : 1 : 2 : 2- and 1 : 1 : 1 : 2-tetrachloroethane. D. H. R. Barton and K. E. Howlett. Chem Soc J p2033-8 Ag '51
Kinetics of the dehydrochlorination of substituted hydrocarbons; the mechanisms of the thermal decompositions of *n*-propyl and *n*-butyl chloride and 2 : 2′-dichlorodiethyl ether. D. H. R. Barton, A. J. Head and R. J. Williams. Chem Soc J p2039-46 Ag '51
Kinetics of the thermal decomposition of di-*t*-butyl peroxide. J. Murawski and others. diag J Chem Phys 19:698-704 Je '51
Kinetics of the thermal decomposition of nitric acid vapor. H. S. Johnston and others. Am Chem Soc J 73:2319-21 My '51
Kinetics of the thermal decomposition of olefins; propylene. K. U. Ingold and F. J. Stubbs. Chem Soc J p 1749-55 Jl '51
Kinetics of the thermal decomposition of peresters. A. T. Blomquist and A. F. Ferris. bibliog Am Chem Soc J 73:3408-15 Jl '51
Mechanism of some chain reactions. F. O. Rice and K. F. Herzfeld. bibliog J Phys & Colloid Chem 55:975-85; Discussion. 986-7 Je '51
Mercury photo-sensitized decomposition of methyl chloride. C. R. Masson and E. W. R. Steacie. bibliog J Chem Phys 19:183-9 F '51
Mercury (${}^3P_1$) sensitized decomposition of normal and iso-butane at high temperatures. S. Bywater and E. W. R. Steacie. bibliog J Chem Phys 19:172-5 F '51
Photochemical decomposition of gaseous di-*t*-butyl peroxide. L. M. Dorfman and Z. W. Salsburg. bibliog Am Chem Soc J 73:255-7 Ja '51
Polymerization induced by catalytic decomposition of formic acid at platinum surfaces. G. Parravano. Am Chem Soc J 72:5546-9 D '50
Quaternary ammonium salts; a novel feature associated with decomposition of some quaternary ammonium salts. W. Tadros and M. Kamel. Chem Soc J p 1890-2 Jl '51
Rates of decomposition of acetyl peroxide in acetic acid and carbon tetrachloride. S. D. Ross and M. A. Fineman. bibliog Am Chem Soc J 73:2176-81 My '51
Some applications of deuterium in the study of decomposition mechanisms of organic compounds. L. A. Wall and W. J. Moore. bibliog J Phys & Colloid Chem 55:965-74 Je '51
Studies on the mechanism of Chugaev and acetate thermal decompositions; *cis* and *trans*-2-methyl-1-indanol. E. R. Alexander and A. Mudrak. bibliog diags Am Chem Soc J 73:59-62 Ja '51

DECOMPOSITION—*Continued*

Technique for the study of solid-gas surface reactions; the decomposition of nitrous oxide on iron oxide-zinc oxide catalysts. L. P. Bupp and A. B. Scott. diag Am Chem Soc J 73:4422-6 S '51

Thermal decomposition of ammonium permanganate. L. L. Bircumshaw and F. M. Tayler. Chem Soc J p3674-8 D '50

Thermal decomposition of carbonyl sulphide. J. R. Partington and H. H. Neville. diag Chem Soc J p 1230-7 My '51

Thermal decomposition of cyclobutane. C. T. Genaux and W. D. Walters. Am Chem Soc J 73:4497-8 S '51

Thermal decomposition of dioxolane. W. B. Guenther and W. D. Walters. bibliog Am Chem Soc J 73:2127-31 My '51

Thermal decomposition of ethylene oxide. K. H. Mueller and W. D. Walters. bibliog Am Chem Soc J 73:1458-61 Ap '51

Thermal decomposition of guanidine chromate and dichromate. C. Ma. Am Chem Soc J 73:1333-5 Mr '51

Thermal decomposition of hydrazine vapor in silica vessel. T. J. Hanratty and others. bibliog diags Ind & Eng Chem 43:1113-16 My '51

Thermal decomposition of iminoester salts and the cleavage of orthoesters by these salts. S. M. McElvain and B. E. Tate. Am Chem Soc J 73:2233-8 My '51

Thermal decomposition of nitrogen pentoxide at high temperature. H. S. Johnston and Y. Tao. Am Chem Soc J 73:2948-9 Je '51

Thermal decomposition of nitromethane. L. J. Hillenbrand, jr. and M. L. Kilpatrick. bibliog J Chem Phys 19:381 Mr '51

Vapor phase decomposition of *t*-butyl hydroperoxide and reactions of the *t*-butylperoxy radical. F. H. Seubold, jr., F. F. Rust and W. E. Vaughan. bibliog Am Chem Soc J 73:18-20 Ja '51

DECORATION and ornament

Added beauty for molded plastics; new and improved techniques of decoration. bibliog il Mod Plastics 28:71-6+ N '50

See also

Decalcomania
Glassware—Decoration
Plastic materials, Decorative
Pottery—Decoration
Sheet metal work, Decorative
Textile design

DECORATION and ornament, Architectural

See also

Sculpture, Architectural

DECYL alcohol

Properties of freshly formed surfaces; an experimental study of the desorption process with particular reference to aqueous decyl alcohol solutions. C. C. Addison and S. K. Hutchinson. Chem Soc J p3395-403 D '49

Properties of freshly formed surfaces; factors influencing surface activity and adsorption rates in aqueous decyl alcohol solutions. C. C. Addison and S. K. Hutchinson. Chem Soc J p3387-95 D '49

Properties of freshly formed surfaces; further studies of the influence of surface expansion on soluble films of long-chain compounds. C. C. Addison and S. K. Hutchinson. Chem Soc J p3406-11 D '49

Properties of freshly formed surfaces; the compressibility of soluble films of decyl and other alcohols. C. C. Addison and S. K. Hutchinson. Chem Soc J p3404-6 D '49

DE-ENAMELING. See Enamel, Removal of

DEEP ROCK oil corporation

Stockholders receive rights. Comm & Fin Chr 174:1100 S 24 '51

Story told of how jobber-Deep Rock conferences produced new contract. L. Castle. Nat Pet N 42:37 O 25 '50

Wider profit margin seen. Barron's 30:17-18 D 18 '50

DEEP sea sounding

Deep-sea layer of life. L. A. Walford. il Sci Am 185:24-8 Ag '51

DEER

See also

Reindeer

DEFAULTED bonds. See Bonds—Default

DEFENSE, Department of. See United States—Defense, Department of

DEFENSE construction ltd.

Construction for defense; handling of construction program for defense effort by crown company. R. G. Johnson. Roads & Eng Constr 89:98+ F '51

DEFENSE electric power administration

Depa asks utilities to file reports on proposed use of scarce metals. Elec World 135:89 F 12 '51

Depa branch busy aiding utilities to secure equipment when needed. Elec World News ed 136:4 Ag 6 '51

Depa controls utility industry's future. Elec World News ed 135:4-5 Mr 5 '51

Depa orders northwest companies to save power for defense demand. Elec World 136:72 S 24 '51

DPA is set up; its head will report to Chapman. Elec World (News ed) 134:6 D 11 '50

Keeping the power program on schedule. C. B. McManus. Comm & Fin Chr 173:2451+ Je 14 '51; Same. Edison Elec Inst Bul 19:227-9 Jl '51

McManus, Georgia Power head, to take over as administrator. Elec World 135:40 Ja 1 '51

Personnel directory. Elec World 136:86 Ag 27 '51

DEFENSE housing. See Housing—United States—Defense workers

DEFENSE loans. See Loans, Bank—Defense loans

DEFENSE manpower, Office of. See United States—Defense manpower, Office of

DEFENSE materials procurement agency

Executive order no. 10281 establishing the Defense materials procurement agency; text. Fed Res Bul 37:1129 S '51

Minerals; imports needed; Defense materials procurement agency to jack up expansion. Bsns W p24 S 1 '51

Stockpiling; new aims, new organization; Larson heads Defense materials procurement agency. Iron Age 168:89 Ag 9 '51

DEFENSE minerals administration

Personnel directory. Iron Age 168:insert Ag 30 '51

DEFENSE production act

Amended and extended until July 1, 1952. Fed Res Bul 37:957-8 Ag '51

Battle of controls. Mod Ind 21:36+ Je '51

Defense act gives no clear authority for Chapman's synthetic fuels plan. H. A. Yocom. Nat Pet N 43:13 S 5 '51

Defense act; straitjacket and green light. Iron Age 168:91 Ag 9 '51

Defense production act of 1950; terms and early action. Mo Labor R 71:453-7 O '50

Delegation of functions; Executive order no. 10161; text. H. S. Truman. Fed Res Bul 36:1301-6 O '50; Excerpt. Banking 43:48+ O '50

Extension of Defense production act of 1950; text of joint resolution. Fed Res Bul 37:812 Jl '51

Production controls continued almost unchanged. R. G. Gibbs. Chem & Eng N 29:3228-9 Ag 13 '51

Truman seeks new powers in extended Defense production act; text of message to Congress, April 26. Comm & Fin Chr 173:1848+ My 3 '51

You and government controls; synopsis of regulations and revisions under the Defense production act of 1950. Iron Age 167:365-70 Ja 4 '51

DEFENSE production administration

DPA established to stimulate defense output; Harrison head. Oil Paint & Drug Rep 159:5 Ja 8 '51

DPA sets July 1 as starting date for new controlled materials plan. Elec World 135:109 Ja 29 '51

Directory of DPA-NPA officials. Steel 128:82-3 Je 25 '51

Executive order no. 10200; establishing the Defense production administration; text. H. S. Truman. Fed Res Bul 37:16-18 Ja '51

Harrison heads DPA as straw boss to Wilson. Iron Age 167:80 Ja 11 '51

He typifies new breed of bureaucrats; Manly Fleischmann. Bsns W p56-60 Jl 7 '51

How defense officials are chosen who'll run government controls. J. Schoenfeld. Sales Management 66:62+ Ja 15 '51

DEFENSE production administration—*Cont.*

NPA boss takes on DPA. Bsns W p28 Je 30 '51

New trouble-shooter for DPA; Clay Bedford. Bsns W p 132 Ag 25 '51

Personnel directory. Iron Age 168:insert Ag 30 '51

See drastic cut in starts as DPA chops allotments. Eng N 147:23-4 Ag 2 '51

Super control agency. Oil & Gas J 49:46 Ja 11 '51

They'll guide you around in D.C.; Business inquiry center answers questions on production controls. il Mod Ind 22:117 S '51

U.S. control agency shuffle forecasts early restrictions. Eng N 146:23 Ja 11 '51

DEFENSE solid fuels administration

How DSFA sees its job. C. W. Connor. Coal Age 56:70-3 Jl '51

DEFENSE transport administration

D.T.A. appointments. Ry Age 130:58 F 5 '51

D.T.A. to be kept on sensible plan. J. K. Knudson. Ry Age 129:39+ D 30 '50

Keep 'em rolling. Bsns W p26+ O 21 '50

Personnel directory. Iron Age 168:insert Ag 30 '51

DEFERRED compensation

How to deal with the inconsistencies in the tax law on prepayments, deferrals, reserves, so as to obtain the maximum benefits for taxpayer. M. D. Bachrach. J Account 91:282-5 F '51

It's better to take it later, taxwise; stock options and deferred compensation for executives. Bsns W p45-6+ Ap 7 '51

Would constructive receipt doctrine close deferred compensation loopholes? bibliog J Account 92:214-16 Ag '51

DEFLATION (finance)

Cessation of armament program need not cause depression. M. Winkler. Comm & Fin Chr 173:261+ Ja 18 '51

Deflationary implications in economic situation. T. D. Sears. Comm & Fin Chr 174:685+ Ag 23 '51

Deflationary trend in offing? D. H. Bellemore. Comm & Fin Chr 172:1890 N 16 '50

Economic outlook; inflation or deflation. A. R. Upgren. Comm & Fin Chr 174:765, 781 Ag 30 '51

If peace comes, can deflation be far behind? A. A. Smith. Comm & Fin Chr 174:1045+ S 20 '51

Inflation-deflation cross currents. E. A. Krauss. Mag of Wall St 88:340-2 Je 30 '51

Inflationary psychology versus deflationary background. A. A. Mol. Comm & Fin Chr 173:618+ F 8 '51

DEFLOCCULANTS. See Dispersing agents

DEFOAMERS

Coffee-time bonus; Defoamer ED. Chem W 69:12-13 S 1 '51

DEFOLIATION

SOS for cotton cure; chemical defoliation. Chem W 69:19 Jl 7 '51

DEFORMATION (mechanics)

Application of photoplasticity to modeling the processes of working metals by pressure. S. J. Gubkin and S. I. Dobrovol'skii. Metal Prog 60:146 Jl '51

Cone deformation study of a portion of the system $SrO-Al_2O_3-SiO_2$. A. S. Watts. diag Am Cer Soc J 34:63 F 1 '51

Deformation and corrosion; recent Russian work on the corrosion of metals. E. M. Zaretskii. bibliog diag Chem Age (Lond) 65:153-5, 158, 299-300 Ag 4, S 1 '51

Deformation and recrystallization texture of cold-drawn OFHC copper wire. W. A. Backofen. il J Metals 3:Trans 250 Mr '51

Deformation of gold wire at high temperature. B. H. Alexander and others. il J Ap Phys 22:439-43 Ap '51

Deformation of Yule marble. D. Griggs and others. bibliog 6pls diags Geol Soc Bul 62:853-905 Ag '51

Deformation texture of body-centered cubic metal wires. W. R. Hibbard, jr. and others. il J Metals 3:Trans 808 S '51

Deformation texture of cold-drawn copper wire. W. R. Hibbard, jr. J Metals 3:Trans 467 Je '51

Deformations and stresses in Bourdon tubes. R. A. Clark and E. Reissner. bibliog J Ap Phys 21:1340-1 D '50

Evaluation of macroscopic residual stresses in cylindrical bars; etching of plastically deformed layers from cylindrical bars and the measurement of resultant length changes. H. Föppl. il Iron & Steel Inst J 168:23 My '51

Experimental survey of deformation and annealing processes in zinc. D. C. Jillson. bibliog(61 titles) il diags J Metals 188:Trans 1009-18 Ag '50; Discussion. 3:Trans 541-4 Jl '51

Explosion bulge test studies of the deformation of weldments. C. E. Hartbower and W. S. Pellini. il diags Welding J 30:sup307-18 Je '51

Nonlinear effects of structural deformation on stability. A. Epstein. bibliog J Aeronautical Sci 18:50-4 Ja '51

Plastic deformation and diffusionless phase changes in metals; the gold-cadmium beta phase. L. C. Chang and T. A. Read. bibliog il J Metals 191:Trans 47-52 Ja '51

Plastic deformation of chromium-plated steel. Steel 128:108+ Je 18 '51; il Metal Finishing 49:53+ Ag '51; Iron Age 168:101 O 18 '51

Structural studies of plastic deformation in aluminum single crystals. N. K. Chen and C. H. Mathewson. bibliog il J Metals 3:Trans 653-60 Ag '51

Welded continuous frames and their components; plastic design and the deformation of structures. Ching Huan Yang and others. bibliog diags Welding J 30:sup348-56 Jl '51

See also

Creep of materials
Elasticity
Plasticity
Strains and stresses
Torsion

DEGRADATION

Degradation of alkenyltrimethylammonium hydroxide. C. D. Hurd and E. H. Ensor. bibliog Am Chem Soc J 72:5135-7 N '50

Degradation of α-amino-acids to aldehydes and ketones by interaction with carbonyl compounds. R. Moubasher. Chem Soc J p 1928 Jl '51

Degradation of cellulose during mechanical processing; action of beaters on cotton. J. C. Whitwell and others. bibliog flow sheet Textile Res J 21:556-64 Ag '51

Degradation of colchicine to octahydrodemethoxydesoxydesacetamidocolchicine. H. Rapoport and A. R. Williams. Am Chem Soc J 73:1896-7 Ap '51

Degradation of glycogen to isomaltose. M. L. Wolfrom, E. N. Lassettre and A. N. O'Neill. bibliog Am Chem Soc J 73:595-9 F '51

Degradation rates of cellulosic pulps. R. L. Mitchell. bibliog Ind & Eng Chem 43:1786-9 Ag '51

Euphorbia resins; oxidative degradation in the side chain of euphol. H. K. Krüsi. Chem Soc J p2864-6 O '50

Formation of an acrylal in side chain degradation of the bile acids. T. F. Gallagher and E. Elisberg. Am Chem Soc J 73:194-6 Ja '51

Mechanism of the degradation of polyamides. B. G. Achhammer, F. W. Reinhart and G. M. Kline. il diags J Res Nat Bur Stand 46:391-421 bibliog(67 titles, p420-1) My '51; Abstract. J Ap Chem 1:301-20 Jl '51

Mechanism of the hydrolytic cleavage of the interunit bonds in the cellulose molecule. G. Beall and L. Jörgensen. bibliog Textile Res J 21:203-14 Ap '51

Neamine, an antibacterial degradation product of neomycin. B. E. Leach and C. M. Teeters. il Am Chem Soc J 73:2794-7 Je '51

Streptomycin; new derivatives of streptamine; the oxidative degradation of O-tetramethylstreptamine. O. Wintersteiner and A. Klingsberg. bibliog Am Chem Soc J 73:2917-24 Je '51

Studies on the $C_{11}H_8N_2OS$ degradation product of gliotoxin. J. D. Dutcher and A. Kjaer. Am Chem Soc J 73:4139-41 S '51

Study of degradation of polystyrene, using infrared spectrophotometry. B. G. Achhammer and others. bibliog J Res Nat Bur Stand 47:116-25 Ag '51

DEGREASING

Alkaline degreasing practice; abstract. R. Justh. Metal Finishing 49:70-1 Ap '51

Degreasing action of shampoos. Soap & San Chem 27:81 Je '51

Generation of phosgene during operation of trichloroethylene degreaser. L. W. Spolyar and others. il A M A Archives Ind Hygiene & Occup Med 4:156-60 Ag '51

Laboratory solvent degreaser. L. C. Kinney. diags Anal Chem 23:1346 S '51

New degreasing evaluation test; the atomizer test; abstract. H. B. Linford and E. B. Saubestre. Steel 129:114+ S 10 '51

DEGREES, Academic

New approach to the doctor's degree for engineers. D. H. Pletta. J Eng Educ 41:161-5 N '50

Results of questionnaire regarding graduate degrees in chemical engineering. T. E. Corrigan. J Eng Educ 41:170 N '50

Role of the liberal arts college in the professional training of chemists. H. F. Lewis. J Chem Educ 28:104-7 F '51

DEHALOGENATION

Dehalogenation of 2-amino-4-methyl-6-chloropyrimidine. D. Shapiro. Am Chem Soc J 73:3526-7 Jl '51

Dehalogenation reaction; dechlorination of vinyl chloride/vinyl acetate copolymers. T. Alfrey, jr., H. C. Haas and C. W. Lewis. bibliog Am Chem Soc J 73:2851-3 Je '51

Propargylic rearrangement; the dehalogenation of propargylic bromides. J. H. Wotiz. bibliog Am Chem Soc J 73:693-6 F '51

DEHUMIDIFIERS

Air-water contact operations in a packed column. F. Yoshida and T. Tanaka. diags Ind & Eng Chem 43:1467-73 Je '51

Cargocaire protects tanker; Sinclair Superflame. il plans diag Marine Eng 56:50-2+ S '51

Case for dehumidifiers. il Dom Eng 177:139+ Je '51

Dehumidification saves water-soaked books after big library fire. il Heating-Piping 23:77 My '51; Abstract. Sheet Metal Worker 42:58 Je '51

Humidistat controls dehumidifier. il Machine Design 23:133 Je '51

Lithium chloride solutions in air dehumidification. diag Chem & Eng N 29:813 F 26 '51

Portable dehumidifiers; Moisture Magnet. il diag Arch Forum 94:204+ My '51

Reactivated warships prove that mothballing worked. C. H. Sigel. bibliog il Iron Age 167:85-9 My 24 '51

DEHYDRATED foods. See Food, Dried

DEHYDRATION

Anhydro-compounds from nitrogen-containing derivatives of thioglycollic acid, pyridine and quinoline compounds. G. F. Duffin and J. D. Kendall. Chem Soc J p734-9 Mr '51

Aromatic cyclodehydration; 9-*p*-(hydroxyphenyl)-10-alkylphenanthrenes. C. K. Bradsher and W. J. Jackson, jr. Am Chem Soc J 73:3235-7 Jl '51

Dehydration and isomerization of dimethylethynylcarbinol. E. D. Bergmann. bibliog Am Chem Soc J 73:1218-20 Mr '51

Dehydration of 6β-acetoxy-3β-methoxy-cholestan-5α-ol. M. Davis and V. Petrow. Chem Soc J p2211-12 Ag '51

Dehydration of phenylmethylcarbinol with iodine. A. J. Castro. bibliog Am Chem Soc J 72:5311-12 N '50

3,6-Dihydro-2,4,6-trimethyl-2H-pyran, a product of the dehydration of 2-methyl-2,4-pentanediol. S. A. Ballard, R. T. Holm and P. H. Williams. bibliog Am Chem Soc J 72:5734-8 D '50

Equilibrium and thermodynamic relation in the vapour-phase catalytic dehydration of ethyl alcohol to ethyl ether. F. H. H. Valentin. Chem Soc J p498-500 F '50

Fluorosulphonic acid as a cyclodehydrating agent. W. Baker, G. E. Coates and F. Glocking. Chem Soc J p 1376-7 My '51

Investigation of the properties of alumina *ex*-aluminum isopropoxide as a catalyst for dehydrations. H. Adkins and S. H. Watkins. bibliog Am Chem Soc J 73:2184-8 My '51

Isobaric and isothermal studies in the system soap-water. W. O. Milligan, G. L. Bushey and A. L. Draper. bibliog il J Phys & Colloid Chem 55:44-53 Ja '51

Studies on the pinacol rearrangement; competition between dehydration and pinacol rearrangement in the reactions of the isomeric 3,4-bis-(*p*-acetoxyphenyl)-3,4-hexanediols with acidic reagents. J. F. Lane and L. Spialter. Am Chem Soc J 73:4411-14 S '51

Studies on the pinacol rearrangement; the determination of products resulting from the dehydration of 3,4-bis-(*p*-acetoxyphenyl)-3,4-hexanediol. J. F. Lane and L. Spialter. bibliog Am Chem Soc J 73:4408-10 S '51

Synthesis of fluoranthene by cyclodehydration. M. Orchin and L. Reggel. Am Chem Soc J 73:2955-6 Je '51

See also

Alcohol—Dehydration

Gas, Natural—Dehydration

DEHYDROABIETIC acid

Derivatives of dehydroabietic acid. Y. T. Pratt. Am Chem Soc J 73:3803-7 Ag '51

DEHYDROASCORBIC acid

Physiological availability of dehydro-L-ascorbic acid. E. De Ritter and others. bibliog Science 113:628-31 Je 1 '51

Preparation of dehydro-L-ascorbic acid and its methanol complex; some reactions of dehydro-L-ascorbic acid. B. Pecherer. bibliog Am Chem Soc J 73:3827-30 Ag '51

DEHYDROBROMINATION

Dehydrobromination experiments with bromodihydromyrcene. L. Bateman, J. I. Cunneen and H. P. Koch. Chem Soc J p3051-6 N '50

Dehydrobromination of α,β-dibromohydrocinnamic acid in liquid ammonia. R. V. Paulson and W. S. MacGregor. bibliog Am Chem Soc J 73:679-81 F '51

DEHYDROCHLORINATION

Dehydrochlorination of propylene dichloride. E. Galitzenstein and C. Woolf. bibliog Soc Chem Ind J 69:298-304 O '50

Kinetics of the dehydrochlorination of substituted hydrocarbons; the mechanism of the thermal decompositions of 1 : 1 : 2 : 2- and 1 : 1 : 1 : 2-tetrachloroethane. D. H. R. Barton and K. E. Howlett. Chem Soc J p2033-8 Ag '51

Kinetics of the dehydrochlorination of substituted hydrocarbons; the mechanisms of thermal decompositions of *n*-propyl and *n*-butyl chloride and 2 : 2′-dichlorodiethyl ether. D. H. R. Barton, A. J. Head and R. J. Williams. Chem Soc J p2039-46 Ag '51

Mechanisms of elimination reactions; the kinetics of the alkaline dehydrochlorination of the benzene hexachloride isomers. S. J. Cristol, N. L. Hause and J. S. Meek. bibliog Am Chem Soc J 73:674-9 F '51

DEHYDROCHOLESTEROL

New method for the preparation of 7-dehydrocholesterol. W. G. Dauben, J. F. Eastham and R. A. Micheli. Am Chem Soc J 73:4496 S '51

DEHYDROCHOLESTERYL compounds

Cleavage of cholesteryl and 7-dehydrocholesteryl ethers. D. H. Gould, K. H. Schaaf and W. L. Ruigh. bibliog Am Chem Soc J 73:1263-7 Mr '51

DEHYDROGENASES

Codehydrogenases; the synthesis of dihydronicotinamide-D-ribofuranoside [*N*-D-ribofuranosidyl-1 : 2(or 6)-dihydronicotinamide]. L. J. Haynes and A. R. Todd. Chem Soc J p303-8 Ja '50

Crystalline α-lipoic acid; a catalytic agent associated with pyruvate dehydrogenase. L. J. Reed and others. bibliog Science 114:93-4 Jl 27 '51

Effect of maleic hydrazide on certain dehydrogenases in tissues of onion plants. F. M. R. Isenberg and others. Science 113:58-60 Ja 19 '51

Effects of an isolated dehydrogenase enzyme and flavoprotein on the reduction of triphenyltetrazolium chloride. A. F. Brodie and J. S. Gots. bibliog Science 114:40-1 Jl 13 '51

Lactic dehydrogenase and DPN-ase activity of blood. S. G. A. Alivisatos and O. F. Denstedt. bibliog Science 114:281-3 S 14 '51

DEHYDROGENASES—*Continued*

Reduction of triphenyltetrazolium chloride by dehydrogenases of corn embryos. C. O. Jensen and others. bibliog Science 113:65-6 Ja 19 '51

See also

Succinic dehydrogenase

DEHYDROGENATION

Acetaldehyde by dehydrogenation of ethyl alcohol. J. M. Church and H. K. Joshi. bibliog diags Ind & Eng Chem 43:1804-11 Ag '51

Aromatic cyclodehydrogenation; studies on ring oxygen compounds; dinaphtho[1,2,1',2']-furan. M. Orchin and L. Reggel. Am Chem Soc J 73:1877-8 Ap '51

Catalytic dehydrogenation. flow diag Oil & Gas J 49:186-7 Mr 29 '51

Catalytic dehydrogenation of butanes. E. W. Howard. diags Ill U Eng Exp Sta Circ 61:1-44 bibliog(p42-4) '50 (pa 50c)

Constitution of ψ-santonin; some dimethylethylnaphthols. W. Cocker and others. Chem Soc J p 1781-94 Jl '50

Coumarone dehydrogenation with N-bromosuccinimide. T. A. Geissman, T. G. Halsall and E. Hinreiner. Am Chem Soc J 72:4326 S '50

Dehydrogenation of coumaran. B. Klarmann. Am Chem Soc J 73:4476 S '51

Dehydrogenation of *p*-cymene. K. A. Kobe and R. T. Romans. bibliog diag Ind & Eng Chem 43:1755-8 Ag '51

Dehydrogenation of ethylnaphthalene to vinylnaphthalene. J. E. Nickels and B. B. Corson. bibliog diag Ind & Eng Chem 43:1685-9 Jl '51

Dehydrogenation of methylcyclopentane over chromia-alumina catalysts. H. Heinemann. bibliog Ind & Eng Chem 43:2098-101 S '51

Dehydrogenation of 1: 2: 3: 4-tetrahydrocarbazole. W. E. Badcock and K. H. Pausacker. Chem Soc J p 1373-4 My '51

Dehydrogenation of tetrahydrothiophene. W. Friedmann. Inst Pet J 37:239-41 My '51

Dehydrogenation reactions by the action of free radicals. A. Schönberg and A. Mustafa. Am Chem Soc J 73:2401 My '51

Heat transfer by direct contact between liquid and vapor. R. J. O'Donnell, R. R. Bowles and E. E. Gullekson. diag Chem Eng Prog 47:309-13; Discussion. 313-14 Je '51

Phenanthrene cyclisation of dibenzyl-type derivatives. N. P. Buu-Hoï, N. Hoán and P. Jacquignon. Chem Soc J p 1381-4 Je '51

Reactions of N-bromosuccinimide. R. A. Barnes and G. R. Buckwalter. bibliog Am Chem Soc J 73:3858-61 Ag '51

DEHYDROHALOGENATION

Synthesis of N-allylidene-alkylamines. C. B. Pollard and R. F. Parcell. bibliog Am Chem Soc J 73:2925-7 Je '51

Synthesis, properties and dehydrohalogenation of some α-phenoxy and 2,4-dichlorophenoxy substituted acid chlorides. C. M. Hill and others. Am Chem Soc J 73:1660-2 Ap '51

Thermal dehydrohalogenation of some chlorofluoroethanes. C. W. Huskins and others. bibliog diag Ind & Eng Chem 43:1253-6 My '51

DEHYDROISOANDRASTERONE

Lactones prepared from dehydroisoandrosterone. C. von Seemann and G. A. Grant. bibliog Am Chem Soc J 72:4073-7 S '50

DEHYDROPERILLIC acid

Methyl ester of dehydroperillic acid, an odoriferous constituent of western red cedar (thuja plicata). E. F. Kurth. Am Chem Soc J 72:5778-9 D '50

DE-INKING of paper. See Waste paper

DEIONIZATION in water treatment. See Feed water purification; Water purification

DELANO, Frank E.

Sketch. por Ed & Pub 83:26 D 2 '50

DELAVAN, Nelson B.

Post-retirement can be hectic as a three-ring circus. pors Bsns W p 110-12+ O 13 '51

DELAWARE and Hudson company

Prospects of coal-carrying bridge road are bright. R. E. Bedingfield. map Barron's 31:9-10 Je 25 '51

DELAWARE, Lackawanna and western railroad

Interest in the Nickel Plate may soon pay off. H. G. Hockstader, jr. map Barron's 31:11-12 Jl 9 '51

DELAY devices

Effects of anisotropy in a three-dimensional array of conducting disks. G. Estrin. diags Inst Radio Eng Proc 39:821-6 Jl '51

Improved pulse stretcher. J. F. Craib. il diags Electronics 24:129-31 Je '51

Improving program limiter performance. D. W. Howe, jr. il diags Electronics 24:108-11 S '51

Incremental delay pulse generator. G. F. Montgomery. il diags Electronics 24:218+ F '51

Magnetic delay-line storage. A. Wang. il diags Inst Radio Eng Proc 39:401-7 Ap '51

Magnetostrictive delay line. E. M. Bradburd. il diags Elec Com 28:46-53 Mr '51

Storing video information. A. L. Hopper. il diags Electronics 24:122-5 Je '51

Variable pulse delay for radar ranging. J. F. Gordon. bibliog il diags Electronics 24:100-3 O '51

DELICH, Helen

Baltimore Sun gal galvanizes port. R. Erwin. por Ed & Pub 84:24+ Ag 11 '51

DELIGNIFICATION. See Lignin

DELIVERY of goods

Cheaper delivery; truck study for grocery wholesalers. Bsns W p 104 My 5 '51

Inventory, planning, and development of the management organization; United parcel service. C. W. L. Foreman. Personnel 27:267-76, 403-13 Ja-Mr '51

See also

Drivers as salesmen
Milk delivery
Oil delivery
Traveling stores

Delivery to dealers

Kraft zones its distribution. il diag Food Ind 23:87-90+ Mr '51

DE LUCCIA, E. Robert

De Luccia resigns from FPC bureau to head Yale hydroelectric project. por Elec World News ed 135:13 Je 25 '51

DELUSTERING

See also

Rayon—Delustering

DEMAGNETIZATION

Recording demagnetization in magnetic tape recording. O. W. Muckenhirn. bibliog diags Inst Radio Eng Proc 39:891-7 Ag '51

DEMAND and supply. See Supply and demand

DEMAND meters

Jig aids screw removal, saves register motor frame. E. H. Tyson. il Elec World 136:90 Jl 2 '51

Testing

Quick torque tester for demand meter motors. R. O. Smith. diag Elec World 136:87-8 Jl 2 '51

Timer checks demand meter printing period. C. H. Amundsen. diags Elec World 135:104+ Je 4 '51

DEMEROL

Preparation of demerol-N-methyl-C^{14} by reductive methylation. W. Tarpey and others. diag Am Chem Soc J 72:5126-7 N '50

DEMOCRACY

Democracy? what for? P. W. Nordt, jr. Mech Eng 73:7-8+ Ja '51

Keep bright the torch of freedom. G. M. Gadsby. Edison Elec Inst Bul 19:257-8+ Ag '51

Schumpeter's political philosophy. D. M. Wright. R Econ & Stat 33:152-7 My '51

DEMOLITION of buildings. See Wrecking

DEMONSTRATION houses. See Houses, Model

DEMONSTRATIONS. See Department stores—Manufacturers' demonstrations; Salesmanship—Demonstrations

DEMULSIFIERS. See Surface active substances

DE NARIE, Joseph

De Narie wins Hearst photo contest, $500. J. L. Collings. Ed & Pub 84:92 Ap 28 '51

DENATURIZATION of proteins. See Proteins—Denaturization

DENIGÈS, Georges, 1859-
Sketch. R. E. Oesper. pors J Chem Educ 28:194, front Ap '51

DENMARK

Commercial policy

Tariffs and trade controls. For Comm W 44: 18 S 3 '51

Defenses

Denmark's defence effort. Economist 160:498 Mr 3 '51

Economic conditions

Denmark in the second round. Economist 160:1046+ My 5 '51
News by countries. For Comm W 43:13-14 Ap 9; 11 My 7; 10-11 Je 11; 44:12 Jl 9; 11-12 Jl 30; 45:9-10 O 8 '51

Economic policy

Butter and guns for Denmark. Economist 159: 820+ N 18 '50

Economic relations

Fair deal for the Danes; British relations with Denmark. map Economist 160:1083-4 My 12 '51

Foreign relations

United States

United States signs new treaty of friendship, commerce, and navigation with Denmark. For Comm W 45:14+ O 15 '51

Industries and resources

Danish cooperative group promotes arts and crafts. B. Hemmingsen. il For Comm W 43: 3-4+ Je 25 '51

DENNEY, Charles Eugene, 1879-
Northern Pacific; Denney to Macfarlane. por Ry Age 129:25-7 D 30 '50

DENOMINATIONAL colleges. See Church and college

DE NORA hydrogenation. See Hydrogenation

DENS, Concrete. See Bear dens, Concrete

DENSITOMETERS
Continuous analyzers. B. W. Thomas. Instruments 23:1130-1 N '50; Same. Pet Refiner 30:81-4 F '51
Current problems in the sensitometry of color materials and processes. F. C. Williams. il Soc Motion Picture & Tv Eng J 56:1-12 Ja '51
Densitometer which records directly in units of emulsion exposure. W. N. Brown, jr. and W. B. Birtley. il diags R Sci Instr 22: 67-72 F '51
Direct-reading equivalent densitometer. A. F. Thiels. bibliog il diags Soc Motion Picture & Tv Eng J 56:13-22 Ja '51
Improved direct-reading X-ray microdensitometer. A. Taylor. diags J Sci Instr 28: 200-5 Jl '51
Instrumentation studies; study of photoelectric instruments for the measurement of color; reflectance and transmittance; Densichron as a reflection meter. L. R. Dearth and others. bibliog il Tappi 34:sup 126A-32A Ag '51
New deflection type densitometer. W. G. Kirchgessner. diags R Sci Instr 22:289-92 My '51
Versatile densitometer for color films. A. C. Lapsley and J. P. Weiss. il diags Soc Motion Picture & Tv Eng J 56:23-9 Ja '51

DENSITY meters. See Hydrometers

DENTAL clinics

Lighting

Directional lighting for dental clinics. P. W. Seagers. il Illum Eng 46:304-5 Je '51

DENTAL education
Oral cancer teaching program in dental schools. R. F. Kaiser. bibliog Pub Health Rep 66:757-61 Je 15 '51

DENTAL expense insurance. See Insurance, Dental expense

DENTAL hygiene
Fluoridation keynoted at dental conference. Pub Health Rep 66:1171-6 S 14 '51

DENTAL instruments and apparatus
Airdent now on the market. Comp Air Mag 56:134 My '51

DENTAL materials
Precision pouch maker fills heat-sealed, foil-laminated envelopes with dental impression powder. il Mod Packaging 24:91-3 Ja '51

DENTAL research
Demineralization of hard tissues by organic chelating agents. L. M. Sreebny and G. Nikiforuk. Science 113:560 My 11 '51

DENTAL service
Dental service. J. M. Wisan. bibliog Ann Am Acad 273:131-7 Ja '51

DENTAL service, Industrial
Dentistry at the Ford motor co. G. MacKenzie. Ind Med 20:331-2 Jl '51
Industrial dental health program sponsored by the Cooperative service, Wyomissing, Pa. H. H. Dougherty. Ind Med 20:408-10 S '51
Report of dental health studies in nineteen selected industries. E. R. Aston. Ind Med 20:74-8 F '51

DENTAL supplies industry
Dental group packages training meetings for dealers. V. W. Rooke, jr. il Sales Management 67:102-5 Ag 15 '51

Great Britain

Monopoly under the microscope; Monopolies and restrictive practices commission report on supply of dental goods. Economist 159: 1156-8 D 23 '50

DENTAL surveys
Report of dental health studies in nineteen selected industries. E. R. Aston. Ind Med 20:74-8 F '51

DENTIFRICES
Cetrimide dentifrice; formula. D. N. Burton. Soap & San Chem 27:91 Ag '51
Change in emphasis. il Chem W 69:33 S 8 '51
New penicillin tooth powders may bow over the counters. Ptr Ink 234:77+ F 16 '51

Advertising

Starch reports best-read advertisements. il Adv Agency 43:76-7 D '50

DENTISTS' offices
Design and utility in medical center, Minneapolis. il plan Am Bld 72:134-5 D '50

DENVER
Denver; host to the EEI convention. il Edison Elec Inst Bul 19:66-8 Mr '51

See also

Taxation—Denver

Industries

Wild West goes industrial. il Bsns W p82-4+ Mr 10 '51

Lighting

Denver celebrates highway lighting. Elec West 107:118 Ag '51

DENVER and Rio Grande western railroad
Railroad securities. Comm & Fin Chr 173: 943; 174:696 Mr 1, Ag 23 '51

DEODORANT soap. See Soap, Deodorant

DEODORIZATION
Superior animal shortening turned out by new four-stage process. I. C. Miller. flow sheet(p 136-9) il diag Food Eng 23:88-91+ Ag '51

DEODORIZERS
Accent on scent; chlorophyll bites into $54 million market. il Chem W 68:27+ Je 16 '51
Cautious debuts; new aerosol products. Chem Ind W 68:44 Ja 27 '51
Experience with up-sewer Cloroben treatment in southern California. R. Pomeroy. bibliog Sewage & Ind Wastes 23:465-74; Discussion. 474-7 Ap '51
Stopette upsets seasonal sales with fall deodorant promotion. W. A. Wright. il Sales Management 65:76+ N 20 '50

DEOXYPENTOSE. See Desoxypentose

DEPARTMENT stores
Buying practices of out-of-town customers; study of credit sales by two department stores in Charlotte, N.C. E. Douglas. J Bsns 23:259-72 O '50
Cash sales; Regulation W doesn't stop them. Bsns W p70 D 9 '50

DEPARTMENT stores—*Continued*

Departmental merchandising results in small department stores, 1949, by months and for the year. E. H. Gault. (Bur. of business research rep. no. 18) 39p pa $1 Univ. of Michigan press, 311 Maynard st, Ann Arbor '50

Eighty years young, still pioneering; I. B. Kleinert rubber co. R. K. Guinzburg. J Retailing 26:122-7 Fall '50

Revolution in the warehouse; new approach to handling methods; Lazarus department store, Columbus, Ohio. il diags Arch Forum 93:108-13 D '50

There are lots of people downtown. il Bsns W p 138+ O 6 '51

Weather's effect on the sales of a department store. A. T. Steele. J Marketing 15:436-43 Ap '51

Where the real customers are; Hess Bros. department store, Allentown, Pa. puts fashion show on road. il Bsns W p46-7 N 4 '50

See also

Charge accounts (retail trade)

Marketing—Department store outlets

Accounting

Machines slash office turnover; Lit bros. department store uses high-speed accounting machines. L. Bolger. il Am Bsns 21:24+ Jl '51

Advertising

Big E copy sells store's personality. H. Alexander. Ed & Pub 84:59 Ja 20 '51

Big stores buy record high monthly linage; with tabulation of newspaper linage, 52 cities, 1949, 1950. Ed & Pub 83:40+ D 30 '50

Controlled brand in soft and hard goods. E. B. Weiss. il Ptr Ink 233:44-6+ N 17 '50

Let's sell advertising instead of newsprint. C. Bedell. Ed & Pub 84:34+ Jl 7 '51

Macy ads sell Macy's. il Bsns W p96+ Mr 3 '51

Ohrbach's total budget of $400,000 in papers. R. B. McIntyre. il Ed & Pub 84:16 Mr 3 '51

Smart girls write ads on manure for Gimbels. L. Farrant. il Ed & Pub 83:40 D 9 '50

Why Hess has added small dailies to list. R. B. McIntyre. Ed & Pub 84:16+ S 22 '51

Air conditioning

See Store buildings—Air conditioning

Basements

Basement-store customer. D. F. Blankertz. J Marketing 15:336-40 Ja '51

Branch stores

Branch stores for S. S. Pierce co. and R. H. Stearns, Boston, Mass. il plans Arch Rec 109:139-41 Mr '51

Customer patronage of a parent and new branch store. D. F. Blankertz. J Marketing 16:152-7 O '51

Mapping a retailer's growth; Abraham & Straus starts second suburban branch; interview with Myron Silbert. Bsns W p50+ N 4 '50

Store for Woodward & Lothrop, Chevy Chase, Maryland; store for John Wanamaker, Wilmington, Delaware. il plans Arch Rec 109:142-3 Mr '51

Cash handling

Easy cash control; sales clerks' self-service cash-handling system on trial at Gimbels. il Bsns W p 140-1 O 13 '51

Employees

CIO store union; drive to organize department store workers. Bsns W p 122 Mr 3 '51

Department and women's ready-to-wear stores; earnings, 1950. C. Rubenstein. Mo Labor R 72:165-7 F '51

De-unionization; Pittsburgh store workers ask NLRB to decertify three locals. Bsns W p 116 Ja 27 '51

Employment outlook in department stores; occupational study. il U S Bur Labor Statistics Bul 1020:1-23; pa 20c Supt. of doc. '51

Is your employee publication an employee publication? J Retailing 27:1-7+ Spring '51

Job evaluation in department stores. W. R. Spriegel and E. Lanham. J Retailing 27:79-85 Summer '51

We believe in customer participation; Abraham and Straus. N. R. Domer. J Retailing 26:148-52+ Winter '50

Exhibitions

Italian imports spurred by Macy fair. il Bsns W p 169-70 S 15 '51

Finance

Department store outlook in 1951. M. P. McNair. Comm & Fin Chr 173:2346+ Je 7 '51

Department stores in 1951. H. E. Dickhuth. Banking 44:104+ Ag '51

Stern's is what Allied's waited for. Bsns W p78+ Mr 31 '51

Layout

Core that makes the store go 'round; Famous-Barr's new Southtown store. il Bsns W p 124-5 S 29 '51

Lighting

Correlated lighting and design in Wurzburg department store. J. S. Frizzell. il Illum Eng 46:392-4 Ag '51

Stores lighting; three types of lamps compared. E. W. Summers. il Elec R (Lond) 148:501-3 Mr 9 '51

Management

Fashion merchandising. A. H. Daniels. Harvard Bsns R 29:51-60 My '51

Large stores start new attack on costs. il Bsns W p90-2+ S 1 '51

See also

Returned goods

Manufacturers' demonstrations

Teen-age salesmen star in Proctor kids' day promotion. W. M. Schwartz. il Sales Management 67:48+ O 15 '51

Package handling

How to make a shopper help, and like it; counter to customer's car service at B. Altman's, White Plains branch, encourages take-home purchases. il Bsns W p 128-30 My 26 '51

Records

Basement-store customer. D. F. Blankertz. J Marketing 15:336-40 Ja '51

Securities

Slump in retail trade ahead? with statistics on merchandising stocks. R. Colston. Mag of Wall St 88:73-5+ Ap 21 '51

Service

See also

Department stores—Package handling

Statistics

Can stores match 1950? report of NRDGA's Comptrollers' congress. Bsns W p 114 Je 9 '51

Indexes of sales and stocks by Federal reserve districts, yearly 1945-1949, monthly Nov. 1949-Nov. 1950; Sales and stocks by major departments Oct. 1949 and Sept.-Oct. 1950; Sales, stocks, orders, and receipts, 1942-1949 average and monthly Nov. 1949-Nov. 1950; Weekly index of sales, Feb. 1949-Jan. 1951. Fed Res Bul 37:85-7 Ja '51 [cont monthly]

Retail tills ring up averages; ABC of what's behind some key statistics. Bsns W p79-82 Ap 28 '51

Sales by Federal reserve districts and by cities in terms of percentage change from corresponding period of preceding year. Fed Res Bul 37:88 Ja '51 [cont monthly]

Stock

Counting three-million items; semiannual inventory at Brooklyn's Abraham & Straus; illustrations with text. Bsns W p44-5 F 10 '51

New stock control deal; wholesaler operates as store buyer. M. Beuick. il Ptr Ink 234:48+ Mr 2 '51

Store directories

Are your store directories showing? J Retailing 27:35-9 Spring '51

DEPARTMENTAL libraries. See College libraries—Departmental libraries

DEPILATORY action. See Hair, Removal of

DEPLETION

Cut in depletion allowance would limit new oil finds. E. R. Abrams. Barron's 31:6 My 21 '51

Depletion in federal income taxation of mines. K. S. Benson. Min Eng 3:Trans 612-16 Jl '51

Depletion stalemate. L. S. McCaslin, jr. Oil & Gas J 49:54-5 N 9 '50

Industry needs depletion allowance to keep oil flowing. R. B. Brown. Nat Pet N 43: 35-8 Ap 4 '51

Tax policy and petroleum supplies. H. H. Baker. Am Pet Inst Proc 30(4):43-50 '50; Same. Pet Eng (Ref annual) 23:A35-6+ Jl 15 '51

DEPOLARIZATION (light)

Study of the optical properties of shellac solutions; depolarization of scattered light. S. Basu. bibliog J Phys & Colloid Chem 54:1358-66 D '50

DEPOLARIZATION of rays

Double transmission and depolarization of neutrons. M. Burgy and others. bibliog diag Phys R 80:953-60 D 15 '50

DEPOSIT insurance. See Banks and banking—Guaranty of deposits

DEPOSIT slips. See Bank deposits—Records

DEPOSITORS' forgery bond. See Insurance, Forgery

DEPRECIATION

Accelerated depreciation of emergency plant facilities. Mill & Factory 47:112 D '50

British transport commission's adoption of depreciation accounting. J Account 92:91-2 Jl '51

Construction equipment depreciation schedule. Eng N 146:159 Mr 29 '51

Coordination for depreciation study. J. Rachor. Am Gas Assn Mo 33:11-12+ S '51

Depreciation or depredation. H. W. Coil. Pub Util 48:492-9 O 11 '51

Depreciation reserves problem in trust accounting; A.B.A. committee report; with citations of cases. Trusts & Estates 89: 648-54 O '50

Depreciation schedule. U. S. Bureau of internal revenue. Eng N 146:157 Mr 29 '51

Five-year write-off and you; how quick depreciation can backfire as well as help. Eng N 145:84 N 30 '50

New Canadian depreciation regulations diminish gap between law and good accounting. E. H. Robertson. J Account 91: 428-33 Mr '51

Original cost vs. market value as a basis for depreciation. J. R. Hock. il Dun's R 58:20-1+; Reply. F. H. McDonald. 21+ D '50

Still needed; depreciation reform. Steel 127: 30-3 N 27 '50

Supreme court says assets contributed by community for construction may be depreciable; Brown Shoe case. C. A. Reynolds. bibliog J Account 91:715-17 My '51

Thoughts on depreciation accounting. J. R. Foster and B. S. Rodey, jr. Pub Util 47: 224-33 F 15 '51

Valuation and depreciation related to income tax. M. R. Scharff. Am Soc C E Proc 77[no 69]:1-7 My '51

War wear speeds depreciation. Bsns W p86 Je 16 '51

What concept of depreciation for fixed assets is most useful today? C. W. Smith. J Account 92:166-74 Ag '51

Why the Canadian Pacific prefers user basis for depreciation. il Ry Age 130:50-1 Je 11; 50-2 Je 18 '51

See also

Depletion

Obsolescence

DEPTH sounding. See Sounding

DERMATITIS. See Skin—Diseases

DERRICKS, Oil well

Cardwell reaches silver anniversary; pioneer oil-field manufacturing firm. J. A. Kornfeld and others. il Oil & Gas J 50:sup A14-17+ Je 28 '51

Catwalks built as permanent panels expedite rigging time. il Oil & Gas J 50:128 S 13 '51

Extensive rig-modernizing program is finished by Rocky Mountain. D. H. Stormont. il Oil & Gas J 49:64-7 Mr 15 '51

Large portable rig. K. M. Fagin. il Pet Eng 23:B14+ Ag '51

New rig designed for easy moves. R. F. Carlson. il Oil & Gas J 50:88+ Je 14 '51

Noble modernizes 12 drilling rigs. R. F. Carlson. il Oil & Gas J 50:76-7+ Je 7 '51

Reversible connections for rig shifts. E. Sterrett. il Pet Eng 23:B48 Je '51

Richfield modernizing leases in California's Long Beach field. il Oil & Gas J 49:102-3 Mr 8 '51

Rig modernization. il diag Oil & Gas J 50: 196+ S 20 '51

Shell rig has new features. il Oil & Gas J 50:234-5 S 20 '51

Substructure design reduces rigging time. J. C. Albright. il World Oil 132:100-1 F '51

DESCROIZILLES, François, 1751-1825

François Descroizilles, the inventor of volumetric analysis. C. Duval. por J Chem Educ 28:508-19 O '51

DESERT houses

Roofed with movable dome; house in Cave Creek, Ariz. P. Soleri and M. Mills. il plans Arch Forum 94:150-2 Je '51

DESERTS

Automotive transportation in Saudi Arabia. R. C. Kerr. il S A E J 59:42-6 Ja '51

See also

Mirages

DESIGN

Applications of welded design for cost reduction. R. H. Bennewitz. il diags Welding J 30:347-57 Ap '51

Calculating machines; new tools for the designer. E. Bromberg and R. D. McCoy. bibliog il diags Product Eng 22:85-8 Mr '51

Controlling engineering design changes. A. T. Wilson. il Product Eng 22:119-22 S '51

Coordinate design and measurement; Hamilton watch co. D. Hawks, jr. il diags Tool Eng 26:25-8 Ja '51

Corrosion factors in design. F. M. Reinhart. il diags Product Eng 22:101-7 Jl '51

Cost control engineering, stepping stone to better design proficiency; Glenn L. Martin co. J. Van Hamersveld. il diags Machine Design 23:108-14 F; 132-8 Mr '51

Design by measurement; abstract. W. T. Bean, jr. S A E J 59:73-4 Ja '51

Design data for brazing. W. J. VanNatten. diags Welding J 30:452-4, 540-3, 634-7, 737-41 My-Ag '51

Design details for stamped parts. D. A. Rogers. diags Machine Design 22:157-60 D '50

Design engineering. W. E. Johnson. Machine Design 23:168+ S '51

Design in industry. T. S. Jones. Am Cer Soc Bul 30:168-9 My 15 '51

Design makes the difference. S. Baur. il Iron Age 166:61-5 O 26 '50

Design with a point; Italy's Olivetti. il Fortune 43:112-17 Je '51

Designing for economical gasketing. E. C. Frazier. diags Product Eng 22:139-44 Jl '51

Designing for history's decisive decade; recent developments in materials, equipment, design techniques, production processes, and mechanical parts. il diags Product Eng 22:101-96 My '51

Designing for military requirements. il Product Eng 22:86-100 Ja '51

Designing parts for high level production by precision investment casting. il diags Product Eng 22:136-8 Ag '51

Designing small stamped mechanisms. A. A. Lourich. il diags Product Eng 22:120-4 Ja '51

Economies accomplished by redesign for welding. K. H. Jackson. il Welding J 30: 56-8 Ja '51

Engineering design with natural and synthetic rubbers; description and properties of 15 important elastic polymers. E. F. Riesing. il diags Product Eng 21:106-11 N; 104-7 D '50

Fields of utility of investment castings. R. L. Wood and D. Von Ludwig. il Mech Eng 73:191-7 Mr '51; Excerpts. Machine Design 23:154+ Ja '51

How can hardness values be used in metal design? J. B. Campbell. bibliog il Materials & Methods 32:43-7 D '50

DESIGN—*Continued*

How to overcome materials shortages in product design and manufacture. H. R. Clauser. il diags Materials & Methods 34:89-112H Jl '51

Influence of production processes on design. E. N. Baldwin. J Eng Educ 41:315-20 Ja '51

Modern approach to product design. R. E. Jones. il Automotive Ind 103:41+ D 15 '50

National award program fosters design improvements. Product Eng 21:165 N '50

Photoelastic stress analysis useful in design of metal parts. M. M. Leven. il diags Materials & Methods 33:70-3 Mr; 89-92 Ap '51

Recommended design details to reduce corrosion; drawings with text. Product Eng 22:158-9 Jl '51

Second degree curves in product design. D. L. McFarland. il diags Product Eng 22:116-19 Ag '51

Some design aspects of metal-powder parts. D. C. Bradley. Machine Design 23:167+ Mr '51

Teaching welding in design courses. J. Heuschkel. il Welding J 30:314-23 Ap '51

Using mathematics for design, research and production; use of computing machines; interview with J. H. Curtiss. il Product Eng 22:156-9 Je '51

Working with the industrial designer. J. O. Reinecke. Management R 40:84 F '51

See also

Airplanes—Design
Architecture, Domestic—Designs and plans
Automobiles—Design
Bridge design
Concrete construction—Design
Fashion
Machinery—Design
Naval architecture—Designs and plans
Package design
Structural engineering—Design
Textile design

DESIGN, Decorative

See also

Silk fabrics
Textile design

DESIGNERS

Industrial designer and the businessman. H. Dreyfuss. Harvard Bsns R 28:77-85 N '50

DESIZING (textiles)

Desizing and sizing; abstract. I. Teplitz. Am Dyestuff Rep 39:787 N 13 '50

Theory of enzyme desizing of textiles. C. L. Kloss. Rayon 32:81-2+ Ja '51

DESK and derrick club. See Women in the petroleum industry

DESK furnishings

See also

Desk pen sets

DESK pen sets

Desk-stand package; Eversharp's plastic pen and pencil case. il Mod Packaging 24:87 D '50

DESKS

Cracker Jack speeds work flow with desk for every job. D. Baker. il Am Bsns 21:36+ Mr '51

Custom-made dispatching desk ups efficiency 50 per cent; illustration with text. Elec World 135:117 Ap 9 '51

Desks; with a homelike touch; Herman Miller furniture co.; illustrations with text. Bsns W p26 N 18 '50

George Nelson's new desk parts add up to handy, handsome offices. il Arch Forum 93:132+ D '50

How you can make your desk work for you; organize it. D. Comino. il Factory Management 109:290+ S '51

Standard desks, no office pets. H. W. Vetter. il Standardization 22:246-7 Ag '51

DES MOINES, Iowa

Des Moines has a practical plan for off-street parking. il Eng N 146:56 Ja 18 '51

DESMOTROPOPSEUDOSANTONIN

Constitution of ψ-santonin; some dimethylethylnaphthols. W. Cocker and others. Chem Soc J p 1781-94 Jl '50

DESORPTION

Properties of freshly formed surfaces; an experimental study of the desorption process with particular reference to aqueous decyl alcohol solutions. C. C. Addison and S. K. Hutchinson. Chem Soc J p3395-403 D '49

Vacuum desorption of ethyl chloride from activated carbon. E. O. Wiig and S. B. Smith. bibliog diags J Phys & Colloid Chem 55:27-44 Ja '51

DESOXYCHOLIC acid

New method for ascertaining the coordination number in choleic acids. G. Cilento. bibliog Am Chem Soc J 72:4272-3 S '50

DESOXYCODEINE

Δ^7- and ^{8}-desoxycodeine. H. Rapoport and R. M. Bonner. bibliog Am Chem Soc J 73:2872-5 Je '51

DESOXYCORTICOSTERONE

In vitro production of cortisone by mammalian cells. H. Seneca and others. bibliog Science 112:524-5 N 3 '50

Preparation of radioactive progesterone and desoxycorticosterone labeled in ring A. R. D. H. Heard and P. Ziegler. Am Chem Soc J 72:4328 S '50

Selective damage to fibroblasts by desoxycorticosterone in cultures of mixed tissues. I. Cornman. bibliog il Science 113:37-9 Ja 12 '51

DESOXYEQUILENIN

Stereochemical relationships between the isomers of equilenin, desoxyequilenin and 1,2,3,4-tetrahydrodesoxyequilenin. W. E. Bachmann, A. S. Dreiding and E. F. M. Stephenson. Am Chem Soc J 73:2765-7 Je '51

DESOXYHYDROXY corticosterone

Sterols; 17 α-hydroxy-11-desoxycorticosterone (Reichstein's substance S). P. L. Julian and others. bibliog Am Chem Soc J 72:5145-7 N '50

DESOXYNUCLEOTIDES

Replacement of vitamin B_{12} by desoxynucleotides in promoting growth of certain lactobacilli. W. Shive, M. E. Sibley and L. L. Rogers. Am Chem Soc J 73:867-8 F '51

DESOXYPENTOSE

Deoxy-sugars; further observations on the Dische reaction for 2-deoxypentoses. W. G. Overend, F. Shafizadeh and M. Stacey. Chem Soc J p 1027-9 Ap '50

DESOXYPENTOSE nucleic acid

Deoxypentose nucleic acids; the enzymic degradation of sodium deoxyribonucleate by deoxyribonuclease. W. G. Overend and M. Webb. Chem Soc J p2746-54 O '50

Determination of phosphorus in deoxypentose nucleic acids. A. S. Jones, W. A. Lee and A. R. Peacocke. Chem Soc J p623-4 F '51

Enzymatic disintegration of wheat germ desoxypentose nucleic acid. G. Brawerman and E. Chargaff. bibliog Am Chem Soc J 73:4052 Ag '51

Studies on the structure of nucleic acids; interaction of rosaniline with desoxypentose nucleic acid. L. F. Cavalieri and A. Angelos. bibliog Am Chem Soc J 72:4686-90 O '50

DESOXYPYRIDOXINE

Alpha-oxygenated pyridines; the synthesis of and isomer of 4-desoxypyridoxin. R. P. Mariella and E. P. Belcher. Am Chem Soc J 73:2616-18 Je '51

DESOXYRIBONUCLEASE

Deoxypentose nucleic acids; the enzymic degradation of sodium deoxyribonucleate by deoxyribonuclease. W. G. Overend and M. Webb. Chem Soc J p2746-54 O '50

DESOXYRIBONUCLEIC acid

Action of ionizing radiations and of radiomimetic substances on deoxyribonucleic acid. J. A. V. Butler and others. pl diag Chem Soc J p3411-25 D '50

Desoxyribonucleic acid content of rat liver nuclei influenced by diet. J. O. Ely and M. H. Ross. bibliog il Science 114:70-3 Jl 20 '51

Incorporation of isotopic formate into the nucleotides of ribo- and desoxyribonucleic acids. J. R. Totter, E. Volkin and C. E. Carter. bibliog Am Chem Soc J 73:1521-2 Ap '51

Influence of protein depletion on the DNA content of nuclei of the pancreas and small intestines of the rat. J. O. Ely and M. H. Ross. Franklin Inst J 252:277-8 S '51

Some considerations on autosynthesis in bacteria. P. C. Caldwell and C. Hinshelwood. Chem Soc J p3156-9 N '50

DESOXYRIBONUCLEOSIDES

Deoxyribonucleosides and related compounds; a proof of the furanose structure of the natural 2-deoxyribonucleosides. D. M. Brown and B. Lythgoe. Chem Soc J p 1990-1 Ag '50

DESOXYRIBONUCLEOSIDES—*Continued*

Ion exchange separation of desoxyribonucleotides. R. L. Sinsheimer and J. F. Koerner. bibliog Science 114:42-3 Jl 13 '51

DESOXYRIBOSE

Novel synthesis of 2-deoxy-D-ribose. L. Hough. bibliog Chem & Ind p406-7 My 26 '51

Synthesis of 2-desoxy-D-ribose. K. Ohta and K. Makino. Science 113:273-4 Mr 9 '51

DESOXYRIBOSE nucleic acid

Growth of human leukemic leucocytes in vitro and in vivo as measured by uptake of P^{32} in desoxyribose nucleic acid. E. E. Osgood and others. bibliog Science 114:95-8 Jl 27 '51

DESOXY sugars. See Sugars

DESOXYXYLOSE

Deoxy-sugars; further observations on the Dische reaction for 2-deoxypentoses. W. G. Overend, F. Shafizadeh and M. Stacey. Chem Soc J p 1027-9 Ap '50

DESSERTS

New, quick, cold-water dessert mix made with low-methoxyl pectin. A. D. Shepherd and others. bibliog il Food Eng 23:44-5+ Jl '51

DESTROYERS, Torpedo boat. See Torpedo boat destroyers

DETECTORS

Century's progress in fire detection. F. C. Evans. il Nat Safety N 64:100-1+ O '51

Kidde's electronic fire detector. il Aviation W 54:50-2 My 14 '51

New magnetic fire detector. diag Aviation W 55:56 Ag 20 '51

Wakeful watchmen; automatic fire detection devices. P. E. Hubby. il Nat Safety N 63:26-7+ F '51

DETERGENTS. See Cleaning compositions

DETONATORS, Electric

Reducing the hazards of electrical blasting. il Roads & Sts 94:91-2 Jl '51; Same. Constr Methods 33:105-6 Ag '51

Shooting with millisecond connectors. il diags Coal Age 56:86-9 Je '51

Some applications of millisecond delay electric blasting caps in mining. D. M. McFarland. diags Min Eng 187:Trans 1123-5 N '50

DETROIT

Detroit civic center begins to grow. il plans Arch Rec 109:100-7 Ja '51

Lighting

Detroit tries fluorescent street lights. L. J. Schrenk. il Elec World 135:52-3 Ja 1 '51

Rapid transit

Both sides losers in 59-day Detroit's Street Railways strike. il Bus Transportation 30:54-5 Jl '51

City government firm in DSR strike, longest in Nation's transit history. S. H. Brams. il Bus Transportation 30:84-6 Je '51

Transit strike ensnarls Detroit. il Bsns W p24-5 My 19 '51

Sewerage

Effects of industrial wastes on municipal sewage works. I. Nusbaum. bibliog Sewage & Ind Wastes 22:1583-90 D '50

Ground garbage studies. C. L. Palmer and I. Nusbaum. Sewage & Ind Wastes 23:1113-17 S '51

Streets

Detroit's assessment street program. G. R. Thompson. il plan Roads & Sts 94:44-5 My '51

DETROIT and Cleveland navigation company

D&C diversifies; shipping company's purchase of American optical co. stock. Bsns W p 119-20 F 10 '51

Security I like best. E. J. Pingree. Comm & Fin Chr 173:1014 Mr 8 '51

DETROIT Edison company

It supplies the arsenal of democracy. Elec World 136:104-5 S 10 '51

Notes placed privately. Comm & Fin Chr 173:199 Ja 15 '51

Stock subscriptions, etc. Comm & Fin Chr 173:2182 My 28 '51

DETROIT international bridge company

Security I like best. H. P. Schaub. Comm & Fin Chr 172:2203 D 7 '50

DEULOFEU, Venancio, 1902-

South American plant products hold Deulofeu's interest. por(cover) Chem & Eng N 29:4166 O 8 '51

DEUPREE, Richard Redwood, 1885-

Portrait. Bsns W p34 N 4 '50

DEUTERIUM

Absorption of π^--mesons in deuterium. S. Tamor and R. E. Marshak. Phys R 80:766 N 15 '50

Absorption of slow π^- mesons in deuterium. S. Tamor. bibliog Phys R 82:38-43 Ap 1 '51

Angular distribution of photo-protons from deuterium. G. Goldhaber. bibliog diag Phys R 81:930-5 Mr 15 '51

Apparatus for the production of pure deuterium from heavy water. M. M. Winn. diags J Sci Instr 28:152 My '51

Atomic masses of H^1, D^2, and C^{12}. A. H. Wapstra. bibliog Phys R 82:756-7 Je 1 '51

Capture of π-mesons in deuterium. K. Brueckner and others. bibliog Phys R 81:575-8 F 15 '51

Catalyzed reactions of unsaturated hydrocarbons with hydrogen and deuterium. T. I. Taylor and V. H. Dibeler. bibliog diag J Phys & Colloid Chem 55:1036-65; Discussion. 1065-6 Je '51

Charge exchange scattering of π^-mesons in deuterium. B. Segall. Phys R 83:1247-8 S 15 '51

Collision cross sections of hydrogen and of deuterium. I. Amdur and others. bibliog J Chem Phys 18:1676-8 D '50

Condensed gas calorimetry; heat capacity of ortho-deuterium between 13.1 and 23.6°K., melting and boiling points, heats of fusion and vaporization; vapor pressures of liquid ortho-deuterium. E. C. Kerr and others. bibliog Am Chem Soc J 73:282-4 Ja '51

Critical temperatures, pressures, and volumes of hydrogen, deuterium, and hydrogen deuteride. H. J. Hoge and J. W. Lassiter. bibliog J Res Nat Bur Stand 47:75-9 Ag '51

D—He^4 interaction for 10.3-Mev deuterons. J. C. Allred and others. bibliog diag Phys R 82:786-90 Je 15 '51

Deuterium tracers in the Elbs reaction. C. D. Hurd and J. Azorlosa. bibliog Am Chem Soc J 73:37-41 Ja '51

Deuterium tracers in the pyrolysis of butane and propylene. C. D. Hurd and J. L. Azorlosa. Am Chem Soc J 73:33-7 Ja '51

Deuteron quadruple moment and the radiofrequency spectra of H_2 and D_2 in low magnetic fields. H. G. Kolsky and others. bibliog Phys R 81:1061 Mr 15 '51

Direct determination of the critical temperature and critical pressure of normal deuterium; vapor pressures between the boiling and critical points. A. S. Friedman, D. White and H. L. Johnston. Am Chem Soc J 73:1310-11 Mr '51

Electrokinetics of hydrogen evolution; deuterium overvoltage on mercury. B. Post and C. F. Hiskey. Am Chem Soc J 73:161-4 Ja '51

Experiments on the catalytic exchange of acetone and propane with deuterium. L. N. Kauder and T. I. Taylor. bibliog Science 113:238-41 Mr 2 '51

Gamma-ray spectrum from the absorption of π^--mesons in deuterium. L. Aamodt and others. Phys R 80:282-3 O 15 '50

Gamma-ray spectrum resulting from capture of negative π-mesons in hydrogen and deuterium. W. K. H. Panofsky and others. bibliog diags Phys R 81:565-74 F 15 '51

γ-Ray spectrum resulting from the absorption of π-mesons in deuterium. K. M. Watson and R. N. Stuart. bibliog Phys R 82:738-44 Je 1 '51

H_2—D mass difference and the determination of secondary atomic mass standards. T. R. Roberts. bibliog Phys R 81:624-5 F 15 '51

Hydrogen-deuterium exchange activity of silica-alumina catalysts. V. C. F. Holm and R. W. Blue. bibliog diag Ind & Eng Chem 43:501-5 F '51

Hyperfine structure of hydrogen and deuterium. F. E. Low and E. E. Salpeter. Phys R 83:478 Jl 15 '51

Kinetics of the ammonia-deuterium exchange by a microwave method. J. Weber and K. J. Laidler. J Chem Phys 19:381-2 Mr '51

DEUTERIUM—*Continued*

Meson reactions in hydrogen and deuterium. R. E. Marshak. Rs Mod Phys 23:137-46 Ap '51

Photo-disintegration cross sections of deuterium and beryllium for the gamma-rays of sodium 24 and gallium 72. A. H. Snell and others. bibliog diags Phys R 80:637-42 N 15 '50

Photo-neutron thresholds of beryllium and deuterium. R. C. Mobley and R. A. Laubenstein. bibliog diags Phys R 80:309-14 N 1 '50

π-Absorption in D_2 and the *n—n* force. R. L. Aamodt and others. Phys R 83:1057-8 S 1 '51

Radiative capture of neutrons in deuterium. B. B. Kinsey and G. A. Bartholomew. Phys R 80:918-19 D 1 '50

Radiofrequency spectrum of D_2 in a magnetic field. H. G. Kolsky and others. Phys R 80:483 N 1 '50

Reactions $\pi^+ + d \rightleftarrows p + p$. W. B. Cheston. Phys R 83:1118-22 S 15 '51

Relative probabilities and absolute cross sections of the D-D reactions. K. G. McNeill and G. M. Keyser. bibliog diag Phys R 81:602-6 F 15 '51

Scattering of π-mesons by deuterium. S. Fernbach and others. Phys R 82:980 Je 15 '51

Self-diffusion and structure of liquid water; measurement of self-diffusion of liquid water with deuterium as tracer. J. H. Wang. bibliog diag Am Chem Soc J 73:510-13 F '51

Some applications of deuterium in the study of decomposition mechanisms of organic compounds. L. A. Wall and W. J. Moore. bibliog J Phys & Colloid Chem 55:965-74 Je '51

Study of the amount of hydrogen left on the surface of a reduced and evacuated iron synthetic ammonia catalyst. J. T. Kummer and P. H. Emmett. bibliog J Phys & Colloid Chem 55:337-46 Mr '51

Study of the interaction of ethylene and deuterium. J. Turkevich, D. O. Schissler and P. Irsa. diag J Phys & Colloid Chem 55:1078-84 Je '51

Vapor pressures of hydrogen, deuterium, and hydrogen deuteride and dew-point pressures of their mixtures. H. J. Hoge and R. D. Arnold. bibliog diag J Res Nat Bur Stand 47:63-74 Ag '51

Vapor pressures of hydrogen, deuterium and tritium up to three atmospheres. E. R. Grilly. bibliog Am Chem Soc J 73:843-6 F '51

DEUTERIUM compounds

Effect of particle size and deuterium substitution on the λ-point in ammonium chloride. D. G. Thomas and L. A. K. Staveley. diag Chem Soc J p 1420-5 Je '51

Hydrocarbon synthesis catalyst studies; use of deuterochloric acid. H. I. Weck, S. Meyerson and H. S. Seelig. Am Chem Soc J 73:2331-3 My '51

Hydrogen positions in uranium hydride by neutron diffraction. R. E. Rundle. diag Am Chem Soc J 73:4172-4 S '51

Infrared and mass spectra of some deuterium-containing derivatives of propane. F. E. Condon and others. bibliog J Chem Phys 19:1010-13 Ag '51

Infra-red spectra of propane and 2,2-dideuteropropane. H. L. McMurry and V. Thornton. J Chem Phys 18:1515-16 N '50

Infrared spectra of propane and its symmetrical deuterium substituted analogs. H. L. McMurry and V. Thornton. bibliog J Chem Phys 19:1014-18 Ag '51

Investigation of the deuterohaloform synthesis; a new preparation of chloroform-*d*. W. M. Boyer and others. bibliog Am Chem Soc J 73:770-2 F '51

Isotope effect on dissociation probabilities in the mass spectra of chloroform and chloroform-*d*. V. H. Dibeler and R. B. Bernstein. bibliog J Chem Phys 19:404-6 Ap '51

Mass spectra of C_1-C_4 monodeutero paraffins. D. P. Stevenson and C. D. Wagner. J Chem Phys 19:11-16 Ja '51

Mass spectra of the deuteromethanes. V. H. Dibeler and F. L. Mohler. bibliog J Res Nat Bur Stand 45:441-4 D '50

Mass spectrometric analysis of low-molecular-weight monodeutero-paraffins. D. P. Stevenson and C. D. Wagner. bibliog Am Chem Soc J 72:5612-17 D '50

Microwave spectra of the deutero-ammonias. M. T. Weiss and M. W. P. Strandberg. bibliog Phys R 83:567-75 Ag 1 '51

Neutron-deuteron scattering amplitudes. E. O. Wollan and others. bibliog Phys R 83:700-2 Ag 15 '51

New synthesis of chloroform-*d*. M. H. Earing and J. B. Cloke. diag Am Chem Soc J 73:769-70 F '51

Parent peak intensities as a basis for estimating purities of deuterium substituted compounds. H. W. Rollmann and H. L. McMurry. J Chem Phys 19:804 Je '51

Preparation of deuterated steroids. D. K. Fukushima, S. Lieberman and B. Praetz. bibliog Am Chem Soc J 72:5205-11 N '50

Pyrolysis of mixtures of ethane and ethane-d_6. L. A. Wall and W. J. Moore. bibliog Am Chem Soc J 73:2840-4 Je '51

Unusual isotope effect. H. Gilman, G. E. Dunn and G. S. Hammond. Am Chem Soc J 73:4499-500 S '51

Analysis

Infrared determination of methyl deuteride; application to analysis of deuterium oxide. T. L. Brown and R. B. Bernstein. Anal Chem 23:673-4 Ap '51

DEUTERIUM oxide. See Water—Heavy water

DEUTERONS

Alpha-particle groups from the $N^{14}(d, \alpha)C^{12}$ and $N^{15}(d, \alpha)C^{13}$ reactions. R. Malm and W. W. Buechner. bibliog Phys R 81:519-22 F 15 '51

Angular distribution and the polarization of the deuteron in the reaction $p+p \rightarrow d+\pi^+$. K. M. Watson and C. Richman. bibliog Phys R 83:1256-7 S 15 '51

Angular distribution in the photodisintegration of the deuteron at low energies. G. R. Bishop and others. bibliog Phys R 83:1052-3 S 1 '51

Angular distribution of fast neutrons from deuteron bombardment. K.-H. Sun and others. bibliog diag Phys R 82:266-7 Ap 15 '51

Angular distribution of neutrons from targets bombarded by 20-Mev deuterons. L. Schecter. bibliog Phys R 83:695-7 Ag 15 '51

Angular distribution of protons from the $D(d, p)T$ reaction at 10.3-Mev bombarding energy. J. C. Allred and others. bibliog Phys R 82:782-5 Je 15 '51

Angular distribution of the $Al^{27}(d,\alpha)Mg^{25}$ reaction and energy levels in Mg^{25}. A. D. Schelberg and others. bibliog diags Phys R 80:574-9 N 15 '50

Angular distribution of the neutrons produced in the photo-disintegration of the deuteron by the 2.51-Mev gamma-rays of Ga^{72}. G. R. Bishop and others. bibliog diag Phys R 81:219-22 Ja 15 '51

Angular distributions for (d,p) and (d,n) reactions in light nuclei. S. T. Butler and J. L. Symonds. bibliog Phys R 83:858 Ag 15 '51

Angular distributions of (d,p) reactions using 14-Mev deuterons. H. E. Gove. bibliog diag Phys R 81:364-73 F 1 '51

Angular yield of both proton groups from $Li^6(d,p)Li^7$. R. W. Krone and others. bibliog diags Phys R 80:603-7 N 15 '50

Angular yield of deuterons and alphas from the proton bombardment of beryllium. J. A. Neuendorffer and others. bibliog diag Phys R 82:75-80 Ap 1 '51

Angular yield of protons, tritons, and alphas from the deuteron bombardment of beryllium. I. Resnick and S. S. Hanna. bibliog Phys R 82:463-7 My 15 '51

Approximate eigensolutions of $(d^2ø/dx^2)+[a+b(e^{-x}/x)]ø=0$. L. Hulthén and K. V. Laurikainen. bibliog Rs Mod Phys 23:1-9 Ja '51

Bombardment of Li_2O and C by alpha-particles and deuterons. I. B. Berlman. bibliog Phys R 80:775-81 D 1 '50

Cross section for photo-disintegration of the deuteron at low energies. G. R. Bishop and others. bibliog diags Phys R 80:211-22 O 15 '50; Correction. 81:644 F 15 '51

DEUTERONS—*Continued*

Cross sections and *Q*-values for the $C^{13}+D^2$ reactions. C. W. Li and W. Whaling. bibliog Phys R 82:122-3 Ap 1 '51

Deuteron bombardment of C^{14}. E. L. Hudspeth and others. Phys R 80:643-6 N 15 '50

Deuteron quadrupole moment and the radio-frequency spectra of H_2 and D_2 in low magnetic fields. H. G. Kolsky and others. bibliog Phys R 81:1061 Mr 15 '51

(*d,n*) Reactions with 15-Mev deuterons; angular distributions. C. E. Falk. bibliog Phys R 83:499-504 Ag 1 '51

Energy levels of B^{11} from the B^{10} (*d,p*) B^{11} reaction. D. M. Van Patter and others. bibliog diag Phys R 82:248-57 Ap 15 '51

Evidence concerning the reaction $p+p\rightarrow\pi^{+}+d$. F. S. Crawford, jr. and others. diag Phys R 82:97-8 Ap 1 '51

Excitation functions for spallation reactions on Cu. F. O. Bartell and others. bibliog Phys R 80:1006-10 D 15 '50

Excited states of Si^{29} from an investigation of the $P^{31}(d,\alpha)Si^{29}$ and $Si^{28}(d,p)Si^{29}$ reactions. P. M. Endt and others. bibliog Phys R 83:491-4 Ag 1 '51

Forward scattering of 3.1-Mev neutrons by the deuteron. J. Sanada and S. Yamabe. Phys R 80:750 N 15 '50

Gamma-rays from deuteron bombardment of B^{10}, B^{11}, N^{14}, and F^{19}. J. Terrell and G. C. Phillips. bibliog Phys R 83:703-8 Ag 15 '51

High energy neutrons from the disintegration of C^{13} by deuterons. J. E. Richardson. bibliog Phys R 80:850-2 D 1 '50

Inelastic scattering of high energy neutrons by deuterons according to the impulse approximation. G. F. Chew. bibliog Phys R 80:196-202 O 15 '50

Long-range protons from the disintegration of carbon by deuterons and a study of the competing reactions. G. C. Phillips. bibliog Phys R 80:164-70 O 15 '50

Magnetic moment of the deuteron. B. Smaller and others. bibliog Phys R 81:896-7 Mr 1 '51

Mechanism of *nD* capture. N. Austern. bibliog Phys R 83:672 Ag 1 '51

Neutron binding energies from (*d, p*) reactions and nuclear shell structure. J. A. Harvey. bibliog Phys R 81:353-64 F 1 '51

Neutron thresholds in light elements. E. B. Tucker. bibliog diag Phys R 83:473-4 Jl 15 '51

Photodisintegration cross section of the deuteron. S. A. Colgate. Phys R 83:1262-3 S 15 '51

Photo-disintegration of the deuteron. J. A. Phillips and others. bibliog il Phys R 80:326-31 N 1 '50

Photo-disintegration of the deuteron by lithium and fluorine γ-rays. P. V. C. Hough. bibliog diags Phys R 80:1069-75 D 15 '50

Precise determination of the magnetic moment of the deuteron. B. Smaller. bibliog diag Phys R 83:812-20 Ag 15 '51

Preparation of Zn^{65} of high specific activity from copper bombarded with 16-Mev deuterons. G. J. Maletskos and others. diag J Chem Phys 19:796 Je '51

Production of high energy deuterons by energetic nucleons bombarding nuclei. J. Heidmann. bibliog Phys R 80:171-6 O 15 '50

Production of mesons by protons on deuterons. H. P. Noyes. Phys R 81:924-9 Mr 15 '51

Products of the high energy helium ion and deuteron bombardment of tungsten. S. E. Turner and L. O. Morgan. Phys R 81:881-2 Mr 1 '51

Proton deuteron rf system for the Berkeley synchrocyclotron. K. R. MacKenzie. il diags R Sci Instr 22:302-9 My '51

Proton groups from the deuteron bombardment of boron. W. O. Bateson. bibliog diag Phys R 80:982-4 D 15 '50

Proton groups from the deuteron bombardment of F^{19} and P^{31}. R. C. Allen and W. Rall. bibliog Phys R 81:60-2 Ja 1 '51

Protons and deuterons ejected from nuclei by 90-Mev neutrons. J. Hadley and H. York. bibliog diags Phys R 80:345-54 N 1 '50

Protons from the deuteron bombardment of enriched silicon and related atomic masses. H. T. Motz and R. F. Humphreys. bibliog diags Phys R 80:595-602 N 15 '50

Radioactive strontium produced by deuteron bombardment of rubidium. M. Ter-Pogossian and F. T. Porter. Phys R 81:1057-8 Mr 15 '51

Reactions of high-energy particles with nuclei. G. Wilkinson. Chem Soc J supp no 2: S366-9 '49

Relative high energy neutron yields from targets bombarded with protons and deuterons. W. J. Knox. bibliog diag Phys R 81:687-92 Mr 1 '51

Relative probabilities and absolute cross sections of the D-D reactions. K. G. McNeill and G. M. Keyser. bibliog diag Phys R 81:602-6 F 15 '51

Scattering lengths of the deuteron and *p-d* scattering. M. M. Gordon. bibliog Phys R 80:1111-12 D 15 '50

Scattering of pi-mesons by the deuteron. J. S. Blair. Phys R 83:1246-7 S 15 '51

Small-angle scattering of 3.27-Mev neutrons by deuterons. I. Hamouda and G. de Montmollin. bibliog Phys R 83:1277 S 15 '51

Thick target fast neutron yield from 15-Mev deuteron and 30-Mev alpha-bombardment. A. J. Allen and others. bibliog diags Phys R 81:536-9 F 15 '51

Thick target yields from the (*d,n*) reaction at 10 Mev. L. W. Smith and P. G. Kruger. bibliog diags Phys R 83:1137-40 S 15 '51

Scattering

D—H^4 interaction for 10.3-Mev deuterons. J. C. Allred and others. bibliog diag Phys R 82:786-90 Je 15 '51

Deuteron-proton scattering at 10.0 Mev by a coincidence method. H. J. Karr and others. diags Phys R 81:37-48 Ja 1 '51

Elastic *d-p* scattering at 190 Mev. M. O. Stern and A. L. Bloom. bibliog Phys R 83:178 Jl 1 '51

Inelastic scattering of deuterons by C^{12}. K. K. Keller and others. Phys R 81:481-2 F 1 '51

Neutron-deuteron scattering at high energy. R. L. Gluckstern and H. A. Bethe. bibliog diags Phys R 81:761-81 Mr 1 '51

Scattering of 10.4-Mev deuterons by hydrogen. L. Rosen and J. C. Allred. bibliog diags Phys R 82:777-82 Je 15 '51

DEUTSCHE gesellschaft für chemisches apparatewesen

German scientists discuss training of chemical engineers. Chem & Eng N 29:3298+ Ag 13 '51

DEVELOPERS, Photographic. See Photography—Developing and developers

DE VILBISS company

De Vilbiss products in heavy demand. Barron's 31:25-6 Je 18 '51

DEVOE and Raynolds company

Devoe & Raynolds broadens sales base. Barron's 31:19-20 Je 11 '51

DEVON, Alberta

Devon, Alberta; Canada's model boom town. B. Shiels. il World Oil 133:260-2 Ag '51

DEVULCANIZING. See Rubber—Reclaiming

DEW points

Determination of moisture in gases by automatic dew point equipment. R. M. Ilfeld. bibliog il diags Anal Chem 23:1086-9 Ag '51

Hydrocarbon dewpoint control by gas refrigeration. J. T. Simon. flow diag map World Oil 132:175-7 Mr '51

Influence of carbon smokes on the dew-point and sulphur trioxide content of flame gases. G. Whittingham. bibliog diag J Ap Chem 1:382-8 S '51

Vapor pressures of hydrogen, deuterium, and hydrogen deuteride and dew-point pressures of their mixtures. H. J. Hoge and R. D. Arnold. bibliog diag J Res Nat Bur Stand 47:63-74 Ag '51

DEWAR flasks. See Vacuum containers

DEWEY and Almy chemical company

Stock offered. Comm & Fin Chr 173:2288 Je 4 '51

DEXTRAN

Commercial solvents corporation plans dextran production expansion. Oil Paint & Drug Rep 160:4 Jl 23 '51

Dextran plasma substitute; abstract and discussion. A. R. Lockwood. Chem & Ind p46-7 Ja 20 '51

DEXTRAN—*Continued*

Dextran production from isolated enzymes possible; NRRL-NRC conference, Peoria, July 9. Chem & Eng N 29:3005+ Jl 23 '51

Molecular studies of dextran; abstract. K. G. Stern. Chem & Eng N 29:1953 My 14 '51

Plasma arena. Chem Ind W 68:16 F 17 '51

PVP and dextran near commercial production as blood substitutes. flow sheets il Chem & Eng N 29:650-2+ F 19 '51

Synthetic blood substitutes; PVP, dextran. il Chem Age (Lond) 64:409-13 Mr 17 '51; Can Chem & Process Ind 35:298+ Ap '51

DEXTRINS

Action of β-amylase on amylopectin and on glycogen. T. G. Halsall and others. Chem Soc J p3200-7 D '49

Adhesives; dextrines. R. Shoals. Tappi 33: sup64A-6A Jl '50; Same cond. Paper Ind 32:1004+ D '50

Studies on the Schardinger dextrins; periodate oxidation. D. French and R. L. McIntire. bibliog Am Chem Soc J 72:5148-50 N '50

Studies on the Schardinger dextrins; the molecular size and structure of the γ-dextrin. D. French, D. W. Knapp and J. H. Pazur. bibliog Am Chem Soc J 72:5150-2 N '50

DEXTROSE. See Glucose

DIABETES

Anthrone blood sugar method adapted to diabetes case finding in a multiple screening program. R. H. Fetz and L. M. Petrie. bibliog Pub Health Rep 65:1709-18 D 22 '50

Diabetic in industry; abstract. A. F. Fowler. Nat Safety N 62:48+ N '50

Hereditary diabetes in genetically obese mice. J. Mayer and others. bibliog Science 113: 746-7 Je 29 '51

DIACENAPHTHENYL. See Biacenaphthyl

DIACETYL

Reaction of diacetyl with ethyl orthoformate. D. A. Harris. Chem Soc J p2247 Ag '50

Reduction of 1,4-di-(2-hydroxy-3,4,6-trimethylphenyl)-butane-1,4-dione; the two stereoisomeric diols. L. I. Smith and R. R. Holmes. Am Chem Soc J 73:3851-3 Ag '51

Some derivatives of diacetyl. H. C. Barany, E. A. Braude and M. Pianka. Chem Soc J p 1929 Jl '51

DIACETYLENE. See Butadiyne

DIACYL amides

Analysis

Colorimetric assay of diacyl amides. J. B. Polya and P. L. Tardew. Anal Chem 23: 1036-7 Jl '51

DIAGNOSIS

Rapid flocculation test for the diagnosis of trichinosis. J. Bozicevich and others. Pub Health Rep 66:806-14 Je 22 '51

See also

Supersonic waves—Medical use

DIAGNOSIS, Radioscopic

Community-wide chest X-ray survey. S. Bloom. Pub Health Rep 66:139-56 F 2 '51

Community-wide chest X-ray survey. Z. Bryant and G. S. Jones. Pub Health Rep 65:1573-87 D 1 '50

Community-wide chest X-ray survey; diagnostic clinic. D. Reisner and A. Rikli. Pub Health Rep 66:423-43 Ap 6 '51

Medical applications of radiations and radioactivity. I. Lampe. Ind Med 20:221-6 My '51

Medical diagnosis possible over tv with new X-ray machine. Elec Eng 70:89 Ja '51

Research in mass radiography. R. J. Anderson. Pub Health Rep 66:851-2 Jl 6 '51

X-ray diagnostics. D. Papa and others. bibliog Am Chem Soc J 72:4906-11 N '50

X-ray diagnostics; diiodohydroxydihydrostilbazoles and related compounds. D. Papa, E. Schwenk and E. Klingsberg. Am Chem Soc J 73:253-5 Ja '51

DIAL telephone. See Telephone, Automatic

DIALLYL sulphilimine

Isomerisation of diallyl sulphilimines. A. S. F. Ash, F. Challenger and D. Greenwood. Chem Soc J p 1877-82 Jl '51

DIALS, Instrument

Dial-indicator setups simplify inspection jobs. M. Bell. diags Am Mach 95:166-7 F 19 '51

Plastic product-identification forms; name plates and dials. E. Drewitz. il diag Product Eng 22:132-5 Mr '51

DIAMAGNETISM

Diamagnetic anisotropy of polyethylene, polystyrene and poly-2,5-dichlorostyrene. E. M. Weir and P. W. Selwood. Am Chem Soc J 73:3484-7 Jl '51

Diamagnetic correction for free radicals. P. W. Selwood and R. M. Dobres. bibliog diag Am Chem Soc J 72:3860-3 S '50

Diamagnetic correction for protons in water and mineral oil. H. A. Thomas. Phys R 80:901-2 D 1 '50

Diamagnetism of free electrons in finite systems. R. B. Dingle. Phys R 82:966 Je 15 '51

Perfect diamagnetism of free electrons with application to superconductivity. M. F. M. Osborne. Phys R 81:147-8 Ja 1 '51

DIAMIDINES. See Amidines

DIAMINOBUTYRIC acid

α-Diaminobutyric acid. S. Wilkinson. Chem Soc J p 104-8 Ja '51

DIAMINOPROPANOL

Synthesis of 3-amino-1,2-propanediol and 2,3-diamino-1-propanol. R. C. Schreyer. Am Chem Soc J 73:4404-5 S '51

DIAMINOPYRAZINE

Syntheses in the pyrazine series; synthesis of 2,5-diaminopyrazine. D. M. Sharefkin and P. E. Spoerri. Am Chem Soc J 73:1637-8 Ap '51

DIAMINOPYRIMIDINE

2,4-Diaminopyrimidines as antimalarials. E. A. Falco and others. bibliog Am Chem Soc J 73:3753-70 Ag '51

DIAMOND alkali company

Security I like best. L. B. Schwinn. Comm & Fin Chr 173:1774 Ap 26 '51

DIAMOND match company

Increasing its lumber, paper business. Barron's 31:15 Jl 9 '51

DIAMOND mines and mining

South Africa

De Beers consolidated mines, limited; statement by the chairman. E. Oppenheimer. Economist 160:1404 Je 9 '51

DIAMOND T motor car company

Strong earnings recovery. Barron's 31:27-8 Ap 16 '51

DIAMONDS

Behavior of space charge in diamond crystal counters under illumination; under beta-ray bombardment. A. G. Chynoweth. bibliog diag Phys R 83:254-68 Jl 15 '51

Diamond recovery by heavy-media; abstract. I. F. Cairns. Min Cong J 36:70-1 O '50

Diamonds; sales boom for king of gems. il Bsns W p83-4+ O 13 '51

Flotation of diamonds. R. G. Weavind and others. Min Eng 3:Trans 596 Jl '51

Mobility of electrons in diamond. C. C. Klick and R. J. Maurer. bibliog diags Phys R 81: 124-30 Ja 1 '51

Plastics aid diamond studies. R. S. Young. il Mod Plastics 28:162-3 My '51

DIAMONDS, Industrial

Crusher plates for diamonds. R. S. Young. il J Metals 191:97 F '51

Diamond coring in western Canada. J. F. Langston. il World Oil 131:266-8 D '50

Diamond-drill research. Mech Eng 73:743 S '51

Diamonds from dust; recovery from metal waste piles. R. S. Young and A. D. McDonald. il Iron Age 167:76-7 Je 28 '51

Latest applications of diamond coring. R. W. Stuart. il World Oil 133:173-6 S '51

New developments in diamond coring. R. A. Watson. il Pet Eng 23:B63-4+ Je '51

Precision measurement of Rockwell hardness diamond penetrators. F. R. Tolmon and J. G. Wood. il diags Engineering 172:89-90 Jl 20 '51

Uniform high quality finish obtained with diamond powder abrasives. S. G. Kelley, jr. il Materials & Methods 33:65-7 F '51

What are diamonds good for? illustrations and flow chart with text. Mill & Factory 48:127-30 F '51

DIANA stores corporation

Diana Stores prospects for fiscal '51 bright. Barron's 30:23-5 N 13 '50

Five low-priced speculative stocks. Mag of Wall St 87:608 Mr 10 '51

DIANTHRONYL. See Bianthronyl

DIANTHRYL. See Bianthryl

DIAPHRAGMS

Electronic circuit for measuring the displacement of pressure-sensitive diaphragms. M. L. Greenough and W. E. Williams. il diags J Res Nat Bur Stand 46:5-10 Ja '51

Integral diffusion coefficients of potassium chloride solutions for calibration of diaphragm cells. R. H. Stokes. Am Chem Soc J 73:3527-8 Jl '51

Lightweight diaphragm controls sensitivity of air micrometer. il diag Product Eng 22:138-9 S '51

Theory of the dynamic plastic deformation of a thin diaphragm. G. E. Hudson. diags J Ap Phys 22:1-11 Ja '51

DIATOMACEOUS earth

De-oiling condensate for boiler feed-water. W. A. Smith and F. L. Horine. il Power Eng 55:62-3 Ap '51

Diatomite filters solve municipal pool problems. H. D. Smith. Pub Works 82:114 Ap '51

More aid for filters. il Chem W 69:30-1 S 8 '51

Production of diatomaceous earth; Eagle-Picher co. il Rock Prod 54:129-30+ Je '51

Studies on diatomaceous earth filtration. J. M. Sanchis and J. C. Merrell, jr. bibliog il diag Am Water Works Assn J 43:475-93; Discussion. J. E. Kiker, jr. 494-5 Jl '51

DIAZAINDENE. See Azaindole

DIAZANONANE

Synthetic analgesics and related compounds; some derivatives of 3 : 7-diaza*bicyclo* [3 : 3 : 1]nonane (bispidine). Z. Kyi and W. Wilson. Chem Soc J p 1706-8 Jl '51

DIAZAPYRENE

Structure and properties of certain polycyclic indolo- and quinolino-derivatives; derivatives of 1 : 2 : 2*a* : 3 : 4 : 5 : 8 : 9 : 10 : 10*a*-decahydro-5 : 8-diketo-2*a* : 10*a*-diazapyrene. C. Y. Almond and F. G. Mann. Chem Soc J p 1906-9 Jl '51

DIAZINES

Near ultraviolet solution spectra of the diazines. F. Halverson and R. C. Hirt. J Chem Phys 19:711-18 Je '51

DIAZOBENZENE

Substitution reactions of the naphthylenediamines; the coupling of diazobenzene to 1 : 5- and 1 : 8-naphthylenediamines. J. S. Whitehurst. Chem Soc J p215-21 Ja '51

DIAZO compounds

Copper-catalysed decomposition of aliphatic diazo-compounds; the formation of paraffins of high molecular weight. G. D. Buckley, L. H. Cross and N. H. Ray. Chem Soc J p2714-18 O '50

Decomposition reactions of the aromatic diazo-compounds; the reaction between diazo-compounds and potassium ferrocyanide. M. C. Ford, W. A. Waters and H. T. Young. Chem Soc J p833-40 Mr '50

Improved Wolff rearrangement in homogeneous medium. M. S. Newman and P. F. Beal, 3d. Am Chem Soc J 72:5163-5 N '50

New synthesis of α-alkoxy ketones. M. S. Newman and P. F. Beal, 3d. bibliog Am Chem Soc J 72:5161-3 N '50

Probable existence of geometrically isomeric diazocarboxyamides. H. C. Freeman, R. J. W. Le Fèvre and I. R. Wilson. Chem Soc J p 1977-80 Ag '51

Reactions of diazo compounds with nitroölefins; the preparation of pyrazoles. W. E. Parham and J. L. Bleasdale. bibliog Am Chem Soc J 72:3843-6 S '50

Reactions of diazoketones; kinetics of the decomposition of some *p*-substituted-α-diazoacetophenones in acetic acid. J. F. Lane and R. L. Feller. bibliog Am Chem Soc J 73:4230-4 S '51

Some diazoamino- and aminoazo-naphthalenes. H. H. Hodgson and J. Habeshaw. Chem Soc J p3436-7 D '49

Study of diazo-compounds by use of nitrogen isotopes; the structure of the diazonium ion. P. F. Holt and B. I. Bullock. Chem Soc J p2310-11 S '50

DIAZO copying process. See Copying processes

DIAZOCYANIDES

Some properties of the diphenyl-4-diazocyanides and their 4′-bromo-derivatives. H. C. Freeman and R. J. W. Le Fèvre. Chem Soc J p3128-31 N '50

DIAZOMETHANE

Base-catalyzed decomposition of N-nitroso-N-cyclohexylurethan. F. W. Bollinger, F. N. Hayes and S. Siegel. bibliog Am Chem Soc J 72:5592-4 D '50

Cyclic sulfones; methylation of 2,5-diphenyl-3,4-dihydroxythiophene-1-dioxide with methyl sulfate and diazomethane. C. G. Overberger and J. M. Hoyt. bibliog Am Chem Soc J 73:3305-8 Jl '51

Experiments with diazomethane and its derivatives; action of diazomethane on *o*-quinone monoximes. A. Schönberg and W. I. Awad. Chem Soc J p72-5 Ja '50

Experiments with diazomethane and its derivatives; action of diazomethanes on perbenzoic acid and benzoquinone derivatives. A. Schönberg, W. I. Awad and N. Latif. Chem Soc J p 1368-9 My '51

Infrared spectra of CH_2N_2 and CD_2N_2. B. L. Crawford, jr. and others. bibliog diags J Chem Phys 19:406-12 Ap '51

Interaction of diacyl peroxides with diazomethane. J. E. Leffler. Am Chem Soc J 72:4817-18 O '50

Novel reaction of diazomethane. W. G. H. Edwards. Chem & Ind p 112 F 10 '51

Photochemical reactions of diazomethane with carbon tetrachloride and bromotrichloromethane. W. H. Urry and J. R. Eiszner. Am Chem Soc J 73:2977 Je '51

Preparation of pyrazinoyldiazomethane and ω-chloromethylpyrazinoyl ketone. M. D. Glantz and P. E. Spoerri. Am Chem Soc J 72:4282 S '50

Reaction of diazomethane with stilbœstrol in the presence of propanol. A. Mustafa. Chem Soc J p 1369-70 My '51

Syntheses with isotopic tracer elements; the preparation of methylamine and diazomethane labelled with carbon isotopes. J. D. Cox and R. J. Warne. diag Chem Soc J p 1896-7 Jl '51

DIAZONIUM compounds

Action of copper on some aryldiazonium sulphates, and the isolation of copper salts. H. H. Hodgson and J. Habeshaw. Chem Soc J p405-6 Ja '50

p-Aminodimethylaniline; the effect of substituents on the azo-coupling efficiency of the diazonium compounds. J. H. Gorvin. Chem Soc J p 1697-700 Jl '51

p-Aminodimethylaniline; the effect of substituents on the stability and mode of decomposition of the diazonium compounds. J. H. Gorvin. Chem Soc J p 1693-7 Jl '51

Improved method for the hydrolysis of diazonium salts. J. P. Lambooy. diag Am Chem Soc J 72:5327-8 N '50

Study of diazo-compounds by use of nitrogen isotopes; the structure of the diazonium ion. P. F. Holt and B. I. Bullock. Chem Soc J p2310-11 S '50

DIAZOSULFONATES

Hantzsch's isomeric diazosulphonates. H. C. Freeman and R. J. W. Le Fèvre. Chem Soc J p415-28 F '51

Polarographic reduction of Hantzsch's isomeric diazosulphonates. H. C. Freeman and W. P. Georgans. bibliog Chem & Ind p 148-9 F 24 '51

DIAZOTIZATION

Synthesis of aromatic fluorides through diazotization in anhydrous hydrogen fluoride. R. L. Ferm and C. A. VanderWerf. bibliog Am Chem Soc J 72:4809-10 O '50

Unit processes; Chemical Engineering report, March 1951; diazotization and coupling. H. Woodward. diag Chem Eng 58:132 Mr '51

DIBENAMINE

Reported adrenergic blocking action of β-haloethylammonium compounds. J. F. Kerwin and others. bibliog Science 113:315-17 Mr 23 '51

DIBENZANTHRACENE

Properties of high boiling petroleum products; distillation studies with relation to polynuclear aromatic components. L. T. Eby, G. G. Wanless and J. Rehner, jr. bibliog il Ind & Eng Chem 43:954-60 Ap '51

DIBENZOFURAN

Aromatic reductive debromination with a glycol-alkali mixture. H. Gilman, D. L. Esmay and R. K. Ingham. Am Chem Soc J 73:470-1 Ja '51

DIBENZOFURAN—*Continued*

3 : 6-Diamidinodibenzofuran. J. S. Moffatt. Chem Soc J p625-6 F '51

Hydrogenation of diphenylene oxide and 2 : 2'-dihydroxydiphenyl. J. I. Jones and A. S. Lindsey. Chem Soc J p 1836-41 Jl '50

DIBENZOPYRENE

Aromatic hydrocarbons; 1 : 2-3 : 4-dibenzpyrene. E. Clar and D. G. Stewart. Chem Soc J p687-90 Mr '51

DIBENZOTHIOPHENE

Exchange reaction between sulfur and dibenzothiophene-5-dioxide. R. R. Brown and others. Am Chem Soc J 73:465-6 Ja '51

DIBENZOXEPIN

Synthesis and reactions of some dibenzoxepins. R. H. F. Manske and A. E. Ledingham. Am Chem Soc J 72:4797-9 O '50

DIBENZOYLETHANE

3-(4-Morpholinylmethyl)-2,5-diphenylfuran and 3-(hydroxymethyl)-4-(4-morpholinylmethyl)-2,5-diphenylfuran from Mannich reactions with 1,2-dibenzoylethane in benzene medium. P. S. Bailey, G. Nowlin and H. W. Bost. Am Chem Soc J 73:4078-80 S '51

DIBENZOYLETHYLENE

Spectroscopic study of *cis*- and *trans*-dibenzoylethylenes and related compounds. L. P. Kuhn, R. E. Lutz and C. R. Bauer. bibliog diags Am Chem Soc J 72:5058-63 N '50

DIBENZOYLTOLYLETHYLENE

Synthesis and reaction with morpholine of *cis*-1,2-dibenzoyl-1-*p*-tolylethylene. P. S. Bailey, E. E. Kawas and L. L. Smith. bibliog Am Chem Soc J 73:4088-90 S '51

DIBENZYL

Cleavage and rearrangement of ethers with bases; the reaction of dibenzyl and related ethers with potassium *t*-butoxide. D. Y. Curtin and S. Leskowitz. bibliog Am Chem Soc J 73:2630-3 Je '51

Phenanthrene cyclisation of dibenzyl-type derivatives. N. P. Buu-Hoï, N. Hoán and P. Jacquignon. Chem Soc J p 1381-4 Je '51

Vapour pressure of diphenyl, dibenzyl, and diphenylmethane. N. F. H. Bright. Chem Soc J p624-5 F '51

DIBORANE. See Boron hydrides

DIBROMOBUTENE

Fungicidal and nematicidal properties of dibromobutene. W. A. Kreutzer and others. Science 113:657-8 Je 8 '51

DIBROMOCHLOROMETHANE

Exchange of deuterium oxide with bromodichloromethane and chlorodibromomethane. R. H. Sherman and R. B. Bernstein. Am Chem Soc J 73:1376-7 Mr '51

DIBROMOCYCLOPENTENE

Cyclic polyolefins; allylic rearrangement in the reactions of *cis*- and *trans*-3,5-dibromocyclopentenes with dimethylamine. A. C. Cope and others. bibliog Am Chem Soc J 73:1199-204 Mr '51

Reaction of 3,5-dibromocyclopentene with Grignard reagents. G. W. Barber and J. English, jr. bibliog Am Chem Soc J 73:746-9 F '51

DIBROMOETHANE

Rotational isomerism and the vibrational spectrum of 1,2-dibromoethane. J. T. Neu and W. D. Gwinn. bibliog diag J Chem Phys 18:1642-52 D '50

DIBROMOFLUORANTHENE

Orientation of disubstituted fluoranthene derivatives. N. Campbell and others. Chem Soc J p2784-7 O '50

DIBROMOPHENOL

Condensation of *o*- and *p*-bromobenzyl alcohols with phenol and 2,6-dibromophenol in the presence of aluminum chloride. D. Y. Wu, R. L. Guile and R. C. Huston. bibliog Am Chem Soc J 73:3443-4 Jl '51

DIBROMOPHENYLBUTENE

Preparation and structure of a dimer of *p*-bromostyrene; 1,3-di-(*p*-bromophenyl)-1-butene. G. L. Goerner and J. W. Pearce. Am Chem Soc J 73:2304-5 My '51

DIBROMOPROPENE

Dipole moments of the 1,2-dibromopropenes. H. A. Smith and L. E. Line, jr. Am Chem Soc J 72:5434-6 D '50

DIBROMOSUCCINIC acid

Polarographic behavior of organic compounds; the system *meso*-α,α-dibromosuccinic acid-fumaric acid. I. Rosenthal and P. J. Elving. Am Chem Soc J 73:1880-1 Ap '51

DIBROMOTOLUENE

Monomagnesium derivatives of dibromotoluenes. A. S. Hussey and J. R. Dyer. Am Chem Soc J 73:603-4 F '51

DIBUTYL allylphosphonate

Preparation of dibutyl allylphosphonate. G. M. Kosolapoff. Am Chem Soc J 73:4040 Ag '51

DIBUTYL cyclopentene aldehyde

Synthesis of 3,5-di-*s*-butyl-1-cyclopentene-aldehyde. E. B. Reid and J. F. Yost. bibliog Am Chem Soc J 72:5232-6 N '50

DIBUTYL peroxide

Kinetics of the thermal decomposition of di-*t*-butyl peroxide. J. Murawski and others. diag J Chem Phys 19:698-704 Je '51

Photochemical decomposition of gaseous di-*t*-butyl peroxide. L. M. Dorfman and Z. W. Salsburg. bibliog Am Chem Soc J 73:255-7 Ja '51

DIBUTYL phthalate

Electron-microscope study of plasticized nitrocellulose. J. Ames and A. M. D. Sampson. bibliog il J Ap Chem 1:337-41 Ag '51

Vaporization of small sulfur droplets. H. F. Johnstone and D. K. Eads. bibliog il diag Ind & Eng Chem 42:2293-8 N '50

DIBUTYL pyrogallol

Oxidation of di-*t*-butylpyrogallol by oxygen in alkaline solution. T. W. Campbell. bibliog Am Chem Soc J 73:4190-5 S '51

DICARBOXYLIC acids

Dicarboxylic acid bis-(β-tertiaryaminoalkyl) amides as curare substitutes. A. P. Phillips. Science 112:536 N 3 '50

Kinetics of acid-catalyzed esterification of cyclohexanedicarboxylic acids. H. A. Smith and F. P. Byrne. bibliog il Am Chem Soc J 72:4406-10 O '50

DICHLOROACETAMIDE

Chloromycetin (chloramphenicol); related compounds having alkyl side chain variations. M. C. Rebstock and others. bibliog Am Chem Soc J 73:3666-70 Ag '51

DICHLOROACETIC acid

Analysis

Polarographic behavior of organic compounds; analysis of mixtures of dichloroacetic and trichloroacetic acids. P. J. Elving and C. Tang. Anal Chem 23:341-3 F '51

DICHLOROAZOBENZENE

Nitration of *pp'*-dichloroazobenzene. C. D. Houghton and W. A. Waters. Chem Soc J p 1018-19 Mr '50

DICHLOROBENZENE

Improved yields of *p*-dichlorobenzene; substitutive chlorination of benzene. H. F. Wiegandt and P. R. Lantos. bibliog diags Ind & Eng Chem 43:2167-72 S '51

Structure of para-di-chloro-benzene. B. D. Saksena. bibliog il J Chem Phys 18:1653-6 D '50

DICHLOROBUTENE

Action of ammonia and amines on 1,4-dichloro-2-butene. L. H. Amundsen and others. Am Chem Soc J 73:2118-21 My '51

DICHLOROCYCLOBUTENE

Action of alcohols on 3,3,4,4-tetrafluoro-1,2-dichlorocyclobutene-1. J. D. Park, C. M. Snow and J. R. Lacher. bibliog Am Chem Soc J 73:2342-5 My '51

DICHLORODIETHYL ether

Kinetics of the dehydrochlorination of substituted hydrocarbons; the mechanisms of the thermal decomposition of *n*-propyl and *n*-butyl chloride and 2 : 2'dichlorodiethyl ether. D. H. R. Barton, A. J. Head and R. J. Williams. Chem Soc J p2039-46 Ag '51

DICHLORODIFLUOROMETHANE

Adsorption-type desiccants. W. A. Pennington. Refrig Eng 58:1077 N '50

Effect of vapor agitation on boiling coefficients. D. B. Robinson and D. L. Katz. bibliog flow sheets il diags Chem Eng Prog 47:317-24 Je '51

Rating the restrictor tube; method of determining flow capacities for Freon-12 and Freon-22. N. E. Hopkins. bibliog Refrig Eng 58:1087-95 N '50; Discussion. 59:49-50 Ja '51

Solubility of air in Freon-12 and Freon-22. H. M. Parmelee. diags Refrig Eng 59:573-7 Je '51; Discussion. 59:669+ Jl '51

DICHLOROETHANE. See Ethylene chloride

DICHLOROETHYLENE

Apparatus for turbidimetric study of polymerization activators. T. W. Sarge. il diag Anal Chem 22:1435-8 N '50

Photochemical reactions between bromine and 1,2-dichloroethylene; the relation between addition and isomerization. J. A. A. Ketelaar and others. bibliog diag J Phys & Colloid Chem 55:987-1012 Je '51

Properties of a new vinyl chloride-vinylidene chloride latex for paper coating. E. K. Stilbert and H. L. Clack. bibliog il Tappi 34:337-46 Ag '51

Vapor-liquid equilibria in binary systems. N. Alpert, P. J. Elving and D. G. Flom. bibliog diag Ind & Eng Chem 43:1174-86 My '51

DICHLOROHEXAFLUOROPROPANE

Preparation of 1,3-dichlorohexafluoropropane. B. L. Baker and A. M. Whaley. Am Chem Soc J 73:4010-11 Ag '51

DICHLOROPHENOXYACETIC acid

Comparison of ammonium sulfamate vs 2,4-D and 2,4,5-T for brush control; engineering reference sheet. Elec World 136:148 Ag 13 '51

Correlation of severity of 2,4-D injury with stage of ontogeny in monocot stems. A. J. Eames. il Science 114:203 Ag 24 '51

Effect of 2,4-D on potassium nitrate levels in leaves of sugar beets. L. M. Stahler and E. I. Whitehead. bibliog Science 112:749-51 D 22 '50

Free amino acids in potato tubers altered by 2,4-D treatment of plants. M. G. Payne and others. bibliog Science 114:204-5 Ag 24 '51

Persistence of 2,4-D in plant tissues. A. J. Eames. bibliog Science 112:601-2 N 17 '50

Tissue culture from potato tuber; the synergistic action of 2,4-D and of coconut milk. F. C. Steward and S. M. Caplin. bibliog il Science 113:518-20 My 4 '51

2,4-D eradicates water hyacinth. E. C. Greco. il Oil & Gas J 49:85 Ja 11 '51

DICHLOROPHENYL arsine

Kinetic investigation of the decomposition of phenyldichloroarsine in the liquid state. H. D. N. Fitzpatrick, S. R. C. Hughes and E. A. Moelwyn-Hughes. Chem Soc J p3542-7 D '50

DICHLOROPHENYLETHANOL

β,β-di-(*p*-chlorophenyl)-ethanol. O. Grummitt, A. A. Arters and J. A. Stearns. bibliog Am Chem Soc J 73:1856-7 Ap '51

DICHLOROPHOSPHINE

Improved method of synthesis of aromatic dichlorophosphines. B. Buchner and L. B. Lockhart, jr. bibliog Am Chem Soc J 73:755-6 F '51

Organophosphorus compounds; alkyldichlorophosphines. R. B. Fox. bibliog Am Chem Soc J 72:4147-9 S '50

DICHLOROPROPANE. See Propylene chloride

DICHLOROPROPENE

cis and *trans* isomers of 1,2-dichloro-1-propene. H. J. Bernstein and J. Powling. Am Chem Soc J 73:1843-4 Ap '51

DICHLOROPYRIDAZINE

Synthesis in the pyridazine series; pyridazine and 3,6-dichloropyridazine. R. H. Mizzoni and P. E. Spoerri. Am Chem Soc J 73:1873-4 Ap '51

DICHLOROQUINOLINOL chelates

Rare earths; separative extraction of certain rare earth elements as 5,7-dichloro-8-quinolinol chelates. T. Moeller and D. E. Jackson. bibliog Anal Chem 22:1393-7 N '50

DICHLOROQUINONECHLORIMIDE

Butylated hydroxyanisole in lard and shortening. J. H. Mahon and R. A. Chapman. bibliog Anal Chem 23:1120-3 Ag '51

DICHLOROTRINITROBENZENE

Reaction of 1,3-dichloro-2,4,6-trinitrobenzene with amino acids. H. Feuer, G. B. Bachman and J. P. Kispersky. Am Chem Soc J 73:3575-7 Ag '51

DICHROISM

Researches on dichroism of planar complexes. S. Yamada. bibliog Am Chem Soc J 73:1182-4 Mr '51

Researches on dichroism of planar complexes; the color and the structure of $[Pt(NH_3)_4]$ $[PtCl_4]$ and $(Pt(NH_3)_4]$ $[PtBr_4]$. S. Yamada. bibliog Am Chem Soc J 73:1579-80 Ap '51

Rotatory dispersion and circular dichroism of (—)-2-chloro-2-nitrosocamphane and the pyridine salt of (+)-2-chloro-2-nitrosocamphane-10-sulphonic acid. S. Mitchell, J. S. Watson and W. Dunlop. Chem Soc J p3440-3 D '50

Rotatory dispersion and circular dichroism of (—)-γ-chloro-γ-nitroso-δ-phenylvaleric acid. S. Mitchell and W. E. F. Naismith. Chem Soc J p3116-19 D '49

Structural orientation in cellulose acetate filaments and its relation to the dichroism of adsorbed dyes. D. R. Morey and E. V. Martin. bibliog il diag Textile Res J 21:607-20 S '51

DICHROMATES

Determination of formal oxidation potentials of ferric-ferrous and dichromate-chromic systems; selection of substituted 1,10-phenanthroline indicators for determination of iron at low acidity. G. F. Smith. bibliog Anal Chem 23:925-7 Je '51

Dichromate reduction rate at a steel surface in air-free, acetic acid solution. N. Hackerman and R. M. Hurd. bibliog diag Electrochem Soc J 98:51-6 F '51

DICHTER, Ernest

You either offer security or fail; interview. pors Bsns W p68+ Je 23 '51

DICOUMAROL

Control of blood clots. S. Shapiro. il Sci Am 184:18-21 Mr '51

Tracer experiments with radioactive dicumarol. L. B. Jaques and others. Can Chem & Process Ind 34:821-3 O '50

DICTATING machines

Dictating machines. L. Thompson. il diags Machine Design 23:90-8 Ja '51

Drive design is heart of recorder; Tycoon machines of the Soundscriber corporation. il diags Product Eng 22:110-11 Ja '51

Farmers and citizens bank, Lancaster, Ohio, tests new TeleVoice system. Bankers Mo 68:46-7 Ap '51

In the modern office; remote control dictation; TeleVoice system. Credit & Fin Management 53:30 Ja '51; Same. Franklin Inst J 251:312-13 F '51; Same cond. il Elec Eng 70:174 F '51

Multi-station dictating system. il Product Eng 22:114-15 Jl '51

Portable recorders slash paper work for Sutherland. il Sales Management 66:98+ Je 1 '51

Refining methods save 45 per cent; Audograph office dictation machine. H. E. Linsley. il Am Mach 95:110-12 Mr 5 '51

Shorthand will become a lost art in few years; will be replaced by TeleVoice system. H. G. Riter, 3d. il Am Bsns 21:24 Ja '51

Soundscriber uses more plastics. il Mod Plastics 28:60-1 Mr '51

Advertising

Testimonial campaign in trade press bags good quality inquiries; Gray Audograph. il Ptr Ink 233:25-6 D 8 '50

Typists' speed test; Dictaphone's transcribing contest; illustrations with text. Bsns W p 100-1 Je 9 '51

DICTIONARIES

Dictionary of literary terms. C. Duffy and H. Pettit. 111p $2 Univ. of Denver press, University park, Denver 10 '51

Humpty dumpski; Russian dictionary of foreign words. Economist 159:722-3 N 11 '50

Bibliography

Bibliography of interlingual scientific and technical dictionaries. J. E. Holmstrom. 220p United nations educational, scientific and cultural organization, Paris; for sale by Columbia univ. press, 2960 Broadway, New York 27 '51 (pa 65c)

DICYCLOHEXYLAMMONIUM nitrite

Metal parts corrosion-proofed in vapor envelopes. il Steel 128:100+ Mr 12 '51

Vapor packaging keeps rust off weapons, tools. G. Foster. il Iron Age 167:99-103 Je 7 '51

DIE casting

Aluminum alloy die castings. F. A. Lewis. bibliog il diags Foundry 79:124-7+ Ap; 96-100+ My '51

DIE casting—*Continued*
Automatic tools drill and tap die-castings. J. A. Mullen. il Am Mach 94:144-5 D 11 '50
Automatics machine diecastings 150 per cent faster. H. Chase. il Iron Age 167:61-3 Ja 25 '51
Close-tolerance die castings cut auto transmission cost. il Steel 127:96-7 D 4 '50
Commercial tolerances for die castings; reference book sheet. H. K. Barton. diags Product Eng 22:169, 171 Ap '51
Corrosion tests with zinc alloy die castings in damp gypsum plaster. L. A. J. Lodder and S. Baumgarten. il Metallurgia 43:273-9 Je '51
Designing an electrical appliance to utilize production possibilities of diecastings. G. H. Koch. il diags Machine Design 23:127-31 My '51
Diecast magnesium replaces wood chair parts. A. J. Herek. il Iron Age 166:96-7 N 2 '50
Die-cast rotor studies. L. C. Packer and G. E. Monchamp. il Elec Eng 70:389 My '51
Diecasting shops in U.S.; tabulation. Iron Age 167:343 Ja 4 '51
Die castings; methods of production, materials, design principles, finishing, uses, etc. T. C. Du Mond. il Materials & Methods 34:83-98 Ag '51
Doehler-Jarvis plant streamlines operations. Light Metal Age 8:21 O '50
Effects of alkaline detergents on a magnesium die casting alloy. J. F. Hazel and W. Stericker. bibliog Electrochem Soc J 98:272-6 Jl '51
Establishing tolerances for die castings. H. K. Barton. il diags Product Eng 22:118-23 Ap '51
Improved finishing machine for zinc base die castings. il Automotive Ind 104:58 My 1 '51
Induction furnaces reduce die-casting rejects. H. Phillips. il Am Mach 95:136-8 Jl 9 '51
Larger die-cast parts. il Product Eng 22:130 My '51
Lead diecastings shipments, 1947-1950; tabulation. Iron Age 167:341 Ja 4 '51
Mechanical finishing of zinc base diecastings prior to plating; abstract. M. R. Caldwell. Steel 129:110+ S 10 '51
New methods reduce costs of polishing die castings; Ternstedt div., General motors corp. J. Geschelin. il Automotive Ind 104:49+ Ja 1 '51
Preparing zinc-base and aluminum-base die castings for finishing. D. F. Seymour. il Materials & Methods 33:68-9 Mr '51
Requirements of zinc-base diecastings for electroplating; abstract. G. J. Beckwith. Steel 129:119-20 S 10 '51
Special equipment for making huge die cast grille. il Automotive Ind 103:48+ D 1 '50
Special fixtures aid diecasting machining. H. Chase. il Iron Age 167:111-13 Mr 15 '51
20 mm fuze noses zinc die cast at high speed. il Steel 129:78-9 Ag 13 '51

Bibliography

Bibliography of the die casting process. H. Bourassa. Light Metal Age 9:27-8 F; 28-9 Ap; 31-2 Ag '51

DIE casting machines
Colloidal graphite lubricates diecasting machines. W. E. Lang. il Iron Age 167:83-4 F 22 '51
Die casting machine exerts high pressure. il Product Eng 22:220 O '51
Diecasting machines. il Automobile Eng 41:298 Ag '51
Diecasting machines fed automatically by electromagnetic molten metal pumps; production of electrical connectors, Scintilla magneto div., Bendix aviation corp. H. Chase. il plan diags Iron Age 167:100-3 F 15 '51
Reed-Prentice improved cold-chamber diecasting machines. il Mach 57:198 Ag '51

DIEHL, Walter S. 1893-
Honorary American fellow, Institute of the aeronautical sciences. por Aeronautical Eng R 10:6 Mr '51

DIELDRIN
Study of workers exposed to the insecticides chlordan, aldrin, dieldrin. F. Princi and G. H. Spurbeck. bibliog A M A Archives Ind Hygiene & Occup Med 3:64-72 Ja '51

DIELECTRIC constants
Automatic measurement computation and recording of dielectric constant and loss factor against temperature. E. B. Baker. il diags R Sci Instr 22:376-83 Je '51
Continuous analyzers; dielectric constant meters. B. W. Thomas. Instruments 23:1131 N '50; Same. Pet Refiner 30:81-4 F '51
Determination of complex dielectric constant of medium loss substances in the microwave region. K. V. K. Prasad. J Chem Phys 19:797-8 Je '51
Dielectric absorption studies at higher voltages on large rotating machines; abstract. W. Schneider. Elec Eng 70:572 Jl '51
Dielectric and molecular behavior of 1,3-dipalmitin, 1,3-distearin, tripalmitin, tristearin and tetradecyl palmitate. R. W. Crowe and C. P. Smyth. bibliog Am Chem Soc J 72:5281-7 N '50
Dielectric constant and loss factor of ethyl alcohol and water at λ=3.24 cm obtained by free wave method. M. Yasumi and others. J Chem Phys 19:978-9 Jl '51
Dielectric constant of barium oxide. R. S. Bever and R. L. Sproull. bibliog diags Phys R 83:801-5 Ag 15 '51
Dielectric constant of formamide. G. R. Leader. bibliog Am Chem Soc J 73:856-7 F '51
Dielectric constant of polystyrene solutions. P. Debye and F. Beuche. bibliog J Phys & Colloid Chem 55:235-8 F '51
Dielectric constant of solutions of polystyrenes and polyisobutylenes in toluene. A. Voet and L. R. Suriani. J Phys & Colloid Chem 54:1070-2 O '50
Dielectric constant of water and the saturation effect. F. Booth. bibliog J Chem Phys 19:391-4 Ap '51; Correction. 19:1327-8 O '51
Dielectric constants of aqueous solutions of dextrose and sucrose. C. G. Malmberg and A. A. Maryott. bibliog il diags J Res Nat Bur Stand 45:299-303 O '50
Dielectric properties of $BaTiO_3$ at low temperatures. W. J. Merz. diags Phys R 81:1064-5 Mr 15 '51
Dielectric properties of terylene; abstract. W. Reddish. Chem & Ind p808-9 D 16 '50
Dispersion of resistivity and dielectric constant of some semiconductors at audiofrequencies. C. G. Koops. bibliog diags Phys R 83:121-4 Jl 1 '51
Domain boundary motion in ferroelectric crystals and the dielectric constant at high frequency. C. Kittel. Phys R 83:458 Jl 15 '51
Double super-heterodyne principle applied to dielectric measurements; receiver converted to serve simultaneously as generator and detector. E. B. Baker. diags R Sci Instr 22:34-6 Ja '51
Electric and magnetic constants of metallic delay media containing obstacles of arbitrary shape and thickness. S. B. Cohn. bibliog diags J Ap Phys 22:628-34 My '51
Ferroelectricity. B. T. Matthias. bibliog il diag Science 113:591-6 My 25 '51
Heat capacities, dielectric constants and molecular rotational freedom in solid trichloroethanes and disubstituted propanes. R. W. Crowe and C. P. Smyth. bibliog Am Chem Soc J 72:4009-15 S '50
Interaxial spacing and dielectric constant of pairs in multipaired cables. J. T. Maupin. diag Bell System Tech J 30:652-67 Jl '51
Liquid dinitrogen tetroxide solvent system; the dielectric constant, refractive index, and polarisation of liquid dinitrogen tetroxide; the nature of solutions. C. C. Addison, H. C. Bolton and J. Lewis. diag Chem Soc J p 1294-7 My '51
Low-frequency dielectric properties of some symmetrical mixed triglycerides in the solid state. R. W. Crowe and C. P. Smyth. Am Chem Soc J 73:2040-5 My '51
Microwave measurements of the dielectric properties of gases. G. Birnbaum and others. bibliog il diag J Ap Phys 22:95-102 Ja '51
Molecular rotation and proton transfer in the solid forms of 1-monopalmitin and 1-monostearin. R. W. Crowe and C. P. Smyth. bibliog Am Chem Soc J 72:4427-32 O '50

DIELECTRIC constants—*Continued*

Phase-shift refractometer. C. W. Tolbert and A. W. Straiton. bibliog il diags R Sci Instr 22:162-5 Mr '51

Polarizabilities of ions in perovskite-type crystals. S. Roberts. bibliog Phys R 81:865-8 Mr 1 '51

Table of dielectric constants of pure liquids. A. A. Maryott and E. R. Smith. U S Nat Bur Stand Circ 514:1-44 bibliog(p40-4); pa 30c Supt. of doc. '51

Variation of dielectric constants of ionic crystals with pressure. S. Mayburg. Phys R 83:1072-3 S 1 '51

Variation of dielectric constants of ionic crystals with pressure. D. A. A. S. Narayano Rao. Phys R 82:118-19 Ap 1 '51

DIELECTRIC heating. See Electric heating, Industrial—High frequency heating

DIELECTRIC losses

Automatic measurement computation and recording of dielectric constant and loss factor against temperature. E. B. Baker. il diags R Sci Instr 22:376-83 Je '51

DIELECTRIC polarization. See Polarization, Dielectric

DIELECTRICS

Apparatus for the study of creep of dielectric polymers and their dynamic rheological properties. W. Lethersich. il diags J Sci Instr 27:303-6 N '50

Cut-off frequency in two-dielectric layered rectangular wave guides. J. Van Bladel and T. J. Higgins. diags J Ap Phys 22:329-34 Mr '51

Defense demands huge effort in new ceramics for electronics. A. Gunzenhauser and H. N. Norton. bibliog il Cer Ind 57:60-1+ Jl '51

Deterioration and breakdown of dielectrics resulting from internal discharges. J. H. Mason. bibliog il diags Inst E E Proc 98 pt 1:44-59 Ja '51

Dielectric admittances in current transformers. A. H. M. Arnold. diags Inst E E Proc 97 pt 2:727-32; Discussion. 733-4 D '50

Dielectric aerials with shaped radiation patterns. D. G. Kiely. diags Wireless Eng 28:177-8 Je '51

Dielectric materials for electrical connectors. H. M. Neben. il Aero Digest 62:31-2+ My '51

Dielectric properties of sodium and potassium niobates. B. T. Matthias and J. P. Remeika. il Phys R 82:727-9 Je 1 '51

Dielectric relaxation in liquids and solids. C. P. Smyth. Elec Eng 69:975-80 bibliog(76 titles, p979-80) N '50

Dielectrics made to order. A. R. von Hippel. il diags Electronics 24:126-8 Je '51

Effect of a grounded slab on the radiation from a line source. C. T. Tai. bibliog diags J Ap Phys 22:405-14 Ap '51

Effect of electric stress on the life of cables incorporating a polythene dielectric. P. R. Howard. il Inst E E Proc 98 pt 2:365-70 Je '51

Electrical properties of solids; polytrifluoromonochloroethylene as a polyphase dielectric. S. I. Reynolds and others. bibliog il Am Chem Soc J 73:3714-17 Ag '51

Experimental study of the change in phase accompanying reflection of light from thin evaporated films. L. G. Schulz and E. J. Scheibner. bibliog diags Opt Soc Am J 40: 761-5 N '50

Influence of rectifier harmonics in a railway system on the dielectric stability of 33-kv cables. S. B. Warder and others. bibliog il diags Inst E E Proc 98 pt 2:399-411; Discussion. 411-21 Je '51

New ceramic dielectrics. il Product Eng 22: 163 My '51

Propagation characteristics in a coaxial structure with two dielectrics. A. Baños, jr. and others. diag J Ap Phys 22:117-23 F '51

Properties of beryllium-barium titanate dielectrics. E. N. Bunting and others. bibliog J Res Nat Bur Stand 47:15-24 Jl '51

Radiation patterns of dielectric rods of circular cross section; the $TM_{0,1}$ mode. C. W. Horton and others. diags J Ap Phys 21:1279-83 D '50

R-f. dielectric standards. il Instruments 24: 1050+ S '51

Random noise in dielectric materials. J. H. Mason. bibliog J Ap Phys 22:235-6 F '51

Reflection and transmission. B. A. Lengyel. J Ap Phys 22:263-4 Mr '51

Reflection and transmission equivalences of dielectric media; abstract. R. M. Redheffer. Inst Radio Eng Proc 39:503 My '51

Testing dielectric properties at high frequencies. R. K. Witt and J. J. Chapman. diags Tele-Tech 9:46-8+ D '50

Transitions in soap-oil systems by dielectric absorption. T. M. Doscher and S. Davis. bibliog diag J Phys & Colloid Chem 55: 53-61 Ja '51

See also

Electrets
Insulating materials
Mica
Polarization, Dielectric

DIELECTROPHORESIS (term)

Motion and precipitation of suspensoids in divergent electric fields. H. A. Pohl. diag J Ap Phys 22:869-71 Jl '51

DIELS, Otto, 1876-

Diels-Alder reaction proves potent chemical ally. por(cover) Chem & Eng N 28:4266 D 4 '50

Nobel laureates in chemistry. por Chem & Eng N 28:4104 N 20 '50

DIELS-ALDER reaction

1-Cyano-1,3-butadienes; Diels-Alder reactions with dienes. H. R. Snyder and G. I. Poos. bibliog Am Chem Soc J 72:4096-103 S '50

1-Cyano-1-,3-butadienes; the Diels-Alder adducts of 1-cyano-1,3-butadiene with ethyl and methyl acrylate. H. R. Snyder and G. I. Poos. bibliog Am Chem Soc J 72:4104-7 S '50

Diels-Alder reaction proves potent chemical ally. Chem & Eng N 28:4266 D 4 '50

Diels-Alder reaction with α,β,γ,δ-unsaturated acids. N. C. Deno. Am Chem Soc J 72:4057-9 S '50

Diels-Alder reactions of α,β-unsaturated sulfonyl compounds. H. R. Snyder, H. V. Anderson and D. P. Hallada. bibliog Am Chem Soc J 73:3258-60 Jl '51

Itaconic acid; the condensation of itaconic anhydride with some conjugated olefins. D. E. A. Rivett. bibliog J Ap Chem 1:377-80 S '51

Phenylmaleic anhydride as a diene in the Diels-Alder reaction. L. E. Miller and D. J. Mann. bibliog Am Chem Soc J 73:45-8 Ja '51

Quinone imides; addition of dienes to *p*-quinone sulfonimides. R. Adams and C. R. Walter, jr. Am Chem Soc J 73:1152-5 Mr '51

Researches on acetylenic compounds; Diels-Alder reactions with acetylenic ketoesters. T. Y. Shen and M. C. Whiting. Chem Soc J p 1772-6 Jl '50

Studies of compounds related to natural perfumes; the application of the Diels-Alder reaction to the synthesis of β-*cyclo*citral analogues. J. C. Lunt and F. Sondheimer. Chem Soc J p2957-61 N '50

Studies of compounds related to natural perfumes; the Diels-Alder reaction with acetylenic aldehydes; the synthesis of 4-methylsafranal. J. C. Lunt and F. Sondheimer. Chem Soc J p3361-7 D '50

Synthesis of isoequilenin via the Diels-Alder reaction; the configuration of the C/D ring juncture of the estrogenic hormones. W. E. Bachmann and J. Controulis. Am Chem Soc J 73:2636-41 Je '51

Theoretical treatment of the Diels-Alder reaction; equilibria for aromatic hydrocarbons. R. D. Brown. Chem Soc J p 1612-14 Je '51

Theoretical treatment of the Diels-Alder reaction; polycyclic aromatic hydrocarbons. R. D. Brown. Chem Soc J p691-7 F '50

Theoretical treatment of the Diels-Alder reaction; polyenes, arylpolyenes, and related molecules. R. D. Brown. Chem Soc J p2730-5 O '50

DIENES. See Olefins

DIENONE phenol rearrangement. See Molecular rearrangements

DIEPOXY compounds

Anhydrides of polyhydric alcohols; observations on the ring scission of 1 : 2-5 : 6-diepoxyhexane and 3 : 4-*iso*propylidene 1 : 2-5 : 6-dianhydromannitol. L. F. Wiggins and D. J. C. Wood. Chem Soc J p 1566-75 Je '50

DIEPOXY compounds—*Continued*

Preparation of some di-(2 : 3-epoxy-*n*-propyl)amines. R. F. Homer. Chem Soc J p3690-1 D '50

DIES

Aluminum blanking die. W. Bischoff. il Light Metal Age 8:19 O '50

Brake die; maintenance and forming techniques. A. E. Meyer. il diags Sheet Metal Worker 42:45-7+ Ag '51

Carbide flaring die cuts downtime. diags Am Mach 95:113 Ja 8 '51

Choose from 24 cutoff dies; drawings with text. J. R. Paquin. Am Mach 94:96-8 N 27 '50

Considerations in designing tools for powder metallurgy. I. J. Donahue. diags Mech Eng 72:886-9 N '50

Coventry self-opening dieheads. il Automobile Eng 41:149 Ap '51

Design and production of low cost dies. G. R. Page. il diags Tool Eng 25:37 N '50

Design your dies for safety. F. Strasser. diags Am Mach 95:134 Jl 23 '51

Designing carbide dies. M. J. Blackstrom and E. J. Reitler. il diags Mach 57:170-6 Ag '51

Designing pattern dies for investment casting. R. L. Wood and D. Von Ludwig. il Tool Eng 27:25-8 Ag; 42-4 S '51

Die stop swings to relocate on stock. A. J. Sheehan. diags Am Mach 95:169 F 19 '51

Diemakers' kinks; drawings with text. F. Strasser. diags Am Mach 95:146 F 19; 109 Mr 5; 100 Ap 2; 135 My 14; 92 My 28; 107 Je 25; 127 Jl 23; 163 S 3; 250+ S 17; 136 O 1 '51

Dies for welding projections; reference book sheet. diags Am Mach 95:181 Ap 16 '51

Dies hardfaced with alloy last longer. A. Gray. il Iron Age 167:68-70 My 31 '51

Dies pooled; AMC project cataloging extrusion shapes will speed plane production. Aviation W 54:16 Mr 5 '51

Engineering aspects of tool and die welding. A. R. Butler. il Tool Eng 25:21-3 D '50; 26:42-5 Ja; 40-2 F; 60-2 Mr; 45-6 Ap '51

Extrusion die pool for aircraft industry. diags Light Metal Age 9:11 Ap '51

15,000,000 stampings per grind on carbide dies. J. E. Spofford, jr. il diags Steel 128:80-2 Mr 5 '51

First-aid for ten cutting-die troubles. F. Strasser. diags Am Mach 94:96-8 D 25 '50

Fixtures aid in sharpening dies used to cut rubber tensile test specimens. R. H. Taylor. il India Rubber World 123:441+ Ja '51

Flow test of hubbing steel. F. Halward. il diags Metal Prog 59:356-8 Mr '51

Forming die bends 90°. D. L. Mather. diag Am Mach 95:173 Je 11 '51

From a diemaker's notebook. R. G. Planck. diags Am Mach 95:125-7 Jl 23 '51

Geometrical applications that save time in die design. F. Strasser. diags Mach 58:187-8 S '51

How segmental dies can slit pipes. R. J. Gould. il diags Am Mach 95:127 O 15 '51

How to choose trim dies for drawn shells; drawings with text. J. R. Paquin. Am Mach 94:85-8 O 30 '50

How welding salvages broken tools and dies. L. D. Richardson. il Iron Age 168:162-5 S 13 '51

Inexpensive blanking punch and die. P. D'Agostine. il diags Mach 57:192-4 Ja '51

Manual threading die built cheaply in shop. W. W. Quist. diags Am Mach 95:162 My 14 '51

Notebook on die design. J. S. Brozek. diags Tool Eng 26:33-4 F; 53-4 Mr; 39-40 Ap; 41-2 My; 48-9 Je '51

Pad your trimming dies with economical zinc; illustrations and drawings with text. H. C. Slagle. Am Mach 95:136-7 Ap 16 '51

Plastic die models; abstract. R. L. Logue. Automotive Ind 103:53+ D 1 '50

Pneumatic-toggle die cushion; reference book sheet. D. A. Rogers. diag Am Mach 94:125 O 30 '50

Precision form-grinding of punches and dies. G. H. DeGroat. il diag Mach 57:159-64 N '50

Problems in lamination low-cost tooling. J. Starr. il diags Tool Eng 27:45-6 S '51

Progressive die draw-folds a split cap. R. Le Grand. il diags Am Mach 95:94-5 My 28 '51

Progressive die makes tiny cups; illustrations and drawings with text. P. Wilmus. Am Mach 95:138-9 Je 11 '51

Progressive dies adjust forming pressure. R. Le Grand. il diags Am Mach 95:88-9 Ap 2 '51

Progressive dies for television parts. J. Kleinoder. il diags Mach 57:174-81 My '51

Progressive dies make precision tv parts. R. LeGrand. il diags Am Mach 94:133-6 D 11 '50

Redesign to simplify tooling; simplifying die design. A. F. Murray. il Machine Design 23:154 S '51

Regulator parts mass-produced in progressive dies; Ford generator regulators. A. Ensign. il Iron Age 167:114-16 Mr 15 '51

Ringing in wire-drawing dies. J. G. Wistreich. bibliog il diags Iron & Steel Inst J 167:162-4 F '51

Scrap suspension maintains lead in progressive die. R. Le Grand. il diags Am Mach 95:140-1 My 14 '51

Selecting and processing steels for lamination dies. L. F. Spencer. bibliog il Tool Eng 26:25-7 My; 42-4 Je '51

Should die thickness be calculated? reference book sheet. F. Strasser. diags Am Mach 95:173 F 19 '51

Simple double-operation dies speed small-part production. M. Yamaguchi. diags Am Mach 95:122 My 28 '51

Simplified die making through standardization. R. L. Weisbeck. il Aero Digest 62:42+ F '51

Switches control this progressive die. P. R. Enzler. il diags Am Mach 95:112 Je 25 '51

Tool and die steels; classified list of 800 tool and die steels based on SAE and JIC methods with names of suppliers, composition, typical properties, applications, and basic heat-treat data. Am Mach 94:147-62 D 11 '50

Manufacture

Band machining saves metal. H. J. Chamberland. il diag Iron Age 167:97-9 Mr 8 '51

Die cost cut by tool shop foundry; Allied products corp. W. G. Patton. il Iron Age 166:81-3 N 2 '50

Electroforming speeds the production of aircraft parts and tools. G. B. Lewis and L. Frost. il diags Mach 57:178-85 Jl '51

Liquid blasting trims die polishing time ten per cent. il Steel 128:77 Ja 22 '51; Automotive Ind 104:46+ Ja 15 '51

Terminology

Watch your language for die components; six-language nomenclature. F. Strasser. diag Am Mach 95:105 Ag 6 '51

Testing

Die life test cuts cost of laminations; Westinghouse electric co. A. T. Hamill. il Am Mach 94:100-2 N 27 '50

DIES, Forging

How to mill die blocks with carbides. A. O. Schmidt. il Am Mach 95:111-13 Ap 30 '51

DIES, Rubber

Aluminum-forming process uses tough-rubber female die. il Am Mach 95:190 F 19 '51

Expanding rubber forms parts. T. L. Self. il Aviation W 55:32+ Jl 23 '51

New metal-forming process utilizes tough rubber pad; Hidraw. Rubber Age 69:201 My '51

Round-edged blanks produced with rubber dies. H. Murro. diags Am Mach 95:138 S 17 '51

Rubber die method cuts tooling costs for Consolidated Vultee Aircraft; Hidraw. il Bsns W p77-8 Ja 27 '51

DIESEL-electric locomotives. See Locomotives, Diesel-electric

DIESEL engine manufacturers association

Diesel engine industry aims for growth. il Standardization 22:180-1 Je '51

Meeting, Washington, April 26. Diesel Power 29:31 My '51

DIESEL engines

Caterpillar engines with new design features. il Roads & Eng Constr 89:60 My '51

Cushing, Oklahoma, Diesel plant fuel cost under two mills; installation of new dual-fuel engine. il Power Eng 54:62-4 D '50

DIESEL engines—*Continued*

Cutting welding costs; Diesel-driven generator to supply power for Westinghouse selenium rectifier welders. il Diesel Power 29:81 Ap '51

Diesel engine power pack. il Engineer 190: 604 D 15 '50

Diesel-engine research; abstract. C. G. A. Rosen. diag Mech Eng 73:321-2 Ap '51

Diesel parts stockbook system. il Diesel Power 29:114-15 Ap '51

Diesel power for pumping and civil defense; Park Ridge, Ill. il Pub Works 82:49 Ag '51

Diesel-pump team cuts drainage cost; Missouri Drainage district; with cost data. il Diesel Power 29:42-3 F '51

Diesel stations lift oil over ridge route. J. Joseph. il World Oil 132:209-12 My '51

Diesel trademark controversy. Diesel Power 29:43 Ja '51

Diesels in the food industries. G. W. Grupp. Diesel Power 29:51 Ag '51

Diesels in the oil industry. G. W. Grupp. il Diesel Power 29:76-7+ Ap '51

Diesels in the pit and quarry industries. G. W. Grupp. il Diesel Power 29:77-80 Je '51

Diesels on the Columbia River projects. W. J. Granberg. il Diesel Power 29:76-7 Ja '51

Dual-fuel Diesel engines. il Automotive Ind 103:70+ D 15 '50

Good operational record leads to a pipeline Diesel expansion program. W. H. Gottlieb. il Diesel Power 29:42-3 My '51

Instrumentation as applied to Diesel engines. R. J. B. Keig. Engineer 190:567 D 8 '50

Lister-Blackstone small air-cooled Diesels. il Diesel Power 29:49 F '51

Lister-Blackstone's EV series Diesel engines. il Diesel Power 29:60-1 Ag '51

Mid-Valley pipeline boosts capacity with additional pumping power. M. D. Pugh. il map Diesel Power 29:64-7 Je '51

Model 4FS2 Nordberg engine. il Diesel Power 29:73 Ja '51

New lightweight Diesel engine. Product Eng 21:145 N '50

Power handbook; Diesels and gas engines. L. N. Rowley, comp. Power 95:94-5 Jl '51

Railroad under-car power units. il diag Diesel Power 28:34-7 N '50

Review of new plant equipment; prime movers and accessories. il diag Power 95:167-8 Mid-Je '51

Richfield's new pipeline traverses extremes of elevation. flow diag il map Diesel Power 29:106-7 Je '51

Rock crushing with Diesels. il Diesel Power 28:40 N '50

Rolls-Royce oil engines. il diags Engineering 172:44-5 Jl 13 '51; Engineer 192:98-9 Jl 20 '51

Ruston and Hornsby four-stroke oil engine. il Engineer 191:542 Ap 27 '51; Engineering 171:463 Ap 20 '51

Sleeve-valve Diesel engine; abstract. H. Ricardo. Engineer 190:660 D 29 '50

Small industrial Diesel engines; abstract. A. W. Pope. S A E J 59:94+ Mr '51

SAE national Diesel meeting. S A E J 58:59-63 D '50

World's largest pipeline system; Tapline depends on Diesels. il map Diesel Power 29: 70-4 Ap '51

See also

Electric plants (central stations)—Diesel engine stations

Power plants—Diesel engine plants

Bearings

Centrifugal re-babbitting. il Diesel Power 29: 56-7 F '51

Centrifugally cast bronze-back bearings for heavy-duty operation. L. M. Tichvinsky. bibliog il diags A S M E Trans 73:391-8 My '51

Diesel engine bearing development. E. Crankshaw and R. Arnold. il Diesel Power 29:46-8 Ja '51

Heavy-duty-engine lubricating oils; past, present, and future. W. C. Latrobe. Am Pet Inst Proc 30(2):36-9 '50; Abstract. Oil & Gas J 49:185 N 16 '50

Selection and casting of babbitts for engine and other bearings. R. V. Simpson. il Diesel Power 29:44-7 Jl '51

Cold weather operation

For winter operation, a cold starting aid. J. A. Jones, jr. il diag Diesel Power 29:58-9 F '51

Low-temperature starting and operation of Diesel engines. A. W. Sloan and others. S A E J 59:40-6 Je '51; Same cond. Diesel Power 29:54-6+ My '51

Cooling

Air-cooled Deutz Diesel engine. il diags Engineer 191:457-60 Ap 6 '51

How to choose your cooling-system. E. J. Kates. diags Power 94:114-16 D '50; 95:98-101 Ja '51

Intercooling supercharged four-cycle Diesel engines. il diag Diesel Power 29:38-40 F '51; Same. Power Eng 55:68-9+ Je '51

Maintaining engine cooling systems. E. C. Uecker. il Diesel Power 29:52-5 F '51

Petter air-cooled engines. il Diesel Power 29: 113 Ap '51

20 pointers on cooling-system layout. E. J. Kates. diags Power 94:90-3 N '50

Using cooling water waste heat to heat and air condition a plant; Western blue print co. M. D. Pugh. il diags Diesel Power 29:50-2 Mr '51

Cost of operation

Diesels in the lumber industry. G. W. Grupp. il Diesel Power 29:36-9 Ja '51

Ponca City reports fuel bill cut with gas Diesel. P. Schlesinger. il Diesel Power 29: 50-2 S '51

Design

Air-cooled Deutz Diesel engine. il diags Engineer 191:457-60 Ap 6 '51

Air force development of a light-weight multi-fuel Diesel engine. M. E. Davis and F. J. Neugebauer. diags Diesel Power 29: 36-40 My '51; Same cond. Automotive Ind 104:32-3+ Je 15 '51

Design details of two new Diesels. il Automotive Ind 104:40-1 Je 1 '51

Design features of the Nordberg radial engine. D. I. Bohn and E. Grieshaber. il diags A S M E Trans 73:795-800 Ag '51; Same abr. Diesel Power 28:46-50 Jl '50; Abstract. Machine Design 23:166-7 Mr '51; Discussion. A S M E Trans 73:800-2 Ag '51

Gräf and Stift four-cylinder two-stroke oil engine. S. J. Davies. il diags Engineering 172:1-5 Jl 6 '51

New head-to-block sealing for Diesels. il Marine Eng 56:78 O '51

Directories

Diesel engine directory; manufacturers of engines and plant accessories. Diesel Power 29:49-72 Ja; 81-105 Je '51

Efficiency

Correlation and presentation of Diesel engine performance. C. F. Taylor. il S A E J 59:66-70 Ja '51

Increased efficiency for Diesels provided by sealing rings. Pet Refiner 30:113-14 F '51

Explosions

Crankcase explosion investigation. G. W. Ferguson. diag Diesel Power 29:55-8 Jl; 56-9 Ag '51

Failure

Diesel insurance. H. J. Vandereb. Diesel Power 29:49 Ag '51

Fuel

Additives for cetane-number improvement. W. L. Nelson. bibliog Oil & Gas J 50:98 Je 28 '51

Aromatic hydrocarbons in some Diesel fuel fractions; ultraviolet spectrometric identification. N. G. Adams and D. M. Richardson. bibliog Anal Chem 23:129-33 Ja '51

Burning heavy fuel. Diesel Power 29:53-5 Mr '51

Composition of Fischer-Tropsch Diesel fuel; cobalt catalyst. C. C. Ward, F. G. Schwartz and N. G. Adams. bibliog Ind & Eng Chem 43:1117-19 My '51

Detroit Diesel converted to gas. il Diesel Power 29:51 My '51

Diesel fuel nears its peak. Bsns W p90+ Jl 28 '51

DIESEL engines—Fuel—Continued

Diesel instruments and controls; pointers on metering engine fuel. E. J. Kates. diags Power 95:94-6+ Je '51

Diesel oil cold tests and method for cloud point determination. Y. C. Young. bibliog il diag Pet Eng 23:C40+ S '51; Same abr. Oil & Gas J 50:121 My 31; 115 Je 7 '51

Gas burning Diesel cuts power cost 50 per cent; Elkhorn municipal power plant. A. J. Wolff. il Power Eng 54:71-3 N '50

How dual-fuel engines help balance Oklahoma Natural Gas load. W. C. Grant. il Gas Age 107:15+ Je 7 '51

Improving cetane number. J. Happel. Pet Eng 22:C38+ N '50

In an emergency what about Diesel fuels? T. L. Apjohn. il Ry Age 130:46-9 My 7 '51

Municipal power plant boosts profits $2,000 a month, Goodland, Kans. il Pub Works 82:60-1 S '51

National annual Diesel-fuel survey, 1950. O. C. Blade. pl U S Bur Mines Rep of Invest 4746:1-25 '50; Excerpt. Oil & Gas J 49:81 D 28 '50

New oomph for Diesel fuel. Bsns W p 111 Mr 24 '51

Relative economics of LPG, gasoline, and Diesel fuel in trucks and buses. E. S. Corner and E. H. Berg. bibliog Am Pet Inst Proc 31 M(3):262-70; Discussion. 270-2 '51

Utah plant uses wax distillate fuel. J. Joseph. il diag Diesel Power 28:38-40 N '50

See also

Locomotives, Diesel—Fuel

Fuel consumption

Btu's per kilowatt hour; an improved basis for measuring fuel consumption efficiency. Diesel Power 29:42-3 Ja '51

Fuel feeding

Burning fuel oil. F. G. Corneau. Marine Eng 55:66-7 N '50

Common abuses of injection equipment and corrective procedures. diag Diesel Power 28:44-7 D '50

Fuel injection; wear of equipment and filtration of fuel for compression-ignition engines. A. E. W. Austen and B. E. Goodridge. bibliog il diags Automobile Eng 41:109-18 Mr '51

Mail order exchange plan for injection equipment started by Ohio firm. il Diesel Power 28:58 N '50

Pardeco fuel injection system. E. V. Parker. il diags Diesel Power 28:50-2 N '50

Lubrication

Diesel engine lubricating oils; factors to be considered in selection and maintenance. E. B. Rawlins. Pet Eng 23:D31-6 Mr '51

Diesel lube filters save man-hours. J. Kapla. il diag Power 95:96-7 F '51

Engine oil pressure. P. A. Binda. il diags Ry Mech & Elec Eng 125:49-52 My; 61-7 Je '51; Same abr. Diesel Power 29:58-64 Mr '51

Heavy-duty Diesel oils. W. Lasky and others. il Ry Mech & Elec Eng 125:47-52 F '51; Ry Age 130:28-32 Ja 29 '51

Heavy-duty-engine lubricating oils; past, present, and future. W. C. Latrobe. Am Pet Inst Proc 30(2):36-9 '50; Abstract. Oil & Gas J 49:185 N 16 '50

How laboratory controls aid Diesel maintenance. il Ry Age 130:33-6 Ap 16 '51

How to eliminate oil changes on railroad freight Diesel engines; based on papers by W. Lasky and others. il diags S A E J 59:34-8 Mr '51

Know your oil if you want good equipment performance. R. Anderson. Constr Methods 33:112+ Jl '51

Lubricating pipeline engines. il Diesel Power 29:108-9 Je '51

Pioneering Diesel lube alloys. C. G. A. Rosen. maps diags S A E J 58:44-8 N '50

Series two oils pay their way. W. G. Brown and others. il S A E J 59:63-5 Je '51

Some factors governing the performance of crankcase lubricating oils. A. Towle. bibliog diags Inst Mech Eng Proc (Auto div pt2):88-98, pl 1-4; Discussion. il 98-111 '49-50

Stop wasting oil! choosing piston rings for your engine. R. W. Hoyt. il diags Power 95:118-19 Je '51

Tips on guarding engine lubrication. E. J. Kates. diags Power 95:80-3 Ap '51

Maintenance and repair

Analyzing maintenance records. K. W. Stinson. Diesel Power 29:53+ S '51

Assembly line for repairing Diesel engines. il Ry Mech & Elec Eng 124:742-7 D '50

Chemical descaling simplifies block rebuilding. R. K. Brunke. il Diesel Power 28:58-60 D '50

Common abuses of injection equipment and corrective procedures. diag Diesel Power 28:44-7 D '50

Diesel questions and answers. J. Baker. il Power 95:114-15 Ag '51

Maintenance costs and considerations of large engines in power generation. J. B. Sims. il Diesel Power 29:42-5 Mr; 108-12 Ap '51

Maintenance of internal combustion engines; filtration of air and oil. P. H. Moore. il Pet Eng 23:C113-14+ Jl '51

Railroads increase emphasis on heavy engine overhaul. W. L. Huebner. il Diesel Power 28:38-42 D '50

Scale scats fast now. diags Power 95:120-1 Jl '51

Seabees repatriate their World war II equipment. J. Joseph. il Diesel Power 29:74-6 Je '51

Some considerations of crankshaft regrinding. F. P. Healy. il Diesel Power 28:62-5 D '50

Special tools help maintenance programs. il diags Diesel Power 28:74-6 D '50

Trouble shooting. H. H. Hall. Pet Eng 23:B68+ S '51

Manifolds

Diesel manifolds economically repaired. il Welding J 29:1004 N '50

Manufacture

Blackstone vertical oil engines. il Engineering 172:22-4 Jl 6 '51; Engineer 191:871-3 Je 29 '51

From ingots to crankshafts; production story; Ellwood City forge co. il Diesel Power 29:46-7 Mr '51

Huge Caterpillar Diesel engine plant. H. G. Jarman. il Diesel Power 28:53 N '50

Reconstructed oil engine factory; British polar engines, ltd. il Engineer 191:217-20 F 16 '51; Engineering 171:98-9, 102 Ja 26 '51

Special tooling helps production. il Diesel Power 28:72-3 D '50

Time to inspect bore alignment cut 98 per cent. W. Jacoby. il diag Am Mach 95:142-3 Mr 19 '51

Protection

Alarm systems cut costs. il Diesel Power 29:56-7 Mr '51

Specifications

Diesel engine specifications, 1951. Diesel Power 29:91-107 Ap '51

Starting

Air cranking motors. il diag Diesel Power 29:48-50 My '51

C.A.V., Ricardo Pintaux nozzle to aid in cold starting of engines. diags Diesel Power 29:73 Je '51

Cold starting aid for Diesel engines. il diags Engineer 191:188 F 9 '51; Engineering 171:169-70 F 9 '51; Automobile Eng 41:137-8 Ap '51

For winter operation, a cold starting aid. J. A. Jones, jr. il diag Diesel Power 29:58-9 F '51

Study and teaching

Diesel training schools; they're GMC's answer to the shortage of trained mechanics. il Steel 127:69 D 11 '50

Superchargers

Intercooling supercharged four-cycle Diesel engines. il diag Diesel Power 29:38-40 F '51; Same. Power Eng 55:68-9+ Je '51

Plant capacity raised by supercharging. T. J. Malone. il Diesel Power 29:40-1 Ja '51

DIESEL engines—Superchargers—*Continued*

Turbo-chargers offered means of improving fuel economy and increasing power output of a Diesel engine; abstract. N. M. Reiners and W. D. Schwab. Automotive Ind 105:33+ S 15 '51

Unique Cooper-Bessemer rig precision tests superchargers. il Marine Eng 56:43 Ja '51

Testing

Engine run-in stand. il Diesel Power 29:50 Jl '51

Valves

Recognizing the causes of valve failures. V. Ayres. il Diesel Power 28:52-7 D '50

You, too, can set Diesel valves. C. M. Jones. diags Power 95:112-13 O '51

DIESEL engines, Automotive

Altitude effects on two-cycle automotive Diesel engines. R. W. Guernsey. il S A E J 59:26-8 Ap '51

Cheaper Diesel; GM's new truck engine. Bsns W p58+ S 8 '51

Commercial vehicle show; outstanding designs. il Automobile Eng 40:303-8 S-O '50

Current state of automotive Diesel-engine design and performance in Great Britain. C. B. Dicksee. diags S A E J 59:29-33 Mr '51

Diesel engines; some notes for manufacturers exporting to Asian countries. diags Automobile Eng 41:61-4 F '51; Discussion. 41:196-7 My '51

Diesel trucks have increased 136 per cent in four-year period, study shows. Nat Pet N 43:64 Ap 18 '51

Diesels in highway transportation. G. W. Grupp. il Diesel Power 29:36-7 F '51

Diesels in the agriculture industry. G. W. Grupp. il Diesel Power 28:30-3 N '50

Diesels in the lumber industry. G. W. Grupp. il Diesel Power 29:36-9 Ja '51

Diesels in the mining industry. G. W. Grupp. il Diesel Power 29:34-7 Mr '51

Diesels play important role in public health and sanitation. J. Joseph. il Diesel Power 29:44-5 F '51

Experimental high speed Cummins engine. N. M. Reiners and R. C. Schmidt. il diag Diesel Power 29:36-40+ S '51; Abstract. Automotive Ind 105:102+ Jl 1 '51

Fundamental advantages of Diesel engines for trucks. F. G. Shoemaker. S A E J 58:56-9 N '50

G.M. Million-Miler Diesel. il Bus Transportation 30:250-3 S '51

GM Series 71 engine improvements. il diags Diesel Power 29:46-7 S '51

General Motors 6-110 Diesel engine for rail car motive power. V. Schafer, jr. il diags S A E J 59:65-9 Ap '51

Latest improvements in GM two-stroke Diesels. il Automotive Ind 105:46-8+ S 1 '51

More miles per gallon in Diesel operation; Louisville railway co. T. A. Smith. il Bus Transportation 30:39-41 Je '51

New Leyland Comet 90 range. il Automobile Eng 41:227-9 Je '51; Engineering 171:578-9 My 11 '51

Nozzle reconditioning; Leslie Hartridge ltd. il Automobile Eng 41:135-6 Ap '51

Piston assemblies for road transport oil engines. J. L. Hepworth. diags Inst Mech Eng Proc (Auto div pt2):69-76, pl 1-2 '49-50; Same. Automobile Eng 39:528-34 D '49; Same abr. Engineering 168:629-32 D 9 '49; Discussion. diags Inst Mech Eng Proc (Auto div pt2):76-87 '49-50

Practice and trend in development of Diesel engines, with particular reference to traction. G. Jendrassik. Engineering 171:765-6, 797-9 Je 22-29 '51

Rail traction Diesel-electric unit. il diags Engineer 191:765-6 Je 8 '51

Rolls-Royce develops heavy-duty Diesels. W. F. Bradley. Automotive Ind 105:51+ Ag 15 '51

Significant contributions of the Diesel research laboratory. C. G. A. Rosen. bibliog diags Inst Mech Eng Proc (Auto div pt 1):7-25, pl 1-8 '50-51

See also

Locomotives, Diesel-electric

Motor cars (railroad)—Diesel-electric

Specifications

1951 automotive Diesel engines; tabulation. Automotive Ind 104:166-71 Mr 15 '51

DIESEL engines, Marine

Characteristics and development of naval fuel oils; abstract and discussion. M. Blanchier. Engineering 172:136-7 Ag 3 '51

Economics of repowering Lakes vessels. Marine Eng 56:58-62 Ag '51

1800 b.h.p. Werkspoor-Lugt marine oil engine. il diag Engineer 191:156-8 F 2 '51

Geared Diesel machinery for tanker Atlantic Duchess. il Engineering 171:61-3, 74, pl 4 Ja 19 '51

High-speed light-weight Diesel engine. J. H. D. Middleton. Engineer 190:464-5 N 17 '50

New Diesel to power submarines; revolutionary engine developed. il Marine Eng 56:41-2 Ag '51

Nordberg's Supairthermal engine. il diags Diesel Power 29:42-4 Ag '51; Same. Marine Eng 56:65-8 S '51

Repowering Lakes ore carriers; geared Diesel drive on the Eugene W. Pargny, and geared turbines on the Homer D. Williams. il plans diags Marine Eng 56:36-41 Jl '51

Southern Atlantic breakdown calls for rebuilding German engine. Marine Eng 56:59-60 O '51

Thirty years' development of opposed-piston propelling machinery; Doxford marine oil-engine. W. H. Purdie. plans diags Inst Mech Eng Proc 162 no 4:446-64, pl 1-4 '50; Same cond. Engineer 191:131-2, 163-4 Ja 26-F 2 '51

Tug fleet converts to Diesel power. L. C. Turner. il Marine Eng 56:54-5 O '51

See also

Motor ships

Gearing

Marine reduction gear. il Engineer 190:604 D 15 '50

DIESEL fuels. See Diesel engines—Fuel

DIET

Desoxyribonucleic acid content of rat liver nuclei influenced by diet. J. O. Ely and M. H. Ross. bibliog il Science 114:70-3 Jl 20 '51

Diet and industrial performance. bibliog Ind Med 19:543-4 N '50

Influence of dietary factors on susceptibility to toxic substances. Ind & Eng Chem 43: sup89A-90A+ Ag '51

Relation of nutrition to susceptibility to toxic substances; abstract. M. E. Shils. Nat Safety N 63:84-6 Je '51

Self-selection of diet in relation to audiogenic seizures in rats. W. J. Griffiths, jr. bibliog Science 112:786-7 D 29 '50

See also

Nutrition

DIET in disease

Low-sodium meat for saltless diets. Bsns W p22 Je 9 '51

DIETHOXYETHYLENE

Preparation and properties of 1,2-diethoxyethylene. S. M. McElvain and C. H. Stammer. bibliog Am Chem Soc J 73:915-17 Mr '51

DIETHYLAMINE

Allylic rearrangements; the reaction of butenyl chlorides with diethylamine and triethylamine. W. G. Young, I. D. Webb and H. L. Goering. bibliog Am Chem Soc J 73:1076-83 Mr '51

DIETHYLAMINOCHLOROPENTANE

Further study of the rearrangement occurring during the alkylation of 6-methoxy-8 aminoquinoline with 1-diethylamino-3-chloropentane. R. C. Elderfield and C. Ressler. bibliog Am Chem Soc J 72:4059-68 S '50

DIETHYLBENZENE

Test mixtures for distillation at atmospheric and reduced pressure. C. B. Willingham and V. A. Sedlak. bibliog J Res Nat Bur Stand 45:315-17 O '50

Analysis

Determination of divinylbenzene in dehydrogenated diethylbenzene. R. P. Marquardt and E. N. Luce. bibliog Anal Chem 23:629-31 Ap '51

DIETHYLDITHIOCARBAMATES

Colorimetric estimation of various metal derivatives of sodium diethyldithiocarbamate. R. J. Lacoste, M. H. Earing and S. E. Wiberley. bibliog Anal Chem 23:871-4 Je '51

DIETHYL ether. See Ethyl ether

DIETHYL fumarate

Copolymerization; the over-all rate of copolymerization of styrene-diethyl fumarate. C. Walling and E. A. McElhill. Am Chem Soc J 73:2819-21 Je '51

DIETHYL nitrophenyl phosphate

Properties of *O,O*-diethyl *O-p*-nitrophenyl thiophosphate and *O,O*-diethyl *O-p*-nitrophenyl phosphate. E. F. Williams. bibliog Ind & Eng Chem 43:950-4 Ap '51

DIETHYL nitrophenyl thiophosphate. See Parathion

DIETHYLSTILBENE

Some unsymmetrically substituted αβ-diethylstilbenes. F. P. Jenkins and J. H. Wilkinson. Chem Soc J p740-4 Mr '51

DIETHYL stilbestrol

Hormone debate. Chem W 69:14-15 Jl 28 '51

DIETHYLTHIOCARBAMYL disulfide

Polarography of the bis-(diethylthiocarbamyl) disulfide-diethyldithiocarbamate ion oxidation-reduction system. E. C. Gregg and W. P. Tyler. bibliog Am Chem Soc J 72:4561-5 O '50

DIETHYLENE glycol

Glycol contamination in gas-dehydration-plant operation. J. R. Mazelli. Oil & Gas J 50:98-100 Je 14 '51

DIETHYLENE glycol dinitrate

Determination of diethylene glycol dinitrate and nitroglycerin by infrared spectroscopy. S. Pinchas. bibliog Anal Chem 23:201-2 Ja '51

DIETHYLENETRIAMINE

Inorganic complex compounds containing polydentate groups; formation constants of diethylenetriamine-nickel(II) and -copper(II) complexes. H. B. Jonassen, R. B. LeBlanc and R. M. Rogan. Am Chem Soc J 72:4968-71 N '50

DIETITIANS

Occupational outlook handbook. U S Bur Labor Statistics Bul 998:66-7 '51

DIFFERENTIAL analyzers

Analog computers solve complex problems at University of California. L. L. Grandi and D. Lebell. il Elec West 105:70-2 D '50

Applications of a mechanical differential analyzer to electrical engineering. E. Janssen and D. Lebell. bibliog diags Elec Eng 70:432-5 My '51

Compact digital differential analyzer. il Electronics 24:244+ Mr '51

Compact electronic computer for engineering data; magnetic drum digital differential analyzer known as Maddida. il Automotive Ind 105:56+ Jl 1 '51

Desk-sized electronic computer developed by Northrop. il Mach 57:168 Mr '51

Differential analyzer study of harmonic power generation with nonlinear impedance element; abstract. P. E. Russell and H. A. Peterson. diag Elec Eng 70:690 Ag '51

Differential analyzer uses plug-in units. C. D. Morrill. il diag Electronics 24:222+ Je '51

Filament voltage regulator. diag Electronics 23:120+ N '50

Simple electronic differential analyzer as a demonstration and laboratory aid to instruction in engineering. M. H. Nichols and D. W. Hagelbarger. bibliog il diag J Eng Educ 41:621-30 Je '51

Special devices aid differential analyzer solution of complex engineering problems. A. C. Cook and others. bibliog il Elec Eng 69:1080 D '50

Study of the response of an airplane landing gear using the differential analyzer. W. C. Hurty. bibliog diags J Aeronautical Sci 17:756-64 D '50

DIFFERENTIAL equations

Almost sinusoidal oscillations in nonlinear systems. J. S. Schaffner. diags Ill U Eng Exp Sta Bul 395:1-64 bibliog(p63-4) '51 (pa 60c)

Asymptotic solutions of ordinary linear differential equations of the second order. I. Imai. Phys R 80:1112 D 15 '50

Determination of eigenvalues using a generalized Laplace transform. M. D. Friedman. J Ap Phys 21:1333-7 D '50

Forced oscillations in nonlinear systems. M. L. Cartwright. J Res Nat Bur Stand 45:514-18 D '50

Numerical determination of characteristic numbers. W. E. Milne. J Res Nat Bur Stand 45:245-54 S '50

One-sided Green's function. K. S. Miller. J Ap Phys 22:1054-7 Ag '51

Random walks and the eigenvalues of elliptic difference equations. W. Wasow. bibliog J Res Nat Bur Stand 46:65-73 Ja '51

Solution of difficult structural problems by finite differences. A. Parme. bibliog diags Am Concrete Inst J 22:237-56 N '50

Solutions of some partial differential equations; with tables. L. Weinberg. Franklin Inst J 252:43-62 Jl '51

See also

Differential analyzers

Laplace transformation

DIFFRACTION

Concerning certain anomalous small angle diffraction effects. G. H. Vineyard. bibliog Phys R 82:453 My 1 '51

Determination of sedimentation constants from Fresnel diffraction patterns. G. Kegeles and F. J. Gutter. bibliog il Am Chem Soc J 73:3770-7 Ag '51

Diffraction of a plane electromagnetic wave by a paraboloid of revolution. C. W. Horton and F. C. Karal, jr. bibliog diag J Ap Phys 22:575-81 My '51

Diffraction of electromagnetic waves by two conducting parallel half-planes. M. G. Cheney, jr. and R. B. Watson. diags J Ap Phys 22:675-9 My '51

Diffraction pattern deterioration by roof prisms. A. I. Mahan and E. E. Price. bibliog il diags Opt Soc Am J 40:664-86 O '50

Diffraction pattern of microwaves near rods. C. L. Andrews. diags J Ap Phys 22:465-8 Ap '51

Small angle diffraction of light by a glass cube. A. T. Forrester and L. Mittenthal. il diags Phys R 81:268-71 Ja 15 '51

DIFFRACTION gratings

Diffraction of electromagnetic waves by a plane wire grating. J. Shmoys. bibliog diags Opt Soc Am J 41:324-8 My '51

Efficient grating mount. N. A. Finkelstein. diags Opt Soc Am J 41:179-82 Mr '51

Interferometric calibration of precision screws and control of ruling engines; Commensurator. G. R. Harrison and J. E. Archer. bibliog il diags Opt Soc Am J 41:495-503 Ag '51

Manufacture

New Johns Hopkins ruling engine. J. Strong. il diags Opt Soc Am J 41:3-15 Ja '51

DIFFUSION

Analogy between diffusion and electrical conductivity in porous rocks. L. J. Klinkenberg. bibliog Geol Soc Bul 62:559-63 Je '51

Anisotropy of diffusion in grain boundaries. M. R. Achter and R. Smoluchowski. diags Phys R 83:163-4 Jl 1 '51

Apparatus for concentration of He^3 by thermal diffusion. O. F. Schuette, jr. and others. diags R Sci Instr 21:1016-18 D '50

Application of the Onsager theory of ionic mobilities to self-diffusion. L. J. Gosting and H. S. Harned. Am Chem Soc J 73:159-61 Ja '51

Calculation of diffusion coefficients from sorption data. S. Prager. J Chem Phys 19:537-41 My '51

Calculation of diffusion penetration curves for surface and grain boundary diffusion. J. C. Fisher. diag J Ap Phys 22:74-7 Ja '51

Catalytic oxidation of sulfur dioxide; effect of diffusion. R. W. Olson, R. W. Schuler and J. M. Smith. bibliog diags Chem Eng Prog 46:614-24 D '50

Chemical attack on polymeric materials as modified by diffusion. S. M. Katz and others. bibliog Textile Res J 20:754-60 N '50

Cobalt self-diffusion; study of the method of decrease in surface activity. R. C. Ruder and C. E. Birchenall. J Metals 191: Trans 142-6 F '51

DIFFUSION—*Continued*

Coefficient of self-diffusion of copper. G. Cohen and G. C. Kuczynski. bibliog J Ap Phys 21:1339-40 D '50

Concentration dependence of the rates of diffusion of macromolecules in solution; an investigation of fractions of polystyrene. A. F. Schick and S. J. Singer. bibliog J Phys & Colloid Chem 54:1028-44 O '50

Dependence of the diffusion coefficient on concentration in dilute polymer solutions. L. Mandelkern and P. J. Flory. bibliog J Chem Phys 19:984-5 Jl '51

Determination of diffusion coefficients by measurements of surface tension. E. R. Washburn and H. N. Dunning. Am Chem Soc J 73:1311-13 Mr '51

Differential diffusion coefficient of potassium nitrate in dilute aqueous solutions at 25°. H. S. Harned and R. M. Hudson. bibliog Am Chem Soc J 73:652-4 F '51

Differential diffusion coefficients of lithium and sodium chlorides in dilute aqueous solution at 25°. H. S. Harned and C. L. Hildreth, jr. Am Chem Soc J 73:650-2 F '51

Diffusion coefficient of carbon in austenite. C. Wells and others. il J Metals 188:Trans 553-60 Mr '50; Discussion. 188:Trans 1375-6 N '50

Diffusion coefficient of silver nitrate in dilute aqueous solution at 25°. H. S. Harned and C. L. Hildreth, jr. Am Chem Soc J 73: 3292-3 Jl '51

Diffusion coefficient of sucrose in supersaturated solution. A. R. Gordon. Am Chem Soc J 72:4840 O '50

Diffusion coefficient of zinc sulfate in dilute aqueous solution at 25°. H. S. Harned and R. M. Hudson. bibliog Am Chem Soc J 73:3781-3 Ag '51

Diffusion coefficients of lithium and sodium sulfates in dilute aqueous solution at 25°. H. S. Harned and C. A. Blake, jr. bibliog Am Chem Soc J 73:2448-50 Je '51

Diffusion coefficients of organic liquids in solution from surface tension measurements. R. L. Olson and J. S. Walton. Ind & Eng Chem 43:703-6 Mr '51

Diffusion-controlled electrode reactions. C. S. Lin and others. bibliog diags Ind & Eng Chem 43:2136-43 S '51

Diffusion in solid sulfur. R. B. Cuddeback and H. G. Drickamer. J Chem Phys 19:790-1 Je '51

Diffusion of hydrocarbons in polyisobutylene. S. Prager and F. A. Long. bibliog diag Am Chem Soc J 73:4072-5 S '51

Diffusion of thoron atoms through photographic gelatin. G. G. Eichholz and F. C. Flack. bibliog il J Chem Phys 19:363-6 Mr '51

Diffusion phenomena occuring during sintering. B. H. Alexander. J Metals 191:95 F '51

Diffusion rates in extraction of porous solids; single phase extractions. E. L. Piret and others. bibliog(30 ref) diags Chem Eng Prog 47:405-14 Ag '51

Diffusion studies on dilute aqueous glycine solutions at 1 and 25° with the Gouy interference method. M. S. Lyons and J. V. Thomas. bibliog Am Chem Soc J 72:4506-11 O '50

Diffusivity of water vapor in some common gases. F. A. Schwertz and J. E. Brow. bibliog diags J Chem Phys 19:640-6 My '51

Effect of pressure on thermal diffusion in gases. E. W. Becker. bibliog J Chem Phys 19:131-2 Ja '51

Effect of turbulence in thermal diffusion columns. J. Donaldson and W. W. Watson. bibliog Phys R 82:909-13 Je 15 '51

Electrical conductivity method for measuring self-diffusion of metals. J. H. Dedrick and G. C. Kuczynski. diags J Ap Phys 21:1224-5 D '50

Electrolytic properties of aqueous solutions of polyacrylic acid and sodium hydroxide; diffusion experiments using radioactive sodium. J. R. Huizenga, P. F. Grieger and F. T. Wall. bibliog Am Chem Soc J 72:4228-32 S '50

Experimental evidence for the vacancy mechanism in diffusion in metals and alloys. F. C. Nix and F. E. Jaumot, jr. bibliog Phys R 83:1275-6 S 15 '51

Frequency factor and activation energy for the volume diffusion of metals. G. J. Dienes. bibliog J Ap Phys 21:1189-92 N '50

Gaseous diffusion as a random process. W. H. Furry and P. H. Pitkanen. bibliog diag J Chem Phys 19:729-38 Je '51

Integral diffusion coefficients of potassium chloride solutions for calibration of diaphragm cells. R. H. Stokes. Am Chem Soc J 73:3527-8 Jl '51

Interface and marker movements in diffusion in solid solutions of metals. L. C. Correa da Silva and R. F. Mehl. bibliog il diags J Metals 191:Trans 155-73 F '51

Interferometric method of determining diffusion coefficients in gaseous systems. C. A. Boyd and others. il diags J Chem Phys 19:548-53 My '51

Intraparticle diffusion in catalytic heterogeneous systems. N. L. Smith and N. R. Amundson. bibliog diag Ind & Eng Chem 43:2156-67 S '51

Measurement of carbon diffusion in metallic carbides. G. C. Kuczynski and R. Landauer. diag J Ap Phys 22:952-5 Jl '51

Measurements on the diffusion of interstitial atoms in B.C.C. lattices. C. A. Wert. J Ap Phys 21:1196-7 N '50

Mechanism of self-diffusion in alkali metals. H. R. Paneth. bibliog Phys R 80:708-11 N 15 '50

Metallographic study of diffusion interfaces. G. C. Kuczynski and B. H. Alexander. il J Ap Phys 22:344-9 Mr '51

Method for the measurement of thermal diffusivity of molten glass. A. F. Van Zee and C. L. Babcock. diags Am Cer Soc J 34: 244-50 Ag 1 '51

Micro-determination of nitrogen as ammonia by the diffusion technique. H. Naylor. diags Textile Inst J Trans 42:T300-8 Jl-Ag '51

Moisture permeability, diffusion and sorption in organic film-forming materials. A. M. Thomas. bibliog J Ap Chem 1:141-58 Ap '51

Nomograph for gaseous systems; diffusion coefficients. C. D. Spangenberg, jr. Chem Eng 58:170-1 S '51

Production and detection of a non-equilibrium number of vacancies in a metal. A. S. Nowick. Phys R 82:551-2 My 15 '51

Reinterpretation of experiments in intermetallic diffusion. A. S. Nowick. bibliog J Ap Phys 22:1182-6 S '51

Selective diffusion into ion-exchange resins; a new method for the purification of the direct cotton dyes. R. W. Richardson. Chem Soc J p910-14 Ap '51

Self-diffusion and structure of liquid water; measurement of self-diffusion of liquid water with deuterium as tracer. J. H. Wang. bibliog diag Am Chem Soc J 73:510-13 F '51

Self-diffusion and structure of liquid water; measurement of self-diffusion of liquid water with O^{18} as tracer. Jui Hsin Wang. bibliog Am Chem Soc J 73:4181-3 S '51

Self-diffusion in alpha and gamma iron. C. E. Birchenall and R. F. Mehl. bibliog J Metals 188:Trans 144-9 Ja '50; Discussion. 188: Trans 1374-5 N '50

Self-diffusion in cobalt. F. C. Nix and F. E. Jaumot, jr. bibliog Phys R 82:72-4 Ap 1 '51

Self-diffusion in some solids. R. Lindner. diags Chem Soc J supp no 2:S395-6 '49

Self-diffusion of silver and mercury in Ag_2HgI_4. K. E. Zimen, G. Johansson and M. Hillert. Chem Soc J supp no 2:S392-4 '49

Separation of gas mixtures by mass diffusion. M. Benedict and A. Boas. diags Chem Eng Prog 47:51-62, 111-22 F-Mr '51

Simple method for the determination of diffusion constants. L. A. Walker. bibliog diag Science 112:757-8 D 22 '50

Studies in the theory of the polarographic diffusion current; diffusion current constants of some ions in the absence of gelatin. L. Meites. bibliog Am Chem Soc J 73:1581-3 Ap '51

Study of the diffusion of potassium chloride in water at 25° with the Gouy interference method. L. J. Gosting. bibliog diags Am Chem Soc J 72:4418-22 O '50

DIFFUSION—*Continued*

Surface diffusion in sintering of spheres on planes. P. Schwed. diag J Metals 3:Trans 245-6 Mr '51

Sweep diffusion gas separation process. M. T. Cichelli, W. D. Weatherford, jr. and J. R. Bowman. bibliog il diags Chem Eng Prog 47:63-74, 123-33 F-Mr '51

Temperature dependence of the self-diffusion coefficients or argon, neon, nitrogen, oxygen, carbon dioxide, and methane. E. B. Winn. bibliog diag Phys R 80:1024-7 D 15 '50

Theory of D_0 for atomic diffusion in metals. C. Zener. bibliog J Ap Phys 22:372-5 Ap '51

Theory of the separation of isotopes by thermal diffusion. S. D. Majumdar. bibliog Phys R 81:844-8 Mr 1 '51

Thermal diffusion in hydrogen-water vapor mixtures. E. Whalley. J Chem Phys 19: 509-10 Ap '51

Transport phenomena in dense media; thermal diffusion in compressed gases. W. L. Robb and H. G. Drickamer. bibliog J Chem Phys 19:818-20 Jl '51

Use of radioactive isotopes in the study of the diffusion of ions in solution. J. S. Anderson and K. Saddington. diag Chem Soc J supp no 2:381-6 '49

Vapor diffusion methods in qualitative and quantitative analysis. H. Hughes. diags J Chem Educ 28:195-7 Ap '51

Wall reactions and diffusion in static and flow systems. R. Gomer. J Chem Phys 19: 284-9 Mr '51

DIFFUSION cloud chambers. See Cloud chambers

DIFLUOROBENZENE

Infra-red and Raman spectra of para-difluorobenzene. A. H. Delsemme. J Chem Phys 18:1680 D '50

DIFLUOROBORIC acid

Chemistry of boron; the reactions and structure of dihydroxydifluoroboric acid. L. H. Long and D. Dollimore. Chem Soc J p 1608-12 Je '51

DIFLUOROBUTADIENE

Polymerization of 2,3-difluorobutadiene and 2-chloro-3-fluorobutadiene. L. B. Wakefield. bibliog Ind & Eng Chem 43:2363-6 O '51

DIFLUOROETHYLENE

Addition of alcohols to some 1,1-difluoroethylenes. P. Tarrant and H. C. Brown. Am Chem Soc J 73:1781-3 Ap '51

DIGESTERS (paper making)

Corrosion and field lining of sulphate digesters. T. T. Collins, jr. and others. il Paper Tr J 132:24+ F 9; 18+ bibliog(62 titles, p24+) F 16 '51

Corrosion of mild steel and mild steel welds in sulphate digesters. R. A. Huseby and M. A. Scheil. il diags Tappi 34:202-9 My '51

Digester corrosion; experience of a sulphate mill. T. C. Johnson. diags Tappi 33:481-4 O '50

Digester installation at Columbia Cellulose. il diag Pulp & Pa of Can 52:136-7 Je '51

Effect of silicates on digester corrosion. J. C. Hair and A. W. Duskin. Tappi 34:252-4 Je '51

Factors influencing the service life of brick linings in sulphite digesters. B. Thomas. bibliog diags Tappi 34:16-20 Ja '51

Filling digesters from overhead chip bins; use of steam nozzles. G. Morseth and V. Haner. diag Paper Ind 32:860-1 N '50

Heat treatment inside out; stress-relieving large welded sulfite digesters. H. E. Linsley. il diags Am Mach 95:144 O 1 '51

Stainless steel lining of a pulp mill digester. S. C. Johnson and N. J. Gibson. il diags Paper Tr J 133:20+ S 14 '51

Sulphite studies, the influence of cooking variables. J. S. Hart and R. K. Strapp. Pulp & Pa of Can 52:148-54 Je '51

Failure

Failure of a pulp mill digester. W. T. White. il diags Paper Tr J 132:57-63 Je 15 '51

DIGLYCEROL

Kinetics of esterification and properties of drying oils from diglycerol, by the Northwestern club. bibliog diag Paint Oil & Chem R 113:56+ N 23 '50

DIGUANIDE

Amidines; preparation of diguanides and guanidines from cyanoguanidine and ammonium sulphonates. P. Oxley and W. F. Short. Chem Soc J p 1252-6 My '51

Synthetic antimalarials; N^1-3 : 4-dihalogenophenyl-N^5-alkyl- and -N^5N^5-dialkyl-diguanides. A. F. Crowther and others. Chem Soc J p 1774-80 Jl '51

Synthetic antimalarials; the action of halogens on N^1-aryldiguanides. A. F. Crowther, F. H. S. Curd and F. L. Rose. Chem Soc J p 1780-5 Jl '51

DIHYDROAGNOSTEROL

Chloro- and iodo-acetates of dihydrolanosterol and dihydroagnosterol. R. G. Curtis. Chem Soc J p 1017-18 Mr '50

DIHYDROANISOLE

Reduction by dissolving metals; the reactivity of mesomeric anions in relation to the reduction of benzene rings. A. J. Birch. Chem Soc J p 1551-6 Je '50

DIHYDROANTHRACENE

Arylmethylation of benzene derivatives. C. M. Welch and H. A. Smith. bibliog Am Chem Soc J 73:4391-3 S '51

Substituted anthracene derivatives; *cis*- and *trans*-9 : 10-dimethyl-9 : 10-dihydroanthracene. G. M. Badger, M. L. Jones and R. S. Pearce. Chem Soc J p 1700-2 Jl '50

DIHYDROBENZOFURAN

Dehydrogenation of coumaran. B. Klarmann. Am Chem Soc J 73:4476 S '51

Furanochromones; the synthesis of visnagin and related compounds. J. S. H. Davies and W. L. Norris. Chem Soc J p3195-201 N '50

Preparation of 2-methyl-2,3-dihydrobenzofuran. J. Entel, C. H. Ruof and H. C. Howard. Am Chem Soc J 73:2365 My '51

DIHYDROBENZOFURANDIONE

Action of pyridine and iodine upon two *o*-phenolic-1,4-diketones; 4,6,7-trimethylcoumarandione and its 5-hydroxy derivative. L. I. Smith and R. R. Holmes. bibliog Am Chem Soc J 73:4294-7 S '51

DIHYDROCINERIN

Experiments on the synthesis of the pyrethrins; synthesis of dihydrocinerin-I and tetrahydropyrethrin-I; a study of the action of *N*-bromosuccinimide on 3-methyl-2-*n*-alkyl (and alkenyl)-*cyclo*pent-2-en-1-ones. L. Crombie, M. Elliott and S. H. Harper. Chem Soc J p971-8 Mr '50

DIHYDROEQUILENIN

α- and β-dihydroequilenin; configuration at C_{17}. C. W. Shoppee. bibliog Chem & Ind p810 D 16 '50

DIHYDROERYTHROIDINE

β-Erythroidine; a study of the Hofmann decomposition of dihydro-β-erythroidine. V. Boekelheide and E. Agnello. Am Chem Soc J 73:2286-9 My '51

DIHYDROLANOSTEROL

Chloro- and iodo-acetates of dihydro-lanosterol and dihydroagnosterol. R. G. Curtis. Chem Soc J p 1017-18 Mr '50

Lanosterol; ketodihydrolanosterol. M. J. Birchenough and J. F. McGhie. Chem Soc J p 1249-52 My '50

DIHYDROMYRCENE

Heats of adsorption on carbon black. M. H. Polley, W. D. Schaeffer and W. R. Smith. bibliog Am Chem Soc J 73:2161-5 My '51

DIHYDRONAPHTHALENE

Endocyclic α,β-unsaturated ketones; dehydration-rearrangement of 1,4-dihydronaphthalene-1-ols to naphthalenes. N. H. Cromwell, H. H. Eby and D. B. Capps. Am Chem Soc J 73:1224-6 Mr '51

DIHYDROOXAZINE

Amidines; preparation of 2-substituted Δ^2-oxazolines and 4 : 5-dihydro-1 : 3-oxazines from hydroxyalkylamines and *N*-substituted amidines or ketoxime sulphonates. P. Oxley and W. F. Short. Chem Soc J p 1100-1 Ap '50

DIHYDROPHENANTHRENE

9 : 10-Dihydrophenanthrenes; the formation of 9 : 10-dihydrophenanthrene from 2 : 2′-disubstituted diphenyls. D. M. Hall, M. S. Lesslie and E. E. Turner. Chem Soc J p711-13 F '50

Optical resolution of (±)-*trans*-9 : 10-dihydroxy-9 : 10-dihydrophenanthrene. J. Booth, E. Boyland and E. E. Turner. Chem Soc J p2808-10 O '50

DIHYDROPYRIDAZINEDIONE

Control of storage sprouting in onions by preharvest foliage sprays of maleic hydrazide. S. H. Wittwer and R. C. Sharma. bibliog il Science 112:597-8 N 17 '50

Effect of maleic hydrazide on certain dehydrogenases in tissues of onion plants. F. M. R. Isenberg and others. Science 113:58-60 Ja 19 '51

Maleic hydrazide as an antiauxin in plants. A. C. Leopold and W. H. Klein. bibliog Science 114:9-10 Jl 6 '51

DIHYDROPYRIDINE

Maleic anhydride adduct of N-phenyl-3,5-diethyl-2-propyl-1,4-dihydropyridine. D. Craig, A. K. Kuder and J. Efroymson. Am Chem Soc J 72:5236-8 N '50

Substituted dihydropyridines related to Hantzsch's pyridine synthesis. A. P. Phillips. Am Chem Soc J 73:2248 My '51

DIHYDROROTENONE

Analysis

Determination of rotenone as an impurity in dihydrorotenone. I. Hornstein. Anal Chem 23:1330-1 S '51

DIHYDROSIARESINOLIC acid

Stereochemistry of rings D and E in the β-amyrin and lupeol groups of triterpenoids. D. H. R. Barton and N. J. Holness. Chem & Ind p233-4 Mr 24 '51

DIHYDROSTREPTOMYCIN. See Streptomycin

DIHYDROTETRAZINE

1 : 4-Diaryl-1 : 4-dihydro-1 : 2 : 4 : 5-tetrazines and derived substances. W. Baker, W. D. Ollis and V. D. Poole. Chem Soc J p3389-94 D '50

Electric dipole moments of some dihydrotetrazines and related compounds. P. G. Edgerley and L. E. Sutton. Chem Soc J p3394-6 D '50

DIHYDROTRIMETHYLPYRAN

3,6-Dihydro-2,4,6-trimethyl-2H-pyran, a product of the dehydration of 2-methyl-2,4-pentanediol. S. A. Ballard, R. T. Holm and P. H. Williams. bibliog Am Chem Soc J 72:5734-8 D '50

DIHYDROXYBENZOIC acid. See Resorcylic acid

2,3-DIHYDROXYBENZOIC acid. See Protocatechuic acid

DIHYDROXYDIMETHYL diphenylmethane

X-ray investigation of 2 : 2′-dihydroxy-5 : 5′-dimethyldiphenylmethane and its 3-, 4-, and 5-ring polymers and *p*-cresol novolak resins. R. F. Hunter and V. Vand. bibliog il J Ap Chem 1:298-300 Jl '51

DIHYDROXYDIPHENYL

Hydrogenation of diphenylene oxide and 2 : 2′-dihydroxydiphenyl. J. I. Jones and A. S. Lindsey. Chem Soc J p 1836-41 Jl '50

DIHYDROXYDIPHENYLETHANE

Synthesis of molecular units for rational synthesis of phenol-formaldehyde and allied resins; synthesis of resoles, dihydroxydiphenylethanes, and dihydroxydiphenylpropanes. A. T. Carpenter and R. F. Hunter. bibliog J Ap Chem 1:217-26 My '51

DIHYDROXYDIPHENYLMETHANE

Formaldehyde condensations with phenol and its homologues; the effect of *p*H on the yields of isomeric dihydroxydiphenylmethanes. S. R. Finn and J. W. G. Musty. bibliog Soc Chem Ind J 69(sup no2):S49-51 '50

Formaldehyde condensations with phenol and its homologues; the mixed melting points of mixtures of the isomeric dihydroxydiphenylmethanes. S. R. Finn, G. J. Lewis and N. J. L. Megson. bibliog Soc Chem Ind J 69(sup no2):S51-3 '50

Ultra-violet adsorption spectra of 2 : 2′-, 2 : 4′-, 4 : 4′-dihydroxydiphenylmethanes, 2 : 2′ - dihydroxy - 5 : 5′ - dimethyldiphenylmethane and its 3-, 4-, and 5-ring polymers, and of 4 : 4′-dihydroxydiphenylethane. R. F. Hunter, R. A. Morton and A. T. Carpenter. Chem Soc J p441-4 F '50

DIHYDROXYDIPHENYLPROPANE

Synthesis of molecular units for rational synthesis of phenol-formaldehyde and allied resins; synthesis of resoles, dihydroxydiphenylethanes, and dihydroxydiphenylpropanes. A. T. Carpenter and R. F. Hunter. bibliog J Ap Chem 1:217-26 My '51

DIHYDROXYINDOLE

Synthesis of derivatives of 5 : 6-dihydroxyindole; 5 : 6-dihydroxyindole and related compounds. H. Burton, J. A. Duffield and P. F. G. Praill. Chem Soc J p 1062-5 Ap '50

DIHYDROXYMETHYLINDOLE

Chemistry of adrenochrome and its derivatives. J. Harley-Mason. Chem Soc J p 1276-82 My '50

DIHYDROXYPHENAZINE

Phenazine series; the constitution of the pigment of chromobacterium iodinum. G. R. Clemo and A. F. Daglish. Chem Soc J p 1481-5 Je '50

DIHYDROXYPHENYL alanine

Effect of ascorbic acid on the enzymatic oxidation of monohydric and *o*-dihydric phenols. R. C. Krueger. bibliog Am Chem Soc J 72:5582-7 D '50

DIHYDROXYPROPANONE

Partial synthesis of compounds related to adrenal cortical hormones; preparation of the dihydroxyacetone side chain; 17*α*-hydroxyprogesterone and substances L and P. T. H. Kritchevsky and T. F. Gallagher. bibliog Am Chem Soc J 73:184-9 Ja '51

DIHYDROXYPYRIMIDINE

New synthesis of 4 : 6-dihydroxypyrimidines. R. Hull. Chem Soc J p2214 Ag '51

DIIODOETHYLENE

Composition of so-called *cis*-diiodoethylene. S. I. Miller and R. M. Noyes. Am Chem Soc J 73:2376-7 My '51

DIIODOFLUORESCEIN

Purity of diiodofluorescein-I_2^{131}. A. Roe, R. L. Hayes and H. D. Bruner. Am Chem Soc J 73:4483-4 S '51

DIIODONITROPHENOL

Difficulties in the alkylation of 2 : 6-di-iodo-4-nitrophenol. J. H. Wilkinson. Chem Soc J p626-7 F '51

DIIODOPHENOL

Synthesis of thyroxine and related substances; the preparation of diphenyl ethers from 2 : 6-di-iodophenols. J. H. Barnes and others. Chem Soc J p2824-33 O '50

DIISOPROPYL fluorophosphate

Chemical corps lists nerve gas antidote. Chem & Eng N 29:568-9 F 12 '51

Analysis

Determination of fluorine in monofluorinated organic compounds in air and water. J. M. Salsbury and others. bibliog il diag Anal Chem 23:603-8 Ap '51

DIISOPROPYL fluorophosphonate

Esters containing phosphorus; radioactive di*iso*propyl fluorophosphonate (D.F.P.). B. C. Saunders and T. S. Worthy. diag Chem Soc J p 1320-2 My '50

DIISOPROPYLIDENE glyoxal

Quartermaster needs; fuel tablet. W. Stubblebine. Chem Eng 58:278-9 My '51

DIKES (engineering)

Dikes and basins protect Coachella canal against flash floods. W. R. Slater and others. il maps diag Civil Eng 20:719-23 N '50

First, you need a construction site; making construction site out of a lagoon; problem solved by constructors of Hunts Point sewage works. il Eng N 147:28-31 Ag 16 '51

Grouting checks seepage under dikes forming Granby reservoir in Colorado. il Eng N 147:36 S 27 '51

Machines conquer tough slope-paving job; dikes for U.S. government power plant at the Soo. il diags Eng N 147:28-9 Ag 9 '51

Settlement correction at La Guardia field. J. M. Kyle. plan Am Soc C E Proc 76 [no 43]:1-6 N '50

DIKETONES. See Ketones

DILAN

Colorimetric determination of 2-nitro-1,1-bis(*p*-chlorophenyl)alkanes. L. R. Jones and J. A. Riddick. bibliog Anal Chem 23:349-51 F '51

DILATOMETERS

Determination of small thermal expansion coefficients by a micrometric dilatometer method. B. S. Lement and others. diags R Sci Instr 22:194-6 Mr '51

Effect of particle size and deuterium substitution on the λ-point in ammonium chloride. D. G. Thomas and L. A. K. Staveley. diag Chem Soc J p 1420-5 Je '51

DILATOMETERS—*Continued*

Simple volume dilatometer. diags Chem Age (Lond) 63:913-14 D 30 '50; Same. Glass Ind 32:233+ My '51

See also

Compressibility

DIMERCAPTOPROPANOL. See BAL

DIMETHOXYMETHANE. See Methylal

DIMETHOXYMETHYLPYRIDINE

Synthesis of some dimethoxymethylpyridines. R. P. Mariella and A. J. Havlik. Am Chem Soc J 73:1864 Ap '51

DIMETHOXYQUINOLINE

5,8-Dimethoxyquinoline. C. E. Kaslow and V. V. Young. bibliog Am Chem Soc J 72:5325-6 N '50

DIMETHOXYTHIOPHENE

Preparation of 3,4-dimethoxy-2,5-dicarbethoxythiophene; 3,4-dimethoxythiophene. C. G. Overberger and J. Lal. Am Chem Soc J 73:2956-7 Je '51

DIMETHYLAMINE

Cyclic polyolefins; allylic rearrangement in the reactions of *cis*- and *trans*-3,5-dibromocyclopentenes with dimethylamine. A. C. Cope and others. bibliog Am Chem Soc J 73:1199-204 Mr '51

Analysis

Polarographic determination of dimethylamine. F. L. English. bibliog Anal Chem 23:344-6 F '51

DIMETHYL aminoazobenzene

Cosolubilization in solutions of potassium laurate; effect of cosolubilized alcohols and hydrocarbons on the solubilization of several aromatic compounds in potassium laurate solutions. I. M. Kolthoff and W. F. Graydon. bibliog J Phys & Colloid Chem 55:699-712 My '51

DIMETHYL aminobenzaldehyde

Determination of tryptophan with *p*-dimethylaminobenzaldehyde; elimination of interference by chloride and bisulfite ions. J. R. Spies. Anal Chem 22:1447-9 N '50

DIMETHYL aminoethyl chloride

Alkylation of β-ketoesters with β-dimethylaminoethyl chloride. W. V. Doering and S. J. Rhoads. bibliog Am Chem Soc J 73:3082-4 Jl '51

DIMETHYL aminohydrobenzoin

Pinacol-pinacolone type rearrangement of 4,4′-bis-dimethylaminohydrobenzoin. M. J. Allen. Am Chem Soc J 73:1841 Ap '51

DIMETHYL aminophenol

Some organosilicon compounds containing the *p*-dimethylaminophenyl group. H. Gilman, M. A. Plunkett and G. E. Dunn. Am Chem Soc J 73:1686-8 Ap '51

DIMETHYL aniline

Catalytic reaction of aromatic amines; alkylation with alcohols. A. G. Hill, J. H. Shipp and A. J. Hill. bibliog diag Ind & Eng Chem 43:1579-83 Jl '51

Catalytic reactions of aromatic amines; rearrangement of alkyl groups. A. G. Hill and A. J. Hill. Ind & Eng Chem 43:1583-5 Jl '51

Fluorination of organic compounds containing nitrogen. R. N. Haszeldine. Chem Soc J p 1966-8 Jl '50

Liquid sulfur dioxide from waste smelter gases; use of dimethylaniline as absorbant. E. P. Fleming and T. C. Fitt. bibliog flow diags il Ind & Eng Chem 42:2253-8 N '50

Nitration of dimethylaniline to tetryl, 2 : 4 : 6 : N-tetranitromethylaniline; the course of the reaction. C. E. Clarkson, I. G. Holden and T. Malkin. Chem Soc J p 1556-62 Je '50

Studies in peroxidase action; the oxidation of dimethylaniline. F. T. Naylor and B. C. Saunders. Chem Soc J p3519-23 D '50

Synthesis of 2 : 6-dicyano-3 : 5-dimethylaniline. R. Hull. Chem Soc J p 1136-7 Ap '51

DIMETHYL benzanthracene

Derivatives of 9,10-dimethyl-1,2-benzanthracene. J. L. Wood and L. F. Fieser. Am Chem Soc J 73:4494-5 S '51

DIMETHYL bischloromethyl benzene. See DCB

DIMETHYL butadiene

1-Cyano-1,3-butadienes; Diels-Alder reactions with dienes. H. R. Snyder and G. I. Poos. bibliog Am Chem Soc J 72:4096-103 S '50

DIMETHYL butane

Raman spectra of hydrocarbons; *n*-hexane, *n*-heptane, 2-methylpentane, 3-methylpentane, 2,4-dimethylpentane, and 2,3-dimethylbutane. F. F. Cleveland and P. Porcelli. bibliog J Chem Phys 18:1459-61 N '50

Rotational isomerism in 2-methyl butane and 2:3-dimethyl butane. J. K. Brown and N. Sheppard. bibliog J Chem Phys 19:976-7 Jl '51

DIMETHYL cadmium. See Cadmium dimethyl

DIMETHYL citromycin

Chemistry of fungi; the degradation of *O*-dimethylcitromycinol and a revised structure for *O*-dimethylcitromycin. G. W. K. Cavill, A. Robertson and W. B. Whalley. Chem Soc J p 1031-7 Ap '50

Chemistry of fungi; the synthesis of 6′ : 7′-dimethoxy-2 : 4-dimethylchromeno(3′ : 4′-5 : 6)pyranol identical with a derivative of *O*-dimethylcitromycin. J. B. D. Mackenzie, A. Robertson and W. B. Whalley. Chem Soc J p 2965-71 N '50

DIMETHYL cyclohexane

Heats of vaporization and vapor heat capacities of some dimethylcyclohexanes. J. P. McCullough, W. B. Person and R. Spitzer. bibliog Am Chem Soc J 73:4069-71 S '51

DIMETHYL dithiophene

Dimethyl-dithienyl. W. Friedmann. Inst Pet J 37:242-4 My '51

DIMETHYL formamide

Conductivity of concentrated electrolyte systems as a function of temperature and concentration. L. R. Dawson, G. R. Leader and H. K. Zimmerman, jr. J Phys & Colloid Chem 55:447-55 Mr '51

DIMETHYL furoic acid

Preparation of ethyl 2,4-dimethyl-3-furoate. E. R. Alexander and S. Baldwin. bibliog Am Chem Soc J 73:356-8 Ja '51

DIMETHYL glucose

Characterisation of 3 : 4-dimethyl ᴅ-glucose. D. J. Bell and G. D. Greville. Chem Soc J p 1902-7 Jl '50

DIMETHYL hydrazine

Heat capacity, heats of fusion and vaporization, vapor pressures and entropy of symmetrical dimethylhydrazine. J. G. Aston, G. J. Janz and K. E. Russell. Am Chem Soc J 73:1943-5 My '51

Infrared and Raman spectra of methylhydrazine and symmetrical dimethylhydrazine. D. W. E. Axford and others. J Chem Phys 19:704-7 Je '51

DIMETHYL mercaptothiazole

Vulcanization accelerators; evaluation of 4,5-dimethyl-2-mercaptothiazole derivatives. R. A. Mathes and F. D. Stewart. bibliog Ind & Eng Chem 43:1569-71 Jl '51

DIMETHYL morpholinyl propanol

Synthesis of 2,2-dimethyl-3-(4-morpholinyl)-1-propanol and analogous amino alcohols by the Mannich and crossed Cannizzaro reactions. L. C. Cheney. bibliog Am Chem Soc J 73:685-6 F '51

DIMETHYL naphthalene

Alkylnaphthalenes; 1 : 3-dimethylnaphthalene. R. F. Evans and J. C. Smith. bibliog Inst Pet J 37:80-90 F '51

Synthesis of fluoranthenes; cyclisation of arylbutadienes; syntheses of 1 : 3-dimethyl- and of 1 : 2 : 3-trimethylnaphthalene. S. H. Tucker, M. Whalley and J. Forrest. Chem Soc J p3194-9 D '49

DIMETHYL naphthidine

Substituted benzidines and related compounds as reagents in analytical chemistry; 3 : 3′-dimethylnaphthidine as indicator in the titration of zinc with ferrocyanide. R. Belcher, A. J. Nutten and W. I. Stephen. Chem Soc J p 1520-1 Je '51

DIMETHYL octadiene

Analysis of the isomeric composition of bromodihydromyrcene. L. Bateman, J. I. Cunneen and H. P. Koch. Chem Soc J p3045-51 N '50

DIMETHYLOLUREA

Application of *s*-bisalkoxymethylureas (dialkyl ethers of dimethylolurea) to wool. P. Alexander and others. Soc Dyers & Col J 66:579-83 N '50

DIMETHYL pentane
Raman spectra of hydrocarbons; *n*-hexane, *n*-heptane, 2-methylpentane, 3-methylpentane, 2,4-dimethylpentane, and 2,3-dimethylbutane. F. F. Cleveland and P. Porcelli. bibliog J Chem Phys 18:1459-61 N '50

DIMETHYL pentene
Reactions of unsaturated compounds; the oxidation of *as*-di*neo*pentylethylene by chromic oxide. W. J. Hickinbottom and D. G. M. Wood. Chem Soc J p 1600-2 Je '51

DIMETHYL phenanthrene
Synthesis of 4 : 5-dimethylphenanthrene. G. M. Badger and others. Chem Soc J p2326-8 S '50

DIMETHYL phenol
Formaldehyde condensations with phenol and its homologues; the preparation of 2-hydroxymethyl-3 : 5-dimethylphenol by a new general method. S. R. Finn and J. W. G. Musty. bibliog J Ap Chem 1:182-4 Ap '51

DIMETHYL phthalate
Formation of five and six-membered rings by the acyloin condensation; the cyclization of dimethyl hexahydrohomophthalate. J. C. Sheehan and R. C. O'Neill. bibliog Am Chem Soc J 72:4614-16 O '50

DIMETHYL propane
Bromination of hydrocarbons; neopentane and hydrogen chain lengths; efficiency of neopentane as a third body. F. E. Schweitzer and E. R. Van Artsdalen. J Chem Phys 19:1028-30 Ag '51
Bromination of hydrocarbons; photochemical and thermal bromination of neopentane in the gas phase; the C—H bond strength in neopentane. E. I. Hormats and E. R. Van Artsdalen. bibliog J Chem Phys 19:778-83 Je '51
Non-rearrangement reactions of the neopentyl-oxygen bond; new syntheses of neopentyl halides. L. H. Sommer, H. D. Blankman and P. C. Miller. Am Chem Soc J 73:3542 Jl '51
Thermochemistry for the petrochemical industry; some miscellaneous hydrocarbons. K. A. Kobe and R. E. Pennington. bibliog Pet Refiner 29:93-6 D '50

DIMETHYL propanol
Experiments on the interaction of hydroxy-compounds and phosphorus and thionyl halides in the absence and in the presence of tertiary bases. W. Gerrard, A. Nechvatal and B. M. Wilson. Chem Soc J p2088-92 Ag '50
Mechanism of sulfation of alcohols. N. C. Deno and M. S. Newman. bibliog Am Chem Soc J 72:3852-6 S '50

DIMETHYL propiothetin
New synthesis of dimethyl-β-propiothetin. hydrochloride. N. F. Blau and C. G. Stuckwisch. Am Chem Soc J 73:2355-6 My '51

DIMETHYL pyrazine
Action of organolithium compounds on 2,5-dimethylpyrazine. B. Klein and P. E. Spoerri. Am Chem Soc J 73:2949-51 Je '51

DIMETHYL pyrone
Reciprocal solubility of 4,6-dimethyl-1,2-pyrone and water. R. H. Wiley and N. R. Smith. bibliog Am Chem Soc J 73:1383-4 Mr '51

DIMETHYL rhamnose
Synthesis of 2 : 3-dimethyl L-rhamnose; the action of sodium metaperiodate on 2 : 3- and 3 : 4-dimethyl L-rhamnoses. F. Brown, L. Hough and J. K. N. Jones. Chem Soc J p 1125-7 Ap '50

DIMETHYL styrene
Dehydrogenation of *p*-cymene. K. A. Kobe and R. T. Romans. bibliog diag Ind & Eng Chem 43:1755-8 Ag '51

DIMETHYL sulfoximine. See Sulfur compounds

3,7-DIMETHYL xanthine. See Theobromine

DIMIDIUM bromide. See Phenanthridium compounds

DINAPHTHOFURAN
Aromatic cyclodehydrogenation; studies on ring oxygen compounds; dinaphthol[1,2,1',2']-furan. M. Orchin and L. Reggel. Am Chem Soc J 73:1877-8 Ap '51

DINAPHTHYLETHANE
New derivative of dinaphthylethane. M. Szwarc and A. Shaw. bibliog Am Chem Soc J 73:1379 Mr '51

DINEOPENTYLETHYLENE. See Dimethyl pentene

DINERS' club
Credit card pays entertainment bills. Bsns W p34 N 11 '50

DINING cars
Negro complainant assails new Southern diner rules. Ry Age 129:47+ N 25 '50
New order on seating Negroes in dining cars. Ry Age 129:69 N 18 '50

DINING rooms
Suggestions for the merchant builder; dining area problem. il Arch Forum 94:118-19 Ja '51

DINITROBENZOATE
Separation and identification of 2,4-dinitrophenylhydrazones of aldehydes and ketones, and 3,5-dinitrobenzoates of alcohols by filter-paper chromatography. R. G. Rice, G. J. Keller and J. G. Kirchner. bibliog Anal Chem 23:194-5 Ja '51

DINITROBUTENE
Condensation of 1,1-dinitroethane with electronegatively substituted unsaturated compounds; the synthesis of 3,3-dinitro-1-butene. H. Shechter and L. Zeldin. bibliog Am Chem Soc J 73:1276-8 Mr '51

DINITROETHANE
Condensation of 1,1-dinitroethane with electronegatively substituted unsaturated compounds; the synthesis of 3,3-dinitro-1-butene. H. Shechter and L. Zeldin. bibliog Am Chem Soc J 73:1276-8 Mr '51

DINITROGEN oxides. See Nitrogen oxides

DINITRONAPHTHALENE
1,8-Dinitronaphthalene. W. C. McCrone. il Anal Chem 23:1188-9 Ag '51

DINITROORTHOCRESOL
D.N.O.C. more than a weedkiller. Chem Age (Lond) 65:49-50 Jl 14 '51

DINITROPHENOL
Kinetics and mechanism of the reaction of diphenyldiazomethane with 2,4-dinitrophenol in ethanol. J. D. Roberts, W. Watanabe and R. E. McMahon. Am Chem Soc J 73:2521-3 Je '51
Treatment and disposal of waste waters containing picric acid and dinitrophenol; abstract. R. Wilkinson. Sewage & Ind Wastes 23:1211-12 S '51

DINITROPHENYLHYDRAZINE
Action of 2,4-dinitrophenylhydrazine on 6-halogeno-Δ^4-cholestenones. D. H. R. Barton and E. Miller. Am Chem Soc J 72:5309 N '50
Oxidation of alcohols by 2 : 4-dinitrophenylhydrazine. E. A. Braude and W. F. Forbes. Chem Soc J p 1762-4 Jl '51
Preparation of tetrahydrocarbazoles from 2-chloro*cyclo*hexanone. N. Campbell and E. B. McCall. Chem Soc J p2870-4 O '50

DINITROPHENYLHYDRAZONE
Dinitrophenylhydrazones of the halogenobenzaldehydes. O. L. Brady and S. G. Jarrett. Chem Soc J p 1021 Mr '50
Melting-point and X-ray data for 2 : 4-dinitrophenylhydrazones of *n*-aliphatic aldehydes. T. Malkin and T. C. Tranter. pl Chem Soc J p 1178-9 My '51
Molar absorbancy indices of some 2,4-dinitrophenylhydrazones. E. E. Lockhart, M. C. Merritt and C. D. Mead. Am Chem Soc J 73:858-9 F '51
Separation and identification of 2,4-dinitrophenylhydrazones of aldehydes and ketones, and 3,5-dinitrobenzoates of alcohols by filter-paper chromatography. R. G. Rice, G. J. Keller and J. G. Kirchner. bibliog Anal Chem 23:194-5 Ja '51
Spectra of some 2,4-dinitrophenylhydrazones. H. H. Szmant and H. J. Planinsek. bibliog Am Chem Soc J 72:4042-5 S '50

DINITROPROPYLENE glycol
New preparation of potassium dinitromethane and its conversion to 2,2-dinitro-1,3-propanediol. H. Feuer, G. B. Bachman and J. P. Kispersky. Am Chem Soc J 73:1360 Mr '51

DINITROTHIOPHENOL
2,4-Dinitrothiophenol as a reagent for the characterization of organic halogen compounds. R. W. Bost, P. K. Starnes and E. L. Wood. Am Chem Soc J 73:1968-70 My '51

DINITROXYLENE
Polarographic determination of mono- and dinitroxylenes. C. H. Hale. bibliog Anal Chem 23:572-3 Ap '51

DINNERWARE. See Tableware

DIOLS. See Glycols

DIOPTOMETERS

Theory and use of the dioptometer. H. S. Coleman and others. diags Opt Soc Am J 41:94-7 F '51

DIOXANE

Exchange reaction and hydrolysis of *p*-nitrobenzyl bromide in dioxane-water solutions. J. W. Hackett and H. C. Thomas. bibliog Am Chem Soc J 72:4962-4 N '50

Molecular polarisation and molecular interaction; the molecular polarisation of diphenylamine in solution in benzene, dioxan, and mixtures of benzene with nitrobenzene, triethylamine, and pyridine. J. W. Smith. Chem Soc J p3532-5 D '50

Vibrational spectra of tetrahydropyran and *p*-dioxane. S. C. Burket and R. M. Badger. bibliog Am Chem Soc J 72:4397-405 O '50

Analysis

Analysis of three-component liquid mixtures by refractive index alone. W. M. Spicer and L. H. Meyer. bibliog Anal Chem 23:663-4 Ap '51

DIOXIMES. See Oximes

DIOXOLANE

Thermal decomposition of dioxolane. W. B. Guenther and W. D. Walters. bibliog Am Chem Soc J 73:2127-31 My '51

DIP and strike, Determination of

New method logs dip and strike of subsurface formations. il diag World Oil 132:57-8+ F '51

Three charts to aid in solving geological problems. C. Fox. diag Eng & Min J 152:126-7 F '51

DIPENTAERYTHRITOL

Analysis

Determination of dipentaerythritol in the presence of pentaerythritol. J. H. Jaffe and S. Pinchas. bibliog Anal Chem 23:1164-5 Ag '51

DIPHENIC acid

Diphenates; preparation of diphenic acid. W. F. O'Connor and E. J. Moriconi. Am Chem Soc J 73:4044-5 Ag '51

Stereochemistry of catalytic hydrogenation; confirmatory evidence of the configurations of the perhydrodiphenic acids. S. B. Davis and R. P. Linstead. Chem Soc J p 1425-7 Je '50

Stereochemistry of catalytic hydrogenation; pyrolysis of the six perhydrodiphenic acids; limitations of the Blanc rule. S. B. Davis and others. Chem Soc J p 1423-5 Je '50

DIPHENYL

Catalytic hydrogenation of diphenyl in the presence of Raney nickel. I. Goodman. Chem Soc J p 1371-2 My '51

9 : 10-Dihydrophenanthrenes; the formation of 9 : 10-dihydrophenanthrene from 2 : 2′-disubstituted diphenyls. D. M. Hall, M. S. Lesslie and E. E. Turner. Chem Soc J p711-13 F '50

Experiments with optically active diphenyls. F. Bell and G. A. Dinsmore. Chem Soc J p3691-2 D '50

Heat of combustion of biphenyl. G. S. Parks and L. M. Vaughan. Am Chem Soc J 73:2380-1 My '51

Portable heater using chlorinated biphenyl. R. E. Howard. flow diag il Ind & Eng Chem 43:782-4 Mr '51

Studies in the biphenyl series; orientation in bromination of 4-ethoxybiphenyl and bromo-4-ethoxybiphenyls. J. L. Abernethy and H. Pollock. Am Chem Soc J 73:1514-16 Ap '51

Vapour pressure of diphenyl, dibenzyl, and diphenylmethane. N. F. H. Bright. Chem Soc J p624-5 F '51

DIPHENYLACETONITRILE

Amidone; some isomeric chlorodialkylaminopropanes and their reaction with diphenylmethyl cyanide. P. Ofner. Chem Soc J p 1800-3 Jl '51

DIPHENYLACETYL chloride

Attempted Rosenmund reduction of diphenylacetyl chloride. J. G. Burr, jr. Am Chem Soc J 73:3502 Jl '51

DIPHENYLAMINE

Hydrogen bonding and relative adsorption affinities on silicic acid of certain derivatives of diphenylamine and N-ethylaniline. W. A. Schroeder. bibliog Am Chem Soc J 73:1122-7 Mr '51

Molecular polarisation and molecular interaction; the molecular polarisation of diphenylamine in solution in benzene, dioxan, and mixtures of benzene with nitrobenzene, triethylamine, and pyridine. J. W. Smith. Chem Soc J p3532-5 D '50

Oxidation of diphenylamine and of its *N*-derivatives; oxidation of the benzyl group of some benzylamines and benzyl ethers to benzoyl. J. Forrest, S. H. Tucker and M. Whalley. Chem Soc J p303-5 F '51

Substituted benzidines and related compounds as reagents in analytical chemistry; the precipitation of tungsten. R. Belcher and A. J. Nutten. Chem Soc J p 1516-19 Je '51

DIPHENYLBENZENE. See Terphenyl

DIPHENYLBUTYLAMINE

Derivatives of 2,4-diphenylbutylamine and 2,4-diphenylpyrrolidine. F. G. Bordwell and M. Knell. Am Chem J 73:2354-5 My '51

DIPHENYL compounds

Molecular orbital theory and spectra of monosubstituted benzenes; compounds of the type $(C_6H_5)_2X$. W. W. Robertson and F. A. Matsen. bibliog Am Chem Soc J 72:5250-2 N '50

DIPHENYLCYCLOHEXANONE

Amino derivatives of 2,2-diphenylcyclohexanone. A. Burger and W. B. Bennet. Am Chem Soc J 72:5414-15 D '50

DIPHENYLDIAZOCYANIDE

Isomerisation of labile diphenyl-4 : 4′-bisdiazocyanide in solution. D. D. Brown, R. J. W. Le Fèvre and R. N. Whittem. Chem Soc J p 185-8 Ja '50

DIPHENYLDIAZOMETHANE

Kinetics and mechanism of the acid-catalyzed reaction of diphenyldiazomethane with ethyl alcohol. J. D. Roberts and W. Watanabe. bibliog Am Chem Soc J 72:4869-79 N '50

Kinetics and mechanism of the reaction of diphenyldiazomethane and benzoic acid in ethanol. J. D. Roberts, W. Watanabe and R. E. McMahon. bibliog Am Chem Soc J 73:760-5 F '51

Kinetics and mechanism of the reaction of diphenyldiazomethane with 2,4-dinitrophenol in ethanol. J. D. Roberts, W. Watanabe and R. E. McMahon. Am Chem Soc J 73:2521-3 Je '51

DIPHENYLDICHLOROMETHANE

Formation of benzophenone and its diethylketal in the ethanolysis of diphenyldichloromethane. L. J. Andrews and W. W. Kaeding. bibliog Am Chem Soc J 73:1007-11 Mr '51

DIPHENYLENE oxide. See Dibenzofuran

DIPHENYLETHANE

Some amidines and dihydroglyoxalines of the 1 : 1-diphenylethane and 1 : 1-diphenylpropane series. J. O. Jílek and M. Protiva. Chem Soc J p 188-90 Ja '50

Ultra-violet absorption spectra of 2 : 2′-, 2 : 4′-, 4 : 4′-dihydroxydiphenylmethanes, 2 : 2′ - dihydroxy - 5 : 5′ - dimethyldiphenyl - methane and its 3-, 4-, and 5-ring polymers, and of 4 : 4′-dihydroxydiphenylethane. R. F. Hunter, R. A. Morton and A. T. Carpenter. Chem Soc J p441-4 F '50

DIPHENYLETHYLENE

Copolymerization; the copolymerization of 2-chlorobutadiene, 2,3-dichlorobutadiene and 1,1-diphenylethylenes with olefins. K. W. Doak and D. L. Dineen. Am Chem Soc J 73:1084-7 Mr '51

DIPHENYLFURAN

3 - (4 - Morpholinylmethyl) - 2,5 - diphenyl - furan and 3 - (hydroxymethyl) - 4 - (4 - morpholinylmethyl) - 2,5 - diphenylfuran from Mannich reactions with 1,2-dibenzoylethane in benzene medium. P. S. Bailey, G. Nowlin and H. W. Bost. Am Chem Soc J 73:4078-80 S '51

Ultraviolet absorptions of some 2,5-diphenylfurans and related compounds. S. M. King, C. R. Bauer and R. E. Lutz. Am Chem Soc J 73:2253-6 My '51

DIPHENYLGUANIDINE
Behavior of bromophthalein magenta E (tetrabromophenolphthalein ethyl ester) with organic bases and its bearing on the Brønsted-Lowry and Lewis concepts of acidity. M. M. Davis and H. B. Hetzer. bibliog (45 ref) J Res Nat Bur Stand 46:496-511 Je '51

DIPHENYLINE. See Diphenylamine

DIPHENYLMETHANE
Arylmethylation of benzene derivatives. C. M. Welch and H. A. Smith. bibliog Am Chem Soc J 73:4391-3 S '51
Chloro substituted diphenylmethanes, phenyl benzyl ethers and benzophenones prepared from ortho- or para-cresol. R. C. Huston and K. R. Robinson. bibliog Am Chem Soc J 73:2483-6 Je '51
Formaldehyde condensations with phenol and its homologues; the effect of *p*H on the yields of isomeric dihydroxydiphenylmethanes. S. R. Finn and J. W. G. Musty. bibliog Soc Chem Ind J 69(sup no2):S49-51 '50
Formaldehyde condensations with phenol and its homologues; the mixed melting points of mixtures of the isomeric dihydroxydiphenylmethanes. S. R. Finn, G. J. Lewis and N. J. L. Megson. bibliog Soc Chem Ind J 69(sup no2):S51-3 '50
Substituted diphenylmethanes and phenyl benzyl ethers prepared from *o*- or *p*-cresol and *o*-, *m*- or *p*-bromobenzyl chloride. R. C. Huston and H. H. Gyorgy. bibliog Am Chem Soc J 72:4171-3 S '50
Ultra-violet absorption spectra of 2 : 2′-, 2 : 4′-, 4 : 4′ - dihydroxydiphenylmethanes, 2 : 2′-dihydroxy-5 : 5′-dimethyldiphenylmethane and its 3-, 4-, and 5-ring polymers, and of 4 : 4′-dihydroxydiphenylethane. R. F. Hunter, R. A. Morton and A. T. Carpenter. Chem Soc J p441-4 F '50
Vapour pressure of diphenyl, dibenzyl, and diphenylmethane. N. F. H. Bright. Chem Soc J p624-5 F '51

DIPHENYLMETHYL
Kinetics of the reaction of tri-*p*-bi-phenylmethyl and of tri-*p*-*t*-butylphenylmethyl with toluene. R. M. Dobres and P. W. Selwood. bibliog Am Chem Soc J 72:5731-3 D '50

DIPHENYLMETHYL toluidine
Rearrangement of N-diphenylmethyl-*o*-toluidine. H. A. Iddles and W. L. Hartop, jr. bibliog Am Chem Soc J 72:4589-91 O '50

DIPHENYLPENTENOIC acid
Chemistry of 2,2-diphenyl-4-pentenoic and 2,2-diphenyl-4-methyl-4-pentenoic acids. P. N. Craig and I. H. Witt. Am Chem Soc J 72:4925-8 N '50
Dialkylaminoethyl esters and aminolactones derived from 2,2-diphenyl-4-pentenoic and 2,2-diphenyl-4-methyl-4-pentenoic acids. P. N. Craig and others. Am Chem Soc J 73:1339-41 Mr '51

DIPHENYLPENTENOL
New mercurials from 2,2-diphenylpentene-4-ol-1 and norbornylene. R. L. Rowland. Am Chem Soc J 73:2381 My '51

DIPHENYLPIPERAZINE
Geometrical isomerism of the dioxides of diphenylpiperazine. G. M. Bennett and E. Glynn. Chem Soc J p211-14 Ja '50

DIPHENYLPROPANE
Some amidines and dihydroglyoxalines of the 1 : 1-diphenylethane and 1 : 1-diphenylpropane series. J. O. Jílek and M. Protiva. Chem Soc J p 188-90 Ja '50

DIPHENYLPROPANETRIONE
Chemistry of vicinal tricarbonyl compounds; condensation reactions of 1,3-diphenylpropanetrione-1,2,3. D. B. Sharp and H. A. Hoffman. bibliog Am Chem Soc J 72:4311-13 S '50

DIPHENYLPROPIONITRILE
Preparation of α,α-diphenylpropionitrile. P. L. Pickard and E. F. Engles. bibliog Am Chem Soc J 73:864-5 F '51

DIPHENYLPYRROLIDINE
Derivatives of 2,4-diphenylbutylamine and 2,4-diphenylpyrrolidine. F. G. Bordwell and M. Knell. Am Chem Soc J 73:2354-5 My '51

DIPHENYLSELENIUM diiodide
Dissociation constants of some symmetrically disubstituted diphenyl selenium diiodides. J. D. McCullough and B. A. Eckerson. Am Chem Soc J 73:2954-5 Je '51

DIPHENYL sulfide. See Phenyl sulfides

DIPHENYL sulfoxide
Preparation of triarylsulfonium halides by the action of aryl Grignard reagents on diphenyl sulfoxide. B. S. Wildi, S. W. Taylor and H. A. Potratz. Am Chem Soc J 73:1965-7 My '51

DIPHENYLTHIOCARBAZONE. See Dithizone

DIPHENYLUREA
Acetoactic ester-type cleavage by aniline. R. M. Roberts and M. B. Edwards. bibliog Am Chem Soc J 72:5537-9 D '50
Chromatographic investigations of smokeless powder; derivatives of acardite, carbazole, and triphenylamine formed in double-base powder during accelerated aging. W. A. Schroeder, B. Keilin and R. M. Lemmon. bibliog Ind & Eng Chem 43:939-46 Ap '51

DIPHTHERIA
Differentiation of minimus type C. diphtheriae by slow fermentation of dextrose. E. I. Parsons and M. Frobisher, jr. Science 113:317 Mr 23 '51
Simple presumptive test for toxigenicity of corynebacteria. F. L. Evans. Science 113:39-40 Ja 12 '51

DIPLOMATIC and consular service

Directories

World diplomatic directory and world diplomatic biography, 1950. R. Hefter, ed. 964p $20 W. S. Heinman, 125 E. 23d st, New York 10 '50
World diplomatic directory and world diplomatic biography, 1951. 2d ed 970p World diplomatic directory, 56-57 Princes house, 190 Piccadilly, London, W.1.; $20 William S. Heinman, 125 E. 23d st, New York 10 '51

DIPOLE moment. See Electric moment

DIPYRIDYL. See Bipyridine

DIRAC'S equation
Dirac's equation in a Riemann space with an asymmetrical metric. M. el Nadi. Phys R 81:159-60 Ja 1 '51
Interaction of the Dirac magnetic monopole with matter. W. V. R. Malkus. diag Phys R 83:899-905 S 1 '51
Scattering theory of the Dirac equation. G. Parzen. bibliog Phys R 80:261-8 O 15 '50
Time reversal and the Dirac equation. L. Biedenharn. bibliog Phys R 82:100 Ap 1 '51

DIRECT current motors. See Electric motors, Direct current

DIRECT selling. See Marketing—Direct selling

DIRECTION finding apparatus
Polarization errors of radio direction finders, a proposed classification. P. G. Hansel. Inst Radio Eng Proc 39:970 Ag '51
Similarity of certain atmospherics waveforms. W. F. Zetrouer and W. J. Kessler. il Franklin Inst J 252:137-41 Ag '51

DIRECTORATES, interlocking. See Interlocking directorates

DIRECTORIES
A.C.S. diamond jubilee membership directory. A. H. Emery. Chem & Eng N 29:4102 O 1 '51
See also
Trade directories
also subdivision Directories under special subjects, e.g.
Air conditioning industries
Diplomatic and consular service
Employment management associations
Heating industry
Petroleum equipment industries
Sheet metal trade
Trade associations

DIRECTORS. See Corporations—Directors

DIRECTORS, Junior. See Corporations—Directors, Junior

DIRICHLET series
Real roots of real Dirichlet L-series. J. B. Rosser. bibliog J Res Nat Bur Stand 49:505-14 D '50

DISABILITY benefits
Conference on sickness disability insurance, sponsored by the Graduate school of business, School of engineering, School of law, School of public health of Columbia university, New York, May 9. A M A Archives Ind Hygiene & Occup Med 2:631-97 D '50
Contract puts new first on benefit demands; U.S. metals refining co. Bsns W p38 O 6 '51

DISABILITY insurance. See Insufance, Disability

DISABLED

Help for disabled housewives; opportunity for the electrical industry. il Elec World 136:76-7 Jl 30 '51

See also

Handicapped

Rehabilitation

Aiding the cardiac patient in industry. E. M. Kline. bibliog A M A Archives Ind Hygiene & Occup Med 3:454-60 My '51

Coronary heart disease and the employee. A. J. Geiger. bibliog Ind Med 19:509-11 N '50

Forum on rehabilitation and retraining held in New York. Weekly Underw 164:165 Ja 13 '51; Same abr. East Underw 52:26 Ja 12 '51

Heart patients can help in defense effort. J. G. Benton and H. A. Rusk. Nat Safety N 63:103-5 Ap '51

Medicolegal and social problems in permanent disability cases. A. St Clair. bibliog Ind Med 20:109-12 Mr '51

Miners with broken backs; rehabilitation of injured miners. W. Schweisheimer. Can Min J 72:71-2 Mr '51

Physical medical and rehabilitation therapy of hand injuries. H. J. Flax. A M A Archives Ind Hygiene & Occup Med 3:236-44 Mr '51

Placement of the employee with cardiac and vascular disease in industry. C. Pharris. Ind Med 19:523-7 N '50

Psychological considerations in the rehabilitation of the cardiac patient in industry. E. Stainbrook. Ind Med 19:528-31 N '50

Psychological preparation of the amputee. H. H. Kessler. Ind Med 20:107-8 Mr '51

Rehabilitation. H. A. Rusk and E. J. Taylor. Ann Am Acad 273:138-43 Ja '51

Rehabilitation of workers with hand injuries, Puerto Rico. Mo Labor R 73:182-3 Ag '51

Rehabilitation; the role of the Health department. A. L. Chapman and J. H. Gerber. Pub Health Rep 66:529-34 Ap 27 '51

Rheumatic heart disease and employment. B. R. Harris. Ind Med 19:513-16 N '50

DISABLED veterans. See Veterans, Disabled

DISACCHARIDES

Constitution of the disaccharide of glycyrrhinic acid. B. Lythgoe and S. Trippett. Chem Soc J p 1983-90 Ag '50

Synthesis of trehalose-type disaccharides. V. E. Sharp and M. Stacey. Chem Soc J p285-8 F '51

DISALLE, Michael Vincent, 1908-

Expendable man isn't scared. pors Bsns W p42+, cover F 17 '51

Portrait. Bsns W p20 O 6 '51

DISASTER corps, inc.

Contractors, unions team up to clean up. Eng N 147:28 Jl 26 '51

DISASTERS

Disaster communications service rules finalized. Q S T 35:38-41 Ap '51

Disaster control; handbook for metalworking. bibliog plans diags Am Mach 94:127-66 N 13 '50

Engineering planning for disaster. il Pub Works 82:62-3 Ap '51

Getting a good press from bad news; preplanned public relations has enabled firms to triumph over adversity. il Mod Ind 22:64+ Jl '51

Organizing for disaster control. W. H. Shearon. il Chem & Eng N 29:3694-7 S 10 '51

Recommendations for disaster planning. Pub Works 81:60 N '50

Sanitary engineering problems in disaster. G. E. McCallum. il Pub Works 82:68-70+ Ap '51

$10 buys a lot of disaster protection. W. M. Stocker, jr. Am Mach 95:148-50 Jl 23 '51

Texas City disaster caused highest death toll; other disasters. Weekly Underw 165:208 Jl 28 '51

Utilities are mobilized for disaster relief. Elec West 106:67-8 My '51

DISCALOY. See Iron alloys

DISCHARGED soldiers. See Veterans

DISCHARGES of electricity. See Electric discharges

DISCHE reaction

Deoxy-sugars; further observations on the Dische reaction of 2-deoxypentoses. W. G. Overend, F. Shafizadeh and M. Stacey. Chem Soc J p 1027-9 Ap '50

Deoxy-sugars; the value of the Dische test for the quantitative determination of deoxypentose nucleic acids. W. G. Overend. Chem Soc J p 1484-7 Je '51

DISCO process. See Coal distillation—Disco process

DISCOLORATION

Chemical interactions of amino compounds and sugars; comparative studies with D-xylose and 2-furaldehyde. T. Tan, M. L. Wolfrom and A. W. Langer, jr. bibliog Am Chem Soc J 72:5090-5 N '50

Phytates will stop cherry discoloration. R. F. Cohee and J. Nelson. il Food Ind 23:91-3 Mr '51

DISCOUNT, Cash

Reward or penalty; which is the cash discount? A. F. Chapin. Credit & Fin Management 53:6-8+ Ap '51

DISCOUNT, Trade

Court approval of uniform discount solid footing in antitrust swamp. R. E. Bjorkback. Nat Pet N 42:27 D 13 '50

Spark plug rulings may be forerunners of the fate of functional discounts. F. C. Sturtevant. Nat Pet N 42:60-1 D 6 '50

DISCOUNT companies

Discount houses' year; with data for big three, 1948-50. Economist 160:220 Ja 27 '51

Profits in Lombard street; discount market in 1950. Economist 160:103 Ja 13 '51

DISCOVERIES in chemistry. See Chemical research

DISCRIMINATION in employment

Anti-bias guide; New York lists what employer may ask job applicants. Bsns W p38-9 My 19 '51

Fair employement practice legislation in the United States, federal-state-municipal. W. B. Graves. (Public affairs bul. no. 93) 239p bibliog(330 titles, p215-39) pa $1.65 Card division, Library of Congress, Washington 25, D.C. '51

Fair employment practices legislation. M. Berger. Ann Am Acad 275:34-40 My '51

It's good business; Illinois Chamber of commerce educational drive against job bias. il Bsns W p38-40 Mr 31 '51

Problems under FEPC. W. R. Thomas. Personnel J 30:14-19 My '51

DISCUSSION

In our hands; workers talk economics; Inland Steel and Borg-Warner have worked out a good way of teaching. il Mod Ind 22:40-5 Jl '51

Outline of panel techniques. W. A. Irwin. Banking 43:48+ Ja '51

DISEASES

See also

Anemia
Arthritis
Brain—Diseases
Brucellosis
Causalgia
Chorea, Hereditary
Edema
Encephalomyelitis
Heart—Diseases
Infectious diseases
Influenza
Lungs—Diseases
Mortality
Public health
Scurvy
Sickness
Skin—Diseases
Trichina and trichinosis
Tuberculosis

Statistics

Age incidence of specific causes of illness found in monthly canvasses of families; sample of the eastern health district of Baltimore, 1938-43. S. D. Collins and others. Pub Health Rep 66:1227-45 S 28 '51

Changing causes of death in childhood. H. A. Kahn. Pub Health Rep 66:1246-7 S 28 '51

DISEASES, Chronic

Chronic disease. Pub Health Rep 65:1658-70 D 15 '50

Nutrition and the control of chronic disease. R. W. Vilter and C. Thompson. bibliog Pub Health Rep 66:630-6 My 18 '51

Bibliography

Chronic illness; digest of selected references. V. B. Turner. U. S. Public health service; pa 50c Supt. of doc. '51

DISEASES, Industrial

Electroplating; health hazards; data sheet. bibliog il Nat Safety N 64:32-3+ Jl '51

Newer occupational diseases; parathion, coccidioidomycosis, tetryl poisoning, shoe fitting fluoroscopes. J. B. Skinner. bibliog Ind Med 20:133-4 Mr '51

Occupational diseases transmitted via contact with animals and animal products. H. K. Abrams and P. Warr. bibliog Ind Med 20: 341-51 Ag '51

Porphyrins; the significance of porphyrins in occupational diseases. C. P. McCord. bibliog Ind Med 20:185-90 Ap '51

Symposium on the dynamics of industrial medicine. R. J. Hasterlik and others. bibliog il A M A Archives Ind Hygiene & Occup Med 3:147-72 F '51

See also

Asbestosis
Beryllium poisoning
Heart—Diseases
Hygiene, Industrial
Lead poisoning
Lungs—Dust Diseases
Miners—Diseases and hygiene
Poisons, Industrial
Sickness
Silicosis
Skin—Diseases
Workmen's compensation

Bibliography

Sources of morbidity and mortality material in industrial health. V. M. Trasko. Pub Health Rep 66:732-9 bibliog(p738-9) Je 8 '51

DISEASES, Infectious. See Infectious diseases

DISELENANE

Crystal structure of 1,4-diselenane. R. E. Marsh and J. D. McCullough. diags Am Chem Soc J 73:1106-9 Mr '51

Synthesis of 1,4-diselenane. E. S. Gould and J. D. McCullough. Am Chem Soc J 73: 1105-6 Mr '51

DISHONESTY insurance. See Insurance, Surety and fidelity

DISHWASHING

Detergents for mechanical dishwashing. C. A. Tyler. bibliog il Soap & San Chem 26:37-9+ D '50

Detergents used in dishwashing. il Consumers Res Bul 28:15-18 O '51

Show new cleaning compounds at 32d annual National restaurant association's exposition, Chicago, May 7-11. Soap & San Chem 27:55+ Je '51

DISHWASHING machines

Boosts dishwasher sales 275 per cent; Philadelphia electric co. F. E. Taylor. Elec World 136:124+ S 24 '51

Dishwasher features jet cleaning action. il Machine Design 23:135-6 F '51

How to choose between top- and front-opening dishwashers. plans Am Bld 73:199 Jl '51

How to get distributors on the new product band wagon; Mullins Jet-Tower dishwasher. M. Adams. il Ptr Ink 235:27-9 Je 8 '51

Synthetic detergents for domestic dishwashing machines. H. L. Sanders and J. A. Yeager. bibliog Ind & Eng Chem 43:866-71 Ap '51

Washer impeller; Hotpoint, inc. il Mod Plastics 28:169 Ap '51

Your customers will ask, which dishwasher should I buy? kitchen determines choice. il plans Dom Eng 177:102-3+ My '51

Rating

Dishwashers. il Consumers Res Bul 27:21-2 Ap '51

DISINFECTION and disinfectants

Acridines derived from *p*-(1,1,3,3-tetramethyl)-butylphenol. J. B. Niederl and M. B. Hundert. Am Chem Soc J 72:4071-2 S '50

Antibacterial properties of compounds containing tricarbonylmethane group; syntheses of 3-alkylated or 3-acylated 4-hydroxycoumarins and of a related pyrone. T. Ukita, S. Nojima and M. Matsumoto. bibliog Am Chem Soc J 72:5143-4 N '50

Antibacterial pteridines; 6 : 7-dialkyl derivatives of 2 : 4-diaminopteridine. N. R. Campbell, J. H. Dunsmuir and M. E. H. Fitzgerald. Chem Soc J p2743-5 O '50

Bactericidal effect of surface-active agents on tubercle bacilli. C. R. Smith and others. bibliog Pub Health Rep 65:1588-600 D 1 '50

Detergent sanitizers. M. A. Lesser. bibliog il Soap & San Chem 27:37-9+ Ag '51

Disinfection; progress in 75 years. H. C. Marks. il Ind & Eng Chem 43:601-2 Mr '51

Domestic push for PCMX. il Chem W 68:25-6 Je 9 '51

Factors influencing bactericidal action of ultrasonic waves. M. P. Horwood and others. bibliog il Am Water Works Assn J 43:153-60 F '51

Gentle killer arrives; Spandy, a new germicide. Chem Ind W 68:45 Ja 20 '51

Homologous mechanism of bactericidal action and gram-staining. R. Fischer and S. Seidenberg. Science 114:265-6 S 7 '51

How to sell quaternaries. I. Gaines. Soap & San Chem 27:145+ Je '51

Quaternaries vs. hypochlorites as disinfectants. W. A. Hadfield; G. R. Goetchius. bibliog Soap & San Chem 27:124-7+ Ap '51

Quaternary ammonium salts as germicides. G. H. Harris and others. bibliog Am Chem Soc J 73:3959-65 Ag '51

Some potential trypanocidal and antibacterial compounds in the heterocyclic series. J. D. Bower, F. F. Stephens and D. G. Wibberley. Chem Soc J p3341-4 N '50

Some potential trypanocidal and antibacterial compounds in the heterocyclic series; benzthiazoles. F. F. Stephens and D. G. Wibberley. Chem Soc J p3336-40 N '50

Studies on antipodes; observations on D-amino acids and on casein derivatives containing D-amino acid residues. S. W. Fox and Y. Kobayashi. bibliog Am Chem Soc J 73:353-5 Ja '51

Synthesis of potential antibacterial agents; some α-alkylglutaric acids and their derivatives. J. C. Roberts and B. Shaw. Chem Soc J p2842-5 O '50

What the Public health service expects of germicides. L. A. Black. bibliog Soap & San Chem 27:133+ Ag '51

See also

Air purification
Amebicides
Antibiotic substances
Bacteriostasis
Chloramine
Chlorination
Formaldehyde
Hexachlorophene
Insecticides
Peracetic acid
Resorcinol
Sanitary chemicals
Soap, Antiseptic
Sulfonamides
Triethylene glycol
Water purification

Testing

Capacity test for germicidal action. A. Cantor and H. A. Shelanski. Soap & San Chem 27: 133+ F '51

Quaternaries in hard water. E. W. Dennis. Soap & San Chem 27:117+ Mr '51

Role of atmospheric humidity in sterilization of surfaces; evaluation of O-Syl as a surface germicide. E. W. Dunklin and W. Lester, jr. Soap & San Chem 27:127+ Jl '51

DISINTEGRATION of atoms. See Atoms—Disintegration

DISKS, Rotating

Effects of temperature distribution and elastic properties of materials on gas-turbine-disk stresses. A. G. Holms and R. D. Faldetta. diags U S Nat Advisory Com for Aeronautics 1947:67-73 '50

Flow around a rotating disc in a uniform stream. H. Schlichting and E. Truckenbrodt. J Aeronautical Sci 18:639-40 S '51

Stresses in rotating disks of nonuniform thickness. T. H. Gawain and E. C. Curry. Product Eng 22:152-5 Jl '51; Discussion. W. R. Leopold. 22:271-2+ N '51

DISMISSAL of employees. See Employees, Dismissal of

DISNEY, Walt, productions

Security I like best. G. A. Butler. Comm & Fin Chr 174:766 Ag 30 '51

DISPERSING agents

Fundamental study of clay; note on the effect of fluoride ions on a clay suspension. W. D. Kingery. Am Cer Soc J 34:242-4 Ag 1 '51

Pine wood lignin as a ceramic deflocculant. L. R. Lawson, jr. and J. J. Keilen. Am Cer Soc Bul 30:143-7 Ap 15 '51

DISPERSION

Banbury dispersion of high-styrene copolymer resins with rubber. H. S. Sell and R. J. McCutcheon. bibliog il Ind & Eng Chem 43:1234-43 My '51

DISPERSION—*Continued*

Direct forming of rubber and plastic products from dispersions. K. Rose. il Materials & Methods 34:64-7 Ag '51

Dispersions in gases; seventeenth annual chemical engineering symposium. bibliog flow sheets il diags Ind & Eng Chem 43:1311-80 Je '51

Effect of additives on multi-fiber dispersions. E. F. Thode and others. bibliog Paper Tr J 133:20+ S 21 '51

Particle size and state of dispersion of paint pigments; abstract and discussion. D. R. Duncan. Chem & Ind p793-4 S 22 '51

Stochastic processes and dispersion of configurations of linked events. C. Tchen. bibliog J Res Nat Bur Stand 46:480-8 Je '51

Use of two pumps in series speeds up interaction of gases and liquids. diag Chem & Eng N 29:2856 Jl 9 '51

See also

Colloids

DISPERSION of rays

Rotatory dispersion and circular dichroism of (−)-2-chloro-2-nitrosocamphane and the pyridine salt of (+)-2-chloro-2-nitrosocamphane-10-sulphonic acid. S. Mitchell, J. S. Watson and W. Dunlop. Chem Soc J p3440-3 D '50

DISPLAY of merchandize

Are you financing retailer competition for your brand? P.M.'s display allowances. E. B. Weiss. il Ptr Ink 233:35-6+ D 15 '50

Ball-point revival; Fisher Pen's fresh merchandising ideas backed up with effective packaging and display. il Mod Packaging 24:108-9 F '51

Brush in a blister; spherical acetate dome in paperboard set-up box displays English hair brush. il Mod Packaging 24:77 N '50

Contest transforms druggists into counter display men. il Ptr Ink 233:26 D 8 '50

Counter action; Robert Burns gets it with counter carton for little cigars. il Mod Packaging 24:106-7 D '50

Display containers for shirts. il Mod Plastics 28:162 N '50

Display; new markets and materials for display manufacturers in 1951. il Ptr Ink 233:32 D 29 '50

Display unit, offered in trade ads, is open sesame for consumer line; Breinig wood finishes. il Ptr Ink 234:27 Ja 12 '51

Displays should help consumers; locate the merchandise, start selection, decide to buy. W. J. Caddelle. il Ptr Ink 233:36-8 N 17 '50

Displays that break the log jam at the point of sale; some newsworthy examples. il Sales Management 66:96-8+ Mr 15 '51

Displays that sell; six case histories. il Mod Packaging 24:61-7+ Ag '51

How to make displays that sell. il Dom Eng 177:86-7+ My; 96-7+ Je; 178:100-1 Jl; 102-3 Ag; 106-7+ S '51

How to put silent salesmen to work. il Dom Eng 178:94-5+ Ag '51

Kitchen planning made easy; Providence gas co. il Am Gas Assn Mo 33:10+ S '51

Merchandise displays help sell TBA but true function is misunderstood. F. C. Sturtevant. il Nat Pet N 43:54+ Ja 3 '51

Mobilize for merchandising. Dom Eng 178:90-2+ S '51

Multiple merchandiser; multi-brand display unit on cigar counters. il Mod Packaging 24:163 Ap '51

Nabisco's formula; every ad supported at the point of sale. M. Beuick. il Ptr Ink 234:29-31 Mr 30 '51

Periodic window contests win point-of-purchase push for Sheaffer. il Sales Management 67:82+ O 1 '51

Quality vs. quantity in department store display. W. J. Caddelle. il Ptr Ink 234:27-9 F 9 '51

Starring the pen; counter unit makes combined packer, display and dispenser for 72 ball pens. il Mod Packaging 24:100-1 My '51

Store tests prove proper display key to doubled sales on dried fruits. L. B. Williams. il Sales Management 67:42-4+ S 1 '51

Switch-proof display; plastic package provides convenient carrying case and brand-protected merchandising for sun glasses. il Mod Packaging 24:120-1 Ap '51; Mod Plastics 28:78-9 My '51

These simple displays are lifting sales 37.7 per cent; L. A. nut house and Tom Sawyer potato chips. il Ptr Ink 236:34-5 Jl 27 '51

When selling automatic heating let the customer feel it work! il diags Dom Eng 178:135, 142+ Ag '51

See also

Show windows

Showrooms

DISPROPORTIONATION

Disproportionation reactions of the dimethylaminoboron hydrides. A. B. Burg and C. L. Randolph, jr. bibliog Am Chem Soc J 73:953-7 Mr '51

Mechanism of disproportionation of *d*-limonene. H. E. Eschinazi and E. D. Bergmann. bibliog Am Chem Soc J 72:5651-4 D '50

Ortho esters, imidic esters and amidines; disproportionation reactions of nitrophenyl-, chlorophenyl- and tolyl-substituted formimidates and formamidines. R. M. Roberts, R. H. DeWolfe and J. H. Ross. Am Chem Soc J 73:2277-81 My '51

Reactions involving like-charged ions; the rate of disproportionation of uranium(V) in deuterium oxide. F. R. Duke and R. C. Pinkerton. Am Chem Soc J 73:2361-2 My '51

DISSERTATIONS, Academic

University theses; review of Accessibility of British university thesis literature, by L. Newcombe. J. H. P. Pafford. J Doc 7:119-22 Je '51

Bibliography

Doctoral dissertations accepted by American universities, 1949-1950. A. H. Trotier and M. Harman, eds. 235p $4.50 H. W. Wilson co, New York '50

DISSOCIATION

C-Br bond dissociation energy in trichlorobromomethane. M. Szwarc and A. H. Sehon. bibliog J Chem Phys 18:1685-6 D '50

Calculation of the latent heat of sublimation of carbon and the first C—H dissociation energy in methylene from electron impact data. F. H. Field. bibliog J Chem Phys 19:793 Je '51

Condensed phosphoric acids and their salts; dissociation constants of some tetrametaphosphates. H. W. Jones and C. B. Monk. Chem Soc J p3475-8 D '50

Cyanuric chloride derivatives; dissociation constants of substituted melamines and related triazines. J. R. Dudley. Am Chem Soc J 73:3007-8 Jl '51

Determination of dissociation constants in a mixture of two weak acids by electromotive force measurements. R. G. Bates. Am Chem Soc J 73:2259-61 My '51

Determination of dissociation constants of complex ions by a radioactive indicator method. C. M. Cook, jr. and F. A. Long. Am Chem Soc J 73:4119-21 S '51

Dissociation contant of hypobromous acid. L. Farkas and M. Lewin. bibliog Am Chem Soc J 72:5766-7 D '50

Dissociation constants of adrenergic amines. E. B. Leffler, H. M. Spencer and A. Burger. Am Chem Soc J 73:2611-13 Je '51

Dissociation constants of some symmetrically disubstituted diphenylselenium diiodides. J. D. McCullough and B. A. Eckerson. Am Chem Soc J 73:2954-5 Je '51

Dissociation constants of substituted 4-biphenylcarboxylic acids. E. Berliner and E. A. Blommers. bibliog Am Chem Soc J 73:2479-83 Je '51

Dissociation constants of the cupric salts of some monocarboxylic acids. M. Lloyd, V. Wycherley and C. B. Monk. Chem Soc J p 1786-9 Jl '51

Dissociation energy of fluorine. M. G. Evans, E. Warhurst and E. Whittle. bibliog Chem Soc J p 1524-34 Je '50

Dissociation of beryllium iodide in platinum containers. B. Kopelman and H. Bender. bibliog diag Electrochem Soc J 98:89-93 Mr '51

Dissociation of iodine monobromide in carbon tetrachloride solution. A. I. Popov and others. Am Chem Soc J 73:514-15 F '51

DISSOCIATION—*Continued*

Dissociation of the addition compounds of trimethylboron with the normal primary aliphatic amines; the straight-chain anomaly. H. C. Brown, M. D. Taylor and S. Sujishi. Am Chem Soc J 73:2464-7 Je '51

Effect of halogenation on the C—Br bond dissociation energy in halogenated bromomethanes. M. Szwarc and A. H. Sehon. bibliog diag J Chem Phys 19:656-7 My '51

Effect of organosilicon substituents on the basic strength of amines. J. E. Noll, B. F. Daubert and J. L. Speier. Am Chem Soc J 73:3871-3 Ag '51

Emission of the forbidden oxygen lines by molecular dissociation. R. Herman and others. bibliog il diags Phys R 82:751-2 Je 1 '51

Enzyme-inhibitor dissociation constants of α-chymotrypsin and several competitive inhibitors of the unnatural or D-configuration. H. T. Huang and C. Niemann. bibliog Am Chem Soc J 73:1555-8 Ap '51

Enzyme-inhibitor dissociation constants of α-chymotrypsin and three enantiomorphic pairs of competitive inhibitors. H. T. Huang and C. Niemann. bibliog Am Chem Soc J 73:3223-7 Jl '51

Evaluation of the enzyme-inhibitor dissociation constant of α-chymotrypsin and acetyl-D-tryptophan methyl ester. H. T. Huang and C. Niemann. Am Chem Soc J 73:3228-31 Jl '51

Factors influencing bond dissociation energies. M. Szwarc. J Chem Phys 18:1660-3 D '50

Frequency factors of unimolecular dissociation processes. M. Szwarc. bibliog diag J Phys & Colloid Chem 55:939-47; Discussion. 947-9 Je '51

Heats of hydrolysis of chloral and bromal, and the C-C bond dissociation energies in chloral and bromal. H. O. Pritchard and H. A. Skinner. Chem Soc J p 1928-31 Jl '50

Influence of aromatic substitution on the C—Br bond dissociation energy. M. Szwarc and others. J Chem Phys 19:657-8 My '51

Isotope effect on dissociation probabilities in the mass spectra of chloroform and chloroform-*d*. V. H. Dibeler and R. B. Bernstein. bibliog J Chem Phys 19:404-6 Ap '51

Photonuclear dissociation of nuclei by high energy gamma-rays. S. Kikuchi. Phys R 83:1255-6 S 15 '51

Self-consistent treatment of the oxygen dissociation region in the upper atmosphere. H. E. Moses and T. Wu. bibliog Phys R 83: 109-21 Jl 1 '51

Some physico-chemical properties of acridine antimalarials, with reference to their biological action; basic dissociation constants and reduction potentials. D. L. Hammick and S. F. Mason. Chem Soc J p345-8 Ja '50

Spectrophotometric determination of the approximate dissociation constants of the monofluoroquinolines. W. K. Miller, S. B. Knight and A. Roe. Am Chem Soc J 72: 4763-5 O '50

Thermal dissociation of methyldihydrothiophene-1-dioxides. O. Grummitt, A. E. Ardis and J. Fick. bibliog Am Chem Soc J 72: 5167-70 N '50

Vapor phase dissociation of some carboxylic acids; acetic acid. M. D. Taylor. Am Chem Soc J 73:315-17 Ja '51

DISSOCIATION, Electrolytic. See Ionization, Electrolytic

DISSOCIATION, Heat of

Heat of dissociation in nitrogen. G. Glockler. J Chem Phys 18:1518 N '50

Heat of dissociation of carbon monoxide. G. Glockler. bibliog J Chem Phys 18:1517-18 N '50

Heat of dissociation of fluorine. R. N. Doescher. J Chem Phys 19:1070-1 Ag '51

Heat of dissociation of nitrogen. G. B. Kistiakowsky, H. T. Knight and M. E. Malin. Am Chem Soc J 73:2972-3 Je '51

Heat of formation of CN and the dissociation energies of N_2 and C_2N_2. L. Brewer, L. K. Templeton and F. A. Jenkins. bibliog Am Chem Soc J 73:1462-5 Ap '51

DISTANCE perception. See Space perception

DISTANCES

Measurement

Description and evaluation of 100-channel distance-measuring equipment. R. C. Borden and others. bibliog il diags Inst Radio Eng Proc 39:612-18 Je '51

Distance-measuring equipment for the terminal area. J. Lyman and G. B. Litchford. il diags Aeronautical Eng R 10:48-55 My '51

DISTILLATION

Analytical distillation; digest of round-table discussion. bibliog Anal Chem 23:529-30 Mr '51

Applicability of vapour-liquid equilibria to extractive distillation; abstract. F. H. Garner and S. R. M. Ellis. Chem & Ind p219 Mr 17 '51

Azeotropism in binary solutions at reduced pressures; the nicotine-water system. R. T. Fowler. bibliog diag Soc Chem Ind J 69(sup no 2):S65-9 '50

Chemical engineering unit operations; sixth annual review; high temperature distillation. T. J. Walsh. il Ind & Eng Chem 43: 63-8 bibliog(124 ref, p67-8) Ja '51

Chemical engineering unit operations; sixth annual review; high vacuum distillation. K. C. D. Hickman. bibliog Ind & Eng Chem 43:68-9 Ja '51

Composition of vapors from boiling solutions; systems containing acetone, chloroform, and methyl isobutyl ketone. A. E. Karr and others. bibliog Ind & Eng Chem 43:961-8 Ap '51

Countercurrent solid-gas fractionation process. A. F. Reid. diags Ind & Eng Chem 43:2151-3 S '51

Design, construction, and operation of a distillation laboratory for the synthetic liquid fuels program. J. Feldman and others. 14pls U S Bur Mines Rep of Invest 4764:1-4 '51

Determination of moisture by distillation. W. R. Fetzer. bibliog il diags Anal Chem 23: 1062-9 Ag '51

Distillation; analytical distillation in 1950. A. Rose. Anal Chem 23:38-41 bibliog(104 ref, p40-1) Ja '51

Distillation for asphalt. W. L. Nelson. flow diag Oil & Gas J 50:338 Je 21 '51

Distillation of antimony trichloride for improved reagent. A. Mueller, S. H. Fox and R. I. Day. bibliog diag Anal Chem 22:1570-1 D '50

Distillation of methylchlorosilanes. W. F. Gilliam and others. bibliog diags Am Chem Soc J 73:4252-5 S '51

Double distillation; frozen juice concentrate. il Chem Ind 67:560-1 O '50

Ethylenimine by flash distillation. W. A. Reeves, G. L. Drake, jr. and C. L. Hoffpauir. Am Chem Soc J 73:3522 Jl '51

Hall coefficient and resistivity of thin films of antimony prepared by distillation. W. F. Leverton and A. J. Dekker. bibliog diags Phys R 80:732-6 N 15 '50

High quality fatty acids from continuous distillation unit; Lawrason and co., London, Ont. H. N. Acker. flow diag il Can Chem Process 35:716-20 S '51

Isolation of optically pure (—)-*sec.*-butylcarbinol from fusel oil. P. Le Couteur, J. Kenyon and T. A. Rohan. bibliog J Ap Chem 1:341-5 Ag '51

Low-temperature fractional analysis of liquids and gases. W. J. Podbielniak. bibliog il diags Pet Refiner 30:145-55 My '51

Precise fractional distillation analysis. W. J. Podbielniak. Pet Refiner 30:85-92 Ap '51

Purification and freezing point of phenanthrene. J. Feldman, P. Pantages and M. Orchin. bibliog Am Chem Soc J 73:4341-3 S '51

Reaction rates by distillation; the effect of changes in structure on the rate of the Knoevenagel reaction. E. F. Pratt and E. Werble. bibliog Am Chem Soc J 72:4638-41 O '50

Reverse separation in fractionation pumps. K. Hickman. bibliog diag R Sci Instr 22: 141-6 Mr '51

Test mixtures for distillation at atmospheric and reduced pressure. C. B. Willingham and V. A. Sedlak. bibliog J Res Nat Bur Stand 45:315-17 O '50

DISTILLATION —*Continued*

Theory and practice of analytical distillation. A. Rose. bibliog Anal Chem 22:1369-71 N '50

Vacuum treatment of Parkes' process crusts on a pilot-plant scale. A. W. Schlechten and R. F. Doelling. diags J Metals 3: Trans 327-30 Ap '51

See also

Coal distillation
Oil shales—Distillation
Petroleum distillation
Rectification
Tar distillation plants
Wood distillation

Tables, calculations, etc.

Algebraic representation of vapor-liquid equilibria. W. H. Prahl. bibliog Ind & Eng Chem 43:1767-70 Ag '51

Batch rectification. A. Rose; Ju Chin Chu. Chem Eng Prog 46:635-6 D '50

Equilibrium flash still. R. B. Smith and others. bibliog diag Ind & Eng Chem 43:766-70 Mr '51

How to calculate distillations with variable relative volatility. M. Nord. Chem Eng 58: 144-6 F '51

Punched card devices for distillation calculations. A. Rose and T. J. Williams. il diag Ind & Eng Chem 42:2494-7 D '50

Save time with systematic method for distillation calculations. J. W. Donnell and K. Turbin. bibliog Chem Eng 58:112-15 Jl '51

System of process calculations for light hydrocarbons; fractionation. A. J. L. Hutchinson. il diags Pet Refiner 30:107-12 F; 107-14 Mr; 119-22 Ap '51

DISTILLATION apparatus

All-glass bubble-cap column. J. C. Smith and E. F. Kelm. il diags Chem Eng 58:155-7 F '51

All in glass; bubble cap columns. il Chem Ind W 68:36-7 Ja 20 '51

Analytical distillation; digest of round-table discussion. bibliog Anal Chem 23:529-30 Mr '51

Apparatus for packing columns with single-turn helices. O. C. W. Allenby and C. L'Heureux. diags Anal Chem 22:1340 O '50

Automatic continuous laboratory still. H. C. Highet. bibliog diags Chem & Ind p783-6 D 9 '50

Automatic mercury vacuum still. W. A. Cannon. diags J Chem Educ 28:272-4 My '51

Automatic receiver changer for vacuum distillation. D. A. Simpson and M. D. Sutherland. diags Anal Chem 23:1345-6 S '51

Azeotropic distillation apparatus. D. Raper. diags J Ap Chem 1:43-4 Ja '51

Closer fractionation, finer chemicals; Crosby chemicals puts in first 65-tray fractionating column. J. A. Lee. diag Chem Eng 58:142 Mr '51

Combined still-head-reflux meter for pilot scale fractionating columns. G. A. Collins and H. G. Willcock. diags Chem & Ind p754 S 8 '51

Concentric-tube fractionating columns. C. K. Donnell and R. M. Kennedy. bibliog diags Ind & Eng Chem 42:2327-32 N '50

Constant reflux ratio distilling head. L. Berg and L. K. Smith. diag Ind & Eng Chem 43:233 Ja '51

Control of pH in stills with boiler blowdown water. flow diag il Pet Refiner 30:90-1 F '51

Equilibrium flash vaporization of petroleum crude oils or fractions; method and apparatus for determination. D. F. Othmer, E. H. Ten Eyck and S. Tolin. bibliog diags Ind & Eng Chem 43:1607-13 Jl '51

Experimental investigation of conditions of transport in the electrophoresis-convection apparatus. R. A. Brown and others. Am Chem Soc J 73:4420-2 S '51

Fractionating efficiency of various packings in distillation columns operating at reduced pressure. M. Myles and others. diag Ind & Eng Chem 43:1452-6 Je '51

Heating of distillation columns and tubular reaction vessels. W. E. Massingham. il diag Chem & Ind p31-2 Ja 13 '51

Horizontal Kaskade. Chem Ind W 68:22 F 17 '51

Improved apparatus for determining moisture in rubber by distillation with toluene. M. Tryon. bibliog diag J Res Nat Bur Stand 45:362-6 N '50

Improved type of vapour-liquid equilibrium still. J. D. Thornton. bibliog il diag J Ap Chem 1:237-9 Je '51

Isomerization and hydrogenation reactions in a rectification column. L. Berg, P. R. Hippely and W. S. Reveal. bibliog Chem Eng Prog 47:283-6 Je '51

Multicolumn reflex still. il diag Can Chem & Process Ind 34:569-70 Jl '50; Same. Franklin Inst J 250:167-9 Ag '50; Same. Pet Processing 5:857-8 Ag '50; Same. Pet Refiner 29:140-1 N '50; Same cond. Chem & Eng N 28:2178 Je 26 '50

Natural gasoline; today's equipment; perforated plate tray towers; abstract. H. R. Marsh. Pet Processing 5:1322 D '50

Panoma plant achieves low maintenance-operation costs. I. E. Nutter and C. D. Van Vliet. flow chart il Pet Refiner 30:71-6 Ap; 98-102 My '51

Rotary thermal rectifying column. E. S. Byron, J. R. Bowman and J. Coull. bibliog il diags Ind & Eng Chem 43:1002-10 Ap '51

Short-path vacuum stills. A. R. Gilson. diags Chem & Ind p739-40 N 18 '50

Simplified construction for vacuum distilling apparatus. R. Wendland. diags J Chem Educ 28:332-3 Je '51

Small still in gasoline plant has dual function. J. C. Albright. il Pet Refiner 30:130 Je '51

Spinning-band column for vacuum fractionation of fatty-acid esters. L. J. Williamson. bibliog diag J Ap Chem 1:33-40 Ja '51

Theory of open-tube distillation column. M. Bertrand and M. Rinfret. J Chem Phys 18:1510-11 N '50

Vapor-liquid equilibrium of antimony pentafluoride-hydrogen fluoride; properties of antimony pentafluoride. R. C. Shair and W. F. Schurig. bibliog diag Ind & Eng Chem 43:1624-7 Jl '51

Bibliography

Packed columns for multicomponent absorbers and fractionators. W. C. Edmister. bibliog(86 titles) Pet Eng 23:C25-6 Ja '51

Cleaning

Chemical circulation cleaning of towers. V. E. Bowes. il diag Pet Eng 23:C5-8+ My '51

Control

Continuous laboratory fractionation would be simplified by control equipment. R. H. Munch. diags Ind & Eng Chem 43:sup99A-100A+ O '51

Electronic timer-controller. D. M. Peppard. diag Anal Chem 23:814 My '51

Design

Air-water contact operations in a packed column. F. Yoshida and T. Tanaka. diags Ind & Eng Chem 43:1467-73 Je '51

Algebraic solution of McCabe-Thiele diagram. M. R. Beychok. bibliog Chem Eng Prog 47: 265-9 My '51

Binary batch distillation; relation between number of plates, reflux ratio, and pole height. M. T. Cichelli and others. bibliog Ind & Eng Chem 42:2502-10 D '50

Boiling coefficients of heat transfer; C_4 hydrocarbon-furfural mixtures inside vertical tubes. W. E. Bonnet and J. A. Gerster. bibliog diag Chem Eng Prog 47:151-8 Mr '51

Composition of vapors from boiling binary solutions; recirculation-type still and equilibria under pressure for ethyl alcohol-water system. D. F. Othmer and others. diag Ind & Eng Chem 43:707-11 Mr '51

Compositions of vapors from boiling solutions; equilibria under pressure of systems; ethyl ether-ethyl alcohol and ethyl ether-water-ethyl alcohol. W. P. Moeller and others. bibliog Ind & Eng Chem 43:711-17 Mr '51

Design and operation of an automatic 15-litre still. K. H. V. French and L. W. Barnard. diags Soc Chem Ind J 69(sup no2):S60-5 '50

Design of packed distillation columns; empirical method for the estimation of column height using the H.E.T.P. concept. C. H. G. Hands and F. R. Whitt. bibliog J Ap Chem 1:135-40 Mr '51

Design of packed distillation columns; operating vapour rates for packed distillation columns. C. H. G. Hands and F. R. Whitt. bibliog J Ap Chem 1:19-25 Ja '51

DISTILLATION apparatus—Design—*Cont.*

Design of packed distillation columns; pressure drop through packed distillation columns. C. H. G. Hands, F. R. Whitt and K. S. Gregory. bibliog il Soc Chem Ind J 69: 321-30 N '50

Design of packed distillation columns; rectification film resistances in a packed column. C. H. G. Hands and F. R. Whitt. bibliog diag J Ap Chem 1:67-73 F '51

Distillation in 2, 4 and 5.75 inch diameter packed columns. A. C. Heinlein and others. Chem Eng Prog 47:344-6 Jl '51

Effect of pressure drop on distillation plate calculations. A. M. Eshaya. Ind & Eng Chem 43:2153-5 S '51

Equilibrium flash still. R. B. Smith and others. bibliog diag Ind & Eng Chem 43:766-70 Mr '51

How to estimate plate efficiency. Ju Chin Chu and others. bibliog Pet Processing 6: 39-45+, 154-7 Ja-F '51

Model distillation; mechanical analogue for separation processes; abstract. J. S. Forsyth and others. Chem Age (Lond) 64:357 Mr 3 '51

Partial pressure of acrylonitrile over water. C. E. Funk, jr. bibliog Ind & Eng Chem 43:1152-4 My '51

Pressure drop calculation in bubble plate columns. Ju Chin Chu. bibliog diags Pet Eng 23:C9-12+ Mr '51

Pressure drop through bubble caps. J. L. Huitt and R. L. Huntington. bibliog il diags Pet Refiner 30:131-4 Je; 111-18 Ag; 153-4 O '51

Rectifying column performance; effect of intermittent reflux. P. T. O'Leary, J. R. Bowman and J. Coull. bibliog Ind & Eng Chem 43:541-4 F '51

Rotary condenser fractionating vacuum still. F. C. Benner, A. Dinardo and D. J. Tobin. bibliog il diags Ind & Eng Chem 43:722-7 Mr '51

DISTILLERIES

By-products

Treatment of distillery wastes. C. T. Carson. flow diags il Munic Util 88:66-9+ S '50; Same. Water & Sewage Works 98:312-17 Jl '51

Equipment

Seagram's combination boiler-spray drier features ease and economy of operation. C. R. Buck and N. Roberts. il diags Power Eng 55:74-7 F '51

Waste

Treatment of distillery wastes. C. T. Carson. flow diags il Munic Util 88:66-9+ S '50; Same. Water & Sewage Works 98:312-17 Jl '51

DISTILLING industries

Distillers enter new fields. Bsns W p54-6 Je 30 '51

Distillers worry, but stocks are ample. Bsns W p64-5 N 11 '50

Liquor distillers see good year ahead. J. C. Loeser. Barron's 31:15 Ja 29 '51

No bright glow in moonshine; legal distillers wail. Bsns W p38 O 21 '50

See also

Rum
Whisky

Finance

Distillers' spirits lag with slower sales. J. C. Loeser. Barron's 31:7-8 Jl 16 '51

Securities

Outlook for whiskey distilling shares; with tabulations. L. Stone. Comm & Fin Chr 172:2183 D 7 '50

Problems of the liquor companies; with statistics of leading distillers. S. Devlin. Mag of Wall St 88:89-91+ Ap 21 '51

Re-appraisal of the distilling industry; with statistical summary of leading distillers. G. W. Mathis. Mag of Wall St 87:180-1+ N 18 '50

DISTRIBUTION (economics)

How engineering know-how can improve distribution; abstract. S. Tomlin. Management R 40:493-4 Ag '51

See also

Chain stores
Cooperation
Department stores
Jobbers
Marketing
Retail trade

DISTRIBUTION, Electric. See Electric distribution

DISTRIBUTION of gas. See Gas distribution

DISTRIBUTIVE, processing and office workers union

Build-up; three party-line unions merge into a new front; Arthur Osman. Fortune 42:50 N '50

DISTRICT bank, limited

Statement of the chairman. T. D. Barlow. Economist 160:169-71 Ja 20 '51

DISTRICT heating association, National. See National district heating association

DISULFIDES

Improved method of preparation of two aromatic disulphides. L. Bauer and J. Cymerman. Chem Soc J p3434 D '49

Measurement of specific disintegration rates by internal gas counting; radiocarbon. M. L. Eidinoff. bibliog diag Anal Chem 23:632-5 Ap '51

Mercaptans and disulphides; picture flow sheet. Chem Eng 58:176-9 Mr '51

DITERPENES

Diterpenes; the diterpenes from podocarpus ferrugineus. L. H. Briggs and others. Chem Soc J p955-8 Mr '50

Diterpenes; the isolation of phyllocladene from the essential oil of podocarpus spicatus grown in the North Island of New Zealand. L. H. Briggs and J. A. Loe. Chem Soc J p958-9 Mr '50

DITHIOACETYLCHOLINE iodide

β-Dimethylaminoethyl esters of organic dithio acids; dithioacetylcholine iodide. R. W. Bost and O. L. Shealy. bibliog Am Chem Soc J 73:24-5 Ja '51

DITHIO acids

β-Dimethylaminoethyl esters of organic dithio acids. R. W. Bost and others. bibliog Am Chem Soc J 73:24-31 Ja '51

DITHIOAMINES

Vulcanization characteristics of *N,N′*-dithioamines in furnace black stocks. M. C. Throdahl and M. W. Harman. bibliog Ind & Eng Chem 43:421-9 F '51

DITHIOCARBAMATES

Conversion of carbamates into dithiocarbamates. D. O. Holland. Chem Soc J p2134-5 Ag '50

DITHIOCARBAMIC acid

Reaction of 2,3-dichloro-1,4-naphthoquinone with salts of alkyl substituted and unsubstituted dithiocarbamic acids. N. K. Sundholm and A. E. Smith. bibliog Am Chem Soc J 73:3459-63 Jl '51

DITHIOLS

Dithiols; a thio-analogue of BAL-intrav. L. W. C. Miles and L. N. Owen. Chem Soc J p2943-6 N '50

Dithiols; ethers of 2 : 3-dimercaptopropanol with mannitol and sorbitol. P. Bladen and L. N. Owen. Chem Soc J p591-7 F '50

Dithiols; further non-vicinal dithiols. P. Bladon and L. N. Owen. Chem Soc J p585-90 F '50

Dithiols; polymethoxy-dithiols. L. W. C. Miles and L. N. Owen. Chem Soc J p2934-8 N '50

Dithiols; 5 : 6-sorbitoleen and 1 : 2-mannitoleen as intermediates for the preparation of dithiols. P. Bladon and L. N. Owen. Chem Soc J p598-603 F '50

Dithiols; syntheses with the *iso*propylidene and benzylidene derivatives of 2 : 3-dimercaptopropanol. L. W. C. Miles and L. N. Owen. Chem Soc J p2938-43 N '50

Dithiols; the reaction of toluene-*p*-sulphonates and methanesulphonates with potassium thiolacetate; a new method for the preparation of thiols. J. H. Chapman and L. N. Owen. Chem Soc J p579-85 F '50

Polyarylene-alkylene sulfides. C. S. Marvel and P. D. Caesar. bibliog Am Chem Soc J 73:1097-9 Mr '51

DITHIO-OXAMIDE

Colorimetric determination of copper in steel with rubeanic acid. W. L. Miller, I. Geld and M. Quatinetz. bibliog Anal Chem 22: 1572-3 D '50

Determination of copper by dithio-oxamide in lead and lead alloys. P. W. Wright. Soc Chem Ind J 69(sup no 2):S69-70 '50

Spectrophotometric study of the ruthenium-dithio-oxamide complex. G. H. Ayres and F. Young. bibliog Anal Chem 22:1281-3 O '50

DITHIOPHOSPHATE
Radiotracer studies on the interaction of dithiophosphate with galena; the depressant action of phosphate. G. L. Simard and others. Min Eng 190:Trans 39-44 Ja '51

DITHIZONE
Determination of traces of mercury in copper alloys; titration with dithizone. W. L. Miller and L. E. Wachter. bibliog diag Anal Chem 22:1312-14 O '50
Improved dithizone field test for heavy metals in water. H. V. Warren and others. bibliog map Geol Soc Bul 62:609-17 Je '51
Phenyl mercuric or ethyl mercuric compounds; direct determination of several compounds in dilute aqueous solution. V. L. Miller, D. Polley and C. J. Gould. bibliog Anal Chem 23:1286-8 S '51
Primary dissociation constant of diphenylthiocarbazone. E. B. Sandell. Am Chem Soc J 72:4660-1 O '50
Spectrophotometric studies of dithizone and some dithizonates; molecular extinction coefficient of dithizone in carbon tetrachloride. S. S. Cooper and Sister M. L. Sullivan. bibliog Anal Chem 23:613-18 Ap '51

DITOLYLSELENIUM dibromide
Crystallographic data. G. J. Neuerberg and W. C. McCrone. il diags Anal Chem 23:1042 Jl '51

DITTUS-BOELTER equation
Nomograph of Dittus-Boelter equation for heating and cooling liquids. J. F. Heiss and J. Coull. Ind & Eng Chem 43:1226-9 My '51

DIURETICS
Mercurial diuretics; mercuration of allylacetic acid and related compounds. R. L. Rowland, W. L. Perry and H. L. Friedman. Am Chem Soc J 73:1040-1 Mr '51
Mercurial diuretics; methoxymercuration of N-allyl amides. R. L. Rowland, W. L. Perry and S. Gerstein. Am Chem Soc J 73:91-3 Ja '51
Mercurial diuretics; methoxymercuration of substituted allylureas. R. L. Rowland, W. L. Perry and S. Gerstein. Am Chem Soc J 73:3691-3 Ag '51
Reactions of mercurial diuretics with mono- and dithiols. J. F. Lehman and others. bibliog Science 113:410-12 Ap 13 '51

DIVERSEY corporation
Stock offering oversubscribed. Comm & Fin Chr 172:2219-20 D 11 '50

DIVERSIFICATION in industry
Bendix Aviation; company in strong position for both military and civilian production. W. Wells. Barron's 30:24 N 20 '50
Carrots to chlorine; Food machinery and chemical corp. il Fortune 43:104-9+ Je '51
Distillers enter new fields. Bsns W p54-6 Je 30 '51
Diversification; Baldwin-Lima adds road machinery. Bsns W p54 D 23 '50
Diversification; it has enabled Ryan to get deeper into military output. Aviation W 54:46+ Ap 16 '51
Ohio tool makers strike gold in toys. il Bsns W p92-4+ Je 9 '51
Product diversification and the public interest. K. R. Andrews. Harvard Bsns R 29:91-107 Jl '51
Special study of Armour and co. S. Devlin. Mag of Wall St 88:197-9+ My 19 '51
Toolbuilder keeps its hedge; Warner & Swasey. Bsns W p56 My 12 '51
See also
Products, Diversified

DIVIDEND checks. See Checks

DIVIDEND notices
Monthly dividends; a new service to stockholders; automatic check deposits optional; Republic national bank of Dallas. F. F. Florence. il Burroughs Clearing House 35:34-5+ Je '51

DIVIDENDS
Air dividend-earning ratio high. S. Altschul. Aviation W 54:41 My 7 '51
Big Board 1950 dividends up $1.1-billion; tabulation by industry groupings. Bsns W p 123 F 10 '51
Big dividend year. Bsns W p59 D 23 '50
Can liberal dividends continue in the wake of rising capital needs? W. Gates. Mag of Wall St 88:391-3+ Jl 14 '51
Capital gain distributions; clauses to eliminate question of allocating investment company dividends. D. Rogers. Trusts & Estates 90:300-2 My '51
Companies which should maintain their dividends in 1951; with comparative balance sheet items. Mag of Wall St 87:383-5 Ja 13; 88:354-6 Je 30 '51
Dividend outlook is conservative. S. Altschul. Aviation W 53:43 N 27 '50
Dividend payments in 1950 on common stocks listed on the New York stock exchange; tabulation by industry groups. Mag of Wall St 87:545 F 24 '51
Dividends declared and payable. Published in weekly Monday numbers of Commercial and financial chronicle
Financial data on dividend-paying electric utility stocks. Pub Util 47:110-12 Ja 18 '51 [cont monthly]
Financing expansion; retained profits made possible bulk of postwar improvements; dividends low. Steel 127:82-3 D 4 '50
First-half dividends hit new high; table by industry groups. Bsns W p 119 Jl 28 '51
How dependable are 1951 dividend increases? with data on selected companies. G. W. Mathis. Mag of Wall St 87:543-5+ F 24 '51
How real is threat to dividends? if earnings decline. W. Gates. Mag of Wall St 88:127-9+ My 5 '51
Monthly dividends; a new service to stockholders. F. F. Florence. il Burroughs Clearing House 35:34-5+ Je '51
New tax bite and forthcoming dividends. W. Witherspoon. Comm & Fin Chr 173:2152 My 24 '51
1951 midyear re-appraisals of values, earnings and dividend forecasts. Mag of Wall St 88:452-9+, 504-11+, 554-63+, 605-17+ Jl 28-S 8 '51
Payment of stock dividends out of reappraisal surplus. J Account 91:462-4 Mr '51
Stockholders' cut; it still shrinks; table showing percentage of available earnings paid out to common stockholders of selected companies, 1936-37, 1946-50. Bsns W p 124 F 24 '51
Stock market at a glance; price changes, earnings and dividends; New York stock and curb exchanges. Published in weekly numbers of Barron's
Tax situation hinting at more utility extras. Barron's 30:25 D 18 '50

Law

British dividend freeze. Mag of Wall St 88:484 Ag 11 '51
Dividend monstrosity. Economist 161:297-9 Ag 4 '51
Dividends under control. Economist 161:229-31 Jl 28 '51
First clarification on dividends control; reply from industry. Economist 161:360 Ag 11 '51
Limitations on dividends in Britain. P. Einzig. Comm & Fin Chr 174:521 Ag 9 '51
London's latest; limitation of dividends compounds previous follies. G. Schwartz. Barron's 31:3 Ag 6 '51
More dividend freeze anomalies. Economist 161:585-6 S 8 '51

Taxation

Court's close reasoning holds stock dividends taxable. J Account 91:457 Mr '51
Dilemma of the corporation in tax accounting for dividends in kind. R. E. Nelson. J Account 91:96-9 Ja '51
Dividends to be itemized on new income tax forms. Bankers Mo 68:10 Ja '51
N.Y. state bankers association objects to interest and dividend withholding tax. A. L. Muench. Comm & Fin Chr 173:2256 My 31 '51
Stocks with income tax free dividends. G. W. Mathis. Mag of Wall St 88:30-1+ Ap 7 '51
Tax discrimination against the investor; proposed withholding tax on interest and dividends. W. Jackman. Comm & Fin Chr 174:249+ Jl 19 '51

DIVIDING (machine work)
See also
Ruling machines

DIVING, Submarine
Experimental diving unit; pioneer in pressure. H. O. Austin. il U S Naval Inst Proc 77:308-17 Mr '51

DIVING, Submarine—*Continued*
Navy divers work at 10,000 feet altitude. il Comp Air Mag 56:215 Ag '51
Turkey and Chief Reid. B. H. Brittin. il U S Naval Inst Proc 77:610-13 Je '51

DIVINYLBENZENE
Preparation of 1,3-divinyl-2,4,5,6-tetrachlorobenzene. S. D. Ross and M. Markarian. Am Chem Soc J 73:4484 S '51

Analysis

Determination of divinylbenzene in dehydrogenated diethylbenzene. R. P. Marquardt and E. N. Luce. bibliog Anal Chem 23:629-31 Ap '51

DIVINYLCYCLOBUTANE
Formation of *trans*-1 : 2-divinyl*cyclo*butane from butadiene. H. W. B. Reed. Chem Soc J p685-7 Mr '51

DIVORCE
Divorce legislation and family instability. M. A. Elliott. bibliog Ann Am Acad 272:134-47 N '50
Editor leads drive to cut divorce rate; Cleveland press. Ed & Pub 84:44 Ag 25 '51
Family stability in non-European cultures. G. P. Murdock. Ann Am Acad 272:195-201 N '50
Marriage and divorce in Sweden. T. T. Segerstedt and P. Weintraub. Ann Am Acad 272:185-94 N '50
Social engineering and the divorce problem. W. J. Goode. Ann Am Acad 272:86-94 N '50

Statistics

Statistical perspective on marriage and divorce. K. Davis. Ann Am Acad 272:9-21 N '50

DIXIE cup company
Class A conversion dilutes net on common. Barron's 31:13-14 Je 25 '51
Dixie Cup vs. Lily-Tulip Cup; a comparative study. H. S. Coffin. il Mag of Wall St 87:231-3+ D 2 '50

DOANE agricultural service, inc.
Farmer takes advice. il Fortune 43:87-90+ Mr '51

DOCK, Ernest C.
Portrait. Fortune 44:132 O '51

DOCK labor. See Longshoremen

DOCKBOARDS
Magline dockboards; hand trucks; die tongs. il Automotive Ind 104:80 My 15 '51
Magnesium dockboard employs extruded, cast, and wrought parts. G. Beaudet. il Iron Age 167:107-9 F 1 '51

DOCKS
Hay's wharf dock gates. diags Engineer 191: 427 Mr 30 '51
Work begins on Britain's largest oil tanker dock; completion set for 1952. il map World Oil 132:218 Mr '51
See also
Ore docks

Electric equipment

Fish-kit cleansing; off-peak material-handling installation. il Elec R (Lond) 147: 867-72 D 1 '50

DOCTORS. See Physicians

DOCTORS' degrees. See Degrees, Academic

DOCUMENTATION
American practice in documentation; microfilm, offset lithography, punched cards. H. Coblans. J Doc 6:206-12 D '50
Documentation techniques in the USA; selection, reproduction, dissemination; a report of a group of European experts. 57p Organisation for European economic cooperation, 2 Rue André Pascal, Paris XVI, France '51
External memory and research. S. R. Ranganathan and J. W. Perry. J Doc 7:10-14 Mr '51
Information in a hurry; proposed reading machine; Doken; abstract. C. N. Mooers. Chem Eng 57:297-9 N '50

Bibliography

Quarterly documentation survey. Published in quarterly numbers of Journal of documentation

Standards

Why American libraries want international standards. J. Doe. Standardization 22:280 S '51

DOCUMENTATION, Netherlands institute for. See Netherlands institute for documentation

DODDS, Edward Charles, 1899-
SCI honors John Rogers and Edward C. Dodds. por(cover) Chem & Eng N 29:3164 Ag 6 '51
Society's medallist, 1951. por Chem & Ind p500-1 Je 30 '51

DODECYLAMINE
Solubilization of four typical hydrocarbons in aqueous solution by three typical detergents. J. W. McBain and K. J. Lissant. bibliog J Phys & Colloid Chem 55:655-62 My '51

DODECYLAMMONIUM chloride
Binary systems of water with dodecylammonium chloride and its N-methyl derivatives. F. K. Broome, C. W. Hoerr and H. J. Harwood. Am Chem Soc J 73:3350-2 Jl '51
Conductometric studies of solubility and micelle formation. D. N. Eggenberger and H. J. Harwood. Am Chem Soc J 73:3353-5 Jl '51

DODECYL sulfate
Effect of *p*H on the denaturation of β-lactoglobulin and its dodecyl sulfate derivative. M. L. Groves, N. J. Hipp and T. L. McMeekin. bibliog Am Chem Soc J 73:2790-3 Je '51

DODGE, Barnett Fred, 1895-
Winner of Walker award. por Chem & Eng N 28:4444 D 18 '50

DOEHLER-JARVIS corporation
Companies that should maintain their dividends in 1951; with comparative balance sheet items. Mag of Wall St 88:355 Je 30 '51

DOEPKE, Charles William, manufacturing company
Ohio tool makers strike gold in toys. il Bsns W p92-4+ Je 9 '51

DOERR, Charles D.
Portrait. Bsns W p31 N 11 '50

DOG care preparations
Cleansers for canines. il Chem W 69:37 S 15 '51

DOGS
Functional activity of the sweat glands in the hairy skin of the dog. T. Aoki and M. Wada. bibliog il Science 114:123-4 Ag 3 '51

DOHERTY, Robert Ernest, 1885-1950
Sketch. J Eng Educ 41:205 D '50

DOISYNOLIC acid
Improvement of the synthesis of bisdehydrodoisynolic acid. D. L. Turner and others. bibliog Am Chem Soc J 72:5654-9 D '50
Open-chain analogue of ethyl 7-methylbisdehydrodoisynolic acid. E. R. Clark. Chem Soc J p3397-402 D '50

DOKEN
Information in a hurry; proposed reading machine able to search entire Library of Congress in ten seconds; Doken; abstract. C. N. Mooers. Chem Eng 57:297-9 N '50

DOLLAR-a-year men. See Public officials

DOLLAR shortage (term)
Foreign aid with and without dollar shortage. H. Mendershausen. R Econ & Stat 33: 38-48 F '51

DOLLAR steamship lines, inc. See American president lines

DOLLS
Dolling up for a Christmas boom; Ideal novelty & toy co. il Bsns W p22-3 D 16 '50

DOLLS, Plastic
Electroforming for plastics; spray masks and specialized molds. il diags Mod Plastics 28: 81-4+ Mr '51
Vinyl doll. il Mod Plastics 28:176 Ap '51

DOLOMITE
Physical and chemical characteristics of limestones and dolomites. N. C. Rockwood. Rock Prod 54:102 Ap '51
Quantitative log interpretation of the San Andres dolomite. C. B. Scotty. bibliog World Oil 133:166-8+ Jl '51
Sutherland dolomite. Chem Age (Lond) 64:94 Ja 13 '51

DOMAN helicopters, inc.
Security I like best. H. S. Munroe, jr. il Comm & Fin Chr 174:979 S 13 '51

DOME mines, ltd.
Dome Mines expands into oil, base metals. Barron's 31:16 Ja 15 '51

DOMES
Engineering in the Festival of Britain; dome of discovery. il diags Engineering 171:453-6, pl 29-30 Ap 20 '51
Geodesic dome, Fuller's new framing system. il diags Arch Forum 95:144-51 Ag '51
Roofed with movable dome; house in Cave Creek, Ariz. P. Soleri and M. Mills. il plans Arch Forum 94:150-2 Je '51

DOMES, Concrete
English firm builds shell concrete domes; factory of Brynmawr rubber, ltd. il Eng N 146:33 Je 28 '51

DOMES, Plastic
Radomes for range stations. il Mod Plastics 28:67 My '51

DOMESTIC appliances
Tips on trade-ins. Dom Eng 177:108 Ja '51
What about appliances? Steel 128:367-8+ Ja 1 '51
See also
Carpet sweepers
Dishwashing machines
Electric apparatus and appliances, Domestic
Freezers, Domestic
Gas appliances, Domestic
Vacuum cleaners
Washing machines

Advertising

How to get distributors on the new product band wagon; Mullins Jet-Tower dishwasher. M. Adams. il Ptr Ink 235:27-9 Je 8 '51

Manufacture

Metal finishing of household equipment at Servel's plant. A. Bregman. il Metal Prog 59:646-9 My '51

Merchandizing

Demonstration; it's half the sales battle for Proctor. R. H. Dewalt. il Sales Management 67:102+ S 1 '51
Sell the gifts that keep on giving; suggestions for Christmas business. il Dom Eng 176:86-8+ D '50

Statistics

Automatic tumbler dryers, mechanical stokers, steel kitchen cabinets, warm air furnaces, oil burners, floor and wall furnaces, cast iron boilers, radiators and convectors, washers, electric refrigerators, gas ranges, roasters, broilers, heating stoves, electric water heaters, vacuum cleaners, electric ranges, ironers, electric flat irons, toasters, freezers, steel boilers, gas water heaters, radio, television receivers, plumbing fixtures; tabulations. Steel 128:138-40 Ja 1 '51
Estimated unit sales of gas appliances, 1946-50; estimated unit sales of competitive appliances, 1946-50; estimated appliances in use, Dec. 31; tables. E. R. Martin. Gas Age 107:46-7 My 24 '51
Household appliances; refrigerators, cooking and heating appliances, sales and retail value, shipments; tabulations. Iron Age 167:330-1 Ja 4 '51

DOMESTIC architecture. See Architecture, Domestic

DOMESTIC finance
Family expenditures; San José, Costa Rica, 1949. T. F. Mosimann and M. H. Gillim. Mo Labor R 71:443-5 O '50
See also
Budget, Household

DOMESTIC relations
Legal status of the American family. 27p U.S. Women's bur, Washington 25, D.C. '51
Role of legal services in family stability. C. Ogburn. Ann Am Acad 272:127-33 N '50

DOMESTIC service. See Servants

DOMESTIC work. See Servants

DOMEX. See Nalcite SAR

DOMINICAN REPUBLIC
See also
Mines and mineral resources—Dominican Republic

Commercial policy

Commercial laws digests. For Comm W 42:12 Ja 29 '51
Tariffs and trade controls. For Comm W 42:12 Ja 29 '51

Economic conditions

News by countries. For Comm W 41:12-13 N 13 '50; 42:13-14 Ja 22; 12-13 F 12; 13-14 Mr 19; 43:12-13 My 28; 44:12-13 Jl 9; 12-13 Ag 6; 12-13 S 17; 13-14 S 24 '51

DOMINION tar and chemical company, ltd.
Growing more diversified. Barron's 31:29-30 S 10 '51

DONNAN equilibrium
Combination of wool with acids in presence of salts. B. Olofsson. bibliog Soc Dyers & Col J 67:57-66 F '51
Concerning the measurement of pH, ion activities, and membrane potentials in colloidal systems. H. Jenny and others. diags Science 112:164-6 Ag 11 '50; Discussion. C. E. Marshall. 113:43-4 Ja 12 '51

DONNELLY, John
Portrait. Sales Management 67:41 Jl 15 '51

DOOR fittings
Hardware; hand of doors, casement windows, types of locks and latches, etc.; with time-saver standards. S. Howard. diags Arch Rec 106:146+ O '49; 107:172-3+ Ap; 108:147+ Jl: 161+ S '50; 109:143+ Ja; 159+ Mr; 199+ Je; 110:175, 177 Jl '51
See also
Locks and keys

DOOR mats, Plastic
Vinyl makes better floor mats. il Mod Plastics 28:84 N '50

DOOR-to-door selling
Anti-selling ordinances threaten all business. E. Whitmore. Am Bsns 21:42-5 Ag '51
Business teams up to fight anti-selling ordinances. E. Whitmore. Am Bsns 21:24+ S '51
Chained doors; Supreme court rules local ordinances restricting door-to-door selling are constitutional. Bsns W p 150-1 Je 16 '51
Court ruling may curb subscription selling. Ed & Pub 84:16 Je 9 '51
How Easterling men sell four to eight out of every ten calls. J. Luhn. il Sales Management 66:42-4 Ap 15 '51
Industry's house-to-house salesmen point for record year. F. Henle. Barron's 30:11-12 O 23 '50
Is house-to-house selling doomed? Sales Management 67:72+ Jl 1 '51
No cause for concern in laws barring canvassing. Nat Underw (Life ed) 55:7 Ag 3 '51
Sale I never forgot; they laughed, but they bought; high school boy sells furs in summer. W. E. Ditmars. Ptr Ink 234:58 Ja 19 '51

DOORS
See also
Elevator doors

Manufacture

Tailored heat; production of slab doors. D. Wedge. il Elec West 105:80-1 O '50

DOORS, Aluminum
Metal stitching speeds aluminum door assembly. il Steel 129:74 O 1 '51

DOORS, Furnace. See Furnace doors

DOORS, Sliding
Hardware; sliding doors; with time-saver standards. S. Howard. diags Arch Rec 109:199+ Je; 110:175, 177 Jl '51

DOORS, Steel

Manufacture

Automatic conveyer handles 400-lb doors. il Iron Age 166:95 N 2 '50
Foundry pours burglar-proof doors; cast steel safe doors. il Iron Age 167:68-9 Ja 18 '51

DOORSTEPS. See Steps, Concrete

DOPE, Airplane. See Airplane dope

DORMAN, Long and company, limited
Statement by the chairman at 61st ordinary general meeting. E. Hunter. Economist 159:1117 D 16 '50

DORMANCY
Prolongation of clotting time in dormant estivating mammals. A. Svihla and others. Science 114:298-9 S 21 '51
See also
Hibernation

DORMISON. See Hypnotics

DORMITORIES
Alice Crocker Lloyd residence hall, University of Michigan. il plans Arch Rec 109:112-17 Ap '51

DORMITORIES—*Continued*

Bid rules ease for air force $500 million dormitory plans. Eng N 147:23-4 S 20 '51

Dormitory rooms; planning for maximum spaciousness with mimimum space. il plans Arch Forum 95:174-5 S '51

Harvard builds a graduate yard; new dormitory center. il plans diags Arch Forum 93:61-71 D '50

Men's dormitory for Hampton institute. Hampton, Va. il plans Arch Forum 95:178-9 S '51

Women's dormitory on tough hilltop site for Washington state university. il plans Arch Forum 95:176-7 S '51

DOSCH-FLEUROT, Arno Walter, 1879-1951

Noted reporter, dies in Madrid. H. R. Hawley. Ed & Pub 84:76 Ap 28 '51

DOSIOLOGY

Choice of drugs and dosage; chronic beryllium poisoning. H. S. Van Ordstrand. A M A Archives Ind Hygiene & Occup Med 3:583-5; Discussion. 585-6 Je '51

DOUBLE bonds

Addition of bromine chloride to carbon-carbon double bonds. R. E. Buckles and J. W. Long. bibliog Am Chem Soc J 73:998-1000 Mr '51

Bredt's rule of double bonds in atomic-bridged-ring structures. F. S. Fawcett. Chem R 47:219-74 bibliog(204 ref, p269-74) O '50

Cation complexes of compounds containing carbon-carbon double bonds; further studies on the argentation of substituted benzenes. L. J. Andrews and R. M. Keefer. bibliog Am Chem Soc J 72:5034-7 N '50

Influence of a CF_3 group on an adjacent double bond. A. L. Henne, M. A. Smook and R. L. Pelley. Am Chem Soc J 72:4756-7 O '50

Infra-red spectroscopic investigation of double-bond structure in simple acyclic terpenes and derivatives thereof. D. Barnard and others. Chem Soc J p915-25 Mr '50

Partial reduction of the double bond in 2-hexenoic acid by lithium aluminum hydride. R. W. Freedman and E. I. Becker. bibliog Am Chem Soc J 73:2366-7 My '51

Relative reactivity of aromatic double bonds; addition of osmium tetroxide to substituted 1 : 2-benzanthracenes. G. M. Badger and K. R. Lynn. Chem Soc J p 1726-9 Jl '50

Relative reactivity of aromatic double bonds; the relation between double-bond character and the velocity of addition of osmium tetroxide. G. M. Badger. Chem Soc J p 1809-14 Jl '50

Unsaturated lactones and related substances; unsaturated γ-lactones from keto-acids; the position of the double bond. F. A. Kuehl, jr., R. P. Linstead and B. A. Orkin. Chem Soc J p2213-18 Ag '50

DOUBLE deck-cars. See Cars—Double deck

DOUBLE taxation. See Taxation, Double

DOUGH

Fungal enzymes help you make better bread. J. A. Johnson and B. S. Miller. bibliog il Food Ind 23:80-3 Mr; [cont as] Food Eng 23:161-3+ Ap '51

DOUGH mixers

Plug welding technique in clad lining dough mixer bowls. W. M. Davis. il diag Welding J 30:829-31 S '51

DOUGHNUTS

Quality doughnuts at 700 doz. an hour. Z. Block. il Food Ind 23:55-7+ Ja '51

DOUGLAS, Donald Willis, 1892-

Portrait. Fortune 44:128 O '51

DOUGLAS aircraft company

Douglas aims to hold transport leadership. Aviation W 54:17 Mr 12 '51

Lots of bosses; Douglas Aircraft gives plant managers wide autonomy. Bsns W p 100 F 24 '51

DOUGLAS fir

Effect of molding temperature on the strength and dimensional stability of hardboards from fiberized water-soaked Douglas-fir chips. S. L. Schwartz and P. K. Baird. bibliog Paper Tr J 132:20+ Ap 27 '51

Hydrogenation of Douglas-fir lignin. I. T. Clark and others. bibliog Tappi 34:6-11 Ja '51

Insulating board from Douglas fir and alder. S. L. Schwartz. Paper Ind 32:974-6 D '50

Milwaukee plants a crop of future traffic; reforestation project. il map Ry Age 131:44-6 S 3 '51

Products obtained by destructive distillation of Douglas-fir bark. E. F. Kurth and C. V. S. Ratnam. bibliog diag Tappi 33:517-19 O '50

Stabilization of Douglas fir kraft black liquor. H. W. Bialkowsky and G. G. Dehaas. Paper Ind 3:546-9 Ag '51

DOUGLAS-fir plywood. See Plywood

DOUHERET, Maurice

Happy shoemaker; after U.S. tour French manufacturer ups output. Bsns W p 146-7 F 10 '51

DOW chemical company

Arranges private financing. Comm & Fin Chr 174:452 Ag 6 '51

Embarking on new expansion program. Barron's 31:11-12 F 12 '51

Spring technical meeting, Midland, Mich. April 21-24. Chem & Eng N 29:1832-3 My 7 '51

DOW theory

Dow theory appraisal. F. P. Goodrich. Comm & Fin Chr 172:1984 N 23 '50

New look at Dow's theory. R. W. Bridwell. Comm & Fin Chr 172:1683+ N 2 '50

DOWD, Charles Ferdinand

Man who made standard time. R. W. Riis. Standardization 22:290 S '51

DOWICIDE A. See Sodium orthophenylphenate

DOWMETAL. See Magnesium alloys

DOXFORD marine engines. See Diesel engines, Marine

DRACORHODIN

Pigments of dragon's blood resin; a synthesis of dracorhodin. A. Robertson and W. B. Whalley. Chem Soc J p 1882-4 Jl '50

DRACORUBIN

Pigments of dragon's blood resin: dracorubin. D. A. Collins and others. Chem Soc J p 1876-81 Jl '50

Pigments of dragon's blood resins; the constitution of dracorubin. A. Robertson, W. B. Whalley and J. Yates. Chem Soc J p3117-23 N '50

DRAFT

Theoretical natural draft for stacks; chart; data sheet. J. F. Hyam. Power 95:142 Ja '51

See also

Dampers

DRAFT, Military. See Military service, Compulsory

DRAFT gages. See Pressure gages

DRAFT gears

Couplers and draft gears; committee report, A.A.R. Mechanical division. Ry Age 131:100+ Jl 9 '51

DRAFTING departments

Drafting problems encountered in structural steel fabrication. R. M. Sherman. J Eng Educ 41:615-20 Je '51

DRAFTING room management

See also

Drafting departments

DRAFTING room practice

Constructing arcs tangent to circles. W. W. Quist. diags Mach 57:185-6 N '50

How to lay out centrifugal pump impellers. E. G. Hilficker. il diags Machine Design 22:137-42 N '50

How to lay out centrifugal pump volute casings. E. G. Hilficker. il diags Machine Design 23:129-32 Ag '51

Why machine parts fail; failures originating on the drawing board. C. Lipson. bibliog il diags Machine Design 22:158-62 N '50

See also

Airplanes—Manufacture—Drafting room practice

Blueprints

Engineering drawing

DRAFTING rooms

Equipment

Images are projected on drawing board for copying. il Product Eng 21:178 D '50

Lighting

Engineering of a drafting office installation to recommended brightnesses. C. J. Kroepel. il plan diag Illum Eng 46:109-12 Mr '51

DRAFTING rooms—Lighting—*Continued*
Utilities, too, can benefit from better lighting; drafting room of New England electric system's Boston, Mass., office. W. K. Lewellen and J. W. Young. il Elec World 134:140 D 4 '50

DRAFTS
Bank owns proceeds of sight draft; Acorn flooring co. inc. vs. North Memphis lumber co. C. R. Rosenberg, jr. Burroughs Clearing House 35:71 N '50

DRAGON'S blood
Pigments of dragon's blood resin; a synthesis of dracorhodin. A. Robertson and W. B. Whalley. Chem Soc J p 1882-4 Jl '50
Pigments of dragon's blood resin; dracorubin. D. A. Collins and others. Chem Soc J p 1876-81 Jl '50
Pigments of dragon's blood resins; the constitution of dracorubin. A. Robertson, W. B. Whalley and J. Yates. Chem Soc J p3117-23 N '50

DRAINAGE
Diesel-pump team cuts drainage cost; Missouri Drainage district; with cost data. il Diesel Power 29:42-3 F '51
Electric pumps reclaim Ohio marshland. V. Marvin. il Elec World 135:104 Ap 23 '51
Preparing the land for building; drainage. J. L. Staunton. il diags Arch Rec 109:156-61 My; 110:154-9 Jl '51
See also
Airports—Drainage
Gratings
Mine drainage
Roads—Drainage
Sewerage
Streets—Drainage
Wellpoint system

Great Britain

Draining the Fens; gradual change-over to electric pumping. il map Elec R (Lond) 148: 421-5 Mr 2 '51
New drain for the Rimrose. A. M. Brodine. il plan Comp Air Mag 55:268-71 D '50

DRAINAGE, House
Kitchen sink drainage and the septic tank. Consumers Res Bul 28:9 S '51
See also
Plumbing

DRAKE, Sir Francis
Strategy and tactics of Sir Francis Drake. A. S. Riggs. U S Naval Inst Proc 76:1344-59 D '50

DRAMA

Bibliography

Index to the best plays series, 1899-1950. 147p $2.75 Dodd, Mead and co, 432 4th av, New York 16 '50

DRAMATIZATION in training
Role-playing in leadership training; union education. A. A. Liveright. Personnel J 29: 412-16 Ap '51
Skits in leadership training. A. A. Liveright. Personnel J 30:64-6 Je '51

DRAPER, William Henry, 1894-
Portrait. Fortune 43:15 Ja '51

DRAWING
See also
Perspective

DRAWING frames
Fibre arrangement in Fibro drawframe slivers. W. E. Morton and R. J. Summers. diags Textile Inst J Trans 41:T349-60 S '50
How to select drawing frame rolls. A. Boylston. il Rayon 32:31-3+ Ja '51

DRAWING instruments
Anisotropic drafting device. L. H. Bainbridge-Bell. il diags J Sci Instr 28:133-7 My '51

DRAWINGS
Filing unit for drawings. il Engineer 191:460 Ap 6 '51

DRAWINGS, Isometric. See Isometric drawings

DREAMS
What people dream about. C. S. Hall. Sci Am 184:60-3 My '51

DREDGES
Salvaging a sunken river dredge. R. K. Graul. il Comp Air Mag 56:177-9 Jl '51
Sea-going hopper dredger. il diag Engineer 190:385-7 O 20 '50
Self-propelled suction dredge. il plan diag Rock Prod 54:92-3 S '51
Unusual fixed dredge to keep Mexican port open. il Eng N 145:57 N 16 '50

DREDGING
Dredges enlarge 50-mile Houston ship channel. K. Heagy. il map Civil Eng 21:152-4 Mr '51
Hydraulic fill to support relocated highway; New Haven, Conn. il Constr Methods 33: 74-5+ Ag '51
Sand brought back from watery grave saves money on hydraulic fill jobs; New Jersey turnpike. il map Eng N 147:30-3 S 13 '51
See also
Dredges
Gold dredging

DRESS patterns
See also
Newspapers—Dress pattern features

DRESSER industries, inc.
Companies to benefit from industrial expansion; with comparative balance sheet items. Mag of Wall St 87:278 D 16 '50
Headed for another good year. Barron's 31:21 Mr 19 '51

DRESSES

Hooped foundations

Strength of hooped foundations for gowns. G. W. H. Stevens. diags Textile Inst J 41:P719-24 O '50

DREW, Daniel, 1797-1879
Portrait. Bsns W p45 My 19 '51

DRIED eggs. See Eggs, Dried

DRIED food. See Food, Dried

DRIED milk. See Milk, Dried

DRIED potatoes. See Potatoes, Dried

DRIFT
Illinoian and Wisconsin drift of the southern part of the Grand River lobe in eastern Ohio. G. W. White. bibliog map Geol Soc Bul 62:967-77, pl 1 S '51
Integrated geophysical and geological investigation of aquifers in glacial drift near Champaign-Urbana, Ill. J. W. Foster and M. B. Buhle. bibliog il maps diags Econ Geol 46:367-97 Je '51
See also
Moraines

DRILLING and boring (earth and rocks)
Better overburden drilling. il Coal Age 56: 112-14 F '51
Big power auger drills footing holes for Ford plant. il Constr Methods 33:49 Ag '51
Blasting rock cuts on heavy-construction projects. A. B. Lattanzi. il Explosives Eng 29:17-19+ Ja '51
Breaking with longholes at Holden; abstract. W. S. Phillips. Min Eng 3:229 Mr '51
Carbide's role in drilling gives it critical importance. A. H. Hubbell. il Eng & Min J 152:108-13 F '51
Compressed air drilling replaces trench work in laying services. E. C. Powers. il Am Gas J 175:15-16 Jl '51
Controlling dust in drilling operations for roof bolts; abstract. C. W. Owings. Coal Age 56:196+ F '51
Diamond-drill mining of a surface pillar. H. R. Rice. il diags Can Min J 71:55-6 D '50
Earth boring machine. il Engineer 191:138 Ja 26 '51
Easy-to-install drain wells placed behind leaking levee. W. R. Jones. il diag Eng N 146:37 My 17 '51
Hole digger; post hole auger. diags Welding J 30:834 S '51
Horizontal drilling with a stoper. C. F. Farrell. il diags Can Min J 72:76-7 Je '51
Jet-piercing blowpipe. il Blast F & Steel Pl 38:1354-5 N '50; Iron Age 166:108 D 14 '50
Long hole percussion drilling at Senator-Rouyn. H. R. Rice. il diag Can Min J 72: 63-6 My '51
Mount digger on turntable for flexible operation. S. H. Pollock. il Elec World 135:112+ Mr 12 '51
Open-pit drilling and blasting must serve the shovel. il Eng & Min J 152:99-100 Jl '51
Ottawa River power development; La Cave project. A. S. Park. il maps Comp Air Mag 55:272-6 D '50
Overburden preparation at Enos mine. W. J. Crawford. il Min Cong J 37:46-9 Ap '51
120,000 volts under the Genesee. T. Slager and M. Milano. il diag Comp Air Mag 56: 180-3 Jl '51

DRILLING and boring (earth and rocks)—*Continued*

Pend Oreille drilling; abstract. L. M. Kinney. Min Eng 3:228-9 Mr '51

Plotting borings to show best layout for a plant. diags Eng N 145:51 D 14 '50

Plug and feather; few changes made in ancient method of splitting stone. T. Slager. il Comp Air Mag 56:70-1 Mr '51

Portable drilling machine features hydraulic controls. il Eng N 145:118 N 2 '50

Production jet-piercing of blastholes in magnetic taconite. D. H. Fleming and J. J. Calaman. il Min Eng 3:Trans 585-91 Jl '51

Quarry bar transplanted for underpass drilling. il Constr Methods 33:83-4 Je '51

Rock hardness as a factor in drilling problems. W. B. Mather. bibliog Min Eng 190:Trans 173-6 F '51

Rotary air-blast drilling now ready for pit jobs. il Eng & Min J 152:74-5 Ag '51

Shot hole drilling in Canada. W. A. Burggren. il World Oil 132:217-18 F '51

Simple adaptations lick hardrock highway job. il Constr Methods 33:86-7+ Mr '51

Size of cuttings produced by pneumatic drilling with different kinds of detachable bits. C. E. Brown. bibliog diags A M A Archives Ind Hygiene & Occup Med 4: 103-18 Ag '51

Wet rotary drilling improves roof-bolting results. J. K. Berry. il Coal Age 56:74-6 My '51

See also

Mining methods
Petroleum—Well drilling
Rock drills
Shaft sinking
Tunnels and tunneling
Wells

DRILLING and boring (metal working, etc.)

Accurate holes needn't be difficult; aircraft engine-mount brackets. F. Giannotti. il Am Mach 95:132-3 Jl 23 '51

Air actuation cuts time in manipulating drilling jig. R. Mawson. diags Steel 129:77 Jl 2 '51

Air-clamping arrangement that solved a troublesome drilling problem. R. W. Newton. il diag Mach 57:195-6 Ap '51

Atom (izer) holes take adroit drilling; Vapor-Clarkson steam-generator nozzle; illustrations with text. L. Gross. diags Am Mach 95:138-9 My 14 '51

Automatic tools drill and tap die-castings. J. A. Mullen. il Am Mach 94:144-5 D 11 '50

Boring the big rods; Cooper-Bessemer corp. J. A. Stevenson. il diags Am Mach 94:116-17 O 30 '50

Carbide drills for cast iron; reference book sheet. F. W. Lucht. diags Am Mach 95:131, 133 My 28 '51; Same. Mach 57:195-7 Je '51; Same. Steel 128:92-3 Je 4 '51; Same cond. il Automotive Ind 104:98+ Je 15 '51

Carbide drills increase tool life on cast iron. E. J. Weller and others. il diags Iron Age 167:75-9 My 31 '51

Drill jig and micrometer provide jig-boring accuracy. B. Goodwin. diags Am Mach 95:156 O 15 '51

Drill jig grips casting in slanted V-groove. H. J. Malm. diags Am Mach 94:166 D 11 '50

Drill jig with equalizers designed to handle an irregular casting. R. W. Newton. plan diags Mach 57:198-9 F '51

Drill study simplified; electric strain gages make possible a portable dynamometer; illustrations with text. Am Mach 95:144 Mr 19 '51

Hexagonal drill jig for producing six holes in a pump piston. R. W. Newton. diag Mach 57:194-5 My '51

How to drill hardened steels. R. Double. il Am Mach 95:125 F 5 '51

Jig designed to drill sub-assemblies. R. W. Newton. diags Mach 57:215-16 Jl '51

Low-cost jigs for the small shop. F. Biechele. diags Am Mach 95:130-1 Jl 23 '51

Micrometer crosshead helps in checking long bores. C. D. MacKinnon. diag Am Mach 95:174 O 1 '51

Multiple drilling of small closely spaced holes. il Mach 57:169 Ag '51

New lathes bore and rough turn at record rates; two lathes developed in Germany. C. W. Heppenstall. il Iron Age 166:85-7 N 9 '50

Peg-leg drill machines this turbine. S. K. Rudorf. il diags Am Mach 95:140-1 Jl 9 '51

Press-reboring rig is hand fed. J. Pearman. diags Am Mach 95:134 Je 25 '51

Production drilling and trepanning of deep holes. J. S. Ladendorf. diags Tool Eng 27: 29-34 S '51

Recommended practice for drilling aluminum alloys; data sheet. diags Mach 57:249 Ap; 241 My '51

Rocking fixture simplifies drilling operation. il Iron Age 166:93 N 16 '50

Tool cuts drilling time. A. Drantz. diags Tool Eng 26:43 F '51

Tool for accurate hole spacing. D. A. Coates. diags Tool Eng 27:61 Jl '51

Tooling tricks at Watertown arsenal; rack-driven boring tool. E. L. Pearson. il Am Mach 95:91 Ap 30 '51

292,200 holes per shift per machine; Bakelite panels at IBM's Endicott plant. M. J. Rowan. il Am Mach 95:168-9 Ap 16 '51

Welded construction simplifies jig for drilling irregular-shaped casting. R. Mawson. diag Mach 57:190-1 N '50

Welded indexing jig for drilling a casting of complicated shape. R. Mawson. diags Mach 57:198-200 Ja '51

See also

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DRILLING and boring machinery

Able accessories aid drillpress action at Motorola. R. J. Gould. il diags Am Mach 95: 152-3 Jl 23 '51

Adcock and Shipley 14-spindle horizontal cam-feed drill. il Automobile Eng 41:224 Je '51

Ajax five foot radial drilling machine. il Engineer 192:240 Ag 24 '51

Arc drill has a vibrating type head. il diags Product Eng 22:130-1 Ag '51

Are you getting the most out of your drill presses? J. E. Hyler. il Iron Age 166:100-3 D 14; 83-6 D 21 '50

Articulated-head drilling and tapping machine. il Engineering 171:205 F 16 '51

Attachment that adapts a drilling machine for lapping. G. Wenke. diags Mach 57: 185-6 Ag '51

Automatic air drills make holes faster. O. C. Tomlinson. il Am Mach 95:102 Ja 8 '51

Automatic depth control built into disk-drilling fixture. W. M. Halliday. diags Am Mach 94:120 O 30 '50

Automatic reversing attachment for Herbert drilling machines. il Automobile Eng 41: 298 Ag '51

Big drill press steps up ladder output. il Comp Air Mag 56:189 Jl '51

Big tools build bigger boring mills; illustrations with text. M. M. McCall. Am Mach 95:114-18 My 28 '51

Boring mill cost tops $600,000. Steel 128:72 Ja 29 '51

Cam feed drilling; Herbert all-electric machines. il Automobile Eng 41:336 S '51; Engineer 192:162 Ag 3 '51; Engineering 172: 205 Ag 17 '51

Cocking reduced in horizontal boring machine. il Am Mach 95:193 Je 11 '51

Conversions tool drillpress for small lots; illustrations and drawings with text. Am Mach 94:142-3 D 11 '50

Cylinder head drilling machine. il Automotive Ind 104:51 My 15 '51

Design of Lanchester damper for elimination of metal-cutting chatter. R. S. Hahn. il diags A S M E Trans 73:331-5 Ap '51

Dc synchros control feeds on huge boring mill. R. A. Gerg. il diag Steel 129:88-9 S 17 '51

Driller for extra-long work is accurate, easily set up. il Am Mach 95:192 Je 11 '51

Electromagnetic measuring system used in Pratt & Whitney jig borer. il diags Am Mach 95:178 F 5 '51; Automotive Ind 104: 58 F 1 '51; Mach 57:212-13 F '51; Machine Design 23:113 Mr '51

Fifty years pioneering in multiple-spindle drilling machines. il Mach 57:180-1 F '51

Fluteless drill cuts plastics faster. R. Double. il diags Steel 129:80 Jl 30 '51

Geared boring toolholder has rigidity and accuracy. J. P. Ramirez. diags Am Mach 94: 118 O 30 '50

DRILLING and boring machinery—*Continued*

Giant vertical-bar machine avoids sag in boring stators. A. Martinson and J. G. Quinn. il diags Am Mach 95:111-13 My 28 '51

Giddings & Lewis boring mill increases accuracy, capacity. il diags Am Mach 95:180-1 My 14 '51

Giddings & Lewis electrically operated positioning equipment for horizontal boring machine. il Mach 57:210-11 F '51

Giddings & Lewis high speed horizontal boring machine. il Tool Eng 26:87 Je '51

Giddings & Lewis planer type horizontal boring machine with power-operated under arm and tracer control. il Mach 57:208-10 Ja '51

Hardened and ground ways on Giddings & Lewis horizontal-boring machines. il Am Mach 94:149 N 27 '50

Horizontal boring and milling machine. il Ry Mech & Elec Eng 125:79 Jl '51

Horizontal boring mill versatilized for multiple operation. K. F. Gallimore. il Steel 128:86+ Ja 22 '51

Horizontal drillpresses for double-end cutting. H. J. MacDonald. il Am Mach 95:136 O 15 '51

How to produce more holes with your drills. R. J. Sack. il diags Mach 57:143-50 My; 183-6 Je '51

Hydraulic feed car-wheel borer. il Ry Mech & Elec Eng 125:77 Ja '51

Jig for drilling spanner-wrench holes. R. W. Newton. diags Mach 57:194-6 Mr '51

Kearns large boring machine. il Engineer 192:31 Jl 6 '51

Meddings radial drilling machine. il Engineer 191:138-9 Ja 26 '51

Micro-precision drilling machine. il Engineering 170:488 D 8 '50

Niles completes largest boring and turning mill built in U.S. il Am Mach 95:152 My 28 '51; Mach 57:200-1 Je '51

1951 production preview. il Am Mach 95: 173-6, 179-88 Ja 22 '51

Output doubled by improving drill press feed setup. F. M. Butrick, jr. diags Steel 129: 87+ S 17 '51

Portable upside-down drill works beneath giant scroll cases. S. K. Rudorf. il diags Am Mach 95:164-5 Je 11 '51

Steep-taper arbors and collet shanks for milling and boring machines; tentative standard; reference book sheet. diags Am Mach 94:135 N 27 '50

Tool-room boring machine with optical measuring system. il Engineering 170:312 O 20 '50

Twin-column drilling machine. il Engineer 191:478 Ap 13 '51

Vertical boring and turning mill with pendent-control electro-hydraulic shift. il Mach 57:208 Ap '51

Standards

Drill drivers; tentative standard; reference book sheet. diags Am Mach 95:127, 129 Ap 2 '51

DRILLING muds. See Petroleum—Mud fluids

DRILLS, Oil well

Bassinger rotary percussion drill. R. Brown. il diags Pet Eng 22:B42+ D '50; Excerpts. Mech Eng 72:1004-5 D '50

Buckling of rotary drilling strings. A. Lubinski. bibliog diags World Oil 132:105-6+ Mr; 137+ Ap; 122+ My; 124+ Je '51

Coddle that cathead! B. F. Kelley. il World Oil 132:106 F '51

Improvements in metallurgy and design reduce failures of drill string tools. F. Briggs. il Pet Eng 23:B7-10+ My '51

Know your drill collar. T. B. Morris. il World Oil 131:106-8+ D '50

Metallurgical factors affecting drill-collar performance; abstracts. R. J. Stoup. diags Oil & Gas J 49:97-8+ Ap 12 '51; il Steel 128:90+ My 14 '51; Metal Prog 60:126+ Ag '51

Peening process increases fatigue life of drill collars. G. J. Gilbert. il Oil & Gas J 50: 74-5+ S 6 '51

Rotary drilling equipment, 1951. M. F. Hazel. Oil & Gas J 49:104+ Mr 8 '51

Rotary percussion drilling in west Texas. J. A. Wanamaker. il diags World Oil 133:182-4+ S '51

Stubbing drill collars by thermit welding. R. F. Carlson. il Oil & Gas J 49:70-1+ Mr 8 '51

Three-dimensional photoelastic stress analysis of a threaded drill pipe joint. W. F. Franz. il diags Pet Eng 23:B60-2+ F '51

Tubular-goods care. il diags Oil & Gas J 50:198+ S 20 '51

What causes tubular failures? D. C. Neely. il Oil & Gas J 50:79-80+ My 31 '51

What do you know about drill-collar failures? S. C. Moore. il diags Oil & Gas J 49:79-81+ O 26 '50

What's new in drilling equipment. M. F. Hazel. Pet Eng 23:B 16+ Ap '51

Testing

Fatigue testing and development of drill pipe-to-tool joint connections. W. S. Bachman. bibliog il Pet Eng 23:B36+ F '51; Same. World Oil 132:104+ Ja '51

Nondestructive test for corrosion-fatigue cracks in drill pipe; Magnaglo dry fluorescent magnetic powder and technique. S. A. Wenk and H. M. Banta. il Oil & Gas J 50:90-2+ My 17 '51

DRINKING water systems

Drinking water. Nat Safety N 63:56 Mr '51

Method for decontaminating small volumes of radioactive water. R. A. Lauderdale and A. H. Emmons. Am Water Works Assn J 43:327-31 My '51

DRINKOMETER. See Biological apparatus

DRISCOLL, Charles Benedict, 1885-1951

Sketch. por Ed & Pub 84:56 Ja 20 '51

DRISCOLL, James Joseph, 1870-1949

J. J. Driscoll's four sons on Connellsville daily. J. F. Wolfe, jr. Ed & Pub 84:36 Ap 21 '51

DRIVE-in and curb services

Auto banking comes to Columbus. C. W. McCoy. il Bankers Mo 68:7-10 Jl; 14+ Ag '51

Curb tellers, elevator style; First national bank of Lubbock, Tex. Banking 44:44 Ag '51

Customers on wheels. il Burroughs Clearing House 35:18-20 F '51

Drive-in bank comes to town; Merchants national trust company, Syracuse, N.Y. D. Wolin. il Bankers Mo 67:34+ N '50

DRIVE yourself service. See Automobiles—Renting

DRIVERS as salesmen

I rode the truck. R. Ross. Ptr Ink 235:112 Je 29 '51

DROP hammers. See Hammers, Drop

DROPPING mercury electrode. See Polarography

DROPS

Absorption of carbon dioxide by liquid drops. B. E. Dixon and A. A. W. Russell. diag Soc Chem Ind J 69:284-8 S '50

Concerning the dependence of the surface energy and surface tension of spherical drops and bubbles on radius. T. L. Hill. bibliog diags Am Chem Soc J 72:3923-7 S '50

Droplet size distribution in sprays. R. A. Mugele and H. D. Evans. bibliog Ind & Eng Chem 43:1317-24 Je '51

Droplet transfer from suspending air to duct walls. L. G. Alexander and C. L. Coldren. bibliog il diags Ind & Eng Chem 43:1325-31 Je '51

Liquid-liquid extraction from single drops. F. B. West and others. bibliog diag Ind & Eng Chem 43:234-8 Ja '51

Losses in h.v.d.c. lines; investigation of continuously pointed water drops. M. Pauthenier and others. bibliog il Electrician 146: 1105-8 Ap 6 '51

Shatter of drops in streams of air. W. R. Lane. bibliog il diags Ind & Eng Chem 43: 1312-17 Je '51

Simple apparatus for producing droplets of uniform size from small volumes of liquids. W. B. Ennis, jr. and D. T. James. il diag Science 112:434-6 O 13 '50

Studies in the theory of the polarographic diffusion current; the effect of drop weight on the relationship between the diffusion current constant of lead and the drop time. L. Meites. Am Chem Soc J 73:3724-7 Ag '51

DROSOPHILA
- Breeding site of drosophila lacicola Patterson. H. T. Spieth. bibliog Science 113:232 Mr 2 '51
- Resistance of DDT-resistant drosophila to other insecticides. R. Weiner and J. F. Crow. bibliog Science 113:403-4 Ap 13 '51

DROUGHTS
- Drought, floods forecast. R. A. Work and C. E. Houston. il map Elec West 106:69-71 My '51
- Serious drought hits Rio Grande area. Eng N 146:30 Ap 19 '51

Southwestern states

- Southwest in grip of severe drought. Eng N 146:25 F 22 '51

DRUG, chemical and allied trades section. See New York board of trade—Drug, chemical and allied trades section

DRUG factories
- Chemical plant frame pierced for piping; Hoffman-LaRoche, inc. il plan diag Eng N 147:39 Ag 23 '51
- Conditions under control; Upjohn co. plant near Kalamazoo, Mich. il Nat Safety N 64: 18-20+ Ag '51
- Easy to use, easy to maintain; Upjohn's plant. il diag Factory Management 109:114-17 My '51
- Flexible factory; Upjohn plant, Kalamazoo, Mich. il plans diags Arch Forum 94:146-53 Ap '51
- Report on pharmaceuticals; visit of Productivity team to U.S. Chem & Ind p775 S 15 '51; il Chem Age (Lond) 65:317-20 S 8 '51

Air conditioning

- Drug maker builds for the future; Upjohn co. il Heat & Ven 48:76-7 S '51
- Space heater converted to air conditioner; Ortho pharmaceutical corp. A. Stout. il diag Sheet Metal Worker 42:75+ S '51

Employees

- Drugs, medicines, and cosmetics; plant workers' earnings, May 1950. A. N. Jarrell. Mo Labor R 72:50-1 Ja '51

Equipment

- Glaxo's new ampoule filling hall. il Chem Age (Lond) 65:327-8 S 8 '51

Lighting

- Lighting aim; flexibility; Upjohn co.'s pharmaceutical plant at Kalamazoo. il Bsns W p48-50 Je 23 '51

Waste

- Treatment of penicillin wastes. D. L. Muss. bibliog il Sewage & Ind Wastes 23:486-96 Ap '51
- Treatment of pharmaceutical wastes; Lederle laboratories division, American cyanamid co. J. M. Brown. flow sheet il Sewage & Ind Wastes 23:1017-24 Ag '51

DRUG manufacturers association, American. See American drug manufacturers association

DRUG stores
- Drug-O-Mat saves time for shopper, saves work for storekeeper. il Bsns W p52 Jl 28 '51
- Forced marriage; drugs and foods; Rexall drugstore and a super market. il Sales Management 65:83 D 1 '50
- Health goods overtake tonnage items in per cent of drug store sales. Ptr Ink 236:52 Ag 31 '51
- Marketing pattern; United Cigar-Whelan stores corp. Bsns W p 102 Mr 24 '51

DRUG trade
- Contest transforms druggists into counter display men. il Ptr Ink 233:26 D 8 '50
- Cunningham's catches your customers; $40 million drug chain moving 15,000 items. L. M. Hughes. il Sales Management 67:37-9+ O 15 '51
- Developing the drug package. il Mod Packaging 24:69-74 Mr '51
- Distribution in jig time; the story of terramycin. T. Armstrong. il Sales Management 66:74+ Mr 1 '51
- Drug chains; operations lag. F. Henle. Barron's 30:13-14 N 20 '50
- Druggists' widening gap; business lags behind soft-goods sales. Bsns W p66+ D 9 '50
- Drugs and dollars. Economist 160:1166-7 My 19 '51
- Fair trade fracas. il Chem W 69:35-6 O 6 '51
- How Pfizer introduces new chemicals; abstract. G. B. Stone. Chem Eng 57:186-8 D '50
- Medicine men; record research outlays will keep sales rising. J. V. Sherman. Barron's 31:11-12 Je 18 '51
- New battle of the brands; the controlled brand in the drug industry. E. B. Weiss. il Ptr Ink 233:45-6+ N 10 '50
- Pfizer put an old name on a new drug label; terramycin. il Bsns W p 130-1+ O 13 '51
- Plough plows it back; cultivated little dealers in smaller towns. L. M. Hughes. il Sales Management 66:37-9+ Je 1 '51
- Reform in drug trade lists. Chem Ind W 68: 27+ Mr 17 '51
- Rexall; four years after; second look at redesign program. il Mod Packaging 24:116-20+ F '51
- Salary and bonus plans popular in drug field. Sales Management 67:102 Jl 15 '51
- USP dosage panel urged by drug group. Oil Paint & Drug Rep 158:7 O 30 '50
- War booms drug demands; C&EN annual review. T. P. Carney. Chem & Eng N 29: 29-31 Ja 1 '51
- What McKesson is doing to break retail training bottleneck. E. M. Kelley. il Sales Management 66:37-9 My 1 '51
- Wide use of antibiotics reflected in prescription prices. Chem & Eng N 28:4344-5 D 11 '50

See also

American drug manufacturers association

American pharmaceutical manufacturers' association

Proprietary association of America

Advertising

- Antihistamine ads ride hard on Digest article. N. Keine. Ptr Ink 234:67+ Ja 26 '51
- Cutter's way with direct mail; doctors are just other people. il Sales Management 67: 160+ S 5 '51
- Drug stores build sales with group ads. Ed & Pub 84:40 Mr 10 '51
- Druggists using want ad eight years. Ed & Pub 84:38 Mr 31 '51
- FDA tightens regulations on false drug advertising; with text of policy statement. Oil Paint & Drug Rep 159:57 Ja 15 '51
- Improvement noted in drug ad position. R. B. McIntyre. Ed & Pub 84:32 Jl 14 '51
- Keeping direct mail out of wastebaskets; campaign of Abbott laboratories. il Mod Ind 20:99 D '50
- Why advertisers clamor for time on Owl Drug's Want ad of the air. il Sales Management 65:52+ D 15 '50

See also

Medicines, Proprietary—Advertising

Finance

- Fourfold increase in ethical drug output since 1939. M. Pescatello. Barron's 31:15-16 Je 18 '51

Regulation

- Congress acts to halt dumping of inferior US drugs abroad. Oil Paint & Drug Rep 159:3 Je 4 '51
- Drug producers' labeling control rights curtailed by proposed bill. Oil Paint & Drug Rep 160:3+ Jl 2 '51
- FDA reports 1950 drug prosecutions. Oil Paint & Drug Rep 159:7+ F 12 '51
- OPS removes price curbs from 200 botanical drugs; list. Oil Paint & Drug Rep 160:3+ S 24 '51
- Program for drug allocation; abstract. O. R. Ewing. Oil Paint & Drug Rep 159:5 Ja 29 '51

See also

Drugs—Laws and legislation

Securities

- Another look at the drug industry; with statistical data on selected companies. S. Devlin. Mag of Wall St 87:177-9+ N 18 '50

DRUG trade—Securities—*Continued*

Developments in chemicals and the drug industries. J. C. Jenks. Comm & Fin Chr 174:1247+ O 4 '51

Drug stocks. R. W. Babson. Comm & Fin Chr 172:1888 N 16 '50

Drugs on the market. I. U. Cobleigh. Comm & Fin Chr 174:151+ Jl 12 '51

Practical survey of the drug companies; with statistics of individual companies. H. S. Coffin. Mag of Wall St 88:83-5+ Ap 21 '51

Statistics

Botanical drugs, spices, gums. Published in weekly numbers of Oil, paint and drug reporter

Drugs and fine chemicals. Published in weekly numbers of Oil, paint and drug reporter

Retail trade, 1948, for metropolitan areas: drug-proprietary medicine. Ptr Ink 235:178+ My 25 '51

Brazil

Brazil's imports increase. For Comm W 45:17 O 15 '51

China

Report on certain Chinese medicinal botanicals. For Comm W 45:17 O 15 '51

India

Medicinal herb-development plans, India. For Comm W 44:22-3 Jl 9 '51

Penicillin and vitamin-tablet manufacture. For Comm W 44:15 Jl 9 '51

Japan

Annual production of medicinal plants, Japan; tabulation. For Comm W 42:21 Ja 29 '51

Japan's pharmaceutical industry booming. For Comm W 43:21 Ap 16 '51

Menthol and camphor, Japan. For Comm W 42:16 Ja 8 '51

New Orleans

They still sell drugs, too; New Orleans oldest drugstore now pharmaceutical museum. il Bsns W p 100-2 N 18 '50

DRUG trade conference, National. See National drug trade conference

DRUGS

Antihistamine drugs. B. Idson. Chem R 47:307-527 bibliog(464 ref, p365-76) D '50

Chemical progress during the 75 years of the American chemical society; medicinal chemistry. M. L. Moore. il Ind & Eng Chem 43:577-88 Mr '51

Chemistry of antihistamine and related drugs. D. W. Adamson. bibliog(62 ref) Chem & Ind p2-7 Ja 6 '51

Drug and pharmaceutical seminar; abstract. H. E. Nack and others. Mod Packaging 24:128 D '50

Electrons will sterilize foods and drugs. il Bsns W p81-2+ Ap 7 '51

Imitative drugs. R. O. Roblin, jr. Sci Am 184:60-3 Ap '51

Progress during 1950 in drugs and medicinal chemicals. G. C. Green. Chem Age (Lond) 64:77-81 Ja 13 '51

Universal line graph for estimating percentage potency in multidose assays. M. B. Sherwood. Science 113:185-7 F 16 '51

See also

Aminobenzoic acid
Analgesics
Anesthetics
Anesthetics, Local
Anticonvulsants
Antiseptics
Antispasmodics
Bacitracin
Benzedrine
Botany, Medical
Capsules
Chemotherapy
Hypnotics
Medicines, Proprietary
Penicillin
Pharmaceutical laboratories
Pharmaceutical research
Poisons
Proprietary association of America
Quinine
Rutin
Stimulants
Sulfonamides
Tablets (medicine)
Trypanocides

Analysis

Estimation of ascorbic acid in pharmaceuticals; with particular reference to interfering substances. D. G. Chapman, O. Rochon and J. A. Campbell. bibliog Anal Chem 23:1113-15 Ag '51

Infrared analysis of pharmaceutical products; acetylsalicylic acid, phenacetin, and caffeine, and combinations of these with codeine or thenylpyramine. T. V. Parke and others. bibliog Anal Chem 23:953-7 Jl '51

Spectrophotometric determination of aspirin, phenacetin, and caffeine in mixtures. M. Jones and R. L. Thatcher. Anal Chem 23:957-60 Jl '51

Third annual review of analytical chemistry; pharmaceuticals and natural drugs. W. W. Hilty and M. M. Marsh. Anal Chem 23:237-43 bibliog(174 ref, p241-3) F '51

Laws and legislation

Drug act amendment proposed at hearings on Durham-Humphrey bill (H.R. 3298). Oil Paint & Drug Rep 159:5+ My 7 '51

Drug industry gets unexpected support in Humphrey bill fight. Oil Paint & Drug Rep 160:3+ S 17 '51

Drug industry girding to fight Durham-Humphrey legislation. Oil Paint & Drug Rep 160:3+ Jl 23 '51

Drug industry reaches accord on Durham bill on prescription refills. Oil Paint & Drug Rep 160:3 Jl 30 '51

Drug labeling must be keyed. G. H. Weil. Ptr Ink 236:48 S 28 '51

Drug manufacturers gain point as House approves Durham bill. Oil Paint & Drug Rep 160:4+ Ag 6 '51

Druggists propose bill to list prescribed drugs. Bsns W p 125 My 26 '51

FDA amends antibiotic certification regulations. Oil Paint & Drug Rep 160:3 Jl 23 '51

Prescription refilling rule change planned by federal security administrator. Oil Paint & Drug Rep 158:5+ D 11 '50

See also

Prescriptions

Prices

Botanical drugs, spices, gums; 1950 market trends. Oil Paint & Drug Rep 159:50-4 sec 2 Ja 29 '51

Chemicals, oils, and drugs price changes, Jan. 1, 1950 and Jan. 1, 1951 compared; tabulations by commodity. Oil Paint & Drug Rep 159:9-10+ sec 2 Ja 29 '51

Chemicals, oils and drugs price record, selected years, 1939-1950; tabulations. Oil Paint & Drug 159:7 sec 2 Ja 29 '51

Drugs and fine chemicals; 1950 market trends. Oil Paint & Drug Rep 159:46-9 sec 2 Ja 29 '51

Standards

Microbial methods considered for liver injection standards; combined contact committee of ADMA and APMA. Chem & Eng N 29:1204 Mr 26 '51

Terminology

Drug groups debate international nomenclature. Chem & Eng N 29:54-5 Ja 1 '51

DRUMS. See Containers (for shipping)

DRY cleaning. See Cleaning; Cleaning industry

DRY Creek shale (term)

Status of Dry Creek shale of central Montana. C. Lochman. bibliog il diags Am Assn Pet Geologists Bul 34:2200-22 N '50

DRY docks

Dry dock at North Shields. Engineer 190:559 D 8 '50

Dry docks; abstract. J. G. Brown. Engineering 171:748 Je 22 '51; Discussion. 171:748, 779-80 Je 22-29 '51

Railway dry dock in Denmark docks 2,000-ton ship in half an hour. J. S. Crandall. il diag Civil Eng 21:12-13 Ja '51

335-ton railway dry dock in Arabia. il Marine Eng 56:73 My '51

Valved-tremie applied to subaqueous concrete structures. A. B. Hunicke. bibliog il diags Franklin Inst J 252:105-36 Ag '51

DRY ice. See Carbon dioxide, Solid

DRY rot

Dry rot in timber. W. P. K. Findlay. Chem Age (Lond) 64:171-2 Ja 27 '51

DRYDEN, Hugh Latimer, 1898-

Dryden of NACA. pors Aero Digest 61:26+ N '50

1950 Guggenheim medal presented to Dr Dryden. por Aeronautical Eng R 10:11 Mr '51

DRYDEN, Hugh Latimer—*Continued*

1950 Guggenheim medalist. por Aeronautical Eng R 9:6 D '50; Mech Eng 73:86 Ja '51

DRYING

Chemical drying problems; material handling methods in the U.S.A. diags Chem Age (Lond) 64:559-62 Ap 14 '51

Chemical engineering unit operations; sixth annual review. S. J. Friedman. il Ind & Eng Chem 43:70-5 bibliog(185 ref, p73-5) Ja '51

Chemical-type air drying system pays for itself in two years; Ohio match co. J. M. Neath. il Factory Management 109:80-1 Ap '51

Determination of water in sugar solutions by desiccation at room temperature. T. J. Mitchell. bibliog Chem & Ind p815-17 D 23 '50

Drying granular solids in superheated steam. L. Wenzel and R. R. White. bibliog il diags Ind & Eng Chem 43:1829-37 Ag '51

Drying of foundry moulds and cores. G. T. Hampton and W. H. Taylor. Engineering 171:125, 174 F 2-9 '51

Freeze drying cuts costs in processing pharmaceuticals. Chem Eng 57:182 D '50

Heating by electrical elements. J. T. Sharples. Elec R (Lond) 148:994-5 My 11 '51

Heating by electrical elements; applications to drying equipments. Electrician 146:380 F 2 '51

Heating, drying in auto laundry. il Sheet Metal Worker 42:58+ D '50

High-temperature film processing; its effect on quality. R. Hodgson and J. Hammer. il Soc Motion Picture & Tv Eng J 56:261-3; Discussion. 275-9 Mr '51

Methods for determination of moisture; oven drying. C. O. Willits. bibliog Anal Chem 23:1058-62 Ag '51

Preparation of dried antigen and antiserum for the agglutination-inhibition test for virus influenza. M. R. Hilleman and others. bibliog Pub Health Rep 66:1195-203 S 21 '51

Principles of spray drying. W. R. Marshall, jr. and E. Seltzer. bibliog il diags Chem Eng Prog 46:501-8, 575-84 O-N '50; Discussion. 46:583-4 N '50

Radiant heaters dry plastics faster. il Elec World 135:133 Ap 9 '51

Some aspects of drying; abstract and discussion. W. B. Palmer. Chem & Ind p357-8 My 5 '51

Spray drying of santomerse. Ju Chin Chu, L. E. Stout and R. M. Busche. bibliog flow sheet il Chem Eng Prog 47:29-38 Ja '51; Abstract. Soap & San Chem 27:71+ Mr '51

Spray-drying synthetic detergents. M. W. Smith. Chem Age (Lond) 64:443-6 Mr 24 '51; Abstract. Soap & San Chem 27:63+ My '51

Ultrarapid drying of motion picture film by means of turbulent air. L. Katz. il diags Soc Motion Picture & Tv Eng J 56:264-75 bibliog(48 titles, p273-5); Discussion. 275-9 Mr '51

Vacuum-drying of electrical insulation in the service shop. N. R. Maleady. il Gen Elec R 54:52-4 Ag '51

Waste utilization and disposal systems; cost studies of evaporation and drying. W. D. Kohlins and E. L. Demarest. diags Chem Eng Prog 46:597-600 D '50

See also

Clay drying
Drying apparatus
Electric heating, Industrial—High frequency heating
Electric transformers—Drying
Gas, Natural—Dehydration
Infrared rays—Industrial heating
Paint—Drying
Paper drying
Rayon drying
Textile drying
Wood drying

DRYING (crops)

Farm drying of grain and seeds. J. Woodforde. diags Engineering 171:669-73 Je 1 '51

Grass drying; Worcester Co-operative society's Brook End farm. il Elec R (Lond) 149:233-5 Ag 3 '51

Making hay while it rains. K. L. Riddle. il diag Heating-Piping 23:133-7 Jl '51

DRYING agents

Moisture adsorption test. diag Refrig Eng 59:564-5 Je '51

New moisture test gives faster results; water contents of purees and concentrated fruit products are accurately gaged by use of Drierite. E. F. Potter. il Food Ind 23:85+ Ja '51

Role of the adsorption-type desiccant in refrigeration units. W. A. Pennington. bibliog diags Refrig Eng 59:272-5+; Discussion. 300-1 Mr '51

Wood seasoning jackpot; vapor drying. J. A. Lee. il diag Chem Eng 58:115-16 Je '51

DRYING apparatus

Automatic control of drying plant. L. Walter. bibliog diags Chem & Ind p728-31 S 1 '51

Cooling and film drying system for a developing machine. J. E. Schechter and G. Marcus. diags Heat & Ven 48:72-3 S '51

Drying of ironstone. Metallurgia 43:29-30 Ja '51

Dual dryer handles variety of materials. il Brick & Clay Rec 118:33-5 My '51

Electronic drying of ceramic bodies. C. J. Kohler, jr. Am Cer Soc Bul 30:285-6 S 15 '51; Same. Cer Ind 57:55+ S '51

Fruit juices desiccated by new process have improved keeping qualities; patent assigned to Tabor-Olney corp. diag Food Ind 22:2128 D '50

How to get the most from your industrial dryers. il Mill & Factory 49:123-4 S '51

Modified hot-air driers; a simple Belgian design. diag Chem Age (Lond) 63:683 N 11 '50

Principles of spray drying. W. R. Marshall, jr. and E. Seltzer. bibliog il diags Chem Eng Prog 46:501-8, 575-84 O-N '50; Discussion. 46:583-4 N '50

Product control in Bowen-type spray dryer; particle size and particle distribution. H. Wallman and H. A. Blyth. bibliog il diag Ind & Eng Chem 43:1480-6 Je '51

Reinforced plastic core driers developed for electronic baking. F. A. Vainosky. il Foundry 79:144+ O '51

Seagram's combination boiler-spray drier features ease and economy of operation. C. R. Buck and N. Roberts. il diags Power Eng 55:74-7 F '51

Spray dryer speeds up process; Davison Chemical catalyst processing. il Chem Eng 58:186 Je '51

Steps in the selection of drying equipment. S. J. Friedman. bibliog diags Heat & Ven 48:96-110 F '51

Time for passage of material through rotary kilns. R. W. Pickering, F. Feakes and M. L. Fitzgerald. diags J Ap Chem 1:13-19 Ja '51

Unique conveyor drying system improves mass production of latex rubber novelties. il Rubber Age 69:189-90 My '51

Textiles

Compact dryer controls tension; Geni. il Textile World 101:150+ My '51

Dielectric heating cuts drying time of rayon cakes from hours to minutes. R. H. Hagopian. Rayon 31:33+ N '50

DRYING oils

Chemical analysis of styrenated drying oils and alkyds. C. P. A. Kappelmeier and others. bibliog Paint Oil & Chem R 114:16+ F 1 '51

Chemical composition and adsorptive properties of clear films. G. C. Williams. Paint Oil & Chem R 113:124-7 N 23 '50

Dimer acids. D. T. Moore. bibliog Paint Oil & Chem R 114:13-14+ Ja 4 '51

Drying oils and resins; segregation of fatty acids and their derivatives by extractive crystallization with urea. H. A. Newey and others. bibliog il Ind & Eng Chem 42:2538-41 D '50

Drying oils for paint industry. Chem Age (Lond) 63:745-6 N 25 '50

Drying oils; past, present and future. W. G. Andrews. Paint Oil & Chem R 114:10-11 Ap 12 '51

Drying oils supply cut seen this year. Oil Paint & Drug Rep 159:5+ F 5 '51

Expand research activity, drying oil industry told. T. F. Bradley. Chem & Eng N 28:4180 N 27 '50

Kinetics of esterification and properties of drying oils from diglycerol, by the Northwestern club. bibliog diag Paint Oil & Chem R 113:56+ N 23 '50

DRYING oils—*Continued*

Polymerization of styrene with drying oils in aqueous emulsion. I. I. Bezman and D. D. Browning. bibliog il Paint Oil & Chem R 114:10B-14+ S 27 '51

Properties of urethane oils. E. B. Robinson and R. B. Waters. Chem Age (Lond) 64: 481-3; Discussion. 483-4 Mr 31 '51

Pyrolysis of propane gives unsaturates suitable for synthetic drying oils; patent. diag Pet Processing 6:1009 S '51

Some new developments in drying oil and varnish technology; abstract. J. J. Mattiello. Oil Paint & Drug Rep 158:93 N 3 '50

Still pioneering; Durolin. Chem W 69:11-12 S 29 '51

DUCK (textile)

To weave duck on plain looms. W. C. Westbrook. il Textile World 101:117+ O '51

Testing

Correlation studies of accelerated and natural weathering tests of protectively finished cotton duck. P. J. Fynn and others. bibliog Textile Res J 21:116-23 F '51

DUCKS

Shot; one way or another: lead poisoning of water fowl. Consumers Res Bul 27:20 Ap '51

DUCTILE iron. See Cast iron

DUDLEY, Dud, 1599-1684

Truth about Dud Dudley; historical note. H. R. Schubert. Iron & Steel Inst J 166:184-5 N '50

DUFFY, Bernard Cornelius, 1902-

Bernard C. (Ben) Duffy. por(cover) Adv Agency 44:70 S '51

DUHAMEL integral

Simple graphical solution of the Duhamel integral. E. V. Laitone and J. T. Ahlin. diags J Aeronautical Sci 18:142-3 F '51

DÜHRUNG'S rule

Applicability of the Ramsay-Young and Dühring rules, and an accurate method for calculating θ, the characteristic temperature of a compound; an investigation using the best modern data. R. R. Dreisbach. Am Chem Soc J 73:3147-9 Jl '51

DUKE power company

Bond offering. Comm & Fin Chr 173:1698 Ap 23 '51

DULCIN

Vinylogy in sweetening agents; a vinylog of dulcin. W. K. Noyce, C. H. Coleman and J. T. Barr. Am Chem Soc J 73:1295-6 Mr '51

DULCITOL

Conversion of mannitol and sorbitol into dulcitol. P. Bladon and others. Chem Soc J p3000-5 N '50

DULUTH, Minnesota

Industries

Twin Ports' fortunate disaster; iron ore shipping wanes but new industries prosper. il Bsns W p30-2+ D 2 '50

DUMAINE, Frederic Christopher, jr.

Portrait. Fortune 44:24 Jl '51

Succeeds his late father as New Haven president and chairman. por Ry Age 130:49 Je 18 '51

DUMAS, Jean Baptist Andre, 1800-1884

European chemical developments in the nineteenth century. H. M. Leicester. J Chem Educ 28:352-4 Jl '51

DUMAS nitrogen analysis. See Nitrogen—Analysis

DUMPING appliances

15-ton British dumper demonstrated in Canada, then shipped to South Africa. il Roads & Eng Constr 89:44+ Ja '51

DUNKIRK, Battle of, 1940

Dunkirk, miracle or blunder? G. C. Reinhardt. il map U S Naval Inst Proc 77:708-15 Jl '51

DUNLAP, John B.

Head of Bureau of internal revenue. por Bsns W p26 Jl 7 '51

Portrait. Fortune 44:26 Ag '51

DUNLOP rubber company, ltd.

ICI and Dunlop; an analysis of their annual reports. Economist 160:1246-8 My 26 '51

Statement by the chairman. C. Baillieu. Economist 160:1478 Je 16 '51

DUNN, Samuel O.

S. O. Dunn becomes chairman emeritus of Simmons-Boardman; editorial consultant for Railway age. Ry Age 129:58 N 25 '50

DUNSTAN, Sir Wyndham Rowland, 1861-1949

Sketch. T. A. Henry. Chem Soc J p 1022-6 Mr '50

DUOVEC technique. See Magnetic testing

DUPLEX-houses. See Architecture, Domestic—Two-family houses

DUPLICATING machines

Duplicator parts precision cast to cut costs. il Iron Age 166:102 N 9 '50

DU PONT de Nemours, E. I., and company

Annual report. Comm & Fin Chr 173:1375 Ap 2 '51

Du Pont safety story. H. L. Miner. il Nat Safety N 62:22-3+ N '50

Du Pont's Dixie; company's investment in South. Bsns W p58 N 11 '50

Du Pont's pace a scorcher in postwar chemical race. Chem Eng 57:214-15 N '50

Expansion project adds new campus, nineteen buildings to Du Pont experimental station. il Chem & Eng N 29:2040+ My 21 '51

More important than to pay dividends; Du Pont's experimental work. il Chem Ind W 68:21+ My 12 '51

Research has made du Pont a consumer goods chemical company; with financial data, 1940-1949. S. B. Self. Barron's 31:7-8 Ja 22 '51

DURABLE goods

Consumer durable goods output lower. Survey of Cur Bsns 31:3 My '51

Decline in consumer durables output; manufacturers' stocks increased. Survey of Cur Bsns 31:5-6 Jl '51

Effects of cutbacks on consumer goods industries. P. Dobbs. Mag of Wall St 87:266-7+ D 16 '50

High tide for sales of hard goods; with graph showing trend, 1937-1950. Bsns W p86 F 17 '51

1951 survey of consumer finances; purchases of durable goods and houses in 1950 and buying plans for 1951. J. Frechtling and T. Smith. Fed Res Bul 37:759-76 Jl '51

Outlook for civilian supplies under new cutbacks. W. Gates. Mag of Wall St 89:14-15+ O 6 '51

Outlook for heavy consumer goods. R. A. Weaver. Comm & Fin Chr 173:1333+ Mr 29 '51

Readjustment in consumer durables. Survey of Cur Bsns 31:3-4 S '51

Trends in consumer metal-goods industries, 1939-1950. S. Goldstein. Mo Labor R 72: 263-9 Mr '51

DURAND, William Frederick, 1859-

Life begins at sixty-five; achievements of W. F. Durand since retirement. N. A. Bowers. por Aeronautical Eng R 10:9-11+ Je '51

DURANICKEL. See Nickel alloys

DURHY. See Silicon carbide

DURIMET. See Nickel chromium steel

DURIRON company, inc.

Preferred stock offered. Comm & Fin Chr 172: 2379 D 18 '50

DUROLIN. See Drying oils

DUROQUINHYDRONE

Quinone-hydroquinone exchange reactions; non-exchange in duroquinhydrone. A. A. Bothner-By. bibliog Am Chem Soc J 73: 4228-30 S '51

DUST

Fine particles. C. Orr, jr. il Sci Am 183:50-3 D '50

Measuring rate of dustfall. R. R. Paxton. bibliog il Rock Prod 54:114+ F '51

Static dust collection on plastics. P. C. Woodland and E. E. Ziegler. il Mod Plastics 28: 95-6+ My '51

Static electrification of dust particles on dispersion into a cloud. J. E. Coolidge and G. Schulz. J Ap Phys 22:103; Discussion. W. B. Kunkel. 103-4 Ja '51

Study of dusts in industrial atmospheres. P. F. Holt. il Metallurgia 43:151-2, 203-4, 258-9, 309-10; 44:52-4, 108-10 Mr-Ag '51

See also

Aluminum dust
Dust removal
Flue dust
Foundry dust
Mine dust
Silicosis
Wood dust

DUST—*Continued*

Analysis

Determination of composition of air-borne particulate material. R. D. Cadle. bibliog il diag Anal Chem 23:196-8 Ja '51

Rapid X-ray diffraction method for the determination of quartz in industrial dusts. L. L. Schmelzer. bibliog A M A Archives Ind Hyigene & Occup Med 3:121-8 F '51

DUST collectors

Buell breeze collector for water gas sets. J. A. Messenger. il diags Am Gas Assn Proc 1950:712-14

Design of exhaust system; dust from tumbling barrels. F. H. Stebbins. plan diags Sheet Metal Worker 42:74-6+ Ja; 37-40 F '51

Design of exhaust systems for granite dust. F. H. Stebbins. diags Sheet Metal Worker 42:43-5 Jl; 43-5 S '51

Dusts, fumes, and gases, a serious problem. T. W. Rodes. Ind & Eng Chem 43:sup95A-6A Ag '51

Electrostatic collection of fly ash. H. J. White and others. bibliog il diags Mech Eng 72:873-80 N '50

Filters aid at-source control of dusts. W. O. Vedder. diags Chem Eng 58:140-4 My '51

Graphical method of sizing cyclone dust collectors. L. Monroe. bibliog diags Heat & Ven 47:63-6 D '50; Discussion. 48:104+ Mr '51

High efficiency collection of radioactive dust. K. J. Caplan. bibliog il diags Heat & Ven 48:79-82 F '51

Magnesium alloy dust collector. il Engineer 192:194 Ag 10 '51; Metallurgia 44:152 S '51

Operation of Cottrell precipitators; effects of moisture and temperature. W. T. Sproull and Y. Nakada. bibliog il diags Ind & Eng Chem 43:1350-8 Je '51

Planning a dust control system. W. O. Vedder. il diags Mill & Factory 49:98-102 S '51

Processes use many collector types; settling chambers, impingement and inertial separators, packed beds and scrubbers. C. E. Lapple. bibliog diags Chem Eng 58:144-51 My '51

Recirculation of cleaned air from cast iron machining. R. H. Avery. il Heat & Ven 48:69-72 O '51

Short-cut method aids figuring exhaust and collecting systems. W. H. Fogle. il diags Heating-Piping 23:75-8 Jl '51

Unique system keeps conditioned air clean and re-usable in Southern Shuttles division of Steele Heddle. il Manuf Rec 119:52 D '50

See also
Dust sampling
Venturi scrubbers

DUST diseases. See Lungs—Dust diseases

DUST masks

What makes dust-catchers catch? wool felt chemically and mechanically treated. il Safety Maint & Prod 100:36-7 N '50

DUST removal

Control of dusts by water mists. K. W. Nelson. bibliog il A M A Archives Ind Hygiene & Occup Med 4:25-31 Jl '51

Dust and fume control. R. T. Pring and W. S. Schamel. il Safety Maint & Prod 102:28-30+ S '51 (to be cont)

Dust study of the building brick industry in Indiana. J. F. Keppler and H. E. Bumstead. A M A Archives Ind Hygiene & Occup Med 2:735-41 D '50

Hoods and piping for dust control equipment. W. O. Vedder. il diags Sheet Metal Worker 42:37-8+ Je '51

Industrial hygiene at American smelting and refining co. J. N. Abersold and K. W. Nelson. il J Metals 191:Trans 33-6 Ja '51

Industrial ventilation. bibliog il Nat Safety N 63:13-14 Mr '51

Ionized air removes dust; Alphatron blowgun. il diag Product Eng 22:118 Ja '51

Large-scale odor and dust control results in nuisance-free refuse handling station. W. A. Xanten. il plan Heat & Ven 48:65-7 Ag '51

Preparation of solid- and liquid-in-air suspensions for use in air pollution studies. R. D. Cadle and P. L. Magill. bibliog il diags Ind & Eng Chem 43:1331-5 Je '51

Scrapbook of exhaust hood design; control of dust from woodworking machinery. J. M. Kane. il Heat & Ven 48:92-5 Je '51

Scrapbook of exhaust hood design; control of fine dust resulting from mixers. J. M. Kane. il Heat & Ven 48:96-8 Ap '51

Scrapbook of exhaust hood design; control of flour dust in bakeries. J. M. Kane. il Heat & Ven 48:86-7 Ja '51

Scrapbook of exhaust hood design; dust control for foundry shakeouts. J. M. Kane. il Heat & Ven 47:64-6 N '50

Survey of electrostatic precipitation. E. A. Walker and J. E. Coolidge. il Heating-Piping 23:107-11 Mr '51

Wet drilling to control quarry dust. H. B. Ashe. il Safety Maint & Prod 101:58-9+ Mr '51

See also

Air filters	Electric precipitation
Dust collectors	Exhaust systems

DUST sampling

Air pollution in Pittsburgh. S. B. Ely. A M A Archives Ind Hygiene & Occup Med 3:44-7 Ja '51

Collection of mist and dust for particle size measurement; electrostatic precipitation on hemacytometer. H. G. Bourne, jr. and L. B. Fosdick. bibliog il diags Anal Chem 22:1563-5 D '50

Conifuge, a size-separating sampling device for airborne particles. K. F. Sawyer and W. H. Walton. il diags J Sci Instr 27:272-6 O '50

Dust study of the building brick industry in Indiana. J. F. Keppler and H. E. Bumsted. A M A Archives Ind Hygiene & Occup Med 2:735-41 D '50

Establishing responsibility for dust. R. R. Paxton. bibliog Rock Prod 54:127-8+ Je '51

Study of dusts in industrial atmospheres. P. F. Holt. il diags Metallurgia 43:151-2, 203-4, 258-9, 309-10; 44:52-4, 108-10 Mr-Ag '51

Use of a pitot tube in a dust-laden gas stream. T. H. Hughes and C. P. Sayles. il diags Engineer 191:503-5 Ap 20 '51

DUST storms

Sedimentary study of dust storms in the vicinity of Lubbock, Tex. G. F. Warn and W. H. Cox. bibliog maps diags Am J Sci 249:553-68 Ag '51

DUTCH language

Dictionaries

Van Goor's English-Dutch and Dutch-English dictionary. F. P. Van Wely. 6th ed rev 662p $3.50 David McKay co, 225 Park av, New York 17 '50

DUTCH New Guinea. See Netherlands New Guinea

DUTCHER, Ray Adams, 1886-

American contemporary. por(cover) Chem & Eng N 29:2909 Jl 16 '51

DUTCHESS, Charles Eugene

Can business lick old age? interview. pors Bsns W p98-103 N 11 '50

DUTTWEILER, Gottlieb

Switzerland's fantastic Mr Duttweiler; five per cent and flair. pors Bsns W p 116-19 Ag 25 '51; Discussion. p92+ N 24 '51

DUVAL, Clément, 1902-

Clément Duval. R. E. Oesper. por J Chem Educ 28:36-7 Ja '51

DWIGHT-LLOYD process. See Sintering

DYAR, Ralph E.

Book climaxes Dyar's 40 years of promotion. C. Watson. por Ed & Pub 84:24 Ap 7 '51

DYE analysis

Chromatographic separation of some dyestuffs. J. Shott, 3d and H. W. Heine. diag J Chem Educ 28:39-40 Ja '51

Studies in textile printing; practical applications of the analytical method. R. D. Greene and others. Am Dyestuff Rep 40:127-30 F 19 '51

Talc as an absorbent for sulfonated azo dyestuffs. R. M. Hanson and C. W. Gould. bibliog Anal Chem 23:670-3 Ap '51

DYE industry

Alphabetical list of new products developed since Nov. 1949; dyestuffs and pigments; textile chemicals; equipment. il Am Dyestuff Rep 39:835-68 D 11 '50

DYE industry—*Continued*

History

Dyestuff industry. L. H. Flett. il Ind & Eng Chem 43:304-5 F '51

Statistics

Dye production rose 45 per cent during '50. Oil Paint & Drug Rep 159:4 Je 25 '51

Great Britain

Stains for microscopy; Britain's role. Chem Age (Lond) 64:241-3 F 10 '51

DYE laboratories

New laboratory for textile dyes opened in South. il Rayon 32:71 Je '51

DYE patents

Direct dyes; improving the fastness with basic condensates and copper complex compounds. Am Dyestuff Rep 40:198 Mr 19 '51

Dyeing with acid; absorption and diffusion in two separate steps. Am Dyestuff Rep 40:66 Ja 22 '51

Flameproofing and coloring fabrics in one operation; oil-in-water emulsions. Am Dyestuff Rep 40:477 Jl 23 '51

Patent digest. P. Wengraf. diags Published in biweekly numbers of American dyestuff reporter

Pigment dyeing; alkylcelluloses and hydroxy alkyl celluloses used. Am Dyestuff Rep 40:65-6 Ja 22 '51

Pigment dyeing dispersions; alkyl cellulose, thermosetting resins, elastomers. Am Dyestuff Rep 40:478 Jl 23 '51

DYE research

Continuous dyeing of nylon fabrics. bibliog Am Dyestuff Rep 40:14-29+ Ja 8 '51

Recent trends in the search for new azo dyes; azoic dyes. D. A. W. Adams. bibliog Soc Dyers & Col J 67:223-35 Je '51

Relating of laboratory data to mill practice. bibliog il diags Am Dyestuff Rep 40:84-90 F 5 '51

See also

Dye laboratories

DYE standards. See Dye testing—Standards; Dyes and dyeing—Standards

DYE testing

Applications of the report of the committee on the dyeing properties of wool dyes; migration tests on wool, hair, fur, silk, nylon. B. Kramrisch. bibliog Soc Dyers & Col J 67:53-7 F '51

Design of fading lamps. J. Boulton and J. C. Guthrie. Soc Dyers & Col J 67:190-2 My '51

Determination of the strength of dyeings. I. H. Godlove. bibliog Am Dyestuff Rep 40:429-32 Jl 9 '51

Perceptibility and acceptability of color-changes in fastness tests, and on-tone fading. I. H. Godlove. bibliog Am Dyestuff Rep 40:549-58 S 3 '51

What's new in spectrophotometry; progress of spectrophotometry in the textile industry to 1951. E. I. Stearns. Am Dyestuff Rep 40:563-74 bibliog(107 titles, p572-4) S 3 '51

See also

Fadeometer

Standards

Development of the Society's light fastness standards (B.S.1006). bibliog Soc Dyers & Col J 67:188-90 My '51; Same. Am Dyestuff Rep 40:381-2 Je 11 '51

International standardization of fastness tests for dyeings and prints; an appeal for cooperation; reprinted from Melliand textilberichte. Am Dyestuff Rep 39:807-8 N 27 '50

Uniformity of grading of the American, British and German light-fastness standards. I. H. Godlove. bibliog Am Dyestuff Rep 39:215-21 Ap 3 '50; Discussion. 39:912 D 25 '50; Reply. 40:114-18 F 19 '51

DYEHOUSES

Summer in the dyehouse; how to improve working conditions. Rayon 32:70+ Ag '51

Equipment

Crown College improves package-dyeing system. C. H. Leach. il Textile World 100:92-3, 277-8+ O '50

New and versatile dyeing and finishing plant; camera tour of Delta finishing co.'s Wallace, S.C., plant. W. A. Thomason, jr. il Textile World 101:124-6 My '51

New package-dye plant is well planned; Aberfoyle plant at Bridgeton. W. A. Thomason, jr. il plan Textile World 100:112-13 O '50

Study your control instruments for best dyehouse service. L. Walter. diags Textile World 101:157+ S '51

Time and temperature control, two important factors in dyeing. H. G. Olson. il Am Dyestuff Rep 40:6-8 Ja 8 '51

Vat-color aging calls for strict control. T. N. Patrick. Textile World 101:141+ Mr '51

Water-heating time converted to production time in New England dyehouse. E. H. Helliwell. il diag Textile World 101:130 Ja '51

See also

Dyeing machines

Heating and ventilation

What measures have you found effective for eliminating fog in dyehouses? suggested solutions. Heat & Ven 48:119-20 My '51

Waste

Adsorbents in waste water treatment; dye adsorption and recovery studies. H. A. Thornton and J. R. Moore. bibliog diags Sewage & Ind Wastes 23:497-504 Ap '51

Practical methods for treating dye house wastes. H. R. Murdock. diag Ind & Eng Chem 43:sup77A-8A+ Ag '51

DYEING machines

Dyeing by the hot-oil process. S. H. Williams. il plan Am Dyestuff Rep 40:461-7; Discussion. 467-8 Jl 23 '51

Dyeing machine; propeller distributor shaft on the driving mechanism; patent. diags (p279) Am Dyestuff Rep 40:278 Ap 30 '51

GDC reveals continuous fiber dyeing unit. Am Dyestuff Rep 40:206 Mr 19 '51; Same. Rayon 32:60+ My '51

Goods moved with constant speed; patent. diag Am Dyestuff Rep 40:5 Ja 8 '51

Machine dyes or scours raw stock continuously. il diag Textile World 101:147-8 My '51

Molten metal dyeing; abstract. C. J. Weidmann. Chem Age (Lond) 64:446 Mr 24 '51

Standfast molten-metal continuous dyeing process. C. J. Weidmann. il diags Am Dyestuff Rep 40:416-21; Discussion. 421-2 Je 25 '51

DYES, Effect of light on

Uniformity of grading of the American, British and German light-fastness standards. I. H. Godlove. bibliog Am Dyestuff Rep 39:215-21 Ap 3 '50; Discussion. 39:912 D 25 '50

DYES, Fastness of

Design of fading lamps. J. Boulton and J. C. Guthrie. Soc Dyers & Col J 67:190-2 My '51

Development of the Society's light fastness standards (B.S.1006). bibliog Soc Dyers & Col J 67:188-90 My '51; Same. Am Dyestuff Rep 40:381-2 Je 11 '51

Enclosed-jig nylon dyeing offers improved light fastness. F. A. Alter. Textile World 101:244+ O '51

Evaluation of four laboratory and two wear test methods for measuring perspiration colorfastness in rayon fabrics. P. B. Mack and others. il Textile Res J 20:862-9 D '50

International standardization of fastness tests for dyeings and prints; an appeal for cooperation; reprinted from Melliand textilberichte. Am Dyestuff Rep 39:807-8 N 27 '50

Perceptibility and acceptability of color-changes in fastness tests, and on-tone fading. I. H. Godlove. bibliog Am Dyestuff Rep 40:549-58 S 3 '51

Uniformity of grading of the American, British and German light-fastness standards. I. H. Godlove. bibliog Am Dyestuff Rep 39:215-21 Ap 3 '50; Discussion. 39:912 D 25 '50; Reply. 40:114-18 F 19 '51

See also

Fadeometer

DYES and dyeing

Alphabetical list of new products developed since Nov. 1949. Am Dyestuff Rep 39:837-47 D 11 '50

Continuous dyeing of vat colors. E. H. Gamble. Am Dyestuff Rep 40:529-30 Ag 20 '51

DYES and dyeing—*Continued*

Development and practice of khaki dyeing; abstract. S. V. Bhende and S. R. Ramchandran. Am Dyestuff Rep 39:921-2 D 25 '50

Development by passage through liquid metal alloys; French patent. Am Dyestuff Rep 40:338 My 28 '51

Drying of dyed textile fibres; difficulties imposed by heat sensitivity. R. W. Speke. Chem Age (Lond) 64:405-7 Mr 17 '51

Dye penetrant quickly reveals surface flaws. A. Gilbert. il Iron Age 166:91-2 N 16 '50

Dyeing by the hot-oil process. S. H. Williams. il plan Am Dyestuff Rep 40:461-7; Discussion. 467-8 Jl 23 '51

Dyestuffs repay science; diagnostic aids, insecticides, food and cosmetics. bibliog Chem Age (Lond) 64:453-7 Mr 24 '51

Flaw detection simplified; Dy-Chek. il Diesel Power 29:41 F '51

Flaws go scarlet and inspector's job grows easy; using a red dye and photo-type developer solutions. il Mill & Factory 48:127 Mr '51

Hot oil bath process finds rapid acceptance. J. R. Bonnar. Rayon 32:91 Ag '51

Investigation of the relationship between amount of dye used and color sensation obtained and its possible application in textile dyeing. H. Cikurel. bibliog Am Dyestuff Rep 39:736-8 O 30 '50

Is it a dangerous flaw or harmless scratch? how the new dye penetrant system works. J. Joseph. il Bus Transportation 29:44-5 D '50

Penetrant detects flaws in subsurface metals; dye penetrant method. il Elec World 135:171-2 My 21 '51

Relations between dye phosphors and hydrogen bonds of rigid media or surface of adsorbents. D. Yamamoto and R. Iwaki. J Chem Phys 19:662 My '51

Review of textile coloring and finishing research; Olney medal paper. G. L. Royer. Am Dyestuff Rep 39:877-87 bibliog(145 ref, p886-7) D 11 '50

Scientific approach to the study of the coloring and finishing of textiles; abstract. G. L. Royer. Am Dyestuff Rep 39:580 S 4 '50; Same. Rayon 31:53 D '50

Sensitized catalysts; the ascorbic acid method. H. J. Kauffmann. Am Chem Soc J 73:4311-14 S '51

Some aspects of the drying and heating of textiles; modifications produced by thermal treatments. J. M. Preston and others. bibliog Soc Dyers & Col J 67:169-76 My '51

Some problems in garment dyeing; abstract. L. P. Rendell. Am Dyestuff Rep 40:359 My 28 '51

Some recent developments in the theory of dyeing; seventh John Mercer lecture. A. B. Meggy. bibliog diags Soc Dyers & Col J 66:510-21 O '50

Spectrophotometric studies of continuous dyeing. Am Dyestuff Rep 40:101-4 F 5 '51

Standfast molten-metal continuous dyeing process. C. J. Weidmann. il diag Am Dyestuff Rep 40:416-21; Discussion. 421-2 Je 25 '51

Weber-Fechner law and dyeing strengths. I. H. Godlove. Am Dyestuff Rep 40:49-50 Ja 22 '51

What's new in spectrophotometry; progress of spectrophotometry in the textile industry to 1951. E. I. Stearns. Am Dyestuff Rep 40:563-74 bibliog(107 titles, p572-4) S 3 '51

See also

Color matching
Color printing
Crystal violet
Dye industry
Dyeing machines
Dyes, Fastness of
Methyl orange
Naphthazarin
Pigments
Pontamine sky blue
Rosaniline
Stains and staining (microscopy)
Textile printing
Turkey red

Ardil

Dyeing Ardil; abstract. J. Henderson. Am Dyestuff Rep 40:447 Jl 9 '51

Bibliography

Abstracts from British and foreign journals and patents. Published in monthly numbers of Journal of the Society of dyers and colourists

Chemistry

Absorption spectra of thioindigo dyes in benzene and chloroform. W. R. Brode and G. M. Wyman. J Res Nat Bur Stand 47:170-8 S '51

Acidic properties of cotton cellulose and derived oxycelluloses; ion-exchange reactions with basic dyes. G. R. Davidson. bibliog Textile Inst J Trans 41:T361-80 O '50

Azomethine dyes; color and constitution of pyrazolone azomethine dyes. G. H. Brown and others. bibliog Am Chem Soc J 73:919-26 Mr '51

Behavior of bromophthalein magenta E (tetrabromophenolphthalein ethyl ester) with organic bases and its bearing on the Brønsted-Lowry and Lewis concepts of acidity. M. M. Davis and H. B. Hetzer. bibliog(45 ref) J Res Nat Bur Stand 46:496-511 Je '51

Color and constitution; absorption of cyanines derived from 3-methylisoquinoline; a rule relating basicity and absorption in symmetrical cyanines. L. G. S. Brooker, F. L. White and R. H. Sprague. Am Chem Soc J 73:1087-93 Mr '51

Colour and constitution; basic dyes. M. J. S. Dewar. Chem Soc J p2329-34 S '50

Colour of organic compounds; a general colour rule. E. B. Knott. Chem Soc J p1024-8 Ap '51

Colour of organic compounds; a new method of assessing the +*M* effect of heterocyclic nuclei. E. B. Knott and L. A. Williams. Chem Soc J p 1586-9 Je '51

Colour of organic compounds; colour phenomena of bis-2-(3 : 5-diphenylpyrrole)methins. R. A. Jeffreys and E. B. Knott. Chem Soc J p 1028-30 Ap '51

Colour of organic compounds; indigo and related dyes. E. B. Knott. bibliog Soc Dyers & Col J 67:302-6 Ag '51

Cyanine dyes containing the pyrrocoline nucleus. F. G. Holliman and H. A. Schickerling. Chem Soc J p914-20 Ap '51

Dyestuffs repay science. bibliog Chem Age (Lond) 64:371-3, 419-22, 453-7 Mr 10-24 '51

Formation of azomethine dyes from 4-anisylidene- and 4,4′-anisylidene-bispyrazolones. G. W. Sawdey, M. K. Ruoff and P. W. Vittum. bibliog Am Chem Soc J 72:4947-9 N '50

Photoconductivity of some triphenylmethane dyes. R. C. Nelson. J Chem Phys 19:798 Je '51

Reduction of diazotized amines on cotton. E. R. Atkinson and A. G. Hoyle. Am Chem Soc J 73:1841-2 Ap '51

Relation between the absorption spectra and the chemical constitution of dyes; absorption spectra of some thioindigo dyes in sulfuric acid. W. R. Brode and G. M. Wyman. bibliog Am Chem Soc J 73:4267-70 S '51

Relation between the absorption spectra and the chemical constitution of dyes; *cis-trans* isomerism in thioindigo dyes. G. M. Wyman and W. R. Brode. bibliog Am Chem Soc J 73:1487-93 Ap '51

Selective diffusion into ion-exchange resins; a new method for the purification of the direct cotton dyes. R. W. Richardson. Chem Soc J p910-14 Ap '51

Some trinuclear cyanine dyes; the action of acid on dinuclear intermediate dyes. F. M. Hamer. Chem Soc J p294-9 F '51

Studies in the cyanine dye series; reactivity of the methyl group in quaternary salts of 3-methylisoquinoline. L. G. S. Brooker and F. L. White. Am Chem Soc J 73:1094-7 Mr '51

Substitution reactions of the naphthylenediamines. J. S. Whitehurst. Chem Soc J p215-30 Ja '51

Control

Reduce steam consumption with control instruments. L. Walter. il diags Textile World 101:113+ Ap '51

Cotton

Absorption of a direct cotton dye anion associated with various cations. H. B. Mann and R. W. Richardson. Soc Dyers & Col J 67:148 Ap '51

DYES and dyeing—Cotton—*Continued*

Acidic properties of cotton cellulose and derived oxycelluloses; ion-exchange reactions with basic dyes. G. F. Davidson. bibliog Textile Inst J Trans 41:T361-80 O '50

Comparison of the dyeing characteristics and related properties of rain-grown and irrigated cotton. bibliog Am Dyestuff Rep 39:901-11 D 25 '50

Equilibrium absorption of direct dyes by cellulose materials; abstract and discussion. H. A. Standing. Chem & Ind p797 S 22 '51

Lot production method gives more even dye shades; Utica knitting co. E. D. White. il Textile World 101:135+ Ag '51

Package dyeing. E. L. Caswell. il diags Am Dyestuff Rep 40:257-61 Ap 16 '51

White mineral oil for use in the hot-oil dyeing process. R. K. Rhodes. Am Dyestuff Rep 40:489-90 Ag 6 '51

Fluorescene

Daylight fluorescent textiles. R. A. Ward. Rayon 32:100+ S '51

Fluorescence quenching by colloid anions and cations. J. E. Lovelock. Chem Soc J p 115-20 Ja '51

Fluorescent dyeings C, 1; patent. Am Dyestuff Rep 40:106-7 F 5 '51

There's no secret about the new fluorescent inks. il Ptr Ink 235:40-1 Je 15 '51

Glass fabrics

Fiberglas, now colors. il Chem W 69:15 Jl 28 '51; Rayon 32:69 S '51

Hosiery

Dyeing of algosols on hosiery. K. A. Bridges. Am Dyestuff Rep 40:354-6 My 28 '51

Dyeing of fifteen-denier nylon full-fashioned hosiery. J. Koch, jr. Am Dyestuff Rep 40:531-5 Ag 20 '51

Recent developments in hosiery dyeing and finishing; abstract. E. R. Trotman. Am Dyestuff Rep 40:61 Ja 22 '51

Take a trip through the Hans Bick plant; camera tour. Textile World 100:96-9 O '50

Metachrome process

Metachrome dyeing; alkaline earth salts added; zinc or cadmium salts added; patents. Am Dyestuff Rep 40:133 F 19 '51

Natural dyes

Natural dyewoods on nylon yarn; effect on tensile strength. H. A. Tisdale. il Rayon 32:59-60+ Je '51

Nylon

Acid colors on bright nylon filament yarn sorption; Rate of absorption of acid dyes on spun nylon yarn. Am Dyestuff Rep 40:94-9 F 5 '51

Application of vat colors to nylon at normal temperatures. T. Carter and others. Am Dyestuff Rep 39:773-6 N 13 '50

Continuous dyeing of nylon fabrics. bibliog Am Dyestuff Rep 40:14-29+ Ja 8 '51

Dyeing of fifteen-denier nylon full-fashioned hosiery. J. Koch, jr. Am Dyestuff Rep 40:531-5 Ag 20 '51

Dyeing unions containing nylon. J. G. Grundy. Soc Dyers & Col J 67:7-17 Ja '51

Enclosed-jig nylon dyeing offers improved light fastness. F. A. Alter. Textile World 101:244+ O '51

Fast dyeings on nylon textiles. G. T. Douglas. Soc Dyers & Col J 67:133-7 Ap '51

Fast shades on nylon textiles; abstract. G. T. Douglas. Am Dyestuff Rep 39:805 N 27 '50

Immunized by sulfurized phenols; patent. Am Dyestuff Rep 40:280 Ap 30 '51

Natural dyewoods on nylon yarn; effect on tensile strength. H. A. Tisdale. il Rayon 32:59-60+ Je '51

Nylon dyeing; theory and practice. G. T. Douglas. bibliog Am Dyestuff Rep 40:122-6 F 19 '51

Processing of nylon; suggestions for dyeing nylon woven fabrics, and for the dyeing of wool-nylon materials to solid shades; abstract. Am Dyestuff Rep 40:359 My 28 '51

Progress in dyeing nylon goods; extending the range of suitable acid wool dyestuffs; abstract. Am Dyestuff Rep 39:922 D 25 '50

Some problems of dyeing synthetic fibers; abstract. A. G. Tyler. Am Dyestuff Rep 40:200 Mr 19 '51

Orlon

Dyeing of new synthetic fibers. P. L. Meunier. Am Dyestuff Rep 40:51-4 Ja 22 '51

High-temperature dyeing of new synthetic fibers. C. G. Lyle and others. bibliog il diag Am Dyestuff Rep 40:585-93 S 17 '51

Orlon acrylic fiber dyed with new technique. Textile World 101:150 Jl '51

Package dyeing

Crown College improves package-dyeing system. C. H. Leach. il Textile World 100:92-3, 277-8+ O '50

Dye rayon cakes and save money; with cost data. L. L. Walmsley. il Textile World 101:126-7 Mr '51

Filament rayon now dyed in packages. W. A. Thomason, jr. il Textile World 101:120-1+ My '51

New package-dye plant is well planned; Aberfoyle plant at Bridgeton. W. A. Thomason, jr. il plan Textile World 100:112-13 O '50

Package dyeing. E. L. Caswell. il diags Am Dyestuff Rep 40:257-61 Ap 16 '51; Abstract. Textile World 100:129 D '50

Package dyeing of synthetic fibers. G. T. Douglas. Rayon 31:49-50 D '50

Sampling device for pressurized package dyeing machines. P. M. Cole and T. W. Stricklin. il diags Am Dyestuff Rep 39:801 N 27 '50

Paper

Affinities of important dyes for pulp fibers; abstract. K. Kletzl. Paper Ind 32:1337-8 Mr '51

Color engineering. F. A. Soderberg. plans Paper Tr J 131:250+ N 30 '50

Shade and quality control in the dyeing of paper. H. A. Lips. Tappi 33:sup 106A-8A N '50

Two-sidedness of colored paper. H. A. Lips. bibliog Tappi 33:603-8 D '50

Rayon

Aspects of acetate rayon dyeing, a survey of progress; abstract. Am Dyestuff Rep 40:387 Je 11 '51

Cellulose acetate and vat dyestuffs. G. D. Sutton. Textile Inst J 42:P538-48; Discussion. P548-9 Ag '51

Dye rayon cakes and save money; with cost data. L. L. Walmsley. il Textile World 101:126-7 Mr '51

Dyeing cellulose acetate; acid dyestuffs in alcoholic solution; salt aftertreatment; patent. Am Dyestuff Rep 40:106 F 5 '51

Dyeing cellulose acetate; aqueous dispersions of organic acids, combined with swelling agents; patent. Am Dyestuff Rep 40:67-8 Ja 22 '51

Dyeing cellulose acetate; padding with alcoholic solutions, followed by thiocyanate impregnation; patent. Am Dyestuff Rep 39:926 D 25 '50

Dyeing cellulose acetate; vat dyes in alcoholic reducing liquids; patent. Am Dyestuff Rep 40:67 Ja 22 '51

Dyeing cellulose acetate; vat dyes reduced; patent. Am Dyestuff Rep 40:148 Mr 5 '51

Dyeing cellulose acetate with acid dyes, phenols added; patent. Am Dyestuff Rep 40:66-7 Ja 22 '51

Dyeing cellulose acetate with indigosols; urea added; patent. Am Dyestuff Rep 40:68 Ja 22 '51

Effect of Dispersol VL on the dyeing properties of vat dyes on viscose rayon. R. W. Speke. Soc Dyers & Col J 66:569-75 N '50

Equilibrium absorption of direct dyes by cellulose materials; abstract and discussion. H. A. Standing. Chem & Ind p797 S 22 '51

Filament rayon now dyed in packages. W. A. Thomason, jr. il Textile World 101:120-1+ My '51

Reaction of acrylonitrile with macromolecular hydroxy substances; the production and uses of water-insoluble, alkali-soluble cyanoethyl cellulose ethers as soluble yarns. J. H. MacGregor and C. Pugh. bibliog Soc Dyers & Col J 67:74+ F '51

DYES and dyeing—Rayon—*Continued*

Reduction of direct dyes during the dyeing of viscose rayon. W. Armfield. Soc Dyers & Col J 67:297-301 Ag '51

Some problems of rayon dyeing; acetate rayon; abstract. A. G. Tyler. Am Dyestuff Rep 39:923 D 25 '50

Some problems of rayon dyeing; cuprammonium rayon; abstract. A. G. Tyler. Am Dyestuff Rep 39:804 N 27 '50

Some problems of rayon dyeing; X-synthetic fibers; abstract. A. G. Tyler. Am Dyestuff Rep 40:169 Mr 5 '51

Structural orientation in cellulose acetate filaments and its relation to the dichroism of adsorbed dyes. D. R. Morey and E. V. Martin. bibliog il diag Textile Res J 21:607-20 S '51

Thirty years of viscose rayon dyeing. C. Whittaker. Rayon 32:68+ Je '51

Silk

Silk dyeing; patent. A. G. Tyler. Am Dyestuff Rep 40:540 Ag 20 '51

Standards

Standardization of dyes. G. H. Schuler. Am Dyestuff Rep 40:378-80 Je 11 '51

See also

Dye testing—Standards

Stripping

Stabilizing and stripping wool; replacing disulfide bonds by stable linkages; patent. Am Dyestuff Rep 39:726 O 30 '50

Stripping of wool dyes with protection against chemical damage. E. A. Leonard and L. Beck. il Am Dyestuff Rep 40:178-82 Mr 19 '51; Abstract. Textile World 100:130 D '50

Stripping wool dyeings; patent. diag Am Dyestuff Rep 40:539 Ag 20 '51

Synthetic fibers

Acrylonitrile fibers; dyeing vinylacrylonitrile polymers; heat aftertreatment; patents. Am Dyestuff Rep 40:375-6 Je 11 '51

Affinity of synthetic fibers for dyes. J. W. Shirley. Rayon 31:83-4+ O '50

Copper technique for dyeing acrylonitrile fibers. T. A. Feild, jr. and G. H. Fremon. bibliog il Textile Res J 21:531-9 Ag '51

Dyeing acrylonitrile fibers, modifying with polyvinylpyridine; patent. Am Dyestuff Rep 40:277-8 Ap 30 '51

Dyeing acrylonitrile polymers with aminoanthraquinones or basic dyes; m-cresol added; patent. Am Dyestuff Rep 39:766 N 13 '50

Dyeing cellulose acetate and/or vinyl fabrics; padding with lactones; patent. Am Dyestuff Rep 40:340+ My 28 '51

Dyeing of fabrics made of synthetic fibers. A. W. Etchells. Am Dyestuff Rep 40:598-601 S 17 '51

Dyeing of new synthetic fibers. P. L. Meunier. Am Dyestuff Rep 40:51-4 Ja 22 '51

Dyeing of terylene polyester fibre. E. Waters. 2pls Soc Dyers & Col J 66:609-15 D '50; Abstract. Am Dyestuff Rep 40:199-200 Mr 19 '51

Dyeing properties of terylene; abstract. Am Dyestuff Rep 39:790 N 13 '50

Dyeing vinyl, or vinylidene polymers; glycol esters as solvents; patent. Am Dyestuff Rep 40:357 My 28 '51

High-temperature dyeing of new synthetic fibers; Orlon and Dacron. C. G. Lyle and others. bibliog il diag Am Dyestuff Rep 40:585-96 S 17 '51

Introduction to dyeing of Chemstrand acrylic fiber. J. A. Woodruff. bibliog il Am Dyestuff Rep 40:402-8 Je 25 '51; Excerpt. Textile World 101:126-7 Ag '51

New dyes and finishes for synthetics shown at AATCC exhibit. il Textile World 100:171+ N '50

Orlon, Fiber V dyeing technique is improved; abstract. P. L. Meunier. Am Dyestuff Rep 40:63 Ja 22 '51

Package dyeing of synthetic fibers. G. T. Douglas. Rayon 31:49-50 D '50

Present and future developments in the dyeing and finishing of synthetics. W. F. Brosnan. Am Dyestuff Rep 40:350-3 My 28 '51

Problem in finishing of new fibers approaches solution. Chem & Eng N 28:4268 D 4 '50

Problem of dyeing wool in mixtures with other fibers. H. Luttringhaus. Am Dyestuff Rep 40:436-8 Jl 9 '51

Some problems of rayon dyeing; protein fibers; abstract. A. G. Tyler. Am Dyestuff Rep 39:804 N 27 '50

Vat dyes

Absorption spectra of the benzoylaminoanthraquinone vat dyes. E. Waters. Soc Dyers & Col J 66:544-5 O '50

Acrylonitrile fibers; vat dyeing in the presence of aromatic amines; patent. Am Dyestuff Rep 40:375 Je 11 '51

Anthraquinone vats applicable to wool; abstract. A. E. Weber. Textile World 100:131 D '50

Application of vat colors to nylon at normal temperatures. T. Carter and others. Am Dyestuff Rep 39:773-6 N 13 '50

Cellulose acetate and vat dyestuffs. G. D. Sutton. Textile Inst J 42:P538-48; Discussion. P548-9 Ag '51

Contemporary vat-dyeing practice. O. W. Clark. bibliog Am Dyestuff Rep 40:315-22 My 14 '51

Continuous dyeing of vat colors. E. H. Gamble. Am Dyestuff Rep 40:529-30 Ag 20 '51

Dyeing of algosols on hosiery. K. A. Bridges. Am Dyestuff Rep 40:354-6 My 28 '51

Dyeing of wool with vat colors with particular emphasis on the anthraquinone types. A. E. Weber. Am Dyestuff Rep 40:78-83 F 5 '51

Dyeing wool; anthraquinoid vat dyes; large amounts of salts added; patent. Am Dyestuff Rep 39:765-6 N 13 '50

Effect of Dispersol VL on the dyeing properties of vat dyes on viscose rayon. R. W. Speke. Soc Dyer's & Col J 66:569-75 N '50

Proceedings of the Society; report of the committee on the dyeing properties of vat dyes. il Soc Dyers & Col J 66:505-9 O '50

Studies in textile printing; practical applications of the analytical method. R. D. Greene and others. Am Dyestuff Rep 40:127-30 F 19 '51

Vat-color aging calls for strict control. T. N. Patrick. Textile World 101:141+ Mr '51

Vat dyeing with heat sensitive dyes; halogenates added; patent. Am Dyestuff Rep 40:538-9 Ag 20 '51

Vat dyeing with pyranthrone dyes; inorganic nitrites added; patent. Am Dyestuff Rep 40:605 S 17 '51

Wool

Accuracy of visual judgments of color differences on wool flannel. H. R. Davidson. diags Am Dyestuff Rep 40:247-54 Ap 16 '51

Anthraquinone vats applicable to wool; abstract. A. E. Weber. Textile World 100:131 D '50

Applications of the report of the committee on the dyeing properties of wool dyes; migration tests on wool, hair, fur, silk, nylon. B. Kramrisch. bibliog Soc Dyers & Col J 67:53-7 F '51

Color changes in wool during processing. E. P. Mersereau and L. W. Rainard. bibliog Textile Res J 21:239-47 Ap '51

Combination of wool with acid dyes; an automatic photometer for the measurement of rates of dyeing. N. H. Chamberlain and G. H. Lister. il diags Soc Dyers & Col J 67:176-87 My '51

Combination of wool with acids in presence of salts. B. Olofsson. bibliog Soc Dyers & Col J 67:57-66 F '51

Dyeing apparatus for loose wool; circulation through an expansion tank; patent. diag Am Dyestuff Rep 40:605 S 17 '51

Dyeing of wool with vat colors with particular emphasis on the anthraquinone types. A. E. Weber. Am Dyestuff Rep 40:78-83 F 5 '51

Dyeing tippy wool, synergistic effect of condensates of fatty acids with polyethyleneglycols and amines; patent. Am Dyestuff Rep 40:276-7 Ap 30 '51

Dyeing wool; anthraquinoid vat dyes; large amounts of salts added; patent. Am Dyestuff Rep 39:765-6 N 13 '50

Dyeing wool; azodyes with chrome complex, aldehyde aftertreatment; patent. Am Dyestuff Rep 40:67 Ja 22 '51

DYES and dyeing—Wool—*Continued*

Kinetics of wool dyeing; the adsorption of surface-active dyes by wool and other fibers. P. Alexander and D. A. Charman. bibliog Textile Res J 20:761-70 N '50

Munsell color book in textiles. H. R. Davidson and H. Luttringhaus. Opt Soc Am J 41:623-5 S '51

Premetallized wool dyestuffs; abstract. R. S. Mayston. Am Dyestuff Rep 40:559 S 3 '51

Present and future trends in the dyeing of woolen fabrics. A. F. Feigendreger and R. F. Fritz. Am Dyestuff Rep 40:494-6+ Ag 6 '51

Problem navy blue; abstract. A. Carpenter. Am Dyestuff Rep 40:360-1 My 28 '51

Relating of laboratory data to mill practice. bibliog il diags Am Dyestuff Rep 40:84-90 F 5 '51

Stabilizing and stripping wool; replacing disulfide bonds by stable linkages; patent. Am Dyestuff Rep 39:726 O 30 '50

Stripping of wool dyes with protection against chemical damage. E. A. Leonard and L. Beck. il Am Dyestuff Rep 40:178-82 Mr 19 '51; Abstract. Textile World 100:130 D '50

Stripping wool dyeings; patent. diag Am Dyestuff Rep 40:539 Ag 20 '51

See also

Woolen and worsted printing

Wool—nylon

Dyeing of wool-nylon unions; abstract. E. V. Burnthall. Am Dyestuff Rep 40:63 Ja 22 '51

Dyeing unions containing nylon. J. G. Grundy. Soc Dyers & Col J 67:7-17 Ja '51

Nylon dyeing; theory and practice. G. T. Douglas. bibliog Am Dyestuff Rep 40:122-6 F 19 '51

Problem of dyeing wool in mixtures with other fibers. H. Luttringhaus. Am Dyestuff Rep 40:436-8 Jl 9 '51

Wool—vicara

Problem of dyeing wool in mixtures with other fibers. H. Luttringhaus. Am Dyestuff Rep 40:436-8 Jl 9 '51

DYES as antiseptics and disinfectants

Dyestuffs repay science. bibliog Chem Age (Lond) 64:371-3, 419-22 Mr 10-17 '51

DYES as indicators

Use and toxicity of pontamine sky blue. J. Weinberg and others. bibliog Science 114:41-2 Jl 13 '51

DYES in medicine

Dyestuffs repay science; the medical uses of some dyestuffs. bibliog Chem Age (Lond) 64:419-22 Mr 17 '51

DYKSTRA, John

Portrait. Fortune 42:30 N '50

DYNAMIC braking. See Braking, Dynamic

DYNAMICS

Analytical and experimental studies on dynamic loads in airplane structures during landing. T. H. H. Pian and H. I. Flomenhoft. bibliog il diags J Aeronautical Sci 17:765-74+ D '50; Correction. 18:640 S '51

Cam dynamics; is there a definitive criterion for profile design? A. S. Gutman. diag Machine Design 23:149-51+ Mr '51

Determination of the dynamic coefficient of friction for transient conditions. G. G. Gould. il A S M E Trans 73:649-54 Jl '51

Dynamic loading of chain drives. W. K. Stamets, jr. bibliog il diags A S M E Trans 73:655-62; Discussion. 662-5 Jl '51

Dynamic response of hydraulic systems. H. Raiklen. diags Machine Design 23:137-40 S '51

Dynamic shear properties of rubberlike polymers. I. L. Hopkins. il diags A S M E Trans 73:195-203; Discussion. 203-4 F '51

Models for the dynamic properties of paper. R. E. Hurley. diags Tappi 34:390-5 S '51

Stress relaxation and dynamic properties of polymers. A. V. Tobolsky and others. bibliog diag Textile Res J 21:404-11 Je '51

See also

Aerodynamics
Entropy
Hydrodynamics
Machinery—Design
Mechanics
Moments of inertia
Thermodynamics
Vibration

DYNAMITE

Storing dynamite on the job. il Nat Safety N 63:33 Je '51

DYNAMOMETER cars

L.M.S. mobile test plant in action. O. S. Nock. il plan diag Engineer 190:377-9 O 20 '50

DYNAMOMETERS

Development of a modern dynamometer laboratory. C. L. Bouchard and H. Oxley. il diags S A E J 59:58-65 Ag '51

Dynamometer accuracy up; journal-type cradle bearings and hydraulic weighing system; abstract. W. H. Smith and J. B. Bidwell. Steel 128:90+ Mr 26 '51

Elements of dynamometer tests. D. S. Stear. diag World Oil 132:160+ F '51

Engine dynamometer control for fuel evaluation by simulated road tests; abstracts. A. R. Isitt and others. diags Pet Processing 6:52-5 Ja '51; S A E J 59:42-4 Mr '51

Ford installing 17 new test dynamometers. Steel 128:64 Ja 8 '51

Magnetic fluid dynamometer; abstract. D. B. Brede. Steel 129:96 S 3 '51

Mainspring dynamometer. J. E. Hendricks. il Mech Eng 72:910-11 N '50

Operation of electrodynamometer instruments through amplifiers. W. G. Hoover. diag Electronics 24:122+ Ja '51

24,000-hp. dynamometer for testing turbo-jet engine. il Automotive Ind 105:36+ S 15 '51

DYNAMOTORS

All about the PE-103A dynamotor. R. Shongut. diag Q S T 35:44-5 Ap '51

Dynamotor for aircraft teletype printer. diag Westinghouse Eng 10:255 N '50

DYNEL. See Textile fibers, Synthetic

DYSENTERY

Two provisional shigella boydii serotypes. W. H. Ewing and M. W. Taylor. bibliog Pub Health Rep 66:1327-31 O 12 '51

DYSPROSIUM

Adsorption curve of a rare earth in an ion-exchange column. H. B. van der Heijde and A. H. W. Aten, jr. diag J Phys & Colloid Chem 55:740-4 My '51

Efficient separation of dysprosium and yttrium. F. H. Spedding and J. L. Dye. Am Chem Soc J 72:5350 N '50

Some rare earth activated phosphors. H. G. Jenkins and A. H. McKeag. bibliog il Electrochem Soc J 97:415-18 D '50

E

EAR

Anterior process and the ossification of the malleus in mammals. K. Wassif. bibliog Science 113:486-7 Ap 27 '51

Coarse pattern of the electrical resistance in the cochlea of the guinea pig (electroanatomy of the cochlea). G. v. Békésy. diags Acoustical Soc Am J 23:18-28 Ja '51

Determination of the effects of dissipation in the cochlear partition by means of a network representing the basilar membrane. B. P. Bogert. il diag Acoustical Soc Am J 23:151-4 Mr '51

Dc potentials and energy balance of the cochlear partition. G. v. Békésy. il diags Acoustical Soc Am J 23:576-82 S '51

Microphonics produced by touching the cochlear partition with a vibrating electrode. G. v. Békésy. il diags Acoustical Soc Am J 23:29-35 Ja '51

Theory of operation of the cochlea: a contribution to the hydrodynamics of the cochlea. O. F. Ranke. bibliog diags Acoustical Soc Am J 22:772-7 N '50

Theory of the acoustical action of the cochlea. J. Zwislocki. bibliog diags Acoustical Soc Am J 22:778-84 N '50

Diseases

Some recent work on auditory adaptation and its relationship to the loudness recruitment phenomenon. C. S. Hallpike and J. D. Hood. bibliog diags Acoustical Soc Am J 23:270-4 My '51

EAR—*Continued*

Injuries

Ears of industry. R. Carhart. A M A Archives Ind Hygiene & Occup Med 2:534-41 N '50

Protection

Acoustic filters as ear defenders. J. Zwislocki. bibliog diag Acoustical Soc Am J 23:36-40 Ja '51

Lee Sonic Ear-Valv. il Explosives Eng 29:94 My '51

EAR defenders. See Ear—Protection

EARLY, Stephen T. 1889-1951

FDR press secretary. Ed & Pub 84:49 Ag 18 '51

EARPHONES

Loudness balance methods for earphone response measurements. D. W. Martin and M. L. Touger. bibliog Acoustical Soc Am J 22:833-7 N '50

EARTH

Petrologic-cosmogonic dilemma; abstract. N. L. Bowen. Science 112:453-4 O 20 '50

State of the primitive earth; abstract. H. C. Urey. Science 112:451 O 20 '50

See also

Diastrophism
Folds (geology)
Geology
Geophysics
Hydrosphere
Isostasy
Ore deposits
Paleontology
Volcanoes
Water, Underground

Internal structure

Earth's origin. P. S. Palmer. Science 113:528 My 4 '51

Elasticity and composition of the earth's interior; abstract. F. Birch. Science 112:453 O 20 '50

Quantum-theoretical densities of solids at extreme compression. W. M. Elsasser. bibliog Science 113:105-7 Ja 26 '51

Surface

See also

Ocean bottom

EARTH construction

See also

Adobe

EARTH currents

Electrolytic probe for underground corrosion studies. W. Beck. bibliog diags J Metals 3:706-11 S '51

EARTH movements

Earth movements halt bridge, hospital building. Eng N 145:30 O 26 '50

Movements in the desiccated alkaline soils of Burma. F. L. D. Wooltorton. il plan diags Am Soc C E Proc 76:63-99 Ja '50; Discussion. 76 [no D-XXVIII]:1-10 N '50

See also

Subsidences (earth movements)

EARTH pressure

Earth pressure on retaining walls determined by diagram. K. Chu. Civil Eng 20:725-6 N '50

EARTH temperature

Carbonate-water isotopic temperature scale. S. Epstein and others. bibliog Geol Soc Bul 62:417-25 Ap '51

Earth heat pump on intermittent operation; abstract. E. B. Penrod and others. diag Refrig Eng 59:267-8 Mr '51

Earth's heat. A. E. Benfield. Sci Am 183:54-7 D '50

Factors useful in ground grid design for heat pumps. G. S. Smith. bibliog il plans Heating-Piping 23:169-76 Ja '51

Heat pump; heat sources and sinks. il Heating-Piping 22:87-91 N '50

Measurement of paleotemperatures and temperatures of the upper cretaceous of England, Denmark, and the southeastern United States. H. C. Urey and others. bibliog Geol Soc Bul 62:399-416, pl 1 Ap '51

Measurement of the thermal conductivities of soils, and the calculation of oil temperatures in buried pipelines. K. G. Brummage. maps diag Inst Pet J 36:575-92 S '50

See also

Mine temperature

EARTHQUAKES

Abstracts of papers at Seismological society of America 1950 meeting. Geol Soc Bul 61:1543-7 pt 2 D '50

Coherent seismic wave patterns; abstract. M. A. Tuve and H. E. Tatel. Science 112:452-3 O 20 '50

Crustal layers of the continents and oceans. B. Gutenberg. bibliog map diags Geol Soc Bul 62:427-39, pl 1 My '51

Disaster control; cyclone and earthquake; handbook for metalworking. Am Mach 94:145 N 13 '50

Global strain accumulation and release as revealed by great earthquakes. H. Benioff. map Geol Soc Bul 62:331-8 Ap '51

Hydrodynamic pressure due to horizontal earthquake shock computed by curves. V. T. Chow. Civil Eng 21:532-3 S '51

Some relations among sedimentation, stratigraphy, and seismic exploration. W. C. Krumbein. bibliog map diags Am Assn Pet Geologists Bul 35:1505-22 Jl '51

EARTHQUAKES and building

Air force theater, Andersen field, Guam. plan diags Arch Forum 95:172-3+ S '51

ASCE group proposals for seismic hazards. Eng N 145:31 D 21 '50

Artificial quake tests made in Los Angeles. Eng N 146:73-4 My 10 '51

Biggest hotel since the Waldorf, designed to be earthquake-proof; Los Angeles' new Statler Center. il diags Eng N 147:35-7 Ag 23 '51

Comprehensive numerical method for the analysis of earthquake resistant structures. C. S. Whitney and others. bibliog diags Am Concrete Inst J 23:5-28 S '51

Earthquake resistant design considerations. R. R. Martel. Am Concrete Inst J 23:1-4 S '51

Key California steam power plant has earthquake resistant reinforced brick walls. W. L. Dickey and C. W. Appleford. il Eng N 147:35-6 Jl 5 '51

Lateral forces of earthquake and wind. A. W. Anderson and others. map plans Am Soc C E Proc 77 [no 66]:1-38 bibliog(69 titles, p35-8) Ap '51

Measures to reduce earthquake damage reported by Seattle section earthquake committee. il Civil Eng 21:99-100 F '51

Multistory buildings designed to resist earthquakes. J. J. Gould. il plans Am Concrete Inst J 23:29-36 S '51

EARTHQUAKES and oil lands

Union Pacific studies methods of designing wells to prevent or minimize damage from earthquakes. D. L. Roberts. il Oil & Gas J 49:62-3+ N 23 '50; Same. Pet Eng 22:B11-14 D '50; Same. World Oil 132:83-6 F '51

EARTHWORK

Annual earthmoving industry conference, 2d, Peoria, April 10-11. S A E J 59:80-2 My '51

Dirt really flies at Oahe dam. il Eng N 146:32-4 Mr 15 '51

Dirt rolls at Oahe dam. il Constr Methods 33:85-6 Ja '51

Earthmoving; an art and a science. D. K. Heiple; E. O. Martinson. il Constr Methods 33:56-7+ Ja; 60-4 F; 62-4+ Mr; 58-9+ Ap; 64+ My; 60-4+ Je; 68+ Jl; 84+ Ag; 91-2+ S; 79+ O '51 (to be cont)

Geochemistry of earthwork. H. Forbes. il Am Soc C E Proc 76 [no 7]:1-19 Mr '50; Discussion. 77 [no D-7]:1-15 F '51

How to collect on unexpected subsurface difficulties. J. W. Gaskins. Eng N 146:30-1 My 3 '51

How to cut your earthmoving and construction costs. il diags Roads & Sts 94:46-9 Ja '51

Land leveling procedure utilizes heavy equipment. W. L. Meikle. il Civil Eng 20:715-18 N '50

Largest single construction job ever carried out in Quebec City; preparation of a new site for Laval university. il Roads & Eng Constr 88:79-83+ D '50

Moving roads and rails for McNary dam. il map Eng N 145:39-41 O 26 '50

Problem of wave action on earth slopes. M. A. Mason. Am Soc C E Proc 76 [no 44]:1-6 N '50

Profitable earthmoving detailed in simple handbook by Caterpillar tractor co. il Constr Methods 33:70-1 Mr '51

EARTHWORK—*Continued*

Puddled-clay cutoff walls stop sea-water infiltration; subsidence basin of the Wilmington and Long Beach, Calif. harbor areas. A. D. Rhodes. il Civil Eng 21:71-3 F '51

See also

Dams
Dikes (engineering)
Drainage
Drilling and boring (earth and rocks)
Excavating machinery
Filling
Foundation soils
Foundations
Levees
Prospecting—Geophysical methods—Engineering applications
Railroads—Earthwork
Roads—Grading
Roads—Subgrades
Rollers (earthwork)
Soil mechanics
Tamping machines
Tunnels and tunneling

EASTERN air lines, inc.

CAB okays EAL for N.Y.-Puerto Rico run. Aviation W 54:46 F 5 '51

EAL-pilot pact based on mileage. Aviation W 55:16 S 10 '51

EAL strengthened by PAA deal. S. Altschul. Aviation W 54:18 F 12 '51

EAL's big plan. Aviation W 55:58-9 Jl 23 '51

Eastern's tax base best in the airline industry. Barron's 30:19-20 D 18 '50

Security I like best. F. Messner. Comm & Fin Chr 174:347 Jl 26 '51

Top profits; EAL reports its highest earnings. Aviation W 54:16-17 Ap 9 '51

EASTERN gas and fuel associates

Good earnings indicated. Barron's 31:18 Je 25 '51

EASTERN Massachusetts street railway

Security I like best. A. G. Woglom. Comm & Fin Chr 173:1346 Mr 29 '51

EASTERN underwriters association

Annual meeting, 24th, New York, Dec. 7. East Underw 51:1+ D 8; 62 D 15 '50; Nat Underw 54:4+ D 14 '50; Weekly Underw 163:1302 D 9 '50

Midyear meeting, Bretton Woods, N.H. East Underw 52:1+ Je 22; 31 Je 29 '51; Nat Underw 55:1+ Je 21 '51; Weekly Underw 164:1553+ Je 23 '51

EASTERN utilities associates

Files amended plan. Comm & Fin Chr 173:1375-6 Ap 2 '51

Files plan for reorganization with SEC. Elec World News ed 135:20 Ap 2 '51

EASTMAN Kodak company

Security I like best. G. F. Shaskin, jr. Comm & Fin Chr 174:414+ Ag 2 '51

Subsidiaries may revitalize its lagging growth rate. W. K. Gutman. Barron's 31:11-12 Ja 29 '51

EBURICOIC acid

Eburicoic acid. F. N. Lahey and P. H. A. Strasser. Chem Soc J p873-7 Ap '51

ECCLES, Marriner Stoddard, 1890-

Old bold new dealer; review of Beckoning frontiers, by M. S. Eccles. por Bsns W p65-7 Je 23 '51

ECHINOCOCCI

Hydatid disease (echinococcosis) in Alaksa and the importance of rodent intermediate hosts. R. Rausch and E. L. Schiller. il Science 113:57-8 Ja 19 '51

ECHO

Analysis of multiple-echo effect arising from the release of a stored wave train. L. Gold. bibliog il Acoustical Soc Am J 23:214-18 Mr '51

Architectural acoustics; reverberation. R. H. Bolt and R. B. Newman. il Arch Rec 108:158-60+ N '50

Practical sound engineering; determining reverberation time of sound studios; how to obtain desirable acoustical characteristics. H. M. Tremaine. il diags Radio & Tv N 45:66-8+ Je '51

ECHOES, Radio. See Radio echoes

ECLIPSES, Solar

Alaskan eclipse expedition. Franklin Inst J 251:469-71 Ap '51

Methods of radio astronomy used to study total eclipse. il Elec Eng 70:463 My '51

ECOLOGY

Ecology of significant organisms in surface water supplies. C. M. Tarzwell and C. M. Palmer. Am Water Works Assn J 43:568-78 Jl '51

Meteorological data in ecology. A. M. Woodbury. Science 114:216-17 Ag 24 '51

See also

Paleoecology

ECONOMIC advisers, Council of. See United States—Council of economic advisers

ECONOMIC conditions

Economic advancement of underdeveloped areas. Y. Brozen. J Eng Educ 41:601-6 Je '51

International trade in a defense economy. A. W. Zelomek. Comm & Fin Chr 172:1494+ O 19 '50

War overshadows 1951 world business; Business Week's correspondents abroad report. il Bsns W p73-4+ D 30 '50

What to expect in 1951. J. Baker. Comm & Fin Chr 173:533+ F 1 '51

World crisis and the American economy. A. W. Zelomek. Comm & Fin Chr 173:1950+ My 10 '51

See also

Business conditions
Business depression
Cost of living
Economic policy
Economic statistics
Food supply
Labor supply
Reconstruction (World war, 1939-1945)
Standard of living
United States—Economic conditions

ECONOMIC cooperation administration

Control of foreign aid. F. Morley. Barron's 31:3 Ag 13 '51

ECA; a foreign policy that works. Steel 129:55 Ag 13 '51

ECA activities in the Philippines. For Comm W 44:15 S 17 '51

ECA announces additional procurement authorizations. Published irregularly in Oil, paint and drug reporter

ECA grants loan for large aluminum plant in Norway. For Comm W 44:18 Ag 20 '51

ECA nudges Europe to standardize; cites case histories from American industry. Bsns W p63-4+ S 29 '51

ECA shifts emphasis to productivity. Steel 129:71-2 S 10 '51

ECA's new responsibilities. F. J. Bollmeyer. il For Comm W 42:3+ F 26 '51

Foreign aid comes to a turning point. Bsns W p 145-7 Ap 28 '51

Know-how works for peace. W. C. Foster. il Advanced Management 16:2-4 Mr '51

NMC administers ECA program of technical assistance. Mech Eng 73:260 Mr '51

Price attack; new efforts of ECA against prevailing price structure in Persian Gulf area. D. M. Duff. Oil & Gas J 49:62 Mr 8 '51

Return to Dr Schacht? German near-bankruptcy challenges the E.C.A. K. Bloch. Barron's 30:9 O 30 '50

$7.1 billion kitty; who is going to control our foreign aid expenditures? F. Morley. Barron's 31:5 My 14 '51

U.S. know-how goes international; technical assistance program. Mod Ind 21:51-4 F '51

U.S. scrambles for metals ECA gives Europe. K. Rannells. Iron Age 167:112 F 15 '51

ECONOMIC history

Historical implications of the theory of economic development. A. P. Usher. R Econ & Stat 33:158-62 My '51

ECONOMIC planning

Domestic planning by the British labor party. M. E. Murphy. J Bsns 24:165-80 Jl '51

Planned economy. T. Phelan. Pub Util 48:316-17 Ag 30 '51

Statistical measurement and economic mobilization planning. G. E. McLaughlin. Am Stat Assn J 46:358-65 S '51

ECONOMIC planning, International

See also

Coal-steel pool (proposed)

ECONOMIC poisons control officials, Association of. See Association of economic poisons control officials

ECONOMIC policy

Alice in Wonderland economics. W. K. Gutman. Comm & Fin Chr 174:1253+ O 4 '51

Bread, freedom, and businessmen. S. Hook. Fortune 44:117+; Editorial comment. 85 S '51

Drive and direction of mobilization. E. Janeway. Harvard Bsns R 29:99-109 S '51

ECONOMIC policy—*Continued*

Economic problems of a defense economy. S. H. Slichter. Comm & Fin Chr 172:1485+ O 19 '50

Foreign trade council issues recommendations for the maintenance of private enterprise. Comm & Fin Chr 172:1781+ N 9 '50

Have new leadership or trust in God, alone! J. H. Crider. Comm & Fin Chr 172:2459 D 21 '50

In search of freedom. B. Moreell. Comm & Fin Chr 173:1939+ My 10 '51

International economics and national defense. W. M. Martin, jr. Comm & Fin Chr 172:1790+ N 9 '50

Liberty and production. R. L. Minckler. Pub Util 47:573-5 Ap 26 '51

National income and economic policy; review of Introduction to economic science, by G. Soule. R. L. Bishop. Mech Eng 73:114+ F '51

National strength must be based on sound monetary foundation. L. R. Robinson. Comm & Fin Chr 173:541 F 1 '51

Overall vs. individual enterprise approach to economic problems. R. T. Bowman. Advanced Management 15:21-4 N '50

Progress cannot be achieved by frugality. P. Mazur. Comm & Fin Chr 172:1600-1 O 26 '50

Scores surrender to pressure groups. N. Carothers. Comm & Fin Chr 173:266+ Je 28 '51

Some fallacious economic slogans. R. L on. Comm & Fin Chr 174:57+ Jl 5 '51

Strategy for the West; review of Policy for the West, by B. Ward. D. D. Warren. Mech Eng 73:498-9 Je '51

To-day's need; to develop understanding of America's miracles. L. Hazard. il Dun's R 58:15-16+ D '50

We must guard against overspending and overtaxing. C. A. Sienkiewicz. Comm & Fin Chr 174:1164 S 27 '51

Welfare theory, technological change and public utility investment. Y. Brozen. Land Econ 27:67-75, 123-32 F-My '51

What controls to stop inflation! E. G. Nourse. Comm & Fin Chr 172:1684+ N 2 '50

World crisis; challenge to our way of life. B. E. Young. Comm & Fin Chr 174:501+ Ag 9 '51

See also

Capitalism
Communism
Government ownership
Government regulation of industry
Industrial mobilization
Industry and state
Money
Socialism
Tariff
Taxation
Totalitarianism

also subdivision Economic policy under names of countries, e.g. Great Britain—Economic policy; United States—Economic policy

ECONOMIC relations

See also United States—Economic relations

ECONOMIC research

Schumpeter and quantitative research in economics. J. Tinbergen. R Econ & Stat 33:109-11 My '51

ECONOMIC security. See Social and economic security

ECONOMIC stabilization agency

ESA follows in footsteps of OPA by stumbling into same pitfalls. Nat Pet N 42:35 D 27 '50

Stabilization has to wait. Bsns W p20-1 D 23 '50

ECONOMIC statistics

Estimates of gross national product in constant dollars, 1929-49. G. Jaszi and J. W. Kendrick. Survey of Cur Bsns 31:6-11 Ja '51

Monthly estimates of certain national product components, 1946-49. C. Chang and T. Liu. R Econ & Stat 33:219-27 Ag '51

National income and national product in 1950; with figures for other years. Survey of Cur Bsns 31:4-10 F '51

National product and income in the first quarter of 1951; with table. Survey of Cur Bsns 31:6-11 My '51

See also

Business statistics
Consumption (economics)—Statistics
Employment—Statistics
Income—Statistics
Index numbers (economics)
Production—Statistics
Saving—Statistics
Wages—Statistics

ECONOMIC surveys

Consumer expenditure study, 1950; field methods and purposes; technical note. Mo Labor R 72:56-9 Ja '51

Consumer finances survey, 1951; preliminary findings. Mo Labor R 72:678-80 Je '51

1950 survey of consumer finances. Fed Res Bul 36:643-54, 780-94, 948-65, 1441-55, 1584-611 Je-Ag, N-D '50

1951 survey of consumer finances. Fed Res Bul 37:627-44, 759-76, 920-37, 1061-78 Je-S '51 (to be cont)

Selected preliminary results of the 1951 survey of consumer finances. Fed Res Bul 37:385-8 Ap '51

Selection of cities for consumer expenditures survey, 1950. M. Kogan. Mo Labor R 72:430-6 Ap '51

ECONOMICS

Concentration of power in the American economy; big-little business, big labor, big agriculture. C. Wilcox. Harvard Bsns R 28:54-60 N '50

Economics of supervision. J. M. Pfiffner. Personnel 27:304-12 Ja '51

Economics of the American system. E. Vennard. Edison Elec Inst Bul 19:184-6 Je '51

See also

Agriculture—Economic aspects
Balance of payments
Banks and banking
Business cycles
Capital
Capitalism
Commerce
Competition
Consumption (economics)
Cooperation
Cost
Cost of living
Credit
Debts, Public
Distribution (economics)
Economic policy
Finance
Government regulation of industry
Housing
Income
Index numbers (economics)
Industrial relations
Industry
Interest
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Monopolies
Population
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Production
Profit
Profit sharing
Rent
Saving
Speculation
Standard of living
Strikes
Tariff
Taxation
Trade unions
Transportation
Trusts, Industrial
Wage payment plans
Wages

Bibliography

Basis of agreement; economic literature since the war. Economist 160:609-11 Mr 17 '51

Dictionaries

Dictionary of economics. H. S. Sloan and A. J. Zurcher. 279p pa $1.50 Barnes & Noble, 105 Fifth av, New York '51

Methodology

Input-output economics. W. W. Leontief. Sci Am 185:15-21 O '51

Relations between prices, consumption, and production. K. A. Fox. Am Stat Assn J 46:323-33 bibliog(p332-3) S '51

Schumpeter's economic methodology. F. Machlup. R Econ & Stat 33:145-51 My '51

Study and teaching

Economic education for employees. W. H. Stevenson. Harvard Bsns R 29:75-85 Ja '51

How good is economic education? Brookings Institution report. Fortune 44:84-6+ Jl '51

How our business system operates; educational programs for employees. W. Norris. Am Bsns 21:12-13+ My '51

How to improve employee economic understanding. Am Gas Assn Mo 33:18-19+ F '51

ECONOMICS—Study and teaching—*Continued*

In our hands; workers talk economics; Inland Steel and Borg-Warner have worked out a good way of teaching. il Mod Ind 22:40-5 Jl '51

Learning economics with no pain; animated cartoon shorts in color. Bsns W p41-2 D 16 '50

Republic Steel teaches economics to supervisors. il Bsns W p88-90+ S 8 '51

Schumpeter as a teacher and economic theorist. P. A. Samuelson. R Econ & Stat 33:98-103 My '51

Survey of the teaching of economics and related subjects to engineers. A. J. Schwieger. J Eng Educ 41:231-4 D '50

Textbooks

How good is economic education? Brookings Institution report. Fortune 44:84-6+ Jl '51

ECONOMICS, Mathematical

Economic model-building; review of Economic fluctuations in the United States, 1921-1941, by Lawrence Klein. R. Solow. Mech Eng 72:990-1 D '50

See also

Economics—Methodology

ECONOMISTS

Whither the economists? Washington is outbidding industry for their services. M. Adams. Barron's 31:7-8 Mr 12 '51

See also

Schumpeter, Joseph Alois

ECUADOR

Commerce

Ecuador's exports high; with table 1938, 1946-50. T. G. Sanders. For Comm W 43:5 Je 18 '51; Correction. 43:12 Je 25 '51

Commercial policy

Government acts to stimulate import of critical materials. For Comm W 43:11 Je 11 '51

Tariffs and trade controls. For Comm W 44:12-13 Jl 30 '51

Economic conditions

News by countries. For Comm W 41:10 D 11 '50; 42:13 F 12; 15 Mr 12; 43:11-12 My 7; 14-15 Je 4; 44:13-14 Jl 9; 12-13 Jl 30; 9-10 S 10; 45:10-11 O 8 '51

EDDY, E. B., company

One hundred years young. il Pulp & Pa of Can 52:70-3 Ap '51

EDDY current brakes. See Brakes, Eddy current

EDDY currents

Magnetic moments and eddy currents in spheres of superconducting tin. J. J. Fritz and others. bibliog diag Phys R 80:894-9 D 1 '50

EDELEANU process. See Petroleum refining—Edeleanu process

EDEMA

Effects of various analgesics on inflammatory edema resulting from silver nitrate injection. A. La Belle and J. A. Tornaben. Science 114:187-8 Ag 17 '51

Pulmonary edema and hemorrhage induced by hypothalamic lesions in rats. J. E. Gamble and H. D. Patton. bibliog Science 113:626-8 Je 1 '51

EDGERTON, Joseph S.

Portrait. Ptr Ink 234:31 Mr 23 '51

EDISON electric institute

Annual convention, 19th, Denver, June 4-7. Edison Elec Inst Bul 19:201-5 Jl '51; Elec World 135:94-5 Je 18 '51

Annual convention, 19th, Denver, June 4-7. Pub Util 47:870-1; 48:54-6 Je 21-Jl 5 '51

Annual sales conference, 17th, Chicago. Elec World News ed 135:12-13 Ap 16 '51

Annual sales conference, 17th, Chicago, April 2-5. Edison Elec Inst Bul 19:101-6+ Ap '51

Committees forge ahead on 1950-1951 activities. il Edison Elec Inst Bul 18:365-73 O '50

Comprehensive program scheduled for annual sales conference, Chicago, April 3-5. Edison Elec Inst Bul 19:69-70+ Mr '51

EEI Accounting and commercial division committees plan activities in anticipation of future developments. Edison Elec Inst Bul 18:393-402+ N '50

EEI can help you. M. E. Skinner. Edison Elec Inst Bul 19:109+ Ap '51

EEI prize contests offer 31 prizes for industry achievements in 1950. il Edison Elec Inst Bul 18:383-5 O '50

EEI publications and service material. Edison Elec Inst Bul 18:451-2; 19:27-8, 284-5 D '50-Ja, Ag '51

New members of the EEI Board of directors. Edison Elec Inst Bul 19:204-5 Jl '51

Personnel of committees for 1951-1952. Edison Elec Inst Bul 19:307-22 S '51

Report of the prize awards committee. G. E. Whitwell. Edison Elec Inst Bul 19:233-7 Jl '51

EDISON medal

Otto B. Blackwell, Edison medalist for 1950; presentation addresses by J. B. MacNeill and H. S. Osborne, response by O. B. Blackwell. il Elec Eng 70:185-9 Mr '51

EDITORIAL association, National. See National editorial association

EDITORS

See also

National editorial association

Trade journals—Editors

EDMONTON, Alberta

Sewerage

Catch-basin construction. E. W. Nielsen. diags Munic Util 88:35-6+ O '50

Water supply

Soft, ample supply guaranteed by second water plant. W. I. McFarland. il plan Eng N 146:38-40 Ap 12 '51

EDMONTON bulletin (newspaper)

Success kills daily; unable to expand. Ed & Pub 84:30 Ja 27 '51

EDSALL, John Tileston, 1902-

Portrait. Chem & Eng N 29:1826 My 7 '51

EDUCATION

Method is the bond. A. Gilmore. J Eng Educ 41:518-22 My '51

Purpose of education. Mech Eng 72:900 N '50

See also

Architectural education

Chemical education

Colleges and universities

Education of workers

Employees, Training of

Engineering—Study and teaching

Engineering education

Humanities

Industrial education

Journalism schools

Learning, Psychology of

Legal education

Mining schools and education

Moving pictures in education

Technical education

Television in education

Textbooks

United nations educational scientific and cultural organization

Vocational education

Consult Education Index for additional references

Bibliography

Education index, July 1947-May 1950. 2070p H. W. Wilson co, New York '50

Philosophy

Education for freedom. J. H. Keenan. Tech R 53:195+ F '51

Lustre or glitter? J. A. Hannah. J Eng Educ 42:18-23 S '51

Yearbooks

Year book of education, 1950. 652p 63s Evans brothers, Montague house, Russell square, London '50

Arkansas

Arkansas story. il Manuf Rec 120:98 F '51

China

Education and propaganda in Communist China. T. H. Chen. Ann Am Acad 277:135-45 S '51

France

France in search of a government; solution of the schools question. Economist 161:98-9 Jl 14 '51

Great Britain

Industrial education in Great Britain; contrast and similarity between British and American systems. J. Rich. Personnel 27:328-36 Ja '51

EDUCATION—Great Britain—*Continued*

New examination. Economist 160:1545-7 Je 30 '51

Korea

Professorships in foreign countries. G. A. Noble. Science 113:609-10 My 25 '51

Mississippi

Mississippi; its educational structure. il Manuf Rec 120:96-8 Je '51

New York (state)

Return to medievalism in science teaching. P. Goldstein and H. Pollet. Science 113: 249-50 Mr 2 '51; Reply, with editorial comment. 113:696-7 Je 15 '51

Poland

Education in Communist Poland. Economist 160:143-4 Ja 20 '51

United States

Public schools crowd up but teach kids better. il Bsns W p 114-16+ My 12 '51

EDUCATION and industry

Closer co-operation between business and education. A. L. White. Dun's R 59:21+ Je '51

Industrial aid to education; exhibits, sponsored and paid for by industry, will tour U.S. colleges and universities. il Mod Ind 22:67-8+ S '51

Industry muffs school aids. Bsns W p64 S 22 '51

Mills can profit from school-teacher visits. M. C. Powers. Textile World 101:258+ F '51

Nine ways to multiply profits in business; co-operation between business and colleges. C. Schoenfeld. il Am Bsns 20:8-9+ N '50

EDUCATION and state

Canada

How Canada controls apprentices. G. Rousseau. Am Mach 95:144-6 F 19 '51

EDUCATION in journalism, Association for. See Association for education in journalism

EDUCATION of adults

See also

Trade unions—Educational work

EDUCATION of workers

Economic education. C. B. Boulet. Edison Elec Inst Bul 19:265-6+ Ag '51

Economic education for employees. W. H. Stevenson. Harvard Bsns R 29:75-85 Ja '51

How our business system operates; educational programs for employees. W. Norris. Am Bsns 21:12-13+ My '51

How to improve employee economic understanding. Am Gas Assn Mo 33:18-19+ F '51

In our hands; workers talk economics; Inland Steel and Borg-Warner have worked out a good way of teaching. il Mod Ind 22:40-5 Jl '51

Industry picks up Wittenberg's tab; new one-week Management development program. il Bsns W p84+ O 6 '51

Republic Steel teaches economics to supervisors. il Bsns W p88-90+ S 8 '51

Tuition refund plans. Burroughs Clearing House 35:20-2 Ag '51

See also

Trade unions—Educational work

Vocational education

EDUCATIONAL endowments. See Endowments

EDUCATIONAL measurements

Tests and testing programs of interest to engineering educators. A. P. Johnson. J Eng Educ 41:277-83 Ja '51

Use of objective tests. J. M. Stalnaker. J Chem Educ 28:155-8 Mr '51

EDUCATIONAL testing service

How draft test was made. il Bsns W p70+ Jl 7 '51

Testing the outcomes of chemical education. B. Levy. J Chem Educ 28:43-6 Ja '51

EELGRASS

Eelgrass catastrophe. L. J. Milne and M. J. Milne. map diag Sci Am 184:52-5 Ja '51

EFFICIENCY, Industrial

Brooklyn Union has experienced four benefits from clerical control. J. G. Reynolds. Gas Age 107:36-7+ F 15 '51

Cases in methods improvement; illustrations with text. il Factory Management 108:126-8 N; 78-80 D '50; 109:100-3 F; 66-9 Ap; 101-3 Ag; 108-12 S; 90-2 O '51

Check up on your production efficiency; pointers for supervisors. M. Miller. Textile World 100:192 N '50

Cost-cutting the homemade way; Servel's work simplification program. il Bsns W p52+ N 18 '50

Electricity as an aid to productivity; conference, London, Nov. 15-16. Elec R (Lond) 147:835-8 N 24 '50; Electrician 145:1011, 1132-4 N 17-24 '50

Engineering production. T. U. Matthew. Engineering 170:486 D 8 '50

15 production ideas that cut costs; camera tour of Johnson-Carper plant, Roanoke, Va. Factory Management 109:76-81 Ag '51

Firm, industrial relations and profits. W. V. Owen. Personnel 27:224-7 N '50

Home-developed simplification; Penoptic's short cuts in output of ready-to-wear glasses; photo visit. Mod Ind 22:18+ S '51

How to work in comfort; Washington conference discusses illumination, color, noise, ventilation, and safety. Bsns W p 108-10 N 18 '50

In department 200, machines run 88 per cent of the day; Crompton & Knowles loom works. O. V. Payne. il Am Mach 94:93-5 N 27 '50

Light; vital link between mechanical and human elements. G. Eaton. il Inland Ptr 126:44-6+ F '51

Man who analyzed work; Frederick W. Taylor. R. Burlingame. il Advanced Management 15:7-8 D '50

101 ideas for your plant from defense production; illustrations with text. Mod Ind 22:39-47 S '51

Planning for production efficiency. C. D. Gibb. Engineering 171:239, 262 F 23-Mr 2 '51

Possibilities in consolidated services. I. D. Robbins. il Advanced Management 16:9-11 S '51

Production bonuses from safety; panel discusson. Nat Safety N 64:30-1+ S '51

Productivity in British industry (cont). B. W. White and others. il plans diags Engineer 190:373-7, 612-15+; 191:146-8, 274-8 O 20, D 22 '50, F 2, Mr 2 '51

Productivity in the Diesel-locomotive industry; report of the team which visited the United States from Jan. 10 to Feb. 23. Engineering 170:479-80 D 8 '50

Productivity team report; valve manufacturers analyse U.S. methods. Chem Age (Lond) 65:51-2 Jl 14 '51

Setting a workload; case study. N. M. Mitchell. Textile World 101:109-16 O '51

Watch seven obvious ways to increase your output. N. M. Perris and H. K. Keever. diags Am Mach 95:129-32 S 17 '51

Work simplification for everybody saves manpower and materials; Maytag plan. J. F. Biggane. il Factory Management 109: 122-4 Mr '51

Work simplification in an electric utility. R. M. Besse. Edison Elec Inst Bul 19:259-61+ Ag '51

Workers do better sitting down; illustrations with text. Bsns W p39 Ap 28 '51

See also

Ability tests

Color in industry

Control charts

Employees—Rating

Employment management

Executives

Factory management

Foundry management

Industrial engineering

Industrial management

Labor productivity

Machine shop management

Machinery, Replacement of

Machinery in industry

Mechanical handling

Motion study

Office management

Planning

Production standards

Standardization

Time saving

Time study

EFFLORESCENCE

Control of efflorescence in colored concrete products. il Rock Prod 53:233+ Ag '50; Same. Brick & Clay Rec 117:30 D '50

Efflorescence can be prevented with careful workmanship. il Am Bld 73:121-2 My '51

EFFLORESCENCE of bricks. See Bricks—Efflorescence

EFFUSIOMETERS
Microeffusiometry of gaseous mixtures. F. E. Harris and L. K. Nash. bibliog diag Anal Chem 22:1552-6 D '50

EGG albumin. See Albumin

EGG trade
Egg price nears parity as consumption booms. Barron's 31:17-18 My 14 '51
Egg prices fall off as props are doomed. Barron's 30:20-1 D 4 '50
Firm egg prices show tight supply for year. Barron's 31:27 F 19 '51
High egg prices headed for decline this winter. Barron's 31:44 S 10 '51
Tight egg supply means firm prices this fall. Barron's 31:23-4 Jl 9 '51

Argentina

Egg situation, Argentina. For Comm W 44:22 S 24 '51

EGGS
Spade-foot toad sperm as an activating agent in producing gynogenetic haploid embryos from rana and pseudacris eggs. H. Ting and J. W. Price. bibliog Science 112:595-6 N 17 '50

Preservation

Cooling an egg grading plant. plans diag Heat & Ven 48:69-71 Jl '51

EGGS, Dried
Dried albumen; removal of sugar by yeast before drying; abstract. J. R. Hawthorne. Food Ind 23:136 Ja '51
Time limit is vital in storing egg-type mix. L. L. Wherry and G. L. Tinklin. bibliog il Food Ind 22:2061-2+ D '50

EGGS, Frozen
Now, the consumer frozen-egg pack. A. R. Winter. il Food Ind 23:80 F '51

EGYPT
Egypt's uncertain future. map Economist 160:1173-4 My 19 '51

See also

Electric apparatus industry—Egypt
Petroleum—Egypt
Railroads—Egypt

Commercial policy

Regulations governing business titles of trade organizations. For Comm W 43:11-12 My 21 '51

Economic conditions

News by countries. For Comm W 40:15-16 S 25; 41:10-11 N 6 '50; 42:10-11 Ja 8; 12 F 5; 13-14 Mr 5; 15-16 Mr 12; 43:15 Ap 16; 12 My 7; 12 Je 25 '51

Foreign relations

Great Britain

Egypt and the 1936 treaty. Economist 159:870 N 25 '50
Egypt next. Economist 161:487-8 S 1 '51

Politics and government

Thunder in Egypt. Economist 159:644+ O 28 '50

EHRLICHIN
Breaching the barrier; antibiotic has conquered a true virus. il Chem Ind W 68:34 My 26 '51

EICOSANOL
Preparation of a series of (±)-*n*-eicosanols and *n*-eicosanones. V. R. Churchward and others. Chem Soc J p959-60 Mr '50

EICOSANONE
Preparation of a series of (±)-*n*-eicosanols and *n*-eicosanones. V. R. Churchward and others. Chem Soc J p959-60 Mr '50

EINSTEIN prize
First award. Sci Am 184:36 My '51

EINSTEIN'S unified field theory. See Unified field theory

EISENHOWER, Dwight David, 1890-
What Europe needs is arms. por Bsns W p22 F 10 '51

EJECTING devices (machine work)
Auxiliary knockout ram lifts blanks from press. R. R. Kadaba. diag Am Mach 94:128-9 N 27 '50

ELAIDIC acid
Synthetic long-chain aliphatic compounds; a critical examination of two methods of synthesis of olefinic acids. E. E. Ames and R. E. Bowman. Chem Soc J p 1079-86 Ap '51

ELAIDYL alcohol. See Octadecenol

ELARGOL process. See Electric circuits—Printed circuits

ELASTICITY
Analysis of redundant systems by means of the conception of conservation of energy. T. M. Charlton. bibliog Franklin Inst J 250:543-51 D '50
Anelastic effects arising from precipitation in aluminum-zinc alloys. A. S. Nowick. bibliog il J Ap Phys 22:925-33 Jl '51
Approximation method for the determination of the elastic constants of cubic single crystals. J. R. Neighbours and C. S. Smith. J Ap Phys 21:1338-9 D '50
Creep and relaxation. B. Gross and H. Pelzer. bibliog J Ap Phys 18:212-21; 19:257-64; 22:1035-9 F '47, Mr '48, Ag '51
Determination of elastic stresses in gas-turbine disks. S. S. Manson. diags U S Nat Advisory Com for Aeronautics 1947:241-51 '50
Dynamic properties of raw and vulcanized polymers. R. S. Enabnit and S. D. Gehman. bibliog diags Ind & Eng Chem 43:346-51 F '51
Effects of temperature distribution and elastic properties of materials on gas-turbine-disk stresses. A. G. Holms and R. D. Faldetta. diags U S Nat Advisory Com for Aeronautics 1947:67-73 '50
Elastic constants of gelatinous substances. A. M. Srivastava. il Am Chem Soc J 73:489-90 Ja '51
Elastic energy of an ellipsoidal inclusion in an infinite solid. K. Robinson. bibliog J Ap Phys 22:1045-54 Ag '51
Elastic parameters of beta-brass. R. A. Artman and D. O. Thompson. bibliog J Ap Phys 22:358 Mr '51
Elasticity of soft polymers; constant-stress elongation tests. C. A. Dahlquist, J. O. Hendricks and N. W. Taylor. bibliog il Ind & Eng Chem 43:1404-10 Je '51
Endurance limit of a round bar with longitudinal grooves. H. Ōkubo. il diags J Ap Phys 21:1105-8 N '50
Equivalent circuit for the transmission of plane elastic waves through a plate at oblique incidence. W. T. Thomson. bibliog diags J Ap Phys 21:1215-17 D '50
Extremum principles of the mathematical theory of elasticity and their use in stress analysis. W. Prager. bibliog diags Univ of Washington Eng Exp Sta Bul 119:1-29 '51 (pa 75c)
Finite deflections of a cantilever-strut. R. A. Beth and C. P. Wells. diag J Ap Phys 22:742-6 Je '51
Forced vibration of reed as a method of determining viscoelasticity. M. Horio and S. Onogi. bibliog diags J Ap Phys 22:977-81 Jl '51
Forces exerted on dislocations and the stress fields produced by them. M. Peach and J. S. Koehler. bibliog diags Phys R 80:436-9 N 1 '50
Measurement of dynamic internal dissipation and elasticity of soft plastics. H. C. Rorden and A. Grieco. il diags J Ap Phys 22:842-5 Je '51
Measurement of the elastic constants of silicon single crystals and their thermal coefficients. H. J. McSkimin and others. Phys R 83:1080 S 1 '51
Mechanics of elastic performance of textile materials; influence of yarn twist on modulus of elasticity. M. M. Platt. bibliog Textile Res J 20:665-7 O '50
Mechanics of elastic performance of textile materials; mechanical properties of hard fibers with reference to their use in cordage structures. E. R. Kaswell and M. M. Platt. bibliog Textile Res J 21:263-76 My '51
Multiple excitation of an elastic system. G. S. Bennett. Acoustical Soc Am J 23:229-31 Mr '51
Overlap forces and elastic constants of body-centered cubic metals. I. Isenberg. Phys R 83:637-40 Ag 1 '51

ELASTICITY—*Continued*

Simplified method of elastic-stability analysis for thin cylindrical shells. S. B. Batdorf. bibliog il diags U S Nat Advisory Com for Aeronautics 1947:285-309 '50

Some properties of vulcanized rubber under strain; degree of crystallization as calculated from temperature coefficient of elastic tension. B. B. S. T. Boonstra. bibliog Ind & Eng Chem 43:362-5 F '51

Some relations of powder characteristics to the elastic modulus and shrinkage of sintered ferrous compacts. G. D. McAdam. bibliog pl diags Iron & Steel Inst J 168: 346-58 Ag '51

Stress-function approaches of Boussinesq and Timpe to the axisymmetric problem of elasticity theory. E. Sternberg and others. bibliog J Ap Phys 22:1121-4 S '51

Theory of dislocations. J. L. Bogdanoff. J Ap Phys 21:1258-63 D '50

Thermal variation of Young's modulus in some Fe-Ni-Mo alloys. M. E. Fine and W. C. Ellis. J Metals 3:Trans 761-4 S '51

Thickness-shear and flexural vibrations of crystal plates. R. D. Mindlin. bibliog J Ap Phys 22:316-23 Mr '51

Third-order elastic coefficients of crystals. F. G. Fumi. Phys R 83:1274-5 S 15 '51

Ultrasonic studies of Weimarn gels. A. M. Srivastava. bibliog il diags Acoustical Soc Am J 23:553-8 S '51

Ultrasonics in the determination of elastic constants of metals; abstracts. B. Lockspeiser. Engineer 191:318 Mr 9 '51; Engineering 171:264 Mr 2 '51

Viscoelastic properties of several high polymers. M. Horio and others. bibliog diag J Ap Phys 22:966-70 Jl '51

Visco-elasticity of rubber. R. B. Blizard. diags J Ap Phys 22:730-5 Je '51

Volume flow of asphalt. M. Reiner, P. J. Rigden and E. N. Thrower. bibliog diags Soc Chem Ind J 69:257-60 S '50

Young's modulus at high temperatures. bibliog Engineer 190:325 S 29 '50; Abstract. Product Eng 22:241-3 Je '51

See also

Compressibility
Creep of materials
Deformation (mechanics)
Friction, Internal
Photoelasticity
Plasticity
Springs (mechanism)
Strains and stresses
Strength of materials
Torsion

ELBS reaction

Deuterium tracers in the Elbs reaction. C. D. Hurd and J. Azorlosa. bibliog Am Chem Soc J 73:37-41 Ja '51

EL DORADO, Arkansas

Kingdoms of oil. A. Gibbon. il World Oil 133: 242-5 Jl '51

ELECTIONS

How labor votes. G. Gallup. Ann Am Acad 274:123-4 Mr '51

Next election, let's get out the registration. J. Ecclesine. Ptr Ink 233:168 N 10 '50

Votes in the making; what are the factors that influence voters and decide elections? P. F. Lazarsfeld. Sci Am 183:11-13 N '50

See also

Voting

France

France turns right; voters provide alternative to the third force. B. deJouvenel. Barron's 31:7-8 Je 25 '51

Great Britain

Which kind of welfare state? il Bsns W p 19-20 S 29 '51

ELECTRETS

Apparatus for the study of electrets. L. A. Freedman and L. A. Rosenthal. diags R Sci Instr 21:896-8 N '50

ELECTRIC accidents. See Electricity, Injuries from

ELECTRIC advertising. See Electric signs

ELECTRIC alarms

Alarm switches; how to apply them. E. J. Kates. il diags Power 95:82-5+ O '51

Electronic protection for war plants. R. Y. Atlee. il diag Electronics 24:96-101 Ag '51

High-speed supervision of process variables. W. E. Belcher, jr. diag Elec Eng 69:996 N '50

Intrusion alarm system. diags Electronics 24:216+ S '51

Overload alarm circuit resets automatically. F. E. Reeves. diag Elec World 135:68 Ja 1 '51

Tower carrier alarm. K. Neuwirth. diag Electronics 23:182+ N '50

ELECTRIC analogies. See Aerodynamics—Electric analogies; Hydraulics—Electric analogies; Mechanics—Electric analogies; Petroleum engineering—Electric analogies

ELECTRIC apparatus and appliances

Developments on the Continent. il Electrician 146:963-8 Mr 23 '51

Electrical and allied developments during 1950; industry. G. Bartlett. il diag Gen Elec R 54:27-39 Ja '51

Electrical development during 1950. A. W. Kramer. il Power Eng 55:66-8 Ja '51

Electrical engineering in 1950. il Engineer 191:24-6, 64-6, 101-3, 132-4, pl 7 Ja 5-26 '51

Engineering highlights of 1950; power utilization. il Westinghouse Eng 11:13-19+ Ja '51

Manufacturers' activities. il Electrician 145: 1533-4 D 22 '50

1950 engineering developments. il diags Elec Eng 70:3-26 Ja '51

Potting with plastics. J. Delmonte. bibliog il Mod Plastics 28:64-7+ Mr '51

See also

Airplanes—Electric equipment
Armatures
Commutators
Condensers (electricity)
Dynamotors
Electric apparatus industry
Electric batteries
Electric cables
Electric circuit breakers
Electric coils
Electric controllers
Electric converters
Electric equipment
Electric furnaces
Electric fuses
Electric generators
Electric instruments
Electric inverters
Electric lamps
Electric machinery
Electric meters
Electric motors
Electric precipitation
Electric protective apparatus
Electric rectifiers
Electric switchgear
Electric transformers
Electricity in mining
Electricity on the farm
Electromagnets
Galvanometers
Oscillators
Photoelectric cells
Potentiometers
Radar
Radio apparatus
Reactors
Refrigerators, Electric
Relays
Spark plugs
Storage batteries
Voltage regulators

Exhibitions

British electrical power convention exhibition, Brighton. il Elec R (Lond) 148:1253-62 Je 15 '51; Electrician 146:2002-13 Je 15 '51

British industries fair, Birmingham and London, April 30-May 11; guide and review of the electrical exhibits. il plan Elec R (Lond) 148:847-88, 921-39 Ap 27-My 4 '51; Electrician 146:1375-409, 1552-4 Ap 27-My 4 '51

Electricity in 1851; awards at the Great exhibition. G. J. S. King. il Elec R Lond) 148:627-9 Mr 30 '51

San Francisco responds to electrical show. il Elec West 105:90-1 N '50

Manufacture

Die life test cuts cost of laminations; Westinghouse electric co. A. T. Hamill. il Am Mach 94:100-2 N 27 '50

Electronics for industry; British electronic products, ltd. il diag Electrician 146:1287-90 Ap 20 '51

Formula for safe production; Westinghouse electric corp. P. R. Edelman. il Safety Maint & Prod 101:24-6 Mr '51

Overhead line equipment at a Bridgend works. il Elec R (Lond) 149:80-1 Jl 13 '51

Merchandizing

See also

Electric apparatus and appliances, Domestic—Merchandizing
Electric apparatus industry
Electric shops (retail trade)
Electric utilities—Appliance selling

ELECTRIC apparatus and appliances, Domestic

Electrical and allied developments during 1950; appliances. G. Bartlett. il Gen Elec R 54:54-6 Ja '51

Engineering highlights of 1950; more convenient, more automatic home appliances. il Westinghouse Eng 11:36-7 Ja '51

Fifteen questions and answers on installation and service policies; table. Gas Age 108:38-41 S 13 '51

Help for disabled housewives; opportunity for the electrical industry. il Elec World 136:76-7 Jl 30 '51

Household appliances; heavy switch-over to defense equipment imminent. E. R. Abrams. Barron's 31:13 Ja 29 '51

Report on residential heat pump water heater operation. il diags Edison Elec Inst Bul 18:379-81+ O '50

See also

Electric stoves
Electric water heaters
Electricity in the home
Ironing machines, Electric
Refrigerators, Electric
Washing machines

Exhibitions

Festival electric exhibition at Dundee. il Elec R (Lond) 148:799 Ap 20 '51

300,000 prospects came to look. il Sales Management 67:45 Jl 1 '51

Manufacture

Domestic appliance manufacture; Elexcel, ltd. il Elec R (Lond) 148:70-3 Ja 12 '51

Home appliances; production at a new factory at Oldham. il Elec R (Lond) 148:511-12 Mr 9 '51

Merchandizing

Demonstration techniques in action. il Elec West 106:88 My '51

Fair trade victory; injunction against Macy's in GE appliances case. Bsns W p56-8 Ja 27 '51

Hotpoint sales program enters second phase. il Elec World 135:132 My 7 '51

Make it simple. V. E. Vining. Elec West 105:105-6 D '50

Mass selling gets results for Florida utility. J. H. Keele. Elec World 136:102+ Jl 2 '51

Personalized selling boosts model kitchen acceptance. N. H. Barnes. il Elec World 136:140 Jl 16 '51

Today's tools for the bride of tomorrow; Southern California Edison program to modernize equipment in school home economics departments. J. H. Collins. Pub Util 47:145-51 F 1 '51

See also

Electric shops (retail trade)
Electric utilities—Appliance selling

Repair

Domestic appliance repair. il Elec R (Lond) 148:1061 My 18 '51

Testing, reconditioning and servicing of domestic appliances. H. Hobbins. plans diags Inst E E Proc 96 pt 2:471-80 Je '49; Discussion. 96 pt 2:480-4; 97 pt 2:778-92 Je '49, D '50

Safety measures

For greater safety, new grounding plug. A. L. Abbott. il Standardization 21:282-3 N '50

ELECTRIC apparatus industry

Accent's on production. J. R. David. Edison Elec Inst Bul 19:113-16 Ap '51

Appliance dealer's seven tips to manufacturers. H. B. Price, jr. Sales Management 66:52-3 Je 15 '51

Appliance makers keep spreading out. Bsns W p94+ Jl 21 '51

Appliance sales. Bsns W p54-5 D 30 '50

Crosley's big show. il Elec West 106:81-2 Ja '51

Defense contracts; how to sell to the Signal corps. S. Gerstin. Tele-Tech 10:34-5+ Ap '51

Electrical appliances; review of electrical appliance sales in the last decade. Pub Util 48:517-18 O 11 '51

Electrical industry looks at 1951. J. M. McKibbin. Edison Elec Inst Bul 19:189-91+ Je '51

Fuel and appliance market in rural America; electric and bottled-gas interests. D. O. Cunnion. il Adv Agency 44:70-1+ Ja '51

GE splits up appliance department. Bsns W p90+ Ap 21 '51

GE train heads for home; More power to America special. il Am Bsns 21:32 Jl '51

G-E's Washington little show; they're group selling devices. Sales Management 67:74-5 S 1 '51

How to develop outside selling. il Elec West 107:94-6 Ag '51

Manufacturers will have difficulty filling equipment orders until '53. Elec World News ed 135:28-9 My 28 '51

Mobilization punishing appliance dealers, but worst is still to come. Elec World 135:93 F 12 '51

National association of electrical distributors 43d annual meeting, Atlantic City, May 21-25. Elec World 135:70 Je 4 '51

No metal for equipment makers delays industry's expansion plan. Elec World News ed 136:5-6 Ag 20 '51

Predicts drop in electric appliance business. R. L. White. Comm & Fin Chr 173:1340 Mr 29 '51

Production recovers sharply. Elec World 135:146-7 Ja 29 '51

Research and development in the manufacture of electrical equipment. S. E. Goodall. Inst E E Proc 98 pt 2:9-12 F '51; Abstract. Engineering 170:543 D 22 '50

Sales executives tell Electrical world what they want. Elec World 135:144-5 Mr 26 '51

Teen-age salesmen star in Proctor kids' day promotions. W. M. Schwartz. il Sales Management 67:48+ O 15 '51

Trumbull remodels its management to meet the age of crisis. A. R. Hahn. Sales Management 66:37-9+ F 15 '51

Utility, manufacturer cooperation stressed at Industrial power application conference, Springfield, Mass. Elec World News ed 135:11-12 Ja 22 '51

What the distributor does to your promotion will make or break it. R. H. Bolin. Ptr Ink 235:32-3 My 18 '51

When you can't sell, build; appliance distributors set up light assembly facilities to handle subcontracts. il Bsns W p42-4 F 3 '51

See also

Electric utilities—Appliance selling

Advertising

Ads for the small business; abstract. H. Brassard. Elec West 106:76 Ja '51

Appliance distributor tells co-op rate plan. R. B. McIntyre. Ed & Pub 84:14 Je 2 '51

Hotpoint tries tv, but ups newspaper ads. Ed & Pub 83:28 O 21 '50

Range of the Stars promotion program sponsored by EEI features eight Hollywood stars. il Edison Elec Inst Bul 18:449-50 D '50

Sylvania assigns major sales role to its kits. il Sales Management 67:88+ Jl 1 '51

Westinghouse nets these returns from its $2,300,000 tv show. J. G. Baird. il Sales Management 66:42-4 Je 15 '51

Directories

Directory of appliance service and repair parts; manufacturers' western service station and parts depots. Elec West 106:66-81 pt 2 Ap '51

Directory of manufacturers of electrical equipment, showing their principal western offices and sales representatives. Elec West 106:2-48 pt 2 Ap '51

Directory of representatives; listing by states and cities of manufacturers' western representatives handling electrical lines. Elec West 106:82-8 pt 2 Ap '51

Electronics buyers' guide. Electronics 24:D 1-168 Mid-Je '51

Regulation

CPR 22, effective May 28, to force appliance makers to adjust prices. Elec World News ed 135:5 Ap 30 '51

Securities

Mixed prospects; with position of leading electrical equipment companies. S. Devlin. il Mag of Wall St 88:560-1+ Ag 25 '51

ELECTRIC apparatus industry—*Continued*

Statistics

Appliance employment; motors and generators; vacuum cleaner sales; monthly sales index; tabulations. Iron Age 167:331 Ja 4 '51

Electrical machinery; employment and earnings, 1947-1950; tabulation. Iron Age 167:360 Ja 4 '51

1950 appliances sales top $7 billion. Elec World News ed 135:4-5 F 5 '51

Steel products used in electrical appliances; tabulation. Iron Age 167:324 Ja 4 '51

Steel used by electrical equipment makers; tabulation. Iron Age 167:349 Ja 4 '51

Australia

Australian electrical manufacture. Elec R (Lond) 148:1221 Je 8 '51

Australian electrical trade; detailed statistics for 1948-49. Elec R (Lond) 148:766 Ap 13 '51

Belgium

Belgian electrical trade; 1948 and 1949. Elec R (Lond) 147:622 O 20 '50

Brazil

Trade with Brazil; new import regulations. Elec R (Lond) 148:614 Mr 23 '51

Canada

Canadian electrical exports, 1949 and 1950 compared. Elec R (Lond) 148:1210 Je 8 '51

Canadian import trade; 1949 and 1950 compared. Elec R (Lond) 148:958 My 4 '51

Canadian market digest. Electrician 145:939 N 10 '50

Denmark

Danish trade; 1949 and 1950 compared. Elec R (Lond) 149:204 Jl 27 '51

Egypt

Egyptian trade; 1949-1950 compared. Elec R (Lond) 147:1004 D 15 '50

Germany

West German electrical trade; 1948 and 1949 compared. Elec R (Lond) 147:708 N 3 '50

West Germany's electrical trade, 1949 and 1950 compared. Elec R (Lond) 149:102 Jl 13 '51

Great Britain

Customs tariff nomenclature. J. C. Hancock. Elec R (Lond) 148:1377-9 Je 29 '51

Developments in 1950. il Electrician 146:405 F 2 '51

Dollar convention, Eastbourne, March 1-3. Electrician 146:827-8 Mr 9 '51

Electrical equipment production; summary of census report. Elec R (Lond) 148:294 F 9 '51

Electrical fair trading council; chairman's report for the year 1950. Electrician 146:235 Ja 19 '51

Electrical overseas trade. Published in the last number of each month of Electrician

Electrical wholesalers federation annual dinner, London, March 15. Electrician 146:961-2 Mr 23 '51

Engineering outlook; coal machinery, steam-raising plant and heavy electrical plant. Engineering 171:123-5 F 2 '51

Engineering outlook; the light electrical industry, and the electric wire and cable industry. Engineering 171:246-9 Mr 2 '51

Manufacturers' activities. il Elec R (Lond) 147:1103-4; 148:22-4, 87-9, 137-9, 187-9, 237-8, 291-3, 347-9, 403-5, 556-8 D 29 '50-F 23, Mr 16 '51

Manufacturers' activities. il Electrician 145:1533-4, 1591-2; 146:51-2, 135-7, 229-30, 313-14, 470, 579-80, 651-2, 895-6 D 22 '50-Ja 26, F 9-23, Mr 16 '51

Purchase tax increases and their effects. Electrician 146:1196 Ap 13 '51

India

India's imports, 1949-50. Elec R (Lond) 147:1004 D 15 '50

Malayan Union

Malayan electrical trade. Elec R (Lond) 147:952 D 8 '50

Malayan electrical trade; 1949 and 1950 compared. Elec R (Lond) 149:158 Jl 20 '51

South Africa

South African news. Elec R (Lond) 147:826 N 24 '50

Sweden

Report on Sweden. Elec R (Lond) 147:946 D 8 '50

Switzerland

Swiss electrical exports, 1949 and 1950 compared. Elec R (Lond) 148:1029 My 18 '51

Swiss electrical imports; 1949 and 1950 compared. Elec R (Lond) 149:204 Jl 27 '51

Tennessee valley

Selling appliances in the Tennessee valley easy at road show. il Elec World News ed 134:12-13 Ag 7 '50; Bsns W p72-4 N 11 '50

Turkey

Conditions in Turkey. Elec R (Lond) 148:711 Ap 6 '51

United States

Mobilization today and tomorrow; how to obtain the best delivery on electrical equipment. H. C. Coleman. Elec World 135:140-3 My 21 '51

Uruguay

Trade with Uruguay. Elec R (Lond) 148:235 F 2 '51

Western states

Business as unusual will be 1951's pattern. K. Hampton. Elec West 106:106-9 F '51

What they propose to do in 1951. il Elec West 106:109-20 F '51

ELECTRIC arc

Arc drill has a vibrating type head. il diags Product Eng 22:130-1 Ag '51

Arcing at electrical contacts on closure; dependence upon surface conditions and circuit parameters. L. H. Germer. il J Ap Phys 22:955-64 Jl '51

Arcing at electrical contacts on closure; initiation of an arc. L. H. Germer. il J Ap Phys 22:1133-9 S '51

Cathode-type arc-ion source. E. H. Beach and W. C. Parkinson. diags R Sci Instr 22:697-9 S '51

Characteristics of inert-gas-shielded metal-arcs. A. Muller and others. il Welding J 30:717-27 Ag '51

Electricity and the eye. W. Schweisheimer. Power Eng 55:79-80 Jl '51

Experiments on the initiation of electric arcs. F. E. Haworth. bibliog il diag Phys R 80:223-6 O 15 '50

Hot machining of many metals improved by arc heating. E. T. Armstrong and A. S. Cosler. il Materials & Methods 33:69-73 Ja '51

Igniting an arc for spectrographic analysis in vacuum. A. J. Mitteldorf. diag Opt Soc Am J 41:646-7 S '51

Influence of argon, helium, oxygen, and carbon dioxide on emission spectra in the d.c. arc. B. L. Vallee and others. bibliog diag Opt Soc Am J 40:751-4 N '50

Microwave study of the high pressure arc. J. D. Cobine and others. diags J Ap Phys 21:1264-7 D '50

Potential field in and around a gas discharge, and its influence on the discharge mechanism. W. Finkelnburg and S. M. Segal. il diags Phys R 83:582-5 Ag 1 '51

Some research techniques for studying arcs in inert gases. R. H. Gillette and R. T. Breymeier. il diag Welding J 30:sup 146-52 Mr '51

Stability of short arcs in oxygen, hydrogen, and helium. W. M. Brubaker. bibliog diag Phys R 83:979-81 S 1 '51

Study of conduction phenomena near current zero for an a-c arc adjacent to refractory surfaces. T. E. Browne, jr. and A. P. Strom. il Elec Eng 70:331 Ap '51

Study of the short duration, high intensity, electric arc as a source of visible light. G. D. Hoyt and W. W. McCormick. Opt Soc Am J 40:658-63 O '50

See also

Electric cutting—Oxyarc process

Electric lamps, Arc

Electric welding, Arc

ELECTRIC associations

Great Britain

Electrical contracting; organization and routine; trade organizations. H. R. Taunton. Elec R (Lond) 148:239-42 F 2 '51

ELECTRIC batteries

Better battery label; acetate-surfaced heat-seal label. il Mod Packaging 24:119 Ap '51

Distribution of current in porous electrodes. J. J. Coleman. diags Electrochem Soc J 98:26-30 Ja '51

Long life to hearing-aid batteries; Olin's improved packaging program. il Mod Packaging 24:168 N '50

Some electrical relations in galvanic couples. H. D. Holler. bibliog diags J Res Nat Bur Stand 45:373-80 N '50

Studies on galvanic couples. H. D. Holler. bibliog diags Electrochem Soc J 97:271-82, 453-61 S, D '50; Discussion. 98:252-3 Je '51

See also

Electrolytic cells
Photoelectric cells
Storage batteries

ELECTRIC blankets

Heating pads and blankets; methods of construction and control. H. Reik. Elec R (Lond) 148:545-8 Mr 16 '51

Advertising

Sell service to make luxury product a necessity; Proctor electric blankets. T. Armstrong and J. Tiers. il Ptr Ink 236:44-7 S 28 '51

Rating

Six electric blankets, an electric sheet, and a foot warmer. Consumers Res Bul 27:20-1 Ja '51

ELECTRIC boat company

Aircraft orders mounting rapidly; operations and financial position. Barron's 31: 19-20 Ja 15 '51

ELECTRIC bond and share company

Public utility securities. O. Ely. Comm & Fin Chr 173:548 F 1 '51

ELECTRIC brakes. See Brakes, Electric

ELECTRIC buses

Flywheel electric bus. diag Fortune 43:17 Ja '51

Flywheel engines; Gyrobus. il Tech R 53: 16+ N '50

Gyrobus powered by flywheel tried out in Switzerland. For Comm W 42:15 Ja 8 '51

ELECTRIC cable reels

Free-wheeling reel protects lead-covered cable. F. H. Wiley. il Elec World 135:106+ Je 4 '51

Load and haul unlagged cable reels. C. F. Herschbach. il Elec World 136:104 S 24 '51

Machines save labor in cable shop. C. F. Twomey. il Elec World 136:142 Ag 13 '51

ELECTRIC cables

Ac power cables in coal mines. R. C. Givens. il diags Min Cong J 37:21-3+ Ja '51

Cables for vertical risers; abstract. W. T. Peirce. Elec Eng 70:706 Ag '51

Canadian cable contracts; orders from Ontario and Quebec hydro-electric commissions. Elec R (Lond) 148:479-80 Mr 9 '51; Electrician 146:805-6 Mr 9 '51

Causes of the automatic quenching of the ionization in gas-filled cables; abstract. D. D. Zarin. Elec R (Lond) 148:1217 Je 8 '51

Combined power and ground cable protects welders. W. E. Stewart. diag Elec World 136:100 Jl 30 '51

Control cable practice at 14 stations; engineering reference sheet. Elec World 136:140 S 10 '51

Development and use of gas-pressure cables for high-voltage systems in Great Britain; abstracts. S. E. Goodall and D. B. Irving. Engineering 172:232 Ag 24 '51; Engineer 191:877 Je 29 '51; Discussion. Engineering 172:232-3 Ag 24 '51

Display at Brighton; exhibition of cables; Brynmawr factory. il Electrician 146:2016 Je 15 '51

Effect of electric stress on the life of cables incorporating a polythene dielectric. P. R. Howard. il Inst E E Proc 98 pt 2:365-70 Je '51

Extra high-voltage cable developments in France. M. Laborde and R. Tellier. il map diags Engineering 170:319-20 O 27 '50

Identify cables and phases with directional current. F. B. Kargl. diags Elec World 136: 96 Jl 2; 122 Jl 16 '51

Identify cables and phases with individual current. F. B. Kargl. diags Elec World 136: 104+ Jl 30 '51

Impregnated pressure cable for 275kv. il Engineer 191:769 Je 8 '51; Engineering 171:740 Je 15 '51; Elec R (Lond) 148:1195-6 Je 8 '51; Electrician 146:1925-6 Je 8 '51

Influence of rectifier harmonics in a railway system on the dielectric stability of 33-kv cables. S. B. Warder and others. bibliog il diags Inst E E Proc 98 pt 2:399-411 Je '51; Abstract. Elec R (Lond) 147:895 D 1 '50; Discussion. Inst E E Proc 98 pt 2:411-21 Je '51; Electrician 145:1228 D 1 '50

Latest developments in electrical equipment; today's wire and cable. G. A. Van Brunt. il Factory Management 108:97-101 N '50

New-type aluminum cable offers economy and better appearance. A. D. Fragall. il Elec West 106:72-3 My '51

Power leads for fractional hp motors. A. L. Ulmer. il diags Product Eng 22:135-8 Jl '51

Segmented conductor saves scarce metals. C. E. Betzer. Elec World 135:142 Je 18 '51

69-kv medium pressure gas-filled cable, Washington, D.C. H. W. Clark. diag Elec Eng 70:522 Je '51

Subcommittee on cable of the Technical association of the pulp and paper industry meeting, Cantonment, Fla. July 27. Tappi 34:sup78A+ S '51

TAPPI electric cable subcommittee meeting, 1st, Cantonment, Fla. May 11. Tappi 34: sup74A+ Ag '51

See also

Electric lines

History

Historic cables; Hunter-Hazell collection presented to the Nation. il Elec R (Lond) 148: 804 Ap 20 '51; Electrician 146:1299-300 Ap 20 '51

Installation

Aerial cable installed on bridge reduces costs, eliminates outages. D. T. Coleman. il Elec World 134:102-4 D 4 '50

Attention to details pays off in polyethylene cable installation. P. N. Lubke. il Elec World 136:130-2 Ag 13 '51

Cable tightening tool. il Engineer 190:475 N 17 '50

Gas cushion cables. il Electrician 145:1229 D 1 '50

Install lighting cable with trencher to save man-hours. O. A. Lybarger. il Elec World 135:121 Ap 23 '51

Nothing can stop utility service; moving wires or conduits without interruption to customers' service. A. B. Marvin. Pub Util 46:811-16 D 7 '50

Versatile jeep pulls cable, digs trenches. il Elec World 135:124+ Mr 12 '51

Joints

Cable splicing without molds. D. K. Kitchin. il Elec World 133:80-1 F 27 '50; Excerpts. Min Cong J 36:50-1 N '50

Design for a 15-kv LPGF wye cable joint. E. L. Harris. diag Elec World 135:120 F 12 '51

Joined with no outside heat. Steel 127:104+ D 18 '50

Jointing aluminium cable. P. A. Raine. il Elec R (Lond) 148:529-31 Mr 16 '51

Mine cable splicing. diags Min Cong J 36:48-51 N '50

Power export; Swedish power to Denmark by means of cables crossing the Oresund. il diags Elec R (Lond) 147:620 O 20 '50; Electrician 145:1148 N 24 '50

Rubber pads insulate low-voltage cable joints. V. A. Veit. il Elec World 135:128+ Ap 9 '51

Stick and torch method saves solder in joints. H. L. Pedley. diag Elec World 136: 90+ Jl 2 '51

Styrene joints and terminations. E. C. Lee and K. Konstantinowsky. il diags Elec Com 28:21-30 Mr '51

Water-tight sealing of cable insulation joints. W. F. Bonwitt. diags Elec World 134:110 D 18 '50

ELECTRIC cables—*Continued*

Manufacture

Modern cable making; Derby cable works of Crompton Parkinson. il Elec R (Lond) 147:675-9 N 3 '50

Raw materials for electric cable-making. A. King and others. il Electrician 145:911-16, 1327-31; 146:29-39, 463-9, 797-800, 1197-207, 1618-28, 1938-49; 147:107-11, 399-408, 777-86, 1103-16 N 10, D 8 '50, Ja 5, F 9, Mr 9, Ap 13, My 11, Je 8, Jl 13, Ag 10, S 14, O 12 '51 (to be cont)

Rubber cable manufacture; Henley's new Durham works. il Elec R (Lond) 147:595-7 O 20 '50; Electrician 145:935-6 N 10 '50; Engineer 190:403 O 27 '50; Engineering 170:375 N 17 '50

Protection

Cathodic protection measures stop cable sheath corrosion failures. W. T. Rose. il plan diags Elec World 135:87-8 F 26 '51

Flame-retardant cables. Electrician 145:1603 D 29 '50

Heat pump protects underground electric cables against corrosion. A. J. Hess. diag Heating-Piping 23:98-9 F '51

Nitrogen lessens junction box explosion hazard. C. B. Anderson. il diag Elec World 135:110 Mr 12 '51

Rating

Cable ratings. Elec R (Lond) 147:744 N 10 '50; Electrician 145:917 N 10 '50

Repair

Gas-cable pipe welded with cable in place. R. Pierce. il Elec World 135:86+ Ja 15 '51

New cable-splicing method. C. Conrad. il Coal Age 56:70-3 Ja '51

Sheathing

Investigation of creep, fracture, and bending of arsenical lead alloys for cable sheathing, series 1949. C. W. Dollins. bibliog Ill U Eng Exp Sta Bul 394:1-60 '50 (pa 90c)

Lead-alloy sheaths for underground power cable. H. Halperin and C. E. Betzer. bibliog Elec Eng 70:415-20 My '51

Lead alloy sheaths stand greater bending stresses. C. E. Betzer. Elec World 135:86 Je 4 '51

Lepeth sheath for telephone cables. E. J. Larsen and R. B. Farrell. il diags Elec Eng 69:1014-17 N '50

Raw materials for electric cable-making; lead. A. King and D. McAllister. il Electrician 147:399-408 Ag 10 '51

Sheathing of paper insulated power cables. C. C. Barnes. bibliog diags Electrician 145:1435-40 D 15 '50

Simple sheath-splitter safe for aluminum cable. C. L. Lucal. il Elec World 135:108+ Je 4 '51

Temperature

Determination of temperature transients in cable systems by means of an analogue computer. J. H. Neher. diag Elec Eng 70:870 O '51

Thermal transients on buried cables; abstract. F. H. Buller. Elec Eng 70:603 Jl '51

Terminals

Network terminal cuts underground installation costs. il diags Elec World 135:120 Mr 12 '51

Styrene joints and terminations. E. C. Lee and K. Konstantinowsky. il diags Elec Com 28:21-30 Mr '51

Terminal risers for solid-type impregnated paper cables. W. A. Del Mar. Elec Eng 69:1091 D '50

Testing

Compact dc cable tester reduces service failures. J. A. Lasseter. il diag Elec World 136:144 Ag 13 '51

Fault locator uses discriminating detector. diags Elec World 134:110 N 6 '50

French test 220-kv cables at new station near Paris; illustrations with text. Elec World News ed 135:16-17 My 28 '51

Testing 7.5-mile, 25-kv cable in railroad gondolas. H. B. Slade and F. H. Gooding. diag Elec World 136:120 Jl 16 '51

ELECTRIC cables, Submarine

Cable laid under river in record 74 hours. il Elec World 135:66 Ja 1 '51

Cables still carry the load. il Bsns W p38-40 Ja 20 '51

Electrical characteristics of a three-phase delta submarine power cable circuit using earth as one conductor; abstract. F. O. Wollaston. Elec Eng 70:860 O '51

Electrification of a marine oil field. F. S. Bird. il Oil & Gas J 50:184+ Je 21 '51

Electronic depth meters aid cable laying across Mississippi. J. E. Vollmar, jr. il map Elec World 136:98-100 S 24 '51

Largest cable laid in Puget sound following cross-country shipment. il Elec World News ed 135:13 Ap 30 '51

Laying the world's longest submarine power cable; illustrations and map with text. Elec West 106:74-5 My '51

120,000 volts under the Genesee. T. Slager and M. Milano. il diag Comp Air Mag 56:180-3 Jl '51

Planning pays off in laying world's largest submarine power cable. il map Elec World 135:83-6 Je 4 '51

Power export; Swedish power to Denmark by means of cables crossing the Oresund. il diags Elec R (Lond) 147:620 O 20 '50; Electrician 145:1148 N 24 '50

River Wyre cable crossing. Engineer 191:700 My 25 '51; Engineering 171:769 Je 22 '51; Elec R (Lond) 148:1183 Je 8 '51; il Electrician 146:1782 My 25 '51

7½-mile length of submarine cable will supply two Puget Sound islands. il Elec World News ed 135:13-14 Ap 2 '51

Single length of cable for seven miles of sea; illustrations with text. Elec World News ed 135:16-17 Ap 16 '51

Under-water cables; crossing the River Yare at Great Yarmouth. W. S. Kelly. il Elec R (Lond) 149:221-4 Ag 3 '51

See also

Telephone, Submarine

History

Genesis of submarine cables. L. Espenschied. bibliog il diag Elec Eng 70:379-83 My '51

ELECTRIC capacitance

Calculation of the electrical capacitance of a cube. D. K. Reitan and T. J. Higgins. diags J Ap Phys 22:223-6 F '51

Capacitance-controlled recorder. il Electronics 23:194+ D '50

Capacitance meter. il R Sci Instr 22:652 Ag '51

Capacitor gages for measuring small motions. H. H. Schwartz. il diags Product Eng 22:163-5 Ag '51

Determining capacity in circuits by frequency-shift method. E. A. Slusser. diag Tv Eng 2:16-17+ Jl '51

Effect of capacitance on the design of toroidal current-transformers. A. H. M. Arnold. diags Inst E E Proc 97 pt 2:797-808 D '50

Maintaining oscillations by the periodic variation of *L* or *C*. G. W. O. Howe. Wireless Eng 28:69-70 Mr '51

Power network capacitance current; calculator used in the Isle of Wight. J. A. Fox. map diag Elec R (Lond) 147:893-5 D 1 '50

Resistance and capacitance twin-T filter analysis. L. G. Gitzendanner. diags Tele-Tech 10:46-8+ F '51

Stability of mica standards of capacitance. G. H. Rayner and L. H. Ford. J Sci Instr 28:168-71 Je '51

ELECTRIC cells. See Electric batteries; Electrolytic cells; Photoelectric cells

ELECTRIC charges

Distribution of charge in electrostatic separation. F. Fraas and O. C. Ralston. diags Elec Eng 70:762 S '51

Electrical charge storage in polystyrene capacitors. L. A. Matheson and V. J. Caldecourt. J Ap Phys 22:1176-8 S '51

Exponential decay law in spray de-electrification. C. T. O'Konski. bibliog Science 114:368 O 5 '51

Interaction of the Dirac magnetic monopole with matter. W. V. R. Malkus. diag Phys R 83:899-905 S 1 '51

Particle charging in electrostatic precipitation; abstract. H. J. White. Elec Eng 70:682 Ag '51

ELECTRIC charges—*Continued*

Static electrification of solid particles by spraying. S. J. Czyzak and D. T. Williams. Science 114:66-8 Jl 20 '51

See also

Electrets

Electric field

Space charge

ELECTRIC circuit breakers

Adequate high-voltage equipment isolates trouble. R. R. Gobeli. il Factory Management 109:106-8 Je '51

Allis-Chalmers steel enclosed breakers. Blast F & Steel Pl 38:1468 D '50

Engineering highlights of 1950; power transmission and distribution. il Westinghouse Eng 11:6-7 Ja '51

Fuses and circuit breakers for short circuit protection. K. S. Kuka. Iron & Steel Eng 28:108-12 My '51

High-power circuit breakers, today. R. H. Nau. il diag Power 95:118-19 Mr '51

Oil circuit breaker maintenance. D. J. Copps. il Elec West 105:70-1 N '50

Switching high-voltage shunt capacitor banks; abstract. A. W. Funkhouser and others. il diag Elec Eng 70:596 Jl '51

Today's circuit breakers and fuses; with inspection and maintenance schedule. G. A. Van Brunt. diags Factory Management 108:103-7 D '50

Failure

Three 40,000-kw generators damaged by circuit breaker failure. R. Doehne. diags Elec World 135:88-90 Je 4 '51

Oilless

Demonstration of outdoor air-blast circuit breakers. il diag Engineer 190:472-4 N 17 '50; Electrician 145:1117-19 N 24 '50; Elec R (Lond) 147:985-8 D 15 '50

Factors influencing the design of high-voltage air-blast circuit breakers. C. H. Flurscheim and E. L. L'Estrange. bibliog il diags Inst E E Proc 96 pt 2:557-70 Ag '49; Discussion. 96 pt 2:570-85; 98 pt 2:97-9 Ag '49, F '51

Field testing of 220-kv air-blast circuit breakers. L. R. Bergstrëm and U. Sandström. diags Elec Eng 70:118-24 F '51

New low-voltage air circuit breaker with 50,000 amperes interrupting capacity at 600 volts a-c. M. E. Horn and J. J. Mikos. il Elec Eng 70:104 F '51

New 69-kv air blast circuit breaker. R. B. Shores and J. W. Beatty. diag Elec Eng 70:480 Je '51

No-load pneumatic transients in air blast circuit breakers. K. K. Schiller. bibliog il diags Engineer 192:200-3 Ag 17 '51

132 to 400-kv outdoor air-blast circuit breakers. il diag Engineering 171:89-90 Ja 26 '51

Spring mechanism for hand closing of magnetic power air circuit breakers. R. C. Dickinson and J. D. Findley. diag Elec Eng 70:394 My '51

380-kv air-blast circuit breakers. il Elec R (Lond) 147:591-2 O 20 '50; Engineer 190:441-2 N 10 '50; Engineering 170:365-7 N 17 '50

Testing

BPA finds a new circuit breaker passes one test but fails another. il Elec World News ed 136:6 Ag 20 '51

Field testing of 220-kv air-blast circuit breakers. L. R. Bergström and U. Sandström. diags Elec Eng 70:118-24 F '51

High-voltage circuit-breaker testing in France. M. Laborde and Y. Baron. il plan diag Engineering 170:335-6 N 3 '50

Interrupting capacity verification of 10,000,000-kva 230-kv oil circuit breakers for Grand Coulee power plant; abstract. A. F. Darland and others. il Elec Eng 70:886 O '51

New-type German breaker tested at Spokane. il Elec West 107:101 S '51

Short circuit tests set record at Grand Coulee. il Elec World 135:44 Ja 15 '51

Study of conduction phenomena near current zero for an a-c arc adjacent to refractory surfaces. T. E. Browne, jr. and A. P. Strom. il Elec Eng 70:331 Ap '51

Tests show restrikes in capacitor switching. A. W. Funkhouser and R. C. Van Sickle. il diag Elec World 136:74-7 Jl 2 '51

Tripping

Air delayed selective overcurrent tripping device for low-voltage air circuit breakers. B. G. Tremblay and M. E. Horn. diag Elec Eng 70:39 Ja '51

ELECTRIC circuits

A.c. bridge networks. H. B. Wood. diags Elec R (Lond) 148:162-5 Ja 26 '51

Carrier compensation for servomechanisms. H. E. Blanton. diags Franklin Inst J 250:391-407, 525-42 bibliog(p541-2) N-D '50

Circuit and vector diagram conventions. M. G. Scroggie. diags Elec R (Lond) 148:267-71 F 9 '51

Constant-current supply for coulometric analysis. C. N. Reilley, W. D. Cooke and N. H. Furman. bibliog diags Anal Chem 23:1030-2 Jl '51

Duality as a guide in transistor circuit design. R. L. Wallace, jr. and G. Raisbeck. diags Bell System Tech J 30:381-417 Ap '51

Frequency-coordinate vector diagram. P. F. Ordung and H. L. Krauss. diag Franklin Inst J 251:343-50 Mr '51

Instrument electronics. M. H. Aronson. diags Instruments 24:760-2+, 888-90+, 1048-9+, 1174-7+ Jl-O '51

Laboratory exercises in nuclear chemistry; basic student counting circuit. W. H. Hamill and others. bibliog il diags J Chem Educ 28:98-101 F '51

Ladder-networks; algebra for their solution. W. E. Bruges. diags Electrician 146:381-4, 475-8 F 2-9 '51

Loci of complex impedance and admittance functions. E. L. Michaels. diags Elec Eng 70:127 F '51

Magnification of switching overvoltages in coupled oscillatory circuits. I. B. Johnson and J. Berdy. diags Gen Elec R 53:22-4 D '50

Network synthesis by graphical methods for a-c servomechanisms; abstract. G. A. Bjornson. Elec Eng 70:571 Jl '51

Networks shift phase without attenuation. diags Elec World 136:148+ S 10 '51

Phase-sensitive detector circuit having high balance stability. N. A. Schuster. diags R Sci Instr 22:254-5 Ap '51

Potential analogue method of network synthesis. S. Darlington. bibliog diags Bell System Tech J 30:315-65 Ap '51

Problem of a non-ohmic resistor in series with an impedance. E. B. Moullin. diags Inst E E Proc 98 pt 1:87-96 Mr '51

Pulse inverter circuit. L. Reiffel. diag R Sci Instr 22:704 S '51

Rectification and voltage transformation. R. B. Immel. diags Product Eng 22:156-7 O '51

Relation of kilowatts, kilovars and power factors for circuit studies; tabulation; engineering reference sheet. R. W. Burrell. Elec World 134:130 N 20 '50

Shunts in parallel. G. W. Stubbings. diag Electrician 146:1301-2 Ap 20 '51

Stamped electrical circuits yield compact, low cost assemblies. H. Chase. il diag Materials & Methods 33:78-81 Ap '51

Symbolic method for the solution of some switching and relay-circuit problems. I. A. D. Lewis. Inst E E Proc 98 pt 1:181-91 My '51

Three-phase circuits; measurement of power and reactive power. S. A. Swann. diags Electrician 147:177-81 Jl 20 '51

Three-relay circuits; tabulation of formulas simplifies design and analysis. E. C. Varnum. diags Machine Design 23:121-4+ F '51

Transition of an Eccles-Jordan circuit. J. R. Tillman. diag Wireless Eng 28:101-10 Ap '51

Varley test for phase sequence. S. A. Swann. diags Electrician 146:881-2 Mr 16 '51

Waves in electron streams and circuits. J. R. Pierce. diags Bell System Tech J 30:626-51 Jl '51

See also

Electric contacts

Electric distribution

Electric rectifiers

Radio circuits

Mechanical analogies

Transients in coupled inductance-capacitance circuits analyzed in terms of a rolling-ball analogue. P. C. Magnusson. diags Elec Eng 69:1079 D '50

ELECTRIC circuits—*Continued*

Miniature circuits

Component miniaturization techniques. R. G. Peters. il diags Tv Eng 2:12-13+ Je '51

How plastics aid miniaturization of electrical assemblies in aircraft. R. J. Bibbero and E. B. Chester. bibliog il Machine Design 23:127-32 O '51

Jet trainer parts go miniature; space conservation in new B-47 flight simulator. il Aviation W 55:31 S 3 '51

Plastics embedment

How plastics aid miniaturization of electrical assemblies in aircraft. R. J. Bibbero and E. B. Chester. bibliog il Machine Design 23:127-32 O '51

Potted amplifier in hearing aid. il Mod Plastics 28:78-9 Ja '51

Potted resin electronic circuits. il Westinghouse Eng 11:70-1 Mr '51

Potting with plastics. J. Delmonte. bibliog il Mod Plastics 28:64-7+ Mr '51

Printed circuits

Circuit printers for flat and cylindrical surfaces. il Electronics 24:178+ Ag '51; Same. Tv Eng 2:8 Ag '51; Same cond. Instruments 24:898+ Ag '51

Elargol low-cost printed circuits. P. P. Hopf. il Tele-Tech 9:31-2+ D '50; 10:34-5+ Ja '51

Low-noise silver-printed television tuner. H. Kayner. il diags Tele-Tech 10:39-41 Mr '51

Printed circuit production and assembly techniques. R. G. Peters. il Tv Eng 1:20-3+ N '50

Printed circuits on foil-clad plastics. R. L. Swiggett. il diags Mod Plastics 28:99-100+ Ag '51

Resistance tape; use it by the inch; new self-adhesive resistor developed by NBS pressed in place on printed circuits. il Aviation W 55:30+ Jl 2 '51; Electronics 24:236+ S '51

ELECTRIC circuits, Equivalent

Circuit theorem. M. V. Callendar. diags Wireless Eng 28:98 Mr '51

Equivalent circuits, and their application in designing shaded pole motors. S. S. L. Chang. Elec Eng 70:479 Je '51

Equivalent circuits of the shaded-pole motor with space harmonics. G. Kron. diags Elec Eng 70:506 Je '51

Measurement of d-c machine parameters. R. M. Saunders. bibliog diags Elec Eng 70:787-92 S '51

Piezoelectric crystals in flexural vibration; values of equivalent circuit elements. H. Keller. bibliog diags Wireless Eng 28:179-86 Je '51

Some practical equivalent circuits for multi-circuit transformers. D. Morris. bibliog diags Inst E E Proc 98 pt 2:256-61 Ap '51

Some studies of pulse transformer equivalent circuits. C. K. Hadlock and D. Lebell. diags Inst Radio Eng Proc 39:81-3 Ja '51

Transmission line equivalent circuit. L. A. Ware. diags Wireless Eng 28:287-8 S '51

ELECTRIC clocks. See Clocks, Electric

ELECTRIC clothes dryer

Clothes dryers. il Consumers Res Bul 27:22-3 Ja '51

ELECTRIC coils

Internal temperatures of relay windings. R. L. Peek, jr. diag Bell System Tech J 30:141-8 Ja '51

Magnetic field of a plane circular loop. C. L. Bartberger. J Ap Phys 21:1108-14 N '50

See also

Petersen earth coil

Radio coils

Reactors

Solenoids

Testing

Winding insulation testers. N. Rohats and E. C. Schrom. il diags Gen Elec R 54:51-5 S '51

ELECTRIC communication

Inaugural address; developments in telecommunication engineering. A. J. Gill. bibliog il diags Inst E E Proc 98 pt 1:1-11 Ja '51; Abstract. Elec R (Lond) 147:565-6 O 13 '50

Information theory and most efficient codings for communication or memory devices. L. Brillouin. J Ap Phys 22:1108-11 S '51

1950 engineering developments. il diags Elec Eng 70:3-5 Ja '51

Possible and probable future developments in communication. O. E. Buckley. Franklin Inst J 251:58-64 Ja '51

Telecommunications; forecast of future trends; abstract. W. F. Smith. Elec R (Lond) 147:703-4 N 3 '50

See also

Radio communication

Radio telegraph

Radio telephone

Telegraph

Telephone

Teletype

Television

Study and teaching

T-section transmission line for laboratory work. L. A. Ware and E. M. Lonsdale. il diags J Eng Educ 41:254-7 D '50

ELECTRIC commutators. See Commutators

ELECTRIC condensers. See Condensers (electricity)

ELECTRIC conductivity

Analogy between diffusion and electrical conductivity in porous rocks. L. J. Klinkenberg. bibliog Geol Soc Bul 62:559-63 Je '51

Aqueous solutions of sodium benzenesulfonate and monosubstituted derivatives; some physicochemical properties. P. W. Renich and R. Taft. bibliog Ind & Eng Chem 43:2376-84 O '51

Changes in conductivity of germanium induced by alpha-particle bombardment. W. H. Brattain and G. L. Pearson. diag Phys R 80:846-50 D 1 '50

Choice of gauge in London's approach to the theory of superconductivity. J. Bardeen. Phys R 81:469-70 F 1 '51

Comparative study of photoconductivity and luminescence. R. H. Bube. bibliog Phys R 83:393-6 Jl 15 '51

Conductance of aluminum bromide in benzonitrile on addition of various basic complexing agents at 25°. R. E. Van Dyke and T. S. Harrison. Am Chem Soc J 73:402-6 Ja '51

Conductance of aluminum bromide monoetherate on addition of various bases at 25°. R. E. Van Dyke and T. S. Harrison. Am Chem Soc J 73:575-8 F '51

Conductance of methanol, acetone, ethyl acetate and acetic anhydride complexes of aluminum bromide in nitrobenzene at 25°. R. E. Van Dyke. Am Chem Soc J 73:398-402 Ja '51

Conduction of current in a metallic pipe filled with a conducting liquid. H. Poritsky and H. Weil. diags J Ap Phys 22:1002-5 Ag '51

Conduction phenomena in gases. J. P. Molnar. diags Elec Eng 69:1071-6 D '50

Conductivity of cold-worked metals. R. Landauer. bibliog Phys R 82:520-1 My 15 '51

Corbino effect and the change of resistance in a magnetic field. K. M. Koch. diags Phys R 82:460 My 1 '51

Criterion for superconductivity. J. Bardeen. Phys R 82:978-9 Je 15 '51

Difficulty in Fröhlich's theory of superconductivity. W. Kohn and Vachaspati. Phys R 83:462 Jl 15 '51

Direct-current conductance method. R. F. Palmer and A. B. Scott. diag Am Chem Soc J 72:4821-2 O '50

Electrical and thermal conductivities of graphite and amorphous carbon. S. Mizushima and J. Okada. bibliog Phys R 82:94-5 Ap 1 '51

Electrical conductivity method for measuring self-diffusion of metals. J. H. Dedrick and G. C. Kuczynski. diags J Ap Phys 21:1224-5 D '50

Electrical conductivity of an ionized gas. R. S. Cohen and others. bibliog Phys R 80:230-8 O 15 '50

Electrical conductivity of cadmium sulphide exposed to pulsating X radiation. J. E. Jacobs. bibliog il diag Elec Eng 70:667-71 Ag '51

Electrical conductivity of iodine monochloride and iodine trichloride. N. N. Greenwood and H. J. Emeléus. diag Chem Soc J p987-90 Mr '50

Electrical conductivity of metals and alloys; table; engineering data sheet. Metal Finishing 49:75 Ag '51

ELECTRIC conductivity—*Continued*

Electrical measurement of water vapor with a hygroscopic film. E. R. Weaver. bibliog diags Anal Chem 23:1076-80 Ag '51

Electrical properties of αFe_2O_3 and αFe_2O_3 containing titanium. F. J. Morin. diag Phys R 83:1005-10 S 1 '51

Electrical properties of selenium coatings. P. H. Keck. bibliog il Opt Soc Am J 41:53-5 Ja '51

Electron bombardment induced conductivity in germanium point contact rectifiers. A. R. Moore and F. Herman. bibliog il Phys R 81:472-3 F 1 '51

Electron mobility and luminescence efficiency in cadmium sulfide. L. Gildart and A. W. Ewald. bibliog diags Phys R 83:359-63 Jl 15 '51

Empirical correlation among superconductors. J. G. Daunt. bibliog Phys R 80:911-12 D 1 '50

Empirical correlation for a thermoelectric property of superconductors. M. C. Steele and J. de Launay. Phys R 82:276-7 Ap 15 '51

Field variation of superconducting penetration depth. J. Bardeen. bibliog Phys R 81:1070-1 Mr 15 '51

Flasher device for continuous indication of conductivity. G. Knowles and others. diags Chem & Ind p700-1 Ag 18 '51

Influence of a transverse magnetic field on the conductivity of thin metallic films. E. H. Sondheimer. bibliog Phys R 80:401-6 N 1 '50

Interaction of conduction electrons with lattice vibrations. S. D. Drell. bibliog Phys R 83:838 Ag 15 '51

Interaction of lattice vibrations with electrons in a metal. G. Wentzel. Phys R 83:168-9 Jl 1 '51

Isotope effect in superconductivity. Franklin Inst J 250:358-60 O '50

Liquid dinitrogen tetroxide solvent system; the electrical conductivity of liquid dinitrogen tetroxide. C. C. Addison and others. diags Chem Soc J p 1289-93 My '51

Liquid dinitrogen tetroxide solvent system; thermal and conductometric studies of solutions of diethylnitrosamine in liquid dinitrogen tetroxide. C. C. Addison, C. P. Conduit and R. Thompson. diags Chem Soc J p 1303-10 My '51

Mass dependence of the superconducting transition temperature of mercury. B. Serin and others. bibliog Phys R 80:761 N 15 '50

Mobility of electrons in silver chloride. J. R. Haynes and W. Shockley. bibliog il diags Phys R 82:935-43 Je 15 '51

New superconducting borides and nitrides. J. K. Hulm and B. T. Matthias. bibliog Phys R 82:273-4 Ap 15 '51

Optical absorption and photoconductivity in barium oxide. W. W. Tyler and R. L. Sproull. bibliog diags Phys R 83:548-55 Ag 1 '51

Optical absorption and photoconductivity of rutile. D. C. Cronemeyer and M. A. Gilleo. Phys R 82:975-6 Je 15 '51

Perfect diamagnetism of free electrons with application to superconductivity. M. F. M. Osborne. Phys R 81:147-8 Ja 1 '51

Photoconductivity and photoelectric emission of barium oxide. H. B. DeVore and J. W. Dewdney. bibliog diags Phys R 83:805-11 Ag 15 '51

Plasticity and conductivity, analogous flow phenomena in copper alloys. R. S. French. J Ap Phys 22:105-6 Ja '51

Process control of vinyl ethers; high impedance conductivity measurements. H. R. Davidson and J. M. Lambert. bibliog diag Ind & Eng Chem 43:1458-60 Je '51

Properties of electrolytic solutions; conductance of some quaternary ammonium and other salts in water at low concentration., H. M. Daggett, jr., E. J. Bair and C. A. Kraus. diags Am Chem Soc J 73:799-803 F '51

Relation between lattice vibration and London theories of superconductivity. J. Bardeen. bibliog Phys R 81:829-34 Mr 1 '51

Relationship between electrical conductivity and composition of molten lead silicate slags. A. K. Schellinger and R. P. Olsen. bibliog J Metals 1:Trans 984-6 D '49; Discussion. bibliog 188:Trans 1383-6 N '50

Simplified process for determining steam purity. S. T. Powell and I. G. McChesney. bibliog il diags A S M E Trans 73:849-54; Discussion. 854-8 O '51

Some physical properties associated with aromatic electrons; the pseudo-metallic properties of potassium-graphite and graphite-bromine. F. R. M. McDonnell, R. C. Pink and A. R. Ubbelohde. diags Chem Soc J p 191-7 Ja '51

Spectroscopic evidence for the proton conductivity through solid alcohols. Y. Kakiuchi and others. bibliog il diag J Chem Phys 19:132-3 Ja '51

Superconductivity and nuclear mass. Chem Age (Lond) 63:679 N 11 '50

Superconductivity of columbium. D. B. Cook and others. bibliog diag Phys R 80:737-43 N 15 '50

Surface conductivity of lead silicate glass after hydrogen treatment. K. B. Blodgett. diag Am Cer Soc J 34:14-27 Ja 1 '51

Theory of superconductivity. L. Tisza. bibliog Phys R 80:717-26 N 15 '50

Thermoelectromotive force of a superconductor versus the same metal in the nonsuperconductive state. M. C. Steele. bibliog diag Phys R 81:262-7 Ja 15 '51

Tisza's theory of superconductivity. J. M Luttinger. bibliog Phys R 80:727-9 N 15 '50

Wave functions for superconducting electrons. J. Bardeen. bibliog Phys R 80:567-74 N 15 '50

See also

Dielectrics
Electric conductors
Electric resistance
Electrolytes—Conductivity
Hall effect

ELECTRIC conductors

Adiabatic magnetization of a superconductor. R. L. Dolecek. bibliog Phys R 82:102 Ap 1 '51

Aluminum conductor for distribution. H. C. Purcell. il Elec West 107:70-2 Ag '51

Aluminum conductors from the aircraft manufacturer's viewpoint. W. W. Schumacher. il diag Elec Eng 69:1064 D '50

Anomalous heat flow in superconductors. K. Mendelssohn and J. L. Olsen. bibliog Phys R 80:859-62 D 1 '50

Copper conductor power loss for 12.47-kv and 22-kv, three-phase circuits; charts; engineering reference sheet. N. H. Erlandson. Elec World 135:80 Ja 15 '51

Copper conductor power loss for 2.4-kv and 4.16-kv, three-phase circuits; charts; engineering reference sheet. N. H. Erlandson. Elec World 135:76 Ja 1 '51

Corona loss variation for different conductors and weather conditions; charts; engineering reference sheet. Elec World 135:104 F 26 '51

Electrical conduction; suggested uniform nomenclature. D. Stewart. Elec R (Lond) 147:1095-6 D 29 '50

Electromagnetic relaxation in superconductors. J. Eisenstein. Phys R 82:458-9 My 1 '51

How copper-base casting alloys are used in electrical industry. R. A. Colton. il Materials & Methods 32:57-61 D '50

Identify cables and phases with directional current. F. B. Kargl. diags Elec World 136:96 Jl 2; 122 Jl 16 '51

Identify cables and phases with individual current. F. B. Kargl. diags Elec World 136:104+ Jl 30 '51

Largest stranded conductor. il Power Eng 55:89-90 Ag '51

Masses of carriers in conductors. D. L. Webster and C. M. Newton. Phys R 82:808-9 Je 15 '51

Multiple conductors. Elec R (Lond) 148:428 Mr 2 '51

Opposite-lay conductors weaken splice. Elec World 135:114 My 7 '51

Reduction of skin effect losses by the use of laminated conductors. A. M. Clogston. diags Bell System Tech J 30:491-529 Jl '51; Same. Inst Radio Eng Proc 39:767-82 Jl '51; Review. G. W. O. Howe. Wireless Eng 28:321-2 N '51

Spiralled conductors for services and secondaries. il Elec World 136:126 Jl 16 '51

Surface-wave propagation over a coated plane conductor. S. S. Attwood. J Ap Phys 22:504-9 Ap '51

ELECTRIC conductors—*Continued*

Surface waves and their application to transmission lines. G. Goubau. diags J Ap Phys 21:1119-28 N '50

See also

Aluminum—Electrotechnical uses
Busbars
Electric cables
Electric distribution
Electric wire
Wave guides

Semi-conductors

Aggregation of trapping centers in semiconductors or insulators. T. Hibi and T. Matsumura. Phys R 81:884-5 Mr 1 '51

Characteristics and some applications of varistors. F. R. Stansel. bibliog il diags Inst Radio Eng Proc 39:342-58 Ap '51

Combination of resistivities in semi-conductors. V. A. Johnson and K. Lark-Horovitz. bibliog Phys R 82:977-8 Je 15 '51

Crystal diodes. R. W. Douglas and E. G. James. bibliog diags Inst E E Proc 98 pt 3: 157-68; Discussion. 177-83 My '51

Crystal-electric inspection discovery. il Automotive Ind 104:78+ F 15 '51; Elec Eng 70: 369 Ap '51

Crystal triodes. T. R. Scott. bibliog diags Inst E E Proc 98 pt 3:169-77 My '51; Same. Elec Com 28:195-208 S '51; Discussion. il Inst E E Proc 98 pt 3:177-83 My '51

Dispersion of resistivity and dielectric constant of some semiconductors at audiofrequencies. C. G. Koops. bibliog diags Phys R 83:121-4 Jl 1 '51

Effect of heat treatment on the electrical properties of germanium. H. C. Theuerer and J. H. Scaff. bibliog il diags J Metals 191:Trans 59-63 Ja '51

Electrons and holes in semiconductors, by W. Shockley. Review and summary, by G. D. O'Neill. Electronics 24:150+ My '51

Graphical determination of the Fermi level in a simple impurity semiconductor. K. Lehovec and H. Kedesdy. J Ap Phys 22: 65-7 Ja '51

Hall coefficient of semiconductors. H. Jones. Phys R 81:149 Ja 1 '51

Infrared absorption and intrinsic semi-conductivity of condensed aromatic systems. E. A. Kmetko. Phys R 82:456-7 My 1 '51

Magneto-resistance effect in oriented single crystals of germanium. G. L. Pearson and H. Suhl. bibliog il diag Phys R 83:768-76 Ag 15 '51

Measurement of semiconductor impurity content. C. N. Klahr and L. P. Hunter. Phys R 81:1059-60 Mr 15 '51

Mechanism of impurity band conduction in semiconductors. C. Erginsoy. bibliog Phys R 80:1104-5 D 15 '50

Microwave resonance absorption of $NiOFe_2O_3$. T. Okamura and others. bibliog Phys R 80:910-11 D 1 '50

New method for precision measurement of the Hall and magneto-resistive coefficients. J. J. Donoghue and W. P. Eatherly. diags R Sci Instr 22:513-16 Jl '51

P-N junctions prepared by impurity diffusion. R. N. Hall and W. C. Dunlap. Phys R 80: 467-8 N 1 '50

Pressure dependence of resistance of germanium. J. H. Taylor. Phys R 80:919-20 D 1 '50

Resistivity and Hall constant of semiconductors. C. N. Klahr. bibliog Phys R 82:109-10 Ap 1 '51

Semiconductor bornite. C. W. Horton. J Ap Phys 22:364 Mr '51

Semiconductor diodes; characteristics of silicon and germanium crystal diodes, with dimensions and terminal data; tabulations and diagrams. Electronics 24:112-13 Mr '51

Semiconductors will become a major field of electrical engineering. il diags Product Eng 22:132-5 My '51

Significance of composition of contact point in rectifying junctions on germanium. W. G. Pfann. bibliog diags Phys R 81:882 Mr 1 '51

Some electrical properties of zinc oxide semiconductor. E. E. Hahn. bibliog diags J Ap Phys 22:855-63 Jl '51

Temperature dependence of the energy gap in semiconductors. H. Y. Fan. bibliog Phys R 82:900-5 Je 15 '51

Theory of relation between hole concentration and characteristics of germanium point contacts. J. Bardeen. diags Bell System Tech J 29:469-95 O '50

Theory of the flow of electrons and holes in germanium and other semiconductors. W. van Roosbroeck. bibliog Bell System Tech J 29:560-607 O '50

Bibliography

Radio progress during 1950; electron tubes and solid-state devices. Inst Radio Eng Proc 39:373-5 Ap '51

ELECTRIC conduits

Electric metallic tubing given protective coatings. il Iron Age 167:96 Mr 29 '51

Integrated processing boosts conduit output; Mahoning Valley steel co. D. Reebel. il plan diag Steel 127:94-8 D 11 '50

Nothing can stop utility service; moving wires or conduits without interruption to customers' service. A. B. Marvin. Pub Util 46: 811-16 D 7 '50

Underground conduit for electric power systems; fundamentals and basic design considerations. E. G. Watkins. plan Elec Eng 70:137 F '51

ELECTRIC connectors

Aircraft ground starting connector. il Engineer 191:394 Mr 23 '51

Diecasting machines fed automatically by electromagnetic molten metal pumps; production of electrical connectors, Scintilla magneto div., Bendix aviation corp. H. Chase. il plan diags Iron Age 167:100-3 F 15 '51

Dielectric materials for electrical connectors. H. M. Neben. il Aero Digest 62:31-2+ My '51

Electrical connectors for equipment power and control circuits. il Product Eng 22: 117-19 Je '51

Is it necessary to retighten clamp connectors? I. Matthysse. Elec World 135:110+ My 7 '51

New heavy-duty ground connector. Aviation W 54:54 Ap 16 '51

Notch-coil brazing rings boost production. il Iron Age 167:102 My 24 '51

ELECTRIC contactors

Complex motion for selector mechanism obtained with only three moving parts. E. W. Kuhn. il diag Machine Design 23:133-4 Jl '51

Design of contactors with regard to their industrial application. B. Feldbauer. bibliog diags Inst E E J 95 pt 2:439-48 Ag '48; Discussion. il Inst E E J 95 pt 2:448-51 Ag '48; [cont as] Inst E E Proc 97 pt 2:611-20 O '50

Experimental synchronous contactor for repeated automatic operation. H. W. Baxter. il diags J Sci Instr 27:299-300 N '50

High-voltage load-ratio-control contactors. J. F. McKenney. il diag Gen Elec R 53:36-8 D '50

Modern controls for high-voltage motors. B. J. Dalton. il Mill & Factory 49:84-5 Jl '51

New control for high-voltage industrial motors; operating experience with current-limiting fuses and air-break contactors. B. J. Dalton. il diags Gen Elec R 54:49-55 My '51

Short-circuiting contactor as an electrical protective device for coal mine service. L. H. Harrison. 5pls U S Bur Mines Rep of Invest 4759:1-11 '51; Same. il Coal Age 56:83-7 Mr '51

Sketch for an algebra of relay and contactor circuits. G. A. Montgomerie. bibliog diags Inst E E J 95 pt 2:355-64 Je '48; Same. 95 pt 3:303-12 Jl '48; Discussion. Inst E E Proc 96 pt 2:253-4; 97 pt 2:543-4 Ap '49, Ag '50; 96 pt 3:166-7; 97 pt 3:460-1; 98 pt 3:75-6 Mr '49, N '50, Ja '51

See also

Brushes (electric machinery)

ELECTRIC contacts

Arcing at electrical contacts on closure; dependence upon surface conditions and circuit parameters. L. H. Germer. il J Ap Phys 22:955-64 Jl '51

Arcing at electrical contacts on closure; the initiation of an arc. L. H. Germer. il J Ap Phys 22:1133-9 S '51

ELECTRIC contacts—*Continued*

Contribution to the algebra of relay and switch contacts. G. H. Buffery. diags Inst E E Proc 97 pt 1:357-63 N '50

Electric tunnel effect across thin insulator films in contacts. R. Holm. bibliog diags J Ap Phys 22:569-74 My '51

Electronic power source for large d-c contact testing. D. L. Pettit. il diags Elec Eng 70:530-2 Je '51

Investigation of the migration of matter in electrical contacts; abstract. H. E. Linckh. Elec R (Lond) 148:1113 My 25 '51

Simplified methods speed assembly operations; contact arms and leads for Diesel-electric locomotive controls. il Mach 57:170-1 My '51

Sliding contacts for transfer of electrical energy for industrial systems. H. Y. Mageoch. il Iron & Steel Eng 27:110-16; Discussion. diags 116-18 N '50

Use of a photo-tube to correlate contact separation with electrical transients. O. E. Berg and H. E. Stauss. il diag R Sci Instr 22:153-5 Mr '51

Testing

Instrumentation for analysis of contact wear; abstract. M. R. Swinehart. diag Elec Eng 70:414 My '51

ELECTRIC contractors

Contractors launch show; annual convention and exposition of the Electrical contractors society of Washington. Elec West 106:87-8 Ja '51

Electrical contracting; organization and routine (cont). H. R. Taunton. Elec R (Lond) 147:655-8, 755-8, 777-80, 875-8, 921-4, 993-6, 1117-20; 148:83-6, 141-4, 191-4, 239-42, 295-8, 319-22 O 27, N 10-17, D 1-15, 29 '50, Ja 12-F 16 '51

Electrical contractors jubilee dinner, London, Jan. 30. Elec R (Lond) 148:264-6 F 9 '51; Electrician 146:373-5 F 2 '51

Getting results from power up; western contractors who make use of Anaconda promotion program find response from industrials. il Elec West 106:80-1 My '51

How do yours compare? study of operating cost ratios of electrical contractors in the Spokane area. R. Wilkinson. Elec West 106:78-9 Mr '51

How to keep out of union trouble if you use a contractor for electrical installation work. J. St Andre. Factory Management 109:140+ S '51

Should I use an electrical contractor? Factory Management 109:68-9 Ag '51

Accounting

One-man bookkeeping for a contractor. il Elec West 106:78-9 Ap '51

ELECTRIC control

Application of industrial control relays. B. H. Carlisle, jr. il diags Iron & Steel Eng 27:119-25 N '50

Automatic control for molding machines. H. T. Bailey. diags Power Eng 55:104 F '51

Automatic dispatching for message tube. Bsns W p67 F 3 '51

Automatic switching in pneumatic-tube systems. W. Stieber. il Elec Com 27:260-1 D '50

Centralized control in industries furthered by monitoring systems. E. J. Grace. il diags Pet Refiner 30:107-10 Ja '51

Centralized motor controls. E. G. Wise. il plan Westinghouse Eng 11:125-8 Jl '51

Contacting meter movements offer many possibilities; D'Arsonval meter with self-locking contacts. R. H. Munch. diags Ind & Eng Chem 43:sup85A-6A+ Jl '51

Control area. T. M. Stout. bibliog J Ap Phys 21:1129-31 N '50

Control for a package boiler. H. T. Bailey. il diags Power Eng 55:66-9 My '51

Control for stabilized testing power; improving transformer-testing facilities. L. R. Runaldue and H. F. Parker. il diags Gen Elec R 53:34-8 N '50

De-inking plant expansion includes major instrumentation; Fitchburg paper co. R. B. Wolf, jr. il Paper Tr J 133:112+ S 7 '51

Design of crane control. J. D. Leitch. diags Iron & Steel Eng 28:70-7; Discussion. 83-6 Mr '51

Development and design of electrical controlgear for machine tools. A. R. H. Thorne. bibliog(37 titles) il diags Inst E E Proc 97 pt 2:417-30 Ag '50; Discussion. 97 pt 2:430-5; 98 pt 2:271-87 Ag '50, Ap '51

Effects of loads and disturbances upon feedback controller. R. W. Jones. diag Elec Eng 70:441 My '51

Electric control of twin bridge drives with no torque shafts. H. Ball. il Iron & Steel Eng 28:78-81; Discussion. 84-6 Mr '51

Electric controls for casting machine. il diags Product Eng 22:110-11 Jl '51

Electrical control of dangerous machinery and processes; electrically interlocked guards on machines. W. F. Cooper. il diags Inst E E Proc 98 pt 2:349-57 Je '51; Same cond. Engineering 171:171-3 F 9 '51; Discussion. Inst E E Proc 98 pt 2:358-61 Je '51

Electrical fundamentals and their use in instruments and control. K. Steiner. diags Heating-Piping 23:82-5 My '51

Electronic control system for industrial control applications. E. T. Davis. il diags Instruments 24:642-6 Je '51

Electronic shear control. il Machine Design 23:162 Ap '51

Improved d-c crane hoist control. S. Rifkin. il diags Iron & Steel Eng 27:90-6; Discussion. 96-9 O '50

Load control; automatic frequency sensitive methods of load shedding. E. C. Levett and J. A. Williams. diags Elec R (Lond) 148:725-8 Ap 13 '51

Mechanical brain directs pneumatic tube traffic. il Comp Air Mag 55:277 D '50

Navy develops electric governor. il Product Eng 21:152-3 D '50

New use for temperature recorders; ready-made amplifiers for transducer signals. T. R. Breunich. il diags Product Eng 22:143-50 S '51

Remote-control wiring system. H. H. Watson. il diags Gen Elec R 54:38-42 S '51

Remote supervision of industrial production processes. F. C. Evans and W. G. Holzbock. il diags Instruments 24:402-5+ Ap '51

Remotely controlled pipe-line stations. S. S. Smith. diags Oil & Gas J 49:82+ O 26 '50; Same. Pet Eng 22:D19-20+ D '50

Republic's new Telemaster, an electronic master control system. il diags Power Eng 55:76-7 Ja '51; Excerpt. Mech Eng 73:135-6 F '51

Review of new plant equipment; electrical controls; relays, motor starters, switches, etc. il Power 95:148-9 Mid-Je '51

Sensitive relays in process control. R. T. Pierce. il diags Elec Eng 70:625-6 Jl '51

Series-connected saturable reactor with control source of comparatively high impedance. H. F. Storm. il diag Elec Eng 69:1012 N '50

Simple chatter-proof relay control. G. F. Siddons. diag Instruments 23:1005 O '50

Some design criteria for automatic controls. P. T. Nims. Elec Eng 70:395 My '51

Stereo-television in remote control; electric manipulators at the Argonne national laboratory. H. R. Johnston and others. il diags Elec Eng 69:1058-62 D '50; Same cond. Electronics 24:120+ Ja '51

Timing relays; their selection and application in electrical control circuits. J. C. Ponstingl. il diags Machine Design 23:131-41 Ap '51

Tube rolling; new and greatly simplified tube rolling control. il Blast F & Steel Pl 39:124 Ja '51

See also

Carrier current control
Electric controllers
Electric motors—Control
Electric switchgear
Electrohydraulic control
Magnetic control
Photoelectric cells—Control uses
Radio control
Servomechanisms
Thyratron
Vacuum tubes—Control uses
Valves—Electric control
Voltage regulation

ELECTRIC controllers

Drum controller, what it is and what it does. diags Coal Age 56:102+ Mr '51

Grading of d.c. controller resistances. W. de Renzi. diag Electrician 146:125-8, 213-16, 305-9 Ja 12-26 '51

ELECTRIC controllers—*Continued*
Integral controller for use in carrier-type servomechanisms. R. L. Cosgriff. diag Elec Eng 69:1078 D '50

ELECTRIC converters
Artificial three-phase system. Elec R (Lond) 148:693 Ap 6 '51
Magnet current stabilizer. H. S. Sommers and others. diags R Sci Instr 22:612-18 Ag '51
Methods of increasing the power rating of vibratory convertors. K. H. Dixey and C. V. Wilman. bibliog diags Inst E E Proc 98 pt 3:105-11 Mr '51
Simple magnetic modulator for conversion of millivolt d-c signals. G. Wennerberg. bibliog il diags Elec Eng 70:144-7 F '51
See also
Electric inverters

ELECTRIC cooking
Campaign sells commercial cooking. W. P. McPherson. Elec World 136:142+ Jl 16 '51
Electric cooking in the nineties. il Elec R (Lond) 148:677-80 Ap 6 '51
Fish cake fryer, Nelson bros. fisheries ltd.; data sheet. E. H. Tarrant. il Elec West 106:73 Mr '51
Gas versus electric cooking; Equitable gas co. K. L. Barnes. il Am Gas J 174:17-18 Mr '51
Mass production methods adapted to hospital meals; electric cooking and conveyor-line tray assembly; Sacred Heart hospital in Spokane. C. L. Hoffman. il Elec World 134:94-5 N 6 '50
Rare, medium or well, with infrared; restaurant use of infrared electric energy for cooking, baking and retaining food in appetizing display. A. H. Greisser. il Elec West 107:68-9 Jl '51
See also
Bakers and bakeries—Electric equipment

ELECTRIC cords
Low voltage extension light cords and systems; data sheet. il diag Nat Safety N 64:28-9+ Ag '51

ELECTRIC cranes. See Cranes, derricks, etc.—Electric equipment

ELECTRIC current limiters
Modern controls for high-voltage motors. B. J. Dalton. il Mill & Factory 49:84-6 Jl '51
New control for high-voltage industrial motors; operating experience with current-limiting fuses and air-break contactors. B. J. Dalton. il diags Gen Elec R 54:49-55 My '51
Unit controls jet starter current. il diag Aviation W 55:38-9 S 3 '51

ELECTRIC currents
Current distributions on helical antennas. J. A. Marsh. il diag Inst Radio Eng Proc 39:668-75 Je '51
Determination of current requirements for cathodic protection. M. E. Parker. bibliog diags World Oil 131:253+ N '50
Electrical control of marine fouling. E. S. Castle. il Ind & Eng Chem 43:901-4 Ap '51
Electricity and the eye. W. Schweisheimer. Power Eng 55:79-80 Jl '51
Identify cables and phases with directional current. F. B. Kargl. diags Elec World 136:96 Jl 2; 122 Jl 16 '51
Identify cables and phases with individual current. F. B. Kargl. diags Elec World 136:104+ Jl 30 '51
Induced currents in high capacity bus enclosures. S. C. Killian. diags Elec Eng 70:116 F '51
Measurements of line currents. M. E. Parker. Oil & Gas J 50:89 Ag 30 '51
Spot welder secondary current measurement. I. C. McKechnie. il Welding J 29:962-4 N '50
Transformer magnetizing inrush currents. T. R. Specht. Elec Eng 70:324 Ap '51
See also
Eddy currents
Electric circuits
Electric conductivity
Electric conductors
Electric distribution
Electric measurements
Electric meters
Electric switchgear
Electric transformers
Electric transient phenomena
Stray currents
Hall effect

ELECTRIC currents, Alternating
Design of saturable chokes for the control and regulation of alternating currents at power frequencies. H. S. Double. diags Inst E E Proc 98 pt 2:35-45 F '51
See also
Electric generators, Alternating current

ELECTRIC cutouts
Fuse cutout for high capacity distribution feeders. il diags Product Eng 22:168 F '51
See also
Electric fuses

ELECTRIC cutting
How to arc cut, pierce, chamfer; illustrated instructions. R. D. Wasserman. Power 95:138 O '51
Method X machines carbides by atom expulsion; described as the shaping of metallic parts in a dielectric fluid by a spark discharge. il Am Mach 95:194-5 S 3 '51
Welding-cutting equipment pays for itself on one job. L. E. Baxter. il Pub Works 82:49-50 My '51

Oxyarc process

New tool removes casting defects quickly. R. H. Herrmann. il Foundry 79:164+ Mr '51

ELECTRIC discharges
Arcing at electrical contacts on closure; dependence upon surface conditions and circuit parameters. L. H. Germer. il J Ap Phys 22:955-64 Jl '51
Arcing at electrical contacts on closure; initiation of an arc. L. H. Germer. il J Ap Phys 22:1133-9 S '51
Controlled tripping of high-voltage impulse generators. A. S. Husbands and J. B. Higham. bibliog il diags J Sci Instr 28:242-5 Ag '51
Current fluctuations in the direct-current gas discharge plasma. P. Parzen and L. Goldstein. bibliog Phys R 82:724-6 Je 1 '51
Cylindrical cavity filled with a dc discharge. G. W. Stuart, jr. and P. Rosen. J Ap Phys 22:236 F '51
Decay of the hydrogen discharge. J. M. Richardson and R. B. Holt. Phys R 81:153-4 Ja 1 '51
Deterioration and breakdown of dielectrics resulting from internal discharges. J. H. Mason. bibliog il diags Inst E E Proc 98 pt 1:44-59 Ja '51
Effect of magnetic field on the breakdown of gases at microwave frequencies. B. Lax and others. bibliog diag J Ap Phys 21:1297-304 D '50
Effect of recombinations in electron avalanches. G. M. Petropoulos and P. A. Ampariotis. Phys R 83:658 Ag 1 '51
Electrode reactions in the glow discharge. F. E. Haworth. bibliog il J Ap Phys 22:606-9 My '51
Electron density and light intensity decay in cesium afterglows. P. Dandurand and R. B. Holt. Phys R 82:278-9 Ap 15 '51
Electron removal in argon afterglows. A. Redfield and R. B. Holt. bibliog Phys R 82:874-6 Je 15 '51
Electron removal in helium afterglows. R. A. Johnson and others. Phys R 80:376-9 N 1 '50
Electron removal in mercury afterglows. P. Dandurand and R. B. Holt. bibliog diags Phys R 82:868-73 Je 15 '51
Electron temperature vs noise temperature in low pressure mercury-argon discharges. M. A. Easley and W. W. Mumford. J Ap Phys 22:846-7 Je '51
Electronic torch and related high frequency phenomena. J. D. Cobine and D. A. Wilbur. bibliog il J Ap Phys 22:835-41 Je '51
Emission of the forbidden oxygen lines by molecular dissociation. R. Herman and others. bibliog il diags Phys R 82:751-2 Je 1 '51
Failure of Paschen's law and spark mechanism at high pressure. F. L. Jones and C. G. Morgan. bibliog Phys R 82:970-1 Je 15 '51
Form of transient currents in Townsend discharges with metastables. J. P. Molnar. Phys R 83:933-40 S 1 '51

ELECTRIC discharges—*Continued*

Formation of molecular helium in a glow discharge. W. D. Parkinson. bibliog Opt Soc Am J 41:619-22 S '51

Formative time lags of spark breakdown in air in uniform fields at low overvoltages. L. H. Fisher and B. Bederson. bibliog diag Phys R 81:109-14 Ja 1 '51

Gas temperatures and elastic losses in low pressure mercury-argon discharges. C. Kenty and others. bibliog diag J Ap Phys 22:1006-11 Ag '51

Gaseous discharge super-high-frequency noise sources. H. Johnson and K. R. Deremer. bibliog il diags Inst Radio Eng Proc 39:908-14 Ag '51

Glow-discharge electrolysis gives 40 times theoretical yields; abstract. A. Klemenc. Chem & Eng N 29:3971 S 24 '51

High temperature plasma properties from high current arc stream measurements. W. Finkelnburg and S. M. Segal. bibliog diag Phys R 80:258-60 O 15 '50

Improvements in visual depiction of magnetic lines of force by means of a gas discharge. F. Blaha and J. A. Schedling. il diags J Ap Phys 22:11-13 Ja '51

Influence of irradiation on the low frequency electrodeless discharge in chlorine. W. L. Harries and A. von Engel. bibliog J Chem Phys 19:514 Ap '51

Influence of the electrodes in a discharge between coaxial cylinders in compressed air; abstract. W. Bright. Elec R (Lond) 148:1114 My 25 '51

Losses in h.v.d.c. lines; investigation of continuously pointed water drops. M. Pauthenier and others. bibliog il Electrician 146:1105-8 Ap 6 '51

Luminous fronts in pulsed gas discharges. R. G. Fowler and others. il Phys R 82:879-82 Je 15 '51

Measurement of the electron density in ionized gases by microwave techniques. M. A. Biondi. diags R Sci Instr 22:500-2 Jl '51

Mechanism of formation of nitric oxide in glow discharges. R. W. Nicholls. J Chem Phys 19:250 F '51

Microsecond transient currents in the pulsed Townsend discharge. J. A. Hornbeck. bibliog diags Phys R 83:374-9 Jl 15 '51

Microwave study of the high pressure arc. J. D. Cobine and others. diags J Ap Phys 21:1264-7 D '50

Noise temperature of a d.c. gas discharge plasma. S. Kojima and K. Takayama. Phys R 80:907 D 1 '50

Oscillatory phenomena in direct current glow discharges. T. Donahue and G. H. Dieke. bibliog il diags Phys R 81:248-61 Ja 15 '51

Potential field in and around a gas discharge, and its influence on the discharge mechanism. W. Finkelnburg and S. M. Segal. il diags Phys R 83:582-5 Ag 1 '51

Probe technique for the measurement of electron temperature. M. A. Easley. J Ap Phys 22:590-3 My '51

Production of 2537 radiation and the role of metastable atoms in an argon-mercury discharge. C. Kenty. bibliog diag J Ap Phys 21:1309-18 D '50

Proposed mechanism for the discharge of the manganese dioxide electrode. D. T. Ferrell, jr. and W. C. Vosburgh. bibliog diag Electrochem Soc J 98:334-41 Ag '51

Rapid determination of gas discharge constants from probe data. L. Malter and W. M. Webster. diags RCA R 12:191-210 Je '51

Rayleigh afterglow in hydrogen discharges. R. J. Lee and R. G. Fowler. il diag Phys R 81:457-8 F 1 '51

Recombination and the helium afterglow spectrum. D. R. Bates. Phys R 82:103 Ap 1 '51

Role of a positive column in the reduction of current due to external light in an electrodeless discharge. V. V. Agashe. bibliog il diag J Chem Phys 19:1002-6 Ag '51

72-inch high vacuum evaporator and its glow discharge equipment. N. C. Benson and others. diags Opt Soc Am J 40:687-90 O '50

Slow discharge in a non-self-quenching Geiger-Mueller counter. W. E. Ramsey. bibliog il Franklin Inst J 252:143-51 Ag '51

Studies of γ-processes of electron emission employing pulsed Townsend discharges on a millisecond time scale. J. P. Molnar. il diags Phys R 83:940-52 S 1 '51

Study of the short duration, high intensity, electric arc as a source of visible light. G. D. Hoyt and W. W. McCormick. Opt Soc Am J 40:658-63 O '50

Techniques for measuring the dynamic characteristics of a low pressure discharge. B. T. Barnes and S. Eros. diags J Ap Phys 21:1275-8 D '50

See also

Corona (electricity)
Electric arc
Electric spark
Lightning
Ionization, Gaseous
Vacuum tubes

ELECTRIC distribution

Aerial cable and larger substations reduce system investment. V. A. Rydbeck. diags Elec World 135:110-11 Mr 26 '51

Atlanta 4-kv overhead network served from 19-kv underground cables. R. O. Loomis and P. B. Boyd. il diag Elec World 135:79-82 Je 4 '51

Battersea pleasure gardens. Electrician 146:1633 My 11 '51

Capitol annex uses 480-v distribution. C. S. King. il Elec West 107:65 Jl '51

Current transformer differences overcome with percentage-type relay. J. J. Samson and E. L. Michelson. diags Elec World 134:96-7+ D 18 '50

Dewey modernizes electrical distribution system; Dewey portland cement co. C. E. Kietzman. il plan Rock Prod 54:165-8 Ag '51

Distribution design changes bring improved service reliability. J. P. Barron. il Elec World 135:91-4 My 7 '51

Economical distribution system growth solved with unit substations. W. P. Holben and G. N. Hoffman. il map Elec World 135:104-8 Ap 9 '51

Electric power distribution system for typical power plant. S. L. Chapin. diags Blast F & Steel Pl 38:1454-6+ D '50

Electrical power distribution; Kerr-Addison mine. il diag Can Min J 72:151-5 Ap '51

Electrical redistribution in an oil refinery. G. D. Arden. diags Inst E E Proc 98 pt 1:81-3 Mr '51

Engineering highlights of 1950; power transmission and distribution. il Westinghouse Eng 11:6-12 Ja '51

Flicker level guides distribution design. W. A. Lindberg. il Elec World 136:69 Jl 2 '51

Higher distribution voltage. H. A. Lott. flow diag map Elec West 106:82-4 Je '51

How one plant serves 40 industries; East Newark industrial center. W. J. Roth, jr. flow diag il Power 94:120-2+ N '50

How to plan power distribution. H. B. Thacker. diags Am Mach 95:168-71 Je 11 '51

Inspection of industrials. B. J. Wiesinger. il Elec West 106:74-6 Ap '51

Lansbury estate, Poplar; supply services. Electrician 146:1615-16 My 11 '51

Modern buried cable distribution for new residential developments. J. S. Parsons. il diags Elec World 134:103-6 N 20 '50

Modern power system benefits Bigelow-Sanford. H. L. Stiegler and R. M. Crenshaw. il diag Textile World 101:138-9+ S '51

New loads? you'll save with unit substations! D. Beeman. il diags Power 95:128-30 Je '51

Pick the right voltage for efficient power distribution. H. B. Thacker. il Mill & Factory 49:87-9 Ag '51

Planning of an electricity board's distribution system. G. O. McLean. bibliog maps diags Inst E E Proc 98 pt 2:331-41 Je '51; Same cond. Engineering 171:206-8 F 16 '51; Abstract. Elec R (Lond) 148:243 F 2 '51; Discussion. Inst E E Proc 98 pt 2:341-8 Je '51; Elec R (Lond) 148:243-4 F 2 '51; Electrician 146:393-4 F 2 '51

Power distribution in paper mills. C. F. Schmelzle. diags Pulp & Pa of Can (Convention no) 52:152-5 [F] '51

Principles of planning and development of modern electricity supply systems. J. Henderson. Inst E E Proc 98 pt 1:22-3 Ja '51; Abstract. Elec R (Lond) 147:564 O 13 '50

Requirements for a modern steel mill power distribution system. F. H. Wickline. plan diags Iron & Steel Eng 28:77-81; Discussion. 81-4 Ag '51

ELECTRIC distribution—*Continued*

Sequential motor pull-in underlies the behavior of feeders after extended outage. C. Hutchinson. Elec World 135:80-3 F 26 '51

Service continuity of secondary network natural for soap plant; Lever bros. plant. W. H. Hahn. il diag Elec World 136:96-7 S 24 '51

Switching of distribution capacitors by manual and automatic devices. R. J. Hopkins and N. R. Schultz. il diags Gen Elec R 54:36-42 Ap '51

Textile mills in Egypt; unusual power distribution system. J. G. Clements and R. V. R. Weston. il Elec R (Lond) 149:237-40 Ag 3 '51

Things to remember in specifying automatic bus transfers. A. Conangla. il diags Elec World 136:130-1 S 10 '51

See also

Busbars
Electric cables
Electric circuit breakers
Electric conductors
Electric conduits
Electric fuses
Electric lines
Electric plants—Interconnection
Electric power
Electric rectifiers
Electric service, Rural
Electric substations
Electric switchgear
Electric transformers
Electric transmission
Electric wiring
Voltage regulation

Change-over

Effect of frequency reduction on plant capacity and on system operation. H. A. Bauman and others. Elec World 135:100-2+ Mr 12 '51

Services modernized in change to ac network. R. F. Rice. il Elec World 136:108-9 Jl 16 '51

Cost

Costs favor radial over network in downtown Los Angeles. M. V. Eardley. il diags Elec World 135:96-9+ Mr 12 '51

Will it be radial or network distribution? with cost data. M. V. Eardley. diags Elec West 106:70-1 Ap '51

Grounding

Analysis of grounding banks to balance distribution feeder voltages; abstract. L. W. Long. diag Elec Eng 70:684 Ag '51

Application of resonant grounding in power systems in the United States. E. T. B. Gross and E. W. Atherton. Elec Eng 70:808 S '51

Cost and efficiency of earthing on low- and medium-voltage overhead line systems. L. Gosland. diags Inst E E Proc 97 pt 2:563-81 O '50; Abstract. Elec R (Lond) 148:597 Mr 23 '51; Discussion. Inst E E Proc 97 pt 2:581-6; 98 pt 2:287-93 O '50, Ap '51

Good grounding thwarts lightning at base radio stations. Elec World 135:53 Ja 15 '51

Grounding and circuit protection. C. R. Huffman. il diags Min Cong J 37:48-51+ Jl '51

Grounding of industrial systems. W. C. Bloomquist. diags Gen Elec R 54:46-51 Ag '51

Grounding practice at Inland Steel. V. E. Schlossberg. Iron & Steel Eng 28:77-9; Discussion. diags 79-80 Je '51

Neutral earthing connections. T. H. Carr. diags Electrician 145:1509-10 D 22 '50

Practical experiences with resonant grounding in a large 34.5 kv system; abstract. H. H. Brown and E. T. B. Gross. map Elec Eng 70:674 Ag '51

Special rig for faster driving of ground rods. il Elec World 135:126+ Ap 9 '51

Testing earth circuits. T. C. Gilbert. Elec R (Lond) 147:641-2 O 27 '50

Two grounding assemblies for rural line poles. diags Elec World 135:171-2 Ja 29 '51

Why ground low-voltage distribution systems? H. G. Barnett. diag Mill & Factory 48:85-6 My '51

See also

Petersen earth coil

Grounds and faults

Burndowns on no. four and no. six wire. H. E. Jung and T. A. Bettersworth. Elec West 106:62-3 Ja '51

Combined phase and ground distance relaying. W. C. New. diags Elec Eng 69:960 N '50

Earth-fault protection spill current. T. A. Ledward. diag Electrician 145:1511-12 D 22 '50

Fault location by pulse time modulation. R. W. Hughes and N. Weintraub. map diags Elec Eng 69:1009-11 N '50; Same. il Elec Com 28:90-4 Je '51

Fault locator uses discriminating detector. diags Elec World 134:110 N 6 '50

Fault-throwing tests on the 132-kv grid system under normal working conditions. W. Casson and F. H. Birch. diags Inst E E Proc 97 pt 1:279-96 N '50; Abstract. Elec R (Lond) 146:239 F 10 '50; Discussion. Inst E E Proc 97 pt 1:297-302; 98 pt 1:320-4 N '50, N '51; Elec R (Lond) 146:239-41 F 10 '50

Ground-fault protection for mining circuits. Westinghouse Eng 11:72 Mr '51

Hold closed; a new function for automatic reclosers. R. A. Branflick. il diags Elec World 135:49-52 Ja 15 '51

How to cut low-voltage fault current calculations. R. H. Kaufmann. diags Elec World 135:99-101 Ap 9 '51

Locating ground faults on station auxiliary circuits. B. R. Smith. diag Elec World 135:132+ Ap 23 '51

M.v. earth-fault protection. P. T. Thornhill. diags Electrician 146:1213-16 Ap 13 '51

Overvoltage during power-system faults; lightning-arrester application. R. W. Ferguson. diags Westinghouse Eng 11:92-3 My '51

Remote-controlled air-break switches isolate fault in four minutes. R. A. Williams and V. B. Wilfley. il diags Elec World 135:58-60 Ja 15 '51

Maps

Our new system operating maps provide more data, save records. G. B. Elkington. maps Elec World 136:88-90 Jl 30 '51

Network analyzers

Some experience with a British a.c. network analyser. G. Lyon. il map diags Inst E E Proc 97 pt 2:697-714 bibliog(64 titles, p713-14) D '50; Abstract. Elec R (Lond) 146:677 Ap 7 '50; Discussion. Inst E E Proc 97 pt 2:714-25 D '50; Electrician 144:1125-6 Ap 7 '50

Use of alternating-current network calculator in distribution system design. M. V. Suryaprakasam and others. bibliog diags Am Water Works Assn J 42:1154-64 D '50

Stability

Are today's higher system power factors a threat to generator stability? W. G. Dempler. Elec World 134:117-22 N 20 '50

Electric arc furnace flicker can be overcome. B. M. Jones. diags Elec World 135:114-16+ Ap 23 '51

Electric arc furnaces; problems and solutions in power supply. B. M. Jones. bibliog diags Edison Elec Inst Bul 19:39-46 F '51

How series capacitors can improve today's transmission performance. J. E. Barkle and A. A. Johnson. diags Elec World 135:105-9 Ap 23 '51

Isolation ward for load peaks. Westinghouse Eng 10:254-5 N '50

New method of controlling voltage dips caused by motor starting currents. J. W. Anderson. diags Edison Elec Inst Bul 18:437-42+ D '50; Elec World 135:103-6 Mr 12 '51

Single-step voltage regulator application. R. W. Schlie. diag Elec Eng 70:337 Ap '51

Transmission problems. A. G. Collis. diags Electrician 146:1527-31 My 4 '51

You can prevent excessive voltage spreads. J. R. Eliason. diags Factory Management 108:128-30 D '50

Your power system voltage can influence tv receivers. H. E. Campbell. il Elec World 136:73-5 Jl 30 '51

Supervisory control

Railways modernize with centralized supervisory control. C. G. White. il plans diags Elec Com 28:3-20 Mr '51

Supervisory control and telemetering as cost reduction tools. E. W. Head. il Iron & Steel Eng 28:83-7; Discussion. 88-90 Ja '51

ELECTRIC distribution—*Continued*

Tables, calculations, etc.

Distribution secondaries' voltage drop, line loss; tabulations; engineering reference sheet. Elec World 135:120 My 7 '51

Frequency-coordinate vector diagram. P. F. Ordung and H. L. Krauss. diag Franklin Inst J 251:343-50 Mr '51

Special rule speeds distribution studies. A. V. Lambert. il Elec World 134:104+ N 6 '50

Transient analysis of three-phase power systems. E. T. B. Gross and L. Rabins. bibliog diags Franklin Inst J 251:333-41, 521-37 Mr, My '51

ELECTRIC double layer

Role of the cation in the electrical double layer. D. C. Grahame. bibliog Electrochem Soc J 98:343-50 S '51

Stability of lyophobic colloids; abstract. S. A. Troelstra. Chem & Ind p791-2 S 22 '51

ELECTRIC driving

Adjustable voltage drives for ore handling. C. B. Risler. il diags Iron & Steel Eng 28:102-7; Discussion. 108-9 Je '51

Applying synchronous motors to high inertia loads. R. E. Appleyard. il diags Product Eng 22:141-5 Mr '51

Coming; more adjustable speed drives. il Product Eng 22:142 My '51

Coordinated drives increase production in modern bakery. il Elec World 134:118 D 18 '50

Drive design is heart of recorder; Tycoon machines of the Soundscriber corporation. il diags Product Eng 22:110-11 Ja '51

Electric control of twin bridge drives with no torque shafts. H. Ball. il Iron & Steel Eng 28:78-81; Discussion. 84-6 Mr '51

Electrical and allied developments during 1950; industry. G. Bartlett. il diag Gen Elec R 54:27-39 Ja '51

Engineered motor drives boost efficiency and save maintenance; Clay city pipe co. il Brick & Clay Rec 118:39 Mr '51

Flexible d.c. electronic drives. G. C. Dodson. il diags Food Eng 23:97-102+ My '51

Flour milling; a case for group drive. il Elec R (Lond) 148:571-5 Mr 23 '51

How to choose the drive for your grinding mill. E. J. Klovers. il diags Eng & Min J 152:80-2 S '51

Individual or group drive? Power 95:120 S '51

Motors and motor control; Chemical Engineering report. V. J. Kropf. il diags Chem Eng 58:123-36 Jl '51

Multiple V-belt drives; reference book sheet. diags Am Mach 95:179, 181 Jl 9 '51

New industrial use of co-ordinated control; amplidyne and electronic control on a veneer lathe, pressure roll, tipple, and trays for a western plywood factory. Gen Elec R 54:41 Mr '51

180,000-hp. wind tunnel drive. Steel 128:108+ Je 11 '51

What size motor for proper operation of servomechanism. G. C. Newton, jr. bibliog il diags Machine Design 22:125-30+ N '50

See also

Cranes, derricks, etc.—Electric equipment
Electric motors
Electricity in mining
Gearmotors
Hoisting machinery, Electric
Locomotives, Diesel-electric
Locomotives, Gas turbine-electric
Machine tools—Electric driving
Mine hoisting, Electric
Mine pumping, Electric
Pumping machinery, Electric
Ship propulsion, Electric

Conveying machinery

Compact conveyor drive aids range production. il Elec World 135:142 F 12 '51

Speed drive needs little elbow room; Perfection stove co. il Mill & Factory 48:128 Mr '51

Hoisting machinery

See Hoisting machinery, Electric

Paper mills

Characteristics of the N.S. variable speed a.c. motor. D. Faughnan. il diags Pulp & Pa of Can 51:120-4 N '50

Conversion from hydraulic to electric grinding; Abitibi power & paper co. ltd. W. B. Hall. flow diag il diags Pulp & Pa of Can (Convention no) 52:208-16 [F] '51

Electric equipment for paper mill supercalenders. M. S. Smith. Tappi 34:189-92 Ap '51

Electric equipment for paper mill winders. C. D. Beck. il diags Tappi 34:153-62 Ap '51

Electronic drive boosts paper production 25 per cent. il Elec World 136:160 Ag 13 '51

Electronic equipment at Ohio Boxboard. Paper Tr J 133:36 S 28 '51

Mill engineer's selection of the paper machine drive; abstract of interim report. Tappi 34:sup62A-3A Ja '51

Operation of electronic-amplidyne controlled paper machine drive. W. L. Eliason. Pulp & Pa of Can (Convention no) 52:149-51 [F] '51

Selection of electric motors for paper mill application; preliminary report of TAPPI electrical subcommittee. R. F. Sorenson and others. Tappi 33:572-7 D '50

Supercalender drives. C. D. Beck. il diags Paper Tr J 133:20+ Ag 17 '51

Use of a mechanical differential gear for speed control. B. M. Burt. diag Pulp & Pa of Can 51:127-9 N '50

Power plant auxiliaries

Effect of frequency reduction on plant capacity and on system operation. H. A. Bauman and others. Elec World 135:100-2+ Mr 12 '51

Totally enclosed auxiliary drive motors for generating stations. J. G. Noest. Elec Eng 70:155-9 F '51

Rolling mills

Acceleration characteristics of tandem cold reduction mills. W. R. Harris and R. W. Moore. bibliog il diags Iron & Steel Eng 28:63-72; Discussion. 72-3 Jl '51

Aluminium strip mill at Rogerstone. flow chart il Engineer 190:319-22, 351-3, 459-61, 487-9 S 29-O 6, N 17-24 '50; Engineering 170: 265-7, 281-3, 337-40, pl 19-22, 26-7 S 29-O 6, N 10 '50; Metallurgia 42:223-32 O '50; Elec R (Lond) 147:607-14 O 20 '50

Blooming mill, steel industry's iron horse. R. H. Wright. il diags Iron & Steel Eng 28: 98-105; Discussion. 105-6 Mr '51

Cold rolling of tinplate. G. E. Stoltz and J. W. Brinks. plan diag Iron & Steel Eng 27:69-77; Discussion. 77-88 O '50

Developments in d-c current drives for hot strip mill runout tables and coilers; abstract. H. E. Larson. Iron & Steel Eng 28:114-15 Ap '51

Developments in the design of d-c motors and generators for rolling mills. B. H. Caldwell, jr. bibliog il diags Iron & Steel Eng 27:63-71 D '50

Electric drives for reversing hot mills. P. E. Peck. il diags Iron & Steel Inst J 167:309-23 Mr '51

Electric motors over three hundred horsepower applied to main roll drives in the iron and steel and allied industries during 1950; tabulation. Iron & Steel Eng 28:137-40 Ja '51

Electrical developments in 1950. H. W. Poole. il diags Blast F & Steel Pl 39:63-8 Ja '51

Emergency drive for blooming mill auxiliaries; abstract. F. C. Fennell. Steel 128:106+ Je 4 '51

Grid controlled rectifier equipment for a tyre rolling mill. Metallurgia 43:33-4 Ja '51

Margam steelworks. il Electrician 147:253-60 Jl 27 '51

Operating the world's fastest mill; control; Aliquippa works of Jones and Laughlin steel corp. G. A. Kaufman. il diag Iron & Steel Eng 28:76-80; Discussion. 80-2 Ja '51

Power for hot strip mills. A. F. Kenyon. il plans diags Iron & Steel Eng 28:80-8 Ap '51

Ultra-fast mill helps meet strip shortage; McLouth Steel's new hot rolled strip mill. D. I. Brown. il plan diag Iron Age 166:67-70 O 26 '50

Ships' auxiliaries

How to cut a T2's fuel consumption by motorizing the auxiliary generators. J. A. Wasmund. il diag Marine Eng 56:58-60 Je '51

ELECTRIC driving—Ships' auxiliaries—*Cont.*

Just plug your ship in; Westinghouse Pier outlet breaker. il Westinghouse Eng 11:165 S '51

Textile mills

Case for flywheel loom motors. R. J. Demartini. il Textile World 101:125+ Ap '51

Efficient power transmission vital to production costs. il Rayon 31:85-7 N '50

Electricity in the cotton industry. F. W. Cox and W. E. Swale. bibliog diags Inst E E Proc 97 pt 2:311-28 Je '50; Discussion. 97 pt 2:329-31; 98 pt 2:86-94 Je '50, F '51

Electro-magnetic drive tugs at yarn tangles. il diag Textile World 100:159-60 D '50

Large wool mills. il Elec R (Lond) 148:669-74, 719-23 Ap 6-13 '51

Pot spinning; high speeds pose problems. C. P. Walker. diag Rayon 31:35+ D '50

Slasher drive improves beam uniformity. E. H. Helliwell. il diags Textile World 101:110-11 Ap '51

Slasher take-up uses magnetic-clutch motor. J. S. Campbell. il diags Textile World 100:108-9+ O '50

Textile factory conversion; electrical applications to automatic weaving. il Elec R (Lond) 148:209-14 F 2 '51

Weavers' thread sizing; variable-speed drives. il Elec R (Lond) 148:277-80 F 9 '51

ELECTRIC energy, inc.

Private-public power to serve AEC jointly. E. R. Abrams. Barron's 31:8 S 24 '51

ELECTRIC engineering

A.I.E.E. fall general meeting, Oklahoma City, Oct. 23-27; abstracts of papers. Elec Eng 69:1115-19 D '50

AIEE fall meeting, Oklahoma City, Oct. 23-27. Elec World 134:74-6 N 6 '50

AIEE Great Lakes district meeting, Madison, May 17-19; with abstracts of papers. Elec Eng 70:634-9 Jl '51

American institute of electrical engineers middle eastern district meeting, Baltimore, Oct. 3-5; abstracts of papers. Elec Eng 69:1029-32 N '50

AIEE summer meeting, Toronto, June 25-29; summaries of papers. Elec World 136:103-7+ Jl 16 '51

A.I.E.E. winter meeting, New York, Jan. 22-26; abstracts of papers. Power Eng 55:74-5+ Mr '51

A.I.E.E. winter meeting, New York, Jan. 22-26; with summaries of papers. Elec World 135:101-7+ F 12 '51

Electrical and allied developments during 1950. G. Bartlett. il diag Gen Elec R 54:15-60 Ja '51

Electrical engineering in 1950. il Engineer 191:24-6, 64-6, 101-3, 132-4, pl 7 Ja 5-26 '51

Engineering highlights of 1950. il Westinghouse Eng 11:2-40 Ja '51

Engineering in Europe; abstracts of articles in technical journals. Elec R (Lond) 148:817-18, 1011-12, 1113-15, 1217-18, 1333-4; 149:49-50, 101-2, 151-2, 230-2, 326-8, 497-8, 589-90, 705-6 Ap 20, My 11, 25, Je 8, 22, Jl 6-20, Ag 3, 17, S 7, 21, O 5 '51

Joint engineering conference, London, June 4-15. Elec R (Lond) 148:1273-5, 1321-3 Je 15-22 '51; Electrician 146:1933-5, 2027-8 Je 8-15 '51

1950 engineering developments. il diags Elec Eng 70:3-26 Ja '51

Portland AIEE sets attendance record at general meeting, Aug. 20-24; with abstracts of papers. Elec West 107:112-15 S '51

Take a broad view of the scope of your profession; overlapping fields of mechanical and electrical engineering. A. P. Adamson. Mech Eng 73:649-50 Ag '51; Discussion. 73:1021-2 D '51

See also

Armatures
Electric apparatus and appliances and other headings beginning Electric
Electricity in mining
Electricity in the petroleum industry
Electricity on the farm
Electricity supply
Hydroelectric plants
Radio communication and other headings beginning Radio
Railroads—Electric equipment
Railroads—Electrification
Ship propulsion, Electric
Telegraph
Telephone
Voltage regulation

Bibliography

Classified bibliography of publications on the history and development of electrical engineering and electrophysics. T. J. Higgins. Bulletin of Bibliography [F. W. Faxon co, Boston] 20:67-71, 85-92, 115-22 S '50-My '51 (to be cont)

EEI publications and service material. Edison Elec Inst Bul 18:451-2; 19:27-8, 284-5 D '50-Ja, Ag '51

Library notes on articles in other technical journals. Published in monthly numbers of General electric review

Safety measures

See also

Electric equipment—Safety measures
Electric lines—Safety measures
Linemen's equipment

Study and teaching

Acoustics in the electrical engineering curriculum. G. W. Swenson, jr. J Eng Educ 41:329-30 Ja '51

Cambridge professorship; electrical manufacturers endow chair of electrical engineering. Elec R (Lond) 148:487-8 Mr 9 '51

Dearborn Hall, a dream come true; Oregon state college is possessor of new million dollar electrical engineering building. F. O. McMillan. il Elec West 105:76-7 D '50

Education and training of electrical technicians. Inst E E Proc 98 pt 1:28-37 Ja '51

Education in industry; Westinghouse educational center. il Westinghouse Eng 10:240-1 N '50; Elec World News ed 134:16-17 N 27 '50

Educational lever; abstract. E. Wilkinson. Inst E E Proc 98 pt 1:24 Ja '51

Electrical equipment of technical colleges; abstract. G. Pember. Inst E E Proc 98 pt 1:25 Ja '51

Electrical machine design; undergraduate education. K. Aston. Elec R (Lond) 148:133-6 Ja 19 '51

Functional design of buildings for electrical education. J. D. Ryder and W. B. Boast. il plans Elec Eng 69:1081-6 D '50

Further education for the profession; the I.E.E. advisory service. M. W. H. Davies. Elec R (Lond) 147:825-6 N 24 '50

Importance of graduate work in the power field. W. A. Lewis. Elec Eng 70:391-3 My '51; Same. Gen Elec R 54:18-21 My '51

Mathematics in electrical graduate education. E. W. Anderson. Elec Eng 70:507-10 Je '51

Power systems engineering course; example of intraindustry education accomplished by co-operation of manufacturer and electrical power industry. L. E. Saline. il Gen Elec R 54:18-21 S '51

Practical training of mechanical and electrical engineers; abstracts and discussion. A. Fleming. Engineering 172:201-2 Ag 17 '51

Renaissance in electrical education. J. D. Ryder. diags Elec Eng 70:581-4 Jl '51

Staff college of the North of Scotland hydro-electric board. il Engineering 171:529 My 4 '51; Elec R (Lond) 148:688-90 Ap 6 '51

Teaching advanced mathematics to electrical engineering students. C. Froehlich. J Eng Educ 41:222-6 D '50

They'll be better engineers; Cory Hall at University of California provides students with diverse and ultramodern electrical engineering facilities. C. F. Dalziel. il Elec West 106:65-7 Ap '51

Westinghouse engineering education, a new milestone. Westinghouse Eng 10:inside front cover N '50

See also

Electric communication—Study and teaching

Tables, calculations, etc.

Analog computers solve complex problems at University of California. L. L. Grandi and D. Lebell. il Elec West 105:70-2 D '50

Applications of a mechanical differential analyzer to electrical engineering. E. Janssen and D. Lebell. bibliog diags Elec Eng 70:432-5 My '51

Finite representation of impulse functions in solving differential equations. J. J. Smith and P. L. Alger. diags Elec Eng 70:143 F '51

ELECTRIC engineering—Tables, calculations, etc.—*Continued*

Generalized electrical formulas. V. P. Hessler and D. D. Robb. bibliog Elec Eng 70:332-6 Ap '51

Ladder-networks; algebra for their solution. W. E. Bruges. diags Electrician 146:381-4, 475-8 F 2-9 '51

Loci of complex impedance and admittance functions. E. L. Michaels. diags Elec Eng 70:127 F '51

Potential analogue method of network synthesis. S. Darlington. bibliog diags Bell System Tech J 30:315-65 Ap '51

Regulation diagrams for transmission lines and transformers. R. O. Kapp. diags Engineering 171:277-8 Mr 9 '51

Review of some mathematical problems and methods in electrical engineering; abstract. R. T. Coe. Inst E E Proc 98 pt 1:192 My '51

Three-relay circuits; tabulation of formulas simplifies design and analysis. E. C. Varnum. diags Machine Design 23:121-4+ F '51

Transient analyzer applications. I. B. Johnson. bibliog il map diags Gen Elec R 54: 22-9 S '51

Terminology

Electrical conduction; suggested uniform nomenclature. D. Stewart. Elec R (Lond) 147:1095-6 D 29 '50

Proposed symbols and terms for feedback control systems. diags Elec Eng 70:905-9 O '51

ELECTRIC engineers

Don't utilities really want electrical engineers; survey of 1200 engineering school graduates. R. G. Kloeffler. Elec World 136: 82-3 Jl 30 '51

Education and training of electrical technicians. Inst E E Proc 98 pt 1:28-37 Ja '51

Electricity in the '51s; some noteworthy centenaries. G. J. S. King. Elec R (Lond) 148:7-9 Ja 5 '51

Is the engineering graduate educated? T. G. LeClair. Elec Eng 69:951-2 N '50

See also

American institute of electrical engineers
Illuminating engineering society

ELECTRIC equipment

Drilling and anchoring; best ways to fasten electrical equipment (or any other kind) to masonry. J. O'Connor. il diags Power 95:124-7 Ag '51

Electrical and allied developments during 1950. G. Bartlett. il diag Gen Elec R 54: 15-60 Ja '51

Engineering highlights of 1950. il Westinghouse Eng 11:2-40 Ja '51

Fire protection for electrical equipment. J. T. W. Babcock. Iron & Steel Eng 28:96-100 Ja '51

New laminate will reduce LCR equipment failures. M. L. Manning and others. il Elec World 135:93+ Je 4 '51

Research and development in the manufacture of electrical equipment. S. E. Goodall. Inst E E Proc 98 pt 2:9-12 F '51; Abstract. Engineering 170:543 D 22 '50

Review of new plant equipment; electrical equipment; switchgear, lamps, motors, generators, transformers, etc. il Power 95:150-3 Mid-Je '51

See also

Condensers (electricity)
Electric apparatus and appliances
Electric cables
Electric control
Electric converters
Electric distribution
Electric driving
Electric fittings
Electric instruments
Electric lighting
Electric plants (central stations)—Equipment
Electric switchgear
Electric wire
Electricity in mining
Electricity on the farm

also subdivision Electric equipment under special subjects, e.g.

Airplanes
Automobile factories
Automobiles
Coal mines and mining

Maintenance and repair

Diesel-electrics; how to keep 'em rolling. H. R. Hill and others. diags Ry Mech & Elec Eng 125:70-4 Jl; 82-5 Ag '51

Maintenance of electrical equipment in water and sewage works. A. R. Walker. Water & Sewage Works 98:172-5 Ap '51

Southern's Diesel electrical repair shop. R. H. Herman. il plans Ry Mech & Elec Eng 125:73-8 My; 76-80 Je; 68-9 Jl '51

Ten ways to check ac and dc controls. C. B. Olsen. il Power 95:122-4 O '51

Protection

Hermetically sealed components for industrial control. E. B. Steinberg. bibliog il Elec Eng 70:804-7 S '51

Safety measures

Accidents and the supervising electrical engineer's responsibility; abstract. H. Midgley. Electrician 146:654 F 23 '51

Electric equipment. bibliog il Nat Safety N 63:150+ Mr '51

Electrical equipment for hazardous spots. Nat Safety N 63:107-9 My '51

Electrical panels made safer. W. A. Reed. il Food Ind 23:131-2 Mr '51

Electrical safety in experimental laboratories. C. F. Dalziel. il diag Nat Safety N 63:27-9+ Ap '51

Electrical safety; new rules, gadgets and common sense! il diags Power 95:124-6 My '51

Good design, proper installation and periodic inspections. V. P. Croswell. Ind & Eng Chem 43:sup93A-4A My '51

Industrial safety demonstrated at Birmingham. il Elec R (Lond) 148:1209-10 Je 8 '51

Low voltage extension light cords and systems; data sheet. il diag Nat Safety N 64: 28-9+ Ag '51

Operations of the Approvals laboratories; a division of Canadian standards association. G. Moes and F. R. Whatmough. Elec Eng 70:538-40 Je '51

Safety testing of electronic equipment. O. G. Wedekind. Elec Eng 69:997-1000 N '50

What's different in the new safety orders. il Elec West 107:83-5 Ag '51; Correction. 107: 88 N '51

Why ground low-voltage distribution systems? H. G. Barnett. diags Mill & Factory 48:85-6 My '51

See also

Insulation (electric)

Specifications

Electrical specifications. F. G. Marshall. Elec R (Lond) 148:59-60 Ja 12 '51

Standards

B.S.I. specifications in relation to electrical accessories for domestic and industrial applications; discussion. Inst E E Proc 98 pt 2: 95-7 F '51

Standardisation and simplification in the electrical industry; discussion of paper by J. T. Moore. Electrician 146:485-6 F 9 '51

Testing

All-purpose electrical test bench; Douglas Aircraft's El Segundo plant. il diags Mill & Factory 48:101-4 Ja '51

14 test chambers duplicate weather in navy laboratory. il Refrig Eng 59:780 Ag '51

Transportation

Packing problem. il Electrician 146:289-92 Ja 26 '51

ELECTRIC fans

Designing an electrical appliance to utilize production possibilities of diecastings. G. H. Koch. il diags Machine Design 23:127-31 My '51

Fan manufacture in India. il Electrician 147: 105-6 Jl 13 '51

Low voltage and cooling towers. T. W. Reynolds. Heat & Ven 48:84 Ag '51

Two-part phenolic housing from single die for cabinet type fan. il Mod Plastics 28:76-7 D '50

Rating

Electric fans. il Consumers Res Bul 27:14-15 Je; 28:24 Jl '51

ELECTRIC fans, Ventilating

Are your fans working as they should for summer load? J. H. Braverman. diags Power 95:120 My '51

Big fan market in 1951. il Sheet Metal Worker 42:42-3+ Je '51

Let's speed up the fan! P. Franck. Heating-Piping 23:84-6 Ag '51

ELECTRIC fans, Ventilating—*Continued*
Relation of fan characteristics to common ventilation problems. H. M. Chapman. diags Heat & Ven 48:71-4 Je '51
Shop operation of cooling fans on Diesel locomotives to ventilate engine room. R. H. Herman. diags Ry Mech & Elec Eng 124: 620-2 N '50

Noise

Fan noise level, what does it mean? R. A. Gerlitz. il diag Heating-Piping 23:93-5 Je '51; Discussion. 23:65-6 Ag '51

ELECTRIC fences. See Fences, Electrified

ELECTRIC field
Electric excitation and disintegration of nuclei; excitation and disintegration of nuclei by the coulomb field of positive particles. C. J. Mullin and E. Guth. bibliog Phys R 82:141-55 Ap 15 '51
Electric field at a thermionic cathode as a function of space current. P. L. Copeland and D. N. Eggenberger. Phys R 80:298 O 15 '50
Electric field in a multi-grid radio valve. G. B. Walker. il diags Inst E E Proc 98 pt 3: 64-7 Ja '51
Electric field in a single-grid radio valve. G. B. Walker. bibliog diags Inst E E Proc 98 pt 3:57-63 Ja '51
Mobilities of electrons in high electric fields. E. J. Ryder and W. Shockley. diag Phys R 81:139-40 Ja 1 '51
Mobility and life of injected holes and electrons in germanium. J. R. Haynes and W. Shockley. il diags Phys R 81:835-43 Mr 1 '51
Motion and precipitation of suspensoids in divergent electric fields. H. A. Pohl. diag J Ap Phys 22:869-71 Jl '51
Motion of gaseous ions in a strong electric field. G. H. Wannier. bibliog diags Phys R 83:281-9 Jl 15 '51
Motionally induced electric fields. diags Elec Eng 70:159-60, 254-6, 350-1, 352-3, 451-2 F-My '51
Osmosis in a high frequency electric field. Z. László. J Chem Phys 19:800-1 Je '51
Polarization of the nucleus by electric fields. G. R. Gunther-Mohr and others. Phys R 81:289-90 Ja 15 '51
Representation of the electric and magnetic fields produced by currents and discontinuities in wave guides. N. Marcuvitz and J. Schwinger. diags J Ap Phys 22:806-19 Je '51
Some newer experimental results on the osmosis in alternating electric fields. Z. László. J Chem Phys 19:133-4 Ja '51

See also
Electromagnetic field
Stark effect
Unified field theory

ELECTRIC filters
Resistance and capacitance twin-T filter analysis. L. G. Gitzendanner. diags Tele-Tech 10:46-8+ F '51

See also
Radio filters

ELECTRIC fires
Cincinnati firemen study electric hazards. il Nat Safety N 62:48 D '50
Fire protection for electrical equipment. J. T. W. Babcock. Iron & Steel Eng 28:96-100 Ja '51
How to put out Class C fires. R. S. Ericson. il Safety Maint & Prod 100:18-20+ N '50
Prevent tomorrow's fires by good electrical installations today. S. Cowan. il Textile World 101:131+ Ag '51

ELECTRIC fittings
B.S.I. specifications in relation to electrical accessories for domestic and industrial applications; discussion. Inst E E Proc 98 pt 2:95-7 F '51
Electrical and allied developments during 1950; construction materials. G. Bartlett. il Gen Elec R 54:56-8 Ja '51
For greater safety, new grounding plug. A. L. Abbott. il Standardization 21:282-3 N '50
Organic cold molding compound; specialized electrical applications for Rosite 2000. il Mod Plastics 28:84 Ag '51
Today's new wiring devices. J. W. St Andre. il diags Factory Management 109:130-2+ My '51

ELECTRIC foot warmers
Six electric blankets, an electric sheet, and a foot warmer. Consumers Res Bul 27:20-1 Ja '51

ELECTRIC furnaces
Birlec electric furnace for copper-brazing. il Engineering 170:551-2 D 22 '50
Carbon resistance furnace for pyrometric cone equivalent tests. H. E. CoVan and J. L. Carruthers. il diags Am Cer Soc Bul 30:170-3 My 15 '51
Construction and operation of thoria resistor-type furnaces. S. M. Lang and R. F. Geller. il diags Am Cer Soc J 34:193-200 Jl 1 '51
Conversion of the simple electric furnace to precision high-temperature maintenance. D. R. Warren. diags J Ap Chem 1:40-3 Ja '51
Design and performance of electric furnaces with oxide resistors. W. H. Davenport and others. bibliog il diags Am Cer Soc J 33:333-9; Discussion. 339-40 N 1 '50
Electric furnace fusion and purification of zirconia. D. W. Marshall. Brick & Clay Rec 118:62 Je '51
Furnace brazing of machine parts. H. M. Webber. bibliog il diags Mech Eng 72:863-9, 969-76 N-D '50
Graphite-rod hairpin-resistor radiation furnace for high temperatures. W. J. Kroll and others. bibliog diag J Metals 188:Trans 1394-5 N '50
Quenching furnace for high-temperature studies of small specimens. H. G. Sowman and A. I. Andrews. diags Am Cer Soc J 33:365-6 D 1 '50
This phosphorus furnace rotates. M. M. Striplin, jr. and others. il diag Chem Eng 58: 108-11 Jl '51
Why use a rotating furnace? TVA's unit rotating phosphorus furnace. il Chem Eng 58:204 Je '51
Wild Barfield general purpose furnace. il (p 150) Automobile Eng 41:151 Ap '51

Control

Precision thermostat for high temperatures. diag Elec World 135:122 F 12 '51
Sensitive temperature controller. il diags Engineering 172:203-4 Ag 17 '51; Engineer 192:183 Ag 10 '51

ELECTRIC furnaces, Annealing
Electric annealing furnaces shorten time cycle. Steel 127:124 D 18 '50

ELECTRIC furnaces, Carburizing
Heating elements for carburizing furnaces. Westinghouse Eng 11:68 Mr '51

ELECTRIC furnaces, Enameling
Kaiser employs big electric furnaces for precision firing of enameled sanitaryware. il plan diag Cer Ind 57:46-7 S '51
Vitreous enamelling furnace installation. il Metallurgia 43:126 Mr '51

ELECTRIC furnaces, Foundry
Induction furnaces reduce die-casting rejects. H. Phillips. il Am Mach 95:136-8 Jl 9 '51
Small electric furnace facilitates experimental work. il Foundry 79:238 S '51

ELECTRIC furnaces, Heat treating
Electric salt bath triples output. il Elec World 135:129 Mr 12 '51
High-temperature heat-treatment furnace. il Westinghouse Eng 11:69 Mr '51

ELECTRIC furnaces, Heating
Wheel manufacture; Australian furnace for heating blanks. il Automobile Eng 41:314 Ag '51

ELECTRIC furnaces, High frequency
H.f. induction furnaces; physical metallurgy research equipment. il Elec R (Lond) 147: 729-31 N 10 '50
High-temperature vacuum induction furnace. H. T. Smyth and others. diags Am Cer Soc J 34:161-3 My 1 '51

ELECTRIC furnaces, Laboratory
Calibration furnaces for total-radiation pyrometers. E. J. Burton and R. Mayorcas. bibliog diags Iron & Steel Inst J 168:151-5 Je '51
Control of electric element furnaces to fine limits at high temperatures for research purposes. T. W. Lomas and others. bibliog diags Iron & Steel Inst J 168:126-34 Je '51

ELECTRIC furnaces, Laboratory—*Continued*

Forgeable arc-melted tungsten. H. B. Goodwin and C. T. Greenidge. il Metal Prog 59:812-14 Je '51

4000° furnace. W. E. Few and G. K. Manning. diags Metal Prog 59:364-5 Mr '51

H.f. induction furnaces; physical metallurgy research equipment. il Elec R (Lond) 147:729-31 N 10 '50

High-frequency melting; laboratory heat treatment equipment. il diag Elec R (Lond) 147:791-2 N 17 '50

Simple temperature-controlled laboratory furnace. R. S. Barnes. bibliog diags J Sci Instr 28:89-92 Mr '51

Small high-temperature high-vacuum furnace. K. B. Alberman. il diags J Sci Instr 27:280-2 O '50

Suspended graphite-spiral furnace. M. Balicki and others. diag Metal Prog 60:72-4 Ag '51

Vacuum furnace. il R Sci Instr 22:220-1 Mr '51

Vacuum furnace for metal single crystals. D. Lazarus and D. R. Chipman. diag R Sci Instr 22:211-12 Mr '51

ELECTRIC furnaces, Metallurgical

Casting and forging of titanium. J. B. Sutton and others. il diag Metal Prog 58:716-20 N '50

Electric arc furnace flicker can be overcome. B. M. Jones. diags Elec World 135:114-16+ Ap 23 '51

Electric arc furnaces; problems and solutions in power supply. B. M. Jones. bibliog diags Edison Elec Inst Bul 19:39-46 F '51

Electric furnace design meets production needs; symposium sponsored by the Niagara Falls section, Electrochemical society. il Steel 129:98 Ag 27 '51

Electric furnace smelting and high temperature chemistry. M. J. Udy. il Can Chem Process 35:626-9+ Ag '51

Electrothermics and electrothermal processes; Castner memorial lecture. C. H. Aall. diags Chem & Ind p830-40 D 30 '50

New smelter gives titanium industry a lift. il map Eng & Min J 152:76-8 Mr '51

Pilot-plant smelting of ilmenite in the electric furnace. C. K. Stoddard and others. bibliog 6pls U S Bur Mines Rep of Invest 4750:1-15 '50

Production of titanium from $TiCl_4$ in an arc furnace. L. D. Jaffe and R. K. Pitler. J Metals 188:Trans 1396 N '50

See also

Electric furnaces, High frequency

Electric furnaces, Steel making

ELECTRIC furnaces, Non-ferrous melting

Arc melting of titanium metal. S. F. Radtke and others. bibliog il diag J Metals 3:Trans 620-4 Ag '51

Electric furnace melting of copper at Baltimore. P. R. Drummond. il diags J Metals 3:Trans 468-72 Je '51

Melting tin bronze in indirect arc electric furnaces. B. W. Schafer. il Foundry 79:132+ My '51

ELECTRIC furnaces, Steel making

Arc furnace capacity. il Steel 129:74+ Jl 30 '51

Electric furnace capacity passed 7,000,000 tons in 1950. J. A. Clark. il Blast F & Steel Pl 39:83-4 Ja '51

Electric furnace in production for fifty years. J. A. Clark. il Blast F & Steel Pl 38:1163-5 O '50

Electric furnace or open hearth? with cost data. C. F. Ramseyer. il plan diag Iron & Steel Eng 28:57-67 Je '51

Electric furnace rush has its problems. J. Delaney. Iron Age 167:111 Ap 26 '51

Slag materials and action in basic arc furnaces. C. B. Post and D. G. Schoffstall. J Metals 188:1313-15 N '50; Abstract. Steel 128:114+ Ja 15 '51

Stainless by induction melting. R. J. Wilcox. il J Metals 188:1311D-12 N '50; Abstract. Steel 128:116 Ja 15 '51

Trends in electric arc furnace practice. D. L. Clark and J. A. Clark. bibliog il Iron & Steel Eng 27:103-10 D '50

Lining

Control of refractory materials. C. E. Sumpter. J Metals 188:1442-3 D '50

Electric furnace roof refractories. T. A. Blackwell. J Metals 191:100 F '51

Experiments on forsterite linings reported successful. B. M. Pearson. bibliog Iron Age 167:65-7 Ja 18 '51

Open hearth and electric furnace refractories. J. R. Cady. bibliog il Blast F & Steel Pl 39:684-7 Je '51

ELECTRIC furnaces, Vacuum melting

High-vacuum electric furnace processes. Chem Age (Lond) 65:25-6 Jl 7 '51

High-vacuum melting; latest Swiss developments. il diag Metallurgia 44:163-4 S '51

Vacuum melting titanium and zirconium. A. C. Haskell, jr. diags Steel 128:77-9 Je 18 '51

ELECTRIC fuses

Adequate high-voltage equipment isolates trouble. R. R. Gobeli. il Factory Management 109:106-8 Je '51

11-year operating record; rural line sectionalizing by repeater fuses. R. M. Schahfer and F. H. Strout. Elec Eng 70:488 Je '51

Fuses and circuit breakers for short circuit protection. K. S. Kuka. Iron & Steel Eng 28:108-12 My '51

Hold closed; a new function for automatic reclosers. R. A. Branflick. il diags Elec World 135:49-52 Ja 15 '51

How to sell in today's buyers'-sellers' market. H. E. Green. il Ptr Ink 235:29-31 Ap 20 '51

New control for high-voltage industrial motors; operative experience with current-limiting fuses and air-break contactors. B. J. Dalton. il diags Gen Elec R 54:49-55 My '51

Selection of fuses for resistance welding machines. C. B. Stadum. Elec Eng 70:511 Je '51

Switch fuses. il Electrician 145:1336 D 8 '50

Today's circuit breakers and fuses; with inspection and maintenance schedule. G. A. Van Brunt. diags Factory Management 108:103-7 D '50

ELECTRIC gages. See Gages, Electric

ELECTRIC generator sets

Diesel-powered m-g sets for tv. Steel 128:104+ Je 18 '51

1,390-kw pass-out turbine for Beckton gas works. il diags Engineering 170:346-8, 350 N 10 '50; Engineer 190:433-5 N 10 '50; Elec R (Lond) 147:723-7 N 10 '50; Electrician 145:909-10 N 10 '50

Railroad under-car power units. il diag Diesel Power 28:34-7 N '50

ELECTRIC generators

Are today's higher system power factors a threat to generator stability? W. G. Dempler. Elec World 134:117-22 N 20 '50

Check-ups for generators. J. S. Johnson. il Westinghouse Eng 11:56-60 Mr '51

Development and design of high-voltage impulse generators. F. S. Edwards and others. bibliog il diags Inst E E Proc 98 pt 1:155-68; Discussion. 168-80 My '51; Elec R (Lond) 148:117-18 Ja 19 '51; Electrician 146:227-8 Ja 19 '51

Favorable technical and economic aspects of wind-driven generators to supplement hydroelectric plants. R. G. Gibbs. Chem & Eng N 29:4056-7 O 1 '51

Generator of frequencies down to 0.01 cps. il R Sci Instr 22:711-12 S '51

New type of controlled wave shape generator. W. D. Williams and R. D. Robinson. il diags Gen Elec R 53:47-50 D '50

Some experiments with Peltier effect. W. C. White. bibliog diag Elec Eng 70:589-91 Jl '51

Testing insulation with the surge comparator. D. J. Reynolds and others. il diags Westinghouse Eng 11:112-16 Jl '51

See also

Electric machinery

Radio generators

Control

Centralized control desirable for single boiler turbine-generator units. J. A. Lind and J. M. Geiger. Elec Eng 69:966 N '50

Design

Designing a large weldment. L. G. Hauser. il Machine Design 22:168-70 D '50

ELECTRIC generators—Design—*Continued*

Modern trends in the design of vertical water wheel generators. C. M. Laffoon and others. bibliog il diags Elec Eng 70:887-92 O '51

Parallel operation

Why does electric rotor oscillate? diags Power 95:140+ Je '51

Protection

New high-voltage insulation for turbine-generator stator windings. C. M. Laffoon and others. Elec Eng 70:521 Je '51

Repair

Large generator shaft repaired in place. J. Colon. il Elec World 135:102+ F 26 '51

Standards

Preferred standards for 3600-rpm turbine generators revised. Power Eng 55:104 Je '51

Testing

Nondestructive testing of generator insulation. E. H. Povey and F. S. Oliver. diag Elec Eng 70:498 Je '51

Tests for turbine generator performance. J. Y. Jackson and C. B. Fontaine. il diag Gen Elec R 54:53-60 Je '51

Thermal cracks in turbine and generator rotor forgings. A. W. Rankin and others. il diags Mech Eng 72:599-66 Jl '50; Discussion. 72:919-21 N '50

ELECTRIC generators, Alternating current

A-c power plants for passenger cars. I. S. Ritter and H. H. Hanft. il Westinghouse Eng 11:87-90 My '51

Alternator-rectifier battery charging systems. R. Gray. il Am Gas Assn Proc 1950: 855-8

Asynchronous generators; simple theory without mathematical complication. M. Walker. Elec R (Lond) 147:775-6 N 17 '50

Constant speed for airborne generators; Sundstrand's engine-driven, hydraulic, constant speed alternator drive. G. L. Christian. il diag Aviation W 54:48-50 Je 25 '51

Induction generators for small loads. H. H. Roth. il Power 94:120-2 D '50

Magnicon self-regulating alternators. il diags Engineer 190:507 N 24 '50; Electrician 145: 1122 N 24 '50

Measurement of interlaminar resistance of varnish-insulated silicon-steel sheet for large electrical machines. E. D. Taylor. diags Inst E E Proc 98 pt 2:377-85; Discussion. 385-8 Je '51

New transformers over generator bushings save space. C. C. Sterrett and C. A. Woods. il Westinghouse Eng 11:98-9 My '51; Same cond. Elec World 136:104+ S 24 '51

1,390-kw pass-out turbine for Beckton gas works. il diags Engineering 170:346-8, 350 N 10 '50; Engineer 190:433-5 N 10 '50; Elec R (Lond) 147:723-7 N 10 '50; Electrician 145:909-10 N 10 '50

Progress in development of large turbine generators. E. D. Huntley and H. D. Taylor. bibliog il Gen Elec R 54:34-44 F '51

Slot ripples in alternator e.m.f. waves. J. H. Walker. bibliog il diags Inst E E Proc 96 pt 2:81-92 F '49; Discussion. 97 pt 2:689-90 O '50

Squirrel-cage induction generator for power generation. T. C. Tsao and N. F. Tsang. bibliog diags Elec Eng 70:793-5 S '51

Symmetrical short circuits on saturated alternators. S. L. Mikhail. diags Elec Eng 70: 34 Ja '51

Three 40,000-kw generators damaged by circuit breaker failure. R. Doehne. diags Elec World 135:88-90 Je 4 '51

Variable-voltage generators applied to alternating-current systems. R. L. Chantrill. Engineering 171:736-7 Je 15 '51

Control

Generator output controlled by magnetic clutch. il Machine Design 23:138 Mr '51

Instruments and controls for small a-c generators; how to use them right. D. L. Gusler. diag Power Eng 55:70-2 Jl '51

Static magnetic regulators in the power generation field. W. A. Hunter. il diags Power Eng 54:66-71 D '50

Stator-fed a.c. commutator machine with induction regulator control. B. Schwarz. bibliog diags Inst E E Proc 96 pt 2:755-67 O '49; Discussion. 97 pt 2:725-6 D '50

Cooling

Hydrogen coolers for turbo-generators. il Engineer 191:657-8 My 18 '51; Engineering 171:772 Je 22 '51; Elec R (Lond) 148:1111-12 My 25 '51; Electrician 146:1706 My 18 '51

Minimizing hydrogen in hydrogen-cooled machines. D. S. Snell and E. B. Morrison. il Power Eng 55:56-62 My '51

Simplification of liquid cooling for a-c turbine generators. C. J. Fechheimer. diags Elec Eng 70:218-23 Mr '51

Stourport B station of the British electricity authority; hydrogen-cooled main alternator. il diag Engineering 171:305-6 Mr 16 '51

Parallel operation

Loss and recovery of synchronism of parallel alternators. D. D. Higgins. diags Elec Eng 69:1105-7 D '50; Same. Power Eng 55:88-90 F '51

Parallel operation of undercar power plants. G. W. Weber. il diag Ry Mech & Elec Eng 125:73-7 Ap '51

Protection

Relay protection for ac generators; summary of AIEE relay committee's report. diags Power 95:94-5 Ap '51

ELECTRIC generators, Direct current

Developments in the design of d-c motors and generators for rolling mills. B. H. Caldwell, jr. bibliog il diags Iron & Steel Eng 27:63-71 D '50

Direct current control in aircraft. J. D. Miner and B. O. Austin. il diags Aero Digest 61: 28-9+ D '50

D.c. generator amplifier use in servo control systems. J. C. West. diag Elec R (Lond) 147:819-22 N 24 '50

Improvised generator used to operate portable drills. A. T. Holmquist. il Elec World 136:126+ Jl 16 '51

Motionally induced electric fields. diags Elec Eng 70:159-60, 254-6, 350-1, 352-3, 451-2 F-My '51

Pulsed air core series disk generator for production of high magnetic fields. R. I. Strough and E. F. Shrader. il diags R Sci Instr 22:578-82 Ag '51

Rail traction Diesel-electric unit. il diags Engineer 191:765-6 Je 8 '51

Service wrack of locomotive electrical machinery. A. H. Candee. il diags Ry Age 130: 26-9 Ap 23; 33-5 Ap 30 '51

Transient analysis of a voltage-regulated aircraft d-c system. D. G. Scorgie. diag Elec Eng 70:138 F '51

Will this shunt wound generator fit his conditions? Power Eng 55:94 Ap '51

Manufacture

Swaged generator pole shoes conserve copper wire. H. Chase. il Automotive Ind 104:40-1+ Ja 1 '51

Testing

Load testing axle generators. J. C. Alvarez and F. Lewis. il diag Ry Mech & Elec Eng 125:74-5 Je '51

ELECTRIC generators, Electrostatic

Chalk River accelerator. Can Min J 71:75 N '50

Changing properties of metals by bombarding with electrons; Statitron; illustrations with text. Automotive Ind 104:41 Je 15 '51

Electrostatic source of ionizing energy. J. G. Trump. bibliog il diags Elec Eng 70:781-7 S '51

Influence of electrodes on d-c breakdown in gases at high pressure. J. G. Trump and others. bibliog Elec Eng 69:961-4 N '50

Photoelectric control circuits for the ion source of a pressure-type electrostatic generator. L. O. Herwig. diags R Sci Instr 22:668-72 S '51

Photo-neutron thresholds of beryllium and deuterium. R. C. Mobley and R. A. Laubenstein. bibliog diags Phys R 80:309-14 N 1 '50

Rotating lithium target. E. Lampi. diag R Sci Instr 22:429 Je '51

ELECTRIC generators, Electrostatic—*Cont.*

Statitron will harden aluminum alloys and non-heat-treatable metals, build forces to cause failure, alter physical properties of metals; midget version of the Van de Graff electrostatic generator. F. Charity. il diag Am Mach 95:134-5 My 14 '51

Van de Graaff generator. Mech Eng 73:739 S '51

ELECTRIC generators, Homopolar

Electric generator operates at 19,000 rpm; application of Faraday's disc generator, using liquid mercury jets as brushes; experimental machine for application in design of betatrons and other accelerators. il Power Eng 54:60-1 D '50

ELECTRIC generators, Synchronous

Classification of the reference frames of a synchronous machine. G. Kron. Elec Eng 70:612 Jl '51

Synchronous generators; determination of transient performance; discussion. Elec R (Lond) 148:443-4 Mr 2 '51; Electrician 146: 723-4 Mr 2 '51

Synchronous machine damping and synchronizing torques; abstract. C. Concordia. Elec Eng 70:613 Jl '51

Synchronous machines with unsymmetrical loading. D. Harrison. Inst E E Proc 98 pt 2:371-6 Je '51

Testing

Routine insulation testing of synchronous machines. L. F. Hunt and J. H. Vivian. Elec Eng 70:499 Je '51

ELECTRIC hardening. See Case hardening—Electric hardening

ELECTRIC heaters

Accident-proof fire. il Elec R (Lond) 147:695 N 3 '50

Radiant-glass heating. Mod Ind 21:69 My '51

Today's electrical heating equipment; space heating equipment. G. A. Van Brunt. il Factory Management 109:109 F '51

ELECTRIC heaters, Laboratory

Constant current regulator. H. W. Patton. diag Anal Chem 23:393-4 F '51

Electric flask heater. F. Mathews. il J Chem Educ 28:258-9 My '51

ELECTRIC heating

All-electric flats. P. Schiller. Elec R (Lond) 149:225-7 Ag 3 '51

Church installation; St Mary's church, Great Shefford. il Elec R (Lond) 148:1307-8 Je 22 '51

Discriminative load shedding; control of heating load by voltage drop. G. T. Shears. diags Elec R (Lond) 148:317-18 F 16 '51

Electric heat in shops saves railroad $10,000. A. C. Gibson and H. S. Evans, jr. il Elec World 135:128 Mr 12 '51

Electric home heating. E. E. Parks. Elec Eng 70:691 Ag '51

Heating buildings by electricity. W. F. Friend. il Heat & Ven 48:80-3 My; 89-91 Je '51

Tests show how heat pumps perform in different climates. P. Sporn and E. R. Ambrose. il diag Elec World 135:97-100 F 12 '51

Cost

Equivalent domestic fuel costs; chart; engineering reference sheet. G. H. Pike. Elec World 134:106 D 18 '50

Panel system

Conductive rubber element furnishes electrical heat in radiant ceiling panels; Uskon system. il Am Bld 73:208+ Je '51

Electric ceiling panels heat floor added to building. il plan Heating-Piping 23:129-31 Ja '51

Glass panel heats like the sun. il Bsns W p44-6 Ag 25 '51

Improving the position of electricity as primary energy for space heating. C. Frere. Elec Eng 70:608-11 Jl '51; Discussion. J. C. Beckett. 70:944-5 O '51

Radiant heating panels fit into baseboards; Electriglas panels. il diag Arch Forum 94: 204+ F '51

Radiant heating with glass wall panels. il diags Am Bld 73:186+ Ap '51

ELECTRIC heating, Industrial

Electric asphalt heating eliminates a steam plant. il Elec World 135:115 Je 4 '51

Electric heated smoke house for meat curing; Vans packing co., Boise, Idaho; data sheet. E. E. Haroldsen. diag Elec West 107:70 Jl '51

Electric heater cuts paraffin. O. C. Dunn, jr. diag World Oil 131:152-4 D '50

Electric heaters cut production costs, save materials; chrome plated plumbing fixtures and fittings. R. I. Lavelle. il Elec World 136:123 S 24 '51

Electric synthetic resin kettle; data sheet. A. B. Rudy. il Elec West 105:91 O '50

Electric track switch heater (snow melter) installations at Cumberland, Md., and Willard, Ohio; A.A.R. Electrical sections committee report. il Ry Mech & Elec Eng 124: 629-31 N '50

Electrically heated clay screens double output. R. H. Hively. il Elec World 135:174+ Ja 29 '51

Electrically heated oil replaces steam for wax melting. il Elec World 135:146 Ap 23 '51

Electronic dryer makes better cores and working conditions. il Elec World 135:82 Ja 1 '51

Flow of viscous fluids simplified; system called Thermal Electric. diags Heat & Ven 48:68-70 Ag '51

Fuel oil costs cut with electric preheaters. il Elec World 136:100 Jl 2 '51

Heating by electrical elements. J. T. Sharples. Elec R (Lond) 148:994-5 My 11 '51

Heating by electrical elements; applications to drying equipments. Electrician 146:380 F 2 '51

Heating of distillation columns and tubular reaction vessels. W. E. Massingham. il diag Chem & Ind p31-2 Ja 13 '51

Hot dimpling widens metal use. il diags Aviation W 54:21-2 Ap 2 '51

Hot-joggling aluminum extrusions. T. E. Piper. il Mach 57:144-8 N '50

Hot machining of many metals improved by arc heating. E. T. Armstrong and A. S. Cosler. il Materials & Methods 33:69-73 Ja '51

Immersion heaters up battery production. il Elec World 135:128-9 Mr 12 '51

Induction heating. diags Power Eng 55:86-7 Mr '51

New machine sets nylon fabrics by radiant heat. il Elec World 136:112 Jl 30 '51

Portable heater using chlorinated biphenyl. R. E. Howard. flow diag il Ind & Eng Chem 43:782-4 Mr '51

Road oil heating; Washington state highway dept., Union Gap; data sheet. E. B. Allard. il diags Elec West 105:77 N '50

Stress relieving and pre-heating of welded joints. Engineering 170:392 N 17 '50

Tailored heat; production of slab doors. D. Wedge. il Elec West 105:80-1 O '50

Today's electrical heating equipment. G. A. Van Brunt. il Factory Management 109: 104-9 F '51

Two years' operating data for Detroit's electrically heated highway snow melting system. plan Heat & Ven 48:64-5 Ja '51

See also

Case hardening—Electric hardening
Electric furnaces
Electric furnaces, Heat treating
Electric welding
Electric welding, Arc
Infrared rays—Industrial heating
Kilns—Electric heating
Thawing, Electric

High frequency heating

Application of tubes in heating equipment. H. J. Dailey and C. H. Scullin. il diag Electronics 24:216+ O '51

Continuous electronic blanching of vegetables proved feasible in pilot plant. il diag Food Eng 23:81 My '51

Curing industrial tvi; preventing radiation from r.f. heating machines. P. S. Rand and others. il diags Q S T 35:29-33 S '51

Curing rf heater television interference; F.C.C. rules and regulations. P. S. Rand and others. il plans diags Mod Plastics 29: 101-2+ S '51

De Havilland prop work helped by induction heater. Aviation W 54:31 Ap 2 '51

Dielectric heating. E. Bukstein. il diags Radio & Tv N 45:39+ Ja '51

ELECTRIC heating, Industrial—High frequency heating—*Continued*

Dielectric heating cuts drying time of rayon cakes from hours to minutes. R. H. Hagopian. Rayon 31:33+ N '50

Electronic core baking; United foundries co. B. Hopkins. il Foundry 79:154+ Mr '51

Electronic drying of ceramic bodies. C. J. Kohler, jr. Am Cer Soc Bul 30:285-6 S 15 '51; Same. Cer Ind 57:55+ S '51

Electronic shuttle-bonding technique. il Electronics 24:166+ Ag '51

Ferranti-Wild-Barfield induction heating equipment. il Automobile Eng 41:310-14 Ag '51

Gear hardener loads and unloads automatically. P. Good. il diags Iron Age 167: 72-4 Mr 22 '51

Glue curing speeded with automatic dielectric heat; Rway furniture co. il Elec World 135:142 Mr 26 '51

High-frequency heating makes superior rock drills. D. C. Thomas. flow diag il Elec West 106:64-5 Ja '51

High-frequency heating of forging billets. il plan Metal Prog 60:70-3 Jl '51

Hollow steel propeller blades for aircraft. il diags Engineering 172:225-7, pl 17 Ag 24 '51

Induction heat + versatile fixture = doubled production; Northwest bolt and nut co. W. R. Yeakel. il Am Mach 94:164-5 D 11 '50

Induction heater maintenance manual. L. R. Mueller. il diags Am Mach 95:113-28 Ag 6 '51

Induction heating. E. Bukstein. il Radio & Tv N 45:35+ F '51

Induction heating gives accurately controlled temperatures. L. Albertson. il Elec World 135:146-7 Ap 23 '51

Induction heating in the steel industry. E. H. Browning. il diags Iron & Steel Eng 27:82-9 D '50

Induction heating successfully solders aluminum. C. H. Yetman. il Iron Age 167:108-9 Mr 15 '51

Induction solders to size. C. H. Yetman. il diags Am Mach 95:102-3 Je 25 '51

Large high-frequency generator installation at Hatfield works. il Elec R (Lond) 148: 492 Mr 9 '51

Load-matching dielectric heaters. R. H. Hagopian. diags Electronics 23:98-101 D '50

Metal evaporator uses high-frequency heating. R. G. Picard and J. E. Joy. il diags Electronics 24:126-8 Ap '51

Packard achieves production economies with induction hardening. R. E. Van Deventer and G. Bidigare. il Mach 57:154-8 My '51

Radio-frequency drying of textile fabrics. P. Alexander and G. A. Meek. bibliog diags Soc Dyers & Col J 66:530-7 O '50

Today's electrical heating equipment; dielectric and induction heating equipment. G. A. Van Brunt. il Factory Management 109: 106-7 F '51

Tube selection for heating equipment. H. J. Dailey and C. H. Scullin. il Electronics 24: 188+ S '51

Tubes for dielectric heating at 915 megacycles. R. B. Nelson. il diags Elec Eng 70:627-33 Jl '51

When and how to use induction soldering. E. M. Wharff. il diags Am Mach 95:166-8 S 3 '51

See also

Case hardening—
Electric hardening

ELECTRIC heating pads. See Heating pads, Electric

ELECTRIC hoists. See Hoisting machinery, Electric

ELECTRIC homes exhibitions. See Electric industries—Electric homes exhibitions

ELECTRIC ignition

Behavior of the resistance ignitor in mercury. W. W. Rigrod. bibliog diag J Ap Phys 22: 787-96 Je '51

Spark ignition study results in rules to predict fuel properties. Chem & Eng N 29:1623 Ap 23 '51

ELECTRIC industries

Pennsylvania electric association 43d annual meeting, Pittsburgh, Sept. 19-20. Edison Elec Inst Bul 18:378+ O '50

See also

Electric apparatus industry
Electric contractors
Electric engineering
Electric lighting
Electric plants (central stations)
Electric shops (retail trade)
Electric utilities
Electroplating
Radio apparatus industry

Electric homes exhibitions

Ideal home exhibition, London. il Elec R (Lond) 148:553-6 Mr 16 '51; Electrician 146: 793-4 Mr 9 '51

Light conditioned home draws crowds. Elec World 136:124 S 24 '51

Sample sells home lighting; New Day model home. il Elec West 107:90 S '51

Exhibitions

Festival of Britain; electricity's contribution to the displays. il plan Elec R (Lond) 148: 907-11 My 4 '51; Electrician 146:1509-26 My 4 '51

South Bank exhibition; Power and production pavilion. il map Engineer 191:706-8, pl 1 Je 1 '51

Materials

Alternate and substitute materials for electrical equipment and parts; tabulation; engineering file facts. Materials & Methods 33:107 Mr '51

Case histories of alkyd molding; Plaskon. H. W. De Vore and H. C. Murray. il Mod Plastics 28:88-90 Ap '51

Electrical and allied developments during 1950; chemical; silicones and plastics for electric equipment. G. Bartlett. il Gen Elec R 54:58-9 Ja '51

Electrical materials; production, consumption and prices in 1950. Elec R (Lond) 148: 34-7 Ja 5 '51

Engineering highlights of 1950; materials and research. il Westinghouse Eng 11:39-40 Ja '51

How copper-base casting alloys are used in electrical industry. R. A. Colton. il Materials & Methods 32:57-61 D '50

Mobilization today and tomorrow; controls on industry have been light. Elec World 135: 135-6 My 21 '51

NPA allocates materials to industry. Elec World 135:64-5 F 26 '51

New vacuum tube materials; terratex as a substitute material for mica spacers; aluminum-clad iron materials as a replacement for nickel. A. P. Haase and E. B. Fehr. il diags Tele-Tech 10:30-2 Je; 33-5 Jl '51

Plastics in the electrical industry. il Elec R (Lond) 148:1344-6 Je 29 '51

Variation in electrical properties of silicon-iron transformer sheet; statistical analysis. S. Rushton and D. R. G. Davies. bibliog diags Iron & Steel Inst J 167:247-61 Mr '51

Statistics

47th annual statistical issue. Elec World 135: 115-50 Ja 29 '51

Statistics show past, indicate future; four federal agencies and Edison electric institute compile data. Elec World 135:106-7 Ja 29 '51

Australia

Australian notes. Elec R (Lond) 148:1112 My 25 '51

Conditions in Australia. Elec R (Lond) 147: 661 O 27 '50

Brazil

Brazilian news. Elec R (Lond) 148:1165-6, 1385 Je 1, 29 '51

Canada

Next ten years' production will exceed that of the entire past for electrical industry. H. M. Turner. Roads & Eng Constr 89: 60+ Mr '51

Significant developments in industry reviewed for the year. H. M. Turner. Roads & Eng Constr 89:48 Ja '51

ELECTRIC industries—*Continued*

Great Britain

British electrical power convention, 3d, Brighton. Elec R (Lond) 148:1285-90, 1353-63 Je 22-29 '51; Electrician 146:2105-32, 2209-15 Je 22-29 '51

Domestic usages of electricity in Britain. Elec World 135:136+ Ap 9 '51

Industry and the House; parliamentary sessions (cont). F. J. Erroll. Elec R (Lond) 147:793-4, 1109-10; 148:341-2, 493-4, 631, 801-2, 982-3, 1312-13; 149:39-40, 77-8, 244-5 N 17, D 29 '50, F 16, Mr 9, 30, Ap 20, My 11, Je 22, Jl 6-13, Ag 3 '51

Trading structure of the industry; abstracts. L. C. Penwill. Elec R (Lond) 148:1150-1 Je 1 '51; Electrician 146:1838 Je 1 '51

Madras

Electricity in Madras. Elec R (Lond) 148:253 F 2 '51

Nyasaland

Central African markets. Elec R (Lond) 148:344 F 16 '51

Philadelphia

Philadelphia's 1951 sales plans are flexible. Elec World 135:132+ My 7 '51

Rhodesia

Central African markets. Elec R (Lond) 148:344 F 16 '51

South Africa

South African news. Elec R (Lond) 147:901 D 1 '50

United States

Electric power; facts, figures and estimates. C. E. Wilson. Mech Eng 73:133-4 F '51

Electrical industry forecast for '52. Elec World 136:115-22 S 10 '51

Electrical industry is prepared to serve. F. A. Tracy. Elec West 106:67-8 Je '51

Electricity in America; productivity teams' joint report. il Elec R (Lond) 147:646-8 O 27 '50; Electrician 145:929-30 N 10 '50

47th annual statistical issue. Elec World 135:115-50 Ja 29 '51

Man-hours for essential production. R. G. Ely. Edison Elec Inst Bul 19:147-8 My '51

Mobilization today and tomorrow; electrical industry during mobilization. Elec World 135:124-7 My 21 '51

100 significant developments of 1950. Elec World 135:47-50 Ja 1 '51

Productive capacity; its problems and prospects. J. K. Hodnette. Edison Elec Inst Bul 19:215-17 Jl '51; Excerpts. Elec World 135:107 Je 18 '51

Targets for tomorrow. C. H. Lang. Edison Elec Inst Bul 19:249-51+ Jl '51; Excerpts. Elec World 135:114 Je 18 '51

Wilson appointment clouds controls picture; fate of DPA is uncertain. Elec World News ed 134:5-6 D 25 '50

Western states

Electrical West annual review number. il Elec West 106:73-120 F '51

ELECTRIC insect traps. See Insect traps

ELECTRIC inspection

Inspection of industrials. B. J. Wiesinger. il Elec West 106:74-6 Ap '51

ELECTRIC inspectors

Inspectors; annual meetings of four Rocky Mountain area chapters of International association of electrical inspectors. Elec West 106:97-100 My '51

ELECTRIC instruments

Adequate instrumentation minimizes welding variables. J. Heuschkel. diags Steel 129:66-9+ Jl 23 '51

A-c null indicator. J. C. Frommer. diags Electronics 24:136+ O '51

Apparatus for the study of electrets. L. A. Freedman and L. A. Rosenthal. diags R Sci Instr 21:896-8 N '50

British achievements in electrical measuring instruments; abstract and discussion. S. Whitehead. Engineering 172:8-9 Jl 6 '51

Capacitance bridge for high frequencies. J. S. Mendousse and others. il diags R Sci Instr 21:1002-9 D '50

Care and use of electrical instruments. F. D. Weaver. bibliog Instruments 23:1236-9 D '50

Century and a half; Elliott brothers' record in instrument making. il Elec R (Lond) 148:80-1 Ja 12 '51

Combined current indicator and integrator. W. A. Higinbotham and S. Rankowitz. diags R Sci Instr 22:688-90 S '51

Corrosion instruments. M. E. Parker. diags Oil & Gas J 50:108 Ag 9; 136 Ag 16; 163 Ag 23 '51

Direct-reading d-c. strain-gage bridge. R. W. Troke. diags Instruments 24:400-1+, 535-6+ Ap-My '51

Dynamic strain measurement. C. M. Hathaway and K. C. Rock. il diags Elec Eng 70:675-8 Ag '51

Electrical and allied developments during 1950; testing and measuring. G. Bartlett. il Gen Elec R 54:19-21 Ja '51

Electrical fundamentals and their use in instruments and control. K. Steiner. diags Heating-Piping 23:82-5 My '51

Electrical instrument design conference, London, May 28-30; abstracts of papers. Elec R (Lond) 148:1152-4 Je 1 '51; Electrician 146:1855-8 Je 1 '51

Electrical instrumentation in medical research. J. M. Benjamin, jr. and others. il Elec Eng 70:105 F '51

Electrical meteorological instruments; symposium abstracts. Engineering 171:146-7, 203 F 2, 16 '51; Engineer 191:164-5 F 2 '51; Elec R (Lond) 148:287-8 F 9 '51; Electrician 146:389-90 F 2 '51

Electrical weighing. H. I. Andrews. diags Inst E E Proc 97 pt 1:98-109 My '50; Discussion. 97 pt 1:109-11; 98 pt 1:37-40 My '50, Ja '51

Frequency compensation of a-c instruments. J. H. Miller. diag Elec Eng 70:494-7 Je '51

General Electric marine shaft horsepower-hour meter. A. V. Merchon and A. L. Ruiz. il diag Marine Eng 56:45-7 Je '51

High-speed supervision of process variables. W. E. Belcher, jr. diag Elec Eng 69:996 N '50

Improved electrical network for determining the eigenvalues and eigenvectors of a real symmetric matrix. A. Many. il R Sci Instr 21:972-4 D '50

Induction galvanometer, a sensitive instrument converter. R. W. Gilbert. il diags Elec Eng 70:893-8 O '51

Instrument electronics. M. H. Aronson. diags Instruments 24:760-2+, 888-90+, 1048-9+, 1174-7+ Jl-O '51

Instruments and controls for small a-c generators; how to use them right. D. L. Gusler. diag Power Eng 55:70-2 Jl '51

Instruments for chemical plant; properties of solutions. diags Chem Age (Lond) 65:41-5 Jl 14 '51

Laboratory bridges; high voltage Schering-Wheatstone bridge. D. Edelson and others. il diags J Chem Educ 27:644-8 D '50

Laboratory bridges; portable audio-frequency conductance bridge. D. Edelson and R. M. Fuoss. bibliog il diag J Chem Educ 27:610-13 N '50

Millimicroampere current integrator for a cyclotron. R. J. Watts. diags R Sci Instr 22:356-9 Je '51

New principles in electrical instruments. D. C. Gall. bibliog Engineer 191:770-1 Je 8 '51

Operation and maintenance of electronically operated instrument equipment. J. R. Green. il diags Iron & Steel Eng 28:102-7 My '51

Research applications of electronics. H. A. Thomas. diags Chem & Ind p588-95 Jl 7 '51

Resistance decade applications. R. P. Turner. il diag Radio & Tv N 45:50-1+ Mr '51

Temperature measurement; discussion. Inst E E Proc 97 pt 2:735-6 D '50

Triple-purpose d.c. indicating amplifier. R. H. Müller. il Anal Chem 22:sup 19A-20A N '50

ELECTRIC instruments—*Continued*

Winding insulation tester for d-c armatures. F. H. Catlin and N. Rohats. il diags Elec Eng 70:591-4 Jl '51

See also

Ammeters
Bolometers
Dynamometers
Electric apparatus and appliances
Electric measurements
Electric meters
Electric testing
Gages, Electric
Galvanometers
Hearing aids, Mechanical
Oscillators
Photoelectric cells
Radio instruments
Recording instruments, Electric
Schering bridge
Telemetering
Vacuum tubes—Measurement uses
Voltmeters
Wien bridge

Exhibitions

British instrument industry; 1st national exhibition, London, July 4-14. il Elec R (Lond) 149:3-11 Jl 6 '51; Electrician 146:2216-28 Je 29 '51

Standards

How a large electrical utility uses 1951 instrument standard. G. F. Walter. il Standardization 22:42+ F '51

Laboratory instruments join the panel and switchboard types. J. H. Miller. il Standardization 22:39-41+ F '51

ELECTRIC insulation. See Insulation (electric)

ELECTRIC inverters

Gas-tube inverter with the supply voltage below the breakdown voltage. J. M. Gage and J. C. Schuder. diag Elec Eng 70:769 S '51

Rotary inverter completely shock mounted. il diags Product Eng 22:128-9 Ag '51

ELECTRIC ironers. See Ironing machines, Electric

ELECTRIC kettles. See Kettles, Electric

ELECTRIC laboratories

Dearborn Hall, a dream come true; Oregon state college is possessor of new million dollar electrical engineering building. F. O. McMillan. il Elec West 105:76-7 D '50

Electrical equipment of technical colleges; abstract. G. Pember. Inst E E Proc 98 pt 1:25 Ja '51

Functional design of buildings for electrical education. J. D. Ryder and W. B. Boast. il plans Elec Eng 69:1081-6 D '50

GE dedicates new Knolls laboratory. il Chem Eng 57:224+ N '50

General Electric opens measurements lab. il Product Eng 21:153 D '50

GE opens measurements laboratory at Lynn; illustrations with text. Elec World News ed 134:16-17 O 30 '50

GE research department receives multimillion dollar birthday gift. il Chem & Eng N 28:3772 O 30 '50

GE's new measurements laboratory. il Instruments 23:1140+ N '50

G-E's new measurements laboratory at Lynn. il Power Eng 54:65 D '50

High-voltage circuit-breaker testing in France. M. Laborde and Y. Baron. il plan diag Engineering 170:335-6 N 3 '50

Milestone in research; General Electric research laboratory at the Knolls. il Am Cer Soc Bul 30:1-4 Ja 15 '51

Modern measurements laboratory; General Electric's Meter and instrument divisions at West Lynn. I. F. Kinnard. il Gen Elec R 53:12-15 N '50

Opens Lynn measurements laboratory; Meter and instrument divisions, General Electric. il Steel 127:59-60 O 30 '50

Operations of the Approvals laboratories; a division of Canadian standards association. G. Moes and F. R. Whatmough. Elec Eng 70:538-40 Je '51

Progress during 1950; aspects of work at BTH research laboratories. il Chem Age (Lond) 64:237-40 F 10 '51

Rugby college of technology and arts; presentation by British Thomson-Houston company of electrical laboratory equipment. il Engineer 190:560-1 D 8 '50

Switchgear divisions laboratory, General electric co. A. E. Anderson. il plan Gen Elec R 54:23-8 Ag '51

T-section transmission line for laboratory work. L. A. Ware and E. M. Lonsdale. il diags J Eng Educ 41:254-7 D '50

They'll be better engineers; Cory Hall at University of California provides students with diverse and ultramodern electrical engineering facilities. C. F. Dalziel. il Elec West 106:65-7 Ap '51

University of Washington has ultramodern electrical engineering laboratory. R. E. Lindblom. il Elec West 106:68-9 Mr '51

See also

Bell telephone laboratories
General electric company—Research laboratory
Radio laboratories

Safety measures

Obtaining safety in experimental electrical laboratories. C. F. Dalziel. il diag Elec Eng 70:99-103 F '51

ELECTRIC lamps

Electrical and allied developments during 1950; lighting. G. Bartlett. il Gen Elec R 54:50-2 Ja '51

Engineering highlights of 1950; illumination. il Westinghouse Eng 11:33-5 Ja '51

Lighting of steel mill buildings. D. H. Tuck. il Iron & Steel Eng 28:133-7; Discussion. 137-9 S '51

Parade of lighting progress; report of I.E.S. committee on progress, 1949-1950. il diags Illum Eng 46:2-6 Ja '51

Six ways to better inspection via good lighting; illustrations with text. Factory Management 109:71 Jl '51

Some inspection techniques using electric lamps; illustrations with text. Illum Eng 46: 266-7 My '51

See also

Safety lamps, Electric

Advertising

Lamp publicity. il Elec R (Lond) 147:515-16, 598 S 29, O 20 '50

Manufacture

Lamp sockets sealed with vinyl. il Mod Plastics 28:68-9 F '51

Merchandizing

Bonus bulbs campaign builds up lighting load. R. L. Coe. il Elec World 136:160+ S 10 '51

Featured CLM's boost lamp sales. C. A. Stevens. il Elec World 135:134 Mr 12 '51

Lamp wattages increased through R-40 promotion. Elec World 134:140+ D 4 '50

ELECTRIC lamps, Arc

Carbon arc characteristics that determine motion picture screen light. M. T. Jones and F. T. Bowditch. Soc Motion Picture & Tv Eng J 56:310-16 Mr '51

Differential carbon-feed system for projection arc lamps. A. J. Hatch. il diags Soc Motion Picture & Tv Eng J 56:86-92 Ja '51

Extension of the gas arc condition. H. W. Cumming. il Engineering 171:642-3 My 25 '51

Physical principles, design and performance of the Ventarc high-intensity projection lamps. E. Gretener. il diags Soc Motion Picture & Tv Eng J 55:391-413 O '50

Results of two decades of carbon arc research. W. Finkelnburg. bibliog il diag Illum Eng 45:625-9 O '50

Ultraviolet radiation of the high pressure xenon arc. W. A. Baum and L. Dunkelman. il diag Opt Soc Am J 40:782-6 N '50

Xenon compact arc lamps. W. T. Anderson, jr. bibliog il diag Opt Soc Am J 41:385-8 Je '51

See also

Moving picture machines—Light sources

ELECTRIC lamps, Fluorescent

Appraisal of modern fluorescent office lighting systems; with cost data. G. J. Taylor. bibliog il Illum Eng 46:140-51; Discussion. 151-62 Mr '51

Beryllium discontinued in fluorescent lamp manufacture. W. Schweisheimer. Power Eng 55:105-7 F '51

Church lighting; St Peter Mancroft at Norwich. G. C. Jones. il Elec R (Lond) 148: 764-5 Ap 13 '51

Classroom salvage saves sight too. C. W. Jarrett. il Elec West 107:81-3 S '51

ELECTRIC lamps, Fluorescent—*Continued*

Controlling the current taken by a fluorescent lamp; use of a tungsten lamp as resistance ballast. Electrician 145:1445 D 15 '50

Demonstration rooms help swing school relighting. il Elec World 134:148 N 20 '50

Detroit tries fluorescent street lights. L. J. Schrenk. il Elec World 135:52-3 Ja 1 '51

Development of a-c fluorescent lighting for New York city's subway cars. E. W. Beggs and H. W. Graybrook. il diag Illum Eng 45:617-21 O '50; Discussion. 45:757-9 D '50

Dimming fluorescent lamps; abstract. C. E. Williams. Elec R (Lond) 148:385; Discussion. 385-6 F 23 '51; Electrician 146:657 F 23 '51

Effect of temperature on emission of fluorescent lamp phosphors. C. W. Jerome. bibliog diags Electrochem Soc J 98:376-83 S '51

Fluorescent floodlighting; colour displays at the Festival gardens. R. W. Shaw and W. J. Vine. il diags Elec R (Lond) 149:57-62 Jl 13 '51

Fluorescent lamp performance. Elec R (Lond) 148:783 Ap 20 '51

Fluorescent lighting; demonstration of colour control by dimmers. Electrician 145:1013 N 17 '50

Fluorescent lighting in the home. E. W. Commery and K. A. Leighton. Illum Eng 45:743-51; 46:29-38 D '50-Ja '51

Fluorescent lighting on 25-cycles; flicker is pronounced unless steps are taken to overcome it. V. N. Friedman. Power Eng 55: 82-3 Ja '51

Fluorescent pit lighting aids bus maintenance. il Elec World 135:130 My 7 '51

Fluorescent street lighting. A. F. Dickerson. il Gen Elec R 54:45-8 My '51

Fluorescent-tungsten lighting. il diag Elec R (Lond) 147:737-8 N 10 '50; Electrician 145: 941+ N 10 '50

Good capacitors, a must in quality ballasts. R. F. Rowe and L. E. Gregory. il diags Illum Eng 46:406-9 Ag '51

How to design your luminous ceilings. P. Moon and D. E. Spencer. il Illum Eng 46: 295-8 Je '51

Illumination at a point from an industrial fluorescent luminaire. R. D. Burnham. diags Illum Eng 45:753-7 D '50

Illumination of a laboratory table for inspection of blood samples from bovine animals. L. C. Larson. il diags Illum Eng 46:338-9 Jl '51

Industrial fluorescent lighting. L. H. Hubble. il diags Elec R (Lond) 147:1019-22 D 22 '50

Knoxville lights up its schools. C. O. Carpenter, jr. il Elec World 135:87 Je 4 '51

Lighting at B.E.A. headquarters. il Elec R (Lond) 147:1124 D 29 '50

Lighting of the Brooklyn-Battery tunnel. L. Geenens and K. M. Reid. bibliog il map diags Illum Eng 45:697-703; Discussion. 703-4 N '50

Low-brightness illumination for a newspaper plant. W. H. Kahler. il Illum Eng 46:274-5 Je '51

New idea in street lighting; fluorescent lamps fixed to the face of buildings. B. C. Ossitt. il Elec R (Lond) 147:1111-12 D 29 '50

No starter or ballast in lighting unit; combination of fluorescent and incandescent lighting. Elec World 135:82+ Ja 1 '51

Photoelectric spectroradiometry and its application to the measurement of fluorescent lamps. R. Stair. bibliog il diags J Res Nat Bur Stand 46:437-45 Je '51

Railway fluorescent lighting; first large scale application on transport vehicles. il Electrician 146:50 Ja 5 '51; Elec R (Lond) 148:140 Ja 19 '51

Relighting the Denver national bank. il Elec West 107:66-7 Jl '51

Suntan and germicide lamps used in Westinghouse office. il Elec World 136:162 Ag 13 '51

Textile mills need the best in lighting. W. T. Watson and R. McClellan. il Elec World 136:125-6 Ag 13 '51

Theatre engineering; fluorescent lamp application and control. diag Electrician 146: 1211-12 Ap 13 '51

Thermionic cathodes for fluorescent lamps and their behavior. E. F. Lowry. il Illum Eng 46:288-94 Je '51

Three essentials of F-lamp renewals; engineering reference sheet. R. G. Slauer. Elec World 135:120 Ap 9 '51

Troffer beams support integrated ceiling-lighting system. il Steel 129:80 Jl 16 '51

Trunk road lighting; sodium-fluorescent system installed at Chorley. il Electrician 145: 931-2 N 10 '50

Two techniques in school libraries. il Illum Eng 45:604-5 O '50

Use of fluorescent tubes. Illum Eng 45:719-20 N '50

Vehicle lighting; application of the fluorescent lamp. J. J. French. il diags Elec R (Lond) 148:1041-5 My 18 '51

Wall lighting. il diags Illum Eng 45:637-46 O '50

White fluorescent lamps. A. H. McKeag and E. E. Miles. Elec R (Lond) 149:15-20 Jl 6 '51

X factors in fluorescent lighting. B. S. Benson, jr. and E. H. Church. il Illum Eng 46: 53-7; Discussion. R. A. Palmer. 57-8 F '51

You're throwing away money on haphazard replacement of fluorescent lamps. J. W. St Andre. Factory Management 109:108-9 Jl '51

Cold cathode

Application data for proper dimming of cold cathode fluorescent tubing. W. P. Carpenter. il Illum Eng 46:306-9 Je '51

Cold cathode lighting in a railway coach. il Engineer 191:574 My 4 '51

I still like our cold cathodes; Disston's maintenance superintendent reports. G. Van Artsdalen. Factory Management 109:102-3; Discussion. W. M. Woodsworth. 102-3 S '51

Lighting of new Tyne tunnels. il Elec R (Lond) 149:278 Ag 10 '51; Electrician 147: 408 Ag 10 '51

Manufacture

Chronic beryllium poisoning of long duration from fluorescent lamp manufacturing. G. K. Fenn. A M A Archives Ind Hygiene & Occup Med 3:571-4 Je '51

Five cases from the fluorescent lamp industry; treatment of chronic beryllium poisoning with ACTH and cortisone. E. M. Kline and others. il A M A Archives Ind Hygiene & Occup Med 3:549-64 Je '51

Making fluorescent lamps. il Elec R (Lond) 148:955-7 My 4 '51; Electrician 146:1532-4 My 4 '51

Spontaneous remission of chronic beryllium poisoning from fluorescent lamp manufacturing. J. W. Cass, jr. A M A Archives Ind Hygiene & Occup Med 3:569-70 Je '51

Noise

Discharge lamp chokes; methods of production noise testing. C. A. Mason and D. A. Nutt. il Elec R (Lond) 148:489-92 Mr 9 '51

Noise evaluation of fluorescent lamp ballasts. C. P. Hayes and H. R. Gould. il diags Gen Elec R 54:45-52 Je '51; Abstract. Elec Eng 70:390 My '51

Standards

Fluorescent lamps, a consumer's view. H. J. Berka. il Standardization 22:250+ Ag '51

Starters

For measuring fluorescent lamp starter transients. A. Brownell and D. D. Hinman. diags Gen Elec R 53:17-19 N '50

Glow switch transients for starting fluorescent lamps. F. H. Rixton. bibliog diags Illum Eng 46:21-5 Ja '51

Sequence-start series ballasts for instant-start fluorescent lamps. H. U. Hjermstad. bibliog il diags Illum Eng 46:365-72 Jl '51

Trend toward instant starting of fluorescent lamps. J. H. Campbell. bibliog il diags Elec Eng 70:533-8 Je '51

Testing

Cause of the humidity effect in fluorescent lamps. R. H. McFarland. diags Illum Eng 46:345-9 Jl '51

Method of testing and evaluating fluorescent luminaires. K. Franck. bibliog diags Illum Eng 45:763-7; Discussion. 767-70 D '50

ELECTRIC lamps, Incandescent

Blue tv lamp design report. R. D. Chipp. il diag Tv Eng 2:16-17+ Ag '51

ELECTRIC lamps, Incandescent—*Continued*

Downlighting. S. R. McCandless. diags Illum Eng 46:46-51 Ja '51

Mercury vapor vs incandescent for street lighting. F. D. Wyatt. il Elec World 135:98-101, cover My 7 '51

Method of keeping the luminance of a lamp constant without the use of an electric meter. R. W. G. Hunt. diag J Sci Instr 28:180-1 Je '51

Milliron's, incandescent lighting in a modern interior. il Illum Eng 45:671-2 N '50

No starter or ballast in lighting unit; combination of fluorescent and incandescent lighting. Elec World 135:82+ Ja 1 '51

Over-age lamps may mar television reception. J. H. Campbell and H. E. Schultz. il Gen Elec R 54:42-4 Jl '51

See also

Electric lamps, Tungsten

ELECTRIC lamps, Krypton

Mercury and krypton isotope electric discharge lamps; their applications to interferometry. N. L. Harris. il Engineer 190:409-11 N 3 '50

ELECTRIC lamps, Mercury vapor

Application of electric discharge lamps to daylight signalling. H. K. Bourne and E. J. G. Beeson. il diags Inst E E Proc 97 pt 2:587-94 O '50; Abstract. Engineering 169:453-4 Ap 21 '50; Discussion. Inst E E Proc 97 pt 2:594-6 O '50

High bay installations of mercury lamps. W. H. Kahler. il Illum Eng 46:268 My '51

Lamps for blue-printing machines. Elec R (Lond) 149:256 Ag 3 '51

Mercury and krypton isotope electric discharge lamps; their applications to interferometry. N. L. Harris. il Engineer 190:409-11 N 3 '50

Mercury-vapor lighting of interchange yard. il Ry Mech & Elec Eng 125:47-8 Ja '51

Mercury vapor lights tunnels at low cost. il Elec World 136:132 Ag 27 '51

Mercury vapor vs incandescent for street lighting. F. D. Wyatt. il Elec World 135:98-101, cover My 7 '51

New luminous flux values are assigned mercury-vapor lamps by the NBS. il Elec Eng 70:557 Je '51

Seattle's safety lighting. il maps Elec West 107:84-5 S '51

Tunnel lighting improved in Seattle. Eng N 147:42 Ag 9 '51

Which mercury lamp is best? W. S. Till and J. R. Jones. il diag Illum Eng 46:251-5 My '51

ELECTRIC lamps, Neon

Flasher device for continuous indication of conductivity. G. Knowles and others. diags Chem & Ind p700-1 Ag 18 '51

Mid-span warning light installed by remote control. il Elec World 136:96 Jl 30 '51

Novel application for neon diodes. I. Gottlieb. diags Electronics 24:180+ Ja '51

ELECTRIC lamps, Photoflash

Study of the short duration, high intensity, electric arc as a source of visible light. G. D. Hoyt and W. W. McCormick. Opt Soc Am J 40:658-63 O '50

ELECTRIC lamps, Portable

Lamp-making contest makes new friends; Central Hudson gas & electric corp. contest in high schools. V. E. Shepherd. il Elec World 136:132 S 10 '51

Lighting from portable lamps. il Illum Eng 45:652-3 O '50

ELECTRIC lamps, Sodium vapor

Trunk road lighting; sodium-fluorescent system installed at Chorley. il Electrician 145:931-2 N 10 '50

ELECTRIC lamps, Tungsten

Bulb sizes for incandescent filament lamps. W. E. Anderson. il diags Illum Eng 46:299-303; Discussion. 303 Je '51

Controlling the current taken by a fluorescent lamp; use of a tungsten lamp as resistance ballast. Electrician 145:1445 D 15 '50

Fluorescent-tungsten lighting. il diag Elec R (Lond) 147:737-8 N 10 '50; Electrician 145:941+ N 10 '50

New photometric device. J. E. Tyler. diags Opt Soc Am J 40:693-4 O '50

Recent developments in high wattage tungsten lamps; abstract. R. G. Slauer. diag Illum Eng 45:544-5 S '50; Same. Glass Ind 31:654 D '50

ELECTRIC lamps, Xenon

Extension of the gas arc condition. H. W. Cumming. il Engineering 171:642-3 My 25 '51

ELECTRIC lighting

Area light source; Panelite. il Arch Rec 110:180 Ag '51

Busbar lighting system; convenient and adaptable equipment. il Elec R (Lond) 148:358 F 16 '51

Electrical and allied developments during 1950; lighting. G. Bartlett. il Gen Elec R 54:50-2 Ja '51

Electroluminescence, a new condenser-lamp method of producing light. il diag Machine Design 23:114-15 My '51

Electro-luminescence, new light source, sandwich of light. il diags Power Eng 55:68-70+ S '51

Electroluminescence; new word in lighting. il diag Aviation W 55:65+ Ag 13 '51

Electroluminescent light. il diag Mech Eng 73:744 S '51

Lamps and lighting; abstract. L. J. Davies. Engineer 191:294 Mr 2 '51

Lighting technique; re-equipment of L.S.B. lecture theatre. il Elec R (Lond) 147:945 D 8 '50; Electrician 145:1341 D 8 '50

Modern lighting, including American and continental practice; abstract. E. B. Sawyer. Electrician 146:962 Mr 23 '51

New light by the square foot; electroluminescence; Sylvania's Panelite. il diags Arch Forum 95:186-7 Jl '51

1950 lighting sales campaign beats 1949. Elec World 135:132+ Mr 12 '51

Parade of lighting progress; report of I.E.S. committee on progress, 1949-1950. il diags Illum Eng 46:1-20 Ja '51

Progress in electric lighting; abstract and discussion. R. O. Ackerley. Engineering 172:235 Ag 24 '51

Results of planned lighting promotion in Indianapolis. D. Dunne. Edison Elec Inst Bul 19:117-20 Ap '51

Storage battery emergency lighting systems; abstracts. E. R. Sanderson. Elec R (Lond) 148:1148-9 Je 1 '51; Electrician 146:1836 Je 1 '51

See also

Airports—Lighting
Art galleries and museums—Lighting
Athletic fields—Lighting
Car lighting
Drafting rooms—Lighting
Electric lamps
Factories—Lighting
International commission on illumination
Office lighting
School buildings—Lighting
Street lighting

Accounting

Pro-rating electricity costs on light and motor hours. F. C. Laird. N A C A Bul 32:1501-4 Ag '51

Flicker

Effect of the duration of voltage dip on cyclic light flicker. L. Brieger. bibliog il diags Elec Eng 70:685-9 Ag '51

Electric arc furnace flicker can be overcome. B. M. Jones. Elec World 135:114-16+ Ap 23 '51

Flicker level guides distribution design. W. A. Lindberg. il Elec World 136:69 Jl 2 '51

Fluorescent lighting on 25-cycles; flicker is pronounced unless steps are taken to overcome it. V. N. Friedman. Power Eng 55:82-3 Ja '51

ELECTRIC lighting sets

Emergency lighting for the atomic age. C. J. Briefer. il Safety Maint & Prod 100:17+ N '50

ELECTRIC lines

Aluminum conductor for distribution. H. C. Purcell. il Elec West 107:70-2 Ag '51

Corona loss at extra-high voltages. R. L. Tremaine and others. bibliog il diags Westinghouse Eng 11:144-50 S '51

Fundamental effects of series capacitors in high-voltage transmission lines; abstract. A. A. Johnson and others. Elec Eng 70:702 Ag '51

ELECTRICAL lines—*Continued*

Guide for successive numbering of transmission line structures; engineering reference sheet. diags Elec World 135:106 F 26 '51

Losses in h.v.d.c. lines; investigation of continuously pointed water drops. M. Pauthenier and others. bibliog il Electrician 146:1105-8 Ap 6 '51

Regulation diagrams for transmission lines and transformers. R. O. Kapp. diags Engineering 171:277-8 Mr 9 '51

Three-phase transmission at 400 kv with four duplex conductors. J. R. Mortlock. Engineering 171:28 Ja 5 '51

Transmission line provides energy to operate aircraft warning light. il Elec West 107:63-4 Jl '51

See also

Electric cables
Electric conduits
Electric fuses
Electric plants—Interconnection
Electric service, Rural
Electric transmission
Electric utilities
Electric wiring
Overvoltage (electric lines)
Radio lines
Telephone cables
Trolley buses
Vaults (electric installation)

Construction

Hasp and staple secure boom anchor-pin. E. R. Rudasil. diags Elec World 135:128 Je 18 '51

See also

Electric lines—Overhead construction
Electric lines—Poles and towers

Cost

Engineering economics of a nation's power transmission system. W. T. Taylor. il diags Power Eng 54:54-7+ N '50

Transmission lines, Missouri River Basin project; unit prices. Eng N 147:105 Jl 19 '51

Crossarms

No painting shut-downs with aluminum crossarms. il Elec World 135:141-2 Ap 23 '51

Shallow incisions give durable crossarm treatment. F. B. Doolittle. il Elec World 134:120 D 4 '50

Damage from air raids

Let's plan for utility security; utility system lessons from Hiroshima. il Elec World 135:96-8 Ap 9 '51

Damage from storms

Lessons from 1950 storm damage. F. H. Lehman. il Elec West 105:66-7 N '50

Nature throws the book at utilities; wind, rain, snow, sleet, floods hit eastern, midwestern states. Elec World 134:88-9 D 4 '50

Design

Design of h.v. transmission lines, with special reference to conditions in India and Pakistan. A. F. Coventry. maps diags Inst E E Proc 96 pt 2:521-33 Ag '49; Discussion. 96 pt 2:533-6; 98 pt 2:82-5 Ag '49, F '51

Eye-level pole tops simplify new design problems. H. M. Williams. il Elec World 135:98+ F 26 '51

Formulas determine conductor path at quarter span. L. W. Toye. diags Elec World 135:160 Ja 29 '51

Power line design; overhead transmission in west Bengal. M. Datta. Elec R (Lond) 148:1075-6 My 25 '51

300/315-kv extra high voltage transmission system of the American gas and electric co. P. Sporn and others. il diag Elec World 135:73-6+ F 26 '51

Failure

Burndowns on no. four and no. six wire. H. E. Jung and T. A. Bettersworth. Elec West 106:62-3 Ja '51

Grounding

See Electric distribution—Grounding

Ice problem

Carrier detects glaze and speeds melting. S. C. Barlett and G. H. McDaniel. il Elec World 136:118+ S 24 '51

Research station with artificial climate for testing the corona losses in high voltage overhead lines; abstract. A. Kornfehl. il diag Refrig Eng 59:767 Ag '51

Inductive interference

Electrostatic induction by power lines in parallel telephone lines and at crossings. H. Klewe. Inst E E Proc 98 pt 1:121-7 Mr '51

Radio influence tests in field and laboratory; 500-kv test project of the American gas and electric co. G. D. Lippert and others. bibliog diag Elec Eng 70:481-6 Je '51

Location

Aerial surveying for overhead power lines; abstract. T. A. George. Inst E E Proc 98 pt 1:83 Mr '51

Maintenance and repair

Army Weasels help maintain snow-bound lines. il Elec World 134:106 N 6 '50

Compression splicing of span wires cuts cost 70 per cent. S. M. Shockey and M. Brenner. il Elec World 135:108 My 7 '51

Double-jointed A-frame takes little truck room. A. F. Wetsch. il Elec World 135:132 Ap 23 '51

Guide protects bull line, speeds deadend changing. R. U. Cox. il Elec World 135:142 Ap 23 '51

Multi-purpose trailer for service restoration. S. B. Sawyer. il Elec World 134:143 N 20 '50

Multi-service truck expands area coverage 15 per cent. H. K. Williams. il Elec World 135:124 Ap 23 '51

Numbering system aids aerial patrol observer. G. W. Tilghman, jr. il Elec World 136:144+ S 10 '51

Pole maintenance. R. D. Hoffman. Elec West 105:67 N '50

See also

Linemen's equipment

Models

Miniature three-phase power systems. F. D. Chard. diag Electrician 145:1225-7 D 1 '50

Moving

Transfer saves building temporary structure. T. M. Blakeslee. il Elec World 136:128+ Jl 16 '51

Overhead construction

Add distribution capacity quickly with aerial cable. R. F. McClure. il diags Elec World 136:126-9 S 10 '51

Aerial cable and larger substations reduce system investment. V. A. Rydbeck. diags Elec World 135:110-11 Mr 26 '51

Check crossing clearances with pole mounted on car. D. Stewart. il diag Elec World 135:82 Ja 15 '51

Cost and efficiency of earthing on low- and medium-voltage overhead line systems. L. Gosland. diags Inst E E Proc 97 pt 2:563-81 O '50; Discussion. 97 pt 2:581-6; 98 pt 2:287-93 O '50, Ap '51

Dead ends for circuits up to 33,000 v; drawings; engineering reference sheet. Elec World 134:128 D 4 '50

Guy loading at angles and dead ends in rural distribution lines; tabulations; engineering reference sheet. Elec World 134:108 D 18 '50

Helicopter strings duplex line in three minutes. T. M. Blakeslee. il Elec World 135:160 My 21 '51

Improved cable holders for power-transmission lines. S. Sandberg and J. Lindblom. il diag Engineering 172:61-3 Jl 13 '51

Mid-span warning light installed by remote control. il Elec World 136:96 Jl 30 '51

New transmission line suspension uses preformed armor rods. T. F. Peterson. il Elec World 136:112+ S 24 '51

132 kv overhead lines at Poole harbour. il Electrician 146:1212 Ap 13 '51

Overhead line regulations. H. W. Grimmitt. bibliog Inst E E Proc 96 pt 1:261-75 S '49; Same. 96 pt 2:673-87 O '49; Discussion. 96 pt 1:275-87; 98 pt 1:97-111 S '49, Mr '51; 96 pt 2:687-99 O '49

Skid four-pole 132-kv structure 125 ft. il diag Elec World 135:96-7 Mr 7 '51

ELECTRIC lines—Overhead construction—*Cont.*

Steel columns support 3,370-ft span across Delaware River reservoir. J. R. Stover and T. S. Cowen. il diag Elec World 134:108-10 N 20 '50

Supports for aerial cable messengers; drawings with text; engineering reference sheet. Elec World 135:100 Je 4 '51

Terrain dictates structure design, construction costs; line from Coulee dam across the Cascade mountains. A. A. Osipovich. il Elec World 134:86-7 N 6 '50

Truck-mounted platform eases pole-top construction. il Elec World 135:122 My 7 '51

Wire-reel brake reduces stringing hazards. E. S. Neighbors. il diags Elec World 136:116 Ag 27 '51

See also

Electric lines—Cross-arms

Electric railroads—Overhead construction

Poles and towers

Central point distribution pole installation standard. diags Elec World 135:124+ My 7 '51

Compact pole assembly for subway terminal. diag Elec World 135:80 Ja 1 '51

Cut tower-replacing cost with interlacing scheme. G. H. Brown. il Elec World 135:116 F 26 '51

Dentistry saves wood poles; stops pole-top heart rot. B. J. Barmack. il Elec World 136:112-13 Jl 16 '51

Flexible steel tubing derrick sets 90-ft poles. F. E. Reinhart. il Elec World 135:164 My 21 '51

Hydraulic boom and puller combined with earthborer. F. L. Goss and E. W. Templing. il Elec World 134:100 D 18 '50

Jetting power-line poles in place with air. Comp Air Mag 55:254 N '50

Korean order rush, low inventories blamed for pole line material lack. il Elec World News ed 134:27 N 13 '50

Light steel tower line designs. A. A. Osipovich. Elec Eng 70:55 Ja '51

132 kv lines at Poole harbour; tower erection on difficult ground. il Elec R (Lond) 148:747 Ap 13 '51

132kv wood pole transmission line. diag Engineer 191:796 Je 15 '51; Engineering 171:763 Je 22 '51; Elec R (Lond) 148:1301 Je 22 '51; Electrician 146:2030 Je 15 '51

Painting data for transmission towers; with tables; engineering reference sheet. Elec World 135:78, 82+ Ja 15 '51

Pole maintenance. R. D. Hoffman. Elec West 105:67 N '50

Relationship of price and life of paint to cost of tower protection per year; nomograph; engineering reference sheet. Elec World 135:162 Ja 29 '51

Soil stabilization speeds tower footing excavation. E. C. Gershoy and C. Mueller. il diags Elec World 135:66-7 Ja 15 '51

Southern yellow pine pole data; tables; engineering reference sheet. Elec World 136:110 S 24 '51

To reduce replacements treat standing poles. L. E. Lockwood. il Elec World 135:102-3 Ap 9 '51

Transmission line construction; concrete-filled tubular method. il Elec R (Lond) 149:201-2 Jl 27 '51

Two grounding assemblies for rural line poles. diags Elec World 135:171-2 Ja 29 '51

See also

Electric lines—Cross-arms

Protection

Application of phase-comparison principles to power-swing conditions on long high-voltage transmission lines. G. W. Donaldson. diags Inst E E Proc 98 pt 2:47-9 F '51

Combined phase and ground distance relaying. W. C. New. diags Elec Eng 69:960 N '50

Conductor shielding and added impulse insulation for lightning protection; engineering reference sheet. Elec World 135:126 F 12 '51

Design, specification and performance of high-voltage surge diverters. H. F. Jones and C. J. O. Garrard. il diags Inst E E Proc 97 pt 2:365-79 Je '50; Discussion. 97 pt 2:379-88; 98 pt 2:261-70 Je '50, Ap '51

Distribution design changes bring improved service reliability. J. P. Barron. il Elec World 135:91-4 My 7 '51

11-year operating record; rural line sectionalizing by repeater fuses. R. M. Schahfer and F. H. Strout. Elec Eng 70:488 Je '51

Interrupter switches protect 60-kv loop. il map diag Elec West 107:100 S '51

Line insulator loss under normal conditions; 500-kv test project of the American gas and electric co.; abstract. O. Naef and others. Elec Eng 70:885 O '51

Overhead line protection. T. C. Gilbert. il diags Elec R (Lond) 149:169-73 Jl 27 '51

Use directional distance relaying to solve 33-kv loop problem. A. J. Nicholson. il diags Elec World 136:94-6 Ag 27 '51

Safety measures

Assure line clearance when working on restorer. J. C. Elder. diag Elec World 135:134+ F 12 '51

Overhead work done safely with telescoping pole. W. P. Carter. il diags Elec World 134:128+ N 20 '50

Tree trimming; National safety council data sheet. il Nat Safety N 64:32-4+ S '51

Use scale models to analyze pole-top hazards. A. L. Dowden. il Elec World 135:72 Ja 15 '51

Tables, calculations, etc.

How to estimate outage probability due to lightning on a transmission line; engineering reference sheet. Elec World 136:94-5 Jl 2 '51

Transmission-line load impedance for maximum efficiency. S. G. Lutz. Elec Eng 70:128 F '51

Typical transmission line characteristics; engineering reference sheet. R. F. Lawrence. Elec World 135:128 Ap 23 '51

Testing

Corona investigation on extra-high-voltage lines; 500-kv test project of the American gas and electric co. I. W. Gross and others. bibliog Elec Eng 70:224-30 Mr '51

Detecting and repairing defective splices. J. Lummis. il Elec West 106:76-7 My '51

Research station with artificial climate for testing the corona losses in high voltage overhead lines; abstract. A. Kornfehl. il diag Refrig Eng 59:767 Ag '51

Tree problem

Boom and cage cut tree trimming costs 40 per cent. S. J. Pearson. il Elec World 135:155 Ja 29 '51

Lighting circuit on mast arms clears trees. H. R. Means. il diags Elec World 134:132+ D 4 '50

Tree trimming; National safety council data sheet. il Nat Safety N 64:32-4+ S '51

Tree wire aids conversion program. F. E. Johnson, jr. il Elec World 134:105 O 4 '50

Underground lines

Low cost underground in Hawaii. C. H. Williams. il diags Elec West 106:56-8 Ja '51

Modern buried cable distribution for new residential developments. J. S. Parsons. il diags Elec World 134:103-6 N 20 '50

Vibration

Formulas determine conductor path at quarter span. L. W. Toye. diags Elec World 135:160 Ja 29 '51

Recommendations for reducing vibration of conductors based on field data. R. H. Nau. diags Elec World 135:115-18 Je 18 '51

Vibration and fatigue life of steel strand. J. C. Little and others. Elec Eng 69:1065 D '50

France

Extra high-voltage cable developments in France. M. Laborde and R. Tellier. il map diags Engineering 170:319-20 O 27 '50

Oregon

Another controversial transmission line; McNary-LaGrande 230-kv federal line. il map Elec West 107:55-7 Jl '51

Scotland

Scottish power lines; work in a rugged area. il map Elec R (Lond) 148:391-2 F 23 '51; Electrician 146:645-6 F 23 '51

ELECTRIC lines—*Continued*

South Dakota

New South Dakota loop expands Missouri basin transmission grid. il Elec World 135: 83 My 7 '51

Sweden

Sweden has world's longest, highest voltage power line. il Power Eng 55:78-80 Ap '51

Virginia

Debate on transmission line from Buggs Island dam to Langley Field, Va. Pub Util 47:182-5 F 1 '51

Western states

Oregon-Cal tie is hot issue. il maps Elec West 106:62-4 Mr '51

Power construction tempo is stepped up for 1951. il Elec West 106:76-105 F '51

ELECTRIC locomotives

Development of electric traction on the French national railways. R. Dugas. il maps Inst E E Proc 97 pt 2:621-7 O '50

840-h.p. electric-battery locomotive. il Engineering 171:383 Mr 30 '51; Elec R (Lond) 148:610 Mr 23 '51

Electric-drive locomotives; abstract. A. H. Candee. Mech Eng 72:992-3 D '50

Electric motive power for the Canadian National. W. A. Bailey. il map diags Ry Age 129:46-9 D 16 '50

Engineering highlights of 1950; new prospects for rail electrification. il Westinghouse Eng 11:29-30 Ja '51

Revolution in railroad motive power. A. H. Candee. Midwest Eng 3:19-21 F '51

Single phase, 50 cycles-per-second locomotive for the French railways. il diags Engineer 191:154-6 F 2 '51

Small Italian loco's. il Electrician 147:115 Jl 13 '51

Transmission and suspension; report of International railway congress. Engineering 171: 197-8, 216-18 F 16-23 '51

Versatility stressed in Alco-G.E. dual-purpose road locomotive. J. P. DeLaney and J. H. Gauss. il Ry Age 129:51-2 N 18 '50

See also

Locomotives, Diesel electric

Locomotives, Gas turbine-electric

ELECTRIC locomotives, Industrial

Handling materials by remote-controlled locomotives. W. J. Boyer. il plan Eng & Min J 151:92-3 D '50

ELECTRIC locomotives, Mine

Battery-powered trammer. il Blast F & Steel Pl 38:1470-1 D '50; Same. Min Cong J 37: 62 Ja '51

Determining trolley-locomotive position for maximum voltage drop with current from three sources. M. H. Hall. Coal Age 56:104 Ag '51

Will mine locomotives soon be powered by flywheels? diag Eng & Min J 152:107 Mr '51

ELECTRIC losses

Copper conductor power loss for 2.4-kv and 4.16-kv three-phase circuits; chart; engineering reference sheet. N. H. Erlandson. Elec World 135:76 Ja 1 '51

Copper conductor power loss for 12.47-kv and 22-kv, three-phase circuits; charts; engineering reference sheet. N. H. Erlandson. Elec World 135:80 Ja 15 '51

Corona loss at extra-high voltages. R. L. Tremaine and others. bibliog il diags Westinghouse Eng 11:144-50 S '51

Corona loss variation for different conductors and weather conditions; charts; engineering reference sheet. Elec World 135: 104 F 26 '51

Evaluate the losses first, then select the transformer. L. W. Schoenig. Elec World 135:119-20 Je 18 '51

Line insulator loss under normal conditions; 500-kv test project of the American gas and electric co.; abstract. O. Naef and others. Elec Eng 70:885 O '51

Losses in h.v.d.c. lines; investigation of continuously pointed water drops. M. Pauthenier and others. bibliog il Electrician 146:1105-8 Ap 6 '51

Power supply study and new rectifier installation for the United electric railways of Providence. W. C. Whitman and F. F. Schaller. map plan diags Elec Eng 70:425-31 My '51

Reduction of skin effect losses by the use of laminated conductors. A. M. Clogston. diags Bell System Tech J 30:491-529 Jl '51; Same. Inst Radio Eng Proc 39:767-82 Jl '51; Review. G. W. O. Howe. Wireless Eng 28:321-2 N '51

Techniques of corona loss measurement and analysis; 500-kv test project of the American gas and electric co. O. Naef. and others. il Elec Eng 70:423 My '51

ELECTRIC machinery

Developments in 1950. il Electrician 146:405 F 2 '51

Dielectric absorption studies at higher voltages on large rotating machines; abstract. W. Schneider. Elec Eng 70:572 Jl '51

Electrical development during 1950. A. W. Kramer. il Power Eng 55:66-8 Ja '51

Franklin's electrical machine; letter to the managers of the Franklin institute, 1826. J. R. Coxe. Franklin Inst J 251:188 Ja '51

Polyphase commutator machines. B. Adkins and W. J. Gibbs. bibliog diags Inst E E Proc 96 pt 2:233-46 Ap '49; Discussion. 96 pt 2:246-52; 97 pt 2:818-21 Ap '49, D '50

See also

Brushes (electric machinery)

Commutators

Cranes, derricks, etc.—Electric equipment

Electric apparatus and appliances

Electric converters

Electric driving

Electric generators

Electric locomotives

Electric motors

Electric protective apparatus

Electric transformers

Electric welding machines

Electricity in mining

Electricity on the farm

Hoisting machinery, Electric

Hydroelectric plants

Mine hoisting, Electric

Pumping machinery, Electric

Refrigerators, Electric

Rotors (electric machinery)

Ship propulsion, Electric

Voltage regulators

Cleaning

Dry cleaning with corn cob grits. E. W. Shoff. il Iron & Steel Eng 28:126-8; Discussion. 128-30 S '51

Control

Electrical machine control; vacation school at Imperial college, London. Elec R (Lond) 147:571 O 13 '50

Design

Electrical machine design; undergraduate education. K. Aston. Elec R (Lond) 148:133-6 Ja 19 '51

Factors affecting minimum surface leakage distances in direct-current power systems. J. E. Hart and others. il diag Elec Eng 70:910-14 O '51

Unbalanced magnetic pull and the mechanical stability of rotating electrical machines. W. G. Crawford. diags Engineering 171: 504-5 Ap 27 '51

Maintenance and repair

Maintenance inspection and testing of large rotating machines. J. S. Johnson. il Power Eng 55:70-2+ Je '51

Manufacture

From D-aisle to D-aisle; Westinghouse East Pittsburgh manufacturing plant. il Westinghouse Eng 11:91 My '51

Temperature

Correcting thermal unbalance in electric rotors. W. F. King. il diags Power 94:84-6+ N '50

Windings

Winding-insulation testers. N. Rohats and E. C. Schrom. il diags Gen Elec R 54: 51-5 S '51

ELECTRIC measurements

Automatic a-c bridges. J. F. Graham. il diags Electronics 24:110-16 F '51

ELECTRIC measurements—*Continued*

Conduction of current in a metallic pipe filled with a conducting liquid. H. Poritsky and H. Weil. diags J Ap Phys 22:1002-5 Ag '51

Current integrator. G. M. B. Bouricius and F. C. Shoemaker. diag R Sci Instr 22:183-4 Mr '51

Current transformers for audio measurements. L. T. Fleming. diags Electronics 24: 188+ Jl '51

Deterioration of oxide-coated cathodes under low duty-factor operation. J. F. Waymouth, jr. bibliog il diags J Ap Phys 22:80-6 Ja '51

Electric and magnetic forces between sphere and wire. W. R. Smythe. diag J Ap Phys 22:521-2 Ap '51

Electric tunnel effect across thin insulator films in contacts. R. Holm. bibliog diags J Ap Phys 22:569-74 My '51

Electrical measurement by thermal effects; discussion. Inst E E Proc 98 pt 2:422-4 Je '51; Abstract. Elec R (Lond) 148:537-8 Mr 16 '51

For measuring fluorescent lamp starter transients. A. Brownell and D. D. Hinman. diags Gen Elec R 53:17-19 N '50

G-E's new measurements laboratory at Lynn. il Power Eng 54:65 D '50

High temperature plasma properties from high current arc stream measurements. W. Finkelnburg and S. M. Segal. bibliog diag Phys R 80:258-60 O 15 '50

Instrument to demonstrate the synthesis of a wave-guide mode of propagation. H. M. Barlow. il diags J Sci Instr 27:307-9 N '50

Measure phase angle in relay circuit accurately. J. R. Eaton and J. S. Race. diags Elec World 134:126+ N 20 '50

Measurement of and effect of temperature on electrical resistance of glass electrodes. E. L. Eckfeldt and G. A. Perley. bibliog diags Electrochem Soc J 98:37-47 F '51

Measurement of d-c machine parameters. R. M. Saunders. bibliog diags Elec Eng 70:787-92 S '51

Measurement of electrical constants of a pipe line. M. E. Parker. diags Oil & Gas J 50: 94 Je 28 '51

Measurements of line currents. M. E. Parker Oil & Gas J 50:89 Ag 30 '51

Measuring vector relationships. Y. P. Yu. il diags Electronics 24:124-7 Jl '51

Method of measuring the absolute potential of aqueous half-cells. W. A. Patrick and C. L. Littler. bibliog diags J Phys & Colloid Chem 54:1016-27 O '50

Modern measurements laboratory; General Electric's Meter and instrument divisions at West Lynn. I. F. Kinnard. il Gen Elec R 53:12-15 N '50

New method for determining the value of the Faraday. D. N. Craig and J. I. Hoffman. Phys R 80:487 N 1 '50

Recording conductometer for electrolytes. L. E. Ashman and others. il diags Instruments 24:710-15 Je '51

Resistance measurement; special methods for microammeters and galvanometers. diags Electrician 146:709-10 Mr 2 '51

Some electrical relations in galvanic couples. H. D. Holler. bibliog diags J Res Nat Bur Stand 45:373-80 N '50

Some experiments on the use of frequency modulation in electrical measurements. D. M. Tombs and J. F. Ward. bibliog diags Inst E E Proc 97 pt 2:645-50 O '50

Spot welder secondary current measurement. I. C. McKechnie. il Welding J 29:962-4 N '50

Standards for electrical measurement. F. B. Silsbee. il diag Instruments 24:35-7+ Ja '51

Three-phase circuits; measurement of power and reactive power. S. A. Swann. diags Electrician 147:177-81 Jl 20 '51

Three-phase consumption tests. G. W. Stubbings. diags Electrician 146:133-4 Ja 12 '51

Three-phase measurements. diags Electrician 146:565-6 F 16 '51

See also

Dielectric constants
Dielectrics
Dynamometers
Electric conductivity
Electric engineering—Tables, calculations, etc.
Electric instruments
Electric meters
Electric resistance
Electric testing
Electric units
Electrometers
Frequency meters
Galvanometers
Magnetic measurements
Oscillographs
Photoelectric cells—Measurement uses
Potential, Electric
Radio measurements
Vacuum tubes—Measurement uses
Voltmeters
Watt hour meters

Bibliography

Radio progress during 1950; measurements. Inst Radio Eng Proc 39:377-80 Ap '51

ELECTRIC meters

Hook-on power factor meter. A. J. Corson and A. L. Nylander. diag Elec Eng 70:523 Je '51

Large meters easily read at a distance. Iron Age 167:67 Ja 11 '51

Locate meters with multiple tags. T. Pearson. il Elec World 135:156 My 21 '51

Modified can removes broken meter covers safely. W. F. Black and E. Holcomb. il Elec World 135:118 My 7 '51

Review of new plant equipment; electrical meters. il Power 95:161-2 Mid-Je '51

When you can measure without circuit interruption; hook-on instruments. A. L. Nylander. il diags Gen Elec R 54:35-41 Ag '51

See also

Ammeters
Demand meters
Electric measurements
Frequency meters
Varmeters
Voltmeters
Watt hour meters
Wattmeters

Bearings

Inspection device for watthour meter ball bearings. E. H. Tyson. il Elec World 135: 122 Je 18 '51

Installation

Metering transformers pole-mounted as unit. V. C. Moore. il Elec World 136:132+ Jl 16 '51

Modern facilities solve problems of metering expanding loads. R. Longstaff. il Elec World 135:64-6 Ja 1 '51

Testing

Compact meter test kit has eight load circuits. R. W. Pfaff. il diag Elec World 135: 155+ Ja 29 '51

Our customers know their meter testers. E. L. Keller. il Elec World 135:68 Ja 15 '51

ELECTRIC mixers

Rating

Electric food mixers. il Consumers Res Bul 27:5-11 Ja '51

ELECTRIC moment

Apparent dipole moments of the chlorinated methanes in the liquid, dissolved, and gaseous states. G. A. Barclay and R. J. W. Le Fèvre. Chem Soc J p556-62 F '50

Apparent polarities of a number of substituted chloro-, nitro-, methyl-, methoxy-, and acetyl-benzenes. C. G. Le Fèvre and R. J. W. Le Fèvre. Chem Soc J p 1829-33 Jl '50

Binding energy and dipole moment of alkali halide molecules. E. S. Rittner. bibliog J Chem Phys 19:1030-5 Ag '51

Determination of the dipole moments of some derivatives of hydroxybenzoic acid. C. S. Copeland and M. W. Rigg. bibliog Am Chem Soc J 73:3584-8 Ag '51

Determination of the two-dipole moment components in nitrosyl fluoride. D. W. Magnuson. bibliog J Chem Phys 19:1071 Ag '51

Deuteron quadrupole moment and the radiofrequency spectra of H_2 and D_2 in low magnetic fields. H. G. Kolsky and others. bibliog Phys R 81:1061 Mr 15 '51

Dipole moment and electric quadrupole effects in HNCO and HNCS. J. N. Shoolery and others. J Chem Phys 19:250-1 F '51

Dipole moments and molecular structure. H. R. Davidson. bibliog diags J Chem Educ 27:598-603 N '50; Correction. 28:164 Mr '51

Dipole moments and structures of a series of alkyl polysulfides. C. C. Woodrow and others. bibliog diags J Chem Phys 19:951-4 Jl '51

ELECTRIC moment—*Continued*

Dipole moments of central-atom molecules. A. D. Franklin. bibliog Am Chem Soc J 73:3512 Jl '51

Dipole moments of ethylene oxide and carbonyl chloride in benzene solution, and a note on a useful modification of Barclay and Le Fèvre's equation. C. L. Angyal, G. A. Barclay and R. J. W. Le Fèvre. Chem Soc J p3370-3 D '50

Dipole moments of some acid amides and the structure of the amide group. W. W. Bates and M. E. Hobbs. bibliog Am Chem Soc J 73:2151-6 My '51

Dipole moments of some aliphatic ethers. R. A. Spurr and H. Zeitlin. bibliog Am Chem Soc J 72:4832 O '50

Dipole moments of some fluorine-containing organic compounds. P. E. Brown, T. De Vries, A. L. Myers. Am Chem Soc J 73:1811-15 Ap '51

Dipole moments of some α-phenyl ketones. E. L. Alpen and W. D. Kumler. Am Chem Soc J 72:5745-7 D '50

Dipole moments of the 1,2-dibromopropenes. H. A. Smith and L. E. Line, jr. Am Chem Soc J 72:5434-6 D '50

Electric dipole moment and stereochemistry of 2 : 5-dibromo-1 : 4-di-*tert*.-butylbenzene. H. Kofod, L. Kumar and L. E. Sutton. diags Chem Soc J p 1790-4 Jl '51

Electric dipole moments of some dihydrotetrazines and related compounds. P. G. Edgerley and L. E. Sutton. Chem Soc J p3394-6 D '50

Electric moments of five of the isomeric hexachlorocyclohexanes. E. L. Lind, M. E. Hobbs and P. M. Gross. bibliog Am Chem Soc J 72:4474-7 O '50

Electric moments of organosilicon compounds; fluorides and chlorides. C. Curran, R. M. Witucki and P. A. McCusker. bibliog Am Chem Soc J 72:4471-4 O '50

Electric moments of polar polymers in relation to their structure. P. Debye and F. Bueche. bibliog diags J Chem Phys 19:589-94 My '51

Electric quadrupole moment of Li^6. N. A. Schuster and G. E. Pake. Phys R 81:157-8 Ja 1 '51

Further studies on the stereochemistry of aromatic ethers. K. B. Everard and L. E. Sutton. Chem Soc J p 16-21 Ja '51

Hyperfine structure of the rotational spectra of XYZ_3-type molecule, where nuclei Z have electric quadrupole moments. M. Mizushima and T. Ito. bibliog J Chem Phys 19:739-44 Je '51

Inductive effect and chemical reactivity; general theory of the inductive effect and application to electric dipole moments of haloalkanes. R. P. Smith and others. bibliog Am Chem Soc J 73:2263-8 My '51

Microwave collision diameters and associated quadrupole moments. R. M. Hill and W. V. Smith. Phys R 82:451 My 1 '51

Microwave spectrum and dipole moment of methyl mercaptan. T. M. Shaw and J. J. Windle. J Chem Phys 19:1063-4 Ag '51

Molecular polarisation and molecular interaction; the molecular polarisation of diphenylamine in solution in benzene, dioxan, and mixtures of benzene with nitrobenzene, triethylamine, and pyridine. J. W. Smith. Chem Soc J p3532-5 D '50

Nuclear spins and quadrupole moments of stable germanium isotopes. J. M. Mays and C. H. Townes. bibliog Phys R 81:940-1 Mr 15 '51

Orientation of *x*-bromo- and *x*-nitro-benzocinnoline 6-oxides. K. E. Calderbank and R. J. W. Le Fèvre. Chem Soc J p649-51 Mr '51

Physical properties of some triazo compounds; dipole moments. H. O. Spauschus and J. M. Scott. bibliog Am Chem Soc J 73:210-12 Ja '51

Polarities of enols. C. L. Angyal and R. J. W. Le Fèvre. Chem Soc J p562-4 F '50

Polarities of molecules containing iodine of valency higher than one. C. G. Le Fèvre and R. J. W. Le Fèvre. Chem Soc J p373-5 D '50

Polarization of the nucleus by electric fields. G. R. Gunther-Mohr and others. Phys R 81:289-90 Ja 15 '51

Pressure broadening of the ammonia inversion line by foreign gases; quadrupole-induced dipole interactions. P. W. Anderson. diags Phys R 80:511-13 N 15 '50

Quadrupole moment ratio of Cl^{35} and Cl^{37} from pure quadrupole spectra. R. Livingston. Phys R 82:289 Ap 15 '51

Ratio of the nuclear magnetic and electric quadrupole interactions for atomic Cl^{35} and Cl^{37}. V. Jaccarino and J. G. King. Phys R 83:471-2 Jl 15 '51

Some molecular dipole moments determined by microwave spectroscopy. J. N. Shoolery and A. H. Sharbaugh. Phys R 82:95 Ap 1 '51

Some properties of the diphenyl-4-diazocyanides and their 4′-bromo-derivatives. H. C. Freeman and R. J. Le Fèvre. Chem Soc J p3128-31 N '50

Spin and quadrupole moment of Cl^{36}. C. M. Johnson and others. il Phys R 83:1249 S 15 '51

Stabilization of highly polar resonance structures by hydrogen bonding; electric moments. C. Curran and G. K. Estok. bibliog Am Chem Soc J 72:4575-8 O '50

Stereochemistry of the imidazolidine ring. E. Fischer. J Chem Phys 19:395-6 Ap '51

Stereochemistry of the salicylides and some related compounds. P. G. Edgerley and L. E. Sutton. pl diags Chem Soc J p 1069-74 Ap '51

Structure and dipole moment of isothiocyanic acid. C. I. Beard and B. P. Dailey. bibliog J Chem Phys 18:1437-41 N '50

Structure and dipole moment of SO_2 from microwave spectra. G. F. Crable and W. V. Smith. bibliog J Chem Phys 19:502 Ap '51

Sulphur dioxide; its apparent dipole moment as a solute and as a pure liquid compared with the true value as a gas. R. J. W. Le Fèvre and I. G. Ross. diag Chem Soc J p283-90 Ja '50

ELECTRIC motors

Case for flywheel loom motors. R. J. Demartini. il Textile World 101:125+ Ap '51

Commutation in universal-type motors. L. C. Packer. diag Elec Eng 70:318 Ap '51

Electric motor exports, 1938-1950; tabulation. Iron Age 167:346 Ja 4 '51

Electric motor selection simplified. il Brick & Clay Rec 119:76+ S '51

Electric motors over three hundred horsepower applied to main roll drives in the iron and steel and allied industries during 1950; tabulation. Iron & Steel Eng 28:137-40 Ja '51

Electric motors; muscles for industry. il Steel 129:57-8 S 17 '51

Electrical and allied developments during 1950; industry. G. Bartlett. il Gen Elec R 54:27-8 Ja '51

Hermetic refrigerator motor, a lesson in technical progress. il Westinghouse Eng 11:71 Mr '51

How to pick a motor; General electric co. sound slidefilm on motor selection. il Mod Ind 21:56-9 Je '51

Motor inspector training. G. M. Kennedy. Iron & Steel Eng 28:74-6; Discussion. 77 Jl '51

Motor-reversal problem? here are nine solutions. J. L. Watts. diags Power 95:83-6 My '51

Motors and motor control; Chemical Engineering report. V. J. Kropf. il diags Chem Eng 58:123-36 Jl '51

Motors for severe duty cycles. L. H. Berkley. il Product Eng 22:148-9 Ja '51

Power handbook; electrical machinery. J. J. O'Connor, comp. diags Power 95:108-9 Jl '51

Selection of electric motors. J. Benish. il diags Pet Eng 22:C7-12 D '50

Selection of electric motors for paper mill application; preliminary report of TAPPI electrical subcommittee. R. F. Sorenson and others. Tappi 33:572-7 D '50

Torque motor performs with servo-mechanisms. il Product Eng 22:176 Ja '51

What motor for what pump? G. L. Oscarson. il Power Eng 55:74-6 S '51

ELECTRIC motors—*Continued*

What size motor for proper operation of servomechanism. G. C. Newton, jr. bibliog il diags Machine Design 22:125-30+ N '50

See also

Armatures
Commutators
Electric driving
Electric locomotives
Electric machinery
Electric motors, Direct current
Electric motors, Induction
Electric motors, Railway
Electric motors, Synchronous
Gearmotors

Bearings

Application of railway roller bearings to motor changeovers. A. A. Van Pelt. Iron & Steel Eng 27:151 O '50

Care

Operation and care of electric motors. F. A. Kuhl. Sewage & Ind Wastes 23:95-8 Ja '51

Overheated electric motors; causes and prevention. J. L. Watts. Pulp & Pa of Can 52:54-7+ F '51

Control

Adequate high-voltage equipment isolates trouble. R. R. Gobeli. il Factory Management 109:106-8 Je '51

Modern controls for high-voltage motors. B. J. Dalton. il Mill & Factory 49:84-6 Jl '51

Motor speed controls. E. Bukstein. il diags Radio & Tv N 45:35+ Mr '51

New and better motor brake. T. W. Driesch. il diags Gen Elec R 54:26-8 F '51

New control for high-voltage industrial motors; operating experience with current-limiting fuses and air-break contactors. B. J. Dalton. il diags Gen Elec R 54:49-55 My '51

Remote control of positioning motors. G. M. Chute. diags Electronics 24:92-3 Jl '51

Selection of electric motor controls. J. Benish. diags Pet Eng 23:C5-10 Jl '51

Solenoid motor control. G. M. Chute. diag Electronics 24:105 Ja '51

Use of a mechanical differential gear for speed control. B. M. Burt. diag Pulp & Pa of Can 51:127-9 N '50

Velotrol electric motor speed control. Engineering 171:221 F 23 '51

Cooling

Ventilation of steel mill motors and motor rooms. S. L. Jameson. il diags Iron & Steel Eng 28:68-72 Ja '51

Design

Design method for polyphase reluctance synchronous motors; abstract. C. H. Crouse. diags Elec Eng 70:618 Jl '51

Designing a motor for high production. J. L. Moody. il Machine Design 23:139-40 Je '51

Machine synthesis. T. C. Lloyd. bibliog Elec Eng 69:1001-3 N '50

Fractional horsepower

Carbon brushes for use in f.h.p. motors. E. H. Foster. Elec R (Lond) 149:279-82 Ag 10 '51

Common motor troubles and their causes; data sheet. H. C. Bodine. Heating-Piping 23:96 Je '51

Equivalent circuits, and their application in designing shaded pole motors. S. S. L. Chang. Elec Eng 70:479 Je '51

Fractional h.p. motors; new methods of production. il Elec R (Lond) 148:183-5 Ja 26 '51

Fractional hp variable speed drives. il Product Eng 22:178 Ja '51

New method of controlling voltage dips caused by motor starting currents. J. W. Anderson. diags Edison Elec Inst Bul 18: 437-42+ D '50; Elec World 135:103-6 Mr 12 '51

Power leads for fractional hp motors. A. L. Ulmer. il diags Product Eng 22:135-8 Jl '51

Installation

Handling large motors; practical installation advice. Elec R (Lond) 149:139 Jl 20 '51

Maintenance and repair

How to keep motors in top shape. Textile World 101:204+ S '51

Maintenance for 600 series auxiliary mill motors. J. C. Anderson. il diags Blast F & Steel Pl 39:1077-83 S '51

1951's motors; ready for overtime; with management checkup chart. il Mod Ind 21: 46-9 Ja '51

Manufacture

Cases in methods improvement; Westinghouse electric corp.; illustrations with text. Factory Management 108:78-80 D '50

Crimping machine tags motor leads. il diag Am Mach 94:103 N 27 '50

Protection

Capacitors cure motor burn-outs. U. G. Karrer. Elec West 106:61 Ja '51

Copper-fin totally enclosed motors. L. A. Kilgore and J. F. Heidbreider. il Elec Eng 69:1018 N '50

Explosion-proof motors; design and application to the petroleum industry. J. Z. Linsenmeyer and C. R. Olson. il diags Am Pet Inst Proc 31 M(3):155-63; Discussion. 164-7 '51

Give motors single phase protection. E. L. Schwarz-Kast. il diags Power 95:122-3 S '51

Low voltage protection with two-wire control. F. E. Reeves. diag Elec World 135: 113-14 F 26 '51

Lower maintenance and increased service life for electric motors; Reliance electric and engineering co. J. L. Van Nort. il Paper Ind 32:1288-9 Mr '51

Motor selection for hazardous locations. J. C. Linsenmeyer. il diag Pet Eng 23:C20-2+ Ja '51

New insulating materials and coatings extend electric motor life. R. L. Custis. il Materials & Methods 33:74-5 Mr '51

New insulation extends motor service. il Steel 127:72+ O 30 '50

Protection of electric equipment from corrosion in pulp and paper mills. G. W. Knapp. il Paper Tr J 132:18+ Ja 19 '51

Totally enclosed auxiliary drive motors for generating stations. J. G. Noest. Elec Eng 70:155-9 F '51

Standards

Report on mill motor standardization. M. B. Antrim. Iron & Steel Eng 28:118-19 My '51

Starting

Centralized motor controls. E. G. Wise. il plan Westinghouse Eng 11:125-8 Jl '51

Cushion starting of a-c motors to prevent current peaks. H. L. Lindstrom. diags Machine Design 23:160-2+ Jl '51; Excerpt. Product Eng 22:250+ S '51

Loom-motor starter. il Westinghouse Eng 11: 136 Jl '51

Modern starters. il Electrician 146:1549-50 My 4 '51

Multi-motor control boards. il Engineer 191: 805-6 Je 15 '51

New method of controlling voltage dips caused by motor starting currents. J. W. Anderson. diags Edison Elec Inst Bul 18: 437-42+ D '50; Elec World 135:103-6 Mr 12 '51

Plug-in starter. il Electrician 145:1334 D 8 '50

Sequential motor pull-in underlies the behavior of feeders after extended outage. C. Hutchinson. Elec World 135:80-3 F 26 '51

Tables, calculations, etc.

Asynchronous transmission capacity. R. Gårding. diag Elec Eng 69:981-2 N '50

Testing

Aircraft electric motors need test equipment. I. E. Ross. bibliog il diags Elec Eng 70:41-6 Ja '51

Load tester for motor alternators. K. F. Gluesing. il diag Ry Mech & Elec Eng 125: 80-1 Ag '51

ELECTRIC motors, Alternating current

A-c motors for oil-well pumping. M. H. Halderson. il Elec Eng 70:598-601 Jl '51

Characteristics of the N.S. variable speed a.c. motor. D. Faughnan. il diags Pulp & Pa of Can 51:120-4 N '50

ELECTRIC motors, Alternating current—*Cont.*

Operating guide for a.c. drilling rig motors. L. J. Murphy. il World Oil 132:89-90+ Mr '51

See also

Electric motors, Induction

Electric motors, Synchronous

Control

Mechanical device fixes motor at present speed. il diag Product Eng 21:172 N '50

Speed control of ac motors. F. A. Annett. diags Power 95:100-2+ Ag '51

Stator-fed a.c. commutator machine with induction regulator control. B. Schwarz. bibliog diags Inst E E Proc 96 pt 2:755-67 O '49; Discussion. 97 pt 2:725-6 D '50

ELECTRIC motors, Direct current

Adjustable voltage drives for ore handling. C. B. Risler. il diags Iron & Steel Eng 28: 102-7; Discussion. 108-9 Je '51

Choice of d-c motors. J. Winston. il diags Product Eng 22:125-30 Jl '51

Design of crane control. J. D. Leitch. diags Iron & Steel Eng 28:70-7; Discussion. 83-6 Mr '51

Developments in the design of d-c motors and generators for rolling mills. B. H. Caldwell, jr. bibliog il diags Iron & Steel Eng 27:63-71 D '50

Getting most from d.c. drilling motors. L. J. Murphy. il World Oil 132:118-19 My '51

Improvements feature dc motor. Steel 127: 96 D 18 '50

Maintaining good d-c motor commutation. T. Trail. diags Power Eng 55:84-6 My '51

Measurement of d-c machine parameters. R. M. Saunders. bibliog diags Elec Eng 70: 787-92 S '51

Motionally induced electric fields. diags Elec Eng 70:159-60, 254-6, 350-1, 352-3, 451-2 F-My '51

Relay servomechanisms; the shunt-motor servo with inertia load. T. A. Rogers and W. C. Hurty. bibliog diag A S M E Trans 72:1163-72 N '50

Resistance commutation. F. D. Olney. diags Elec Eng 69:974 N '50

Some advantages by rectifying the series field current in series and compound wound d.c. motors. B. W. Jones. il diags Blast F & Steel Pl 39:674-8 Je '51

Control

Electromagnetic brakes for d-c servo motors. G. Kronacher. il diags Product Eng 22:172-5 Je '51

Electronic control for dc motors. F. A. Annett. diag Power 95:100+ Je; 78-9+ Jl '51

Grading of d.c. controller resistances. W. de Renzi. diag Electrician 146:125-8, 213-16, 305-9 Ja 12-26 '51

Motor control; rotating, electronic and magnetic. C. P. Croco. diags Paper Tr J 133: 24+ Ag 10 '51

Small-motor electronic control. F. A. Annett. diags Power 95:100-1+ My '51

Maintenance and repair

Three-step maintenance program cuts d.c. motor repair costs 80 per cent. D. Probst. Factory Management 109:64-5 Ap '51

Manufacture

Motor magnetizer. O. E. Carlson. il diag Electronics 23:107 D '50

ELECTRIC motors, Induction

Allis-Chalmers induction motors. Blast F & Steel Pl 38:1350-1 N '50; Same. il Midwest Eng 3:20 D '50

Effect of three-phase motor loads on voltage changes produced by single-phase loads. M. A. Faucett and others. diag Elec Eng 69: 1005 N '50

Equivalent circuits, and their application in designing shaded pole motors. S. S. L. Chang. Elec Eng 70:479 Je '51

Equivalent circuits of the shaded-pole motor with space harmonics. G. Kron. diags Elec Eng 70:506 Je '51

Goerges phenomenon; induction motors with unbalanced rotor impedances. H. L. Garbarino and E. T. B. Gross. diag Elec Eng 70:604 Jl '51

High-speed cyclic operation of induction motors. T. F. Wall. Elec R (Lond) 148:233-5 F 2 '51

How to select a-c motors for heating and air conditioning. C. P. Potter. il diags Heating-Piping 23:83-9 F '51

New version of adjustable speed motor. il diag Product Eng 22:174 Ap '51

Selection of induction motors for air conditioning, heating and ventilating equipment. G. Nafe. il diags Heat & Ven 48:75-84 Je '51

Single-phase capacitor motors. il Blast F & Steel Pl 39:1124 S '51

Some tests of an exact practical theory of the induction motor. D. Morris. bibliog diags Inst E E Proc 97 pt 2:767-78 D '50

Transient response of small two-phase induction motors; abstract. A. M. Hopkin. Elec Eng 70:859 O '51

See also

Electric motors, Synchronous

Control

D-c dynamic and capacitor braking; abstract. L. W. Herchenroeder. Product Eng 22:231-2 Jl '51

Dynamic braking and motor control system for a.c. winders. diag Engineer 191:228-9 F 16 '51; Elec R (Lond) 148:399-401 F 23 '51; Electrician 146:647-9 F 23 '51

Dynamic braking of alternating-current motors. D. Harrison. diags Engineering 170:528-9 D 22 '50

Induction motor injection braking. B. W. Glover. bibliog il diags Elec R (Lond) 148: 337-40 F 16 '51

Reversing a.c. motors; methods applicable to different types. diags Elec R (Lond) 147: 627-31 O 27 '50

Maintenance and repair

How to keep your induction motors running; maintenance schedule and trouble spotting chart. il Mill & Factory 48:81-3 F '51

Protection

Large tube-type totally enclosed fan-cooled motors. R. C. Moore. il Elec Eng 69:1013 N '50

Starting

Decreasing the starting current in induction motors. diags Power Eng 55:74-5 Ag '51

Gasketed motor starter shuts out dust. il Product Eng 22:173 Ja '51

New method of starting three-phase motors. P. L. Alger and others. Power Eng 55:90-1 Ag '51

Temperature

Measurement of induction-motor rotor temperatures. W. A. Thomas and R. J. Horvat. diag Instruments 24:410+ Ap '51

ELECTRIC motors, Railway

Carbon brushes must carry peak loads. C. P. Turner. il Ry Mech & Elec Eng 125:78-9 Ag '51

Multiple-unit car equipment for a-c electrified railways. H. G. Jungk and others. il diag Elec Eng 70:471-5 Je '51

New lightweight rapid transit motor. R. A. Pettersen. il Elec Eng 70:405 My '51

Resistance-lead motors for a.c. multiple-unit cars. H. G. Jungk. il Ry Mech & Elec Eng 125:68-70+ F '51

Service wrack of locomotive electrical machinery. A. H. Candee. il diags Ry Age 130: 26-9 Ap 23; 33-5 Ap 30 '51

Lubrication

Diesel-electrics; how to keep 'em rolling; troubles do not happen, they are caused. J. W. Teker and J. H. Kathman. il diags Ry Mech & Elec Eng 125:82-5 Ag '51

Maintenance and repair

Shop equipment and facilities for repairing motors, generators, etc., on Diesel and electric locomotives; A.A.R. Electrical sections committee report. flow sheet Ry Mech & Elec Eng 124:624-8; Discussion. 628-9 N '50

Should core slots be sand-blasted? H. E. Dralle. il Ry Mech & Elec Eng 125:78 Ap '51

Traction motor overhaul. M. Axler. il Ry Mech & Elec Eng 125:69-72 Ap '51

ELECTRIC motors, Railway—*Continued*

Testing

Surge testing of traction motor armatures. D. W. Collins. il diag Ry Mech & Elec Eng 125:75-7 F '51

Tester for d.c. armatures. F. H. Catlin. il diags Ry Mech & Elec Eng 125:78-80 Mr '51

ELECTRIC motors, Synchronous

Applying synchronous motors to high inertia loads. R. E. Appleyard. il diags Product Eng 22:141-5 Mr '51

Chart plus amp reading gives synchronous motor performance. G. L. Oscarson. Power 94:110-11 N '50

Synchronous machines with unsymmetrical loading. D. Harrison. Inst E E Proc 98 pt 2:371-6 Je '51

Synchronous motor at work. D. L. Gusler. diags Power Eng 55:100+ Ag '51

Telephone influence factor in synchronous machine. G. L. Oscarson and I. C. Benson. Elec Eng 70:422 My '51

World's largest motors drive world's largest pumps for irrigation in the Columbia Basin project. S. E. Hutton. il maps Gen Elec R 54:39-44 My '51

Control

Spotting equipment for synchronous motors. S. C. Ewing and E. A. E. Rich. il diags Gen Elec R 53:40-6 D '50

ELECTRIC musical instruments. See Musical instruments, Electric

ELECTRIC organ. See Organ, Electric

ELECTRIC outages. See Electric power—Interruptions

ELECTRIC ovens

Industrial oven heater panels. il Automotive Ind 104:58+ F 1 '51

Paint drying oven; data sheet. E. M. Atwood. il Elec West 106:80 Ap '51

ELECTRIC ovens, Baking

Baker cites electric oven benefits. J. M. Bemis. il Food Ind 23:124 F '51

Electric bake oven for Swedish rye bread; Britibread products ltd.; data sheet. R. M. Horsey. il Elec West 107:95 S '51

Electric bread baking oven, Silver loaf baking co.; data sheet. M. A. Newman. il Elec West 106:71 Ja '51

ELECTRIC pasteurizers. See Pasteurizers, Electric

ELECTRIC plants

Electric governor for small generating plants. il Elec World 135:126 My 7 '51

Stanolind electrifies Cedar Lake field. R. F. Carlson. il map Oil & Gas J 50:82+ Jl 12 '51

See also

Electric generator sets
Electric plants (central stations)
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Power plants
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Interconnection

Automatic tie line load control solves power interchange problems. C. M. Clevenger and L. E. Ludekens. il diags Elec West 107:60-2 Jl '51

BPA-Central Valley tie planned by Reclamation. Elec World News ed 135:12 F 19 '51

Choice of telemetering systems and channels for a power system. C. K. Duff. il diags Elec Eng 70:796-801 S '51

Coupling of electric power stations. T. F. Wall. diags Engineering 171:94-6, 119-21 Ja 26-F 2 '51

Determination of reserve capacity by the probability method; effect of interconnections. G. Calabrese. Elec Eng 70:876-8 O '51

Electricity grid control centre in Paternoster square. il Engineer 191:58-9 Ja 12 '51; Engineering 171:51-2 Ja 12 '51; Elec R (Lond) 148:61-3 Ja 12 '51; Electrician 146:121-3 Ja 12 '51

Isolation ward for load peaks. Westinghouse Eng 10:254-5 N '50

Oregon-Cal tie is hot issue. il maps Elec West 106:62-4 Mr '51

Power network capacitance current; calculator used in the Isle of Wight. J. A. Fox. map diag Elec R (Lond) 147:893-5 D 1 '50

Power systems of Southwest benefit from improved interconnections. N. B. Hinson. diag Civil Eng 21:76-7 F '51

System interconnection symposium highlights PEA committee meeting. Elec World News ed 135:13 F 19 '51

Industrial plants

Efficiency of electrical power utilisation. A. N. Irens. Engineering 170:552 D 22 '50

Utility tie props industrial hydro; United board and carton corp. paperboard mill. E. Gorham. il diag Power 95:71-4 F '51

Isolated plants vs. purchased power

Economics of purchased power vs plant generated power in the Pittsburgh district. W. B. Skinkle. Iron & Steel Eng 28:85-97; Discussion. 97-100 Ag '51

Industrial plant power sources. R. T. Woodruff. flow diag diag Power Eng 55:86+ S '51

Utilization of purchased electric power in an oil refinery. A. J. Claes. diag Oil & Gas J 49:90+ F 15 '51

Why one paper mill turned to purchased power. E. Gorham. il Elec World 135:61-3 Ja 1 '51

ELECTRIC plants (central stations)

Characteristics of rural load with 8000 kwh average annual use. R. K. Dallas and others. Edison Elec Inst Bul 19:299-300+ S '51

Data on six mercury power plants; tabulation; engineering reference sheet. Elec World 134:126 D 4 '50

Electricity generation; abstract. H. J. Beard. Elec R (Lond) 147:1102 D 29 '50

Hoosiers and Wolverines get more AG&E power at 9300 Btu per kwh from Tanners Creek. il Power Eng 55:56-7 S '51

How today's power plant trends are geared to power mobilization. C. R. Earle. flow diag il diags Power Eng 55:60-5 Ja '51

Key California steam power plant has earthquake resistant reinforced brick walls. W. L. Dickey and C. W. Appleford. il Eng N 147:35-6 Jl 5 '51

Mechanical plant for electricity power stations; abstracts. V. A. Pask. Engineering 171:780-1 Je 29 '51; Engineer 191:799 Je 15 '51; Elec R (Lond) 149:426-8 Ag 31 '51; Discussion. Engineering 171:781 Je 29 '51

New electric generating facilities to be installed, 1951-1954; table. Elec World 135:128-9 My 21 '51

1950 design survey of typical new steam central-station installations; tabulation. Power 94:86-9 D '50

Steam and power plant economy and capability at Louisiana station; abstract. R. J. Robertson and W. B. Gurney. Mech Eng 72:1006 D '50

Steam central stations; abstract. P. W. Thompson. Mech Eng 73:18-19 Ja '51

Steam-generating station as a source and sink for the heat pump. J. A. Eibling and B. A. Landry. diag Mech Eng 73:554-8+ Jl '51

Sunbury steam-electric station; illustrations with text. Power Eng 54:58-9 N '50

Trends in utility plants. Power 94:84-5 D '50

See also

Electric distribution
Electric utilities
Hydroelectric plants
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Costs

Basic study for a generating station. G. R. Milne. diag A S M E Trans 73:811-16 Ag '51; Same cond. Elec World 135:89-92 F 26 '51; Discussion. A S M E Trans 73:816-19 Ag '51

Combination gas turbine-steam turbine unit; performance of installation burning natural gas at Belle Isle station; with cost data. J. W. Blake. bibliog Mech Eng 73:14-16 Ja '51

Fuel costs at Houma 1.61 mills per kwh. il Power Eng 55:64-7 Jl '51

Investigation of economies of large size in steam stations. J. B. Lansing. Land Econ 27:108-22 My '51

Money, the most important tool of the engineer. D. H. Kendon. Inst E E Proc 98 pt 1:77-8 Mr '51

ELECTRIC plants (central stations)—Costs—*—Continued*

Seventh steam station cost survey. A. E. Knowlton. il Elec World 136:97-108 Ag 27 '51

Design

Chicago's new Ridgeland station. D. L. Levine and others. il plan diags Elec Eng 70:106-10 F '51

Dunkirk station departures based on prototype experience. J. N. Ewart and J. M. Geiger. il diags Elec World 134:97-101 D 4 '50

Hale plant is semioutdoor type; Utah power & light co. L. Elliott. il Elec West 105:64-5 N '50

Hawthorn station close-coupled both mechanically and electrically. G. T. Shoemaker and P. E. Gourdon. plan diags Elec World 134:88-92 N 6 '50

Power station design and construction; abstract and discussion. V. F. Bartlett. Engineering 171:746-7 Je 22 '51

Semi-outdoor plant for -40F weather; Frank Bird steam-electric station. D. G. Iliff. il plan diags Power Eng 55:56-9 Ap '51

Diesel engine auxiliaries

Diesels in the power industry. G. W. Grupp. il Diesel Power 29:28-30 My '51

Dual fuel engine in Kansas utility. il Diesel Power 29:82-3 Ap '51

Diesel engine stations

Cushing, Oklahoma, Diesel plant fuel cost under two mills; installation of new dual-fuel engine. il Power Eng 54:62-4 D '50

Diesels in the power industry. G. W. Grupp. il Diesel Power 29:28-30 My '51

Diesels power 52-yr. old municipal utility at Renselaer, Ind. il Power Eng 55:73-5 Ap '51

Duel-fuel engine cuts fuel bill for Colby, Kansas municipal plant. il Diesel Power 29:42-3 S '51

Fuel costs at Houma 1.61 mills per kwh. il Power Eng 55:64-7 Jl '51

Gas burning Diesel cuts power cost 50 per cent; Elkhorn municipal power plant. A. J. Wolff. il Power Eng 54:71-3 N '50

Harlan municipal plant has impressive record. il Diesel Power 29:44-5+ Ja '51

How standard-design Diesel plants on a utility power system pay dividends. E. F. Carlson and H. E. Rhoades. il map plan diags Power 95:80-3 S '51

Illinois co-op builds modern plant. S. K. Fosholt. il Diesel Power 29:58-62 Je '51

Importance of Diesel engines in the REA program. W. Reed. Diesel Power 29:46-7 Ag '51

Maintenance costs and considerations of large engines in power generation. J. B. Sims. il Diesel Power 29:42-5 Mr; 108-12 Ap '51

Maintenance pays off in low-cost power production; Diesel plant at Rockville Center, L.I. il Diesel Power 28:54-7 N '50

Mid-town power plant solves expansion problems. E. A. Thibodeaux. il plan Diesel Power 29:46-8 F '51

Municipal power at Shelbina, Mo. F. Weavery. il Diesel Power 29:30-2 Jl '51

Municipal power plant boosts profits $2,000 a month, Goodland, Kans. il Pub Works 82:60-1 S '51

New Diesel plant serves N-E Missouri co-ops. M. W. Boudreaux. il Power Eng 55:70-1+ My '51

Plant capacity raised by supercharging. T. J. Malone. il Diesel Power 29:40-1 Ja '51

Ponca City reports fuel bill cut with gas Diesel. P. Schlesinger. il Diesel Power 29:50-2 S '51

Skid-based Diesel central stations. il Power 95:103+ Ja '51

Some interesting experiments with bi-metallic piston skirts; municipal plant, Freeport, Long Island. il Diesel Power 29:40-1 Jl '51

Utah plant uses wax distillate fuel. J. Joseph. il diag Diesel Power 28:38-40 N '50

Efficiency

Power station performance. W. S. Burge. Elec R (Lond) 148:1181-3 Je 8 '51

Equipment

Automatic control saves screen washing time. diag Elec World 135:74 Ja 15 '51

Booth Point eyes fuel flexibility; newest plant of Florida power corp. A. H. Kuljian and F. X. Bonnes. il plan diags Power 95:92-5 F '51

Centralized control board for steam-electric generating plants. H. L. Lowe and R. L. Hodgkins. il plans Elec Eng 70:304-7 Ap '51

Centralized control desirable for single boiler turbine-generator units. J. A. Lind and J. M. Geiger. Elec Eng 69:966 N '50

Chicago's new Ridgeland station. il diags Power Eng 55:70-5, 104+ Ja '51; Same abr. flow diag Midwest Eng 3:16-21 Ja '51; Same cond. Mech Eng 73:134-5 F '51

Color coded switchboards; newest step in control room design. W. B. Morton. il Elec World 136:83-6 S 24 '51

Control cable practice at 14 stations; engineering reference sheet. Elec World 136:140 S 10 '51

Control in generating stations. W. Szwander. il plans diags Elec R (Lond) 147:219-23, 311-16, 459-65, 555-60 Ag 11, 25, S 22, O 13 '50

Croydon B. il Elec R (Lond) 148:640-2 Mr 30 '51

Cyclones burn two fuels automatically at Michigan City station. il diags Power 95:71-5 O '51

Electrical features at Arapahoe plant. W. D. Hardaway. il Elec West 107:58-9 Jl '51

Four-pipe main steam line for new central station. W. M. McKee. il Heating-Piping 22:78-9 N '50

Instrument for the measurement of rate of change of power-system frequencies. E. Bradshaw and M. Z. Tanyeloglu. diags Inst E E Proc 97 pt 2:550-5; Discussion. 556-62 O '50

Modern methods of generation; abstract. H. Beard. Electrician 145:1518 D 22 '50

Peat-fired power station at Portarlington, Eire. il plan Engineering 171:389-92, pl 22-3 Ap 6 '51

Power for Palermo. A. H. Kuljian and F. X. Bonnes. il diags Power Eng 55:76-8+ Ag '51

Puerto Nuevo to fight fouling. L. J. Myskowski and M. A. Quinones. il diag Power 95:90-3 My '51

Ridgeland turbine minimizes outages. il diags Power 95:84-7+ Ap '51

Schiller power station at Portsmouth, N.H. flow diag il diags Engineer 191:789-93 Je 15 '51

Status of production of heavy electric power equipment as of Oct. 1, 1950. W. L. Cisler. Edison Elec Inst Bul 18:364 O '50

Stourport B station of the British electricity authority. il plan diags Engineering 171:241-5, 273-5, 305-7, pl 10-12 Mr 2-16 '51

Titus station features metal for walls and for pipe insulation. J. G. Miller and T. Y. Mullen. il plan diags Elec World 136:78-81 Jl 30 '51

Use of the compensator on station-type voltage regulators. D. R. Samson and H. O. Simmons, jr. diags Gen Elec R 54:43-7 S '51

West Ham B power station. il Engineer 192:82-5 Jl 20 '51; Engineering 172:76-7, pl 6 Jl 20 '51; Elec R (Lond) 149:135-9 Jl 20 '51; Electrician 147:182-6 Jl 20 '51

Extensions

Equipment standards cut costs and erection time; Barbadoes extension, Philadelphia electric co. D. F. Schick and B. R. Nevins. il Power 95:75-7 Je '51; Same cond. Standardization 22:281+ S '51

More power for Cedar Falls. R. H. Sogard. il diag Power Eng 55:56-9 Jl '51

1,370,000-lb boiler tops capacity record at world's largest station; Hudson Avenue station of Con Edison in New York. H. Knecht. il plan diags Power 94:112-18 N '50

Flood damage

Damage to systems slight despite high crests in east Kansas floods. il Elec World News ed 136:11 Jl 23 '51

Missouri systems spared damage caused by eastern Kansas floods. il Elec World 136:67-8 Jl 30 '51

ELECTRIC plants (central stations)—*Cont.*

Fuel

Air mapping of coal piles saves cash. il map Power 95:107 Ja '51
Bag filter system saves 25 tons of coal dust per day; coal pulverizing mills at East River generating station of Consolidated Edison co. of New York. il diag Elec World 135:107-8 My 7 '51
Barge unloader lowers handling costs. E. M. Hays. il diag Power 95:83-5 Je '51
Coal pact signed by Peabody and Edison. Bsns W p94-5 Ap 14 '51
Coal plan; survey of power requirements. Elec R (Lond) 147:827 N 24 '50
Fuel stockpiles inventoried by air at saving of 25 per cent, using modern three dimension aerial photograhy; Philadelphia electric co. E. A. Schuch. il map diag Elec World 134:88-90 D 18 '50
How to support fuel oil supply lines. diags Elec World 135:110+ Mr 12 '51
Identify coal shipments rapidly with cross-index. J. E. Rhoades. Elec World 134:102 D 18 '50
Other fuels gain on coal in electric generation. E. R. Abrams. Barron's 30:29 O 30 '50
Pattern for sound fuel procurement. M. Pease, jr. and R. J. Brandon. il Min Eng 190:Trans 177-82 F '51
Pulverized lignite burned successfully in Minnesota power plant. Elec World 135:94-5 Mr 12 '51
Trolley cable solves barge handling problem at Philip Sporn plant. P. T. Schneider. diag Elec World 135:70 Ja 1 '51
Use of high-ash coals in the electricity-supply industry. A. A. Taylor. Engineering 172:188 Ag 10 '51

Gas turbine auxiliaries

Belle Isle gas turbine sets records; with cost data. J. W. Blake. Power 95:99 F '51
Combination gas turbine-steam turbine unit; performance of installation burning natural gas at Belle Isle station; with cost data. J. W. Blake. bibliog Mech Eng 73:14-16 Ja '51
Gas turbine with pressurized boiler gains 1,000 Btu vs steam alone. R. C. Roe and R. F. Cummings. diag Elec World 134:111-13 N 20 '50
Huey gas turbine. C. C. Willis and E. C. Goldsworth. il plan diags Mech Eng 72:881-5 N '50

Gas turbine stations

First U.S. all-gas-turbine power plant, Edward M. Graham station. il diags Power Eng 55:58-60 Mr '51
Gas-turbine power plant completes year and a half of operation; plant of Oklahoma gas & electric co. B. G. Hatch. il Gen Elec R 54:17-21 Mr '51
Gas-turbine power plants. R. H. Knowlton. Mech Eng 73:741-2 S '51
Off-peak air storage for peaking gas turbines. diags Elec World 135:64-5 Ja 15 '51
Trinidad utilizes waste gas for pumping power. il World Oil 131:300 N '50

Hot water distribution

District heating at Pimlico. plan diags Engineer 192:129-31 Jl 27 '51
Pimlico district heating; official inauguration of Battersea-connected scheme. il Electrician 147:265-6 Jl 27 '51; diag Elec R (Lond) 149:228-9 Ag 3 '51

Interconnection

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Layout

Hawthorn station close-coupled both mechanically and electrically. G. T. Shoemaker and P. E. Gourdon. plans diags Elec World 134:88-92 N 6 '50

Lighting

Lighting a steam turbine room. il diags Illum Eng 46:271-2 My '51
Lighting of control rooms. bibliog il diags Illum Eng 46:318-28 Je '51
Lighting Pepco's Potomac River station; illustrations with text. D. H. Tuck and F. A. O'Brien. Elec World 135:62-3 Ja 15 '51
Luminous ceiling control room. A. A. Brainerd. il Illum Eng 46:39-40 Ja '51

Load

Discriminative load shedding; control of heating load by voltage drop. G. T. Shears. diags Elec R (Lond) 148:317-18 F 16 '51
Economic loading; limitations and compromise in practice. F. L. Tombs. Elec R (Lond) 148:581-4 Mr 23 '51
Economical loading. N. Don. diag Elec R (Lond) 148:112-15 Ja 19 '51
Efficiency of electrical power utilization. A. N. Irens. Inst E E Proc 98 pt 2:1-4 F '51; Abstract. Elec R (Lond) 147:645 O 27 '50
He watches the clouds roll by; electric power station's weather watcher. J. P. Callahan. Pub Util 46:873-80 D 21 '50
How much more revenue with high-demand loads? G. E. Sangster. Elec World 135:102-4 Ap 23 '51
Load control; automatic frequency sensitive methods of load shedding. E. C. Levett and J. A. Williams. diags Elec R (Lond) 148:725-8 Ap 13 '51
Load limiting; voltage and frequency sensitive types. il Elec R (Lond) 148:821 Ap 20 '51
Snyder masters art of forecasting load, wins Bob Hatfield's contest. Elec World News ed 135:11 F 5 '51
You can build load with industrial ozone. V. Hann. il Elec World 135:54-5 Ja 15 '51

Load dispatching

Automatic tie line load control solves power interchange problems. C. M. Clevenger and L. E. Ludekens. il diags Elec West 107:60-2 Jl '51
Coupling of electric power stations. T. F. Wall. diags Engineering 171:94-6, 119-21 Ja 26-F 2 '51
Custom-made dispatching desk ups efficiency 50 per cent; illustration with text. Elec World 135:117 Ap 9 '51
Dispatcher's board uses Alnico magnets. il diag Elec West 106:59 Ja '51
Load dispatching and the reasons for it, with special reference to the British grid system. A. R. Cooper. map diags Inst E E J 95 pt 2:713-23 D '48; Same cond. Engineer 185:327-9 Ap 2 '48; Discussion. Inst E E J 95 pt 2:723-32 D '48; [cont as] Inst E E Proc 97 pt 2:296-310; 98 pt 2:293-5 Je '50, Ap '51
System dispatching goes modern; dispatchers' office of the San Diego gas & electric co. E. M. Foster. il Elec West 105:68-9 N '50
Teletyping kilowatts; load dispatching, Northwest power pool. J. Paschall. il Elec West 105:88 O '50

Painting

Plan painting of new plants to reduce costs. T. J. Eberhardt. Elec World 135:78+ Ja 1 '51

Peak load

Controlled peak levelling. G. T. Shears. diags Elec R (Lond) 148:827-9 Ap 27 '51
Off-peak air storage for peaking gas turbines. diags Elec World 135:64-5 Ja 15 '51
Peak load control; time switching water heater load. W. A. Devon. il diag Elec R (Lond) 149:31-4 Jl 6 '51

Protection

Let's plan for utility security. il Elec World 135:91-8 Ap 9 '51

Records

Identify coal shipments rapidly with cross-index. J. E. Rhoades. Elec World 134:102 D 18 '50

Statistics

47th annual statistical issue. Elec World 135:115-50 Ja 29 '51

Steam distribution

Constructing the steam service to Henry Ford hospital. W. D. McCully. plan diags Heat & Ven 48:80-2 O '51

ELECTRIC plants (central stations)—*Cont.*

Supervisory systems

Miniature direct-wire remote control at Loch Sloy power station. il Elec Com 28:106-7 Je '51

Underground stations

Underground hydroelectric plants. il diag Power Eng 54:58-9+ D '50

Underground power stations; features of the Lavey undertaking. il plan Elec R (Lond) 147:705-7 N 3 '50

Chicago

Chicago's new Ridgeland station. il diags Power Eng 55:70-5, 104+ Ja '51; Same abr. flow diag Midwest Eng 3:16-21 Ja '51; Same cond. Mech Eng 73:134-5 F '51

Chicago's new Ridgeland station. D. L. Levine and others. il plan diags Elec Eng 70:106-10 F '51

England

Brighton B station. W. C. Parker. il diag Elec R (Lond) 148:1238-41 Je 15 '51

Croydon B. il Elec R (Lond) 148:640-2 Mr 30 '51

New stations and extensions. Electrician 145: 1582 D 29 '50

South eastern division; Brighton power station. il Electrician 146:2001 Je 15 '51

Stourport B station of the British electricity authority. il plan diags Engineering 171: 241-5, 273-5, 305-7, pl 10-12 Mr 2-16 '51

Europe

European power stations. Elec R (Lond) 148: 402 F 23 '51

France

Europe's biggest water cooling towers are at French mine-head power plant. il diag Eng N 147:50-1 Jl 26 '51

Great Britain

Electrical engineering in 1950. il Engineer 191:24-6, pl 7 Ja 5 '51

New power stations for the B.E.A. il Engineering 171:256, 288, 318, 346, 374, 404, 436, 468, 500, 532, 564, 596, 628, 660, 692, 724, 756, 788; 172:16, 48, 80, 112, 144 Mr 2-Ag 3 '51

Ireland

Peat-fired power station at Portarlington, Eire. il plan Engineering 171:389-92, pl 22-3 Ap 6 '51

Italy

Natural steam power plants of Larderello. G. Donato. il diags Mech Eng 73:709-12 S '51

London

Battersea power station; Kingston power station. il Chem & Ind p512-13 Je 30 '51

West Ham B power station. il Engineer 192: 82-5 Jl 20 '51; Engineering 172:76-7, pl 6 Jl 20 '51; Elec R (Lond) 149:135-9 Jl 20 '51; Electrician 147:182-6 Jl 20 '51

Mississippi

Mississippi Power pushes expansion program; Plant Sweatt, near Meridian. il Manuf Rec 120:38 S '51

North Carolina

New generating plants as monuments to faith, duty, and confidence; address delivered at dedication of Goldsboro steam electric generating plant of the Carolina power and light co. W. Smith. Edison Elec Inst Bul 19:263-4 Ag '51

Puerto Rico

Puerto Nuevo to fight fouling. L. J. Myskowski and M. A. Quinones. il diag Power 95: 90-3 My '51

Sicily

Power for Palermo. A. H. Kuljian and F. X. Bonnes. il diags Power Eng 55:76-8+ Ag '51

South Africa

Electricity supply developments in South Africa. il Engineer 191:350-1 Mr 16 '51

Texas

Type of water supply influences location and layout of Texas steam-electric plants. M. G. Salzman and L. Elliott. il map plan Civil Eng 21:260-3 My '51

Western states

Power construction tempo is stepped up for 1951. il Elec West 106:76-105 F '51

ELECTRIC plants, Cooperative

Illinois co-op builds modern plant. S. K. Fosholt. il Diesel Power 29:58-62 Je '51

New Diesel plant serves N-E Missouri coops. M. W. Boudreaux. il Power Eng 55: 70-1+ My '51

Setback for a super co-op; Virginia corporation commission rejects Old Dominion electric cooperative's petition for REA loan. J. J. Kilpatrick. Pub Util 47:278-85 Mr 1 '51

ELECTRIC plants, Municipal

Diesels power 52-yr. old municipal utility at Renselaer, Ind. il Power Eng 55:73-5 Ap '51

Dual-fuel engine cuts fuel bill for Colby, Kansas municipal plant. il Diesel Power 29:42-3 S '51

Harlan municipal plant has impressive record. il Diesel Power 29:44-5+ Ja '51

Municipal power at Shelbina, Mo. F. Weavery. il Diesel Power 29:30-2 Jl '51

Municipal power plant boosts profits $2,000 a month, Goodland, Kans. il Pub Works 82: 60-1 S '51

Finance

Fuel costs at Houma 1.61 mills per kwh. il Power Eng 55:64-7 Jl '51

ELECTRIC plugs. See Electric fittings

ELECTRIC potential. See Potential, Electric

ELECTRIC power

American Gas & Electric's job, more power for defense. il map Elec World 135:38-9 Ja 1 '51

British electrical power convention, 3d, Brighton, June 18-22. Engineering 171:783-4 Je 29 '51

Control for stabilized testing power; improving transformer-testing facilities. L. R. Runaldue and H. F. Parker. il diag Gen Elec R 53:34-8 N '50

Efficiency of electrical power utilization. A. N. Irens. Inst E E Proc 98 pt 2:1-4 F '51; Abstracts. Elec R (Lond) 147:645 O 27 '50; Engineering 170:552 D 22 '50

Electric power generation; its relation to industrial applications. K. Pinder. Elec Eng 70:291 Ap '51

Electrical and allied developments during 1950; power. G. Bartlett. il Gen Elec R 54: 22-6 Ja '51

Electricity as a national asset; abstracts. H. H. Mullens; N. Elliott. Elec R (Lond) 148: 1294-7 Je 22 '51; Electrician 146:2115-21 Je 22 '51; Discussion. Elec R (Lond) 148:1357-9 Je 29 '51

Generation, transmission and distribution of electricity; abstracts. J. Hacking. Engineer 191:761-2 Je 8 '51; Engineering 171: 687; Discussion. 687 Je 8 '51

Power to progress. T. G. LeClair. Elec Eng 70:563-5 Jl '51

17 private companies form pools to supply power for two AEC plants. Elec World News ed 136:13 S 3 '51

See also

Electric distribution
Electric driving
Electric engineering
Electric plants
Electric plants (central stations)
Electric transmission
Electric welding—Power supply
Electricity supply
Power factor
Power plants
Reactive power
Tidal power
Voltage regulation

International aspects

International power exchanges discussed at session of committee on electric power of the United nations economic commission for Europe. Elec R (Lond) 147:599-600 O 20 '50

Power export; Swedish power to Denmark by means of cables crossing the Oresund. il diags Elec R (Lond) 147:620 O 20 '50

ELECTRIC power—*Continued*

Interruptions

Emergency lighting for the atomic age. C. J. Briefer. il Safety Maint & Prod 100:17+ N '50

How to estimate outage probability due to lightning on a transmission line; engineering reference sheet. Elec World 136:94-5 Jl 2 '51

Municipal interruption caused by sheared pins. il Elec World News ed 135:12 F 19 '51

Relay accidently trips Boston Edison system. Elec World News ed 134:19 N 27 '50

Sequential motor pull-in underlies the behavior of feeders after extended outage. C. Hutchinson. Elec World 135:80-3 F 26 '51

Three 40,000-kw generators damaged by circuit breaker failure. R. Doehne. diags Elec World 135:88-90 Je 4 '51

Interstate transfer

Power embargo in Maine. L. Smith. bibliog Pub Util 47:351-8 Mr 15 '51

Statistics

Expansion of electric power use and capacity. Survey of Cur Bsns 31:7-9 S '51

Production of electric power in millions of kw-hr, 1935-1950; tabulation. Iron Age 167: 331 Ja 4 '51

Why count kilowatts? ABC of what's behind some key statistics. Bsns W p88-9+ Mr 24 '51; Same. Edison Elec Inst Bul 19:163-4 My '51

World production of electricity; tables. Barron's 31:16 S 3 '51

ELECTRIC precipitation

Clean air means better products; brewers use Precipitron. il Food Ind 23:75+ F '51

Collection of mist and dust for particle size measurement; electrostatic precipitation on hemacytometer. H. G. Bourne, jr. and L. B. Fosdick. bibliog il diags Anal Chem 22: 1563-5 D '50

Corrosion of condensers, purifying equipment and precipitators. J. L. Adkins. diags Am Gas Assn Proc 1950:706-11

Electrostatic collection of fly ash. H. J. White and others. bibliog il diags Mech Eng 72:873-80 N '50

First electrical precipitator installed on open-hearth furnace. L. C. McCabe. Ind & Eng Chem 43:sup89A-90A+ Mr '51

Lightweight power supply for an electrostatic precipitator. J. K. Brown and others. il diag A M A Archives Ind Hygiene & Occup Med 3:198-203 F '51

No smoke from these stacks; National works of U. S. Steel's National tube co. il Nat Safety N 63:34+ Ap '51

Operation of Cottrell precipitators; effects of moisture and temperature. W. T. Sproull and Y. Nakada. bibliog il diags Ind & Eng Chem 43:1350-8 Je '51

Particle charging in electrostatic precipitation; abstract. H. J. White. Elec Eng 70: 682 Ag '51

Precipitators stop dust and fumes. W. T. Sproull. il Chem Eng 58:151-4 My '51

Survey of electrostatic precipitation. E. A. Walker and J. E. Coolidge. il Heating-Piping 23:107-11 Mr '51

ELECTRIC properties

Contribution to the theory of impurity centers in silicon. W. Baltensperger. Phys R 83:1055-6 S 1 '51

Effect of fast neutron bombardment on the electrical properties of germanium. J. W. Cleland and others. bibliog Phys R 83:312-19 Jl 15 '51

Effect of heat treatment on the electrical properties of germanium. H. C. Theuerer and J. H. Scaff. bibliog il diags J Metals 191:Trans59-63 Ja '51

Electrical properties of solids; poly-4-vinylpyridine and some of its derivatives. W. N. Maclay and R. M. Fuoss. Am Chem Soc J 73:4065-9 S '51

Electrical properties of some carbon black-oil suspensions. M. J. Forster and D. J. Mead. bibliog il diags J Ap Phys 22:705-10 Je '51

Influence of plastic flow on the electrical and photographic properties of the alkali halide crystals. F. Seitz. bibliog Phys R 80:239-43 O 15 '50

ELECTRIC protective apparatus

A.c. isolator. il Engineer 191:298 Mr 2 '51

A.c. system protection. R. H. Keith. Aero Digest 63:26+ Ag '51

Delta-connected systems; obtaining an artificial neutral. T. H. Carr. diags Electrician 145:1009-10 N 17 '50

Design and performance of surge diverters for the protection of alternating-current systems. T. F. Monahan. bibliog diags Inst E E Proc 98 pt 2:312-22; Discussion. il 322-30 Je '51; Electrician 145:1587-8 D 29 '50

Direct current control in aircraft. J. D. Miner and B. O. Austin. il diags Aero Digest 61:28-9+ D '50

Earth-fault protection spill current. T. A. Ledward. diag Electrician 145:1511-12 D 22 '50

Fault-throwing tests on the 132-kv grid system under normal working conditions. W. Casson and F. H. Birch. diags Inst E E Proc 97 pt 1:279-96 N '50; Discussion. 97 pt 1:297-302; 98 pt 1:320-4 N '50, N '51

M.v. earth-fault protection. P. T. Thornhill. diags Electrician 146:1213-16 Ap 13 '51

Power system protection; abstract and discussion. H. Leyburn and C. H. W. Lackey. Elec R (Lond) 148:845-6 Ap 27 '51

Reactors in low-voltage industrial power systems of 600 volts or less. D. L. Beeman and L. L. Baird. il diags Gen Elec R 53:26-33 D '50

Series capacitor and the high-voltage line. R. E. Marbury. il diags Westinghouse Eng 11:138-43 S '51

Short-circuiting contactor as an electrical protective device for coal mine service. L. H. Harrison. 5pls U S Bur Mines Rep of Invest 4759:1-11 '51

See also

Electric circuit breakers
Electric distribution—Grounding
Electric fuses
Electric lines—Protection
Electric motors—Protection
Electric switchgear
Electric transformers—Protection
Lightning protection
Petersen earth coil
Reactors
Relays

ELECTRIC railroads

International railway congress, 15th, Rome, Sept. 25-Oct. 4; electric traction considerations. Elec R (Lond) 147:667 O 27 '50

See also

Electric locomotives
Railroads—Electrification

Directories

Passenger transport year book, 1950. 138p 35s Passenger transport, Avenue Chambers, Southampton row, London, W.C.1 '50

History

Early electric railways. H. C. Towers. il Electrician 145:1137-9 N 24 '50

Overhead construction

Inspection vehicle for overhead electric-line equipment. il Engineering 170:423 N 24 '50

Power

D-c power supplies and isolation of faults on electric transit systems. S. S. Watkins and M. E. Reagan. il Elec Eng 70:406 My '51

Ignitron rectifiers for electric railroads. Electronics 24:194+ Ap '51

Influence of rectifier harmonics in a railway system on the dielectric stability of 33-kv cables. S. B. Warder and others. bibliog il diags Inst E E Proc 98 pt 2:399-411 Je '51; Abstract. Elec R (Lond) 147:895 D 1 '50; Discussion. Inst E E Proc 98 pt 2:411-21 Je '51; Electrician 145:1228 D 1 '50

Power supply study and new rectifier installation for the United electric railways of Providence. W. C. Whitman and F. F. Schaller. map plan diags Elec Eng 70:425-31 My '51

ELECTRIC railroads—Power—*Continued*

Railway electrification; a prospective consumer of central station power; abstract. L. Evans. Elec Eng 70:700 Ag '51

Railways modernize with centralized supervisory control. C. G. White. il plans diags Elec Com 28:3-20 Mr '51

Rehabilitation and extension of the Narrows power plant of the Virginian railway co. C. O. Lenz. il plans diag Power Eng 55:68-72+ Ap '51

Shops

Ulster transport workshops. F. G. Marshall. il plan Elec R (Lond) 148:985-9 My 11 '51

Wheel and axle repair shops, London transport executive. il Engineering 171:12-13 Ja 5 '51

Stations

What Hudson & Manhattan is doing to its stations. il Ry Age 130:36-8 Je 18 '51

France

See also
Railroads—Electrification—France

ELECTRIC rates

California's progress in public utility regulation. R. E. Mittelstaedt. Pub Util 48:340-6 S 13 '51

Cost squeeze; electric utilities say rate boosts necessary for expansion. E. R. Abrams. Barron's 31:9-10 Je 11 '51

Defense legislation; bill requiring utilities to report proposed rate increases to price stabilization authorities. R. M. Besse. Pub Util 47:864-6 Je 21 '51

Electric utilities need higher industrial rates. O. Ely. Pub Util 47:702-4 My 24 '51

Electricity tariff problems. W. Walsh. Elec R (Lond) 148:1027-9 My 18 '51

FPC claims jurisdiction in Calepco rate case. Elec World News ed 135:20 My 14 '51

Housewife's pre-war II dollar will buy only 58 cents worth at the store, but it will bring 110 cents worth of electricity. Edison Elec Inst Bul 18:364 O '50

Management's dual responsibility for utility rates. W. T. Hyde, jr. Pub Util 47:531-5 Ap 26 '51

Most comforting item in the household price picture. Edison Elec Inst Bul 19:82 Mr '51

Niagara Power rate rise? il Chem Ind W 68:13 F 24 '51

Numerous electric rate increases. Elec World 136:122 S 10 '51

OPS utilities unit hopes to maintain hands off policy on rate increases. Elec World News ed 136:13 S 17 '51

Should electric rates for industrial customers be increased? O. Ely. Pub Util 48:235-8 Ag 16 '51

TVA is raising rates from 12-15 per cent to its large industrial customers. Elec World 136:62 Jl 2 '51

Territorial aspects of electric rate making by the Public utilities commission of California. W. F. Kennedy. bibliog Land Econ 26:325-36 N '50

Torquay tariff agreements. J. C. Hancock. Elec R (Lond) 148:1095-6 My 25 '51

What rate for street lighting? H. F. G. Main. Elec World 136:127-9 Ag 13 '51

ELECTRIC reactors. See Reactors

ELECTRIC rectifiers

Alternator-rectifier battery charging systems. R. Gray. il Am Gas Assn Proc 1950:855-8

Asymmetric heat conduction in copper-copper oxide rectifiers. F. H. Horn. J Ap Phys 22:1214 S '51

Behavior of the resistance ignitor in mercury. W. W. Rigrod. bibliog diag J Ap Phys 22:787-96 Je '51

Carbon, oxygen, and sulfur content of Chilean coppers as related to cuprous-oxide rectifiers. C. C. Hein and W. M. Hickam. J Ap Phys 22:1192-5 S '51

Cesium-vapor rectifier. A. W. Hull and others. bibliog il diags Gen Elec R 54:16-22 Ag '51

Electroplating rectifiers. L. W. Reinken. il Iron & Steel Eng 28:89-95 F '51

Equivalent machine constants for rectifiers; abstract. I. K. Dortort. Elec Eng 70:802 S '51

400-kw grid-controlled rectifier for tyre-rolling mill. il Engineering 171:68-9 Ja 19 '51

Grid controlled rectifier equipment for a tyre rolling mill. Metallurgia 43:33-4 Ja '51

Induction motor injection braking. B. W. Glover. bibliog il diags Elec R (Lond) 148:337-40 F 16 '51

Influence of rectifier harmonics in a railway system on the dielectric stability of 33-kv cables. S. B. Warder and others. bibliog il diags Inst E E Proc 98 pt 2:399-411; Discussion. 411-21 Je '51

p-n Junction rectifier and photo-cell. W. J. Pietenpol. bibliog Phys R 82:120-1 Ap 1 '51

Low voltage, little loss. il Chem W 69:20-1 Jl 21 '51

Mercury arc rectifiers. il diags Electrician 146:711-13 Mr 2 '51

Mercury arc rectifiers. T. B. Sansom. il diag Elec R (Lond) 148:171-5 Ja 26 '51

Metallic rectifiers in telephone power plants; abstract. D. E. Trucksess. Elec Eng 70:866 O '51

Need for improvement in selenium rectifiers. J. T. Cataldo. diags Electronics 24:182+ Mr '51

Power handbook; ac converters. J. J. O'Connor, comp. diags Power 95:112 Jl '51

Power supply study and new rectifier installation for the United electric railways of Providence. W. C. Whitman and F. F. Schaller. map plan diags Elec Eng 70:425-31 My '51

Pumpless rectifier. R. Siegel. il diags Gen Elec R 54:45-50 Jl '51

Recovery of selenium rectifiers after a voltage pulse in the blocking direction. K. Lehovec. bibliog diags J Ap Phys 22:934-9 Jl '51

Rectification and voltage transformation. R. B. Immel. diags Product Eng 22:156-7 O '51

Rectifier circuits using diode vacuum tubes. R. B. Immel. diags Product Eng 22:156-7 S '51

Rectifier power supply unit for stud welding. il Engineer 190:538 D 1 '50

Rectifiers for cathodic protection. M. E. Parker. diags Oil & Gas J 50:110 Jl 12 '51

Revolution in rectification. il diag Chem Eng 58:204 Ag '51

Selenium rectifiers. O. S. Aikman. il diags Machine Design 23:163-72 Ap '51

Semiconductors will become a major field of electrical engineering. il Product Eng 22:132-3 My '51

Six years experience with operation maintenance of mercury arc rectifiers. J. A. Dunn. il Min Cong J 37:52-3 S '51

Some advantages by rectifying the series field current in series and compound wound d.c. motors. B. W. Jones. il diags Blast F & Steel Pl 39:674-8 Je '51

Transformers and rectifiers; Hackbridge and Hewittic electric co. il Electrician 146:157-8 Ja 12 '51

Unusual mercury-arc rectifier installation. il Engineer 191:735-6 Je 1 '51; Electrician 146:1763 My 25 '51

Use of a semiconducting porcelain enamel as a means of producing copper-copper oxide rectifiers. P. C. Gaertner, jr. diag Am Cer Soc Bul 30:265-6 Ag 15 '51

We found glass bulb rectifiers simple and trouble-free. J. H. Steede. il Elec World 135:92-3+ Mr 12 '51

See also
Electric inverters
Ignitron
Radio rectifiers
Thyratron

Cooling

Corrosion control for cooling systems of electric apparatus. E. J. Remscheid. bibliog il diags Gen Elec R 54:36-40 Mr '51

Testing

Quality control in the making of plating rectifiers. W. A. Raymond. il Metal Finishing 49:68-70 My '51

ELECTRIC refrigerators. See Refrigerators, Electric

ELECTRIC relays. See Relays

ELECTRIC research

Annual report of the Electrical research association. Engineer 191:222-3 F 16 '51

Electrical and allied developments during 1950; research. G. Bartlett. il Gen Elec R 54:16-18 Ja '51

ELECTRIC research—*Continued*

Electrical research; is committee control restrictive? Elec R (Lond) 147:691 N 3 '50

Research and development in the manufacture of electrical equipment. S. E. Goodall. Inst E E Proc 98 pt 2:9-12 F '51; Abstract. Engineering 170:543 D 22 '50

Research at the National physical laboratory. Elec R (Lond) 148:1135-6 Je 1 '51; Electrician 146:1771-2 My 25 '51

Research progress; B.T.H. research laboratory, Rugby. il Electrician 146:471-3 F 9 '51

Review of research in electricity supply. C. W. Marshall. Inst E E Proc 97 pt 1:351-6 N '50

Work of the late W. M. Thornton. J. C. Prescott. Inst E E Proc 98 pt 1:73-6 Mr '51

See also

Electric laboratories

General electric company—Research laboratory

ELECTRIC resistance

Change of electrical resistance during the strain ageing of iron. A. H. Cottrell and A. T. Churchman. bibliog Iron & Steel Inst J 162:271-6 Jl '49; Discussion. 166:322-4 D '50

Coarse pattern of the electrical resistance in the cochlea of the guinea pig (electroanatomy of the cochlea). G. v. Békésy. diags Acoustical Soc Am J 23:18-28 Ja '51

Dispersion of resistivity and dielectric constant of some semiconductors at audiofrequencies. C. G. Koops. bibliog diags Phys R 83:121-4 Jl 1 '51

Effect of alloying elements on the electrical resistivity of aluminum alloys. A. T. Robinson and J. E. Dorn. bibliog J Metals 3: Trans 457-60 Je '51

Electrical resistance of platinum at high temperatures. H. E. Bennett. R Sci Instr 21:1029 D '50

Electrical resistance of textile materials. M. Hayek and F. C. Chromey. il diag Am Dyestuff Rep 40:225-7 Ap 2 '51

Electrical resistivity and thermoelectric power of antimony-selenium alloys. B. D. Cullity and others. bibliog J Metals 188:Trans 47-52 Ja '50; Discussion. 188:Trans 1367-8 N '50

Electrical resistivity of coatings. W. F. Rogers. bibliog diags Pet Eng 23:D5-12+ Mr '51

Hall coefficient and resistivity of thin films of antimony prepared by distillation. W. F. Leverton and A. J. Dekker. bibliog diags Phys R 80:732-6 N 15 '50

Irreversibility and generalized noise; extension of Nyquist relation for voltage fluctuations in electrical impedances. H. B. Callen and T. A. Welton. Phys R 83:34-40 Jl 1 '51

Lattice distortion spectrum of evaporated gold. P. G. Wilkinson. bibliog J Ap Phys 22:419-23 Ap '51

Magnetoresistance of bismuth at 3000 megacycles. C. W. Heaps. bibliog Phys R 80: 892-3 D 1 '50

Measurement of and effect of temperature on electrical resistance of glass electrodes. E. L. Eckfeldt and G. A. Perley. bibliog diags Electrochem Soc J 98:37-47 F '51

Measurement of interlaminar resistance of varnish-insulated silicon-steel sheet for large electrical machines. E. D. Taylor. diags Inst E E Proc 98 pt 2:377-85; Discussion. 385-8 Je '51

Proposed method for measuring electrical resistance of coatings. W. F. Rogers and others. diags Gas Age 108:31-5+ S 27 '51

Pulse-annealing for the study of relaxation processes in solids. W. E. Parkins and others. il diags J Ap Phys 22:1012-19 Ag '51

Rapid method for calculating and using platinum thermohm tables. R. A. Buerschaper. R Sci Instr 21:996-8 D '50

Resistance and capacitance twin-T filter analysis. L. G. Gitzendanner. diags Tele-Tech 10:46-8+ F '51

Resistance measurement; special methods for microammeters and galvanometers. diags Electrician 146:709-10 Mr 2 '51

ELECTRIC resistors

Bell laboratories develop improved type of deposited carbon resistor. Elec Eng 69:1043 N '50

Capacitive slip ring for instrumentation; problem of multiple temperature measurements on aircraft supercharger impellers solved with thermistor elements capacitively connected to an r-f bridge. F. P. Fischer and C. H. Coogan, jr. diags Electronics 24: 84-5 Ja '51

Characteristics and some applications of varistors. F. R. Stansel. bibliog il diags Inst Radio Eng Proc 39:342-58 Ap '51

Crane resistor design. M. A. DuBois. Iron & Steel Eng 28:77-8 Mr '51

Design and performance of electric furnaces with oxide resistors. W. H. Davenport and others. bibliog il diags Am Cer Soc J 33: 333-9; Discussion. 339-40 N 1 '50

Design and performance of surge diverters for the protection of alternating-current systems. T. F. Monahan. bibliog diags Inst E E Proc 98 pt 2:312-22; Discussion. il 322-30 Je '51

Design of thermistor thermometers with linear calibration. W. R. Beakley. diag J Sci Instr 28:176-9 Je '51

Grading of d.c. controller resistances. W. de Renzi. diag Electrician 146:125-8, 213-16, 305-9 Ja 12-26 '51

Instrument electronics; circuit elements. M. H. Aronson. il diags Instruments 24:888-90+ Ag '51

Loading resistors for Diesel-electric locomotive. il Ry Age 130:29 My 28 '51

Low temperature coefficient resistor. il Product Eng 22:204+ Ap '51

Measurement of vapor pressures by means of matched thermistors. A. P. Brady, H. Huff and J. W. McBain. bibliog diag J Phys & Colloid Chem 55:304-11 F '51

Problem of a non-ohmic resistor in series with an impedance. E. B. Moullin. diags Inst E E Proc 98 pt 1:87-96 Mr '51; Discussion. 98 pt 1:344-6 N '51

Pyrolytic film resistors; carbon and borocarbon. R. O. Grisdale and others. bibliog il diags Bell System Tech J 30:271-314 Ap '51

Relationship between resistance and temperature of thermistors. G. Bosson and others. J Ap Phys 21:1267-8 D '50

Resistance tape; use it by the inch; new self-adhesive resistor developed by NBS pressed in place on printed circuits. il Aviation W 55:30+ Jl 2 '51; Electronics 24:236+ S '51

Semiconductors will become a major field of electrical engineering; thermistors. diags Product Eng 22:135 My '51

Thermal shunt for soldering resistors. diags Electronics 24:176+ Jl '51

ELECTRIC roasters

Manufacture

Wraparound bench forms sheet metal faster; Swartzbaugh mfg. co. H. W. Eschedor. il Iron Age 167:100-2 Mr 8 '51

ELECTRIC safety lamps. See Safety lamps, Electric

ELECTRIC service, Rural

Agricultural loads; development on overloaded rural mains. E. C. Claydon. il Elec R (Lond) 147:983-4 D 15 '50

Alabama power company's 125,000th rural customer holds open house celebration. il Edison Elec Inst Bul 18:447-8+ D '50

Characteristics of rural load with 8000 kwh average annual use. R. K. Dallas and others. Edison Elec Inst Bul 19:299-300+ S '51

Electric companies develop nation-wide plans for rural electrification week. Edison Elec Inst Bul 19:186 Je '51

11-year operating record; rural line sectionalizing by repeater fuses. R. M. Schahfer and F. H. Strout. Elec Eng 70:488 Je '51

Line building slowing down. Elec World 135: 128-30 Ja 29 '51

Pioneer experimental rural electric lines, 1923; near Red Wing, Minn. B. F. Braheney. Pub Util 48:289-95 Ag 30 '51

Pioneers observe Farm electrification week, Aug. 26-31. il Elec West 107:109-11 S '51

Problems of rural electrification; abstracts. C. T. Melling. Electrician 145:948 N 10 '50; Elec R (Lond) 147:689 N 3 '50

Progress of New York farm electrification; commemoration of its fiftieth anniversary. B. F. Feinberg. Pub Util 48:216-22 Ag 16 '51

ELECTRIC service, Rural—*Continued*

Rural load building campaign emphasizes water systems. L. L. Koontz. il Elec World 134:120 D 18 '50

See also

Electricity on the farm

Rural electrification administration

Telephone service, Rural

Cooperative lines

Capacitors earn $1,000 per month for Delaware rural electric cooperative system. F. Hershey, jr. and R. R. Jefferson. Elec World 135:132+ F 12 '51

Co-op appeal to block Massachusetts line lost. Elec World News ed 135:14 Je 25 '51

Co-op gets loan to build 1,125-mile, 69-kv network, SPA will operate. Elec World News ed 134:13 D 25 '50

Co-op raps business-or-pleasure bogey; Ohio group annual meeting, sponsors day at county fair. il Elec World News ed 136:4 S 17 '51

Private power plans in Missouri; power demands of rural cooperatives. J. M. Stafford, jr. Pub Util 47:784-8 Je 7 '51

REA-financed systems prospering. Elec World News ed 134:4 N 13 '50

Setback for a super co-op; Virginia corporation commission rejects Old Dominion electric cooperative's petition for REA loan. J. J. Kilpatrick. Pub Util 47:278-85 Mr 1 '51

Southeastern REA co-op meeting. Pub Util 46:839-43 D 7 '50

Southwest super co-op is granted REA loan. Elec World News ed 134:6 D 11 '50

Virginia co-ops give up plan to make own power. Elec World News ed 136:14 Jl 23 '51

ELECTRIC shock

Temporary immobilization of salamander larvae by means of electric shock. N. E. Kemp and A. Gamero-Reyes. diag Science 113:722-3 Je 22 '51

See also

Electricity, Injuries from

ELECTRIC shops (retail trade)

Display, your low-cost salesman; abstract. R. Johnson. Elec West 106:76+ Ja '51

Prizes for windows enlist dealers in range program. il Elec World 135:116 Je 4 '51

ELECTRIC signals

Magnetic tape recorder for very low frequency phenomena. P. E. Green, jr. diags R Sci Instr 21:893-5 N '50

See also

Electric alarms

Fire alarms

Light signals

Mine signals, Electric

Railroads—Signals

ELECTRIC signs

National distribution and how to get it; Lawter's black lighting and fluorescent signs. Am Bsns 20:32+ O '50

Manufacture

Chronic berylliosis in the neon sign industry. O. A. Sander. A M A Archives Ind Hygiene & Occup Med 3:565-8 Je '51

Standards

Plastics, in war and peace; changes in building codes permit use of acrylic plastics in signs. F. J. Rarig. il Standardization 22:141-3 My '51

ELECTRIC spark

Electric spark treatment of hard alloy tools. Metallurgia 43:94 F '51

Excitation temperature in time-resolved spectra of single condensed spark discharges. L. Blitzer and W. M. Cady. bibliog il diags Opt Soc Am J 41:440-5 Jl '51

High intensity short duration spark light source. J. A. Fitzpatrick and others. il diag J Ap Phys 21:1269-71 D '50

Streamer breakdown and sparking thresholds. L. B. Loeb. bibliog Phys R 81:287 Ja 15 '51

ELECTRIC standards

Decision on copper resistivity by International electrotechnical commission. Standardization 22:86+ Mr '51

International electrotechnical commission meeting, Paris, July 10-21. Standardization 21:279-81 N '50

R-f. dielectric standards. il Instruments 24:1050+ S '51

Standards for electrical measurement. F. B. Silsbee. il diag Elec Eng 70:202-6 Mr '51

Test table for rotating standards unifies procedure. L. M. Donahue and K. W. Pierce. il diag Elec World 135:132+ Je 18 '51

See also

Electric units

Radio standards

also subdivision Standards under special headings, e.g.

Brushes (electric machinery)—Standards

Electric equipment—Standards

Electric generators—Standards

Electric instruments—Standards

Electric motors—Standards

Electric transformers—Standards

Electric wiring—Standards

also International electrotechnical commission

ELECTRIC stoves

Electric range; Frigidaire Thrifty-30, model RM-35. Consumers Res Bul 27:24 Je '51

New electric cooker. il Electrician 145:1353 D 8 '50

Simplex horizontal large-capacity cooker. il Elec R (Lond) 147:1122 D 29 '50

Manufacture

Electric cooker factory. il Engineer 191:485-6 Ap 13 '51; Engineering 171:432-3 Ap 13 '51; Elec R (Lond) 148:735-8 Ap 13 '51; Electrician 146:1194-5 Ap 13 '51

Merchandizing

Intensive promotion sells ranges; Carolina power & light co. T. B. Smiley. Elec World 136:116+ Jl 30 '51

Range of the Stars promotion program sponsored by EEI features eight Hollywood stars. il Edison Elec Inst Bul 18:449-50 D '50

Rating

Electric range broiler tests. il Consumers Res Bul 27:15-16 Ja '51

Two-burner electric table stoves. il Consumers Res Bul 28:19-21 O '51

Standards

Making home ranges and water heaters safe and efficient. il Standardization 22:52-3+ F '51

Testing

Efficient test set locates short circuits in ranges. C. A. Hass. il diag Elec World 135:152+ Je 18 '51

ELECTRIC substations

Aerial cable and larger substations reduce system investment. V. A. Rydbeck. diags Elec World 135:110-11 Mr 26 '51

Economical distribution system growth solved with unit substations. W. P. Holben and G. N. Hoffman. il map Elec World 135:104-8 Ap 9 '51

New loads? you'll save with unit substations! D. Beeman. il diags Power 95:128-30 Je '51

Substation construction speeded by special gin. J. W. Parham. il diag Elec World 136:88 Jl 2 '51

Tests show restrikes in capacitor switching. A. W. Funkhouser and R. C. Van Sickle. il diag Elec World 136:74-7 Jl 2 '51

Unit substation application chart. G. Wood. diags Elec World 135:104-6 My 7 '51

Design

Enclosed outdoor switchgear uses 75 per cent less space. H. V. Strandberg and L. E. Wheeler. il Elec World 136:94-5 S 24 '51

5,000-kva underground substation. J. F. Sinnott. il Elec Eng 69:965 N '50

120-kv substation switchyard goes indoors in Montreal. H. W. Haberl. il diag Elec World 136:91-3 Ag 27 '51

Southern Cross grid substation. C. F. Bolton. il map diag Elec R (Lond) 148:1242-5 Je 15 '51

Substations, with particular reference to Yorkshire practice. L. H. Fuller and C. R. Clarke. plans diags Inst E E Proc 96 pt 2:397-406 Je '49; Discussion. 96 pt 2:407-11; 97 pt 2:855-60 Je '49, D '50

ELECTRIC substations—Design—*Continued*

Sunken substation serves in Beverly Hills. H. L. Rudolph. il Elec World 135:61 Ja 15 '51

Transmission substation design; a departure from the usual. E. V. Sayles. il plan diags Elec Eng 69:886-90 O '50; Same abr. Elec World 134:81-3 N 6 '50

We cut substation costs 30 per cent by simplifying design. J. R. Jordan. il map diag Elec World 136:110-11 Jl 16 '51

Equipment

Application of shunt capacitors at transmission and distribution stations. F. M. Porter and C. P. Zimmerman. il Elec Eng 70:487 Je '51

Barnborough substation, Yorkshire electricity board. Engineering 171:638 My 25 '51; il Elec R (Lond) 148:1121-3 Je 1 '51; Electrician 146:1707 My 18 '51

Differential relaying for double-end unit substations. A. J. Nicholson. diags Elec World 135:166 Ja 29 '51

Meters guide steam plant and substation operations. F. A. Hinchcliffe. il Power 95:86-9 Je '51

Nickel-cadmium batteries installed in substation. E. Barrow and P. B. Wickersham. il Elec World 135:72 Ja 1 '51

Standard load center unit substation; condensed data chart. G. Wood, comp. il diags Mill & Factory 48:131-3 Ja '51

Fires and fire protection

CO_2 protects substation against fire. H. L. Rudolph. il Elec World 134:100 N 6 '50

Lighting

Morale builders; light and paint; relighting sub-station rooms; illustrations with text. Illum Eng 45:680 N '50

Models

Model substation speeds operator training. J. W. Gronbeck. il diag Elec World 135:94+ F 26 '51

Noise

Confinement of transformer noise; enclosure of pumice blocks filled with sand. C. McLean. il diag Elec Eng 70:325-30 Ap '51; Abstract. Elec World 134:114-16 N 20 '50

ELECTRIC substations, Automatic

Transmission substation design; a departure from the usual. E. V. Sayles. il plan diags Elec Eng 69:886-90 O '50; Same abr. Elec World 134:81-3 N 6 '50

ELECTRIC substations, Portable

High-speed 6,000-kva mobile substation. J. B. Bowen. il Elec West 106:70 Mr '51

ELECTRIC switches. See Electric switchgear

ELECTRIC switchgear

Alarm switches; how to apply them. E. J. Kates. il diags Power 95:82-5+ O '51

Contribution to the algebra of relay and switch contacts. G. H. Buffery. diags Inst E E Proc 97 pt 1:357-63 N '50

Co-ordination of parts in switchgear assemblies. F. L. Musselman. il diags Gen Elec R 54:22-5 Ap '51

Enclosed outdoor switchgear uses 75 per cent less space. H. V. Strandberg and L. E. Wheeler. il Elec World 136:94-5 S 24 '51

Environment-free 120-volt d-c high performance limit switch. T. R. Stuelpnagel. Elec Eng 69:1070 D '50

High-voltage load-ratio-control contactors. J. F. McKenney. il diag Gen Elec R 53:36-8 D '50

How to specify bus-transfer schemes. A. Conangla. il diags Power 95:78-9 Ap '51; Same. Elec World 136:130-1 S 10 '51

Interrupter switches protect 60-kv loop. il map diag Elec West 107:100 S '51

Interrupting ability of horn-gap switches. F. E. Andrews and others. Elec Eng 70:136 F '51

Medium voltage air-break switchgear. il Engineer 191:843-4 Je 22 '51

Mercury switch permits use of unlimited number of electric strain gages. S. R. Daniels and U. Seiden. il diag Civil Eng 21:158 Mr '51

Metalclad oil switch units. il Engineer 192:251-2 Ag 24 '51

Metalclad switchgear; A. Reyrolle & co. ltd. il Electrician 146:225-6 Ja 19 '51

Mobile switchgear showroom. il Elec R (Lond) 147:1098 D 29 '50

Oil switch and voltage control give low-cost capacitor switching. W. R. Smith and others. il diag Elec World 135:57-60 Ja 1 '51

Out-of-phase high-voltage switching. Elec Eng 70:60 Ja '51

Remote-controlled air-break switches isolate fault in four minutes. R. A. Williams and V. B. Wilfley. il diags Elec World 135:58-60 Ja 15 '51

Simplified 230-kv. bus effects economies. L. F. Hunt. il diag Elec West 106:60-1 Ja '51

Stamped switch mechanism is designed for interchangeability. E. Drewitz. il diag Machine Design 23:137-40 F '51

Switches control this progressive die. P. R. Enzler. il diags Am Mach 95:112 Je 25 '51

Switches replace relays in pump control. F. J. Ardolino. diags Power 95:122-3 Ap '51

Switchgear divisions laboratory, General electric co. A. E. Anderson. il plan Gen Elec R 54:23-8 Ag '51

Switchgear trends. A. T. Crawford. Elec R (Lond) 148:598-9 Mr 23 '51

Switching of distribution capacitors by manual and automatic devices. R. J. Hopkins and N. R. Schultz. il diags Gen Elec R 54:36-42 Ap '51

Symbolic method for the solution of some switching and relay-circuit problems. I. A. D. Lewis. diags Inst E E Proc 98 pt 1:181-91 My '51

Your next switch selection problem. A. L. Riche. il diags Product Eng 22:162-7 Je '51

See also

Electric circuit breakers

Ice protection

Ice testing of outdoor disconnecting switches to simulate field conditions. J. B. Owens. il Elec Eng 70:139-42 F '51

Testing

Automatic calibration of radiosonde baroswitches. S. S. Haynes. il diags Electronics 24:126-9 My '51

Developments in the short-circuit testing of switchgear. Engineering 172:139 Ag 3 '51

Establish reach limits as measure of switch performance. M. A. Andersson. il Elec World 134:79-81+ D 18 '50

Ice testing of outdoor disconnecting switches to simulate field conditions. J. B. Owens. il Elec Eng 70:139-42 F '51

Switch testing. L. H. R. Everitt. diags Elec R (Lond) 149:283-7 Ag 10 '51

Test switchgear on assembly line. C. Sancomb and G. Ordaneff. il diag Elec World 136:93 S 24 '51

Tests show restrikes in capacitor switching. A. W. Funkhouser and R. C. Van Sickle. il diag Elec World 136:74-7 Jl 2 '51

ELECTRIC symbols

Proposed symbols and terms for feedback control systems. diags Elec Eng 70:905-9 O '51

ELECTRIC testing

Development and design of high-voltage impulse generators. F. S. Edwards and others. bibliog il diags Inst E E Proc 98 pt 1:155-68; Discussion. 168-80 My '51; Elec R (Lond) 148:117-18 Ja 19 '51; Electrician 146:227-8 Ja 19 '51

Electronic power source for large d-c contact testing. D. L. Pettit. il diags Elec Eng 70:530-2 Je '51

Portable test outfit for load and voltage surveys. H. T. Fessler and W. J. Kobel. il diags Elec World 135:112+ Ap 9 '51

Potential lead tester cuts inspection time. W. H. Blair. il diag Elec World 135:110+ Je 4 '51

Safety testing of electronic equipment. O. G. Wedekind. Elec Eng 69:997-1000 N '50

Test table for rotating standards unifies procedure. L. M. Donahue and K. W. Pierce. il diag Elec World 135:132+ Je 18 '51

Testing earth circuits. T. C. Gilbert. Elec R (Lond) 147:641-2 O 27 '50

ELECTRIC testing—*Continued*

Varley phase sequence test; conditions for maximum and minimum lamp voltages. G. W. Stubbings. diags Elec R (Lond) 148:225-6 F 2 '51

Wave form distortion in test apparatus. T. A. Ledward. il diags Electrician 147:29-33, 329-33, 691-5, 1023-7, 1367-9, 1779-83; 148: 47-50 Jl 6, Ag 3, S 7, O 5, N 2, D 7 '51, Ja 4 '52 (to be cont)

See also

Dynamometers
Electric instruments
Electric laboratories
Electric measurements

also subdivision Testing under special subjects, e.g. Insulation (electric)—Testing

ELECTRIC testing of metals

Instruments unsnarl metal mixups. A. Doschek. diags Iron Age 167:92-6 Je 21 '51

ELECTRIC tools

Aluminum fabrication with a hand tool production line. il Light Metal Age 9:16-18 Je '51

ELECTRIC tools, Portable

How costs are cut with power tools. il plans Am Bld 73:90-5 My '51

How to cut power maintenance time in half. A. R. Ringer. il Power Eng 54:76-8 D '50

Improvised generator used to operate portable drills. A. T. Holmquist. il Elec World 136: 126+ Jl 16 '51

New precutting versatility and speed with patterns and power tools. il Am Bld 73: 100-3 My '51

Operation and maintenance of electric power tools. il Sheet Metal Worker 42:41-3+ Ap '51

Power equipment builds a city; Lakewood Park, Los Angeles. il plan Am Bld 73: 96-9 My '51

Power increased in lightweight drill. il diag Machine Design 23:134 My '51

Power tools cut price in economy home. il plan Am Bld 73:110-11 My '51

Quick-change chuck for portable electric tool. H. Conn. diags Mach 57:200 Mr '51

Small hand power tools; Handee 85. il Automotive Ind 103:67 D 1 '50

Two-speed portable electric drills. il Engineer 190:538 D 1 '50

Safety measures

Grounding of portable electric equipment; data sheet. il Nat Safety N 62:28-9+ N '50

ELECTRIC traction

Development in electric traction. J. H. Cansdale. il Electrician 146:633-4 F 23 '51

Electric traction; abstract and discussion. C. M. Cock. Engineering 171:747-8 Je 22 '51

Electrical and allied developments during 1950; land transportation. G. Bartlett. il Gen Elec R 54:44-5 Ja '51

International railway congress, 15th, Rome, Sept. 25-Oct. 4; electric traction considerations. Elec R (Lond) 147:667 O 27 '50

Some new slants on electric traction; abstracts of four papers presented at summer meeting of A.I.E.E. Ry Age 131:44-6+ Jl 16 '51

Technical advances and trends in electric traction. Engineer 191:445-7 Ap 6 '51

See also

Electric locomotives
Electric railroads
Railroads—Electrification
Rapid transit
Street railroads
Subways
Trolley buses

ELECTRIC tractors, Industrial

Electric tractor train saves over $25,000 yearly. W. B. McGuire. il Textile World 101:106-7+ Ap '51

ELECTRIC transformers

Capacity of open and closed delta transformer banks in parallel; engineering reference sheet. Elec World 135:162-3 My 21 '51

Current transformer differences overcome with percentage-type relay. J. J. Samson and E. L. Michelson. diags Elec World 134: 96-7+ D 18 '50

Current transformers for audio measurements. L. T. Fleming. diags Electronics 24: 188+ Jl '51

Dielectric admittances in current transformers. A. H. M. Arnold. diags Inst E E Proc 97 pt 2:727-32; Discussion. 733-4 D '50

Dry type transformer used on network system. E. L. Leinbach. il Elec World 136: 126-7 Ag 27 '51

Economics of power transformer application. J. E. Barkle and R. L. Witzke. diag Elec Eng 70:512-16 Je '51

88·75 mva transformers for Barking C generating station. il Engineer 191:588 My 4 '51

Electrostatic direct-current transformer of 300 kilovolts. J. M. Malpica. diags R Sci Instr 22:364-9 Je '51

Engineering highlights of 1950; power transmission and distribution. il Westinghouse Eng 11:9-12 Ja '51

Evaluate the losses first, then select the transformer. L. W. Schoenig. Elec World 135:119-20 Je 18 '51

Handtruck moves transformers easily and safely. C. H. De Poy. il Elec World 135:94 F 26 '51

Inrush of magnetizing current in single-phase transformers; abstract. L. A. Finzi and W. H. Mutschler, jr. Elec Eng 70:879 O '51

Magnetic indicator shows oil level in transformer. V. A. Veit. il Elec World 134:112+ D 18 '50

Measurement of interlaminar resistance of varnish-insulated silicon-steel sheet for large electrical machines. E. D. Taylor. diags Inst E E Proc 98 pt 2:377-85; Discussion. 385-8 Je '51

Miniature pulse transformer. il R Sci Instr 22:711 S '51

100-mva 220/150-kv transformers for Lutterade, Holland. il Engineering 171:128-9, 132 F 2 '51

Regulation diagrams for transmission lines and transformers. R. O. Kapp. diags Engineering 171:277-8 Mr 9 '51

Secondary metering gets a current transformer of its own. E. C. Wentz. il Westinghouse Eng 11:54-5 Mr '51

Selection of transformers for use in distribution networks. E. Tobin. bibliog diag Inst E E Proc 96 pt 2:485-93 Je '49; Discussion. 96 pt 2:493-7; 97 pt 2:28; 98 pt 2: 50-8 Je '49, F '50, F '51

Single-phase power transformer formed cores. T. D. Gordy and G. G. Somerville. il diags Elec Eng 70:614-17 Jl '51

64-MVA 230-kv transformer for Finland. il Engineering 171:11 Ja 5 '51

Some practical equivalent circuits for multicircuit transformers. D. Morris. bibliog diags Inst E E Proc 98 pt 2:256-61 Ap '51

Standard transformers change 4 kv to 2.3 kv. H. L. Swicegood. diags Elec World 135: 168+ Ja 29 '51

Stop oil leaks in transformer covers. B. E. Ellsworth. Elec World 136:112 Ag 27 '51

Today's transformers and accessories. il Factory Management 109:114-19 Mr '51

Transformer boosting and bucking data; tables; engineering reference sheet. Elec World 136:102 Jl 30 '51

Transformer magnetizing inrush currents. T. R. Specht. Elec Eng 70:324 Ap '51

Transformer truck fits all tanks. J. B. Bowen. il Elec World 135:97 Je 4 '51

Transformers and rectifiers; Hackbridge and Hewittic electric co. il Electrician 146:157-8 Ja 12 '51

Transformers for export. il Elec R (Lond) 147:1074-5 D 22 '50

Transformers save 25 per cent in critical materials. Steel 128:126 Je 18 '51

Transformers to boost or buck voltage; engineering reference sheet. diags Elec World 135:130 Je 18 '51

230 kv three-phase transformers. il Electrician 145:1527-8 D 22 '50; Engineer 190:631 D 22 '50

2,000,000-kva transformer core. W. C. Sealey. il Elec Eng 70:505 Je '51

Variation in electrical properties of silicon-iron transformer sheet; statistical analysis. S. Rushton and D. R. G. Davies. bibliog diags Iron & Steel Inst J 167:247-61 Mr '51

Water in transformer oil. M. R. Dickson. Inst Pet J 37:373-87 bibliog(p386-7) Jl '51

See also

Electric substations
Radio transformers

ELECTRIC transformers—*Continued*

Autotransformers

Overcoming power cut problems; infinitely-variable voltage regulating auto-transformers. il diag Electrician 146:569 F 16 '51

Connections

Neutral inversion of a single-potential transformer connected line-to-ground on an isolated delta system. L. L. Gleason. diags Elec Eng 70:117 F '51

Scott-connected transformers. J. W. Smith. diags Elec R (Lond) 148:215-16 F 2 '51

Cooling

Cooling by boiling. il Chem W 69:24 S 1 '51

Jet spray cooling technique. J. H. Chiles; P. Narbut. Steel 129:131-2 S 17 '51

Operating problems of forced-oil forced-air cooled transformers; abstract. A. L. Hough. bibliog Elec Eng 70:899 O '51

Transformer cooling, by evaporation. il diag Westinghouse Eng 11:166-8 S '51

Vapor-cooled transformer will be safer and lighter. il diag Elec World 136:142 S 10 '51

Design

Design of power transformers to withstand surges due to lightning, with special reference to a new type of winding. A. T. Chadwick and others. bibliog il diags Inst E E Proc 97 pt 2:737-44 D '50; Abstract. Elec R (Lond) 146:845 My 5 '50; Discussion. Inst E E Proc 97 pt 2:744-50 D '50; Elec R (Lond) 146:845-7 My 5 '50; Electrician 144:1603-4 My 12 '50

Economical design of a three-phase transformer. L. Ciganek. diag Elec Eng 69:1108 D '50

Effect of capacitance on the design of toroidal current-transformers. A. H. M. Arnold. diags Inst E E Proc 97 pt 2:797-808 D '50

Sealed, gas-filled transformer does class H job with B insulation. C. E. Sutton. il Elec World 135:112-13 F 12 '51

Drying

Gas circulation dries out insulation while transformer carries load. M. E. Willis and M. L. Daltroff. il diags Elec World 135:108-9 F 12 '51

Failure

Detection by oscillographic methods of winding failures during impulse tests on transformers. E. C. Rippon and G. H. Hickling. bibliog diags Inst E E Proc 96 pt 2:769-78 O '49; Discussion. 96 pt 2:779-88; 98 pt 2:73-81 O '49, F '51

Installation

Clean design safeguards transformers and capacitors. il Elec World 136:138 S 10 '51

Ground-level transformers supply series lighting. S. P. Sawyer. il Elec World 134:134 D 4 '50

New transformer enclosures for buried cable systems. J. J. Stein. il diag Elec World 134:107 N 20 '50

New transformers over generator bushings save space. C. C. Sterrett and C. A. Woods. il Westinghouse Eng 11:98-9 My '51; Same cond. Elec World 136:104+ S 24 '51

Manufacture

Automatic welding keeps transformers flowing. il Steel 127:61 D 25 '50

Noise

Acoustic panels, core and coil isolation promise noise relief. A. V. Lambert. diags Elec World 136:72-3 Jl 2 '51

Confinement of transformer noise; enclosure of pumice blocks filled with sand. C. McLean. il diag Elec Eng 70:325-30 Ap '51

Discharge lamp chokes; methods of production noise testing. C. A. Mason and D. A. Nutt. il Elec R (Lond) 148:489-92 Mr 9 '51

Oil

See Insulating oil

Painting

Corrosion protection, defense in depth. Westinghouse Eng 10:256 N '50

Painting speeded on bulky fabrications; power transformer radiators. M. P. Getting, jr. and J. G. Fink. il diags Iron Age 167:59-62 Ja 11 '51

Spraying cabinet speeds transformer painting. J. M. Davis and L. A. Bucklew. il Elec World 135:120+ Mr 12 '51

Protection

Five years of trouble-free operation marked up with gas-filled transformer. il Coal Age 55:67 N '50

Fosterite insulation for small transformers. R. Lee. il Westinghouse Eng 10:233-4 N '50

New carrier-current frequency-shift system for use with differential protection of transformer banks. R. W. Beckwith. il diag Elec Eng 70:678-81 Ag '51

Overload alarm circuit resets automatically. F. E. Reeves. diag Elec World 135:68 Ja 1 '51

Standards

New subway transformer standards offer simplicity, uniformity, economy. M. W. Ghen and R. D. Rung. il diags Elec World 135:110-13 Ap 23 '51

Tables, calculations, etc.

Calculation of waveform distortion in iron-cored audio-frequency transformers. K. A. MacFadyen. diags Inst E E Proc 97 pt 2:809-11 D '50

Transformer and secondary drops obtained from chart; engineering reference sheet. N. H. Erlandson. Elec World 134:112 N 6 '50

Tanks

How to remove welded transformer tank covers. il Elec World 135:154+ My 21 '51

New mica base paint system withstands severe atmospheric conditions. J. G. Ford and A. J. Kuti. il Materials & Methods 32:58-61 N '50; Same cond. Steel 127:56-8 O 30 '50; Same cond. Westinghouse Eng 11:42-5 Mr '51

Variations of tank pressure with transformer loading in sealed transformers. E. W. Tipton. Elec Eng 70:149 F '51

Tap changing

Complex motion for selector mechanism obtained with only three moving parts. E. W. Kuhn. il diag Machine Design 23:133-4 Jl '51

Temperature

Deterioration of transformer oil and paper insulation by temperatures. F. J. Vogel and others. bibliog Elec Eng 70:244-7 Mr '51

Terminals

Terminal templates for multi-tap transformers. R. D. Alexander and J. Came. il Elec World 135:110 My 7 '51

Testing

Control for stabilized testing power; improving transformer-testing facilities. L. R. Runaldue and H. F. Parker. il diags Gen Elec R 53:34-8 N '50

Detection by oscillographic methods of winding failures during impulse tests on transformers. E. C. Rippon and G. H. Hickling. bibliog diags Inst E E Proc 96 pt 2:769-78 O '49; Discussion. 96 pt 2:779-88; 98 pt 2:73-81 O '49, F '51

Impulse testing. diag Elec R (Lond) 148:950 My 4 '51

Locate transformer gas leaks with halogen detector. R. S. Pindar. il Elec World 135:76 Ja 15 '51

Windings

Design of power transformers to withstand surges due to lightning with special reference to a new type of winding. A. T. Chadwick and others. bibliog il diags Inst E E Proc 97 pt 2:737-44; Discussion. 744-50 D '50

Effect of capacitance on the design of toroidal current-transformers. A. H. M. Arnold. diags Inst E E Proc 97 pt 2:797-808 D '50

ELECTRIC transformers, Portable

Mobile network unit used for radial service. V. A. Veit. il Elec World 135:160 My 21 '51

ELECTRIC transformers, Portable—*Continued*

Transformer trailer for service restoration. H. L. Swicegood. il Elec World 136:94 Jl 30 '51

ELECTRIC transient phenomena

Finite representation of impulse functions in solving differential equations. J. J. Smith and P. L. Alger. diags Elec Eng 70:143 F '51

For measuring fluorescent lamp starter transients. A. Brownell and D. D. Hinman. diags Gen Elec R 53:17-19 N '50

Glow switch transients for starting fluorescent lamps. F. H. Rixton. bibliog diags Illum Eng 46:21-5 Ja '51

Inrush of magnetizing current in single-phase transformers; abstract. L. A. Finzi and W. H. Mutschler, jr. Elec Eng 70:879 O '51

Magnification of switching overvoltages in coupled oscillatory circuits. I. B. Johnson and J. Berdy. diags Gen Elec R 53:22-4 D '50

Solution of transients in active four-terminal networks. H. Epstein. bibliog diags Franklin Inst J 251:607-16 Je '51

Spectrum analysis of transient response curves. H. A. Samulon. Inst Radio Eng Proc 39:175-86 F '51

Synchronous generators; determination of transient performance; discussion. Elec R (Lond) 148:443-4 Mr 2 '51; Electrician 146: 723-4 Mr 2 '51

Transient analysis of three-phase power systems. E. T. B. Gross and L. Rabins. bibliog diags Franklin Inst J 251:333-41, 521-37 Mr, My '51

Transient analyzer applications. I. B. Johnson. bibliog il map diags Gen Elec R 54: 22-9 S '51

Transient response of filters. M. S. Corrington. bibliog diags RCA R 10:397-429 S '49; Correction. 12:284 Je '51

Transient response of magnetic amplifiers, cases of negligible commutation; abstract. L. A. Finzi and others. Elec Eng 70:809 S '51

Transient response of small two-phase induction motors; abstract. A. M. Hopkin. Elec Eng 70:859 O '51

Use of a photo-tube to correlate contact separation with electrical transients. O. E. Berg and H. E. Stauss. il diag R Sci Instr 22:153-5 Mr '51

ELECTRIC transmission

Development of high-voltage transmission with particular reference to hydro-electric projects. T. G. N. Haldane. Engineering 172:249-51; Discussion. 245-6 Ag 24 '51; Engineer 192:232-3 Ag 24 '51

Electrical transmission control centres. il Engineering 171:51-2 Ja 12 '51

Engineering highlights of 1950; power transmission and distribution. il Westinghouse Eng 11:6-12 Ja '51

Generalized transmission matrix stability criterion; abstract. P. M. Honnell. diag Elec Eng 70:580 Jl '51

How series capacitors can improve today's transmission performance. J. E. Barkle and A. A. Johnson. diags Elec World 135:105-9 Ap 23 '51

Kilovar supply and voltage control of subtransmission systems. C. A. Woodrow. il diags Elec World 134:106-9+ D 4 '50

Long-distance power transmission. S. B. Crary. bibliog diags Elec Eng 69:984-9 N '50

Progress and trends in high-voltage transmission. S. B. Crary. bibliog Gen Elec R 54:22-6 My '51

Series capacitor and the high-voltage line. R. E. Marbury. il diags Westinghouse Eng 11:138-43 S '51

300/315-kv extra high voltage transmission system of the American gas and electric co. P. Sporn and others. il diag Elec World 135:73-6+ F 26 '51

Three-phase transmission at 400 kv with four duplex conductors. J. R. Mortlock. Engineering 171:28 Ja 5 '51

Transmission considerations in the co-ordination of a power-line carrier network; abstract. G. E. Burridge and A. S. Jong. Elec Eng 70:803 S '51

Variable-voltage generation; radial transmission in sparsely loaded areas; discussion. Elec R (Lond) 148:675-6 Ap 6 '51; Electrician 146:1051-2 Mr 30 '51

See also

Electric cables
Electric conductors
Electric distribution
Electric driving
Electric lines
Electric plants—Interconnection
Electric power
Electric switchgear
Voltage regulation

Cost

Engineering economics of a nation's power transmission system. W. T. Taylor. il diags Power Eng 54:54-7+ N '50

Tables, calculations, etc.

Method for computing steady-state power limits of transmission systems; engineering reference sheet. G. W. Bills and R. S. Seymour. diags Elec World 135:74 Ja 1 '51

ELECTRIC trucks

Battery-driven crane lorry. il Electrician 146:741 Mr 2 '51

Battery-driven lorry. il Electrician 147:40 Jl 6 '51

Italian battery-driven tipping lorry. il Electrician 146:316 Ja 26 '51

Italian electric lorry. il Electrician 145:1510 D 22 '50

ELECTRIC trucks, Industrial

Add years to truck battery life. E. F. H. Grothe. il Factory Management 109:101 Jl '51

Battery-electric vehicles. il Electrician 146: 124 Ja 12 '51

Battery trucks in storehouse service. il Ry Mech & Elec Eng 125:65-7 Jl '51

Diesel-electric truck has capacity of 80,000 lbs. il Blast F & Steel Pl 39:354 Mr '51

Figure your own electric truck power requirements. Iron Age 168:85 S 27 '51

Fourteen ways to save money in industrial truck operation. C. Greener. il Gas Age 107: 27+ Mr 29 '51; Same. Cer Ind 57:47 Jl '51

Giant lift truck; power unit consists of Diesel engine driving General-Electric locomotive-type generator. il Mech Eng 73:221-2 Mr '51

How to determine industrial truck battery requirements. J. E. Vaughan. il Mill & Factory 48:88-9 My '51; Same. Safety Maint & Prod 102:34-5 S '51; Same. Steel 129:84 Ag 13 '51; Same. Pet Eng 23:D6 N '51; Same. Paper Tr J 134:23 Ja 4 '52; Same. Paper Ind 33:1186 Ja '52; Same cond. Foundry 79:167 S '51

How to increase fork truck hoisting speeds. Paper Tr J 133:30+ Ag 17 '51

Hydraulic hoist of 6000-pound capacity. il Blast F & Steel Pl 39:720-1 Je '51

Industrial truck shipments, 1935-1950; tabulation. Iron Age 167:349 Ja 4 '51

Pallets aid transportation and warehousing. il Safety Maint & Prod 102:39-41 S '51

Power truck transportation in steel plants. C. S. Schroeder. il Iron & Steel Eng 27: 66-8 O '50

Sideloader truck stacks pallet loads in narrow aisles. il Factory Management 109: 124-5 Jl '51

Trained truck drivers are no cowboys; Seattle Port of embarkation. H. E. Jackson. il Mill & Factory 49:118-20 Ag '51

Two-way radio boosts lift truck efficiency; Johnson & Johnson's new Metuchen shipping center. il Chem Eng 58:142 Ja '51; Elec Eng 70:70 Ja '51; Am Bsns 20:30-1 D '50; Paper Ind 32:1281 Mr '51; Mill & Factory 48:87 My '51

Maintenance and repair

How Ohio Boxboard maintains 195 industrial truck batteries. J. E. Vaughan. il Paper Tr J 132:18-19 Ap 27 '51

Keep electric fork trucks rolling; illustrations with text. A. E. Dorod. Factory Management 109:122-5 Je '51

Preventive maintenance lowers truck-repair cost. C. Greener. Textile World 101:228+ Je '51

Manufacture

Special tooling pays off on short runs; Automatic transportation co. E. L. Meschler. il Iron Age 166:87-90 N 16 '50

ELECTRIC units

Agenda for symbols, units and nomenclature commission (I.U.P.A.P.), July 1951. F. G. Brickwedde. Science 113:213-15 F 23 '51

Composite system of units. I. J. Osborne. Elec Eng 70:180 F '51

Congress establishes new values for electrical units. Elec Eng 69:1042-3 N '50; Standardization 21:286 N '50

Electrical and magnetic magnitudes and units to have international standards. Elec Eng 70:557-8 Je '51

Generalized electrical formulas. V. P. Hessler and D. D. Robb. bibliog Elec Eng 70:332-6 Ap '51

Photometric and electrical units established by law. Opt Soc Am J 40:663 O '50

Relation of kilowatts, kilovars and power factors for circuit studies; tabulation; engineering reference sheet. R. W. Burrell. Elec World 134:130 N 20 '50

Systems of units and nomenclature; tr. from Revue générale de l'électricité, June 1950. G. Giorgi. Wireless Eng 28:126-7 Ap '51

Volta and the volt. G. W. Vinal. Electrochem Soc J 98:sup 11C-13C Ja '51

ELECTRIC utilities

Electric industry's responsibility to a free people. P. H. Powers. Edison Elec Inst Bul 18:403-4 N '50

Goals for business-managed, tax-paying electric utilities. Edison Elec Inst Bul 19:15-16 Ja '51

See also

Electric industries
Electric lines
Electric plants (central stations)
Electric service, Rural
Electricity supply
Florida power corporation
Holding companies

Accidents

Fatal accidents in the electric light and power industry. D. C. Stewart. Edison Elec Inst Bul 19:47-51+ F '51

Is life worth saving? C. E. Kohlhepp. Edison Elec Inst Bul 19:238-9 Jl '51

Utility 1950 accident record seven-year best. Elec World 135:110 Ja 29 '51

Accounting

Accounting chart provides assignment for distribution and service charges; engineering reference sheet. diag Elec World 135: 118 Mr 12 '51

AGA-EEI joint conference, Chicago, April 23-25. Edison Elec Inst Bul 19:133-8 My '51

Credit picture reveals abnormal increase in net charge-off. Edison Elec Inst Bul 19: 128-9 Ap '51

What is the operating man entitled to expect from the accountant? E. L. Lindseth. Edison Elec Inst Bul 19:139-42 My '51

Advertising

Ads govern utility's conduct. J. W. Dragonetti. il Ed & Pub 84:58 Mr 3 '51

Job is the thing. L. V. Sutton. Edison Elec Inst Bul 19:169-71+ Je '51

Joe Stalin sells a rate increase. Elec World 136:87 Jl 30 '51

New England electric system posters proclaim private enterprise. O. Van Rye. il Edison Elec Inst Bul 19:296-7 S '51

Public relations ads solved drought problem; Pacific gas and electric company likes home town papers. C. Watson. il Ed & Pub 84:54 Mr 3 '51

Ten little free workers receives special citation in PUAA contest; winners of first, second, and third awards. Elec World 135:67 Je 4 '51

Utility boosts Cleveland area as best. map Elec World 135:65-6 Je 4 '51

You'll spend three per cent more on ads by '52. Elec World 136:57 Jl 2 '51

Appliance selling

Boosts dishwasher sales 275 per cent; Philadelphia electric co. F. E. Taylor. Elec World 136:124+ S 24 '51

Lighting adapter campaign builds over $12,000 revenue. H. A. Mullin. il Elec World 135:77-9 F 26 '51

Range users are best water heater prospects. E. A. Snyder. il Elec World 135:116+ Je 4 '51

State legislatures reject anti-merchandising laws. Gas Age 108:88 O 11 '51

Buildings

Bristol service centre. il Elec R (Lond) 147: 943-4 D 8 '50; Electrician 145:1344 D 8 '50

Rockland Light & Power opens service building. il Elec World News ed 134:11 N 13 '50

Vermont electric co-operative building, Johnson, Vt. il plan diags Arch Rec 109:175-7 Je '51

Costs

1951 budget tops 1950. Elec World 135:120-2 Ja 29 '51

Customer relations

Credit and collection experience of United States electric and gas industries; first six months of 1950 as compared with the first half of 1949. Edison Elec Inst Bul 18:382 O '50

How power engineers can help industry mobilize. W. A. MacCalla. Elec World 135:89-91 Mr 12 '51

Industrial bulletin builds customer usage. J. F. Morton. il Elec World 135:95 My 7 '51

Our customers know their meter testers. E. L. Keller. il Elec World 135:68 Ja 15 '51

Planned wiring program builds business, increases profits; Louisiana power and light co. J. M. Mooney. il plan Elec World 135: 114-16 F 12 '51

Power salesman's opportunity in the defense program. C. T. Shoch. Elec World 136:114-16 Jl 16 '51

Quarter century proves success of D.R. plan, Blackstone Valley gas and electric co. il Elec World 135:148+ Je 18 '51

Three P's in a pod; good policies, procedures, and personnel spell good customer relations. J. G. Ross. Edison Elec Inst Bul 19:143-6 My '51

Dealer relations

Intensive promotion sells ranges; Carolina power & light co. T. B. Smiley. Elec World 136:116+ Jl 30 '51

Mass selling gets results for Florida utility. J. H. Keele. Elec World 136:102+ Jl 2 '51

Prizes for windows enlist dealers in range program. il Elec World 135:116 Je 4 '51

Development work

Better management benefits everybody. A. C. Spurr. il Advanced Management 16:16-18 S '51

Georgia Power wins Coffin award. Elec World News ed 135:5-6 Je 11 '51

Market approach to community development. A. C. Spurr. Edison Elec Inst Bul 19:181-3 Je '51

Utility boosts Cleveland area as best. map Elec World 135:65-6 Je 4 '51

Utility sells Cleveland, at a profit. il Bsns W p22-4 D 2 '50

Valley development by private enterprise. T. E. Roach. il Elec West 105:61-3 N '50

Employees

Call your shots contest nets $10 per customer. il Elec World 136:162+ Ag 13 '51

Consolidated Edison co. of N.Y. employees receive meritorious service certificates for courageous acts. Edison Elec Inst Bul 18: 436 D '50

Detroit Edison aids ECA program by training Italian plant operators. Elec World 136:84 Ag 27 '51

Detroit Edison co. aids handicapped workers. il Elec World News ed 135:16-17 Mr 5 '51

Don't utilities really want electrical engineers; survey of 1200 engineering school graduates. R. G. Kloeffler. Elec World 136: 82-3 Jl 30 '51

EEI prize contests offer 31 prizes for industry achievements in 1950. il Edison Elec Inst Bul 18:383-5 O '50

EEI resuscitation medal awards honor electric company employees' resourcefulness-teamwork-devotion to duty. il Edison Elec Inst Bul 19:20-4, 53-8 Ja-F '51

Electric utilities; wage structure, Sept. 1950. L. E. Lewis. Mo Labor R 72:665-8 Je '51

Eleven EEI resuscitation medals awarded to valorous electric company personnel. Edison Elec Inst Bul 19:301-6 S '51

ELECTRIC utilities—Employees—*Continued*

Employee cooperation versus the rule book at Central Arizona light & power co. J. T. Kimball. Pub Util 46:862-6 D 21 '50

Employees' suggestion schemes; application in the electricity supply industry. T. H. Carr. Elec R (Lond) 148:588 Mr 23 '51

Employment on the increase. Elec World 135:144-5 Ja 29 '51

Enterprising employees do the talking; Washington Water Power tackles an old problem. K. Jack. Edison Elec Inst Bul 19:121-3 Ap '51

Evaluating operating performance and personnel. A. J. Gregory. Edison Elec Inst Bul 19:187-8+ Je '51

He watched the clouds roll by; electric power station's weather watcher. J. P. Callahan. Pub Util 46:873-80 D 21 '50

Importance of graduate work in the power field. W. A. Lewis. Elec Eng 70:391-3 My '51; Same. Gen Elec R 54:18-21 My '51

Labor unions look at public ownership. L. D. Farrar. Pub Util 47:201-9 F 15 '51

Management inventory and development; a case study; Detroit Edison co. accounting department. V. K. Rowland. Personnel 28:12-22 Jl '51

Power systems engineering course; example of intraindustry education accomplished by co-operation of manufacturer and electrical power industry. L. E. Saline. il Gen Elec R 54:18-21 S '51

Utility employees have own clubhouse; South Carolina electric & gas co.; illustrations with text. Elec World News ed 136:16-17 Ag 20 '51

Utility offers job opportunities; everybody a recruiting officer at Consolidated Edison. Am Bsns 21:38-9 Jl '51

Utility pay still above U.S. average. Elec World News ed 135:6 My 14 '51

Utility rate fixing by labor arbiters? H. S. Simpson. Pub Util 46:804-10 D 7 '50

Utility wage rates to climb further. Elec World 136:119 S 10 '51

Wages and labour relations; example of the electricity supply industry. W. Walsh. Elec R (Lond) 148:643-6 Mr 30 '51

What makes an employee information program click? Virginia electric and power co. W. E. Wood. il Dun's R 59:20-1+ Ap '51

What Vepco employees think of their information program. W. E. Wood. Edison Elec Inst Bul 19:83-5 Mr '51

Winners of the Claude L. Matthews valor award. Edison Elec Inst Bul 19:236 Jl '51

Equipment and supplies

Copper requirements for power systems. H. E. Campbell and W. L. Kelly. diags Elec World 136:123-5 S 10 '51

How a large electrical utility uses 1951 instrument standard. G. F. Walter. il Standardization 22:42+ F '51

Hydraulic boom and puller combined with earthborer. F. L. Goss and E. W. Templing. il Elec World 134:100 D 18 '50

No metal for equipment makers delays industry's expansion plan. Elec World News ed 136:5-6 Ag 20 '51

Power pours down the drain; DPA restores cuts in industry's third-quarter allotments of materials. Bsns W p60-2 Jl 14 '51

Radioactive tracers can solve many power system problems. H. S. Walker and A. Gemant. bibliog il diags Elec World 134:92-4 D 18 '50

Finance

Are electric utility debt ratios headed upward? W. F. Stanley. Comm & Fin Chr 173:2441+ Je 14 '51

Current utility statistics and ratios. Pub Util 47:48 Ja 4 '51 [cont monthly]

EEI survey indicates ample electric capacity. O. Ely. Pub Util 46:676-9 N 9 '50

Electric utilities' postwar construction and finance programs. O. Ely. Pub Util 48:506-11 O 11 '51

Electric utility earnings drop. Bsns W p 153-4 Je 16 '51

Fallacy of tax comparisons. A. Hamilton. Pub Util 47:424-9 Mr 29 '51

Growth shows increase. Elec World 135:136-7 Ja 29 '51

Net income continues to rise. Elec World 135:148-50 Ja 29 '51

1950 earnings figures reflect tax inroads; with chart showing trend of output, revenues, net earnings, rate-base and rate of return, 1926-1950. O. Ely. Pub Util 46:889-92 D 21 '50

1951 earnings expected to keep pace with last year. E. R. Abrams. Barron's 31:11-12 Ja 22 '51

Outlook for electric utilities. P. P. Stathas. Comm & Fin Chr 173:1750-1 Ap 26 '51

Outlook for the utilities of the Pacific Northwest. M. Chandler. Pub Util 47:855-8 Je 21 '51

Planning of investment; a study of capital budgeting in the electric-power industry. M. Gort. J Bsns 24:79-95, 181-202 Ap-Jl '51

Possible effect of war economy on electric utilities. W. H. Sammis. Edison Elec Inst Bul 19:71-5 Mr '51

Power construction tempo is stepped up for 1951. il Elec West 106:76-105 F '51

Power industry's big four. R. H. Spencer. Pub Util 47:607-10 My 10 '51

Trends in the electric light and power industry. O. Ely. Pub Util 47:789-93 Je 7 '51

Utilities don't have excess profits; with tabulation. O. Ely. Pub Util 46:587-9 O 26 '50

Utility earnings turn down. Elec World 136:120-1 S 10 '51

Utility financing. G. D. Woods. Edison Elec Inst Bul 19:211-14+ Jl '51; Same. Comm & Fin Chr 173:2441+ Je 14 '51

Utility profits lag as gross shoots up; with table. Bsns W p142-4 O 13 '51

See also

Electric rates
Electric utilities—Securities
Electric utilities—Taxation
Pacific gas and electric company

Government ownership

Competition from tax-exempt business. H. G. Guthmann. Edison Elec Inst Bul 19:276-8 Ag '51

Federal power. E. R. Abrams. Barron's 30:11-12 N 27 '50

Federal power and the 1952 budget. Pub Util 47:802-3 Je 7 '51

Federal power policy. J. W. Parker. Pub Util 48:377-9 S 13 '51

Great public power myth. C. Tatham, jr. Pub Util 48:486-91 O 11 '51

Industry carries its story to farmer; story of private-public power controversy told in forum. Elec World 135:81-2 My 7 '51

Labor unions look at public ownership. L. D. Farrar. Pub Util 47:201-9 F 15 '51

Path to perdition. A. J. G. Priest. Edison Elec Inst Bul 19:218-22 Jl '51; Same. Comm & Fin Chr 173:2453+ Je 14 '51; Excerpts. Elec World 135:108 Je 18 '51

Place of public power in the American economy. J. E. Corette, jr. Pub Util 46:714-19 N 9 '50

Public enterprise in cooperation with private enterprise. E. G. Nourse. Comm & Fin Chr 173:2460-1 Je 14 '51; Excerpts. Elec World 135:106 Je 18 '51

Public utility condemnation cases in the state of Washington. H. L. Gray. map Am Soc C E Proc 76 [no 2]:1-13 F '50; Discussion. 76 [no D-2]:1-2 D '50

See also

Hydroelectric plants—Government ownership
Ontario—Hydro-electric power commission

History

They were not the good old days. E. R. Abrams. Pub Util 46:561-6 O 26 '50

Information centers

Electrical information room at Nottingham to provide a collecting centre for data relating to generating stations and substations, plant, water, coal, transmission lines and personnel. il Engineering 171:174-5 F 9 '51

Law

Overhead wires and the legal limits of liability. A. W. Gray. Power Eng 55:84-5 F '51

ELECTRIC utilities—*Continued*

Management

How Commonwealth Edison co., Chicago, adapts existing equipment to fit its special needs. W. Norris. il Am Bsns 21:10-11+ Mr '51

Management's dual responsibility for utility rates. W. T. Hyde, jr. Pub Util 47:531-5 Ap 26 '51

Mr Sellers states the case for selling. Elec World 135:99-106 Mr 26 '51

Mobilization today and tomorrow; 130 short-cuts to proved savings; construction, operation and maintenance methods used by utilities to save manpower, conserve materials and cut costs. il Elec World 135: 144-50 My 21 '51

Planning of investment; a study of capital budgeting in the electric-power industry. M. Gort. J Bsns 24:79-95, 181-202 Ap-Jl '51

There is a selling job to do. L. V. Sutton. Edison Elec Inst Bul 19:107-8+ Ap '51

What is the operating man entitled to expect from the accountant? E. L. Lindseth. Edison Elec Inst Bul 19:139-42 My '51

Work simplification in an electric utility. R. M. Besse. Edison Elec Inst Bul 19:259-61+ Ag '51

Municipal ownership

Diversion and regulation of public utility funds. R. E. McDonnell. Water & Sewage Works 98:387-91 S '51

Fallacy of tax comparisons. A. Hamilton. Pub Util 47:424-9 Mr 29 '51

Los Angeles now gets four billion kwhr a year. il Elec World News ed 136:11-12 Jl 9 '51

Public relations is problem and opportunity for utility. J. DeLeon. Elec World 136:164+ S 10 '51

Seattle voters apparently reject city plan to purchase Puget Power. Elec World 134:100 N 20 '50

Public relations

Courtesy by the kilowatt; reprinted from Jan. 1951 Coronet. K. Sagendorph. Edison Elec Inst Bul 19:18-19 Ja '51

Enterprising employees do the talking; Washington Water Power tackles an old problem. K. Jack. Edison Elec Inst Bul 19: 121-3 Ap '51

Industry in the smaller towns; its wherefore for us. G. V. Rork. Edison Elec Inst Bul 19:9-10+ Ja '51

Job is the thing. L. V. Sutton. Edison Elec Inst Bul 19:169-71+ Je '51

Lamp-making contest makes new friends; Central Hudson gas & electric corp. contest in high schools. V. E. Shepherd. il Elec World 136:132 S 10 '51

Public information program. J. W. Parker. Pub Util 45:753-7; 47:766-70 Je 8 '50, Je 7 '51

Public relations is problem and opportunity for utility. J. DeLeon. Elec World 136:164+ S 10 '51

Recipe for goodwill building; give school kids modern tools; Southern California Edison makes latest kitchen equipment available to public schools. il Sales Management 66: 94-5 F 15 '51

South Carolina utilities aid 4-H clubs. il Elec World 134:72-3 N 6 '50

Utility public relations improved by PIP, member companies find. Elec World News ed 135:11 Ap 30 '51

What the public thinks about the electric companies. Elec World 135:75-8 Je 4 '51

Radio communication

BPA completes 200-mile microwave link. R. F. Stevens. il map Elec West 105:82-3 O '50

Economic and engineering aspects of microwave and carrier. F. C. Krings. il diags Elec World 136:99-102 Jl 16 '51; Same. Gen Elec R 54:25-8 Jl '51

Field testing a microwave channel for voice communication, relaying, telemetering, and supervisory control. D. R. Pattison and others. bibliog il diags Elec Eng 69:1092-7 D '50

Flat reflector for uhf system; passive repeaters in microwave relay systems; power company installation. T. Roylston. il plan diag Electronics 24:130-2 Mr '51

Good grounding thwarts lightning at base radio stations. Elec World 135:53 Ja 15 '51

Low noise and distortion audio multiplexing equipment with high stability carrier. F. S. Beale. bibliog diags Elec Eng 69:968-73 N '50

Microwave advantages stressed at Pacific Coast fall conference, San Francisco, Nov. 2. Elec World News ed 134:12 N 13 '50

Microwave applications to Bonneville Power Administration system. R. F. Stevens and T. W. Stringfield. bibliog map diags Elec Eng 70:29-33 Ja '51

Microwave proves dependable in action. T. A. Phillips. il Elec World 134:87+ D 18 '50

Mobile radios improve service, reduce operating expenses. J. W. Compton. Elec World 135:117 Ap 9 '51

Radio communications for power systems. R. E. Martin. il Engineering 171:114-16 Ja 26 '51

Technical considerations; power company communications. R. L. Brinton. il Elec West 105:75 D '50

Two-way radio problems important to fleet operation. W. C. Baylis. Edison Elec Inst Bul 19:267-8+ Ag '51

Wire line, carrier or microwave? economic consideration; cost data. R. H. Miller. Elec West 105:74 D '50

Records

Our new system operating maps provide more data, save records. G. B. Elkington. maps Elec World 136:88-90 Jl 30 '51

Protection of vital records under emergency conditions; joint report of the AGA-EEI subcommittees. Edison Elec Inst Bul 19: 124-7 Ap '51

Separate bill of material saves time three ways. M. K. Brown. Elec World 136:136 Ag 13 '51

Regulation

Current trends in state and federal regulation of gas and electric utilities. R. J. LeBoeuf, jr. bibliog Pub Util 46:612-19 O 26 '50

Federal family fight for power over power. R. Tucker. Pub Util 48:267-74, 347-54 Ag 30-S 13 '51

FPC regulatory relations with the electric and gas utilities. N. L. Smith. Pub Util 47:42-3+ Ja 4 '51

Federal power policy invades local regulation. W. A. Bryans, 3d. Edison Elec Inst Bul 18: 409-13 N '50

Proper spheres of state and federal regulation of public utilities. R. M. Besse. Pub Util 46:706-14 N 9 '50; Same abr. Edison Elec Inst Bul 18:405-8+ N '50

Utility regulation for nuclear energy? J. P. Callahan. Pub Util 48:355-60 S 13 '51

See also

Defense electric power administration

Reports

Merits of glamor in annual reports to win contest prizes questioned. D. Mackie. Elec World 134:94 D 4 '50

Safety measures

Trends in utility accident prevention throughout the United States. W. T. Rogers. Edison Elec Inst Bul 19:153-5 My '51

Why accidents don't happen. C. B. Boulet. Edison Elec Inst Bul 18:433-5 D '50

See also

Electric lines—Safety measures

Linemen's equipment

Salesmen

Will we have salesmen? C. B. Boulet. Edison Elec Inst Bul 19:110-12 Ap '51

Securities

Borrowing costs climb on new issues; Consumers Power bonds. Bsns W p 126+ Ap 7 '51

Debt money will cost utilities more. Elec World 135:91 Ap 23 '51

ELECTRIC utilities—Securities—*Continued*

Electric utilities in a war economy. W. H. Sammis. Comm & Fin Chr 173:1148 Mr 15 '51

Financial data on dividend-paying electric utility stocks. Pub Util 47:110-12 Ja 18 '51 [cont monthly]

Hydro-electric utility stocks. O. Ely. Comm & Fin Chr 174:979 S 13 '51

Outlook for electric utilities. O. Ely. Comm & Fin Chr 173:181 Ja 11 '51

Outlook for utility earnings under pressure of mounting taxes; with data on leading companies. E. A. Barnes. Mag of Wall St 87:559-61+ F 24 '51

Paradox of power utilities. Bsns W p86-8 Ja 6 '51

Report of public service securities committee of IBA. Comm & Fin Chr 172:2298 D 14 '50

Special study of utilities; with 1950 key statistics and ratios of important companies. O. Ely. Mag of Wall St 88:243-5+ Je 2 '51

Upward trend of yields reversed. Elec World 135:40-1 Ja 15 '51

Utility financing. G. D. Woods. Edison Elec Inst Bul 19:211-14+ Jl '51; Same. Comm & Fin Chr 173:2441+ Je 14 '51; Excerpts. Elec World 135:105 Je 18 '51

Utility securities, a good investment. W. H. Sammis. Elec World 135:83-4 Ap 9 '51

Yields on utility bonds are still rising. Elec World 136:91-2 Jl 16 '51

Service

Building load with a bunch of cards; Los Angeles Department of water and power's information service on available factory space. J. H. Collins. Pub Util 46:817-26 D 7 '50

Dedication to public service. H. B. Bryans. Franklin Inst J 252:1-10 Jl '51

Fifteen questions and answers on installation and service policies; table. Gas Age 108: 38-41 S 13 '51

Help for disabled housewives; opportunity for the electrical industry. il Elec World 136:76-7 Jl 30 '51

Home freezing center increases sales 120 per cent. W. H. Barnwell. il Elec World 135: 130+ Mr 12 '51

Nothing can stop utility service; moving wires or conduits without interruption to customers' service. A. B. Marvin. Pub Util 46:811-16 D 7 '50

Speeding service to a new steel mill. F. F. Dickmann. diags Elec World 136:82+ Jl 2 '51

Three utilities team up to aid 50-mile, iron lung journey of polio victim. il Elec World News ed 135:6 Ja 22 '51

Utility customers like downtown bill depository. W. L. Duncan. il Elec World 135: 140 Ap 9 '51

Statistics

47th annual statistical issue. Elec World 135:115-50 Ja 29 '51

Growth in residential gas utility customers and residential and rural electric customers, by state, compared with increase in dwelling units, 1940-1950; tabulation. Am Gas Assn Mo 32:31 D '50

Taxation

Excess profits tax and electric utilities. H. H. Scaff. Comm & Fin Chr 172:1996-7 N 23 '50

Excess profits tax versus gas and electric utility industries. Pub Util 46:690-5 N 9 '50

Expansion check; Chapman objects to fast writeoffs for utilities. Bsns W p 140 Ap 28 '51

Fallacy of tax comparisons. A. Hamilton. Pub Util 47:424-9 Mr 29 '51

Highlights of Excess profits tax act of 1950. L. A. Diamond. Edison Elec Inst Bul 19: 157-62 My '51

Impact of an excess profits tax on the private electric utility industry; abstract. Pub Util 46:771-2 N 23 '50

Impact of higher federal taxes on electric utility earnings. O. Ely. Comm & Fin Chr 173:303 Ja 18 '51

Is quick amortization good or bad? W. H. Harrison, jr. Elec World 136:106-7 Ag 13 '51

More equitable utility tax plan. R. H. Peterson. Pub Util 48:284-8 Ag 30 '51

Proposed tax bill and the electric industry. C. E. Oakes. map Edison Elec Inst Bul 19: 76-8+ Mr '51

Real facts on tax amortization of emergency facilities. O. Ely. Pub Util 48:172-4+ Ag 2 '51

Tax benefits for utilities. Pub Util 48:38 Jl 5 '51

Utilities fight higher taxes. Steel 127:83 D 4 '50

Utilities' tax case. Pub Util 48:311-15 Ag 30 '51

Valuation

Public utility condemnation cases in the state of Washington. H. L. Gray. map Am Soc C E Proc 76 [no 2]:1-13 F '50; Discussion. 76 [no D-2]:1-2 D '50

War problems

Cooperation of utilities with civil defense. A. R. Nelson. Edison Elec Inst Bul 19: 192-3 Je '51

Coordination of utilities and state in civil defense planned by NJUA. Elec World 135: 115 My 21 '51

Industry and the defense effort. W. V. O'Brien. Edison Elec Inst Bul 19:149-52+ My '51

Let's plan for utility security. il Elec World 135:91-8 Ap 9 '51

Operating in a war economy. H. Quinton. Elec West 107:65-7 Ag '51

Protection of vital records under emergency conditions; joint report of the AGA-EEI subcommittees. Edison Elec Inst Bul 19: 124-7 Ap '51

Utilities should plan now for civil defense. F. L. Beadle. Elec West 106:78-9 Je '51

Utility defense problems reviewed. M. Eldredge. Pub Util 46:775-7 N 23 '50

California

Territorial aspects of electric rate making by the Public utilities commission of California. W. F. Kennedy. bibliog Land Econ 26:325-36 N '50

See also
Central Valley project, California

Florida

Florida electric utilities subject to regulation by state commission. Elec World 135: 116 My 21 '51

Indiana

Annual young men's utility conference, Indianapolis, April 10-11. Edison Elec Inst Bul 19:156 My '51

Italy

Detroit Edison aids ECA program by training Italian plant operators. Elec World 136:84 Ag 27 '51

Résumé of Italy's electric power industry in 1950. For Comm W 43:24 Ap 16 '51

Michigan

Power for peace ready for defense; Consumers power co. of Michigan has dual-purpose construction program. map Elec World 135: 80-1 Mr 12 '51

Mississippi

Power available in Mississippi today. il Manuf Rec 120:85-7 Je '51

Missouri

Private power plans in Missouri. J. M. Stafford, jr. Pub Util 47:784-8 Je 7 '51

New York (state)

Private utilities in New York state offer plan to build Niagara project. Elec World News ed 136:11 S 3 '51

Northwestern states

Everybody works together. A. A. Smith. Elec West 106:76-7 Je '51

Pacific Northwest power situation. E. R. Abrams. Comm & Fin Chr 173:2561 Je 21 '51

Ohio

$25-million boundary dispute; Ohio Power's new plant site in southeastern Ohio. il map Bsns W p 128-9 S 15 '51

ELECTRIC utilities—*Continued*

Ontario

See also
Ontario—Hydro-electric power commission

South Carolina

South Carolina utilities aid 4-H clubs. il Elec World 134:72-3 N 6 '50

United States

Coming growth of electric power. J. W. McAfee. Comm & Fin Chr 173:2449+ Je 14 '51
Dedication to public service. H. B. Bryans. Edison Elec Inst Bul 19:173-6 Je '51
Electric industry in 1950. L. V. Sutton. Edison Elec Inst Bul 18:425-7 D '50; Abstract. Pub Util 47:54-5 Ja 4 '51
Electric utilities' construction and finance program. O. Ely. Comm & Fin Chr 174:1074 S 20 '51
In war or peace, electric service record remains world's finest. L. V. Sutton. Pub Util 47:729-31 Je 7 '51
Mobilization today and tomorrow; plenty of problems but none yet that can't be solved. Elec World 135:130-4 My 21 '51
President's address before the Edison electric institute 19th annual convention. L. V. Sutton. Edison Elec Inst Bul 19:207-10+ Jl '51; Excerpts. Comm & Fin Chr 173:2446 Je 14 '51; Elec World 135:103-4 Je 18 '51
Report on co-operation between the electric power industry and the AEC. Elec Eng 70:763-8 S '51; Same. Mech Eng 73:702-5+ S '51
Utilities will sell in '51 if; Electrical World survey. Elec World 135:88 F 12 '51
Utility's challenge to young men. W. T. Richards. Edison Elec Inst Bul 19:269-71+ Ag '51

Washington (state)

Private vs. PUD. Bsns W p 104 Mr 10 '51
Protecting home rule over utility service. M. Smith. Pub Util 47:465-71 Ap 12 '51
Public utility condemnation cases in the state of Washington. H. L. Gray. map Am Soc C E Proc 76 [no 2]:1-13 F '50; Discussion. 76 [no D-2]:1-2 D '50

Western states

Electrical West annual review number. il Elec West 106:73-120 F '51
Pioneers observe Farm electrification week, Aug. 26-31. il Elec West 107:109-11 S '51

ELECTRIC vehicles

Diesel-electric tractor; Tournatow. Engineer 192:64 Jl 13 '51
Electric vehicle association annual luncheon, London, June 27. Elec R (Lond) 149:11-21 Jl 6 '51; Electrician 147:39-40 Jl 6 '51
Engineering details of Diesel electric drive for heavy equipment; Tournatow. il diag Automotive Ind 104:220+ Mr 15 '51
Individual electric drives on each wheel of the heavy-duty tractor for earth moving equipment, designed by R. G. LeTourneau inc. il diag Machine Design 23:99-100 Ja '51; Aviation W 53:32 D 25 '50; Roads & Eng Constr 88:56+ D '50; Roads & Sts 93:49+ D '50; Steel 127:112 D 18 '50
LeTourneau puts power at the wheels; vehicle can also be used as a portable or standby electric generator. H. W. Richardson. il diags Constr Methods 32:88-90 D '50
Stainless resistor gives high starting torque; Le Tourneau earthmover; new method of transmitting power to wheels, steering mechanisms and winch. Iron Age 166:74 D 28 '50

See also
Electric trucks
Electric trucks, Industrial
Gyrobus

ELECTRIC water heaters

Domestic water heating. B. Bennett. Elec R (Lond) 148:975-6 My 11 '51
Electric water heating. E. H. W. Banner. diags Electrician 145:1127-9 N 24 '50
Electric water heating at a coal mine; data sheet. W. L. Faddis. diags Elec West 106:72 Ja '51
Heatrae's production. il Elec R (Lond) 148:607-9 Mr 23 '51
Home-made electric scalder eliminates hotfoot. L. L. Koontz. il Elec World 135:92 Ja 15 '51
How El Paso beat gas competition. Elec World 134:128 N 6 '50
Peak load control; time switching water heater load. W. A. Devon. il diag Elec R (Lond) 149:31-4 Jl 6 '51
Range users are best water heater prospects. E. A. Snyder. il Elec World 135:116+ Je 4 '51

Manufacture

Water heater production; Santon, ltd. il Elec R (Lond) 149:89-91 Jl 13 '51

Standards

Making home ranges and water heaters safe and efficient. il Standardization 22:52-3+ F '51

ELECTRIC waves

Complex wave synthesizer; abstract. G. Ferrara and R. L. Nadeau. il Elec Eng 70:585 Jl '51
New type of controlled wave shape generator. W. D. Williams and R. D. Robinson. il diags Gen Elec R 53:47-50 D '50
Slot ripples in alternator e.m.f. waves. J. H. Walker. bibliog il diags Inst E E Proc 96 pt 2:81-92 F '49; Discussion. Inst E E J 97 pt 2:689-90 O '50
Surface waves and their application to transmission lines. G. Goubau. diags J Ap Phys 21:1119-28 N '50
Wave form distortion in test apparatus. T. A. Ledward. il diags Electrician 147:29-33, 329-33, 691-5, 1023-7, 1367-9, 1779-83; 148:47-50 Jl 6, Ag 3, S 7, O 5, N 2, D 7 '51, Ja 4 '52 (to be cont)
Wave propagation on helical wires. W. Sollfrey. bibliog diag J Ap Phys 22:905-10 Jl '51
Waves in electron streams and circuits. J. R. Pierce. diags Bell System Tech J 30:626-51 Jl '51

See also
Harmonics (electric waves)
Radio waves
Wave guides

ELECTRIC welding

Adequate instrumentation minimizes welding variables. J. Heuschkel. diags Steel 129:66-9+ Jl 23 '51
Automatic welding keeps transformers flowing. il Steel 127:61 D 25 '50
Design and operation of high-speed production tube mills. D. H. Fleig. il Welding J 30:589-96 Jl '51
Elements of resistance welding. A. E. Rylander. il diags Tool Eng 26:67-74 Mr '51
Flash welding nonferrous materials. F. L. Brandt. il Welding J 29:718-22 S '50; Discussion. 29:1087-8 D '50
Flash welding titanium. il Welding J 30:365 Ap '51
Food cabinet production jumps 2600 per cent through use of resistance welding. il Welding J 30:171 F '51
How Hammermill cuts maintenance costs with electric welding. C. W. Lytton. il Paper Ind 33:398-9 Jl '51
King size welding at Foster Wheeler; illustrations with text. Welding J 30:931-2 O '51
Manufacture of resistance-welded steel tubing in America. il diag Engineer 191:873-6 Je 29 '51
Mash welder relatively new process of resistance-welding technique. Welding J 30:200 F '51
New railway car-building and repair-shop methods. C. R. Strutz. il diag Ry Mech & Elec Eng 125:57-61 F '51
Operation of new 16-in. electric-weld pipe mill. C. W. Morehead. il diags Iron & Steel Eng 27:111-15 D '50
Physical and metallurgical characteristics of spot-welded titanium. M. L. Begeman and others. bibliog il diag Welding J 30:sup429-35 S '51
Plug welding shortcuts jacketed vessel production. il Steel 127:89 N 6 '50
Quality control of structural resistance welding in aircraft. J. R. Fullerton. Welding J 30:631-3 Jl '51

ELECTRIC welding—*Continued*

Resistance welding of mild steel sheet; comparison of British and American methods. W. S. Simmie. il diags Welding J 29:651-4 Ag '50; Abstract. Metal Prog 58:894+ D '50

Resistance welding of nickel and high-nickel alloys. R. M. Wilson, jr. bibliog il diags Welding J 30:685-710 Ag '51; Same cond. Materials & Methods 34:95-9 O '51

Seam welding containers automatically. C. S. Seltzer. il diags Welding J 30:791-800 S '51

Simple method for butt welding fine wires. M. Spielman. diags R Sci Instr 22:216-17 Mr '51

Welding replaces soldering and increases production; Delco-Remy division, General motors corp. H. Chase. il Iron Age 167:114-17 Mr 1 '51

Welding stainless steel containers to meet sanitary standards. P. H. Mounts. il diags Welding J 30:33-9 Ja '51

Wire-spotting technique for insulation; application of mineral wool blanket insulation by spot-welding galvanized wires. R. L. Davis. il diag Pet Eng 22:C21-2 N '50

Control

40 spotwelds at once, electronically. C. Studer. il diag Am Mach 95:119 Ap 2 '51

Instrumentation minimizes the welding variable. J. Heuschkel. il diag Instruments 24:1034-41 S '51

Resistance welding. E. Bukstein. il diags Radio & Tv N 45:52+ My '51

Resistance welding controls; why so many? W. E. Large. diags Iron Age 166:64-7 N 23 '50

Resistance welding of aluminum, steels and coated metals improved by slope control. F. L. Miller. il Materials & Methods 34:80-2 Ag '51

Slope control aids ac welding of aluminum. C. Bruno and G. W. Birdsall. il Iron Age 167:100-1 Ap 5 '51

Timing control for small spot welders. M. H. Nichols. diags R Sci Instr 22:372-3 Je '51

Trends in electronic nonsynchronous resistance welding controls. S. Rockafellow. Welding J 30:801-2 S '51

Electrodes

Prolonging tungsten electrode life. diags Welding J 30:59-60 Ja '51

Tapers for resistance welding electrodes and holders. W. E. Smith. diags Welding J 29:1104-5 D '50

Welding electrode shipments, 1940-1950; tabulation. Iron Age 167:348 Ja 4 '51

Welding electrodes and rods for ferrous and nonferrous metals. H. R. Clauser. il Materials & Methods 32:67-82 D '50

Power supply

Capacitor installation for motor-generator welders; data sheet. il Elec West 105:83 D '50

Case of power. J. Geralds and others. il diags Welding J 30:894-902 O '51

Cutting welding costs; Diesel-driven generator to supply power for Westinghouse selenium rectifier welders. il Diesel Power 29:81 Ap '51

Effect of three-phase motor loads on voltage changes produced by single-phase loads. M. A. Faucett and others. diag Elec Eng 69:1005 N '50

Electric welding load in shipyards. J. S. McCulloch. diag Engineering 171:545-6 My 4 '51

Flicker level guides distribution design. W. A. Lindberg. il Elec World 136:69 Jl 2 '51

Influence of polyphase motors on the voltage regulation of circuits supplying single-phase welder loads. M. A. Faucett and others. diags Ill U Eng Exp Sta Bul 392:1-78 '50 (pa $1)

Load sharer for welding ignitrons; flip-flop thyratron circuit transfers load from one pair of ignitrons to another every two seconds. G. M. Chute. il diags Electronics 24:71-3 F '51

Spot and seam welding of aircraft using d.-c. current. J. H. Cooper. bibliog il Welding J 29:965-72 N '50

Spot welder secondary current measurement. I. C. McKechnie. il Welding J 29:962-4 N '50

Two welders, one source. U. G. Karrer. Elec West 106:61 Ja '51

Safety measures

Combined power and ground cable protects welders. W. E. Stewart. diag Elec World 136:100 Jl 30 '51

Testing

Fatigue strength of spot-welded light alloy joints. H. Kihara. diags Welding J 30:sup529-36 O '51

Spot welding of scaly heavy-gage structural steel. E. F. Nippes and J. N. Ramsey. il Welding J 30:sup327-36 Jl '51

Static and fatigue tests on spot-welded trusses. A. S. Joukoff. il diags Welding J 30:sup264-5 My '51

Stresses around a spot weld under static and cyclic loads. G. Welter. il diags Welding J 29:sup565-76 N '50

Unionmelt process

High-speed Unionmelt welding machine. il Mach 57:236 Jl '51

Plowshares welded faster. Steel 128:119+ My 14 '51; il Iron Age 167:98 Je 21 '51; Mach 57:184 Ag '51; Welding J 30:745 Ag '51

Submerged-melt welding with multiple electrodes in series. A. R. Lytle and E. L. Frost. bibliog il diags Welding J 30:103-10 F '51; Abstract. Metal Prog 60:138+ Jl '51

Unionmelt voltage controls. J. A. Kratz. il diags Elec Eng 69:1102-4 D '50

What you can do with submerged arc welding. C. A. Heffernon. il diags Materials & Methods 33:82-5 My '51

ELECTRIC welding, Arc

Arc welding in home building. J. D. Bert. il plan Welding J 30:263-4 Mr '51

Arc welding; maintenance tool. il Power 94:109+ D '50

Arcwelding set orders, 1934-1950; tabulation. Iron Age 167:348 Ja 4 '51

Arc welding stainless steel without columbium. R. K. Lee. il diags Welding J 30:447-9 My '51; Same abr. Mach 57:191-2 Mr '51; Same. Steel 128:71-2 Mr 19 '51

Automatic weld surfacing reclaims scarce tractor parts. il diags Constr Methods 33:71-2 Ag '51

Automatic welder fabricates heavy beams from plates. R. E. Peterson. il Constr Methods 33:82-3 Ag '51

Automatic welding for the Transcontinental Hudson River crossing. il Welding J 29:1100-1 D '50

Automatic welding on pipe-line right-of-way demonstrated. P. Reed. il Oil & Gas J 50:148+ Ag 16 '51

Automatic welding on propane tanks. C. G. Herbruck. il Welding J 30:268 Mr '51

Automatic welding with flux shielding (the Elin chain system). W. Senft. il diags Welding J 30:sup416 Ag '51

Better welding for better equipment maintenance and repair. G. L. Wiley. il Roads & Sts 94:39-43 Je '51

Composite metal fabrication by arc welding. H. E. Cable. il Welding J 30:258-62 Mr '51

Crack sensitivity of aircraft steels. A. W. Steinberger and others. bibliog il diags Welding J 29:752-64 S '50; Discussion. J. Koziarski. 30:163-6 F '51

Effect of welding on the properties of titanium-carbon alloys. E. M. Mahla and R. B. Hitchcock. bibliog il Welding J 29:sup544-51 N '50

Hidden arc welding of high pressure piping. C. G. Herbruck. il Pet Eng 23:D20+ Ap '51

Houston goes all out for welding. il diags Eng N 146:43-4 Ja 11 '51

How to set up for stud welding; illustrated instructions. Power 95:144 Jl '51

Ice flower-like structure in metal deposited by arc welding in particular mild steel. M. Okada and Y. Wakabayashi. Welding J 30:sup469+ S '51

Ideas for designing machinery parts. il Welding J 30:269-70 Mr '51

Manufacture of electric fusion welded pipe. J. H. Middleton. il Iron & Steel Eng 28:66-9 Mr '51; Same. Steel 128:80+ Ap 23 '51

Mine welding saves 50 per cent in dipper-stick cost. il diag Coal Age 55:109-10 N '50

Multiple layer submerged-arc welding of pressure vessels. L. C. Stiles and D. H. Curry. il Welding J 29:1065-8 D '50

ELECTRIC welding, Arc—*Continued*

Nelson system of stud welding. il Engineering 171:218 F 23 '51

New hidden-arc welding process. diag Mach 57:203 Mr '51; Welding J 30:293 Mr '51; Steel 128:76+ Mr 19 '51; Blast F & Steel Pl 39:1126-7 S '51

Plug welding technique in clad lining dough mixer bowls. W. M. Davis. il diag Welding J 30:829-31 S '51

Prefabricating channel tank tops; Rud machine co. J. W. Massenburg. il Marine Eng 56:55-8 Ap '51

Recent developments in fluxes for welding. W. M. Conn. bibliog J Metals 191:98-9 F '51

Rehabilitation of ore cars. J. F. Likarish. il Welding J 29:837-43 O '50; Same abr. Ry Mech & Elec Eng 125:65-9 My '51

Simultaneous high-speed arc photography and data recording with a 16-mm Fastax camera. E. L. Perrine and N. W. Rodelius. il diag Soc Motion Picture & Tv Eng J 57:140-4 Ag '51

Some characteristics of composite tungsten carbide weld deposits. H. S. Avery. bibliog il diags Welding J 30:144-60; Discussion. 160-2 F '51; Reply. 30:532-4 Je '51

Special devices up welding efficiency; National tank co. W. Rudolph. il Iron Age 167:70-1 Mr 22 '51

Steel trunnion wheels soft-surfaced at 60 per cent. J. F. Gulley. il Steel 128:76-7 Ja 22 '51

Stud welding. il Electrician 146:655-6 F 23 '51

Stud welding; born 30 years too soon. il Mod Ind 21:95 F '51

Stud welding comes aboard. W. E. McArthur. il diags Marine Eng 56:68-70 Ag '51

Stud welding cuts costs in tractor handle assembly; illustrations with text. Product Eng 21:101 N '50

Stud welding extended to larger sizes for combustion equipment. il Product Eng 22:205 My '51

Stud welding makes tough fastening job easy. il diag Mill & Factory 48:96-9 F '51

Studwelding slashes fabrication time; Combustion engineering-superheater, inc. C. H. Creasser. il Iron Age 167:110-11 Ap 12 '51

Stud welding speeds steel production; with cost data. R. C. Singleton. il Iron & Steel Eng 27:100-4 O '50; Excerpts. Welding J 29:1094-6 D '50

Stud welding to ferrous and nonferrous metals. T. L. Hufert and others. il diags Product Eng 22:89-91 Mr '51

Submerged arc unit welds pipe line on right-of-way. C. A. Renton. il World Oil 133:211-12+ Jl '51

Submerged arc welding of pipe on the line. F. H. Love. il Pet Eng 23:D7-8 Ag '51

Welded crusher is lighter, cheaper, stronger. C. G. Herbruck. il Iron Age 167:102-3 Ap 12 '51

Welded extension saves shaft stock. il Steel 129:75-6 Ag 20 '51

Welded pump rotor saves machining. B. J. Rosen. il Iron Age 166:78-9 D 21 '50

Welded reinforcement of openings in structural steel members. D. Vasarhelyi and R. A. Hechtman. il diags Welding J 30:sup 182-92 Ap '51

Welded spheres solve liquid nitrogen storage. J. A. Toland. il Iron Age 167:86-8 Mr 29 '51

Welded steel components make lathes shock resistant. il Welding J 30:744-5 Ag '51

Welded tanks; M-47 General Patton army tanks. il Welding J 30:837-8 S '51

Welding costs reduced one-fourth using mobile unit for right-of-way double jointing. R. L. Looney. il Oil & Gas J 50:149-50 Ag 16 '51

Welding-cutting equipment pays for itself on one job. L. E. Baxter. il Pub Works 82:49-50 My '51

Welding high-temperature austenitic steel piping. R. W. Emerson and M. Morrow. bibliog(38 titles) il Welding J 30:sup 15-33; Discussion. sup33-9 Ja '51

Welding in the oil fields. il Welding J 29:1002-4 N '50

Welding; modern application of the metallic arc process. G. Cubitt-Smith. Automobile Eng 41:75-6 F '51

Welding procedures for high-pressure, high-temperature steam piping. N. L. Navarre. il diags Welding J 30:sup 1-9 Ja '51

Welding takes spotlight on arena floor construction. il Constr Methods 32:54-7 D '50

Cost

All welded support for multiple platen press; comparison with riveted design; with cost data. O. E. Hermanns. il diags Rubber Age 69:707-12 S '51

Electrodes

High quality welds obtained with low hydrogen electrodes. E. L. Cady. il Materials & Methods 34:90-1 S '51

Rotating electrode in manual metal arc welding. G. S. Schaller. il Welding J 30:sup 10-14 Ja '51

Smoke in arc welding; abstract. W. Hummitzsch. Welding J 30:323-4 Ap '51

Tantalum partly replaces columbium content of electrodes. R. D. Thomas, jr. Iron Age 167:109-11 Ap 5 '51

Transformation of austenite in a manganese-molybdenum steel deposited as weld metal. O. O. Miller and others. bibliog il Welding J 29:sup450-8 S '50; Discussion. H. C. Campbell. 30:sup253-4 My '51

Tungsten-thoria electrodes for inert arc welding. N. A. Chapin and others. il diags Welding J 30:529-31 Je '51

Heliarc process

Aluminum boxes inert-arc welded. il Iron Age 167:99 My 3 '51; Welding J 30:460 My '51

Aluminum tanks welded in unique fixtures. T. E. Imholz. il Iron Age 168:87-9 Jl 5 '51

Coaches rebuilt for modern appearance; Aurora shops of the Burlington. il Ry Mech & Elec Eng 125:62-3 Ap '51

Heliarc welding in production. T. E. Piper. il Welding J 29:723-8 S '50; Discussion. R. Bowman. 30:167-8 F '51

Lightweight Heliarc torch. il Welding J 30:74 Ja '51

Output climbs on roller drive; smoothing weld seams. il Steel 129:96+ Ag 20 '51

Problem of pipe protection. il Welding J 30:366 Ap '51

Hygienic aspects

Study of nitrogen oxide concentrations during arc welding. L. Silverman and S. I. Husain. bibliog A M A Archives Ind Hygiene & Occup Med 3:135-46 F '51

Inert gas shielding

Aircomatic process used in welding aluminum masts for navy. il Marine Eng 56:58-60 S '51

Aircomatic welding of austenitic stainless steels. W. G. Benz, jr. and J. S. Sohn. bibliog il diags Welding J 30:911-26 O '51

Aircomatic welding of copper-base alloys. H. Robinson and J. H. Berryman. il diags Welding J 30:7-25 Ja '51

Aircomatic welding of nickel and stainless-clad steels. T. T. Watson and R. R. Rothermel. il Welding J 30:sup 116-22 Mr '51

Aircomatic welding refinery components and pressure vessels. S. A. Yaczko. il diags Welding J 30:903-7 O '51

Aluminum-magnesium filler metals for welding high-strength aluminum alloys. D. C. Martin and R. D. Williams. Welding J 30:sup55-8 Ja '51

Characteristics of inert-gas-shielded metal-arcs. A. Muller and others. il Welding J 30:717-27 Ag '51

Cost of welding stabilized stainless. D. W. McDowell, jr. il Metal Prog 59:650-2 My '51

Diesel manifolds economically repaired. il Welding J 29:1004 N '50

Field welding of aluminum tanks. P. C. Arnold. il Welding J 30:597-601 Jl '51

Fundamentals of inert-gas-shielded-arc welding. H. E. Rockefeller. il Welding J 30:711-16 Ag '51; Same cond. Steel 129:75-8 Jl 16 '51

High-speed consumable electrode machine welding for aircraft. B. Gross and R. A. Smith. il Welding J 30:812-16 S '51

High-temperature welded joints. R. H. English. il diags Welding J 30:907-10 O '51

Inert-gas-shielded metal-arc welding of magnesium. P. Klain. bibliog il Welding J 30:887-93 O '51

ELECTRIC welding, Arc—Inert gas shielding—*Continued*

Measuring the tungsten consumption in inert gas arc welding. G. Urbain. il diags Welding J 30:sup260-4 My '51

New electrodes for stabilizing inert-gas welding arcs. J. D. Cobine and C. J. Gallagher. il diag Elec Eng 70:504 Je '51

New production applications of hard facing. E. C. Hurt. il diag Welding J 29:1082-6 D '50

Oxy-argon gas speeds up welding. il Iron Age 167:85 Je 14 '51; Materials & Methods 34:10 Jl '51; Welding J 30:654+ Jl '51

Reclaiming aluminum Diesel locomotive parts. L. Grover and R. L. Rex. il diag Ry Mech & Elec Eng 125:56-9 S '51

Semi-automatic welding builds tank cars faster; illustrations with text. J. S. Frey. Am Mach 95;170-1 O 1 '51

Side sheets without visible seams; Southern Pacific finds inert-arc welding advantageous. il diags Ry Mech & Elec Eng 125:46-7 Ja '51

Sigma welding of nonferrous metals and alloy steels. H. T. Herbst. il diags Welding J 30:618-31 Jl '51

Some research techniques for studying arcs in inert gases. R. H. Gillette and R. T. Breymeier. il diag Welding J 30:sup 146-52 Mr '51

Thermocouple junctions are improved by arc welding in inert atmosphere. A. J. Francescan and E. A. Nitz. il Pet Processing 5:1205-6 N '50

Tungsten-thoria electrodes for inert arc welding. N. A. Chapin and others. il diags Welding J 30:529-31 Je '51

Welding aluminum with inert arc d.c. J. W. Mortimer. il Welding J 29:879-81 O '50; Discussion. G. J. Gibson. 30:49-52 Ja '51

Welding light metals with inert gas shielded arc. W. W. Moss. il Light Metal Age 8:12-14+ D '50; 9:16-18 F '51

Power supply

Rectifier power supply unit for stud welding. il Engineer 190:538 D 1 '50

Water tower welding costs cut with selenium rectifier units. il Constr Methods 33:94 Je '51

Testing

Arc welding of carbon-molybdenum steel pipe. F. J. Winsor. bibliog Welding J 30:817-27 S '51

Effect of cooling rate and composition on the embrittlement of weld metal. E. C. Rollason and R. R. Roberts. 4pls diags Iron & Steel Inst J 166:105-12 O '50

Falling-weight impact test of welded aluminum alloy plates. E. C. Hartmann. il diags Welding J 30:sup303-6 Je '51

Investigation of submerged automatic welding. L. N. Kushnarev. Welding J 30:sup340+ Jl '51

Magnaflux inspection of welded storage tanks. F. A. Upson. Welding J 29:27-30 Ja 50; Discussion. 30:233-4 Mr '51

Welding air-hardening alloy steels. W. H. Wooding. il diags Welding J 29:sup552-64 N '50; Abstract. Metal Prog 59:698+ My '51

ELECTRIC welding machines

Automatic hidden arc-seam welder. il Welding J 30:293-4 Mr '51

Automatic welder zips up Transcontinental pipeline sections. il Constr Methods 32:44-9 D '50

Automatic welding in steel mill maintenance. W. P. Hoffman. il Welding J 29:989-94 N '50

Ceiling mounted welders save floor space. il Elec World 134:132 D 4 '50

Dynamic characteristics of d.-c. welding machines. C. H Jennings. il diags Welding J 30:117-38 F '51

G.E. announces new welder. il Welding J 29:1128 D '50

Improved welding aids fabrication; Sciaky resistance welders with current decay control. il Aviation W 55:39 Jl 9 '51

Largest resistance welder installed at Ryan. il Welding J 30:838-9 S '51

Sciaky resistance mash seam welder. il Mach 57:214-15 F '51

Sciaky three-phase resistance spot welder. il Automotive Ind 103:56+ D 15 '50

Selection of fuses for resistance welding machines. C. B. Stadum. Elec Eng 70:511 Je '51

Spotwelder controls current to fit material being welded. il Am Mach 94:187 D 11 '50

Spotwelder doubles as hot upsetter. W. E. Finney. il diags Am Mach 95:134-6 O 1 '51

Today's welding equipment. J. W. St Andre. il Factory Management 109:84-9 Jl '51

242-gun welder speeds auto assembly; Willow Run plant of Kaiser-Frazer corp. il Steel 127:58 O 30 '50

Yoder tube welding machine with transformer of radically new design. il diag Mach 57:204-5 Ag '51

Advertising

Industrial ad man of the year; Alton F. Davis, Lincoln electric co. il Ind Marketing 36:69+ Ja '51

New line introduced in face of industry slump; Westinghouse a-c arcwelders and electrodes. il Ptr Ink 235:44+ Ap 6 '51

ELECTRIC wire

Latest developments in electrical equipment; today's wire and cable. G. A. Van Brunt. il Factory Management 108:97-101 N '50

Power leads for fractional hp motors. A. L. Ulmer. il diags Product Eng 22:135-8 Jl '51

Use of exploding wires as a light source of very high intensity and short duration. W. M. Conn. bibliog il diag Opt Soc Am J 41:445-9 Jl '51

Testing

Testing fine wires; abstracts. R. C. Woods and J. K. Martin. Elec R (Lond) 148:602 Mr 23 '51; Electrician 146:984; Discussion. 984 Mr 23 '51

Weatherproofing

Weathering studies on polyethylene; wire and cable applications. V. T. Wallder and others. il diag Ind & Eng Chem 42:2320-5 N '50

ELECTRIC wiring

Effective wiring demonstration by 4-H club boys. H. H. Beaty. il Elec World 135:120 F 26 '51

Electrical and allied developments during 1950; construction materials. G. Bartlett. il Gen Elec R 54:56-8 Ja '51

Flexible offices; baseboard raceway gives easier access for changes in electrical services. il diags Arch Forum 94:156-7 My '51

Heat resistant wire doubles store's feeder capacity. il plan Elec World 135:91-2 Je 4 '51

How our adequate wiring program builds revenue. M. T. Reeves. Elec World 136:70-1 Jl 2 '51

How we dramatized adequate wiring; demonstration panel. R. W. Wilson. Elec World 134:91 D 18 '50

Planned power, answer to overloads. J. L. Wagner. Steel 127:59-60 N 27 '50

Planned wiring catches on fast, and sticks. R. L. Coe. il Elec World 135:56-7 Ja 15 '51

Planned wiring program builds business, increases profits; Louisiana power and light co. J. M. Mooney. il plan Elec World 135:114-16 F 12 '51

Problems solved in building rewiring. il Elec West 106:82-3 My '51

Promotion does sell adequate wiring. Elec World 135:178+ My 21 '51

Remote-control wiring system. H. H. Watson. il diags Gen Elec R 54:38-42 S '51

Report on low voltage switching systems. il diag Arch Forum 95:202+ Jl '51

Round table report of home building experts. Arch Forum 94:129 F '51

Stamped circuits take perspiring out of wiring. W. Bossert. il Am Mach 95:142-4 Jl 9 '51

Sub-assembly methods speed car wiring at Budd. il Ry Mech & Elec Eng 125:39-42 Ja '51

Which wire is which? finding the neutrals in three-phase circuits. L. W. Fitzpatrick. diag Power Eng 55:82-3 Ag '51

See also

Electric cables
Electric conduits
Electric distribution
Electric fittings
Electric fuses
Electric lighting
Electric lines
Electric transmission
National electrical code

ELECTRIC wiring—*Continued*

Diagrams

Scale connection diagram. F. L. Teuscher and A. H. Adams. il diags Gen Elec R 54:29-31 F '51

Safety measures

What's different in the new safety orders. il Elec West 107:83-5 Ag '51; Correction. 107: 88 N '51

Standards

Wiring standardization (progress report). Iron & Steel Eng 28:122-6; Discussion. 127-8 My '51

ELECTRIC workers

B.E.A. apprentice scheme. Elec R (Lond) 148:792 Ap 20 '51

Education and training of electrical technicians. Engineer 190:442 N 10 '50; Abstracts and discussion. Elec R (Lond) 147: 741-3 N 10 '50; Electrician 145:921-2 N 10 '50

Electrical storm; rival unions fight 10 per cent formula. Bsns W p 136 F 24 '51

Electrical trades union annual policy conference, Hastings. Elec R (Lond) 148:1038-40 My 18 '51

Electrical trades union 5th annual delegate conference, Hastings. Elec R (Lond) 148: 990 My 11 '51

Hours and wages in Great Britain. Elec R (Lond) 148:723 Ap 13 '51

Is it legal to help oust left? Stewart-Warner case. Bsns W p 133-4 F '51

London electricians' dispute. Elec R (Lond) 148:1101-2 My 25 '51

More confusion on electrical workers. Bsns W p30+ S 22 '51

National apprenticeship scheme, Electrical contractors' association; abstracts. W. T. Trace. Electrician 146:1837 Je 1 '51; Elec R (Lond) 148:1149-50 Je 1 '51; Discussion. Electrician 146:1839-41+ Je 1 '51

No union; Sylvania Electric workers in Altoona reject leftist group. Bsns W p 127 D 16 '50

Trade union dispute; result of inquiry into electricity supply position. Electrician 146: 1765 My 25 '51

See also

Electric utilities—Employees

International union of electrical, radio and machine workers

ELECTRICAL association for women

Annual meeting, 26th, London. Elec R (Lond) 148:745-6 Ap 13 '51

ELECTRICAL contractors' association

Annual meeting, Harrogate. Elec R (Lond) 148:1143-51, 1184-7 Je 1-8 '51; Electrician 146:1833-41+, 1921-2 Je 1-8 '51

ELECTRICAL radio and machine workers, International union of. See International union of electrical radio and machine workers

ELECTRICITY

Electricity as a national asset; abstracts. H. H. Mullens; N. Elliott. Elec R (Lond) 148: 1294-7 Je 22 '51; Electrician 146:2115-21 Je 22 '51; Discussion. Elec R (Lond) 148:1357-9 Je 29 '51

Power handbook; basic electricity. P. Swain and W. Arrott. diags Power 95:92-7 Mr '51

What is electricity? the improbability of assumed realities. K. Orchard. Elec R (Lond) 149:92-4 Jl 13 '51

See also

Armatures
Corona (electricity)
Dielectrics
Electric currents
Electroacoustics
Electrons
Electrophysiology
Electrostatics
Electrotherapeutics
Hall effect
Insulation (electric)
Ionization, Electrolytic
Photoelectric cells
Photoelectric effect
Piezoelectricity
Potential, Electric
Radio communication
Telegraph
Telephone
Thermoelectricity

History

Electricity in the '51s; some noteworthy centenaries. G. J. S. King. Elec R (Lond) 148:7-9 Ja 5 '51

Social aspects

Electricity and social progress; abstracts. C. Haslett. Elec R (Lond) 148:1300-1 Je 22 '51; Electrician 146:2128-30 Je 22 '51; Discussion. Elec R (Lond) 148:1361-2 Je 29 '51; Electrician 146:2212+ Je 29 '51

ELECTRICITY, Accidents from

Static electricity; its elimination by bonding and grounding. G. M. Kintz. bibliog il Nat Safety N 63:24-5+ F '51

Who's to blame for electrical accidents? summaries of speeches presented at National safety congress. Safety Maint & Prod 101:15+ Ja '51

See also

Electricity, Injuries from

ELECTRICITY, Atmospheric. See Atmospheric electricity

ELECTRICITY, Injuries from

Creator of life-saving technique honored by electric industry; Oesterreich pole top method of resuscitation. il Edison Elec Inst Bul 19:240-3 Jl '51

Deaths from accidental electric shock. W. Schweisheimer. Power Eng 55:90-1 My '51

Demonstrate pole-top resuscitation; illustrations with text. Nat Safety N 63:30-1 My '51

EEI resuscitation medal awards honor electric company employees' resourcefulness-teamwork-devotion to duty. il Edison Elec Inst Bul 19:20-4, 53-8 Ja-F '51

Electric shock. W. Maclachlan. bibliog (37 ref) Elec Eng 70:871-6 O '51

Electric shock; what are the criteria of danger? E. H. W. Banner. Elec R (Lond) 148:1347-9 Je 29 '51

Electrical factory accidents; chief inspector's report for 1949. Elec R (Lond) 148:585-6 Mr 23 '51; Electrician 146:883 Mr 16 '51

Electrical work injuries in California industries from 1940 to 1949. E. E. Carlton. Elec Eng 69:1076-7 D '50

Electricity and the human body. W. B. Kouwenhoven. bibliog il Nat Safety N 63: 30-1+ F '51

Eleven EEI resuscitation medals awarded to valorous electric company personnel. Edison Elec Inst Bul 19:301-6 S '51

Fatal accidents in the electric light and power industry. D. C. Stewart. Edison Elec Inst Bul 19:47-51+ F '51

How electricity affects the human body. il Power 95:127 My '51

Low voltage extension light cords and systems; data sheet. il diag Nat Safety N 64:28-9+ Ag '51

Overhead wires and the legal limits of liability. A. W. Gray. Power Eng 55:84-5 F '51

Physiological aspects of electrical accidents in the coal-mining industry. S. J. Davenport and G. G. Morgis. bibliog U S Bur Mines Information Circ 7620:1-19 '51

Pole top resuscitation; Oesterreich method. Pub Util 48:53-4 Jl 5 '51

Presentation with a punch; General Electric demonstrates low voltage hazards. F. T. Clarke. il Nat Safety N 63:21 Ja '51

Sweating and electrical accidents. W. Schweisheimer. Power Eng 55:90+ Ja '51

Use scale models to analyze pole-top hazards. A. L. Dowden. il Elec World 135:72 Ja 15 '51

ELECTRICITY, Static

Applying anti-static tooling. J. Starr. diags Tool Eng 26:33 My '51

Drag chains on tank trucks serve no useful purpose. J. M. Pearson and O. W. Johnson. Nat Pet N 43:48 Mr 21 '51

Electrostatic potential bleed-off in rubber compounds. J. A. Hurry and others. il diags India Rubber World 124:689-95 S '51

Here's how nylon anti-static agents compare with each other. L. B. Chandler. Textile World 101:116-17 Ja '51

How to eliminate static on Dynel. Rayon 31: 74 D '50

Measurement of static electricity on fabrics. M. Hayek and F. C. Chromey. bibliog il diags Am Dyestuff Rep 40:164-8 Mr 5 '51

Papers on static electricity at AIEE textile conference, Philadelphia, April 23. Elec Eng 70:549-50 Je '51

Removing static electricity in textile processing; abstract. G. Neuhof. Am Dyestuff Rep 39:723 O 30 '50

ELECTRICITY, Static—*Continued*

Static dust collection on plastics. P. C. Woodland and E. E. Ziegler. il Mod Plastics 28: 95-6+ My '51

Static electricity hazards. Can Min J 72: 74 My '51

Static electricity; its elimination by bonding and grounding. G. M. Kintz. bibliog il Nat Safety N 63:24-5+ F '51

Static electricity prevention; glycols plus common salt used; patent. Am Dyestuff Rep 40:357 My 28 '51

Static electrification of dust particles on dispersion into a cloud. J. E. Coolidge and G. Schulz. J Ap Phys 22:103; Discussion. W. B. Kunkel. 103-4 Ja '51

Static neutralizer for plastics. il diag Mod Plastics 28:115 Ap '51

ELECTRICITY in air conditioning

Electrical and allied developments during 1950; air conditioning. G. Bartlett. il Gen Elec R 54:53 Ja '51

How to select a-c motors for heating and air conditioning. C. P. Potter. il diags Heating-Piping 23:83-9 F '51

Selection of induction motors for air conditioning, heating and ventilating equipment. G. Nafe. il diags Heat & Ven 48:75-84 Je '51

Year-round air conditioning with the heat pump. F. R. Ellenberger. bibliog il map diags Gen Elec R 53:10-18 D '50

ELECTRICITY in mining

Electrical power distribution; Kerr-Addison mine. il diag Can Min J 72:151-5 Ap '51

Ground-fault protection for mining circuits. Westinghouse Eng 11:72 Mr '51

Gypsum winning. il Elec R (Lond) 148:1173-9 Je 8 '51

Key to production is power. il diags Eng & Min J 152:146-8 Jl '51

Open-pit mining association, Electrical division 7th annual meeting, Urbana, Ill. July 27. Coal Age 56:132+ S '51

Tunneling equipment is electrified for rock salt mining. H. W. Richardson. il Constr Methods 33:60-3 My '51

See also

Coal mines and mining—Electric equipment
Coal mines and mining—Power
Electric locomotives, Mine
Mine hoisting, Electric
Mine lighting
Mine pumping, Electric
Mine signals, Electric

Safety measures

Electrical hazards at underground and open pit mines. D. P. Douglas. il Can Min J 72:87-9 S '51

Grounding and circuit protection. C. R. Huffman. il diags Min Cong J 37:48-51+ Jl '51

Physiological aspects of electrical accidents in the coal-mining industry. S. J. Davenport and G. G. Morgis. bibliog U S Bur Mines Information Circ 7620:1-19 '51

Safe communication in inflammable gas or vapour hazards. R. C. Woods. Inst E E Proc 98 pt 1:12-13 Ja '51; Abstract. Elec R (Lond) 147:594 O 20 '50

Short-circuiting contactor as an electrical protective device for coal mine service. L. H. Harrison. 5pls U S Bur Mines Rep of Invest 4759:1-11 '51; Same. il diags Coal Age 56:83-7 Mr '51

ELECTRICITY in refrigeration

Chocolate cooling; Helm chocolate company's factory. il Elec R (Lond) 147:732 N 10 '50

Improved theory of thermoelectric refrigeration; abstract. P. O. Gehlhoff and others. Refrig Eng 58:1079 N '50

Quick-freezing; new installations at Wisbech and Blairgowrie. il Elec R (Lond) 148:506-8 Mr 9 '51

Refrigeration industry. E. G. Batt. Elec R (Lond) 148:1297-9 Je 22 '51; Electrician 146: 2123-6 Je 22 '51; Discussion. Elec R (Lond) 148:1359-61 Je 29 '51

See also

Refrigerators, Electric

ELECTRICITY in the home

All-electric flats. P. Schiller. Elec R (Lond) 149:225-7 Ag 3 '51

All-electric house of the 50's. il plan Am Bld 73:90-7 Mr '51

Brief survey of the development in domestic electrification. R. P. Watson. Inst E E Proc 98 pt 1:20-1 Ja '51

Compact kitchen for thrift home, electrical living model home. il plans diags Am Bld 73:116-17 Jl '51

Domestic usages of electricity in Britain. Elec World 135:136+ Ap 9 '51

Effective wiring demonstration by 4-H club boys. H. H. Beaty. il Elec World 135:120 F 26 '51

E.D.A./E.A.W. annual conference, London. Electrician 146:907-8 Mr 16 '51

How our adequate wiring program builds revenue. M. T. Reeves. Elec World 136:70-1 Jl 2 '51

Lighting and electrical living sell out tract; Los Gatos, Calif. il plan Am Bld 73:184-5 Ap '51

Modern home design. M. Gilbert. il plan Elec R (Lond) 148:439-42 Mr 2 '51

Wired for better living; two demonstration homes in Chattanooga. il plan Am Bld 73:116-17+ F '51

You can do it with relays. H. E. Dudrey. il diags Elec West 105:72-4 N '50

See also

Electric apparatus and appliances, Domestic
Electric industries—Electric homes exhibitions

ELECTRICITY in the petroleum industry

Electrical engineering's contribution to oil. L. M. Goldsmith. Oil & Gas J 50:94+ S 27 '51

Electricity in the oil industry. il diag Elec R (Lond) 147:771-4, 849-52, 885-7, 947-50, 963-8, 1089-93; 148:10-14 N 17-24, D 1-15, 29 '50-Ja 5 '51

Electrification of a marine oil field. F. S. Bird. il Oil & Gas J 50:184+ Je 21 '51

Getting most from d.c. drilling motors. L. J. Murphy. il World Oil 132:118-19 My '51

Oilfield power; steam and gas-engine plant. Elec R (Lond) 148:587 Mr 23 '51

Operating guide for a.c. drilling rig motors. L. J. Murphy. il World Oil 132:89-90+ Mr '51

Ultra-modern Diesel electric rig combines flexibility and portability. R. Sneddon. il diags Pet Eng 23:B13-14+ My '51

Use of electric power in the petroleum industry. W. H. Stueve. Elec Eng 70:319-23 Ap '51

See also

Petroleum—Pumping, Electric
Petroleum pipe lines—Pumping stations, Electric

ELECTRICITY on the farm

Build for bigger farm loads; study of DeKalb county, Ill. R. K. Dallas and others. il Elec World 136:87-9 S 24 '51

Dairy farm uses 28 kwhr per cow per year. Elec World 136:132+ Ag 27 '51

Designing the farmstead for electrification. F. W. Duffee. Edison Elec Inst Bul 19:223-6+ Jl '51; Excerpts. Elec World 135:109 Je 18 '51

Farm of the future; Ulster farm and factory exhibition. il Elec R (Lond) 148:1263-6 Je 15 '51

Farming to-day. il Elec R (Lond) 148:313-16, 374-8 F 16-23 '51

Fuel and appliance market in rural America; electric and bottled-gas interests. D. O. Cunnion. il Adv Agency 44:70-1+ Ja '51

Grass drying; Worcester Co-operative society's Brook End farm. il Elec R (Lond) 149:233-5 Ag 3 '51

Is farm electrification near completion? Elec World 136:110 Ag 13 '51

More motors on the farm. il Gen Elec R 54:41 Mr '51

National farm electrification conference, 5th, St Louis, Oct. 18-20; finds wide field for continued development of electricity in agriculture. Edison Elec Inst Bul 18:418-19 N '50

New York farm electrification council celebrates Indian fighter's victory. il Elec World 136:93-4 Jl 16 '51

Pioneer experimental rural electric lines, 1923; near Red Wing, Minn. B. F. Braheney. Pub Util 48:289-95 Ag 30 '51

Plenty of kwhr from milk house load; Elgie Green farm. V. Marvin. il Elec World 135: 178 My 21 '51

ELECTRICITY on the farm—*Continued*

Profits from farm electrification buy more electrification. W. D. Hemker. il Elec World 135:107-9 Mr 26 '51

Royal Norfolk show. il Electrician 147:37-8 Jl 6 '51

Royal show. il Elec R (Lond) 149:26-30 Jl 6 '51

Smithfield show; electrical exhibits. il Elec R (Lond) 147:974 D 15 '50

South Carolina utilities aid 4-H clubs. il Elec World 134:72-3 N 6 '50

Truman attacks, spokesmen defend industry's Farm electrification week. Elec World News ed 136:5 Ag 6 '51

What farmers' problems are still unsolved? O. C. French. Edison Elec Inst Bul 18:443-5 D '50

See also

Electric service, Rural

National farm electrification conference

Rural electrification administration

Cost

Electricity pays off on Vermont dairy farms. il Elec World 136:114+ Jl 30 '51

ELECTRICITY supply

Fuel materials; tabulations and charts. Steel 128:147 Ja 1 '51

See also

Electric lines

Electric plants

Electric power

Electric utilities

Algeria

Algeria reports progress in power-development program. For Comm W 45:22 O 15 '51

Arkansas

Arkansas story; power. il Manuf Rec 120:91-3 F '51

Electricity comes to the Ozarks. A. G. Mezerik. il Sales Management 65:90+ N 1 '50

Atlanta, Georgia

Atlanta 4-kv overhead network served from 19-kv underground cables. R. O. Loomis and P. B. Boyd. il diag Elec World 135:79-82 Je 4 '51

Australia

Progress in western Australia. il Elec R (Lond) 148:1046 My 18 '51

Brazil

Big electric development for Rio Grande do Sul. Eng N 146:47 Ap 5 '51

Progress in Brazil. Elec R (Lond) 147:1123-4 D 29 '50

California

Wheeling power in California. Pub Util 47:558-9 Ap 26 '51

See also

Central Valley project, California

Canada

1950 top year for Canadian utilities. il Elec World News ed 135:11 Mr 19 '51

Ceylon

Electricity in Ceylon. Electrician 146:54 Ja 5 '51

Electricity in India and Ceylon. Electrician 147:334-5 Ag 3 '51

Colorado

Utility signs USBR wheeling contract; Public service co. of Colorado to wheel electric power from generating plant at Green Mountain dam. Elec West 106:140+ F '51

Detroit

It supplies the arsenal of democracy; Detroit Edison co. Elec World 136:104-5 S 10 '51

Europe

European power supply improved, use is increasing, UN group finds. Elec World News ed 135:13 Je 11 '51

Movement is started for uniting European electrical installations. il Eng N 147:82 Ag 16 '51

Power in western Europe. V. de Biasi. bibliog Elec R (Lond) 148:999-1002 My 11 '51

Promotion of electricity production in Europe. Engineer 190:663 D 29 '50

Western European power; future development and system policy. A. M. Tsirimokos. bibliog maps Elec R (Lond) 147:685-9 N 3 '50

Finland

Finland's electric-power industry expands in 1950. For Comm W 43:28 My 14 '51

France

Development of electrical power supply in France since the end of the war; abstracts. R. Giguet. Engineer 190:529 D 1 '50; Elec R (Lond) 147:856 N 24 '50; Electrician 145:1012 N 17 '50; Engineering 170:529 D 22 '50

France's push for kilowatts pays off. W. G. Bowman. il map Eng N 146:30-4 Ap 5 '51

News from France. Elec R (Lond) 148:136 Ja 19 '51

Great Britain

Area activities; electricity boards' reports for 1949-50. Elec R (Lond) 147:977-9, 1075-6, 1097-8; 148:39-40 D 15 '50-Ja 5 '51

Board's contracts. Elec R (Lond) 148:895 Ap 27 '51

Brighton and Hove district. E. H. Skinner. il Electrician 146:1997-8 Je 15 '51

British electrical power convention; presidential address. H. Self. Engineer 191:823-4 Je 22 '51; Abstracts. Elec R (Lond) 148:1291-2 Je 22 '51; Electrician 146:2106-10 Je 22 '51

British electrical power convention, 3d, Brighton, June 18-22. Engineering 171:783-4 Je 29 '51

BEA battles for additional capacity. il Elec World News ed 136:12-14 Jl 23 '51

British electricity authority's annual report. Engineer 190:556-7 D 8 '50

BEA's open diplomacy. Economist 160:1584+ Je 30 '51

BEA's vain chase; price of the peak. Economist 160:219 Ja 27 '51

British electricity supply industry. Engineer 191:870-1 Je 29 '51

British Electricity's horizon; second year's operations of British electricity authority. Economist 159:1014-16 D 9 '50

Economic utilization of electricity in Great Britain. R. B. Giles. Inst E E J 95 pt 1:469-75 N '48; Discussion. 95 pt 1:475-80 N 48; [cont as] Inst E E Proc 97 pt 1:155-62, 363-4 Jl, N '50

Efficiency of electrical power utilization. A. N. Irens. Inst E E Proc 98 pt 2:1-4 F '51

Electricity grid control centre in Paternoster square. il Engineer 191:58-9 Ja 12 '51; Engineering 171:51-2 Ja 12 '51; Elec R (Lond) 148:61-3 Ja 12 '51; Electrician 146:121-3 Ja 12 '51

Electricity in Mid-Sussex. H. Pryce-Jones. il map Elec R (Lond) 148:1229-37 Je 15 '51

Electricity power cuts. W. E. Burnand. Electrician 147:339-40 Ag 3 '51

Electricity supply finance. D. H. Kendon. Elec R (Lond) 147:697 N 3 '50

Electricity supply in 1949-50. Elec R (Lond) 147:925-31 D 8 '50

Electricity supply industry; preliminary census of production figures. Electrician 147:35-6 Jl 6 '51

Electricity supply position. J. Hacking. Engineering 171:475-6 Ap 20 '51; Abstracts. Elec R (Lond) 148:834-5 Ap 27 '51; Electrician 146:1298 Ap 20 '51

Gas and electricity; comparing the annual reports. D. J. Bolton. Elec R (Lond) 148:1125-30 Je 1 '51

Industry and the fuel crisis. Electrician 146:302 Ja 26 '51

Load dispatching and the reasons for it, with special reference to the British grid system. A. R. Cooper. map diags Inst E E J 95 pt 2:713-23 D '48; Same cond. Engineer 185:327-9 Ap 2 '48; Discussion. Inst E E J 95 pt 2:723-32 D '48; [cont as] Inst E E Proc 97 pt 2:296-310; 98 pt 2:293-5 Je '50, Ap '51

Load spreading; report of sub-committee of National joint advisory council. Electrician 145:1581-2 D 29 '50

ELECTRICITY supply—Great Britain—*Cont.*

Planning of an electricity board's distribution system. G. O. McLean. bibliog maps diags Inst E E Proc 98 pt 2:331-41 Je '51; Same cond. Engineering 171:206-8 F 16 '51; Abstract. Elec R (Lond) 148:243 F 2 '51; Discussion. Inst E E Proc 98 pt 2:341-8 Je '51; Elec R (Lond) 148:243-4 F 2 '51; Electrician 146:393-4 F 2 '51

Review of progress. Lord Citrine. Electrician 146:2131-2 Je 22 '51

Review of research in electricity supply. C. W. Marshall. Inst E E Proc 97 pt 1:351-6 N '50

Second report and statement of accounts of the British electricity authority; trading results of area boards. Electrician 145:1321-5, 1444-5 D 8-15 '50

Spreading the load thinner. Economist 159: 1218 D 30 '50

275 kv grid system. map Elec R (Lond) 148: 282 F 9 '51; Same. Engineer 191:187 F 9 '51; Same cond. Engineering 171:169 F 9 '51

What Britons discovered about the electricity industry in the U.S.A. C. Dunn. Edison Elec Inst Bul 18:428 D '50

Wintry prospect; fuel and power. Economist 161:412-13 Ag 18 '51

Hawaiian Islands

Low cost underground in Hawaii. C. H. Williams. il diags Elec West 106:56-8 Ja '51

India

Electricity in India. Electrician 146:901-2 Mr 16 '51

Electricity in India and Ceylon. Electrician 147:334-5 Ag 3 '51

India power plans. Elec R (Lond) 149:76 Jl 13 '51

India's TVA; Damodar Valley project. W. G. Bowman. il map Eng N 146:33-6 My 24 '51

Ireland

Electric power developments, year ended March 31, 1950. For Comm W 41:24 O 23 '50

Irish power shortage. Elec R (Lond) 149: 82 Jl 13 '51

Israel

Electrical production in Israel. H. Reik. Elec R (Lond) 147:1107-8 D 29 '50

Italy

Electricity in Italy. Electrician 146:57-8 Ja 5 '51

Korea

Transmission and distribution problems in Korea. G. H. Simmons. Elec World 135: 102-3 My 7 '51

Latin America

Latin American power resources. Electrician 146:1285-6 Ap 20 '51

Los Angeles

Costs favor radial over network in downtown Los Angeles. M. V. Eardley. il diags Elec World 135:96-9+ Mr 12 '51

Los Angeles now gets four billion kwhr a year. il Elec World News ed 136:11-12 Jl 9 '51

Maine

Power embargo in Maine. L. Smith. bibliog Pub Util 47:351-8 Mr 15 '51

Malayan Union

Federation of Malaya, Central electricity board 1st annual report, year ended Aug. 31, 1950. Electrician 146:2235 Je 29 '51

Integration in Malaya. map Elec R (Lond) 148:1303-4 Je 22 '51

Mauritius

Electrification in Mauritius. T. Williams. Electrician 146:2145-6 Je 22 '51

Mexico

Market surveying for electricity supply. Engineering 171:104 Ja 26 '51

Netherlands

Netherlands electric-power supply increasing annually. For Comm W 44:23 Ag 6 '51

New South Wales

Sydney development halted. Elec R (Lond) 148:330 F 16 '51

New York (state)

Power pool in upstate New York to buy energy for defense loads. map Elec World News ed 135:13 Mr 19 '51

Progress of New York farm electrification; commemoration of its fiftieth anniversary. B. F. Feinberg. Pub Util 48:216-22 Ag 16 '51

New Zealand

Electricity supply in New Zealand. Engineering 170:538 D 22 '50

Power in New Zealand; abstracts. M. G. Latta. Elec R (Lond) 147:839-40 N 24 '50; Electrician 145:1016-17 N 17 '50

Northwestern states

Aluminum power cut stands. Bsns W p 138-9 S 29 '51

Depa orders northwest companies to save power for defense demand. Elec World 136:72 S 24 '51

First power priority set up in Northwest. Bsns W p21 S 22 '51

Need is great for a fair federal power policy. T. W. Delzell. Elec West 106:66 Je '51

Northwest public power association spring meeting, Wenatchee, Wash. April 12-14. Elec West 106:93 My '51

Pacific Northwest could supply extra million kw; abstract. S. E. Schultz. Elec World News ed 135:12 Ja 22 '51

Oklahoma

Electricity comes to the Ozarks. A. G. Mezerik. il Sales Management 65:90+ N 1 '50

Ontario

Electrical developments in Ontario. Engineering 171:18 Ja 5 '51

Pacific coast

Intertie of Pacific Coast power pools is opposed. Elec World News ed 135:6 F 19 '51

Pakistan

Electricity development in the Punjab. J. H. Appleby. il Elec R (Lond) 148:123-5 Ja 19 '51

Philadelphia

Philadelphia Electric galloping ahead. Elec World 136:108-9 Ag 13 '51

Rhodesia

Electricity in Rhodesia. il Elec R (Lond) 149:67-9 Jl 13 '51

Scotland

Loch Sloy quarrel. Economist 159:837-8 N 18 '50

Seattle

Seattle voters apparently reject city plan to purchase Puget Power. Elec World 134:100 N 20 '50

South Africa

Electricity supply developments in South Africa. il Engineer 191:350-1 Mr 16 '51

Electricity supply in South Africa. Engineering 172:242 Ag 24 '51

Southern states

Old South bursts with new growth. G. M. Ives. Pub Util 47:267-77 Mr 1 '51

Southwestern states

Mobilization responsibilities. D. D. Smalley. Elec West 106:70-2 Je '51

Power systems of Southwest benefit from improved interconnections. N. B. Hinson. diag Civil Eng 21:76-7 F '51

Spain

Spanish electricity production. Elec R (Lond) 148:1166 Je 1 '51

Sweden

Sweden has world's longest, highest voltage power line. il Power Eng 55:78-80 Ap '51

Tasmania

Tasmania hydro-electricity. Electrician 146: 1705 My 18 '51

Tennessee valley

Utilities, TVA act to serve H-bomb plant in lower Mississippi basin. map Elec World 134:73 D 18 '50

ELECTRICITY supply—*Continued*

Uganda

Progress in Uganda; construction work at Owen Falls. Elec R (Lond) 148:478 Mr 9 '51
Uganda board report. Electrician 146:714 Mr 2 '51

United States

Capacity reserve set at 8.8 per cent in 1951. Elec World 135:109-10 My 21 '51
Electric power generation; its relation to industrial applications. K. Pinder. Elec Eng 70:291 Ap '51
Electric power seen ample for war needs. C. E. Wilson. Eng N 145:19 D 28 '50
Electric power situation in the U.S.A. L. V. Sutton. Edison Elec Inst Bul 18:361-3 O '50
Electric utility defense advisory council meeting, 1st, Oct. 19. Elec World News ed 134:5-6 O 30 '50
Electricity; feast or famine? Chapman fears shortage. Bsns W p24 O 28 '50
Energy uses and supplies, 1939, 1947, 1965. H. J. Barnett. 6pls U S Bur Mines Information Circ 7582:1-53 '50
GE head says utilities can meet power needs. il Elec World (News ed) 134:11 D 11 '50
How much more electricity? Gibson's power problem. Bsns W p25-6 My 5 '51
Keeping the power program on schedule. C. B. McManus. Comm & Fin Chr 173:2451+ Je 14 '51; Same. Edison Elec Inst Bul 19:227-9 Jl '51; Excerpts. Elec World 135:110 Je 18 '51
Kilowatts to beat communism. il map Power Eng 55:54-9 Ja '51
Look at tomorrow. J. W. McAfee. Edison Elec Inst Bul 19:245-8 Jl '51; Excerpts. Elec World 135:113 Je 18 '51
Low power reserves until late '54 forecast in survey made by Depa. Elec World 135:80 Ap 9 '51
Man-hours for essential production. R. G. Ely. Edison Elec Inst Bul 19:147-8 My '51
Mobilization today and in the next four years; power requirements are assured providing material and manpower are available. il Elec World 135:119-50 My 21 '51
More power for America. C. E. Wilson. Edison. Elec Inst Bul 18:429-31 D '50; Same. Comm & Fin Chr 172:2286+ D 14 '50; Same abr. Gen Elec R 54:13-14 Ja '51
No power shortage. Steel 128:50 F 5 '51
Power expansion program grows. Elec World 136:118 S 10 '51
Power to rearm. Power 94:73-82 D '50
Production of electrical energy in the United States 1902 to 1951; charts. Elec World News ed 135:16-17 Ja 8 '51
Threat of a power shortage. Bsns W p24 Ap 7 '51
Tight electric power situation in prospect. C. B. McManus. Comm & Fin Chr 173:2053 My 17 '51
Truman seeks more federal power. Elec World News ed 135:4-5 Ja 22 '51
U.S. power capacity zooms to new highs. Power 95:103 Ag '51
U.S. power supply ample, EEI claims. Elec World News ed 134:4-5 O 30 '50

See also
Defense electric power administration

Virginia

Setback for a super co-op; Virginia corporation commission rejects Old Dominion electric coöperative's petition for REA loan. J. J. Kilpatrick. Pub Util 47:278-85 Mr 1 '51

Washington (state)

Governor asks state, standby steam plants. Elec World News ed 135:13 Ja 22 '51

Western states

Electrical West annual review number. il Elec West 106:73-120 F '51
Power is pooled for defense. M. C. Heffelman. Elec West 106:69 Je '51
Prepared for mobilization. il Elec West 105:69-71 O '50
Trebling of power needs in Missouri basin seen. Elec World News ed 134:6 N 13 '50

ELECTRIFICATION. See Electric charges

ELECTRIFIED fences. See Fences, Electrified

ELECTROACOUSTIC transducers

Barium titanate transducer capable of large motion at an ultrasonic frequency. W. P. Mason and R. F. Wick. il diags Acoustical Soc Am J 23:209-14 Mr '51
Design of variable resonant frequency crystal transducers. W. L. Hall and W. J. Fry. diags R Sci Instr 22:155-61 Mr '51
Measurement of the underwater sound field generated by quartz transducers. W. Keck and others. bibliog il diags Acoustical Soc Am J 23:168-72 Mr '51
Vibrating plate transducers for frequency studies of the breakdown rate of biological cells. E. Ackerman. diags R Sci Instr 22:649-51 Ag '51

See also
Loud speaking apparatus

ELECTROACOUSTICS

Bibliography

Radio progress during 1950; electroacoustics. Inst Radio Eng Proc 39:362-5 Ap '51

Terminology

Standards on electroacoustics; definitions of terms, 1951. Inst Radio Eng Proc 39:509-32 My '51 (reprints $1)

ELECTROCARDIOGRAPH

Arsine; electrocardiographic changes produced in acute human poisoning. C. J. Josephson and others. bibliog il A M A Archives Ind Hygiene & Occup Med 4:43-52 Jl '51
Device developed by CAA discovers heart defects; ballistocardiograph. CAA J 12:46 Ap 20 '51
Routine electrocardiography in industry. B. M. Overholt. Ind Med 19:503-8 N '50

ELECTROCHEMICAL analysis

Electrolytic determination of antimony. G. Norwitz. bibliog Anal Chem 23:386-7 F '51
Electrolytic determination of cadmium in zinc sulfide-cadmium sulfide phosphors. R. Bastian and others. bibliog Electrochem Soc J 98:307-10 Ag '51
Rapid electrolytic method for the determination of zinc in aluminium-zinc alloys. G. Norwitz. bibliog J Ap Chem 1:353-4 Ag '51
Regulated low voltage supply for electrolysis and other uses. M. L. Greenough and others. il diag R Sci Instr 22:484-8 Jl '51
Separation of ultramicro quantities of elements by electrodeposition. L. B. Rogers. bibliog Anal Chem 22:1386-7 N '50
Wide-range instrument for controlled potential electrolysis. R. W. Lamphere. il diags Anal Chem 23:258-60 F '51

ELECTROCHEMICAL industries

Electrochemical industry. F. M. Burns. bibliog il Ind & Eng Chem 43:301-4 F '51
Electrochemical industry curtailed by power shortage. Chem & Eng N 28:3768-9 O 30 '50
Modern industries depend on electro-processes. C. L. Faust. Electrochem Soc J 98:133C-7C O '51
Niagara Alkali, 1900-1950. Soap & San Chem 26:49+ O '50

Power

Niagara Power rate rise? il Chem Ind W 68:13 F 24 '51
Process power requirements. Chem Eng 58:115 Mr '51; Same. Elec World 136:120 Ag 27 '51

ELECTROCHEMICAL society

Annual meeting, 99th, Washington, April 8-12; program. Oil Paint & Drug Rep 159:7+ Mr 26 '51
Annual meeting, 99th, Washington, April 8-12; summaries of papers. Materials & Methods 33:11+ My '51
Meeting, 98th, Buffalo, Oct. 11-13. Chem & Eng N 28:3768-9 O 30 '50; Can Chem & Process Ind 34:902 N '50
Meeting, 99th, Washington, April 8-12. Chem & Eng N 29:1644-6 Ap 23 '51
Meeting, 100th, Detroit. Oil Paint & Drug Rep 160:5+ O 15 '51
What can the Electrochemical society contribute? C. L. Faust. Electrochem Soc J 98:sup 91C-3C Jl '51

ELECTROCHEMISTRY

Diffusion-controlled electrode reactions. C. S. Lin and others. bibliog diags Ind & Eng Chem 43:2136-43 S '51

Electrochemical behaviour of paint film on steel in sea-water. J. T. Crennell. Soc Chem Ind J 69(sup no 1):S36-8 '50; 371-3 D '50

Electrochemical properties of mineral membranes; membrane characteristics of clay pastes. S. K. Mukherjee and C. E. Marshall. J Phys & Colloid Chem 55:61-8 Ja '51

Electrochemistry of boron trifluoride co-ordination compounds; boron trifluoride-ethyl ether. N. N. Greenwood, R. L. Martin and H. J. Emeléus. diags Chem Soc J p3030-6 N '50

Electrochemistry of boron trifluoride coordination compounds; boron trifluoride-mono(acetic acid). N. N. Greenwood, R. L. Martin and H. J. Emeléus. diags Chem Soc J p 1328-32, 1795-8, 1915-21 My, Jl '51

Hydrogen peroxide; chemical engineering and electrochemistry combined in modern H_2O_2 plants. G. A. Zotos. diag Chem Eng 58:114-16 Ap '51

Protochemical cells. T. Shedlovsky. diag Science 113:561-2 My 11 '51

Revolution in rectification. il diag Chem Eng 58:204 Ag '51

Three-dimensional model for interpreting electrometric processes. C. N. Reilley, W. D. Cooke and N. H. Furman. bibliog diags Anal Chem 23:1226-9 S '51

See also

Electric precipitation
Electrochemical analysis
Electrodeposition of metals
Electrodes
Electrolysis
Electrolytes
Electrolytic cells
Electroplating
Ionization, Electrolytic
Reduction, Electrolytic

Study and teaching

Electrochemistry in the freshman course. W. B. Meldrum. J Chem Educ 28:282-5 My '51

ELECTRODEPOSITION of metals

Attempts to electrodeposit zirconium. M. L. Holt. bibliog Electrochem Soc J 98:sup33C-5C Mr '51

Cathode polarization potential during electrodeposition of copper; nonreproducibility in acid copper sulfate solutions. L. L. Shreir and J. W. Smith. bibliog il Electrochem Soc J 98:193-202 My '51

Electrodeposition of aluminum from non-aqueous solutions at room temperature. F. H. Hurley and T. P. Wier, jr. bibliog il diag Electrochem Soc J 98:207-12 My '51

Electrodeposition of copper-lead alloys. A. L. Ferguson and N. W. Hovey. bibliog il Electrochem Soc J 98:146-54 Ap '51; Discussion. 98:515-17 D '51

Electrodeposition of germanium. G. Szekely. bibliog diag Electrochem Soc J 98:318-24 Ag '51

Electrodeposition of metal powders. G. Wranglen. bibliog il Electrochem Soc J 97:353-60 N '50; Discussion. 98:255-6 Je '51

Electrodeposition of metals from fused quaternary ammonium salts. F. H. Hurley and T. P. Wier, jr. bibliog Electrochem Soc J 98:203-6 My '51

Electrodeposition of rhenium-nickel alloys. L. E. Netherton and M. L. Holt. bibliog Electrochem Soc J 98:106-9 Mr '51

Electrodeposition of thallium. E. Bertorelle. Chem Age (Lond) 64:211-12 F 3 '51

Electroformed tooling. M. H. Orbaugh. il Automotive Ind 105:32-3+ Ag 1 '51

Electroforming, a mass-production tool. bibliog il Steel 128:77-80 F 12 '51

Electroforming for plastics; spray masks and specialized molds. il diags Mod Plastics 28:81-4+ Mr '51

Electroforming of precision military components. S. G. Bart. il Metal Finishing 49:96-7+ Jl '51

Electroforming speeds the production of aircraft parts and tools. G. B. Lewis and L. Frost. il diags Mach 57:178-85 Jl '51

Making small metal tubes by electrodeposition on nylon fibers. R. J. E. Gezelius. R Sci Instr 21:886 O '50; Abstract. Electronics 24:216+ N '51

Microwave components; precision casting vs electroforming. A. A. Feldmann. il Materials & Methods 34:70-2 Jl '51

Military applications of electroforming. M. H. Orbaugh. il Metal Finishing 49:98-9+ Jl '51

New experiments on the cathodic deposition of radio-elements. M. Haissinsky and A. Coche. Chem Soc J supp no 2:S397-400 '49

Plating and electroforming at Muzak, Elizabethtown, Ky. W. M. Warner. il Metal Finishing 49:66-8 Ag '51

Plating in the re-armament program. S. Senderoff. il Metal Finishing 49:88+ Jl '51

Relative reliability of aluminum and zinc starting sheets for the electrodeposition of zinc. G. C. Ware and K. B. Higbie. il Electrochem Soc J 97:425-9 D '50

Structure of metal deposits obtained by electrochemical displacement upon zinc. M. E. Straumanis and C. C. Fang. bibliog il diag Electrochem Soc J 98:9-13 Ja '51

See also

Electroplating

ELECTRODES

Anode maintenance in the alkaline stannate tin plating bath. F. A. Lowenheim. Metal Finishing 49:60-4 Mr '51

Behaviour of the copper electrode in dilute copper sulphate solutions. A. A. Mousa. Chem Soc J p403-4 Ja '50

Current distribution over a cylinder with hemispherical ends. S. Barnartt. bibliog diags Electrochem Soc J 98:311-17 Ag '51

Diffusion-controlled electrode reactions. C. S. Lin and others. bibliog diags Ind & Eng Chem 43:2136-43 S '51

Distribution of current in porous electrodes. J. J. Coleman. diags Electrochem Soc J 98:26-30 Ja '51

Effect of acoustical radiations on the hydrogen electrode. E. Yeager and F. Hovorka. bibliog Electrochem Soc J 98:14-20 Ja '51; Discussion. 98:510-11 D '51

Effect of time and temperature on potentials measured with the glass electrode. H. Irving and R. J. P. Williams. Chem Soc J p2890-2 O '50

Electrochemical behaviour of the antimony electrode. S. E. S. El Wakkad. Chem Soc J p2894-6 O '50

Electrode reactions in the glow discharge. F. E. Haworth. bibliog il J Ap Phys 22:606-9 My '51

Electrodes cut liquid level control costs. F. E. Reeves. diags Elec World 135:130-1 My 7 '51

Electrolytic probe for underground corrosion studies. W. Beck. bibliog diags J Metals 3:706-11 S '51

Equilibrium between copper and cupric and cuprous ions and the behavior of the copper electrode in dilute copper sulphate solutions. S. E. S. El Wakkad. Chem Soc J p3563-6 D '50

Equilibrium currents induced in zincblende by electron bombardment of negative electrode. M. F. Distad. bibliog diags Phys R 80:879-86 D 1 '50

Fast electrode reactions. J. G. Barredo. J Chem Phys 19:1065-6 Ag '51; Correction. 19:1429 N '51

Hydrogen-calomel cell. G. J. Hills and D. J. G. Ives. diags Chem Soc J p305-23 F '51

Improved cutting tool for spectroscopic electrodes. A. T. Myers. bibliog diags Anal Chem 23:209-10 Ja '51

Influence of electrodes on d-c breakdown in gases at high pressure. J. G. Trump and others. bibliog Elec Eng 69:961-4 N '50

Installation and comparative costs given for steel vs graphite anodes. J. S. Dorsey. plan diags Am Gas J 175:27-8 Jl '51

Magnesium anodes for hot spot protection. M. E. Parker. Oil & Gas J 50:136 My 17; 144 My 24; 119 My 31 '51

Method of measuring the absolute potential of aqueous half-cells. W. A. Patrick and C. L. Littler. bibliog diags J Phys & Colloid Chem 54:1016-27 O '50

Microphonics produced by touching the cochlear partition with a vibrating electrode. G. v. Békésy. il diags Acoustical Soc Am J 23:29-35 Ja '51

Overvoltage at the copper electrode. T. Rubin. J Chem Phys 19:803 Je '51

ELECTRODES—*Continued*

Performance of magnesium anodes under actual service conditions. T. H. Gilbert. Gas Age 106:40-1+ N 23 '50

Porous cup electrode drilling jig. L. E. Owen. il Anal Chem 22:1581-2 D '50

Properties of proportional tubes and ion chambers with glass envelopes and external graphite electrodes. A. L. Cockroft and J. M. Valentine. diags J Sci Instr 27:262-3 O '50

Proposed mechanism for the discharge of the manganese dioxide electrode. D. T. Ferrell, jr. and W. C. Vosburgh. bibliog diag Electrochem Soc J 98:334-41 Ag '51

Some electrical relations in galvanic couples. H. D. Holler. bibliog diags J Res Nat Bur Stand 45:373-80 N '50

Studies of time-potential changes on an electrode surface during current interruption; zinc-steel couple in synthetic sea water. S. Schuldiner and R. E. White. bibliog il diags Electrochem Soc J 97:433-47 D '50; Discussion. 98:259 Je '51

Study of metallic electrodes prepared by sublimation. B. C. Bradshaw. J Chem Phys 19:1026-7 Ag '51

Thermionic cathodes for fluorescent lamps and their behavior. E. F. Lowry. il Illum Eng 46:288-94 Je '51

Use of the stationary platinum microelectrode in the determination of half-wave potentials. D. B. Julian and W. R. Ruby. bibliog Am Chem Soc J 27:4719-24 O '50

See also

Cathodes
Electric welding—Electrodes
Electric welding, Arc—Electrodes
Electrolytic cells

Overvoltage

See Overvoltage

ELECTRODES, Glass

Electrode function (pH response), hygroscopicity, and chemical durability of soda-lead oxide-silica glasses. D. Hubbard and others. bibliog J Res Nat Bur Stand 45:430-9 N '50

Electrode function (pH response), hygroscopicity, and chemical durability of soda-potash-silica glasses. D. Hubbard and others. bibliog J Res Nat Bur Stand 46:168-75 Mr '51

Measurement of and effect of temperature on electrical resistance of glass electrodes. E. L. Eckfeldt and G. A. Perley. bibliog diags Electrochem Soc J 98:37-47 F '51

ELECTRODIAGNOSIS

See also

Electroencephalography

ELECTRODYNAMICS

See also

Quantum electrodynamics

ELECTRODYNAMICS, Quantum. See Quantum electrodynamics

ELECTROENCEPHALOGRAPHY

Industrial and forensic applications of electroencephalography. J. L. Fetterman and V. M. Victoroff. bibliog A M A Archives Ind Hygiene & Occup Med 4:10-24 Jl '51

ELECTROFORMING. See Electrodeposition of metals

ELECTROGRAPHIC analysis

Analysis by electromigration plus chromatography. H. H. Strain and J. C. Sullivan. bibliog diags Anal Chem 23:816-23 Je '51

ELECTROHYDRAULIC control

Edge control for registering web material during processing. il diag Machine Design 23:113 My '51

Self-contained hydraulic system simplifies design of case unpacker. il diags Product Eng 22:106-9 Ap '51

Solenoid valve needs few repairs. il diags Product Eng 21:182 N '50

Three-way solenoid valves have many features. diags Product Eng 22:208 Je '51

Valve controls electro hydraulic servomechanisms. il Product Eng 22:234 My '51

ELECTROLUMINESCENCE. See Luminescence

ELECTROLYSIS

Action of direct current on aqueous solutions of S-benzyl- and S-1-naphthylmethylthiuronium chlorides. W. A. Bonner. Am Chem Soc J 73:464-5 Ja '51

Anode-electrolyte temperature differentials; electrolytic formation of ozone. T. R. Beck and G. L. Putnam. bibliog diag Ind & Eng Chem 43:1123-6 My '51

Anodic syntheses; new syntheses of stearic, myristic, and other acids. W. S. Greaves and others. Chem Soc J p3326-30 N '50

Anodic syntheses; retention of optical activity during the Kolbe reaction. R. P. Linstead, J. C. Lunt and B. C. L. Weedon. Chem Soc J p3333-5 N '50

Anodic syntheses; synthesis of (+)- and (−)-tuberculostearic acids. R. P. Linstead, J. C. Lunt and B. C. L. Weedon. Chem Soc J p 1130-2 Ap '51

Anodic syntheses; synthesis of (+)-tuberculostearic acid. R. P. Linstead, J. C. Lunt and B. C. L. Weedon. Chem Soc J p3331-3 N '50

Coulometric titrations with externally generated reagents. D. D. DeFord, J. N. Pitts and C. J. Johns. bibliog diags Anal Chem 23:938-40 Jl '51

Device for maintaining a constant potential for electro-chemical work. F. W. Chambers. bibliog diags J Sci Instr 27:292-4 N '50

Electrolysis of aluminum solutions in a magnetic field. C. E. Wood and C. W. Tittle. J Chem Phys 18:1683 D '50

Electrolytic separations; separations by electroanalysis. S. E. Q. Ashley. bibliog il diags Anal Chem 22:1379-85 N '50

Electromigration in a cation exchange resin. K. S. Spiegler and C. D. Coryell. bibliog Science 113:546-7 My 11 '51

Formation of ammonium amalgam by electrolysis. R. J. Johnston and A. R. Ubbelohde. diags Chem Soc J p 1731-6 Jl '51

Glow-discharge electrolysis gives 40 times theoretical yields; abstract. A. Klemenc. Chem & Eng N 29:3971 S 24 '51

Macroscopic space charge in a potassium chloride solution during electrolysis. W. Schriever and E. E. Ferguson. J Chem Phys 19:609-12 My '51

Magnetic mercury cathode. E. J. Center, R. C. Overbeck and D. L. Chase. bibliog il diags Anal Chem 23:1134-8 Ag '51

Metallic aluminum in solution in liquid ammonia. A. D. McElroy, J. Kleinberg and A. W. Davidson. diag Am Chem Soc J 72:5178-80 N '50

Polymerization induced by hydrogen in metals. G. Parravano. diag Am Chem Soc J 73:628-30 F '51

Production of ozone with refrigerated anodes. E. I. Lash and others. bibliog flow sheet diags Electrochem Soc J 98:134-7 Ap '51

Regulated low voltage supply for electrolysis and other uses. M. L. Greenough and others. il diag R Sci Instr 22:484-8 Jl '51

Relationships between germanium and cadmium in the electrolysis of zinc sulphate solutions. S. T. Ross and J. L. Bray. bibliog diag J Metals 3:Trans 465-7 Je '51

Studies on alternating current electrolysis; the nature of polarization capacity and polarization resistance. M. Shaw and A. E. Remick. bibliog diag Electrochem Soc J 97:324-34 O '50; Discussion. 98:254-5 Je '51

Wide-range instrument for controlled potential electrolysis. R. W. Lamphere. il diags Anal Chem 23:258-60 F '51

See also

Electrochemical analysis
Electrolytic cells
Electrolytic corrosion
Overvoltage

ELECTROLYTES

Application of kinetic theory to the critical curve for aqueous solutions of 1-1 electrolytes. C. H. Secoy. J Phys & Colloid Chem 54:1337-46 D '50

Bolaform electrolytes; di-(β-trimethyl-ammonium ethyl) succinate dibromide and related compounds. R. M. Fuoss and D. Edelson. bibliog il Am Chem Soc J 73:269-73 Ja '51

Chain electrolytes. V. F. H. Chu and R. M. Fuoss. Am Chem Soc J 73:466-7 Ja '51

Determination of dissociation constants in a mixture of two weak acids by electromotive force measurements. R. G. Bates. Am Chem Soc J 73:2259-61 My '51

Differential Soret coefficient of certain electrolytes. M. G. Morin, J. H. Saylor and P. M. Gross. bibliog diag Am Chem Soc J 73:3977-81 Ag '51

ELECTROLYTES—*Continued*

Effect of salts on the critical concentration, size, and stability of soap micelles. M. E. Hobbs. bibliog J Phys & Colloid Chem 55: 675-83 My '51

Electrolyte effect upon the kinetics of the bromoacetate-thiosulfate reaction in *n*-propyl alcohol-water solutions. F. G. Ciapetta and H. M. Tomlinson. bibliog J Phys & Colloid Chem 55:429-39 Mr '51

Electrolytic properties of aqueous solutions of polyacrylic acid and sodium hydroxide; diffusion experiments using radioactive sodium. J. R. Huizenga, P. F. Grieger and F. T. Wall. bibliog Am Chem Soc J 72: 4228-32 S '50

Electrolytic transference properties of polymeric acids. F. T. Wall, G. S. Stent and J. J. Ondrejcin. bibliog diag J Phys & Colloid Chem 54:979-90 O '50

Fluorescence quenching by colloid anions and cations. J. E. Lovelock. Chem Soc J p 115-20 Ja '51

Influence of electrolytes on pulp and paper properties. W. E. Cohen and others. bibliog diags Paper Tr J 132:19-20+ Je 22; 133:16-18+ Jl '51

Light scattering studies on coiling polyelectrolytes. F. T. Wall and others. bibliog J Chem Phys 19:585-8 My '51

Moving boundary systems formed by weak electrolytes; study of cadmium iodide complexes. R. A. Alberty and E. L. King. bibliog il Am Chem Soc J 73:517-23 F '51

Properties of electrolytic solutions; effect of substituent groups on the properties of long chain ions. M. J. McDowell and C. A. Kraus. Am Chem Soc J 73:2173-6 My '51

Salt effects on the acid-catalyzed hydrolysis of γ-butyrolactone. F. A. Long, W. F. McDevit and F. B. Dunkle. bibliog J Phys & Colloid Chem 55:813-42 Je '51

Separation of simple electrolytes in solution by an electro-gravitational method. G. W. Murphy. bibliog diags Electrochem Soc J 97:405-13 N '50

Solution of some potential problems in the theory of electrolytes. F. Booth. bibliog J Chem Phys 19:821-6 Jl '51

Study of several physical properties of electrolytes over the temperature range of 25°C. to -73°C. A. B. Garrett and S. A. Woodruff. bibliog J Phys & Colloid Chem 55:477-90 Ap '51

Symposium on complex ions and polyelectrolytes, Ithaca, N.Y. June 18-21. Chem & Eng N 29:2746-7 Jl 2 '51

Symposium on polyelectrolytes. Chem & Eng N 29:4170+ O 8 '51

See also

Electric double layer
Electrolytic cells
Moving boundary, Theory of

Conductivity

Bolaform electrolytes; conductance of 1,3-, 1,4- and 1,5-di-(trimethylammonium)-polymethylene halides in water and in methanol. R. M. Fuoss and V. F. H. Chu. bibliog Am Chem Soc J 73:949-52 Mr '51

Conductance of aluminum chloride in nitrobenzene on addition of various nitrogen bases at 25°. R. E. Van Dyke and H. E. Crawford. Am Chem Soc J 73:2022-5 My '51

Conductance of aluminum chloride in nitrobenzene on addition of various oxygen bases at 25°. R. E. Van Dyke and H. E. Crawford. diag Am Chem Soc J 73:2018-21 My '51

Conductance of sulfamic acid and some sulfamates in water at 25° and conductance measurements of some long chain sulfamates in water and in water-acetone mixtures at 25°. E. G. Taylor, R. P. Desch and A. J. Catotti. bibliog Am Chem Soc J 73: 74-7 Ja '51

Conductances of potassium iodide, silver nitrate and some alkaline earth halides in methanol at 20° and 0°. L. R. Dawson and W. M. Keely. Am Chem Soc J 73:3783-5 Ag '51

Conductivities of solutions of the zinc halides in methanol from -50 to 20°. L. R. Dawson and others. bibliog Am Chem Soc J 73: 4327-30 S '51

Conductivities of some complex cobalt chlorides and sulphates. I. L. Jenkins and C. B. Monk. Chem Soc J p68-73 Ja '51

Conductivities of strong electrolytes in aqueous solution. R. L. Evans. J Chem Phys 19:310-12 Mr '51

Conductivity experiment for general chemistry. S. P. Miller. J Chem Educ 27:594 N '50

Conductivity measurements of the aqueous solutions from the sulfates of bivalent metal and titanium. S. R. Patel. Am Chem Soc J 73:488-9 Ja '51

Conductivity of concentrated electrolyte systems as a function of temperature and concentration. L. R. Dawson, G. R. Leader and H. K. Zimmerman, jr. J Phys & Colloid Chem 55:447-55 Mr '51

Conductivity studies in methanol. E. C. Evers and A. G. Knox. bibliog Am Chem Soc J 73:1739-44 Ap '51

Conductometric studies of solubility and micelle formation. D. N. Eggenberger and H. J. Harwood. Am Chem Soc J 73:3353-5 Jl '51

Electric conductivity of weak electrolytes and ampholytes at high electric field strengths. O. Blüh and F. Terentiuk. il diags J Chem Phys 18:1664-8 D '50

Electrical conductance and viscosity in the system tetra-*n*-butylammonium picrate-*n*-butyl alcohol at 91°. R. P. Seward. diags Am Chem Soc J 73:515-17 F '51

Electrolytic conductivity measurements. R. Tobi. Pet Eng 23:C13-14 Jl '51

Equivalent and ionic conductances for sodium and potassium chlorides in anhydrous methanol at 25°C. J. P. Butler and others. bibliog J Chem Phys 19:752-4 Je '51

Formation of complex fluorides; the relation between the conductivities of boric, arsenious, and antimonic fluorides and complex formation. A. A. Woolf and N. N. Greenwood. diag Chem Soc J p2200-4 Ag '50

Ionic conductances in ethylidene chloride. F. H. Healey and A. E. Martell. bibliog Am Chem Soc J 73:3296-9 Jl '51

Low-temperature conductance and viscosity of concentrated solutions of ammonium formate and ammonium acetate in some mixed solvents. L. R. Dawson and others. J Phys & Colloid Chem 55:422-8 Mr '51

Properties of electrolytic solutions; conductance of some long chain salts in water at 25°. E. J. Bair and C. A. Kraus. Am Chem Soc J 73:1129-31 Mr '51

Properties of electrolytic solutions; conductance of some quaternary ammonium and other salts in water at low concentration. H. M. Daggett, jr., E. J. Bair and C. A. Kraus. diags Am Chem Soc J 73:799-803 F '51

Properties of electrolytic solutions; conductance of some salts in acetone. M. J. McDowell and C. A. Kraus. Am Chem Soc J 73:3293-6 Jl '51

Properties of electrolytic solutions; conductance of some salts in ethylene chloride and pyridine. E. J. Bair and C. A. Kraus. Am Chem Soc J 73:2459-61 Je '51

Properties of electrolytic solutions; conductance of some salts in water at 25°. M. J. McDowell and C. A. Kraus. Am Chem Soc J 73:2170-3 My '51

Recording conductometer for electrolytes. L. E. Ashman and others. il diags Instruments 24:710-15 Je '51

Study of several physical properties of electrolytes over the temperature range of 25°C. to -73°C. A. B. Garrett and S. A. Woodruff. bibliog J Phys & Colloid Chem 55:477-90 Ap '51

ELECTROLYTIC cells

Anode-electrolyte temperature differentials; electrolytic formation of ozone. T. R. Beck and G. L. Putnam. bibliog diag Ind & Eng Chem 43:1123-6 My '51

Cell-and-seawater chlorination; simple electrolytic unit employed by Gloucester fish plant. J. V. Ziemba. il diag Food Eng 23: 42-3+ Jl '51

Concerning the temperature coefficient of the emf of reversible galvanic cells operated at variable concentration. J. C. M. Li. J Chem Phys 19:1059-69 Ag '51

Correct application of the Gibbs-Helmholtz equation to reversible galvanic cells in which several phases are in equilibrium at one of the electrodes. R. E. Barieau. bibliog Am Chem Soc J 72:4023-6 S '50

ELECTROLYTIC cells—*Continued*
Hydrogen-calomel cell. G. J. Hills and D. J. G. Ives. diags Chem Soc J p305-23 F '51
Pure metals by amalgam process. diags Chem Age (Lond) 64:21-5 Ja 6 '51
Separation of simple electrolytes in solution by an electro-gravitational method. G. W. Murphy. bibliog diags Electrochem Soc J 97:405-13 N '50
Studies in local production of chlorine; panel discussion. C. A. Black; C. M. Hoskinson. bibliog diags Am Water Works Assn J 43:513-21 Jl '51
Theoretical analysis of the current density distribution in electrolytic cells. C. Wagner. bibliog diags Electrochem Soc J 98:116-28 Mr '51
What about the De Nora cell? a mercury cell to watch. il diag Chem Eng 58:215-16 My '51

ELECTROLYTIC corrosion
Effects of alkaline detergents on a magnesium die casting alloy. J. F. Hazel and W. Stericker. bibliog Electrochem Soc J 98:273-6 Jl '51
Micro solution-potential measuring technique. L. W. Smith and V. J. Pingel. il Electrochem Soc J 98:48-50 F '51

ELECTROLYTIC ionization. See Ionization, Electrolytic

ELECTROLYTIC polishing. See Polishing, Electrolytic

ELECTROLYTIC reduction. See Reduction, Electrolytic

ELECTROLYTIC well models. See Petroleum—Electrolytic well models

ELECTROMAGNETIC field
Conservation laws in the general theory of relativity with electromagnetic field. H. Zatzkis. Phys R 81:1023-6 Mr 15 '51
Electric dipoles in the presence of elliptic and circular cylinders. W. S. Lucke. diags J Ap Phys 22:14-19 Ja '51
Expandability of a wave-guide field in terms of normal modes. J. Van Bladel. diags J Ap Phys 22:68-9 Ja '51
Gauge invariance and vacuum polarization. J. Schwinger. Phys R 82:664-79 Je 1 '51
Interactions of Birkhoff's gravitational field with the electromagnetic and pair fields. M. Moshinsky. bibliog Phys R 80:514-19 N 15 '50
Magneto-hydrodynamic shocks. F. de Hoffmann and E. Teller. bibliog Phys R 80:692-703 N 15 '50
Quantum effects in the interaction between free electrons and electromagnetic fields. C. Shulman. diag Phys R 82:116-17 Ap 1 '51
Quantum theory of the longitudinal electromagnetic field. S. T. Ma. bibliog Phys R 80:729-32 N 15 '50
Spinless mesons and nucleons in the electromagnetic field. P. T. Matthews. bibliog Phys R 80:292-3 O 15 '50
Spinless mesons in the electromagnetic field. P. T. Matthews. bibliog Phys R 80:292 O 15 '50

ELECTROMAGNETIC theory
Advanced and retarded potentials. A. Landé. Phys R 80:283 O 15 '50
Artificial field equations for a region where μ and ε vary with position. P. D. P. Smith. diags J Ap Phys 21:1140-9 N '50
Collective description of electron interactions; magnetic interactions. D. Bohm and D. Pines. bibliog Phys R 82:625-34 Je 1 '51
Electromagnetic interactions of μ-mesons. W. D. Walker and others. bibliog diag Phys R 83:655-6 Ag 1 '51
Radiation patterns of dielectric rods of circular cross section; the $TM_{0,1}$ mode. C. W. Horton and others. diags J Ap Phys 21:1279-83 D '50
Separation of variables in electromagnetic theory. D. E. Spencer. J Ap Phys 22:386-9 Ap '51
Sommerfeld's surface wave. C. J. Bouwkamp bibliog Phys R 80:294 O 15 '50
Wave propagation on helical wires. W. Sollfrey. bibliog diag J Ap Phys 22:905-10 Jl '51

ELECTROMAGNETIC transmission
How to drive agitators magnetically in sealed pressure vessels. J. W. Postler. diags Chem Eng 57:168-9 N '50

ELECTROMAGNETIC waves
Diffraction of a plane electromagnetic wave by a paraboloid of revolution. C. W. Horton and F. C. Karal, jr. bibliog diag J Ap Phys 22:575-81 My '51
Diffraction of electromagnetic waves by a plane wire grating. J. Shmoys. bibliog diags Opt Soc Am J 41:324-8 My '51
Diffraction of electromagnetic waves by two conducting parallel half-planes. M. G. Cheney, jr. and R. B. Watson. diags J Ap Phys 22:675-9 My '51
Diffraction pattern of microwaves near rods. C. L. Andrews. diags J Ap Phys 22:465-8 Ap '51
Electromagnetic scattering from spheres with sizes comparable to the wavelength. A. L. Aden. bibliog J Ap Phys 22:601-5 My '51
Magneto-optics of an electron gas with guided microwaves. L. Goldstein and others. Phys R 82:956-7 Je 15 '51; Same. Elec Com 28:233-4 S '51
Nonspecular reflection of electromagnetic waves. V. Twersky. diags J Ap Phys 22:825-35 Je '51
Reflection and transmission. B. A. Lengyel. J Ap Phys 22:263-4 Mr '51
Reflection and transmission at the surface of metal-plate media. B. A. Lengyel. diags J Ap Phys 22:265-76 Mr '51
Relativistic theory of electro-magneto-ionic waves. V. A. Bailey. bibliog Phys R 83:439-54 Jl 15 '51
Surface-wave propagation over a coated plane conductor. S. S. Attwood. J Ap Phys 22:504-9 Ap '51

See also
Radio waves

ELECTROMAGNETISM
Electromagnetic induction. G. I. Cohn. Elec Eng 68:1018-19 N '49; Discussion. diags 68:1113-14; 69:1138-40 D '49, D '50
Electromagnetic momentum of space. G. W. O. Howe. diags Wireless Eng 28:35-6 F '51

See also
Faraday effect
Magnetic field
Unified field theory

ELECTROMAGNETS
Design of a cyclotron magnet; pole design using a half-magnet. M. Foss and others. diags R Sci Instr 22:469-72 Jl '51
Internal temperatures of relay windings. R. L. Peek, jr. Bell System Tech J 30:141-8 Ja '51
New type of electromagnet; operation at 20-kw level. F. Bitter and F. E. Reed. il diag R Sci Instr 22:171-3 Mr '51
Rugged nickel steel electromagnet. P. C. Ziemke. il Power Eng 55:97 Je '51

See also
Chucks, Magnetic
Magnetic separators
Solenoids

ELECTROMECHANICAL transducers
Electromechanical behavior of $BaTiO_3$ single-domain crystals. M. E. Caspari and W. J. Merz. bibliog diags Phys R 80:1082-9 D 15 '50
Electromechanical transducer. J. F. Engelberger and H. W. Kretsch. bibliog diags Elec Eng 70:437-40 My '51
New use for temperature recorders; ready-made amplifiers for transducer signals. T. R. Breunich. il diags Product Eng 22:143-50 S '51
Test techniques using electro-dynamic shakers. R. C. Lewis. il diags Product Eng 22:142-7 Ja '51
Wide range mechano-electronic transducer for physiological applications. S. A. Talbot and others. il diag R Sci Instr 22:233-6 Ap '51

ELECTROMETALLURGY

See also
Chromium metallurgy—Electrometallurgy
Copper metallurgy—Electrometallurgy
Electric furnaces, Metallurgical
Electrodeposition of metals
Electroplating
Manganese metallurgy—Electrometallurgy
Steel metallurgy—Electrometallurgy
Zinc metallurgy—Electrometallurgy

ELECTROMETERS

- Circuits and tubes for ultra-sensitive electrometers. F. E. O'Meara. bibliog diag R Sci Instr 22:106-8 F '51
- Vibrating probe electrometer for the measurement of bioelectric potentials. O. Blüh and B. I. H. Scott. il diag R Sci Instr 21: 867-8 O '50

ELECTROMOTIVE force. See Potential, Electric

ELECTRON accelerators

- Electron hammer, research tool; NAA's statitron. il Aviation W 54:32+ Ap 9 '51
- Electronic sterilization. il Tech R 53:467-8 Jl '51
- Electrons will sterilize foods and drugs. il Bsns W p81-2+ Ap 7 '51
- Inside information; M.I.T. linear accelerator. Tech R 53:140 Ja '51
- Linear electron accelerator to one million volts. A. T. Starr and others. bibliog il diags Elec Com 28:186-94 S '51
- Operation of a six-Mev linear electron accelerator. G. E. Becker and D. A. Caswell. diag R Sci Instr 22:402-5 Je '51
- Relation between phase stability and first-order focusing in linear accelerators. E. M. McMillan. Phys R 80:493 N 1 '50
- Sterilizing with electrons; cathode-ray technique permits low-temperature sterilization of foods and drugs on conveyor line after packaging. J. G. Trump and B. E. Proctor. il Mod Packaging 24:105-6+ Jl '51
- Ten-million electron-volt linear accelerator. Engineering 170:333 N 3 '50; Elec R (Lond) 147:684 N 3 '50
- Yale linear electron accelerator. H. L. Schultz and W. G. Wadey. il diags R Sci Instr 22: 383-8 Je '51

See also

Betatron
Cyclotron
Synchrotron

ELECTRON diffraction cameras. See Cameras, Electron diffraction

ELECTRON gun

- Improved electron-gun ion traps. C. S. Szegho and T. S. Noskowicz. bibliog il diags Tele-Tech 10:45-7 Je '51
- Material-saving picture tube; electrostatic-focus electron gun. L. E. Swedlund and R. Saunders, jr. il diags Electronics 24: 118-20 Ap '51

ELECTRON microscope

- Application of electron microscopy in cytology; abstract. V. E. Cosslett. Chem & Ind p 189 Mr 10 '51
- Applications of polystyrene particles in conjunction with shadow casting to the study of polished metallic surfaces. I. Feng. bibliog il diags J Ap Phys 22:820-4 Je '51
- Approach to the microscopy of molecules. M. S. Blois, jr. il Science 114:175-7 Ag 17 '51
- Carbide precipitation in type 304 stainless steel; an electron microscope study. E. M. Mahla and N. A. Nielsen. il Ind & Eng Chem 42:sup73A-4A D '50
- Condenser aperture device for electron microscopes. J. D. Boadway. bibliog il diags J Ap Phys 22:104-5 Ja '51
- Electron microscope; abstract. W. J. Elford. Chem & Ind p27-8 Ja 13 '51
- Electron microscope provides increased magnification. il diags Machine Design 23:132-3 F '51; Excerpt. Comp Air Mag 56:79 Mr '51
- Electron microscope study of epidermal fibers. W. E. Adolph and others. il Science 113: 685-6 Je 15 '51
- Electron-microscope study of plasticized nitrocellulose. J. Ames and A. M. D. Sampson. bibliog il J Ap Chem 1:337-41 Ag '51
- Electron microscopic observations on the unit of length of the particles of tobacco mosaic virus. R. C. Williams and R. L. Steere. bibliog Am Chem Soc J 73:2057-61 My '51
- Electron microscopy of thin-sectioned spirostomum. H. E. Finley. il Science 113: 362-3 Mr 30 '51
- Electron microscopy of wet biological tissues by replica techniques. I. W. Fischbein. il diags J Ap Phys 21:1199-204 D '50
- Electron microscopy; review of 1950. F. A. Hamm. bibliog(61 ref) Anal Chem 23:17-20 Ja '51
- Exposure meter for the electron microscope. E. H. Frei and F. L. Hirshfeld. diag R Sci Instr 22:231-2 Ap '51
- 55kv electron microscope. il diags Engineer 192:266-8 Ag 31 '51
- Focusing in electron microscopy. R. S. M. Revell and A. W. Agar. il J Sci Instr 27:337 D '50
- Growth and properties of the cuprene fiber. let. bibliog il J Phys & Colloid Chem 54: J. H. L. Watson, A. E. Léger and C. Ouel- 969-79 O '50
- Identification of particles in Los Angeles smog by optical and electron microscopy. R. D. Cadle and others. bibliog il diag A M A Archives Ind Hygiene & Occup Med 2:698-715 D '50
- Modification of a positive-replica technique for electron microscopy. A. E. Austin and C. M. Schwartz. diags J Ap Phys 22:847-8 Je '51
- New horizons of grease research. G. S. Bright. il Pet Eng 23:C38-40+ F '51
- Nomenclature in electron microradiography of electrodeposited metals. G. M. Corney. bibliog J Ap Phys 22:682 My '51
- Novel method for the estimation of very low pressures. R. Gomer. il J Chem Phys 19:1072-3 Ag '51
- Objective for use in the electron microscopy of ultra-thin sections. J. Hillier. il diag J Ap Phys 22:135-7 F '51
- 100-kv electron microscope. A. C. van Dorsten and others. il diags Engineering 171: 733-5 Je 15 '51
- Permanent-magnet electron microscope. J. H. Reisner and S. M. Zollers. bibliog il diags Electronics 24:86-91 Ja '51
- Permanent magnet lenses. J. H. Reisner. il diags J Ap Phys 22:561-5 My '51
- Portrait shadow-casting. D. E. Philpott. il J Ap Phys 22:982-3 Jl '51
- Preparation of replicas for electron metallography. W. J. Craig. il Metal Prog 60:68-71 Ag '51
- Preparations for electron microscopy of residual chromosomes. A. R. T. Denues. bibliog il Science 113:203-6 F 23 '51
- Purity determination with the electron microscope. M. A. Lauffer. Am Chem Soc J 73:2370-1 My '51
- Scattering phenomena in electron microscope image formation. C. E. Hall. bibliog il diags J Ap Phys 22:655-62 My '51
- Sectioning of tissue for electron microscopy. J. Hillier and M. E. Gettner. il Science 112:520-3 N 3 '50
- Shape factor and other fundamental properties of carbon black. L. H. Cohan and J. H. L. Watson. bibliog il diags Rubber Age 68:687-98 Mr '51
- Small electron microscope. J. H. Reisner and E. G. Dornfeld. il diags J Ap Phys 21:1131-9 N '50
- Study of precipitates of C and N in iron with an electron microscope. J. Radavich and C. Wert. il J Ap Phys 22:367-71 Ap '51
- Transfer of replica from metal to electron microscope. H. C. O'Brien, jr. Metal Prog 58:732 N '50

Bibliography

- Bibliography of electron microscopy. V. E. Cosslett, ed. 350p $7.50 Longmans, Green and co, 55 Fifth av, New York '51

ELECTRON microscope society of America

- Proceedings of annual meeting, Detroit, Sept. 14-16; with abstracts of papers. J Ap Phys 22:110-16 Ja '51

ELECTRON multipliers

- Magnetic electron multipliers for detection of positive ions. L. G. Smith. bibliog il diags R Sci Instr 22:166-70 Mr '51
- New type of high speed coincidence circuit. Z. Bay. diags R Sci Instr 22:397-400 Je '51
- Ultraviolet photon counting with an electron multiplier. A. H. Morrish and others. bibliog R Sci Instr 21:884-5 O '50

ELECTRON optics

- Electron optical disk. L. Marton and J. A. Simpson. il diags R Sci Instr 21:1027-8 D '50

ELECTRON optics—*Continued*

Electron-optical exploration of space charge in a cut-off magnetron. D. L. Reverdin. bibliog il diags J Ap Phys 22:257-62 Mr '51

See also

Electron microscope
Electronics
Oscillographs, Cathode ray
Television

ELECTRON traps

Mathematical data for electron drain on positive ion sources. S. E. Rauch. bibliog diags J Ap Phys 22:1128-32 S '51

ELECTRON tubes. See Vacuum tubes

ELECTRONIC music. See Musical instruments, Electric

ELECTRONIC organ. See Organ, Electric

ELECTRONIC switch. See Vacuum tubes—Control uses

ELECTRONIC torch. See Torches

ELECTRONIC voltmeters. See Voltmeters, Vacuum tube

ELECTRONICS

Crystal diodes in modern electronics. D. T. Armstrong. il diags Radio & Tv N 46:47-50+ O; 66-8 N '51 (to be cont)

Defense department plans for basic research. H. A. Zahl and others. il Electronics 24:82-7 Ag '51

Design of broad-band transformers for linear electronic circuits. H. W. Lord. bibliog diags Elec Eng 69:1020-5 N '50

Electrical and allied developments during 1950; electronics. G. Bartlett. il Gen Elec R 54:47-9 Ja '51

Electronic production board established. Aviation W 54:16 Ap 2 '51

Electronic research in the emergency program. W. C. White. il Electronics 24:82-5 My '51

Electronic research laboratories established by NBS at Corona, Calif. il Eng N 147:72+ Jl 19 '51

Electronics era. L. P. Lessing. il diags Fortune 44:78-83+ Jl '51

Electronics for the ceramic industry. W. B. R. Agnew. Am Cer Soc Bul 29:416-18 N 15 '50

Electronics for the power engineer (cont). F. A. Annett. diags Power 94:123-4+ D '50; 95:122+ Ja; 118+ F; 124+ Mr; 99-102+ Ap; 100-1+ My; 100+ Je; 78-9+ Jl; 100-2+ Ag; 90-1+ S; 94-5+ N '51

Electronics in naval architecture; some application to research problems; abstract. L. C. Burrill and A. G. Boggis. Engineer 191:295 Mr 2 '51

Electronics, the growth story of a century. P. A. Just. Comm & Fin Chr 173:1121+ Mr 15 '51

Growing pains torment avionics. W. Kroger. Aviation W 54:71-2+ F 26 '51

Institute of electronics 6th annual exhibition, Manchester. Electrician 147:337-8 Ag 3 '51

Instrument electronics. M. H. Aronson. diags Instruments 24:760-2+, 888-90+, 1048-9+, 1174-7+ Jl-O '51

Management's role in research and development of electronic systems. R. I. Cole. Inst Radio Eng Proc 38:1252-3 N '50

NBS opens new electronics lab. Steel 129:101 Jl 2 '51

New electronics agency will step up deliveries. Bsns W p 104 Mr 31 '51

1950 British electronics symposium and exhibition. il diag Instruments 23:1132-3+ N '50

Proceedings, American physical society meeting of Conference on gaseous electronics, New York, Oct. 19-21, 1950; abstracts of papers. Phys R 82:566-72 My 15 '51

Rectification and voltage transformation. R. B. Immel. diags Product Eng 22:156-7 O '51

Research applications of electronics. H. A. Thomas. diags Chem & Ind p588-95 Jl 7 '51

Revolution in electronics; the transistor. L. N. Ridenour. il diags Sci Am 185:13-17 Ag '51

Some aspects of electronic surveying. C. I. Aslakson. maps diag Am Soc C E Proc 77 [no52]:1-17 Ja '51

Some prospects in the field of electronics. V. K. Zworykin. bibliog il Franklin Inst J 251:69-80 Ja '51

Trends in electronic components and constructions; illustrations with text. Product Eng 22:136-7 My '51

See also

Electron microscope
Electron optics
Electrons
Oscillographs, Cathode ray
Photoelectric cells
Radio engineering
Television
Vacuum tubes

Bibliography

Electronics cumulative index, covering volumes I-XII, April 1930 through December 1939. Electronics 24:C 1-35 Mid-Je '51 (reprints $1)

Radio progress during 1950; industrial electronics. Inst Radio Eng Proc 39:377 Ap '51

Periodicals

Periodical literature for electronic engineers. R. C. Coile. Inst Radio Eng Proc 38:1380-4 D '50

Study and teaching

Graduate study in electronics announced by Stanford university. Electronics 24:148 Mr '51

Naval reserve offers new electronic training opportunities. E. L. Battey. il Radio & Tv N 45:35-8+ My '51

Terminology

Electronic definitions. E. Bukstein. diags Radio & Tv N 46:108+ S '51

Standards on abbreviations of radio-electronic terms, 1951. Inst Radio Eng Proc 39:397-400 Ap '51 (reprints 50c)

ELECTRONS

Alternative covariant formulation of the electron-positron theory. O. C. de Beauregard. bibliog Phys R 83:182 Jl 1 '51

Anomalous spin gyromagnetic ratio of the electrons. S. Koenig and others. bibliog Phys R 83:687-8 Ag 1 '51

Asymmetry of inner electron distributions in homonuclear diatomic molecules. H. Reiss and H. Saltsburg. bibliog J Chem Phys 18:1461-5 N '50

Asymptotic formula for stopping power of *K*-electrons. M. C. Walske and H. A. Bethe. Phys R 83:457-8 Jl 15 '51

Calculation of the electron affinity of sodium. R. M. Thaler. Phys R 83:131-3 Jl 1 '51

Collective description of electron interactions; magnetic interactions. D. Bohm and D. Pines. bibliog Phys R 82:625-34 Je 1 '51

Concerning the mechanism of electron-ion recombination. M. A. Biondi and T. Holstein. bibliog Phys R 82:962-3; 83:1078-80 Je 15, S 1 '51

Connection between the size of an atom and the magnitude of its mesomeric and electromeric effects. G. Baddeley. Chem Soc J p663-6 F '50

Determination of the ratio of the $gJ(^{2}S_{1}/_{2})$ values for potassium and hydrogen; the gyromagnetic ratio of the electron. W. B. Pohlman and others. bibliog Phys R 83:475 Jl 15 '51

Diamagnetism of free electrons in finite systems. R. B. Dingle. Phys R 82:966 Je 15 '51

Discrepancy in the energy of annihilation radiation and the possibility of electron-positron mass difference. A. Hedgran and D. A. Lind. bibliog Phys R 82:126-7 Ap 1 '51

Dissociation energy of fluorine. M. G. Evans, E. Warhurst and E. Whittle. bibliog Chem Soc J p 1524-34 Je '50

Effect of electron-neutron interaction on spectral isotope shifts. L. Wilets and L. C. Bradley, 3d. bibliog Phys R 82:285 Ap 15 '51

Electrical effect of the trimethylammonium $[-N(CH_3)_3{}^{+}]$ group. J. D. Roberts, R. A. Clement and J. J. Drysdale. bibliog Am Chem Soc J 73:2181-3 My '51

Electron bombardment induced conductivity in germanium point contact rectifiers. A. R. Moore and F. Herman. bibliog il Phys R 81:472-3 F 1 '51

Electron energy studies with the anthracene scintillation counter. J. I. Hopkins. bibliog R Sci Instr 22:29-33 Ja '51

Electron loss cross section for hydrogen atoms passing through hydrogen gas. J. H. Montague. diags Phys R 81:1026-34 Mr 15 '51

ELECTRONS—*Continued*

Electron mobilities in liquid argon. M. S. Malkin and H. L. Schultz. Phys R 83:1051-2 S 1 '51

Electron penetration and scattering in phosphors. L. R. Koller and E. D. Alden. il Phys R 83:684-5 Ag 1 '51

Electron removal in argon afterglows. A. Redfield and R. B. Holt. bibliog Phys R 82:874-6 Je 15 '51

Electron removal in helium afterglows. R. A. Johnson and others. Phys R 80:376-9 N 1 '50

Electron removal in mercury afterglows. P. Dandurand and R. B. Holt. bibliog diags Phys R 82:868-73 Je 15 '51

Electron transfer between ferrous and ferric ions in perchloric acid solutions. R. H. Betts, H. S. A. Gilmour and R. K. Leigh. bibliog Am Chem Soc J 72:4978-80 N '50

Electron transfer (exchange) between cobaltous and cobaltic amine complexes. W. B. Lewis, C. D. Coryell and J. W. Irvine, jr. Chem Soc J supp no 2:S386-92 '49

Electrons and holes in semiconductors, by W. Shockley. Review and summary, by G. D. O'Neill. Electronics 24:150+ My '51

Energy loss of electrons in passing through a phosphor; abstract. L. R. Koller and E. D. Alden. Science 112:449 O 20 '50

Energy spectrum of the electrons from μ^+ meson decay. R. Sagane and others. bibliog diag Phys R 82:557-8 My 15 '51

Equilibrium currents induced in zincblende by electron bombardment of negative electrode. M. F. Distad. bibliog diags Phys R 80:879-86 D 1 '50

Eradication of unwanted electron tracks in electron-sensitive nuclear emulsions without loss of sensitivity. G. Albouy and H. Faraggi. bibliog il R Sci Instr 22:532-3 Jl '51

Experimental investigation of the electron orbits in a magnetron. R. Svensson. il diag Inst Radio Eng Proc 39:838 Jl '51

Fourth-order contribution to the self-energy of the electron. R. M. Frank. bibliog diags Phys R 83:1189-93 S 15 '51

Graphical determination of the Fermi level in a simple impurity semiconductor. K. Lehovec and H. Kedesdy. J Ap Phys 22:65-7 Ja '51

$H\rho$ of the high energy internal conversion electrons from thorium D. W. L. Brown. diags Phys R 83:271-4 Jl 15 '51

Initiation of vinyl polymerization by means of high-energy electrons: tetraethyleneglycol dimethacrylate (TEGMA). J. V. Schmitz and E. J. Lawton. bibliog Science 113:718-19 Je 22 '51; Abstract. Mech Eng 73:745-6 S '51

Interaction of conduction electrons with lattice vibrations. S. D. Drell. bibliog Phys R 83:838 Ag 15 '51

Interaction of slow electrons and surface films of ionic crystals. H. Jacobs and D. Dibischek. diags Phys R 81:1019-22 Mr 15 '51

Kinetics of the exchange reaction between the two oxidation states of cerium in acid solution. J. W. Gryder and R. W. Dodson. bibliog Am Chem Soc J 73:2890-5 Je '51

Lamb shift for spinless electrons. W. A. Newcomb and F. Rohrlich. Phys R 81:282-3 Ja 15 '51

Low energy electron resulting from a stopped μ-meson. G. Groetzinger and others. Phys R 81:626 F 15 '51

Masses of carriers in conductors. D. L. Webster and C. M. Newton. Phys R 82:808-9 Je 15 '51

Masses of the negative and positive electrons. J. W. M. DuMond. bibliog Phys R 81:468-9 F 1 '51

Mathematical data for electron drain on positive ion sources. S. E. Rauch. bibliog diags J Ap Phys 22:1128-32 S '51

Measurement of the electron density in ionized gases by microwave techniques. M. A. Biondi. diags R Sci Instr 22:500-2 Jl '51

Perfect diamagnetism of free electrons with application to superconductivity. M. F. M. Osborne. Phys R 81:147-8 Ja 1 '51

Probe technique for the measurement of electron temperature. M. A. Easley. J Ap Phys 22:590-3 My '51

Range-momentum measurements for electrons in gases. G. F. O'Neill and W. T. Scott. il Phys R 80:473 N 1 '50

Ranges of high energy electrons in water. J. S. Laughlin and J. W. Beattie. bibliog diag Phys R 83:692-3 Ag 1 '51

Role of the unpaired electron in carcinogenesis. H. F. Park. J Phys & Colloid Chem 54:1383-4 D '50

Screening of electronic interactions in a metal. D. Bohm and D. Pines. Phys R 80:903-4 D 1 '50

Sensitivity of photographic grains to electrons. D. Okrent and A. K. Solomon. bibliog diag Phys R 83:826-33 Ag 15 '51

Some effects of high velocity electrons on wood. E. J. Lawton and others. Science 113:380-2 Ap 6 '51

Some physical properties associated with aromatic electrons; the pseudo-metallic properties of potassium-graphite and graphite-bromine. F. R. M. McDonnell, R. C. Pink and A. R. Ubbelohde. diags Chem Soc J p 191-7 Ja '51

Source of the glow in crystals; caused by escaping electrons. Chem Age (Lond) 65:429-30 S 29 '51

Studies in light absorption; the relation between absorption intensities and molecular dimensions, and its application to the electronic spectra of polyenes and polycyclic benzenoid hydrocarbons. E. A. Braude. diags Chem Soc J p379-84 Ja '50

Theory of the flow of electrons and holes in germanium and other semiconductors. W. van Roosbroeck. bibliog Bell System Tech J 29:560-607 O '50

Wave functions for superconducting electrons. J. Bardeen. bibliog Phys R 80:567-74 N 15 '50

Waves in electron streams and circuits. J. R. Pierce. diags Bell System Tech J 30:626-51 Jl '51

X-ray spectrum produced by 322-Mev electrons striking a platinum target. W. M. Powell and others. il Phys R 81:213-18 Ja 15 '51

Z dependence and angular distribution of bremsstrahlung from 17-Mev electrons. L. H. Lanzl and A. O. Hanson. bibliog diag Phys R 83:959-74 S 1 '51

See also

Beta rays
Cathode rays
Electric discharges
Electromagnetic theory
Electronics
Ions
Mesotrons
Neutrons
Pauli exclusion principle
Photoelectric effect
Positrons
Vacuum tubes

Beams

Applications of the radiation from fast electron beams. H. Motz. diags J Ap Phys 22:527-35 My '51; Correction. 22:1217 S '51

Deflection of cathode-ray tubes in sequence. G. W. Gray and A. S. Jensen. il diag RCA R 11:527-33 D '50

Effect of hydrostatic pressure in an electron beam on the operation of traveling-wave devices. P. Parzen and L. Goldstein. bibliog J Ap Phys 22:398-401 Ap '51; Same. Elec Com 28:228-32 S '51

Ejection of the electron beam from a betatron. S. L. Fawcett and E. C. Crittenden, jr. diags R Sci Instr 21:935-6 N '50

Electron beams and electromagnetic waves. R. Warnecke and others. bibliog diag Wireless Eng 28:167-76 Je '51

Electron plasma oscillations. G. Wehner. bibliog diags J Ap Phys 22:761-5 Je '51

Fiftyfold momentary beam intensification for a high-voltage cold-cathode oscillograph. J. H. Park. il diags J Res Nat Bur Stand 47:87-93 Ag '51

Range of high energy electrons in aluminum. H. E. Johns and others. bibliog diags Phys R 83:952-4 S 1 '51

Space-charge effects in electron beams and their reduction by positive ion trapping. E. G. Linder and K. G. Hernqvist. bibliog diags J Ap Phys 21:1088-97 N '50

Transmission-line equivalent of electronic traveling-wave systems. W. E. Mathews. bibliog diags J Ap Phys 22:310-16 Mr '51

ELECTRONS—*Continued*

Capture

Electron-capture cross sections for protons passing through hydrogen gas. F. L. Ribe. bibliog diags Phys R 83:1217-25 S 15 '51
Elementary processes in radiation chemistry; negative ion formation by electron capture in neutral molecules. J. L. Magee and M. Burton. Am Chem Soc J 73:523-32 F '51
Investigations on the capturing of electrons in a 30-mev betatron. R. Wideröe. J Ap Phys 22:362-3 Mr '51
Ratio of L to K electron capture for Os^{185}. M. M. Miller and R. G. Wilkinson. bibliog diag Phys R 83:1050-1 S 1 '51

Diffraction

Analysis of the electron diffraction data for decaborane. C. M. Lucht. Am Chem Soc J 73:2373-5 My '51
Apparatus for the study by electron diffraction of the effect of temperature on surface films. J. W. Menter and J. V. Sanders. il diags J Sci Instr 27:335-6 D '50
Electron diffraction by transmission through thin liquid films. C. W. Lufcy and others. bibliog il J Chem Phys 19:217-19 F '51
Electron diffraction investigation of methyl formate, methyl acetate and methyl chloroformate. J. M. O'Gorman, W. Shand, jr. and V. Schomaker. bibliog Am Chem Soc J 72:4222-8 S '50
Electron diffraction studies of etched Au leaf films. W. V. Stauder and A. H. Weber. bibliog il Franklin Inst J 251:351-7 Mr '51
Reinvestigation of the structures of diborane and ethane by electron diffraction. K. Hedberg and V. Schomaker. bibliog diags Am Chem Soc J 73:1482-7 Ap '51
Studies of thin films by electron diffraction. N. R. Mukherjee and O. Row. il J Ap Phys 22:681-2 My '51

Emission from metals

Effect of coating composition of oxide-coated cathodes on electron emission. E. G. Widell and R. A. Hellar. bibliog il J Ap Phys 21: 1115-18 N '50
Enhanced emission from magnetron cathodes. R. L. Jepsen and M. W. Muller. bibliog diags J Ap Phys 22:1196-207 S '51
Evaporation products of barium oxide from various base metals and of strontium oxide from platinum. L. T. Aldrich. bibliog diag J Ap Phys 22:1168-74 S '51
Photoconductivity of composite photoemissive cathodes. S. Pakswer and W. O. Reed. J Ap Phys 22:987-8 Jl '51
Quantum limits of the electrostatic image force theory. R. G. Sachs and D. L. Dexter. J Ap Phys 21:1304-8 D '50
Studies of γ-processes of electron emission employing pulsed Townsend discharges on a millisecond time scale. J. P. Molnar. il diags Phys R 83:940-52 S 1 '51

Pairs

Distribution of recoil nucleus in pair production by photons. R. Jost and others. bibliog Phys R 80:189-96 O 15 '50
Multiple scattering of electron pairs from (Li,p) gamma-rays in photographic emulsions. L. Voyvodic and E. Pickup. bibliog Phys R 81:471-2 F 1 '51
Nuclear electron pairs from $F^{19}(p,\alpha)^{*}O^{16}$. G. C. Phillips and N. P. Heydenburg. bibliog Phys R 83:184-5 Jl 1 '51
Search for emission of electron pairs from nuclei. G. C. Phillips and others. Phys R 83:1049-50 S 1 '51

Reflection, scattering, etc.

Back-scattering of electrons into Geiger-Müller counters. L. Yaffe and K. M. Justus. bibliog diag Chem Soc J supp no 2: S341-51 '49
Distribution of energy loss of electrons in aluminum. R. D. Birkhoff. bibliog Phys R 82:448-9 My 1 '51
Effect of finite nuclear size on the elastic scattering of electrons. L. K. Acheson, jr. bibliog Phys R 82:488-94 My 15 '51
Electron-electron scattering from 0.6 to 1.7 Mev. L. A. Page. bibliog diag Phys R 81: 1062-3 Mr 15 '51
Mobility of electrons in diamond. C. C. Klick and R. J. Maurer. bibliog diags Phys R 81:124-30 Ja 1 '51
Multiple scattering of fast electrons in nuclear emulsions. D. R. Corson. bibliog Phys R 80:303-4 O 15 '50
Relative back-scattering of electrons and positrons. W. Miller. Phys R 82:452-3 My 1 '51
Scattering of 100-Mev electrons from a heavy nucleus. G. Parzen. bibliog Phys R 80:355-60 N 1 '50
Variational method for inelastic collision problems. B. L. Moiseiwitsch. Phys R 82: 753 Je 1 '51

Secondary emission

Application of Wooldridge's theory of secondary emission. E. M. Baroody. Phys R 83:857-8 Ag 15 '51
Comparison of theories of secondary emission. J. J. Brophy. Phys R 82:757-8 Je 1 '51
Evidence of long-range secondary electrons accompanying cosmic rays in a proportional counter. S. D. Chatterjee. bibliog diag Phys R 82:114-15 Ap 1 '51
Pulse method of determining the energy distribution of secondary electrons from insulators. K. G. McKay. bibliog diags J Ap Phys 22:89-94 Ja '51
Scattering of secondary electrons produced by γ-rays in materials of various atomic numbers. G. J. Hine. Phys R 82:755-6 Je 1 '51
Secondary electron emission and atomic shell structure. E. J. Sternglass. bibliog Phys R 80:925-6 D 1 '50
Secondary emission of electrons from liquid metal surfaces. J. J. Brophy. diag Phys R 83:534-6 Ag 1 '51
Secondary emission of nickel-barium mixtures and rhenium when bombarded by electrons with energies from 50 to 8000 electron-volts. H. E. Farnsworth and M. J. Lun. il diag J Ap Phys 22:77-9 Ja '51
Secondary-emitting surfaces in the presence of oxide-coated cathodes. S. Nevin and H. Salinger. bibliog diags Inst Radio Eng Proc 39:191-3 F '51; Same. Elec Com 28:103-5 Je '51
Voltage-controlled secondary-emission multipliers. A. J. W. M. van Overbeek. bibliog diags Wireless Eng 28:114-25 Ap '51

See also
Electron multipliers

Thermionic emission

Boride cathodes. J. M. Lafferty. il diags J Ap Phys 22:299-309 Mr '51
Certain refractory compounds as thermionic emitters. D. L. Goldwater and R. E. Haddad. diag J Ap Phys 22:70-3 Ja '51
Convenient methods for thermionic emission calculations. H. F. Ivey and C. L. Shackelford. Tele-Tech 10:42-3+ F '51
Elements of thermionics. W. E. Danforth. diags Inst Radio Eng Proc 39:485-99 My '51
Emissivity changes of thoria cathodes. O. A. Weinreich. bibliog J Ap Phys 21:1272-5 D '50
Origin of bombardment-enhanced thermionic emission. J. B. Johnson. diags Phys R 83: 49-53 Jl 1 '51
Periodic deviations in the Schottky effect for tantalum. R. J. Munick and others. bibliog diags Phys R 80:887-91 D 1 '50
Thermionic emission from (Ba-Sr)O cathodes illuminated by the incandescent lamp. T. Hibi and K. Ishikawa. Phys R 83:659-60 Ag 1 '51

Velocity

Mobility of electrons in silver chloride. J. R. Haynes and W. Shockley. bibliog il diags Phys R 82:935-43 Je 15 '51

See also
Electron accelerators

ELECTRO-OPTICS
Electrical color filters. V. A. Babits and H. F. Hicks, jr. bibliog diags Electronics 23: 112-15 N '50
Iconoscope electro-optical shutter for high-speed photography. H. A. Prime and R. C. Turnock. bibliog il diag Inst E E Proc 97 pt 2:793-6 D '50

See also
Kerr cell
Kerr effect

ELECTROPHORESIS

Coordinate system for electrophoresis. V. L. Frampton and K. E. Harwell. il diag Anal Chem 23:715-17 My '51

Electrophoresis apparatus. il Opt Soc Am J 41:648-9 S '51; Same abr. R Sci Instr 22:548 Jl '51

Electrophoresis as a criterion of purity in proteins. E. L. Hess. bibliog Science 113:709-12 Je 22 '51

Electrophoretic migration of cellulose in cupriethylenediamine solution. M. E. Adams, M. L. Karon and R. E. Reeves. Am Chem Soc J 73:2350-1 My '51

Experimental investigation of conditions of transport in the electrophoresis-convection apparatus. R. A. Brown and others. Am Chem Soc J 73:4420-2 S '51

Homogeneity and the electrophoretic behavior of some proteins; a general method for the determination of mobility distributions. R. L. Baldwin, P. M. Laughton and R. A. Alberty. bibliog J Phys & Colloid Chem 55:111-25 Ja '51

Interferometry in electrophoresis. L. G. Longsworth. bibliog diags Anal Chem 23:346-8 F '51

Ionophoretic analyses in agar gels. Q. P. Peniston, H. D. Agar and J. L. McCarthy. bibliog diags Anal Chem 23:994-9 Jl '51

Isolation of an electrophoretically homogeneous crystalline component of β-lactoglobulin. B. D. Polis and others. bibliog Am Chem Soc J 72:4965-8 N '50

Paper ionophoresis. E. L. Durrum. Science 113:66-8 Ja 19 '51

Photography in electrophoresis of hemolyzed sera. G. Kegeles and F. J. Gutter. il Am Chem Soc J 73:3539-40 Jl '51

Temperature dependence of the electrophoretic mobility of horse serum albumin. I. Watanabe, N. Ui and M. Nakamura. bibliog J Phys & Colloid Chem 54:1366-70 D '50

Ultracentrifugal studies of γ-globulins prepared by electrophoresis-convection. J. R. Cann and others. bibliog Science 114:30-3 Jl 13 '51

See also

Dielectrophoresis (term)

ELECTROPHYSIOLOGY

Bioelectricity. Sci Am 185:31-2 Jl '51

Direct currents of the brain; abstract. W. Köhler. Science 113:478 Ap 27 '51

Electrical excitation of nerves in the skin at audiofrequencies. A. B. Anderson and W. A. Munson. il diags Acoustical Soc Am J 23:155-9 Mr '51

Electrical responses to acoustic clicks; influence of electrode location in cats. W. A. Rosenblith and M. R. Rosenzweig. bibliog il diag Acoustical Soc Am J 23:583-8 S '51

Electrophoresis as a criterion of purity in proteins. E. L. Hess. bibliog Science 113:709-12 Je 22 '51

Muscle action potentials as a measure of visual performance cost. R. C. Travis and others. bibliog il Illum Eng 46:182-7 Ap '51

Muscle action potentials, as related to visual tasks in industry. W. Allphin. il Illum Eng 46:188-92; Discussion. 192-6 Ap '51

Some electrophysiological correlates of the perception of successive clicks. M. R. Rosenzweig and W. A. Rosenblith. il Acoustical Soc Am J 22:878-80 N '50

See also

Electricity, Injuries from

Electroencephalography

Apparatus

Constant-current sine-wave stimulator. L. H. Montgomery and J. W. Ward. diag Electronics 24:230+ Ap '51

Magnetic tape recorder for very low frequency phenomena. P. E. Green, jr. diags R Sci Instr 21:893-5 N '50

Vibrating probe electrometer for the measurement of bioelectric potentials. O. Blüh and B. I. H. Scott. il diag R Sci Instr 21:867-8 O '50

See also

Electrocardiograph

ELECTROPLATING

Additive compounds in electroplating baths. M. Rubinstein. bibliog il Metal Finishing 48:54-8+ My; 51-6+ Ag; 68-74 N '50

Advances in production methods in metal finishing. A. Bregman. il Metal Prog 59:78-80 Ja '51

Aging effects in copper-lead alloy plating solutions of the cyanide-tartrate type. N. W. Hovey and others. Electrochem Soc J 98:155-9 Ap '51

Aluminum successfully electroplated on other metals. Iron Age 168:111 Ag 16 '51

American electroplaters' society annual meeting, Buffalo, July 30-August 2; abstracts of papers. Steel 129:109-10+ S 10 '51

American electroplaters society 38th annual meeting, Buffalo, July 30-August 2. Iron Age 168:78-80 Ag 30 '51

Anode maintenance in the alkaline stannate tin plating bath. F. A. Lowenheim. Metal Finishing 49:60-4 Mr '51

Antimony plate. A. Bregman. Metal Prog 59:245-7 F '51

Bright nickel plating on metallic single crystals in the absence of addition agent. H. Leidheiser, jr. and A. T. Gwathmey. il Electrochem Soc J 98:225-30 Je '51

Bright plating of tin-nickel alloys. N. Parkinson and J. W. Price. Metal Finishing 49:61-3 Ag '51

Bright zinc plating. R. O. Hull and J. B. Winters. Metal Finishing 49:58-61+ Je '51

Continuous electroplating effects operational economy; Shakeproof's new Elgin, Ill. plant. D. Reebel. il plan Steel 128:64-6 F 19 '51

Current distribution over a cylinder with hemispherical ends. S. Barnartt. bibliog diags Electrochem Soc J 98:311-17 Ag '51

Electrochemical society fall meeting, Buffalo; abstracts of symposium on electrodeposition and metal cleaning. Metal Finishing 48:73-5 D '50

Electrodeposition developments; annual conference of the Electrodepositors' technical society, Torquay. Elec R (Lond) 148:819-20 Ap 20 '51; Metal Finishing 49:74-6 Je '51

Electrodepositors technical society conference on electrodeposition, The Hague, Holland. Metal Finishing 49:72-3 Ja '51

Electrolytic and chemical finishes; with chart analysis of all types of organic, inorganic, and specialty finishes for metals, including properties, limitations, specification, surface preparation, and uses. il Product Eng 22:141-8, insert F '51

Electroplating on aluminum. R. H. Keller. bibliog il diags Metal Finishing 48:56-64 D '50

Electroplating stainless steels. J. Haas. bibliog il diags Metal Finishing 49:50-4 Je '51

Extracts from the world's plating literature. Metal Finishing 49:58-60 Ja; 65-6+ Mr; 70-1 Ap; 64-5+ Ag; 86-8 S '51

Fatigue loss and gain by electroplating. J. O. Almen. bibliog il diag Product Eng 22:109-16 Je '51

Finishing army ordnance materiel. G. T. Viglione. il Metal Finishing 49:89-91+ Jl '51

Function of sulphites and bisulphites in cyanide plating solutions. J. Haas. bibliog Metal Finishing 49:64-5 Ap '51

German plating and finishing described. Iron Age 166:98 N 2 '50

Indium plating; tabulation; engineering data sheet. Metal Finishing 48:86 D '50

Industrial mobilization of the job plating industry. W. Zinn. Metal Finishing 49:70-1 Ja '51

Influence of base metal surfaces on the nature and characteristics of electrodeposited metals. A. T. Steer. Metal Prog 60:118+ Jl '51

Leveling solutions. A. Bregman. il Metal Prog 60:56-60 Jl '51

Low-cost equipment improves electroplating. G. W. Jernstedt. diags Iron Age 168:73-5 Jl 26 '51

Metallic surface coatings for gray iron. C. O. Burgess. il Product Eng 21:112-13 D '50

Microthrowing power studied; study of plated metal-powder compacts. C. E. Reinhard. Iron Age 166:132 D 7 '50

National production authority rules on metal uses for 1951. Metal Finishing 49:65-8 F; 70+ Mr; 72-3 Ap '51

ELECTROPLATING—*Continued*

Navy's newest electroplating shop at the United States Ordnance test station at Inyokern, Calif. G. W. Grupp. il Metal Finishing 48:56-7 N '50

New plating method conserves nickel; periodic reverse-current plating. il Elec World 136:138-9 Jl 16 '51

Next electroplating techniques. il Product Eng 22:128-9 My '51

Plating and electroforming at Muzak, Elizabethtown, Ky. W. M. Warner. il Metal Finishing 49:66-8 Ag '51

Plating experiments with aqueous solutions at high temperatures. S. Senderoff and A. Brenner. bibliog diags Electrochem Soc J 97:361-6 N '50

Plating improved with reverse current techniques. G. W. Slomin. il diag Iron Age 167:94-6 F 8 '51

Plating in the re-armament program. S. Senderoff. il Metal Finishing 49:86-8+ Jl '51

Plating's role in naval ordnance. il Metal Finishing 49:92-5+ Jl '51

Publicizing the plating industry. W. M. Phillips. il Metal Finishing 49:62+ My '51

Relationship between orientation, grain size, and brightness in nickel electrodeposits. G. L. Clark and S. H. Simonsen. bibliog il Electrochem Soc J 98:110-15 Mr '51

Strike baths. J. B. Mohler. Metal Finishing 49:57-9+ Mr '51

Tin-zinc alloy can replace cadmium. Steel 127:118+ N 20 '50

Typical electroplating processes for aluminum; data sheet. Mach 58:239 S '51

Using substitute chemicals in plating baths. diags Metal Finishing 49:63-4+ F '51

White brass underplate may be answer to shortage of nickel for automakers. A. H. Allen. Steel 129:57 Ag 6 '51

Zinc plating; continuous process for treating steel sheets. il Elec R (Lond) 148:785-9 Ap 20 '51

See also

Chromium plating
Electrodeposition of metals
Nickel plating

Estimates

Calculating metal cost for brass plating; chart; engineering data sheet. Metal Finishing 49:91 S '51

Estimating and quoting plating prices. J. L. Bleiweis. Metal Finishing 49:67-9 Mr '51

Rapid calculation of job plating prices on small miscellaneous shapes. Metal Finishing 49:60-2 F '51

History

All our yesterdays; survey of articles on plating at turn of century (cont). F. A. Lowenheim. il diag Metal Finishing 48:65-72 D '50

Power

Electroplating rectifiers. L. W. Reinken. il Iron & Steel Eng 28:89-95 F '51

Quality control in the making of plating rectifiers. W. A. Raymond. il Metal Finishing 49:68-70 My '51

Regulated low voltage supply for electrolysis and other uses. M. L. Greenough and others. il diag R Sci Instr 22:484-8 Jl '51

Safety measures

Electroplating; data sheet. bibliog il Nat Safety N 64:32-3+ Jl '51

Testing

Cadmium-tin alloy plating stops corrosion. B. E. Scott and R. D. Gray, jr. il Iron Age 167:59-62 Ja 18 '51

Hot hardness of plated finishes measured. il diag Iron Age 168:119 S 20 '51; Product Eng 22:197 O '51

Microhardness tester for metals at elevated temperatures. A. Brenner. bibliog il diag J Res Nat Bur Stand 46:126-31 F '51; Abstract. Metal Finishing 49:78-9+ S '51

Nodule method measures adhesion of electrodeposits. Chem & Eng N 29:2388-9 Je 11 '51; Steel 128:107-8 Je 11 '51; Materials & Methods 34:154+ Ag '51

Waste

Chlorination method for disposal of cyanide wastes; abstract. J. E. Tarman and others. Steel 128:111-12 Ap 9 '51

Chromium salvage. Chem Ind W 68:21+ Mr 3 '51

Disposal of plating wastes; King-Seeley corp.; abstract. C. F. Waite. Steel 128:104+ Ap 9 '51

Integrated waste treatment system for the electroplating industry. L. E. Lancy. bibliog Metal Finishing 49:56-9 F '51

Method of continuous chlorination to destroy cyanides in rinse waters; abstract. C. F. Hauri. Water & Sewage Works 98:326 Jl '51

Ozonation of cyanide wastes. R. G. Tyler and others. Sewage & Ind Wastes 23:1150-3 S '51

Plating room chlorinator solves cyanide disposal problem. N. S. Chamberlin. il plan Metal Finishing 49:54-5+ Ag '51

Treatment and disposal of plating wastes. J. E. Cooper. bibliog flow sheets Sewage & Ind Wastes 23:295-306 Mr '51; Abstract. Water & Sewage Works 98:35-6 Ja '51; Discussion. A. K. Graham. Sewage & Ind Wastes 23:307-8 Mr '51

Treatment of chromium wastes by ion exchange. R. G. Tyler and others. Sewage & Ind Wastes 23:1032-5 Ag '51

ELECTROPNEUMATIC control

Instruments for chemical plant; telemetering, control panels and graphic control desks. il diags Chem Age (Lond) 65:121-5+ Jl 28 '51

Machine tools self-controlled by air-electric gage system. G. Hubbard. il diag Steel 129: 80+ Ag 27 '51

Solenoid air valves in automatic machines. R. C. May. diags Product Eng 22:193-5 O '51

ELECTROSTATIC analyzer

Comparison of several nuclear absolute voltage determinations. W. J. Sturm and V. Johnson. bibliog diags Phys R 83:542-7 Ag 1 '51

ELECTROSTATIC generators. See Electric generators, Electrostatic

ELECTROSTATIC paint spraying. See Paint spraying, Electrostatic

ELECTROSTATIC separators

Behavior of mineral particles in electrostatic separation. S. Sun and others. bibliog diag Min Eng 187:Trans 369-73 Mr '50; Discussion. 187:Trans 1152-3 N '50

Distribution of charge in electrostatic separation. F. Fraas and O. C. Ralston. diags Elec Eng 70:762 S '51

Universal type electrostatic separator. F. Fraas and O. C. Ralston. 2pls U S Bur Mines Rep of Invest 4766:1-4 '51

ELECTROSTATICS

Electrostatic charge measurement. il J Sci Instr 28:158 My '51

Electrostatic induction by power lines in parallel telephone lines and at crossings. H. Klewe. Inst E E Proc 98 pt 1:121-7 Mr '51

Electrostatically induced permanent memory. C. F. Pulvari. bibliog diags J Ap Phys 22:1039-44 Ag '51

Exponential decay law in spray de-electrification. C. T. O'Konski. bibliog Science 114:368 O 5 '51

Static electrification of solid particles by spraying. S. J. Czyzak and D. T. Williams. Science 114:66-8 Jl 20 '51

See also

Condensers (electricity)
Electric capacitance
Electric charges
Electric discharges
Electricity, Static

ELECTROTECHNICAL commission, International. See International electrotechnical commission

ELECTROTHERAPEUTICS

Apparatus and supplies

Electrical and allied developments during 1950; electromedical. G. Bartlett. il Gen Elec R 54:45-6 Ja '51

ELEVATED sidewalks. See Sidewalks, Elevated

ELEVATOR doors

Adapting machines to special requirements; Otis elevator co. A. Stout. il diag Sheet Metal Worker 42:58-60 Mr '51

ELEVATOR insurance. See Insurance, Elevator

ELEVATORS

Dual capacity goods lift. Engineer 191:613 My 11 '51; Elec R (Lond) 148:1390 Je 29 '51

Engineering highlights of 1950; dollars and seconds saved in vertical transportation. Westinghouse Eng 11:30-1 Ja '51

Lift speeds. J. N. Welch. Elec R (Lond) 148:991-3 My 11 '51

Moving stairways in office buildings vs. elevators. G. B. Gusrae. il Arch Rec 108:146-8 D '50

New landing system for elevators introduced by Westinghouse. Elec Eng 70:90 Ja '51

Small electric elevators serve underground steam line. plan diag Power Eng 55:81-2 S '51

Walkups vs. elevator apartments; ten-story buildings connected by circulation bridges with pair of elevators at center; New Orleans project. il plan Arch Forum 93:101 D '50

See also

Insurance, Elevator

Control

Educated elevators speed Des Moines cars to parking stalls; illustrations with text. Bsns W p23 S 29 '51

Manufacture

Production-line methods employed in building elevators. W. G. Nutzel. il diags Mach 57:148-54 D '50

ELGIN, Joseph Clifton, 1904-

Man of the month. por Chem Eng 58:222+ Ap '51

ELGIN national watch company

Elgin bows to the times as it updates style. il Bsns W p 146-8 S 15 '51

Loan placed privately. Comm & Fin Chr 173:2 Ja 1 '51

ELLIOTT company

Restored profit margins spurring earnings. Barron's 31:11 Ag 13 '51

ELLMAKER, Lee, 1896-1951

Philadelphia News publisher. por Ed & Pub 84:12 Mr 31 '51

ELM

Constitution of the mucilage from the bark of ulmus fulva (slippery elm mucilage); the isolation of 3-monomethyl-D-galactose from the products of hydrolysis. E. L. Hirst, L. Hough and J. K. N. Jones. Chem Soc J p323-5 F '51

Diseases and pests

Status of the Dutch elm disease in Canada, 1950. L. L. Reed. Pulp & Pa of Can (Convention no) 52:288+ [F] '51

EL MANTE, Mexico

Water supply

Mexico's first water-softening plant. W. E. Bell. il Eng N 145:45 N 2 '50

ELMES engineering division. See American steel foundries

EL PASO electric company

Bonds offered. Comm & Fin Chr 173:380 Ja 22 '51

EL PASO natural gas company

Companies that should earn more in 1951; with comparative balance sheet items. Mag of Wall St 88:247 Je 2 '51

Preferred stock offered. Comm & Fin Chr 174:364 Jl 30 '51

Vigorous expansion pushed. Barron's 31:13 S 3 '51

EL SALVADOR. See Salvador

ELUTRIATION

Elutriation of fines from fluidized systems. M. Leva. bibliog diag Chem Eng Prog 47:39-45 Ja '51

ELUTRIATORS

Rapid air elutriator for examination of stack dusts. C. J. Stairmand. il Engineering 171:585-7 My 18 '51

ELY brewery company, limited

Statement by the chairman at 54th annual meeting. L. Nidditch. Economist 159:711-12 N 4 '50

EMANATIONS. See Radon

EMANUEL, Victor, 1898-

Avco's expanding universe. por Fortune 43:74-7+ Ja '51

EMBANKMENTS

Dirt really flies at Oahe dam. il Eng N 146:32-4 Mr 15 '51

Earthmoving, an art and a science; stabilization of embankments. D. K. Heiple. il Constr Methods 33:91-2+ S '51

Study of the performance of plant for the compaction of soil. F. H. P. Williams and D. J. MacLean. plan diag Roads & Eng Constr 88:74-6+ N '50

See also

Causeways
Dikes (engineering)
Levees
Railroads—Earthwork
Rivers—Bank protection

EMBARGO

Can trade with the enemy be halted? il Bsns W p 137-8 Je 2 '51

No rubber for China. Economist 160:1188 My 19 '51

Singapore and the rubber embargo. Economist 160:1178+ My 19 '51

EMBEZZLEMENT

Employee defalcations. W. L. Flynn. Weekly Underw 164:277-8 Ja 27 '51

Four embezzlers get $286,000; two Michigan, Arkansas and Pa. cases are uncovered. Nat Underw 55:13+ Ag 30 '51

How weak accounting systems encourage employee embezzlements; four case histories. E. K. Redfern. J Account 92:82-6 Jl '51

19 indicted in $2,400,000 bank loss at Syracuse, N.Y. Nat Underw 55:15 Je 28 '51

Oh, my employees are all honest; C. H. Fletcher advocates use of lie detector. M. French. il Am Bsns 21:18-19+ Ag '51

EMBOLISM

Control of blood clots. S. Shapiro. il Sci Am 184:18-21 Mr '51

EMBOSSING (plastics)

Deep embossing with controlled heat. il Mod Plastics 28:62 Mr '51

Embossing process gives new effects; Echolux. il Mod Plastics 28:72-3 D '50

EMBOSSING (typography)

Tricks are useful in the embossing process. J. Kovec. Inland Ptr 127:77-8 Je '51

EMBRYOLOGY

Anterior process and the ossification of the malleus in mammals. K. Wassif. bibliog Science 113:486-7 Ap 27 '51

Developmental abnormalities in chick embryos treated with sugar. E. L. Hunt. bibliog Science 113:386-7 Ap 6 '51

Embryonic death rate and sex ratio in chicks. F. A. Hays and E. W. Spear. Science 112:792 D 29 '50

Explanation of twins. G. Dahlberg. il Sci Am 184:48-51 Ja '51

Oxygen uptake of embryonated eggs infected with western equine encephalitis virus. R. A. Siem and others. Science 112:505-6 O 27 '50

Spade-foot toad sperm as an activating agent in producing gynogenetic haploid embryos from rana and pseudacris eggs. H. Ting and J. W. Price. bibliog Science 112:595-6 N 17 '50

See also

Fertilization (biology)

EMERALDS, Artificial

Home-grown emeralds. il Chem Ind W 68:15 Ap 7 '51

EMERSON electric manufacturing company

Big defense backlog. Barron's 31:21-2 Ap 2 '51

EMERY, Frank

Holmes award given to pair killed in Korea. por Ed & Pub 84:46 F 3 '51

EMETINE

Structure and amœbicidal activity; aliphatic diamines. D. M. Hall, S. Mahboob and E. E. Turner. Chem Soc J p 1842-5 Jl '50

Studies of the structure of emetine; elucidation of the structure of emetine. A. R. Battersby and H. T. Openshaw. Chem Soc J p3207-13 D '49

Studies on emetine. R. N. Hazlett and W. E. McEwen. bibliog Am Chem Soc J 73:2578-84 Je '51

Studies on emetine; synthesis of N-benzoylcorydaldine. M. I. Moyer and W. E. McEwen. Am Chem Soc J 73:3075-7 Jl '51

EMIGRATION. See Immigration and emigration

EMINENT domain

Court excludes evidence re possible profits in estimating value of land expropriated for road. Roads & Eng Constr 89:92 Mr '51

Fallacies of right-of-way valuation theory. G. L. Schmutz. Elec West 107:73-5 Ag '51

Providence pushes court test on law allowing land condemnation for resale. Eng N 147:55+ Jl 26 '51

EMITRON. See Television cameras

EMMERGLICK, Leonard

Portrait. Chem W 69:13 O 13 '51

EMPIRE State building

Designing world's highest tv antennas; installation on Empire State building. J. H. Battison. il diags Tele-Tech 10:34-5+ F '51

Empire State building to be air conditioned. Refrig Eng 59:77+ Ja '51; Heating-Piping 23:131 Ja '51; Heat & Ven 48:112+ Ja '51

Out-of-towners buy Empire State building. il Bsns W p 120-1 Je 2 '51

Television totem pole; 222-foot structure atop Empire State building. F. G. Kear and O. B. Hanson. il map diag Electronics 24: 66-70 F '51

EMPLOYEE embezzlement. See Embezzlement

EMPLOYEE handbooks. See Employees' manuals

EMPLOYEES

And Eve told Adam; wives influence husbands' job attitudes; survey of industrial workers' wives in Cleveland. Mod Ind 21: 45-7 My '51

Communication in the work group. H. O. Ronken. Harvard Bsns R 29:108-14 Jl '51

Communications; what are employees really interested in? do they accept management as competent in economies? P. F. Drucker. Advanced Management 16:7-9 F '51

Corporation conduct; advice on how to get advancement in a big company. Personnel J 29:178-80 O '50

How to keep your employes happy. J. B. Bennet. Mill & Factory 49:94-6 S '51

Individual in industry. J. French. Engineer 191:572-4 My 4 '51

Law; independent contractor or employee? W. C. Sadler. Civil Eng 21:92 F '51

Let your employes sell you to the community; illustrations with text. Mill & Factory 49: 116-17 Ag '51

That June graduate is a management job for you. Chem Eng 58:227-8+ Je '51

See also

Ability tests
Absenteeism (labor)
Advertising—Employees, Appeal to
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Automobile factories
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Length of service

New seniority plan cuts layoff grievances at Ford motor co. Bsns W p 126 Mr 3 '51

See also

Trade agreements—Seniority provisions

Opinion polls

Best workers gripe the most; Institute of social research study at Prudential. Bsns W p68-72 F 10 '51; Discussion. R. Likert. p 100+ S 8 '51

Development of attitude surveys. J. W. Irwin. Chem & Eng N 29:2942-3 Jl 16 '51

Economical attitude surveys. P. B. Nibecker. Personnel J 29:182-3 O '50

Employee attitude survey; value of opinion research in bank field. H. J. Morris, jr. Trusts & Estates 89:845-7 D '50

Employee opinion surveys that help management. G. B. Arthur, jr. Personnel J 29:261-5 D '50

Factors influencing industrial morale. M. Haire and J. S. Gottsdanker. bibliog Personnel 27:445-54 My '51

How's your profile, administratively speaking? attitude survey. G. F. Burnley. Mill & Factory 47:84-5 N '50

Public relations and public opinion; analysis of the average American's view of his employer. C. M. Hackett. Min Cong J 36:34-6 N '50

What Vepco employees think of their information program. W. E. Wood. Edison Elec Inst Bul 19:83-5 Mr '51

Promotion

Analysis of promotional opportunities. H. A. Simon. Personnel 27:282-5 Ja '51

Easy way to make your own plant your best labor market; how three plants use promotional pools. L. Bethel and L. L. Lerner. Factory Management 109:90-3 Ag '51

Let your employes know when better jobs are open. Mill & Factory 48:115-17 Je '51

Link-Belt's horizontal transfers keep promotion lines open. W. Norris. Am Bsns 21: 8-9+ F '51

Sequential seniority; step-by-step system for worker promotion at Weirton. Steel 129:66 S 24 '51

See also

Employees—Rating

Rating

Case study of merit rating forms; simplification and reduction of traits for raters' assessment. E. C. Webster and others. Personnel 27:414-23 Mr '51

Evaluating engineers to recognize talent and reward achievement. R. W. Chaffee. il Machine Design 23:141-72 Je '51; Discussion. 23:192+ S; 202-4+ N '51

Evaluating executives. J. C. Flanagan. Chem Eng 58:294+ S '51

Evaluation of operating performance and personnel by internal auditor. A. J. Gregory. Am Gas Assn Mo 33:26-8 Jl-Ag '51

How we fixed our plan to rate maintenance men; Johnson & Johnson, New Brunswick. W. J. O'Keefe. Factory Management 108: 104-7 N '50

Management inventory and development; a case study; Detroit Edison co. accounting department. V. K. Rowland. Personnel 28: 12-22 Jl '51

Rating systems that find the successful. R. V. Reeves. Chem Eng 58:147-8 S '51

Supervised ratings, making graphic scales work. E. K. Taylor and G. E. Manson. Personnel 27:504-14 My '51

EMPLOYEES—Rating *—Continued*
Survey of merit rating in industry. L. G. Spicer. Personnel 27:515-18 My '51
Taking some of the guess out of merit rating. W. B. Hall. il Burroughs Clearing House 35:32-4+ F '51
Why merit rating? R. C. Schmidt. Personnel J 29:226-30 N '50

Testing

See Ability tests

EMPLOYEES, Age of. See Age and employment

EMPLOYEES, Dismissal of
Discharge for failure to take union oath and attend meetings. Mo Labor R 72:445-6 Ap '51
Eager beaver O.K.; can't discharge employee because he works too hard. Bsns W p40+ Ap 28 '51
It's hard to get rid of a Communist employee. Bsns W p 120-1 N 11 '50
Legal discharges; NLRB advises on discriminatory firing. Bsns W p68 D 30 '50
NLRB defends companies' right to fire employes. Nat Pet N 43:29 Ap 18 '51
New grounds for firing; NLRB's counsel upholds dropping of worker who signed Stockholm petition. Bsns W p31 Ap 14 '51
See also
Layoff systems

EMPLOYEES, Government. See Government employees

EMPLOYEES, New. See Employment management—New employees

EMPLOYEES, Reports to
Anybody can grasp this annual report; Bordon co. cartoon book. Mod Ind 22:8+ Jl '51
Is business language fuzzy? J. McElroy. Dun's R 59:21-2+ Jl '51
Union labor chiefs suggest; tell us about your sales plans. B. W. Dempsey and D. R. Henle. il Sales Management 66:78+ F 15 '51

EMPLOYEES, Training of
Adapting the college product to industry. P. D. V. Manning. Chem & Eng N 29:1395-6 Ap 9 '51
Agency training program puts heavy emphasis on work; McCann-Erickson. E. J. Dever, jr. il Ptr Ink 234:31-3 F 16 '51
American society of training directors' annual conference, 7th, Philadelphia, March 15-17. Personnel J 30:67-9 Je '51
Better miners aren't just born, you can make them; Hollinger consolidated gold mines. B. Ross. Eng & Min J 152:97-8 Ap '51
B.B.C. engineering training school. il Engineer 191:510-11 Ap 20 '51
Brush up, manpower training, recruiting techniques. A. M. Fisher. Steel 128:61-2 Mr 12 '51
Development of a training program at Laurentide division of Consolidated paper corporation limited. F. M. Ladd. Pulp & Pa of Can 51:83-5+ S '50
Driver tests as training aids. G. Miller. il World Oil 131:226-8 N '50
Education in industry; Westinghouse educational center. il Westinghouse Eng 10:240-1 N '50; Elec World News ed 134:16-17 N 27 '50
Employee training by Hoover ltd. il Electrician 146:739-40 Mr 2 '51
Employee training reduces costs, increases labor efficiency at Utah Copper. H. B. Gundersen. il Min Eng 3:768-71 S '51
Engineering training department of the British broadcasting corporation. Engineering 171:494 Ap 27 '51; il Elec R (Lond) 148:691-2 Ap 6 '51; Electrician 146:1109-10 Ap 6 '51
Get set now to handle your training problems of tomorrow. B. von Bleicken and V. I. Bumagin. il Mill & Factory 49:87-9 Jl; 91-3 Ag '51
How agencies handle creative beginners. M. Wiseman. il Adv Agency 44:58-9+ F; 54-5+ Mr; 72-3+ Ap; 56-7+ My; 60-1+ Je '51
How to correct a worker, and have him like it! E. Mottershead. Cer Ind 56:141+ Ap '51
How to get an idea across. R. P. Cort. Personnel 28:46-51 Jl '51
How to keep interest high in agency training program. Q. G. Ryan. Ptr Ink 234:43-4 Ja 19 '51
How to start a training program from scratch. M. J. Murphy. il Factory Management 109:126-31 Je '51
How to train staff men to make an effective accounting organization. A. G. Mann. J Account 90:486-9 D '50
How to train men to sell good will; Standard Oil's adpreps. Sales Management 66:62+ My 20 '51
Increased productivity through training. J. S. Kopas. Iron & Steel Eng 28:137-8 Ag '51
Industrial education in Great Britain; contrast and similarity between British and American systems. J. Rich. Personnel 27:328-36 Ja '51
Industrial training as you like it; International correspondence schools new plan. il Bsns W p42-4+ Mr 3 '51
Industrial training of chemists and engineers in industry; developing the technical graduate on the job. L. B. Hitchcock. bibliog Chem & Eng N 29:1513-16 Ap 16 '51
Industrial training of chemists and engineers in industry; measuring the trainee's progress. C. S. Tracy. Chem & Eng N 29:1637-9 Ap 23 '51
Industry pleased with technical classrooms of Humble oil & refining co. H. D. Wilde. il Pet Refiner 30:77+ My '51; Same. Am Pet Inst Proc 31 M(3):184-8; Discussion. 189-90 '51
Industry practice in training technical personnel. H. G. Vesper and D. H. Etzler. bibliog Am Pet Inst Proc 31 M(3):171-5; Discussion. 175-7 '51
Job instruction training; one answer to your green-worker problem. M. J. Murphy. Factory Management 109:120-1 Ja '51
Learn as you earn; Northern Ohio employers program to train teachers. Bsns W p 119-20 Ja 27 '51
Mobilization on the production front. L. A. Allen. il Mill & Factory 48:89-92 Mr '51
Model substation speeds operator training. J. W. Gronbeck. il diag Elec World 135:94+ F 26 '51
Modern fire fighting practices; Pittsburgh Group gas companies are being trained to fight fire. W. E. Muldrew. il Gas Age 107:38-9+ F 15 '51
Motor inspector training. G. M. Kennedy. Iron & Steel Eng 28:74-6; Discussion. 77 Jl '51
Oliver's training program. W. E. Cotter, jr. and F. Roleff. il Eng & Min J 151:74-81 D '50
On- and off-the-job training makes mechanics from scratch at Boeing airplane co., Seattle. il Factory Management 109:122-3 Ja '51
On-the-job training after two years; college graduate accounting training; Caterpillar tractor co. C. A. Vobroucek. N A C A Bul 32:699-703 F '51
Personnel training pays off. R. H. Ellis-Anwyl. il Brick & Clay Rec 118:41+ F '51
Personnel turnover proves trainee value. H. W. Tushingham. Ed & Pub 84:40 Jl 21 '51
Ready for manpower shortage? have a recruiting and training program set when the labor pinch begins to hurt. Steel 128:35-6 F 19 '51
Refresher training helps us win our war on waste; Maiden Form program; with text of training manual. R. Kislik and A. R. Lateiner. il Factory Management 109:94-6, 248+ Mr '51
Rotational training assignments in the atomic energy industry, Hanford Works plutonium production plant. R. E. Curtis. J Chem Educ 28:21-2 Ja '51
Selling quality control to production employees. W. Exton, jr. Personnel 27:397-402 Mr '51
Technical training in industry. H. D. Wilde. Chem Eng Prog 47:sup 17-18 S '51
Trained manpower is better manpower; Chicago transit authority's maintenance training program. il Bus Transportation 30:66-9 Je '51
Trained truck drivers are no cowboys; Seattle Port of embarkation. H. E. Jackson. il Mill & Factory 49:118-20 Ag '51
Trained young engineers, your soundest investment; Hollinger consolidated gold mines. G. S. Ireland. Eng & Min J 152:94-5 Ap '51
Training and development of personnel. L. J. Westhaver. Iron & Steel Eng 28:90 Je '51

EMPLOYEES, Training of—*Continued*

Training for better mining; technical institute proposed for coal mine maintenance men and machine operators. il Coal Age 56: 70-5 Je '51

Training ground for management personnel. E. R. Mellon. Am Gas Assn Mo 33:28+ Jl-Ag '51

Training manpower. Fortune 43:116-19+ Ap '51

Training manpower for defense production; services of U.S. Labor department's Bureau of apprenticeship. W. F. Patterson. il Mill & Factory 48:107-10 Je '51

Training new women workers. E. R. Swint. Personnel J 30:140-3 S '51

U.S. oil improves Nation's foreign relations; educational, health and housing facilities provided by Arabian American oil co. il Nat Pet N 43:64-7 S 12 '51

Westinghouse engineering education, a new milestone. Westinghouse Eng 10:inside front cover N '50

What to do now about man power; two checklists that will help you find and train workers. M. J. Murphy. Factory Management 108:95-6 D '50

Who can teach whom? Dutch management-consultant firm contacts U.S. companies with offer to install training system. Mod Ind 22:73 Ag '51

See also

Apprentices
Bank employees—Training
Employees' manuals
Executives—Training
Foremen—Training
Motor truck drivers—Training
Railroads—Employees—Training
Safety instructions and training
Salesmen—Training
Supervisory workers—Training

Bibliography

Industrial training for industrial mobilization. Cleveland Pub Lib Business Information Bur Bul v 22, no 1:1-4 Ja-F '51

EMPLOYEES, Transfer of

What firms do when they transfer their men. Sales Management 67:92+ Ag 15 '51

EMPLOYEES, Transportation of

Atomic workers at Hanford enjoy modern bus system. D. O. Carlson. il Bus Transportation 30:40-3 Ap '51

EMPLOYEES as sales promoters

Bendix hangs out wash for employes. Sales Management 66:73 Je 15 '51

Sell your employees on selling for you. il Bus Transportation 30:27-30 Ja '51

EMPLOYEES as salesmen

Call your shots contest nets $10 per customer. il Elec World 136:162+ Ag 13 '51

Everybody sells! at Benedict's. il Dom Eng 176:102 D '50

Lone Star begins six-month drive to sell more appliances. W. C. Grant. Gas Age 108:15+ Ag 2 '51

Non-selling TWA employees sell $366,743 worth of air travel. L. Stemp. Am Bsns 21:30 Ag '51

When you spot the need, turn in a lead! Philadelphia gas works co. encourages employees to turn in leads for appliance sales. F. H. Trembly, jr. Gas Age 107:55 Mr 15 '51

EMPLOYEES as stockholders

Co-partnership and profit-sharing. Electrician 145:1523-4 D 22 '50

Coupon E bonds; Standard and GE offer stock bonus to match employee U.S. bond purchases. Bsns W p98 S 8 '51; Correction. p 123 O 13 '51

Employees swell stockholder ranks at Dow chemical co. il Bsns W p 135-7 Mr 24 '51

Junior equities for junior executives. H. Canary. J Account 90:513-14 D '50

Ready mix producer marks 60 years with stock gift; Harry T. Campbell sons' corp. Concrete 59:44 Je '51

Stock options offered to key men; share-purchase plans as incentive to top management personnel. S. Altschul. Aviation W 55:43 S 17 '51

EMPLOYEES' associations

See also

Foremen's clubs

EMPLOYEES' benefit plans

Bank employees' fringe benefits, Bank of Kennett, Kennett, Mo. gives each employee annual statement. Banking 44:39 Jl '51

Benefit freeze penalizes small employers. R. Stever. Nat Underw (Life ed) 55:4 Mr 2 '51

Chamber of commerce expresses views on stabilization of pensions and benefit plans. Nat Underw (Life ed) 55:4 F 2 '51

Compensation of water works personnel; A.W.W.A. committee report. Am Water Works Assn J 43:675-80 S '51

Employee-benefit plans under collective bargaining, mid-1950. E. K. Rowe. Mo Labor R 72:156-62 F '51

Employers' military-leave policies; effect on benefit plans, fall 1950. Mo Labor R 72:411-13 Ap '51

Fringe benefits aid inflation. H. Dann. Comm & Fin Chr 173:1944+ My 10 '51

Fringe benefits in utilities. M. Hammett. Pub Util 47:344-50 Mr 15 '51

Good employee relations; Blake, Moffitt & Towne. Paper Tr J 132:12 Mr 23 '51

Hidden payroll on the rise. G. C. Smith. Mill & Factory 47:124-5 D '50

How Avondale mills works its human-relations program. P. M. Thomas. il Textile World 100:121-8 O '50

How military leave policies affect employee benefit plans; survey by National industrial conference board. Bankers Mo 68:30-1 Je '51

How nonwage costs add up; survey of 690 companies hidden and fringe payments. Bsns W p 122-3 N 11 '50

Labor's fringe benefits increasing. Eng N 146: 19 Mr 22 '51

Life representatives submit further memo to Wage board. Weekly Underw 164:534 F 24 '51; Nat Underw (Life ed) 55:9 F 23 '51

Modern operation and welfare; Kerr-Addison mine. il Can Min J 72:66-7 Ap '51

More pressure for fringes; steelworkers lay groundwork. Bsns W p34-6 Je 2 '51

NALU takes stand on employe benefit plans. Nat Underw (Life ed) 55:3+ Ap 13 '51; Same abr. East Underw 52:1+ Ap 13 '51

New benefits; survey by National industrial conference board. Am Bsns 21:42-3 Ja '51

Planned program to benefit labor at National Gypsum. C. H. Dwyer. Rock Prod 53:118-20 D '50

Practical aims and purposes of American labor; major achievements of the UAW-CIO. W. P. Reuther. Ann Am Acad 274:64-74 Mr '51

Reporting on employees' benefit status. Management R 40:237-8 Ap '51

Special benefits for injured workers; abstract. Management R 40:480-1 Ag '51

Stabilization measures for employee welfare plans; text of life companies' memoranda to Wage board. Spectator (Life ed) 158: 10-12+ Mr '51

Study made of wage and benefit policies of 17 gas utility companies. Am Gas J 174:22 Ap '51

Surge of employe benefit plans; Bureau of labor statistics survey. Nat Underw (Life ed) 55:4 Ja 5 '51

Tax on fringes? Bsns W p40+ O 13 '51

Voluntary employee benefit plans; survey by Research council for economic security. Spectator (Life ed) 158:24-5 F '51

Wage order freezes plans; life companies submit memorandum to wage stabilization board. Nat Underw (Life ed) 55:1+ F 2 '51; Same abr. Nat Underw 55:19+ F 1 '51; Excerpt. East Underw 52:16 F 2 '51

What are you doing for the man who goes to war? surveys in Cleveland and New York areas. Factory Management 108:81-3 N '50

When and where to apply security benefits. A. A. Thomas. Ptr Ink 235:34+ Je 1 '51

See also

Disability benefits
Pensions, Industrial
Profit sharing
Sickness benefits

EMPLOYEES' buildings

Change house can build morale. L. Weaver. il plans Eng & Min J 151:98-100 D '50

Utility employees have own clubhouse; South Carolina electric & gas co.; illustrations with text. Elec World News ed 136:16-17 Ag 20 '51

EMPLOYEES' Christmas gifts. See Christmas gifts, Employees'

EMPLOYEES' Christmas parties. See Christmas parties, Employees'

EMPLOYEES' clothing. See Clothing, Protective

EMPLOYEES' clubs
How Anaconda works employe clubs; run your own, pay as you go. R. Newcomb and M. Sammons. il Ind Marketing 36:52+ Ja '51
See also
Foremen's clubs

EMPLOYEES' conferences
Improving conference leadership. S. G. Dulsky. Personnel 27:189-93 N '50
Public relations, bold new concept pays off; Inland and Borg-Warner develop new program called In our hands. B. Packard. Iron Age 168:85 Ag 23 '51

EMPLOYEES' contests
Contest promotes birthday ideas; Fisher flouring mills co. L. Barden. il Am Bsns 21:34-5 Jl '51
Gaining employee cooperation; Nedick's restaurants. E. Fagg. Personnel J 30:136-9 S '51
How to run employee contests for improved performance; abstract. Management R 39:605-6 O '50
Travel lure; latest wrinkle in incentive programs; American airlines offers companies million-air holidays. il Sales Management 66:108 F 15 '51

EMPLOYEES' counselors
Management policy aspects of employee counseling. H. Eilbert. Personnel 27:519-23 My '51

EMPLOYEES' lunches. See Lunches, Employees'

EMPLOYEES' lunchrooms and cafeterias. See Lunchrooms and cafeterias, Employees'

EMPLOYEES' magazines
Aims shift in communications. il Mod Ind 21:77-8 Mr '51
Armco sells American way by not talking of it. R. Newcomb and M. Sammons. il Ind Marketing 36:88-9+ Ja '51
Blueprint for action. W. A. Earl. Personnel 27:439-40 Mr '51
Coal-company president and employee magazine honored for contribution to cause of freedom. Coal Age 56:121 Ap '51
Do articles on national economics belong in the employee house organ? M. Hawthorne; J. A. Jones. Ptr Ink 233:28-9 D 15 '50
Employe magazine; Peabody coal co. G. Van Hagen. il Min Cong J 37:54-7 My '51
Employee magazines are hard to read. A. O. England. Personnel J 30:94-7 Jl-Ag '51
Employee magazines build morale. B. Beach. Personnel J 29:216-20 N '50
For your information; Abbott laboratories, Pharmagraph. J. F. Stiles, jr. Personnel J 30:6-8 My '51
How to get listeners; abstract. H. C. Link. Management R 40:62-3 F '51
Is your employee publication an employee publication? J Retailing 27:1-7+ Spring '51
Management tells success of company publications. R. Newcomb and M. Sammons. Ind Marketing 36:114+ Jl '51
Publications and public relations in Switzerland. C. Metzler. Personnel J 29:331-2 F '51
Salesmen's corner; three classifications of house magazines. F. Rundell. Inland Ptr 127:56-8 Ap '51
Stimulating family readership of the employee publication; abstract. R. D. Breth. Management R 39:606-7 O '50
Thirty thousand weapons against loss and damage; bimonthly magazine Union Pacific innovation in campaign for good shipping. O. J. Wullstein. il Ry Age 130:40-3 Ap 2 '51
Weirton editors aim twice at employes and townspeople. R. Newcomb and M. Sammons. Ind Marketing 36:104+ S '51

EMPLOYEES' manuals
Analysis of employee handbooks. C. H. Lawshe and others. Personnel 27:487-95 My '51
Development of a personnel policy guide. W. Tomlinson. Personnel J 29:225 N '50
Employee manuals. il Burroughs Clearing House 35:24-5 My '51
Readability of employee handbooks. K. Davis and J. O. Hopkins. Management R 39:708-9 D '50

EMPLOYEES' publications
Get your ideas across in language your employees understand; Flesch readability findings. J. Gardner. Textile World 101:170+ Je '51
What good communications can do; Hollinger consolidated gold mines. N. Greene. Eng & Min J 152:100-1 Ap '51
See also
Employees, Reports to
Employees' magazines
Employees' manuals

EMPLOYEES' recreation. See Recreation

EMPLOYEES' representation in management
Codetermination bill passed by Lower House in Germany. For Comm W 43:13 Je 11 '51
Co-determination—mitbestimmungsrecht. S. L. H. Burk. Advanced Management 16:11-13 Mr '51
Coming up; labor-management committees. Factory Management 109:W4 S '51
Employee participation in the decision-making process; abstract. R. Tannenbaum and F. Massarik. Management R 40:134 Mr '51
German labor's new management role; codetermination law. Mod Ind 21:60+ Je '51
Headed for a Ruhr showdown; workers want equal voice with management. Bsns W p 122+ Ja 20 '51
Incentive management and profit sharing. T. P. Pike. Advanced Management 15:11-13 O '50
Junior bosses; Boston plastics molder uses multiple-management plan. Bsns W p92 Ja 20 '51
Two heads not better; German unions' insistence on share in management may sour foreign aid, technical assistance. Mod Ind 21:68 Mr '51
Watch on the Ruhr; German labor may win a share in management. E. Hughes. Barron's 31:7-8 Ap 2 '51
See also
Corporations—Directors, Junior
Shop stewards

EMPLOYEES' saving plans. See Saving

EMPLOYEES' suggestions. See Suggestion systems

EMPLOYEES' theft. See Theft

EMPLOYEES' trusts
Mutual funds as investments for profit-sharing trusts. D. F. Cates. Trusts & Estates 89:766-7 N '50
Wage stabilization board rules on payments into employes' trusts. Nat Underw (Life ed) 55:3 S 7 '51
Zenith explains profit-sharing trust. il Trusts & Estates 90:320 My '51

EMPLOYER wage stabilization research office
Industry's wage data arsenal. Bsns W p30+ S 1 '51

EMPLOYERS' associations
Employers' associations in Europe and North America. G. J. Puységur. bibliog Int Labour R 63:507-36 My '51

EMPLOYERS' liability
Court holds employer may be liable for negligent act of employee in smoking, even after warning. East Underw 51:30 D 8 '50
See also
Insurance, Employers' liability
Workmen's compensation

EMPLOYERS' liability insurance. See Insurance, Employers' liability

EMPLOYMENT
Britain's over-full employment. P. Einzig. Comm & Fin Chr 173:1762 Ap 26 '51
Effect of mobilization program on employment opportunities. H. Wood. Mo Labor R 71:680-1 D '50
Employment outlook in petroleum production and refining. C. R. Winegarden and S. Swerdloff. il maps U S Bur Labor Statistics Bul 994:1-52; pa 30c Supt. of doc. '50; Excerpts. Mo Labor R 70:374-8 Ap '50
Flexible exchange rates and the theory of employment. S. Laursen and L. A. Metzler. R Econ & Stat 32:281-99 N '50
Is full employment secure? Economist 159:986-7, 1066-8, 1130-1, 1186-8 D 9-30 '50
Meaning and measurement of full or maximum employment. T. K. Hitch. R Econ & Stat 33:1-11 F '51
National and international measures for full employment; recommendations of the Economic and social council. Int Labour R 63:40-63 Ja '51
New employment peaks. L. Levine. Steel 128:70 Je 4 '51

EMPLOYMENT—*Continued*

Pattern of working life for men in 1940. H. Wool. Mo Labor R 71:323-31, 438-42 S-O '50

Price-level stabilization and full employment as objectives of monetary policy. D. A. Fergusson. J Bsns 24:220-31 Jl '51

See also

Age and employment
Applications for positions
Discrimination in employment
Employment departments
Handicapped
Labor supply
Negroes—Employment
Unemployment
Veterans—Reemployment
Woman—Employment
Working life, Length of

International aspects

United nations and full employment. L. L. Lorwin. For Comm W 41:3-4+ O 23 '50

Stability

Employment stability and income security. C. R. Daugherty. Ann Am Acad 274:39-46 Mr '51

Report on full employment presented at Strasbourg. Economist 160:1150 My 19 '51

See also

Labor turnover

Statistics

All manufacturing employment and wages; 1939-1950; tabulation. Iron Age 167:361 Ja 4 '51

Critical analysis of farm employment estimates. D. G. Johnson and M. C. Nottenburg. Am Stat Assn J 46:191-205 Je '51

Effects of employment on the course of heart disease; the staff of the Work classification unit, Adult cardiac clinic, third (New York university) Medical division, Bellevue hospital. bibliog A M A Archives Ind Hygiene & Occup Med 3:367-74 Ap '51

Employees in nonagricultural establishments, adjusted data; revised figures, monthly and monthly averages, 1939-1949. Survey of Cur Bsns 30:23 D '50

Employees in trade and service, unadjusted data; revised figures, monthly and monthly averages, 1939-1946. Survey of Cur Bsns 30:22 D '50

Employees, manufacturing by states; tabulation. Iron Age 167:358 Ja 4 '51

Employment and labor conditions in 1950. Survey of Cur Bsns 31:29-31 F '51

Employment and pay rolls. Published in Monthly labor review

Employment in nonagricultural establishments, by industry division, yearly 1941-1949 and monthly Nov. 1949-Nov. 1950. Fed Res Bul 37:82 Ja '51 [cont monthly]

Employment in the metalworking industry; tabulation. Iron Age 167:360 Ja 4 '51

Employment, 1941-1951; chart. Bsns W p34 Jl 7 '51

Expansion of employment in the aircraft industry. M. Kupinsky. Mo Labor R 73:15-19 Jl '51

Explanatory notes on the tables on unemployment and employment, consumer prices, wages and hours of work [tabulations cont monthly]. Int Labour R 63:79-113 Ja '51

Factory employment by industries (adjusted and unadjusted) Nov. 1949-Nov. 1950. Fed Res Bul 37:80-1 Ja '51 [cont monthly]

Labor force; chart and tables. Automotive Ind 104:79 Mr 15 '51

Labor market developments. Fed Res Bul 37:613-23 Je '51

Living standards and productivity. J. Burkhead. R Econ & Stat 33:241-7 Ag '51

Manpower trends in the mining industries. E. Weinberg. Mo Labor R 73:133-40 Ag '51

Metalworking, wages and hours, employment; tabulations. Steel 128:143 Ja 1 '51

Production and employment trends. Survey of Cur Bsns 31:3-5+ Mr '51

Production workers in manufacturing, nondurable-goods industries; revised series; monthly totals and monthly averages, 1939-1948. Survey of Cur Bsns 30:23-4 O '50

State and local governments, 1909 to 1948; a study of employment and payrolls. C. P. Brainerd. Mo Labor R 73:20-5 Jl '51

Steel employment, wages, hours, and payrolls, 1947-1950, by months; monthly averages, 1936-1949; tabulations. Steel 128:142 Ja 1 '51

Total employees by industry and total U.S. employment by status; tabulations. Iron Age 167:359 Ja 4 '51

Total U.S. employment; monthly averages, 1936-1947; by months, 1948-1950; tabulations. Steel 128:142 Ja 1 '51

Trends in consumer metal-goods industries, 1939-1950; employment trends. S. Goldstein. Mo Labor R 72:263-9 Mr '51

EMPLOYMENT, Discrimination in. See Discrimination in employment

EMPLOYMENT agencies

See also

Forty-plus clubs

Employees

Agency training program puts heavy emphasis on work; McCann-Erickson. E. J. Dever, jr. il Ptr Ink 234:31-3 F 16 '51

EMPLOYMENT contracts. See Labor contracts

EMPLOYMENT departments

Department-liaison men reduce personnel-relations cost in woolen and worsted mill. M. B. Scharff. Textile World 101:222+ Ag '51; Abstract. Management R 40:543-4 S '51

Does our personnel program extend to the personnel office? J. E. Eitington. Personnel 27:301-3 Ja '51

Evaluating the personnel department. B. Payne. Personnel J 29:343-5 F '51

How to ease the load on your foremen. E. Mottershead. Am Mach 95:90-1 Ap 2 '51; Excerpts. Mill & Factory 48:107-8 Mr '51

Off the fringe and onto the first team. A. V. MacCullough. Advanced Management 16:19-21 S '51

What to expect of your personnel people; management data sheet. J. W. Vanden Bosch. Factory Management 109:124 Ag '51

Why personnel work isn't better; abstract of report by the Industrial engineering department of Columbia university. Mod Ind 22:86+ S '51

Records

Company files help put personnel across to students. R. Saltonstall. Personnel 28:73-6 Jl '51

Filing system for the personnel department. J. C. Donnal. Personnel J 29:290-1 Ja '51

How Ford keeps employees' skills from getting lost. D. G. Baird. il Am Bsns 21:16-17 Jl '51

How you can make employee records save time, effort. Am Bsns 20:16-17 O '50

Machines slash office turnover; Lit bros. department store uses high-speed accounting machines. L. Bolger. il Am Bsns 21:24+ Jl '51

Reducing the cost of keeping personnel records. R. M. Hoffman. Personnel J 29:172-4 O '50

See also

Time clocks

EMPLOYMENT management

Best workers gripe the most; Institute of social research study at Prudential. Bsns W p68-72 F 10 '51; Discussion. R. Likert. p100+ S 8 '51

Communicating with our employees. H. S. Hall. Personnel J 30:85-90 Jl-Ag '51

Conference on industrial personnel, New York, March 21. Chem & Eng N 29:1310 Ap 2 '51; Mo Labor R 72:554 My '51

Emotional maturity, a must for good labor relations. F. T. de Vyver. Textile World 101:174+ S '51

Employee morale; how can it be made an active factor in the Diesel shop? E. S. Lowe; H. C. Taylor. Ry Mech & Elec Eng 125:79-80 My; 83 Je '51

Employee motivation, key to greater productivity; abstract. D. Katz. Management R 40:131-2 Mr '51

Employe program pans out for Canadian mining co.; Hollinger mines. R. Newcomb and M. Sammons. il Ind Marketing 35:90+ S; 126+ O '50

Employer-employe relationships. H. S. Hall. Rock Prod 54:90-2 Mr '51

EMPLOYMENT management—*Continued*

Evaluating operating performance and personnel. A. J. Gregory. Edison Elec Inst Bul 19:187-8+ Je '51

Everybody benefits at S. C. Johnson. il Am Bsns 21:10-11+ My '51

Exit questionnaires help our employee relations; Hand knit hosiery co. R. P. Kreuter. Factory Management 109:90-1 Jl '51

Firm, industrial relations and profits. W. V. Owen. Personnel 27:224-7 N '50

Five needs face management today; abstract. E. L. Lindseth. Am Bsns 21:22+ Ap '51

Getting results through people. T. G. Spates. Advanced Management 15:5-7 O '50

Golden rule in employee relations; Atlantic steel co. W. G. Torpey. Personnel J 30:102-5 Jl-Ag '51

Good employee relations pay off in an ad agency; Ruthrauff & Ryan. J. L. Ames. Ptr Ink 234:34-5 Ja 12 '51

Guide for general management's policy thinking on personnel administration. R. R. Tufts. Personnel 27:312-20 Ja '51

Guide to human relationships; Hollinger consolidated gold mines. T. E. Hawkins. Eng & Min J 152:89 Ap '51

How a small company kept morale high and customers happy; Community credit co., Omaha. il Am Bsns 21:36 Ja '51

How can a small agency maintain an efficient staff? W. B. Swann. Adv Agency 44:72+ S '51

How can the industrial relations man best serve his company's interest? H. M. Turner. Pulp & Pa of Can 51:69-73 D '50

How effective is your personnel program. B. Blai, jr. Personnel J 30:98-101 Jl-Ag '51

How Scott Paper sells production efficiency to plant personnel. C. J. Swan. il Ptr Ink 236:36-8 Ag 17 '51

How to be a good boss. W. V. Merrihue. Elec West 106:53-5 Ja '51; Same. Edison Elec Inst Bul 19:33-5 F '51

How to get the maximum utilization of your manpower. Mill & Factory 47:87-92 N '50

How to put individual initiative to work; abstract. M. Kestnbaum. Management R 40:199-200 Ap '51

Human-relations ideas your mill can use. P. King. Textile World 100:161+ O '50

Importance of the supervisor in an employee relations program. L. A. Brandt. Am Gas Assn Proc 1950:815-18

In the agency business; copy writer needed a challenge. J. Barnetson. Ptr Ink 233:38 N 24 '50

Industrial relations round-table. Published in American gas association monthly

Jewel Tea executives are first assistants to their staffmen. Am Bsns 21:12-13 Jl '51

Keep your young engineers; how Allis-Chalmers does it. W. C. Van Cleaf. il Factory Management 109:98-100 Ag '51

Key to defense production in foreman's hands. F. Rudge. Iron Age 168:75-7 Ag 23 '51

Laborgrams; latest trends on labor and employe relations. L. Stessin. Published in monthly numbers of Mill and factory

Let your employes know when better jobs are open. Mill & Factory 48:115-17 Je '51

Lick your manpower problems before they start. M. P. Miller. Textile World 101:182 F '51

Making human relations work. E. Jennings and F. Jennings. Harvard Bsns R 29:29-55 Ja '51

Mobilizing personnel policies. il Mod Ind 21:58+ F '51

More effective personnel job through the employee utilization concept; Area military government personnel program in Berlin; abstract. M. G. Blansfield. Management R 39:597-600 O '50

New philosophy of employee relations in ad agencies; NYU seminar. Ptr Ink 235:33-4+ Je 1 '51

Nine experts tell you how to keep your foremen on your side. Factory Management 109:84-7+ Je '51

Nip your employe problems in the bud. F. Rudge. Mill & Factory 48:75-8 My '51

Pay checks are not enough; people want recognition for work well done. M. French. Am Bsns 21:16-17+ Je '51

Personnel administration in public service; analyzing characteristic obstacles to effective use of modern policies. P. Monypenny. Advanced Management 16:19-21 Ja '51

Personnel is an executive function. W. G. Caples. Advanced Management 16:13-14 Je '51

Personnel management. E. B. Stevens. Paper Tr J 131:341-7 N 30 '50

Personnel semantics. H. W. Flitcraft. Life Ins Courant 56:12-13 My; 4-5 Jl '51

Planned program to benefit labor at National Gypsum. C. H. Dwyer. Rock Prod 53:118-20 D '50

Planning ahead in personnel. H. A. Stackman, jr. Personnel J 29:286-9 Ja '51

Planning for production efficiency. C. D. Gibb. Engineering 171:239 F 23 '51

Quality charts boost worker interest. R. Smith. Am Mach 94:98 D 25 '50

Quality workmanship today; is it possible? W. E. Shurtleff. Personnel J 30:59-63 Je '51

Ready for manpower shortage? have a recruiting and training program set when the labor pinch begins to hurt. Steel 128:35-6 F 19 '51

Sage advice to mine foremen. J. J. Rutledge. il Explosives Eng 29:118-19 Jl '51

Securing cooperation in a methods change. K. A. Lifson. Personnel 28:41-5 Jl '51

Simple checklist helps foremen handle personnel problems. W. S. Ferguson. Factory Management 109:109 Je '51

Skilled labor; how to get and hold it. Steel 129:48-9 Ag 20 '51

Some thoughts on personnel management. J. F. Morris. Bankers Mo 68:22+ F '51

Summary of a personnel program. A. F. Armstrong. Paper Tr J 131:339-41 N 30 '50

Supervision and morale factors in productivity; Institute of social research study at Prudential home office. Mo Labor R 72:564 My '51

Supervision of women in industry. H. A. Ford. Personnel J 29:421-3 Ap '51

Supervisors guide destiny of personnel. H. W. Tushingham. Ed & Pub 84:67 Jl 14 '51

Teaching personnel at Yale; term examination. T. Spates; B. T. Eskridge. Personnel J 30:55-8 Je '51

These incentives encourage executive teamwork at American brake shoe co. W. B. Given, jr. Am Bsns 21:8-9+ Jl '51

What do your employees plan to do at 65? Standard oil company (N.J.) retirement counseling program. Mill & Factory 48:111-12 F '51

What is the productivity of industrial workers? Mill & Factory survey. Mill & Factory 49:67-70 Ag '51

What it takes to win enthusiasm of employees in any business. E. Whitmore. il Am Bsns 21:8-9+ Mr '51

What made Gertrude give; it's morale; Bigelow-Sanford's skit for foremen and management men. il Factory Management 109:74-6 Mr '51

What you can do now to keep workers on the job. M. J. Murphy. Factory Management 109:130-3 Ja '51

Where do good foremen come from? E. S. Lowe. Ry Mech & Elec Eng 125:74-5 Jl '51

Who should make personnel policies? P. Pigors and F. Pigors. Personnel 27:176-89 N '50

Women workers are different; abstracts. R. F. Welch. il Rayon 32:31-2+ My '51; Management R 40:125-6 Mr '51

Yes-men are made, not born. H. Hertz. Ptr Ink 233:116 D 1 '50

See also

Ability tests
Absenteeism (labor)
Apprentices
Bank employees
Bonus system
Building trades—Labor conditions
Bulletin boards
Chaplains, Industrial
Collective bargaining
Efficiency, Industrial
Employees—Opinion polls
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Employees—Rating
Employees, Dismissal of
Employees, Reports to
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Employees, Transfer of
Employees' benefit plans

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Employees' contests
Employees' manuals
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Employees' representation in management
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Factory management
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Labor and laboring classes
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Safety devices and measures
Sales management
Shop stewards
Slowdowns
Suggestion systems
Supervisory workers
Time study
Veterans—Reemployment
Wage payment plans
Woman—Employment

Alcohol problem

Alcoholism and industry; approaches to the problem; abstract. S. D. Bacon. Management R 40:280 My '51

Rehabilitation of alcoholics in business and industry. C. C. Troensegaard and M. P. Manson. bibliog Ind Med 20:277-80 Je '51

Bibliography

In perspective; guide to selected reviews of management literature. Personnel J 29:308-9 Ja '51

Sources of information on personnel management and labor relations. A. W. Baker and F. S. Rawson. (Research monograph no. 62) 117p Ohio state univ, College of commerce and administration, Columbus 10 '51 (pa $1)

Discipline

What is fair play in worker discipline? P. A. King. Textile World 101:178+ O '51

Gambling problem

Hold that bet; gamblers at shipyard warned that AFL won't help them. Bsns W p32 Je 23 '51

What does employee gambling cost? E. Whitmore. il Am Bsns 21:14-15+ Ja '51

Zenith scratches inplant bookies. Bsns W p 108 O 28 '50

Grievances

Foreman's role in labor relations. A. J. Bartlett. Coal Age 56:98+ Ja '51

Handling the worker with a gripe. E. Mottershead. Rayon 32:35+ Jl '51

Master board gives company control of grievances; Philadelphia transportation co. Am Bsns 21:50 Jl '51

Test foremen on your labor contract and watch grievances subside. H. S. Langdon. Factory Management 108:116-19 D '50

Information sharing

Armco sells American way by not talking of it. R. Newcomb and M. Sammons. il Ind Marketing 36:88-9+ Ja '51

Communication within industry, fundamentals of a satisfactory program. R. W. Peters. Personnel J 29:184-7 O '50

Economic education. C. B. Boulet. Edison Elec Inst Bul 19:265-6+ Ag '51

Explaining your business; how it's done in small companies; abstract. R. Newcomb. Management R 40:339 Je '51

For your information; Abbott laboratories, Pharmagraph. J. F. Stiles, jr. Personnel J 30:6-8 My '51

Four problems in communications and how they were met. il Mod Ind 22:61-4+ Ag '51

How good a leader are you at communicating with employees? A. Uris. Factory Management 109:104-6 S '51

If you owned a railroad; novel approach to better employee understanding of railroad financial problems, reprinted from Boston & Maine railroad magazine. C. A. Somerville. il Ry Age 131:43-5 Jl 23 '51

Information, please! it's the link to better understanding. M. B. Andrews. Textile World 101:163+ Ja '51

Informing employees; from Royal bank of Canada Monthly letter. Banking 44:42-3 S '51

Let workers tell your story for you; Hawaiian pineapple co. il Factory Management 109:62-3 Ap '51

Our butter-and-gun economy calls for explaining. R. L. Pritchard. Ptr Ink 235:35 Je 22 '51

Reaching employees with labor-management information; abstract. Management R 40:192-3 Ap '51

Selling quality control to production employees. W. Exton, jr. Personnel 27:397-402 Mr '51

Speak up, Mr Employer! abstract. Management R 39:655-6 N '50

Spotlight on an unsolved problem, communication. E. Ahern. bibliog Personnel J 29:306-7 Ja '51

Taking employees into your confidence. J. W. Alexander. Personnel J 29:223-4 N '50

Telling employes where the money goes; illustrations with text. Mill & Factory 49:110-11 S '51

Telling your story to your employees. C. White. Personnel J 29:166-71 O '50

Utilities and freedom; private utilities are a bulwark for freedom; pass the word to employees. H. E. Stassen. Am Gas Assn Mo 32:11+ N '50

Wave lengths; communication in industry. E. I. Bjork. Am Gas Assn Proc 1950:163-8; Same. Am Gas Assn Mo 32:14-17+ D '50

What good communications can do; Hollinger consolidated gold mines. N. Greene. Eng & Min J 152:100-1 Ap '51

What makes an employee information program click? Virginia electric and power co. W. E. Wood. il Dun's R 59:20-1+ Ap '51

What Vepco employees think of their information program. W. E. Wood. Edison Elec Inst Bul 19:83-5 Mr '51

See also

Bulletin boards

Interviewing

Counseling executives after merit rating or evaluation. E. G. Planty and C. E. Efferson. Personnel 27:384-96 Mr '51

New employees

Indoctrination programs for technical personnel. F. C. Cutting. Am Pet Inst Proc 31 M(3):178-82; Discussion. 182-3 '51

Orienting bank beginners; new A.I.B. book, You and banking, meets that need. L. Gibson. Burroughs Clearing House 35:35+ S '51

Proper induction saves money; Hollinger consolidated gold mines. M. Steel and R. C. Thomson. Eng & Min J 152:96 Ap '51

Sell the incoming professional men of the class of '51. J. W. Irwin. Chem & Eng N 29:2500-1 Je 18 '51

Selling safety to new miners. il Coal Age 56:74-7 Jl '51

What to tell your new employees. Paper Ind 33:520 Ag '51

See also

Employees' manuals

Study and teaching

Company files help put personnel across to students. R. Saltonstall. Personnel 28:73-6 Jl '51

Education and development of executives. L. H. Dalzell. Advanced Management 16:14 My '51

Getting industry into the classroom. W. G. Philp. Personnel 27:229-30 N '50

Technique of teaching wage and salary administration. J. E. Burns. Personnel 27:227-9 N '50

EMPLOYMENT management associations

Organizing a personnel association. P. Wentworth. Personnel J 29:367-72 Mr '51

Directories

Directory of local personnel groups; 1951. Personnel 28:52-60 Jl '51

EMPLOYMENT managers

New York personnel club workshops. E. Bergstrom. Personnel J 30:144-5 S '51

Personnel ratios and salaries; Jan. 1951. D. Yoder and L. P. Nelson. Personnel 28:5-11 Jl '51

EMPLOYMENT systems

Careful selection and training solves mender shortage. M. B. Scharff. Textile World 101: 131 Mr '51

Current problems in employment. D. Ann. Personnel J 30:134-5 S '51

Do your employes know safe practices when they see them? safety test developed by Revere copper and brass, inc. il Mill & Factory 48:123-4 Mr '51

DuMont employee profile. H. Housten. Personnel J 29:381-4 Mr '51

Employment practices for chemists and chemical engineers; committee on economic status of chemists. Chem & Eng N 29:274-7 Ja 22 '51

Four ways to head off your manpower crisis, now. Chem Eng 58:127 Mr '51

Institute's vocational tests assist in hiring and promoting staff workers. R. G. Ankers. J Account 91:86-91 Ja '51

Michigan state college Career carnival lures employee-hungry companies. il Am Bsns 21: 32+ Ag '51

New survey reveals hiring intentions of major accounting employers. J Account 91: 289-93 F '51

Recruiting techniques for a tightening labor market; abstract. Management R 39:713 D '50

Recruitment and selection in the current emergency; abstract. E. de la Ossa. Management R 40:66-7 F '51

Sales-eye view of the personnel function; abstract. H. M. Nordberg. Management R 40:536 S '51

Scientific hiring of appliance servicemen. A. R. Laney, jr. il Am Gas Assn Mo 33: 14-16 Ja '51

Search for skills; management needs technical and skilled men. il Mod Ind 20:54-6 N '50

So you can't hire young executives! A. M. Elliott. Am Mach 95:88-9 Ja 8 '51

Utility offers job opportunities; everybody a recruiting officer at Consolidated Edison. Am Bsns 21:38-9 Jl '51

What to do now about man power; two checklists that will help you find and train workers. M. J. Murphy. Factory Management 108:92-5 D '50

See also

Ability tests
Age and employment
Civil service
Disabled—Rehabilitation
Discrimination in employment
Employees—Rating
Employment management
Executives
Handicapped
Job analysis
Layoff systems
Physical examinations
Salesmen—Selection

Advertising aids

Baited ad: Bill Jack of Jack & Heintz fame hopes to lure former associates. Bsns W p 114-15 Ja 20 '51

How to get workers in a hurry; case history of a harvest that was saved by men-wanted ad campaign. L. F. Thomann. il Ptr Ink 234:30 F 16 '51

New publication previews career mart; Career, inc. Bsns W p76 D 16 '50

Age barriers

See Age and employment

Interviews

Advice for an interviewee. W. A. Lowen. Adv Agency 44:65+ Mr '51

How four mills improved interviewing techniques. M. B. Scharff. Textile World 101: 144-5+ S '51

EMPLOYMENT tests. See Ability tests

EMULSIFIERS

Emulsifier trend; sharply up; CIW report. J. P. Sanderson and F. K. Abel. il Chem Ind W 68:19-23+ My 26 '51

HLB progress. Chem Ind 67:561 O '50

Simplified automatic emulsifier for rosin size. il Paper Ind 32:1270 Mr '51

EMULSIONS

Aspects of emulsion applications in textile processing; abstract. Am Dyestuff Rep 40: 360 My 28 '51

Asphaltic emulsions for road and industrial uses. W. Bierhalter. il Pet Refiner 30: 103-6 S '51

Bitumen emulsions in waterproofing papers and boards; abstract. Paper Ind 33:319 Je '51

Breaking water-tar emulsions with surface-active agents. I. Pincus, K. F. Ockert and C. R. Kinney. bibliog Ind & Eng Chem 43: 521-4 F '51

Copolymerization in emulsion. F. T. Wall, R. E. Florin and C. J. Delbecq. bibliog Am Chem Soc J 72:4769-73 O '50

Determination of acid number of oils and resins in aqueous medium. G. Narsimhan and S. A. Saletore. bibliog Anal Chem 23: 1315-17 S '51

Electrical dehydration of tar emulsions. W. S. McGraw. il Gas Age 106:28-30+ D 21 '50

Formulation of emulsions. G. L. Brown and R. J. Myers. bibliog Soap & San Chem 27: 43+ Jl '51

Mineral oil as a wool lubricant; emulsification of blends of mineral oil and wool-wax alcohols. E. V. Truter. bibliog J Ap Chem 1:254-7 Je '51

Multiple scattering of fast electrons in nuclear emulsions. D. R. Carson. bibliog Phys R 80:303-4 O 15 '50

Oil and water emulsions; lecture demonstration. Sister M. Ignatia. J Chem Educ 28:112 F '51

Oil-emulsion drilling fluids. H. W. Perkins. bibliog Pet Eng 23:B60+ Ap '51; Same abr. Oil & Gas J 49:95-8 Ap 5 '51

Oil emulsion drilling mud. O. Van Dyke. il diags World Oil 131:101-4+ N '50

Polyalkylene sulfides; the rate of formation in emulsion. C. S. Marvel and A. H. Markhart, jr. Am Chem Soc J 73:1064-5 Mr '51

Properties of interfacial films. G. Narsimhan and S. A. Saletore. bibliog Anal Chem 23: 1317-18 S '51

Resins go the water route. il Chem Ind 67: 713-14 N '50

Stability of mineral oils in toilet and cosmetic preparations. W. W. Myddleton. bibliogs 2pls Inst Pet J 37:45-58; Discussion. 59-66 F '51

Studies in water-in-oil emulsions; the effect of *pH* on the reciprocal mobility. P. Sherman. Soc Chem Ind J 69(sup no 2):S74-5 '50

Studies in water-in-oil emulsions; the influence of disperse phase concentration on emulsion viscosity. P. Sherman. bibliog Soc Chem Ind J 69(sup no2):S70-4 '50

Water-in-oil emulsion varnishes and paints. W. Bosch. bibliog Paint Oil & Chem R 113: 99-103 N 23 '50

Wax emulsions effective as drawing lubricants. il Steel 129:67 Jl 30 '51

See also

Colloids
Foam
Petroleum—Emulsions

EMULSIONS, Photographic. See Photographic emulsions

ENAMEL, Removal of

Acres of rejects. Chem W 69:15 S 1 '51

De-enameling salvages defective ware. D. Reebel. il Steel 128:91 Ap 2 '51

D-enameling; salvages rejects, saves steel. il Iron Age 168:89 Jl 26 '51

Makes a big business of D-enameling. A. M. Lander. il Cer Ind 56:102-3+ Ap '51

Peels porcelain. Chem Ind W 68:11 Mr 10 '51

ENAMEL and enameling

Ceramic coatings prevent exhaust gas corrosion. Steel 128:98+ Je 18 '51; Same. Automotive Ind 105:36-7+ Ag 1 '51; Same. Cer Ind 57:51-2 Ag '51; Same. Franklin Inst J 252:347-8 O '51; Same abr. Product Eng 22:165-7 Jl '51; Same cond. Iron Age 168:118 S 6 '51; Same cond. Materials & Methods 34:142+ Jl '51

Ceramic liners; Solar coating can replace scarce alloys. il Aviation W 55:34+ Ag 13 '51

Ceramics; exhaust protection. il Aviation W 54:30 My 21 '51

Ceramics for the hot spots. C. L. Foushee, jr. il Aero Digest 63:32+ Ag '51

Ceramics; they help steel stand jet temperatures. il Bsns W p46-8+ O 6 '51

Defense work study continues. Steel 128:120 Je 25 '51

Effect of oxides of arsenic on the adherence of ground coat enamels; abstract. J. F. Miller. Cer Ind 56:63+ Je '51

ENAMEL and enameling—*Continued*

Effect of water quality on the manufacture of ceramic ware and porcelain enamel. J. B. Smith. bibliog flow diag il Am Cer Soc Bul 30:301-3 S 15 '51

Enamel batches; recipes. Cer Ind 56:149-50 Ja '51

Enamel industry dons war-paint. Mill & Factory 48:291+ Je '51

Enamel; one coat on plain steel. G. Beaudet. il Iron Age 168:43 S 27 '51

Four-point program gives good enameling; Smoot-Holman co. il Cer Ind 57:40-2 Jl '51

Heat-resistant ceramic coatings broaden low carbon steel applications. bibliog il Steel 129:74-7+ Ag 13 '51

Heat resistant ceramic coatings permit substitutes for critical materials. D. G. Bennett. il Materials & Methods 33:65-7 Mr '51

Heat-resistant porcelain enamels. Chem Eng 58:199 S '51

High-temperature ceramic coatings for molybdenum. Product Eng 22:105 Ja '51

Maytag takes on porcelain enameling. il plan Cer Ind 55:52-5 D '50

New uses for enamel. il Steel 129:62 S 3 '51

Planning keeps Roper with the leaders. il Cer Ind 56:60-1+ Mr '51

Porcelain enamel coatings. il Product Eng 22:141-8 Je '51

Porcelain enamel institute curtain wall research committee plans to develop porcelain enameled curtain wall panel. Eng N 147:51 Ag 23 '51

Porcelain enamel selector valve cuts maintenance. il Iron Age 168:74 Ag 23 '51; Product Eng 22:198 O '51

Porcelain enamel solves aircraft engine problem. il Cer Ind 56:72-3+ Je '51; Am Cer Soc Bul 30:226 Je 15 '51

Porcelain enamel, stronger than you think. W. A. Deringer. bibliog il Iron Age 167:85-7 Mr 8 '51

Saving alloys with ceramic coatings; Solar Aircraft's Solaramic. il Mod Ind 22:101 S '51

Strontium holds enameling promise; abstract. L. Vielhaber. Cer Ind 56:49 F '51

Study of ceramic coatings for high-temperature protection of molybdenum; abstract. D. G. Moore and others. Metal Prog 59:872+ Je '51

Substitutes porcelain enamel for metals in synthetic unit. Rubber Age 69:595 Ag '51; Steel 129:96 Ag 27 '51

System Na_2O-P_2O_5-Al_2O_3-B_2O_3 as a possible base for low-temperature titania-opacified porcelain enamels. L. R. Blair and M. D. Beals. bibliog Am Cer Soc J 34:110-15 Ap 1 '51

Technique of applying porcelain enamel cover coat directly on steel. M. E. McHardy. Refrig Eng 58:1194-5 D '50

Technology of porcelain enameling on steel. E. E. Marbaker. Mech Eng 73:386-92 My '51

Thin ceramic coatings on turbojet engine parts yield alloy savings. Steel 129:66 Jl 30 '51

Variety helped build this enameling plant. il plan Cer Ind 57:46-9 Ag '51

Vitreous enamel for aluminum. W. F. Carroll. Am Cer Soc Bul 30:232-3 Jl 15 '51

X-ray diffraction study of the oxidation characteristics of nickel-pickled sheet iron as related to enamel adherence. G. S. Douglas and J. M. Zander. bibliog il Am Cer Soc J 34:52-9 F 1 '51

See also

Sheet metal, Enameled

Advertising

How industrial advertiser is giving technical ads consumer flavor; human interest art and copy. N. Keine. il Ptr Ink 236:42-3 S 28 '51

Color

Applying colored enamels to signs. G. W. Greene. Cer Ind 56:79 Je '51

Color stability of clear and opaque titania enamels containing various color oxides. N. K. Russell and others. Am Cer Soc J 34:28-31 Ja 1 '51

How to grind colored enamels. G. W. Greene. Cer Ind 57:51 S '51

Know your enamel for best applied color labeling results. Cer Ind 55:76 N '50

Recrystallization halts uniform color. Cer Ind 56:62-3+ My '51

Some factors affecting the opacity, color, and color stability of titania-opacified enamels. R. F. Patrick. bibliog Am Cer Soc J 34:96-102 Mr 1 '51

Some further observations of the effects of mill additions on the color value of titania enamels. E. E. Marbaker and H. S. Saunders. Am Cer Soc J 34:38-43 F 1 '51

Defects

Our enamel trouble was a very jarring defect. C. C. Mahaffey. il Cer Ind 57:43 Jl '51

Study of spalling found in porcelain enamel after repeated freezing and thawing in the presence of moisture. R. J. McEvoy and A. I. Andrews. il diag Am Cer Soc J 34:135-41 My 1 '51

Electric properties

Use of a semiconducting porcelain enamel as a means of producing copper-copper oxide rectifiers. P. C. Gaertner, jr. diag Am Cer Soc Bul 30:265-6 Ag 15 '51

Testing

Littleton softening point test as a method of measuring frit fusibility. R. J. Brown. Am Cer Soc Bul 30:197-200 Je 15 '51

Measures enamel adherence. Steel 129:103 Jl 16 '51

ENAMEL spraying

Facts of low pressure spraying. R. D. Beck. Cer Ind 56:74-5+ Je '51

Frigidaire sprays at low pressure. R. S. Sheldon. bibliog Cer Ind 56:70+ Mr '51

ENAMELED ware

Manufacture

Coordinate cleaner, drawing compound for best enameling results. G. A. Cairns. Cer Ind 56:47+ F '51

Transportation

New rail car cuts shipping losses of damageable products. il Cer Ind 56:77+ F; 54-5 Mr '51

ENANTIOMERS. See Isomers

ENCEPHALITIS, Epidemic

Encephalitis in the Missouri River basin; studies on a focal outbreak in North Dakota. H. A. Wenner and others. bibliog map Pub Health Rep 66:1075-85 Ag 24 '51

ENCEPHALOGRAPHY

See also

Electroencephalography

ENCEPHALOMYELITIS

Oxygen uptake of embryonated eggs infected with western equine encephalitis virus. R. A. Siem and others. Science 112:505-6 O 27 '50

ENCYCLOPEDIAS

Chambers's encyclopedia. 15v $195 Oxford univ. press, 114 5th av, New York 11 '50

Columbia encyclopedia. W. Bridgwater and E. J. Sherwood, eds. 2d ed rev 2203p $25 Columbia univ. press, 2960 Broadway, New York 27 '50

Everyday reference library; an encyclopedia of useful information. L. Copeland and L. W. Lamm, eds. 1634p J. G. Ferguson and associates, 6 North Michigan av, Chicago 2 '51; ($19.50)

Everyman's encyclopedia. A. Ridgway, ed. 3d ed rev 12v $27.50 Macmillan co, 60 Fifth av, New York 11 '51

ENDAMOEBA histolytica. See Ameba

ENDOWMENTS

Investments

Ten endowment funds' blue chips. Banking 43:66 Je '51

ENGINEERING

Design engineering. W. E. Johnson. Machine Design 23:168+ S '51

Engineer and security. L. de Florez. il Tech R 53:91-3+ D '50

Engineering in the Festival of Britain. il plans diags Engineering 171:421-3, 453-6, 536-40, 555-8, 589-92, 665-6, 696-9, 730-2, 749-52, 782, pl 26-7, 29-30, 39-40, 43-4, 47-8, 53-4, 56-63; 172:33-5, 84-6, 106-8, 133-6, 166-8, 176, 246-7, 266, pl 12-13 Ap 13-20, My 4-18, Je 1-29, Jl 13-Ag 10, 24-31 '51

ENGINEERING—*Continued*

Engineering in the Festival of Britain. J. L. P. MacNair. Engineer 191:212-13 F 16 '51

Engineering properties of silicone rubbers. P. C. Servais. il Mech Eng 73:639-43 Ag '51

Helluva shortage of engineers. L. P. Lessing. Fortune 44:93-5+ S '51

Joint engineering conference of the Institutions of civil, mechanical and electrical engineers, London; with abstracts of papers. Engineer 191:761-3, 798-800; 837-8, 877-8 Je 8-29 '51; Engineering 171:685-7, 716-18, 746-8, 779-81; 172:6-9, 39-40, 69-72, 151-2, 168-70, 201-2, 231-5 Je 8-Jl 20, Ag 3-24 '51

Nature of engineering. M. P. O'Brien. J Eng Educ 41:133-41 N '50

Neoprene applications in engineering design. R. W. Malcolmson. il Mech Eng 73:627-32+ Ag '51

Nuclear engineering. D. W. Cardwell. J Eng Educ 41:362-6 Mr '51

Progress in industry awaits many developments in engineering materials. T. C. Du Mond. il Materials & Methods 33:57-61 Ja '51

Properties of materials and the engineering uses of cast metals. R. W. Bailey. il diags Metallurgia 44:3-8 Jl '51; Same. Engineering 172:29-32 Jl 6 '51

World is McKee's province. il Bsns W p 160-2 My 26 '51

Young engineer looks at his profession. J. B. Weaver. bibliog Chem Eng Prog 47:sup 17+ F '51

See also

Aeronautic engineering
Air conditioning
Airports
Aqueducts
Automobile engineering
Blasting
Breakwaters
Bridges
Chemical engineering
City planning
Civil engineering
Concrete construction
Construction equipment
Dams
Dikes (engineering)
Docks
Drainage
Drilling and boring (earth and rocks)
Earthwork
Electric engineering
Engineers
Foundations
Gas engineering
Harbors
Heating
Highway engineering
Hydraulic engineering
Industrial engineering
Irrigation
Lighting
Machinery
Marine engineering
Mechanical engineering
Mechanical handling
Military engineering
Mining engineering
Pavements
Petroleum engineering
Pipe laying
Public works
Pumping
Radio engineering
Railroad engineering
Refrigerating engineering
Refrigeration and refrigerating machinery
Reservoirs
Roads
Sanitary engineering
Sewerage
Standards, Engineering
Steam engineering
Steam engines
Steel construction
Strains and stresses
Streets
Strength of materials
Structural engineering
Surveying
Technology
Telephone
Tunnels and tunneling
Ventilation
Water supply engineering

Bibliography

Book reviews; new engineering books. Eng N 146:51 Ja 18 '51 [cont monthly]

Reviews of books and notes on books received in the Engineering societies library. Published in monthly numbers of Mechanical engineering

Directories

Engineer directory and buyers guide. 380p Engineer, 28 Essex st, Strand, London, W.C.2 '51

Examinations

See also

Chemical engineering—Examinations

Geology

See Engineering geology

History

Two thousand years of engineering. C. Gibb. Engineering 172:219-20 Ag 17 '51; Excerpts. Engineer 192:208 Ag 17 '51; Abstract. Electrician 147:469 Ag 17 '51

Social aspects

Golden age of engineering is dawning in this country. H. Lazarr. Gas Age 107:40-1+ My 10 '51

Institution of engineers and shipbuilders in Scotland; presidential address. G. Cook. Engineering 170:418-19 N 24 '50

Study and teaching

Case method of teaching on the senior level. J. F. Manildi. J Eng Educ 41:583-8 Je '51

Continuing technical leadership. T. G. LeClair. Elec Eng 70:95-6 F '51

Exhibit of teaching aids at the Seattle meeting. S. G. Lutz. J Eng Educ 41:406-8 Mr '51

Simple electronic differential analyzer as a demonstration and laboratory aid to instruction in engineering. M. H. Nichols and D. W. Hagelbarger. bibliog il diag J Eng Educ 41:621-30 Je '51

Values inherent in engineering. J. R. Van Pelt. J Eng Educ 41:206-12 D '50

Visual aids teach engineers. il Bsns W p93 O 6 '51

See also

Electric engineering—Study and teaching
Engineering colleges
Engineering education
Engineering teachers
Mechanical engineering—Study and teaching
Mechanics—Study and teaching

Tables, calculations, etc.

Force multipliers. P. Swain. diags Power 95:144 Ag '51

How forces balance. P. Swain. diags Power 95:144 Ap; 144 My; 148 Je; 140 S '51

How to use standard mathematical tables to speed up your engineering calculations. W. H. Engelman. diags Power Eng 54:86-8 N '50

Simple formula solves all higher-degree equations. D. B. Steinman. Civil Eng 21:94-5 F '51; Discussion. 21:415 Jl '51

Alaska

Letter from Alaska. map Eng N 145:112 D 14 '50

Canada

Canadian engineering achievements. J. C. Brown. Comm & Fin Chr 173:7+ sec 2 Je 28 '51

Ceylon

Ceylonese learn American methods quickly on Gal Oya dam. D. J. Bleifuss. il plan diags Civil Eng 21:525-8 S '51

India

India stakes future on her rivers. il map Eng N 146:32-6 Mr 1 '51

Letter from India; Bombay, the gateway. W. G. Bowman. il Eng N 146:39-41 F 1 '51

Israel

Israel banks on its new immigrants. W. G. Bowman. il map Eng N 146:26-30 Mr 22 '51

Peru

Peru plans $200 million irrigation, mining work. map Eng N 145:52 N 23 '50

United States

Engineering centennial. Comp Air Mag 55:280 D '50

Engineers to celebrate in 1952; one hundred years of engineering as an organized profession in the United States. Midwest Eng 3:18-19 D '50; Same. Franklin Inst J 251:205-6 Ja '51

ENGINEERING, Structural. See Structural engineering

ENGINEERING and mining journal (periodical)

Success or mediocrity? a few minutes a month can decide. Eng & Min J 151:106-7 D '50

ENGINEERING colleges

Engineering at Michigan State. C. M. Cade and L. C. Price. il J Eng Educ 41:501-4 My '51

Engineering colleges and national defense. H. H. Armsby. J Eng Educ 41:65-7 O '50

Extensions at the College of technology, Manchester. il Engineer 190:568 D 8 '50

Management and the engineering college. T. Saville. Advanced Management 16:10-11 My '51

Technical college. H. J. Cull. Engineer 192: 250-1 Ag 24 '51

See also

Engineering graduates

Engineering students

also Massachusetts institute of technology

Curriculum

Analysis of petroleum engineering curricula, and recommendations for elective sequences. H. H. Power. J Eng Educ 41:300-7 Ja '51

Building an engineering curriculum. J. Weil. J Eng Educ 41:578-82 Je '51

Case method of teaching on the senior level. J. F. Manildi. J Eng Educ 41:583-8 Je '51

Engineering economy; what it is and its place in engineering curricula. H. G. Thuesen. J Eng Educ 41:533-6 My '51

Engineers for the atomic energy industry. P. N. Powers. J Eng Educ 41:370-4 Mr '51

Faculty evaluation; a report on the faculty viewpoint. G. G. Lamb. J Eng Educ 41:78-80 O '50

Is less than graduation worth while? C. J. Freund. J Eng Educ 42:6-12 S '51

Labor relations and the engineer. A. Startz. J Eng Educ 41:397-401 Mr '51

New type of course in engineering materials. J. Marin and J. A. Sauer. bibliog J Eng Educ 41:81-6 O '50

Professional training for the welding engineer at the Rensselaer polytechnic institute. R. A. Wyant. Welding J 30:243-4 Mr '51

Progress report on accident prevention in engineering schools. J. J. Ahern. J Eng Educ 41:321-5 Ja '51

Renaissance in electrical education. J. D. Ryder. diags Elec Eng 70:581-4 Jl '51

Significance of courses in statistics for engineering students. W. E. Wescott. J Eng Educ 41:544-7 My '51

Undergraduate nuclear engineering curriculum at North Carolina state college. C. K. Beck. J Eng Educ 41:378-82 Mr '51

Directories

Directory of mineral engineering schools in the United States and Canada. Min Eng 3: 676-8 Ag '51

Enrollment

Engineering school enrollment declines; abstracts. S. C. Hollister. Eng N 145:71 N 16 '50; Mech Eng 72:1017-18 D '50

Enrollment study shows decrease in future engineers. W. B. Plank and H. J. Petrie. il map Min Eng 3:674-6 Ag '51

1950 enrollment in engineering colleges. R. C. Story and H. H. Armsby. J Eng Educ 41:1-15 F '51; Excerpt. Mech Eng 73:412 My '51

Evening classes

General objectives of the engineering program from the standpoint of the evening graduate program. R. W. Van Houten. J Eng Educ 41:448-52 Ap '51

Objectives of a program of engineering education in evening classes; from the undergraduate and non-credit standpoint. H. Torgersen. J Eng Educ 41:452-3 Ap '51

Graduate work

Development of a graduate program in engineering mechanics. D. H. Young. J Eng Educ 41:528-32 My '51

General objectives of the engineering program from the standpoint of the evening graduate program. R. W. Van Houten. J Eng Educ 41:448-52 Ap '51

Libraries

Integration of library service with teaching and research, in engineering school libraries. J. E. Allerding. J Eng Educ 41:245-8 D '50

Placement service

Helping the new graduate choose his employment. D. W. McLenegan. J Eng Educ 41:326-8 Ja '51

Who is responsible for the placement of the graduate? W. C. van Dyck. J Eng Educ 41: 119-24 O '50

Professors and instructors

Co-operative engineering education at faculty level. W. E. Reaser. Mech Eng 73:395-6 My '51

Faculty evaluation; a report on the faculty viewpoint. G. G. Lamb. J Eng Educ 41:78-80 O '50

Graduate training of teachers of English for engineers. W. G. Crouch. J Eng Educ 41: 311-14 Ja '51

Promotional system variables for engineering faculties. H. W. Case. J Eng Educ 41:464-70 Ap '51

What program for the young instructor? F. Kerekes. J Eng Educ 41:454-61 Ap '51

Relations with industry

Importance of fundamental knowledge in developing leaders in mutual support of education and industry becomes requisite. A. P. Sloan, jr. il Tech R 53:469-72+ Jl '51

Need for unity. P. G. Hoffman. Tech R 53: 473-5+ Jl '51

See also

Engineering education—Industry co-operation

Student selection

Shorter, less expensive pre-engineering test now available. J Eng Educ 41:239-40 D '50

Tests and testing programs of interest to engineering educators. A. P. Johnson. J Eng Educ 41:277-83 Ja '51

ENGINEERING contracts

Conditions of contract for civil engineering construction. E. J. Rimmer. Engineer 191: 201-2 F 9 '51

Engineers and architects join in recommending improved procedures for award of architect-engineer contracts. Civil Eng 21:479-82 Ag '51

How army and navy defense construction contracts are handled; with addresses of division engineer offices and district engineers, and district public works offices. R. G. Lovett and others. Roads & Sts 94:50+ Jl '51

How to collect on unexpected subsurface difficulties. J. W. Gaskins. Eng N 146:30-1 My 3 '51

Joint-venture contracting; phenomenon of the construction industry. J. G. Tripp. il Civil Eng 21:326-9 Je '51

Legal decisions; summaries of decisions relating to construction (cont). I. V. Werbin. Eng N 145:44 O 26; 34 N 16; 45 N 23; 40 N 30; 45 D 7; 47 D 21; 28 D 28 '50; 146:41 Ja 11; 42 Ja 18; 48 Ja 25; 48 F 1; 48 F 15; 47 F 22; 37 Mr 22; 48 Ap 12; 40 My 3; 37 My 10; 41 My 17; 38 Je 7; 147:32 Jl 12; 34 Jl 19; 35 Jl 26; 38 Ag 9; 43-4 Ag 30; 58 S 6; 46+ S 13; 33+ S 20; 32 O 11; 48 O 18; 40 O 25 '51

See also

Building contracts

Contracts, Letting of

Roads—Contracts

ENGINEERING departments

Competent engineering checkers promote economical production. G. E. Rowbotham. diags Product Eng 22:160-2 Jl '51

Controlling engineering design changes. A. T. Wilson. il Product Eng 22:119-22 S '51

Cost control engineering, stepping stone to better design proficiency; Glenn L. Martin co. J. Van Hamersveld. il diags Machine Design 23:108-14 F; 132-8 Mr '51

Design engineering goes to modern production methods. L. Clayton. Chem Eng 57: 254+ D '50

Engineering for producibility. R. W. Bolz. bibliog il diags Machine Design 23:133-56 Ag '51

How a great engineering organization operates; Kellogg engineering department. il Pet Eng 23:C70-3 Jl '51

How aircraft design changes can be controlled. E. F. Stoner. Automotive Ind 104: 38-9+ Ja 1 '51

ENGINEERING departments—*Continued*

Management's role in research and development of electronic systems. R. I. Cole. Inst Radio Eng Proc 38:1252-3 N '50

Mine engineering; Kerr-Addison mine. il diags Can Min J 72:99-107 Ap '51

Organizing an engineering data file. A. F. Gagne, jr. bibliog il Machine Design 23:110-16+ S '51

Production engineering, cost-cutting task force; Hollinger consolidated gold mines. J. W. Thomson. Eng & Min J 152:74-5 Ap '51

ENGINEERING drawing

Competent engineering checkers promote economical production. G. E. Rowbotham. diags Product Eng 22:160-2 Jl '51

Controlling engineering design changes. A. T. Wilson. il Product Eng 22:119-22 S '51

Duty on imported engineering plans urged by C.C.A. Roads & Eng Constr 89:118 Mr '51

Microfilms preserve engineering drawings at Ford plant. Mach 57:161 Ag '51

Selecting printmaking equipment. G. Moody. il Product Eng 22:137-9 Ap '51

Specifying standard parts. T. C. Lloyd. diags Machine Design 23:106-12 My '51

Study and teaching

Teaching engineering drawing; study of the allocation of students' time. F. Robinson. Engineer 192:159-60 Ag 3 '51

ENGINEERING economics

Chemical engineering economics, what it holds for you. R. Stahl and J. E. Kasch. Chem Eng 58:270+ F '51

Engineering approach to stabilized prosperity E. G. Nourse. Mech Eng 72:870-2+ N '50

Engineering economy; what it is and its place in engineering curricula. H. G. Thuesen. J Eng Educ 41:533-6 My '51

Valuation and depreciation related to income tax. M. R. Scharff. Am Soc C E Proc 77 [no 69]:1-7 My '51

ENGINEERING education

Continue your education, a message to young engineers. J. C. McKeon. Mech Eng 73:309-10+ Ap '51

Designers' formulæ. W. A. Tuplin. diags Engineer 192:145-7 Ag 3 '51; Excerpt. Product Eng 22:254+ O '51

Developing initiative, ingenuity and creative ability in undergraduate engineers. W. M. Simpson. Machine Design 23:225-6+ S '51

Development and trend of university education in engineering; abstract and discussion. J. F. Baker. Engineering 172:169-70 Ag 10 '51

Education for intelligent living. F. L. Wilkinson. J Eng Educ 41:352-7 Mr '51

Educational maturity is the goal. N. W. Dougherty. J Eng Educ 41:271-6 Ja '51

Engineer, the machine age, and the world of tomorrow. P. Sporn. Edison Elec Inst Bul 19:177-80 Je '51; Same. J Eng Educ 41:571-7 Je '51

Engineering education, a bridge between ignorance and understanding. F. M. Dawson. J Eng Educ 42:13-17 S '51

Engineering education and the requirements of industry. H. S. Osborne. J Eng Educ 41:199-205 D '50

Four year program favored at MIT. Eng N 145:38 D 7 '50

Immoderate view of undergraduate engineering education. W. LaPierre. Elec Eng 70:299-303 Ap '51

Industrial growth and formal engineering training; the technical institute. F. T. Agthe. J Eng Educ 41:91-4 O '50

Is less than graduation worth while? C. J. Freund. J Eng Educ 42:6-12 S '51

Is the engineering graduate educated? T. G. LeClair. Elec Eng 69:951-2 N '50

Lustre or glitter? J. A. Hannah. Machine Design 23:228+ S '51

M.I.T. educational survey. Tech R 53:30-3+ N '50

Music and engineers. K. Liepmann. J Eng Educ 41:106-10 O '50

Old Masters program helps students at Purdue university. Eng N 146:67 Ap 12 '51

Painting and the graphic arts. S. Hirsch. J Eng Educ 41:101-5 O '50

Some current practices in teaching advanced composition for engineers. M. L. Rider. J Eng Educ 41:176-8 N '50

Survey of the teaching of economics and related subjects to engineers. A. J. Schweiger. J Eng Educ 41:231-4 D '50

Teaching welding in design courses. J. Heuschkel. il Welding J 30:314-23 Ap '51

Welding in American engineering education. J. Heuschkel. Welding J 30:435-46 My '51

What lies ahead in engineering education? H. T. Heald. Civil Eng 21:472-3 Ag '51

Year of evaluation. S. C. Hollister. J Eng Educ 42:4-5 S '51

See also

Engineering colleges
Engineering students
Mining schools and education
Technical education

also subdivision Study and teaching under engineering subjects, e.g.

Electric engineering—Study and teaching
Mathematics—Study and teaching
Mechanical engineering—Study and teaching
Mechanics—Study and teaching
Surveying—Study and teaching

also American society for engineering education; Engineers council for professional development; Massachusetts institute of technology

Cooperative plan

Interpretation of the manifesto. C. J. Freund. J Eng Educ 41:166-9 N '50

Practical training in universities. W. K. Lewis. Chem & Eng N 29:1397-8 Ap 9 '51

Industry cooperation

Co-operative engineering education at faculty level. W. E. Reaser. Mech Eng 73:395-6 My '51

Manpower; 2d industry-college conference, Cleveland, Jan. 20; excerpts from papers. Chem Eng 58:237-8+ Ap '51

Great Britain

Educational patterns in U.S. and England. M. J. Kelly. J Eng Educ 41:358-61 Mr '51

Southern states

Extension of graduate education in engineering. L. E. Grinter. J Eng Educ 41:142-7 N '50

ENGINEERING education, American society for. See American society for engineering education

ENGINEERING ethics

Statement of principles of professional conduct of the American institute of electrical engineers. Elec Eng 70:171-3 F '51

ENGINEERING foundation

Annual report. F. T. Sisco. Mech Eng 73:83-4 Ja '51

Reports on three projects. Eng N 146:68 My 24 '51

ENGINEERING geology

Application of geology to engineering practice; Berkey volume. 327p $2.75 Geological society of America, 419 W. 117th st, New York 27 '50

Engineering geology of San Francisco bay, Calif. P. D. Trask and J. W. Rolston. bibliog maps diags Geol Soc Bul 62:1079-109 S '51

Engineering geology principles of subterranean installations. G. A. Kiersch. bibliog diags Econ Geol 46:208-22 Mr '51

ENGINEERING graduates

Application of education to management functions. V. A. Hollnberger. Advanced Management 16:17-18 My '51

Are engineering graduates prepared for their jobs? D. S. Kellogg. Mech Eng 73:572-5 Jl '51

Defense status of engineering graduates of 1951. Product Eng 22:164 Jl '51

E.J.C. report reveals graduates' defense status. Eng N 147:68 Jl 5 '51

Extension of graduate education in engineering. L. E. Grinter. J Eng Educ 41:142-7 N '50

Qualities expected of the 1951 graduate. J. R. Killian, jr. Tech R 53:481-2 Jl '51

Qualities that make for success. J. R. Cuthbert. Chem Eng 58:146+ S '51

Rotational training assignments in the atomic energy industry, Hanford Works plutonium production plant. R. E. Curtis. J Chem Educ 28:21-2 Ja '51

ENGINEERING graduates—*Continued*

Study in Sweden; M.I.T. graduates assisting in research programs. J. A. F. Hill and others. il Tech R 53:197-202+ F '51

Survey of first positions accepted by mechanical engineering graduates of New England colleges. W. T. Alexander. J Eng Educ 41:288-96 Ja '51

What is the right job for me? how to go about getting the right kind of job in a businesslike way. A. P. Richmond, jr. bibliog Civil Eng 20:772-3 D '50

Who is responsible for the placement of the graduate? W. C. van Dyck. J Eng Educ 41:119-24 O '50

See also

Engineering colleges—Graduate work

ENGINEERING institute of Canada

Annual meeting, 65th, Montreal, May 9-11. Roads & Eng Constr 89:93-4+ My '51; Munic Util 89:29-30+ My '51

ENGINEERING instruments

See also

Surveying instruments

ENGINEERING laboratories

Engineer research and development laboratories, Fort Belvoir, Va. plans diags Arch Rec 110:122-3 S '51

Extensions at the College of technology, Manchester. il Engineer 190:568 D 8 '50

Mechanical engineering laboratories of the Manchester college of technology. il Engineering 171:361-3, pl 19 Mr 30 '51

Mechanical engineering research laboratory, East Kilbride. G. A. Hankins. il Engineering 171:80-1, 111-12 Ja 19-26 '51

National college for heating, ventilating, refrigeration and fan engineering. il plan Engineering 171:156-7, 162 F 9 '51

New Simon research and development buildings. il Metallurgia 44:40 Jl '51; Elec R (Lond) 149:83-4 Jl 13 '51

Oklahoma power and propulsion lab. il Power 95:98-9 Ag '51

Pametrada progress report for 1950. Engineer 191:806-7 Je 15 '51

See also

Aeronautic laboratories

Automobile laboratories

Chemical engineering laboratories

Electric laboratories

Hydraulic laboratories

ENGINEERING libraries

Technical library and information service of the Engineer-in-chief's department, Admiralty, Bath. B. C. Dodge. Aslib Proc 3:169-79 Ag '51

See also

Engineering colleges—Libraries

Technical libraries

also names of libraries, e.g. Engineering societies' library

ENGINEERING literature

Organizing an engineering data file. A. F. Gagne, jr. bibliog il Machine Design 23:110-16+ S '51

ENGINEERING materials. See Materials

ENGINEERING news-record (periodical)

Nathan A. Bowers, retires after 40 years. Eng N 145:25 D 21 '50

ENGINEERING periodicals

Is neglected research costing you money? creating file of technical literature. R. F. V. Read. flow sheet Eng & Min J 152:64-6 Ja '51

ENGINEERING reports

Written words; the engineering report. B. Lester. Mach 57:192-3 Ag '51

ENGINEERING research

Engineering research at Cambridge university. Engineering 171:507 Ap 27 '51

Engineering research in South Africa. Engineer 190:636 D 22 '50

Extension of graduate education in engineering. L. E. Grinter. J Eng Educ 41:142-7 N '50

'50 research pays off. Steel 128:66+ Ja 8 '51

Fifty years of the National physical laboratory. V. S. Swaminathan. il Metallurgia 44:117-21 S '51

New Simon research and development buildings opened. Chem Age (Lond) 65:13-14, 81-4 Jl 7, 21 '51

New £250,000 research centre for Simon-Carves ltd. il Chem & Ind p611-12 Jl 14 '51

Production engineering research association; its growing importance to industry. D. F. Galloway. il Metallurgia 42:239-44 O '50

Study in Sweden; M.I.T. graduates assisting in research programs. J. A. F. Hill and others. il Tech R 53:197-202+ F '51

See also

Aeronautic research

Electric research

Engineering laboratories

Gas research

Highway research

Hydraulic research

Industrial research

Lighting research

Petroleum research

Railroad research

Scientific research

also Production engineering research association

ENGINEERING societies

Constitution for UPADI adopted at organization conference, Havana, April 19-22. Civil Eng 21:289 My '51

Engineering groups plan to join forces. Aviation W 55:46 S 10 '51

Four plans for achieving unity of engineering profession proposed. Mech Eng 73:254-5 Mr '51

International union of engineers proposed. Civil Eng 21:50 Ja '51

Metalworking meetings scheduled for 1951. Iron Age 167:114+ Ja 4 '51

Plans for greater professional unity being studied by engineering societies. Eng N 146:28-9 Je 14 '51

Unity organization for engineers; editorial. Mech Eng 73:187-8 Mr '51

World engineering groups coordinate activities. Eng N 145:39 D 28 '50

See also names of societies, e.g. American institute of electrical engineers; American society of mechanical engineers; Engineers' council for professional development; Illuminating engineering society; Pan American engineering congress; Verein deutscher ingenieure

Directories

Associations and societies, Canada. Roads & Eng Constr 89:168 Je '51

Engineer directory and buyers guide. 380p Engineer, 28 Essex st, Strand, London, W.C.2 '51

ENGINEERING societies library, New York

ESL revises photoprint service. Mech Eng 73:261 Mr '51

ENGINEERING standards. See Standards, Engineering

ENGINEERING students

Discussion of 13 questions asked by students. R. E. Peterson. bibliog Mech Eng 73:487-91 Je '51

Study of persistence and performance of engineering students at the University of Washington. E. R. Wilcox. J Eng Educ 41:523-7 My '51

Today's students are the backbone of tomorrow's industry. A. H. Lawrence, jr. and others. il Refrig Eng 59:651-2+ Jl '51

Today's students called men with a mission. J. R. Killian, jr. Tech R 53:20-1+ N '50

What's just ahead for engineering students. H. A. Winne. Gen Elec R 54:14-17 Ap '51

ENGINEERING teachers

Dilemma of the young engineering teacher. C. M. Cooper and J. W. Donnell. J Eng Educ 41:115-18 O '50

Professional advancement of engineering teachers. H. H. Armsby. bibliog J Eng Educ 41:216-21 D '50

Teaching teachers. L. S. Laws. J Eng Educ 41:331-2 Ja '51

ENGINEERING writing

Style in engineering writing. E. S. Lamm. J Eng Educ 41:555-8 My '51

ENGINEERS

Civilian engineers needed by armed services. Electronics 23:132+ N '50

Continuing technical leadership. T. G. LeClair. Elec Eng 70:95-6 F '51

Critical shortage of engineers. S. C. Hollister. Elec Eng 70:97-9 F '51; Same. Refrig Eng 59:160-1 F '51; Same. Mech Eng 73:121-2 F '51; Same. Glass Ind 32:121-2+ Mr '51; Same. Midwest Eng 3:4-5+ Ap '51; Same cond. Civil Eng 21:14 Ja '51; Same cond. Edison Elec Inst Bul 19:17+ Ja '51; Same cond. Factory Management 109:208+ Mr '51

Design engineering. W. E. Johnson. Machine Design 23:168+ S '51

ENGINEERS—*Continued*

Development of engineering as a profession. R. D. Henson. bibliog Elec Eng 70:213-17 Mr '51
Disagreement looms on drafting engineers. il Product Eng 21:150-1 D '50
Discussion of 13 questions asked by students. R. E. Peterson. bibliog Mech Eng 73:487-91 Je '51
Effect of defense program on employment outlook in engineering; supplement to bulletin 968. 13p U.S. Bur. of labor statistics, Washington 25 '51
Employment and advancement opportunities for engineers; panel discussion. L. E. Grinter and others. Midwest Eng 3:3-4+ F '51
Employment opportunities in small industries for engineers. A. R. Hellwarth. J Eng Educ 41:393-6 Mr '51
Engineer and security. L. de Florez. il Tech R 53:91-3+ D '50
Engineer pinch won't ease. il Bsns W p 118+ Ap 21 '51
Engineer shortage. Arch Forum 95:60 S '51
Engineering and management. H. J. Kingler. S A E J 59:17-18 My '51
Engineering group gloomy over supply. Aviation W 54:53-4 Je 18 '51
Engineering, its future. A. C. Monteith. Elec Eng 70:758-61 S '51
Engineers; a vital resource in critically short supply. S. C. Hollister. Marine Eng 56: 35-6 O '51
Engineers and administrators. A. Floyd. Engineering 171:542-3 My 4 '51
Engineers and architects. Engineer 191:607 My 11 '51
Engineers and national security. K. T. Compton. Elec Eng 70:192-6 Mr '51
Engineers and professional unity. W. N. Carey. Civil Eng 21:197-9 Ap '51
Engineers as corporation executives; interview with Roy T. Hurley. Product Eng 22:107-11 Ag '51
Engineers contribution to national defense. J. Slezak. Midwest Eng 3:14-15+ N '50
Engineers in management posts warned to stop dealing in facts. Chem & Eng N 28: 3880 N 6 '50
EJC manpower commission recommends separate registration by selective service. Civil Eng 21:40 Ja '51
EJC recommends four-point program for optimum use of engineering manpower. Mech Eng 73:166-7 F '51
EJC to study engineering man-power problem for NSRB. Mech Eng 72:930 N '50
Engineers' problems. G. A. Maunsell. Engineer 191:678-80 My 25 '51
Engineers; short supply; an analysis of critical situation. K. T. Compton. il Sci Am 185:65-8 S '51
Engineers supply plan drawn by Labor dept. Elec World 136:83 Ag 27 '51
Engineers; their background, education and selection. A. L. Miller and P. C. Miller. Chem Eng Prog 47:107-10 Mr '51
Evaluating engineers to recognize talent and reward achievement. R. W. Chaffee. il Machine Design 23:141-72 Je '51; Discussion. 23:192+ S; 202-4+ N '51
Helluva shortage of engineers. L. P. Lessing. Fortune 44:93-5+ S '51
How engineer can become top brass. W. R. G. Baker. Tele-Tech 10:27+ Ja '51
How engineers can apply for commissions. Pub Works 82:53-4 F '51
How is your P.D.? a method for self-appraisal; professional development. C. M. Stanley. Mech Eng 72:1033-4 D '50
Industrial training of chemists and engineers in industry. C. H. Kline; P. D. V. Manning and others. bibliog Chem & Eng N 29:1394-8, 1513-16, 1637-9 Ap 9-23 '51
Industry appraises and develops the engineer of today. E. S. Lee. Elec Eng 70:27-8 Ja '51
Keep your young engineers; how Allis-Chalmers does it. W. C. Van Cleaf. il Factory Management 109:98-100 Ag '51
Memo to engineers. H. N. Muller, jr. Midwest Eng 4:5-6+ S '51
Mobilization of scientific, engineering, and medical manpower; an interim report. C. V. Kidd. bibliog Science 113:737-41 Je 29 '51
Once too many, now too few. Bsns W p99 F 24 '51
Plan not little things. G. F. Nordenholt. Welding J 30:169-71 F '51
Plan to ease engineer shortage set. Eng N 147:27 Ag 23 '51
Planning needed for future supply. T. Metaxas. Iron Age 168:119-20 Jl 19 '51
Possible technique for determining the relationship between certain national indices and the demand for engineers. W. P. Wallace and others. bibliog J Eng Educ 41:95-100 O '50
Production pattern; not enough engineers. Bsns W p74 S 29 '51
Professional engineers and labor unions. J. C. Birtell. bibliog World Oil 132:60+ Ap '51
Program for strategic use of scientific manpower in all-out mobilization. Pet Processing 6:262-3 Mr '51
Program for the engineering profession. C. H. Brown. Machine Design 23:197-8+ O '51
Reflected light is not enough; increasing need for engineers. A. C. Monteith. Paper Trade J 133:22-4+ S 28 '51
Results of two surveys by EMC shows need for 60,000 engineers. Elec Eng 70:843-4 S '51
St Pat's nearing half century of observance by engineers. Mech Eng 73:355 Ap '51
Some observations on engineering management. J. C. Zeder. S A E J 59:32-5 Ag '51
Survey reveals shortage of competent industrial engineers. Mech Eng 72:931 N '50
Technical manpower problem must be carried to the public. A. C. Monteith and others. Chem & Eng N 29:4162+ O 8 '51
U.S. plans full use of engineers. Power 95: 148+ O '51
What can we do about the shortage of engineers? T. G. LeClair. Elec Eng 70:377-8 My '51
What industry expects of the trained engineer. R. E. Waindle. Machine Design 23: 217-18+ S '51
What to do about the draft; experts answer national junior committee questions. Mech Eng 73:275-6 Mr '51
What's just ahead for engineering students. H. A. Winne. Gen Elec R 54:14-17 Ap '51
Woeful shortage of engineers predicted if selected service proposals adopted. Chem & Eng N 28:3778 O 30 '50
Work, education and service of engineers. Lord Reith. Engineer 191:826-7 Je 22 '51
You must sell to succeed. il Chem Eng 58: 218+ Ap '51

See also

Aeronautic engineers
Chemical engineers
Civil engineers
Electric engineers
Engineering colleges
Engineering education
Engineering ethics
Engineering graduates
Engineering societies
Engineers' council for professional development
Mechanical engineers
Mining engineers
Radio engineers
Railroad engineers
Safety engineers
Sanitary engineers
Women as engineers

Directories

American society for engineering education officers and council members, divisions, committees for 1950-51; with list of members. J Eng Educ 41:17-262 F '51
Western society of engineers year book. Midwest Eng 3:1-113 pt 2 N '50

Foreign service

Role of the engineer in international affairs. P. B. McKee. J Eng Educ 41:155-60 N '50
Technical aid for foreign power projects; operations of the Kuljian corp. in carrying out some objectives of Point four program. il diags Power Eng 55:64-7 Je '51

Public relations

Engineer, how he may widen his avenues in public service. F. H. Neely. Mech Eng 73: 484-6 Je '51
Engineer, the machine age, and the world of tomorrow. P. Sporn. Edison Elec Inst Bul 19:177-80 Je '51; Same. J Eng Educ 41:571-7 Je '51; Same. Gen Elec R 54:16-20 Jl '51
Engineering must have prestige. C. M. Hathaway. Elec Eng 70:407 My '51
Engineer's stake in public relations. J. D. Waugh. Mech Eng 72:984-6 D '50; Excerpts. Machine Design 22:176-7 D '50

ENGINEERS—Public relations—*Continued*

Look to the engineer. W. J. Kohler, jr. Gen Elec R 54:14-15 Ag '51

Looking ahead; engineer challenged to meet his increased responsibilities in the future. L. H. Campbell. Midwest Eng 3:4-5+ Ja '51

Obligations of the engineer. W. B. Kouwenhoven. Elec Eng 69:1057 D '50

Public relations and the technologist. A. M. York. il Tech R 53:249-51+ Mr '51

Role of the engineer in community affairs. M. L. Cooke. J Eng Educ 41:68-74 O '50

This period of transition. V. Bush. Elec Eng 70:199-201 Mr '51

UNESCO's activities and possibilities as viewed by an engineer. R. M. Gates. Mech Eng 73:496-7 Je '51

Registration

Experience credit toward the professional engineer's license for technical institute study. H. P. Rodes. J Eng Educ 41:471-3 Ap '51

Procedures for obtaining registration as a professional engineer. N. L. Freeman. Elec Eng 70:113-15 F '51

Professional registration of engineers. N. W. Dougherty. J Eng Educ 41:419-23 Ap '51

What nonengineers think about engineering registration. Mech Eng 72:1022-3 D '50

Salaries

Engineering grads get higher starting salaries. Eng N 146:65 F 8 '51

See also

Civil engineers—Salaries

California

California engineers guide state legislation. A. J. Kennedy. Civil Eng 21:277 My '51

Great Britain

British engineers troubled by union affiliation rule. Eng N 147:32 Ag 2 '51

ENGINEERS, Institution of chemical. See Institution of chemical engineers

ENGINEERS, Locomotive. See Locomotive engineers

ENGINEERS, Sanitary. See Sanitary engineers

ENGINEERS' council for professional development

Annual meeting, Cleveland, Oct. 20-21. Eng N 145:26 N 2 '50; Mech Eng 72:1018-20 D '50

Annual meeting, 18th, Cleveland. Chem Eng Prog 46:sup 14 N '50

ECPD accelerates guidance programs on local level. Mech Eng 73:526 Je '51

ECPD and what it means to the engineering profession. Elec Eng 70:283 Mr '51

ECPD at Cleveland; editorial. Mech Eng 72:955-6 D '50

What program for ECPD? H. S. Rogers. Mech Eng 72:895-6 N '50

ENGINEERS joint council

ASME regional delegates favor EJC unity; plan A. Mech Eng 73:690 Ag '51

Annual report. Mech Eng 73:256 Mr '51

Engineers and professional unity. W. N. Carey. Civil Eng 21:197-9 Ap '51

Engineers joint council acts to conserve engineering manpower. Civil Eng 21:98 F '51

EJC national water resources policy is reviewed by ASCE committee. Civil Eng 20:731 N '50

EJC objectives and activities reviewed. Civil Eng 21:40-1 Ja '51

EJC recommends four-point program for optimum use of engineering manpower. Mech Eng 73:166-7 F '51

EJC to study engineering man-power problem for NSRB. Mech Eng 72:930 N '50

Meeting, New York, Nov. 17. Mech Eng 73:81 Ja '51

ENGINES

Principles of foundation design for engines and compressors. W. K. Newcomb. bibliog diags A S M E Trans 73:307-12; Discussion. 313-18 Ap '51

See also

Air engines
Air turbines
Airplane engines
Automobile engines
Crankcases
Diesel engines
Gas engines
Gas turbines
Internal combustion engines
Locomotives
Motor bus engines
Motor truck engines
Pistons
Pumping machinery
Steam engines
Steam turbines

Testing

Testing of motor power machinery. T. W. F. Brown. diags Engineering 171:107-8, 137-8, 201-3, 265-8 Ja 26-F 2, 16, Mr 2 '51; Same cond. Engineer 191:152-4, 182-4, 233-5 F 2-16 '51

ENGLAND

Antiquities

Sutton Hoo ship-burial; tomb of seventh-century Anglo-Saxon king. R. L. S. Bruce-Mitford. il plan Sci Am 184:24-30 Ap '51

ENGLISH language

Clichés in full scale production. R. L. Dean. Chem & Eng N 29:2729 Jl 2 '51

Feminine form (divine?); words. R. D. Irving. Ptr Ink 235:334 My 25 '51

High polymer adjective synthesis. R. L. Dean. Chem & Eng N 29:2902+ Jl 16 '51

High-verbosity prose. R. L. Dean. Chem & Eng N 29:3532+ Ag 27 '51

How does your correspondence read? plan for simplicity. H. S. Dewey. U S Naval Inst Proc 77:140-5 F '51

Importance of being cryptic. R. L. Dean. Chem & Eng N 29:3698+ S 10 '51

Look! it's written in English; government and business experiment with readable documents. il Bsns W p38 Mr 24 '51

Prediction and entropy of printed English. C. E. Shannon. diag Bell System Tech J 30:50-64 Ja '51

Readability of union contracts. J. Lauer and D. G. Paterson. bibliog Personnel 28:36-40 Jl '51

Sin of synonyms. R. L. Dean. Chem & Eng N 29:3081 Jl 30 '51

Spotlight on an unsolved problem, communication. E. Ahern. bibliog Personnel J 29:306-7 Ja '51

See also

Engineering writing

Business English

Business writing isn't all rules, Dr Flesch! J. H. Janis. Ptr Ink 236:31-2 Ag 10 '51

How to write for today's busy readers. R. Flesch. Ptr Ink 235:31-2 Je 29 '51

Is business language fuzzy? J. McElroy. Dun's R 59:21-2+ Jl '51

Language of business. Fortune 42:113-17+ N '50

Dictionaries

Concise Oxford dictionary of current English. 4th ed rev 1528p $4 Oxford univ. press, 114 Fifth av, New York 11 '51

Webster's new world dictionary of the American language. encyclopedic ed 2v 2068p $22.50 World pub. co, 2231 W. 110th st, Cleveland 2 '51

Idioms

Concise dictionary of English idioms. W. Freeman. 300p $2.95 Thomas Y. Crowell co, 432 Fourth av, New York 16 '51

Study and teaching

Graduate training of teachers of English for engineers. W. G. Crouch. J Eng Educ 41:311-14 Ja '51

How to read freshman themes. J. H. Pitman. J Eng Educ 41:402-5 Mr '51

Some current practices in teaching advanced composition for engineers. M. L. Rider. J Eng Educ 41:176-8 N '50

ENGLISH literature

Bibliography

British national bibliography annual volume, 1950. A. J. Wells, ed. 686p Council of the British national bibliography, ltd. British museum, London, W.C.1 '51 (£ 7)

ENGOBES

Developing color in engobes. Cer Ind 57:85 S '51

Developing engobe plasticity. Cer Ind 57:87 Ag '51

ENGOBES—*Continued*

Laboratory course in pottery; fixing maturity of an engobe. Cer Ind 57:73 Jl '51

Laboratory course in pottery; making an engobe or a slip. diags Cer Ind 56:109 Je '51

ENGRAVING machines

Fairchild engraver does quality work utilizing plastic cuts. R. Savery. il Inland Ptr 126:35-7 F '51

ENGRAVINGS

See also

Wood engravings

Printing

Fit your illustration to the paper on which it prints. F. Rundell. il Inland Ptr 126:38-9 N '50

Reducing fine-line drawings blurs details. il Inland Ptr 127:33 Jl '51

ENIWETOK tests. See Atomic bombs—Testing

ENOLS

Amine and enol derivatives of 1,1,1-trifluoropropane. W. R. Nes and A. Burger. Am Chem Soc J 72:5409-13 D '50

cis-trans Enolic β-D-glycosides of methyl acetoacetate. C. E. Ballou and K. P. Link. bibliog Am Chem Soc J 73:1134-40 Mr '51

Polarities of enols. C. L. Angyal and R. J. W. Le Fèvre. Chem Soc J p562-4 F '50

Rate of oximation and extent of enolization of alkyl aryl ketones. M. J. Craft and others. Am Chem Soc J 73:4462-3 S '51

Structure of β-hydrojuglone and related compounds; keto-enols of the naphthalene series. R. H. Thomson. Chem Soc J p 1737-42 Jl '50

ENTEROCOCCI

Modification of the Winter and Sandholzer media and technique for enterococci detection. W. Lou Wang and S. G. Dunlop. bibliog Pub Health Rep 66:1212-18 S 21 '51

ENTOMOLOGICAL laboratories

Laboratory of insect pathology, Sault Ste Marie, Ontario. il plans Pulp & Pa of Can 51:110-17 D '50

ENTRANCES

Entrance door with side panel; better detail plate. K. R. O'Neal. il diags Am Bld 73:172-3 Ja '51

Recessed entrance door; better detail plate. K. R. O'Neal. Am Bld 73:134-5 S '51

Trends in entrances: home design. il plans Am Bld 73:150-1 Ja '51

ENTROPY

Applications of the Eastman thermocell equation; certain absolute ionic entropies and entropies of transfer of alkali metal and tetraalkylammonium bromides and hydroxides. J. C. Goodrich and others. bibliog diags Am Chem Soc J 72:4411-18 O '50; Reply. H. J. V. Tyrrell and G. L. Hollis. 73:2401-2 My '51

Condensed gas calorimetry; heat capacities, latent heats and entropies of pure parahydrogen from 12.7 to 20.3°K; description of the condensed gas calorimeter in use in the cryogenic laboratory of the Ohio state university. H. L. Johnston and others. bibliog diags Am Chem Soc J 72:3933-8 S '50

Contributions to the data on theoretical metallurgy; entropies of inorganic substances; revision (1948) of data and methods of calculation. K. K. Kelley. U S Bur Mines Bul 477:1-47 bibliog(517 titles, p120-41); pa 30c Supt. of doc. '50

Entropies of melting of metals. R. A. Oriani. bibliog diag J Chem Phys 19:93-7 Ja '51

Entropies of vaporization, and internal order in liquids. L. A. K. Staveley and W. I. Tupman. Chem Soc J p3597-606 D '50

Entropy concept penetrates fields not involving heat; abstract. D. H. Andrews. Chem & Eng N 29:4168+ O 8 '51

Entropy of crystalline benzene calculated from molecular data. I. Ichishima and S. Mizushima. bibliog J Chem Phys 19:388 Mr '51

General equation for the entropies of aqueous ions; abstract. W. M. Latimer. Science 112:424-5 O 13 '50

Heat capacities at low temperatures and entropies at 298.16°K. of andalusite, kyanite, and sillimanite. S. S. Todd. bibliog Am Chem Soc J 72:4742-3 O '50

Hundred years have elapsed since the creation of the concept of entropy; abstract. R. Plank. Refrig Eng 58:1179 D '50

Low-temperature heat capacities and entropies at 298.16°K. of crystalline calcium orthosilicate, zinc orthosilicate and tricalcium silicate. S. S. Todd. Am Chem Soc J 73:3277-8 Jl '51

Low temperature heat capacities and entropies at 298.16°K. of ferrous oxide, manganous oxide and vanadium monoxide. S. S. Todd and K. R. Bonnickson. bibliog Am Chem Soc J 73:3894-5 Ag '51

Low temperature heat capacities of inorganic solids; heat capacities and entropies of lithium hydroxide and of lithium hydroxide monohydrate from 15 to 300°K; third law check on the entropies through the reaction $LiOH + H_2O$ (gas) $= LiOH \cdot H_2O$. T. W. Bauer, H. L. Johnston and E. C. Kerr. bibliog Am Chem Soc J 72:5174-6 N '50

Low-temperature heat capacity, entropy at 298.16°K., and high-temperature heat content of ferric chloride. S. S. Todd and J. P. Coughlin. Am Chem Soc J 73:4184-5 S '51

Maxwell's demon cannot operate; information and entropy. L. Brillouin. J Ap Phys 22:334-43 Mr '51

Methods of estimating the entropies of solid compounds. W. M. Latimer. Am Chem Soc J 73:1480-2 Ap '51

Methyl alcohol; the entropy, heat capacity and polymerization equilibria in the vapor, and potential barrier to internal rotation. W. Weltner, jr. and K. S. Pitzer. bibliog Am Chem Soc J 73:2606-10 Je '51

Oxidation potentials of the Pu(III)-Pu(IV) and Fe(II)-Fe(III) couples in perchloric acid solution; heat content and entropy changes. R. E. Connick and W. H. McVey. Am Chem Soc J 73:1798-804 Ap '51

Vapor pressure, critical point, heat of vaporization, and entropy of liquid He^3. B. M. Abraham and others. bibliog diag Phys R 80:366-71 N 1 '50

Zero point entropy of nitrogen adsorbed on titanium dioxide. J. G. Aston, G. J. Szasz and G. L. Kington. Am Chem Soc J 73:1937-8 My '51

See also

Heat

Thermodynamics

ENZYMES

Analysis of the enzyme activity of the conditioned salivary response in human subjects. J. D. Brothers and C. J. Warden. Science 112:751 D 22 '50

Asymmetric enzymatic synthesis of amino acid anilides. N. F. Albertson. bibliog Am Chem Soc J 73:452-4 Ja '51

Chain reactions induced by enzymic systems. G. Parravano. bibliog Am Chem Soc J 73:183-4 Ja '51

Cleavage and oxidation of pteroylglutamic acid by enzyme solution. K. Makino and K. Yamamoto. Science 113:212 F 23 '51

Crystalline hemicelluloses; acid and enzymatic hydrolysis of xylans. A. P. Yundt. Tappi 34:92-4 F '51

Crystalline mannobiose from the enzymatic hydrolysis of guaran. R. L. Whistler and J. Z. Stein. Am Chem Soc J 73:4187-8 S '51

Enzymatic dehydrogenation of estradiol to estrone. J. A. Ledogar and H. W. Jones, jr. Science 112:536-7 N 3 '50

Enzymatic disintegration of wheat germ desoxypentose nucleic acid. G. Brawerman and E. Chargaff. bibliog Am Chem Soc J 73:4052 Ag '51

Enzymatic evidence for the structure of desoxyribonucleotides. C. E. Carter. Am Chem Soc J 73:1537-9 Ap '51

Enzymatic formation of barbituric acid from uracil and of 5-methylbarbituric acid from thymine. O. Hayaishi and A. Kornberg. Am Chem Soc J 73:2975-6 Je '51

Enzymatic hydrolysis of guaran. R. L. Whistler, W. H. Eoff and D. M. Doty. bibliog Am Chem Soc J 72:4938-9 N '50

Enzymatic resolution of DL-phenylalanine. H. T. Huang and C. Niemann. Am Chem Soc J 73:475-6 Ja '51

ENZYMES—*Continued*

Enzymatic resolution of some higher α-amino acids and preparation of optically active α-hydroxy acids. C. G. Baker and A. Meister. bibliog Am Chem Soc J 73:1336-8 Mr '51

Enzymatic transfer of hydrogen from alcohol to DPN. F. H. Westheimer and others. Am Chem Soc J 73:2403 My '51

Enzyme in endocrine tissues which oxidizes Δ^5-3 hydroxy steroids to α,β unsaturated ketones. L. T. Samuels and others. bibliog Science 113:490-1 Ap 27 '51

Enzyme-inhibitor dissociation constants of α-chymotrypsin and three enantiomorphic pairs of competitive inhibitors. H. T. Huang and C. Niemann. bibliog Am Chem Soc J 73:3223-7 Jl '51

Enzymes for textile processing; abstract. J. H. Downey. Am Dyestuff Rep 40:388 Je 11 '51

Enzymes of the citric acid cycle in tumors. C. E. Wenner, M. A. Spirtes and S. Weinhouse. Am Chem Soc J 72:4333 S '50

Enzymic synthesis and degradation of starch. S. A. Barker and others. Chem Soc J p84-99 Ja '50

Enzymic synthesis and degradation of starch; improved methods for the fractionation of potato starch. P. N. Hobson and others. Chem Soc J p801-3 Mr '51

Enzymic synthesis and degradation of starch; isophosphorylase. J. M. Bailey and W. J. Whelan. Chem Soc J p3573-9 D '50

Enzymic synthesis and degradation of starch; methylation and end-group assay of some synthetic polysaccharides. S. A. Barker, E. J. Bourne and I. A. Wilkinson. pl Chem Soc J p3027-30 N '50

Enzymic synthesis and degradation of starch; R-enzyme. P. N. Hobson, W. J. Whelan and S. Peat. Chem Soc J p 1451-9 Je '51

Enzymic synthesis and degradation of starch; the mechanism of synthesis of amylopectin. P. N. Hobson, W. J. Whelan and S. Peat. Chem Soc J p596-8 F '51

Enzymic synthesis and degradation of starch; the phosphorylase and *Q*-enzyme of broad bean; the *Q*-enzyme of wrinkled pea. P. N. Hobson, W. J. Whelan and S. Peat. Chem Soc J p3566-73 D '50

Enzymic synthesis and degradation of starch; the use of mixtures of P- and Q-enzymes in the synthesis of starch-type polysaccharides. S. A. Barker and others. Chem Soc J p3022-7 N '50

Enzymic synthesis of peptide bonds; the relative effects of some amino acids and their acyl substituents. S. W. Fox and H. Wax. bibliog Am Chem Soc J 72:5087-90 N '50

Evaluation of the enzyme-inhibitor dissociation constant of α-chymotrypsin and acetyl-D-tryptophan methyl ester. H. T. Huang and C. Niemann. Am Chem Soc J 73:3228-31 Jl '51

For fluffy bread, try fungus; Magna-Zyme. il Bsns W p54+ O 6 '51

Fungal enzymes help you make better bread. J. A. Johnson and B. S. Miller. bibliog il Food Ind 23:80-3 Mr; [cont as] Food Eng 23:161-3+ Ap '51

Influence of hormones on enzymes; a symposium. Science 114:222-3 Ag 24 '51

Isolation of a crystalline trisaccharide from the unfermentable carbohydrate produced enzymically from maltose. S. C. Pan, L. W. Nicholson and P. Kolachov. bibliog il Am Chem Soc J 73:2547-50 Je '51

Metal ion-catalyzed decarboxylation; a model for an enzyme system. R. Steinberger and F. H. Westheimer. Am Chem Soc J 73:429-35 Ja '51

New enzyme systems disclosed and explained. Chem & Eng N 28:4346 D 11 '50

New enzyme which needs TPN for activity. S. Ochoa. Science 113:418 Ap 13 '51

Rapid and sensitive spectrophotometry. B. Chance and V. Legallais. bibliog il diags R Sci Instr 22:619-38 Ag '51

Studies on the structure of nucleic acids; investigation of pentose nucleic acid and enzyme-resistant residues. L. F. Cavalieri, S. E. Kerr and A. Angelos. bibliog Am Chem Soc J 73:2567-78 Je '51

Theory of enzyme desizing of textiles. C. L. Kloss. Rayon 32:81-2+ Ja '51

See also

Amylases
Carbonic anhydrase
Carboxypeptidases
Cholinesterase
Chymotrypsin
Codecarboxylase
Coenzymes
Dehydrogenases
Desoxyribonuclease
Fermentation
Galactozymase
Glucuronidase
Glycosidases
Hyaluronidase
Laminarinase
Lipase
Lysozyme
Nucleosidases
Papain
Peroxidases
Pyrophosphatases
Succinic dehydrogenase
Trypsin
Urease

EOSINOPHILS

Changes in the total circulating eosinophile count in cyclotron workers. C. Moses and M. Platt. bibliog Science 113:676 Je 15 '51

Eosinopenic response of adrenalectomized mice to a cutaneous application of cortisone. R. S. Speirs. bibliog Science 113:621-3 Je 1 '51

EPANORIN

Structures and syntheses of rhizocarpic acid and epanorin. R. L. Frank, S. M. Cohen and J. N. Coker. bibliog Am Chem Soc J 72:4454-7 O '50

EPICHLOROHYDRIN

Glycerine dividend; Epon resins go into large-scale production. il Chem Ind 67:717-18 N '50

Reactions of ethylene oxides; the interaction of alkali cyanides with epichlorohydrin. C. C. J. Culvenor, W. Davies and F. G. Haley. Chem Soc J p3123-5 N '50

Reactions of ethylene oxides; the reaction of epichlorohydrin with some aromatic amines. W. Davies and W. E. Savige. Chem Soc J p890-4 Mr '50

EPICYCLIC gearing. See Gearing, Planetary

EPIDEMICS

Mystery of the sweating sickness. J. A. Tobey. Tech R 53:243-4+ Mr '51

See also

Infectious diseases

EPIDERMIS. See Skin

EPIDOTE

Nomenclature of epidote rocks. P. T. Flawn. bibliog Am J Sci 249:769-77 O '51

EPIMERIZATION. See Isomerization

EPINOCHROME

Rearrangement of epinochrome. J. Austin, J. D. Chanley and H. Sobotka. Am Chem Soc J 73:2395-6 My '51

EPIPHYTES

Studies on algal epiphytes. J. W. King. bibliog Science 112:596-7 N 17 '50

EPON resins. See Resinous products

EPOXIDES

Catalysed transfer of hydrogen chloride from chlorohydrins to epoxides; a new method of preparing glycidol and some of its derivatives. W. Bradley, J. Forrest and O. Stephenson. Chem Soc J p 1589-98 Je '51

Catalytic hydrogenation of 3 : 4-epoxido-4-methyl-2-pentanone. E. D. Bergmann. bibliog J Ap Chem 1:380-2 S '51

Condensation of acetoacetic ester with some unsymmetrical epoxides. R. M. Adams and C. A. VanderWerf. bibliog Am Chem Soc J 72:4368-73 O '50

Determination of oxiran-oxygen, with special reference to its application to the study of autoxidation. G. King. Chem Soc J p 1980-4 Ag '51

Preparation of some cytotoxic epoxides. J. L. Everett and G. A. R. Kon. Chem Soc J p3131-5 N '50

Reactions of certain epoxides in aqueous solutions. W. C. J. Ross. Chem Soc J p2257-72 S '50

Reactions of organometallic compounds; the reactions of phenyllithium with some epoxides. S. J. Cristol, J. R. Douglass and J. S. Meek. bibliog Am Chem Soc J 73:816-18 F '51

EPOXY compounds

Chemistry of epoxy compounds; cooxidation of aldehydes and oleic acid, methyl oleate or oleyl alcohol. D. Swern and T. W. Findley. bibliog Am Chem Soc J 72:4315-16 S '50

EPOXY compounds—*Continued*

Isolation of an epoxyether from the reaction of an α-haloketone with base. C. L. Stevens, W. Malik and R. Pratt. bibliog Am Chem Soc J 72:4758-60 O '50

Reactions of epoxy ketones and alcohols with amines; mechanism studies. N. G. Barker and N. H. Cromwell. Am Chem Soc J 73:1051-3 Mr '51

Analysis

Infrared absorption spectra of some epoxy compounds. O. D. Shreve and others. bibliog Anal Chem 23:277-82 F '51

EQUATION of state

Compressibility of and an equation of state for gaseous 1-butene. J. A. Beattie and S. Marple, jr. bibliog Am Chem Soc J 72:4143-5 S '50

Compressibility of ethane-propylene vapor mixtures. H. W. Prengle, jr. and H. Marchman. bibliog Ind & Eng Chem 42:2371-4 N '50

Equation of state for liquids. F. Maslan and E. Aberth. J Chem Phys 19:658-9 My '51

Free volume for rigid sphere molecules. R. J. Buehler and others. il diags J Chem Phys 19:61-71 Ja '51

Lennard-Jones and Devonshire equation of state of compressed gases and liquids. R. H. Wentorf, jr. and others. bibliog J Chem Phys 18:1484-500 N '50

See also

Van Der Waals equation

Virial coefficients

EQUATIONS

Equations solved fast by slide rule. Eng N 145:32 N 30 '50

Simple formula solves all higher-degree equations. D. B. Steinman. Civil Eng 21:94-5 F '51; Discussion. 21:415 Jl '51

EQUATIONS, Differential. See Differential equations

EQUATIONS, Integral. See Integral equations

EQUILENANE

Stereochemical course of hydrogenation of ring D-unsaturated equilenane derivatives. A. L. Wilds, J. A. Johnson, jr. and R. E. Sutton. bibliog Am Chem Soc J 72:5524-9 D '50

EQUILENIN

α- and β-dihydroequilenen; configuration at C_{17}. C. W. Shoppee. bibliog Chem & Ind p810 D 16 '50

Paper chromatography in the separation of estradiol-17_α from estradiol-17β and of equilin from equilenin. E. Heftmann. Am Chem Soc J 73:851-2 F '51

Stereochemical relationships between the isomers of equilenin, desoxyequilenin and 1,2,3,4-tetrahydrodesoxyequilenin. W. E. Bachmann, A. S. Dreiding and E. F. M. Stephenson. Am Chem Soc J 73:2765-7 Je '51

Structure and hydrogenation of key intermediates in the equilenin synthesis. W. S. Johnson and others. bibliog Am Chem Soc J 73:322-6 Ja '51

Synthesis of compounds related to equilenin. W. E. Bachmann and R. E. Holmen. bibliog Am Chem Soc J 73:3660-5 Ag '51

EQUILENONE

New synthesis of the 6-methoxy-17-equilenones and some stereochemical considerations. R. Hirschmann and W. S. Johnson. Am Chem Soc J 73:326-9 Ja '51

EQUILIN

Paper chromatography in the separation of estradiol-17α from estradiol-17β and of equilin from equilenin. E. Heftmann. Am Chem Soc J 73:851-2 F '51

EQUIPMENT industries

Boom in capital goods industries. E. A. Krauss. Mag of Wall St 87:262-3+ D 16 '50

Falk's industrial sales pay plan heads off squabbles. T. F. Scannell. Sales Management 66:50+ My 20 '51

How industrial distributors can help you increase production under the rearmament program. il map Mill & Factory 48:171-86 Je '51

Why we audit our sales policies; Interstate tractor and equipment co. C. Johnson. Sales Management 67:60+ Jl 1 '51

See also

Automobile accessories industry

Construction equipment

Electric apparatus industry

Industrial market

Machine tool industry

Machinery industry

Office equipment industry

Petroleum equipment industries

Plumbing supplies industry

Printing supplies industry

Railroad supplies industry

Advertising

Check list for the 1951 industrial ad manager. il Ptr Ink 236:40-1 Jl 13 '51

See also

Hoisting machinery, Electric—Advertising

Office equipment industry—Advertising

Petroleum equipment industries—Advertising

Directories

Buyer's guide; international directory of construction equipment. Roads & Eng Constr 89:298+ Je '51

Canadian association of equipment distributors; list of members. Roads & Eng Constr 89:166 Je '51

Equipment distributors, Canada; listing the principals whom they represent. Roads & Eng Constr 89:256+ Je '51

Manufacturers; their products and their distributors in Canada. Roads & Eng Constr 89:170+ Je '51

1951 buyers' guide; bus parts, materials, accessories, shop equipment and tools. Bus Transportation 30:195-200+ Je '51

Rock Products directory of manufacturers' equipment 1951. Rock Prod 54:229-74 Ja '51

38th annual review number. il diags Am Mach 95:165-312 Ja 22 '51

Securities

Capital goods look better. Bsns W p 130-1 Je 9 '51

Statistics

Machinery and equipment; tabulations. Steel 128:134-5 Ja 1 '51

EQUIPMENT trust certificates. See Railroads—Equipment trust certificates

ERASURES. See Paper—Erasing qualities

ERBEN, Henry Vander Bogert, 1898-

Portrait. Bsns W p25 F 3 '51

ERBIUM

Analysis

Rare earths; separative extraction of certain rare earth elements as 5,7-dichloro-8-quinolinol chelates. T. Moeller and D. E. Jackson. bibliog Anal Chem 22:1393-7 N '50

Separation of yttrium and erbium with the aid of ethylenediaminetetra-acetic acid (enta acid). J. K. Marsh. Chem Soc J p 1461-3 Je '51

Isotopes

$1.7X10^{-9}$-sec. isomeric state in $_{68}Er^{166}$. F. K. McGowan. bibliog Phys R 80:923-4 D 1 '50

ERGOSTEROL

Intermediates from ergosterol may yield cortisone; symposium, A.C.S. Division of medicinal chemistry. Chem & Eng N 29:3831-2 S 17 '51

Stereochemical configuration of the Δ^{22}-ergostenyl side chain. R. N. Jones. Am Chem Soc J 72:5322-3 N '50

ERGOT

Recent investigations on ergot alkaloids. A. Stoll. bibliog il Chem R 47:197-218 O '50

ERIE, Lake

Survey finds Lake Erie foul; Ohio lab to help in clean-up. plan Eng N 147:39-40 Jl 12 '51

ERIE forge company

Two added furnaces spur sales, earnings. Barron's 31:14 S 17 '51

ERIE railroad

Earnings coverage high for Erie 4½s. Barron's 31:21+ Mr 19 '51

Equipment trust certificates offered. Comm & Fin Chr 173:200 Ja 15 '51

ERIE railroad—*Continued*
Five promising low priced stocks; with comparative balance sheet items. Mag of Wall St 87:553 F 24 '51
1951 marks a century of operations, a decade of dividends. R. E. Bedingfield. map Barron's 31:11-12 Jl 23 '51
One hundred years of Erie. il maps diag Ry Age 130:64-89 My 14 '51
100 years old and what a past. il Bsns W p44-8+ My 19 '51
Security I like best. H. F. Atwater. Comm & Fin Chr 174:502 Ag 9 '51

ERIE resistor corporation
Stock offered. Comm & Fin Chr 173:2495-6 Je 18 '51

ERLICHER, Harry Louis, 1886-
Iron age salutes. por Iron Age 166:73 N 9 '50

EROSION
Basic processes of erosion. N. L. Stoltenberg. Science 112:540-1 N 3 '50
Equilibrium theory of erosional slopes approached by frequency distribution analysis. A. N. Strahler. bibliog maps diag Am J Sci 248:673-96, pl 1-2, 800-14 O-N '50
Nature's methods declared best for roadside erosion control. Roads & Eng Constr 89: 102+ S '51
Pipe lines and soil erosion control. J. W. Carneal. Gas Age 107:55 My 24 '51

EROSION of metals
Arcing at electrical contacts on closure; dependence upon surface conditions and circuit parameters. L. H. Germer. il J Ap Phys 22:955-64 Jl '51

ERRORS and omissions insurance. See Insurance, Errors and omissions

ERUCIC acid
Erucic acid separation. Chem Age (Lond) 64:93 Ja 13 '51
Synthetic long-chain aliphatic compounds; erucic and brassidic acids; a new olefin synthesis. R. E. Bowman. Chem Soc J p 177-80 Ja '50

ERYTHRINA
Erythrina alkaloids; apo- and isoapo-β-erythroidine. F. Koniuszy and K. Folkers. Am Chem Soc J 73:333-5 Ja '51
Erythrina alkaloids; studies on the structure of erysopine, erysodine, erysovine and erythraline. K. Folkers, F. Koniuszy and J. Shavel, jr. Am Chem Soc J 73:589-93 F '51
Erythrina alkaloids; studies on the structure of β-erythroidine. F. Koniuszy and K. Folkers. bibliog Am Chem Soc J 72:5579-81 D '50

ERYTHROCYTES. See Blood

ERYTHROIDINE
Constitution of β-erythroidine. C. Lapière and R. Robinson. Chem & Ind p650-1 Jl 28 '51
Erythrina alkaloids; apo- and isoapo-β-erythroidine. F. Koniuszy and K. Folkers. Am Chem Soc J 73:333-5 Ja '51
β-Erythroidine; a study of the Hofmann decomposition of dihydro-β-erythroidine. V. Boekelheide and E. Agnello. Am Chem Soc J 73:2286-9 My '51
Erythroidine alkaloids; studies on the structure of β-erythroidine. F. Koniuszy and K. Folkers. bibliog Am Chem Soc J 72: 5579-81 D '50

ESCALATOR wage clauses. See Trade agreements—Wage clauses

ESCALATORS
Escalator in the Dome of discovery. il Engineer 192:149 Ag 3 '51
Escalator weight halved, cost cut through redesign. il diags Product Eng 22:132-4 S '51
Moving stairways for moving people. il Ry Age 130:91-3 My 21 '51
Moving stairways in office buildings vs. elevators. G. B. Gusrae. il Arch Rec 108:146-8 D '50
Moving stairways move into office buildings. il diags Arch Forum 94:110-11+ F '51
Prime factors in planning for moving stairs. R. W. Detrick. il diags Eng N 146:30-1 Mr 1 '51
Testing machine for escalator handrail joints. il Engineering 171:331 Mr 16 '51

ESCAPEMENT mechanism
British magnetic clock escapement cuts friction loss. il diags Product Eng 22:112-13 Ap '51
Some early timepiece escapements. il Engineer 192:49-51 Jl 13 '51

ESCHERICHIA coli. See Bacillus coli

ESKIMOS
Phlyctenular keratoconjunctivitis among Alaskan Indians and Eskimos. M. H. Fritz and P. Thygeson. bibliog Pub Health Rep 66:934-9 Jl 20 '51
Problems of Alaskan Eskimos, Indians, Aleuts. J. C. Haldeman. Pub Health Rep 66:912-17 Jl 20 '51

ESOPHAGUS
Experimental study on the use of homonymous transplants of esophagus in dogs. H. L. Skinner and others. bibliog il Pub Health Rep 66:29-37 Ja 12 '51

ESPARTO
Constitution of xylan from esparto grass (stipa tenacissima, L.). S. K. Chanda and others. Chem Soc J p 1289-97 My '50
Eucalyptus and esparto grass for processing into high-grade papers. Chem & Eng N 28: 4278 D 4 '50

ESPERANTO
Problem of an international language; Acta physiologica polonica in Polish. Science 113:607-9 My 25 '51

ESSENTIAL oil association
Annual meeting, New York, Jan. 5. Oil Paint & Drug Rep 159:5+ Ja 15 '51; Soap & San Chem 27:47 Ja '51

ESSENTIAL oils
Essential oil exports from Haiti in 1948-49 and 1949-50; table. Oil Paint & Drug Rep 160:68 Jl 2 '51
Essential oil of tsuga canadensis (L.) Carr. A. C. Shaw. bibliog Am Chem Soc J 73: 2859-61 Je '51
Essential oils, other aromatics. Published in weekly numbers of Oil, paint and drug reporter
Guatemala maintains world prominence. For Comm W 45:18 O 1 '51
Increased output of essential oils, Belgian Congo and Ruanda-Urandi. For Comm W 44:16 Ag 27 '51
Production and exports, Haiti. For Comm W 44:17 Jl 2 '51
Production of essential oils from coniferous foliage. A. C. Shaw. bibliog Can Chem & Process Ind 35:44-5 Ja '51
Recent developments in essential oils. E. Guenther. il Soap & San Chem 27:39-42, 129 Mr; 42-5+ Ap; 35-8+ My; 37-9 Je '51

See also
Attar of roses
Flavoring materials
Terpenes

Analysis

Third annual review of analytical chemistry; essential oils and related products. E. Guenther and E. E. Langenau. bibliog(71 ref) Anal Chem 23:217-20 F '51

Prices

Essential oils, other aromatics, 1950 market trends. Oil Paint & Drug Rep 159:54-7 sec 2 Ja 29 '51

ESTATE planning
Avoiding conflict of interests in marital deduction methods. J. E. Williams. Trusts & Estates 90:156 Mr '51
Business interest in estate planning. S. L. Zeigen. East Underw 52:68-9+ pt 2 O 5 '51
Compulsory vs. discretionary income arrangements. M. K. Gunz. Life Ins Courant 56: 34-5 F; 30-1 Mr '51
Danger of underestimating cash requirements of estate. H. S. Koster. East Underw 52: 60 pt 2 O 5 '51
Estate planning in the face of inflation. R. A. Wormser. Trusts & Estates 90:376-7 Je '51
Fluid planning for minor beneficiaries. M. K. Gunz. Life Ins Courant 56:24-5+ Ag '51
High federal estate taxes create new business opportunities. J. Dutton. Comm & Fin Chr 174:882 S 6 '51
Hints on marital deduction problems; A.B.A. committee report. Trusts & Estates 89:669-75 O '50
How to provide for changes in marital deduction values between tax date and final distribution. F. Smith. Trusts & Estates 90:16+ Ja '51

ESTATE planning—*Continued*

If a wife knew what a widow learns. N. Condee. Trusts & Estates 89:750-1 N '50; Excerpts. Banking 43:78+ F '51

Law school course in practical estate planning. A. Harsch. Trusts & Estates 90:292-4 My '51; Discussion. 90:436-42 Jl '51

Marital deduction pointers; overcoming tax and administrative problems. T. S. Edmonds. Trusts & Estates 90:389-91 Je '51

New tax law; effects on personal and business estate planning. S. J. Foosaner. map Trusts & Estates 89:640-3+ O '50

Popular estate delusions. H. Blumberg. Trusts & Estates 90:368-71+ Je '51

Procedural program for estate planning; collaboration with counsel. W. P. J. Drakeley, jr. Trusts & Estates 90:512-14 Ag '51

Professional aspects of estate planning. M. A. Shattuck. Life Ins Courant 55:30-1 N '50

Some tax pitfalls in estate planning. D. Latham. Trusts & Estates 89:757-9 N '50

When and how to take marital deduction; A.B.A. committee report. Trusts & Estates 89:644-7+ O '50

Why forums for ladies only? E. S. MacNeill. Banking 43:77+ Ja '51

Will check-list helps plan estate with attorney. S. Huber. Nat Underw (Life ed) 55:21 S 7 '51

World crisis and long-term capital conservation; need for re-examination of estate planning. A. W. May. Comm & Fin Chr 172:2181+ D 7 '50

ESTATE tax. See Inheritance tax

ESTATES (law)

Canada and the United Kingdom; estate assets and exchange. C. D. Paxton. Trusts & Estates 90:458-9+ Jl '51

See also

Joint tenancy
Power of appointment
Probate law

ESTATES, Decedents'

Deductions for distributions. J. L. Lyons. Trusts & Estates 90:174-6 Mr '51

Duties in filing returns. K. Farrand. Trusts & Estates 90:310-11 My '51

Estate settlement suggestions; list. Trusts & Estates 90:526 Ag '51

Income of decedents. A. B. Willis. Trusts & Estates 90:177+ Mr '51

Personal liability of fiduciary for unpaid taxes of decedent. A. Groman. Trusts & Estates 90:311 My '51

Tax planning for distributions. A. A. Armstrong. Trusts & Estates 90:378-80 Je '51

Will contests; how to prosecute and defend them; A.B.A. committe report. Trusts & Estates 89:656-9 O '50

See also

Wills

ESTERASES

Esterase in latex of hevea brasiliensis. L. N. S. De Haan-Homans. bibliog Ind & Eng Chem 43:403-6 F '51

Analysis

Spectrophotometric determinations of esterases. B. H. J. Hofstee. Science 114:128-30 Ag 3 '51

ESTERIFICATION

Accessibility of cellulose by formic acid esterification. R. F. Nickerson. bibliog Textile Res J 21:195-202 Ap '51

Acid-catalyzed esterification of lactic acid with β-methallyl alcohol. N. G. Gaylord. bibliog Am Chem Soc J 72:5316-17 N '50

Aliphatic acid esters of cellulose; preparation by acid chloride-pyridine procedure. C. J. Malm and others. bibliog Ind & Eng Chem 43:684-8 Mr '51

Catalytic esterification of olefins with organic acids. R. D. Morin and A. E. Bearse. bibliog Ind & Eng Chem 43:1596-600 Jl '51

Chemical engineering unit processes fourth annual review. E. E. Reid. il Ind & Eng Chem 43:1942-7 bibliog(189 ref, p 1946-7) S '51

Cyanuric chloride derivatives; transesterification reactions of alkoxy-*s*-triazines; polyammelide ethers. J. R. Dudley and others. Am Chem Soc J 73:2999-3004 Jl '51

Directed interesterification in glycerides; the synthesis of single-fatty acid 1,3-diglycerides. F. J. Baur and W. Lange. bibliog Am Chem Soc J 73:3926-8 Ag '51

Esterification by dinitrogen tetroxide. A. D. Yoffe and P. Gray. Chem Soc J p 1412-14 Je '51

Esterification of polyvinyl alcohol with trifluoroacetic acid or anhydride. P. W. Morgan. Am Chem Soc J 73:860-1 F '51

Kinetics of acid-catalyzed esterification of cyclohexanedicarboxylic acids. H. A. Smith and F. P. Byrne. bibliog il Am Chem Soc J 72:4406-10 O '50

Kinetics of esterification and properties of drying oils from diglycerol, by the Northwestern club. bibliog diag Paint Oil & Chem R 113:56+ N 23 '50

Study of the aqueous esterification of anthrahydroquinones. M. Scalera and others. bibliog Am Chem Soc J 73:3094-9 Jl '51

Transesterification; β-keto esters. A. R. Bader, L. O. Cummings and H. A. Vogel. bibliog Am Chem Soc J 73:4195-7 S '51

Unit processes; Chemical Engineering report, March 1951. E. E. Reid. diag Chem Eng 58:139 Mr '51

Vapor-phase catalytic esterification rates. R. A. Buckley and R. J. Altpeter. bibliog flow sheet Chem Eng Prog 47:243-50 My '51

ESTERS

Alkyl-oxygen fission in carboxylic esters. M. P. Balfe and others. Chem Soc J p376-88 F '51

Alkylation of β-ketoesters with β-dimethylaminoethyl chloride. W. V. Doering and S. J. Rhoads. bibliog Am Chem Soc J 73:3082-4 Jl '51

Alkylation of triethyl phosphonoacetate and related esters. G. M. Kosolapoff and J. S. Powell. bibliog Am Chem Soc J 72:4198-200 S '50

Aminolysis of esters; a preliminary study. R. Baltzly, I. M. Berger and A. A. Rothstein. Am Chem Soc J 72:4149-52 S '50

Anticonvulsant drugs; some cyanurates. M. A. Spielman, W. J. Close and I. J. Wilk. bibliog Am Chem Soc J 73:1775-7 Ap '51

Antispasmodics; esters of β-alkyltropic acids. A. W. Weston and R. W. DeNet. Am Chem Soc J 73:4221-3 S '51

Application of the modified Gattermann reaction to methyl and ethyl orsellinate. W. B. Whalley. Chem Soc J p3278-80 D '49

Aryl-2-halogenoalkylamines; a comparison of the stability of esters derived from some aryl-2-halogenoalkylamines with those obtained from other radiomimetic compounds. W. Davis and W. C. J. Ross. Chem Soc J p3056-62 N '50

Branched-chain super-esters. G. W. Youngson and H. W. Melville. diag Chem Soc J p 1613-22 Je '50

Characterization of indole-3-acetic acid and its esters. C. T. Redemann, S. H. Wittwer and H. M. Sell. Am Chem Soc J 73:2957-8 Je '51

Claisen acylation of methyl ketones with branched chain aliphatic esters. E. H. Man, F. W. Swamer and C. R. Hauser. bibliog Am Chem Soc J 73:901-3 Mr '51

Condensation of acetylenes with esters; 3-dialkylamino-1-propynes with alkyl carbonates and alkyl benzoates and phenylacetylene with methyl oxalate. W. J. Croxall, J. O. Van Hook and H. J. Schneider. Am Chem Soc J 73:2713-16 Je '51

Copolymerization of 2-chloroallyl linoleate with styrene. E. Dyer and W. C. Meisenhelder. bibliog Am Chem Soc J 73:1434-7 Ap '51

Coumarones from *o*-hydroxyaldehydes and bromomalonic ester. S. Tanaka. Am Chem Soc J 73:872 F '51

Cyclized products from the Stobbe condensation with δ-keto-esters. D. L. Turner. bibliog Am Chem Soc J 73:1284-7 Mr '51

Deoxy-sugars; some methanesulphonyl and toluene-*p*-sulphonyl derivatives of α-ethyl-2 : 3-dideoxy-D-glucoside. S. Laland, W. G. Overend and M. Stacey. Chem Soc J p738-43 F '50

Determination of the dipole moments of some derivatives of hydroxybenzoic acid. C. S. Copeland and M. W. Rigg. bibliog Am Chem Soc J 73:3584-8 Ag '51

ESTERS—*Continued*

Dialkylaminoethyl esters and aminolactones derived from 2,2-diphenyl-4-pentenoic and 2,2-diphenyl-4-methyl-4-pentenoic acids. P. N. Craig and others. Am Chem Soc J 73: 1339-41 Mr '51

Diesters of lactic acid; adipates of various lactates. C. E. Rehberg and M. B. Dixon. bibliog Am Chem Soc J 72:5757-9 D '50

β-Dimethylaminoethyl esters of organic dithio acids. R. W. Bost and others. bibliog Am Chem Soc J 73:24-31 Ja '51

Dimorphism of esters of *scyllo*inosose. S. J. Angyal and N. K. Matheson. Chem Soc J p3349 N '50

Effect of *cis* and *trans* olefinic groups on the properties of polyurethans and polyesters. C. S. Marvel and C. H. Young. Am Chem Soc J 73:1066-9 Mr '51

Effect of structure on reactivity; aminolysis of esters with primary amines. E. M. Arnett, J. G. Miller and A. R. Day. Am Chem Soc J 72:5635-8 D '50

Effect of temperature on the thermodynamic properties and interfacial tension of water with some alkyl esters of monochloroacetic acid. J. J. Jasper and W. J. Mayer. bibliog Am Chem Soc J 72:4767-9 O '50

Esters containing boron and selenium. H. G. Cook and others. Chem Soc J p3125-8 N '50

Esters containing phosphorus; radioactive di*iso*propyl fluorophosphonate (D.F.P.). B. C. Saunders and T. S. Worthy. diag Chem Soc J p 1320-2 My '50

Esters of benzoic and chlorobenzoic acids. E. Monroe and C. R. Hand. Am Chem Soc J 73:487-8 Ja '51

Esters of *p*-carboxyphenoxyalkanoic acids. E. F. Izard and S. L. Kwolek. Am Chem Soc J 73:1861-2 Ap '51

Esters of glucose and lactose. J. H. Schwartz and E. A. Talley. Am Chem Soc J 73:4490 S '51

Esters of monofluorophosphoric acid. A. Hood and W. Lange. bibliog Am Chem Soc J 72: 4956-8 N '50

Esters of tetraphenylphthalic acid. E. C. Schreiber and E. I. Becker. Am Chem Soc J 72:4829-30 O '50

Experiments on the synthesis of carbonyl compounds; a general synthesis of saturated ketones, $R{\cdot}CO{\cdot}CH_2R'$. R. E. Bowman. Chem Soc J p325-9 Ja '50

Experiments on the synthesis of carbonyl compounds; the acidolysis of acylmalonic esters. R. E. Bowman. Chem Soc J p322-5 Ja '50

Formation of crystalline complexes between urea and esters, and their application to the separation of mixtures of esters. R. P. Linstead and M. Whalley. Chem Soc J p2987-9 N '50

Fries rearrangement of 2,3,5-trimethylphenyl succinate. L. I. Smith and R. R. Holmes. bibliog Am Chem Soc J 73:3847-50 Ag '51

Hydrogenolysis of dithioesters and thioamides. J. Baddiley. Chem Soc J p3693-4 D '51

β-Hydroxy esters from ketones and esters. C. R. Hauser and W. H. Puterbaugh. Am Chem Soc J 73:2972 Je '51

Infrared absorption spectra; some long-chain fatty acids, esters, and alcohols. O. D. Shreve and others. bibliog Anal Chem 22:1498-501 D '50

Intensities of some characteristic infrared bands of ketones and esters. S. A. Francis. J Chem Phys 19:942-8 Jl '51

Investigation of the course of the Reformatsky reaction. J. F. J. Dippy and J. C. Parkins. Chem Soc J p 1570-4 Je '51

Ketene acetals; dealcoholation of orthoesters with aluminum *t*-butoxide. S. M. McElvain and W. R. Davie. Am Chem Soc J 73:1400-2 Ap '51

Kinetics of the base-catalyzed methanolysis of ortho, meta and para substituted *l*-menthyl benzoates. R. W. Taft, jr., M. S. Newman and F. H. Verhoek. bibliog Am Chem Soc J 72:4511-19 O '50

Kinetics of the thermal decomposition of peresters. A. T. Blomquist and A. F. Ferris. bibliog Am Chem Soc J 73:3408-15 Jl '51

Lithium aluminum hydride reduction of pyridine carboxylic esters; synthesis of vitamin B_6. R. G. Jones and E. C. Kornfeld. bibliog Am Chem Soc J 73:107-9 Ja '51

Mechanism of the chromic acid oxidation of isopropyl alcohol; the chromic acid ester. F. Holloway, M. Cohen and F. H. Westheimer. bibliog Am Chem Soc J 73: 65-8 Ja '51

Methods of resolution; variations of the resolution of alcohols through acid esters. A. K. Macbeth, J. A. Mills and R. Pettit. Chem Soc J p3538-42 D '50

Methyl ester of dehydroperillic acid, an odoriferous constituent of western red cedar (thuja plicata). E. F. Kurth. Am Chem Soc J 72:5778-9 D '50

New approaches to the synthesis of compounds containing conjugate unsaturation. C. D. Hurd and H. E. Winberg. Am Chem Soc J 73:917-19 Mr '51

2-Nitratoethyl esters of acrylic, crotonic and methacrylic acids. N. S. Marans and R. P. Zelinski. Am Chem Soc J 72:5330-1 N '50

Nuclear structure of the water-soluble polycarboxylic acids from oxidation of bituminous coal. C. H. Ruof, T. R. Savich and H. C. Howard. Am Chem Soc J 73:3873-9 Ag '51

Organic derivatives of titanium; preparation and properties of some ortho-esters. N. M. Cullinane and others. bibliog diag J Ap Chem 1:400-6 S '51

Organic derivatives of titanium; preparation of some orthoesters. N. M. Cullinane and others. bibliog Soc Chem Ind J 69(sup no 1):S38-40 '50

Ortho esters, imidic esters and amidines; disproportionation reactions of nitrophenyl-, chlorophenyl- and tolyl-substituted formimidates and formamidines. R. M. Roberts, R. H. DeWolfe and J. H. Ross. Am Chem Soc J 73:2277-81 My '51

Orthoformic esters. bibliog Chem Age (Lond) 64:163-6, 205-8 Ja 27-F 3 '51

Oxygen exchange as evidence for the existence of an intermediate in ester hydrolysis. M. L. Bender. bibliog Am Chem Soc J 73: 1626-9 Ap '51

Periodate oxidation of the formyl esters of starch. O. A. Moe, S. E. Miller and M. I. Buckley. Am Chem Soc J 73:4185-6 S '51

p-Phenylphenacyl ester of phenylacetic acid. E. Erickson and I. M. Hunsberger. Am Chem Soc J 72:5766 D '50

Phosphonation with a phosphite ester of propanediol. F. W. Mitchell, jr. and H. J. Lucas. Am Chem Soc J 72:5779 D '50

Polarographic behavior of organic compounds; some ethers and esters of 2-nitro-1-butanol. W. J. Seagers and P. J. Elving. bibliog Am Chem Soc J 72:5183-5 N '50

Polymeric additives for synthetic ester lubricants. F. J. Glavis. bibliog Ind & Eng Chem 42:2441-6 D '50

Polymerization of vinyl and allyl esters of fatty acids. S. A. Harrison and D. H. Wheeler. bibliog Am Chem Soc J 73:839-42 F '51

Polymers of α-acetamidoacrylic acid and its methyl ester. R. Adams, J. L. Johnson and B. Englund. Am Chem Soc J 72:5080-2 N '50

Polythiolesters. C. S. Marvel and A. Kotch. bibliog Am Chem Soc J 73:1100-2 Mr '51

Preparation and hydrolysis of some acetals and esters of D(—)-2,3-butanediol. H. K. Garner and H. J. Lucas. bibliog Am Chem Soc J 72:5497-501 D '50

Preparation of unsaturated long-chain alcohols by means of lithium aluminium hydride; some typical members of the series. S. P. Ligthelm, E. von Rudloff and D. A. Sutton. Chem Soc J p3187-90 N '50

Racemization of the dimethyl ester of *l*-bromosuccinic acid by lithium bromide in acetone. A. R. Olson, L. D. Frashier and F. Spieth. bibliog J Phys & Colloid Chem 55:860-73 Je '51

Reaction of O,O-dialkyl thiophosphoric acid salts with some α-haloacyl derivatives. E. I. Hoegberg and J. T. Cassaday. bibliog Am Chem Soc J 73:557-9 F '51

Reactions of vanillin and its derived compounds; a new synthesis of vanillic acid esters. I. A. Pearl and D. L. Beyer. Am Chem Soc J 73:4091-3 S '51

ESTERS—*Continued*

Reduction of α- and β-ketoesters. M. S. Newman and H. M. Walborsky. bibliog Am Chem Soc J 72:4296-7 S '50

Reductive cyclization; a general method for the synthesis of 1-azabicyclo compounds. N. J. Leonard and W. E. Goode. bibliog Am Chem Soc J 72:5404-7 D '50

Refractive indices for the methyl esters of the C_{12}-C_{28} saturated *n*-aliphatic acids. C. F. Krewson. Am Chem Soc J 73:1365 Mr '51

Researches on acetylenic compounds; Diels-Alder reactions with acetylenic keto-esters. T. Y. Shen and M. C. Whiting. Chem Soc J p 1772-6 Jl '50

Researches on acetylenic compounds; the preparation and properties of αβ-acetylenic γ-keto-esters. E. R. H. Jones, T. Y. Shen and M. C. Whiting. Chem Soc J p236-41 Ja '50

Saponification of difficultly saponifiable esters. W. E. Shaefer and W. J. Balling. Anal Chem 23:1126-8 Ag '51

Senecio alkaloids; the structure of retrorsine and isatidine; the ester groupings. E. C. Leisegang and F. L. Warren. Chem Soc J p702-3 F '50

Simple acetolysis of nitrate esters. M. L. Wolfrom, R. S. Bower and G. G. Maher. Am Chem Soc J 73:874-5 F '51

Some acylamino acid esters and amides. S. W. Fox and H. Wax. Am Chem Soc J 73:2936-7 Je '51

Some esters based on *p*-chloromethylbenzoyl chloride. W. S. Emerson and R. A. Heimsch. bibliog Am Chem Soc J 72:5152-4 N '50

Some esters of 2-trichloro-1-(*p*-chlorophenyl)-ethanol as potential insecticides. T. C. Chen and W. T. Sumerford. bibliog Am Chem Soc J 72:5124-5 N '50

Some synthetic esters of germine. H. L. White. Am Chem Soc J 73:492-3 Ja '51

Some terpene carboxy esters from turpentine; their synthesis from crude sulphate turpentine and other sources and their preliminary evaluation as plasticizers. T. Hasselstrom and others. bibliog Tappi 33:538-41 N '50

Spinning-band column for vacuum fractionation of fatty-acid esters. L. J. Williamson. bibliog diag J Ap Chem 1:33-40 Ja '51

Studies of trifluoroacetic acid; preparation and properties of some trifluoroacetyl esters. E. J. Bourne, C. E. M. Tatlow and J. C. Tatlow. Chem Soc J p 1367-9 My '50

Studies on phosphorylation; the action of salts on neutral benzyl esters of the oxy-acids of phosphorus; a new method of selective debenzylation. V. M. Clark and A. R. Todd. Chem Soc J p2030-4 Ag '50

Studies on phosphorylation; the reaction between organic bases and esters of the oxy-acids of phosphorus; an interpretation based on a comparison of certain aspects of the chemistry of sulphur and phosphorus. V. M. Clark and A. R. Todd. Chem Soc J p2023-30 Ag '50

Synthesis of peptides and esters of phenylalanine as chromogenic substrates for chymotrypsin. A. M. Seligman and G. Wolf. bibliog Am Chem Soc J 73:2086-9 Mr '51

Synthetical experiments in the B group of vitamins; pyrrolinones derived from the condensation products of primary amino-esters and formyl- or acetyl-succinic acid derivatives. A. Cohen. Chem Soc J p3005-9 N '50

Temperature-interfacial tension studies of some alkyl esters of monobromoacetic acid against water. J. J. Jasper and W. J. Mayer. Am Chem Soc J 73:2610-11 Je '51

Thermal decomposition of iminoester salts and the cleavage of orthoesters by these salts. S. M. McElvain and B. E. Tate. Am Chem Soc J 73:2233-8 My '51

α-Thienyl substituted aminoesters with analgetic and spasmolytic properties. F. Leonard and I. Eherenthal. Am Chem Soc J 73:2216-18 My '51

Transesterification; β-keto esters. A. R. Bader, L. O. Cummings and H. A. Vogel. bibliog Am Chem Soc J 73:4195-7 S '51

Triesters of corn starch, amylose, and amylopectin; properties. I. A. Wolff, D. W. Olds and G. E. Hilbert. bibliog il Ind & Eng Chem 43:911-14 Ap '51

Trypsin hydrolysis of lysine ethyl ester. H. Werbin and A. Palm. Am Chem Soc J 73:1382 Mr '51

Unusual orthoester of pentaerythritol. E. D. Bergmann, E. Bograchov and S. Pinchas. Am Chem Soc J 73:2352-3 My '51

Vibrational spectra of alkyl esters of phosphorus oxy-acids. C. I. Meyrick and H. W. Thompson. Chem Soc J p225-9 Ja '50

See also
Cellulose esters

Analysis

Determination of *trans*-octadecenoic acids, esters, and alcohols in mixtures; infrared spectrophotometric method. O. D. Shreve and others. bibliog Anal Chem 22:1261-4 O '50

N-(β-aminoethyl)-morpholine as a reagent for the characterization of esters. R. W. Bost and L. V. Mullen, jr. Am Chem Soc J 73:1967-8 My '51

ESTIMATES

Average costs mean potential losses to machine shops. B. A. Margo. Mach 57:174-7 F '51

Cost estimating simplified. C. H. Chilton. bibliog Chem Eng 58:108-11 Je '51

How to estimate special machine costs. C. P. Eisenhauer. Steel 128:82 Je 18 '51

New product procedures in a small company; American sterilizer co. S. L. Page. N A C A Bul 32:1485-9 Ag '51

Next time, give the boss a precise capital cost estimate. W. T. Nichols. Chem Eng 58:248+ Je '51

Price estimating; survival factor in job shops. F. S. Howell. N A C A Bul 32:1465-71 Ag '51

Statistical analysis of cost estimates. P. Ferencz. Chem & Eng N 29:4158-60 O 8 '51

Symposium on plant cost estimation. W. T. Nichols and others. bibliog Ind & Eng Chem 43:2295-311 O '51 (reprints 50 cents)

See also
Building—Estimates
Electroplating—Estimates
Heating—Estimates
Petroleum—Well drilling—Estimates
Piping—Estimates

ESTRADIOL

Enzymatic dehydrogenation of estradiol to estrone. J. A. Ledogar and H. W. Jones, jr. Science 112:536-7 N 3 '50

Paper chromatography in the separation of estradiol-17α from estradiol-17β and of equilin from equilenin. E. Heftmann. Am Chem Soc J 73:851-2 F '51

Polymorphism of 17-ethinylestradiol. R. Pheasant. Am Chem Soc J 72:4303-4 S '50

ESTROGENS

Intermediates for synthetic hormones. H. E. Ungnade and N. L. Jennings. Am Chem Soc J 73:873-4 F '51

Open-chain analogue of ethyl 7-methylbisdehydrodoisynolic acid. E. R. Clark. Chem Soc J p3397-402 D '50

Reduction of estrone and estrogen esters. J. H. Biel. Am Chem Soc J 73:847-8 F '51

Steroids; contribution to the bromination of Δ^4-3-ketosteroids and a new partial synthesis of the natural estrogens. C. Djerassi and others. bibliog Am Chem Soc J 72:4534-40 O '50

Steroids; the dienone-phenol rearrangement in the steroid series; synthesis of a new class of estrogens. C. Djerassi and others. bibliog Am Chem Soc J 72:4540-4 O '50

Synthesis of isoequilenin via the Diels-Alder reaction; the configuration of the C/D ring juncture of the estrogenic hormones. W. E. Bachmann and J. Controulis. Am Chem Soc J 73:2636-41 Je '51

ESTRONE

Chemical actions of ionising radiations in solution; radiation chemistry of sterols; the action of X-rays on (+)-œstrone-b in aqueous solution. M. Keller and J. Weiss. Chem Soc J p 1247-9 My '51

Enzymatic dehydrogenation of estradiol to estrone. J. A. Ledogar and H. W. Jones, jr. Science 112:536-7 N 3 '50

ESTRONE—*Continued*

Partial synthesis of estrone-16 and of isoandrosterone-16 (Heard's oxyketone). M. N. Huffman and M. H. Lott. Am Chem Soc J 73:878 F '51

Preparation of 6,7-d_2-estrone acetate. W. H. Pearlman and M. R. J. Pearlman. Am Chem Soc J 72:5781 D '50

Reduction of estrone and estrogen esters. J. H. Biel. Am Chem Soc J 73:847-8 F '51

ESTUARIES

Adsorption of *E. coli* on river and estuarine silts. C. M. Weiss. bibliog Sewage & Ind Wastes 23:227-37 F '51

Flushing of tidal estuaries. B. H. Ketchum. maps Sewage & Ind Wastes 23:198-208; Discussion. A. M. Rawn. 208-9 F '51

ETCHING (metals)

Auto-sembly of miniature military equipment; production of wiring by acid etching of copper-faced insulating laminates. S. F. Danko and S. J. Lanzalotti. il Electronics 24:94-8 Jl '51

Electrolytic polishing and etching of uranium. B. W. Mott and H. R. Haines. il Metallurgia 43:255-7 My '51

Etched pattern identifies lighter tinplate coat. J. Kolb. il Iron Age 168:90-1 Ag 2 '51

Etching steels which contain the sigma phase; with data sheet. J. J. Gilman. Metal Prog 59:376B, 377 Mr '51

Evaluation of macroscopic residual stresses in cylindrical bars; etching of plastically deformed layers from cylindrical bars and the measurement of resultant length changes. H. Föppl. il Iron & Steel Inst J 168:23 My '51

Galvanic macro-etch for high-purity aluminum. I. S. Servi. il Metal Prog 58:732-3 N '50

New etch for aluminum. Light Metal Age 8: 26-7 D '50

Thermal polishing and etching of nickel. G. W. Wensch. il Metal Prog 57:488 Ap '50; Discussion. 58:733-4 N '50

ETHANE

Completely halogenated ethanes containing iodine. J. T. Barr, J. D. Gibson and R. H. Lafferty, jr. Am Chem Soc J 73:1352-3 Mr '51

Compressibility of ethane-propylene vapor mixtures. H. W. Prengle, jr. and H. Marchman. bibliog Ind & Eng Chem 42: 2371-4 N '50

Critical behavior and liquid-vapor equilibrium in mixtures of fluids. C. A. Boyd. bibliog il diag J Phys & Colloid Chem 54:1347-57 D '50

Effect of high pressures on the explosibility of mixtures of ethane, air, and carbon dioxide and of ethane, air, and nitrogen. R. E. Kennedy and others. bibliog 6pls U S Bur Mines Rep of Invest 4751:1-11 '50

Internal rotation; a dilute solution method for the spectroscopic determination of the energy difference between rotational isomers. J. Powling and H. J. Bernstein. bibliog diags Am Chem Soc J 73:1815-20 Ap '51

Mercury ($^3P_1$) photo-sensitized reaction of ethane at high temperatures. S. Bywater and E. W. R. Steacie. J Chem Phys 19: 326-9 Mr '51

Production of ethylene by autothermic cracking. R. M. Deanesly and C. H. Watkins. flow diag Chem Eng Prog 47:134-40 Mr '51

Pyrolysis of mixtures of ethane and ethane-d_6. L. A. Wall and W. J. Moore. bibliog Am Chem Soc J 73:2840-4 Je '51

Rate constant of ethane formation from methyl radicals. R. Gomer and G. B. Kistiakowsky. bibliog J Chem Phys 19:85-91 Ja '51

Reinvestigation of the structures of diborane and ethane by electron diffraction. K. Hedberg and V. Schomaker. bibliog Am Chem Soc J 73:1482-7 Ap '51

Solubility measurements in the critical temperature region. D. Atack and W. G. Schneider. bibliog diags J Phys & Colloid Chem 54:1323-36 D '50

Some applications of deuterium in the study of decomposition mechanisms of organic compounds. L. A. Wall and W. J. Moore. bibliog J Phys & Colloid Chem 55:965-74 Je '51

Tautomeric forms of some 1,1-diaroylethanes. C. L. Bickel and R. Morris. Am Chem Soc J 73:1786-7 Ap '51

Volumetric and phase behavior in the ethane-propene system. R. A. McKay and others. bibliog Ind & Eng Chem 43:2112-17 S '51

Analysis

Kinetics of the photolysis of acetaldehyde; the determination of ethane and hydrogen in the reaction products by the use of a mass spectrometer. C. J. Danby, A. S. Buchanan and I. H. S. Henderson. Chem Soc J p 1426-30 Je '51

Low temperature separation of ethane from methane and air. R. L. Slobod. bibliog diag Anal Chem 23:361-3 F '51

ETHANETHIOL

Apparatus for determining freezing points at saturation pressure from time-temperature freezing and melting experiments. A. R. Glasgow, jr., N. C. Krouskop and F. D. Rossini. diags Anal Chem 22:1521-4 D '50

ETHANOL. See Alcohol

ETHANOLAMINE

Acidic dissociation constant and related thermodynamic quantities for monoethanolammonium ion in water from 0° to 50° C. R. G. Bates and G. D. Pinching. bibliog J Res Nat Bur Stand 46:349-52 My '51

Crowding field; Jefferson's new ethanolamine plant. il Chem Ind 67:878 D '50

Decomposition of amine picrates with ethanolamine. I. A. Kaye, I. C. Kogon and W. Burlant. Am Chem Soc J 72:5752 D '50

Ethanolamines primed for rise. Chem Ind W 68:35-6 Ap 21 '51

Migrations of acyl groups in aminoethanols; analogy with mixed diacyl *o*-aminophenols. A. P. Phillips and A. Maggiolo. bibliog Am Chem Soc J 72:4920-2 N '50

Selective absorption of hydrogen sulfide from gas streams. H. D. Frazier and A. L. Kohl. bibliog flow diag il diag Ind & Eng Chem 42:2288-92 N '50

ETHANOLAMMONIUM chloride

Acidic dissociation constant and related thermodynamic quantities for monoethanolammonium ion in water from 0° to 50° C. R. G. Bates and G. D. Pinching. bibliog J Res Nat Bur Stand 46:349-52 My '51

ETHANOLYSIS. See Alcoholysis

ETHERIFICATION

Transetherification reactions; thiophenols with ethyl β-ethoxyacrylates. W. J. Croxall, L. R. Freimiller and E. Y. Shropshire. Am Chem Soc J 72:4275-6 S '50

ETHERS

Allyl butyl ethers. E. A. Talley, A. S. Hunter and E. Yanovsky. Am Chem Soc J 73:3528 Jl '51

Chloro substituted diphenylmethanes, phenyl benzyl ethers and benzophenones prepared from ortho- or para-cresol. R. C. Huston and K. R. Robinson. bibliog Am Chem Soc J 73:2483-6 Je '51

Claisen rearrangement of allyl 3-(trifluoromethyl)-phenyl ether. E. T. McBee and E. Rapkin. bibliog Am Chem Soc J 73:2375-6 My '51

Cleavage and rearrangement of ethers with bases. D. Y. Curtin and S. Leskowitz. bibliog Am Chem Soc J 73:2630-6 Je '51

Cleavage of cholesteryl and 7-dehydrocholesteryl ethers. D. H. Gould, K. H. Schaaf and W. L. Ruigh. bibliog Am Chem Soc J 73:1263-7 Mr '51

Cleavage reactions of optically active secondary butyl methyl ether. R. L. Burwell, jr., L. M. Elkin and L. G. Maury. bibliog Am Chem Soc J 73:2428-31 Je '51

Cyanuric chloride derivatives; transesterification reactions of alkoxy-*s*-triazines; polyammelide ethers. J. R. Dudley and others. Am Chem Soc J 73:2999-3004 Jl '51

Dibasic acids based on *p*-chloromethylbenzoyl chloride containing ether, thioether of sulfone groups. W. S. Emerson and R. A. Heimsch. Am Chem Soc J 73:1297-8 Mr '51

Dipole moments of some aliphatic ethers. R. A. Spurr and H. Zeitlin. bibliog Am Chem Soc J 72:4832 O '50

Dithiols; ethers of 2 : 3-dimercaptopropanol with mannitol and sorbitol. P. Bladon and L. N. Owen. Chem Soc J p591-7 F '50

ETHERS—*Continued*

Effect of changes in the allyl group on the rearrangement of allyl ethers of salicylic acids. W. R. Nummy and D. S. Tarbell. bibliog Am Chem Soc J 73:1500-4 Ap '51

Ethers of 4(5)-hydroxymethylimidazole. P. M. Ruoff and R. C. Scott. bibliog Am Chem Soc J 72:4950-3 N '50

Ferric thiocyanate; the distribution of ferric thiocyanate between ether and water. J. Y. Macdonald, K. M. Mitchell and A. T. S. Mitchell. Chem Soc J p 1574-80 Je '51

Fluorinated ethers. A. L. Henne and M. A. Smook. bibliog Am Chem Soc J 72:4378-80 O '50

Further studies on the stereochemistry of aromatic ethers. K. B. Everard and L. E. Sutton. Chem Soc J p 16-21 Ja '51

Glycol ethers as nonaqueous solvents in polarographic analysis. T. D. Parks and K. A. Hansen. bibliog Anal Chem 22:1268-9 O '50

Hydrogen bond formation with saturated cyclic ethers. S. Searles and M. Tamres. bibliog Am Chem Soc J 73:3704-6 Ag '51

Interaction of boron trichloride with optically active alcohols and ethers. W. Gerrard and M. F. Lappert. Chem Soc J p1020-4 Ap '51

Isolation of an epoxyether from the reaction of an α-haloketone with base. C. L. Stevens, W. Malik and R. Pratt. bibliog Am Chem Soc J 72:4758-60 O '50

Kinetics and mechanism of aromatic nitration; the nitration of phenols and phenolic ethers; the concomitant dealkylation of phenolic ethers; the role of nitrous acid. C. A. Bunton and others. Chem Soc J p2628-56 O '50

Local anesthetics; some aryl alkamine ethers. H. B. Wright and M. B. Moore. bibliog Am Chem Soc J 73:2281-3 My '51

Optically active phenylmethylcarbinyl ethers. K. Mislow. Am Chem Soc J 73:4043-4 Ag '51

Organic fluoro-compounds; the preparation of alkyl 2 : 4-dinitrophenyl ethers from 1-fluoro-2 : 4-dinitrobenzene. W. B. Whalley. Chem Soc J p2241-3 Ag '50

Phase studies on the binary systems of tin tetrabromide, tin tetraiodide and trichlorosilane with some aliphatic ethers. H. H. Sisler, E. E. Schilling and W. O. Groves. Am Chem Soc J 73:426-9 Ja '51

Physical properties of some 1,1-difluoro-2,2-dichloroethyl alkyl ethers. J. D. Park, C. M. Snow and J. R. Lacher. Am Chem Soc J 73:861-2 F '51

Polarographic behavior of organic compounds; some ethers and esters of 2-nitro-1-butanol. W. J. Seagers and P. J. Elving. bibliog Am Chem Soc J 72:5183-5 N '50

Preparation of amino ethers and diamines from chloromethyl ether and butadiene. L. H. Amundsen and W. F. Brill. bibliog Am Chem Soc J 73:1834-5 Ap '51

Pyridyl-aryloxy alkamine ethers as histamine antagonists. D. Papa, N. Sperber and M. Sherlock. Am Chem Soc J 73:1279-80 Mr '51

Reaction of benzylmagnesium halides with alkyl α-haloalkyl ethers. L. Malm and L. Summers. Am Chem Soc J 73:362-3 Ja '51

Reaction of Grignard reagents with α,β-unsaturated ethers. C. M. Hill, R. A. Walker and M. E. Hill. Am Chem Soc J 73:1663-4 Ap '51

Reactions of polyfluoro olefins; preparation of polyfluoro ethers. J. T. Barr and others. bibliog Am Chem Soc J 72:4480-2 O '50

Rearrangement of benzyl ethers to carbinols by potassium amide; mechanism of isomerization of carbanions involving 1,2-shifts. C. R. Hauser and S. W. Kantor. bibliog Am Chem Soc J 73:1437-41 Ap '51

Rearrangement of oxime N-ethers. A. C. Cope and A. C. Haven, jr. bibliog Am Chem Soc J 72:4896-903 N '50

Stability of complexes of uranyl nitrate with ketones and ethers. A. R. Mathieson. diag Chem Soc J supp no 2:S294-8 '49

Steroids; reaction of α,β-unsaturated steroid ketones with benzylmercaptan; thioenol ether formation of 1,4-addition. J. Romo and others. bibliog Am Chem Soc J 73:1528-33 Ap '51

Terpene derivatives; basic ethers. W. B. Wheatley and others. Am Chem Soc J 73:229-32 Ja '51

Two stage polymerizations; preparation and polymerization of substituted allyl phenyl ethers. G. B. Butler and F. L. Ingley. bibliog Am Chem Soc J 73:1512-13 Ap '51

See also
Cellulose ethers
Ethyl ether
Vinyl ethers

ETHICS

See also
Accounting ethics
Advertising ethics
Business ethics
Conduct of life
Engineering ethics
Loyalty tests
Newspaper ethics
Professional ethics

ETHIOPIA

Industries and resources

Recent loans to Ethiopia and establishment of new development bank. For Comm W 44:13 Jl 30 '51

ETHOXYDIPHENYL. See Phenyl phenetole

ETHOXYETHANOL. See Cellosolve

ETHOXY quinoline

Metalation of 2-ethoxyquinoline. H. Gilman and J. A. Beel. bibliog Am Chem Soc J 73:32 Ja '51

ETHOXYLINE resins. See Resinous products

ETHYL acetamidocyanoacetate

Synthesis of ethyl acetamidocyanoacetate, DL-lysine, DL-ornithine and DL-tyrosine labeled with isotopic carbon. M. Fields, D. E. Walz and S. Rothchild. bibliog Am Chem Soc J 73:1000-2 Mr '51

ETHYL acetate

Conductance of methanol, acetone, ethyl acetate and acetic anhydride complexes of aluminum bromide in nitrobenzene at 25°. R. E. Van Dyke. Am Chem Soc J 73:398-402 Ja '51

Estimation of surface tensions; ternary liquid mixtures. A. S. Michaels, R. S. Alexander and C. L. Becker. bibliog Ind & Eng Chem 42:2332-6 N '50

Purification of methyl acetate and ethyl acetate. C. D. Hurd and J. S. Strong. bibliog Anal Chem 23:542 Mr '51

Reaction-kinetic investigations of the incomplete dissociation of salts; the hydrolysis of carbethoxymethyltriethylammonium iodide and of ethyl acetate by solutions of metal hydroxides. R. P. Bell and G. M. Waind. Chem Soc J p 1979-83 Ag '50

Separation of chromium from vanadium by extraction of perchromic acid with ethyl acetate. R. K. Brookshier and H. Freund. bibliog Anal Chem 23:1110-13 Ag '51

ETHYL acetoacetate

Condensation of ethyl acetoacetate to isodehydroacetic acid and ethyl ester. R. H. Wiley and N. R. Smith. Am Chem Soc J 73:3531-3 Jl '51

Experiments on the synthesis of carbonyl compounds; addition of ethyl acetoacetate to ethyl sorbate. D. E. Ames and R. E. Bowman. Chem Soc J p329-31 Ja '50

ETHYL acrylate

1-Cyano-1, 3-butadienes; the Diels-Alder adducts of 1-cyano-1-3-butadiene with ethyl and methyl acrylate. H. R. Snyder and G. I. Poos. bibliog Am Chem Soc J 72:4104-7 S '50

Reactions of 1-(*p*-bromophenyl)-1,3-butadiene and 1-(*p*-nitrophenyl)-1,3-butadiene with acrylic acid and ethyl acrylate. G. A. Ropp and E. C. Coyner. bibliog Am Chem Soc J 72:3960-3 S '50

ETHYL alcohol. See Alcohol

ETHYLAMINE

Adrenergic blocking agents; N-(aryloxyisopropyl)-β-haloethylamines. J. F. Kerwin and others. bibliog Am Chem Soc J 73:4162-8 S '51

Reactions of 2-arylcyclohexanones; 1-phenylcyclohexaneethylamine, 1-methyl-9-phenyl-Δ^7-hexahydroindole and related compounds. W. E. Bachmann and E. J. Fornefeld. Am Chem Soc J 73:51-4 Ja '51

Structure and pharmacological activity among 2-haloethylamine derivatives with a naphthylmethyl group; variation of the halogen. N. B. Chapman and others. Chem & Ind p633 Jl 21 '51

ETHYLAMINE—*Continued*

Studies relating to boron; some reactions of the aliphatic boranes with alkali metals in liquid ammonia and ethylamine. J. E. Smith and C. A. Kraus. Am Chem Soc J 73:2751-4 Je '51

Toxic effects of exposure to vapors of aliphatic amines. H. Brieger and W. A. Hodes. bibliog il A M A Archives Ind Hygiene & Occup Med 3:287-91 Mr '51

ETHYL aminocrotonate

New synthesis of heterocyclic compounds; the condensation of ethyl β-aminocrotonate with some cyclic amidines. H. Antaki and V. Petrow. Chem Soc J p551-5 F '51

ETHYL aminoethyl phenylbenzamide

Synthesis of 4-(N-ethylamino)-N-ethyl-N-phenylbenzamide. W. A. Schroeder and P. E. Wilcox. Am Chem Soc J 72:4309-10 S '50

ETHYL aniline

Hydrogen bonding and relative adsorption affinities on silicic acid of certain derivatives of diphenylamine and N-ethylaniline. W. A. Schroeder. bibliog Am Chem Soc J 73:1122-7 Mr '51

ETHYL benzene

Studies in photochemistry and radiation chemistry of toluene, mesitylene and ethylbenzene. R. R. Hentz and M. Burton. bibliog Am Chem Soc J 73:532-6 F '51

Analysis

Ultraviolet spectrophotometric determination of styrene in ethylbenzene. N. Hadden and J. A. Perry. Anal Chem 23:1337 S '51

ETHYL benzoate

Synthesis of unsymmetrical α-ketols by the mixed acyloin reaction. J. W. Lynn and J. English, jr. bibliog Am Chem Soc J 73:4284-6 S '51

ETHYL cellulose

Bound metal in ethyl cellulose effect on dilute solution properties. E. F. Evans and H. M. Spurlin. bibliog Am Chem Soc J 72:4750-6 O '50

Commodity survey. diag Chem Eng 58:279 Mr '51

Engineering aspects of separation of gases; fractional permeation through membranes. S. Weller and W. A. Steiner. bibliog flow diags diags Chem Eng Prog 46:585-90 N '50

Stud driver cartridges; color coded ethyl cellulose heel caps. il Mod Plastics 29:84-5 S '51

See also

Hydroxyethyl cellulose

ETHYL chloride

Commodity survey. diags Chem Eng 58:319-20 My '51

Vacuum desorption of ethyl chloride from activated carbon. E. O. Wiig and S. B. Smith. bibliog diags J Phys & Colloid Chem 55:27-44 Ja '51

ETHYL chloroformylacetate

Condensation of aromatic amines with ethyl α-chloro-α-formylacetate. D. A. H. Taylor. Chem Soc J p3345-6 N '50

ETHYL cyclooctane

Eight-membered carbocycles; identification of the $C_{10}H_{10}$ fraction from cyclooctatetraene preparations. L. E. Craig and C. E. Larrabee. bibliog Am Chem Soc J 73:1191-5 Mr '51

ETHYLCYCLOPROPANE

Isomerization accompanying alkylation; reaction of benzene with methylcyclopropane, ethylcyclopropane and with dimethylcyclopropanes. H. Pines, W. D. Huntsman and V. N. Ipatieff. bibliog Am Chem Soc J 73:4343-7 S '51

ETHYL dimethyl furoate

Preparation of ethyl 2,4-dimethyl-3-furoate. E. R. Alexander and S. Baldwin. bibliog Am Chem Soc J 73:356-7 Ja '51

ETHYL ether

Cautions in grease extraction with ether. F. D. Tylicki. Sewage & Ind Wastes 23:930 Jl '51

Compositions of vapors from boiling solutions; equilibria under pressure of systems; ethyl ether-ethyl alcohol and ethyl ether-water-ethyl alcohol. W. P. Moeller and others. bibliog Ind & Eng Chem 43:711-17 Mr '51

Conductance of aluminum bromide monoetherate on addition of various bases at 25°. R. E. Van Dyke and T. S. Harrison. Am Chem Soc J 73:575-8 F '51

Decomposition of lauroyl peroxide in benzene and diethyl ether. W. E. Cass. bibliog Am Chem Soc J 72:4915-17 N '50

Electrochemistry of boron trifluoride coordination compounds; boron trifluoride-ethyl ether. N. N. Greenwood, R. L. Martin and H. J. Emeléus. diags Chem Soc J p3030-6 N '50

Equilibrium and thermodynamic relation in the vapour-phase catalytic dehydration of ethyl alcohol to ethyl ether. F. H. H. Valentin. Chem Soc J p498-500 F '50

Solubility of water in diethyl ether at 25°. H. H. Rowley and W. R. Reed. bibliog Am Chem Soc J 73:2960 Je '51

ETHYL ethoxymethyleneoxalacetate

Synthesis of ethyl ethoxymethyleneoxalacetate and related compounds. R. G. Jones. bibliog Am Chem Soc J 73:3684-6 Ag '51

ETHYL formate

Vapor-liquid equilibria in binary systems; systems involving *cis-* or *trans-*dichloroethylene and a ketone or ester. N. Alpert and P. J. Elving. bibliog Ind & Eng Chem 43:1182-6 My '51

ETHYL glycerate

Preparation of ethyl D,L-glycerate-1-C^{14} and glycerol-1-C^{14}. A. P. Doerschuk. Am Chem Soc J 73:821-2 F '51

ETHYLIDENE chloride

Ionic conductances in ethylidene chloride. F. H. Healey and A. E. Martell. bibliog Am Chem Soc J 73:3296-9 Jl '51

ETHYLIDENE iodide

Preparation of ethylidene iodide. R. L. Letsinger and C. W. Kammeyer. Am Chem Soc J 73:4476 S '51

ETHYL iodide

Hot radical reactions in the photolysis of methyl and ethyl iodides in the liquid phase. W. H. Hamill and R. H. Schuler. bibliog Am Chem Soc J 73:3466-70 Jl '51

Reactions of radicals produced by the action of sodium on alkyl iodides. A. A. Comstock and G. K. Rollefson. bibliog diags J Chem Phys 19:441-6 Ap '51

ETHYL isopropenyl malonic acid

Kinetics of the rearrangement of ethyl isopropenyl allylmalonate. G. R. Aldridge and G. W. Murphy. Am Chem Soc J 73:1158-60 Mr '51

ETHYL malonate

Kinetics of the alkaline hydrolysis of monoethyl malonate ion. W. J. Svirbely and I. L. Mador. bibliog Am Chem Soc J 72:5699-705 D '50

ETHYL mercuric compounds. See Mercury compounds

ETHYL methyl aniline

Quaternary ammonium salts; the formation and decomposition of ethyldimethylanilinium salts; the synthesis of *N*-ethyl-*N*-methylanilines. H. A. Fahim and M. Galaby. Chem Soc J p3529-32 D '50

ETHYL methyl cinnamate

Preparation of benzylsuccinic acid from ethyl α-methylcinnamate. W. F. Beech and N. Legg. Chem Soc J p2906-7 O '50

ETHYL methyl naphthalene

7-Ethyl-2-methylnaphthalene, 7-ethyl-1 : 2-dimethylnaphthalene, and 6-ethyl-1 : 4-dimethylnaphthalene. W. Cocker and D. H. Hayes. Chem Soc J p844-5 Mr '51

ETHYL naphthalene

Dehydrogenation of ethylnaphthalene to vinylnaphthalene. J. E. Nickels and B. B. Corson. bibliog diag Ind & Eng Chem 43:1685-9 Jl '51

ETHYL nitrate

Inflammation of methyl and ethyl nitrate vapours; characteristics of the explosion process and intermediate reactions involving nitrogen dioxide. P. Gray and A. D. Yoffe. diag Chem Soc J p3180-5 N '50

ETHYL nitrocyanoacetate

Reductive acetylation of aliphatic nitro-compounds. C. Simons. Chem Soc J p2392-3 S '50

ETHYL nitromalonate

Reductive acetylation of aliphatic nitro-compounds. C. Simons. Chem Soc J p2392-3 S '50

ETHYL orthoformate
Reaction of diacetyl with ethyl orthoformate. D. A. Harris. Chem Soc J p2247 Ag '50
Reaction of hydroxyaldehydes with ethyl orthoformate; β-hydroxyaldehydes. E. R. Alexander and E. N. Marvell. Am Chem Soc J 72:3944-6 S '50

ETHYL phenylacetate
Vapor-liquid equilibria at subatmospheric pressures; trichloroethylene-tetrachloroethylene and ethyl phenyl acetate-ethyl α-phenyl butyrate. K. C. Bachman, A. Zimmerli and E. L. Simons. bibliog Ind & Eng Chem 42:2569-71 D '50

ETHYL phenylbutyrate
Vapor-liquid equilibria at subatmospheric pressures; trichloroethylene-tetrachloroethylene and ethyl phenyl acetate-ethyl α-phenyl butyrate. K. C. Bachman, A. Zimmerli and E. L. Simons. bibliog Ind & Eng Chem 42:2569-71 D '50

ETHYL phenyldioxopropanoate
Vicinal tricarbonyl compounds; condensation of ethyl 3-phenyl-2,3-dioxopropanoate with malonic acid. D. B. Sharp and G. V. Hudson. Am Chem Soc J 73:3085-6 Jl '51

ETHYL phenylpyrrolidine
Reductive cyclization; synthesis of 1-ethyl-3-phenylpyrrolidine. N. J. Leonard, A. B. Simon and D. L. Felley. Am Chem Soc J 73:857-8 F '51

ETHYL propionate
Synthesis of unsymmetrical α-ketols by the mixed acyloin reaction. J. W. Lynn and J. English, jr. bibliog Am Chem Soc J 73:4284-6 S '51

ETHYL pyridinium bromide
Electrodeposition of metals from fused quaternary ammonium salts. F. H. Hurley and T. P. Wier, jr. bibliog Electrochem Soc J 98:203-6 My '51

ETHYL silicates
Hydrolysis of ethyl silicate. R. Aelion, A. Loebel and F. Eirich. bibliog Am Chem Soc J 72:5705-12 D '50
Use of ethyl silicate in providing heat-resistant coatings of aluminum on steel. G. Tolley. il J Ap Chem 1:86-90 F '51

ETHYL sorbate
Alkylation of phenol with ethyl 6-bromosorbate. H. E. Ungnade and T. R. Hopkins. Am Chem Soc J 73:3091-3 Jl '51
Experiments on the synthesis of carbonyl compounds; addition of ethyl acetoacetate to ethyl sorbate. D. E. Ames and R. E. Bowman. Chem Soc J p329-31 Ja '50

ETHYL succinate
Stobbe condensation between *meso*benzanthrone and ethyl succinate. G. R. Clemo, L. Munday and G. A. Swan. Chem Soc J p 1513-14 Je '50

ETHYL xanthamidate
Reaction of α-bromobenzyl cyanide with ethyl xanthamidate (thioncarbamate). W. Davies and J. A. Maclaren. Chem Soc J p 1434-7 Je '51

ETHYLATION
Methylation and ethylation of corn starch, amylose and amylopectin in liquid ammonia. J. E. Hodge, S. A. Karjala and G. E. Hilbert. bibliog Am Chem Soc J 73:3312-16 Jl '51

ETHYLENE
Absence of atmospheric ethylene. J. H. Shaw and H. H. Claassen. Phys R 81:462-3 F 1 '51
Activation of a solid nickel catalyst for the hydrogenation of ethylene by heat treatment in a high vacuum. R. K. Sherburne and H. E. Farnsworth. bibliog J Chem Phys 19:387-8 Mr '51
Blowoff of flames from short burner ports. C. W. Wilson and N. J. Hawkins. bibliog diags Ind & Eng Chem 43:2129-35 S '51
Butylene from ethylene; cobalt-carbon catalyst; pilot plant. H. A. Cheney and others. bibliog il diags Ind & Eng Chem 42:2580-6 D '50
Catalyzed reactions of simple aromatic compounds with ethylenic systems; αβ-unsaturated ketones. J. F. J. Dippy and A. L. L. Palluel. Chem Soc J p 1415-20 Je '51
Chemical constitution and sex-hormonal activity; the synthesis of some 1-*cyclo*-pentyl- and 1-*cyclo*hexyl-1 : 2-diarylethylenes. D. H. Hey and O. C. Musgrave. Chem Soc J p3156-64 D '49
Chlorination of ethylene and propylene; the chlorination of ethylene. E. Galitzenstein and C. Woolf. bibliog Soc Chem Ind J 69:289-92 O '50
Combination bands of ethylene. E. K. Plyler. J Chem Phys 19:658 My '51
Decomposition of excited ethylene. B. D. Darwent. J Chem Phys 19:258 F '51
Effect of traces of oxygen on the reaction of aluminum borohydride with ethylene. R. S. Brokaw and R. N. Pease. bibliog Am Chem Soc J 72:5263-6 N '50
Ethylene chemicals; the next decade; with graphs and tables. W. E. Kuhn and J. W. Hutcheson. bibliog Chem W 69:19-34 S 29 '51
Evidence for 1,4- and 1,6-reductions of *cis*- and *trans*-phenyldibenzoylethylenes. R. E. Lutz and C. R. Bauer. Am Chem Soc J 73:3456-9 Jl '51
Infrared spectrum of H_2=CD_2. J. E. Lancaster and others. J Chem Phys 19:661 My '51
Magnetic susceptibilities of some methyl derivatives of methane and ethylene. J. R. Lacher and others. bibliog Am Chem Soc J 73:2838-40 Je '51
Mother of chemical empires. A. L. Foster. il Pet Eng 23:C3-4 S '51
Near ultraviolet absorption spectra of some fluorinated derivatives of methane and ethylene. J. R. Lacher and others. bibliog Am Chem Soc J 72:5486-9 D '50
Olefin co-ordination compounds; discussion of proposed structures; the system ethylene-trimethylborine. J. Chatt. diags Chem Soc J p3340-8 D '49
Photochemical reactions in sunlight; photoreduction of phenylglyoxylic acid; photoreactions between aldehydes and *o*-quinones; reactions between *o*-quinones and ethylenes in the dark and in the light. A. Schönberg and others. Chem Soc J p 1364-8 My '51
Progress in petrochemistry, a technical report; important chemical building blocks are ethylene, propylene, and the butylenes. W. J. Sweeney. Oil & Gas J 49:74-5+ N 2 '50
Reactions in sunlight of certain diketones with ethylenes and aromatic aldehydes; photopolymerisation of 9-anthraldehyde. A. Mustafa. Chem Soc J p 1034-7 Ap '51
Study of the interaction of ethylene and deuterium. J. Turkevich, D. O. Schissler and P. Irsa. diag J Phys & Colloid Chem 55:1078-84 Je '51

Analysis

Rapid estimation of small amounts of ethylene in air; portable instrument for testing degrading of oranges. F. Stitt, A. H. Tjensvold and Y. Tomimatsu. bibliog il diag Anal Chem 23:1138-41 Ag '51

Manufacture

Benzene in the backyard; by-product in thermal cracking of hydrocarbons to make ethylene. il Chem W 69:15 S 29 '51
Ethylene manufacture. flow diag Oil & Gas J 49:204-5 Mr 29 '51
Ethylene manufacture by cracking process. flow diag Pet Refiner 30:226 S '51
Ethylene production by Kellogg. il Pet Eng 23:C62-3 Jl '51
Five steps to ethylene. il Chem Eng 58:216-17 Ag '51
Latest in hypersorbers. il diag Chem Eng 58:183-4 Jl '51
New ethylene process uses naphtha pyrolysis. il Pet Refiner 30:122-3 Jl '51
Production of ethylene by autothermic cracking. R. M. Deanesly and C. H. Watkins. flow diag Chem Eng Prog 47:134-40 Mr '51
Production of ethylene from petroleum sources. P. W. Sherwood. Pet Refiner 30:220-2+ S '51 (to be cont)

ETHYLENE bromide
Ethylene dibromide for destroying fruit fly infestations in fruits and vegetables. J. W. Balock. Science 114:122 Ag 3 '51
Some reactions of elemental bromine, hydrogen bromide and Szilard-Chalmers bromine with ethylene bromide. G. Levey and J. E. Willard. Am Chem Soc J 73:1866-7 Ap '51

ETHYLENE chloride
Chlorination of ethylene dichloride. E. Galitzenstein and C. Woolf. bibliog Soc Chem Ind J 69:294-8 O '50

ETHYLENE chloride—*Continued*

Distillation in 2, 4 and 5.75 inch diameter packed columns. A. C. Heinlein and others. Chem Eng Prog 47:344-6 Jl '51

Properties of electrolytic solutions; conductance of some salts in ethylene chloride and pyridine. E. J. Bair and C. A. Kraus. Am Chem Soc J 73:2459-61 Je '51

Solubility of tetraethylammonium chloride in benzene-ethylene dichloride mixtures. A. A. Vernon, G. M. Goldberg and J. H. LaRochelle. Am Chem Soc J 73:2844-5 Je '51

ETHYLENE chlorohydrin

Condensation products of ethylene chlorohydrin and boron trichloride. D. R. Martin and L. S. Mako. Am Chem Soc J 73:2674-6 Je '51

Preparation of some toluene-*p*-sulphonanilide derivatives; a note on the reactivity of ethylene chlorohydrin. J. Glazer and E. E. Turner. Chem Soc J p 197-9 Ja '51

Toxicological studies of compounds investigated for use as inhibitors of biological processes; toxicity of ethylene chlorohydrin. A. M. Ambrose. bibliog A M A Archives Ind Hygiene & Occup Med 2:591-7 N '50

ETHYLENE compounds

Kinetics of halogen addition; acetylenic compounds. P. W. Robertson and others. Chem Soc J p 1628-30 Je '50

Kinetics of halogen addition; αβ-ethylenic acids. D. A. Evans, T. R. Watson and P. W. Robertson. Chem Soc J p 1624-8 Je '50

ETHYLENEDIAMINE

Chelation and association of some ethylenediamine Schiff bases. L. N. Ferguson and I. Kelly. Am Chem Soc J 73:3707-9 Ag '51

Electrophoretic migration of cellulose in cupriethylenediamine solution. M. E. Adams, M. L. Karon and R. E. Reeves. Am Chem Soc J 73:2350-1 My '51

Heat capacities of several organic liquids. E. W. Hough, D. M. Mason and B. H. Sage. Am Chem Soc J 72:5775-7 D '50

Nature of the vapor state of hydrazine monohydrate and ethylenediamine monohydrate. L. V. Coulter. bibliog Am Chem Soc J 73:3505-6 Jl '51

New method for the preparation of hydroxoaquobis-(ethylenediamine) - cobalt(III) and hydroxoamminebis-(ethylenediamine)-cobalt(III)salts. F. Basolo and D. H. Steninger. Am Chem Soc J 72:5748 D '50

Preparation and properties of some N,N'-disubstituted - ethylenediaminedipropionic acids. A. E. Martell and S. Chaberek, jr. Am Chem Soc J 72:5357-61 D '50

Preparation of N-alkylethylenediamines. R. C. O'Gee and H. M. Woodburn. Am Chem Soc J 73:1370-1 Mr '51

Study of the solubility of triethylenediamine-nickel thiosulfate. J. H. Gast and F. L. Aldrich. Am Chem Soc J 73:3037-9 Jl '51

ETHYLENEDIAMINE tetraacetic acid

Lanthanon complexes with ethylenediaminetetra-acetic acid. R. C. Vickery. Chem Soc J p 1817-21 Jl '51

Observations on the rare earths; reaction between neodymium and ethylenediaminetetraacetate ions in aqueous solution. T. Moeller and J. C. Brantley. bibliog Am Chem Soc J 72:5447-51 D '50

Separation of the lanthanons with the aid of ethylenediamine-NNN'N'-tetra-acetic acid. J. K. Marsh. Chem Soc J p 1819-23 Jl '50

Separation of yttrium and erbium with the aid of ethylenediaminetetra-acetic acid (enta acid). J. K. Marsh. Chem Soc J p 1461-3 Je '51

Spectrophotometric determination of displacement series of metal complexes of the sodium salts of ethylenediaminetetraacetic acid. R. C. Plumb, A. E. Martell and F. C. Bersworth. bibliog J Phys & Colloid Chem 54:1208-15 N '50

ETHYLENE dichloride. See Ethylene chloride

ETHYLENE glycol. See Glycol

ETHYLENE imine. See Ethylenimine

ETHYLENE oxide

Action of Grignard reagents on anhydrosugars of ethylene oxide type; the behaviour of derivatives of α-methyl-2 : 3-anhydroalloside towards methylmagnesium iodide. F. H. Newth, G. N. Richards and L. F. Wiggins. Chem Soc J p2356-64 S '50

Dipole moments of ethylene oxide and carbonyl chloride in benzene solution, and a note on a useful modification of Barclay and Le Fèvre's equation. C. L. Angyal, G. A. Barclay and R. J. W. Le Fèvre. Chem Soc J p3370-3 D '50

Direction of ring opening of some unsymmetrical ethylene oxides and sulphides. W. Davies and W. E. Savige. Chem Soc J p774-9 Mr '51

Friedel-Crafts reaction with disubstituted ethylene oxides; α-methylstyrene oxide. W. T. Somerville and P. E. Spoerri. bibliog Am Chem Soc J 73:697-9 F '51

Handling ethylene oxide safely. Safety Maint & Prod 102:65 Ag '51

Manufacture and uses of ethylene oxide and ethylene glycol. P. P. McClellan. bibliog(43 ref) Ind & Eng Chem 42:2402-7 D '50

Microwave spectra, structure, and dipole moments of ethylene oxide and ethylene sulfide. G. L. Cunningham, jr. and others. bibliog J Chem Phys 19:676-85 Je '51

Oxidation process pares cost of ethylene oxide. diag Chem Eng 58:194-5 Je '51

Reaction between phenol and ethylene oxide. S. A. Miller, B. Bann and R. D. Thrower. diag Chem Soc J p3623-8 D '51

Reactions of ethylene oxides; the interaction of alkali cyanides with epichlorohydrin. C. C. J. Culvenor, W. Davies and F. G. Haley. Chem Soc J p3123-5 N '50

Reactions of ethylene oxides; the reaction of epichlorohydrin with some aromatic amines. W. Davies and W. E. Savige. Chem Soc J p890-4 Mr '50

Syntheses with isotopic tracer elements; the preparation of ethylene oxide and ethanol labelled with carbon isotopes. J. D. Cox and R. J. Warne. diags Chem Soc J p 1893-6 Jl '51

Thermal decomposition of ethylene oxide. K. H. Mueller and W. D. Walters. bibliog Am Chem Soc J 73:1458-61 Ap '51

Physiological effect

Experimental ethylene oxide human skin injuries. R. J. Sexton and E. V. Henson. bibliog il A M A Archives Ind Hygiene & Occup Med 2:549-64 N '50

ETHYLENE sulfide

Direction of ring opening of some unsymmetrical ethylene oxides and sulphides. W. Davies and W. E. Savige. Chem Soc J p774-9 Mr '51

Microwave spectra, structure, and dipole moments of ethylene oxide and ethylene sulfide. G. L. Cunningham, jr. and others. bibliog J Chem Phys 19:676-85 Je '51

ETHYLENIMINE

Ethylene imine ketones; stereochemical configurations, absorption spectra and reactions with phenylhydrazine. N. H. Cromwell and others. bibliog Am Chem Soc J 73:1044-51 Mr '51

Ethylene imine ketones; stereochemical configurations and reactions with organometallic compounds. N. H. Cromwell and others. Am Chem Soc J 73:2803-6 Je '51

Ethylene imine seeks jobs. il Chem Ind W 68:19-20 My 19 '51

Ethylenimine by flash distillation. W. A. Reeves, G. L. Drake, jr. and C. L. Hoffpauir. Am Chem Soc J 73:3522 Jl '51

Infrared spectra of ethylenimine and N-methylethyleneimine. H. T. Hoffman, jr., G. E. Evans and G. Glockler. bibliog Am Chem Soc J 73:3028-30 Jl '51

Reaction of 1-cyclohexyl-2-benzoyl-3-phenylethylenimine with thiophenol. G. Meguerian and L. B. Clapp. Am Chem Soc J 73:486 Ja '51

Reactions of ethylenimines; with phenols. L. B. Clapp. Am Chem Soc J 73:2584-6 Je '51

Reactions of ethylenimines with thiophenol, a rate study. G. Meguerian and L. B. Clapp. bibliog Am Chem Soc J 73:2121-4 My '51

ETHYNYL carbinols

Preparation of ethynylcarbinols from the bisulphite compounds of aldehydes and ketones. J. Cymerman and K. J. Wilks. Chem Soc J p 1208-9 Ap '50

ETHYNYL compounds

Acetylene reactions; trimerisation of ethynyl compounds. J. D. Rose and F. S. Statham. Chem Soc J p69-70 Ja '50

ETHYNYL mesitylene
Steric hindrance; some reactions of mesitylacetylene. M. S. Newman and H. E. Connor. bibliog Am Chem Soc J 72:4002-3 S '50

EUCALYPTUS
Eucalyptus and esparto grass for processing into high-grade papers. Chem & Eng N 28: 4278 D 4 '50
Pulp, paper and paperboard industry of Australia. H. W. Gepp. bibliog il map Pulp & Pa of Can 52:72-83 Ag '51

EULER transformation. See Transformations (mathematics)

EUPHOL
Euphorbia resins; a comparative study of euphol and tirucallol. D. W. Haines and F. L. Warren. Chem Soc J p 1562-5 Je '50
Euphorbia resins; oxidative degradation in the side chain of euphol. H. K. Krüsi. Chem Soc J p2864-6 O '50
Euphorbia resins; the epimerisation and dehydration of euphol. R. N. E. Bennett and F. L. Warren. Chem Soc J p697-9 F '50

EUROPE
Bet on Europe; not its unity, but its unity with the U.S., is decisive. Barron's 31:1 O 8 '51
European attitude on our foreign situation; adverse to United States policy in Far East. E. T. Weir. Comm & Fin Chr 173:249+ Ja 18 '51; Discussion. 173:911+, 1025+, 1143 Mr 1, 8, 15 '51

See also
Council of Europe
Immigration and emigration—Europe

Commerce

East-West trade. Fortune 44:68-9 Ag '51
Freeing Europe's trade; new approach. Economist 160:1552-3 Je 30 '51
Modern techniques in trade development; report on proceedings at the first joint trade development conference, Paris. M. J. Wasserman. For Comm W 42:3-4+ Ja 29 '51
Trade joins forces; European sales efforts. F. P. Forbes. il For Comm W 41:3-5 N 20 '50
Trade with the Communists; controversy about east-west trade. Economist 161:488-90 S 1 '51

See also
European payments union

Defenses

Closing the ranks in Europe. Economist 159: 988 D 9 '50
Collective defence. Economist 159:679-80 N 4 '50
Eisenhower's army. B. deJouvenel. Barron's 31:5 S 24 '51
European rearmament and United States foreign aid. E. Bloch. R Econ & Stat 32:339-46 N '50
Extend Atlantic pact with full military support. T. E. Dewey. Comm & Fin Chr 173: 718+ F 15 '51
Issues in the defense of Europe. J. F. Kennedy. Comm & Fin Chr 173:729+ F 15 '51
Problems of maintaining mutual security. M. Kestnbaum. Comm & Fin Chr 174:771+ Ag 30 '51
Reports to Nation on defense situation in Europe; radio address. D. D. Eisenhower. Comm & Fin Chr 173:629 F 8 '51
Shaping a new approach to Europe. il Bsns W p 19-20 D 30 '50
Status of our defense in Europe. L. H. Gavin. Comm & Fin Chr 173:531+, 635-6 F 1, 8 '51
Tasks for Eisenhower. Economist 159:1182-4 D 30 '50
Toward Europe's army. Economist 161:194-6 Jl 28 '51
U.S. in middle of west Europe's worries. Bsns W p 169-70 S 22 '51
What Europe needs is arms; Eisenhower reports. Bsns W p22 F 10 '51
What price defense? M. Winkler. Comm & Fin Chr 173:816 F 22 '51

Economic conditions

Denies U.S. buying caused Europe's inflation. E. Kjellstrom. Comm & Fin Chr 174: 73 Jl 5 '51
Europe's prospects for 1951; comments on Survey of the economic commission of Europe. Economist 160:1302+ Je 2 '51
Europe's status in 1951. W. Harnischfeger. Comm & Fin Chr 174:321+ Jl 26 '51
New look at northern Europe. A. G. Boardman, jr. il map Dun's R 59:27+ F '51
Quick trip to Europe. E. P. Schmidt. Comm & Fin Chr 172:2077+ N 30 '50
Warnings from Economic commission for Europe. Economist 159:892+ N 25 '50

Economic union (proposed)

See also
Coal-steel pool (proposed)

Industries and resources

Engineering in Europe; summary of study by Economic commission for Europe. Economist 160:1194 My 19 '51
Europe needs U. S. attitudes more than U.S. tools. L. Villalon. Mod Ind 22:48-50 S '51

Politics and government

European consolidation. Economist 161:3-4 Jl 7 '51
Stalin's chess; West's flurried play courts Russian checkmate. B. deJouvenel. Barron's 31:5 Ja 8 '51

EUROPEAN payments union
Benelux forces the issue; Belgian surplus with EPU. Economist 161:511 S 1 '51
Blame for the EPU crisis; Germany and EPU. Economist 159:684, 705 N 4 '50
Britain's surplus with Europe. Economist 159: 1160-1 D 23 '50
British debit with EPU. Economist 160:1465 Je 16 '51
Changes in EPU quotas. Economist 161:307-8 Ag 4 '51
Clearing system for the free world. M. A. Heilperin. Fortune 43:74-5 My '51
European payments union; a bankers' bank. W. H. Diamond. il Burroughs Clearing House 35:32-3+ Ag '51
EPU debated; Europe's sterling balances. Economist 159:907-8 N 25 '50
EPU in danger. Economist 160:629 Mr 17 '51
European payments union; negotiations and the issues. A. O. Hirschman. R Econ & Stat 33:49-55; Discussion. R. Hinshaw. 55-9 F '51
EPU settlement for Nov.; with tabulation of cumulative positions of EPU members at end-Nov. Economist 159:1218-19 D 30 '50
EPU teething troubles; report on operations for first four months. Economist 159:1035+ D 9 '50
EPU's prescription for Germany. Economist 159:768 N 11 '50
Europe's monetary melee. Fortune 42:76-8 D '50
First EPU compensation. Economist 159:664 O 28 '50
From the intra-European payments schemes to the European payments union; selections from report of Bank for international settlements. Fed Res Bul 37:1122-6 S '51
Six months of EPU; with tabulation of compensations, July-December, 1950. Economist 160:220-1 Ja 27 '51
Sterling arrangements and E.P.U. Economist 159:770 N 11 '50
Trends in EPU; advice to the creditors. Economist 161:418 Ag 18 '51

EUROPEAN recovery program
Does ECA pay off? W. C. Foster. il map Dun's R 59:26+ F '51
European rearmament and United States foreign aid. E. Bloch. R Econ & Stat 32:339-46 N '50
Foreign aid by the U.S. government in calendar year 1950; with tabulations by program and by country, July 1, 1945-December 31, 1950. C. E. Shepler. Survey of Cur Bsns 31:12-18 Mr '51
Foreign aid program. Nat City Bank p92-5 Ag '51
Foreign transactions of the U.S. government in fiscal 1950. Survey of Cur Bsns 30:14-20 N '50
Our foreign aid program should continue. H. Ford, 2d. Comm & Fin Chr 174:1056+ S 20 '51

EUROPEAN war, 1914-1918

Naval operations

German raider, Kormoran; Sydney's nemesis. R. S. Pattee. maps plan diag U S Naval Inst Proc 76:1298-306 D '50

EUROPIUM

Neutron-deficient europium activities. G. Wilkinson and H. G. Hicks. bibliog Phys R 80:491-2 N 1 '50

Some rare earth activated phosphors. H. G. Jenkins and A. H. McKeag. bibliog il Electrochem Soc J 97:415-18 D '50

Isotopes

Exchange reaction between europium(II) and europium(III) ions in hydrochloric and perchloric acid solutions. D. J. Meier and C. S. Garner. Am Chem Soc J 73:1894-5 Ap '51

Neutron deficient europium and gadolinium isotopes. R. W. Hoff and others. bibliog Phys R 83:1068-9 S 1 '51

3×10^{-9} sec. isomeric state in $_{63}Eu^{153}$. F. K. McGowan. Phys R 80:482-3 N 1 '50

EUROPIUM chloride

Exchange reaction between europium(II) and europium(III) ions in hydrochloric and perchloric acid solutions. D. J. Meier and C. S. Garner. Am Chem Soc J 73:1894-5 Ap '51

EUROPIUM compounds

Studies of Zeeman effects from solutions of europium and neodymium salts. G. J. Rotariu. bibliog J Chem Phys 19:977-8 Jl '51

EVACUATION, Military. See Military evacuation

EVANS, Lewis

L. Evans' early American notice of isostacy. G. W. White. bibliog Science 114:302-3 S 21 '51

EVAPORATION

Chemical engineering unit operations; sixth annual review. W. L. Badger and R. A. Lindsay. bibliog(48 ref) il Ind & Eng Chem 43:75-8 Ja '51

Chemistry of the sulphite pulping process and the evaporation of its waste liquor. E. Hägglund. il Tappi 33:520-7 O '50

Concentration of radioactive liquid waste by evaporation. G. E. McCullough. flow diag il Ind & Eng Chem 43:1505-9 Jl '51

Economy of Lo-Temp evaporation; abstract. J. A. Cross. diag Refrig Eng 59:866-7 S '51

Evaporation errors in determination of trace concentrations of low molecular weight solutes in carbon tetrachloride. M. R. Meeks, V. E. Whittier and C. W. Young. Anal Chem 23:792-3 My '51

Evaporation rates of lacquer solvents; abstract. E. V. Elven and H. W. Rudd. Paint Oil & Chem R 114:38 Mr 29 '51

High vacuum evaporated optical coatings. R. E. Frazer. Instruments 24:284-5+ Mr '51

Quicker steam-bath evaporations. G. E. Rouse. J Chem Educ 28:327 Je '51

Rate of evaporation in the determination of water. T. J. Mitchell. Chem & Ind p751-3 N 25 '50

Relative evaporation rate of organic liquids; abstract. G. Marwedel. Paint Oil & Chem R 114:37 F 1 '51

Solar evaporation of salt brines. M. R. Bloch, L. Farkas and K. S. Spiegler. bibliog il diag Ind & Eng Chem 43:1544-53 Jl '51

Vacuum evaporation of radioactive materials. C. W. Sherwin. diag R Sci Instr 22:339-41 My '51

Waste utilization and disposal systems; cost studies of evaporation and drying. W. D. Kohlins and E. L. Demarest. diags Chem Eng Prog 46:597-600 D '50

See also

Sublimation

EVAPORATORS

Advances in evaporation, freezing made by Minute Maid plant. H. R. Cloud. il diag Food Ind 22:1891-4 N '50

Chemical engineering unit operations; sixth annual review. W. L. Badger and R. A. Lindsay. bibliog(48 ref) il Ind & Eng Chem 43:75-8 Ja '51

Comparison of low temperature evaporators; abstract. H. W. Schwarz. bibliog il Refrig Eng 59:864-6 S '51

Developing the Carrier-Howard concentrator; abstract. J. B. Merrill. il Refrig Eng 59:868 S '51

Evaporators solve refinery's water problem; distilling Persian Gulf water. il diag Chem Eng 58:212+ Je '51

Experimental falling film evaporator for preparation of juice and puree concentrates at low temperature. L. H. Walker and D. C. Patterson. diag Ind & Eng Chem 43:534-6 F '51

Heat transfer coefficients in horizontal tube evaporators. W. L. Bryan and G. W. Quaint. bibliog diags Refrig Eng 59:67-72; Discussion. 72 Ja '51

Low temperature evaporators; abstract. A. W. Eckstrom. diag Refrig Eng 59:867-8 S '51

Metal evaporator uses high-frequency heating. R. C. Picard and J. E. Joy. il diags Electronics 24:126-8 Ap '51

New evaporator licks effluent woes of pulpers. il diags Chem Eng 58:181-2 Ag '51

New laboratory evaporator; vacuum concentration at low temperatures. il Chem Age (Lond) 64:817-18 My 26 '51

New type evaporator designed to lick the sodium sulphate problem. A. A. Holland. flow sheet diag Chem Eng 58:106-7 Ja '51

Newest citrus juice plant features special layout, advanced processing technics; special Food Industries report. F. R. Hopkins and C. K. Walker. flow sheet(p 104-7) il plan Food Ind 23:67-74 Ja '51

Pilot setup points way to new juice concentrates. W. M. Carleton and T. A. Curtis. diag Food Eng 23:149+ Ag '51

Preparing water for evaporator feed. R. I. Smith and J. R. Denton. il diag Power 95:80-3 Ag '51

Rotary film evaporator for laboratory use. S. M. Partridge. diags J Sci Instr 28:28-9 Ja '51

Thin-film evaporator concentrates in single pass. il Food Eng 23:119 Je '51

See also

Drying apparatus

EVENDALE, Ohio

Richest little town fights for its life. il Bsns W p70-2 My 12 '51

EVENING classes. See Engineering colleges—Evening classes

EVENING colleges

Program for evening courses. R. A. Love. Advanced Management 16:11-12 My '51

EVERETT, Washington

Harbor

Investigation of pollution of Port Gardner bay and Snohomish River estuary. E. F. Eldridge and G. T. Orlob. maps Sewage & Ind Wastes 23:782-95 Je '51

EVIDENCE (law)

Microfilm statutes; bank record admissible only as secondary evidence even though state enacted photographic evidence statute. Banking 43:90+ My '51

Microfilming bank records; with list by states of photographic evidence statutes. J. R. Vincens. Banking 43:49-50+ Ja '51

Microfilms may not be evidence. R. R. Neuhoff. N A C A Bul 32:451-3 D '50

EVOLUTION

Cosmic cinema; review of Evolution emerging, by W. K. Gregory. H. W. Rand. Science 113:434-8 Ap 20 '51

Is man here to stay? L. C. Eiseley. Sci Am 183:52-5 N '50

EVOLUTION in plants. See Plants—Evolution

EWENS, Ronald Victor George, 1913-1948

Sketch. H. M. Powell. Chem Soc J p2909-10 O '50

EXAMINATIONS

Who's cheating in examinations? F. T. Mavis. Eng N 147:34 S 13 '51

EXCAVATING machinery

Annual earthmoving industry conference, 2d, Peoria, April 10-11. S A E J 59:80-2 My '51

Bulldozer stripping. il Coal Age 56:80-2 Jl '51

Bulldozing equipment for Trackmaster tractor. il Engineering 171:484 Ap 20 '51

EXCAVATING machinery—*Continued*

Controlled earthmoving on Burlington's 71-mile cutoff. il Constr Methods 33:70-1+ F '51

Earthmoving equipment on the Minnesota iron ranges. J. H. Hearding, jr. il S A E J 59:22-5 Ap '51

Flame hardening bulldozer blades. il Welding J 30:836 S '51

Heavy-duty brake requirements of rubber-tired earthmoving vehicles. R. K. Super. S A E J 59:36-8 Ag '51

How we solved our digging problems. H. A. Gilbert. il Pub Works 82:50 Jl '51

New, large-capacity, U-shaped bulldozer minimizes end spillage on long-haul pushing. il Roads & Eng Constr 88:60 N '50

New 12½-ton truck-mounted crane-excavator added to Wayne Crane line. il Roads & Eng Constr 88:84 O '50

New wheel tractor-loader can dig at either end. il Roads & Eng Constr 88:40 N '50

Open pit mining favors high production efficiency. il Eng & Min J 152:94-8 Jl '51

Powersteer unit uses ball-socket design; Tournapull earthmover. il diags Product Eng 22:130-1 S '51

Soil properties and the design of earthmoving equipment. W. S. Pollard, jr. diags S A E J 59:39-41+ S '51

Stripping with ten-cu. yd. dragline. il Rock Prod 54:78-9 My '51

13 wet weather tips for greater earthmoving output. il Roads & Sts 94:54 Mr '51

See also

Dredges
Mining machinery
Road making machinery
Rock drills
Scrapers
Shoveling machines
Trenching machinery

Lubrication

Lubrication keeps earthmovers up at Downsville. il Constr Methods 33:86-8 Jl '51

Manufacture

Welded differential housing 20 per cent lighter; rear axle differential housing of large self-propelled earth movers. R. R. Kilgore. il Steel 128:121 My 7 '51

Safety measures

Earth moving tip! play safe! you won't be sorry. Roads & Sts 94:82-3 Ag '51

EXCAVATION

Excavation and concreting of the crusher station at Johnston's company Thetford mines. E. Futterer. il plans diags Can Min J 72:66-9 Jl '51

Hand excavation costly. Roads & Sts 94:62-3 Ja '51

Long-boomed backhoe digs deep trench. il diag Eng N 145:32-4 N 23 '50

Putting down a big, deep storm drain; excavation, sheeting and jacking pipe. il diags Eng N 146:36-8 F 22 '51

Reducing traffic interference from excavations. H. H. Cox. Pub Works 82:106-7 Ap '51

Soil stabilization speeds tower footing excavation. E. C. Gershoy and C. Mueller. il diags Elec World 135:66-7 Ja 15 '51

Wellpoints dry excavation next to canal. il Eng N 146:38 Je 14 '51

See also

Blasting
Drilling and boring (earth and rocks)
Excavating machinery
Shaft sinking
Street openings
Trenching machinery
Tunnels and tunneling
Wellpoint system

Cost

Excavation for Central Valley project, Calif.; unit prices. Eng N 146:68 Je 28 '51

EXCAVATION, Subaqueous

See also

Petroleum—Well drilling, Subaqueous
Sulfur mines and mining—Subaqueous mining

EXCESS profits tax

ATA suggests EPT alternatives. Aviation W 53:63-4 D 18 '50

AGC warns of pitfalls for excess-profits tax. Eng N 145:23-4 N 30 '50

Bucking the excess-profits tax. Bsns W p24 N 4 '50

Careful analysis of taxpayer's business and law can reduce excess-profits tax. B. M. Becker. J Account 92:218 Ag '51

Chamber of commerce of U.S. opposes EPT. Comm & Fin Chr 172:2005 N 23 '50

Chamber of commerce of U.S. views excess profits tax. E. C. Alvord. Comm & Fin Chr 172:2082+ N 30 '50

Easy money in real estate; some unforeseen effects of the excess profits tax and how to take advantage of them. J. K. Lasser. Arch Forum 95:143+ Ag '51

Effect of high taxes on corporate earnings. P. Dobbs. Mag of Wall St 88:346-7+ Je 30 '51

Excess profits; airlines' circumstances call for special tax treatment. R. Ramspeck. Aviation W 53:14-15 D 4 '50

Excess profits tax. Fortune 42:71-4 D '50

Excess profits tax a bad tax. O. K. Burrell. Comm & Fin Chr 172:1977+ N 23 '50

Excess profits tax and electric utilities. H. H. Scaff. Comm & Fin Chr 172:1996-7 N 23 '50

Excess profits tax bill to contain relief provision for utility industry. Elec World (News ed) 134:14 D 11 '50

Excess profits tax; evil brew of inequity, exemption and privilege. B. Ruml. Comm & Fin Chr 172:2180+ D 7 '50

EPT hardships; experience shows Treasury cannot handle them. J. K. Hulse. Barron's 30:7-8 N 27 '50

E.P.T. impacts on earnings as shown in 1950 corporate reports. G. W. Mathis. Mag of Wall St 88:146-7+ My 5 '51

Excess profits tax is against public interest; with tabulations. H. L. Lutz. Comm & Fin Chr 172:1689+ N 2 '50

Excess profits tax of 1950. Nat City Bank p9-11 Ja '51

Excess profits tax proposals; statement before House ways and means committee. J. W. Snyder. Comm & Fin Chr 172:1986+ N 23 '50

Excess profits tax versus gas and electric utility industries. Pub Util 46:690-5 N 9 '50

Excess profits taxes can lead to inflation. J. J. Rowe. Comm & Fin Chr 172:2093 N 30 '50

Fair profits tax; companies may be allowed to rule out one bad year. Bsns W p64 O 21 '50

Figuring excess profits; ready reckoner for revenue. Bsns W p24 D 2 '50

Final EPT bill passes Congress. Elec World News ed 135:14 Ja 8 '51

First bite into profits. Bsns W p23 D 23 '50

First quarter earnings, and the clues they furnish to excess profits tax inroads; with tables. J. C. Clifford. Mag of Wall St 88:235-7+ Je 2 '51

Formula for computing excess profits. P. Cortney. Comm & Fin Chr 172:2438-9 D 21 '50

General relief provisions of the new Excess-profits-tax law. R. S. Bock. J Account 92:37-47 Jl '51

Highlights of Excess profits tax act of 1950. L. A. Diamond. Edison Elec Inst Bul 19:157-62 My '51; Same cond. Am Gas Assn Mo 33:11-13+ Je '51

How agencies can avoid excess profits taxes. J. K. Lasser. Adv Agency 44:64-5+ My '51

How AIA looks at excess profits tax. diags Aviation W 53:12-13 N 27 '50

How borrowing may reduce excess profits levy. F. E. Seidman. Comm & Fin Chr 173:731 F 15 '51

How excess profits tax adversely affects low-income shareholders. H. P. B. Jenkins. Comm & Fin Chr 172:2438 D 21 '50

How to keep your EPT down. Bsns W p64+ Mr 31 '51

Incentive taxation; attack on proposed excess profits tax. W. M. Jarman. Comm & Fin Chr 172:2096 N 30 '50

Industrial growth adversely affected by corporation taxation. J. F. Manildi. Comm & Fin Chr 174:1160 S 27 '51

Industry studies new EPT law. Aviation W 54:17-18 Ja 8 '51

Let's have a stiff defense tax instead of excess profits levy; statement before House ways and means committee. J. C. Thomson. Comm & Fin Chr 172:1987+ N 23 '50

EXCESS profits tax—*Continued*

Little revenue from excess profits tax. J. H. Landman. Comm & Fin Chr 173:630 F 8 '51

Minimizing excess profits taxes. D. Gresser. Banking 44:70+ S; 70+ O '51

Minimizing the effects of the excess-profits tax; abstract. J. J. Mahon, jr. Management R 40:503-4 Ag '51

New excess profits tax. J. S. Seidman. Sheet Metal Worker 42:35-6 Mr '51

New excess-profits tax law creates notch of 77 per cent. J Account 91:454-5 Mr '51

New law; probable small effect on utility earnings. Pub Util 47:105-10 Ja 18 '51

Operating under the new excess profits tax law. J. H. Landman. N A C A Bul 32:1226-41 Je '51

Profits tax allows for relief. Bsns W p21 Ja 6 '51

Responsibilities of management under the excess profits tax. B. Ruml. Comm & Fin Chr 173:1638+ Ap 19 '51; Abstracts. Management R 40:257-8 My '51; Factory Management 109:216+ Jl '51; Dun's R 59:19-20+ Ag '51

Say excess profits come only after fair return. Ry Age 129:76-7 N 4 '50

Should an excess profits tax be applied to public utilities? E. M. Stark. Pub Util 46:651-3 N 9 '50

Showdown on EPT? O. Ely. Pub Util 46:830-5 D 7 '50

Snyder's EPT has a bite. Bsns W p24 N 18 '50

Tax court background of renegotiation and its effect on income and excess-profits taxation. S. S. Starr. J Account 92:316-21 S '51

Tax expert Roy Blough sums up argument for excess-profits tax; interview. por Bsns W p30+ D 16 '50

Taxation of excess profits. Nat City Bank p 117-19 O '50

Tv makers get set for EPT; growth companies suggest amendments. Bsns W p30-2 N 18 '50

Treasury policy permits normal ad budgets. Ed & Pub 84:14 Ja 27 '51

Under EPT law, corporations can make money by borrowing. S. F. Porter. J Account 91:878+ Je '51

What can business do with a 23 cent tax dollar? Brick & Clay Rec 119:66 S '51

What is a fair return? Nat City Bank p 128-31 N '50

What will war profits tax do to corporate earnings? W. Gates. Mag of Wall St 87:212-14+, 264-5+, 315-17, 353 D 2-30 '50

What's a growth company? formula of Excess profits tax act of 1950. R. M. Bleiberg. Barron's 31:5-6 F 5 '51

Why plowing today's excess profits into advertising is justified. J. K. Lasser. Ptr Ink 235:37-9+ Je 15 '51

Accounting

American institute of accountants submits a statement on excess profits tax. J Account 90:supA7-8+ D '50

Decisions to make now to minimize excess-profits tax liability. W. J. Casey and J. K. Lasser. J Account 91:243-51 F '51; Same cond. Dun's R 59:19-20+ Mr '51

Practical determination of excess profits. C. H. Porter. N A C A Bul 32:695-8 F '51

Dominican Republic

Excess profits tax instituted. For Comm W 42:19 F 19 '51

Great Britain

Capital bonuses and profits tax; Effect on redeemable preference shares. Economist 160:1056-7 My 5 '51

Taxation and profits. Economist 160:1055-6 My 5 '51

Taxation of profits; Tucker committee report. Economist 160:878-80 Ap 14 '51

EXCHANGES

Making commodity prices; ABC of what's behind some key statistics. Bsns W p60+ My 12 '51

Sharing the commodity risk; interview with Oscar W. Olson. Bsns W p38+ Ja 27 '51

See also

Chicago mercantile exchange

EXCISE tax

Excise taxes; going up; table. Bsns W p26 S 8 '51

Next round's on you. Fortune 43:82 Ap '51

Tax threat adds to liquor chaos. Bsns W p20 F 10 '51

Why a defense emergency tax should wipe out excise taxes. L. Ruthenburg. Gas Age 108:20-2+ Ag 30 '51

Why appliance excise tax should be repealed. W. F. Muhlbach. Gas Age 107:31+ Ap 12 '51

EXCITATION equipment

Electronics for the power engineer; motor and generator exciters. F. A. Annett. diags Power 95:122+ Ja; 118+ F '51

Static magnetic regulators in the power generation field. W. A. Hunter. il diags Power Eng 54:66-71 D '50

Variable frequency excitation system for a 70-Mev synchrotron; abstract. J. D. Ryder and J. P. Palmer. diag Elec Eng 70:673 Ag '51

EXCLUSIVE agencies

No peace for exclusive dealing. Bsns W p95-6 My 5 '51

EXCLUSIVE sales contracts. See Restraint of trade

EXECUTIVE ability

Are you of executive caliber? C. Tyler. Chem Eng Prog 47:217-18 My '51; Same cond. Chem Eng 57:253-4 D '50; Excerpts. S A E J 59:55 Je '51

EXECUTIVES

Administration as an educational function. O. Tead. bibliog Advanced Management 16:21-6 My '51

Analysis of promotional opportunities. H. A. Simon. Personnel 27:282-5 Ja '51

Are high taxes curbing incentive? Mill & Factory survey. Mill & Factory 49:67-8 S '51

Behind the president's desk. S. C. Allyn and others. Dun's R 59:15+ Je; 13-15+ Jl; 21+ Ag '51

Bill Brown's; rebuilding the businessman. il Bsns W p98-101 Ag 18 '51

Bosses break rule on span of control; A.M.A. survey of 141 companies. Bsns W p 102-4 Ag 18 '51

Building an executive reserve. F. J. Koegler. Mech Eng 73:393-4 My '51

Care and preservation of executives. H. A. Rusk. Advanced Management 16:7-8 Je '51; Excerpts. Management R 40:319-20 Je '51

Commercial chemical development association 1951 honor award. F. J. Curtis. Chem & Eng N 29:1936-9 My 14 '51

Conserving the executive's time; less waste at work; abstract. L. J. Buchan. Management R 39:645-6 N '50

Defining the requirements of the executive's job; critical incident technique; pilot studies of army officers and research workers. J. C. Flanagan. Personnel 28:28-35 Jl '51

Engineers as corporation executives; interview with Roy T. Hurley. Product Eng 22:107-11 Ag '51

Evaluating executives. J. C. Flanagan. Chem Eng 58:294+ S '51

Executive health program for industry. J. P. Callahan. Pub Util 47:31-5 Ja 4 '51

Executives need the doctor; companies start medical programs. Bsns W p48-50 Ap 14 '51

Foreman after he moves up; common executive weaknesses. R. Hersey. Mill & Factory 47:123-5 N '50

Foreman as an executive. R. Hersey. Personnel J 29:252-60, 297-305 D '50-Ja '51

Governmental sabotaging of business executives. F. D. Siefkin. Comm & Fin Chr 173:64+ Ja 4 '51

Health maintenance of key personnel. R. C. Page. bibliog il Ind Med 20:325-30 Jl '51

How engineer can become top brass. W. R. G. Baker. Tele-Tech 10:27+ Ja '51

How salesman became Allis-Chalmers president; William A. Roberts. W. Norris. Am Bsns 21:8-9+ Ap '51

How to build a strong management team; Ford program. Factory Management 108:124-7 D '50

In defense of security. W. Weir. Ptr Ink 236:50+ S 7 '51

Jewel Tea executives are first assistants to their staffmen. Am Bsns 21:12-13 Jl '51

EXECUTIVES—*Continued*

Leaders are made; engineering style. H. A. Estrin. J Eng Educ 41:333-5 Ja '51

Leadership; a new slant. A. Uris. Food Eng 23:69-70+ S '51

Management inventory and development; a case study; Detroit Edison co. accounting department. V. K. Rowland. Personnel 28: 12-22 Jl '51

Needle me not. B. Brownell. Ptr Ink 235:53-4 My 18 '51

Personnel is an executive function. W. G. Caples. Advanced Management 16:13-14 Je '51

Practical man fallacy; abstract. W. M. McFeely. Management R 40:171-2 Ap '51

Problem for the front office. Fortune 43:78-81+ My '51

Research findings in the field of supervisory and executive selection. M. M. Mandell. Personnel 27:215-16 N '50

Sale I never forgot; convincing an executive to continue on the job. N. Cummings. Ptr Ink 235:52+ Ap 13 '51

Should the president answer complaints? Ptr Ink 234:36-8 Mr 2; 43-4 Mr 9 '51

So you can't hire young executives! A. M. Elliott. Am Mach 95:88-9 Ja 8 '51

These incentives encourage executive teamwork at American brake shoe co. W. B. Given, jr. Am Bsns 21:8-9+ Jl '51

They tackle management's intangibles; Ansul chemical company's executive committee. il Mod Ind 22:48-51 Ag '51

Vets who became execs. W. Norris. Am Bsns 20:18-19+ D '50

What are your chances of being president? survey by American institute of management. Am Bsns 20:32 N '50

What makes a successful executive? W. L. Ganong. Management R 40:518-19 S '51

Where are tomorrow's leaders? potential executives lack incentives. C. Sheaffer. Am Bsns 21:10-11+ Jl '51

White-collar girls talk back; habits workers dislike in bosses. M. French. Am Bsns 20: 22-4+ D '50

See also

Advertising managers
Business management
Chemists as executives
Credit managers
Efficiency, Industrial
Employment management
Factory management
Foremen
Forty-plus clubs
Insurance companies—Officials
Organization in industry
Sales managers
Supervisory workers
Young presidents organization

Rating

Inventory, planning, and development of the management organization; United parcel service. C. W. L. Foreman. Personnel 27: 267-76, 403-13 Ja-Mr '51

Salaries

Airlines announce executives '50 pay. Aviation W 54:44 Ap 2; 14-15 Ap 9; 17-18 Ap 16; 15 Ap 23; 54-7 Ap 30 '51

Are your executives' salaries in line? Bsns W p88+ Ja 20 '51

Current practices in executive compensation. A. Patton. Harvard Bsns R 29:56-64 Ja '51

Executive pay goes up; summary of National industrial conference board report on 567 companies. Bsns W p54+ S 1 '51

Executives may get a raise; new Salary stabilization board. Bsns W p38+ Je 30 '51

Executives' pay dirt, how can they strike it today. Mod Ind 21:64+ Je '51

Incentive compensation for executives. A. Patton. Harvard Bsns R 29:35-46 S '51

It's better to take it later, taxwise; stock options and deferred compensation for executives. Bsns W p45-6+ Ap 7 '51

Making the salary fit the job; Western Pacific develops logical and equitable salary structure for supervisors and executives. G. H. Kneiss. Ry Age 129:28-31 N 25 '50

Movie pay cut; 20th Century-Fox asks executives to take voluntary slashes. Bsns W p 134+ My 26 '51

Patterns of executive compensation. A. R. Towl. Harvard Bsns R 29:25-36 Jl '51

Rating may melt pay freeze. Bsns W p44-6 Jl 14 '51

Salaries, holdings of airline executives. Aviation W 54:60-1 Je 25; 55:55-6 Jl 2 '51

Salaries list of equipment makers. Aviation W 54:17-18 My 21 '51

Solving the executive take-home pay problem. Management R 40:499-500 Ag '51

Stock option study by McKinsey & co. reveals cautious use. Comm & Fin Chr 174: 880-1 S 6 '51

Taxes on gifts; continuing the salary of a deceased employee to his dependents. W. R. White. Banking 43:70+ O '50

Ten to one shot; McDonnell Aircraft president's salary equals ten workers. Bsns W p 100 O 28 '50

Top executive salaries rise along with profits; with tabulation by major industries. Bsns W p68+ My 19 '51

Trends in executive compensation. Management R 40:569-70 S '51

Training

Bringing up the boss. Fortune 43:118-21+ Je '51

Counseling executives after merit rating or evaluation. E. G. Planty and C. E. Efferson. Personnel 27:384-96 Mr '51

Developing executives by on-the-job training. E. W. Reilley. Advanced Management 16:18-20 My '51

Does training pay dividends? T. D. Ellsworth. J Retailing 26:107-16+ Fall '50

Education and development of executives. L. H. Dalzell. Advanced Management 16:14 My '51

Education for business leadership. C. L. Jamison. Advanced Management 16:4-7 My '51

Executive development through colleges and universities; with list of schools and information on courses. E. G. Planty and others. il Advanced Management 15:14-18 D '50

Executive training by the case method. K. R. Andrews. Harvard Bsns R 29:58-70 S '51

Executives in embryo; students at Dartmouth's business school learn management principles by being managers. il Mod Ind 21:84-6+ Je '51

Giving a supercharge of know-how to rising managers; program in progress at the Harvard business school. Ry Age 130:38-40 Ap 9 '51

Head of the class; new president of Trane co. Bsns W p64 S 1 '51

How Brown-Forman's juniors are qualifying themselves for promotion. Sales Management 66:37-9 Ap 1 '51

Lockheed trains from the top. H. E. Linsley. Am Mach 95:123-6 O 15 '51

Management goes to school; advanced programs for top brass. Mod Ind 21:56-8+ Ap '51

School to train top brass; Harvard Graduate school of business administration. il Bsns W p36-7 D 30 '50

Shirt-sleeve training for P&G bosses. il Bsns W p31-2+ N 4 '50

Teach executives to think; Racine plan. il Bsns W p78+ Ja 6 '51

Train a man to take your job. C. T. Lipscomb, jr. Am Bsns 21:8-9 Ag '51

Trained manpower supply called weakest link in mobilization; Institute of pulp and paper chemistry 15th annual executives' conference, Appleton, Wis. May 14-15. Chem & Eng N 29:2140 My 28 '51

Training executives for the future. E. L. Peterson. Bus Transportation 29:59-61 N; 27-9 D '50

Utility executive development program: School of business administration of the University of Michigan. H. C. Thuerk. il Edison Elec Inst Bul 19:293-5+ S '51

Utility executives go back to school; special course at University of Michigan. il Elec World 136:64-6 Jl 30 '51

Whose business is executive development? S. Habbe. Advanced Management 16:16-17 My '51

EXECUTIVES' wives

Wives of management. W. H. Whyte, jr. il Fortune 44:86-8+ O '51

EXECUTORS and administrators

Administrative provisions for wills; A.B.A. committee on standards of draftsmanship presents forms. Trusts & Estates 89:661-7 O '50

Deductions for distributions. J. L. Lyons. Trusts & Estates 90:174-6 Mr '51

Estate settlement suggestions; list. Trusts & Estates 90:526 Ag '51

Fiduciary income taxes; deductions on estate or income return; administration expenses. A. Y. Bennion. Trusts & Estates 90:128-9 F '51

Tax planning for distributions. A. A. Armstrong. Trusts & Estates 90:378-80 Je '51

EXERCISE

Evaluation and significance of physical fitness for moderate work; a study of patients with cardiovascular or pulmonary diseases. R. A. Bruce and others. bibliog diag A M A Archives Ind Hygiene & Occup Med 4:236-50 S '51

Stress and ketone body metabolism. F. Sargent, 2d and C. F. Consolazio. bibliog Science 113:631-3 Je 1 '51

EXERCISE tolerance test. See Heart—Diseases

EXHAUST systems

Application of down-draft exhaust ventilation; automatic soldering of metal containers. E. D. Sallee and R. B. Carter. diags Heat & Ven 48:61-4 Mr '51

Automatic dust-free foundry; illustrations with text. Heat & Ven 48:78-9 O '51

Corrosion characteristics of various duct materials; abstract. J. W. McWilliams. Heat & Ven 48:85-6 Jl '51

Corrosion data helps select ventilation equipment; open-tank operations. J. W. McWilliams. il diags Standardization 22:111-14 Ap '51

Defense effort creates exhaust work. C. H. Bishop. il Sheet Metal Worker 42:50+ Mr '51

Design of exhaust systems (cont). F. H. Stebbins. plans diags Sheet Metal Worker 42:41-2 N; 70-2 D '50; 74-6+ Ja; 37-40 F; 43-5 Mr; 46-7 Ap; 83-5 My; 44-6 Je; 42-4 Ag; 43:46-8+ O '51 (to be cont)

Design of exhaust systems for granite dust. F. H. Stebbins. diags Sheet Metal Worker 42:43-5 Jl; 43-5 S '51

Dipping room ventilation. P. R. Jordan. diags Sheet Metal Worker 42:46-7 Jl '51

Exhaust systems can get exhausted. R. T. Pring and W. S. Schamel. il Safety Maint & Prod 102:28-30+ S '51

Planning a dust control system. W. O. Vedder. il diags Mill & Factory 49:98-102 S '51

Recirculation from industrial exhaust systems. A. C. Stern and D. P. O'Neil. diags Heating-Piping 22:112-21 N '50

Scrapbook of exhaust hood design. J. M. Kane. il Heat & Ven 47:62-3 Jl; 69-71 Ag; 86-7 S; 103-4 O; 64-6 N; 79-80 D '50; 48:86-7 Ja; 90-2 F; 81-3 Mr; 96-8 Ap; 84-6 My; 92-5 Je '51

Short-cut method aids figuring exhaust and collecting systems. W. H. Fogle. il diags Heating-Piping 23:75-8 Jl '51

Ventilating the small theater. J. J. Sefing. il plans diags Heat & Ven 47:57-61 N '50

Ventilation and operation of open-surface tanks; American standard safety code Z 9.1-1951. diags Metal Finishing 49:64-73+ Je '51

What measures have you found effective for eliminating fog in dyehouses? suggested solutions. Heat & Ven 48:119-20 My '51

EXHIBITION buildings

Acoustics in the Royal festival hall. R. H. Bolt. il diags Arch Forum 95:180-1+ Ag '51

Buildings suggest new forms and frameworks; buildings for Festival of Britain. il Eng N 146:49-50+ My 17 '51

Engineering in the Festival of Britain. il plan diags Engineering 171:421-3, 536-40, 665-6, pl 26-7, 39-40, 52 Ap 13, My 4, Je 1 '51

Escalator in the Dome of discovery. il Engineer 192:149 Ag 3 '51

Festival of Britain. il plan diag Arch Rec 109:158-61 Je '51

Germans use hangar-type construction; Europa Hall at the Hannover fair grounds. il diag Eng N 147:66 S 6 '51

Huge arched roofs built of precast units; Palazzo Esposizioni (Exhibition Palace) in Turin, Italy. il Eng N 146:46-7 Ja 4 '51

Pier Luigi Nervi's exhibition hall in Turin, Italy. il diags Arch Forum 95:190-4 Jl '51

Royal festival hall. il diag Arch Forum 95:178-9 Ag '51

Structural engineering at the South Bank exhibition. il plan diags Engineer 191:584-7, 618-21, pl 3-4 My 4-11 '51

Thin reinforced concrete members form Turin exhibition halls. P. L. Nervi. il diags Civil Eng 21:6-11 Ja '51

Welded exposition building. M. Cosandey. il diags Welding J 30:sup470-1 S '51

Air conditioning

Heat pump serves British festival. P. E. Montagnon. il Heat & Ven 48:74-5 S '51

Electric equipment

Royal Festival hall; electrical installation. il Elec R (Lond) 147:969-71 D 15 '50; Electrician 145:1125-6 N 24 '50

Lighting

Lighting a flower show; illustrations with text. Elec West 107:91 S '51

EXHIBITIONS

Exhibitions and trade shows in 1951. il Ptr Ink 233:50 D 29 '50

Fairs and exhibitions. Published irregularly in Foreign commerce weekly

For a five-day trade show, two years of preparation; Materials handling exposition in Chicago. il Bsns W p52-4 My 12 '51

Greater Miami manufacturers' exposition, March 2-11. il Manuf Rec 120:33 Ap '51

1951 list of fairs and exhibitions. For Comm W 42:25-6 F 5 '51

Special features add interest to International industrial exhibition in Houston, March 11-17. il Manuf Rec 120:40-1 Mr '51

See also

British industries fair
Fairs
Leipzig fair
also subdivision Exhibitions under special subjects, e.g.
Aeronautics
Agricultural machinery industry
Air conditioning equipment
Automobiles
Chemical industries
Construction equipment
Electric industries
Heating industry
Machinery
Motor buses
Motor trucks
Office appliances
Packaging
Radio apparatus
Science
Textile machinery

Great Britain

British industries fair, Olympia, London, and Birmingham, April 30-May 11. Chem & Ind p325-9 Ap 28 '51

Buildings suggest new forms and frameworks; buildings for Festival of Britain. il Eng N 146:49-50+ My 17 '51

Chemistry at the Great exhibition, 1851. Chem Age (Lond) 64:627-8 Ap 28 '51

Controlling visitors in the South Bank exhibition. Engineering 172:55-6 Jl 13 '51

Engineering in the Festival of Britain. il plans diags Engineering 171:421-3, 453-6, 536-40, 555-8, 589-92, 665-6, 695-9, 730-2, 749-52, 782, pl 26-7, 29-30, 39-40, 43-4, 47-8, 53-4, 56-63; 172:33-5, 84-6, 106-8, 133-6, 166-8, 176, 246-7, 266, pl 12-13 Ap 13-20, My 4-18, Je 1-29, Jl 13-Ag 10, 24-31 '51

Engineering in the Festival of Britain. J. L. P. MacNair. Engineer 191:212-13 F 16 '51

Escalator in the Dome of discovery. il Engineer 192:149 Ag 3 '51

Exhibition control; electric equipment at South Bank exhibition. Electrician 147:118 Jl 13 '51; Elec R (Lond) 149:145-6 Jl 20 '51

Exhibition of industrial power at Kelvin hall. il Engineer 191:728-9, 752-4, 797-8, 832-4, 856-9; 192:6-8, 42-5 Je 1-Jl 13 '51

Festival. Economist 160:1019-20 My 5 '51

Festival floodlighting. il Electrician 146:1613-14 My 11 '51

Festival of Britain. il plan diag Arch Rec 109:158-61 Je '51

Festival of Britain. plan Engineer 191:545-7 Ap 27 '51

EXHIBITIONS—Great Britain—*Continued*

Festival of Britain; electricity's contribution to the displays. il plan Elec R (Lond) 148:907-11 My 4 '51; Electrician 146:1509-26 My 4 '51

Festival of Britain, 1951. il Chem & Ind p302-4 Ap 21 '51

Festival of Britain; science and chemistry. Chem Age (Lond) 64:757-8 My 12 '51

Glasgow exhibition; Festival of Britain, May 28-August 4. Electrician 146:1709-10 My 18 '51

Heat pump serves British festival. P. E. Montagnon. il Heat & Ven 48:74-5 S '51

Land traveling exhibition; Festival ship Campania. Electrician 146:1692-3 My 18 '51

New products at the B.I.F. Chem Age (Lond) 64:595-6+ Ap 21 '51

Royal festival hall. il diags Arch Forum 95:178-81+ Ag '51

South Bank exhibition. il Engineer 191:562-5, 598-601, 634-9, 670-4, pl 1-2, 706-11, pl 1-4, 742-5, 778-81, 814-17, 850-3; 192:2-4, 38-40 My 4-Jl 13 '51

Structural engineering at the South Bank exhibition. il plan diags Engineer 191:584-7, 618-21, pl 3-4 My 4-11 '51

EXHIBITS

ATF show exhibit capitalizes on some new opportunities. F. C. Gerhart. il Ind Marketing 36:36-7 Je '51

Blowers and bubbles stop chemical buyers at ACS Chicago show. B. Aitchison. il Ind Marketing 35:36-7 O '50

"Box office" for trade shows; need for audit bureau. W. F. Weimer. il Ind Marketing 35:33+ N '50

Exhibitions and trade shows in 1951. il Ptr Ink 233:50 D 29 '50

GE and Westinghouse joust at show; 2d Plant maintenance conference, Cleveland. il Bsns W p94+ Ja 27 '51

G-E's Washington little show; they're group selling devices. Sales Management 67:74-5 S 1 '51

Germany holds pharmaceutical and medical supplies exhibit. For Comm W 41:24 D 18 '50

How to put the stop and shop into trade show exhibits. il Sales Management 65:42-5 D 1 '50

Mr Small Business meets the prime contractors at production seminar and display put on by air force Eastern procurement district in New York. il Bsns W p73-6 Mr 3 '51

Seven simple rules for getting value out of trade exhibits. A. Corneliussen. il Sales Management 67:60+ Ag 1 '51

Telling employees about opportunity; Hyatt's educational displays. il Factory Management 108:97 D '50

Ten kinds of show visitors and how to handle them. W. F. Weimer. il Ind Marketing 36:34-5+ F '51

Venders, try-it-yourself; introduce Shakeproof's new Keps; trade show exhibit. B. Aitchison. il Ind Marketing 35:33+ D '50

What to do about a trade show before you call the exhibit builder. W. F. Weimer. diags Ind Marketing 35:34-5+ D '50

See also

Banks and banking—Exhibits

EXHIBITS, Traveling

Branch office on wheels; Burroughs demonstrates office machines in mobile sales room. Am Bsns 21:49-51 F '51

Color sells a train, sells a color; Budd co., Southern Pacific railroad, Harper's Bazaar combine in traveling fashion show. il Bsns W p21 F 10 '51

GE train heads for home; More power to America special. il Am Bsns 21:32 Jl '51

Industrial aid to education; exhibits sponsored and paid for by industry, will tour U.S. colleges and universities. il Mod Ind 22:67-8+ S '51

Medicine show tactics and plain talk sell fiberglas. il Ind Marketing 36:34-5+ Ap '51

Mobile switchgear showroom. il Elec R (Lond) 147:1098 D 29 '50

New style item breaks national promotion this week as show goes on tour; Towle silverware. il Ptr Ink 235:30 Ap 6 '51

Plastics molding shop visits you; Plaskon's trailer demonstrates Alkyd. il Bsns W p 112-15 Mr 24 '51

Selling appliances in the Tennessee valley easy at road show. il Elec World News ed 134:12-13 Ag 7 '50; Bsns W p72-4 N 11 '50

Show-how pays off. il Chem W 69:16-17 O 13 '51

Where the real customers are; Hess Bros. department store, Allentown, Pa. puts fashion show on road. il Bsns W p46-7 N 4 '50

Why fiberglas tells its story with man-in-the-street talk. il Sales Management 66:48-9 Ap 1 '51

EXOLEX extractor. See Extraction apparatus

EXPANDED sheet metal. See Sheet metal, Expanded

EXPANSION (heat)

Ball bearing pillow blocks to compensate for shaft expansion. R. E. Downs. il diags Product Eng 22:126-8 Ap '51

Ceramic compositions having negative linear thermal expansion; lithia-alumina-silica. E. J. Smoke. bibliog Am Cer Soc J 34:87-90 Mr 1 '51

Coefficients of thermal expansion of Au-Cd alloys containing 47.5 atomic percent Cd. L. Chang. J Ap Phys 22:525-6 Ap '51

Determination of small thermal expansion coefficients by a micrometric dilatometer method. B. S. Lement and others. diags R Sci Instr 22:194-6 Mr '51

Directional concentration of optic axes in Yule marble; a comparison of the results of petrofabric analysis and linear thermal expansion. J. L. Rosenholtz and D. T. Smith. bibliog diag Am J Sci 249:377-84 My '51

Expansion gaps in rails; reports at International railway congress. Engineering 171:51 Ja 12 '51

High temperature structure and thermal expansion of some metals as determined by X-ray diffraction data; platinum, tantalum, niobium, and molybdenum. J. W. Edwards and others. bibliog J Ap Phys 22:424-8 Ap '51

Linear expansion coefficient and melting point of metals. G. Bonfiglioli and G. Montalenti. bibliog J Ap Phys 22:1089-90 Ag '51

Linear thermal expansion of artificial graphites to 1,370° C. M. D. Burdick and others. il diags J Res Nat Bur Stand 47:35-40 Jl '51

Methods of absorbing expansions of long-range transmission piping. F. E. Wolosewick. diags Pet Refiner 30:69-74 F '51

Photoelectric recording interferometer for measurement of dimensional changes. R. N. Work. diags J Res Nat Bur Stand 47:80-6 Ag '51

Thermal expansion at low temperatures. S. Viscanathan. Phys R 81:626-7 F 15 '51

Thermal expansion coefficient and the melting point of cubic elements. M. E. Straumanis. J Ap Phys 21:936 S '50; Discussion. D. van der Reyden. 22:363 Mr '51

Thermal expansion properties of some synthetic lithia minerals. F. A. Hummel. Am Cer Soc J 34:235-9 Ag 1 '51

EXPENSE accounts. See Salesmen—Expenses

EXPERT evidence

Accountant's usefulness as expert witness grows as business gets more complex. K. W. Robinson. bibliog J Account 91:686-9 My '51

See also

Physicians as witnesses

EXPLORATIONS

History

Great dream; search for Terra Australis Incognita. W. Ley. maps Tech R 53:292-7+, 353-8+ Ap-My '51

EXPLOSIONS

Chemical hazards and explosions; indicators to dangerous substances. Chem Age (Lond) 64:567-9 Ap 14 '51

Design closed vessels to withstand internal explosions. E. W. Cousins and P. E. Cotton. diags Chem Eng 58:133-7 Ag '51

Device suppresses fuel tank explosions. il Aviation W 54:45-6 Je 11 '51

Explosion and fire on board tank vessel. Marine Eng 56:64 Je '51

Explosion of liquid chlorine dioxide. Chem & Eng N 29:3196 Ag 6 '51

EXPLOSIONS—*Continued*

Explosion of perfluorosuccinamide and lithium aluminum hydride. Chem & Eng N 29:3042 Jl 23 '51

Explosion-proof loudspeaker. S. J. White. il diag Tele-Tech 10:46-7+ My '51

First and second pressure limits of explosion of diborane-oxygen mixtures. F. P. Price. bibliog Am Chem Soc J 72:5361-5 D '50

General adjustment bureau tells story of South Amboy blast; abstract. map Nat Underw 54:6 N 30 '50

How Minnesota mining & manufacturing company rallied to fight blast disaster. il Bsns W p22-3 F 24 '51

Hydrogen-oxygen reaction at the second explosion limit. H. P. Broida. J Chem Phys 19:790 Je '51

Hydrogen peroxide vapor explosions; determination of explosive composition. C. N. Satterfield and others. Am Chem Soc J 72:4308-9 S '50

Inflammation of methyl and ethyl nitrate vapours; characteristics of the explosion process and intermediate reactions involving nitrogen dioxide. P. Gray and A. D. Yoffe. diag Chem Soc J p3180-5 N '50

Luminous reaction of pentaborane and oxygen at and below the first pressure limit of explosion. F. P. Price. bibliog diag Am Chem Soc J 73:2141-4 My '51

Mysterious ammonia explosions. T. R. Hughes. il Refrig Eng 59:859-62+ S '51

Prevention of accidents when handling chemicals. R. Winderlich. bibliog J Chem Educ 27:670-3 D '50; Abstract. Chem Age (Lond) 64:135-6 Ja 20 '51

Report of research and technologic work on explosives, explosions, and flames, fiscal year 1950. B. Lewis. bibliog 51pls U S Bur Mines Rep of Invest 4793:1-67 '51

Shipping explosives; National board of fire underwriters report on the South Amboy, N.J. munitions explosion. Safety Maint & Prod 101:42 F '51

Super blast tests sub-surface structures. il Eng N 146:28-9 Je 21 '51

Uninvited chemical explosions. W. R. Tomlinson, jr. and L. F. Audrieth. bibliog J Chem Educ 27:606-9 N '50

See also

Boiler explosions
Coal mines and mining—Accidents and explosions
Crankcases—Explosions
Diesel engines—Explosions
Inflammable liquids
Inflammable mixtures
Photography of explosions

EXPLOSIONS, Photography of. See Photography of explosions

EXPLOSIONS, Subaqueous

High-speed photography of underwater explosions. P. M. Fye. bibliog il diags Soc Motion Picture & Tv Eng J 55:414-24 O '50

Submarine geology of Bikini lagoon as indicated by dispersion of water-borne explosion waves. M. B. Dobrin. bibliog map diag Geol Soc Bul 61:1091-117, pl 1-3 O '50

EXPLOSIVES

Cautions in grease extraction with ether. F. D. Tylicki. Sewage & Ind Wastes 23:930 Jl '51

Chemical engineering unit processes fourth annual review; combustion, 1948-1950. B. Lewis and G. von Elbe. Ind & Eng Chem 43:1925-41 bibliog(834 ref, p 1933-41) S '51

Developments in oil well explosives. A. Gibbon. il World Oil 131:121-2 N '50

Effect of high pressures on the explosibility of mixtures of ethane, air, and carbon dioxide and of ethane, air, and nitrogen. R. E. Kennedy and others. bibliog 6pls U S Bur Mines Rep of Invest 4751:1-11 '50

Explosive forces widen metallurgical studies. diags Steel 127:98-9 N 20 '50

Explosive sensitivity of ammonium nitrate-hydrocarbon mixtures. M. A. Cook and E. L. Talbot. bibliog il Ind & Eng Chem 43:1098-102 My '51

Explosives for seismograph prospecting. L. W. Braniff. il World Oil 131:73-5+ D '50

Report of research and technologic work on explosives, explosions, and flames, fiscal year 1950. B. Lewis. bibliog 51pls U S Bur Mines Rep of Invest 4793:1-67 '51

Some experimental indications of the stresses produced in a body by an exploding charge. J. S. Rinehart. il J Ap Phys 22:1178-81 S '51

Some quantitative data bearing on the scabbing of metals under explosive attack. J. S. Rinehart. il diags J Ap Phys 22:555-60 My '51

Use of finely divided metals in explosives. D. Hart and W. R. Tomlinson, jr. il Metal Prog 59:788-92 Je '51

See also

Blasting
Coal mines and mining—Explosives
Dynamite
Nitrocellulose
Nitromethane
Tetryl

Manufacture

Du Pont still in black powder business; illustration with text. Chem & Eng N 29:578-9 F 12 '51

Safety measures

Day after is safer than the day before; Du Pont aware of the hazards of its operations. J. S. Queener. il Safety Maint & Prod 101:48+ Je '51

Storing dynamite on the job. il Nat Safety N 63:33 Je '51; Same. Roads & Eng Constr 89:60 Jl '51

Suppression of flame in explosive systems. E. Jones. bibliog J Ap Chem 1:411-13 S '51

Transportation

Explosives transport regulations amended. Oil Paint & Drug Rep 160:4 Jl 16 '51

Explosives transport rules change asked. Oil Paint & Drug Rep 160:3+ O 8 '51

ICC tightens explosives transportation regulations. Oil Paint & Drug Rep 160:1 S 24 '51

Shipping explosives; National board of fire underwriters report on the South Amboy, N.J. munitions explosion. Safety Maint & Prod 101:42 F '51

60 motor carriers seek to haul explosives. Ry Age 131:89-90 O 1 '51

EXPONENTIAL functions. See Functions, Exponential

EXPORT advertising. See Advertising, Foreign

EXPORT credit insurance. See Insurance, Export credit

EXPORT credits insurance corporation. See Insurance, Export credit—Canada

EXPORT-import bank of Washington

Allocations under export-import bank loan to Indonesia. For Comm W 42:9 F 12 '51

Export-import bank credit to Argentina. For Comm W 41:11 N 27 '50

Foreign loans mobilized, too. Bsns W p 141-2 F 10 '51

Loans to private business enterprises; amendments to Executive order no. 10161; text. Fed Res Bul 37:1129-30 S '51

EXPORT tax. See Tariff (export duties)

EXPORT trade

Coming shifts in export markets. S. E. Hollis. Comm & Fin Chr 173:1331 Mr 29 '51

Defense program no bar to high level export trade. J. F. Chapman. Comm & Fin Chr 173:1325+ Mr 29 '51

Export; a healthy look despite the gloom of war. il Ptr Ink 233:30 D 29 '50

Foreign consumers re-enter U.S. market. C. C. Concannon. Chem & Eng N 29:17-20 Ja 1 '51

Foreign economic picture as it affects U.S. exports. A. N. Gentes. Comm & Fin Chr 172:1601 O 26 '50

Immediate export outlook is good. A. Maffry. Comm & Fin Chr 173:1548-9 Ap 12 '51

Manufacturing your products abroad; license agreements; abstract. D. Brooks. Management R 40:282-3 My '51

New world trade leads. Published in Foreign commerce weekly

Overseas markets must absorb great U.S. production. J. F. Chapman. Adv Agency 44:102-4 O '51

Selling U.S. ideas and products abroad; agencies, mediums and facilities; directories. J. Patterson. Adv Agency 44:94-6+ O '51

EXPORT trade—*Continued*

Will shortages hit exports? Bsns W p21 N 4 '50

See also

Balance of payments
Commerce
Corporations—Foreign subsidiaries
Foreign exchange
Letters of credit
Packing for shipment
Tariff
United States—Commerce

Advertising

See Advertising, Foreign

Finance

See also

Export-import bank of Washington

Government aid

See also

Insurance, Export credit

Marketing

Do you treat Canada as just another export market? Ekco products co. E. Keating. Sales Management 66:56+ My 20 '51

$75,000,000 in export; the sun never sets on Caterpillar. J. Q. McDonald. il Sales Management 66:42-6 Ap 1 '51

Regulation

Current developments in export control. J. C. Borton. For Comm W 42:3-4+ Mr 26 '51

Export-control developments. For Comm W 45:10 O 1; 26-7 O 15 '51

Export controls reflect preparedness steps. D. Brooks. il For Comm W 41:3-4+ D 11 '50

OIT clamps down on exports. Chem Ind W 68:12 Ap 28 '51

US acts to halt flow of chemicals to Russia. Oil Paint & Drug Rep 159:3+ Je 11 '51

Sales agents

Directory of New York export sales representatives. 63p pa $5 Commerce and industry assn. of New York, 233 Broadway, New York 7 '51

Statistics

Foreign trade indexes; exports of U.S. merchandise and imports, 1913-1950; revised data. Survey of Cur Bsns 31:27-8 Jl '51

United States foreign trade, 1950; with charts and tabulations. G. A. Witherow. For Comm W 43:3-7+ Ap 16 '51

What export markets mean to United States producers; with figures of exports of leading commodities in relation to production, 1939, 1948, 1949 and 1950. For Comm W 44:5-7 Ag 6 '51

EXPRESS companies

See also

Railway express agency

EXPRESSWAYS

Bituminous slope; paving placed under expressway grade separations. il Roads & Sts 93:70-1 D '50

Build double-deck concrete viaduct to bypass downtown Seattle. il diags Eng N 146:43-5 F 15 '51

Design capacity charts for signalized street and highway intersections. J. E. Leisch. plan Pub Roads 26:118-21 F '51

Expressways and railroads integrated in Louisville's city plan. C. E. De Leuw. il plan Civil Eng 21:390-1 Jl '51

Houston urban expressways promise savings of $2,750,000 annually. W. J. Van London. il diag Civil Eng 21:131-3 Mr '51

Los Angeles freeway road system. il maps Engineering 172:196-9 Ag 17 '51

Progress report on San Antonio expressway. G. B. Arthur. il map Pub Works 82:52-3 S '51

Quality concrete paving methods stressed on Chicago's new Edens expressway. W. J. Mortimer. il map diags Roads & Sts 94:40-5 S '51

Two cross-town expressways advocated for the city of Hamilton. N. D. Wilson and A. E. K. Bunnell. map Roads & Eng Constr 89:68-9+ Ja '51

Work starts on west section of expressway for Pittsburgh. J. R. Dietz. map diag Eng N 145:35-6 O 26 '50

EXTENSOMETERS

Compression test extensometer for cylindrical specimens. A. M. Stott and J. M. McCaughey. il diags Product Eng 22:157-60 Ap '51

EXTRA expense insurance. See Insurance, Extra expense

EXTRACTION apparatus

Apparatus for liquid-liquid extraction without formation of emulsions. F. E. Holmes. bibliog diag Anal Chem 23:935-6 Je '51

Automatic countercurrent distribution equipment. L. C. Craig and others. il diags Anal Chem 23:1236-44 S '51

Big squeeze; Stacomizer. diag Chem Ind W 68:19+ Mr 17 '51

Cold-solvent extractor; modification of standard Soxhlet apparatus. E. M. Buras, jr. diags Textile Res J 21:433-4 Je '51

Equipment hook-up serves for both extraction and automatic feed. P. P. Jones. diag Chem Eng 58:139 Ag '51

Extraction in a pilot-unit spray tower. C. J. Geankoplis, P. L. Wells and E. L. Hawk. bibliog flow diag diags Ind & Eng Chem 43:1848-56 Ag '51

Extraction of cobaltous chloride with capryl alcohol in a spray tower. R. L. Kylander and L. Garwin. bibliog diags Chem Eng Prog 47:186-90 Ap '51

Flow rates through soybean flakes; gravity percolation of hexane miscella. D. Cornell and D. L. Katz. bibliog il diag Ind & Eng Chem 43:992-6 Ap '51

Modified soxhlet apparatus. D. G. Stevenson. diag Chem & Ind p700 Ag 18 '51

Modified syringe for extraction with solvents of low density. A. I. Medalia and R. W. Stoenner. diag Anal Chem 23:545 Mr '51

New continuous extractor. diag Chem Eng 58:222-3 S '51

New oil extractor; Exolex. Bsns W p91 My 19 '51

Scheibel extractors in pharmaceutical production. il diag Chem Eng Prog 47:sup20 Jl '51

Solvent extraction of oilseed. E. P. Cofield, jr. bibliog il diags Chem Eng 58:127-40 Ja '51

Design

Generalized correlation of process variables; multicomponent solvent extraction; furfural extraction of SAE 40 dewaxed lubricating oil distillate. C. Berg, M. Manders and R. Switzer. bibliog flow diags il diag Chem Eng Prog 47:11-18 Ja '51

Limiting flows in packed extraction columns; correlation for large packings. J. W. Crawford and C. R. Wilke. bibliog flow diag il diag Chem Eng Prog 47:423-30; Discussion. 430-1 Ag '51

EXTRACTION processes

Chemical engineering unit operations; sixth annual review; solvent extraction. R. E. Treybal. Ind & Eng Chem 43:79-85 bibliog (235 ref, p83-5) Ja '51

Distribution of several bivalent and trivalent metallic nitrates between water and *n*-hexyl alcohol at 25°. C. C. Templeton and L. K. Daly. Am Chem Soc J 73:3989-91 Ag '51

Extraction; analytical extraction in 1950. L. C. Craig. bibliog(77 ref) Anal Chem 23:41-4 Ja '51

Extraction in a pilot-unit spray tower. C. J. Geankoplis, P. L. Wells and E. L. Hawk. bibliog flow diag diags Ind & Eng Chem 43:1848-56 Ag '51

Extraction of ceric nitrate by solvents. A. W. Wylie. Chem Soc J p 1474-80 Je '51

Extraction of lactic acid from water solution by amine-solvent mixtures. W. P. Ratchford and others. bibliog Ind & Eng Chem 43:778-81 Mr '51

Extraction of mercaptans by means of adsorption. W. E. Voreck, jr. and others. bibliog diag Pet Refiner 30:126-9 Mr '51

Fractional extraction process for recovery of pure tar acids. M. B. Neuworth, V. Hofmann and T. E. Kelly. bibliog diag Ind & Eng Chem 43:1689-94 Jl '51

Fractional liquid extraction; relation between batchwise and continuous countercurrent extraction. E. G. Scheibel. bibliog Ind & Eng Chem 43:242-5 Ja '51

EXTRACTION processes—*Continued*

Fractional solvent extraction between immiscible solvents; graphical calculation. E. L. Compere and A. Ryland. bibliog Ind & Eng Chem 43:239-41 Ja '51

Liquid-liquid extraction analysis. C. Golumbic. bibliog(73 ref) il Anal Chem 23:1210-17 S '51

Liquid-liquid extraction from single drops. F. B. West and others. bibliog diag Ind & Eng Chem 43:234-8 Ja '51

Modern approach to soybean processing. C. Vogt and K. McCubbin. flow diag il Can Chem Process 35:468-70 Je '51

New extraction process available to cottonseed industry. flow diag Chem Eng 58:226-7 My '51

New extraction process pays off; gets more oil from cottonseed, soybeans, peanuts. il Chem Eng 58:204 Jl '51

Rapid extraction of resins from chilte and guayule rubbers. J. W. Wood and R. J. Fanning. il Rubber Age 68:195-7 N '50

Rapid method of determining ether extracts. J. C. Dickinson and R. C. Palmer. bibliog diags Textile Inst J Trans 42:T6-14 Ja '51

Role of extraction in analytical chemistry. G. H. Morrison. bibliog diags Anal Chem 22:1388-93 N '50

Separation of chromium and vanadium salts by liquid-liquid extraction. A. E. Weinhardt and A. N. Hixson. bibliog Ind & Eng Chem 43:1676-84 Jl '51

Separation of mixtures by continuous extraction processes; the continuous step-wise extraction of a fixed quantity of a mixture of solutes. J. D. A. Johnson. Chem Soc J p 1743-53 Jl '50

Shell benzene recovery process. flow diag il Pet Refiner 30:233-4 S '51

Solvent extraction of cocoa butter; premium soap ingredient from waste chocolate. il diag Chem Eng 58:254+ Jl '51

Solvent extraction of oilseed. E. P. Cofield, jr. bibliog il diags Chem Eng 58:127-40 Ja '51

Solvent extraction saves $$$; processing cracklings at John Morrell & co. plant. J. L. Carlson. il diag Food Eng 23:102-4 Je '51

Solvent refining of lube oils. J. C. Albright. il diag Pet Eng 23:C31-2+ F '51

Steady-state transfer problems; graphical solutions. E. B. Fitch. bibliog diags Chem Eng Prog 47:83-90 F '51

See also

Leaching
Solvents

Tables, calculations, etc.

Diffusion rates in extraction of porous solids; single phase extractions. E. L. Piret and others. bibliog(30 ref) diags Chem Eng Prog 47:405-14 Ag '51

Generalized correlation of process variables; multicomponent solvent extraction; furfural extraction of SAE 40 dewaxed lubricating oil distillate. C. Berg, M. Manders and R. Switzer. bibliog flow diags il diag Chem Eng Prog 47:11-18 Ja '51

EXTRADITION

U.S. seeks curb on Canadian frauds; revision of extradition treaty. Bsns W p 155 S 15 '51

EXTRAPOLATION

Design of experiments for most precise slope estimation or linear extrapolation. C. Daniel and N. Heerema. Am Stat Assn J 45:546-56 D '50

Extrapolation of octane numbers above 100. J. F. Deters. Pet Refiner 30:127-9 Je '51

EXTRUSION apparatus

Rheometric tests and extrusion. S. Eccher. bibliog il diags Ind & Eng Chem 43:479-87 F '51

EXTRUSION machines (for plastics)

Machines for plastics in 1950. Mod Plastics 28:94-5 Ja '51

Pressures developed by viscous materials in the screw extrusion machine. W. T. Pigott. bibliog diag A S M E Trans 73:947-54; Discussion. 954-5 O '51

EXTRUSION process

Alloy steel prop blades made by hot extruding; illustrations with text. Materials & Methods 33:66-8 My '51

Cold-extruded shells for the field artillery. B. Kaul. il diags Mach 57:158-63 Ja '51

Cold extrusion goes commercial. il Am Mach 95:173 F 5 '51

Cold extrusion of steel. H. Hauttmann. diags Iron Age 167:99-104 Mr 15 '51

Direct extrusion applied to light metal scrap. M. Stern. il diag Iron Age 167:71-3 Je 28 '51

Extruded gear stock. E. J. Tangerman. il Am Mach 95:112 Ag 20 '51

Extruding copper and brass. W. W. Cotter. il diags J Metals 3:440-2 Je '51

Extrusion die pool for aircraft industry. diags Light Metal Age 9:11 Ap '51

Extrusion effects in Al-Zn-Mg alloys with 4.5 per cent Zn and 3.5 per cent Mg; abstract. G. Siebel. Metal Prog 58:912+ D '50

Extrusion of soft metals. A. E. Rylander. il diags Tool Eng 26:53-60 My '51

Hot-joggling aluminum extrusions. T. E. Piper. il Mach 57:144-8 N '50

How to push metal around for profit; research programs sparked by military agencies and industry. il diag Mod Ind 21:40-5 Je '51

Huge hydraulic presses needed for making large aircraft parts. K. B. Wolfe. il Automotive Ind 104:50-1+ Ja 1 '51

Integrally stiffened sections are extruded. O. L. Mitchell. il diags Iron Age 167:92-5 Je 14 '51

Integrally-stiffened skin revolutionizes aircraft construction; extruded sections and forming methods. P. E. Sandorff and G. W. Papen. il diags Iron Age 167:74-7 F 22 '51

Koldflo; cold extrusion tamed. il Iron Age 168:74 S 20 '51

Magnesium impact extruded. T. L. Patton. il diag Iron Age 168:81-5 S 27 '51

More and more firms try steel extrusion. il Bsns W p64-7 F 3 '51

More production and better quality by cold extrusion. il Product Eng 22:118-19 My '51

New ways for forming metals; air force Manufacturing methods pilot plant. il Dun's R 58:34+ D '50

Prop extrusion is production milestone. I. Stone. il Aviation W 54:27-8+ Mr 19 '51

Reducing cost of extrusions. F. M. Mallett. il diags Product Eng 22:149-52 Je '51

Squeeze hot billets to make propeller blanks. il Iron Age 167:125 Mr 1 '51; Steel 128:86+ Ap 2 '51; Automotive Ind 104:32-3+ Ap 1 '51; Mach 57:190-1 Ap '51; Aeronautical Eng R 10:6 My '51; Mech Eng 73:506-7 Je '51

Squeezing out prop blades. il Bsns W p 108-10 Mr 24 '51

Steel prop blades extruded with internal taper. E. J. Tangerman. il Am Mach 95:128B-128E Mr 5 '51

Stepped diameter parts extruded to close tolerances. diags Automotive Ind 104:50+ F 15 '51

Surface effect on extruded lead and its alloys. R. C. Gifkins and H. C. Coe. il Metallurgia 43:47-8 Ja '51

EXTRUSION process (plastics)

Extrusion compounding. il Mod Plastics 28:95-6+ Jl '51

Growth of thermoplastic extrusion. E. G. Fisher. il Chem Age (Lond) 64:89-90 Ja 13 '51

Molding and extrusion of Teflon. D. D. James. diags India Rubber World 124:68-70 Ap '51

Plastic extrusions cut costs in recent applications. W. Schack. il Materials & Methods 33:74-7 Je '51

EYE

Informational capacity of the human eye. H. Jacobson. bibliog Science 113:292-3 Mr 16 '51

Tritanopia with abnormally heavy ocular pigmentation. D. B. Judd and others. bibliog diags Opt Soc Am J 40:833-41 D '50

See also

Color sense
Optics, Physiological
Sight
Visual purple

Accommodation and refraction

Dark adaptation. A. Rose. Opt Soc Am J 41:210 Mr '51

Dark adaptation level and duration of test-flash. E. Wolf and M. J. Zigler. bibliog Opt Soc Am J 41:130-3 F '51

EYE—Accommodation and refraction—*Cont.*

Effect of varying the light-dark ratio of intermittent pre-exposure upon subsequent dark adaptation in the human eye. F. A. Mote and A. J. Riopelle. Opt Soc Am J 41:120-4 F '51

Influence of surround brightness and short wave components of radiation on dark adaptation. M. J. Zigler and others. Opt Soc Am J 41:354-9 My '51

Study of night myopia. M. Koomen and others. bibliog il diag Opt Soc Am J 41:80-90 F '51

Time of dark adaptation after stimulation by various brightnesses and colors. E. O. Hulburt. diags Opt Soc Am J 41:402-4 Je '51

See also

Dioptometers

Diseases and defects

Finding eye disease early. F. M. Foote. Nat Safety N 63:32 Ja '51

See also

Conjunctivitis

Examination

Dark adaptation level and duration of test-flash. E. Wolf and M. J. Zigler. bibliog Opt Soc Am J 41:130-3 F '51

Finding eye disease early. F. M. Foote. Nat Safety N 63:32 Ja '51

Illumination for sight testing. H. W. Hofstetter. Illum Eng 46:116-18 Mr '51

Motorola's vision program pays off. K. Piper. il Advanced Management 16:24-5 S '51

Slit lamp designed for portability. il diags Machine Design 23:127-8 Mr '51

Injuries

Electricity and the eye. W. Schweisheimer. Power Eng 55:79-80 Jl '51

Eye injuries; what one transportation department does about them. il Ry Age 131:45-6 S 24 '51

Study of eye irritation caused by Los Angeles smog. R. D. Cadle and P. L. Magill. il diags A M A Archives Ind Hygiene & Occup Med 4:74-84 Jl '51

Protection

Between eyes and danger; eye conservation needs right equipment; with list of occupations requiring eye protection. S. C. Herbine. bibliog Nat Safety N 64:28-9+ Jl '51

Blindness lasts a long time. F. J. Koeth. il Safety Maint & Prod 102:18-19+ Ag '51

Broken lenses, saved eyes; Sperry gyroscope company's eye safety program. H. Sager. Safety Maint & Prod 102:37 Ag '51

Extend eye protection to construction and service workers; Otis elevator co. Nat Safety N 64:68 S '51

Eye conservation. il Nat Safety N 63:73-4+ Mr '51

Eye protection is easy. J. A. Howland. il Safety Maint & Prod 102:21+ Jl '51

Eye protection requires study of hazards. V. R. Croswell. Ind & Eng Chem 43:sup95A-6A Mr '51

Eye safety; man-hour and dollar stakes are high. S. C. Herbine. il Steel 128:77-80 F 26 '51

Eye safety pays for itself. Safety Maint & Prod 101:22-4 My '51

How foremen can aid eye protection program. R. N. Crosby. Nat Safety N 63:55 Je '51

Importance of eye protection in coal mining. W. J. Maher. il Coal Age 56:77-9 Ja '51

Industrial vision programs; abstract. L. Greenberg. Mech Eng 73:576 Jl '51; Same. Safety Maint & Prod 102:22+ Ag '51

Mid-century safety view; progress in eye protection. T. A. Walsh. il Safety Maint & Prod 101:38+ Je '51

Wise owl clubs save eyes in glass plants. H. H. Slawson. Glass Ind 32:345-6 Jl '51

Wise owls on the increase; Pennsylvania railroad organizes chapter of Wise owl club. Safety Maint & Prod 102:30 Ag '51

See also

Goggles

EYE make-up products. See Cosmetics

EYEGLASSES. See Spectacles

EYELIDS

Bags under the eyes. Sci Am 184:38 My '51

EYKMAN equation

Effect of temperature on density and refractive index on organic compounds of various Cox chart families. R. R. Dreisbach. bibliog Anal Chem 23:379 F '51

EYRING, Carl F. 1889-1951

Sketch. V. O. Knudsen. por Acoustical Soc Am J 23:370-1 My '51

EYRING, Henry, 1901-

Myriad researches win Nichols medal for Eyring. por(cover) Chem & Eng N 29:763 F 26 '51

Nichols medal award. H. S. Taylor. pors Chem & Eng N 29:1100-1 Mr 19 '51

EYSSELL, Gustave Sauer

Portrait. Fortune 44:26 Ag '51

F

FABER, Francis H.

Man of the year. H. Woodward. por Sales Management 67:40 Ag 1 '51

FABRICANT, Solomon, 1906-

What ails productivity; interview. pors Bsns W p64+ My 5 '51

FABRICS, Military. See Military fabrics

FACTORIES

British workshops in 1950. flow chart il Engineer 191:33-6, 74-5, pl 6 Ja 5-12 '51

Building security with buildings; Scranton plan. il Eng N 145:120 N 9 '50

Expansion plan for Caterpillar Tractor; Joliet plant. il Arch Forum 94:158 My '51

Function plus beauty; Heliolab designed by F. L. Wright for Johnson & son. C. Fish. il diag Nat Safety N 63:18-19+ F '51

Manufacturing covers many products in Kellogg shops. il Pet Eng 23:C80-1+ Jl '51

New high to Worthington pump and machinery corp. for factory-front advertising. Aesop Glim. il Ptr Ink 233:66 D 15 '50

Pay-as-you-go industrial tract built; Los Angeles international industrial tract. Eng N 146:29 F 1 '51

Plant engineering handbook. W. Staniar, ed. 2007p $15 McGraw-Hill book co, 330 W. 42d st, New York 18 '50

Progress photos aid in construction and equipping of new plant of Electric storage battery co. il Factory Management 109:84-5 F '51

17th annual plant building issue. il diag Factory Management 109:B65-164 pt 2 Ap '51

Unexploited; little towns seeking to bring factories into their localities. Eng N 146:108 Ap 19 '51

Why new defense plants must be different. il plans diags Arch Forum 94:83-91 F '51

See also

Airplane factories
Automobile factories
Branch factories, Foreign
Brick works
Canneries
Carpet factories
Cement plants
Chemical plants
Clay products plants
Concrete products plants
Cotton mills
Day nurseries, Factory
Factory management and other headings beginning Factory
Flour mills
Food factories
Foundries
Garment factories
Glass factories
Ice cream factories
Industrial buildings
Lavatories
Machine shops
Machine works
Metal working plants
Metallurgical plants
Munition factories
Paint factories
Paper mills
Petroleum refineries
Potteries
Rayon mills
Rock products plants
Rolling mills
Rubber factories
Shoe factories
Soap factories
Steel works
Textile mills
Tire factories
Varnish factories
Water supply for factories

Accounting

Accountant and profitable operations. T. R. Hosick. N A C A Bul 32:132-5 O '50

Assignment of manufacturing costs to products. N A C A Bul 32:1559-89 sec 4 Ag '51

FACTORIES—*Accounting—Continued*

Assignment of non-manufacturing costs for the purpose of making managerial decisions. S. K. Atkinson. J Account 92:326-30 S '51
Budget for indirect costs that any plant can use. W. F. Clancy. Factory Management 109:74-5 Ag '51
Capital or expense? abstract. Management R 40:228-9 Ap '51
Control of expenditures for plant additions and improvements. W. L. Baie, jr. N A C A Bul 32:195-9 O '50
Cost and operating control in a small company. W. E. Westerdahl. N A C A Bul 32:1085-90 My '51
Critique of cost center size and account detail. H. White. N A C A Bul 32:383-90 D '50
Fixed budget controls maintenance costs; Fairchild aircraft division, Hagerstown, Md. W. Carroll. Factory Management 109:112-15 Ja '51
Grade costs in wood flour manufacturing. M. D. Gardner. N A C A Bul 32:309-16 N '50
How much do indirect expenses vary? De Laval separator co. case study. N. J. Bowne and B. B. Titus. N A C A Bul 33:170-80 O '51
How we adjust our maintenance budget to production volume; Sylvania electric products, New York. H. W. Zimmer. Factory Management 109:116-18 Ja '51
Information developed by a local survey of accounting practices. D. D. Battelle. N A C A Bul 32:317-26 N '50
Is own product research a current fixed expense? D. S. Moffitt. N A C A Bul 32:1251-4 Je '51; Same. Product Eng 22:254-6+ S '51
Know your operations costs in time to control them. il Brick & Clay Rec 118:40-1+ Ja '51
Management accounting in U.S. is described by Anglo-American council on productivity. J Account 91:286-8 F '51
Point-rating for reliable service life estimates of machinery and equipment. W. F. Bennett. N A C A Bul 32:1216-23 Je '51
Presenting accounting information to factory management; abstract. Management R 40:363 Je '51
Process costing in wire rope manufacture. W. Shortness. N A C A Bul 32:176-84 O '50
Quantity control of manufacturing inventory; a detail posting method; accumulation posting method. O. B. Aaberg; J. R. Watt. N A C A Bul 32:433-43 D '50
Return on investment. H. J. Lang. Mech Eng 72:890-4 N '50; Discussion. 73:592-4 Jl '51
Task of the time and production reporting staff; Caterpillar tractor co. F. O. Call. N A C A Bul 32:946-55 Ap '51
Two budgets, two forms control our maintenance costs; Manning, Maxwell & Moore, Bridgeport, Conn. H. M. Bradley. Factory Management 109:106-9 Ja '51
Up-to-the-minute costs for management planning; Armstrong Cork. I. W. Keller. N A C A Bul 32:782-94 Mr '51
Who says accountants and production men can't live together? W. Von Pechmann. Factory Management 108:230+ N '50
Work of a manuals and procedures section. R. W. Grim. N A C A Bul 32:818-21 Mr '51

See also
Job work—Accounting
Machine shops—Accounting
Overhead expense
Payrolls—Accounting

Air conditioning

Built in 1900 but we air-conditioned our plant just the same; Formfit co., Chicago. E. P. Hesser. il Factory Management 108:89-91 D '50
Can air-conditioned plant avoid drafts? diags Power 94:132+ N '50
How to make a survey for air conditioning and refrigeration applications. J. Partington, jr. il Heat & Ven 48:65-8 Jl '51
How to sell a factory air conditioning job. F. Hudik. il plan diags Sheet Metal Worker 42:70-2+ Jl '51
Oil heating job deluxe; Campana-Italian balm co. il diags Dom Eng 177:100-2+ Ap '51
Using cooling water waste heat to heat and air condition a plant; Western blue print co. M. D. Pugh. il diags Diesel Power 29:50-2 Mr '51
Why new defense plants must be different; interior climate control. il diags Arch Forum 94:90-1 F '51

See also
Air conditioning, Industrial
Hosiery mills—Air conditioning

Cleaning

Housekeeping program. bibliog il Nat Safety N 63:19-20+ Mr '51
How's your janitorial consciousness? Perfection stove company's housekeeping program. A. D. Buschmann. il Mill & Factory 48:100-1 F '51
Plant sanitation. G. L. Doty. Safety Maint & Prod 101:20-1+ Ap '51
Seven extras your vacuum can give you. il Factory Management 109:108-9 Ag '51

Cleanliness

Housecleaning campaign pays off; illustrations with text. D. G. Baird. Mill & Factory 49:112-14 Ag '51
How good a housekeeper are you? at Dow's Midland plant, things are kept shipshape. W. G. Patton. il Iron Age 168:98-100 Jl 12 '51

Conversion

Common sense approach to plant conversion for defense production. J. W. Pocock. Factory Management 109:230+ S '51
Layout to blueprint; no draftsmen; converting Willow Run (Mich) plant to defense production. il Factory Management 109:88-9 Je '51
Scale models; how Kaiser-Frazer saves time in production planning. D. G. Baird. il Am Bsns 21:16-17 Ag '51
Toy plant speeds Kaiser layout for C-119. il Aviation W 54:21-2 My 14 '51; Bsns W p94-5 My 12 '51

Electric equipment

Can electrical standards be eased to save materials? questions and answers. K. S. Geiges. Factory Management 109:86 Ap '51
Don't forget your control equipment. H. A. Wright. il Mill & Factory 48:83-8 Mr '51
Economic limit of capacitor application for load relief. G. Stangland. Power Eng 54:78-80+ N '50
Electrical and allied developments during 1950; industry. G. Bartlett. il diag Gen Elec R 54:27-39 Ja '51
Electrical factory accidents; chief inspector's report for 1949. Elec R (Lond) 148:585-6 Mr 23 '51; Electrician 146:883 Mr 16 '51
Electrical machinery for the movement of materials; abstract. H. S. Carnegie. Electrician 146:221-2 Ja 19 '51
Electricity as an aid to productivity; conference, London, Nov. 15-16. Elec R (Lond) 147:835-8 N 24 '50; Electrician 145:1011, 1132-4 N 17-24 '50
Electricity as an aid to productivity; Institution of electrical engineers conference. Engineer 190:506 N 24 '50
Engineering highlights of 1950; power utilization. il Westinghouse Eng 11:13-19+ Ja '51
Good electrical systems make industrial profits. P. C. Ziemke. il Power Eng 55:80-2 Mr '51
Grounding of industrial systems. W. C. Bloomquist. diags Gen Elec R 54:46-51 Ag '51
How to plan power distribution. H. B. Thacker. diags Am Mach 95:168-71 Je 11 '51
How to sell capacitors to your top management; illustrations with text. Power 95:124-7 Ap '51
How to supply 3000 different voltages! F. J. McLaughlin. il Factory Management 109:121 Je '51
Industrial applications of recent electrical developments. Mach 57:182 D '50
Inspection of industrials. B. J. Wiesinger. il Elec West 106:74-6 Ap '51
Joe's department for better electrical service. J. W. St Andre. Factory Management 109:108-9 Jl '51 [cont monthly]
New loads? you'll save with unit substations! D. Beeman. il diags Power 95:128-30 Je '51

FACTORIES—Electric equipment—*Continued*

Pick the right voltage for efficient power distribution. H. B. Thacker. il Mill & Factory 49:87-9 Ag '51
Planned power, answer to overloads. J. L. Wagner. Steel 127:59-60 N 27 '50
Reactors in low-voltage industrial power systems of 600 volts or less. D. L. Beeman and L. L. Baird. il diags Gen Elec R 53:26-33 D '50
Rubber cable manufacture; Henley's new Durham works. il Elec R (Lond) 147:595-7 O 20 '50
Should I use an electrical contractor? Factory Management 109:68-9 Ag '51
Standard load center unit substation; condensed data chart. G. Wood, comp. il diags Mill & Factory 48:131-3 Ja '51
Things to remember in specifying automatic bus transfers. A. Conangla. il diags Elec World 136:130-1 S 10 '51; Same. Power 95: 78-9 Ap '51
Today's circuit breakers and fuses; with inspection and maintenance schedule. G. A. Van Brunt. diags Factory Management 108: 103-7 D '50
Today's communication equipment. J. W. St Andre. il Factory Management 109:115-18 S '51
Today's electrical heating equipment. G. A. Van Brunt. il Factory Management 109: 104-9 F '51
Today's new wiring devices. J. W. St Andre. il diags Factory Management 109:130-2+ My '51
Today's transformers and accessories. il Factory Management 109:114-19 Mr '51
Today's wire and cable. G. A. Van Brunt. il Factory Management 108:97-101 N '50
Why ground low-voltage distribution systems? H. G. Barnett. diags Mill & Factory 48:85-6 My '51
Why waste watts? W. M. Stocker, jr. Am Mach 95:103-6 Ja 8 '51

See also
Electric driving
Electric welding machines
Paper mills—Electric equipment

Equipment

How flexible shall we make our plant and facilities? R. P. Neuschel. Advanced Management 16:16-18 Ja '51
New literature to help cut costs. Published in monthly numbers of Mill and factory
1951 production preview; plant service equipment; parts and materials. il Am Mach 95: 279-312 Ja 22 '51
Power drive units. J. E. Hyler. il Mill & Factory 48:79-83 My '51
What's new in equipment. Published in monthly numbers of Factory management

See also
Conveying machinery
Factory communication
Lavatories
Machinery, Replacement of
Mechanical handling
Power plants

Expansion

Control of expenditures for plant additions and improvements. W. L. Baie, jr. N A C A Bul 32:195-9 O '50
Solving some problems of expanding plant operations. F. M. Burt. il Mill & Factory 47:104-7 N '50

Fire protection

See Factory fire brigades; Fire protection

Floors

Beefed up floors support new tools. il diag Am Mach 95:169 S 3 '51
Floor maintenance grows up. E. W. Merritt. il Safety Maint & Prod 101:57-9+ Je '51
Floor takes the punishment, not the feet. il Nat Safety N 64:38-9 S '51
Floors and flooring. il Nat Safety N 63:22+ Mr '51
Industrial floors, use and abuse; abstract. E. F. Mumaw. Chem Eng 58:282-3 F '51
Make ragged floors rugged. E. S. Wilton. il Safety Maint & Prod 102:18-20+ Jl '51
Putting and keeping wood floors in shape. J. B. Jassoy. il Food Ind 23:65-6+ Ja '51
To double floor loading capacity, build a bridge. il Bsns W p56-7 S 15 '51

Heating and ventilation

Check your heating plant; check your overhead. J. O'Donnell. il diag Mill & Factory 49:90-3 S '51
How to select and install unit heaters. il plans diags Mill & Factory 48:93-7 Mr '51
How to use direct fired units for plant heating. H. B. Schlosser. il diags Heating-Piping 23:93-5 F '51
Industrial ventilation. bibliog il Nat Safety N 63:13-14 Mr '51
Radiant warming for modern factory. F. H. Slade. il Metallurgia 44:123-4 S '51
Recirculation from industrial exhaust systems. A. C. Stern and D. P. O'Neil. diags Heating-Piping 22:112-21 N '50
Standards for industrial heat control. T. F. Hatch. Heating-Piping 23:140-2; Discussion. 147-50 Ap '51
Suspended units heat race track grandstand converted to factory. il Sheet Metal Worker 42:57-8 My '51
Today's electrical heating equipment; space heating equipment. G. A. Van Brunt. il Factory Management 109:109 F '51

See also
Airplane factories—Heating and ventilation
Exhaust systems
Foundries—Heating and ventilation
Paper mills—Heating and ventilation

Layout

Designed fire prevention. J. J. Duggan. il plans diags Chem Eng 58:125-34 Je '51
Electrolux corporation; with blueprint. G. P. Muir. il diags Tool Eng 26:51-7 F '51
How quality control benefits from good plant layout. R. W. Mallick and A. T. Gaudreau. il Am Mach 95:132-4 F 5 '51
Let the travel chart simplify your material movement problems. M. L. Levy. Mill & Factory 48:100-1 My '51
Models aid factory layout planning. il Steel 128:86-7 My 14 '51
Planned for handling materials. A. T. Gaudreau. il plans diags Nat Safety N 64:22-5+ Jl '51
Plant design and layout. bibliog il Nat Safety N 63:11-12+ Mr '51
Plant for materials handling machinery, Yale & Towne manufacturing co., Philadelphia. il plan Arch Rec 110:134-9 Jl '51
Six steps to lower layout costs. C. G. Wallis. il diag Am Mach 95:96-7 Ap 2 '51
When planning a new layout, check your materials handling needs. R. W. Mallick and A. T. Gaudreau. il plan Mill & Factory 48:80-3 Ja '51

See also
Automobile factories—Layout
Garment factories—Layout
Heat treatment shops—Layout

Lighting

Better industrial lighting, must tool for today's job. il diag Elec World 136:115-20 Ag 13 '51
Get your money's worth out of your lights. Safety Maint & Prod 101:17+ F '51
Good lighting and color stimulate high industrial production. C. E. Egeler. il Elec World 135:84-6+ F 26 '51
High bay installations of mercury lamps. W. H. Kahler. il Illum Eng 46:268 My '51
High-bay lighting. E. Smith. il Elec R (Lond) 147:1023-6 D 22 '50
How, when, and why of planned lighting maintenance. R. M. Smart. il diag Food Ind 23:96-8+ F '51
I still like our cold cathodes; Disston's maintenance superintendent reports. G. Van Artsdalen. Factory Management 109:102-3; Discussion. W. M. Woodworth. 102-3 S '51
Industrial fluorescent lighting. L. H. Hubble. il diags Elec R (Lond) 147:1019-22 D 22 '50
Industrial lighting practice revised. il diag Illum Eng 46:225-43 My '51
Light for seeing. bibliog il Nat Safety N 63: 15+ Mr '51
Light on plant lighting; G-E's lighting center. il Mod Ind 21:80+ Je '51
Lighting; review of problems in the small factory. il Electrician 146:2026 Je 15 '51
Maintain light equipment at its initial efficiency; abstract. G. S. Ketter. Textile World 101:226+ Je '51

FACTORIES—Lighting—*Continued*

Maintenance of industrial lighting. T. B. Sansom. il diags Electrician 146:553-7 F 16 '51

Planned lighting. D. P. Caverly. il Safety Maint & Prod 100:22-3+ N '50

Planned lighting boosts production. il Elec World 136:159 S 10 '51

Pointers for proper maintenance. G. J. Taylor. Illum Eng 46:262-3 My '51

Production clinic. E. G. Thomssen. Soap & San Chem 27:77+ F '51

Quality, our next step in industrial lighting. G. J. Taylor. il Illum Eng 46:256-61 My '51

Reflector lamps pay off in maintenance dollars. J. W. St Andre. il Factory Management 109:88-9 Ag '51

Relighting a factory to present-day standards; Metals and controls corp. plant. G. E. Pieper. il Illum Eng 46:249-50 My '51

Troffer beams support integrated ceiling-lighting system. il Steel 129:80 Jl 16 '51

We like our lighting mixed; Western Electric's Allentown plant. I. M. McNair. il Elec World 136:121-4 Ag 13 '51

Why we should analyze the industrial lighting problem. L. C. Butler. Illum Eng 46:403-4 Ag '51

You're throwing away money on haphazard replacement of fluorescent lamps. J. W. St Andre. Factory Management 109:108-9 Jl '51

See also

Airplane factories—Lighting

Factories—Yards—Lighting

Machine shops—Lighting

Paper mills—Lighting

Steel works—Lighting

Textile mills—Lighting

Location

Big industry moves to the country; General electric co. is building small suburban plants. il map plan diags Arch Forum 95:144-51 Jl '51

Building load with a bunch of cards; Los Angeles Department of water and power's information service on available factory space. J. H. Collins. Pub Util 46:817-26 D 7 '50

Consumer market development; Diamond alkali co., Houston, caustic soda-chlorine plant. G. F. Rugar. il Ind & Eng Chem 43:1751-3 Ag '51

Factors affecting the location of industry. J. Bowes. Am Gas Assn Proc 1950:199-201

How to pick a site for a new mill. G. Wrigley, jr. Textile World 101:137+ Mr '51

Industrial plant shift seen to interior. Eng N 147:75+ Jl 26 '51

Making things is primarily metropolitan. map Ptr Ink 235:57-60 My 25 '51

National defense changes hue of plant location picture. Chem & Eng N 29:3852+ S 17 '51

Plant relocations; practical rather than atomic considerations influence decisions. C. S. Jules. Barron's 31:15 F 19 '51

Plants shun coasts. Bsns W p 121 Jl 28 '51

Resources for the chemical industry in the Southwest; construction requirements. C. W. Roberts. il Ind & Eng Chem 43:1737-9 Ag '51

Thinking ahead. F. F. Gilmore. Harvard Bsns R 29:15-16+ Mr '51

You may be wise to pick a new plant site in 1951. L. C. Yaseen. Factory Management 109:B66-8 pt 2 Ap '51

See also

Chemical plants—Location

Maintenance and repair

Advantages of centralized maintenance; abstract. H. A. Foohl. Management R 40:285-6 My '51

Are your maintenance costs in line? check them against these average figures; charts. Mill & Factory 48:88-9 Ja '51

Budgeting maintenance; from estimated power use. Chem Ind W 68:35 Ja 27 '51

Day by day, craft by craft, we know our maintenance work load; Hoffman-LaRoche inc., Nutley, N.J. J. E. Meyer. Factory Management 108:81-3 D '50

Don't overlook the overhead; regular upkeep of roofs, ceilings, walls. W. P. Sheehy and T. C. Richards. Safety Maint & Prod 100:26-7+ D '50

Don't scrap it, weld it. E. L. Cady. il Mill & Factory 48:81-4 Ap '51

Fixed budget controls maintenance costs; Fairchild aircraft division, Hagerstown, Md. W. Carroll. Factory Management 109:112-15 Ja '51

Helpful hints on plant maintenance work; excerpts from conference papers. Heating-Piping 23:90-3 Mr '51

How about your process tanks? L. J. Murphy. il Mill & Factory 48:115-16 Mr '51

How many maintenance men under one supervisor? Factory Management 108:94-6 N '50

How much should maintenance cost? abstract. A. Ramond. Management R 39:659-60 N '50

How often plant inspection? E. W. Fair. Foundry 79:254+ O '51

How the plant engineer can save tax money. J. K. Lasser. Factory Management 109:109-11 Mr '51

How to build a maintenance program now to fit the national emergency. C. C. Winston and S. C. Hamlin. Factory Management 109:97-108 Mr '51

How we adjust our maintenance budget to production volume; Sylvania electric products, New York. H. W. Zimmer. Factory Management 109:116-18 Ja '51

How we budget maintenance for dull and busy seasons; Kellogg co., Battle Creek. R. C. Weeks. Factory Management 109:110-11 Ja '51

How we finance our maintenance program; Westinghouse electric corporation. I. M. Dinger. Factory Management 109:104-5 Ja '51

How we fixed our plan to rate maintenance men; Johnson & Johnson, New Brunswick. W. J. O'Keefe. Factory Management 108:104-7 N '50

How we keep maintenance costs at a minimum. E. Ranstead. il Mill & Factory 48:125-8 Je '51

How Westvaco set up a system to boost maintenance efficiency. E. W. Sutton. il Factory Management 109:112-14 Ag '51

How you can make your plant maintenance program click. J. W. L. Benson. Factory Management 109:126-9 My '51

Importance of maintenance to safety; abstract. H. M. Ericksen. Management R 39:715-16 D '50

Maintain maintenance equipment or take the consequences. F. L. Cleary. il Safety Maint & Prod 101:21-2+ Mr '51

Maintenance experts answer 14 questions from industry. Factory Management 109:74-5 Ap '51

Maintenance know-how makes our budget, and makes it work; Cleveland graphite bronze co. W. G. Laffer. Factory Management 109:118-19 Ja '51

Maintenance men discuss problems of training, painting, and sanitation. B. J. Beitman. Factory Management 109:244+ Je '51

Maintenance on wheels; jeep and power trucks aid in organized maintenance at Yale & Towne manufacturing co. il Mill & Factory 48:91-8 Ja '51

Maintenance pointers for factory executives. Published in monthly numbers of Factory management

Maintenance problem of the small plant. W. C. Zinck. Safety Maint & Prod 102:15+ Ag; 36-7+ S; 42+ O '51 (to be cont)

Maintenance short cuts. il diags Mill & Factory 48:109-14 Ja '51 [cont monthly]

Nation's biggest plant maintenance show; exhibits and conference. il Safety Maint & Prod 101:13+ Mr '51

No hunting in this maintenance stockroom; Trane co. J. R. Cline. il Factory Management 109:97 Ag '51

Number of maintenance employes for various industries expressed as a percentage of total factory employes; chart. Mill & Factory 48:90 Ja '51

Piping system maintenance at Western Electric plant. A. H. Gipson and D. C. Gerloff. il Heating-Piping 23:73-6 Mr '51

Production aids; courtesy of the maintenance department, Perfection stove co. W. Rudolph. il Mill & Factory 48:93-5 My '51

Schedule your shutdowns; productive maintenance. Mill & Factory 49:342-3 S '51

FACTORIES—Maintenance and repair—*Cont.*

Solving new maintenance problems; abstract. Management R 40:352 Je '51

Solving some problems of expanding plant operations. F. M. Burt. il Mill & Factory 47:104-7 N '50

Two budgets, two forms control our maintenance costs; Manning, Maxwell & Moore, Bridgeport, Conn. H. M. Bradley. Factory Management 109:106-9 Ja '51

Welding, a primary maintenance tool; illustrations with text. Mill & Factory 49:82-3 Jl '51

What about incentives for maintenance? E. A. Cyrol and W. R. Olson. il Mill & Factory 48:105-8 Ja '51

What management expects for its maintenance dollar; opinions of executives of 14 progressive companies. A. J. Snyder and others. Factory Management 109:82-9 Ja '51

What ten plant engineers prescribe as the best way to get good maintenance. E. A. Munson and others. Factory Management 109:90-103 Ja '51

Who's to blame for sloppy maintenance? C. G. Wyder. Factory Management 109:100-4 Je '51

Winners in Factory's maintenance idea contest. Factory Management 109:97 F; 86-7 Mr; 84+ Ap '51

See also

Factories—Painting

Repair parts

Moving

How to figure and control moving costs. R. H. McCarthy. Factory Management 109: B102-4+ pt 2 Ap '51

How to keep workers happy when you move; Leeds & Northrup co. il Factory Management 109:82-3 Jl '51

How to make a smooth move. J. F. Rafferty. il Factory Management 109:B99-101 pt 2 Ap '51

How to move a factory without cutting output; Lincoln electric co. il Bsns W p82-4+ S 15 '51

Open-air construction

Chemical plant operation and the weather; indoor versus outdoor construction. W. H. Williams and others. il Chem Eng Prog 47: 277-82, 339-43, 385-9 Je-Ag '51; Discussion. 47:389-91 Ag '51

Walls added in one Corn Products building; some windbreakers considered. il Arch Rec 110:14 S '51

Walls were not needed; Corn products refining co.'s Corpus Christi plant; illustration with text. il Chem W 69:16 S 29 '51

Painting

Color at work. il Nat Safety N 63:16+ Mr '51

Color harmony in soap plant; Lever's Port Sunlight plant. Soap & San Chem 26:71 N '50

Color in industry. il Fortune 43:122-8 Je '51

Color in industry; data sheet. bibliog il Nat Safety N 63:32-3+ F '51

Good lighting and color stimulate high industrial production. C. E. Egeler. il Elec World 135:84-6+ F 26 '51

Paint failures; causes and cures. E. D. Peck. il Safety Maint & Prod 101:14-15+ My '51

Painting and decorating pays dividends; abstract. A. D. Buschmann. Chem Eng 58: 279-80+ F '51

Survey of painting practices in 228 plants. Factory Management 109:117 F '51

Protection

Can process plants protect themselves against enemy bomb attacks? F. W. Sullivan, jr. and L. E. Carlsmith. il Chem Eng 58:104-7+ Jl '51

Check list for industrial plant civil defense planning. C. H. Muir, jr. Gen Elec R 54: 18-19 Ap '51

Electronic protection for war plants. R. Y. Atlee. il diag Electronics 24:96-101 Ag '51

Guard your plant. Steel 128:55 Mr 12 '51

How G.E. tightens its plant security; illustrations with text. Mill & Factory 47:110-11 D '50

How to protect your plant. Factory Management 109:97-100 Jl '51

How to set up a plant protection organization. A. N. Wecksler. il Mill & Factory 49: 103-6 Ag '51

How to tighten your plant security; illustrations with text. Mod Ind 21:105 F '51

How you can build security into your plant. R. A. Dilley. Factory Management 109: B96-8 pt 2 Ap '51

Organizing for disaster control. W. H. Shearon. il Chem & Eng N 29:3694-7 S 10 '51

Plant problem; A-bomb is the problem; anti-spy and antisabotage measures. il Bsns W p59-60 Mr 24 '51

Plant protection is industry's job. R. M. Winters. Manuf Rec 119:34 N '50

Plant protection; special report. C. Emerson. il diags Am Mach 95:135-47 Jl 23 '51

Plant security muddle. Fortune 43:86-7 Je '51

Preparedness: careful planning and training of all personnel in emergency duties. il Nat Safety N 63:3-4 Mr '51

Safeguarding production of military equipment. il Electronics 24:88-91 Je '51

Security check. Chem Ind W 68:31-2 F 10 '51

$10 buys a lot of disaster protection. W. M. Stocker, jr. Am Mach 95:148-50 Jl 23 '51

This is no time to laugh off plant security. A. N. Wecksler. il Mill & Factory 49:75-80 Jl '51

'Ware saboteurs! Chicago group issues guide for plant security programs. il Bsns W p 110-11 O 28 '50

What about safeguards against industrial sabotage? Mill & Factory survey. Mill & Factory 48:69-72 Ap '51

See also

Factories—Yards—Lighting

Factory fire brigades

Factory guards

Sabotage

Watchmen

Records

Central fileroom saves 'em plenty; E. F. Hauserman co. Cleveland. C. E. Studen. il Factory Management 109:77 Mr '51

Day by day, craft by craft, we know our maintenance work load; Hoffman-LaRoche inc., Nutley, N.J. J. E. Meyer. Factory Management 108:81-3 D '50

How to set up effective cost control in your plant. J. A. Parton, jr. diag Mill & Factory 49:105-8 S '51

Life with CMP; keeping data straight at Eclipse-Pioneer. il Bsns W p 102-7 Je 2 '51

New files save 350 man-hours every month at Square D. il Am Bsns 21:10-11+ Je '51

Production control made easier; Burroughs adding machine co. D. G. Baird. il Mill & Factory 48:98-101 Mr '51

Properly engineered material and inventory control saves money; Allis-Chalmers' system. M. W. Schaefer. Mill & Factory 47:93-6 N '50

Two budgets, two forms control our maintenance costs; Manning, Maxwell & Moore, Bridgeport, Conn. H. M. Bradley. Factory Management 109:106-9 Ja '51

Will one fire or bomb, ruin your company? E. J. Leahy and R. E. Weil. il Mill & Factory 48:125-7 Ap '51

Workers clip coupons to control production; Cherry rivet co., Los Angeles. il Factory Management 109:107 Ag '51

See also

Employment departments—Records

Employment management—Records

Production control

Punched card system

Shutdowns

Mobilization calls the vacation deal. Bsns W p48 My 26 '51

Visitors

See Visitors

Yards

Lighting

Area protection lighting for industry. il plan diags Illum Eng 46:244-8 My '51

Industrial protective lighting can do double duty. A. H. Clarke. il plans diags Elec World 136:65-8 Jl 2 '51

Light up the outdoor hazards too. D. T. Carter. il Safety Maint & Prod 100:18-20+ D '50

FACTORIES—Yards—Lighting—*Continued*

Oscillating floodlight balks intruders; illustration with text. Mill & Factory 48:119 My '51

Outdoor plant lighting. J. S. Lindsay. il Gen Elec R 54:27-30 Mr '51

Reflectorized lamps in protective lighting. R. T. Dorsey. il Illum Eng 46:264-5 My '51

You can tighten plant security with planned outdoor lighting, here's how. J. S. Lindsay. il plan diags Power 95:86-8 Ag '51

FACTORIES, Outdoor. See Factories—Open-air construction

FACTORIES, Traveling

Mobile drum factory. il Engineer 191:229-30 F 16 '51

Mobile factory on show; steel drum plant in production at Olympia. il Chem Age (Lond) 64:201-3 F 3 '51

FACTORIZATION method. See Wave mechanics

FACTORS

Do you need more working capital? consider factoring. il Am Bsns 20:16-17 D '50

Factor at work. R. V. McNally. Credit & Fin Management 53:6-8+ Mr; 11-13+ Ap '51

Financing the chemical and chemical process industries; new factor in chemical financing. R. Dunwoody. Chem & Eng N 28:4539-41 D 25 '50

FACTORY accounting. See Factories—Accounting

FACTORY communication

Communication system operates on fm carrier current. Automotive Ind 104:102 Ja 1 '51

Dialing in on plant news; transmitting tape-recorded messages by interplant telephone. il Bsns W p44+ N 18 '50

Today's communication equipment. J. W. St Andre. il Factory Management 109:115-18 S '51

Tube system speeds reports. Steel 129:109 S 17 '51

We pick up a phone to get real control of operations; Tuttle & Bailey's inside phone system. G. E. Herre. il Factory Management 109:78-80 Ja '51

See also

Bulletin boards
Radio telephone in factories

FACTORY costs

Are your maintenance costs in line? check them against these average figures; charts. Mill & Factory 48:88-9 Ja '51

Budget for indirect costs that any plant can use. W. F. Clancy. Factory Management 109:74-5 Ag '51

Budgeting maintenance; from estimated power use. Chem Ind W 68:35 Ja 27 '51

Census data expose fallacy of cheap power. J. A. Whitlow. Elec World 134:84-5 N 6 '50

Cost control engineering, stepping stone to better design proficiency; Glenn L. Martin co. J. Van Hamersveld. il diags Machine Design 23:108-14 F; 132-8 Mr '51

Design for economy demands consideration of quantities. W. T. Minech. il diags Machine Design 23:139-41 Mr '51

How much do indirect expenses vary? De Laval separator co. case study. N. J. Bowne and B. B. Titus. N A C A Bul 33:170-80 O '51

How six plants control their maintenance costs. I. M. Dinger and others. Factory Management 109:104-19 Ja '51

How to set up effective cost control in your plant. J. A. Parton, jr. flow diag plan Mill & Factory 48:135-8 Je; 49:103-7 Jl; 95-9 Ag; 105-8 S; 115-20 O '51

Reducing costs through accident-prevention engineering. J. V. Grimaldi. Mech Eng 73:492-3+ Je '51

Return on investment. H. J. Lang. Mech Eng 72:890-4 N '50; Discussion. 73:592-4 Jl '51

See also

Labor cost
Power cost

FACTORY fire brigades

Trained and alert; Delco-Remy fire brigades. T. E. Peters. il Nat Safety N 63:20-1+ My '51

FACTORY guards

Is your plant getting full or part-time protection? how Westinghouse trains plant guards. J. C. Mansfield. il Factory Management 109:77-9 F '51

Maybe a good detecting system is what your plant needs. L. Stessin. Mill & Factory 48:135-7 Ap '51

FACTORY insurance association

Annual meeting, New York, March 21. East Underw 52:20 Mr 23 '51; Nat Underw 55:4 Mr 22 '51; Weekly Underw 164:758 Mr 24 '51

Good public relations by FIA. C. W. Pierce. East Underw 51:78-9 D 15 '50

Guarding our industrial production. il Spectator (Property ed) 17:12-14+ O '51

Ross to succeed Pierce as president. East Underw 52:16 Ja 12 '51; Nat Underw 55:1 Ja 11 '51

Seek to fit F.I.A. into rigid rate system in Texas. Nat Underw 54:2 N 9 '50

FACTORY management

Cost control engineering, stepping stone to better design proficiency; Glenn L. Martin co. J. Van Hamersveld. il diags Machine Design 23:108-14 F; 132-8 Mr '51

Electrolux corporation; with blueprint. G. P. Muir. il diags Tool Eng 26:51-7 F '51

Hidden costs exposed by production and inventory control. S. A. Peck. Steel 129:74-6+ Jl 2 '51

How flexible is your plant? versatile, movable equipment and facilities and adaptable construction will pay off. il Mod Ind 20:56-9 D '50

How manufacturers of metal products keep shop equipment up to date. E. Oberg. Mach 57:156-62 Ap '51

How to set up effective cost control in your plant. J. A. Parton, jr. flow diag plan Mill & Factory 48:135-8 Je; 49:103-7 Jl; 95-9 Ag; 105-8 S; 115-20 O '51

Management problems in industry. W. H. Garrett. Chem & Ind p767-71 S 15 '51

New tasks in engineering for small plants. F. W. Miller. il plans Mech Eng 73:481-3+ Je '51

Organized profit improvement program. C. H. Gleason. N A C A Bul 32:123-31 O '50

Production planning time cut when one man chaperons pilot runs; DeVilbiss co. W. J. Tillman. il Factory Management 109:72-3 Jl '51

Productivity; Lever brothers & Unilever limited. G. Heyworth. Advanced Management 16:14-18 Mr '51

Statistical methods in research and development. L. Lutzker. Inst Radio Eng Proc 38:1253-7 N '50

Take one problem at a time; Air-Way appliance corp. makes vacuum cleaners. il Mod Ind 20:58-60+ N '50

See also

Airplane factories—Management
Assembling methods
Bulletin boards
Chemical plants—Management
Control boards
Control charts
Efficiency, Industrial
Employees
Employees' benefit plans
Employees' representation in management
Employment management
Employment systems
Executives
Factories—Accounting
Factories—Heating and ventilation
Factories—Maintenance and repair
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Hygiene, Industrial
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Machine shop management
Machine works—Management
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FACTORY management—See also—*Continued*

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Standardization
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Subcontracting
Suggestion systems
Textile mills—Management
Time study
Tool engineering
Tool rooms
Traffic departments, Industrial
Visitors
Wage payment plans
Watchmen

Quality control

Akron rubber group symposium on statistical quality control. India Rubber World 123: 690-3 Mr '51; Same. Rubber Age 68:701-6 Mr '51
Automatic devices reduce inspection costs; Ford motor co. J. Geschelin. il Automotive Ind 103:32-3+ N 1 '50
Better product at lower cost with statistical quality control; camera tour of Telechron inc. Factory Management 109:88-93 Mr '51
Better quality costs us less with statistical control; Robertshaw-Fulton controls co. R. W. Good. il Factory Management 109:82-3 Ap '51
Construction and use of statistical control charts on continuous variables. K. A. Brownlee. Ind & Eng Chem 43:1307-10 Je '51
Control of averages in tube manufacture. A. K. Wright. il Tv Eng 1:40-2 N '50
Do you need a quality control trouble-shooter? G. W. Slomin. Iron Age 168:112-14 S 6 '51
Effectiveness of quality control charts. L. A. Aroian and H. Levene. Am Stat Assn J 45: 520-9 D '50
Effects of quality standards on production standards. W. A. McConnell. Advanced Management 16:16-18 Ap '51
How quality control benefits from good plant layout. R. W. Mallick and A. T. Gaudreau. il Am Mach 95:132-4 F 5 '51
How to make quality control work. J. V. Strela. il Am Mach 95:99-110 Ap 30 '51
Human aspects of engineering quality into a product. C. L. Gartner. il Tv Eng 1:10-11+ D '50; 2:26 Ja '51
Japan studies quality control. Standardization 21:297 N '50
Management support for statistical quality control urged by Akron rubber group. Chem & Eng N 29:758-9 F 26 '51
Modern quality control. A. V. Feigenbaum. Gen Elec R 54:30-5 Ap '51
Modern quality control at Ford motor co. R. M. Currie. il Advanced Management 15: 9-13 D '50
People, piston rings, and quality control. C. E. Hoover. Automotive Ind 104:126+ Je 15 '51
Practical design for effective production and high quality. J. Manuele. Inst Radio Eng Proc 38:1385-7 D '50
Put quality control in a package and keep everybody informed; American greeting publishers. il Factory Management 108:114-15 D '50
Quality charts boost worker interest. R. Smith. Am Mach 94:98 D 25 '50
Quality control charts boost forge-shop performance. R. D. Long. Am Mach 95:154-5 O 15 '51
Quality control eliminates unnecessary operations. R. C. Byers. Automotive Ind 104: 122+ Je 15 '51
Quality control finds gremlins. R. M. Smith. il Dun's R 59:21+ My '51
Quality control in parts manufacturing; Thompson Products' plants. E. F. Gibian. Automotive Ind 104:124+ Je 15 '51
Quality control in the manufacture of room air conditioners. F. E. Dennison and L. V. Curran. il diag Refrig Eng 58:1174-7 D '50
Quality control indicator; electric computer, which can monitor statistical control charts. C. J. Falk. Tv Eng 1:42-3 N '50
Quality control, it works in small plants, too. J. S. Morgan. Steel 129:74+ Jl 16 '51
Quality control standards would reduce reject toll; abstracts. H. Coonley. Steel 127: 106 D 11 '50; Mech Eng 73:578 Jl '51
Sampling keeps rejects down. Bsns W p45-6 Je 30 '51
Scrap down, quality up, through statistical control systems. H. H. Johnson. il Steel 128:76-9+ My 21 '51
Selling quality control to production employees. W. Exton, jr. Personnel 27:397-402 Mr '51
Statistical aids for tool engineering. L. E. Doyle. bibliog diags Tool Eng 25:17-20 D '50; 26:38-41 Ja; 46-8 F; 55-9 Mr; 42-4 Ap; 46-8 My '51
Statistical quality control. H. H. Johnson. Foundry 79:92-7+ Jl '51
Statistical quality control cuts inspection costs $100,000; Alemite division, Stewart-Warner corp. D. C. Peterson. il Steel 128: 58-62+ Ja 29 '51
Statistical quality control; National malleable & steel castings co. H. A. Schwartz. Foundry 79:94-5+ Ja '51
Statistics in production and inspection. E. G. Olds. Am Stat Assn J 46:297-310 bibliog (p309-10) S '51

See also

Airplane factories—Quality control
American society for quality control
Food factories—Quality control
Inspection
Paper mills—Quality control
Textile mills—Quality control

Bibliography

New directions in quality control. Cleveland Pub Lib Business Information Bur Bul v 22, no 3:9-10 My-Je '51

FACTORY sanitation

Nurse as a sanitation inspector. V. Donnelly. Safety Maint & Prod 101:70-2+ Ap '51
Plant sanitation. G. L. Doty and others. Safety Maint & Prod 101:20-1+ Ap; 14-15+ My; 102:25-6+ Jl '51
Plant sanitation. J. M. Oughton. Can Chem & Process Ind 35:427-9 My '51
Sanitary supplies for industry; survey conducted in Asheville, N.C. F. W. Brewer. Soap & San Chem 26:119+ O '50
Symposium on industrial health and safety; air pollution. H. H. Schrenk. Chem & Eng N 29:1640-2 Ap 23 '51
Washrooms and lockers. il Nat Safety N 63: 49+ Mr '51

See also

Dust collectors
Factories—Air conditioning
Food factories—Sanitation
Hygiene, Industrial
Lavatories
Milk plants—Sanitation

FACTORY tours. See Visitors

FACTORY transportation

Fast-moving supply line paces tractor production; Caterpillar tractor co. il Steel 127: 62-4+ O 30 '50
Our aging plants; mechanized materials handling can overcome many hazards and bottlenecks. L. J. Pantas. il diag Nat Safety N 63:18-20+ Ja '51; Same. Franklin Inst J 251:491-8 My '51
Planned handling licks building handicaps; Saco-Lowell shops. il Am Mach 95:98-101 Ag 20 '51
Trolley ride speeds Comet production; jigs carry components on track system along factory floor. il Aviation W 55:41+ Ag 6 '51
Versatile materials handling setup at large tractor plant. J. Geschelin. il Automotive Ind 105:40-1+ Jl 15 '51

See also

Conveying machinery
Electric trucks, Industrial
Mechanical handling
Monorail conveyors
Motor trucks, Industrial
Pallets
Railroads, Industrial
Tractors, Industrial
Trucks

FACTORY visitors. See Visitors

FACTORY waste. See Trade waste

FADEOMETER

Improvement of temperature and humidity in the Fade-Ometer. bibliog diag Am Dyestuff Rep 40:397-8 Je 25 '51

FAIR employment practices. See Discrimination in employment

FAIR trade laws. See Price fixing, Resale

FAIRBANKS, Morse and company

How Fairbanks, Morse stimulates the salesman's will to fight. H. J. Barbour. Sales Management 67:120+ O 1 '51
Industry expansion plans benefit Fairbanks-Morse. Barron's 31:27 Ap 16 '51

FAIRLESS, Benjamin F. 1890-
Bessemer medallist, 1951. por Iron & Steel Inst J 168:front My '51

FAIRS
Fairs and exhibitions. Published irregularly in Foreign commerce weekly
Fairs; more than midways now. il Bsns W p74-6+ My 5 '51
Finland reports on first postwar industrial fair. For Comm W 41:24 D 18 '50
Four years of fly control at the Illinois state fair. C. W. Klassen and J. D. Williams. il Pub Works 82:43-5+ My '51
Get ready for customer traffic at the county fair. il Dom Eng 178:106-8 Ag '51
Italian imports spurred by Macy fair. il Bsns W p 169-70 S 15 '51
Japan makes bid for prewar markets; Seattle trade fair. il Bsns W p 148-9 Jl 7 '51
1950 St Erik's fair sets record. For Comm W 41:25 N 20 '50
1951 list of fairs and exhibitions. For Comm W 42:25-6 F 5 '51
Record participation at Vienna fall fair. For Comm W 41:24 D 25 '50
Trade fair catalogues. P. Grodzinski. J Doc 6:185-7 D '50
See also
Exhibitions

FALLS
Fall guys; illustrations showing how falls occur. Nat Safety N 63:35-6 Je '51
Floor maintenance grows up. E. W. Merritt. il Safety Maint & Prod 101:57-9+ Je '51

FAMILY
Toward family stability. J. H. S. Bossard, ed. Ann Am Acad 272:1-201 N '50

Law

See Domestic relations

FAMILY budget. See Budget, Household

FAMILY finance corporation
Common stock offered. Comm & Fin Chr 172:1435 O 16 '50

FAMILY of products
See also
Advertising—Leaders
Package design—Family of products

FANNER manufacturing company
Common stock offered. Comm & Fin Chr 172:2220 D 11 '50

FANS, Electric. See Electric fans

FANS, Mechanical
High-efficiency sheet-metal blades for axial-flow fans. R. A. Wallis. il diags Engineering 171:681-3 Je 8 '51
Power handbook; compressors and fans. T. G. Hicks, comp. diags Power 95:96-7 Jl '51
Power's handbook on fans. T. Hicks. il diags Power 95:87-102 O '51
Vibrating forced-draft fan. D. Swift. diag Power 95:89 Ag '51
See also
Electric fans,
Ventilating

FANS, Mine
Battleship fan car clears tunnel face of gases. diags Eng & Min J 152:86 Ag '51
Fan stoppage gives warning in main shop. il Coal Age 55:106 N '50

FAR EAST
New policy towards Asia is being hammered out. Barron's 31:1 My 14 '51
See also
Asia
China
Japan
Petroleum industry and trade—Far East

Commerce

Current prospects for U.S. trade with the Far East. il For Comm W 45:3-4+ O 15 '51
Role of international trade. T. W. S. Davis. il For Comm W 44:3-4+ Jl 16 '51

FAR EASTERN question
Genesis and the passing of the Open door. J. M. Sheehan. il U S Naval Inst Proc 7:246-53 Mr '51

FARADAY, Michael, 1791-1867
As I knew M. Faraday. J. R. Irving. J Chem Educ 28:323-5 Je '51
European chemical developments in the nineteenth century. F. E. Wall. bibliog J Chem Educ 28:355-8 Jl '51
Michael Faraday and the spinning bar magnet. G. W. O. Howe. diags Wireless Eng 27:275-7 D '50

FARADAY effect
Measurement of Faraday effect and Cotton-Mouton effect using transient magnetic fields and a photo-multiplier-type compensator. M. J. Walker and R. C. Raymond. il diags Opt Soc Am J 40:766-8 N '50

FARADAY society
Faraday society discussion, Cambridge, England, Sept. 25-28, 1950. Science 113:370-1 Mr 30 '51

FARADAY tube
New type of Faraday tube for analytical work. A. D. Boston and J. G. Burtle. diags Anal Chem 22:1582 D '50

FARM buildings
Framing farm buildings. il diags Am Bld 73:109-13 Mr '51
See also
Dairies
Milk houses
Swine houses

FARM bureau insurance companies
Too big to manage. Bsns W p92+ O 13 '51

FARM chemurgic council, National. See National farm chemurgic council

FARM credit. See Agricultural credit

FARM equipment manufacturers, Southern. See Southern farm equipment manufacturers

FARM fires. See Fire protection, Rural

FARM houses. See Farmhouses

FARM income
Agricultural prices and income. Survey of Cur Bsns 31:3 Ja '51
Agricultural production and income in 1950; with figures for other years. Survey of Cur Bsns 31:15-17 F '51
Farm marketings and income; monthly figures and monthly averages, Jan. 1948-Dec. 1949; revised data. Survey of Cur Bsns 31:24 Ja '51

FARM labor
Drying wetbacks; U.S., Mexico to discuss flow of labor into Southwest. Bsns W p 127 Jl 21 '51
Migratory labor in American agriculture. Mo Labor R 72:691-3 Je '51
Perspective on housing migratory agricultural laborers. P. S. Taylor. Land Econ 27:193-204 bibliog(p203-4) Ag '51
President's commission on migratory labor in American agriculture. E. J. Long. Land Econ 27:249-51 Ag '51
Toxic agricultural chemicals; precautions for protection of workers. Chem Age (Lond) 64:337 Mr 3 '51
See also
Plantation workers

Statistics

Critical analysis of farm employment estimates. D. G. Johnson and M. C. Nottenburg. Am Stat Assn J 46:191-205 Je '51

FARM land values. See Land values

FARM loans. See Agricultural credit

FARM management
Farm management; absentee ownership no bar to sound land investment. J. L. Hopkins. Barron's 30:17-18 N 13 '50
Farmer takes advice; Doane agricultural service. il Fortune 43:87-90+ Mr '51
Farming co-operative, a new system of farm management. O. Schiller. map Land Econ 27:1-15 F '51; Critical appraisal. K. Brandt. 27:102-7; Reply. D. Pronin. 178-80 My '51; Rejoinder. 27:180-2, 256-9 My-Ag '51
Farms; inflation insurance; getting the help of a professional manager. Bsns W p 101-2+ My 26 '51

FARM market
Cash crop from the woodlot; key to McCulloch sales strategy for light-weight chain saws. C. F. Breer. Sales Management 66:84+ Ap 15 '51
Farm advertising and media in 1951. il Ptr Ink 233:40 D 29 '50
Farm market grows billions bigger. L. M. Hughes. il Sales Management 67:84-6+ S 15 '51
Farm offers answer to balanced summer-winter LP-gas load. E. Fannin. Nat Pet N 43:32-3 My 9 '51

FARM market—*Continued*

Fuel and appliance market in rural America; electric and bottled-gas interests. D. O. Cunnion. il Adv Agency 44:70-1+ Ja '51

If you want to sell the farmer, show him proof of profit. H. W. Collins. il Sales Management 66:76+ Je 15 '51

Keeping farm oil tanks full; Appleton oil co. L. Castle. il Nat Pet N 43:57-60 Jl 25 '51

New look at the farm market. V. D. Reed. il Adv Agency 44:52-5+ Jl '51

What the auto is doing to farm sales. W. B. Williams. il Ptr Ink 236:33-4 Ag 3 '51

See also

Advertising—Farmers, Appeal to

Electricity on the farm

Plumbing trade—Farm market

FARM ownership

Buying farms with hundred-percent loans; an analysis of the Farm security administration loan experience in Wisconsin. W. K. Burkett and K. H. Parsons. Land Econ 27:151-68 My '51

Legal problems in father-son farming operations. H. H. Ellis. bibliog Land Econ 27: 235-47 Ag '51

FARM produce

Agricultural production and income; early prospects favorable. Survey of Cur Bsns 31: 7-8+ Je '51

From scarcity to abundance in farm products. E. J. Hirsch. Comm & Fin Chr 174: 513+ Ag 9 '51

More food; chemicals raise crop yields, improve farm produce quality. D. Marshall. Barron's 31:15-16 S 10 '51

See also

Chemurgy

Crops

Dairy products

Drying (crops)

Grain

Livestock

Wheat

By-products

Agriculture by-products and their industrial utilization; abstract and discussion. F. N. Woodward. Chem & Ind p387-8 My 19 '51

Hard board from agricultural residues. R. V. Williamson and E. C. Lathrop. Mod Plastics 28:126+ Ap '51

Synthetic liquid fuels; annual report of the Secretary of the interior for 1950; liquid fuels from agricultural residues. 5pls U S Bur Mines Rep of Invest 4772:1-12 '51

Industrial uses

Agricultural products allocation jurisdiction agreement reached. Oil Paint & Drug Rep 159:3+ Ap 23 '51

Marketing

See also

Commodity credit corporation

Price supports

Parity outrage. Fortune 43:77-9 Ap '51

Prices

Agricultural prices and income. Survey of Cur Bsns 31:3 Ja '51

High-profit claims fade under probe of canners. J. A. J. Jones. Food Eng 23:112-13 Ag '51

No early action seen on farm price ceilings. Barron's 31:21-2 Ja 1 '51

Price system in socialized agriculture. V. Katkoff. J Marketing 16:43-50 Jl '51

Transportation

Truckers of farm products to have less regulation. Ry Age 130:41-2 Ap 30 '51

FARM underwriters association

Annual meeting, Chicago. Nat Underw 55:4 Ja 11 '51

FARM woodland. See Woodlots

FARMERS

Balance sheet and current financial trends of agriculture, 1951; abstract. F. L. Garlock and others. map Fed Res Bul 37: 1090-103 S '51

Farmers think advertised products cost more, but they have more confidence in them. Ptr Ink 234:54 Mr 9 '51

See also

Advertising—Farmers, Appeal to

Agricultural credit

Farm income

Farm labor

Farm market

Insurance requirements

Farm underwriters must constantly meet new problems. Nat Underw 54:32-3 N 2 '50

Farmers as marine prospects; selling floater policies. M. L. Crippen. Rough Notes 94: 56+ Ap '51

Seek to meet competition on farm business in Massachusetts. Nat Underw 54:6+ N 2 '50

See also

Insurance—Farmers as prospects

Insurance, Fire—Farm policies

FARMERS' cooperative associations

Co-ops set high sales goal. il Chem Ind W 68:14-15 F 10 '51

FARMHOUSES

Some factors relating to farm housing in the Northeast. G. H. Beyer. Land Econ 26: 383-9 N '50

FARMS

Farm investments; federal income taxes conducive to capital accumulation in land, livestock. J. L. Hopkins. Barron's 31:15-16 Ja 8 '51

Farms; inflation insurance. Bsns W p 101-2+ My 26 '51

See also

Dairy farms

FASHION

Current trends in home fashions. M. L. Brandt. J Retailing 26:117-21+ Fall '50

Fashion merchandising. A. H. Daniels. Harvard Bsns R 29:51-60 My '51

Haute couture in London. Economist 161:270-1 Ag 4 '51

Where the real customers are; Hess Bros. department store, Allentown, Pa. puts fashion show on road. il Bsns W p46-7 N 4 '50

FASTENINGS

Drilling and anchoring; best ways to fasten electrical equipment (or any other kind) to masonry. J. O'Connor. il diags Power 95: 124-7 Ag '51

Fastener makers look to CMP. il Steel 128: 53-5 Je 18 '51

Flat type speed fasteners. il Automotive Ind 105:86 Jl 1 '51

Hand tool aids snap ring insertion. F. Martindell. diag Tool Eng 26:41 Ap '51

Hinges for fastening structural parts. H. G. Brilmyer. il diags Product Eng 22:153-5 Je '51

Industrial finds a consumer market on its doorstep; Tinnerman Products' Tinker Kit. il Sales Management 67:144+ S 15 '51

Ingenious fastenings speed and simplify refrigerator assembly. il diags Refrig Eng 59: 657-9 Jl '51

Thumb-power closes fastener. Steel 128:88 Mr 12 '51

Toothed rings strengthen nailed joints. E. G. Stern and P. W. Stoneburner. il Eng N 147:39-40 S 27 '51

Turbine blade fastenings. H. Woodhouse. diags Machine Design 23:148-53 F '51

See also

Bolts and nuts

Advertising

Tinnerman proves results of a case-history advertising campaign. M. Kingman. il Ind Marketing 36:34-5+ Ag '51

Manufacture

Continuous electroplating effects operational economy; Shakeproof's new Elgin, Ill. plant. D. Reebel. il plan Steel 128:64-6 F 19 '51

Small parts coated in automatic machine; Tinnerman products, inc. il Iron Age 167: 70 F 22 '51

FASTENINGS, Plastic

Extruded slide fastener; FlexGrip. il diag Mod Plastics 29:79 S '51

FAT

Chylomicrons as carriers for carcinogenic hydrocarbons. K. Setälä and P. Ermala. Science 114:151-2 Ag 10 '51

Intracellular fat deposits in the kidney. M. L. Silver. Science 113:43 Ja 12 '51

See also

Oils and fats

FATIGUE

Fatigue greater loss to industry than compensated claims; Gulf Coast regional conference on industrial health, Houston, Sept. 27-29. Chem & Eng N 29:4262+ O 15 '51

Stimulants, lift or letdown? Chem Eng 58:251-2+ F '51

See also

Posture

FATIGUE in metals

Aircraft structure fatigue. R. McLarren. bibliog il Aero Digest 63:100-8 S '51

Bolted joints found better under fatigue. T. R. Higgins. il diag Eng N 147:35-6 Ag 2 '51

Creep and fatigue properties of non-ferrous metals at elevated temperatures; recommended scope of research programmes. Metallurgia 44:38-9 Jl '51; Same abr. Engineer 191:869-70 Je 29 '51

Cumulative damage in fatigue. K. W. Mitchell. bibliog diags Metallurgia 43:25-8 Ja '51

Effects of prior static and dynamic stresses on the fatigue strength of aluminum alloys. J. A. Bennett and J. L. Baker. bibliog il J Res Nat Bur Stand 45:449-57 D '50

Effects of prior stress on the fatigue of aluminum alloys. J. E. Bennett and J. L. Baker. il Light Metal Age 9:16-17 Ap '51; Same cond. Materials & Methods 33:9+ Ap '51; Same cond. Steel 128:104+ Mr 19 '51; Same cond. Aviation W 54:28+ Ap 9 '51; Same cond. Mech Eng 73:584-5 Jl '51; Excerpts. Product Eng 22:164 Ap '51; Abstract. Iron Age 167:79 Mr 22 '51

Endurance limit of a round bar with longitudinal grooves. H. Ōkubo. il diags J Ap Phys 21:1105-8 N '50

Fatigue crack as a stress-raiser. A. J. Fenner and others. il Engineering 171:637-8 My 25 '51

Fatigue durability of prestressed screw threads. J. O. Almen. bibliog il diags Product Eng 22:153-6 Ap '51

Fatigue failures are tensile failures. J. O. Almen. bibliog il diags Product Eng 22:101-24 Mr '51

Fatigue loss and gain by electroplating. J. O. Almen. bibliog il diag Product Eng 22:109-16 Je '51

Fatigue problems in transport aircraft. W. T. Shuler. Aeronautical Eng R 10:20-6 Je '51

Fatigue strength of spot-welded light alloy joints. H. Kihara. diags Welding J 30:sup 529-36 O '51

Fatigue testing and development of drill pipe-to-tool joint connections. W. S. Bachman. bibliog il Pet Eng 23:B36+ F '51; Same. World Oil 132:104+ Ja '51

Fatigue tests of beams in flexure. W. M. Wilson. diags Welding J 30:sup 105-15 Mr '51

Fatigue tests on helical springs. A. Pomp and M. Hempel. Engineer 190:496-7 N 24 '50

Fatigue weakness of surfaces. J. O. Almen. il diags Product Eng 21:117-40 bibliog (p 140) N '50

High-stress fatigue of alloy steels; charts; reference book sheet. T. T. Oberg and W. J. Trapp. Product Eng 22:159, 161, 163 Ja '51

High stress fatigue of aluminum and magnesium alloys; charts; reference book sheet. Product Eng 22:159, 161, 163 F '51

New method for evaluating fatigue testing data; abstract. W. Spatu. Product Eng 22:232+ Jl '51

Refinements aid metal fatigue studies. Aviation W 55:21+ S 3 '51; Same cond. Steel 129:78 Jl 16 '51; Same cond. Product Eng 22:193-4 S '51; Same abr. Materials & Methods 34:11+ Ag '51

Size effect in fatigue of plain and notched steel specimens loaded under reversed direct stress; abstract. C. E. Phillips and R. B. Heywood. Engineer 191:285 Mr 2 '51

Study of fatigue in metals by means of X-ray strain measurement. J. A. Bennett. il diag J Res Nat Bur Stand 46:457-61 Je '51

Torsional fatigue failures. J. O. Almen. bibliog il diags Product Eng 22:167-82 S '51

Use of fatigue tests in the investigation of structural characteristics of cold worked metals; abstract. R. Jacquesson and P. Laurent. Metal Prog 59:422 Mr '51

Vibration and fatigue life of steel strand. J. C. Little and others. Elec Eng 69:1065 D '50

When will it fail? T. T. Oberg. Metal Prog 60:74-5 Jl '51

FATTY acids. See Acids, Fatty

FAUCETS

New idea in blow-torches for faucet and hydrant sterilization. A. H. Ullrich. il Water & Sewage Works 98:247 Je '51

FAULTS (geology)

Blue Ridge front, a fault scarp. W. A. White. bibliog maps diags Geol Soc Bul 61:1309-46, pl 1-3 D '50

Échelon faults in ice, caused by subsidence. G. E. Becraft. diag Am Assn Pet Geologists Bul 35:1668-70 Jl '51

Faults in sedimentary part of Wichita mountains of Oklahoma. B. H. Harlton. bibliog maps Am Assn Pet Geologists Bul 35:988-99 My '51

Great Smoky fault. R. B. Neuman. bibliog maps diags Am J Sci 249:740-54 O '51

Mechanical basis for certain familiar geologic structures. M. K. Hubbert. bibliog diags Geol Soc Bul 62:355-72, pl 1-2 Ap '51

Megabreccia developed downslope from large faults. C. R. Longwell. bibliog maps diag Am J Sci 249:343-55, pl 1-2 My '51

Salt-dome faults. M. Quarles. Oil & Gas J 49:46 N 30 '50

Scale models as guide to interpretation of salt-dome faulting. T. J. Parker and A. N. McDowell. il maps Am Assn Pet Geologists Bul 35:2076-86 S '51

Southwest Texas faults. H. N. Lyle. map diag Oil & Gas J 49:108+ Mr 22 '51

Stress distributions and faulting. W. Hafner. diags fold chart(pl 1) Geol Soc Bul 62:373-98 Ap '51

Structure of the Hot Springs window, Madison county, North Carolina. S. S. Oriel. fold map maps diags Am J Sci 249:1-30 bibliog(p29-30) Ja '51

FAUST, Raymond J. 1901-

Faust to join A.W.W.A. staff. por Am Water Works Assn J 42:sup 1 N '50

FEAR

Disaster control; handbook for metalworking. Am Mach 94:138-41 N 13 '50

FEATHER river

Feather River project authorized. Eng N 147:25 Jl 12 '51

FEATHERBEDDING ban. See Trade unions—Law

FECES

Cow feces and chick development. H. W. Marlow. bibliog Science 113:326-7 Mr 23 '51

FECHNER'S law

Some consequences of the additivity of luminosities. R. H. Sinden. bibliog Opt Soc Am J 40:647-52 O '50

FEDERAL aid to states. See State finance—Federal aid

FEDERAL barge lines

Federal barge lines lost $733,660 in fiscal 1950. Ry Age 130:47 Ja 8 '51

FEDERAL bureau of investigation. See United States—Federal bureau of investigation

FEDERAL communications commission

Another needle for the FCC. Pub Util 47:433-5 Mr 29 '51

FCC reforms itself. C. Koblentz. Pub Util 47:484-93 Ap 12 '51

McFarland bill hearings. Pub Util 47:561-2 Ap 26 '51

Meet the FCC. H. Bratter. Pub Util 47:399-410 Mr 29 '51

Prospective and current FCC reorganization. Pub Util 48:503-5 O 11 '51

Reorganization of the Federal communications commission; case study in administration and organization. E. W. Clemens and L. W. Thatcher. Land Econ 27:213-24 Ag '51

United States radio districts; directory. Q S T 35:43 Je '51

FEDERAL crop insurance corporation

Explains coverage. R. R. Wilkinson. Nat Underw 55:12 My 3 '51

1950 loss ratio is 91 per cent. Nat Underw 55:4 F 1 '51

FEDERAL deposit insurance act

Deposit insurance assessments under the new F.D.I.C. act; charts. Banking 43:49 O '50

Federal deposit insurance act; text. Fed Res Bul 36:1321-39 O '50

FEDERAL deposit insurance corporation

Deposits of insured banks reach all-time high of $168 billions. Comm & Fin Chr 173:1349 Mr 29 '51

FEDERAL employees. See Government employees

FEDERAL home loan bank system

Housing activities of the federal government. Am Bld 73:sup 12 S '51

FEDERAL housing administration

Does FHA discourage better housing? a look at FHA's Los Angeles district office. Arch Forum 94:20-1 Ap '51

Don't overlook the FHA. A. Stout. Sheet Metal Worker 42:72-4+ F '51

FHA and housing situation. F. D. Richards. Comm & Fin Chr 172:2460-1 D 21 '50

FHA in Miami; architects beef on design, but builders don't. il Arch Forum 97:27+ Je '51

FHA's current operations and the home mortgage industry. F. D. Richards. Comm & Fin Chr 173:1433+ Ap 5 '51

Housing activities of the federal government. map Am Bld 73:sup6-9 S '51

Loans insured by Federal housing administration, yearly 1941-1949 and monthly Nov. 1949-Nov. 1950. Fed Res Bul 37:83 Ja '51 [cont monthly]

What about the FHA? M. Palyi. Comm & Fin Chr 174:419 Ag 2 '51

Insured mortgage plan

FHA housing and mortgage developments. F. D. Richards. Comm & Fin Chr 173:2047+ My 17 '51

Insured FHA home mortgages (Title II) held in portfolio, by class of institution, yearly Dec. 1936-Dec. 1944 and June and December 1945-1949. Fed Res Bul 37:83 Ja '51 [cont monthly]

FEDERAL national mortgage association

Fanny May has $350-million to buy up mortgages on new homes. Bsns W p 100 Ag 4 '51

Housing activities of the federal government. Am Bld 73:sup 13-14 S '51

FEDERAL power commission

Can FPC control gas wells? decision in Phillips case. il Bsns W p40-1 Jl 21 '51

Draper career measures FPC progress; abstract. C. W. Smith. Pub Util 47:249-50 F 15 '51

Federal and state regulation; the proper scope of each. T. C. Buchanan. Pub Util 46:620-32 O 26 '50

Federal family fight for power over power. R. Tucker. Pub Util 48:267-74, 347-54 Ag 30-S 13 '51

FPC announces no jurisdiction over Phillips Petroleum. Am Gas J 175:26+ Ag '51

FPC disclaimer in Phillips controversy may not be permanent policy. J. E. Finley. il Am Gas J 175:10-11+ S '51

Federal power commission has jurisdiction over out-of-state energy notwithstanding voltage change. Pub Util 48:257-8 Ag 16 '51

FPC regulatory relations with the electric and gas utilities. N. L. Smith. Pub Util 47:42-3+ Ja 4 '51

Lukewarm FPC appeal? Pub Util 47:849-50 Je 21 '51

Roanoke goes to court; Interior department's cause célèbre against hydroelectric jurisdiction. Pub Util 48:429-30 S 27 '51

WRPC on FPC hydro licenses. Pub Util 47:117-18 Ja 18 '51

FEDERAL reserve banks

Appointments of chairmen, deputy chairmen, and directors. Fed Res Bul 37:35-8 Ja '51

Banks fight the Fed; competition to give service to out-of-town banks. Bsns W p 112 D 16 '50

Classification of reserve cities. Fed Res Bul 37:274 Mr '51

Federal Reserve reduces period of credit deferment on checks deposited for collection. Credit & Fin Management 53:28-9 F '51

Simpler money orders; Federal reserve banks will pay off. il Bsns W p96 Je 30 '51

Directors

Directors of Federal reserve banks and branches. Fed Res Bul 37:134-47 F '51

Earnings

See also
Federal reserve banks—Statistics

Member banks

Member bank earnings, first half of 1950; with comparisons, 1946-1950. Fed Res Bul 36:1467-9, 1540 N '50

Member bank earnings, 1950; with comparisons. P. F. Smith. Fed Res Bul 37:501-4, 574-85 My '51

Member bank operating ratios, 1950. Fed Res Bul 37:1025-7 Ag '51

Reserves; cash collateral accounts; ruling by Board of governors. Fed Res Bul 37:1135-6 S '51

Par collection of checks

Par clearance score sheet. Credit & Fin Management 53:22 Ap '51

Statistics

Earnings and expenses of Federal reserve banks during 1950. Fed Res Bul 37:226-7 F '51

Member bank earnings, first half of 1950; with comparisons, 1946-1950. Fed Res Bul 36:1467-9, 1540 N '50

FEDERAL reserve board

Calm in FRB; Martin, new chairman. Bsns W p26 Mr 24 '51

Resignation of Mr Eccles. Fed Res Bul 37:814 Jl '51

Suggested reorganization of monetary policy formation. D. A. Fergusson. bibliog J Bsns 24:25-42 Ja '51

Treasury-Federal Reserve relationship. W. M. Martin. Banking 44:49 S '51

What's the matter with the bankers? Fortune 42:69-70 N '50

Young Turk in an old job; Federal reserve board head, William McChesney Martin. Bsns W p56+ Je 2 '51

Credit policy

America's uneasy money. Economist 159:1043+ D 9 '50

Anti-inflation battle report. M. S. Szymczak. Comm & Fin Chr 172:1989+ N 23 '50

Business loans will be harder to get. Bsns W p 19-20 Mr 17 '51

Changed credit policies. M. Nadler. Comm & Fin Chr 173:2248 My 31 '51

Controversy over Federal Reserve policy. M. Shields. Comm & Fin Chr 172:1988 N 23 '50

Credit curbs; price freeze delay may give them day in court. R. M. Bleiberg. Barron's 31:5 Ja 15 '51

Credit problem; a new attack. Bsns W p26 Mr 10 '51

Curbs on credit. Nat City Bank p5-9 Ja '51

Fallacies of price and credit controls. E. A. Dauer. Comm & Fin Chr 173:1023+ Mr 8 '51

Federal Reserve action under the Defense production act of 1950; instalment credit, defense loans, real estate construction credit. Fed Res Bul 36:1281-6 O '50

FRB can still tighten strings; status of government bond market. Bsns W p88-9 Ja 13 '51

Federal Reserve monetary policy; abstract. M. S. Szymczak. Banking 43:72 O '50

Federal Reserve should exercise its statutory powers. J. C. Morrison. Comm & Fin Chr 173:836 F 22 '51

Financial shadow-boxing. M. Palyi. Comm & Fin Chr 172:13+ sec 2 O 19 '50

Government bond market under new Federal Reserve policy. R. P. Brown. Comm & Fin Chr 173:2664+ Je 28 '51

Government's money manufacturing policy; independence of F.R.B. at stake. E. A. Krauss. Mag of Wall St 87:592-4, 642+ Mr 10 '51

How credit controls are working. Bsns W p 19-20 D 2 '50

How Federal Reserve can contract credit. W. E. Spahr. Comm & Fin Chr 174:183 Jl 12 '51

Martin appointment; he inherits cheap money. K. Bloch. Barron's 31:6 Mr 19 '51

New phase in interest rate policy. J. S. Williams. Mag of Wall St 88:14-15+ Ap 7 '51

FEDERAL reserve board—Credit policy—*Cont.*
- New policy twist; Federal Reserve eases credit. Bsns W p 150+ O 6 '51
- No likelihood of drastic credit controls. M. Nadler. Comm & Fin Chr 174:1071 S 20 '51
- Recent developments in policy. R. L. Reierson. Comm & Fin Chr 174:595+ Ag 16 '51
- Role of credit control in a defense economy. W. M. Martin. Comm & Fin Chr 173:2051+ My 17 '51; Same. Fed Res Bul 37:490-4 My '51
- Role of monetary policy in inflation control. J. F. Weston. Comm & Fin Chr 174:243+ Jl 19 '51
- Stock market timing based on credit controls. D. W. Matthews. Comm & Fin Chr 173:2665+ Je 28 '51
- Study on credit to be made by Treasury, FRB, CEA, and ODM heads. Bsns W p25 Mr 3 '51
- Tough federal credit policy seen at an end. D. H. Stevens. Barron's 31:15 Ag 27 '51
- Treasury-Federal Reserve dispute. A. G. Lanston. Comm & Fin Chr 173:730+ F 15 '51
- Treasury-Federal Reserve rift. A. G. Lanston. Comm & Fin Chr 172:1602-3 O 26 '50
- Treasury wins interest-rate feud. Bsns W p24-5 F 10 '51
- Urges businessmen watch Reserve policy. I. Wright. Comm & Fin Chr 173:2157 My 24 '51
- Victory for FRB in fight with Treasury to push interest rates up. Bsns W p116-17 N 11 '50

FEDERAL reserve system
- Advisory council in the Federal reserve system. F. A. Potts. Comm & Fin Chr 172:2286-7 D 14 '50
- Controversy over monetary policy. S. E. Harris and others. R Econ & Stat 33:179-200 Ag '51
- Craftsman plays king; review of American monetary policy, by E. A. Goldenweiser. Bsns W p65-6 Ag 4 '51
- Federal reserve; decentralized central banking; ABC of what's behind some key statistics. il Bsns W p 100-2+ S 22 '51
- Our Federal reserve system. W. M. Martin, jr. Comm & Fin Chr 174:1375 O 11 '51
- Revival of monetary policy; review of Goldenweiser and Bach books and Douglas report. R. V. Rosa. R Econ & Stat 33:29-37 F '51
- Role of Federal reserve system in wartime. T. B. McCabe. Comm & Fin Chr 173:526+ F 1 '51

FEDERAL savings and loan associations
- Chicago broker fights for federal ruling against coercion in placement of insurance on mortgaged property. Nat Underw 54:2+ D 14 '50
- Court holds bank may not attack validity of association's branch; North Arlington national bank v. Kearny federal savings and loan association. Banking 43:78 Ja '51

FEDERAL savings and loan insurance corporation
- Housing activities of the federal government. Am Bld 73:sup 11 S '51

FEDERAL telecommunications laboratories. See Radio laboratories

FEDERAL tort claims act. See Government liability

FEDERAL trade commission
- Book trade hits new trouble; with FTC. il Bsns W p47-8+ Jl 28 '51
- FTC amends rules of practice to speed settlement of litigation. Oil Paint & Drug Rep 160:5 Jl 9 '51
- Federal trade commission indicts itself; Report on interlocking directorates. M. T. Copeland. Harvard Bsns R 29:25-34 S '51
- FTC's battle against PMs. G. H. Weil. Ptr Ink 236:42 Jl 13 '51
- FTC's search for a new role. L. B. Mason. il Standardization 22:5-8 Ja '51
- Justified bigness; FTC's new concept. Bsns W p75 D 23 '50
- Will the courts tighten the reins on FTC? G. H. Weil. Ptr Ink 235:42+ Je 8 '51

FEDERATION for railway progress
- Annual meeting, 4th, Chicago, May 24. Ry Age 130:53 Je 4 '51

FEDERATION of American societies for experimental biology
- Annual meeting, Cleveland, April 29-May 3; with abstracts of papers. Chem & Eng N 29:1940-2 My 14 '51
- Annual meeting, 35th, Cleveland, April 29-May 3. Science 113:668 Je 8 '51

FEDERATION of British industries
- Annual meeting, 11th, London, April 11. Chem & Ind p301 Ap 21 '51

FEDERATION of British rubber manufacturers' associations
- How FBRMA helps the rubber industry. T. H. Redfern. India Rubber World 124:734+ S '51

FEDERATION of insurance counsel
- Annual meeting, Chicago, Aug. 25-27. Nat Underw 55:14 Ag 30 '51; Nat Underw (Life ed) 55:2 Ag 31 '51

FEDERATION of mutual fire insurance companies
- Annual convention, Boston. Nat Underw 54:4+ N 2 '50
- Annual meeting, Detroit. Nat Underw 55:1+ O 4 '51

FEDERATION of paint and varnish production clubs
- Annual convention, 28th, Chicago, Nov. 9-11. Paint Oil & Chem R 113:26-32 N 23 '50
- Annual meeting, 28th, Chicago, Nov. 8-11. Oil Paint & Drug Rep 158:77-84 N 13 '50
- Spring meeting, Detroit, May 26. Oil Paint & Drug Rep 159:5+ Je 4 '51

FEDERATION of sewage and industrial wastes associations
- Annual year book and directory, 1951. Sewage & Ind Wastes 23:335-430 Mr '51

FEDERATION of sewage works associations (name changed to Federation of sewage and industrial wastes associations)
- Annual meeting, 23d, Washington, Oct. 9-12; with abstracts of papers. Water & Sewage Works 97:485-90; 98:34-43 D '50-Ja '51

FEDERATION of technical engineers, architects and draftsmen's unions, International. See International federation of technical engineers, architects and draftsmen's unions

FEED mechanisms
- Air feed equips screw machine for long bars. J. Starr. il diag Am Mach 94:95 O 30 '50
- Attachment for automatically loading buttons in screw machine. C. W. Johnson. diags Mach 57:197 Ja '51
- Automatic feed mechanism with quick return motion. B. Spector. diags Mach 57:192-4 D '50
- Cam feed drilling; Herbert all-electric machines. il Automobile Eng 41:336 S '51; Engineer 192:162 Ag 3 '51; Engineering 172:205 Ag 17 '51
- Designing hopper feeds for square and hexagonal nuts. J. R. Paquin. diags Mach 57:158-62 Mr '51
- Elements of automatic stock feeds. A. E. Rylander. il diags Tool Eng 26:51-8 Ja '51
- Loading devices for gear finishing machines. il diag Engineer 191:235-6 F 16 '51
- Output doubled by improving drill press feed setup. F. M. Butrick, jr. diags Steel 129:87+ S 17 '51
- Sheets fed automatically on folder. il Machine Design 23:133 F '51
- Sorters and feeders; reference book sheet. W. Schwartz. diags Am Mach 95:175+ F 19; 139+ Mr 5 '51
- Table feed mechanism designed to eliminate manual re-engagement. diag Mach 57:188 N '50

FEED water
- De-oiling condensate for boiler feedwater. W. A. Smith and F. L. Horine. il Power Eng 55:62-3 Ap '51
- Keep contaminated condensate out of your boilers. diag Power Eng 55:84-5 Ag '51
- Meaning, application and measurement of pH. Power Eng 55:84-5 Jl '51
- Preparation of distilled water as boiler feed water. C. H. Allen. il diags Chem & Ind p772-4 S 15 '51
- Prevention of embrittlement cracking. A. A. Berk. bibliog A S M E Trans 73:859-62; Discussion. 862-4 O '51

FEED water—*Continued*

Solubility of quartz and some other substances in superheated steam at high pressures. G. W. Morey and J. M. Hesselgesser. bibliog diags A S M E Trans 73: 865-72; Discussion. 872-5 O '51

See also

Feed water purification

Testing

Estimation of dissolved oxygen in de-aerated water. J. Arnott and others. il diag Engineering 169:553-5 My 19 '50; Abstract. Power 95:78-9+ S '51

Quick test determines dissolved solids. R. S. Robertson and M. F. Nielsen. il Power 95: 87+ F '51

FEED water heaters

How can I vent shell-and-tube heaters? diags Power 95:134-5 Ap '51

Simple test finds faulty operation of deaerating feedwater heater. M. L. Oliver. Chem Eng 58:176-7 S '51

Water circulation stops heater leaks. J. E. Bolivar. diag Power 95:130 Ag '51

FEED water heating

Boiler feed water preheating at Terminal island. il Pet Refiner 30:94-5 Ag '51

FEED water purification

Boiler-water-treatment manual for federal-plant operators. L. Goldman. diags U S Bur Mines Handbook 5:1-94; pa 30c Supt. of doc. '51

Chemical feeding, direct to boilers. S. T. Powell. diags Power 95:76-7 Jl '51

How to cut costs in deionization. F. H. Kahler and W. S. Morrison. il Chem Eng 58:175-6 My '51

New hot lime-zeolite process. S. B. Applebaum and others. flow diag diag Power 95: 114-17 F; 110-13+ Mr '51

Power handbook; feedwater treatment. J. C. McCabe, comp. diag Power 95:82-5 Jl '51

Preparing water for evaporator feed. R. I. Smith and J. R. Denton. il diag Power 95:80-3 Ag '51

Proper chemical feed gets results. S. T. Powell. diags Power 95:78-9 Je '51

Review of new plant equipment; water treatment equipment and supplies. il Power 95: 171-3 Mid-Je '51

Silica removal with highly basic anion exchange resins. R. Osmun and L. Wirth, jr. Ind & Eng Chem 43:1076-9 My '51

Treatment of feedwater for locomotive steam heat boilers; report of Master boilermakers' association. Ry Mech & Elec Eng 124:664-5 N '50

Using and misusing organic water conditioning materials. R. W. Liddell and L. C. Bishop. il Power Eng 55:70-3 Ag '51; Same abr. Blast F & Steel Pl 39:1110-13, 1242-4 S-O '51 (to be cont)

Water treatment and fuel saving. A. G. Tompkins. Ry Mech & Elec Eng 124:685-6 N '50

FEEDBACK. See Amplifiers, Vacuum tube

FEEDBACK phenomena

Homeostasis in the individual and society. N. Wiener. Franklin Inst J 251:65-8 Ja '51

FEEDERS

Acoustic mill-feed controller. Electronics 24: 136+ Jl '51

Dry chemical feeder; Paterson engineering co. il Chem Age (Lond) 65:262 Ag 25 '51

Dry chemical feeders. il Metallurgia 43:302-3 Je '51

Feed controller for pulverised fuel mills. il Engineer 191:427-8 Mr 30 '51; Elec R (Lond) 148:973 My 11 '51; Electrician 146: 972-3 Mr 23 '51

Morgantown fluidized feeder. J. H. Holden and C. W. Albright. il diags Am Gas Assn Proc 1950:493-500

Omega's new Chemizer features continuous stream feeding. il Munic Util 89:24 S '51

Pressure drop in flow of dense coal-air mixtures. C. W. Albright and others. bibliog diag Ind & Eng Chem 43:1837-40 Ag '51

Pressure feeder for powdered coal or other finely divided solids. K. R. Barker and others. il diag Ind & Eng Chem 43:1204-9 My '51

Proper chemical feed gets results. S. T. Powell. diags Power 95:78-9 Je '51

FEEDING and feeding stuffs

Battle Creek sewage plant produces new product. R. R. McIntosh. il Water & Sewage Works 98:413-15 O '51

Biosynthesis of riboflavin, L. bulgaricus factor, and other growth factors; laboratory and pilot plant studies of biosynthesis by A. gossypii cultivated on grain stillage media. K. L. Smiley and others. bibliog Ind & Eng Chem 43:1380-4 Je '51

Growing importance of credit; feed industry problem. T. W. Staley. Credit & Fin Management 53:17-18 F '51

Iodinated proteins and thyroxine in animal husbandry; abstract and discussion. K. L. Blaxter. Chem & Ind p69-70 Ja 27 '51

More meat in 1951; livestock, feed price ratios. Survey of Cur Bsns 31:8+ Je '51

Pigmobiles and silo signs teach communications; Honeggers' & co. il Ind Marketing 35:62+ D '50

Restyling byproducts will add new income; greater utilization of bagasse and blackstrap by newly developed method. il diags Food Eng 23:144-5 Ag '51

Sawdust made available for cattle fodder by cathode rays. Elec Eng 70:653 Jl '51

Stability of carotene and vitamin A in dry mixtures. M. E. Wall and E. G. Kelley. bibliog Ind & Eng Chem 43:1146-50 My '51

Stability of carotene in alfalfa; effect of feed ingredients. H. L. Mitchell and R. E. Silker. bibliog Ind & Eng Chem 42:2325-7 N '50

Treatment of distillery wastes. C. T. Carson. flow diags il Munic Util 88:66-9+ S '50; Same. Water & Sewage Works 98:312-17 Jl '51

Try this Bikini on your salesmen; real explosion drives home slogan to Allied Mills salesmen and dealers. J. L. Richardson. il Ptr Ink 235:42-3 Ap 20 '51

Wonder drugs snag new laurels; antibiotic feed supplements. il Chem Ind W 68:19-20 Ap 7 '51

See also

Hay

Poultry—Feeding

Advertising

Consistent and conventional, this small-space program pays off; Corn king co. sells specialty feed and medicinal livestock products. H. E. Green. il Ptr Ink 236:40+ Ag 17 '51

FEES

See also

Accountants, Public—Fees

Trust fees

FEINSINGER, Nathan Paul, 1902-

Mapping policy in disputes; WSB chairman. por Bsns W p30 O 6 '51

New men take reins of Wage stabilization board. por Bsns W p32 Ag 18 '51

FELDSPAR

Crystal chemistry in ceramics; sheet structure minerals and the feldspars. W. E. Hauth, jr. diags Am Cer Soc Bul 30:137-9 Ap 15 '51

Gem varieties of Canadian feldspar. D. S. M. Field. il Can Min J 72:73-4 Ag '51

High-temperature modification of barium feldspar. B. Yoshiki and K. Matsumoto. il Am Cer Soc J 34:283-6 S 1 '51

See also

Albite

FELLOWS, Harold E.

Director of National association of radio and television broadcasters. H. Woodward. por Sales Management 66:40 My 1 '51

NARTB's president-elect. por Ptr Ink 235: 74 Ap 27 '51

FELT

New mechanical felt standards. Automotive Ind 103:68+ D 1 '50

What is felt good for? applications to industrial products. il Mill & Factory 48:117-20 Mr '51

Manufacture

Hardening process used in felt manufacture; factors influencing hardening. R. S. M. Frohnsdorff and C. S. Whewell. diag Soc Dyers & Col J 67:142-8 Ap '51

FELT, Paper

Coarse papers; roofing and flooring felts. L. J. Tarbell. Paper Tr J 131:308-10 N 30 '50

Ruberoids newest roofing felt mill. J. V. Edge. il Paper Tr J 132:34+ Ap 13 '51

FELT, Roofing

Coarse papers; roofing and flooring felts. L. J. Tarbell. Paper Tr J 131:308-10 N 30 '50

Ruberoids newest roofing felt mill. J. V. Edge. il Paper Tr J 132:34+ Ap 13 '51

FELT waste

Waste felt scrap generates nearly cost-free steam. F. C. Messaros. diag Power Eng 55: 115-16 F '51

FELTS (paper making)

Conservation of paper machine felts. L. M. Woodside. Paper Tr J 133:26+ S 21 '51

Conservation of paper machine felts; effect of operating conditions. N. J. Larsen. Paper Tr J 133:20-1 S 28 '51

Our wool problem. Paper Tr J 132:13 F 9 '51

Paper machine felts, their influence on papermaking problems. L. M. Woodside. Tappi 34:sup 115A-16A Je '51

Why don't your wet felts last longer? degradation of wool. B. F. Shema. il Paper Ind 33:400-3 Jl '51

Cleaning

Maintenance of felt conditioners. B. D. Warren. il diags Paper Tr J 132:28+ My 11 '51

FENCE posts, Concrete

Lightweight concrete fenceposts. K. C. Bellows. Eng N 146:34 F 22 '51

FENCES

Garden fences; better detail plate. K. R. O'Neal. il diags Am Bld 73:128-9 Mr '51

FENCES, Electrified

Electric fences; their hazards, types, regulations, and safe application. C. F. Dalziel. Elec Eng 70:298 Ap '51

FENCHYLAMINE

Preparation and resolution of DL-α-fenchylamine. A. W. Ingersoll and H. D. DeWitt. Am Chem Soc J 73:3360-2 Jl '51

FENDERS, Dock

British oil dock incorporates unusual fenders, foundations. il Eng N 146:42 My 24 '51

Persian Gulf port berthing arrangements: jetty equipped with a gravity pattern fender. il diags Engineer 191:189 F 9 '51

FENESTRATION. See Windows

FENS (district) England

Draining the Fens; gradual change-over to electric pumping. il map Elec R (Lond) 148:421-5 Mr 2 '51

FERGUSON, Malcolm P. 1896-

Bendix, an arsenal again. por(cover) Bsns W p38+ Mr 10 '51

FERMENTATION

Chemical engineering unit processes fourth annual review. S. B. Lee. il Ind & Eng Chem 43:1948-69 bibliog(414 ref, p 1965-9) S '51

Fermentation to ethanol of concentrated calcium, magnesium, and ammonium sulphite waste liquors. H. D. Agar and J. L. McCarthy. bibliog diag Tappi 34:126-31 Mr '51

Microbial metabolism; fermentation processes; A.C.S. Division of agriculture and food chemistry. Chem & Eng N 29:3810 S 17 '51

Streptomycin and mannosidostreptomycin in fermentation broths; ion exchange resin separation and spectrophotometric determination. C. V. St John, D. E. Flick and J. B. Tepe. bibliog Anal Chem 23:1289-91 S '51

Thermophilic fermentation of cellulosic and lignocellulosic materials. G. J. Hajny, C. H. Gardner and G. J. Ritter. bibliog Ind & Eng Chem 43:1384-9 Je '51

Use of C^{14} in mechanism studies of methane fermentation; propionic acid. A. M. Buswell and others. bibliog Am Chem Soc J 73:1809-11 Ap '51

See also

Bacteriology	Wine—Manufacture
Enzymes	Yeasts

History

Fermentation; progress in 75 years. C. S. Boruff and J. M. Van Lanen. il Ind & Eng Chem 43:574-6 Mr '51

FERMI-THOMAS-DIRAC equation

Solutions of the Fermi-Thomas-Dirac equation. N. Metropolis and J. R. Reitz. J Chem Phys 19:555-73 My '51

FERNS

Fern prothallia under cultivation for twelve years. R. L. Walp. Science 113:128-9 F 2 '51

Frozen ferns; ceilings allow no seasonal variations in prices paid to pickers. Bsns W p32 Mr 24 '51

FERRATES

Ferromagnetic resonance in various ferrites. W. A. Yager and others. bibliog Phys R 81:477-8 F 1 '51

Stability of the ferrate(VI) ion in aqueous solution. J. M. Schreyer and L. T. Ockerman. bibliog Anal Chem 23:1312-14 S '51

FERRITE. See Iron—Metallography; Iron oxides

FERRITES. See Ferrates

FERRO enamel corporation

Security I like best. W. A. Casey. Comm & Fin Chr 173:1122 Mr 15 '51

FERROALLOYS

Electromet announces 200 per cent increase in ferro-alloy capacity. il Blast F & Steel Pl 39:1099 S '51

Ferro-alloy metals, 1950. Eng & Min J 152: 95-7 F '51

More plant for more alloys for more steel; ferroalloy plant at Marietta. il Bsns W p66-8+ O 6 '51

See also

Iron alloys

Statistics

Steel ingot and castings, pig iron and ferroalloys output by countries, 1943-1950; tabulations. Steel 128:120-1 Ja 1 '51

FERROCHROMIUM

Tearline patterns in ferrochromium. C. A. Zapffe and F. K. Landgraf. il J Ap Phys 21:1197-8 N '50

FERROELECTRIC effect

Antiferroelectric structure of lead zirconate. E. Sawaguchi and others. bibliog diag Phys R 83:1078 S 1 '51

Dielectric properties of sodium and potassium niobates. B. T. Matthias and J. P. Remeika. il Phys R 82:727-9 Je 1 '51

Ferroelectric Curie point of tungsten oxide. S. Sawada and others. Phys R 82:952-3 Je 15 '51

Ferroelectricity. B. T. Matthias. bibliog il diag Science 113:591-6 My 25 '51

Lithium ammonium tartrate monohydrate, a new ferroelectric crystal. W. J. Merz. Phys R 82:562-3 My 15 '51

New ferroelectric tartrates. B. T. Matthias and J. K. Hulm. bibliog Phys R 82:108-9 Ap 1 '51

Theory of antiferroelectric crystals. C. Kittel. bibliog Phys R 82:729-32 Je 1 '51

See also

Barium titanate

FERROIN

Determination of mercury and bromides with 1,10-phenanthroline ferrous sulfate. M. E. Hall and G. M. Smith. bibliog Anal Chem 23:1181-3 Ag '51

Experiment on the determination of formal oxidation potentials. A. E. Harvey, jr. and D. L. Manning. J Chem Educ 28:527-8 O '51

FERROMANGANESE

Cleaning ferromanganese blast furnace gas. C. A. Bishop and others. diag Iron & Steel Eng 28:134-6 Ag '51

Ferromanganese shipments; 1931-1950; tabulation. Iron Age 167:321 Ja 4 '51

Prices

Ferromanganese, 80 per cent; 1929-1950; tabulation. Iron Age 167:320 Ja 4 '51

FERROSILICON

Comparative results with galena and ferrosilicon at Mascot. D. B. Grove and others. flow sheets il diags Min Eng 3:Trans 691-8 Ag '51; Discussion. 3:Trans 986-7 N '51

Ferrosilicon imports for consumption, 1933-1950; ferrosilicon production, 1934-1950; tabulations. Iron Age 167:321 Ja 4 '51

Prices

50 per cent ferrosilicon; 1929-1950; tabulation. Iron Age 167:320 Ja 4 '51

FERROTUNGSTEN

Analysis

Determination of tin in ferro-tungsten and tungsten metal. Iron & Steel Inst J 168: 51-6 My '51

FERRY terminals

Staten Island commuters get new ferry terminal. il Bsns W p 106 Je 23 '51

FERRYBOATS

New pilot boat for Tampa bay. il Marine Eng 56:68-9 My '51

Side-loading ferryboat Saint Charles. il plans diag Marine Eng 56:57-9 O '51

Staten Island express ferryboat. il plans diags Marine Eng 56:44-54 Ap '51

See also

Train ferries

FERTILIZATION (biology)

Fertilization in mammals. G. Pincus. il Sci Am 184:44-7 Mr '51

Fertilization of the egg. A. Monroy. il diags Sci Am 183:46-9 D '50

FERTILIZATION of plants

Fertilization of flowers. V. Grant. il Sci Am 184:52-6 Je '51

Studies on pollination of hevea brasiliensis in Puerto Rico. H. E. Warmke. bibliog Science 113:646-8 Je 8 '51

FERTILIZER association, National. See National fertilizer association

FERTILIZER factories

Britain's £4,500,000 superphosphate factory; a visit to the Immingham works of Fisons, ltd. il Chem & Ind p330-1 Ap 28 '51; flow diag Chem Age (Lond) 64:701-4 My 5 '51

Improved fertilizer plant design produces more than twice as much calcium metaphosphate. L. D. Yates and others. bibliog il diag Chem Eng 58:135-7 Je '51

Employees

75-cent minimum wage; effects on fertilizer industry. L. E. Lewis. Mo Labor R 72:33-7 Ja '51

Equipment

Factory for the production of single and triple superphosphates; Fisons, ltd. il diag Engineering 171:526-7, 560-1, 592-3 My 4-18 '51; Engineer 191:609-13 My 11 '51

New fertilizer factory; Fisons, ltd. flow diag il Elec R (Lond) 148:913-17 My 4 '51

Safety measures

Safety program for fertilizer industry. Safety Maint & Prod 102:30-1 Ag '51

Waste

Odor elimination process is simple, ingenious steam cooking animal wastes. J. V. Hightower. il diag Chem Eng 58:116 Je '51

FERTILIZER industry

Co-ops set high sales goal. il Chem Ind W 68:14-15 F 10 '51

Fertilizer use tied to farm prices; C&EN annual review. F. S. Lodge. Chem & Eng N 29:38-9 Ja 1 '51

Fertilizer world output seen at 13,997,000 tons in 1951-52. Oil Paint & Drug Rep 160:4 S 17 '51

Near-war economy puts fertilizers in focal position. H. Murphy. Barron's 31:9-10 F 5 '51

Runaway market for fertilizers. Bsns W p38+ S 8 '51

Superphosphate fertilizer supply seen periled by sulphur exports. Oil Paint & Drug Rep 158:3+ N 13 '50

See also

American plant food council

Lime as fertilizer

National fertilizer association

Advertising

See also

Lime as fertilizer—Advertising

Statistics

Agricultural chemicals. Published in weekly numbers of Oil, paint and drug reporter

Commonwealth survey of fertilisers. Chem Age (Lond) 63:671-2 N 11 '50

Fertilizer world output sets record in 1949-50; tabulation by countries. Oil Paint & Drug Rep 159:5 Ja 22 '51

Great Britain

Fears about fertilisers. Economist 159:1016-18 D 9 '50

Fertilisers in 1950. D. P. Hopkins. Chem Age (Lond) 64:73-5 Ja 13 '51

India

India's fertilizer requirements and production capacity. For Comm W 41:21 D 4 '50

FERTILIZER research

NFA reveals pact with TVA on fertilizer research project. Oil Paint & Drug Rep 159:5 Je 18 '51

FERTILIZERS

A.C.S. Division of fertilizer chemistry jubilee meeting, New York. Chem & Eng N 29: 3824-5 S 17 '51

American plant food council discusses fertilizer contribution to living at 6th annual meeting, Hot Springs, Va. June 14-17. Oil Paint & Drug Rep 159:5+ Je 25 '51

Effect of fluorine carriers on crops and drainage waters. W. H. MacIntire and others. bibliog Ind & Eng Chem 43:1797-9 Ag '51

Fertilizer research by TVA reported. Oil Paint & Drug Rep 159:3+ Ja 8 '51

Fertilizer supply seen lower due to sulphur. C. F. Brannan. Oil Paint & Drug Rep 160:4+ S 24 '51

Geigered hay. il Chem Ind W 68:9-10 Mr 10 '51

Importance of soil sampling, testing; abstract. B. R. Bertramson. Chem & Eng N 29:3004 Jl 23 '51

Insecticide-fertilizer producers told to market mixtures slowly. Oil Paint & Drug Rep 158: 3+ O 16 '50

Nitrogen, potash supply improves as sulfur remains serious. Chem & Eng N 29:2744-5 Jl 2 '51

Plant nutrients important in meeting food quotas; American plant food council discussion. Chem & Eng N 29:2740-1 Jl 2 '51

Preparation and properties of urea-form. K. G. Clark and others. bibliog Ind & Eng Chem 43:871-5 Ap '51

Problem of radiation damage when radioactive phosphorus is used in fertiliser experiments. R. S. Russell. Chem Soc J supp no 2:S416 '49

Salt as a fertiliser. Chem Age (Lond) 64:301-4 F 24 '51

Sawdust as fertilizer. Dun's R 59:52 S '51

Some aspects of the United nations conference on the conservation of natural resources. W. Ogg. Chem & Ind p679-80 Ag 11 '51

Study of fertiliser uptake using radio-phosphorus. J. W. T. Spinks and G. Dion. Chem Soc J supp no 2:S410-15 '49

Sulfur outlook; hearings on fertilizers. il Chem Ind W 68:32 Mr 3; 26-7 Mr 10 '51

Sulphur, sulphuric acid export and waste investigation urged by fertilizer investigating subcommittee of the House. Oil Paint & Drug Rep 159:3+ Mr 5 '51

Tracer studies with phosphate fertilizers. H. G. Dion and others. bibliog Can Chem & Process Ind 34:905-9 N '50

US warned to act on fertilizer supply to insure '51 food crops. Oil Paint & Drug Rep 159:3+ F 26 '51

World production of fertilisers. Chem Age (Lond) 63:901-3 D 30 '50

See also

Ammonium sulfate

Calcium cyanamide

Lime as fertilizer

Phosphates

Refuse as fertilizer

Sewage sludge as fertilizer

Analysis

Analysis of phosphate fertilizers. E. M. Crowther. bibliog Chem & Ind p763-6 D 2 '50

Determination of available phosphoric acid. J. H. Hamence and G. Taylor. Chem & Ind p799-801 D 16 '50

Manufacture

Compound fertilizers from rock phosphate, nitric and phosphoric acids, and ammonia. E. C. Houston, T. P. Hignett and R. E. Dunn. flow diag diag Ind & Eng Chem 43:2413-18 O '51

Fertilizer chemistry. F. S. Lodge. bibliog il Ind & Eng Chem 43:311-14 F '51

FERTILIZERS—Manufacture—*Continued*

Fertilizer from petroleum. G. W. McCullough and others. flow diags map Pet Processing 6:380-7 Ap '51

Fertiliser manufacture; further research on sulphurless processes. F. M. Reynolds. Chem Age (Lond) 64:585-7 Ap 21 '51

Fertiliser manufacture; the nitric acid treatment of phosphate rock. M. H. R. J. Plusjè. diags Chem Age (Lond) 64:309-10 F 24 '51

Nitric acidulation of rock phosphate. T. P. Hignett. Chem Eng 58:166-9 My '51

See also

Phosphates—Manufacture

Prices

Agricultural chemicals; 1950 market trends. Oil Paint & Drug Rep 159:43-4 sec 2 Ja 29 '51

FESTIVAL of Britain. See Exhibitions—Great Britain

FEULGEN reaction

Deoxy-sugars; some observations on the Feulgen nucleal reaction. W. G. Overend. Chem Soc J p2769-74 O '50

FEVER

See also

Malaria
Q fever
Relapsing fever
Typhoid fever
Typhus fever

FEW, Benjamin F.

Portrait. Sales Management 66:44 F 15 '51

FIBER board

Fiberboard studies; abstract. G. Centola and F. Pancirolli. Paper Ind 32:1202 F '51

Fibre building boards; their manufacture, properties and uses; abstract and discussion. H. Rose. Chem & Ind p372 My 12 '51

Hardboard for commercial building; types; where and how to use; how to finish. il diags Am Bld 73:124-30 Jl '51

Quick new interiors with insulation board. il diags Am Bld 72:90-3 N '50

Refrigerated strawberry cases; fibreboard container with dry ice for shipments in planes. W. R. Barger. il diags Mod Packaging 24:125-6+ N '50

Rigid insulating sheathing eliminates need for diagonal corner bracing; Bildrite processed fiber board. il diag Arch Forum 94:198 F '51

Some new European boards made from wood waste. J. Risi. Pulp & Pa of Can 52:82-4 Ja '51

See also

Wall board

Manufacture

Effect of molding temperature on the strength and dimensional stability of hardboards from fiberized water-soaked Douglas-fir chips. S. L. Schwartz and P. K. Baird. bibliog Paper Tr J 132:20+ Ap 27 '51

Fibreboards; their manufacture and uses. D. W. Eipper. Pulp & Pa of Can 52:80-1 Ja '51

Hardboard from wood. E. Farber. bibliog il Paper Tr J 132:22+ My 4 '51

Insulating board from Douglas fir and alder. S. L. Schwartz. Paper Ind 32:974-6 D '50

Production of insulating fibreboard from western red cedar shingle mill waste. F. W. King and F. Bender. il Pulp & Pa of Can 52:75-9 Ja '51

Structural board by the mile made by new continuous and economical process; Celloboard. il diag Mod Plastics 29:80-2 S '51

Testing

Effects of machine head speed and specimen span on modulus of rupture values obtained in static bending tests of a nominal 5/32-inch Douglas-fir hardboard. H. Wilcox. bibliog Tappi 34:314-16 Jl '51

Standard drainage time of pulp for insulating board. diag Tappi 34:sup 120A-2A Jl '51

FIBER pipes. See Pipes, Fiber

FIBER V. See Textile fibers, Synthetic

FIBERGLAS. See Glass fibers

FIBERGLAS fabrics. See Glass fabrics

FIBERS

Basic media and fibre study in filter development. J. A. Plummer. il diags Diesel Power 29:78-80 Ja '51

Ceiling muddle halts imports of hard fiber. Barron's 31:18 F 12 '51

Chemical engineering materials of construction. C. S. Grove, jr., J. L. Vodonik and R. S. Casey. bibliog(70 ref) il Ind & Eng Chem 43:2235-8 O '51

Effect of additives on multi-fiber dispersions. E. F. Thode and others. bibliog Paper Tr J 133:20+ S 21 '51

Effect of structure on the fiber properties of linear polymers; the orientation of side chains. J. H. Brewster. bibliog Am Chem Soc J 73:366-70 Ja '51

Fiber-to-fiber bonding. L. V. Forman. bibliog Tappi 33:444-50 S '50; Same. Pulp & Pa of Can 51:109-14+ S '50

Models for the dynamic properties of paper. R. E. Hurley. diags Tappi 34:390-5 S '51

New synthetic fibers show promise of wide use in industry. K. Rose. il Materials & Methods 34:76-9 Ag '51

Optical projection method for measuring fiber length. T. Fyfe. bibliog il Tappi 34:306-10 Jl '51

Output of and trade in hard-fiber products, Japan; Jan.-Sept. 1950. For Comm W 42:27 Ja 1 '51

Redwood bark fiber insulation; its properties and application. E. Simons. bibliog il Refrig Eng 59:782-7; Discussion. 787+ Ag '51

Tappi fibrary; catalog of collection of fibers of paper making materials at Institute of paper chemistry, Appleton, Wis. Tappi 34: sup26A+ F '51

Weight factors for fiber microscopy. J. d'A. Clark. bibliog Tappi 34:317-18 Jl '51

Why and how can two fibres adhere to each other? H. F. Mark. Paper Tr J 132:31+ Ja 5 '51

See also

Bast fibers
Cotton fibers
Glass fibers
Glass wool
Hair
Jute
Nylon fibers
Ramie
Rayon fibers
Textile fibers

Testing

Mechanics of elastic performance of textile materials; mechanical properties of hard fibers with reference to their use in cordage structures. E. R. Kaswell and M. M. Platt. bibliog Textile Res J 21:263-76 My '51

FIBRIN

Conversion of fibrinogen to fibrin; sedimentation and viscosity studies on clotting systems inhibited by hexamethylene glycol. S. Shulman and J. D. Ferry. bibliog J Phys & Colloid Chem 55:135-44 Ja '51

Intermediate in the conversion of fibrinogen to fibrin. S. Shulman, P. Ehrlich and J. D. Ferry. Am Chem Soc J 73:1388-9 Mr '51

FIBRINOGEN

Clotting time and reaction velocity in the interaction of bovine fibrinogen and thrombin. D. F. Waugh and B. J. Livingstone. bibliog Science 113:121-4 F 2 '51

Conversion of fibrinogen to fibrin; sedimentation and viscosity studies on clotting systems inhibited by hexamethylene glycol. S. Shulman and J. D. Ferry. bibliog J Phys & Colloid Chem 55:135-44 Ja '51

Formaldehyde as an inhibitor of clotting of fibrinogen by thrombin. D. F. Waugh and B. J. Livingstone. bibliog diag J Phys & Colloid Chem 55:464-76 Mr '51

Intermediate in the conversion of fibrinogen to fibrin. S. Shulman, P. Ehrlich and J. D. Ferry. Am Chem Soc J 73:1388-9 Mr '51

Kinetics of the interaction of bovine fibrinogen and thrombin. D. F. Waugh and B. J. Livingstone. bibliog J Phys & Colloid Chem 55:1206-18 O '51

Light scattering studies on fibrinogen; preliminary remarks. R. F. Steiner and K. Laki. Am Chem Soc J 73:882-3 F '51

FIBRO. See Rayon fibers

FIBROBLASTS. See Cells

FIBROIN

Technical possibilities for a regenerated silk. H. Wakeham and others. bibliog il diag Textile Res J 21:110-15 F '51

FICTION

See also

Science fiction

FIDELITY insurance. See Insurance, Surety and fidelity

FIELD glasses

Amateur astronomer. A. G. Ingalls. diags Sci Am 185:81-3 O '51

Rating

Thirteen binoculars. il Consumers Res Bul 28:10-12 S '51

FIJI ISLANDS

Britain's island colonies; Fiji and the west Pacific. map Economist 161:225-6 Jl 28 '51

FILBERTS

Sicilian and Spanish nut production and trade. For Comm W 44:21-2 Ag 6 '51

FILES and filing (documents, etc.)

Central fileroom saves 'em plenty; E. F. Hauserman co., Cleveland. C. E. Studen. il Factory Management 109:77 Mr '51

Dailies' library filing system is simplified; Minneapolis star and tribune. Ed & Pub 84:18 Je 30 '51

Economics of filing operations; abstract. Management R 40:528-9 S '51

Filing scheme for pamphlets. B. A. Evans. Aslib Proc 3:165-8 Ag '51

Filing unit for drawings. il Engineer 191:460 Ap 6 '51

How filing department is kept efficient and up to date; Underwriters laboratories, inc., Chicago. P. Eastman. il Am Bsns 21:18-19 F '51

How to file and index. B. M. Weeks. rev ed 306p $4 Ronald press co, 15 E. 26th st, New York 10 '51

Is neglected research costing you money? creating file of technical literature. R. F. V. Read. flow sheet Eng & Min J 152:64-6 Ja '51

New electro-mechanical system provides fast access to punched card data file. J. H. Drillick. diags Product Eng 22:176-8 O '51

New files save 350 man-hours every month at Square D. il Am Bsns 21:10-11+ Je '51

Organizing an engineering data file. A. F. Gagne, jr. bibliog il Machine Design 23: 110-16+ S '51

Photo and art work file saves ad department time. F. A. Hopp. il Ind Marketing 36:44+ Ag '51

See also

Picture collections

FILING machines

1951 production preview. il Am Mach 95:211-12 Ja 22 '51

FILLING

First, you need a construction site; making construction site out of a lagoon; problem solved by constructors of Hunts Point sewage works. il Eng N 147:28-31 Ag 16 '51

Locating, designing, and operating sanitary landfills. C. W. Klassen. il Pub Works 81: 42-3 N '50

New Jersey turnpike contractors complete $41,000,000 of work during 1950 season. il Roads & Sts 94:35-43 Ja '51

Sanitary landfill cuts disposal cost; inadequate-capacity incinerator abandoned; Burlington, N.C. il Eng N 145:38-9 D 14 '50

Sanitary landfill experience at Memphis. il Pub Works 82:58 Mr '51

Sanitary landfill handles 9½ million yards yearly at Fresh Kills, Staten Island. H. Liebman. il Pub Works 82:39-41 Jl '51

See also

Mine filling

FILLING machines

Automatic statistical control saves on package overfill; Selectrol electronic checkweigher. R. L. Merrill and W. Hecox. il Food Eng 23:55-9 My '51

Flexible tube-filling lines; Mennen co. tube-filling operation. il Mod Packaging 24:68-9 Jl '51

Precision pouch maker fills heat-sealed, foil-laminated envelopes with dental impression powder. il Mod Packaging 24:91-3 Ja '51

See also

Bag filling machines

FILLING materials

Elastic modulus and swelling of butyl vulcanizates; influence of fillers. R. L. Zapp and E. Guth. bibliog il Ind & Eng Chem 43:430-8 F '51

See also

Paper making—Fillers

Plastic materials—Fillers

FILLMORE, George Benjamin

Sketch. por Explosives Eng 28:136-7 S '50

FILMS

Adsorbed and reaction-product films on metals. H. H. Uhlig. bibliog Electrochem Soc J 97:215C-20C N '50

Adsorbed films from binary liquid solution. C. Brown. J Phys & Colloid Chem 54:1278-81 D '50

Alignment chart for computing the thicknesses of evaporated films. A. L. Schoen and R. H. Davis. Opt Soc Am J 41;362-3 My '51

Apparatus for the study by electron diffraction of the effect of temperature on surface films. J. W. Menter and J. V. Sanders. il diag J Sci Instr 27:335-6 D '50

Chemical composition and adsorptive properties of clear films. G. C. Williams. Paint Oil & Chem R 113:124-7 N 23 '50

Conversion of Pfund gage reading to dry film thickness. M. H. Switzer. Anal Chem 23: 800-2 My '51

Design of packed distillation columns; rectification film resistances in a packed column. C. H. G. Hands and F. R. Whitt. bibliog diag J Ap Chem 1:67-73 F '51

Electron diffraction by transmission through thin liquid films. C. W. Lufcy and others. bibliog il J Chem Phys 19:217-19 F '51

Evaporated zinc sulfide films. J. L. Rood. bibliog Opt Soc Am J 41:201-2 Mr '51

Film resistances in rectification. K. S. Chari and J. A. Storrow. bibliog J Ap Chem 1: 45-67 F '51

Improved spreading apparatus for the measurement of film pressures. J. W. Y. Heynis and L. Maaskant. il diags J Phys & Colloid Chem 54:1222-7 N '50

Interaction of slow electrons and surface films of ionic crystals. H. Jacobs and D. Dobischek. diags Phys R 81:1019-22 Mr 15 '51

Interference films on glass. S. Anderson and D. D. Kimpton. il Am Cer Soc J 34:141-5 My 1 '51

Interferometric method for accurate thickness measurements of thin evaporated films. L. G. Schulz. diags Opt Soc Am J 40:690-2 O '50

Low-reflection films produced on glass in a liquid fluosilicic acid bath. S. M. Thomsen. RCA R 12:143-9 Mr '51

Metal passivation by oxygen films explained by residual valences. Chem & Eng N 29: 1621-2 Ap 23 '51

Moisture permeability, diffusion and sorption in organic film-forming materials. A. M. Thomas. bibliog J Ap Chem 1:141-58 Ap '51

Monolayer properties of elaidyl alcohol. J. Glazer and E. D. Goddard. Chem Soc J p3406-8 D '50

Nature of tack. A. Voet and C. F. Geffken. bibliog il diags Ind & Eng Chem 43:1614-24 Jl '51

New multilayer isotherm equation with reference to surface area. G. D. Halsey, jr. Am Chem Soc J 73:2693-6 Je '51

Preparation of films from amylose. I. A. Wolff and others. bibliog Ind & Eng Chem 43:915-19 Ap '51

Preparation, structure, and applications of thin films of silicon monoxide and titanium dioxide. G. Hass. bibliog il diags Am Cer Soc J 33:353-60 D 1 '50

Properties of freshly formed surfaces; further studies of the influence of surface expansion on soluble films of long-chain compounds. C. C. Addison and S. K. Hutchinson. Chem Soc J p3406-11 D '49

Properties of freshly formed surfaces; the compressibility of soluble films of decyl and other alcohols. C. C. Addison and S. K. Hutchinson. Chem Soc J p3404-6 D '49

Properties of interfacial films. G. Narsimhan and S. A. Saletore. bibliog Anal Chem 23:1317-18 S '51

Pyrolytic film resistors; carbon and borocarbon. R. O. Grisdale and others. bibliog il diags Bell System Tech J 30:271-314 Ap '51

Reductive dissolution of ferric oxide in acid; the reductive dissolution of oxide films present on iron. M. J. Pryor and U. R. Evans. diags Chem Soc J p 1259-66 My '50

Simple test for detecting porosity in films; abstract. H. Freytag. Paper Ind 32:1200 F '51

FILMS—*Continued*

Sorption of vapors by monolayers; organic vapors on stearic acid monolayers. R. B. Dean and F. Li. bibliog diag Am Chem Soc J 72:3979-82 S '50

Strength of surface coating films. H. Grinsfelder. Paint Oil & Chem R 113:18+ D 7 '50

Studies of thin films by electron diffraction. N. R. Mukherjee and O. Row. il J Ap Phys 22:681-2 My '51

Thickness measurement of wet films; new German apparatus. diag Chem Age (Lond) 64:311-12 F 24 '51

Thin ferromagnetic films. M. J. Klein and R. S. Smith. bibliog Phys R 81:378-80 F 1 '51

Transparent luminescent films. F. J. Studer and others. diag Opt Soc Am J 41:559 Ag '51

Transport rates of the helium II film over various surfaces. J. G. Dash and H. A. Boorse. bibliog diags Phys R 82:851-6 Je 15 '51

FILMS, Metallic

Contact potentials of evaporated iron films in air and in nitrogen at low pressure. N. Hackerman and L. L. Antes. Science 112: 471 O 20 '50

Effect of phase changes in white light interferometry. L. G. Schulz. bibliog diags Opt Soc Am J 41:261-4 Ap '51

Electron diffraction studies of etched Au leaf films. W. V. Stauder and A. H. Weber. bibliog il Franklin Inst J 251:351-7 Mr '51

Experimental study of the change in phase accompanying reflection of light from thin evaporated films. L. G. Schulz and E. J. Scheibner. bibliog diags Opt Soc Am J 40: 761-5 N '50

Hall coefficient and resistivity of thin films of antimony prepared by distillation. W. F. Leverton and A. J. Dekker. bibliog diags Phys R 80:732-6 N 15 '50

Influence of a transverse magnetic field on the conductivity of thin metallic films. E. H. Sondheimer. bibliog Phys R 80:401-6 N 1 '50

Kinetics of solid phase reactions in oxide films on iron; the reversible transformation at or near 570°C. E. A. Gulbransen and R. Ruka. bibliog il J Metals 188:Trans 1500-8 D '50

Lattice distortion spectrum of evaporated gold. P. G. Wilkinson. bibliog J Ap Phys 22:419-23 Ap '51

Low temperature oxidation of copper; physical mechanism. T. N. Rhodin, jr. bibliog Am Chem Soc J 72:5102-6 N '50

Low temperature oxidation of copper; reaction rate anisotropy. T. N. Rhodin, jr. Am Chem Soc J 73:3143-6 Jl '51

Method of isotopic separation by (n,γ) recoil. L. B. Magnusson. Phys R 81:285-6 Ja 15 '51

New anodic-film method for studying orientation in aluminum. A. Hone and E. C. Pearson. il Metal Prog 58:713-15 N '50

Orientation effects in transparent alumina films. W. O. Milligan and H. B. Weiser. bibliog il J Phys & Colloid Chem 55:490-6 Ap '51

Phase-shift measurement of thin films and its amplification. K. Ishiguro. Opt Soc Am J 40:789-90 N '50

Reflection and transmission of radiation by metal films and the influence of nonabsorbing backings. L. Harris and others. bibliog diags Opt Soc Am J 41:604-14 S '51

Shape of reflected interference fringes from interferometers coated with thin metal films. J. Holden. bibliog il Opt Soc Am J 41:504-10 Ag '51

FILMSTRIPS. See Slide films

FILTER bags

Acrylic fiber filter bags. Safety Maint & Prod 102:65 S '51

Bag filter system saves 25 tons of coal dust per day; coal pulverizing mills at East River generating station of Consolidated Edison co. of New York. il diag Elec World 135:107-8 My 7 '51

More black; in the bag; Orlon filter bags recover carbon black. il Chem W 69:23 Jl 7 '51

Orlon filters recover waste. il Chem Eng 58: 156 Ag '51

FILTER cloth

Comparative study of vacuum filter cloths. A. B. Joseph. Sewage & Ind Wastes 23:977-81 Ag '51

Dynel's performance as filter cloth reported superior. Am Dyestuff Rep 40:456 Jl 9 '51

Improved filtration possible using new synthetic fibers. Chem Eng 58:193 Ag '51

See also

Filter bags

FILTER paper

Dry fibrous air filter media; performance characteristics. E. Stafford and W. J. Smith. il Ind & Eng Chem 43:1346-50 Je '51

Electromigration on filter paper. K. A. Kraus and G. W. Smith. Am Chem Soc J 72:4329-30 S '50

Small scale filter paper chromatography; filter papers and solvents. L. B. Rockland, J. L. Blatt and M. S. Dunn. bibliog il Anal Chem 23:1142-6 Ag '51

FILTERS and filtration

Are we ready for high-rate filtration of water? J. R. Baylis. Water & Sewage Works 97:456-8 N '50

Design for economic and efficient pressure filtration; with cost data. R. Hobson and P. Ley. flow diag il diags Pub Works 81: 35-7, 84-5 D '50

Elements of filter design. R. Hazen. diags Am Water Works Assn J 43:208-18 Mr '51

Microstrainer in water filtration. J. R. Baylis. Pub Works 82:69 My '51

Seasonal conditioning for your swimming pool. J. A. Oldenburg. il Pub Works 82:58-9 F '51

Studies on diatomaceous earth filtration. J. M. Sanchis and J. C. Merrell, jr. bibliog il diag Am Water Works Assn J 43:475-93; Discussion. J. E. Kiker, jr. 494-5 Jl '51

Test results on single stage biological filter. Pub Works 82:70-1 Je '51

Water treating experiences; softening and filtration of the Colorado at Austin, Tex. A. H. Ullrich. il Water & Sewage Works 98:283-8 Jl '51

See also

Filtration plants

Sewage disposal—
  Filtration

Cleaning

Anthrafilt and rotary surface wash for filters. C. E. Palmer. il Water & Sewage Works 98:258-61 Je '51

Does surface wash equipment for sand filters pay its way? E. S. Hopkins. il diag Pub Works 81:42-4 D '50

Round-trip pumping cycle rehabilitates filter media. il diags Eng N 145:33-5 N 30 '50

FILTERS and filtration (technical chemistry)

Application of the OCO water system to paper mill white water recovery. G. C. Ehemann and others. flow diags il Pulp & Pa of Can 51:107-11 Je '50; Same. Sewage & Ind Wastes 22:1573-80; Discussion. 1580-2 D '50

Chemical engineering unit operations; sixth annual review. S. A. Miller. il Ind & Eng Chem 43:85-9 bibliog(151 ref, p88-9) Ja '51

De-oiling condensate for boiler feedwater. W. A. Smith and F. L. Horine. il Power Eng 55:62-3 Ap '51

Effect of coprecipitation conditions on filtration and properties of lignin reinforced GR-S. J. J. Keilen and others. diag India Rubber World 124:178-81 My '51

Filtration of lime mud. il Pulp & Pa of Can 52:111+ F '51

Fritted fluorothene filters. W. H. Reysen and others. il Mod Plastics 28:102+ F '51

Hardinge automatic backwash sand filter; its use on fresh water and white water. G. E. Wilson. il diags Pulp & Pa of Can (Convention no) 52:249-51+ [F] '51

Internally, electrically heated, sintered glass filtration disk. A. D. Mack. diags Science 113:495 Ap 27 '51

Laboratory ultrafilter. A. C. Kuyper and others. il diag R Sci Instr 22:218 Mr '51

Low-cost filters chase oil from condensate. I. L. Plummer and J. H. Peebles. flow diag il Power 95:75+ My '51

New filter designed for thorough washing. il diags Chem Eng 58:144-5 Je '51

FILTERS and filtration (technical chemistry) —*Continued*

Operation and application of a rotary gravity filter. J. K. Perkins. il diag Tappi 33:513-17 O '50

Resistance to filtration. E. H. Hoffing and F. J. Lockhart. bibliog il diags Chem Eng Prog 47:3-10 Ja '51

Sparkler self-cleaning filter. il Metal Finishing 48:87 D '50

Symposium on filtration, New Jersey section AIChE. Chem & Eng N 29:2048-50 My 21 '51

FILTRATION plants

High rate water filtration at Chicago. Pub Works 82:58 S '51

Small water filtration plants. il diag Pub Works 82:40-1+ Ja '51

Equipment

Flow regulator. F. R. Georgia. il Am Water Works Assn J 43:471-4 Je '51

Model filtration plant for a problem town; Chapel Hill, N.C. J. L. Morrison. il map diag Pub Works 81:38-9 N '50

FINANCE

See also

Banks and banking
Bonds
Budget
Capital
Credit
Debt
Debts, Public
Deflation (finance)
Finance companies
Financial statements
Foreign exchange
Gold as money
Holding companies
Housing finance
Income
Income tax
Inflation (finance)
Insurance
Interest
Investment trusts
Investments
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Mining industry and finance
Money
Municipal finance
Prices
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Reserves
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State finance
Stock exchange
Stocks
Trusts, Industrial
War finance

also subdivision Finance under special subjects, e.g.

Chemical industries
Colleges and universities
Corporations
Electric utilities
Gas companies
Insurance, Life
Insurance companies
Public utilities
Railroads
Roads
Scientific research
Sewerage
Waterworks

Argentina

Export-import bank credit to Argentina. For Comm W 41:11 N 27 '50

Canada

Canada's progress and prosperity; report by Canadian securities committee of IBA. Comm & Fin Chr 172:2297+ D 14 '50

Economic and financial conditions affecting Canada. H. A. Stevenson. Comm & Fin Chr 172:2280+ D 14 '50

See also

Budget—Canada

Europe

Heaviest tax load is borne by our citizens; comparisons of government revenues and national incomes. V. L. Horoth. Mag of Wall St 88:447-9 Jl 28 '51

Germany

Blame for the EPU crisis; Germany and EPU. Economist 159:684, 705 N 4 '50

EPU'S prescription for Germany. Economist 159:768 N 11 '50

See also

Debts, Public—Germany

Great Britain

Britain's financial and economic situation. H. Gaitskell. Comm & Fin Chr 174:601+ Ag 16 '51

Britain's prewar liabilities and reserves; with table, 1931-1951. Economist 161:653 S 15 '51

Case for monetary policy. Economist 160:1053-4, 1112-14, 1184-6 My 5-19 '51

Gold flow slackens. Economist 161:43 Jl 7 '51

Gold snowball; rise in sterling area's dollar reserve in last quarter of 1950. Economist 160:91-2 Ja 13 '51

New dollar gap may cripple Britain. Bsns W p 121-2 Jl 21 '51

Sterling area and defence. Economist 160:32-4 Ja 6 '51

Two chancellors, Cripps and Gaitskell. Economist 159:638-9 O 28 '50

See also

Budget—Great Britain

Iran

Persia in trouble; living from hand to mouth. Economist 160:746 Mr 31 '51

Israel

Authoritative view of Israel's future; interview with David Horowitz. A. W. May. Comm & Fin Chr 174:1153 S 27 '51

Funds and faith for Israel. Economist 160:1086-8 My 12 '51

Israel opens U.S. drive for $1-billion. il Bsns W p 148-51 Ap 28 '51

Japan

Can Japan pay her own way? il Fortune 43:72-4 My '51

Japan's fight against inflation; how the Dodge plan has worked. J. B. Cohen. Banking 43:42-3+ My '51

Pakistan

Financial agreement with Pakistan. Economist 161:239 Jl 28 '51

Puerto Rico

Puerto Rico engages financial consultants. Comm & Fin Chr 172:2096 N 30 '50

Russia

Soviet way of saving; new Economic development loan. Economist 160:1105-6 My 12 '51

Sweden

Inflation at Sweden's throat. Economist 160:994+ Ap 28 '51

United States

Burning the house down to keep warm; government's finances. H. L. Lutz. Comm & Fin Chr 174:1245+ O 4 '51

Cost of the cold war. Nat City Bank p 110-13 O '51

Credit controls and fiscal policy. J. F. Weston. Comm & Fin Chr 173:1759+ Ap 26 '51

Current economic trends and their implications. O. G. Saxon. Comm & Fin Chr 173:2261+ My 31 '51

Defense of the dollar; pay-as-you-go program. M. S. Eccles. Fortune 42:78-81+ N '50

Financial developments in 1950. Survey of Cur Bsns 31:27-9 F '51

Financial implications of rearmament. B. H. Beckhart. Comm & Fin Chr 172:1583+ O 26 '50

Financial mobilization and the interest rate. J. W. Snyder. Comm & Fin Chr 173:429+ Ja 25 '51; Excerpts. Banking 43:33+ F '51

Financial shadow-boxing. M. Palyi. Comm & Fin Chr 172:13+ sec 2 O 19 '50

Financing defenses. W. R. Burgess. Comm & Fin Chr 172:1802-3 N 9 '50

Fiscal '52; economy is more important than higher taxes. Barron's 31:1 Jl 9 '51

Foreign transactions of the U.S. government in fiscal 1950. Survey of Cur Bsns 30:14-20 N '50

Future of the dollar. W. R. Burgess. Comm & Fin Chr 173:632 F 8 '51

Government's money manufacturing policy; crux of inflation threat. E. A. Krauss. Mag of Wall St 87:592-4, 642+ Mr 10 '51

Guarding the national credit. E. Bunting. Credit & Fin Management 53:24-6 Je '51

Heaviest tax load is borne by our citizens; comparisons of government revenues and national incomes. V. L. Horoth. Mag of Wall St 88:447-9 Jl 28 '51

How can we best meet the strain of national defense? partial transcript of television broadcast. A. W. May and others. Comm & Fin Chr 173:1637+ Ap 19 '51

How far can we pay as we go? E. H. Collins. Banking 43:34-5+ F '51

Inflation costs more than taxes; supports pay-as-you-go policy. H. L. Lutz. Comm & Fin Chr 174:694 Ag 23 '51

FINANCE—United States—*Continued*

Monetary and fiscal policy in a rearmament period. M. S. Szymczak. Comm & Fin Chr 174:957+ S 13 '51

New inquiry on fiscal and monetary policies desirable. W. Patman. Comm & Fin Chr 174:603 Ag 16 '51

No deficit financing, but no complacency. J. W. Snyder. Comm & Fin Chr 174:603 Ag 16 '51

Pay-as-we-go mobilization. Bsns W p 100+ N 4 '50

Pay-as-you-go policy disastrous. A. W. Miller. Comm & Fin Chr 173:451 Ja 25 '51

Personal thoughts on our financial situation. A. Sproul. Comm & Fin Chr 173:434 Ja 25 '51

Program of sound fiscal and monetary policy. W. E. Spahr. Comm & Fin Chr 173:613+ F 8 '51

Realistic appraisal of defense program and financing. E. A. Krauss. Mag of Wall St 87:433-5+ Ja 27 '51

Reports improved federal finances in statement before House ways and means committee, April 2. J. W. Snyder. Comm & Fin Chr 173:1440+ Ap 5 '51

Stop dollar goose stepping to Stalin's tune. J. A. Harvey. Comm & Fin Chr 172:1796+ N 9 '50

Summary of Treasury receipts, expenditures, and related items, yearly 1948-1950 and monthly Dec. 1949-Dec. 1950. Fed Res Bul 37:73 Ja '51 [cont monthly]

Treasury quits new-money market. Bsns W p 125-6 Ag 25 '51

Warns of an unbalanced budgetary situation; Inflation by default. Comm & Fin Chr 174:430-1 Ag 2 '51

What are our tax and debt burdens? V. J. Wyckoff. il Dun's R 59:18-20+ Jl '51

See also

Bonds, Government—United States
Budget—United States
Debts, Public—United States
Government expenditures
Income tax—United States
Inflation (finance)
Money—United States
Taxation—United States
United States—Appropriations and expenditures

FINANCE, International

Balance of international payments during the second quarter of 1951; with tables. Survey of Cur Bsns 31:9-12+ S '51

Balance of international payments, first quarter of 1951; with tables by area, 1948-1950. W. Lederer. Survey of Cur Bsns 31:15-23 Je '51

Balance of international payments, fourth quarter of 1950; with tabulations. W. Lederer. Survey of Cur Bsns 31:6-11+ Mr '51

Balance of international payments, third quarter of 1950. Survey of Cur Bsns 30:5-10 D '50

Foreign aid by the U.S. government in calendar year 1950; with tabulations by program and by country, July 1, 1945-Dec. 31, 1950. C. E. Shepler. Survey of Cur Bsns 31:12-18 Mr '51

Foreign transactions of the U.S. government in fiscal 1950. Survey of Cur Bsns 30:14-20 N '50

International banking survey. Economist 159:1031+ D 9 '50

International investment position of the U.S. S. Pizer. il For Comm W 43:3-5+ Ap 2 '51

International movement of gold and dollars in 1950. Fed Res Bul 37:253-62 Mr '51

Reversal in gold movements. J. Dana. il Mag of Wall St 88:135-6+ My 5 '51

Shifting dollar position. Nat City Bank p 114-17 O '50

Soviet propaganda, East-West trade and need of gold standard. G. A. Sloan. Comm & Fin Chr 174:68 Jl 5 '51

Types of convertibility. A. O. Hirschman. R Econ & Stat 33:60-2 F '51

World financial stability and military preparedness. M. Palyi. Comm & Fin Chr 173:1013+ Mr 8 '51

See also

Balance of payments
Foreign exchange
International bank for reconstruction and development
Loans, Foreign
Monetary unions

also International monetary fund; National advisory council on international monetary and financial problems

FINANCE, Municipal. See Municipal finance

FINANCE, Personal

Future of the family dollar; Banking's National finance forum; questions and answers. Banking 43:67-9 Ap; 80+ My; 58-60 Je; 44:60-1+ Jl; 53-4+ Ag; 52-4 S '51

How to run a financial forum. G. N. Gildersleeve. il Banking 43:55+ F '51

Money management aid is translated into Japanese. il Banking 44:100 Ag '51

Your dollar's worth; financial forums for women. I. W. Foster. Banking 43:82-4 D '50; 75-7 Ja '51

See also

Budget, Personal
Estate planning

FINANCE, State. See State finance

FINANCE companies

Growth of specialized finance companies; abstract. T. H. Silbert. Banking 44:130 Ag '51

Outlook for consumer finance industry under credit controls. E. A. Dauer. Comm & Fin Chr 173:2264-5 My 31 '51

See also

Commercial credit company
Factors

Advertising

NRB survey reveals advertising preferences of 201 installment loan and selling firms. Bankers Mo 68:23 Jl '51

Branch offices

How to plan 526 branch offices; Household finance corp. of Chicago. il Am Bsns 21:34 My '51

Securities

Loan arrangers. I. U. Cobleigh. Comm & Fin Chr 173:2554 Je 21 '51

Outlook for credit; with statistical data on leading companies. R. Colston. Mag of Wall St 87:389-91+ Ja 13 '51

Underwriting of finance company securities. P. C. Kimball. Comm & Fin Chr 172:1588+ O 26 '50

FINANCE corporation for industry, limited

Future of FCI. Economist 161:48 Jl 7 '51

Statement by the chairman at annual general meeting. Viscount Bruce. Economist 161:256-7 Jl 28 '51

FINANCIAL advertisers association. See Financial public relations association

FINANCIAL advertising. See Bank advertising

FINANCIAL analysts societies, National federation of. See National federation of financial analysts societies

FINANCIAL employees' guild

Union and bank slug it out; FEG and Cleveland Trust. il Bsns W p36-7 Je 9 '51

FINANCIAL public relations association

Annual convention, 35th, Boston. Banking 43:38-9+ N '50; Burroughs Clearing House 35:9 N '50

FINANCIAL ratios

Charting ratios; an under-developed science. E. Agnew. Credit & Fin Management 52:7-9+ D '50

Fourteen important ratios in 36 industrial lines; with tabulation. R. Sanzo. Dun's R 58:24-6+ N '50

Ideal financial policy. J. C. Hajduk. Credit & Fin Management 53:25-6 Ja '51

Ratio analysis calls for internal standards. G. W. Frank. N A C A Bul 32:373-82 D '50

Try the sales-to-assets ratio yardstick. A. C. Kiechlin. Inland Ptr 127:35-6 My '51

FINANCIAL statements

Accountant's problems arising under SEC's new revision of Regulation S-X. C. G. Blough. J Account 91:238-42 F '51

Cash-balance approach to funds statement promotes clarity in financial reports. E. B. Day. J Account 91:600-3 Ap '51

FINANCIAL statements—*Continued*

CPA's opinion; a discussion of the standards of reporting on financial statements. J Account 91:390-401 Mr '51

Corporation financial statements explained; with sample statements. C. C. Clarke. Comm & Fin Chr 172:1698+ N 2 '50

Financial statements should report earnings and dividends per share. W. F. Stanley. J Account 91:566-9 Ap '51

Here we have a financial statement; what does it mean? H. M. Sommers. Credit & Fin Management 53:18-22+ Ja; 22-4+ F; 18-21+ My '51

How coöperation in development of accounting principles by SEC and profession helps investors. H. A. McDonald. J Account 91:411-15 Mr '51

More informative description of long-term debt might be helpful in financial statements. R. O. Berger, jr. J Account 92:313-15 S '51

Procedures for prompt financial statements. J. F. Gaither. N A C A Bul 32:704-9 F '51

Suggestions for operating under the SEC's new rules governing financial statements. J Account 91:230-7 F '51

To increase public understanding of how a business functions, financial statements should be supplemented by simpler reports based on cash receipts and disbursements; abstract. T. L. McLeod. J Account 91:415 Mr '51

Trade unionist views net income determination. S. Barkin. N A C A Bul 32:1193-206 Je '51

Valuation of business interests; variable factors affect normal basis. S. A. Sakol. Trusts & Estates 90:617-21 S '51

See also

Financial ratios

FINANCIAL statistics

Financial, industrial, and commercial statistics, United States. Published in monthly numbers of Federal reserve bulletin

International financial statistics. Published in monthly numbers of Federal reserve bulletin

Purchasing power of the dollar, 1939-1950, gross national product or expenditure, U.S. revenues, expenditures, debt, corporate income, taxes, dividends; tabulations and charts. Steel 128:146 Ja 1 '51

Ratio of income to money supply: an international survey. E. M. Doblin. bibliog R Econ & Stat 33:201-13 Ag '51

See also

Assets, Liquid

FINANCIAL treaties and agreements

Anglo-German payments agreement signed in Frankfurt. Economist 159:1107 D 16 '50

Argentina's financial agreement with Bolivia. For Comm W 45:8 O 8 '51

Britain's financial agreement with Pakistan. Economist 161:239 Jl 28 '51

British payments agreement with Japan. Economist 161:577-9 S 8 '51

India; six-year sterling agreement with United Kingdom. For Comm W 42:15 Ja 22 '51

Japan signs sterling payments agreement with United Kingdom. For Comm W 45:12 O 15 '51

Mexico; payments agreement with Spain signed. For Comm W 43:15 My 28 '51

Sweden and the United States; status of 1947 understanding relative to restriction of dollar payments. For Comm W 43:16 Ap 23 '51

FINISHING materials

Aircraft adhesives, sealers, and coatings. I. G. Christensen. diags Aeronautical Eng R 10:10-16 Ag '51

Alkyd resins; correlation between properties of alkyds and composition of modifying fatty acids. D. T. Moore. Ind & Eng Chem 43:2348-55 O '51

Designing with modern materials; survey of latest developments in engineering materials; finishes, insulations and lubricants. il Machine Design 23:348-50+ O '51

Finishes for wood. R. E. Prince. Paint Oil & Chem R 114:12+ My 10 '51

Hard rubber finishing; steering wheels for automobiles, trucks, tractors, etc. H. R. Bennett. Rubber Age 69:437-8 Jl '51

Materials casebook; substitute finishes are better than you think. Product Eng 22:143 O '51

Metallic and nonmetallic coatings for gray iron. C. O. Burgess. bibliog il Foundry 78:76-9+ D '50; 79:96-9+ Ja; 108-11+ F '51

Organic coatings in today's metal finishing; abstract. D. R. Meserve. Steel 129:109-10 S 10 '51

Paints, surface finish and design; abstract and discussion. L. A. Jordan. Chem & Ind p91-2 F 3 '51

Product engineering's chart of organic finishes for metal products. Product Eng 22:insert Ap '51

Protective coating and films open new markets in packaging field. Chem & Eng N 29:1509-10 Ap 16 '51

R-108; a new concept in protective coating intermediates. E. L. Tinnes and C. L. Chase. il Paint Oil & Chem R 114:14+ Ap 26 '51

Silicone finishes. il Chem Ind W 68:18-19 Ja 20 '51

Tailoring the finish to the job and the job to the finish. M. J. Gordon. il Rubber Age 69:439-40 Jl '51

Textured organic coatings. L. Back. il Product Eng 22:129-36 Ap '51

Triesters of corn starch, amylose, and amylopectin; properties. I. A. Wolff, D. W. Olds and G. E. Hilbert. bibliog il Ind & Eng Chem 43:911-14 Ap '51

Trifluorochloroethylene; development of dispersions for protective coatings. il Chem Age (Lond) 63:715 N 18 '50

Wider application horizons for organic finishes. il Product Eng 22:164-6 My '51

See also

Airplane dope
Floor wax
Lacquer and lacquering
Neoprene
Paint
Polishing materials
Resinous products—Finishing materials
Textile finishing
Varnish and varnishing
Waxes

Advertising

Why we are shifting to two-in-one ads; Maas & Waldstein industrial finishes. B. F. Ames. il Ptr Ink 236:30 Jl 13 '51

Analysis

Spectrophotometric determination of total phthalic anhydride in alkyd resins and other phthalate esters. O. D. Shreve and M. R. Heether. bibliog Anal Chem 23:441-5 Mr '51

Third annual review of analytical chemistry; coatings. T. G. Rochow and R. W. Stafford. Anal Chem 23:212-16 bibliog(164 ref, p214-16) F '51

Study and teaching

Protective coatings courses at the University of Michigan. L. L. Carrick. Paint Oil & Chem R 114:24-6 Mr 29 '51

Testing

Factors affecting the testing of automotive finishes. R. J. Wirshing and W. D. McMaster. il Paint Oil & Chem R 114:12-14+ Jl 5 '51

New laboratory for durability studies of protective coatings. Franklin Inst J 251:540-1 My '51

Physical chemistry of protective coatings. H. Lomas. bibliog il Paint Oil & Chem R 114:15-16+ Ag 16 '51

FINLAND

See also

Communication and traffic—Finland
Hospitals—Finland
Labor and laboring classes—Finland

Politics and government

Finland after the elections. Economist 161:100-1 Jl 14 '51

National unity in Finland? Economist 160:190 Ja 27 '51

Political deadlock in Finland. Economist 159:1152+ D 23 '50

FINLETTER, Thomas Knight

Profile. por Aero Digest 62:29+ Ja '51

FIR

See also

Balsam fir
Douglas fir

FIRE
See also
Combustion
Fires
Flames
Fuel
Heat
Heating
Smoke

FIRE alarms
Century's progress in fire detection. F. C. Evans. il Nat Safety N 64:100-1+ O '51
Plan for action in case of fire. il Bus Transportation 30:49 Ja '51
Wakeful watchmen; automatic fire detection devices. P. E. Hubby. il Nat Safety N 63:26-7+ F '51; Excerpt. Rough Notes 94:38+ Ap '51

FIRE apparatus
See also
Fire extinguishers

FIRE apparatus, Motor
Air force needs fast fire trucks. il Automotive Ind 104:38-9+ Je 1 '51
For small airports; fire truck. il Aviation W 53:46 N 13 '50
Kidde truck has many fire weapons. Aviation W 54:60-1 Mr 26 '51
Specially designed auxiliary water supply fire truck. A. M. Zuill. Pub Works 81:75-6 D '50
These trucks can wade through flames. il Spectator (Property ed) 17:18-20+ Ag '51

FIRE brick
First quality fire clay brick, prices, 1941-1950; tabulation. Iron Age 167:321 Ja 4 '51
Long-time load tests show semi-silica superior. H. H. Wilson, jr. il diag Brick & Clay Rec 119:45-6 Jl; 51-3 Ag '51
Modern kiln construction reduces brick production costs. J. D. McCullough. il diags Brick & Clay Rec 118:52-4+ F '51
Spalling of fire-clay brick; abstract. G. R. Eusner and W. S. Debenham. il Brick & Clay Rec 119:52+ Jl '51
Treatment of brick to prevent CO disintegration. J. A. Shea. il Iron & Steel Eng 27:116-19 D '50; Same. Steel 127:74+ N 27 '50; Same. Blast F & Steel Pl 39:333-6 Mr '51; Same, without il. Brick & Clay Rec 118:84+ Ap '51
Zebra type open-hearth roof steps up heats per campaign. il Steel 128:126+ My 7 '51
See also
Silica brick

Manufacture

Mexico expands to gain third more production; Mexico (Mo.) refractories co. il Brick & Clay Rec 119:58 S '51
Valentine adds kiln, expands to meet semi-silica demand. il Brick & Clay Rec 119:57 S '51

Testing

Carbon distintegration test for blast-furnace brick. L. J. Trostel. il diags Am Cer Soc J 34:76-81; Discussion. 81-2 Mr 1 '51
Method of estimating thickness of hot-metal mixer linings. L. L. Wells. Brick & Clay Rec 118:49-50 F '51

FIRE brigades, Factory. See Factory fire brigades

FIRE clay
Effects of exchangeable bases on the fired properties of fire clays; abstract. J. A. Crookston and R. K. Hursh. Brick & Clay Rec 119:52 Jl '51
Effects of heating rate on shrinkage of clays and shales in firing. W. J. Meid and R. K. Hursh. il Am Cer Soc J 34:287-90 S 1 '51
Refractory and thermal observations on an Arkansas clay deposit. W. J. Smothers and T. Dziemianowicz. il map Am Cer Soc Bul 30:74-5 Mr 15 '51
See also
Fire brick

FIRE departments
Fire department public relations highly important. W. R. Ford. East Underw 51:19 D 1 '50

FIRE detectors. See Detectors

FIRE engine houses. See Fire houses

FIRE extinction
Air foam in fire fighting. W. A. Beaumont. Rough Notes 94:36 O '51
Analytical studies in the suppression of wood fires. G. J. Tauxe and R. L. Stoker. bibliog il diags A S M E Trans 73:1005-20 O '51
Disaster control; fire; handbook for metalworking. Am Mach 94:158-9 N 13 '50
Fighting fire with fog. J. F. O'Regan. il diag Safety Maint & Prod 102:18-20+ S '51
Fire students get taste of smoke at fire test grounds of Ansul chemical co., Marinette, Wis. R. M. Baker. il Safety Maint & Prod 102:16-17+ Ag '51
How to put out Class C fires. R. S. Ericson. il Safety Maint & Prod 100:18-20+ N '50
Modern fire fighting practices; Pittsburgh Group gas companies are being trained to fight fire. W. E. Muldrew. il Gas Age 107:38-9+ F 15 '51
New fire fighting methods. il Mech Eng 73:739-40 S '51
New system drowns fires with dry powder; specially treated sodium bicarbonate. Bsns W p63-4 D 16 '50
Oil fire bows to dry chemical. il Safety Maint & Prod 101:26-7 F '51
See also
Fire extinguishers
Fire service (water supply)
Sprinkling systems

FIRE extinguishers
All out for fire protection; mechanical foam installation on the Atlantic Seaman. J. H. Myers. il diags Nat Safety N 63:20-1+ Ap '51; Same cond. Marine Eng 56:64-7 My '51
CB extinguisher designed to make use of liquid chlorobromomethane. il Aviation W 54:40 F 5 '51
CB system slated in Convair 340. S. H. Reiniger. Aviation W 55:43 Jl 30 '51
Dry chemical system passes propane fire test. M. E. Keefe, jr. il Safety Maint & Prod 101:25-6 Ap '51
Facts on fire extinguishers; survey on use in automotive field. W. H. Doty. Spectator (Property ed) 16:28-9 Ja '51
Fighting liquid-fed fires. il Chem Age (Lond) 63:749 N 25 '50
Fire tests of bulb-type carbon-tetrachloride fire extinguishers. O. J. Hodge. il plans diags U S Nat Bur Stand Misc Pub 197:1-8; pa 10c Supt. of doc. '51
First-aid extinguishers. il Nat Safety N 63:166+ Mr '51
Flaming gasoline doused in seconds; Kidde demonstrates extinguishers; illustrations with text. Bsns W p22-3 Je 2 '51
Fluidized solids find new uses in fire protection. il Chem Eng 58:160 F '51
Foam suppression of petrol fires. Chem Age (Lond) 63:750 N 25 '50
Low price alone won't sell a new product; Hero fire extinguishers. il Ptr Ink 233:35 N 10 '50
1901-1951 weapons against fire. D. C. Timberlake. il Safety Maint & Prod 101:42-3+ Je '51
Viscosity of fire-fighting foam. C. S. Grove, jr. and others. bibliog diags Ind & Eng Chem 43:1120-2 My '51

FIRE extinguishers, Carbon dioxide
CO_2 protects substation against fire. H. L. Rudolph. il Elec World 134:100 N 6 '50
Carbon dioxide system reduces fire hazards. W. E. Morgan, jr. il Paper Ind 33:51 Ap '51
Fire protection in laminate plant; carbon dioxide installation. il Mod Plastics 28:142 F '51
Multi-space fire guard system saves valuable production space. diag Mill & Factory 48:139 Mr '51
Providing greater security against machinery space fires. A. M. Doxsey. il Marine Eng 56:62-5 Ap '51
Unlabeled extinguishers may be hazardous; war surplus extinguishers. Safety Maint & Prod 102:34 Jl '51

FIRE hose
Canvas fire hose deterioration; rot-proofing treatment. Chem Age (Lond) 64:459-60 Mr 24 '51

FIRE houses
Fire station-residence for Louisiana town with volunteer fire department. il plan Am Bld 73:160 Je '51

FIRE inspection. See Insurance, Fire—Inspection

FIRE insurance. See Insurance, Fire

FIRE losses
Canada's 1950 fire losses. Nat Underw 55:10 F 8 '51
Fire losses down in 1950. East Underw 52:25 Je 1 '51
Incurred monthly fire losses in the United States, 1940-1950; tabulation. Spectator (Property ed) 16:32 Mr '51
Near the bottom again! loss from gas and appliance fires. Gas Age 106:47 D 7 '50
1950 fire losses show three per cent increase; with figures for 1941-1950. Nat Underw 55:1 Ja 25 '51
Size of conflagrations; N.F.P.A. list of losses in fires of more than $5,000,000 each. East Underw 52:24+ Je 29 '51
243 large fires of over $250,000 each last year in U.S. and Canada; NFPA record. East Underw 52:32 Mr 9 '51; Same cond. Nat Underw 55:10 Mr 1 '51

Accounting

Fire and business interruption claim problems. J. F. Sullivan. N A C A Bul 32:1050-63 My '51

FIRE maps. See Insurance, Fire—Maps

FIRE protection
Cleaning up fire hazards. Nat Safety N 63: 179-80 Mr '51
Cut down tank fires. H. C. Lein. diag Chem Eng 58:184 Jl '51
Defense against fire. il Nat Safety N 63: 165+ Mr '51
Designed fire prevention. J. J. Duggan. il plans diags Chem Eng 58:125-34 Je '51
Disaster control; fire; handbook for metalworking. plan diags Am Mach 94:150-8 N 13 '50
Double insulation for safer service. Safety Maint & Prod 101:51 Ap '51
Engineer and fire hazard. A. E. Richards. Power Eng 55:83-4 Jl '51
Fire control in peace and war; abstract. E. J. Kehoe. Management R 40:349 Je '51
Fire hazards of mercantile buildings. Safety Maint & Prod 102:58 S '51
Fire prevention. Franklin Inst J 252:368-9 O '51
Fire problems of radioactive isotopes. Safety Maint & Prod 101:34-5 Ap '51
Fire protection for electrical equipment. J. T. W. Babcock. Iron & Steel Eng 28:96-100 Ja '51
Heat insulation aids plant safety. Safety Maint & Prod 102:57 S '51
Implications of recent industrial fire experience; abstract. C. Babcock. Management R 39:625-6 O '50
Inert gas generator enables soybean processor to minimize hazard and cut insurance costs. il Chem Eng 57:184 D '50; Food Ind 23:88 Ja '51
Mine safety and fire prevention; Kerr-Addison mine. il Can Min J 72:167-9 Ap '51
Mobilizing against fire; defense against possible enemy tactics. H. Bond. il Nat Safety N 64:34-5+ Jl '51
Policyholders' responsibility for plant fire protection. C. W. Pierce. East Underw 51: 78-9 D 15 '50
Protecting hydraulic circuits against fire hazards. R. Tyler. il Machine Design 23: 141-2 S '51
Protecting the plant and the worker. H. E. Beaven. Safety Maint & Prod 100:15-16+ N '50
Protection from sparking; magnetic separators remove tramp iron from production equipment. R. Hoff. il Safety Maint & Prod 102:27+ Ag '51
Putty seals floor joints for fire safety; DuPont petroleum laboratory. F. J. Staudt. diags Mill & Factory 49:126 Ag '51
See also
Fire extinction
Fire extinguishers
Fire resisting materials
Fire service (water supply)
Fireproof construction
Forest fires
Insurance, Fire—Preventive work
Magnesium—Fire hazards
Mine fires
National fire protection association
Paint, Fire resisting
Smoking—Fire hazards
Sprinkling systems
Underwriters' laboratories
Watchmen
also subdivision Fires and fire protection under special subjects, e.g.
Airplanes
Electric substations
Bank buildings
Hotels
Motor bus lines
Petroleum refineries
Railroads
Ships
Tank ships
Tank trucks
Textile mills

Contests and awards

Detroit grand winner in fire waste contest. East Underw 52:24 Ap 13 '51; Nat Underw 55:8 Ap 12 '51
Fire prevention week winners. Weekly Underw 164:5+ Ja 6 '51; Same. East Underw 52:18 Ja 12 '51
National Board selects gold medal winners. Nat Underw 55:7 My 17 '51; East Underw 52:37 My 11 '51

Laws and regulations

Georgia tightens up on fire safety! D. Medsker. il Nat Safety N 62:20-1+ N '50

FIRE protection, Rural
To beat the fire hazard, your rural customers need a water system. il plan Dom Eng 177: 96-8+ F; 102-3+ Mr; 84-5+ Ap '51

FIRE protection association, National. See National fire protection association

FIRE protection engineers, Society of. See National fire protection association

FIRE protection institute
Aims and accomplishment. Safety Maint & Prod 102:46-7 S '51

FIRE resisting materials
Aluminum fire suit. il Light Metal Age 9:22 Je '51
Fire resistant plaster board offers apartment builder dry wall economies; Firestop Bestwall. il Arch Forum 95:218 Ag '51
See also
Concrete construction—Fire resistance
Fireproofing of textiles
Paint, Fire resisting
Refractory materials

FIRE resisting paint. See Paint, Fire resisting

FIRE service (water supply)
Charges for private fire protection service. R. H. Ellis. Water & Sewage Works 97:441-5 N '50; Same. Am Water Works Assn J 42: 1009-17 N '50
Coefficient of friction and fire flow. D. R. Taylor. diag Water & Sewage Works 98: 149-55 Ap '51
Fire flows required for towns of various sizes, by National board of underwriters; commercial pipe sizes for fire streams; tables. Water & Sewage Works 98:R44 Ap '51

FIRE underwriters, National board of. See National board of fire underwriters

FIRE underwriters association of the Pacific
Annual meeting, San Francisco. Nat Underw 55:5 Mr 8; 4 Mr 15 '51

FIREBOXES, Locomotive. See Locomotive fireboxes

FIREMEN
Previews for firemen. il Safety Maint & Prod 102:48 S '51

Training

Fire students get taste of smoke at fire test grounds of Ansul chemical co., Marinette, Wis. R. M. Baker. il Safety Maint & Prod 102:16-17+ Ag '51

FIREMEN, Locomotive. See Locomotive firemen

FIREMEN'S helmets. See Helmets, Firemen's

FIREPLACES
Suggestions for the merchant builder; chimneyless fireplaces; raised fireplaces. il diags Arch Forum 94:124-6 Ja '51

FIREPROOF construction
Fire-resistant roof construction for row houses. diag Eng N 146:53 Ap 12 '51; Arch Rec 109:163 My '51
How fireproof is fireproof? study by National fire protection association. Safety Maint & Prod 101:31 Ja '51

FIREPROOF construction—*Continued*
Hung fireproofing; ceilings of lightweight aggregate plaster. il diags Arch Forum 95:184 Ag '51
Round table report; fire protection. Arch Forum 94:176 Mr '51
See also
Brick construction—Fire resistance
Concrete construction—Fire resistance

FIREPROOFING of textiles
New way to flameproof nylon. R. C. Axtmann and A. T. Sweet. il Textile World 101:130+ Mr '51
Pyroset fire retardant finishes. il Am Dyestuff Rep 39:930-1 D 25 '50; Textile World 101:160 Ja '51
Studies with titanium as an agent for imparting durable fire-retardancy to fabrics. A. E. Jacobsen and others. il Am Dyestuff Rep 40:439-43 Jl 9 '51

Patents

Flameproofing and coloring fabrics in one operation; oil-in-water emulsions. Am Dyestuff Rep 40:477 Jl 23 '51
Flameproofing composition; metal oxides, guanidine phosphate, etc. Am Dyestuff Rep 40:105-6 F 5 '51
Flameproofing, glycol monosulfate; patent. Am Dyestuff Rep 40:4 Ja 8 '51
Flameproofing; zinc-phosphate-ammonia complexes; patent. Am Dyestuff Rep 40:278-9 Ap 30 '51

FIRES
Disaster control; fire; handbook for metalworking. plan diags Am Mach 94:150-60 N 13 '50
FBI and military seeking answer to why LP-gas plant caught fire. il Nat Pet N 43:22-3 Jl 11 '51
Fire research. Elec R (Lond) 147:852 N 24 '50
Fire wrecks terminal of Warren petroleum corp. at Newark. Oil & Gas J 50:61 Jl 12 '51
Jet blade output hit by plant fire. Aviation W 53:15 N 6 '50
Legal liability for damage caused by the origin or spread of fire. E. J. O'Brien. Weekly Underw 164:323-5 F 3 '51
Piping failure probable cause of fire at Warren LP-gas plant, NFPA says. Nat Pet N 43:60 Ag 8 '51
Windowless buildings may introduce hazards to lives of occupants. Safety Maint & Prod 102:61+ S '51
See also
Electric fires
Fire extinction
Fire protection
Forest fires
Inflammable liquids
Insurance, Fire
Mine fires
Oil fires
Plastic materials—Fire hazards
Spontaneous combustion
also subdivision Fires and fire protection under special subjects, e.g.
Airplanes
Electric substations
Newspaper offices
Railroads
Ships

FIRES at sea. See Ships—Fires and fire protection

FIRESTONE tire and rubber company
Firestone's still in the family. Bsns W p65-7 O 28 '50

FIRING
See also
Blowers
Boilers—Firing
Combustion
Kilns
Locomotive boilers—Firing
Stokers, Mechanical

FIRST aid in illness and injury
Behind the glass door; first-aid rooms have hazards common to hospitals. il Nat Safety N 63:37-8 F '51
Disaster control; rescue and first aid; handbook for metalworking. Am Mach 94:162-3 N 13 '50
First aid cabinet prevents loss of supplies. J. H. Dismant. il diags Eng & Min J 152:85-6 Ag '51
First aid for airlines; unit-type kit. G. P. St Clair. il Nat Safety N 63:28+ Je '51
First-aid station for the small plant. il Safety Maint & Prod 101:12-13 F '51; Same. Metal Finishing 49:64+ My '51
Treatment of injuries. bibliog il Nat Safety N 63:182-3 Mr '51
Without or with first aid? il Safety Maint & Prod 100:34 N '50
See also
Burns and scalds
Respiration, Artificial

FISCAL year
Advantages to a business which result from abandoning a Dec. 31 closing date. E. Mezner. J Account 90:392-7 N '50
New audit program based on quarterly transactions takes pressure from year-end peak. L. F. Beckers. J Account 91:822-6 Je '51
Why close your books at Dec. 31? Credit & Fin Management 53:8 Ja '51; Same. Bankers Mo 68:32+ Mr '51

FISCHER, Earl Knudt, 1905-
Sketch. Paint Oil & Chem R 113:48 N 23 '50

FISCHER indole synthesis. See Indole

FISCHER reagent
Determination of moisture in refrigeration oils; adaptation of the Karl Fischer method. J. D. Bopp. diags Refrig Eng 59:891-3 S '51
Improved procedure for Karl Fischer microtitrations. J. S. Wiberley. bibliog diags Anal Chem 23:656-9 Ap '51
Karl Fischer reagent titration. J. Mitchell, jr. bibliog diag Anal Chem 23:1069-75 Ag '51
Karl Fischer titration aid. J. B. Whittum. diag Anal Chem 23:209 Ja '51
Sodium tartrate dihydrate as a primary standard for Karl Fischer reagent. J. D. Neuss, M. G. O'Brien and H. A. Frediani. bibliog Anal Chem 23:1332-3 S '51

FISCHER-TROPSCH process
Bench-scale studies of the Fischer-Tropsch synthesis over iron, nickel, and nickel-cobalt catalysts (Japan). S. Watanabe. rev ed bibliog 12pls U S Bur Mines Information Circ 7611:1-26 '51
Chemical engineering unit processes fourth annual review; hydrogenation and hydrogenolysis. H. W. Fleming. Ind & Eng Chem 43:1978-86 bibliog(170 ref, p 1985-6) S '51
Chloride poisoning of iron-copper Fischer-Tropsch catalysts. L. J. E. Hofer and others. bibliog J Phys & Colloid Chem 55:1201-6 O '51
Composition of Fischer-Tropsch Diesel fuel; cobalt catalyst. C. C. Ward, F. G. Schwartz and N. G. Adams. bibliog Ind & Eng Chem 43:1117-19 My '51
Fischer-Tropsch oil circulation processes. J. H. Crowell and others. bibliog il diag Ind & Eng Chem 42:2376-84 N '50
Fischer-Tropsch reaction mechanism involving stepwise growth of carbon chain. R. B. Anderson and others. bibliog J Chem Phys 19:313-19 Mr '51
Fischer-Tropsch synthesis in slurry phase. M. D. Schlesinger and others. bibliog flow diag diag Ind & Eng Chem 43:1474-9 Je '51
Fluid bed and liquid phase slurry process. Chem Age (Lond) 64:773-5 My 19 '51
How important is Fischer-Tropsch synthesis? Storch, Golumbic and Anderson book. Chem Eng 58:265-7 Je '51
Mechanism studies of the Fischer-Tropsch synthesis; the addition of radioactive alcohol. J. T. Kummer and others. Am Chem Soc J 73:564-9 F '51
Recovery of sulfur from synthesis gas. A. E. Sands and L. D. Schmidt. bibliog flow diag il Ind & Eng Chem 42:2277-87 N '50
Studies of the Fischer-Tropsch synthesis; phase changes of iron catalysts in the synthesis. R. B. Anderson and others. Am Chem Soc J 73:944-6 Mr '51
Studies of the Fischer-Tropsch synthesis; surface area and pore volume studies of iron catalysts. W. K. Hall, W. H. Tarn and R. B. Anderson. bibliog Am Chem Soc J 72:5436-43 D '50
Synthetic liquid fuel; British and American research; abstract and discussion. C. C. Hall. Chem Age (Lond) 64:385-6 Mr 10 '51

FISCHETTI, John
Cartoonist wants to be definitely Fischetti. E. Knoll. por Ed & Pub 84:54 S 8 '51

FISH, Canned. See Canned fish

FISH, Frozen
Fish continuously frozen in towers; North Pacific frozen products co. R. Bloomberg. il diag Food Ind 23:96-8 Mr '51

FISH, Frozen—*Continued*
Floating processing plant; Frozen-at-sea fish corp., Boston. H. S. Knowlton. il Food Eng 23:145+ Je '51
How they process quick-frozen trout. C. R. Havighorst. il Food Ind 23:79-81+ Ja '51
Quality of frozen fish; abstract. O. C. Young. Refrig Eng 59:65-6 Ja '51
Seafood a la color; Fulham bros. carton for stronger appeal and better protection of frozen fish fillets. il Mod Packaging 24:102-4 Je '51
Transparent can; frozen oysters and fish in acetate-bodied cans. il Mod Packaging 24:83 D '50

Advertising

Why Van Camp is giving its ads a new look. il Ptr Ink 236:34-5 Jl 6 '51

FISH as food
Factors in distribution affecting the quality of fish; abstract. G. A. Reay. Chem & Ind p789 D 9 '50
Fish pond culture for undeveloped areas. E. Schwartz. bibliog Land Econ 27:172-8 My '51
Fish reduction process; relation of yields and quality of products to freshness of raw material. S. Lassen, E. K. Bacon and H. J. Dunn. bibliog(37 ref) Ind & Eng Chem 43: 2082-7 S '51
See also
Canned fish
Fish, Frozen
Tuna fish

FISH culture
See also
Fish ponds

FISH handling
Fish-kit cleansing; off-peak material-handling installation. il Elec R (Lond) 147:867-72 D 1 '50

FISH ladders. See Dams—Fish problem

FISH liver
No fish story; synthetic vitamin A replacing its natural counterpart. il Chem Ind 67: 876 D '50

FISH nets. See Fishing nets

FISH oil
Canadian exports of vitamin oils, first nine months of 1949 and 1950; tabulation. For Comm W 42:21 Ja 1 '51
Canadian vitamin-oil production lowest in years; with tabulation. For Comm W 42: 20 Ja 1 '51
Soap plant observer; marine oils and their use in soap. J. W. McCutcheon. Soap & San Chem 26:83+ D '50

FISH poisons
Critical review of literature on the toxicity of industrial wastes and their components to fish. P. Doudoroff and M. Katz. Sewage & Ind Wastes 22:1432-58 bibliog(126 titles, p 1453-8) N '50
Proposed toxicity test for industrial wastes to be discharged to marine waters. F. M. Daugherty, jr. bibliog Sewage & Ind Wastes 23:1029-31 Ag '51

FISH ponds
Fish pond culture for undeveloped areas. E. Schwartz. bibliog Land Econ 27:172-8 My '51

FISH products
Fish reduction process; relation of yields and quality of products to freshness of raw material. S. Lassen, E. K. Bacon and H. J. Dunn. bibliog(37 ref) Ind & Eng Chem 43:2082-7 S '51
Vitamin B_{12}, active substances in fish products; abstract. H. L. A. Tarr and others. Food Ind 23:170-1 F '51

FISH protection
See also
Dams—Fish problem

FISH trade

Iceland

Icelandic fish catch and exports in 1950. For Comm W 43:23 Ap 9 '51
Icelandic winter fisheries and fish exports. For Comm W 44:18 Jl 2 '51

Portugal

Sardines return. Economist 159:1208+ D 30 '50

FISHER, Ernest McKinley, 1893-
People at the controls. L. Stafford. por Banking 43:36-7+ N '50

FISHER, Joseph Anton, 1895-
J. A. Fisher, new Reading co. head. por Ry Age 131:62+ S 3 '51
Portrait. Fortune 44:130 S '51

FISHER, M. E.
W. D. Parsons retires, Minneapolis star & tribune promotes Fisher. por Ed & Pub 83:16 D 2 '50

FISHER, Ronald Aylmer, 1890-
Statistical methods for research workers; four papers by F. Yates, H. Hotelling, W. J. Youden, K. Mather. bibliog Am Stat Assn J 46:19-54 Mr '51

FISHER, Fort
Fort Fisher campaigns, 1864-1865. J. E. King. bibliog il maps diags U S Naval Inst Proc 77:842-55 Ag '51

FISHERIES
Application of ecological research to aquiculture and the fisheries. C. L. Newcombe. bibliog Science 114:27-30 Jl 13 '51
Cell-and-seawater chlorination; simple electrolytic unit employed by Gloucester fish plant. J. V. Ziemba. il diag Food Eng 23: 42-3+ Jl '51

FISHES
Method for artificial insemination in viviparous fishes. E. Clark. bibliog Science 112: 722-3 D 15 '50
See also
Dams—Fish problem
Menhaden

Diseases and pests

Mass mortality of fish associated with the protozoan gonyaulax in the Gulf of Mexico. C. H. Connell and J. B. Cross. bibliog il maps Science 112:359-63 S 29 '50; Discussion. 113:250-2 Mr 2 '51
Successful treatment of ulcer disease in brook trout (salvelinus fontinalis) with terramycin. S. F. Snieszko and others. bibliog Science 113:717-18 Je 22 '51

FISHING
Fishing spree sponsored by radio station WBAY, Green Bay, Wis. il Bsns W p70-4 Je 9 '51
See also
Airplanes in fishing

FISHING boats
Construction of fishing trawler. W. A. Palmer. il Welding J 30:454-5 My '51
Floating processing plant; Frozen-at-sea fish corp., Boston. H. S. Knowlton. il Food Eng 23:145+ Je '51

FISHING nets
Nylon fish nettings; Nylock. C. D. Lindgren. il Rayon 32:34-5 Ja '51

FISHING tackle
Fish-tackle makers try new bait on NPA. Bsns W p 162+ Je 16 '51
Permanent magnets control braking of spool in fishing reel. il diag Product Eng 22: 138-9 S '51
Sunset discards package mish-mash; now there's a family; fishing lines. il Sales Management 65:80+ D 1 '50

Advertising

Why it took a year and a half to write this ad; Gladding Cilesto fly line advertisement. L. L. Witherill. il Ptr Ink 235:36 Je 22 '51

FISK, James, 1834-1872
Portrait. Bsns W p45 My 19 '51

FISONS, limited
Statement by the chairman at 57th annual general meeting. F. G. C. Fison. Economist 159:1050-1 D 9 '50

FITCHBURG, Massachusetts

Libraries

Downtown oasis; Youth library. il plans diags Arch Forum 95:134-9 Jl '51

FITS (machinery)
Recommended interference fits for cast-iron and steel bushings in aluminum at room temperature; data sheet. Mach 57:263 Jl '51
Torque converter parts shrink fitted. il Steel 127:122 N 20 '50
See also
Tolerance

FITZGERALD, Albert J. 1906-
Portrait. Bsns W p30 S 22 '51

FIVE- and ten-cent stores

Want to sell to the five-and-tens? informal survey. M. Beuick. il Ptr Ink 236:33-5 Ag 10 '51

See also

Woolworth, F. W., company

FIVE-day week. See Hours of labor—Five-day week

FIXED-charge coverage. See Bonds—Rating

FIXTURES, Lighting. See Lighting fixtures

FIXTURES, Machine tool. See Machine tools—Fixtures

FLAGELLA, Bacterial. See Bacteria

FLAGELLATA

New class of living microchemical reagents; the chrysomonads; abstract. L. Provasoli and S. H. Hutner. Science 112:425 O 13 '50

See also

Polytomella cœca

FLAGS

Confederate states of America

Flags are flying in Dixie; demand for stars and bars. il Bsns W p48-9 N 25 '50

FLAME propagation

Experimental and theoretical studies of flame-front stability. G. H. Markstein. bibliog il diag J Aeronautical Sci 18:199-209 Mr '51

Flame propagation; correlation of maximum fundamental flame velocity with hydrocarbon structure. R. R. Hibbard and B. Pinkel. Am Chem Soc J 73:1622-5 Ap '51

Flame propagation; the determination of fundamental burning velocities of hydrocarbons by a revised tube method. M. Gerstein, O. Levine and E. L. Wong. bibliog il diags Am Chem Soc J 73:418-22 Ja '51

Flame propagation; the effect of initial temperature on flame velocities of propane-air mixtures. G. L. Dugger. bibliog diag Am Chem Soc J 72:5271-4 N '50

Flame propagation; theoretical consideration of the burning velocities of hydrocarbons. D. M. Simon. bibliog Am Chem Soc J 73:422-5 Ja '51

Interaction of flow pulsations and flame propagation. G. H. Markstein. bibliog J Aeronautical Sci 18:428-9 Je '51

Theory of flame propagation. J. O. Hirschfelder and C. F. Curtiss. J Chem Phys 17:1076-81 N '49; pt 2. J Phys & Colloid Chem 55:774-88 Je '51

FLAMES

Blowoff of flames from short burner ports. C. W. Wilson and N. J. Hawkins. bibliog diags Ind & Eng Chem 43:2129-35 S '51

Carbon formation in flames. W. G. Parker and H. G. Wolfhard. pl diags Chem Soc J p2038-49 Ag '50

Chemical reaction in the torch discharge in carbon monoxide and carbon dioxide. S. Mizushima and others. diag Am Chem Soc J 72:5176-7 N '50

Effect of the components of fuel gases on burner flame characteristics and interchangeability. L. Shnidman and J. S. Yeaw. Am Gas Assn Proc 1950:452-75

Electronic torch and related high frequency phenomena. J. D. Cobine and D. A. Wilbur. bibliog il J Ap Phys 22:835-41 Je '51

European research on flame radiation. T. Bishop. Metal Prog 59:248-9 F '51

Experimental and theoretical studies of flame-front stability. G. H. Markstein. bibliog il diag J Aeronautical Sci 18:199-209 Mr '51

Flame tests in the presence of sodium. R. B. Hahn. J Chem Educ 27:597 N '50

Investigation of turbulent flames. B. Karlovitz and others. bibliog il diags J Chem Phys 19:541-7 My '51

Isotope effect in hydrocarbon flame spectra. G. M. Murphy and L. Schoen. il J Chem Phys 19:380-1 Mr '51

Kinetics of OH radicals from flame emission spectra. K. E. Shuler. bibliog J Chem Phys 18:1221-6, 1466-70; 19:888-94 S, N '50, Jl '51

Measurement of velocity and pressure of gases in rocket flames by spectroscopic methods. F. P. Bundy and others. il diags J Ap Phys 22:1069-77 Ag '51

Method for the determination of flame temperature from emission in the ultraviolet OH band. J. A. Curcio and others. il diag Opt Soc Am J 41:173-9 Mr '51

One-dimensional theory of flame structure. R. Friedman and E. Burke. bibliog J Aeronautical Sci 18:239-46 Ap '51

Relation of octane number to cool flame formation. M. R. Barusch and J. Q. Payne. bibliog diags Ind & Eng Chem 43:2329-32 O '51

Report of research and technologic work on explosives, explosions, and flames, fiscal year 1950. B. Lewis. bibliog 51pls U S Bur Mines Rep of Invest 4793:1-67 '51

Temperature gradients and temperatures in carbon black flame. F. W. Jensen and K. Anderson. bibliog il diags Ind & Eng Chem 43:176-81 Ja '51

Two-path method for measuring flame temperatures and concentrations in low pressure combustion chambers. S. S. Penner. bibliog diag J Chem Phys 19:272-80 Mr '51

See also

Combustion

Oxyacetylene flame

FLANGES

Design procedure for integral flanges with tapered hubs. W. F. Jaep. diag A S M E Trans 73:569-71; Discussion. 572-4 Jl '51

Effect of internal pressure on stresses and strains in bolted-flanged connections. D. B. Wesstrom and S. E. Bergh. bibliog diags A S M E Trans 73:553-62; Discussion. 562-8 Jl '51

FLASH points

Flash points of fuel oils. P. F. Schmidt. il Power Eng 54:84-6 N '50

FLASH welding. See Electric welding

FLASHING

How to use flashing. diags Am Bld 73:119-21 My '51

Rubberized asphalt sheeting performs job of metal flashing at fraction of cost; Nervastral Seal-Pruf. il diags Arch Forum 94: 278 Mr '51

FLASHLIGHT photography. See Photography, Flashlight

FLASKS, Foundry. See Foundry flasks

FLAVAN

Condensation products of phenols and ketones; molecular complexes formed by 2′-hydroxy-2 : 4 : 4 : 7 : 4′-pentamethylflavan. W. Baker, R. F. Curtis and M. G. Edwards. Chem Soc J p83-7 Ja '51

Condensation products of phenols and ketones; proof of the flavan structure of the dimeride of 4-*iso*propenyl-*m*-cresol. W. Baker, R. F. Curtis and J. F. W. McOmie. Chem Soc J p76-83 Ja '51

FLAVANTHRONE

Chemistry of indanthrone; *tert.*-butyl derivatives of indanthrone and flavanthrone; the mode of formation of flavanthrone in the alkali fusion of 2-aminoanthraquinone. W. Bradley and H. E. Nursten. Chem Soc J p2170-7 Ag '51

FLAVINS

See also

Lyxoflavin

FLAVONES

Chemistry of New Zealand melicope species; a synthesis of 6-hydroxy-3 : 5 : 7-trimethoxy-3′ : 4′methylenedioxyflavone, melisimplexin, and melisimplin. L. H. Briggs and R. H. Locker. Chem Soc J p2379-81 S '50

Chemistry of New Zealand melicope species; constituents of the bark of melicope simplex. L. H. Briggs and R. H. Locker. Chem Soc J p2376-9 S '50

Flavonols from the bark of melicope ternata; a synthesis of quercetin 3 : 3′-dimethyl ether, quercetin 3 : 7 : 3′-trimethyl ether, quercetin 3 : 5 : 7 : 3′-tetramethyl ether, ternatin, and related benzyl ethers. L. H. Briggs and R. H. Locker. Chem Soc J p864-7 Mr '50

Structures of buddleoflavonoloside (linarin) and of buddleoflavonol (acacetin). W. Baker, R. Hemming and W. D. Ollis. Chem Soc J p691-5 Mr '51

FLAVONES—*Continued*

Thermal cyclization of o-aroyloxyacetoarones; a new synthesis of flavones. A. T. M. Dunne and others. Chem Soc J p 1252-9 My '50

Unambiguous synthesis of 3-aroylflavones and their reaction with benzylamine. W. Baker and F. Glockling. Chem Soc J p2759-64 O '50

FLAVONOIDS

Use of ion exchange resins with flavonoid compounds. T. B. Gage and others. Science 113:522-3 My 4 '51

FLAVONOLS. See Flavones

FLAVOPROTEINS

Effects of an isolated dehydrogenase enzyme and flavoprotein on the reduction of triphenyltetrazolium chloride. A. F. Brodie and J. S. Gots. bibliog Science 114:40-1 Jl 13 '51

FLAVOR

Beverage quality and how to assure it. S. S. Epstein. bibliog il Food Eng 23:100-2 S '51

Experimental unit for recovery of volatile flavors. G. W. M. Phillips and others. bibliog il diag Ind & Eng Chem 43:1672-5 Jl '51

New flavor evaluation method. D. R. Peryam and others. il diags Food Eng 23:83-6+ Ag '51

Sharper flavor ratings with improved profile test. L. C. Cartwright and P. H. Kelley. il Food Eng 23:71-3+ S '51

FLAVORING extract manufacturers' association

Annual convention, 42d, New York, May 20-23. Oil Paint & Drug Rep 159:5+ My 28 '51

FLAVORING materials

Flavor front; essential oil producers use technology. Chem Ind 67:723 N '50

Hold that flavor; fruit essences. R. K. Eskew. J Chem Educ 28:326-7 Je '51

See also

Essential oils
Limonene
Vanilla

FLAX

Contradictory data on spiral structures in the secondary cell wall of fibers of flax, hemp, and ramie. P. S. Roelofsen. il diags Textile Res J 21:412-18 Je '51

Linseed flax straw, its use in paper making. G. H. Lafontaine. Pulp & Pa of Can 52:142-5 Je '51

FLAX institute of the United States

Annual meeting 20th, Nov. 20-21. Oil Paint & Drug Rep 158:5+ N 27 '50

FLAXSEED

Argentine '50 flaxseed crop estimate revised downward. Oil Paint & Drug Rep 159:3 F 5 '51

Canadian imports of flaxseed and soybeans increase. For Comm W 43:20 Je 4 '51

C.C.C. freeze puts flaxseed prices up. Barron's 31:42-3 Ja 22 '51

Crop, inventories add up to linseed oil slump. Barron's 31:35-6 Jl 30 '51

Heavy buying sends flaxseed prices up. Barron's 30:21-2 D 25 '50

High flaxseed prices no spur to output. Barron's 31:27-8 Mr 5 '51

Result of flaxseed loan may be glut next year. Barron's 31:19 S 24 '51

Prices

Flax price weakened by lag in paint use. Barron's 31:27-8 My 21 '51

FLEA powder

Cleansers for canines. il Chem W 69:37 S 15 '51

FLEISCHMANN, Manly, 1908-

He typifies new breed of bureaucrats. por Bsns W p56-60 Jl 7 '51

Manly Fleischmann of defense. por Fortune 44:124-5 O '51

NPA boss takes on DPA. Bsns W p28 Je 30 '51

Portrait. Bsns W p21 O 6 '51

What CMP will be like; interview. pors Bsns W p 136+ Ap 21 '51

FLEMMING, Arthur Sherwood, 1905-

New manpower head. por Bsns W p 136 F 17 '51

FLEXIBLE shafting. See Shafting, Flexible

FLEXIBILITY

Low temperature flexibility tester. M. A. Pollack and others. il Rubber Age 69:713-17 S '51

FLIES

Insect resistance to DDT; new explanation of toxic effects. Chem Age (Lond) 64:265-7 F 17 '51

See also

Drosophila
Fly sprays and repellents
Fruit flies

FLIES as carriers of infection

Dysentery reduced by fly control. D. R. Lindsay. Pub Health Rep 66:1118 Ag 31 '51

FLIGHT

See also

Aerodynamics
Aviation
Birds—Flight

FLIGHT, interplanetary. See Interplanetary flight

FLOCCULATION

Flocculation of pulp suspensions and the formation of paper. S. G. Mason. bibliog Tappi 33:440-4 S '50; Same. Pulp & Pa of Can 51:94-8 S '50

How to flocculate greases so they won't clog sewers. H. F. Ludwig and R. G. Ludwig. Eng N 147:40 Jl 5 '51

FLOOD control

Comprehensive plan for the Columbia basin. W. Whipple, jr. il maps Am Soc C E Proc 76 [no 45]:1-23 N '50

Dikes and basins protect Coachella canal against flash floods. W. R. Slater and others. il maps diag Civil Eng 20:719-23 N '50

Flood control in the Red River basin. L. G. Yoder. map Roads & Eng Constr 88:109+ O '50

Flood-control operation of Tennessee Valley Authority reservoirs. E. J. Rutter. map Am Soc C E Proc 76 [no 19]:1-33 My '50; Discussion. 77 [no D-19]:1-4 Mr '51

Flood waters roll into history as new marks are set, controls talk revives. il maps Eng N 147:25-8 Jl 26 '51

Flood waters to be diverted around Wichita, Kan. map Eng N 145:55 O 26 '50

Harlan County dam in Nebraska. W. T. Logsdon. il Explosives Eng 29:114-17 Jl '51

Mt Morris dam. C. P. Dintruff. il Explosives Eng 29:39-41+ Mr '51

New drain for the Rimrose. A. M. Brodine. il plan Comp Air Mag 55:268-71 D '50

Proper approach to flood control. L. V. Sutton. Edison Elec Inst Bul 19:1-3 Ja '51

Rectification of the Papaloapan river in Mexico. R. Schega. il map Am Soc C E Proc 77 [no 71]:1-13 My '51

Stage predictions for flood control operations. R. E. King. Am Soc C E Proc 77[no 79]:1-9 Jl '51

Storm water pumping stations solve Corpus Christi problems. il Water & Sewage Works 98:416-17 O '51

Toledo, Peoria & Western moved for flood-control project. il map diag Ry Age 130:22-5 F 26 '51

Water use and control. il maps Eng N 146:192+ Mr 29 '51

See also

Dams
Dikes (engineering)
Levees
Mississippi river—Flood control projects
Rivers—Bank protection
Rivers—Regulation

Cost

Flood control structures, Mapleton, Iowa; unit prices. Eng N 146:68 Je 28 '51

FLOOD insurance. See Insurance, Flood

FLOODLIGHTING. See Light projection

FLOODS

After a flood; restoring equipment to service. S. R. Lewis. Heating-Piping 23:83 Ag '51

Construction technique of passing floods over earth dams. A. Weiss. il diag Am Soc C E Proc 76 [no 40]:1-16 O '50; Discussion. 77 [no D-40]:1-5 S '51

Disaster control; flood; handbook for metalworking. diags Am Mach 94:146-9 N 13 '50

FLOODS—*Continued*

Drought, floods forecast. R. A. Work and C. E. Houston. il map Elec West 106:69-71 My '51

See also

Flood control

Mississippi river—Floods

Insurance aspects

Companies ease policy terms in flood areas. Nat Underw (Life ed) 55:5 Jl 20 '51

Examiners hear story of Kansas City flood loss. G. Bredberg. Nat Underw 55:8 S 27 '51

Insurance loss incident to Kansas-Missouri flood is considerable. Nat Underw 55:1+ Jl 19; 1+ Jl 26; 1 Ag 2; 2+ Ag 16 '51

Insurance men now doing effective relief work in Kansas-Missouri flood area. R. E. Seifert. il Weekly Underw 165:188-9 Jl 28 '51

Insurance men play vital part in Kansas and Missouri disaster work. H. P. Bouck. East Underw 52:23 Jl 27 '51

Kansas, Missouri agents weigh flood cover idea. Nat Underw 55:1+ Ag 9 '51

Tale of two cities, Rimouski and Winnipeg. J. Barnes. il Spectator (Property ed) 16:20-2+ O '50

TWA multi-million-dollar loss in big flood; illustrations. Nat Underw 55:4 Ag 2 '51

Underwriters salvage co. reduced greatly Kansas City flood losses. East Underw 52:25 Ag 31 '51; Nat Underw 55:1+ Ag 30 '51

California

Central Valley floods worst in history; works already in place are effective. Eng N 145:25 N 30 '50

Letter from California; hearing on flood damage. il Eng N 146:96 Ja 25 '51

Pacific G&E co. loses 460,000 kw of capacity when floods hit system. il Elec World 134:89 D 4 '50

Clinton, Iowa

Plant fights it out with Mississippi; Clinton foods, inc. il Bsns W p24-5 My 5 '51

Kansas

Activities of producers during Kansas floods. T. Brown. il Rock Prod 54:89-91 S '51

Damage to systems slight despite high crests in east Kansas floods. il Elec World News ed 136:11 Jl 23 '51

Greatest Kaw River flood was in super class. map Eng N 147:23-5 Jl 19 '51

How Gas service co. met challenge of the Nation's worst flood. M. Serif. il Gas Age 108:17-19 Ag 30 '51

Kansas flood hits service on four roads. Ry Age 131:36-7 Jl 16 '51

Kaw floods accent need for reservoirs. Eng N 147:24 Jl 5 '51

Missouri Valley floods. Engineer 192:238 Ag 24 '51

Pick raises Kaw flood damage estimate to $990 million. il Eng N 147:25-7 Ag 2 '51

Water supply notes on the Kansas flood. il maps Am Water Works Assn J 43:681-8 S '51

Kansas City

Aviation facilities suffer flood damage. Aviation W 55:17 Jl 23 '51

Compounder's battle to survive flood portrays plight of many independents. L. Castle. Nat Pet N 43:25-6 Ag 22 '51

Contractors, unions team up to clean up. Eng N 147:28 Jl 26 '51

Digging out Kansas City business. il Bsns W p25-6 Ag 4 '51

Fight against flood damage. L. Castle. il Nat Pet N 43:72-5+ S 19 '51

Flood hits industry. Oil & Gas J 50:176 Jl 26 '51

Flood victim recovers; Great Lakes' Kansas City terminal operating. Oil & Gas J 50:96 Ag 23 '51

How superflood wrecked Kansas City. il Bsns W p24-5 Jl 21 '51

Kansas City area pushes postflood clean-up. map Chem & Eng N 29:3168 Ag 6 '51

Kansas City comes back; illustrations with text. Mod Ind 22:78+ S '51

Kansas City, Mo. just missed a water famine. J. R. Carr. map Eng N 147:29 Ag 2 '51

Kansas City, 1951; contractors work to rehabilitate plumbing and heating systems in flood stricken areas. il Dom Eng 178:102-4+ S '51

Kansas City takes biggest beating. J. R. Carr. Eng N 147:23+ Jl 19 '51

Oil compounders suffer heavy damage from flood. Nat Pet N 43:34 Ag 15 '51

Oil men battle to supply public despite heavy flood, fire loss. il Nat Pet N 43:24-5 Jl 18 '51

Plant rehabilitation; procedure at Phillips refinery after the Kansas City flood. il Oil & Gas J 50:63+ S 6 '51

Reconstruction after a flood; how oil facilities were rebuilt in record time. L. Castle. il Nat Pet N 43:52-5 S 12 '51

Missouri

How Gas service co. met challenge of the Nation's worst flood. M. Serif. il Gas Age 108:17-19 Ag 30 '51

Missouri systems spared damage caused by eastern Kansas floods. il Elec World 136:67-8 Jl 30 '51

Missouri Valley floods. Engineer 192:238 Ag 24 '51

Oregon

Oregon floods damage structures. Eng N 145:25 N 30 '50

Peru

Avalanche buries Peruvian dam work. Eng N 145:24 N 16 '50

Washington (state)

Floods damage large Puget Sound area. Eng N 146:26 Mr 8 '51

Western states

New floods work damage to West for second time. Eng N 146:31 Ja 4 '51

Western floods damage park and highway structures. il Civil Eng 21:47 Ja '51

Wichita, Kansas

Flood waters to be diverted around Wichita. map Eng N 145:55 O 26 '50

Winnipeg

City of Winnipeg sewerage system and the Manitoba flood. W. L. Wardrop. il Munic Util 88:48-51+ S '50; Same cond. Sewage & Ind Wastes 22:1626-34 D '50

Rebuilding of flood-damaged outfall sewer in Winnipeg. N. S. Bubbis. il Munic Util 89:21-2+ Ag '51

Winnipeg's flood emergency organization. W. D. Hurst. il Am Water Works Assn J 42:1095-110 D '50

FLOOR cleaning

Floor care must be efficient. W. P. Sheehy and T. C. Richards. Safety Maint & Prod 101:22-3+ Ja '51

Four steps (or less) for the care of linoleum floors. W. Sawyer. il Safety Maint & Prod 102:20-2 Ag '51

FLOOR cleaning machines

Mechanized sweeping cuts housekeeping costs; power sweeper in the North Western's station, Chicago. il Ry Age 130:36-7 Ap 30 '51

FLOOR coverings

Coarse papers; roofing and flooring felts. L. J. Tarbell. Paper Tr J 131:308-10 N 30 '50

Floor coverings shift from soft to hard. Bsns W p 121-2 My 26 '51

See also

Carpets

Linoleum

Advertising

How to step up your promotional tempo; Congoleum-Nairn. M. Beuick. il Ptr Ink 236:40-1 Jl 27 '51

FLOOR finishes

Chain lightning; 70 per cent of New York area food chains handling Arny floor polish. Chem Ind W 68:46+ Ja 20 '51

FLOOR mats. See Door mats, Plastic

FLOOR polishers

Hoover electric floor polisher. il Consumers Res Bul 27:19 Mr '51

FLOOR wax

Changes suggested at hearings on F.T.C. floor wax. Soap & San Chem 27:165 Je '51

FLOOR wax—*Continued*

Floor wax practice rules proposed by FTC. Soap & San Chem 27:125+ My '51

Slow down those slippery floors; new floor wax provides slip-retardant surface. J. R. Brooks. il Safety Maint & Prod 100:28+ N '50

Tough customer; U.S. public buildings service makes its own wax. Chem W 69:32-3 S 1 '51

Water emulsion waxes; problems in their purchase; symposium. A. M. M. Moore and others. Soap & San Chem 27:133+ Ap '51

FLOORING

FHA approves new method of installing flooring over concrete slabs. il Am Bld 73:218+ S '51

Saw for cutting flooring. il Blast F & Steel Pl 39:124 Ja '51

Timber as a flooring material; its relative resistance to wear. F. H. Armstrong. bibliog il Chem & Ind sup S854-8 D 30 '50

Advertising

Bruce builds on branded flooring. il Sales Management 66:110+ Je 15 '51

When the budget is small, make the ads work overtime; increasing space impact by selling of booklets and a color wheel; National Oak Flooring. M. F. Harris. il Ptr Ink 236:44-5 S 21 '51

FLOORS

Gym floor sealers. E. Brenn. il Soap & San Chem 27:117+ My '51

Interflection tables for rooms with floors of high reflectance. J. S. Y. Lee. Franklin Inst J 250:409-17 N '50

Optimum panel surface distribution determined from human shape factors. F. W. Hutchinson and M. Baker. Heating-Piping 23:108-12 Je '51

Tile-concrete pre-fab units used in Italian building construction. diags Brick & Clay Rec 119:38-9 Jl '51

Variation of mean floor loads with area. M. R. Horne. Engineering 171:179-82 F 16 '51

Various non-code floors could improve acoustics, erection time and, sometimes, cost. R. L. Davison. diags Arch Forum 93:115 D '50

What's effect of floor heating in schools? P. S. Park. il Heating-Piping 22:100-2 N '50

See also

Bridges—Floors

Factories—Floors

Floor cleaning

Flooring

Freight cars—Floors

Anti-slip surfaces

Floor maintenance grows up. E. W. Merritt. il Safety Maint & Prod 101:57-9+ Je '51

Floor takes the punishment, not the feet. il Nat Safety N 64:38-9 S '51

Non-slip floors lower costs. H. D'Arcy. Safety Maint & Prod 102:32 Ag '51

Protection against oil slippery floors; illustrations with text. Mill & Factory 49:94 Ag '51

Slow down those slippery floors; new floor wax provides slip-retardant surface. J. R. Brooks. il Safety Maint & Prod 100:28+ N '50

FLOORS, Cement

Hard-topped cement floors please Springs engineers; Springs cotton mills. il Textile World 101:147+ O '51

FLOORS, Concrete

Effect of copper-bearing concrete on molds. R. F. Robinson and C. R. Austin. il Ind & Eng Chem 43:2077-82 S '51

Field studies of heat losses from concrete floor panels. C. M. Humphreys and others. il plan diags Heating-Piping 23:181-6 Ja '51

Fifteen floors cantilevered from concrete core; research and development building of S. C. Johnson and son, inc. il diag Concrete 59:32 Ja '51

Floor takes the punishment, not the feet. il Nat Safety N 64:38-9 S '51

How to stop heat loss from the floor. diags Dom Eng 178:94-7+ Jl '51

Insulating concrete improves radiant panel performance. Sheet Metal Worker 42:43 D '50

Losses from a floor-type panel heating system. F. W. Hutchinson and others. bibliog Heating-Piping 22:117-20 D '50

Make ragged floors rugged. E. S. Wilton. il Safety Maint & Prod 102:18-20+ Jl '51

Roughening treatment for concrete, granite and other surfaces. il Engineering 171:401 Ap 6 '51

Saving $75,000 on floor costs; Marlander apartment house in Baltimore. il Eng N 146:39 My 10 '51

Self-supporting walls hide long-cantilever floor slabs; office building in Louisville, Ky. il Eng N 146:42 Je 21 '51

Shear resistance of tile-concrete floor joists. J. N. Thompson and P. M. Ferguson. bibliog il diags Am Concrete Inst J 22:229-36 N '50

Warm air perimeter heating, heat emitted from floor surface. J. R. Jamieson and others. plan diags Sheet Metal Worker 42:62-4 Jl; 54-6+ Ag '51; Same abr. bibliog Heating-Piping 23:117-26 Jl '51

FLOORS, Steel

Warm air forced through cellular steel floors in exhibition home; Detroit builders' show ideal home. J. S. Bobbio. il plan diags Heat & Ven 48:55-7 Ja '51

FLOORS, Terrazzo. See Terrazzo

FLOORS, Tile

Heating and cooling with air in a radiant tile floor. L. B. Nye, jr. il plan diag Heat & Ven 48:72-3 Jl '51

Shear resistance of tile-concrete floor joists. J. N. Thompson and P. M. Ferguson. bibliog il diags Am Concrete Inst J 22:229-36 N '50

Tile and pre-stressed wire form pre-fab units in Stahlton system; floors and lintels. il Brick & Clay Rec 119:44-6 Ag '51

FLOORS, Wood

How does radiant heating affect hardwood floors? P. S. Park, jr. Heating-Piping 23:142-3 Ja '51

Putting and keeping wood floors in shape. J. B. Jassoy. il Food Ind 23:65-6+ Ja '51

Suggestions for treatment of floors before covering. S. Camp. Am Bld 73:192+ S '51

FLORIAN-LARSEN

Problems of United nations in fight against illiteracy; Florian-Larsen plan. S. Hinrichsen. por Inland Ptr 127:73-4 Ap '51

FLORIDA

See also

Architecture, Domestic—Florida

Canals—Florida

Public utilities—Florida

Water supply—Florida

Industries and resources

Industrial development council getting results in Florida. Manuf Rec 120:45 My '51

Promoting Florida as an industrial state. H. Quednau. il Adv Agency 44:78-9+ Ja '51

FLORIDA citrus exchange

Blend in citrus; Florida growers line up purchase of Snow Crop. Bsns W p 146+ O 6 '51

FLORIDA east coast railway

ICC pondering Florida railway reorganization. Barron's 31:19-20 F 26 '51

FLORIDA power corporation

Florida Power independent five years. il map Elec World News ed 135:4-6 F 19 '51

Securities sold to private investors. Comm & Fin Chr 174:365 Jl 30 '51

FLORISTS

Flowers, an every-day luxury; Floral packages, inc. il Bsns W p 150-1 S 15 '51

FLORISTS' shops

Getting the most from remodeling dollars; Harper florist shop, Atlanta. il plan diags Am Bld 73:128-9 Ag '51

FLOTATION process

Beaker flotation as a quantitative tool in flotation testing. W. Loblowitz. Min Eng 3: Trans 522-3 Je '51

Concentration of carbonate and oxide manganese ores from Silver Bow, Jefferson and Park counties, Mont. K. C. Dean and J. V. Batty. U S Bur Mines Rep of Invest 4767:1-22 '51

Flotation of diamonds. R. G. Weavind and others. Min Eng 3:Trans 596 Jl '51

FLOTATION process—*Continued*

Flotation rates and flotation efficiency. N. Arbiter. bibliog Min Eng 3:Trans 791-6 S '51; Discussion. 3:Trans 991-2 N '51

Flotation tests on Korean scheelite ore. W. Mitchell, jr. and others. bibliog il Min Eng 190:Trans 60-4 Ja '51

Grinding mills as conditioners in sulphide flotation. C. G. McLachlan. bibliog flow sheet diag Min Eng 3:Trans 347-50 Ap '51

Influence of certain inorganic salts on the flotation of lead carbonate. M. Rey and others. Min Eng 187:Trans 1126 N '50

Measurement of equilibrium forces between an air bubble and an attached solid in water. T. M. Morris. bibliog diags Min Eng 187:Trans 91-5 Ja '50; Discussion. 187: Trans 1154-5 N '50

Revived processes challenge flotation's thirty-year rule. R. H. Ramsey. il Eng & Min J 152:116-18 F '51

Separation of precious metals from anode slimes by flotation. R. T. Hukki and U. Runolinna. flow sheets Min Eng 187:Trans 1131-2 N '50

FLOTATION process (coal)

Floating fines with kerosene. L. E. Schiffman and E. D. White. flow sheets il Coal Age 56:78-82 Mr '51

Kerosine flotation of bituminous coal fines. L. E. Schiffman. flow sheet diags Min Eng 187:Trans 1047-56 O '50; Discussion. 187: Trans 1159-60 N '50

Park fine-coal plant. il diag Coal Age 56:82-5 Je '51

FLOTATION process (non-metals)

Dissolved-air flotation separates oil from waste water. N. A. D'Arcy, jr. il Am Pet Inst Proc 31 M(3):34-42; Discussion. 42-4 '51

FLOUR

Activated sludge from foods for treatment of radioactive waste; wheat flour-dextrose. C. C. Ruchhoft, F. I. Norris and L. R. Setter. bibliog Ind & Eng Chem 43:1520-6 Jl '51

Some oxidase systems in flour; abstract and discussion. H. Burton. Chem & Ind p249-50 Mr 31 '51

Transportation

Bulk transportation by Trans-Flo; General American covered hopper car. il Ry Age 129:61-3 N 4 '50; Same cond. Ry Mech & Elec Eng 125:52-3 Ja '51

FLOUR handling

Big benefits in bin-handling of drys. il Food Eng 23:83-5+ S '51

FLOUR mills

Electric equipment

Flour milling; a case for group drive. il Elec R (Lond) 148:571-5 Mr 23 '51

Employees

Flour and cereal-preparations industries; earnings in May 1950. A. N. Jarrell. Mo Labor R 72:163-4 F '51

Equipment

Flour milling; time for a change. il Bsns W p42+ Je 9 '51

FLOUR trade

Fun salts crisis when Pillsbury gives its all to giant bake-off. P. S. Gerot. il Sales Management 65:54+ D 1 '50

General Mills' progress. H. A. Bullis. il Food Eng 23:105-9+ Je '51

Sperry's doughboys; to sell a baker they learn his trade. il Sales Management 67:45 Ag 15 '51

Advertising

Why Betty Crocker's cookbook is a runaway best seller. il Sales Management 65:84+ N 10 '50

FLOW mappers

Further development of fluid mappers. A. D. Moore. il Elec Eng 70:396-401 My '51

FLOW meters

Automatic control of flow in the process industries. A. E. Krogh. diags Instruments 24:590-3 My '51

Basic power plant figuring; some comments on fluid flow. W. H. Engelman. diags Power Eng 55:87-8 My '51

Compensated thermal anemometer and flowmeter; abstract. C. E. Hastings and C. R. Weislo. Elec Eng 70:597 Jl '51

Direct-reading low-range liquid flowmeter. J. G. Lavender and C. R. Webb. diags Engineering 171:619-21 My 25 '51

Discharge coefficients of small-diameter orifices and flow nozzles. H. P. Grace and C. E. Lapple. bibliog il diags A S M E Trans 73:639-47 Jl '51

Discharge measurements by means of Venturi tubes. A. L. Jorissen. bibliog diags A S M E Trans 73:403-10; Discussion. 410-11 My '51

Electromagnetic flowmeter for transient flow studies. J. S. Arnold. il diags R Sci Instr 22:43-7 Ja '51

Electromagnetic induction method of measuring oscillating fluid flow. A. J. Morris and J. H. Chadwick. Elec Eng 70:529 Je '51

Electronic flowmeter. il R Sci Instr 21:889-90 O '50; Machine Design 22:120-1 D '50

Flow measurement helps woolen mills. H. Kockritz. il Textile World 101:140 S '51

Flow measurement of fluids through small pipes. H. W. Stoll. diags Paper Tr J 132: 22+ Mr 16 '51

Flow-metering practices on crude-oil and products pipe lines. C. D. Walker. il diag Oil & Gas J 50:80 Je 28 '51

Flow signal transmitter. il Blast F & Steel Pl 39:716+ Je '51

Fluid meter attachment has various applications. G. W. Unangst and B. R. Currence. il Elec World 136:141-2 Je 18 '51

Mass flow meter a method for measuring pulsating flow. D. Brand and L. A. Ginsel. il diags Instruments 24:331-5 Mr '51

Measurement of sewage flows. W. H. Brown. Sewage & Ind Wastes 23:269-72 Mr '51

Measuring fluid flow; Dall tube. il Chem Age (Lond) 65:56 Jl 14 '51

New flow transmitter embodies pneumatic-balance principle. il diags Can Chem Process 35:740-3 S '51

Non-mathematical discussion of flow measurement. J. B. McMahon. diags Pet Refiner 30:99-106 Ja '51; Same. Instruments 24: 470-7 Ap '51

Operating principles of some liquid flow meters; drawings with text. H. W. Cole, jr. Product Eng 22:134-5 F '51

Permeability of glass wool and other highly porous media. A. S. Iberall. bibliog J Res Nat Bur Stand 45:398-406 N '50

Photo-cell type flow meter compensates for square root; patent. diags Pet Processing 5:1217 N '50

Primary devices and meters for waste flow measurements. H. O. Hite. il diags Sewage & Ind Wastes 22:1357-63 O '50; Same abr. Water & Sewage Works 98:R139-41 Ap '51

Refinery instruments; what makes them tick? flow measurement. C. E. Shannahan. il diags Pet Processing 6:848-53 Ag '51

Rupture-proof bellows-type flow meters. C. B. Nolte. il diags Instruments 23:1300-3 D '50

Sampling and metering are basic; adequate and economical pollution control. diags Chem Eng 58:121-2 My '51

Simplified recording bubble flow meter. W. G. Hammond and others. diags Science 112: 465-7 O 20 '50

Small infractions create major errors in flowmeter measurement. J. P. Squier. Oil & Gas J 49:60+ Ja 18 '51

Study of linear-resistance flowmeters. F. W. Fleming and R. C. Binder. diag A S M E Trans 73:621-4 Jl '51

Three-quarter radius pitot tube flow meter. J. H. Preston. diags Engineer 190:400-2 O 27 '50

Use an orifice-valve for checking flow rates periodically. J. B. O'Hara. diag Chem Eng 58:170-1 My '51

See also

Gas meters
Orifice meters
Penetrometers
Pitot tubes
Rotameters
Venturi meters
Water meters

Testing

Calibrations of six Beth-Flow meters at Alden hydraulic laboratory, Worcester polytechnic institute. L. J. Hooper. il diags A S M E Trans 72:1099-102; Discussion. 1102-10 N '50

FLOW of helium. See Helium, Liquid

FLOW regulators

Automatic control of flow in the process industries. A. E. Krogh. diags Instruments 24:590-3 My '51

Control valve modulates flow in accordance with temperature. il diag Product Eng 22:173 F '51

Effect of transmission distance on the stability of flow-control processes. D. B. Kirk. diags Instruments 23:1191-4 N '50

Factors in precise control of liquid flow. A. R. Catheron. il diags Instruments 24:705-10 Je '51

Flow measurement helps woolen mills. H. Kockritz. il Textile World 101:140 S '51

Flow regulator. F. R. Georgia. il Am Water Works Assn J 43:471-4 Je '51

How to control average flow of liquids carrying solids. R. C. Bieber. diags Chem Eng 58:124 Ja '51

Instruments for chemical plant; pH and rate of flow control. il diags Chem Age (Lond) 64:945-50 Je 23 '51

Non-stop liquid blending; flow control system at Minneapolis Brewing. D. Kiewal and L. Slater. il diag Food Eng 23:58-9+ Jl '51

Practical water control methods for the plating room. J. B. Kushner. il diags Metal Finishing 49:56-8 Ag '51

Pump-flow controller protects wells from sea water seepage; North Truro, Mass. il Munic Util 89:31 Ag '51

Venturi flow control reduces erosive wear from catalyst; patent. diag Pet Processing 6:62 Ja '51

FLOW sheets

Let the travel chart simplify your material movement problems. M. L. Levy. Mill & Factory 48:100-1 My '51

FLOWER shows

Lighting a flower show; illustrations with text. Elec West 107:91 S '51

FLOWERS

Preserving cut flowers. Consumers Res Bul 28:24-5 Jl '51

See also

Fertilization of plants

Transportation

What creative selling has done for a lackluster product; Andre flower boxes; multiple use gift boxes. N. Andre. il Sales Management 67:37-9+ Jl 1 '51

FLUE dust

Analyzer controls gas cleaning equipment at blast furnaces. diags Steel 129:90+ Ag 27 '51; Same abr. Iron & Steel Eng 28:143 Ag '51

Dust, fume and smoke suppression. A. J. Grindle. il diags Iron & Steel Eng 28:87-94; Discussion. 94-6 Jl '51

Electrostatic collection of fly ash. H. J. White and others. bibliog il diags Mech Eng 72:873-80 N '50

First electrical precipitator installed on open-hearth furnace. L. C. McCabe. Ind & Eng Chem 43:sup89A-90A+ Mr '51

Fly ash; a pozzolanic material of great usefulness. M. Palmieri. Concrete 59:20-2 Je '51

Fly-ash emission tests. P. F. Best. diags Mech Eng 72:904-5 N '50

Fly ash, still an industrial waste. il Eng N 147:52-3 S 27 '51

Producing sand and gravel aggregates for Hungry Horse dam; fly ash used to replace up to thirty percent of cement. W. B. Lenhart. flow sheets il Rock Prod 54:98-105 F '51

Rapid air elutriator for examination of stack dusts. C. J. Stairmand. il Engineering 171:585-7 My 18 '51

Relationship of fly ash and corrosion in reinforced concrete. J. P. Ryan. bibliog Am Concrete Inst J 22:481-4 F '51

Smidth agglomerating kiln for the treatment of fine ores and flue dust. W. E. Simons. il plan diag Iron & Steel Inst J 167:1-8 Ja '51

Spreader dust responds to controls. E. R. Kaiser. il diags Power 95:77-9 Ag '51

Stack dust; here's what affects it. E. R. Kaiser. il diags Power 95:92-4 Je '51

Study of sulphite waste liquor fly ash; abstract. I. Jullander and B. Olsson. Paper Ind 33:78 Ap '51

Thermal precipitator for the gravimetric estimation of solid particles in flue gases. J. Bredl and T. W. Grieve. il diags J Sci Instr 28:21-3 Ja '51

Using powdered-coal flyash. W. H. Cobbs, jr. il Power 95:87-9 bibliog and patent list (p88-9) My '51

Venturi design keeps stack top flyash-free. H. A. Pietzner. il Elec World 135:136+ F 12 '51

FLUE gas

Atmospheric pollution; cost of flue-gas washing; abstract. A. Parker. Elec R (Lond) 147:874 D 1 '50

Corrosion of a steel surface by condensed films of sulphuric acid. D. Flint and R. W. Kear. bibliog diags J Ap Chem 1:388-93 S '51

Cost of cleaner air; sulphur emission from coal combustion. A. G. Thomson. Elec R (Lond) 148:345-6 F 16 '51

Furnace heat absorption in pulverized-coal-fired steam generator, Willow Island station. J. W. Myers and others. bibliog il diags A S M E Trans 73:419-31; Discussion. 457-9 My '51

Furnace thermal efficiency determined from flue and jacket loss. H. L. McPherson and others. diags Heating-Piping 23:109-13 My '51

Influence of carbon smokes on the corrosion of metal surfaces exposed to flue gases containing sulphur trioxide. R. W. Kear. diag J Ap Chem 1:393-9 S '51

Influence of carbon smokes on the dew-point and sulphur trioxide content of flame gases. G. Whittingham. bibliog diag J Ap Chem 1:382-8 S '51

Recovery of sulphur from flue gases. W. Francis and G. H. Lepper. Engineering 172:36-7 Jl 13 '51

Removal of submicron aerosol particles from moving gas stream; condensation center effects in steam nozzles. P. J. Schauer. bibliog il diags Ind & Eng Chem 43:1532-8 Jl '51

Removal of sulphur compounds from industrial gases. W. Francis. Engineering 172:180-2 Ag 10 '51

Seagram's combination boiler-spray drier features ease and economy of operation. C. R. Buck and N. Roberts. il diags Power Eng 55:74-7 F '51

Sulfur recovery from flue gases. L. C. McCabe. Ind & Eng Chem 43:sup83A-4A Ag '51

Venturi scrubbers; efficient, low cost gas cleaners. W. P. Jones. il diag Steel 129:70-2 Jl 30 '51

See also

Flue dust

Smelter fumes

Analysis

Oxygen measurement as a guide to combustion efficiency. L. D. Cipriano and O. W. Riggs. il diags Oil & Gas J 50:90-2+ Jl 12 '51

Protection of mercury power plants; detection of mercury vapor. R. M. Ilfeld. il Power Eng 54:76-7 N '50

Thermal precipitator for the gravimetric estimation of solid particles in flue gases. J. Bredl and T. W. Grieve. il diags J Sci Instr 28:21-3 Ja '51

Trends in modern boiler control. J. F. Luhrs. il diag Blast F & Steel Pl 39:112-13+ Ja '51

FLUID mappers. See Flow mappers

FLUIDIZATION

Chemical engineering unit operations; sixth annual review; fluid dynamics. M. Leva and M. Weintraub. Ind & Eng Chem 43:90-9 bibliog(344 ref, p96-9) Ja '51

Closed-type continuous flow conveyors for processing with fluidized materials. C. O. Brown. Ind & Eng Chem 42:sup65A-6A D '50

Concept of fluidized solids demonstrated; illustrations. Chem & Eng N 28:4466-7 D 18 '50

Direct reduction of iron ore using the fluidized solids technique; abstracts. M. Tenenbaum and C. M. Squarcy. Iron Age 167:72-3 My 31 '51; Iron & Steel Eng 28:119-20 Ag '51

FLUIDIZATION—*Continued*

Elutriation of fines from fluidized systems. M. Leva. bibliog diag Chem Eng Prog 47:39-45 Ja '51

Fluid catalyst-gas mixing in commercial equipment. J. W. Askins, G. P. Hinds, jr. and F. Kunreuther. diags Chem Eng Prog 47:401-4 Ag '51

Fluidization studies of solid particles. C. O. Miller and A. K. Logwinuk. bibliog il diags Ind & Eng Chem 43:1220-6 My '51

Fluidized bed; transition state in the vertical pneumatic transport of particles. R. H. Wilhelm and S. Valentine. bibliog diags Ind & Eng Chem 43:1199-203 My '51

FluoSolids roasting of sulphides. T. B. Counselman. il Min Cong J 37:30-4+ Mr '51

Gasification of carbon; metal oxides in a fluidized powder bed. W. K. Lewis, E. R. Gilliland and M. P. Sweeney. bibliog diags Chem Eng Prog 47:251-6 My '51

Heat and mass transfer; fluid solid systems. B. W. Gamson. bibliog Chem Eng Prog 47:19-28 Ja '51

Heat transfer and heat release in fluidized beds. N. L. Carr and N. R. Amundson. bibliog Ind & Eng Chem 43:1856-62 Ag '51

Heat transfer in fluidization beds. O. P. Agarwal and J. A. Storrow. diags Chem & Ind p321-4 Ap 28 '51

Influence of solid properties on heat transfer from fluidized solid medium. J. R. Campbell and F. Rumford. bibliog diag Soc Chem Ind J 69:373-7 D '50

Locating fluidized solids bed level in a reactor; hot wire method. G. L. Osberg. diags Ind & Eng Chem 43:1871-3 Ag '51

Measuring fluidization uniformity. C. F. Gerald; R. D. Morse. Chem Eng Prog 47:483-4 S '51

Morgantown fluidized feeder. J. H. Holden and C. W. Albright. il diags Am Gas Assn Proc 1950:493-500

New data for heat transfer to fluidized solids. R. A. Koble and others. bibliog Chem Eng 58:174-5 S '51

Oil from Alberta bituminous sand; pilot plant for studying application of fluidized solids technique. W. S. Peterson and P. E. Gishler. bibliog il plan diag Pet Eng 23:C66-70+ Ap '51

Pressure drop in flow of dense coal-air mixtures. C. W. Albright and others. bibliog diag Ind & Eng Chem 43:1837-40 Ag '51

Pressure drop in fluidization beds. O. P. Agarwal and J. A. Storrow. bibliog diag Chem & Ind p278-86 Ap 14 '51

Pressure feeder for powdered coal or other finely divided solids. K. R. Barker and others. il diag Ind & Eng Chem 43:1204-9 My '51

Studies in fluidization. H. L. Olin and J. S. Patterson. bibliog diags Pet Eng 23:C5-12 Je '51

Sulphur dioxide from sulphides by fluosolids. N. A. Jull and W. T. Marston. il diag Pulp & Pa of Can 52:83-7 Jl '51

Uniformity of fluidization; its measurement and use. R. D. Morse and C. O. Ballou. bibliog il diag Chem Eng Prog 47:199-204 Ap '51

FLUIDS

Chemical engineering unit operations; sixth annual review; fluid dynamics. M. Leva and M. Weintraub. Ind & Eng Chem 43:90-9 bibliog(344 ref, p96-9) Ja '51

Correlating modulus for fluid resistance in accelerated motion. H. W. Iversen and R. Balent. diags J Ap Phys 22:324-8 Mr '51

Flow measurement of fluids through small pipes. H. W. Stoll. diags Paper Tr J 132:22+ Mr 16 '51

Heat transfer to a fluid flowing turbulently in a smooth pipe with walls at constant temperature. R. A. Seban and T. T. Shimazaki. bibliog A S M E Trans 73:803-7; Discussion. 807-9 Ag '51

Influence of Reynolds number on the performance of turbomachinery. H. Davis and others. bibliog A S M E Trans 73:499-503; Discussion. 503-9 Jl '51

Investigation of turbulent flow and heat transfer in smooth tubes including the effects of variable fluid properties. R. G. Deissler. bibliog A S M E Trans 73:101-7 F '51

Kinematic viscosity curves of hydraulic fluids; chart; reference book sheet. N. M. Sverdrup. Product Eng 22:173 Ap '51

Nomograph on flow of viscous fluids. L. M. Majeske. Tool Eng 27:39 Ag '51

Non-mathematical discussion of flow measurement. J. B. McMahon. diags Pet Refiner 30:99-106 Ja '51

Observation of initial flow in a fluid obeying Darcy's law by radioactive-tracer techniques. F. T. Rogers, jr. and L. E. Schilberg. bibliog J Ap Phys 22:233-4 F '51

Pressure drop of fluid polystyrene in conduits. R. M. Wiley and J. E. Pierce. Chem Eng Prog 47:432-5 Ag '51

Pressure drop through stacked spheres; effect of orientation. J. J. Martin, W. L. McCabe and C. C. Monrad. il diags Chem Eng Prog 47:91-4 F '51

Sphere drag data at supersonic speeds and low Reynolds numbers. E. D. Kane. bibliog il diags J Aeronautical Sci 18:259-70 Ap '51

Study of the two component van der Waals fluid. J. W. Drenan and T. L. Hill. bibliog J Phys & Colloid Chem 54:1132-48 N '50

Thermodynamics and chemical kinetics of one-dimensional nonviscous flow through a Laval nozzle. S. S. Penner. J Chem Phys 19:877-81 Jl '51

Velocity of sound in fluids. C. Truesdell. bibliog J Aeronautical Sci 18:501 Jl '51

Versatile chart aids Δp calculations. J. Happel and N. Epstein. Chem Eng 57:137-8 D '50

Wave velocities above the velocity of sound. R. C. Binder. diags J Eng Educ 41:631-3 Je '51

See also

Aerodynamics
Air flow
Drops
Equation of state
Flow meters
Gas flow
Gases
Hydraulics
Hydrodynamics
Liquids
Rectification
Turbulence
Vapors
Viscosity
Water flow

FLUMES

Design of Palmer-Bowlus flumes. J. H. Ludwig and R. G. Ludwig. plan diags Sewage & Ind Wastes 23:1096-107 S '51

Floating log flume. C. Gliddon. il plan diags Pulp & Pa of Can 52:94-5+ Ja '51

See also

Parshall flume

FLUORANTHENE

Fluoranthene derivatives; the reaction of acenaphthylene with butadiene derivatives. M. C. Kloetzel and H. E. Mertel. bibliog Am Chem Soc J 72:4786-91 O '50

Friedel-Crafts reaction of fluoranthene. N. Campbell, W. K. Leadill and J. F. K. Wilshire. Chem Soc J p 1404-6 Je '51

Orientation of disubstituted fluoranthene derivatives. N. Campbell and others. Chem Soc J p2784-7 O '50

Oxidation of 4 : 11-dibromofluoranthene. N. Campbell, W. H. Stafford and J. F. K. Wilshire. Chem Soc J p 1137-8 Ap '51

Preparation of some naphthofluoranthenes and their quinones. N. Campbell, A. Marks and D. H. Reid. Chem Soc J p3466-70 D '50

Syntheses of some derivatives of 4-aza-and of 2 : 4-diaza-fluoranthene. J. W. Cook and J. S. Moffatt. Chem Soc J p 1160-70 Ap '50

Synthesis of fluoranthene by cyclodehydration. M. Orchin and L. Reggel. Am Chem Soc J 73:2955-6 Je '51

Synthesis of fluoranthenes; cyclisation of arylbutadienes; syntheses of 1 : 3-dimethyl- and of 1 : 2 : 3-trimethylnaphthalene. S. H. Tucker, M. Whalley and J. Forrest. Chem Soc J p3194-9 D '49

Synthesis of fluoranthenes; 11-methoxyfluoranthene. J. Hawkins and S. H. Tucker. Chem Soc J p3286-8 N '50

Synthesis of fluoranthenes; 10- and 11-substituted fluoranthenes. S. H. Tucker and M. Whalley. Chem Soc J p3213-16 D '49

Synthesis of fluoranthenes; utilization of the Mannich reaction. H. W. D. Stubbs and S. H. Tucker. Chem Soc J p3288-92 N '50

Ultraviolet absorption spectrum of fluoranthene. W. F. Maddams and R. Schnurmann. J Chem Phys 19:973-4 Jl '51

FLUORENE

Structure of fluorene. J. H. Weisburger, E. K. Weisburger and F. E. Ray. bibliog Am Chem Soc J 72:4250-3 S '50

FLUORENONE

Derivatives of sulfenic acids; 1-fluorenone sulfur compounds. N. Kharasch and T. C. Bruice. bibliog Am Chem Soc J 73:3240-4 Jl '51

FLUORESCENCE

Colouring matters of the aphididæ; colouring matters from aphis fabæ. J. P. E. Human and others. Chem Soc J p477-85 F '50

Directional properties of single crystal of anthracene regarding fluorescence phenomena. S. C. Ganguly and N. K. Chaudhuri. il diags J Chem Phys 19:617-18 My '51

Energy transfer between complex molecules. M. M. Moodie and C. Reid. il J Chem Phys 19:986 Jl '51

Fluorescence and the Beer-Lambert law; a note on the technique of absorption spectrophotometry. E. A. Braude, J. S. Fawcett and C. J. Timmons. Chem Soc J p 1019-21 Mr '50

Fluorescence efficiencies of some crystals for electrons and heavy particles. W. K. Jentschke and others. Phys R 83:170-1 Jl 1 '51

Fluorescence of acetone vapor. G. W. Luckey and W. A. Noyes, jr. bibliog J Chem Phys 19:227-31 F '51

Fluorescence of 1,4-diarylbutadienes and its relation to their configuration. Y. Hirshberg, E. Bergmann and F. Bergmann. Am Chem Soc J 72:5117-18 N '50

Fluorescence of magnesium germanate activated by manganese. F. A. Kroeger and J. van den Boomgaard. bibliog Electrochem Soc J 97:377-82 N '50

Fluorescence of solutions bombarded with high energy radiation (energy transport in liquids). H. Kallmann and M. Furst. bibliog il diag Phys R 79:857-70; 81:853-64 S 1 '50, Mr 1 '51

Fluorescence quenching by colloid anions and cations. J. E. Lovelock. Chem Soc J p 115-20 Ja '51

Fluorescence yield of argon. D. L. Dexter and W. W. Beeman. bibliog Phys R 81:456 F 1 '51

Fluorescent decay of scintillation crystals. S. H. Liebson and others. bibliog Phys R 80:907-8 D 1 '50

Fluorescent reagents; acyl chlorides and acyl hydrazides. W. Baker, C. N. Haksar and J. F. W. McOmie. Chem Soc J p 170-3 Ja '50

Method for estimating soil, using ultraviolet light techniques. L. F. Hoyt. il diag Steel 128:103-4 Ja 15 '51

New color for advertisers; Day-Glo daylight fluorescent colors. L. Lapsley. il Adv Agency 44:76+ Mr '51

Polycyclic aromatic hydrocarbons; synthesis of the metabolic oxidation products of 3 : 4-benzpyrene. J. W. Cook, R. S. Ludwiczak and R. Schoental. Chem Soc J p 1112-21 Ap '50

Quenching of fluorescence in solution; effect of the structure of the quencher on the efficiency of the reaction. J. C. Rowell and V. K. LaMer. bibliog Am Chem Soc J 73:1630-4 Ap '51

Quenching of mercury resonance radiation; the effective cross sections of paraffin hydrocarbons. B. D. Darwent. diags J Chem Phys 18:1532-7 D '50

Radiance amplification by multi-stage fluorescence system. W. A. Shurcliff. bibliog diags Opt Soc Am J 41:209 Mr '51

Test for fluorescence. A. di Bernardo and J. E. Tyler. diag Opt Soc Am J 41:558-9 Ag '51

There's no secret about the new fluorescent inks. il Ptr Ink 235:40-1 Je 15 '51

Use of selective fluorescent stains to detect insect egg plugs on grain kernels. M. Milner and others. Science 112:791-2 D 29 '50

X-ray fluorescence analysis of ethyl fluid in aviation gasoline. L. S. Birks and others. diag Anal Chem 22:1258-61 O '50

See also

Dyes and dyeing—Fluorescence

Fluorometers

Luminescence

Spectrum—Fluorescence spectra

FLUORESCENT lamps. See Electric lamps, Fluorescent

FLUORIDATION of water. See Water supply—Fluorine content

FLUORIDES

Bonding of trihalide and bifluoride ions by the molecular orbital method. G. C. Pimentel. bibliog J Chem Phys 19:446-8 Ap '51

Effect of fluorine carriers on crops and drainage waters. W. H. MacIntire and others. bibliog Ind & Eng Chem 43:1797-9 Ag '51

Formation of complex fluorides; reactions in anhydrous hydrogen fluoride and iodine pentafluoride. A. A. Woolf. Chem Soc J p3678-81 D '50

Formation of complex fluorides; the relation between the conductivities of boric, arsenious, and antimonic fluorides and complex formation. A. A. Woolf and N. N. Greenwood. diag Chem Soc J p2200-4 Ag '50

Fundamental study of clay; note on the effect of fluoride ions on a clay suspension. W. D. Kingery. Am Cer Soc J 34:242-4 Ag 1 '51

Metallurgical reactions of fluorides. H. H. Kellogg. bibliog J Metals 191:Trans 137-41 F '51

New developments in fluorine chemistry; halogen fluorides as possible reagents. H. J. Emeléus. Chem Age (Lond) 64:525-6 Ap 7 '51

Organic fluorides. R. N. Haszeldine and others. Chem Soc J p603-12 F '51

Organic fluorides; fluorination of aromatic hydrocarbons by use of a gold catalyst. R. N. Haszeldine and F. Smith. diag Chem Soc J p2689-94 O '50

Organic fluorides; fluorination of hydroaromatic hydrocarbons by use of a gold catalyst. R. N. Haszeldine and F. Smith. Chem Soc J p2787-9 O '50

Organic fluorides; fluorination of hydrocarbons with cobalt trifluoride. R. N. Haszeldine and F. Smith. diag Chem Soc J p3617-23 D '50

Organic fluorides; the ultra-violet absorption spectra of some aromatic compounds containing fluorine. F. Smith and L. M. Turton. Chem Soc J p 1701-5 Jl '51

Simple and complex fluorides of some noble metals. A. G. Sharpe. Chem Soc J p3444-50 D '50

Synthesis of aromatic fluorides through diazotization in anhydrous hydrogen fluoride. R. L. Ferm and C. A. VanderWerf. bibliog Am Chem Soc J 72:4809-10 O '50

Thermodynamics of fluorine-chlorine exchange reactions; the systems NaF-NaCl, BaF_2-$BaCl_2$, NiF_2-$NiCl_2$ and PbClF-$PbCl_2$. G. C. Hood and M. M. Woyski. bibliog Am Chem Soc J 73:2738-41 Je '51

See also

Chlorine fluorides

Fluorspar

Water supply—Fluorine content

Analysis

Amperometric titration of fluoride with lead. H. G. Petrow and L. K. Nash. bibliog Anal Chem 22:1274-7 O '50

Analytical use of the formation of the beryllium-fluoride complex. F. Feigl and A. Schaeffer. bibliog Anal Chem 23:351-3 F '51

Determination of fluoride content of water. Munic Util 89:11 Jl '51

Physiological effect

Toxicological and metabolic effects of fluorine-containing compounds. J. Larner. bibliog(103 ref) Ind Med 19:535-9 N '50; Abstract. Nat Safety N 63:60+ F '51

FLUORINATION

Action of elementary fluorine upon organic compounds; fluorine and cobaltic fluoride as fluorinating agents for ketones. F. F. Holub and L. A. Bigelow. bibliog diags Am Chem Soc J 72:4879-84 N '50

Action of elementary fluorine upon organic compounds; the vapor phase fluorination of CHCl-CCl-CHF_2. M. Hauptschein and L. A. Bigelow. Am Chem Soc J 73:1428-30 Ap '51

Chemical engineering unit processes fourth annual review; halogenation. E. T. McBee and O. R. Pierce. bibliog(104 ref) il Ind & Eng Chem 43:1974-8 S '51

FLUORINATION—*Continued*

Fluorinated derivatives of propane containing a $-CHF_2$ group. H. W. Davis and A. M. Whaley. bibliog Am Chem Soc J 72:4637-8 O '50

Fluorinated ethers. A. L. Henne and M. A. Smook. bibliog Am Chem Soc J 72:4378-80 O '50

Fluorination of compounds of vanadium, chromium, and manganese by bromine trifluoride. A. G. Sharpe and A. A. Woolf. Chem Soc J p798-801 Mr '51

Fluorination of methoxydichlorophosphine. D. R. Martin and P. J. Pizzolato. bibliog Am Chem Soc J 72:4584-6 O '50

Fluorination of organic compounds containing nitrogen. R. N. Haszeldine. Chem Soc J p 1966-8 Jl '50

Fluorination of pentanes by cobalt trifluoride. E. J. Barber, L. L. Burger and G. H. Cady. Am Chem Soc J 73:4241-3 S '51

Heterocyclic perfluoro-compound. R. N. Haszeldine. Chem Soc J p 1638 Je '50

Ionization constants of fluorinated acids. A. L. Henne and C. J. Fox. Am Chem Soc J 73:2323-5 My '51

Metallurgical reactions of fluorides. H. H. Kellogg. bibliog J Metals 191:Trans 140-1 F '51

Near ultraviolet absorption spectra of some fluorinated derivatives of methane and ethylene. J. R. Lacher and others. bibliog Am Chem Soc J 72:5486-9 D '50

Organic fluorides; fluorination of aromatic hydrocarbons by use of a gold catalyst. R. N. Haszeldine and F. Smith. diag Chem Soc J p2689-94 O '50

Organic fluorides; fluorination of hydroaromatic hydrocarbons by use of a gold catalyst. R. N. Haszeldine and F. Smith. Chem Soc J p2787-9 O '50

Organic fluorides; fluorination of hydrocarbons with cobalt trifluoride. R. N. Haszeldine and F. Smith. diag Chem Soc J p3617-23 D '50

Perfluorinated Grignard derivatives. A. L. Henne and W. C. Francis. Am Chem Soc J 73:3518 Jl '51

Positive bromine from perfluorinated N-bromoimides. A. L. Henne and W. F. Zimmer. Am Chem Soc J 73:1103-4 Mr '51

Some properties of perfluorocarboxylic acids. E. A. Kauck and A. R. Diesslin. bibliog il Ind & Eng Chem 43:2332-4 O '51

Unit processes; Chemical Engineering report, March 1951; halogenation. P. H. Groggins. diag Chem Eng 58:133-4 Mr '51

Vapor-liquid equilibrium of antimony pentafluoride-hydrogen fluoride; properties of antimony pentafluoride. R. C. Shair and W. F. Schurig. bibliog diag Ind & Eng Chem 43:1624-7 Jl '51

FLUORINE

Action of elementary fluorine upon organic compounds; fluorine and cobaltic fluoride as fluorinating agents for ketones. F. F. Holub and L. A. Bigelow. bibliog diags Am Chem Soc J 72:4879-84 N '50

Angular distribution of the alpha-particles and of the gamma-rays from the disintegration of fluorine by protons. C. Y. Chao. bibliog Phys R 80:1035-42 D 15 '50

Antiquity of man in America demonstrated by the fluorine test. T. D. Stewart. Science 113:391-2 Ap 6 '51

Capture cross sections for fast neutrons. R. L. Henkel and H. H. Barschall. bibliog diags Phys R 80:145-9 O 15 '50

Dissociation energy of fluorine. M. G. Evans, E. Warhurst and E. Whittle. bibliog Chem Soc J p 1524-34 Je '50

Effect of distillers' solubles containing fluorine on the development of dental enamel in swine's teeth. J. A. English. bibliog il diags Science 113:678-80 Je 15 '51

Fluorine content of some miocene horse bones. R. Olsen. Science 112:620-1 N 24 '50

Fluorine symposium; A.C.S. Division of industrial and engineering chemistry. Chem & Eng N 29:3830 S 17 '51

Gamma-rays from deuteron bombardment of B^{10}, B^{11}, N^{14}, and F^{19}. J. Terrell and G. C. Phillips. bibliog Phys R 83:703-8 Ag 15 '51

Heat of dissociation of fluorine. R. N. Doescher. J Chem Phys 19:1070-1 Ag '51

Materials for fluorine control equipment. G. E. Zima and R. N. Doescher. il diags Metal Prog 59:660-3 My '51

Measurement of the F^{19} magnetic moment. T. Kanda and others. diag Phys R 83:1066 S 1 '51

Neutron capture γ-rays from fluorine, sodium, magnesium, aluminum, and silicon. B. B. Kinsey and others. bibliog diag Phys R 83:519-34 Ag 1 '51

Nuclear electron pairs from $F^{19}(p,\alpha)*O^{16}$. G. C. Phillips and N. P. Heydenburg. bibliog Phys R 83:184-5 Jl 1 '51

Photo-disintegration of the deuteron by lithium and fluorine γ-rays. P. V. C. Hough. bibliog diags Phys R 80:1069-75 D 15 '50

Pilot plant study of fluorine and its derivatives. F. R. Lowdermilk and others. bibliog il J Chem Educ 28:246-52 My '51

Proton groups from the deuteron bombardment of F^{19} and P^{31}. R. C. Allen and W. Rall. bibliog Phys R 81:60-2 Ja 1 '51

Reaction of fluorine with the oxides and oxy-compounds of manganese and rhenium. E. E. Aynsley, R. D. Peacock and P. L. Robinson. diag Chem Soc J p 1622-4 Je '50

Recent advances in fluorine chemistry. G. C. Finger. bibliog J Chem Educ 28:49-52 Ja '51

Rock fluorine. il Chem Ind W 68:27 Ja 27 '51

Thermodynamic functions for fluorine. G. M. Murphy and J. E. Vance. bibliog J Chem Phys 18:1514-15 N '50

Total cross sections of Be, B, O, and F for fast neutrons. C. K. Bockelman. bibliog Phys R 80:1011-13 D 15 '50

See also

Plants—Fluorine content

Water supply—Fluorine content

Analysis

Determination of fluorine in monofluorinated organic compounds in air and water. J. M. Salsbury and others. bibliog il diag Anal Chem 23:603-8 Ap '51

Determination of fluorine in organic compounds. J. F. Ellis and W. K. R. Musgrave. Chem Soc J p 1969-70 Jl '50

Determination of fluorine in organic compounds; microcombustion method. H. S. Clark. bibliog diag Anal Chem 23:659-61 Ap '51

Determination of fluorine; organic fluorine compounds. bibliog Chem Age (Lond) 65: 47-8+ Jl 14 '51

Microdetermination of fluorine in solid halocarbons. R. R. Rickard, F. L. Ball and W. W. Harris. bibliog diag Anal Chem 23: 919-21 Je '51

Isotopes

Beta-decay of F^{17}. H. T. Richards. bibliog Phys R 83:694 Ag 1 '51

Low states of F^{17} and neutrons from $O^{16}+D$. F. Ajzenberg. bibliog Phys R 83:693 Ag 1 '51

Radiations from F^{18}, Mo^{93}, Cl^{34}. L. Ruby and J. R. Richardson. bibliog Phys R 83:698-700 Ag 15 '51

Radioactivity of F^{17}. P. Perez-Mendez and P. Lindenfeld. Phys R 80:1097-8; 83:864 D 15 '50, Ag 15 '51

FLUORINE compounds

Aromatic fluorine compounds; 1,2,3,5-tetrafluorobenzene. G. C. Finger, F. H. Reed and R. E. Oesterling. Am Chem Soc J 73:152-3 Ja '51

Aromatic fluorine compounds; 1,2,4,5-tetrafluorobenzene and related compounds. G. C. Finger and others. Am Chem Soc J 73:145-9 Ja '51

Aromatic fluorine compounds; the fluoromesitylenes and derivatives. G. C. Finger and others. bibliog Am Chem Soc J 73:149-51 Ja '51

Aromatic fluorine compounds; 1,3,5-trifluorobenzene. G. C. Finger, F. H. Reed and J. L. Finnerty. bibliog Am Chem Soc J 73: 153-5 Ja '51

Dipole moments of some fluorine-containing organic compounds. P. E. Brown, T. De Vries and A. L. Meyers. Am Chem Soc J 73:1811-15 Ap '51

Directed halogenation in fluorinated aromatic compounds. J. D. Park, H. A. Brown and J. R. Lacher. Am Chem Soc J 73:709-11 F '51

FLUORINE compounds—*Continued*

Effect of fluorine substitution on medicinal agents; synthesis of 2-trifluoromethyl-1,4-naphthoquinone. A. F. Helin, A. Sveinbjornsson and C. A. VanderWerf. Am Chem Soc J 73:1189-90 Mr '51

Electrical breakdown in CSF_8. R. Geballe and F. S. Linn. bibliog J Ap Phys 21:592-4 Je '50

Fluorine chemicals. L. C. Mosier and W. E. White. il plan diag Ind & Eng Chem 43: 246-8 Ja '51

Infra-red and Raman spectra of fluorinated ethanes; 1,1,1-trifluoroethane. J. R. Nielsen and others. bibliog J Chem Phys 18:1471-6 N '50

Inorganic compounds containing sulfur and fluorine. H. C. Miller and J. F. Gall. bibliog Ind & Eng Chem 42:2223-7 N '50

Organic fluoro-compounds; the Hoesch reaction with trifluoromethyl and trichloromethyl cyanides. W. B. Whalley. Chem Soc J p665-71 Mr '51

Organic fluoro-compounds; the preparation of alkyl 2 : 4-dinitrophenyl ethers from 1-fluoro-2 : 4-dinitrobenzene. W. B. Whalley. Chem Soc J p2241-3 Ag '50

Organic fluoro-compounds; 2 : 4 : 6-trinitro-3-hydroxybenzotrifluoride; a new reagent for the characterisation of amines and pyranol bases. W. B. Whalley. Chem Soc J p2792-4 O '50

Pennsalt shares consultant with Philadelphia area researchers; results of fluoride research in England. R. N. Hazseldine. Chem & Eng N 29:3008+ Jl 23 '51

Perfluoro-*tert.*-amines. R. N. Haszeldine. Chem Soc J p 102-4 Ja '51

Pest control in Germany; Schrader's work on insecticides. Chem Age (Lond) 64:813-16 My 26 '51

Pilot plant study of fluorine and its derivatives. F. R. Lowdermilk and others. bibliog il J Chem Educ 28:246-52 My '51

Preparation of complex fluoro-acid salts of metals and of the nitronium ion by means of bromine trifluoride. A. A. Woolf and H. J. Emeléus. Chem Soc J p 1050-2 Ap '50

Preparation of heterocyclic fluorine compounds by the Schiemann reaction; some monofluoroisoquinolines. A. Roe and C. E. Teague, jr. bibliog Am Chem Soc J 73: 687-8 F '51

Preparation of hexafluoroniobates, hexafluorotantalates, and hexafluorobismuthates by means of bromine trifluoride. V. Gutmann and H. J. Emeléus. Chem Soc J p 1046-50 Ap '50

Preparation of nitrosyl complex fluorides and of fluorosulphonates by means of bromine trifluoride. A. A. Woolf. Chem Soc J p 1053-6 Ap '50

Preparation of terminally unsaturated perfluoro olefins by the decomposition of the salts of perfluoro acids. L. J. Hals, T. S. Reid and G. H. Smith, jr. Am Chem Soc J 73:4054 Ag '51

Reaction of perfluoroalkyl chlorides with silicon. E. F. Izard and S. L. Kwolek. Am Chem Soc J 73:1156-8 Mr '51

Reactions of polyfluoro olefins; preparation of polyfluoro ethers. J. T. Barr and others. bibliog Am Chem Soc J 72:4480-2 O '50

Reactivity of halonitrobenzenes and of 1-fluoro-2 : 4-dinitrobenzene. N. B. Chapman and others. Chem & Ind p 148 F 24 '51

Some fluorine containing isosteres of sulfa drugs. A. Sveinbjornsson and C. A. VanderWerf. Am Chem Soc J 73:869-70 F '51

Synthesis of some fluorine substituted adrenergic blocking agents. A. F. Lindenstruth and C. A. VanderWerf. Am Chem Soc J 73:4209-11 S '51

Vapor pressures and freezing points of some organic fluorine compounds. J. C. Potter and J. H. Saylor. bibliog Am Chem Soc J 73:90-1 Ja '51

See also
Chlorotrifluoroethylene
Fluorocarbons

FLUORINE oxides

New measurements on the infrared spectrum of F_2O. E. A. Jones and others. J Chem Phys 19:337-9, 379 Mr '51

FLUOROACETATES

New developments in the chemistry of war gases. M. F. Sartori. bibliog Chem R 48: 236-45 Ap '51

FLUOROBENZENE

Aromatic fluorine compounds; 1,2,3,5-tetrafluorobenzene. G. C. Finger, F. H. Reed and R. E. Oesterling. Am Chem Soc J 73:152-3 Ja '51

Aromatic fluorine compounds; 1,2,4,5-tetrafluorobenzene and related compounds. G. C. Finger and others. Am Chem Soc J 73:145-9 Ja '51

Aromatic fluorine compounds; 1,3,5-trifluorobenzene. G. C. Finger, F. H. Reed and J. L. Finnerty. bibliog Am Chem Soc J 73: 153-5 Ja '51

Organic fluorides; the ultra-violet absorption spectra of some aromatic compounds containing fluorine. F. Smith and L. M. Turton. Chem Soc J p 1701-5 Jl '51

FLUOROBORIC acid

Spectrophotometric study of the hydrolysis products, some possible complexes and metal salts of fluoroboric acid. E. R. Scheffer and E. M. Hammaker. bibliog Am Chem Soc J 72:5607-9 D '50

FLUOROBUTYRIC acid

Reactions of fluorocarbon radicals; the synthesis of heptafluorobutyric acid. R. N. Haszeldine. Chem Soc J p2789-92 O '50

FLUOROCARBONS

Cooling by boiling. il Chem W 69:24 S 1 '51

Fluorine and fluorine substituted hydrocarbons. Chem Age (Lond) 65:323-6 S 8 '51

Fluorocarbon chemistry; the decomposition of undecafluorocyclohexanecarboxylic acid in aqueous solution. T. J. Brice and J. H. Simons. Am Chem Soc J 73:4017-18 Ag '51

Fluorocarbon chemistry; the preparation and some reactions of silver undecafluorocyclohexanecarboxylate. T. J. Brice and J. H. Simons. Am Chem Soc J 73:4016-17 Ag '51

Organic fluorides; the chemical and physical properties of certain fluorocarbons. R. N. Haszeldine and F. Smith. Chem Soc J p603-8 F '51

Reactions of fluorocarbon radicals; the reaction of trifluoroiodomethane with acetylene. R. N. Haszeldine. diag Chem Soc J p3037-41 N '50

Reactions of fluorocarbon radicals; the synthesis of heptafluorobutyric acid. R. N. Haszeldine. Chem Soc J p2789-92 O '50

Reactions of fluorocarbon radicals; the synthesis of 3 : 3 : 3-trifluoropropyne. R. N. Haszeldine. Chem Soc J p588-91 F '51

Solubility of perfluoro-*n*-heptane with benzene, carbon tetrachloride, chloroform, *n*-heptane and 2,2-4-trimethylpentane. J. H. Hildebrand, B. B. Fisher and H. A. Benesi. bibliog Am Chem Soc J 72:4348-51 O '50

Analysis

Microdetermination of fluorine in solid halocarbons. R. R. Rickard, F. L. Ball and W. W. Harris. bibliog diag Anal Chem 23:919-21 Je '51

FLUORODINITROBENZENE

Organic fluoro-compounds; the preparation of alkyl 2 : 4-dinitrophenyl ethers from 1-fluoro-2 : 4-dinitrobenzene. W. B. Whalley. Chem Soc J p2241-3 Ag '50

Reactivity of halonitrobenzenes and of 1-fluoro-2 : 4-dinitrobenzene. N. B. Chapman and others. Chem & Ind p 148 F 24 '51

FLUOROETHANOL

Analysis

Determination of fluorine in monofluorinated organic compounds in air and water. J. M. Salsbury and others. bibliog il diag Anal Chem 23:603-8 Ap '51

FLUOROISOQUINOLINE

Preparation of heterocyclic fluorine compounds by the Schiemann reaction; some monofluoroisoquinolines. A. Roe and C. E. Teague, jr. bibliog Am Chem Soc J 73: 687-8 F '51

FLUOROMETERS

Improved photoelectric fluorometer. W. C. Alford and J. H. Daniel. bibliog il diags Anal Chem 23:1130-3 Ag '51

FLUOROMETRIC analysis

Detection of nitrogen in organic compounds. L. E. Brown and C. L. Hoffpauir. bibliog Anal Chem 23:1035-6 Jl '51

FLUOROMETRIC analysis—*Continued*

Determination of lithium in rocks; fluorometric method. C. E. White, M. H. Fletcher and J. Parks. bibliog Anal Chem 23:478-81 Mr '51

Determination of uranium in ores. F. T. Rabbitts. diags Can Chem & Process Ind 34:981-2+ D '50

Fluorometric determination of benzil. S. Sass and J. Goldenson. bibliog Anal Chem 23:540-1 Mr '51

Fluorometric determination of nicotinamide by use of synthetic ion exchange resins. M. Kato and H. Shimizu. bibliog diags Science 114:12-14 Jl 6 '51

Fluorometric determination of 2-nitro-naphthalene. F. L. English and J. W. Eppert. Anal Chem 23:717-20 My '51

Fluorometric determination of zirconium in minerals. W. C. Alford, L. Shapiro and C. E. White. bibliog Anal Chem 23:1149-52 Ag '51

Improved photoelectric fluorometer. W. C. Alford and J. H. Daniel. bibliog il diags Anal Chem 23:1130-3 Ag '51

Use of fluorescence in qualitative analysis. C. E. White. bibliog diags J Chem Educ 28:369-72 Jl '51

FLUOROPHOSPHATES

New developments in the chemistry of war gases. M. F. Sartori. bibliog Chem R 48:245-54 Ap '51

FLUOROPHOSPHORIC acid

Esters of monofluorophosphoric acid. A. Hood and W. Lange. bibliog Am Chem Soc J 72:4956-8 N '50

Fluorine chemicals. L. C. Mosier and W. E. White. il plan diag Ind & Eng Chem 43:246-8 Ja '51

FLUOROQUINOLINE

Hydrolysis of 2-fluoroquinoline in acid solution. W. K. Miller, S. B. Knight and A. Roe. Am Chem Soc J 72:4765-7 O '50

Spectrophotometric determination of the approximate dissociation constants of the monofluoroquinolines. W. K. Miller, S. B. Knight and A. Roe. Am Chem Soc J 72:4763-5 O '50

FLUOROSCOPY

Fluoroscopic co-axial cable test. R. M. Kreuger and H. M. Neben. il diags Tele-Tech 9:41-3+ D '50

Intensification of X-ray fluorescent images. W. S. Lusby. il diag Elec Eng 70:292-6 Ap '51

Northrop checks all castings by fluoroscopy. T. E. Piper and J. G. Schneeman. il diags Mach 57:172-7 Jl '51

FLUOROSILANE

Electric moments of organosilicon compounds; fluorides and chlorides. C. Curran, R. M. Witucki and P. A. McCusker. bibliog Am Chem Soc J 72:4471-4 O '50

FLUOROSULFONIC acid

Fluorosulphonic acid as a cyclodehydrating agent. W. Baker, G. E. Coates and F. Glockling. Chem Soc J p 1376-7 My '51

FLUOROTHENE. See Chlorotrifluoroethylene

FLUORSPAR

Fluorspar, 1950. H. W. Davis. Eng & Min J 152:105, 107 F '51

Fluorspar prospects of Montana. C. P. Ross. maps diag U S Geol S Bul 955-E:173-224, pl 18-28; pa $1 Supt. of doc. '50

Heavy-media separation. flow sheet il diag Am Cer Soc Bul 30:63-6 Mr 15 '51

Unusual fracture traverse in fluorite. C. A. Zapffe. il Science 114:33-4 Jl 13 '51

FLUOSILICATES

Some aqueous salt systems involving fluosilicates. J. E. Ricci and J. A. Skarulis. bibliog Am Chem Soc J 73:3618-27 Ag '51

FLUOSILICIC acid

Acidimetric titrations in the fluosilicic acid system. S. M. Thomsen. bibliog Anal Chem 23:973-5 Jl '51

Low-reflection films produced on glass in a liquid fluosilicic acid bath. S. M. Thomsen. RCA R 12:143-9 Mr '51

FLURAL

Fluoridation, new, safer chemical; abstract. W. E. White. Chem Eng 58:272+ My '51

FLUX

Recent developments in fluxes for welding. W. M. Conn. bibliog J Metals 191:98-9 F '51

FLUXMETERS

Checking a fluxmeter with simple apparatus. T. A. Ledward. diags Electrician 145:1123-4 N 24 '50

Nuclear fluxmeter. il R Sci Instr 21:942 N '50

FLY ash. See Flue dust

FLY sprays and repellents

DuPont develops new dairy barn fly killer. Oil Paint & Drug Rep 159:43 Ja 22 '51

Fly control problems discussed by American association of economic entomologists. Oil Paint & Drug Rep 158:5+ D 18 '50

Four years of fly control at the Illinois state fair. C. W. Klassen and J. D. Williams. il Pub Works 82:43-5+ My '51

Outlook for house fly control. F. C. Bishopp. bibliog Soap & San Chem 26:118-20+ D '50

Rosin as an insecticide adhesive in outdoor DDT residual sprays. J. A. Jensen and others. Soap & San Chem 26:121+ N '50

Toxicology of two butoxypolypropylene glycol fly repellents. C. P. Carpenter and others. A M A Archives Ind Hygiene & Occup Med 4:261-9 S '51

Where are we going with fly resistance? G. C. Decker and W. N. Bruce. Soap & San Chem 27:139+ Je '51

Testing

New methods of house fly control in dairy barns. D. Pimentel and others. bibliog il Soap & San Chem 27:102-3+ Ja '51

Potentiation of DDT against resistant houseflies by several structurally related compounds. W. T. Sumerford and others. bibliog Science 114:6-7 Jl 6 '51

FLYING boats

Application of basic research to seaplane design. J. D. Pierson. il diags S A E J 59:42-5 Jl '51

Atom, power for flight; flying boat first. D. A. Anderton. Aviation W 54:21-2+ Je 11 '51

Convair boat. diag Aero Digest 61:47 N '50

Convair flying boat may have big role; possible atomic bomb carrier. Aviation W 55:18 Ag 13 '51

Flying boats in war. P. H. Mackworth. Engineering 171:268 Mr 2 '51

Fully demountable twin-hull assembly buck for seaplanes. R. E. Bechtol. il Automotive Ind 105:46-7 Ag 15 '51

Hughes boat being prepared for new flight. B. S. Lee. il Aviation W 54:17-18 Ap 2 '51

Hughes boat to fly late this month. Aviation W 55:17 Jl 2 '51

Martin's first production P5M Marlin flies. il Aviation W 55:16 Jl 2 '51

Princess readied for long-range role. Aviation W 53:37 N 13 '50

Review of high-speed hydrodynamic development. E. R. Stout. Aviation W 55:18 S 10; 20-6 O 1 '51

Seaplane in the U.S. coast guard; abstracts. D. B. MacDiarmid. il S A E J 59:56-7 Ag '51; Aviation W 54:16 My 28 '51

Tank investigation of a powered dynamic model of a large long-range flying boat. J. B. Parkinson and others. bibliog il diags U S Nat Advisory Com for Aeronautics 1947:217-39 '50

Theoretical investigation of hydrodynamic impact loads on scalloped-bottom seaplanes and comparisons with experiment. B. Milwitzky. bibliog il diags U S Nat Advisory Com for Aeronautics 1947:109-24 '50

Beaching gear

Boat beacher; self-propelled Edo gear goes after flying boat and brings it to shore. il Aviation W 55:32+ Ag 6 '51; Mech Eng 73:827-8 O '51

FLYING bombs. See Bombs, Flying

FLYING saucers. See Balloons, Meteorological

FLYING tiger lines, inc.

Income increasing sharply. Barron's 31:18 Mr 19 '51

FLYWHEELS

Case for flywheel loom motors. R. J. Demartini. il Textile World 101:125+ Ap '51

Flywheel engines; Gyrobus. il Tech R 53:16+ N '50; For Comm W 42:15 Ja 8 '51

Will mine locomotives soon be powered by flywheels? diag Eng & Min J 152:107 Mr '51

FOAM

Air foam in fire fighting. W. A. Beaumont. Rough Notes 94:36 O '51

All out for fire protection; mechanical foam installation on the Atlantic Seaman. J. H. Myers. il diag Nat Safety N 63:20-1+ Ap '51; Same cond. Marine Eng 56:64-7 My '51

Foam suppression of petrol fires. Chem Age (Lond) 63:750 N 25 '50

New fire fighting methods. il Mech Eng 73:739-40 S '51

Viscosity of fire-fighting foam. C. S. Grove, jr. and others. bibliog diags Ind & Eng Chem 43:1120-2 My '51

FOAM glass. See Glass, Cellular

FOAMING

Chronic toxicity of the methylpolysiloxane DC antifoam R A in dogs. G. P. Child and others. A M A Archives Ind Hygiene & Occup Med 3:479-82 My '51

Control of foaming. R. E. Pattle. bibliog il diag Soc Chem Ind J 69:363-71 D '50

Detergents and sewage treatment plant foaming. R. E. Anderson and others. Pub Works 82:96-7 Je '51

Foams; unwanted foaming may cause damage to the product, impairment of efficiency, and financial loss. S. Ross. Gen Elec R 54:37-8 Je '51

FOG

United to launch fog-chasing trials. Aviation W 54:85 Je 18 '51

FOG, Chemical

Fog formation in cooler-condensers; mixtures of nitrogen and vapors of sulfur, *n*-butyl alcohol, and water. H. F. Johnstone, M. D. Kelley and D. L. McKinley. bibliog diags Ind & Eng Chem 42:2298-302 N '50

FOG signals

Lights and fog signals in Sweden; abstract. S. Oberg. Engineering 170:477 D 8 '50

FOILS, Metal. See Metal foils

FOKKER-PLANCK equation

First passage time probability problem. A. J. F. Siegert. bibliog Phys R 81:617-23 F 15 '51

FOLDING machines

Sheets fed automatically on folder. il Machine Design 23:133 F '51

FOLDS (geology)

Folded overthrust and its effect upon stream development in central Virginia. R. O. Bloomer. bibliog maps diag Am J Sci 249:640-53, pl 1-2 S '51

Some aspects of rock folding by shearing deformation. J. D. Campbell. diags Am J Sci 249:625-39 S '51

FOLIC acid

2-Amino-4-hydroxy-6-pteridinecarboxaldehyde. C. W. Waller and others. bibliog Am Chem Soc J 72:4630-3 O '50

Analogs of pteroylglutamic acid. B. Roth, J. M. Smith, jr. and M. E. Hultquist. bibliog Am Chem Soc J 73:2864-71 Je '51

Analogs of pteroylglutamic acid; 3',5'-dihalopteroyl derivatives. D. B. Cosulich and others. bibliog Am Chem Soc J 73:2554-7 Je '51

Citrovorum factor activity of tetrahydropteroylglutamic acid. H. P. Broquist and others. Am Chem Soc J 73:3535-6 Jl '51

Cleavage and oxidation of pteroylglutamic acid by enzyme solution. K. Makino and K. Yamamoto. Science 113:212 F 23 '51

Enzymatic synthesis of folic acid by the action of carp thiaminase. D. W. Woolley. Am Chem Soc J 73:1898 Ap '51

Modified colorimetric assay of pteroylglutamic acid. R. A. Kaselis and others. bibliog Anal Chem 23:746-51 My '51

Modified synthesis of pteroylglutamic acid. S. Uyeo and others. bibliog Am Chem Soc J 72:5339-40 N '50

Proposed structure for folinic acid-SF, a growth factor derived from pteroylglutamic acid. A. Pohland and others. Am Chem Soc J 73:3247-52 Jl '51

Synthetic and degradative investigations of the structure of folinic acid-SF. M. May and others. bibliog Am Chem Soc J 73:3067-75 Jl '51

FOLINIC acid

Hematologic effect of folinic acid (citrovorum factor) in persons with pernicious anemia. T. Jarrold and others. bibliog Science 113:688-9 Je 15 '51

Proposed structure for folinic acid-SF, a growth factor derived from pteroylglutamic acid. A. Pohland and others. Am Chem Soc J 73:3247-52 Jl '51

Synthetic and degradative investigations of the structure of folinic acid-SF. M. May and others. bibliog Am Chem Soc J 73:3067-75 Jl '51

Synthetic compound with folinic acid activity. E. H. Flynn and others. Am Chem Soc J 73:1979-82 My '51

FOLLOW-up systems

Blue-sky claim that backfired. G. B. Chandless, jr. il Ptr Ink 233:43 N 10 '50

Handling and follow-up of product inquiries; abstract. Management R 39:614-15 O '50

We think of advertising as correspondence; Upson company panels. A. E. Calver. il Ptr Ink 234:38-40+ F 16 '51

Why you should keep track of the follow-up. C. J. Parsch. Ptr Ink 236:46-7 Ag 10 '51

FONDANTS

Now, a readily made fondant for bakers, confectioners. R. N. Prince. il Food Eng 23:100-1+ Ag '51

FONTANA, California

Industries

Utility teamwork; virgin industrial district. J. H. Collins. Pub Util 47:611-18 My 10 '51

FOOD

Effect of chemicals on foods is project for new NRC committee under St John. Chem & Eng N 28:3779 O 30 '50

More food; chemicals raise crop yields, improve farm produce quality. D. Marshall. Barron's 31:15-16 S 10 '51

See also

Bakers and bakeries
Bread
Butter
Cake
Canned food
Coloring matter in food
Dairy products
Diet
Eggs
Farm produce
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Jelly, jam, etc.
Meat
Milk
Nutrition
Potatoes
Poultry
Restaurants
Shortening
Sugar
Vegetables
Vitamins
Yeasts

Analysis

Physical methods of food analysis. Chem Age (Lond) 63:877-8 D 23 '50

Third annual review of analytical chemistry. J. R. Matchett. Anal Chem 23:221-7 bibliog(204 ref, p226-7) F '51

Bacteriology

Bacteria in frozen vegetables; abstract. G. J. Kucker and W. B. Robinson. Food Ind 23:175-6 Mr '51

Projection method speeds bacteria counts. T. Knowles. il Food Ind 23:129-30 F '51

Chemistry

Analytical control and investigation in the food industry; abstract and discussion. E. B. Hughes. Chem & Ind p231-2 Mr 24 '51

Applications of amino acids and proteins hydrolysates in the food industries. H. G. Rees. Chem & Ind sup S875-7 D 30 '50

Chemical progress during the 75 years of the American chemical society. J. C. Blanck and others. il Ind & Eng Chem 43:564-76 Mr '51

Chemistry in food research. il Chem Age (Lond) 63:809-11 D 9 '50

Effect of government regulations on commercial chemical development; chemicals in foods. I. Fogg. Chem & Eng N 29:1933-5 My 14 '51

Gaging the toxicity of chemicals in foods. B. L. Oser. bibliog il Chem & Eng N 29:2808-12 Jl 9 '51

Insect infestation

Ants, and other bugs, in the pantry. il Consumers Res Bul 28:13-15 S '51

FOOD—Insect infestation—*Continued*

Radioactive tracer studies on the fate of insecticides; abstract and discussion. F. P. W. Winteringham. Chem & Ind p405-6 My 26 '51

Use of selective fluorescent stains to detect insect egg plugs on grain kernels. M. Milner and others. Science 112:791-2 D 29 '50

Manufacture

House of 1,000 foods; Sanders of Detroit. J. V. Ziemba. il Food Eng 23:90-7+ S '51

New nitrogen technic assures fine grinding, in only one pass. G. Miller. il diags Food Eng 23:36-7 Jl '51

Silicones speed, sanitize processes. T. A. Kauppi. il Food Ind 23:44-6+ Ja '51

Oil content

Free oil in packaged foods; method of measuring resistance of container materials to stain. A. H. Landrock and B. E. Proctor. bibliog diag Mod Packaging 24:107-12 Ag '51

Prices

CIO steps up drive for food subsidies. H. Murphy. Barron's 31:24 Ap 2 '51

Food prices won't change much; OPS' stopgap controls. Bsns W p 106-7 Ap 7 '51

High-profit claims fade under probe of canners. J. A. J. Jones. Food Eng 23:112-13 Ag '51

Retail food prices, United States, Canada, United Kingdom, France, Netherlands and Switzerland; 1941-1949 and monthly Nov. 1949-Nov. 1950. Fed Res Bul 37:119 Ja '51 [cont monthly]

Work time required to buy food, 1937-50, in United States and 19 foreign countries; with technical notes on methodology. I. B. Kravis. Mo Labor R 72:143-51, 195-7 F '51

Standards

Copper in foods; metallic contamination subcommittee of food standards committee; report. Chem Age (Lond) 65:225-6 Ag 18 '51

Gaging the toxicity of chemicals in foods. B. L. Oser. bibliog il Chem & Eng N 29:2808-12 Jl 9 '51

Storage

Safeguard your raw materials and you safeguard profits. J. C. Dawson and R. Millard. il Food Eng 23:67-8+ S '51

See also

Cold storage

Food, Frozen—Storage

Testing

How QM maps the food acceptance salient. D. R. Peryam. il Food Ind 22:1910-13+, 2049-51+ N-D '50

New flavor evaluation method. D. R. Peryam and others. il diags Food Eng 23:83-6+ Ag '51

Transportation

Bonded-block paper-tied loads cut damage for American home foods. C. B. Roeder. il Ry Age 131:52-5 Jl 2 '51

Food group and Liverpool section; discussion on marine transport of food. Chem & Ind p290-2 Ap 14 '51

Kraft zones its distribution. il diag Food Ind 23:87-90+ Mr '51

Pacific intermountain express also loads the tractor; newly designed vehicles eliminate extra freight handling. il Food Ind 23:125-6 Mr '51

FOOD, Dried

Successful dehydrated foods; Wyler & co.'s packaging problems. il Mod Packaging 24:114-16 D '50

See also

Eggs, Dried

Fruit, Dried

Milk, Dried

FOOD, Frozen

Canners cool to frozen food; big companies slow to get in on new market. Bsns W p78+ N 18 '50

Chemical engineering in the frozen food industry. V. C. Praschan. flow diags il diags Chem Eng Prog 47:325-30 Je '51

Chemical problems encountered in freezing foods. D. K. Tressler. J Chem Educ 28:168-9 Mr '51

Dielectric thawing of frozen products; abstract. Gutschmidt. Refrig Eng 58:1178-9 D '50

Frozen food growth is striking. Food Eng 23:59 My '51

Frozen foods, a $700 million business last year; National frozen food convention. Chem & Eng N 29:1010 Mr 12 '51

Frozen foods reach new high in 1950. Refrig Eng 59:381 Ap '51

Frozen foods; with marginal producers eliminated, big growth seen. R. Vogel. Barron's 30:15-16 D 11 '50

Military increases frozen food usage. Refrig Eng 58:1098 N '50

New market for frozen food; Quality frozen co., of San Francisco 19c line. Bsns W p 134-5 Je 23 '51

Quantity of refrigeration required to cool and freeze food; abstract. D. G. Rewtoff. Refrig Eng 59:358 Ap '51

See also

Eggs, Frozen

Fish, Frozen

Freezers

Freezers, Domestic

Freezing

Fruit juices, Frozen

Meat, Frozen

Vegetables, Frozen

Cabinets

Food cabinet production jumps 2600 per cent through use of resistance welding. il Welding J 30:171 F '51

Graphic laminate door liner in lid of self-service frozen food cabinets. il Mod Plastics 28:162 Ag '51

Packages

Birds Eye; nominated for packaging's Hall of fame. il Mod Packaging 24:76-81+ Jl '51

Flavor factors in frozen-food wraps; study on frozen ground beef. J. D. Winter and A. Hustrulid. bibliog diag Mod Packaging 24:133-7+ My '51

Frozen foods speed-up; new machine and end-opening carton at Cedergreen frozen pack corp. il Mod Packaging 24:106-7 F '51

Igloo for ice cream. il Mod Packaging 24:72-4 Ag '51

Now, the consumer frozen-egg pack. A. R. Winter. il Food Ind 23:80 F '51

Snow Crop goes horizontal; packer changes label. il Mod Packaging 24:71 Ag '51

Research

Did it thaw? gel will tell; indicator, combining oxidizing enzyme and ascorbic acid, will spot any temperature rise. P. E. Ramstad and F. E. Volz. il Food Ind 22:2091+ D '50

Storage

Ammonia refrigeration for new merchants warehouse. Refrig Eng 59:897+ S '51

Communal deep-freeze plant. il Elec R (Lond) 148:217-18 F 2 '51

Transportation

Adjusts freezer space to shipment; movable bulkheads and dry ice permit trucks to carry mixed loads. il map Food Eng 23:139+ My '51

Frozen foods held safely in insulated delivery container for 6 to 12 hours. il Refrig Eng 59:581 Je '51

Insulated frozen-food shipper needs no ice. il Food Ind 23:148 Mr '51

Mechanically refrigerated railroad cars now in commercial use. il Refrig Eng 58:1083+ N '50

Refrigeration of delivery vehicles. W. E. Petersen. il diag Refrig Eng 59:351-3+ Ap '51

Rough riding unit charts truck's cooling efficiency. il Food Eng 23:151+ Ag '51

Shipping hard frozen foods by rail and truck; abstract. H. C. Emerson. Refrig Eng 59:863-4 S '51

FOOD and container institute for the armed forces, Quartermaster. See Quartermaster food and container institute for the armed forces

FOOD and drug administration. See United States—Food and drug administration

FOOD brokers

ABC's of how to sell through brokers. Sales Management 65:62+ N 10 '50

We built a food brokerage distribution system in five weeks; Mead Johnson & co. D. M. Johnson and R. E. Sessions. il Sales Management 66:44-6+ Mr 15 '51

FOOD containers
Welding stainless steel containers to meet sanitary standards. P. H. Mounts. il diags Welding J 30:33-9 Ja '51
See also
Candy boxes
Food packages
Milk containers

FOOD contamination
Metal impurities in food and drugs spotted by new technique; abstract. A. J. Glasko. Food Eng 23:165-6 My '51

FOOD cutters
See also
Meat slicers

FOOD engineering (periodical)
Why Food industries becomes Food engineering. F. K. Lawler. Food Eng 23:87-92 Ap '51

FOOD factories
See also
Bakers and bakeries
Candy factories
Canneries
Flour mills
Packing houses
Sugar factories

Accounting

Lower your taxes the accounting way. R. Kammerman. Food Ind 22:1869-71+ N '50

Air conditioning

Air conditioning design data for food industries. N. N. Wolpert. Heat & Ven 48:83-4 S '51

Costs

High-profit claims fade under probe of canners. J. A. J. Jones. Food Eng 23:112-13 Ag '51

Electric equipment

Automatic statistical control saves on package overfill; Selectrol electronic checkweigher. R. L. Merrill and W. Hecox. il Food Eng 23:55-9 My '51

Equipment

Centrifuging's big strides; special Food Industries report. A. V. Gemmill. bibliog il diags Food Ind 22:2070-81 D '50
Engineered non-stop output at La Rosa's macaroni plant. J. V. Ziemba. il Food Eng 23:66-71 My '51
Food equipment news. il diags Food Ind 23:92-4+ Ja '51 [cont monthly]
House of 1,000 foods; Sanders of Detroit. J. V. Ziemba. il Food Eng 23:90-7+ S '51
Mechanizing halves their handling costs; Beardsley's Newark plant. G. N. Collins. il Food Ind 22:1879-82+ N '50
Modern materials handling; special Food Industries report. F. W. McCarthy. il Food Ind 23:107-18 Mr '51
Perking up process performance. J. V. Ziemba. il Food Eng 23:70-2+ Ag '51
Processing glace peels and allied items at Lyons-Magnus; special Food Industries report. E. E. Jacobs. flow sheet(p 1933-6) il Food Ind 22:1904-9 N '50
Roll your own to increased production; Miami margarine co. il Mill & Factory 49:118-19 Jl '51
Superior animal shortening turned out by new four-stage process. I. C. Miller. flow sheet(p 136-9) il diag Food Eng 23:88-91+ Ag '51
They picked a bonus process; continuous marshmallow production; Robert A. Johnston co., Milwaukee. W. J. Lancaster and others. flow sheet il Food Eng 23:53-5+ Jl '51
Thin-film evaporator concentrates in single pass. il Food Eng 23:119 Je '51
Vacuum-pump figuring made easy. T. G. Hicks. il diags Food Ind 22:2088-90 D '50
You can double output by modernizing; Durkee-Mower's Marshmallow Fluff. J. V. Ziemba. il Food Ind 23:47-9+ Ja '51

Lighting

Lighting the food plant; special Food Engineering report. W. H. Kahler. bibliog il diags Food Eng 23:105-11+ Ag '51

Maintenance and repair

Making most of maintenance; pointers from Heinz. H. L. Dunker. il Food Eng 23:129-31 My '51

Power

Diesels in the food industries. G. W. Grupp. Diesel Power 29:51 Ag '51
Full use of your steam; harvest low-cost electrical power by using non-condensing turbine. B. L. Skinner. il Food Eng 23:40-1 Jl '51
Power; buy it? or make it? special Food Engineering report. C. W. Bloedorn. flow diag il diags Food Eng 23:75-80 My '51

Quality control

How chemists safeguard your food. il Chem Ind W 68:18-19 Ap 14 '51
Preventive quality control; Crosse & Blackwell. B. W. Clarke. il Food Ind 23:74-9+ Mr '51
Quantity and quality; four graphic control panels key Pillsbury's large-scale output of prepared baking mixes. L. E. Slater. flow sheet il Food Eng 23:80-4+ Je '51

Safety measures

Electrical panels made safer. W. A. Reed. il Food Ind 23:131-2 Mr '51

Sanitation

Cell-and-seawater chlorination; simple electrolytic unit employed by Gloucester fish plant. J. V. Ziemba. il diag Food Eng 23:42-3+ Jl '51
Just how effective is warfarin? D. H. Little. il Food Eng 23:69+ Ag '51
Operation sanitation; plants of Thomas J. Lipton, inc.; illustrations with text. Nat Safety N 63:26-7 Je '51
Pest control in the food industry. R. L. Brett. il Safety Maint & Prod 102:25-6+ Jl '51
Proper raw-material inspections primary in building sanitation program. J. C. Dawson. il Food Eng 23:91-3+ My '51
Safeguard your raw materials and you safeguard profits. J. C. Dawson and R. Millard. il Food Eng 23:67-8+ S '51
Selling management on plant sanitation. C. W. Griffin, jr. Food Eng 23:76-9 Je '51
Seven steps to effective plant sanitation. J. J. Winston. il Food Eng 23:109-10 Jl '51
Way to foolproof sanitation. J. C. Dawson. Food Ind 23:99-100+ F '51
See also
Milk plants—Sanitation

FOOD fair stores, inc.
Food Fair shooting for higher rank in industry. Barron's 30:17-18 D 11 '50
Preferred stock offered. Comm & Fin Chr 173:380 Ja 22 '51

FOOD handling
Modern materials handling; special Food Industries report. F. W. McCarthy. il Food Ind 23:107-18 Mr '51

FOOD industries (periodical)
Why Food industries becomes Food engineering. F. K. Lawler. Food Eng 23:87-92 Ap '51

FOOD industry and trade
Du Pont study shows in-store decisions increasing over planned purchases. Ptr Ink 233:44 N 10 '50
Food processing marks 40 years of growth. A. B. Paul. Food Ind 22:1876-8+ N '50
How Kraft cut distribution costs 25 per cent; Zonor system. il Bsns W p40-2 O 28 '50
How to tenderize the tough food market; Adolph's seasoned meat tenderizer. il Sales Management 66:84-5 F 1 '51
New battle of the brands; competitive status of controlled brands in foods. E. B. Weiss. il Ptr Ink 233:46+ N 3 '50
Operation priority; effects of restrictions on availability of equipment and materials for food processors. Food Eng 23:119+ Ap '51
Silicones speed, sanitize processes. T. A. Kauppi. il Food Ind 23:44-6+ Ja '51
Transferring a new product from research to sales; General Mills research laboratories. G. E. Nadler. maps Ind & Eng Chem 43:834-7 Ap '51
Tremendous nutrition task ahead; C&EN annual review. C. G. King. il Chem & Eng N 29:24-7 Ja 1 '51
Want no controls on food industry. R. S. Trigg. Comm & Fin Chr 172:2088+ N 30 '50

FOOD industry and trade—*Continued*

Why output will go up. Food Eng 23:111+ Jl '51

See also

Bakers and bakeries
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Grocery trade
Market stores
Meat industry and trade
Milk trade
Packing houses
Restaurants
Sugar industry and trade

Advertising

It's thousands of years old, and it goes national this week; Yami Yogurt. L. F. Thomann. il Ptr Ink 236:24-5 Ag 31 '51

Millions for point-of-purchase displays, not one cent for audit? General Foods checking up. W. P. Lillard. il Sales Management 66:89-90+ Mr 15 '51

Readership of food-store advertising. R. H. Oakes. J Marketing 16:66-8 Jl '51

What is a good ad in vertical, horizontal food publications? il Ind Marketing 36:67-8+ Ap '51

Why aren't food posters better read? M. Harper. il Adv Agency 44:76+ F '51

Wine-Certo test pays off; may ease seasonal slump for General Foods; Wine institute and C. & H. sugar refining corporation cooperate. il Sales Management 66:40-2 F 15 '51

See also

Infants' food—Advertising
Turkeys—Advertising

Regulation

See also

Food laws and regulations

Securities

Outlook for food and dairy companies in the second half; with statistics on leading processors. S. Devlin. Mag of Wall St 88: 453-5+ Jl 28 '51

Outlook for foods, dairies, sugars; with statistical summary of leading companies. R. Colston. Mag of Wall St 87:610-12+ Mr 10 '51

Statistics

Food stores gain; varieties lag. Bsns W p42-3 Ag 4 '51

Retailing; 168 standard metropolitan areas account for 63.4 per cent of all retail sales. map Ptr Ink 235:71, 74+ My 25 '51

Trend in food sales; analysis of 424 counties of the U.S. from 1929 to 1950. R. B. Prescott. Ptr Ink 233:35-6+ D 22 '50

Great Britain

See also

Lyons, J., and company

Italy

Food group summer tour, northern Italy, June 1-10. Chem & Ind p666-8 Ag 4 '51

Minnesota

Minnesota money promotes chop suey. il Bsns W p87 S 1 '51

FOOD laboratories

How QM maps the food acceptance salient. D. R. Peryam. il Food Ind 22:1910-13+, 2049-51+ N-D '50

Open-day at Colworth House. il Chem Age (Lond) 65:5-6 Jl 7 '51; Chem & Ind p598-9 Jl 7 '51

Research that spells results; General Foods Central laboratories in Hoboken. R. C. Reeves. il diag Food Ind 23:85-9+ F '51

FOOD laws and legislation

Chemical additives; condensation of proposed amendments to Food, drug and cosmetic act. Food Ind 23:51 Ja '51

Chemicals in foods committee to hold West Coast hearings; windup of Washington series of hearings. Oil Paint & Drug Rep 160:3+ O 15 '51

Chemicals in foods not harmful, industry leaders tell Congress. Oil Paint & Drug Rep 158:3+ D 11 '50

Chemicals in foods safety plan offered to Delaney committee. Oil Paint & Drug Rep 160:5+ S 24 '51

Chemicals use in foods menaces health, Delaney committee reports. Oil Paint & Drug Rep 159:3+ Ja 8 '51

Chemicals vs. foods; Delaney committee hearings. Food Ind 22:1903; 23:50-1+ N '50, Ja '51

Congress ends probe on chemicals in foods. Oil Paint & Drug Rep 158:4+ D 18 '50

Congress urged to use caution in curbing chemicals in foods, testimony before Delaney committee. Oil Paint & Drug Rep 158: 3+ D 4 '50

Drug, chemical industries oppose new federal controls. Chem & Eng N 29:4165-7 O 8 '51

Effect of government regulations on commercial chemical development; chemicals in foods. I. Fogg. Chem & Eng N 29:1933-5 My 14 '51

Food chemicals fight axe. Chem Ind W 68: 11 Ap 28 '51

For purer food; House committee investigating use of chemicals in food products. Bsns W p48 Mr 3 '51

Legally it's this way; court decisions involving food manufacturers. L. T. Parker. Food Ind 23:84-6 Mr '51

Present laws protect health of public, House group hears. Chem & Eng N 28:4350 D 11 '50

Sober viewpoint. J. A. Woods. Chem W 69: 15 S 15 '51

Support grows for FDA committee to advise on chemicals in food. Chem & Eng N 28:4441 D 18 '50

See also

Milk supply—Laws and regulations

Canada

Canadian food colour regulations. F. W. Atack. Can Chem & Process Ind 35:210-13+ Mr '51

Great Britain

Hygiene in catering establishments; report of the Catering trade working party. Chem & Ind p 183-4 Mr 10 '51

FOOD machinery

Better feeding, uniform pressure with new roller mill. il Food Eng 23:83 Jl '51

Designing to meet sanitary needs. F. Mittelberger. il diags Product Eng 21:144-9 D '50

Food equipment news. il diags Food Ind 23:92-4+ Ja '51 [cont monthly]

Quantity and quality; four graphic control panels key Pillsbury's large-scale output of prepared baking mixes. L. E. Slater. flow sheet il Food Eng 23:80-4+ Je '51

Unique homogenizer is highly sanitary. il diag Food Eng 23:117 Ag '51

See also

Dough mixers

FOOD machinery and chemical corporation

Bright future. Chem Ind W 68:31 F 10 '51

Carrots to chlorine. il Fortune 43:104-9+ Je '51

Debentures offered. Comm & Fin Chr 173: 1477 Ap 9 '51

FOOD mixers

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FOOD mixes

New, quick, cold-water dessert mix made with low-methoxyl pectin. A. D. Shepherd and others. bibliog il Food Eng 23:44-5+ Jl '51

See also

Cake mixes

FOOD packages

Appetite-appeal sugar cartons; Savannah's telescope-reclosure packages. il Mod Packaging 24:99 D '50

Beech-Nut glassed foods; nominated for packaging's Hall of fame. il Mod Packaging 24:84-90+ Ja '51

Bold new Foulds. il Mod Packaging 24:90-3 Je '51

FOOD packages—*Continued*

Bonded-block paper-tied loads cut damage for American home food. C. B. Roeder. il Ry Age 131:52-5 Jl 2 '51

Can your product package pass this six-point test? J. F. Nabkey. Sales Management 66:113+ Ap 15 '51

Cracker-filling achievement; new system of weighing; Megowen-Educator food co. il diag Mod Packaging 24:140-3 Ap '51

Does your packaging cost you sales? Minute products division, General foods corp. N. R. Anderson. il Ptr Ink 236:46-7 S 14 '51

Dry milk; problem child; low-cost protective packaging. il Mod Packaging 24:70-5+ Jl '51

Dutch treats; new sales-stimulating packages and improved package production for Van de Kamp's diversified food line. il Mod Packaging 24:96-8 N '50

Emergency packaging; special Food Engineering report. il Food Eng 23:123-34 Ap '51

Free oil in packaged foods; method of measuring resistance of container materials to strain. A. H. Landrock and B. E. Proctor. bibliog diag Mod Packaging 24:107-12 Ag '51

Griddle-ready; fresh-mixed pancake batter packaged like milk. il Mod Packaging 24:93 F '51

Lipton tea; nominated for packaging's Hall of fame. il Mod Packaging 24:86-92+, cover F '51

More "windows" for Dulany; frozen-food label technique extended to canned foods. il Mod Packaging 24:104-5 D '50

New packaged goods success rung up by bulk food processor; Swanson brothers packaged poultry. H. E. Green. il Ptr Ink 234:25-7 Mr 2 '51

Non-wicking bakery tray; high-speed mechanical handling on cookie lines at Farm Crest. flow chart il Mod Packaging 24:76-8 Mr '51

Packages dry foods regimental style. J. V. Ziemba. il Food Ind 23:102-3 Mr '51

Potato chips; Blue Star uses glassine bags, semi-automatic packaging equipment. il Mod Packaging 24:110-13+ Ja '51

Quartermaster packaging, 1951. il Mod Packaging 24:59-65+ Jl '51

Snowdrift restyles for 50th anniversary. il Mod Packaging 24:82 Ja '51

Successful dehydrated foods; Wyler & co.'s packaging problems. il Mod Packaging 24:114-16 D '50

Sunsweet and K-202; saran-coated cellophane provides visible package for dried fruit. T. A. Schwarz. il Mod Packaging 24:122-5+ Ap '51

Super premium; colorful aluminum tumbler package for Borden's cottage cheese. il Mod Packaging 24:94-5+ F '51

Two aids for bakers; Dugan's model boat cut-outs on cake cartons and polyethylene bags for rolls boost sales. il Mod Packaging 24:91 N '50

Vacuum bag it, for better quality; Armour's sliced bacon packages. E. S. Stateler. il Food Ind 22:2045-6 D '50

Wagner's low cost packaging brings back five cent pies. D. Copell. il Food Ind 22:1883-4+ N '50

What women like and dislike about packages today; new survey on grocery store products. A. R. Hahn. il Sales Management 67:50-2+ Jl 15; 66-8+ Ag 1; 48-50+ Ag 15 '51

Window with a shade; Hormel's sliced-bacon package. il Mod Packaging 24:66-7+ Jl '51

Yellow wins again in Illinois meat co.'s shopper poll on new labels. il Mod Packaging 24:118-20 My '51

See also

Food, Frozen—Packages
Food containers
Fruit—Prepackaging
Meat—Prepackaging
Vegetables—Prepackaging

Protection

Factors in nitrogen packaging; requirements for successful flexible packs and a control test method for spotting leakers. W. S. Walker. il Mod Packaging 24:136-40+ D '50

Fleischmann's adopts the nitrogen pack for dry yeast. il Mod Packaging 24:98 D '50

Protection of paper and textile products from insect damage. S. S. Block. bibliog il Ind & Eng Chem 43:1558-63 Jl '51

Seafood a la color; Fulham bros. carton for stronger appeal and better protection of frozen fish fillets. il Mod Packaging 24:102-4 Je '51

Sterilizing with electrons; cathode-ray technique permits low-temperature sterilization of foods and drugs on conveyor line after packaging. J. G. Trump and B. E. Proctor. il Mod Packaging 24:105-6+ Jl '51

Testing

Organic-vapor transmission test; General Foods methyl furoate method. T. J. Muldoon and others. diag Mod Packaging 24:123-6 Ja '51

FOOD packaging

Military packaging; container requirements. A. V. Grundy and F. Rubinate. il Food Eng 23:111-14+ S '51

Olive-packing mechanized; plastic trees used in process of First national stores. il Food Eng 23:75 Jl '51

FOOD preferences (animal)

Free selection of nutrients by hereditarily obese mice. J. Mayer and others. Science 113:745-6 Je 29 '51

FOOD preservation

A. E. Stevenson and Samuel Cate Prescott. Chem & Eng N 29:2820 Jl 9 '51

Cathode rays recommended for food, drug sterilizing. B. E. Proctor and S. A. Goldblith. Chem & Eng N 29:2818 Jl 9 '51

Cathode rays show promise in sterilizing processed foods; National canners association 44th annual convention. Chem & Eng N 29:900+ Mr 5 '51

Electrons will sterilize foods and drugs. il Bsns W p81-2+ Ap 7 '51

Foods sterilized by radiation are nutritious but costly. B. E. Proctor. Food Ind 23:139 Ja '51

Gamma rays preserve foods. E. L. Gaden, jr. and others. Chem Eng 58:342-4 S '51

Ice supplement; Fran-Kem. Chem Ind W 68:29+ Mr 17 '51

Pilot scale freeze-drying; other food processing. il Chem & Eng N 29:1505 Ap 16 '51

Sterilizing with electrons; cathode-ray technique permits low-temperature sterilization of foods and drugs on conveyor line after packaging. J. G. Trump and B. E. Proctor. il Mod Packaging 24:105-6+ Jl '51

See also

Canned food
Canning and preserving
Cold storage
Food, Frozen
Food packages—Protection
Fruit—Preservation
Milk—Preservation

FOOD preservatives

Ice substitute; Noe-Ice. Chem W 69:28 Jl 28 '51

Joint committee on preservative regulations. Chem & Ind p 141-2 F 24 '51

FOOD protection committee. See National research council—Food protection committee

FOOD research

Chemistry in food research. il Chem Age (Lond) 63:809-11 D 9 '50

Effect of high-voltage cathode rays on ascorbic acid; in vitro and in situ experiments. B. E. Proctor and J. P. O'Meara. bibliog Ind & Eng Chem 43:718-21 Mr '51

Research that spells results; General Foods Central laboratories in Hoboken. R. C. Reeves. il diag Food Ind 23:85-9+ F '51

See also

Dairy research
Food laboratories
Milk research

FOOD stores

People-building pays for Grand Union. L. M. Hughes. il Sales Management 66:37-9+ Ja 15 '51

See also

Food fair stores, inc.
Market stores

Air conditioning

Comfort-cold storage combined in produce store; Smilen brothers, inc. il Heat & Ven 48:105 S '51; Heating-Piping 23:65 S '51

FOOD supply

Better nutrition for more people. H. C. Sherman. Franklin Inst J 251:93-102 Ja '51

Cold storage food stock sets new record. Refrig Eng 59:77 Ja '51

FOOD supply—*Continued*

From scarcity to abundance in farm products. E. J. Hirsch. Comm & Fin Chr 174: 513+ Ag 9 '51

Impact of finance on industry. R. G. W. Willcocks. Chem & Ind p776-7 D 2 '50

World food problems and the Anglo-Argentine meat agreement. P. Einzig. Comm & Fin Chr 173:2068 My 17 '51

Australia

Australia's future as a primary producer. Economist 161:291-2 Ag 4 '51

Great Britain

Anglo-Argentine agreement; bad bargain in beef. Economist 160:1000-4 Ap 28 '51

Argentina and meat supplies. Economist 159: 1104 D 16 '50

Food stocktaking; with tabulation. Economist 160:448-9 F 24 '51

India

Death in Bihar. map Economist 160:1239-40 My 26 '51

Famine in India. Economist 160:902-3 Ap 21 '51

India can't go it alone. il Bsns W p 141-2 F 24 '51

Indian report reveals food policy failure. Barron's 31:10 Mr 19 '51

Peking finds food for India. Economist 160: 805 Ap 7 '51

United States

Nation's food supplies far better than in 1941. Barron's 30:28 D 18 '50

Will our food supplies be adequate for another war? H. DeGraff. Comm & Fin Chr 173:1343+ Mr 29 '51

Yugoslavia

U.S. averts famine in Yugoslavia. il Bsns W p 144-5 Ag 18 '51

FOOD technologists, Institute of. See Institute of food technologists

FOOD warmers

Infrared heaters keep food at serving temperature. il Elec World 135:90 Ja 15 '51

FOOT

See also

Tarsals

Protection

Foot protection. il Nat Safety N 63:76+ Mr '51

See also

Shoes, Safety

FOOT-and-mouth disease

Panama government acts to prevent introduction of hoof-and-mouth disease. For Comm W 42:18 Mr 19 '51

FOOT bridges. See Bridges, Foot

FOOT warmers, Electric. See Electric foot warmers

FOOTBALL

Handling 200,000 mailing pieces a season; Keysort cards used at Northwestern university for handling football ticket orders. il Am Bsns 20:14-15+ N '50

FOOTE mineral company

It pays a company to keep looking. il Bsns W p82+ Mr 24 '51

Offering to stockholders. Comm & Fin Chr 173:1888-9 My 7 '51

FOOTINGS

Big power auger drills footing holes for Ford plant. il Constr Methods 33:49 Ag '51

Test tile footings for expansive soils. R. F. Dawson. il diag Arch Rec 108:155-7 N '50

FOOTINGS, Concrete

Prefabrication of reinforcing and forms halves time for multiple footing pours. il diags Constr Methods 33:100-1+ My '51

Soil stabilization speeds tower footing excavation. E. C. Gershoy and C. Mueller. il diags Elec World 135:66-7 Ja 15 '51

FORAGE plants

See also

Clover

FORAMINIFERA

Ecology of foraminifera, northwest Gulf of Mexico. F. B. Phleger and F. L. Parker. (Memoir 46) 88p, 2pls; 64p, 20pls Geological soc. of America, 419 W. 117th st, New York 27 '51

FORAMINIFERA, Fossil

New lituolid foraminiferal genus from the cretaceous, with an emendation of cribrostomoides Cushman. D. L. Frizzell and E. Schwartz. diags Mo U Sch Mines & Met Bul tech ser 76:1-12, pl 1 bibliog(p 11-12) '50

FORBES, George Shannon, 1882-

First Norris award for teaching of chemistry. por Chem & Eng N 29:2274-5, 2278 Je 4 '51

Forbes to receive Norris award of Northeastern section. por Chem & Eng N 29: 1764 Ap 30 '51

Norris award winner regards teaching as a way of life. por(cover) Chem & Eng N 29: 2275 Je 4 '51

FORCE and energy

Analysis of redundant systems by means of the conception of conservation of energy. T. M. Charlton. bibliog Franklin Inst J 250:543-51 D '50

Approximation of the energy efficiencies of commercial ball mills by the energy balance method. A. K. Schellinger and R. D. Lalkaka. Min Eng 3:Trans 523-4 Je '51

Conservation of energy and momentum in Compton scattering. W. G. Cross and N. F. Ramsey. bibliog diags Phys R 80:929-36 D 15 '50

Determination of critical loads by energy methods. M. D. Brisby. diags Engineer 191:82-4 Ja 19 '51

Force multipliers. P. Swain. diags Power 95:144 Ag '51

How forces balance. P. Swain. diags Power 95:144 Ap; 144 My; 148 Je; 146 Jl; 140 S '51

Variation of the coefficient of static friction with the rate of application of the tangential force. R. C. Parker and others. bibliog il diags Inst Mech Eng Proc 163 (W.E.P. no 59):176-84 '50

See also

Centrifugal force

FORCE constants. See Chemical bonds

FORD, Henry, 1863-1947

What Ford left; final accounting of estate. Bsns W p85 Ja 13 '51

FORD, James G.

Iron age salutes. por Iron Age 166:47 N 23 '50

Personalities in engineering. por Westinghouse Eng 11:46 Mr '51

FORD motor company

Dentistry at the Ford motor co. G. MacKenzie. Ind Med 20:331-2 Jl '51

Ford builds a new automobile city; Dearborn administrative center. il map plans diags Arch Forum 93:102-7 D '50

Ford motor co. rounds out steel plant operating units for balanced production. C. Longenecker. il plans diags Blast F & Steel Pl 39:926-57 Ag '51

Gas problem solved, Kansas City gets Ford. Bsns W p26 D 16 '50

How Ford saves through standards. H. Rourke. il Standardization 22:242-3 Ag '51

Modern quality control. R. M. Currie. il Advanced Management 15:9-13 D '50

Mutiny at Ford; Local 600. il Fortune 44:43-4+ Ag '51

New Ford movie shows why big business is good for America; partnership with suppliers is theme. R. G. Silbar. il Ptr Ink 234: 48-9 Ja 19 '51

Productivity, America's secret; Ford motor company's management meeting program. J. K. Sutherland. Blast F & Steel Pl 39: 1095-6 S '51

Wage chronology, no. 14; Ford motor co., 1941-50. A. A. Belman. Mo Labor R 72: 400-4 Ap '51

FORD motor company, England

Statement of the chairman. R. Smith. Economist 160:1071-2 My 5 '51

FORECASTS

Signs of our times. H. E. Wessman. J Eng Educ 41:424-9 Ap '51

FORECASTS (economics)

After the defense build-up, what? abstract. H. E. Luedicke. Management R 40:525 S '51

Best-known prophet since Daniel; Louis H. Bean. Bsns W p64+ Ag 18 '51

International crisis pervades forecasting sessions of Allied science associations. A. W. May. Comm & Fin Chr 173:57+ Ja 4 '51

FORECASTS (economics)—*Continued*

Retail experts looking at the future. Bsns W p63-6 Ja 6 '51

Skeptical chemist looks into the crystal ball. J. B. Conant. Chem & Eng N 29:3847-9 S 17 '51

War overshadows 1951 world business; Business Week's correspondents abroad report. il Bsns W p73-4+ D 30 '50

See also

Business forecasting

FOREIGN advertising. See Advertising, Foreign

FOREIGN correspondents. See Newspapers—Foreign correspondents

FOREIGN exchange

Flexible exchange rates and the theory of employment. S. Laursen and L. A. Metzler. R Econ & Stat 32:281-99 N '50

Lower dollar for Europe? V. L. Horoth. il map Mag of Wall St 88:394-5+ Jl 14 '51

Types of convertibility. A. O. Hirschman. R Econ & Stat 33:60-2 F '51

See also

Balance of payments
Finance
Banks and banking
Money
Commerce

Rates

Consolidation of foreign exchange rates; selections from report of Bank for international settlements. Fed Res Bul 37:1116-18 S '51

Foreign exchange rates. Published in weekly Monday numbers of Commercial and financial chronicle

Foreign exchange rates, 1946-1950 and monthly Jan.-Dec. 1950. Fed Res Bul 37:117 Ja '51 [cont monthly]

Latin American exchange rates. Published in Foreign commerce weekly

Regulation

Exchange control reviewed; comment on International monetary fund's second annual report. Economist 160:1577-8 Je 30 '51

Foreign exchange controls; they should be removed. A. M. Strong. Comm & Fin Chr 173:1334 Mr 29 '51

Import license and exchange control regulations in principal foreign countries applying to imports from the United States, revised as of Jan. 25, 1951; tabular summary. For Comm W 42:27-8 F 12 '51

Argentina

Central bank suspends issuance of exchange permits without use of exchange. For Comm W 45:8 O 15 '51

Canada

Canadian banker urges end of exchange controls. G. R. Ball. Comm & Fin Chr 172:2541 D 28 '50

Canadian dollar freed; free rates and the Fund. Economist 159:585 O 7 '50

Chile

Foreign exchange budget for 1951, For Comm W 43:14 Ap 16 '51

Colombia

Exchange reform recommended; new Colombian exchange-control system. For Comm W 43:11 Ap 2 '51

Recommendation concerning foreign capital; new exchange-control system. For Comm W 43:14-15 Ap 16 '51

Ecuador

New exchange system with 15-sucres-per-dollar parity. For Comm W 42:14 Ja 1 '51

Germany

Blocked German assets partially unfrozen. Comm & Fin Chr 173:1438 Ap 5 '51

Blocked marks may now be sold. For Comm W 42:15-16 Mr 26 '51

Great Britain

Canada and the United Kingdom; estate assets and exchange. C. D. Paxton. Trusts & Estates 90:458-9+ Jl '51

Exchange control and flexible rates. Economist 161:408-10 Ag 18 '51

Nicaragua

New foreign-exchange law effective. For Comm W 42:17 Ja 1 '51

Paraguay

Exchange rates modified. For Comm W 43:17 Ap 9 '51

New exchange-budget system. For Comm W 44:14-15 Jl 2 '51

FOREIGN facilities committee. See National production authority—Foreign facilities committee

FOREIGN investments. See Investments, Foreign

FOREIGN language press

Language press expands with influx of DPs. J. W. Seidman and G. H. Seger. Ed & Pub 83:20 D 23 '50

FOREIGN loans. See Loans, Foreign

FOREIGN news service

Foreign news service offers red orbit news. R. Erwin. Ed & Pub 84:28 F 24 '51

FOREIGN students in the United States

Foreign students fewer in petroleum colleges. World Oil 132:279-80 Ap '51

28 Germans to study at three U.S. journalism schools. D. Bentel. Ed & Pub 84:59 Je 9 '51

FOREIGN subsidiaries. See Corporations—Foreign subsidiaries

FOREIGN trade. See Commerce

FOREIGN trade council, National. See National foreign trade council

FOREIGN trade zones. See Free ports and zones

FOREMEN

Analyze your employees' efficiency problems. J. Gardner. Textile World 101:166 My '51

Are foremen people? C. M. Rappaport. Personnel J 29:341-2 F '51

Emotional maturity, a must for good labor relations. F. T. de Vyver. Textile World 101:174+ S '51

Foremen are fired, seldom hired. Bus Transportation 30:60-1 Je '51

Foreman as an executive. R. Hersey. Personnel J 29:252-60, 297-305 D '50-Ja '51

Foremen's bonus plan that really works; American fixture & manufacturing co., St Louis. E. J. Scheer. Factory Management 108:120-2 N '50

Four problems in communications and how they were met. il Mod Ind 22:61-4+ Ag '51

Giving budgeting appeal for the foreman. C. Park. N A C A Bul 33:181-8 O '51

How to ease the load on your foremen. E. Mottershead. Am Mach 95:90-1 Ap 2 '51; Excerpts. Mill & Factory 48:107-8 Mr '51

Key to defense production in foreman's hands. F. Rudge. Iron Age 168:75-7 Ag 23 '51

Labor relations picture seen from both sides; by a union leader turned foreman. Factory Management 109:240+ Ja '51

Nine experts tell you how to keep your foremen on your side. Factory Management 109:84-7+ Je '51

Picking foremen means picking leaders. Chem Eng 57:232+ N '50

Simple checklist helps foremen handle personnel problems. W. S. Ferguson. Factory Management 109:109 Je '51

Supervisory development. A. C. Croft. Iron & Steel Eng 28:110-14; Discussion. 114+ Je '51

Test foremen on your labor contract and watch grievances subside. H. S. Langdon. Factory Management 108:116-19 D '50

Where do good foremen come from? E. S. Lowe and others. Ry Mech & Elec Eng 125:74-5 Jl; 83-4 S '51

With this degree-of-authority chart every foremen knows exactly what his responsibilities are. Factory Management 109:128-9 S '51

Training

Are you training tomorrow's leaders? F. H. Reed. Am Mach 95:164-5 S 3 '51

Foremen trained to train. Chem Ind W 68:57-8 Ja 20 '51

Foreman training. R. L. Bradley. Foundry 79:196+ S '51

FOREMEN—Training—*Continued*

Refresher training helps us win our war on waste; Maiden Form program; with text of training manual. R. Kislik and A. R. Lateiner. il Factory Management 109:94-6, 248+ Mr '51

Training system helps morale of foremen. G. M. Dodson. Textile World 101:268 F '51

FOREMEN'S clubs

Hotpoint foremen's club. il Mill & Factory 49:121 Ag '51

FORENSIC medicine. See Medical jurisprudence

FOREST conservation

Engineering in forest protection. G. I. Stewart. il Mech Eng 73:477-80+ Je '51

Training of forest personnel in simple conservation measures. T. A. Cowan. Pulp & Pa of Can 52:132+ My '51

See also

Forest fires

FOREST fires

Canadian pulp and paper association, Woodlands section meeting on forest fires, June 26-27. Pulp & Pa of Can 52:104-5 Jl '51; Paper Tr J 133:60+ Jl 13 '51

Engineering in forest protection. G. I. Stewart. il Mech Eng 73:477-80+ Je '51

Fires ravage northwest timberlands. il Paper Ind 33:628 S '51

Forest fire damage high in 1950. Paper Ind 32:1083 Ja '51

Forest fire prevention program. D. Naysmith. il Pulp & Pa of Can 52:124+ My '51

Helicopter as a fire fighting unit; other forestry uses. il Pulp & Pa of Can 52:139+ S '51

New forest fire fighting technique in Ontario. Pulp & Pa of Can 52:116+ Jl '51

Some suggestions for reducing fire hazards on our operations. W. A. E. Pepler. Pulp & Pa of Can 52:115-16 Jl '51

Use of helicopters to combat forest fires. W. H. D. Hanchet and J. W. R. Drummond. il Pulp & Pa of Can 52:134-6 S '51

FOREST management

Absentee-owned forests. R. C. Belcher. Pulp & Pa of Can 52:151-2+ Ap '51

Forestry in the U.S. Pacific Northwest. E. P. Stamm. Pulp & Pa of Can 51:143-4+ O '50

How are your forests doing? V. E. Johnson. Paper Tr J 132:28+ Ap 13 '51

Progress report on Institute of paper chemistry's pulpwood plantation in miniature. I. H. Isenberg. il Paper Ind 32:866 N '50

Public and private forestry get together. J. V. Skiff. Tappi 34:sup24A+ Ag '51

Rational approach to forest practices on private lands. W. B. Greeley. Paper Tr J 131:18-20 D 7 '50

Some suggestions for reducing fire hazards on our operations. W. A. E. Pepler. Pulp & Pa of Can 52:115-16 Jl '51

FOREST products

Drain on wood eases up; annual meeting of Forest products research society, Philadelphia. Bsns W p42-4+ Je 23 '51

See also

Gums and resins
Lumber
Wood
Wood pulp
Wood waste

FOREST products institute of Canada

Annual convention, 1st, Ottawa, Oct. 30-31. Paper Tr J 131:18 N 16 '50

FOREST products research society

International industry show and convention, Philadelphia, May 7-11. Paper Tr J 132:44 My 25 '51

FOREST reserves

Ketchikan purchases pulptimber area in Alaska. map Paper Tr J 133:11 Ag 3 '51

Timber ruckus over government timber lands in Oregon. il plan Bsns W p86-8+ Je 2 '51

FOREST roads

Logger and road building machinery. W. E. McCraw. Pulp & Pa of Can 51:171+ S '50

Pavements for logging roads. N. W. McLeod. diag Pulp & Pa of Can 52:178+ Je '51

FORESTRY research

Experimental forest in operation; Westvaco's South Carolina forest. C. R. Silversides. Pulp & Pa of Can 51:160-1 S '50

Reforestation research findings in northern Wisconsin and upper Michigan. J. H. Stoeckeler and G. A. Linstrom. Pulp & Pa of Can 52:152+ S '51

FORESTRY schools and education

Florida's forestry instruction camps. il Paper Tr J 133:56 S 7 '51

FORESTS, Municipal

Management of municipal forests. G. H. Bayly. Pulp & Pa of Can 52:141-3 Ap '51

FORESTS and forestry

Business of growing trees for the pulp and paper industry. E. W. Tinker. Paper Tr J 131:30+ D 14 '50

Helicopter seeding speeds reforestation; Crown Zellerbach corp. G. H. Schroeder. il map Paper Ind 32:1175-7 F '51

Joint silvicultural field meeting, Woodlands section, CPPA, and Wisconsin-upper Michigan section, Society of American foresters, Superior, Wis. Pulp & Pa of Can 51:122-4 O '50

Machines and forestry. A. P. Dean. Mech Eng 72:727-9+ S '50; Discussion. 73:156-8 F '51

New aid to reforestation; seeding tool. A. P. Leslie. il diag Pulp & Pa of Can 52:122-3 My '51

Reforestation with synthetic humus; abstract. E. Farber. Chem Eng 57:294-5 N '50

Reforestation work of the Quinsam nursery of the British Columbia forest service. Pulp & Pa of Can 52:150 My '51

See also

Forest conservation
Forest fires
Lumber trade
Lumbering
Tree planting
Woodlots

Economic aspects

Bankers' blind spots in forestry. G. G. Ware. Paper Tr J 132:22+ Mr 30 '51

Economics of applied silviculture. W. A. E. Pepler. Pulp & Pa of Can 51:127-8 O '50

Study and teaching

See Forestry schools and education

Alaska

Ketchikan purchases pulptimber area in Alaska. map Paper Tr J 133:11 Ag 3 '51

Argentina

Argentina's subtropical trees in the pulp and paper industry; abstract. L. A. Tortorelli. Paper Ind 32:1200 F '51

Arkansas

Arkansas story; timber. il map Manuf Rec 120:70-2 F '51

British Columbia

British Columbia's wood resources. L. R. Andrews. Comm & Fin Chr 173:5+ sec 2 Je 28 '51

Photo interpretation of the terrain along the southern part of the Alaska highway. H. M. Raup and C. S. Denny. il U S Geol S Bul 963-D:95-135, pl 9-16[in pocket]; pa 55c Supt. of doc. '50

Sale of Crown timber in British Columbia. E. W. Bassett. Pulp & Pa of Can (Convention no) 52:274-6+ [F] '51

Canada

Canada's forests should be under private ownership. J. D. Gilmour. Pulp & Pa of Can 51:153-4+ S '50

Canadian institute of forestry. K. G. Fensom. Pulp & Pa of Can 52:123-4 Jl '51

How are your forests doing? V. E. Johnson. Paper Tr J 132:28+ Ap 13 '51

Reproduction on cutover and burned over land in Canada. R. H. Candy. Pulp & Pa of Can 52:161 S '51

Florida

Florida expansion and conservation. Paper Tr J 132:34+ My 11 '51

Great Britain

Forestry problems. Economist 159:990-1 D 9 '50

Great Lakes states

Lake states forests undergoing important changes. Pulp & Pa of Can 52:144 S '51

Status of forestry in the pulpwood industry in the Lake states. G. B. Amidon. Paper Tr J 132:32+ Ja 12 '51

FORESTS and forestry—*Continued*

Michigan

Reforestation research findings in northern Wisconsin and upper Michigan. J. H. Stoeckeler and G. A. Linstrom. Pulp & Pa of Can 52:152+ S '51

Montana

Farm woodland utilization in the Douglas-fir region. K. S. Landstrom. Land Econ 26: 346-53 N '50

New England

Private industry program in selling forestry to the workers and the public. C. S. Herr. Pulp & Pa of Can 52:79+ F '51

Status of forestry on pulpwood lands in New England. D. B. Demeritt. Pulp & Pa of Can 52:165+ Ap '51

New Hampshire

Phillips Brook conservation project. W. A. Ruch. Pulp & Pa of Can 52:149 Ap '51

New York (state)

Public and private forestry get together. J. V. Skiff. Tappi 34:sup24A+ Ag '51

State windfall unlikely to go for newsprint. Ed & Pub 84:112 Ap 21 '51

Storm-felled trees no windfall for N.Y. il Bsns W p 118+ Je 23 '51

Newfoundland

Newfoundland timber deal. Paper Tr J 132: 15 Je 29 '51

Northwestern states

Forestry in the U.S. Pacific Northwest. E. P. Stamm. Pulp & Pa of Can 51:143-4+ O '50

Milwaukee plants a crop of future traffic; reforestation project. il map Ry Age 131: 44-6 S 3 '51

Utilization of low-grade hardwoods and softwoods in the Pacific Northwest. G. L. Drake. Pulp & Pa of Can 52:157-8+ Ap '51

Oregon

Farm woodland utilization in the Douglas-fir region. K. S. Landstrom. Land Econ 26: 346-53 N '50

Timber ruckus over government timber lands in Oregon. il plan Bsns W p86-8+ Je 2 '51

Quebec (province)

Forestry education and technical guidance to small woodland owners in the province of Quebec. R. Delisle. Pulp & Pa of Can 51:148-51 S '50

Some facts relating to forests and forestry in Quebec. A. Bedard. il Pulp & Pa of Can 51:142-4+ N '50

South Carolina

Experimental forest in operation; Westvaco's South Carolina forest. C. R. Silversides. Pulp & Pa of Can 51:160-1 S '50

United States

Whose timber? industry sees government holding out on lumber for defense. R. H. Syring. Barron's 31:15 My 28 '51

Wisconsin

Progress report; mechanical thinning experiment in jackpine on the Mosinee industrial forest. F. N. Fixmer. Pulp & Pa of Can 51:120+ D '50

Reforestation research findings in northern Wisconsin and upper Michigan. J. H. Stoeckeler and G. A. Linstrom. Pulp & Pa of Can 52:152+ S '51

Yukon

Photo interpretation of the terrain along the southern part of the Alaska highway. H. M. Raup and C. S. Denny. il U S Geol S Bul 963-D:95-135, pl 9-16[in pocket]; pa 55c Supt. of doc. '50

FORGE shops

Forge shops in operation; tabulation. Iron Age 167:343 Ja 4 '51

Quality control charts boost forge-shop performance. R. D. Long. Am Mach 95:154-5 O 15 '51

Accounting

Job cost procedure; a manufacturer of forgings. E. R. McDowell. N A C A Bul 32: 601-6 Ja '51

Electric equipment

High-frequency heating of forging billets. il plan Metal Prog 60:70-3 Jl '51

Employees

Earnings in forging industry, 1935-1950; tabulation. Iron Age 167:340 Ja 4 '51

Equipment

From ingots to crankshafts; production story; Ellwood City forge co. il Diesel Power 29:46-7 Mr '51

Press forging; J. Garrington & sons ltd. il Automobile Eng 40:363-9 N '50

FORGERY

See also

Checks, Fraudulent

FORGERY insurance. See Insurance, Forgery

FORGING

Big forgings ahead. il diags Product Eng 22:120-1 My '51

Casting and forging of titanium. J. B. Sutton and others. il diag Metal Prog 58:716-20 N '50

Forging methods. J. C. Stevens. il Engineering 171:541-3 My 4 '51

Forging process speeds wing output. Steel 127:66 O 30 '50

Forgings climb toward peak. Bsns W p77-8+ F 10 '51

High-speed heating and forging. H. Chase. il diags Steel 129:96-8 S 10 '51

How to approach shell forging problems. K. N. Mills. il diags Iron Age 168:90-4 Jl 5 '51

How to push metal around for profit; research programs sparked by military agencies and industry. il diag Mod Ind 21:40-5 Je '51

Integrally-stiffened skin revolutionizes aircraft construction. P. E. Sandorff and G. W. Papen. il diags Iron Age 167:99-102 F 1 '51

New ways for forming metals; air force manufacturing methods pilot plant. il Dun's R 58:34+ D '50

Recent developments in large closed-die forging. E. O. Dixon. il diag Mach 57: 184-9 Mr '51

Spotwelder doubles as hot upsetter. W. E. Finney. il diags Am Mach 95:134-6 O 1 '51

Technical forum on progress in metalworking; forging and forming. Steel 128:203+ Ja 1 '51

Tests show value of press-forging; manufacturing integrally stiffened structures. il Aviation W 54:50+ Ap 23 '51

See also

Forge shops

FORGING machinery

Main wing beam forged for Cutlass. il Product Eng 21:154 D '50

Mechanical forging presses. il Engineer 191: 839-40 Je 22 '51

FORGINGS

Aluminum die forging design for quality and economical production. A. E. Favre and A. J. Orazem. il diags Product Eng 21:140-4 Ag; 130-4 S '50; 22:125-9 Ja '51

Blast cleaning of forgings reduces stream pollution. J. Geschelin. il Automotive Ind 103:48-9+ N 15 '50

Cored forgings cut production costs. M. J. Rowan. il diags Am Mach 95:140-3 O 1 '51

New process removes scale from forgings. il Factory Management 109:198 Jl '51

See also

Steel forgings

FORMAL. See Methylal

FORMALDEHYDE

Acid-catalyzed reaction of formaldehyde with allyl cyanide. C. C. Price and I. V. Krishnamurti. Am Chem Soc J 72:5334-5 N '50

Acid-catalyzed reactions of nitriles; polyamides from formaldehyde and dinitriles. E. E. Magat and others. Am Chem Soc J 73:1031-5 Mr '51

Acid-catalyzed reactions of nitriles; the reaction of nitriles with formaldehyde. E. E. Magat and others. bibliog Am Chem Soc J 73:1028-31 Mr '51

FORMALDEHYDE—*Continued*

Acid-catalyzed reactions of nitriles; the reaction of nitriles with N-methylolamides. E. E. Magat and L. F. Salisbury. Am Chem Soc J 73:1035-7 Mr '51

Action of formaldehyde on L-ascorbic acid-1-C^{14}. E. H. Mosbach, J. J. Burns and C. G. King. Am Chem Soc J 73:1874-5 Ap '51

Action of formaldehyde on *m*-hydroxybenzoic acids; stepwise degradation of the lactone of 6-hydroxymethyl-1,3-benzodioxan-5-carboxylic acid. C. A. Buehler and others. Am Chem Soc J 73:2347-9 My '51

Action of formaldehyde on proteins. R. D. Haworth, R. MacGillivray and D. H. Peacock. Chem Soc J p 1493-8 Je '50

Centrifugal distortion in asymmetric top molecules; ordinary formaldehyde, $H_2C^{12}O$. R. B. Lawrance and M. W. P. Strandberg. bibliog Phys R 83:363-9 Jl 15 '51

Chain reactions induced by enzymic systems. G. Parravano. bibliog Am Chem Soc J 73: 183-4 Ja '51

Chemical modification of wool; treatment with formaldehyde solutions. A. E. Brown and others. bibliog Textile Res J 21:222-7 Ap '51

Effect of urea-formaldehyde treatment on the photochemical discolouration of bleached jute. H. J. Callow. bibliog Textile Inst J Trans 41:T404-6 O '50

Formaldehyde as an inhibitor of clotting of fibrinogen by thrombin. D. F. Waugh and B. J. Livingstone. bibliog diag J Phys & Colloid Chem 55:464-76 Mr '51

Formaldehyde condensations with phenol and its homologues; condensation of 3 : 4-dimethylphenol with formaldehyde (with a note on the determination of molecular weight in phenol). S. R. Finn. bibliog diag Soc Chem Ind J 69(sup no 1):S7-9 '50

Formaldehyde condensations with phenol and its homologues; condensation of 2 : 4 : 6-trimethylphenol with formaldehyde. S. R. Finn and J. W. G. Musty. bibliog Soc Chem Ind J 69(sup no 1):S3-7 '50

Formaldehyde condensations with phenol and its homologues; the effect of *p*H on the yields of isomeric dihydroxydiphenylmethanes. S. R. Finn and J. W. G. Musty. bibliog Soc Chem Ind J 69(sup no 2):S49-51 '50

Formaldehyde condensations with phenol and its homologues; the mixed melting points of mixtures of the isomeric dihydroxydiphenylmethanes. S. R. Finn, G. J. Lewis and N. J. L. Megson. bibliog Soc Chem Ind J 69(sup no2):S51-3 '50

Formaldehyde condensations with phenol and its homologues; the preparation of 2-hydroxymethyl-3 : 5-dimethylphenol by a new general method. S. R. Finn and J. W. G. Musty. bibliog J Ap Chem 1:182-4 Ap '51

Formaldehyde pickle. Chem Ind W 68:11-13 F 10 '51

Formation of formaldehyde from glycerol-C^{14} by propionibacterium. F. W. Leaver. Am Chem Soc J 73:2974-5 Je '51

Kinetics of the condensation of anilines with formaldehyde. Y. Ogata, M. Okano and M. Sugawara. Am Chem Soc J 73:1715-17 Ap '51

Kinetics of the uncatalyzed reactions between resorcinol and formaldehyde. R. A. V. Raff and B. H. Silverman. bibliog Ind & Eng Chem 43:1423-7 Je '51

Off the wagon; formaldehyde in alcohol offers shipping and storage savings. il Chem Ind 67:882-3 D '50

Polyamides from azelaonitrile and formaldehyde. D. T. Mowry and E. L. Ringwald. bibliog Am Chem Soc J 72:4439-41 O '50

Preparation and properties of urea-form. K. G. Clark and others. bibliog Ind & Eng Chem 43:871-5 Ap '51

Preparation of demerol-N-methyl-C^{14} by reductive methylation. W. Tarpey and others. diag Am Chem Soc J 72:5126-7 N '50

Reaction of formaldehyde with allyl chloride. C. C. Price and I. V. Krishnamurti. Am Chem Soc J 72:5335-6 N '50

Reaction of formaldehyde with cotton. C. F. Goldthwait. bibliog Textile Res J 21:55-62 Ja '51

Reaction of 9-formylfluorene-10-C^{14} with formaldehyde. J. G. Burr, jr. Am Chem Soc J 73:823 F '51

Resorcinol-formaldehyde reaction observed by ultraviolet absorption measurements. P. J. Stedry. bibliog Ind & Eng Chem 43:2372-5 O '51

Selenoaldehydes; selenoformaldehyde (trimethylene triselenide) and its chlorination products. H. J. Bridger and R. W. Pittman. Chem Soc J p 1371-5 My '50

Urea-formaldehyde kinetic studies; variation in urea solutions. L. E. Smythe. Am Chem Soc J 73:2735-8 Je '51

Use of C^{14}-labeled formaldehyde in the Mannich reaction. A. V. Logan, J. L. Huston and D. L. Dorward. Am Chem Soc J 73: 2952-3 Je '51

Utilization of formaldehyde by propionic acid bacteria. F. W. Leaver. Am Chem Soc J 72:5326-7 N '50

Vapor phase photolysis of formaldehyde at wavelength 3130A. J. G. Calvert and E. W. R. Steacie. bibliog J Chem Phys 19: 176-82 F '51

Vibrational analysis of the fluorescence spectrum of formaldehyde. J. C. D. Brand. bibliog J Chem Phys 19:377-8 Mr '51

Why the formaldehyde boom? commodity survey. R. Williams, jr. il Chem Eng 58:369-72 S '51

Analysis

Microdetermination of free formaldehyde. M. Tanenbaum and C. E. Bricker. bibliog Anal Chem 23:354-7 F '51

Physiological effect

Dermatitis from formaldehyde. Chem Age (Lond) 65:91-2 Jl 21 '51

FORMALIN. See Formaldehyde

FORMAMIDE

Dielectric constant of formamide. G. R. Leader. bibliog Am Chem Soc J 73:856-7 F '51

Effects of added chlorides on the absorption spectra of cobaltous chloride in water and in formamide. L. R. Dawson and J. H. Chaudet. bibliog J Chem Phys 19:771-4 Je '51

Rapid method for the measurement of carbon 14 in formamide solution. A. Schwebel and others. Science 113:465-6 Ap 20 '51

FORMAMIDE hydrochloride

Formamide hydrochloride. G.-M. Schwab. Electrochem Soc J 97:220C N '50

FORMAMIDINE

Ortho esters, imidic esters and amidines; disproportionation reactions of nitrophenyl-, chlorophenyl- and tolyl-substituted formimidates and formamidines. R. M. Roberts, R. H. DeWolfe and J. H. Ross. Am Chem Soc J 73:2277-81 My '51

FORMIC acid

Accessibility of cellulose by formic acid esterification. R. F. Nickerson. bibliog Textile Res J 21:195-202 Ap '51

Mechanism of the γ-ray induced oxidation of formic acid in aqueous solution. E. J. Hart. bibliog Am Chem Soc J 73:68-73 Ja '51

Polymerization induced by catalytic decomposition of formic acid at platinum surfaces. G. Parravano. Am Chem Soc J 72:5546-9 D '50

Preparation of demerol-N-methyl-C^{14} by reductive methylation. W. Tarpey and others. diag Am Chem Soc J 72:5126-7 N '50

Reactions of the cobaltic ion; the kinetics of the reaction of the cobaltic ion with formic acid. C. E. H. Bawn and A. G. White. Chem Soc J p339-43 F '51

Transformation of water from covalent to electrovalent combination in formic acid-water mixtures. T. Yang. J Chem Phys 19: 647-8 My '51

FORMICA company

Formica is on top. il Fortune 44:116-18+ O '51

FORMIMIDIC acid

Ortho esters, imidic esters and amidines; disproportionation reactions of nitrophenyl-, chlorophenyl- and tolyl-substituted formimidates and formamidines. R. M. Roberts, R. H. DeWolfe and J. H. Ross. Am Chem Soc J 73:2277-81 My '51

FORMOSA

How strong is Formosa? map Economist 160: 439-40 F 24 '51

Economic conditions

News by countries. For Comm W 41:16 D 11 '50

FORMS (law)

Contract forms. Dom Eng 176:112-13+ N '50

Let's improve and simplify our oil and gas lease form. M. W. Ball. Oil & Gas J 49: 114-15 F 15 '51

FORMS and blanks, Business

Accounting forms for oil jobbers. J. H. White. Nat Pet N 43:17-22 Ja 3 '51

Cradle-to-the-grave control of paperwork; design, printing, storage and distribution, processing, filing. J. B. Pierce. N A C A Bul 32:721-5 F '51

Development in forms and procedures control; abstract. C. F. Bové. Management R 40:189-90 Ap '51

Form simplification methods and procedures; abstract. R. F. Fitzgerald. Management R 40:534-5 S '51

Important factors in forms analysis. R. H. Jones. N A C A Bul 32:726-9 F '51

Is your red tape made of paper? abstract. B. Muldoon. Management R 40:60-1 F '51

Less paper means lower cost; Glidden co. cuts forms and reports. Bsns W p93+ N 18 '50

See also

Railroads—Forms and blanks

Printing

Have you printed snap-out forms? E. St John. Inland Ptr 126:82-3 D '50

Standards

No more dimensional headaches; standard for the order of designating the dimensions of index cards and record-keeping cards. L. Brigham. il Standardization 22: 248 Ag '51

FORMVAR

Thermal evaluation of Formvar resin. T. D. Callinan. bibliog diags Electrochem Soc J 98:171-6 My '51

Transmission of beta-rays by nylon and Formvar. R. B. Heller and others. bibliog il diag R Sci Instr 21:898-902 N '50

FORMYLFLUORENE

Reaction of 9-formylfluorene-10-C^{14} with formaldehyde. J. G. Burr, jr. Am Chem Soc J 73:823 F '51

FORMYL succinic acid

Synthetical experiments in the B group of vitamins; pyrrolinones derived from the condensation products of primary amino-esters and formyl- or acetyl-succinic acid derivatives. A. Cohen. Chem Soc J p3005-9 N '50

FORMYLATION

Formylation of bile acids. I. W. Hughes, F. Smith and M. Webb. Chem Soc J p3437-8 D '49

FORRESTAL, James Vincent, 1892-1949

Herald tribune obtains Forrestal diaries. J. McMaster. Ed & Pub 83:44 N 25 '50

Herald tribune syndicate offers Forrestal diaries. Ed & Pub 84:46 Je 30 '51

FORSTERITE

Experiments on forsterite linings reported successful. B. M. Pearson. bibliog Iron Age 167:65-7 Ja 18 '51

System K_2O-MgO-SiO_2. E. W. Roedder. pl Am J Sci 249:224-48 bibliog(p244-8) Mr '51

FORTY-plus clubs

40 plus thrives despite rapid personnel changes. Ptr Ink 236:134 S 7 '51

FORUMS, Open

Forum audiences ask for more. Banking 43: 70-2+ F '51

How to run a financial forum. G. N. Gildersleeve. il Banking 43:55+ F '51

FORWARDING companies

Foreign freight forwarders handling insurance need broker's license in New York. Weekly Underw 164:210; 165:734 Ja 20, S 29 '51

Freight forwarding, fast growing industry. B. Packard. Iron Age 168:121 Ag 16 '51

FORWARDING companies (air freight)

Emery sets fast forwarding pace. E. J. Bulban. il map Aviation W 55:45-6 S 3 '51

Unauthorized freight forwarders hit by CAB action to punish violators. CAA J 12:3 Ja 20 '51

FOSSIL pollen. See Pollen, Fossil

FOSSIL trees. See Trees, Fossil

FOSTER, Harold

Portrait. Soc Dyers & Col J 67:236B Je '51

FOSTERITE. See Resinous products—Insulating materials

FOULING of ships. See Ships—Fouling

FOULING organisms

Puerto Nuevo to fight fouling. L. J. Myskowski and M. A. Quinones. il diag Power 95: 90-3 My '51

See also

Barnacles

FOUNDATION soils

Engineering geology of San Francisco bay, Calif. P. D. Trask and J. W. Rolston. bibliog maps diags Geol Soc Bul 62:1079-109 S '51

Movements in the desiccated alkaline soils of Burma. F. L. D. Wooltorton. il plan diags Am Soc C E Proc 76:63-99 Ja '50; Discussion. 76 [no D-XXVIII]:1-10 N '50

Resources for the chemical industry in the Southwest; construction requirements. C. W. Roberts. il Ind & Eng Chem 43:1737-9 Ag '51

Test tile footings for expansive soils. R. F. Dawson. il diag Arch Rec 108:155-7 N '50

U.S. firm finishes Sumatra soil studies for Caltex Pacific Petroleum. Eng N 147:85-6 Ag 16 '51

Wellpoint holds tricky soil for building foundation; Phoenix fire insurance co. home office building. il Eng N 145:24 D 28 '50

See also

Dams—Foundations

Roads—Subgrades

Soil mechanics

Testing

Airport building aided by new atomic device; radioactive material to measure the moisture content and density of the soil under airport pavement. CAA J 11:134 D 15 '50

Cone-penetration tests. F. C. de Nie. Eng N 145:48 O 26 '50

Gauge for measuring sustained stresses in soil. A. C. Whiffin and R. T. Smith. bibliog il diags Engineer 192:5-6 Jl 6 '51

FOUNDATIONS

Building foundation sunk into place. il diags Eng N 147:40 S 20 '51

Continuous mat put in fast as big store replaces itself; Jordan Marsh department store in Boston. C. B. Spencer. il diag Eng N 145:34-5 D 28 '50

Deep foundation for Pittsburgh skyscraper. R. C. Johnston. il diags Eng N 145:40-2 D 7 '50

Deep underpinning formed in wells. il Eng N 147:34 S 20 '51

Essentials of good foundations. diags Am Bld 72:119 D '50

Foundation for large circular tanks. il diag Engineer 190:623-4 D 22 '50

Graphical methods aid in stack foundation design. C. H. Fork. diags Pet Refiner 30: 81-5 Mr '51

New Orleans hospital foundations designed to end settlement trouble. R. P. Linfield and H. M. Favrot. il map diags Eng N 147:40-2 S 13 '51

Research on extending foundation of basementless houses. Sheet Metal Worker 42:92 N '50

Shell Haven refinery uses Durley Dome foundations for large-diameter tanks. V. S. Swaminathan. il diag Oil & Gas J 49:166+ F 22 '51

Solution of beam-on-elastic-foundation problems by means of a mechanical analogue. A. A. Wells. il diags Inst Mech Eng Proc 163(W.E.P. no 62):307-10; Discussion. 316-25 '50

FOUNDATIONS—*Continued*

Successive approximations for beams on an elastic foundation. E. P. Popov. bibliog diags Am Soc C E Proc 76 [no 18]:1-13 My '50; Discussion. 77 [no D-18]:1-13 Ap '51

See also

Bridges—Foundations and piers
Caissons
Cofferdams
Concrete piling
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Machinery—Foundations
Piles and pile driving
Roads—Foundations
Shoring and underpinning
Tanks—Foundations

Settlement

Sinking foundations. diags Tech R 53:291 Ap '51

FOUNDATIONS, Charitable and educational

Charities under 1950 revenue act; suggestions for complying with new provisions. B. C. Eaton, jr. Trusts & Estates 90:220-2+, 304-8 Ap-My '51

Family foundation; bulwark against high taxes. J. K. Lasser and W. J. Casey. Dun's R 59:22-3+ Ag '51

Save by giving; Lehigh Valley Steel foundation to use charity tax deductions. Bsns W p66+ S 22 '51

Tax laws make art hard to give; Kress Foundation gift to National gallery. il Bsns W p 117-18+ Ap 7 '51

See also

Endowments

FOUNDATIONS, Subaqueous

Here's a new type foundation for marine structures; Aquapad. il plan diag Eng N 147:41-3 Ag 30 '51

See also

Bridges—Foundations and piers
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FOUNDING. See Aluminum founding; Bronze founding; Foundry practice; Iron founding

FOUNDRIES

Castings industry and the Munitions board. E. D. Payne. Foundry 78:101+ N '50

Community likes this foundry; Budd co., Philadelphia. il Factory Management 109:B94-5 pt 2 Ap '51

Founders object to inspection methods. J. W. Bryant. Foundry 79:126+ Mr '51

Foundries put heat on merchant iron market. B. Lloyd. Iron Age 166:103-4 N 16 '50

History of Hayle foundry. T. R. Harris. Engineering 172:102-3 Jl 27 '51

Industrial mobilization plan for the malleable iron castings industry. Foundry 78:100+ N '50

Military looks to industry. R. Doughton, jr. Foundry 78:94+ D '50

New foundry in 21 working days; Superior foundry inc. Steel 129:49 Ag 13 '51

Recent progress in the foundry industry. C. Gresty. Engineering 171:770-1 Je 22 '51

Replacing foundry building accomplished in record time. il Foundry 79:214+ S '51

See also Foundry dust and other headings beginning Foundry

Accounting

See Foundry accounting

Electric equipment

Automatic muller control. H. T. Bailey. diags Power Eng 55:88 Ag '51

Electronic core baking; United foundries co. B. Hopkins. il Foundry 79:154+ Mr '51

Employees

Employee co-operation key to increased productivity. W. R. Prada. Foundry 79:169 Mr '51

Foreman training. R. L. Bradley. Foundry 79:196+ S '51

Health of ferrous foundry workers. H. Heimann. Pub Health Rep 66:223-39 bibliog(66 titles, p237-9) F 23 '51

Iron and steel foundries; employment, hours and earnings; tabulations. Iron Age 167:338 Ja 4 '51

Nonferrous foundries, labor, 1947-1950; tabulation. Iron Age 167:341 Ja 4 '51

Personality of a business team. J. E. Janney. Foundry 79:106+ S '51

Pulmonary fibrosis among Illinois ferrous foundrymen. Mo Labor R 72:653-5 Je '51

Workers' earnings in ferrous foundries, 1950. C. Rubenstein. Mo Labor R 71:693-4 D '50

Equipment and supplies

Ausco's diversified production facilities. J. Geschelin. il Automotive Ind 104:38-9+ Mr 1 '51

Automatic weighing of foundry sand mixtures. D. H. Jillson. il diag Foundry 79:136+ S '51

Casting steel crankshafts; Auto specialities manufacturing co. E. Bremer. il plan Foundry 79:84-7+ Mr '51

Compressed air provides versatile power supply; Schaefer-Goodnow foundries, inc. il Foundry 79:146+ F '51

Conveyerized blasting unit provides economical cleaning; foundry of Crompton & Knowles loom works. V. E. Hillman. il Foundry 78:204+ N '50

Die cost cut by tool shop foundry; Allied products corp. W. G. Patton. il Iron Age 166:81-3 N 2 '50

Efficient operation doubles foundry production; Massey-Harris co. R. H. Herrmann. il Foundry 79:90-5+ Mr '51

Engineering, marine and welding exhibition. il Metallurgia 44:83-6 Ag '51

Foundry equipment orders and shipments, by months, 1949-1950; tabulation. Iron Age 167:340 Ja 4 '51

Foundry innovations produce big savings; Buick foundry. A. S. Hall. il Iron Age 167:110-13 Mr 1 '51

Foundry modernization expands gray iron casting capacity; National supply co.'s Engine division plant. il Steel 128:60-2 Ap 30 '51

Homemade devices give core work economies; gray iron foundry of Buick motor div. H. Chase. il Iron Age 167:95-8 Ap 19 '51

How often plant inspection? E. W. Fair. Foundry 79:254+ O '51

How to find your patterns fast. H. Zimmerman. il Factory Management 109:98-9 Je '51

Installs modern cupola charging equipment; Hajoca corp. il Foundry 79:136+ Mr '51

J. I. Case co. modernizes coremaking facilities. il Foundry 78:212+ N '50

Lufkin gray iron foundry serves industrial Southwest. W. G. Gude. il Foundry 79:90-3+ My '51

Modernized foundry gains in efficiency and capacity; National supply co.'s Engine division. C. G. Presser. il plan Foundry 79:92-7+ F '51

New Budd foundry produces 500 brake drums per hour. T. MacNew. il Automotive Ind 103:32-3+ N 15 '50

Pneumatic deflashing jig speeds core flash removal. J. Starr. il diag Tool Eng 26:29 Ja '51

Production jumps with mechanization; Taylor iron foundry, Brooklyn. D. List. il Mill & Factory 48:120-2 F '51

Rapid growth marks Texas malleable foundry. W. G. Gude. il Foundry 79:110-13+ Je '51

70 million castings in 243 days; Foundry division of Eaton mfg. co. W. Czygan. il Iron Age 167:89-91 Je 14 '51

Studebaker doubles foundry capacity. R. H. Moore. il diag Foundry 79:72-9 Ag; 98-105+ S; 114-19 O; 102-7+ N '51

Wetting agents useful in the foundry. P. Winters. diags Foundry 79:118-21 Je '51

Where-to-buy; foundry products section. Foundry 79:1-14 sec 2 Jl '51

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Casting machines
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Heating and ventilation

Automatic dust-free foundry; illustrations with text. Heat & Ven 48:78-9 O '51

Scrapbook of exhaust hood design; dust control for foundry shakeouts. J. M. Kane. il Heat & Ven 47:64-6 N '50

Management

See Foundry management

FOUNDRIES—*Continued*

Records

Accountant reports to management. A. E. Grover. il Foundry 79:82-7+ Ja '51
Instruments keep accurate records. M. F. Degley. Foundry 79:108-11 Mr '51

Safety measures

Looking over a mechanized foundry; illustration with text. F. B. Skeates. Nat Safety N 63:20-3 Je '51

Statistics

5,867 foundries in the United States and Canada. Foundry 79:103 Ag '51
Foundry statistics. Published in monthly numbers of Foundry
Number of foundries in operation; tabulations. Iron Age 167:343 Ja 4 '51
Shipments; zinc, aluminum, lead, copper and magnesium castings; employment in nonferrous foundries; tabulations. Iron Age 167:341 Ja 4 '51
Steel castings production; iron and steel foundry employment; earnings, gray iron and semisteel foundries; earnings, steel casting industry; tabulations. Iron Age 167: 338 Ja 4 '51
Steel castings shipments; gray iron castings shipments; malleable castings, shipments and orders. Iron Age 167:339 Ja 4 '51

Great Britain

Steel castings and defence. Economist 160: 938-9 Ap 21 '51

Spain

Spanish foundries. F. R. Morral. il Foundry 79:138+ Mr '51

FOUNDRY accounting
Accountant reports to management. A. E. Grover. il Foundry 79:82-7+ Ja '51
Control of foundry operation scrap. A. M. Atwater. N A C A Bul 32:417-22 D '50; Same. Foundry 79:80-2 Ag '51
Production control in a small foundry. W. Brooke. N A C A Bul 32:956-60 Ap '51
Production line technique applied to foundry labor accounting; Ferro machine & foundry inc. E. A. Henry. il diags Foundry 78:106-7+ N '50

FOUNDRY costs
Foundry cleaning costs cut $250 per day; General foundries of Milwaukee. il Steel 128:76 Mr 19 '51
New method of evaluating costs in jobbing foundries; abstract. C. E. McQuiston and A. W. Schneble, jr. Foundry 79:144+ Jl '51

FOUNDRY dust
Health of ferrous foundry workers. H. Heimann. Pub Health Rep 66:223-39 bibliog(66 titles, p237-9) F 23 '51
Pulmonary fibrosis among Illinois ferrous foundrymen. Mo Labor R 72:653-5 Je '51
Wetting agents useful in the foundry. P. Winters. diags Foundry 79:118-21 Je '51

FOUNDRY educational foundation
FEF; its accomplishments and future opportunities. G. K. Dreher. Foundry 79:138+ Ag '51

FOUNDRY equipment manufacturers' association
Annual meeting, White Sulphur Springs, W.Va. Oct. 12-14. Foundry 78:117+ D '50

FOUNDRY flasks
Wedges effective in fastening pins and clamps. P. Dwyer. diags Foundry 79:98-9 Jl '51

FOUNDRY laboratories
Purdue university's new student foundry will be equipped with modern facilities. plans Foundry 79:148 S '51

FOUNDRY ladles
AISE specification for design of hot metal ladles. I. E. Madsen. Iron & Steel Eng 28:119-22 My '51
Deoxidizing in the ladle with Carbortam. W. O. Igelman and D. A. Finch. J Metals 188:1439-41 D '50
Ladle refractories and practice in acid electric steel foundry; abstract. C. H. Wyman. diag Brick & Clay Rec 118:72+ Je '51
Ladle refractories and practice in acid electric steel foundry; abstract. C. H. Wyman. Foundry 79:152 Jl '51

FOUNDRY machinery
Automatic muller control. H. T. Bailey. diags Power Eng 55:88 Ag '51
Design of coreboxes and driers for use on core blowers. E. Blake. il diags Foundry 79:114-17+ Je '51
Foundry mechanization. il diag Automobile Eng 41:139-45 Ap '51
Machines make shell molds automatically. W. Czygan. diags Iron Age 167:81-5 Ap 19 '51
Mechanised aids in the foundry. A. S. Beech. il diags Engineering 171:324-6, 355-8 Mr 16-23 '51; Same abr.(pt 2). Engineer 191:360-3 Mr 16 '51
Vibration isolation improves machinery efficiency. F. A. Westbrook. il diags Foundry 79:226+ Jl '51

See also
Casting machines
Die casting machines
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FOUNDRY management
Camera; a useful foundry tool. B. Melnitsky. il Foundry 78:108-13+ N '50
Company mobilization planning. D. Armstrong. il Foundry 79:106-7+ Mr '51
Efficient operation doubles foundry production; Massey-Harris co. R. H. Herrmann. il Foundry 79:90-5+ Mr '51
Foundry operating procedure standards. M. J. Kellner. Foundry 79:90-1 Jl '51
Pattern engineer and the foundry. G. A. Pealer. il Foundry 79:102-3+ O '51
Personality of a business team. J. E. Janney. Foundry 79:106+ S '51
Scrap down, quality up, through statistical control systems. H. H. Johnson. il Steel 128: 76-9+ My 21 '51
Spec sheets and their various uses; abstract. J. Taylor. Foundry 79:144 Jl '51
Statistical quality control. H. H. Johnson. Foundry 79:92-7+ Jl '51
Statistical quality control; National malleable & steel castings co. H. A. Schwartz. Foundry 79:94-5+ Ja '51

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Castings—Cleaning
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FOUNDRY practice
ABC of foundry practice. D. J. Reese and others. diags Foundry 79:121+ Ja; 180+ F; 157+ Mr; 154+ Ap; 182+ My; 222+ Je; 175-6 Jl; 153 Ag; 151-2 S; 161+ O; 167-8 N '51
All Canadian foundry conference, Hamilton, Ont. Sept. 28-30. Foundry 78:164+ N '50
AFS convention; technical reports. Foundry 79:126+ Jl '51
American foundrymen's society Texas regional conference, 1st, San Antonio, Oct. 5-6. Foundry 78:136+ N '50
Annual foundry conference, 19th, Birmingham, Feb. 22-24. Foundry 79:176+ Ap '51
Annual metals casting conference, 3d, Lafayette, Ind. Nov. 2-3. Foundry 79:168-70+ Ja '51
Annual Michigan foundry conference, East Lansing, Nov. 10-11. Foundry 79:160+ Ja '51
Beryllium copper sand castings. J. T. Richards. bibliog il Foundry 79:90-3+ Ag '51
Casting and forging of titanium. J. B. Sutton and others. il diag Metal Prog 58:716-20 N '50
Casting design for economical molding. C. T. Marek. diags Foundry 78:88-93+ N '50
Casting design for economical production. C. T. Marek. Machine Design 23:190+ O '51
Casting-in of Inconel tubes in copper blocks. F. J. Lambert. il Metal Prog 59:809-11 Je '51
Choke control in finger gating. W. H. Johnson and others. il diags Foundry 79:116-21+ Ap '51
Cup, saucer and spoon. P. Dwyer. il diags Foundry 79:106-9 My '51
Development and evaluation of cast turbine rotors. N. J. Grant and others. bibliog il diag Foundry 78:86-93+ D '50
Faster cooling, key to Jacquet continuous casting method. diags Steel 127:108+ D 4 '50
Foundry practice for nonferrous casting alloys; data sheet. Foundry 79:143-4 F '51

FOUNDRY practice—*Continued*

Gas evolution from molds and cores. W. H. Moore. il diag Foundry 79:80-7 Jl '51

Horizontal continuous casting machine, patented by J. F. Jacquet. diags Iron & Steel Eng 28:144+ Ja '51

How to cast a heavy table. P. Dwyer. diags Foundry 79:120-1+ F '51

Metal penetration. S. L. Gertsman. il diags Foundry 79:84-9 My '51

New continuous casting development. I. Harter. Iron Age 166:100-1 N 16 '50

New England regional conference, 10th, Boston, Oct. 27-28. Foundry 78:148+ D '50

Ohio regional conference, 4th, Cleveland, March 9-10; with abstracts of papers. Foundry 79:190+ My '51

Pyrometry in the nonferrous foundry. R. A. Colton. il Foundry 79:98-100+ F; 88-9+ Mr '51

Regional foundry conference, Milwaukee, Feb. 8-9. Foundry 79:168+ Ap '51

Technical forum on progress in metalworking; casting. Steel 128:193-4+ Ja 1 '51

Theoretical basis for the design of gates. M. J. Berger and C. Locke. diags Foundry 79:112-17+ F '51

See also

Aluminum founding
Association technique de fonderie de France
Brass founding
Bronze founding
Cast iron
Casting, Centrifugal
Castings—Cleaning
Cores
Cupola furnaces
Die casting
Iron founding
Lost wax process
Magnesium founding
Molds (for casting)
Pattern making
Sand, Foundry
Steel castings
Steel ingots—Molds

Mercast process

Frozen mercury patterns add flexibility to precision casting. A. H. Allen. il diags Steel 128:66-9 Mr 19 '51

Frozen mercury process. il Product Eng 22:126-7 My '51

Iced mercury opens fields for casting; Thompson products' Intricast. il Bsns W p85-6+ N 11 '50; Excerpt. Cer Ind 56:73 F '51

Study and teaching

Educational activities; abstracts of papers, A.F.S. annual meeting. Foundry 79:142+ Jl '51

Purdue university's new student foundry will be equipped with modern facilities. plans Foundry 79:148 S '51

See also Foundry educational foundation

FOUNDRY research

Atomic by-products for the foundry. T. A. Dickinson. bibliog il Foundry 79:188+ O '51

Heat transfer studies, A.F.S. annual meeting. Foundry 79:161+ Je '51

Midget cupola used in research work. il diag Foundry 79:146 Ja '51

Research and development division of the British steel founders association. J. F. B. Jackson. Metallurgia 44:137-9 S '51

Research and the pilot foundry. H. J. Roast. Metal Prog 59:668-9 My '51

FOUNDRY workers. See Foundries—Employees

FOUNTAIN pens

Ball-point revival; Fisher Pen's fresh merchandising ideas backed up with effective packaging and display. il Mod Packaging 24:108-9 F '51

Periodic window contests win point-of-purchase push for Sheaffer. il Sales Management 67:82+ O 1 '51

Starring the pen; counter unit makes combined packer, display and dispenser for 72 ball pens. il Mod Packaging 24:100-1 My '51

Advertising

Pay-off to Parker's plunge into co-op ads; Parker pen co. J. N. Black. il Sales Management 66:68-71 Je 1 '51

Rating

Several new low-priced fountain pens. il Consumers Res Bul 27:8 Je '51

4-H clubs

Banking and the 4-H movement. il Bankers Mo 68:7-10+ Mr '51

Forest of friends; Bank of Montreal takes part in work of Quebec 4-H clubs. M. Brown. il Banking 44:126-7 S '51

How one bank spurs 4-H club work; Industrial trust company of Providence. Banking 43:59+ D '50

Missouri 4-H foundation. R. S. Clough. Bankers Mo 68:14+ Mr '51

South Carolina utilities aid 4-H clubs. il Elec World 134:72-3 N 6 '50

FOURIER'S integrals. See Fourier's series

FOURIER'S series

Dynamic analysis of aeroelastic aircraft by the Transfer function-Fourier method. J. B. Rea. diags J Aeronautical Sci 18:375-97 Je '51

Fourier transforms in the theory of inhomogeneous transmission lines. F. Bolinder. Inst Radio Eng Proc 38:1354 N '50

Series expansion of the Fourier integral. W. A. Whitcraft, jr. Inst Radio Eng Proc 39:1087-9 S '51

Simple machine capable of Fourier synthesis calculation. J. H. Robertson. diags J Sci Instr 27:276-8 O '50

FOUST, Clifford M.

Gaylord Penney and Clifford Foust to receive Franklin Institute medals. por Elec World 136:74 S 24 '51

FOX, Edward George, 1900-

Sketch. por Explosives Eng 29:68-9 My '51

FRACTIONATING columns. See Distillation apparatus

FRACTIONS

Let's rationalize the inch. H. G. Conway. il diags Machine Design 23:123-6 S '51

FRACTOGRAPHY. See Crystallography; Metallography

FRACTURES

Fractures of the metatarsals and tarsals. R. J. Bennett. Ind Med 20:423-5 S '51

Treatment of open fractures of the hand. M. L. Mason. il Ind Med 20:260-3 Je '51

Vascular complications in fractures and traumatology. D. S. Miller and L. Markin. bibliog il Ind Med 20:323-4 Jl '51

FRADICIN

Crystalline fradicin. R. J. Hickey and P. H. Hildy. bibliog Science 113:361-2 Mr 30 '51

FRAMED structures

Connections for welded continuous portal frames. A. A. Topractsoglou and others. bibliog il diags Welding J 30:sup359-84, 397-405 Jl-Ag '51

Design of rigid frame buildings. M. P. Korn. il diags Welding J 30:309-13 Ap '51

Effect of skew angle on rigid-frame reactions. W. C. Boyer. il diags Am Soc C E Proc 76 [no 32]:1-12 S '50; Discussion. 77[no D-32]:1-6 Je '51

Limit design of beams and frames. H. J Greenberg and W. Prager. diags Am Soc C E Proc 77 [no 59]:1-12 F '51

Stress distribution in plastic range in a rigid frame. L. E. Grinter and others. il diags Welding J 30:sup 125-34 Mr '51

Wedge-beam framing. A. Amirikian. diags Am Soc C E Proc 77 [no53]:1-36 Ja '51

Welded continuous frames and their components; plastic design and the deformation of structures. Ching Huan Yang and others. bibliog diags Welding J 30:sup348-56 Jl '51

FRAMING (building)

Correct nailing in framing. il diags Am Bld 73:129-32 Ja '51

Designing a structural frame for economy; Mayo clinic Diagnostic building. E. L. Gardner. il plan Eng N 147:34-6 S 6 '51

Framing farm buildings. il diags Am Bld 73:109-13 Mr '51

Framing houses with bents. plan diags Arch Forum 95:188-9 Jl '51

Geodesic dome, Fuller's new framing system. il diags Arch Forum 95:144-51 Ag '51

Getting more for our concrete dollar. I. E. Morris. diags Am Concrete Inst J 22:389-96; 23:396^{1}-396^{3} Ja, pt 2 D '51

Modular coordination in frame houses; with time-saver standards. J. T. Lindrum. il plans diags Arch Rec 109:153-5, 177+ My '51

Roof suspended from lightweight concrete frames. L. Poole. il diags Am Concrete Inst J 22:260-3 N '50

Types of house framing; recommended practices. il diags Am Bld 72:120-32 D '50

Welded frames cut costs of six-story building. il diags Eng N 145:35-6 D 14 '50

FRANCE

See also

Budget—France
Hydroelectric plants—France
Railroads—Electrification—France
Shoe industry and trade—France
Trade unions—France

Colonies

Empire into union? Economist 159:791-2 N 18 '50

Commercial policy

Duties and controls on exports and imports on various products. For Comm W 41:14 N 20 '50
France's trade policy. Economist 160:329 F 10 '51
Tariffs and trade controls. For Comm W 41: 17 D 4 '50; 42:13 Ja 29; 15 Mr 26; 43:11-12 Je 18; 44:14 Jl 9; 14 Jl 30; 14 Ag 6; 11 Ag 20; 45:10 O 15 '51

Defenses

France's rearmament effort. Economist 160: 271 F 3 '51
Would rearmed France fight? Bsns W p 113-14 Ja 6 '51

Economic conditions

French productivity; a mixed economy has failed to raise it. B. deJouvenel. Barron's 31:13-14 S 10 '51
News by countries. For Comm W 40:16-17 S 25; 41:12 O 30; 10-12 N 27 '50; 42:12-13 Ja 29; 14 Mr 5; 14-15 Mr 26; 43:11 Je 18; 44: 13-14 Jl 30; 18-19 S 3; 45:14 O 1 '51
Rearmament stimulates recovery. J. H. Kean. il For Comm W 44:3-5 Jl 9 '51

Economic policy

French price policy for rearmament. Economist 160:606 Mr 17 '51

Foreign relations

After the Auriol visit. Economist 160:870-1 Ap 14 '51
Convalescent ally. Economist 160:245-6 F 3 '51
Lion's share for France. Economist 159:726 N 11 '50

Germany

France and German arms; French distrust of Germans. B. deJouvenel. Barron's 31:5 Jl 23 '51

Industries and resources

Capital expansions will boost steel output. Steel 127:71 D 11 '50
Four years of the Monnet plan. Economist 161:401-2 Ag 18 '51
French dilemma; American aid too often furthers socialization. Barron's 31:5 Ag 27 '51

Politics and government

Election eve in France. Economist 160:1445-6 Je 16 '51
France moves right. Economist 160:1489-90 Je 23 '51
France turns right; voters provide alternative to the third force. B. deJouvenel. Barron's 31:7-8 Je 25 '51
France's new government has lots of talent, no support. Bsns W p 144-5 Ag 25 '51
France's non-partisan party. Economist 159: 1007-8 D 9 '50
French parties in the paddock. Economist 160:692-4 Mr 24 '51
French Socialists stand firm? Economist 159: 754 N 11 '50
French unity stands a slim chance. Bsns W p 153-4 My 19 '51
French voter will choose tickets, not individuals. B. deJouvenel. Barron's 31:8 My 14 '51
General de Gaulle's prescription. Economist 160:1568-9 Je 30 '51
M. le President; French elections in June provide the backdrop for Auriol's visit. F. Morley. Barron's 31:3 Ap 2 '51
Social security vs. military security is big election issue. B. deJouvenel. Barron's 31:7 Je 11 '51
Three forces in France. Economist 160:1275-6 Je 2 '51

FRANCK-CONDON principle
Franck-Condon principle and the size of the excited benzene molecule. D. P. Craig. Chem Soc J p2146-51 Ag '50

FRANK, Jerome N. 1899-
Portrait. Fortune 43:96 Ja '51

FRANKFURTERS. See Sausage

FRANKLIN, Benjamin, 1706-1790
B. Franklin's Magical square of 16. A. Chandler. Franklin Inst J 251:415-22 Ap '51

FRANKLIN institute
Annual report of the board of managers for the year 1950. Franklin Inst J 252:70-81 Jl '51
Franklin institute honors Freyssinet and Magnel. Concrete 58:24 N '50
Medal day proceedings. Franklin Inst J 250: 557-74 D '50
Wright brothers' aeronautical engineering collection. R. H. McClarren. il Franklin Inst J 252:175-96 Ag '51

Library

Recent additions. Franklin Inst J 252:265-8 S '51

FRANKLIN institute journal
First one hundred and twenty-five years. T. Coulson. Franklin Inst J 251:1-10 Ja '51

FRANKLIN'S electrical machine. See Electric machinery

FRASCONI, Antonio
Wine from the California desert; a portfolio of woodcuts by Antonio Frasconi. por Fortune 44:112-15 S '51

FRATERNAL actuarial association
Spring meeting, Denver. Nat Underw (Life ed) 55:22 My 25 '51

FRATERNAL congress of America, National. See National fraternal congress of America

FRATERNAL societies. See Benefit societies

FRAUD
Better look "award" givers in the mouth; National better business bureau warns manufacturers. Mod Ind 22:117-18 S '51
Cancellation of purchase invoices and other vouchers by perforation advocated as barrier against fraud. R. H. Greenberg. J Account 91:128-9 Ja '51
Some highlights on fraud; abstract. H. W. Bevis. Management R 40:97-8 F '51

See also

Checks, Fraudulent
Embezzlement

FRAUDULENT advertising. See Advertising, Fraudulent

FRAZER, Mary
Scripps-Howard assigns Mary Frazer to New York beat. por Ed & Pub 84:10 S 22 '51

FRAZIER, Julius Leroy, 1885-
J. L. Frazier retires; letters to the editors. por Inland Ptr 127:45, 48+ Je '51

FREAR bill. See Securities—Law

FREDRICKSON-EYRING theory
Fredrickson-Eyring theory of the mechanical behavior of metals. J. Fleeman and G. J. Dienes. J Ap Phys 21:1193-4 N '50

FREE energy
Change of free energy with pressure of the reaction, nepheline + albite = 2 jadeite. H. S. Yoder and C. E. Weir. bibliog Am J Sci 249:683-94 S '51
Copper-copper interfacial free energy; abstract. G. W. Sears. Science 112:449 O 20 '50
Free energy of formation and solubility product constant of mercuric sulfide. J. R. Goates, A. G. Cole and E. L. Gray. bibliog Am Chem Soc J 73:3596-7 Ag '51
Graphical free energy approach to unary systems. N. O. Smith. J Chem Educ 28:462-5 S '51
Oxidation potential-free energy diagrams. A. A. Frost. Am Chem Soc J 73:2680-2 Je '51

See also

Gibbs-Helmholtz equation

FREE enterprise. See Capitalism

FREE offers. See Advertising copy—Free offers

FREE piston air compressors. See Air compressors

FREE ports and zones

Foreign trade zones as exhibition sites. T. E. Lyons. For Comm W 43:26 My 28 '51

Free trade zone in Philippines. F. Ortigas, jr. Comm & Fin Chr 174:418+ Ag 2 '51

17 cost-saving ways to use our free ports. il Sales Management 67:78+ S 1 '51

FREE radicals. See Radicals (chemistry)

FREE speech

Supreme court as protector of civil rights; freedom of expression. D. Fellman. bibliog Ann Am Acad 275:61-74 My '51

Union and bank slug it out; FEG and Cleveland Trust. il Bsns W p36-7 Je 9 '51

FREE trade unions, International confederation of. See International confederation of free trade unions

FREE zones. See Free ports and zones

FREEDOM. See Liberty

FREEDOM of information

Air force wars on news in Texas, Ohio. Ed & Pub 84:12 My 19 '51

ASNE studying access to public records. Ed & Pub 84:59 Ja 27 '51

AEC seminar, State college, Pa, Feb. 2-3. Ed & Pub 84:5+ F 10 '51

Chafee revives treaty on foreign reporting. Ed & Pub 84:15 S 22 '51

Draft boards ordered to keep addresses secret. Ed & Pub 84:7 My 26 '51

Editors exhorted to fight arrogant suppression. Ed & Pub 84:17+ Ap 28 '51

Favors fighting it out on UN treaty. C. Binder. Ed & Pub 84:27 Mr 31 '51

Information treaty draft is completed. K. Teltsch. Ed & Pub 84:67 F 10 '51

Information treaty opposed by FIEJ. Ed & Pub 84:15 My 26 '51

Information treaty up for debate again. K. Teltsch. Ed & Pub 83:6 N 18 '50

News incompatibility doctrine is attacked. J. S. Pope. Ed & Pub 83:16 N 11 '50

President issues executive order giving nondefense agencies authority to classify information relating to national security. R. G. Gibbs. Chem & Eng N 29:4148-9 O 8 '51

Private media favored for truth campaign. J. W. Dragonetti. Ed & Pub 84:13+ My 26 '51

Public record access gained with sugar. H. Cross. Ed & Pub 84:129-30 Ap 28 '51

Small nations' plan for info parley gains. K. Teltsch. Ed & Pub 83:27 D 2 '50

Small nations vote to draft info pact. K. Teltsch. Ed & Pub 84:8 Ja 20 '51

Sources talk over problems with newsmen. Ed & Pub 84:24 Mr 31 '51

Too much secrecy. Fortune 43:65 Mr '51

UN assembly votes to strive for info pact. K. Teltsch. Ed & Pub 83:9 D 16 '50

UN group adopts preamble, first article. K. Teltsch. Ed & Pub 84:54 Ja 27 '51

U.S. position on information treaty. C. Binder. Ed & Pub 84:48b Ja 20 '51

U.S. voices objection to Information treaty; text of draft convention. Ed & Pub 84:53-4 Je 30 '51

Urges press lead national posse vs. crime. E. S. Friendly. Ed & Pub 84:21+ Ap 28 '51

We must not quit treaty debate. C. Binder. Ed & Pub 84:118+ Ap 28 '51

FREEDOM of speech. See Free speech

FREEDOM of the press

Bar group says UN treaties threaten press. C. Williams. Ed & Pub 83:26 N 4 '50

Brazil pledges free press. G. Vargas. Ed & Pub 84:8 F 3 '51

British press council plan under study. Ed & Pub 84:49 Ja 27 '51

Does sanity of world demand a free press? J. L. Collings. Ed & Pub 84:20 F 17 '51

Ecuador chief appeals to club for newsprint. G. Plaza. Ed & Pub 84:14 Je 30 '51

Editorial cooperation; control of newspapers by advertisers. D. B. Arnold. Adv Agency 44:82 O '51

Five newsmen are indicted after expose; gaining support. Ed & Pub 84:60 S 1; 11 S 8 '51

How economic forces threaten free press; abstract. F. Hawkins. Ed & Pub 83:10 N 25 '50

How freedom works; defends columns of Mrs Roosevelt and Thomas Stokes. Ed & Pub 83:10 O 28 '50

IAPA voices concern for hemisphere press. Ed & Pub 84:32 Je 23 '51

Kefauver orders daily to kill crime report. Ed & Pub 84:8 Ja 20 '51

Rome Daily American closing is protested. Ed & Pub 84:11 Je 2 '51

33 U.S.-Latin editors will attend forum at Northwestern university. Ed & Pub 84:30 S 22 '51

Three Texas papers have censor trouble. Ed & Pub 84:32 S 1 '51

Truman spokesman gives pledge of no censorship. J. H. McGrath. Ed & Pub 84:5-6 Mr 10 '51

UN treaties could put press in chains. E. Hanson. Ed & Pub 84:17+ Ap 21 '51

UN treaty imperils press freedom; freedom lovers wrote each phrase. J. W. Bricker; Z. Chafee, jr. Ed & Pub 84:10-11+ Jl 28 '51

See also

La Prensa

FREEDOMS foundation

Coal-company president and employee magazine honored for contribution to cause of freedom. Coal Age 56:121 Ap '51

FREEPORT, New York

Streets

Attacking a traffic problem. il plans Eng N 145:38-40 N 30 '50

FREEZERS

What is the standards situation for refrigerators and freezers? W. M. Timmerman. Refrig Eng 59:158+ F '51

FREEZERS, Domestic

Dealer salesmen can say, let's prove it pays for itself; fill out a home freezer prospect survey form. il Sales Management 66:48 F 1 '51

Frozen foods clubs sell home freezers. il Dom Eng 177:109 Ja '51

Home freezing center increases sales 120 per cent. W. H. Barnwell. il Elec World 135:130+ Mr 12 '51

There's no limit to sales ideas on home freezers. il Dom Eng 177:102-3 Ap '51

Manufacture

Redesigned freezer door uses less steel. J. V. Kielb. il Iron Age 167:67-70 F 22 '51

FREEZERS, Ice cream. See Ice cream freezers

FREEZING

Advances in evaporation, freezing made by Minute Maid plant. H. R. Cloud. il diag Food Ind 22:1891-4 N '50

Fish continuously frozen in towers; North Pacific frozen products co. R. Bloomberg. il diag Food Ind 23:96-8 Mr '51

Investigation of spontaneous freezing temperatures. Automotive Ind 104:128 F 15 '51

Mobile unit for blood doning and plasma freeze-drying; abstract. N. Wolters. plan diag Refrig Eng 59:878-9 S '51

Newest citrus juice plant features special layout, advanced processing technics; special Food Industries report. F. R. Hopkins and C. K. Walker. flow sheet(p 104-7) il plan Food Ind 23:67-74 Ja '51

Process line revamping pays off in plus-performance for frozen lima packer. W. J. Hart. flow sheet il Food Ind 22:2082-4 D '50

Production of drinking water from sea water by freezing; abstract. A. Steinbach. Refrig Eng 59:879 S '51

Quick-freezing; new installations at Wisbech and Blairgowrie. il Elec R (Lond) 148:506-8 Mr 9 '51

Refrigerating effect required to freeze fruits and vegetables. L. Riedel. bibliog diag Refrig Eng 59:670-3 Jl '51

See also

Concrete—Freezing
Food, Frozen
Frost heaving
Ice protection
Refrigeration and refrigerating machinery
Soils—Freezing
Water pipes—Freezing

FREEZING of assets. See Foreign exchange—Regulation

FREEZING points

Apparatus for determining freezing points at saturation pressure from time-temperature freezing, and melting experiments. A. R. Glasgow, jr., N. C. Krouskop and F. D. Rossini. diags Anal Chem 22:1521-4 D '50

FREEZING points—*Continued*

Aryl carbonium ions in sulfuric acid. M. S. Newman and N. C. Deno. bibliog Am Chem Soc J 73:3644-50 Ag '51

Automatic recording of freezing-point curves. E. F. G. Herington and R. Handley. diag Chem Soc J p 199-204 Ja '50

Behavior of organic compounds in 100 per cent sulfuric acid. M. S. Newman and N. C. Deno. bibliog Am Chem Soc J 73:3651-3 Ag '51

Cryoscopic behavior of organic compounds in sulfuric acid; organosilicon compounds. H. H. Szmant, O. M. Devlin and G. A. Brost. Am Chem Soc J 73:3059-61 Jl '51

Cryoscopic behavior of organic compounds in sulfuric acid; sulfides, sulfoxides and sulfones; evidence for the existence of new sulfur ions. H. H. Szmant and G. A. Brost. bibliog Am Chem Soc J 73:4175-7 S '51

Cryoscopic measurements in nitric acid; the solutes dinitrogen pentoxide and water; the self-dissociation of nitric acid. R. J. Gillespie, E. D. Hughes and C. K. Ingold. Chem Soc J p2552-8 S '50

Cryoscopic measurements in sulphuric acid. R. J. Gillespie and others. diag Chem Soc J p2473-551 S '50

Cryoscopic measurements in sulphuric acid; the solutes acetic anhydride and benzoic anhydride; cryoscopic evidence for the acetylium and benzoylium ions. R. J. Gillespie. Chem Soc J p2997-3000 N '50

Determination of gamma isomer content of 1,2,3,4,5,6-hexachlorocyclohexane. E. E. Toops, jr. and J. A. Riddick. bibliog il diags Anal Chem 23:1106-10 Ag '51

Differential heat-loss freezing-point apparatus. I. M. Bernstein. bibliog il diag J Phys & Colloid Chem 55:1231-9 O '51

Freezing point diagram of the germanium-manganese system. J. H. Downing and D. Cubicciotti. Am Chem Soc J 73:4025 Ag '51

Freezing-point diagram of the hydrazine-water system. T. C. H. Hill and J. F. Sumner. diag Chem Soc J p838-40 Mr '51

Infrared determination of ortho and meta isomers in *p*-cresol; freezing points of pure cresols. O. E. Knapp, H. S. Moe and R. B. Bernstein. Anal Chem 22:1408-10 N '50

Liquid dinitrogen tetroxide solvent system; thermal and conductometric studies of solutions of diethylnitrosamine in liquid dinitrogen tetroxide. C. C. Addison, C. P. Conduit and R. Thompson. diags Chem Soc J p 1303-10 My '51

Purification, purity, and freezing points of twenty-nine hydrocarbons of the API-Standard and API-NBS series. A. J. Streiff and others. J Res Nat Bur Stand 45:173-91 Ag '50

Study of several physical properties of electrolytes over the temperature range of 25°C. to -73°C. A. B. Garrett and S. A. Woodruff. bibliog J Phys & Colloid Chem 55:477-90 Ap '51

Tertiary butyl alcohol as a thermometric standard at 25°C. T. De Vries and H. Soffer. J Phys & Colloid Chem 55:406-8 Mr '51

Vapor pressures and freezing points of some organic fluorine compounds. J. C. Potter and J. H. Saylor. bibliog Am Chem Soc J 73:90-1 Ja '51

FREIGHT, Perishable

Truck transportation of perishables; abstract. T. G. Lumbra. Refrig Eng 59:864 S '51

FREIGHT and freightage

See also

Air freight service
Airplanes, Freight
Forwarding companies
Freight cars
Freight handling
Freight ships
Motor trucks in freight service
Packing for shipment
Railroads—Freight
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Shipment of goods
Shipping
Ships—Cargo
Transportation

FREIGHT car service

Boxcar plight. Bsns W p35-6 F 24 '51

Car supply, chief concern of Atlantic states shippers' advisory board. Ry Age 150:37-8 Ja 22 '51

Car supply continues upward trend. A. H. Gass. Ry Age 130:74+ Ap 2 '51

Continued freight car shortages seen. A. H. Gass. Ry Age 129:79 D 2 '50

Freight car; how short is a shortage? J. C. Perham. Barron's 31:3 My 28 '51

Freight car program established by N.P.A. Ry Age 129:74 N 4 '50

Freight car woe. Bsns W p38 Mr 17 '51

Gass reports improved car situation for Aug. Ry Age 131:87-8 O 1 '51

Grain can't wait. il Ry Age 131:38-40 Jl 23 '51

How to beat the freight-car shortage. il Mod Ind 21:52-5 My '51

Keep 'em rolling. Bsns W p26+ O 21 '50

Keeping track of freight-cars; ABC of what's behind some key statistics. il Bsns W p70-2+ Ap 21 '51

Loadings will stay at high level. A. H. Gass. Ry Age 129:37+ D 30 '50

New cars now exceed retirements. A. H. Gass. Ry Age 130:41+ Ja 29 '51

113,345 freight-train cars ordered in first ten months. Ry Age 129:53-4 N 4 '50

Otis Elevator helps ease car shortage; campaign to persuade industries to clean cars; interview with C. E. Coyle. il Ry Age 130:40-1 Mr 5 '51

Red Ball freight information service; Atchison, Topeka & Santa Fe. il Ry Age 130:41-3 Je 4 '51

Rousing session covers northwest car situation. Ry Age 131:37-8 Ag 20 '51

Simple empty car classification cuts damage and switching costs. il Ry Age 129:52-3 D 2 '50

Still not enough freight cars. il Fortune 42:79 D '50

Superintendent's responsibility for efficient car handling; American association of railroad superintendents committee report. Ry Age 130:83-4 Je 25 '51

See also

Refrigerator cars

Car load

Griffin plan steers l.c.l to on the ball roads; interview with J. B. Griffin. il Ry Age 131:52-4 S 3 '51

How versatile trucks solve many l.c.l. problems for the Milwaukee. il map Ry Age 130:36-8 My 7 '51

L.c.l. suits Dixie Cup. J. L. Geever. il Ry Age 130:42-3 Ja 8 '51

Many railroad customers do not favor a national l.c.l. agency. il Ry Age 129:62-3 D 2 '50

Missouri Pacific offers merchandise-service package; newly designed freight cars, containers, known as Speedboxes, for handling of l.c.l. freight, plus a proposed third class all commodity rate. il Ry Age 130:30-1 Ja 8 '51

Proposals for better l.c.l. service. E. F. Lacey. Ry Age 130:62 F 5 '51

Speedbox eases shipping pains; Missouri Pacific container for l-c-l orders. il Bsns W p94-5 D 16 '50

Suggestions for better l.c.l. service. H. T. Reed. il Ry Age 131:44-7 Jl 2 '51

FREIGHT cars

Bulk transportation by Trans-Flo; General American covered hopper car. il Ry Age 129:61-3 N 4 '50; Same cond. Ry Mech & Elec Eng 125:52-3 Ja '51

Car stenciling portable scaffold. il Ry Mech & Elec Eng 125:59 Ja '51

Continuous shell of plywood; innovation in freight cars. diag Chem Eng 57:208+ D '50

Flat car for 250-ton loads. il Ry Age 130:45 Mr 19 '51

Freight-car cut; NPA cuts steel allocation. Bsns W p24-5 Je 2 '51

Freight car orders soar, output lags. il Bsns W p32 F 3 '51

Freight trains; portfolio of paintings, by L. B. Line. Fortune 43:91-8 Mr '51

GAEX-DF car called natural for war freight. B. Coleman. Ry Age 130:128 F 12 '51

High-capacity depressed-center flat car. il Ry Age 131:107 O 1 '51

Illinois Central car upgrading method pleases shippers and reduces claims; new type of paper for lining box car floors, sides and ends. il Ry Age 129:55 N 4 '50

FREIGHT cars—*Continued*

New rail car cuts shipping losses of damageable products. il Cer Ind 56:77+ F; 54-5 Mr '51
No loose parts in Pullman-Standard compartmentizer. il Ry Age 130:34-5 My 7 '51; Ry Mech & Elec Eng 125:86-7 My '51; Food Eng 23:115 Je '51
Old principle, new application; Unicel; abstract. F. H. Snyder and C. J. Plisky. Chem Eng 57:256+ D '50
Plan to put freight cars in CMP framework. K. Rannells. Iron Age 167:126 Je 7 '51
Plywood freight car may relieve shortage; illustration with text. Mod Ind 20:114 N '50
Retarders and intensified supervision cut switching damage to equipment and lading at Potomac yard, Alexandria, Va. C. E. McCarty. il Ry Age 129:56-7 N 4 '50
Speedy method of rejuvenating cars; lining with asphalt-laminated paper. il Food Eng 23:7+ Jl '51
Strengthening gondola top bulb angles. il Ry Mech & Elec Eng 125:60 Ja '51
These Atlantic Coast Line covered hopper cars have Timken bearing trucks. il Ry Age 131:107-9 O 1 '51; Ry Mech & Elec Eng 125:66-7 O '51
Unicel for army? Bsns W p34+ Ja 27 '51

See also

Air brakes
Car department officer's association
Car painting and finishing
Car wheels
Freight car service
Loading and unloading—Cars
Ore cars
Refrigerator cars
Tank cars

Design

Box car tailored to railroad needs; GAEX-DF cars. il diag Product Eng 22:117 Ap '51
Car construction; committee report, A.A.R. Mechanical division. diags Ry Mech & Elec Eng 125:68-72 Ag '51; Same cond. Ry Age 131:88-91 Jl 9 '51
Design of the General American-Evans damage-free car; abstract. R. M. Lamport. Mech Eng 73:238 Mr '51
Flat car with 500,000 lb. capacity. il diags Ry Mech & Elec Eng 125:66-8 Ap '51
Laminated freight cars; Unicel uses phenolic- and resorcinol-bonded wood and phenolic-impregnated paper. il diag Mod Plastics 28:64-5+ D '50
Like a plane, not a ship; Pressed Steel's Unicel car. il Bsns W p76-8+ O 21 '50
New refrigerator-freight car incorporates revolutionary design. il Refrig Eng 58:1161-2+ D '50
Pressed steel develops molded car; Unicel combination refrigerator-box car. il Ry Mech & Elec Eng 124:697-8+ N '50
Pressures in a shallow rectangular bin. R. L. Moore and J. R. Shaw. diags Am Soc C E Proc 77[no 82]:1-13 Ag '51
Uni-built car has Diesel-electric coolers; Unicel. il Food Ind 22:1895-6 N '50

Doors

All-purpose grain-tight door. il Ry Age 131:71+ Ag 6 '51; Same. Ry Mech & Elec Eng 125:87-8 S '51

Floors

Box-car floor conditions cause general concern. il Ry Age 131:56-60 Jl 2 '51

Insect infestation

Control of insect infestation in box cars. il Ry Age 130:47-8 Mr 26 '51; Same. Ry Mech & Elec Eng 125:86 Ap '51

Interchange

Changes in 1951 interchange rules. T. J. Boring. Ry Mech & Elec Eng 125:59-61+ Ap; 61-3 My '51
Proposal for graduated per diem. H. K. Norton. Ry Age 130:42+ Ap 23 '51

Manufacture

Handling prefabricated freight-car sides. il Ry Mech & Elec Eng 125:63-4 My '51
Man-hours expended per car, railroad freight cars, 1939-48. T. D. Moss. (Special ser. no. 3) 23p U.S. Bur. of labor statistics, Washington '50

Prices

Equipment prices reported in 1950. Ry Age 130:226 Ja 15 '51

Reconstruction

Gondola car rebuilding program. il Ry Mech & Elec Eng 125:64-5 Ap '51

Statistics

Freight-car shortage; analysis of statistics. M. Stroock. Barron's 30:15-16 N 13 '50
Freight cars delivered; 1913-1950; tabulation. Iron Age 167:328 Ja 4 '51
Freight-train cars ordered in 1950. C. B. Peck and F. C. Miles. il Ry Age 130:207-15 Ja 15 '51

Testing

How the A.A.R. studied freight-car ride. il Ry Age 130:64-6 Je 25 '51

FREIGHT cars, Aluminum

Aluminum alloy in car construction; 61S-T6. E. C. Hartmann and others. il Ry Mech & Elec Eng 124:717-21 D '50

FREIGHT cars, Steel

Rust, how to combat it by proper design. H. M. Priest. il diags Ry Mech & Elec Eng 125:43-50+ Je '51
Steel requirements for railroad freight cars; tabulation. Iron Age 167:327 Ja 4 '51

FREIGHT claims. See Railroads—Claims

FREIGHT forwarders. See Forwarding companies; Forwarding companies (air freight)

FREIGHT handling

Bridges expedite freight between platforms. il Ry Age 129:44-5 D 16 '50
Carriers plan expanded mechanization program for stations and storehouses. J. W. Milliken. il Ry Age 130:186-7 Ja 15 '51
Central checking proves boon in big truck terminal. il Ry Age 129:58-9 N 18 '50
894 stations now have unit-load handling equipment; list of railroad freight stations, transfers and piers. il Ry Age 131:118+ O 1 '51
Fast freight. il Chem Ind W 68:25 Mr 24 '51
Handling the freight; conclusions of productivity team. Economist 161:533 S 1 '51
How Little Rock station employs modern devices for l.c.l. handling. il map Ry Age 131:62-4 Ag 6 '51
Loss and damage prevention; American association of railroad superintendents committee report. Ry Age 130:84-5 Je 25 '51
Modernizing transfers pays off for Atlantic Coast Line customers. M. M. Deschamps. il Ry Age 131:57-9 Ag 6 '51
Pack simplifies cargo handling; aluminum unit designed to integrate air and surface handling. A. McSurely. il Aviation W 54:18 Je 4 '51
Thirty thousand weapons against loss and damage; bimonthly magazine Union Pacific innovation in campaign for good shipping. O. J. Wullstein. il Ry Age 130:40-3 Ap 2 '51

See also

Airplanes, Freight
Cargo handling
Containers (for shipping)
Freight houses
Loading and unloading—Cars
Motor trucks in freight service
Railroads—Freight
Railroads—Terminals
Train ferries

FREIGHT houses

Bridges expedite freight between platforms. il Ry Age 129:44-5 D 16 '50
894 stations now have unit-load handling equipment; list of railroad freight stations, transfers and piers. il Ry Age 131:118+ O 1 '51
How special design features enhance freight-house mechanization. il Ry Age 131:100-3 O 1 '51
L.c.l. station features mechanized operations; built by the Chicago, Burlington & Quincy at Chicago. il plan Ry Age 130:32-5 Ja 8 '51
Modernizing transfers pays off for Atlantic Coast Line customers. M. M. Deschamps. il Ry Age 131:57-9 Ag 6 '51

Lighting

Illuminator for loading platforms. il diags Ry Age 131:60 Jl 2 '51

FREIGHT rates

See also

Shipping—Rates

FREIGHT rates, Railroad. See Railroads—Rates

FREIGHT ships
Cargo ship Schuyler Otis Bland goes into 'round-the-world service. C. R. Schaeffner. il plans diags Marine Eng 56:34-48 S '51
Cross-channel and coastwise cargo ships. G. W. Tripp. il Engineer 191:402-4 Mr 30 '51
Danish M.V. Nicoline Mærsk. il Engineering 172:171 Ag 10 '51
Fast cargo ships; government awards contracts for 25 new-type ships. Bsns W p34+ F 17 '51
How to suppress fantail vibration. L. A. Baier. il Marine Eng 56:37-8 O '51
Keel laid for the Keystone Mariner. il Marine Eng 56:44-5 Ag '51
Maritime administration prototype ship; Schuyler Otis Bland. il Marine Eng 56:70-2 Ap '51
Mezzo folding deck and grain division. diags Engineering 171:611-12 My 18 '51
More freighters; Maritime administration dickers with shipbuilders. Bsns W p32 Mr 3 '51
NSIA suggests new cargo ship design in report to navy. diag Marine Eng 56:69-70 F '51
New Diesels speed unique ship; combination carrier, the Michigan, specially suited to haul liquids. il Marine Eng 56:48-9 My '51
Portable deck grain division. diags Engineer 190:supp7 N 3 '50
Prefabricating channel tank tops; Rud machine co. J. W. Massenburg. il Marine Eng 56:55-8 Ap '51
Role of the mariner; merchant fleet of fast, new vessels required for national security and international trade. E. L. Cochrane. il Tech R 53:407-9+ Je '51
Single-screw cargo vessel for Colombia, Ciudad de Medellin. il Engineering 172:127 Jl 27 '51

See also
Barges
Ore ships
Tank ships
Train ferries

FREIGHT yards. See Railroads—Yards

FRENCH, Elmer
Firestone plastics co. new vice-president in charge of sales. por Sales Management 67:41 Ag 15 '51

FRENCH Equatorial Africa
News by countries. For Comm W 43:14 My 14 '51

FRENCH INDOCHINA. See Indochina, French

FRENCH MOROCCO. See Morocco

FRENCH WEST AFRICA. See Africa, French West

FREON-12. See Dichlorodifluoromethane

FREON-22. See Chlorodifluoromethane

FREQUENCY changers
Gain-doubling frequency converters. V. H. Aske. il diags Electronics 24:92-6 Ja '51
Investigation and elimination of unusual vibration in the field on a large single-phase frequency changer. W. M. H. Ballantyne and others. Elec Eng 69:1120 D '50
New carrier-current frequency-shift system for use with differential protection of transformer banks. R. W. Beckwith. il diag Elec Eng 70:678-81 Ag '51

FREQUENCY distribution
Estimating parameters of logarithmic-normal distributions by maximum likelihood. A. C. Cohen, jr. bibliog Am Stat Assn J 46:206-12 Je '51
Fitting bimodal particle size distribution curves; comparison of methods. J. M. Dallavalle, C. Orr, jr. and H. G. Blocker. bibliog Ind & Eng Chem 43:1377-80 Je '51
Goodness of fit and the distribution of particle sizes. F. Kottler. bibliog Franklin Inst J 251:499-514, 617-41 My-Je '51

FREQUENCY distribution (statistics)
Equilibrium theory of erosional slopes approached by frequency distribution analysis. A. N. Strahler. bibliog maps diag Am J Sci 248:673-96, pl 1-2, 800-14 O-N '50
Large-sample test of the hypothesis that one of two random variables is stochastically larger than the other. A. W. Marshall. Am Stat Assn J 46:366-74 S '51
Turbulent diffusion from a source in turbulent shear flow. J. O. Hinze. J Aeronautical Sci 18:565-6 Ag '51

FREQUENCY measurement
Determination of time and frequency. H. M. Smith. bibliog Inst E E Proc 98 pt 2:143-53; Discussion. 164-71 Ap '51
Linear beat-frequency oscillator for frequency measurement. R. W. Woodward. il diags Q S T 35:26-8+ My '51
Load control; automatic frequency sensitive methods of load shedding. E. C. Levett and J. A. Williams. diags Elec R (Lond) 148:725-8 Ap 13 '51

FREQUENCY meters
Apparatus for accurate measurement of frequency. W. S. Wood. il diags Engineering 171:216 F 23 '51
Direct reading electronic audio frequency meter. R. P. Turner. il diags Radio & Tv N 45:54-5+ F '51
Frequency meter for microwave spectroscopy. J. D. Rogers and others. bibliog diags R Sci Instr 21:1014-15 D '50
Frequency recorder. diag Elec R (Lond) 148:754 Ap 13 '51
Instrument for the measurement of rate of change of power-system frequencies. E. Bradshaw and M. Z. Tanyeloglu. diags Inst E E Proc 97 pt 2:550-5; Discussion. 556-62 O '50
Production-line frequency measurements. G. J. Kent. il diags Electronics 24:97-9 F '51

FREQUENCY modulation. See Radio frequency modulation

FREQUENCY modulation receivers. See Radio receiving apparatus—Frequency modulation receivers

FREQUENCY modulation transmitters. See Radio transmitters—Frequency modulation transmitters

FREQUENCY standards
Checking frequency calibrations. il Tv Eng 2:10 Ap '51
Frequency standardization. L. Essen. bibliog(42 titles) diags Inst E E Proc 98 pt 2:154-64; Discussion. 164-72 Ap '51
Ham-shack frequency standard. W. H. McGee. il diag Q S T 34:18-19 D '50

FRESH water fauna
Life in the depths of a pond. E. S. Deevey, jr. il diags Sci Am 185:68-72 O '51

FRESNEL diffraction patterns. See Diffraction

FRESNEL interference. See Interference (light)

FREUDENBERG, Karl, 1886-
Sketch. R. E. Oesper. por J Chem Educ 28:426-7 Ag '51

FREYSSINET, Eugene, 1879-
Franklin institute honors Freyssinet. Concrete 58:24 N '50; Excerpt. Roads & Eng Constr 88:58+ N '50

FRICK, Ford Christopher, 1894-
Meet Mr Baseball; Frick, ex-reporter, promises press aid. R. Erwin. Ed & Pub 84:65 S 29 '51

FRICTION
Cable-pulley friction. W. E. Schorr. il diags A S M E Trans 72:1173-8; Discussion. 1178-80 N '50
Determination of the dynamic coefficient of friction for transient conditions. G. G. Gould. il A S M E Trans 73:649-54 Jl '51; Excerpts. Machine Design 23:153-4 Ja '51
Dry metallic friction as a function of temperature between 4.2°K and 600°K. I. Simon and others. bibliog il diags J Ap Phys 22:177-84 F '51; Correction. 22:848-9 Je '51
Effect of ethylene glycol on pipe friction and heat transfer. F. H. Bridgers and J. Bricker. bibliog Heat & Ven 48:61-4 Jl '51
Effect of friction on the behaviour of servo mechanisms at creep speeds. J. G. L. Michel and A. Porter. bibliog flow diag diags Inst E E Proc 98 pt 2:297-308; Discussion. 308-11 Je '51; Electrician 145:1434 D 15 '50
Friction. F. Palmer. il Sci Am 184:54-8 F '51
Friction and lubrication; conference. Engineering 171:587-9 My 18 '51
Friction as a function of temperature. Engineer 192:118-19 Jl 27 '51
Friction of flexible packings. D. F. Denny. diags Inst Mech Eng Proc 163 (W.E.P. no 57):98-102; Discussion. 103-10 '50
Friction pressure drop in the flow of paper pulp stock. T. E. Guenter and N. H. Ceaglske. bibliog plan diag Tappi 34:140-4 Mr '51
Friction, what is it? Am Mach 94:99 N 27 '50

FRICTION—*Continued*

Grease reduces friction. diag Oil & Gas J 49: 113 F 8 '51

Guided missile friction heating. R. McLarren. bibliog Aero Digest 63:27-9+ Ag '51

Heat-transfer and flow-friction characteristics of some compact heat-exchanger surfaces. W. M. Kays and A. L. London. bibliog il diags A S M E Trans 72:1075-95 N '50

Pipe fluid flow friction loss determination. E. M. De Forest. bibliog Pet Refiner 30:97-106 Mr '51

Radioactive tracers reveal friction and wear of metals. J. T. Burwell and C. O. Strang. il diag Metal Prog 60:69-74 S '51

Report of progress on measurements of friction of coefficients, recovery factors, and heat-transfer coefficients for supersonic flow of air in a pipe. J. Kayne and others. il diags A S M E Trans 73:267-77; Discussion. 277-9 Ap '51

Simple instrument for measuring friction. A. Swindells. diags J Sci Instr 28:220-1 Jl '51

Some frictional properties of wool and nylon fibres. G. King. bibliog diags Textile Inst J Trans 41:T135-44 Ap '50; Discussion. 41: T407-10, T493-4 O, D '50

Starting friction in mechanical linkages. C. Thumim. il diags Product Eng 22:151-5 O '51

Static friction tests with various metal combinations and special lubricants. H. S. White and D. Zei. il J Res Nat Bur Stand 46:292-8 Ap '51

Variation of the coefficient of static friction with the rate of application of the tangential force. R. C. Parker and others. bibliog il diags Inst Mech Eng Proc 163 (W.E.P. no 59):176-84 '50

Wanted; a better definition for friction. W. F. Schaphorst. Pet Eng 23:C36 My '51

See also

Bearings

Lubrication and lubricants

Skin friction

FRICTION, Internal

Interfiber stress and its transmission; measurement and theory of the contact area between fibers under pressure. R. B. Finch. bibliog il diags Textile Res J 21:375-92 Je '51

Internal friction of cold-worked single crystals of copper. R. R. Hasiguti and T. Hirai. bibliog J Ap Phys 22:1084-5 Ag '51

Internal friction of ferromagnetic materials. A. Ferro and G. Montalenti. bibliog J Ap Phys 22:565-8 My '51

Precipitation of carbon and nitrogen in cold-worked alpha-iron. S. Harper. bibliog Phys R 83:709-12 Ag 15 '51

Simple torsion pendulum for measuring internal friction. M. E. Fine. diags J Metals 188:Trans 1322 N '50

Use of the piezoelectric gauge for internal friction measurements. J. Marx. bibliog diags R Sci Instr 22:503-9 Jl '51

Variation of amplitude-dependent internal friction in single crystals of copper with frequency and temperature. A. S. Nowick. bibliog Phys R 80:249-57 O 15 '50

FRICTION meters

Simple instrument for measuring friction. A. Swindells. diags J Sci Instr 28:220-1 Jl '51

FRIEDEL-CRAFTS reaction

Acylation of 5-bromo- and 5-chloroacenaphthene by the Friedel-Crafts procedure. D. V. Nightingale and R. M. Brooker. bibliog Am Chem Soc J 72:5539-43 D '50

Anhydro-*N*-carboxyamino-acids; a Friedel-Crafts type reaction. F. S. Statham. Chem Soc J p213-15 Ja '51

Behavior of 3-methylphthalic anhydride in Friedel-Crafts and Grignard condensations. M. S. Newman and C. W. Muth. Am Chem Soc J 72:5191-3 N '50

Catalyst specificity in Friedel-Crafts copolymerization. R. E. Florin. Am Chem Soc J 73:4468-70 S '51

Chemical engineering unit processes fourth annual review. P. H. Groggins and S. B. Detwiler, jr. bibliog(47 ref) Ind & Eng Chem 43:1970-4 S '51

Demonstration of exchange and Friedel-Crafts reactions of gaseous organic chlorides on solid aluminum chloride. M. Blau and J. E. Willard. Am Chem Soc J 73:442-4 Ja '51

Friedel-Crafts reaction of fluoranthene. N. Campbell, W. K. Leadill and J. F. K. Wilshire. Chem Soc J p 1404-6 Je '51

Friedel-Crafts reaction with disubstituted ethylene oxides; α-methylystyrene oxide. W. T. Somerville and P. E. Spoerri. bibliog Am Chem Soc J 73:697-9 F '51

Friedel-Crafts synthesis of germanium and tin tetraiodides. W. H. Nebergall and R. H. Walsh. Am Chem Soc J 73:4043 Ag '51

Inhibition of Friedel-Crafts polymerization. J. George, H. Wechsler and H. Mark. bibliog diag Am Chem Soc J 72:3891-901 S '50

Interaction of Friedel-Crafts catalysts with alkyl halides and aromatic hydrocarbons. H. C. Brown, H. Pearsall and L. P. Eddy. Am Chem Soc J 72:5347 N '50

Low-temperature polymerisation of *iso*butene P. H. Plesch. Chem Soc J p543-56 F '50

Lower paraffin hydrocarbons; catalytic conversion by boron fluoride with hydrogen fluoride. E. C. Hughes and S. M. Darling. bibliog Ind & Eng Chem 43:746-50 Mr '51

Pivalophenones from Friedel-Crafts and Grignard reactions. D. E. Pearson. bibliog Am Chem Soc J 72:4169-70 S '50

Polymerization of olefins with Friedel-Crafts catalysts. R. L. Meier. diag Chem Soc J p3656-71 D '50

Reversibility of the Friedel-Crafts condensation; carbomethoxystilbenes. R. C. Fuson and H. G. Cooke, jr. Am Chem Soc J 73: 3515-16 Jl '51

Syntheses with *cis*-hexahydrophthalic anhydride. F. C. Novello and M. E. Christy. bibliog Am Chem Soc J 73:1267-70 Mr '51

Unit processes; Chemical Engineering report, March 1951. P. H. Groggins. diag Chem Eng 58:141 Mr '51

FRIEDMAN, Elisha Michael, 1889-1951

Sketch. por Comm & Fin Chr 173:1332 Mr 29 '51

FRIEDMAN, Milton, 1912-

Economists. J. McDonald. por Fortune 42: 108-13+ D '50

FRIES reaction

β-Aroylpropionic acids; the mechanism of interaction between phenol and succinic anhydride in presence of aluminium chloride; the nature of the Fries reaction. F. G. Baddar and L. S. El-Assal. Chem Soc J p3606-8 D '50

FRIES rearrangement. See Molecular rearrangements

FRITOS. See Corn chips

FRITS

Cuts frit handling time 60 manhours per carload. A. V. Blatz. il diags Cer Ind 57:48-9+ S '51

Littleton softening point test as a method of measuring frit fusibility. R. J. Brown. Am Cer Soc Bul 30:197-200 Je 15 '51

FRITZ, John, medal

E. G. Bailey receives 1952 John Fritz medal. Elec Eng 70:942 O '51

Vannevar Bush, John Fritz medalist for 1951; presentation address by E. S. Lee, response by V. Bush. Elec Eng 70:197-201 Mr '51

FRITZSCHE award

Lederer earns Fritzsche award for polyterpene research. Chem & Eng N 29:1650 Ap 23 '51

FROGS

Frog-spawn mucin. B. F. Folkes, R. A. Grant and J. K. N. Jones. Chem Soc J p2136-40 Ag '50

Spade-foot toad sperm as an activating agent in producing gynogenetic haploid embryos from rana and pseudacris eggs. H. Ting and J. W. Price. bibliog Science 112:595-6 N 17 '50

See also

Tadpoles

FROST, Leslie M.

Prime Minister of Ontario; portrait. Can Min J 71:63 N '50

FROST heaving

Frost-heaved tussocks in Massachusetts. R. S. Sigafoos and D. M. Hopkins. bibliog 2pls maps Am J Sci 249:312-17 Ap '51

Intensive frost action along lake shores. S. Taber. diags Am J Sci 248:784-93, pl 1 N '50

FROST point hygrometers. See Hygrometers

FROZEN eggs. See Eggs, Frozen

FROZEN fish. See Fish, Frozen

FROZEN food. See Food, Frozen

FROZEN meat. See Meat, Frozen

FROZEN mercury process. See Foundry practice—Mercast process

FROZEN oysters. See Oysters, Frozen

FRUCTOSANS

Action of heat on D-fructose; structure of diheterolevulosan II. M. L. Wolfrom and others. bibliog Am Chem Soc J 73:3553-7 Ag '51

Fructosans in wood; abstract. J. Sundman. Pulp & Pa of Can (Convention no) 52:296 [F] '51

Studies on fructosans; a fructosan from lolium perenne. R. A. Laidlaw and S. G. Reid. Chem Soc J p 1830-4 Jl '51

Studies on fructosans; inulin from dahlia tubers. E. L. Hirst, D. I. McGilvray and E. G. V. Percival. Chem Soc J p 1297-302 My '50

Studies on fructosans; triticin from the rhizomes of couch grass (triticum repens L.). P. C. Arni and E. G. V. Percival. Chem Soc J p 1822-30 Jl '51

FRUCTOSE

Action of heat on D-fructose. M. L. Wolfrom and others. bibliog diags Am Chem Soc J 73:3553-8 Ag '51

Electromotive force studies in aqueous solutions of hydrochloric acid and *d*-fructose at 25°. H. D. Crockford and A. A. Sakhnovsky. Am Chem Soc J 73:4177-9 S '51

Structures of β-diacetone-D-fructose and β-monoacetone-D-fructose. M. L. Wolfrom, W. L. Shilling and W. W. Binkley. bibliog Am Chem Soc J 72:4544-5 O '50

FRUEHAUF trailer company

Close call for Fruehauf; special trailers built for Lustron are converted and resold. il Bsns W p72+ Ap 7 '51

FRUIT

See also

Apples
Bananas
Citrus fruit
Fruit, Dried
Papayas

Prepackaging

New data on cherries; Department of agriculture compares various films in prepackaging. F. Gerhardt and G. Lindell. il Mod Packaging 24:116-19+ Mr '51

Pre-bagged apples; Washington state apple commission study of costs and efficiencies. E. W. Carlsen. il Mod Packaging 24:110-13+ My '51

Preservation

Dual role for a.c. in fruit stores; Smilen brothers, inc. il Heating-Piping 23:65 S '51; Heat & Ven 48:105 S '51

Microbiological problems of the preservation of fruit and vegetables; abstract and discussion. Chem & Ind p441 Je 9 '51

Storage

Warehouse with fresh twists; Cashmere Fruit Growers. il Food Ind 23:99+ Mr '51

See also

Apples—Storage

Transportation

Case of the up-ended melons. il Ry Age 130:55 Ap 2 '51

Factors in distribution affecting the quality and nutritive value of foodstuffs; fruits and vegetables; abstracts and discussions. W. H. Smith and others. Chem & Ind p421-2 Je 2 '51

New treatment ups fruit life; gas process enables shipment without refrigeration. C. E. Wright. il Food Eng 23:88-9+ Je '51

Now, corrugated cartons for citrus fruit. C. E. Wright. il Paper Tr J 132:22-3 My 11 '51

Refrigerated marine transport of fresh fruits; abstract and discussion. J. C. Fidler. Chem & Ind p290-1 Ap 14 '51

FRUIT, Candied. See Candied fruit

FRUIT, Dried

Look at these packages; they revolutionized a sales plan; Bonner packing co. E. Gidlow. il Sales Management 67:76-8+ O 15 '51

Store tests prove proper display key to doubled sales on dried fruits. L. B. Williams. il Sales Management 67:42-4+ S 1 '51

Sunsweet and K-202; saran-coated cellophane provides visible package for dried fruit. T. A. Schwarz. il Mod Packaging 24:122-5+ Ap '51

FRUIT, Frozen

Refrigerating effect required to freeze fruits and vegetables. L. Riedel. bibliog diag Refrig Eng 59:670-3 Jl '51

FRUIT, Ripening of

New treatment ups fruit life; gas process enables shipment without refrigeration. C. E. Wright. il Food Eng 23:88-9+ Je '51

FRUIT flies

Ethylene dibromide for destroying fruit fly infestations in fruits and vegetables. J. W. Balock. Science 114:122 Ag 3 '51

FRUIT juices

Big squeeze; Stacomizer. diag Chem Ind W 68:19+ Mr 17 '51

Experimental falling film evaporator for preparation of juice and puree concentrates at low temperature. L. H. Walker and D. C. Patterson. diag Ind & Eng Chem 43:534-6 F '51

Fruit juices desiccated by new process have improved keeping qualities; patent assigned to Tabor-Olney corp. diag Food Ind 22:2128 D '50

Solubility of methyl bromide in water and in some fruit juices. G. P. Haight, jr. diag Ind & Eng Chem 43:1827-8 Ag '51

See also

Apple juice
Grape juice

FRUIT juices, Concentrated

New moisture test gives faster results; water contents of purees and concentrated fruit products are accurately gaged by use of Drierite. E. F. Potter. il Food Ind 23:85+ Ja '51

FRUIT juices, Frozen

Double distillation; frozen juice concentrate. il Chem Ind 67:560-1 O '50

Pilot setup points way to new juice concentrates. W. M. Carleton and T. A. Curtis. diag Food Eng 23:149+ Ag '51

See also

Citrus fruit juices, Frozen

FRUIT trade

See also

Apples
California fruit growers' exchange
Citrus fruit
Florida citrus exchange

Argentina

Production of Argentine fruit increases. For Comm W 43:21-2 Ap 9 '51

Brazil

Deciduous-fruit trade in Brazil. For Comm W 42:17 Ja 8 '51

Israel

Israel citrus growers present ultimatum to government. For Comm W 42:17-18 Ja 8 '51

FRYERS

Deep-fat fryers. il Consumers Res Bul 27:21-2 F '51

FUCHS, Johann Nepomuk, 1774-1856

J. N. Fuchs. W. Prandtl. por J Chem Educ 28:136-42 Mr '51

FUCITOL

L-Fuco-4-ketose, a new sugar produced by the action of acetobacter suboxydans on L-fucitol. N. K. Richtmyer, L. C. Stewart and C. S. Hudson. bibliog Am Chem Soc J 72:4934-7 N '50

FUCOHEXOSE

Definitive proof that α-fucohexose is 7-desoxy-L-gala-D-*manno*-heptose. E. Zissis, N. K. Richtmyer and C. S. Hudson. bibliog Am Chem Soc J 72:3882-4 S '50

FUCOIDIN

Fucoidin; the hydrolysis of a methylated fucoidin prepared from fucus vesiculosus. J. Conchie and E. G. V. Percival. Chem Soc J p827-32 Mr '50

Fucoidin; the isolation and purification of fucoidin from brown seaweeds. E. G. V. Percival and A. G. Ross. Chem Soc J p717-20 F '50

FUCOSE

3 : 4-Dimethyl L-fucose and 2 : 3-dimethyl L-rhamnose. E. E. Percival and E. G. V. Percival. Chem Soc J p690-1 F '50

Fucoidin; the hydrolysis of a methylated fucoidin prepared from fucus vesiculosus. J. Conchie and E. G. V. Percival. Chem Soc J p827-32 Mr '50

FUCOSE—*Continued*

Improved method for the estimation of combined fucose in seaweeds. W. A. P. Black and others. bibliog Soc Chem Ind J 69:317-20 O '50

FUCOSTEROL

Steroid series; the ozonolysis of fucosterol and some of its derivatives. D. H. Hey, J. Honeyman and W. J. Peal. Chem Soc J p2881-4 O '50

Sterols of algae; the structure of fucosterol. W. Bergmann and M. Klosty. Am Chem Soc J 73:2935 Je '51

FUEL

AIME-ASME 13th annual joint fuels conference, Cleveland, Oct. 24-25. Mech Eng 72:1029-31 D '50

ASME-AIME joint fuels conference, Cleveland, Oct. 24-25. Coal Age 55:140-1+ D '50

Chemical engineering unit processes fourth annual review; combustion, 1948-1950. B. Lewis and G. von Elbe. Ind & Eng Chem 43:1925-41 bibliog(834 ref, p 1933-41) S '51

Chemical progress during the 75 years of the American chemical society; gas and fuel chemistry. A. C. Fieldner, A. W. Gauger and G. R. Yohe. bibliog il Ind & Eng Chem 43:1039-48 My '51

Energy, choose it wisely today for safety tomorrow. G. W. Gleeson. bibliog Heating-Piping 23:107-14 Ag '51

Fuel trends revealed in Census of Housing report. Heat & Ven 48:108+ S '51

Fuels of Ontario. A. R. Crozier. il Can Min J 71:166-8 N '50

Heating and fuel trends. Sheet Metal Worker 42:62+ Ag '51

Petroleum, natural gas use, continue uptrend. Barron's 30:8 D 4 '50

See also

Airplane engines—Fuel
Automobile engines—Fuel
Automotive fuel
Blast furnace gas
Boilers—Firing
Coal
Coal, Pulverized
Coke
Coke oven gas
Combustion
Diesel engines—Fuel
Fuel economy
Furnaces
Gas as fuel
Gas turbines—Fuel
Gas turbines, Aircraft—Fuel
Gasoline
Heating
Internal combustion engines—Fuel
Kerosene
Lignite
Liquid fuel
Locomotives—Fuel
Oil fuel
Power plants—Fuel
Smoke
Steel works—Fuel
Waste fuel

FUEL economy

Fuel economy in steam plant; use of special condensate pumps. diags Chem Age (Lond) 63:869-70 D 23 '50

FUEL oil. See Oil fuel

FUEL pumps. See Pumps, Fuel

FUEL research

Current research by the Ministry of fuel and power. H. R. Cox. Engineering 171:70-1 Ja 19 '51

Fuel research station of the D.S.I.R. il Chem & Ind p511 Je 30 '51

Recent trends in fuel research; varied tests in greater efficiency. A. C. Monkhouse. Chem Age (Lond) 65:61 Jl 14 '51

Seven years of fuel research. Chem Age (Lond) 63:834 D 16 '50; Same cond. Chem & Ind p43 Ja 20 '51

See also

Coal research
Gas research

FUEL supply

Changing patterns of fuel supply. J. Boyd. Mech Eng 73:189-90 Mr '51

Energy uses and supplies, 1939, 1947, 1965. H. J. Barnett. 6pls U S Bur Mines Information Circ 7582:1-53 '50

Fuel materials; tabulations and charts. Steel 128:147 Ja 1 '51

Fuel outlook; warm homes, busy plants. Bsns W p25 S 15 '51

Fuels investigation; Senate committee opens study of present and future situation. B. F. Linz. Oil & Gas J 49:46-7 Mr 15 '51

Let's take a look at the fuel situation. K. Steiner. il Heating-Piping 23:117-20 Ja '51

See also

Coal supply
Gas supply
Petroleum supply

FULLER'S earth

Adsorption of methane on Fuller's earth. W. T. Granquist. bibliog diags Ind & Eng Chem 42:2572-5 D '50

Effect of solvent on the adsorption of liquids by bauxite and attapulgus clay. J. G. Miller, H. Heinemann and W. S. W. McCarter. bibliog J Phys & Colloid Chem 55:515-23 Ap '51

Fullers earth, a general review. R. C. Amero. bibliog il map Min Eng 3:Trans 441-6 My '51

FULLING. See Woolen and worsted finishing

FUMAGILLIN

Fumagillin (H-3), a new antibiotic with amebicidal properties. M. C. McCowen and others. bibliog Science 113:202-3 F 23 '51

FUMARIC acid

Ice supplement; Fran-Kem. Chem Ind W 68:29+ Mr 17 '51

Osmium tetroxide catalyzed oxidation of fumaric and maleic acids. M. Zelikoff and H. A. Taylor. Am Chem Soc J 72:5039-42 N '50

Polarographic behavior of organic compounds; the system *meso*-α,α'-dibromosuccinic acid-fumaric acid. I. Rosenthal and P. J. Elving. Am Chem Soc J 73:1880-1 Ap '51

Safe on shelf. il Chem Ind 67:908 D '50

FUMARONITRILE

Copolymerization; reactivity of fumaronitrile in vinyl copolymerization. R. G. Fordyce and G. E. Ham. Am Chem Soc J 73:1186-9 Mr '51

FUMES

Air gets cleaner. Steel 128:63 Mr 5 '51

Catalytic combustion method in elimination of hydrocarbon fumes. diag Chem & Eng N 29:1252 Mr 26 '51

Disposal of oil and varnish fume. J. C. Dittmer. il diags Nat Safety N 63:36-7+ Ja '51

Dust and fume control. R. T. Pring and W. S. Schamel. il Safety Maint & Prod 102:28-30+ S '51

Dust, fume and smoke suppression. A. J. Grindle. il diags Iron & Steel Eng 28:87-94; Discussion. 94-6 Jl '51

Fume control, a report on available systems; joint Chicago fume control committee. Paint Oil & Chem R 113:10+ O 26 '50

New laboratory fume hoods cut air conditioning load. J. F. Turner. il diags Heating-Piping 23:113-16 Ja '51

Precipitators stop dust and fumes. W. T. Sproull. il Chem Eng 58:151-4 My '51

See also

Smelter fumes
Smoke

FUMIGANTS

Methyl bromide fumigation and control in the date-packing industry. F. R. Ingram. A M A Archives Ind Hygiene & Occup Med 4:193-8 S '51

Pest control in the food industry. R. L. Brett. il Safety Maint & Prod 102:25-6+ Jl '51

See also

Methyl bromide

FUNCTIONS

Checking and interpolation of functions tabulated at certain irregular logarithmic intervals. H. E. Salzer. bibliog J Res Nat Bur Stand 46:74-7 Ja '51

FUNCTIONS, Bessel's. See Bessel's functions

FUNCTIONS, Exponential

Large hyperbolic functions computed by fission. F. T. Llewellyn. Am Soc C E Proc 76 [no 49]:1-12 D '50; Discussion. 77 [no D-49]:1-9 D '51

FUNCTIONS, Hyperbolic. See Functions, Exponential

FUNCTIONS, Legendre's. See Legendre's functions

FUNGAL amylase. See Amylases

FUNGI

Chemistry of fungi; citrinin. D. H. Johnson, A. Robertson and W. B. Whalley. Chem Soc J p2971-5 N '50

Chemistry of fungi; 3 : 4-dihydrocoumarins. F. M. Dean, A. Robertson and W. B. Whalley. Chem Soc J p895-902 Mr '50

Chemistry of fungi; the degradation of *O*-dimethylcitromycinol and a revised structure for *O*-dimethylcitromycin. G. W. K. Cavill, A. Robertson and W. B. Whalley. Chem Soc J p 1031-7 Ap '50

FUNGI—*Continued*
Chemistry of fungi; the degradation of methyl *O*-dimethylcitromycetin. A. Robertson, W. B. Whalley and J. Yates. Chem Soc J p2013-18 Ag '51
Chemistry of fungi; the synthesis of 6′ : 7′-dimethoxy-2 :4-dimethylchromeno(3′ : 4′-5 : 6) pyranol identical with a derivative of *O*-dimethylcitromycin. J. B. D. Mackenzie, A. Robertson and W. B. Whalley. Chem Soc J p2965-71 N '50
Chemistry of fungi; the synthesis of 4-hydroxy-3-acetylcoumarins. G. G. Badcock and others. Chem Soc J p903-8 Mr '50
Chemistry of fungi; 2 : 4 : 5-trihydroxyphenylglyoxylic acid from polyporus tumulosus Cooke. B. J. Ralph and A. Robertson. Chem Soc J p3380-3 D '50
Detection and estimation of damage in jute fibre; assessment of fungal damage. S. N. Basu and S. N. Ghose. Textile Inst J Trans 42:T 1-5 Ja '51
Fungineering. il Chem Ind W 68:20 F 3 '51
Stimulation of growth of phytophthora citrophthora by a gas produced by mucor spinosus. A. A. Bitancourt and V. Rossetti. Science 113:531 My 4 '51
See also
Aspergillus
Ctenomyces
Dry rot
Molds (botany)
Polyporus
Verticillium
Yeasts

FUNGI, Pathogenic
Pigments of allescheria boydii. G. G. Villela and A. Cury. il Science 112:430-1 O 13 '50
See also
Blastomyces dermatitidis
Histoplasma capsulatum

FUNGICIDAL varnish. See Varnish, Fungicidal

FUNGICIDES
Application of fungicides to rubberlike polymers and related materials. R. Treichler. Rubber Age 69:579-80 Ag '51
Control of covered smut of oats by seed treatment with an antibiotic. A. W. Henry and others. Science 113:390 Ap 6 '51
Determination of residual glyoxalidine fungicides on apples and cherries. E. F. Hillenbrand, jr., W. W. Sutherland and J. N. Hogsett. Anal Chem 23:626-9 Ap '51
Effect of copper-bearing concrete on molds. R. F. Robinson and C. R. Austin. il Ind & Eng Chem 43:2077-82 S '51
Fungi killer; Ames fungicidal ointment. il Chem W 69:32-3 Jl 21 '51
Fungicidal and nematicidal properties of dibromobutene. W. A. Kreutzer and others. Science 113:657-8 Je 8 '51
Insecticides and fungicides; progress in 75 years. H. L. Haller. il Ind & Eng Chem 43:569-72 Mr '51
Mildew products. M. A. Lesser. bibliog(53 ref) il Soap & San Chem 26:110-13+ O '50
Military target; fungi. il Chem W 69:25-6 O 20 '51
New fungicides for leather. Chem Age (Lond) 63:875-6 D 23 '50
Plant growth-regulating and systemic fungicidal activity in the aryloxyalkylcarboxylic acids; abstract and discussion. R. L. Wain. Chem & Ind p 144-5 F 24 '51
Some recent developments in the field of agricultural fungicides; abstract and discussion. R. W. Marsh. Chem & Ind p333-4 Ap 28 '51
Sulfur in fungicides. M. M. Baldwin. bibliog Ind & Eng Chem 42:2227-30 N '50
Tropical performance of fungicidal coatings; statistical analysis; coated cotton-braid wires. J. M. Leonard and A. L. Pitman. bibliog il Ind & Eng Chem 43:2338-41 O '51
Two antifungal agents produced by a soil actinomycete; abstract. E. L. Hazen and R. Brown. Science 112:423 O 13 '50
See also
Fradicin

Analysis

Phenyl mercuric or ethyl mercuric compounds; direct determination of several compounds in dilute aqueous solution. V. L. Miller, D. Polley and C. J. Gould. bibliog Anal Chem 23:1286-8 S '51

FUNSTON, George Keith, 1910-
Big Board's new wonder boy. por Bsns W p 118 Je 2 '51
Portrait. Fortune 44:22 Jl '51

FUOSS, Raymond Matthew, 1905-
Portrait. Chem & Eng N 29:1826 My 7 '51

FUR
Aging of karakul and seal fur skins. E. T. Steiner and E. R. Hosterman. diag J Res Nat Bur Stand 45:317-22 O '50
Judging furs by artificial light. F. W. Sell. il Illum Eng 46:389-91 Ag '51

FUR, Artificial
Synthetic fur. Mech Eng 73:411 My '51

FUR and leather workers, International. See International fur and leather workers

FUR trade
Labeled furs. Bsns W p 120+ Ag 11 '51

FURALDEHYDE. See Furfural

FURAN
Acylation studies in the thiophene and furan series; mixed melting points of some homologous acetylmethylthiophene derivatives. H. D. Hartough. Am Chem Soc J 73:4033-5 Ag '51
Chemical interactions of amino compounds and sugars; comparative studies with D-xylose and 2-furaldehyde. T. Tan, M. L. Wolfrom and A. W. Langer, jr. bibliog Am Chem Soc J 72:5090-5 N '50
Condensations effected by acidic catalysts; the acylation of substituted and condensed thiophenes and furans. M. W. Farrar and R. Levine. bibliog Am Chem Soc J 72:4433-6 O '50
Furanization and cleavage of 1,4-diketones by use of polyphosphoric acid. G. Nowlin. bibliog Am Chem Soc J 72:5754-6 D '50
See also
Nitrovinylfuran

FURANO compounds
Furano-compounds; the synthesis of α-anhydro-*O*-trimethylbrazilone and related compounds. P. C. Johnson and A. Robertson. Chem Soc J p2381-9 S '50

FURANOCHROMONE
Furanochromones; synthesis of 2-methylfurano(3′ : 2′-6 : 7)chromone and derivatives thereof. J. S. H. Davies and others. Chem Soc J p3206-13 N '50
Furanochromones; the synthesis of 8-methoxy-2-methylfurano(3′ : 2′-6 : 7)chromone and its derivatives. J. S. H. Davies and T. Deegan. Chem Soc J p3202-6 N '50
Furanochromones; the synthesis of visnagin and related compounds. J. S. H. Davies and W. L. Norris. Chem Soc J p3195-201 N '50

FURANOSE
Deoxyribonucleosides and related compounds; a proof of the furanose structure of the natural 2-deoxyribonucleosides. D. M. Brown and B. Lythgoe. Chem Soc J p 1990-1 Ag '50

FURFURAL
Boiling coefficients of heat transfer; C_4 hydrocarbon-furfural mixtures inside vertical tubes. W. E. Bonnet and J. A. Gerster. bibliog diag Chem Eng Prog 47:151-8 Mr '51
Chemical interactions of amino compounds and sugars; comparative studies with D-xylose and 2-furaldehyde. T. Tan, M. L. Wolfrom and A. W. Langer, jr. bibliog Am Chem Soc J 72:5090-5 N '50
Estimation of surface tensions; ternary liquid mixtures. A. S. Michaels, R. S. Alexander and C. L. Becker. bibliog Ind & Eng Chem 42:2332-6 N '50
Furfural extraction. flow diag Oil & Gas J 49:206-7 Mr 29 '51
Furfural goal up. il Chem W 69:33 Jl 7 '51
Furfural refining. flow diag Oil & Gas J 49:206-7 Mr 29 '51
Partial hydrogenation of difurfuralacetone and related compounds. K. Alexander and others. Am Chem Soc J 72:5506-7 D '50
Ternary system furfural-ethylene glycol-water. J. B. Conway and J. J. Norton. bibliog Ind & Eng Chem 43:1433-5 Je '51
Vapor-liquid equilibrium of C_4 hydrocarbon-furfural-water mixtures; experimental and theoretical methods for three- and four-component systems. D. Jordan and others. bibliog Chem Eng Prog 46:601-13 D '50
Vapor-liquid relation; system *n*-butan-2-*cis*-butene—furfural-water. F. Welty, J. A. Gerster and A. P. Colburn. bibliog Ind & Eng Chem 43:162-72 Ja '51

FURFURYL alcohol
Corrosion-resistant cements; use of furfuryl-alcohol resins. il Mod Plastics 28:150-1 My '51

FURFURYL alcohol—*Continued*

Heat capacities of several organic liquids. E. W. Hough, D. M. Mason and B. H. Sage. Am Chem Soc J 72:5775-7 D '50

Heat capacity of the furfuryl alcohol-aniline system. E. W. Hough, D. M. Mason and B. H. Sage. bibliog Am Chem Soc J 73: 1363-4 Mr '51

FURILDIOXIME

Colorimetric determination of nickel with alpha-furildioxime. A. R. Gahler, A. M. Mitchell and M. G. Mellon. bibliog Anal Chem 23:500-3 Mr '51

FURMAN, Nathaniel Howell, 1892-

Diamond anniversary president. por(cover) Chem & Eng N 29:56 Ja 1 '51

FURNACE arch

New fairing arch lessens fantail erosion. G. P. Reintjes. il Steel 129:74 Jl 23 '51

New flexible roof construction cuts furnace maintenance cost; double-hung refractory arch unit. il Steel 127:116+ N 20 '50

New refractory hung arch reduces furnace failures. il J Metals 191:96 F '51

Refractory arch. il Blast F & Steel Pl 38: 1204+ O '50

Universal arch nosing. Steel 129:97-8 O 1 '51

FURNACE black. See Carbon black

FURNACE doors

Stud welding speeds steel production; with cost data. R. C. Singleton. il Iron & Steel Eng 27:100-4 O '50; Excerpts. Welding J 29:1094-6 D '50

FURNACE industry and trade

Building and furnace forecast for 1951. J. T. Anderson. Sheet Metal Worker 42:61-4 Ja '51

Statistics

Industrial furnace sales, 1940-1950; tabulation. Iron Age 167:341 Ja 4 '51

FURNACES

Flow patterns in furnaces. J. H. Chesters. bibliog il diags Chem & Ind p448-55 Je 16 '51

Gas glow tubes for high temperature industrial furnaces. il diag Am Gas Assn Mo 33: 15-16 F '51

Maintenance problems of the recovery furnace room. R. M. Graff. Paper Ind 33:690-1 S '51

Practical burning of pyrites for sulphite pulping; Nichols Freeman flash roaster. E. P. McGinn and others. flow chart il maps diag Paper Tr J 132:21-2+ My 25 '51

Process variables in furnace operations. P. Buthod. Oil & Gas J 50:79-81+ Ag 30 '51; Same. Pet Refiner 30:77-82 Ag '51

See also

Blast furnaces
Cement kilns
Coke ovens
Cupola furnaces
Electric furnaces
Furnace doors
Glass furnaces
Glass tanks
Kilns
Lime kilns
Oil burners
Open hearth furnaces
Refractory materials

Atmosphere control

Assemblies economically produced by brazing and soldering; Technical metal processing inc. N. M. Salkover. il Steel 129:69-70 Ag 20 '51

Co-deposited stopoff conserves tin. E. S. Coe. il Iron Age 167:86-8 Je 14 '51

FURNACES, Annealing

Bright normalising furnace. il Engineer 191: 428 Mr 30 '51

Continuous annealing arousing industry interest. W. R. Weir. il Steel 128:68+ Ap 30 '51

Wire annealing furnace fits low headroom; Bridgeport brass co. W. J. Krailing. il diag Iron Age 168:93-5 Jl 12 '51; Same. Steel 129: 104+ S 24 '51

See also

Electric furnaces,
Annealing

Atmosphere control

Annealing and carbon restoration handled in one operation. il Steel 128:97 My 14 '51

Annealing atmospheres for tin plate strip. J. R. Trimble and J. E. Hill. Iron & Steel Eng 28:70-3; Discussion. 73 Ap '51

Operating instructions; surface combustion controlled atmosphere cycle annealing furnace. T. A. Frischman. Am Mach 95:159 O 1 '51

FURNACES, Boiler

Covering for furnaces. il Blast F & Steel Pl 39:124+ Ja '51

Cyclones burn two fuels automatically at Michigan City station. il diags Power 95: 71-5 O '51

Furnace heat absorption in pulverized-coal-fired steam generator, Willow Island station. J. W. Myers and others. bibliog il diags A S M E Trans 73:419-55; Discussion. 457-9 My '51

How, and how not, to light off a boiler furnace. Power Eng 55:95 Je '51

Is the pressurized boiler furnace here? bibliog diags Power Eng 55:80-3+ Je '51

Report on sulphite waste liquor burning projects. Paper Ind 33:629 S '51

These five steps help prevent furnace explosion. il diags Power 95:110-11 O '51

FURNACES, Carburizing

Good carburizing practice; application of pack and gas carburizing. T. A. Frischman. il diags Am Mach 94:90-4 O 30; 104-7 N 27; 138-41 D 11 '50

See also

Electric furnaces,
Carburizing

FURNACES, Cupola. See Cupola furnaces

FURNACES, Electric. See Electric furnaces

FURNACES, Enameling

Designing the enameling furnace of the future. E. W. Dany. Cer Ind 56:77+ Je '51

See also

Electric furnaces,
Enameling

FURNACES, Foundry

See also

Cupola furnaces
Electric furnaces,
Foundry

FURNACES, Heat treating

Continuous production assured with batch furnaces. G. Brailsford. il Am Mach 95:137-9 O 1 '51

Heat treater incorporates automatic cycling. il diag Machine Design 23:133-4 My '51

Heat treating equipment integrated in single unit. il Steel 129:110 S 24 '51

How furnace moisture causes embrittlement. C. A. Zapffe. bibliog Iron Age 166:60-5 D 28 '50

Improvements in furnaces and methods for heat treatment. F. E. Harris. il diags Metal Prog 59:62-8 Ja '51

Machine cuts heat treat furnace loading costs. W. G. Patton. il diags Iron Age 168:68-70 Ag 9 '51

1951 production preview. il Am Mach 95:260-2 Ja 22 '51

Recent heat treatment installations. il diags Metallurgia 43:221-33 My '51

See also

Electric furnaces,
Heat treating

Atmosphere control

Bright hardening, carburizing and carbonitriding. H. Ipsen and R. Krogh. il diags Metal Prog 59:232-8 F '51

Decarb on screw products yields to controlled atmosphere. J. E. Tschopp. il diag Am Mach 95:142-3 F 19 '51

Evaluation of protective atmospheres for tool steels. L. F. Spencer. bibliog il Tool Eng 27:32-5 Ag; 47-51 S '51

FURNACES, Heating

Experiences with the Escher metallic recuperator on high-temperature furnaces. H. Escher. il diags Iron & Steel Inst J 169: 39-46 S '51

Ingot track time affects soaking pit heating; abstract. J. R. Chegwiddin. Steel 128:104+ Je 4 '51

Metallic recuperators for slab heating furnaces. R. R. Shedd. il plans diags Iron & Steel Eng 28:55-62 Jl '51

FURNACES, Heating—*Continued*

Steel quality as affected by track time and soaking pit practice. A. F. Mohri. Blast F & Steel Pl 39:665-70 Je '51

Firing

Automatic control systems for multi-fuel firing. R. L. Willis. diags Iron & Steel Eng 28:84-8 My '51

FURNACES, Iron founding

See also

Cupola furnaces

FURNACES, Metallurgical

High-velocity burners cut fuel costs and furnace size. L. C. Peskin. il diags Iron Age 168:63-6 Ag 9; 104-7 Ag 16 '51

Scrapbook of exhaust hood design; ventilation for melting furnaces. J. M. Kane. il Heat & Ven 48:90-2 F '51

To save money, conserve alloy, repin your furnace belts. R. Williams. il Iron Age 168:102-3 Ag 16 '51

See also

Blast furnaces

Cupola furnaces

Electric furnaces, Metallurgical

Furnaces, Reverberatory

Furnaces, Steel making

Open hearth furnaces

Lining

Refractory arch. il Blast F & Steel Pl 38:1204+ O '50

Semisilica refractories lessen furnace structural failures. G. B. Remmey. il diag Steel 127:62-4+ N 27 '50

FURNACES, Non-ferrous melting

Melting brass and bronze. J. G. Dick. il Foundry 79:88-9+ Jl '51

FURNACES, Open hearth. See Open hearth furnaces

FURNACES, Recuperative and regenerative

Experiences with the Escher metallic recuperator on high-temperature furnaces. H. Escher. il diags Iron & Steel Inst J 169:39-46 S '51

Metallic recuperators for slab heating furnaces; abstract. R. R. Shedd. Iron & Steel Eng 28:116-17 Ap '51

Regenerative reform; Koppers-Hasche furnaces. Chem W 68:23 Je 2 '51

Trials of an experimental Austeel-Escher metallic recuperator. J. B. Davis and others. il diags Iron & Steel Inst J 167:66-70 Ja '51

FURNACES, Reverberatory

Copper reverberatory furnace. W. H. Dennis. flow sheet diags Metallurgia 43:107-11 Mr '51

FURNACES, Solar

Solar furnace for high temperature research; abstracts. W. M. Conn. il Am Cer Soc Bul 30:163-4 My 15 '51; Cer Ind 56:65 Je '51

FURNACES, Steel making

Experiences with the Escher metallic recuperator on high-temperature furnaces. H. Escher. il diags Iron & Steel Inst J 169:39-46 S '51

Increasing combustion efficiency in the steel industry. J. G. Sparks. il diags Iron & Steel Eng 28:89-94; Discussion. 94-6 Ap '51

See also

Electric furnaces, Steel making

Open hearth furnaces

Lining

Fundamental investigation of steel plant refractories problems; abstract. A. Muan and E. F. Osborn. Iron & Steel Eng 28:124-5 Ag '51

Method of estimating thickness of hot-metal mixer linings. L. L. Wells. Brick & Clay Rec 118:49-50 F '51

Mineral and chemical changes in periclase brick under conditions of steel plant operation. R. G. Wells and L. H. Van Vlack. bibliog il diags Am Cer Soc J 34:64-70 F 1 '51

More steel, more brick; refractories for steel furnaces. il Bsns W p 110-12+ Ap 14 '51

New flexible roof construction cuts furnace maintenance cost; double-hung refractory arch unit. il Steel 127:116+ N 20 '50

New refractory hung arch reduces furnace failures. il J Metals 191:96 F '51

FURNACES, Warm air

Furnace blowers, a surprisingly fast growing market. il Sheet Metal Worker 42:108-9+ Ja '51

Furnace thermal efficiency determined from flue and jacket loss. H. L. McPherson and others. diags Heating-Piping 23:109-13 My '51; Abstract. Dom Eng 178:142+ S '51

Gas burner controls; gas designed furnaces and boilers. C. W. Nessell. diags Sheet Metal Worker 41:76-8+ Ag; 82+ S; 42:78-9+ O; 77+ N; 55-6+ D '50; 98+ Ja; 59-60 My; 62-4 Je; 77-8 Jl; 73-5 Ag '51

Increased business with furnace blowers; preparing for the installation. diags Sheet Metal Worker 42:55+ F '51

Inventories of warm air heating products. Sheet Metal Worker 42:57-8 Ag '51

Practical oil burner work patterns. C. H. Burkhardt. diags Sheet Metal Worker 42:71-3+ N; 51-4 D '50; 114-15+ Ja; 59-60+ F; 76-8 Mr; 59-60 Ap; 68-71 My; 60-1+ Je; 65-7 Jl; 60-1 Ag; 71-3 S; 43:59-61 O '51 (to be cont)

Proposed arrangement and method for determining pressure characteristics of a blower used with a furnace. N. A. Buckley and others. bibliog diags Ill U Eng Exp Sta Bul 390:1-71 '50 (pa 50c)

Cleaning

Keep profits up with furnace cleaning. A. Stout. il Sheet Metal Worker 42:70-2 Ap '51

History

Colorful days of an old warm air firm; Thomas A. Nugent furnaces. il diags Sheet Metal Worker 42:36-9 Ap '51

FURNESS, Withy and company, limited

Statement by the chairman. E. H. Murrant. Economist 161:656 S 15 '51

FURNITURE

Current trends in home fashions. M. L. Brandt. J Retailing 26:117-21+ Fall '50

Finishes for wood. R. E. Prince. Paint Oil & Chem R 114:12+ My 10 '51

Walls of air, color, light and water; Knoll's new furniture showroom. il plans Arch Forum 94:138-43 My '51

See also

Office furniture

Transportation

Claim prevention men brush up on furniture packing; refresher course conducted by Southern weighing & inspection bureau; illustrations with text. Ry Age 131:84-5 S 17 '51

FURNITURE, Built-in

Breakfast counter; detail plate. K. R. O'Neal. il plans diags Am Bld 72:150-1 D '50

Counter storage and breakfast table; better detail plate. K. R. O'Neal. il plans diags Am Bld 72:112-13 N '50

House design competition; plywood built-in features prize winners. plans diags Arch Forum 94:144-51 Mr '51

FURNITURE, Paper

Furniture can be made from cardboard. J. Robinson. il Pulp & Pa of Can 52:51-2 F '51

FURNITURE factories

Employees

Effects of 75-cent minimum; wood-furniture industry. C. Rubenstein. Mo Labor R 72:672-4 Je '51

Wood-furniture manufacturing; earnings in Oct. 1950. C. Rubenstein. Mo Labor R 72:398-400 Ap '51

Equipment

15 production ideas that cut costs; camera tour of Johnson-Carper plant, Roanoke, Va. Factory Management 109:76-81 Ag '51

Power

Power generation from wood waste. D. L. Gusler. il Power Eng 55:60-1+ Ap '51

Safety measures

Safety with a high polish. N. Burch. il Nat Safety N 64:20-1+ Jl '51

FURNITURE industry and trade

Defense allocations will slow furniture business. D. Marshall. Barron's 31:19-20 Ja 29 '51

Furniture industry views second half with cautious optimism. J. A. Daly. il Manuf Rec 120:42-3 Ag '51

Furniture pileup. Bsns W p90-1 Je 30 '51

Pay plan long on incentive speeds up sales for Daystrom. T. S. Gallagher. Sales Management 67:96+ S 1 '51

Seven ways sales analysis pays off in added profits for Daystrom. H. A. Simpson. Sales Management 66:42-5 My 1 '51

Smaller bedrooms, busier living rooms call for new style of products; F. S. Harmon manufacturing co. L. F. Thomann. il plans Ptr Ink 234:39-40 Ja 26 '51

Exhibitions

Furniture dealers rush to buy; big business at Chicago and Grand Rapids shows. il Bsns W p56+ Ja 20 '51

Netherlands

Developments in Netherlands furniture industry. For Comm W 43:21 My 28 '51

FUROSTATRIENEDIOL. See Pseudokryptogenin

FURRIERS' customers insurance. See Insurance, Furriers' customers

FUSED salts. See Salts, Fused

FUSEL oil

Component in fusel oil from fermentation of sulphite waste liquor; abstract. W. Jensen. il Paper Ind 33:320 Je '51

Isolation of optically pure (—)-*sec.*-butylcarbinol from fusel oil. P. Le Couteur, J. Kenyon and T. A. Rohan. bibliog J Ap Chem 1:341-5 Ag '51

FUSES

Manufacture

Brass powder parts aid fuze output. il Iron Age 168:108 Ag 16 '51

Royal ordnance factory, Blackburn; production of mechanical time fuses as fitted in anti-aircraft shells. Engineer 192:17 Jl 6 '51

20 mm fuze noses zinc die cast at high speed. il Steel 129:78-9 Ag 13 '51

FUSION, Heat of

Crystallization in high polymers; heat of fusion of poly-(N,N′-sebacoylpiperazine) and its interaction with diluents. P. J. Flory, L. Mandelkern and H. K. Hall. bibliog Am Chem Soc J 73:2532-8 Je '51

Latent heat of fusion and the hole theory. N. R. Mukherjee. bibliog J Chem Phys 19: 502-3 Ap '51; Discussion. A. K. Mukherjee. 19:1431 N '51

FUTURES

Should margins in futures trading be regulated? T. A. Hieronymus. Comm & Fin Chr 173:1648+ Ap 19 '51

See also

Exchanges

G

GABBRO

Petrology of the Baltimore gabbro, Maryland. N. Herz. bibliog map diags Geol Soc Bul 62:979-1016, pl 1-6 S '51

GADOLINIUM

Rare earths; the ultraviolet absorption spectrum of the gadolinium ion in aqueous solutions. T. Moeller and F. A. J. Moss. Am Chem Soc J 73:3149-51 Jl '51

Resonant scattering in samarium and gadolinium. B. N. Brockhouse and D. G. Hurst. bibliog Phys R 83:841 Ag 15 '51

Isotopes

Neutron deficient europium and gadolinium isotopes. R. W. Hoff and others. bibliog Phys R 83:1068-9 S 1 '51

GADSBY, George Madill, 1886-

Company behind George Gadsby. il map Elec World 135:96-7 Je 18 '51

New president of the Institute. por Edison Elec Inst Bul 19:202-3 Jl '51

GAGES

Ballast tank gages in engine room facilitate trimming of ore carriers. il diag Marine Eng 55:59 D '50

Calculations for ACME thread gages; reference book sheet. D. Sweet. Am Mach 94: 137, 139 N 27 '50

Continuous and automatic gaging. A. C. Sanford. diags Tool Eng 26:36-8 Ap; 43-5 My '51

Conversion of Pfund gage reading to dry film thickness. M. H. Switzer. Anal Chem 23: 800-2 My '51

Design of a two-variable metrology chart. K. L. Jackson. diags Engineering 171:714-15 Je 15 '51

Dial checking gage inspects radiused components. R. H. Fry. diags Am Mach 95: 162-3 My 14 '51

Dial gage speeds inspection of weldments. H. G. Frommer. diag Tool Eng 25:43 D '50

Dial-indicator assembly gages unusual jobs. R. J. Chevrette. diags Am Mach 94:118 O 30 '50

Differential gaging device for a cam. J. N. Edmondson. diags Tool Eng 26:41 Je '51

Drillpress gage setups check small parts. F. Lettino. diags Am Mach 95:119 Ja 8 '51

Expansion gage checks internal protected holes. D. E. Sweet. diags Am Mach 94:122 D 25 '50

Gauge and tool exhibition, 3d, London, May 15-25. il diag Engineer 191:648-9, 697-9 My 18-25 '51; Engineering 171:571-2, 633-5 My 11, 25 '51

Gauge and tool exhibition, 3d, May 15-25; electrical features. Electrician 146:1689-90 My 18 '51

Gage for measuring conical recess. W. M. Halliday. diags Mach 57:189-90 Je '51

Gage for setting inserted blades of milling cutters to proper depth. I. Mansfield. diag Mach 57:193 N '50

Gage shortage threatens output. il Steel 128: 47 Je 11 '51

Go, no-go gage made with buttons and bar. H. G. Frommer. diags Am Mach 95:161 F 5 '51

Greater output with novel control gages. C. W. Heppenstall. il Steel 128:85-6 My 28 '51

How Erwin mills uses loom gauges; illustrations and drawings with text. J. K. Bruton. Textile World 101:127-9 S '51

How to inspect screwthread elements. W. M. Stocker, jr. il diags Am Mach 95:137-52 O 15 '51

Indicating snap gage has sturdy construction. T. Brown. diags Am Mach 95:135 Ag 6 '51

Know your measuring tools; height and surface gages; miscellaneous gages. H. E. Linsley. diags Am Mach 95:109-11 Ap 2 '51

Machine tools self-controlled by air-electric gage system. G. Hubbard. il diag Steel 129:80+ Ag 27 '51

Optical versine gauge for railway curves. il Engineering 171:367 Mr 30 '51

Production of combination angle gauges. C. H. Knoyle. diags Engineering 170:417-18 N 24 '50

Production taper gage checks against master. A. Vetsch. diags Am Mach 95:174 Je 11 '51

Recent advances in gaging practice. W. T. Nystrom. il Mach 57:182-4 My '51

Unusual part is checked by unusual gage. F. A. Adams. diags Am Mach 94:167 D 11 '50

See also

Measuring instruments

Micrometers

Pressure gages

Rain gages

Strain gages

Tire gages

Vacuum gages

Testing

Checking angle of taper plug gage with aid of V-block. C. Fette. diag Mach 57:189 D '50

Test for the dimensional stability of gauges by an X-ray diffraction method. C. Wainwright and L. W. Nickols. il Metallurgia 42:401-4 D '50; Same. Engineering 171:141-2 F 2 '51

GAGES, Electric

Automatic devices reduce inspection costs; Ford motor co. J. Geschelin. il Automotive Ind 103:32-3+ N 1 '50

GAGES, Electric—*Continued*

Continuous and automatic gaging. A. C. Sanford. diags Tool Eng 26:37-8 Ap '51

Design of a semiautomatic gaging-and-sorting machine for telephone protector blocks. G. M. Foster. il plan diags Mech Eng 73:713-18 S '51; Same cond. Machine Design 23:160-2+ Ag '51

Gage for classifying critical tolerances. il Automotive Ind 104:56+ Ja 15 '50

GAGES, Pneumatic

Automatic devices reduce inspection costs; Ford motor co. J. Geschelin. il Automotive Ind 103:32-3+ N 1 '50

Automatic gaging with air jets. il diag Machine Design 23:109-10 O '51

Checking V-8 crankshaft by air gaging machine. il Automotive Ind 105:53 Jl 1 '51

Continuous and automatic gaging. A. C. Sanford. diag Tool Eng 26:36-7 Ap '51

Differential pneumatic gage stops grinder at right size. il Am Mach 95:155 Ag 6 '51

Gauging equipment for gas turbine blades. il Engineer 191:169-70 F 2 '51

How Chrysler builds quality into the fire-power engine; eleven checks made on crank-shaft in one air-gaging setup. R. Le Grand. il diags Am Mach 95:148-9 S 17 '51

Non-contact gaging; X-ray gage and air gage. J. T. Welch. il diags Instruments 24:652-4+ Je '51

Pneumatic comparator of high sensitivity. M. Graneek and J. C. Evans. diags Engineer 192:62-4 Jl 13 '51

Pneumatic gauging equipment. il Engineer 191:391-2 Mr 23 '51

Pneumatic surface gage. il diag Product Eng 22:118-19 Ja '51

GAGES, X-ray

Non-contact gaging; X-ray gage and air gage. J. T. Welch. il diags Instruments 24:652-4+ Je '51

GAGETRON

Development of wide range radiation type level control for the Houdriflow catalytic cracking process. E. J. Grace and O. W. Graham. il Instruments 23:1074-6 O '50

GAGING

Push button tank gauging; Cities service pipe line co. il World Oil 132:214 My '51

Remote tank gaging; New Shell system at Bakersfield station. D. H. Stormont. il Oil & Gas J 49:62-3 F 1 '51

Take mess out of oil tank gaging. B. W. Wheeler. diags Power 95:95 Ja '51

GAINZA PAZ, Alberto, 1899-

Reds go full blast in Argentina while anti-Peron press is gagged. R. Erwin. pors Ed & Pub 84:9-10 S 8 '51

GAIR, Robert, company

Headed for another high earnings year. Barron's 31:19 Je 11 '51

GAIRING, Emil

Iron age salutes. por Iron Age 167:73 Ap 26 '51

GALACTOFURANOSIDE

Deoxy-sugars; synthesis of an oligosaccharide by the thermal condensation of αβ-methyl-2-deoxy-D-galactofuranoside. W. G. Overend, F. Shafizadeh and M. Stacey. Chem Soc J p994-7 Ap '51

GALACTOPYRANOSE anilides

α- and the β-form of 2 : 3 : 4 : 6-tetra-acetyl D-galactopyranose anilide. K. Butler, F. Smith and M. Stacey. Chem Soc J p3371-4 D '49

GALACTOSE

Constitution of the mucilage from the bark of ulmus fulva (slippery elm mucilage); the isolation of 3-monomethyl D-galactose from the products of hydrolysis. E. L. Hirst, L. Hough and J. K. N. Jones. Chem Soc J p323-5 F '51

Deoxy-sugars; a further contribution to the chemistry of 2-deoxy-D-galactose. A. B. Foster, W. G. Overend and M. Stacey. Chem Soc J p974-9 Ap '51

Deoxy-sugars; a study of the stabilities of some phosphoric acid derivatives of D-galactose and 2-deoxy-D-galactose. A. B. Foster, W. G. Overend and M. Stacey. Chem Soc J p987-91 Ap '51

Deoxy-sugars; an investigation of the glycal method for the preparation of derivatives of 2-deoxy-D-galactose. W. G. Overend, F. Shafizadeh and M. Stacey. Chem Soc J p992-3 Ap '51

Deoxy-sugars; comparative rates of oxidation and reduction of D-galactose and 2-deoxy-D-galactose. W. G. Overend, F. Shafizadeh and M. Stacey. Chem Soc J p2062-4 Ag '51

Deoxy-sugars; D-galactose-3 and -6 phosphoric acids and their 2-deoxy-analogues. A. B. Foster, W. G. Overend and M. Stacey. Chem Soc J p980-7 Ap '51

Deoxy-sugars; some properties and reactions of 2-deoxy-D-galactose. W. G. Overend, F. Shafizadeh and M. Stacey. Chem Soc J p671-7 F '50

Polysaccharides of carragheen; confirmation of the 1 : 3-linkage in carragheenin, and the isolation of L-galactose derivatives from a resistant fragment. R. Johnston and E. G. V. Percival. Chem Soc J p 1994-8 Ag '50

Presence of galactose units in unbleached kraft pulps. L. E. Wise and others. bibliog Tappi 34:15 Ja '51

GALACTOSE phosphates

Synthesis of α-D-glucose-1-phosphate and α-D-galactose-1-phosphate. T. Posternak. bibliog Am Chem Soc J 72:4824-5 O '50

GALACTOZYMASE

Effect of radiations on galactozymase formation in yeast. C. L. Brandt and others. bibliog Science 113:383-4 Ap 6 '51

GALACTURONIC acid

Deoxy-sugars; synthesis of some derivatives of 2-deoxy-D-galacturonic acid. W. G. Overend, F. Shafizadeh and M. Stacey. Chem Soc J p 1487-9 Je '51

GALAPAGOS ISLANDS

Origin of life on the Galapagos Islands. K. W. Vinton. maps Am J Sci 249:356-76, pl 1-2 bibliog(p375-6) My '51

GALAXY. See Milky way

GALE, Willis Donald, 1899-

Gale keeps Commonwealth policies. por(cover) Elec World News ed 136:4-5 Ag 20 '51

GALENA, Illinois

New equipment improves economic status. R. F. Mott. il Pub Works 82:44-5 Ja '51

GALENA

Comparative results with galena and ferrosilicon at Mascot. D. B. Grove and others. flow sheets il diags Min Eng 3:Trans 691-8 Ag '51; Discussion. 3:Trans 986-7 N '51

Contact angle and surface coverage for potassium ethyl xanthate on galena according to free acid collector theory. M. E. Wadsworth, R. G. Conrady and M. A. Cook. bibliog J Phys & Colloid Chem 55:1219-30 O '51

Radiotracer studies on the interaction of dithiophosphate with galena; the depressant action of phosphate. G. L. Simard and others. Min Eng 190:Trans 39-44 Ja '51

GALL bladder

X-ray diagnostics; cholecystographic agents. D. Papa and others. bibliog Am Chem Soc J 72:4906-9 N '50

X-ray diagnostics; diiodohydroxydihydrostilbazoles and related compounds. D. Papa, E. Schwenk and E. Klingsberg. Am Chem Soc J 73:253-5 Ja '51

GALLIC acid

Developer activity of di- and trihydroxybenzoic acids. T. H. James. bibliog J Phys & Colloid Chem 55:563-9 Ap '51

GALLIUM

Byproduct metal. A. P. Thompson and H. R. Harner. bibliog il diag J Metals 191:91-4 F '51

Eight liquid phases in stable equilibrium. S. L. Kittsley and H. A. Goeden. il Am Chem Soc J 72:4841-2 O '50

Fission of medium weight elements. R. E. Batzel and G. T. Seaborg. bibliog Phys R 82:607-15 Je 1 '51

Germanium and gallium; their production, properties, and uses: abstract and discussion. A. R. Powell. Chem & Ind p 108-10 F 10 '51

Mutual solubility of mercury and gallium. W. M. Spicer and H. W. Bartholomay. Am Chem Soc J 73:868-9 F '51

Nuclear moment discrepancies in gallium and indium. H. M. Foley. bibliog Phys R 80:288-9 O 15 '50

Secondary emission of electrons from liquid metal surfaces. J. J. Brophy. diag Phys R 83:534-6 Ag 1 '51

GALLIUM—*Continued*

Some physicochemical studies on gallium(III) salt solutions. T. Moeller and G. L. King. bibliog J Phys & Colloid Chem 54:999-1011 O '50

Isotopes

Angular distribution of the neutrons produced in the photo-disintegration of the deuteron by the 2.51-Mev gamma-rays of Ga^{72}. G. R. Bishop and others. bibliog diag Phys R 81: 219-22 Ja 15 '51

Photo-disintegration cross sections of deuterium and beryllium for the gamma-rays of sodium 24 and gallium 72. A. H. Snell and others. bibliog diags Phys R 80:637-42 N 15 '50

Radioactivity of Ga^{66}. L. M. Langer and R. D. Moffat. bibliog Phys R 80:651-4 N 15 '50

GALLIUM citrate

Preparation of gallium citrate by ion exchange. R. E. Blanco and J. D. Perkinson, jr. diags Am Chem Soc J 73:2696-700 Je '51

GALLIUM compounds

Analogies in the gallia and alumina systems; the preparation and properties of some low-alkali gallates. L. M. Foster and H. C. Stumpf. il Am Chem Soc J 73:1590-5 Ap '51

GALLIUM in the body

Excretion of gallium by the rat and by man. E. R. King and others. bibliog Science 113:555-7 My 11 '51

GALLIUM trimethyl

Trimethylgallium; the relative stabilities of its coordination compounds with the methyl derivatives of groups V$_B$ and VI$_B$, and the thermal decomposition of some trimethylgallium-amine complexes. G. E. Coates. diag Chem Soc J p2003-13 Ag '51

GALLS (botany)

Recovery of tumor cells from effects of the tumor-inducing principle in crown gall. A. C. Braun. bibliog Science 113:651-3 Je 8 '51

Structure of crown-gall polysaccharide. E. W. Putman and others. bibliog Am Chem Soc J 72:5024-6 N '50

GALLUP, George Horace, 1901-

Portrait. Bsns W p21 Jl 28 '51

GALVANIZED iron. See Iron, Galvanized

GALVANIZED steel. See Steel, Galvanized

GALVANIZING

Construction of a small-scale sheet-galvanizing unit. M. L. Hughes and I. E. Thomas. il Iron & Steel Inst J 167:46-7 Ja '51

European trends in general galvanising. R. L. Stubbs and A. R. L. Chivers. Metallurgia 42:233-4 O '50

Hot dip galvanising. Chem Age (Lond) 65: 401-3 S 22 '51

Liquid flux technique reduces dross formation; coating surface of work in transit between pickling and galvanizing departments with zinc ammonium chloride. W. G. Imhoff. il Steel 127:62+ D 25 '50

GALVANOMETERS

Galvanometer scale for the direct reading of intensities. J. C. Delaney. Opt Soc Am J 40:787-8 N '50

Induction galvanometer, a sensitive instrument converter. R. W. Gilbert. il diags Elec Eng 70:893-8 O '51

Resistance measurements; special methods for microammeters and galvanometers. diags Electrician 146:709-10 Mr 2 '51

GAMBLE-SKOGMO, inc.

Too many lines; Gamble-Skogmo sells food business to National Tea. Bsns W p74 D 23 '50

GAMBLING

Bookies collect on free press in Florida fix. J. Kilgore. Ed & Pub 84:30 Je 9 '51

Kefauver report asks wire service licensing to transmit sporting event information. Ed & Pub 84:10 My 5 '51

See also

Employment management—Gambling problem

GAMES

Acey-Deucy, a navy game. M. W. Cagle. il U S Naval Inst Proc 77:512-15 My '51

Operations analysis and the theory of games; an advertising example. L. Gillman. Am Stat Assn J 45:541-5 D '50

See also

Canasta (game)
Cards
Curling (game)

GAMMA globulin. See Globulins

GAMMA rays

Angular correlation in the triple cascade transitions. L. C. Biedenharn and others. bibliog Phys R 83:586-93 Ag 1 '51

Angular correlation of successive gamma-ray quanta in Cu^{65}. T. Wiedling and A. Carlsson. Phys R 83:181-2 Jl 1 '51

Angular distribution of the neutrons produced in the photo-disintegration of the deuteron by the 2.51-Mev gamma-rays of Ga^{72}. G. R. Bishop and others. bibliog diag Phys R 81: 219-22 Ja 15 '51

Angular distributions of the alpha-particles and of the gamma-rays from the disintegration of fluorine by protons. C. Y. Chao. bibliog Phys R 80:1035-42 D 15 '50

Angular distributions of the two gamma-rays from Li$^{7}(p, \gamma)$Be^{8} reaction. M. B. Stearns and B. D. McDaniel. bibliog Phys R 82:450-1 My 1 '51

Application of proportional scintillation γ-ray counters to the determination of the decay scheme of Au^{198}. P. E. Cavanagh. Phys R 82:791-5 Je 15 '51

Bargain-counter radiation. diag Chem Ind W 68:15-16 Mr 24 '51

Cobalt gamma-ray source used for studies in radiation chemistry. J. A. Ghormley and C. J. Hochanadel. il diags R Sci Instr 22: 473-5 Jl '51

Continuous γ-radiation of β-emitters. L. Madansky and F. Rasetti. bibliog Phys R 83: 187-8 Jl 1 '51

Conversion coefficient of the 35-kev gamma-ray of Te^{125}. G. Friedlander and others. Phys R 80:1103-4 D 15 '50

Cross section for the reaction C$^{12}(\gamma,n)$C^{11}. R. N. H. Haslam and others. bibliog Phys R 82:270-1 Ap 15 '51

Cross sections of gamma-proton reactions. J. Halpern and A. K. Mann. bibliog diag Phys R 83:370-3 Jl 15 '51

Detection of gamma-ray-induced scintillations from crystals in a photo-sensitive Geiger-Müller counter. C. E. Mandeville and H. O. Albrecht. Phys R 80:300 O 15 '50

Detection of gamma-ray polarization by pair production. G. C. Wick. bibliog Phys R 81: 467-8 F 1 '51

Determination of beryllium by photodisintegration; γ,n reaction. A. M. Gaudin and J. H. Pannell. bibliog il diags Anal Chem 23:1261-5 S '51

Determination of the photo-nuclear cross sections S$^{32}(\gamma,d)$P^{30}, S$^{32}(\gamma,np)$P^{30}, and P$^{31}(\gamma,n)$P^{30}. L. Katz and A. S. Penfold. bibliog Phys R 81:815-19 Mr 1 '51

Diffusion of high energy gamma-rays through matter; fundamental equations. L. L. Foldy. bibliog Phys R 81:395-9 F 1 '51

Diffusion of high energy gamma-rays through matter; refinement of the solution of the diffusion equation. L. L. Foldy. Phys R 82:927-31 Je 15 '51

Diffusion of high energy gamma-rays through matter; solution of the diffusion equation. L. L. Foldy, and R. K. Osborn. Phys R 81: 400-4 F 1 '51

Direct reading meter for the measurement of highly active samples of gamma-emitting radioisotopes. W. K. Sinclair and S. P. Newbery. il diags J Sci Instr 28:234-6 Ag '51

Disintegration scheme of Re^{186}. F. R. Metzger and R. D. Hill. bibliog diag Phys R 82: 646-50 Je 1 '51

Energy dependence of the beta-gamma angular correlation in Sb^{124}. E. K. Darby and W. Opechowski. bibliog Phys R 83: 676-7 Ag 1 '51

Energy levels of B^{10}. F. Ajzenberg. bibliog Phys R 82:43-7 Ap 1 '51

Energy of the gamma-ray from Se^{77m}. R. Canada and others. Phys R 82:750 Je 1 '51

Energy of the metastable state of Ba^{135}. W. H. Cuffey and R. Canada. bibliog il Phys R 83:654 Ag 1 '51

Energy of the ThC$''$ 2.62-Mev gamma-ray. A. Hedgran. Phys R 82:128-9 Ap 1 '51

Energy storage and light stimulated phosphorescence in activated NaCl crystals induced by gamma-rays. H. Kallmann and M. Furst. Phys R 83:674-5 Ag 1 '51

Excitation curve for the H$^{3}(p,\gamma)$He^{4} reaction. C. E. Falk and G. C. Phillips. bibliog Phys R 83:468-9 Jl 15 '51

GAMMA rays—*Continued*

Explicit γ-γ angular correlations. S. P. Lloyd. bibliog Phys R 83:716-20 Ag 15 '51

γ—γ-Correlation with higher multipoles. D. L. Falkoff. bibliog Phys R 82:98-9 Ap 1 '51

Gamma-radiation associated with radium and daughter products. J. M. Cork and others. bibliog Phys R 83:681-2 Ag 1 '51

Gamma-radiation from I^{132}. F. C. Maienschein and others. bibliog il Phys R 83:477-8 Jl 15 '51

Gamma-radiation from lanthanum 140. J. M. Cork and others. diag Phys R 83:856-7 Ag 15 '51

Gamma-radiation from Pb^{206}. D. E. Alburger and G. Friedlander. bibliog Phys R 81:523-6 F 15 '51

Gamma-radiation of Ba^{131}. E. B. Dale and others. Phys R 80:763 N 15 '50

Gamma radiography in shipbuilding and engineering. J. D. Hislop. il Engineering 171:327-30 Mr 16 '51

Gamma-ray logging. F. P. Kokesh. diag Oil & Gas J 50:284+ Jl 26 '51

Gamma-ray spectrum from the absorption of π^--mesons in deuterium. L. Aamodt and others. Phys R 80:282-3 O 15 '50

Gamma-ray spectrum of Ba^{131}. E. L. Zimmerman and others. Phys R 80:908-9 D 1 '50

Gamma-ray spectrum of K^{40}. M. L. Good. bibliog diag Phys R 81:891-2 Mr 1 '51

Gamma-ray spectrum resulting from capture of negative π-mesons in hydrogen and deuterium. W. K. H. Panofsky and others. bibliog diags Phys R 81:565-74 F 15 '51

γ-Ray spectrum resulting from the absorption of π-mesons in deuterium. K. M. Watson and R. N. Stuart. bibliog Phys R 82:738-44 Je 1 '51

Gamma-ray transitions in B^{10}. D. E. Alburger. Phys R 83:184 Jl 1 '51

Gamma ray tube. Chem & Eng N 29:4326 O 15 '51

Gamma-ray yield of phosphorus bombarded with protons. G. R. Grove and J. N. Cooper. Phys R 82:505-7 My 15 '51

Gamma-rays emitted in the disintegration of the 36-hour Rh^{105}. C. E. Mandeville and E. Shapiro. Phys R 82:953-4 Je 15 '51

Gamma-rays from Ag^{110}. J. M. Cork and others. bibliog Phys R 80:286-7 O 15 '50

Gamma-rays from $Be^9(\alpha,n)$. J. Terrell. bibliog diag Phys R 80:1076-80 D 15 '50

Gamma-rays from deuteron bombardment of B^{10}, B^{11}, N^{14}, and F^{19}. J. Terrell and G. C. Phillips. bibliog Phys R 83:703-8 Ag 15 '51

Gamma-rays from neutron-activated gold. R. W. Pringle and S. Standil. bibliog Phys R 80:762-3 N 15 '50

γ-Rays from the decay of N^{16}. C. H. Millar and others. bibliog Phys R 81:150 Ja 1 '51

Gamma rays preserve foods. E. L. Gaden, jr. and others. Chem Eng 58:342-4 S '51

Gamma-transitions in the disintegration of cerium 144. W. S. Emmerich and others. Phys R 82:968 Je 15 '51

High energy gamma radiation from Ta^{181}. J. M. Cork and others. Phys R 81:642-3 F 15 '51

High energy γ-ray line in the spectrum of Mg^{24}. L. E. Beghian and others. Phys R 83:186-7 Jl 1 '51

$H\rho$ of the high energy internal conversion electrons from thorium D. W. L. Brown. diags Phys R 83:271-4 Jl 15 '51

Internal conversion coefficients; the *K*-shell. M. E. Rose and others. Phys R 83:79-87 Jl 1 '51

Internal conversion electrons and other radiations from Cl^{34}. L. Ruby and J. R. Richardson. Phys R 80:760 N 15 '50

Internal conversion in the L_I-shell. H. Gellman and others. bibliog Phys R 80:866-74 D 1 '50

Internal conversion of gamma-ray from Cs^{137}. M. A. Waggoner. bibliog Phys R 80:489 N 1 '50

Internal conversion of gamma-rays from Co^{60}, Cs^{134}, Zn^{65}. M. A. Waggoner and others. bibliog diags Phys R 80:420-8 N 1 '50

Interpretation of photoneutron yields. A. G. W. Cameron. bibliog Phys R 82:272-3 Ap 15 '51

Measurement of gamma-ray energies with single crystals of NaI(Tl). R. Hofstadter and J. A. McIntyre. bibliog il Phys R 80:631-7 N 15 '50

Measurement of isomeric transition energies with a scintillation spectrometer. E. der Mateosian and M. Goldhaber. bibliog il Phys R 82:115-16 Ap 1 '51

Measurement of some internal conversion coefficients. A. W. Sunyar. Phys R 83:864-5 Ag 15 '51

Measurements of gamma-ray absorption coefficients. C. M. Davisson and R. D. Evans. bibliog diag Phys R 81:404-11 F 1 '51

Mechanism of star production by gamma-rays. S. Kikuchi. Phys R 81:1060 Mr 15 '51

Mechanism of the action of ionizing radiations on sodium thymonucleate. D. B. Smith and G. C. Butler. bibliog Am Chem Soc J 73:258-61 Ja '51

Mechanism of the γ-ray induced oxidation of formic acid in aqueous solution. E. J. Hart. bibliog Am Chem Soc J 73:68-73 Ja '51

Method of isotopic separation by (n,γ) recoil. L. B. Magnusson. Phys R 81:285-6 Ja 15 '51

Multiple scattering of electron pairs from (Li,p) gamma-rays in photographic emulsions. L. Voyvodic and E. Pickup. bibliog Phys R 81:471-2 F 1 '51

Na^{20} from the gamma-ray bombardment of NaF. R. K. Sheline. Phys R 82:954 Je 15 '51

Neutron capture gamma-ray spectra. B. Hamermesh. bibliog diags Phys R 80:415-19 N 1 '50

Neutron capture γ-rays from fluorine, sodium, magnesium, aluminum, and silicon. B. B. Kinsey and others. bibliog diag Phys R 83:519-34 Ag 1 '51

Neutron capture γ-rays from lead and bismuth. B. B. Kinsey and others. bibliog Phys R 82:380-8 My 1 '51

Neutron yields from photo-disintegration by gamma-rays from lithium. B. D. McDaniel and others. diags Phys R 80:807-12 D 1 '50

Nuclear gamma-absorption cross section of Cu^{63}. L. Marshall and others. bibliog diag Phys R 83:305-7 Jl 15 '51

Odd-even effect in neutron capture gamma-ray spectra. B. Hamermesh. Phys R 81:487 F 1 '51

Penetration and diffusion of Co^{60} gamma-rays in water using spherical geometry. G. R. White. bibliog diag Phys R 80:154-6 O 15 '50

Photo-disintegration cross sections of deuterium and beryllium for the gamma-rays of sodium 24 and gallium 72. A. H. Snell and others. bibliog diags Phys R 80:637-42 N 15 '50

Photo-disintegration of the deuteron by lithium and fluorine γ-rays. P. V. C. Hough. bibliog diags Phys R 80:1069-75 D 15 '50

Photoneutron cross sections of Fe^{54}, Ni^{58}, and Zn^{64}. L. Katz and others. bibliog Phys R 82:271-2 Ap 15 '51

Photonuclear dissociation of nuclei by high energy gamma-rays. S. Kikuchi. Phys R 83:1255-6 S 15 '51

Photoprotons from argon under the action of gamma-rays of 17.6 Mev. D. H. Wilkinson and J. H. Carver. bibliog Phys R 83:466 Jl 15 '51

Polarization of gamma-radiation following capture of polarized neutrons. L. C. Biedenharn and others. Phys R 83:683 Ag 1 '51

Positron to γ-ray ratio in Zn^{65}. G. M. Griffiths. Phys R 83:852 Ag 15 '51

Preparation of Co^{58m} by a (γ,n) reaction. D. Christian and D. S. Martin, jr. Phys R 80:1110 D 15 '50

Production of neutral mesons by γ-rays incident on hydrogen. A. Silverman and M. Stearns. diag Phys R 83:853-4 Ag 15 '51

Production of π-mesons by gamma-rays. P. A. Wolff. Phys R 81:1056 Mr 15 '51

Production of protons by high energy γ-rays. C. Levinthal and A. Silverman. bibliog diags Phys R 82:822-6 Je 15 '51

Properties of (γ,n) cross sections. L. Marshall. bibliog Phys R 83:345-8 Jl 15 '51

Proton-gamma-ray coincidence study of Si^{30} and B^{11}. H. H. Landon. diag Phys R 83:1081-4 S 15 '51

Scattering and absorption of gamma-rays. M. S. Plesset and S. T. Cohen. J Ap Phys 22:350-7 Mr '51

GAMMA rays—*Continued*

Scattering of secondary electrons produced by γ-rays in materials of various atomic numbers. G. J. Hine. Phys R 82:755-6 Je 1 '51

Scintillation counter studies of neutron capture gamma-ray spectra. B. Hamermesh and V. Hummel. bibliog Phys R 83:663-4 Ag 1 '51

Scintillation spectroscopy of the gamma-rays from slow neutron capture in manganese. R. W. Pringle and G. Isford. bibliog il Phys R 83:467-8 Jl 15 '51

Search for primary cosmic gamma-radiation. G. J. Perlow and C. W. Kissinger. bibliog diags Phys R 81:552-4 F 15 '51

Simple capture of alpha-particles. W. E. Bennett and others. Phys R 82:20-2 Ap 1 '51

Soft gamma-component of cosmic rays. F. G. Rest and others. diags Phys R 81:894 Mr 1 '51

Some (n,γ) effects in iodobenzene. P. F. D. Shaw. Chem Soc J p443-7 F '51

Stars initiated by gamma-rays. S. Kikuchi. bibliog Phys R 80:492 N 1 '50

Study of low energy gamma-radiations emitted from Pa^{231} and U^{234}. G. Scharff-Goldhaber and M. McKeown. bibliog il Phys R 82:123-5 Ap 1 '51

Telemetering system for radioactive snow gage; snowfall measured in terms of radiation between slug of cobalt-60 and Geiger-Müller tube. J. A. Doremus. il diag Electronics 24:88-91 F '51

Theory of internal conversion. N. Tralli and G. Goertzel. bibliog Phys R 83:399-404 Jl 15 '51

Thickness gaging by radiation absorption methods. C. W. Clapp and S. Bernstein. il Gen Elec R 53:39-42 N '50

Transmission of gamma-rays through large thicknesses of heavy materials. G. H. Peebles and M. S. Plesset. diags Phys R 81:430-9 F 1 '51

Two beta-gamma-counters for gas samples. R. Jenkins. R Sci Instr 21:940 N '50

Two crystal spectrometer results with uncollimated γ-rays. J. K. Bair and others. Phys R 81:283-4 Ja 15 '51

Use of sensitive gamma ray detectors in prospecting. W. L. Russell and S. A. Scherbatskoy. il diag Econ Geol 46:427-46 Je '51

Scattering

Energy and angular distribution of the gamma-rays from the reaction $Li^7(p, \gamma)Be^8$. H. Nabholz and others. bibliog Phys R 82:963-4 Je 15 '51

Scattering of gamma-rays by nucleons. R. G. Sachs and L. L. Foldy. bibliog Phys R 80:824-31 D 1 '50

GAMMEXANE. See Hexachlorocyclohexane

GANGPLANKS

Telescopic gangways for new ocean terminal, Southampton. il Engineer 190:32-4 Jl 14 '50; Abstracts. Engineering 170:6 Jl 7 '50; Mech Eng 72:995-6 D '50

GANNETT, Frank Ernest, 1876-

Gannett cited for work in education. Ed & Pub 84:16 S 1 '51

GANTT charts

Productigraph; it tells who should be doing what where. H. G. Weber. il Factory Management 108:78-80 N '50

GARAGES

Automatic parking garage; Rotogarage. plans diags Arch Forum 94:108-9+ F '51

Garage roof supports 46 housing units; 46 two-story apartment units built on top of a three-level, side-hill garage. il plan diags Eng N 146:39-41 My 31 '51

MSA carbon monoxide alarms give worker protection without constant ventilation. il Bus Transportation 30:121 Ag '51

New Orleans parking garage; series of unit buildings. il diags Arch Rec 110:168-71 S '51

Unit buildings cut construction costs; design of a parking garage. L. G. Farrant and W. C. Harry. bibliog il diags Am Concrete Inst J 22:669-79 My '51

See also

Motor bus lines—Garages

Employees

See also

Automobile mechanics

Heating and ventilation

Carbon monoxide control for garages. il Safety Maint & Prod 102:39-41 Ag '51; Same cond. Heat & Ven 48:9-100 O '51

Garages protected against CO fumes. Eng N 146:39 Je 28 '51

Lighting

Fluorescent pit lighting aids bus maintenance. il Elec World 135:130 My 7 '51

Safety measures

Ozone generators in garages add new hazard. Safety Maint & Prod 101:32 Ja '51

GARAGES, Underground

Garage-air raid shelters; despite hazards, cities keep planning them. il Arch Forum 95:70+ Jl '51

GARDEN apartments. See Apartment houses—Garden apartments

GARDEN fences. See Fences

GARDEN ornaments and furniture

Garden boxes; detail plate. K. R. O'Neal. il plans diags Am Bld 73:194-5 Ap '51

Garden trellises; detail plate. K. R. O'Neal. il diags Am Bld 73:126-7 My '51

GARDEN tools

Stud welding cuts costs in tractor handle assembly; illustrations with text. Product Eng 21:101 N '50

GARDEN walls. See Walls, Garden

GARDENING

See also

Nurseries (horticulture)

GARDNER, Eugene Delos, 1885-

E&MJ salute for outstanding service. por Eng & Min J 151:116 N '50

GARFINKLE, Henry

Ex-newsboy gets bus terminal newsstands. R. Erwin. Ed & Pub 83:15 N 25 '50

GARLOCK packing company

Security I like best. W. H. Holly. Comm & Fin Chr 173:150 Ja 11 '51

GARMENT factories

Multideck conveyors multiply our output; Formfit's Plaza plant, Chicago. E. P. Hesser. il plan Factory Management 109:96-9 My '51

Electric equipment

Dress manufacture; electrical installation. il Elec R (Lond) 148:899-900+ Ap 27 '51

Layout

New layout means less walking, less handling, more output in garment-making process at Julius Kayser & co., Allentown, Pa. E. Zakar. il plans Factory Management 109:72-5 Ja '51

New plant with straight-line work flow modernizes suit making; Eagle's Brooklyn plant; illustrations with text. Bsns W p84-90 Jl 14 '51

GARMENT industry

Garment switch; industry asks for price controls. Bsns W p62 Ja 20 '51

See also

Clothing trade

GARMENT workers

Please organize! New York dress shops' unusual appeal. Bsns W p 106-7 Ja 6 '51

Women's and misses' dresses; earnings in Aug. 1950. F. W. Mohr. Mo Labor R 72:290-2 Mr '51

See also

International ladies' garment workers union

GARMENT workers union, International ladies. See International ladies garment workers union

GARNETS

Garnet abrasive saves blasting costs. Aviation W 54:36 Je 18 '51

Garnet deposits near Wrangell southeastern Alaska. C. T. Bressler. map U S Geol S Bul 963-C:81-93, pl 7; pa $1 Supt. of doc. '50

GARNETTING. See Textile fibers—Reuse; Wool—Re-use

GARNETTS. See Textile machinery

GARRETT, Sylvester

Steel umpire. por Bsns W p34+ Ag 4 '51

GARRETT corporation

Market growing fast for Garrett products. Barron's 30:14 N 6 '50

Stock offered. Comm & Fin Chr 172:2023 N 27 '50

GARVAN medal

Problem-solver, Katharine Blodgett, wins Garvan medal. Chem & Eng N 29:1408 Ap 9 '51

GAS

American gas fundamentals; a continuing educational and refresher course in gas techniques, operations and management. diags Am Gas J 174:11-14 Ja '51 [cont monthly]

Effect of gas composition on pre-mixer performance and the resulting pre-mix combustion characteristics. E. X. Schmidt. diags Am Gas Assn Proc 1950:715-20

Interchangeability of gases. H. M. Henry. Gas Age 106:36-42+ O 12 '50; Same. Am Gas J 173:27-8+ O; 31-4+ N '50

See also

Blast furnace gas
Butane
Coal distillation
Coke-oven gas
Flue gas
Gas, Natural and other headings beginning Gas
Gases
Liquefied petroleum gas
Propane
Sewage sludge—Gas production

Calorific value

Portable water-flow gas calorimeter. W. J. Gooderham. diags Soc Chem Ind J 69:377-9 D '50

Odorizing

Bibliography

Bibliography and abstracts; gas odorization. Am Gas Assn Proc 1950:787-98

Sulfur content

Colorimetric method for the determination of thiophene in synthesis gas. H. W. Wainwright and G. I. Lambert. bibliog 7pls U S Bur Mines Rep of Invest 4753:1-11 '50

Organic sulfur in synthesis gas; occurrence, determination, and removal. A. E. Sands and others. bibliog il diags Am Gas Assn Proc 1950:564-602; Same. U S Bur Mines Rep of Invest 4699:1-51 '50

GAS, Natural

A.G.A. Production and chemical conference, New York, May 14-16. Chem & Eng N 29:2150-1 My 28 '51

America's motor fuel supply can be increased by use of liquids condensed from natural gas; abstract. B. R. Carney. Gas Age 108:87-8 O 11 '51

Calculation of orifice meter coefficients for natural gas. G. H. Forster, jr. Instruments 23:1311-12 D '50

Carbon black, its relationship to the natural-gasoline industry. G. Kiddoo. flow diags Oil & Gas J 49:81-2+ Ap 5 '51

Carbon disulphide; a new by-product of the oilfields. Chem Age (Lond) 64:557-8 Ap 14 '51

Carbon disulfide from natural gas and sulfur; reaction of methane and sulfur over a silica gel catalyst. H. O. Folkins, E. Miller and H. Hennig. bibliog flow diag Ind & Eng Chem 42:2202-7 N '50

Chemicals from natural gas and petroleum. G. Egloff. Oil & Gas J 49:69-72+ N 2 '50

Gas and air drilling. il diag Oil & Gas J 50:219-20+ S 20 '51

Gas speeds drilling; use as circulating fluid. diag Oil & Gas J 50:56-7 Jl 12 '51

High purity sulfur from smelter gases; reduction with natural gas. E. P. Fleming and T. C. Fitt. bibliog flow diag il diags Ind & Eng Chem 42:2249-53 N '50

Increased economic importance seen for natural gas pipe lines; chemicals from natural gas. H. J. Carswell. il Am Gas J 174:14-15+ Je '51

Increased utilization of natural gas; abstract. P. C. Keith and J. H. Arnold. Gas Age 108:87 O 11 '51

Lion Chemical produces 1,200 tons daily of petrochemicals from natural gas. F. L. Resen. il diag Oil & Gas J 50:76-9 Jl 12 '51

Natural gas department of the American gas association annual spring meeting, Dallas. Oil & Gas J 50:89 My 10 '51

Natural gas operation at Central gas works. J. S. Hurd. Am Gas Assn Proc 1950:781-6

Natural-gas processing; a review of its history, and a resume of current developments. V. E. Middlebrook. diags Oil & Gas J 49:85-7+ D 7 '50

New electrical analyzer for study of oilfield behavior; can be used to study gas fields. R. G. Nisle. diags Oil & Gas J 50:76+ S 27 '51

New field processing plants exceed billion-foot daily capacity. R. B. Tuttle. Oil & Gas J 49:251+ Ja 25 '51

Obtaining lower Btu gases by blending natural gas with other gases or air. E. C. Powers. flow chart Am Gas J 174:19 Ja '51

Outlook for natural gas. L. F. Terry. Comm & Fin Chr 174:1350+ O 11 '51

Petroleum and natural gas industries sound; report of oil and natural gas securities committee of IBA. Comm & Fin Chr 172:2299+ D 14 '50

Plastics from acetylene on increase; may lead to its manufacture from natural gas. R. S. Aries and R. M. Cziner. Oil & Gas J 50:122+ My 17 '51

Production of aromatics from natural gas liquids. C. R. Williams and R. E. Sutherland. flow diag Oil & Gas J 50:84+ Ag 9 '51

Rochester plant uses natural gas in new versatile process; Koppers-Hasche process. il Gas Age 108:29-30+ S 27 '51; Same cond. Am Gas J 175:31+ S '51

Survey of processing-plant projects. Oil & Gas J 49:201-2 Ap 19 '51

Sweep diffusion gas separation process; hydrogen separation. M. T. Cichelli, W. D. Weatherford, jr. and J. R. Bowman. bibliog il diags Chem Eng Prog 47:123-33 Mr '51

Technical forum; questions on the petroleum and natural gas industries' technology, chemistry, engineering, and operating problems. Pet Eng 22:C38+ N '50 [cont monthly]

See also

Gas as fuel—Natural gas
Gasoline, Natural
Liquefied petroleum gas
Petroleum

also American gas association—Natural gas department; Independent natural gas association of America

Accounting

Five types of accounting problems in converting to natural gas. L. C. Peters. Gas Age 106:18-22+ D 21 '50

Acidation of wells

Acid puts life in tired old gas wells. il Bsns W p60 S 15 '51

Advertising

Atlantic City's unique public relations meets freak changeover disruption. V. F. Stanton. Am Gas J 174:11-14 Mr '51

Analysis

Determination of carbon dioxide and oxygen in natural gases. A. C. Lyles and R. A. Montague. il diags Pet Refiner 30:93-4 Ap '51

Financial significance of fractional analysis. H. H. Beeson. Oil & Gas J 49:172+ Ap 19 '51

Helium-bearing natural gases of the United States; analyses and analytical methods. C. C. Anderson and H. H. Hinson. il diags U S Bur Mines Bul 486:1-141; pa 70c Supt. of doc. '51

Compression

Centrifugal compressors in operation at Seeligson operators' plant. D. T. McDonald. il diag Pet Processing 6:622-5 Je '51; Same cond. Oil & Gas J 50:246+ Jl 26 '51

$D=P/S$; Texas co. increased S factor at new cycling plant. J. A. Lee. il diag Chem Eng 58:107-9 Ag '51

Highest-pressure gas-injection program; injects 8,000,000 cu. ft. of gas daily at about 4,100 psi. R. F. Carlson. il diag Oil & Gas J 49:154+ Ap 19 '51

Pressure maintenance in Block 31 field. R. C. Hartman. il World Oil 133:223-5 S '51

GAS, Natural—Compression—*Continued*

Simple design of Coalinga Nose compressor plant provides vibration-free compressor piping. il diags Oil & Gas J 50:82+ Jl 5 '51

Thermodynamics of natural gas compression. G. L. Farrar. diags Pet Eng 22:C23-4+ N '50

See also

Gas, Natural—Pipe lines—Compressor stations

Conditioning

Changeover gas conditioning. C. E. Utermohle. Am Gas Assn Mo 33:7+ S '51

Continuous catalytic cracking process used to reform natural gas. S. W. Horsfield. flow diag il map Am Gas J 175:17-20 S '51

Corrosion in amine gas treating plants. F. C. Riesenfeld and C. L. Hughes. bibliog flow diag il diags Pet Refiner 30:97-106 F '51

Experiences with fuel bed and cyclic catalytic reforming of natural gas in Philadelphia. O. B. Holman. Am Gas Assn Proc 1950: 799-804

Gas conditioning; how oil fogging and steam saturation may help correct dust complaints or high leakage. J. H. Erwin. plan diags Gas Age 107:29-30+ F 15 '51

Gas-treating process. A. L. Kohl. flow diags Oil & Gas J 49:63-4+ N 30 '50

Humidifying and oil fogging experience related by NY & Richmond. B. F. Rogan and J. V. Turpish. Am Gas J 173:31-2+ D '50; Same. Gas Age 106:35-6+ D 7 '50

Meeting cooling water problems; gas conversion plant of Long Island lighting co. il Gas Age 107:60+ Ap 26 '51; Am Gas J 174: 34 Je '51

Natural gas can be cleaned of dust at regulating stations. C. A. Brown. il Am Gas J 175:34-6+ Jl '51; Same cond. diags Gas Age 107:32-4+ My 10 '51

New treating plant; El Paso facilities yield gas for pipe-line system. il Oil & Gas J 49:59-60 F 15 '51

Processes for reforming natural gas. diags Am Gas J 174:27-30 Ap '51

Reforming natural gas in water gas sets; Peoples gas light and coke co. R. B. Paquette. Gas Age 107:14-16+ Mr 1 '51

Selective H_2S absorption; a review of available processes. A. L. Kohl. bibliog flow diags il diags Pet Processing 6:26-31 Ja '51

See also

Gas, Natural—Dehydration   Gas, Natural—Nitrogen removal

Conservation

Conservation of lease-tank vapors. D. H. Stormont. il Oil & Gas J 50:93-4+ My 17; 98-9+ My 24; 85-7 My 31 '51

Fewer flares light Texas skies. L. J. Logan. il World Oil 132:39-40+ F '51

Fifty years of oil and gas conservation. il Oil & Gas J 50:supp 292+ My 31 '51

Dehydration

Automatic units prepare gas for pipe line. il World Oil 132:190 Ap '51

Cold-separation processing; nontechnical question and answer discussion. J. D. Lowd. diags Oil & Gas J 50:294+ Je 21; 81-5+ Je 28 '51

Dehydration system is designed to end storage field withdrawal freeze-ups. R. S. Jefferies. il diag Am Gas J 173:10-12 N '50

Glycol contamination in gas-dehydration-plant operation. J. R. Mazelli. Oil & Gas J 50:98-100 Je 14 '51

Hydrates licked. F. C. Boston. flow chart Oil & Gas J 50:74 My 24 '51

Low-temperature separation as applied to gas-condensate production. A. W. Francis, jr. flow diag Oil & Gas J 50:69-70+ Jl 5 '51

Natural gas dehydration units completely robotized. C. B. Ames. flow diag il Pet Eng 22:D26-8 D '50; Same. Am Gas J 174:11-13 F '51

New adsorption processes for gas dehydration. L. L. Laurence and L. S. Reid. flow diags il Pet Eng 23:C25-6+ Mr '51

Removal of liquids from natural gas before entering pipe lines. J. H. Echterhoff. flow diags diags Pet Eng (Ref annual) 23: D25-6+ Jl 15 '51; Same. Oil & Gas J 50: 75+ Ag 2 '51

Distillate wells

Calculation of natural condensate recovery. T. W. Brinkley and R. C. Curtis. il World Oil 132:178-80+ Je '51

Cold-separation processing; nontechnical question and answer discussion. J. D. Lowd. diags Oil & Gas J 50:294+ Je 21; 81-5+ Je 28 '51

Condensate reservoirs. J. C. Calhoun, jr. Oil & Gas J 50:113 Je 7 '51

Fluid character for condensate reservoirs. J. C. Calhoun, jr. Oil & Gas J 50:109 Jl 12 '51

Gathering system features Lake St John. L. S. McCaslin, jr. flow diag il Oil & Gas J 50:190+ Je 21 '51

High-pressure free-liquid knockouts for removing free water from well effluent. L. R. Records and D. Seely, jr. diags Oil & Gas J 50:130-1+ S 13 '51

Influence of production practice upon natural-gasoline recovery from condensate fields. B. H. Sage. bibliog diag Oil & Gas J 49: 65-9 F 1 '51

Low-temperature separation as applied to gas-condensate production. A. W. Francis, jr. flow diag Oil & Gas J 50:69-70+ Jl 5 '51

Mushrooming Mustang; new extensions to oil and gas-distillate field in Corpus Christi bay. J. A. Kornfeld. il map Oil & Gas J 49:49-50 N 23 '50

Newest gas processing plant; unitization project at Elk City. D. P. Thornton, jr. flow sheet il diag Pet Processing 6:736-9 Jl '51

Phase behavior of hydrocarbon systems. M. R. Dean and F. H. Poettmann. bibliog diags Pet Eng 23:C18+ S '51

Plymouth's operations at Benedum. R. F. Carlson. il map diag Oil & Gas J 49:66-7+ N 23 '50

Portable low-temperature processing equipment. G. F. Russell. flow diags il Pet Refiner 30:81-3 Ap '51

Rollover gas moving; Pure Oil producing offshore field. F. L. Resen. Oil & Gas J 50:45 Ag 2 '51

Corrosion problem

Corrosion mitigation in the North McCallum field. C. C. Frye and others. il diag World Oil 132:138-40+ Mr; 214+ Ap '51

Inhibitor in stick form stops corrosion in Louisiana gas well. G. M. Harper, jr. il diags Pet Eng 22:B54+ N '50

Organic corrosion preventive. C. M. Blair, jr. il diags World Oil 131:159-60+ N '50

Geology

Early Devonian gas in northern West Virginia and pre-Devonian oil prospects. F. Reeves and P. H. Price. maps diags Am Assn Pet Geologists Bul 34:2095-132 bibliog(p2131-2) N '50

Geology and the gas industry. diags Am Gas J 174:11-14 Ja '51

Geology of Erath field, Vermilion parish, La. M. H. Steig and others. maps diags Am Assn Pet Geologists Bul 35:943-87 My '51

New Oriskany sand gas pool. Q. L. Wilcox. maps Oil & Gas J 49:91-3 N 23 '50

Oil and gas traps. K. K. Landes. bibliog diags Oil & Gas J 49:83+ F 8 '51

Laws and regulations

Can FPC control gas wells? decision in Phillips case. il Bsns W p40-1 Jl 21 '51

FPC disclaimer in Phillips controversy may not be permanent policy. J. E. Finley. il Am Gas J 175:10-11+ S '51

FPC regulatory relations with the electric and gas utilities. N. L. Smith. Pub Util 47:42-3+ Ja 4 '51

Gas controls; wholesaling of four gases put under OPS regulation. Oil & Gas J 49:129 Ap 19 '51

Gas curbs here; PAD order slows gas-service expansion to a walk in 15 states. Oil & Gas J 50:103 Ag 23 '51

Gas fracas; Interior issues new rules for common carrier pipelines. Bsns W p96-7 Ag 18 '51

Gas producers win procedural points with the FPC. Pub Util 47:627-8 My 10 '51

Gas stand clarified. Oil & Gas J 50:50-1 Ag 30 '51

GAS, Natural—Laws and regulations—*Cont.*

Gas under attack; fuel is subject of various bills in Texas legislature. L. S. McCaslin, jr. Oil & Gas J 49:59 F 15 '51
Interior vs. the pipelines. Bsns W p25 Jl 7 '51
Milestone in gas; Federal power commission has decided that Phillips petroleum co. is not subject to regulation under the Natural gas act. Oil & Gas J 50:177 Jl 26 '51
Milestone reached; FPC's decision in Phillips case is a turning point in history of oil, gas regulation. H. D. Ralph. Oil & Gas J 50:77 S 13 '51
Natural gas ban would hit small business. Pub Util 48:187-8 Ag 2 '51
Natural gas faces freeze. il Bsns W p23 Jl 14 '51
Natural gas facing added federal control. E. R. Abrams. Barron's 31:8 Je 4 '51
Notable trends in the field of public utility regulation. G. R. Tucker. Pub Util 46:603-7 O 26 '50
PAD restricts natural gas extension for space heating use in 15 states. Nat Pet N 43:13-14 Ag 22 '51; Gas Age 108:37-8 Ag 30 '51
Petroleum company exempted from federal regulation under Natural gas act. Pub Util 48:389-90 S 13 '51
Phillips case goes the limit. Pub Util 48: 361-2 S 13 '51
Phillips hearings open; authority of FPC to regulate independent producers and gatherers of natural gas moves toward test. H. D. Ralph. Oil & Gas J 49:63 Ap 5 '51
Probe narrowed: FPC to decide if Phillips is a natural-gas company. Oil & Gas J 49:69 Ap 12 '51
Proposed gas heating ban draws industry fire. Dom Eng 178:101 Ag '51
Twelve years under the Natural gas act. S. H. Crosby. Pub Util 47:333-8, 411-17 Mr 15-29 '51

Measurement

Correction factors for balancing effect of a gas in one leg of a manometer. H. S. Bean and F. C. Morey. diag Oil & Gas J 50: 107-8+ Jl 19 '51
Effective snubbers; they solve tough metering problem on input lines. diag Oil & Gas J 50:83 S 13 '51; Pet Processing 6: 1030 S '51
Gas measurement laws; what Texas and Oklahoma have done to standardize gas measurement. Gas Age 108:48 S 13 '51
New eight-day orifice-meter charts effect 20 per cent economy. il Oil & Gas J 50: 102+ S 6 '51
Small infractions create major errors in flowmeter measurement. J. P. Squier. Oil & Gas J 49:60+ Ja 18 '51

Merchandizing

How Minneapolis built its natural gas sales. H. K. Wrench. il Gas Age 106:32-8+ N 23 '50
Industrial sales; balance wheel for natural gas load factor. J. J. Quinn. Gas Age 107: 27+ Mr 1 '51
Natural gas offers New England unique triple opportunity. F. O. Hess. Gas Age 107:29-31+ My 10 '51
What to do about sales after natural gas arrives. I. K. Peck. il Gas Age 107:54+ Ap 26 '51

Moisture content

High-pressure free-liquid knockouts for removing free water from well effluent. L. R. Records and D. Seely, jr. diags Oil & Gas J 50:130-1+ S 13 '51

Nitrogen removal

Removal of nitrogen from natural gas. P. V. Mullins. Pet Eng 23:D36-7 Ja '51

Odorizing

How Detroit solved problems in natural gas odorization. J. L. Joachim. diags Gas Age 108:19-20, 63-4+ Jl 5 '51
Malodors; $million market. il Chem W 69:11 Ag 11 '51
New developments in odorants. E. E. Johnson. bibliog Am Gas Assn Proc 1950:703-5
New instrument designed to disclose odor concentration levels in gas. C. E. White. bibliog il Am Gas J 175:8-11 Ag '51
Odorization practices. N. K. Senatoroff. bibliog diags Am Gas Assn Proc 1950:684-702

Bibliography

Bibliography and abstracts; gas odorization. Am Gas Assn Proc 1950:787-98

Peak load

Experiences with complete replacement of natural gas sendouts. F. D. Howell. map Am Gas Assn Proc 1950:647-51; Same. Gas Age 105:21-2+ Je 8 '50; Same. Am Gas J 173:23+ Jl '50
LPG for standby or peak shaving. il Am Gas Assn Mo 33:9+ Ap '51
Peak shaving at Lincoln, Nebr. M. G. Cook. il Gas Age 106:38-9 D 7 '50

Pipe lines

Alberta gas line; proponents think it will be authorized. D. M. Duff. Oil & Gas J 49:61 F 8 '51
Aluminum marine pipe line. E. T. Wanderer. il Oil & Gas J 50:58-9+ Jl 5 '51
Assembly line technique used in building New England line. T. A. Hester. il Gas Age 107:51-3+ Ap 26 '51
Automatic welder zips up Transcontinental pipeline sections. il Constr Methods 32:44-9 D '50
Automatic welding for the Transcontinental Hudson River crossing. il Welding J 29: 1100-1 D '50
Automatic welding on pipe-line right-of-way demonstrated. P. Reed. il Oil & Gas J 50: 148+ Ag 16 '51
Barytes in continuous weighting of river-crossing pipe. il World Oil 132:245-6 Ap '51
Best methods to obtain maximum pipe line efficiency. H. M. McDonald. Gas Age 107: 27+ Je 7 '51
Big-Inchers. il Fortune 43:66-73+ Ja '51
Bringing natural gas to the metropolitan New York area. F. G. Sandstrom. il map diag Am Gas Assn Proc 1950:825-30
Canada's Big Inch urged. Bsns W p 156-7 My 19 '51
Cathodic protection on the 840-mile Texas gas transmission corporation 26-inch pipe line from Texas to Ohio. R. J. Kuhn. Am Gas Assn Proc 1950:831-40
Chicago gets more gas; Texas-Illinois natural gas pipeline. il Bsns W p48+ D 30 '50
Colorado Interstate's third line pushes rapidly over flat terrain; illustrations with text. Gas Age 108:42-3 S 27 '51
Communication is nerve center of natural gas pipe lines. H. A. Rhodes. Gas Age 108: 32-5 Jl 19 '51
Completion of 82 mile loop brings Southern California an additional 100 million capacity. Am Gas J 173:39 N '50
Corrosion control program; natural gas transmission line, Niagara Mohawk power corp. L. A. Kellogg. il map Gas Age 107: 11-13 Mr 1 '51
Designing and building safety into large gas pipe lines. S. Owens. il Pet Eng 23:D105-6+ My '51
Determining the purging velocity for a ten-inch, 8½-mile main; use of nitrogen slug. H. C. Judd. il Gas Age 108:47-8 Ag 16 '51
Double-ramp method used in laying pipeline river crossing. N. A. Saigh, jr. il Oil & Gas J 50:100 My 24 '51
El Paso now a two-system company. B. M. Willis. il Pet Eng 23:D9-14+ My '51
5700 miles of controlled energy; El Paso natural gas co. J. C. Pierce. il map Comp Air Mag 56:228-34 S '51
Gas contract signed; United to buy from Pure wells off Gulf coast. L. S. McCaslin, jr. Oil & Gas J 49:45 N 30 '50
Gas for New England; abstract. G. Symonds. Oil & Gas J 49:57 D 14 '50
Gas fracas; Interior issues new rules for common carrier pipelines. Bsns W p96-7 Ag 18 '51
Gas from Transco; New York city to get fuel regularly on Dec. 12. D. M. Duff. Oil & Gas J 49:105-6 N 23 '50
Gas goes East; transmission increased 34 per cent during 1949. J. C. Casper. Oil & Gas J 49:103 N 23 '50

GAS, Natural—Pipe lines—*Continued*

Gas-line survey. Oil & Gas J 50:62 My 31 '51

Gas reserves, pipe line interconnections are matters of import. T. C. Buchanan. Am Gas J 174:28+ Ja '51

Gas to Caracas. Oil & Gas J 50:71 Ag 9 '51

Gas transmission-line maintenance. L. W. Curfman. diag Oil & Gas J 49:84-5 N 30 '50

Here comes the Super-Inch; serving northern and central California. il Am Gas Assn Mo 33:12 Mr '51

How Charley Ice and his line gang laid pipe over the mountains. il Gas Age 108:31-4+ S 13 '51

How marshy can a pipe-line route get? P. Reed. il Oil & Gas J 50:76-7 Je 14 '51

How soil conservation pays off in pipe line maintenance. A. W. Emerson. il Gas Age 108:26-8+ Jl 5 '51

How Southern Union expanded transmission and distribution systems. F. Kutnewsky. il Gas Age 108:68-70+ O 11 '51

How Texas Eastern makes itself a local citizen. il map Gas Age 108:26-8 Ag 30 '51

Hydrocarbon dewpoint control by gas refrigeration. J. T. Simon. flow diag map World Oil 132:175-7 Mr '51

Interior vs. the pipelines. Bsns W p25 Jl 7 '51

Keeping ahead of accelerated demand; new 24-in. loop around Houston, Tex. il Gas Age 107:22-3 Mr 29 '51

Koran expansion; United gas corp. places new facilities in service. J. A. Kornfeld. map plan Oil & Gas J 49:93 Ja 18 '51

Latest method of leakage control in distribution. C. D. Taft. Gas Age 106:50+ D 7 '50

Laying pipe in delta swampland. il Pet Eng 23:D40+ S '51

Linden control station for Transcontinental now in operation. il Gas Age 107:44 F 15 '51

Lone Star completes Red River crossing. W. C. Grant. il Gas Age 107:40+ Ja 18 '51

Long-distance natural-gas-transmission pipe lines. J. J. King. il Mech Eng 73:545-8 Jl '51

Mechanical sampling of fuel gases in transmission and distribution systems. W. A. McGlashen and J. S. Powell. diags Oil & Gas J 50:90-1+ My 31 '51

Mud Lake pipe line project completed; United gas pipe line co. il Gas Age 107:20-2 Mr 1 '51

Natural gas coming to 125 new cities. Heat & Ven 48:124-5 Je '51

Natural gas facing added federal control. E. R. Abrams. Barron's 31:8 Je 4 '51

Natural gas line reaches New England. il maps Constr Methods 33:82-4+ S '51

Natural gas newest of the energy giants. J. A. Kornfeld. il map Oil & Gas J 50:supp 432-6+ My 31 '51

Natural gas pipe line activity in 1950, by states. World Oil 132:212+ F 15 '51

Nautical pipe lining across spongy Mississippi River delta. Oil & Gas J 50:99 Ag 16 '51

New pipeline will siphon off desert's black gold; San Juan basin. il map Bsns W p94-5 Ag 18 '51

New Texas-to-Chicago pipe line well under way. map Am Gas J 174:29 Ja '51

New York's cooking with natural gas from Texas. il Gas Age 107:44 F 1 '51

1950 called big year for natural gas. D. A. Hulcy. Nat Pet N 43:51 Ja 10 '51

Northern and central California now using Texas-New Mexico gas. il map Gas Age 107:25-8+ F 15 '51

Notable trends in the field of public utility regulation. G. R. Tucker. Pub Util 46:603-7 O 26 '50

Oceanographic considerations in marine pipe line construction. R. O. Reid. bibliog il Gas Age 107:46-9+ Ap 26 '51

$117,800,000 gas line; Mississippi-Pennsylvania system. P. Reed. map Oil & Gas J 49:56 D 7 '50

Pacific Northwest-Canadian natural gas problem gets even more complicated. Am Gas J 173:38 N '50

Peoples Gas completes 30-in. main. il Gas Age 107:37+ F 1 '51

Performance of magnesium anodes under actual service conditions. T. H. Gilbert. Gas Age 106:40-1+ N 23 '50

Pioneer submarine gas line project completed. W. C. Grant. il Gas Age 107:56-7+ Mr 15 '51

Pipe line construction. S. Lillie. Published in monthly numbers of World oil

Pipeline construction increasing; gas utility construction expenditures. Am Gas Assn Mo 33:13-14+ Jl-Ag '51

Pipe-line construction; tabulation of projects, domestic and foreign, planned or under construction. Oil & Gas J 49:109-10+ Ja 11 '51 [cont twice a month]

Pipe-line crossing uses jacketing of barytes-laden cement. J. A. Kornfeld. il Oil & Gas J 49:82-3 Ap 12 '51

Pipe line flow efficiencies. C. McClure. il World Oil 133:282-4+ S '51

Pipeline web. J. V. Sherman. map Barron's 31:9-10 Je 4 '51

Pipe liners set record-breaking pace in 1950; build 20,000 miles. P. Reed. Oil & Gas J 49:219+ Ja 25 '51

Pipe lines and soil erosion control. J. W. Carneal. Gas Age 107:55 My 24 '51

Pipe lines certified and under construction; principal pipe lines proposed; tables. Gas Age 108:71 O 11 '51

Projects approved; United Gas, Texas Eastern, Algonquin Gas Transmission given FPC authority to build natural-gas systems. Oil & Gas J 49:49-50 Mr 8 '51

Projects completed and under way total 18,480 miles of pipe line. P. Reed. Oil & Gas J 50:226+ Jl 26 '51

Raising 735 ft. suspension bridge over Santa Ana river. il Gas Age 106:21+ N 9 '50

Retesting big gas pipeline, a hectic operation. J. M. Connolly. il Constr Methods 33:52-5 Ja '51

River crossing; Greenville bridge used. il Oil & Gas J 49:46 N 23 '50

River crossing span lifted as single unit. G. M. Wilson. il World Oil 132:180-1 F '51

Saving time and manpower on a short installation line. il Gas Age 108:29-30 Jl 5 '51

Slack in buried gas pipe lines. G. M. McClure and L. R. Jackson. il diag Oil & Gas J 49:86-7+ Mr 22 '51

Slack loop practice in lowering-in procedure. T. B. LaRock. il World Oil 131:220-2+ N '50; Same abr. Oil & Gas J 49:99-101 Jl 13 '50

Story of Texas Illinois natural gas pipeline company. J. F. Oates, jr. and others. il maps Oil & Gas J 49:81-4+ My 3 '51

Streamlining the treatment of mains with anti-leak; use of Carboseal. K. D. Knoblock. il Gas Age 107:48-50 Mr 15 '51

Submerged arc unit welds pipe line on right-of-way. C. A. Renton. il World Oil 133:211-12+ Jl '51

Submerged arc welding of pipe on the line. F. H. Love. il Pet Eng 23:D7-8 Ag '51

Super Inch gas line is completed. D. H. Stormont. il map Oil & Gas J 49:A54-6 N 9 '50

Super Inch pipe line is ready to serve. il map Am Gas J 173:13-16 D '50

Sweat fell on Alabama; pipe line goes through the solid granite river bed of the Tallapoosa. il Pet Eng 22:D29-31 D '50

Teamwork licks gas outtage; Northern natural gas co. il Am Gas Assn Mo 33:16-17+ S '51

Texans prove that crisis breeds unity; Swift action by Lone Star employees when pipe line breaks. K. Foree. il Am Gas Assn Mo 33:18-19 Ap '51

Texas Eastern project. F. L. Resen. map Oil & Gas J 50:58 S 27 '51

Texas Gas Transmission planning new expansion. Barron's 31:15 Je 4 '51

Three-rig circus sets 568-ft pipe crossing. il Constr Methods 32:44 N '50

Topock-Milpitas gas pipeline, California. il map Engineering 171:613-16, pl 49-50 My 25 '51

Tough job; Hudson pipeline crossing. R. H. Dodds. il diags Eng N 146:32-5 Ap 19 '51

Transco line opened. D. M. Duff. il Oil & Gas J 49:166-7 Ja 25 '51

Transco river crossings; laying of pipe under Hudson and Harlem rivers. il map Oil & Gas J 49:52-3 N 9 '50; Civil Eng 20:799 D '50; Gas Age 106:31-2 D 7 '50

GAS, Natural—Pipe lines—*Continued*

Transcontinental, longest gas line. F. H. Love. il map plan Pet Eng 23:D12+ F '51

Transcontinental's Linden station controls eastern operations. W. F. Palmer, jr. il Gas Age 108:36+ Jl 19 '51

Transmission of natural gas. C. R. Bellamy. Am Gas J 175:29-32 Jl '51

Triple-method communications tailored for Super-Inch pipe line. L. L. Creighton. il diag Gas Age 108:72-6+ O 11 '51

Two-way radio expedites Colorado Interstate operations. W. I. Blount. il Oil & Gas J 49:235-6 Ap 19 '51

United coats 150 miles of line in south Louisiana. il map Oil & Gas J 50:274+ Je 21 '51

United gas pipe line co. uses new weapon in its battle against brush; use of ammonium sulfamate, known as Ammate weed killer. A. E. Carlson. il Oil & Gas J 50:127 S 13 '51

Use of magnesium ribbon for cathodic protection. T. W. O'Brien. il diag Am Gas Assn Proc 1950:819-22

Useful dispatching tools. E. D. Nuttall. bibliog diags Pet Eng (Ref annual) 23:D31-4 Jl 15 '51

Waiting audience; we, the people; Los Angeles gas management documentary film of big pipeline. J. S. Collins. Pub Util 47:86-91 Ja 18 '51

Welding costs reduced one-fourth using mobile unit for right-of-way double jointing. R. L. Looney. il Oil & Gas J 50:149-50 Ag 16 '51

Welding high yield pipe. C. J. Coulter. il Pet Eng 23:D52+ My '51

World's biggest gas line. R. Finnie. il map Pet Eng 23:D86+ My '51

Compressor stations

Automatic operation of lube-oil and engine cooling-water systems at United gas co.'s Dallas compressor station. C. Hoot. il diag Oil & Gas J 49:104 Ap 5 '51

Blowout safety device for compressor stations. F. G. Love. il Pet Eng 22:D5-8 D '50

Combustion gas turbines, important new prime mover for the gas pipe-line industry. J. L. Oberseider. Oil & Gas J 50:102+ Ag 9 '51

Compressor station automatic shutdown control. E. Sterrett. il World Oil 131:243-5 N '50

Cooling tower spray water cools lube oil. R. D. Ricketts. flow diag il World Oil 132:215-16 My '51

Cooling water design adds economy, efficiency; Transcontinental gas pipe line corporation's Plan II compressor stations. R. D. Ricketts. flow diag il World Oil 132:232+ Je '51

Dry-cooling vs. water-cooling at compressor stations. H. E. Degler. flow diags il Gas Age 108:29-31 Ag 2 '51

Experiences in dampening pulsations in compressor piping systems. M. L. Arnold. il diags Pet Eng 23:D14-16+ Ag '51

Gas turbine centrifugal compressor station for pipe line pumping. J. F. Eichelmann and J. S. Quill. map plan diags Gas Age 107:20-4+ Je 7 '51; Same. Gen Elec R 54:23-9 Je '51; Same abr. Oil & Gas J 50:81-2+ S 6 '51

Koran compressor station. F. H. Love. il Pet Eng 23:D5-8 Ap '51

Life and equipment are protected with automatic safety device. il Am Gas J 174:31-4 F '51

Magnolia's Corsicana machine shop saves critical materials. H. Guitar. il World Oil 133:290-3 S '51

Maintaining compressor equipment; metalizing a valuable process. F. H. Love. il Pet Eng 23:D19-20+ Jl '51

Metalizing improves compressor station operation. il Gas Age 107:38+ F 1 '51

New light on centrifugal-booster performance and its relation to gas pipe-line capacity. J. H. Anderson. Oil & Gas J 50:325+ Jl 26 '51

One-man automatic gas-booster station aids conservation in West Beaumont field. il Oil & Gas J 50:84 Jl 19 '51

Pipe line compressor lubrication and maintenance. O. H. Moore. diags Gas Age 106:23-7+ D 21 '50; Same. flow diags Pet Eng 23:D5-8+ S '51

Semiportable automatic gas compressor station helps pipe-line capacity at peak loads. R. S. Nabors. diags Oil & Gas J 50:103-4 Ag 9 '51

Steam-powered compressor station. D. M. Taylor. il World Oil 133:231-3 Ag '51

Texas Illinois compressor-station design. D. B. Sprow and S. S. Kenworthy. il Oil & Gas J 49:100+ My 3 '51

Turbines for gas line; El Paso Natural to install internal-combustion turbines for driving centrifugal compressors on its gas system. P. Reed. diag Oil & Gas J 49:169 Ja 25 '51

Turbo-machinery in the gas industry. T. P. Latimer. il diags Pet Eng (Ref annual) 23:D16+ Jl 15 '51

Finance

Debt makes pipelines grow. Bsns W p96-8+ N 25 '50

It's a pipe. I. U. Cobleigh. Comm & Fin Chr 173:1843+ My 3 '51

Pros, cons given by investment advisers on natural gas reserves. J. F. Falvey. il Am Gas J 174:26-7+ Ja '51

Gathering lines

Deep water pipe line design and construction in Gulf of Mexico. E. Sterrett. il World Oil 131:199-206 N '50

First submarine pipe line gets separation, dehydration, and metering facilities. R. C. Ledford. flow diag il Oil & Gas J 50:220+ Je 21 '51

Gas gathering facilities of the Snyder gasoline plant. H. G. Teverbaugh. flow diag il diag World Oil 133:275-8+ S '51

Traps prevent gas contamination. D. H. Stormont. il Oil & Gas J 50:102 Je 14 '51

Maps

Natural gas pipelines in the United States (as of July, 1951). Gas Age 108:supp O 11 '51

Safety measures

Blowout safety device for compressor stations. F. H. Love. il Pet Eng 22:D5-8 D '50

Life and equipment are protected with automatic safety device. il Am Gas J 174:31-4 F '51

Production estimates

Condensate reservoirs. J. C. Calhoun, jr. Oil & Gas J 50:113 Je 7 '51

Method of estimating gas reserves. R. E. Davis. map Oil & Gas J 50:99-100+ S 27 '51

Method of finding contributory surface area for a gas well from performance data. J. A. Kornfeld. Oil & Gas J 49:245 Ap 19 '51

Open flow potential calculation for dual completion wells. C. W. Binckley and W. L. Hixon. il map diag World Oil 132:150-3 F '51

Production methods

Influence of production practice upon natural-gasoline recovery from condensate fields. B. H. Sage. bibliog diag Oil & Gas J 49:65-9 F 1 '51

See also

Gas, Natural—Acidation of wells

Prospecting

Exploratory drilling in 1950. F. H. Lahee. maps Oil & Gas J 49:108-10+ Ap 26 '51

Rates

FPC Panhandle gas decision. Pub Util 48:40 Jl 5 '51

Minimum gas prices; Supreme Court action upholding Oklahoma statute may prompt other states to set price of gas at well head. H. D. Ralph. Oil & Gas J 49:36-7 D 28 '50

Phillips hearings open; authority of FPC to regulate independent producers and gatherers of natural gas moves toward test. H. D. Ralph. Oil & Gas J 49:63 Ap 5 '51

GAS, Natural—Rates—*Continued*

Probe narrowed: FPC to decide if Phillips is a natural-gas company. Oil & Gas J 49:69 Ap 12 '51

Southern California gas company's rate application. O. Ely. Pub Util 48:440-1 S 27 '51

Supreme court upholds state right to fix minimum price of gas at wellhead. Am Gas J 174:34 Ja '51

Texas gas hearing; Blount bill calling for minimum price is opposed. Oil & Gas J 49:30 Mr 1 '51

Texas independent producers and royalty owners assn. refuses to favor fixing of state-wide minimum gas price. L. S. McCaslin, jr. Oil & Gas J 49:61 Ap 5 '51

Why Peoples natural gas co. is raising industrial rates. Gas Age 107:44-5+ My 24 '51

Recycling

Five years of gas injection. F. J. Neslage. Oil & Gas J 50:58-9+ Ag 2 '51

Gasoline and cycling plant operation. D. Thornton. Published in monthly numbers of Petroleum processing

Helium tracer gas studies; Shuler field, Ark. E. M. Frost, jr. maps diags Pet Eng 23: B7-12+ Mr '51

Highest-pressure gas-injection program; injects 8,000,000 cu. ft. of gas daily at about 4,100 psi. R. F. Carlson. il diag Oil & Gas J 49:154+ Ap 19 '51

Natural gasoline, cycling plants record greatest production gain in history. J. C. Casper. Oil & Gas J 50:201 Jl 26 '51

Plant begins operation; pressure-maintenance project now under way in Willamar West field. F. L. Resen. il Oil & Gas J 50:84-5 S 13 '51

Pressure maintenance in Block 31 field. R. C. Hartman. il World Oil 133:223-5 S '51

Survey of cycling plants. Oil & Gas J 49:199 Ap 19 '51

Statistics

FPC reports 1950 statistics for natural gas companies. Am Gas J 175:22 Ag '51

Gas; industry giant. J. C. Casper. Oil & Gas J 50:55-6 Je 7 '51

Gas reserves hit new peak. Am Gas Assn Mo 33:3-6+ Ap '51; Gas Age 107:11-13+ Mr 29 '51

Natural gas consumed in the United States (1927-1946) by states; table. Pet Eng 23: A 16h Ap '51

Natural gas to continue record expansion; with tabulated data of reproduction, 1906-1950. World Oil 132:148-50+ F 15 '51

Near-term availability of gas and oil is on the increase. L. F. McCollum. Gas Age 108: 30-1+ Ag 30 '51

Storage

Amazing growth of underground storage. il diag Am Gas Assn Mo 33:10-12+ Ap '51

Dehydration system is designed to end storage field withdrawal freeze-ups. R. S. Jefferies. il diag Am Gas J 173:10-12 N '50

Gas-storage growth. J. A. Kornfeld. Oil & Gas J 50:41-2 Ag 2 '51

Gas-storage growth. C. R. Stevenson. Oil & Gas J 49:134-5 Ap 19 '51

Gas storage; permit for condemning of land under Gas act asked. Oil & Gas J 49:59 Mr 8 '51

Huge underground storage pools will help supply eastern markets; New York state natural gas corp. il Gas Age 108:23-5 Ag 30 '51

Many companies plan for underground storage. Am Gas J 174:26+ Mr '51

New underground gas storage reservoirs; abstract. J. F. Oates, jr. Pub Util 46:843-4 D 7 '50

Operating aspects of gas storage accounting. A. A. Cullman. Gas Age 107:16-17+ Je 7 '51; Same. Pet Eng (Ref annual) 23:D36+ Jl 15 '51; Abstract. Oil & Gas J 50:89-90 My 10 '51

Peoples Gas plans; huge underground storage reservoir. M. Serif. diags Gas Age 107: 24+ Mr 29 '51

Report covering development work of J. F. Pritchard & co. C. V. Spangler. il Am Gas Assn Proc 1950:743-7

Underground storage and migration of natural gas. F. E. Vandaveer and J. J. Schmidt. bibliog il maps Am Gas Assn Proc 1950:768-77; Same. Oil & Gas J 49: 270+ Jl 27 '50; Same. Am Gas Assn Mo 32: 13-14+ S '50

Underground storage Columbia solution to seasonal peak problem. S. M. Crocker. Am Gas J 174:21-2 Ap '51

Underground storage of a propane-air and natural gas mixture. H. L. Fruechtenicht and J. B. Simpson. diag World Oil 132:183-4+ F '51

Underground storage of natural gas in the Appalachian area. H. J. Wagner. World Oil 131:60-2 D '50

Warehousing gas; put it in the ground. il Bsns W p70-2+ S 1 '51

What are the characteristics of good underground storage field? J. E. Spindle. Gas Age 108:27-8+ Ag 2 '51

Sulfur content

Converter gets sulphur from sour gas; Texas Gulf Worland plant. il diag Chem Eng 58:181 Ap '51

Hydrogen sulfide in west Texas. W. A. Cunningham. map Ind & Eng Chem 42:2238-41 N '50

New small-size sulfur-conversion plant; Lion oil co. G. Weber. flow diag Oil & Gas J 50:130+ Ag 23 '51

New sulfur process. F. L. Resen. flow diag Oil & Gas J 50:59 My 31 '51

New sulfur recovery process. flow diag Pet Eng 23:C44+ F '51

Processes for removal of hydrogen sulfide from industrial gases. R. M. Reed and others. diags Oil & Gas J 49:48+ Ja 4 '51

Removing sulphur compounds from gaseous fuels, with the recovery of elementary sulphur. N. C. Updegraff. flow diags Am Gas Assn Proc 1950:724-7

Selection of treating processes for gasoline plants. G. M. Brooner. il diags Pet Refiner 30:95-9 Ap '51; Same. Oil & Gas J 49:184+ Ap 19 '51

Selective H_2S absorption; a review of available processes. A. L. Kohl. bibliog flow diags il Pet Processing 6:26-31 Ja '51

Sulfur producer; east Texas gas-distillate discovery. map Oil & Gas J 50:82 My 24 '51

Texas Gulf producing 300 tons daily of sulfur at new Worland plant. il diag Oil & Gas J 50:78-9 Jl 19 '51

Taxation

Mathematical analysis of Texas natural gas tax reimbursement. J. F. Summers. World Oil 132:235-6+ Ap '51

Tax boost in Texas. Oil & Gas J 50:57 Je 14 '51

Tideland development

Gas contract signed; United to buy from Pure wells off Gulf coast. L. S. McCaslin, jr. Oil & Gas J 49:45 N 30 '50

Oceanographic considerations in marine pipe line construction. R. O. Reid. bibliog il Gas Age 107:46-9+ Ap 26 '51

Rollover gas moving; Pure Oil producing offshore field. F. L. Resen. Oil & Gas J 50:45 Ag 2 '51

Unit operation of pools

Cooperative oil and gas operations. W. Hawkins. Pet Eng 22:B68+ N '50

Well casing

External corrosion of gas and oil well casings. C. I. Sims. World Oil 133:262+ S '51

Well drilling

Drilling and completion practices in the Church Buttes field. W. C. Dinger. map Pet Eng 23:B16+ Jl '51; Same. il World Oil 133:178+ Jl '51

Exploratory and development drilling, where it occurred and the results; tabulations. Oil & Gas J 49:315-16+ Ja 25 '51

Gas replaces drilling mud in San Juan basin operations. G. M. Wilson. il diags World Oil 133:128-30+ Ag '51

Methods of drilling for gas or oil. diags Am Gas J 174:27-30 Mr '51

GAS, Natural—Well drilling—*Continued*

Well testing

Testing gas wells by back pressure method. G. W. Hereford. diags World Oil 132:198+ Je '51

Alberta

Alberta activity. K. B. Barnes. il Oil & Gas J 49:192-3 N 16 '50
Alberta gas line; proponents think it will be authorized. D. M. Duff. Oil & Gas J 49:61 F 8 '51
Alberta's gas. Oil & Gas J 50:84 My 24 '51
Export markets for Alberta's gas. H. G. Cochrane. il maps Pet Eng 23:A35-8 F '51
Exports approved; first permit granted for movement of gas to U.S. Oil & Gas J 50:49-50 Je 28 '51
Gas exports banned; Premier claims Alberta reserves not sufficient. Oil & Gas J 49:35 F 1 '51
Gas ruling may slow Canadian activity; landowner's claim to subsoil gas. World Oil 133:252 Jl '51
Geology of Turner Valley oil and gas field, Alberta, Canada. W. B. Gallup. bibliog maps diags Am Assn Pet Geologists Bul 35:797-821 Ap '51
Intensive search for gas indicated for Canada. J. F. Falvey. Am Gas J 174:10+ F '51
It's not oil. Chem W 68:15-16 Je 16 '51

Atlantic City, Supply to

Atlantic City's unique public relations meets freak changeover disruption. V. F. Stanton. Am Gas J 174:11-14 Mr '51

California

California still short on natural gas. Oil & Gas J 49:A63-4 N 9 '50
Natural gas in California; abstract. J. A. Moulton. Gas Age 108:47+ S 27 '51
What 20 years of natural gas did in northern and central California. il Gas Age 108:53-5+ O 11 '51

California, Supply to

Northern and central California now using Texas-New Mexico gas. il map Gas Age 107:25-8+ F 15 '51
Southern California's gas program. R. Sneddon. il Pet Eng 23:D97-100 My '51

Canada

Regulations set up to encourage natural gas search in Canada. L. O. Rowland. Pet Eng 23:A62 Ap '51

Chicago, Supply to

Chicago gets more gas; Texas-Illinois natural gas pipeline. il Bsns W p48+ D 30 '50
Peoples Gas plans; huge underground storage reservoir. M. Serif. diags Gas Age 107:24+ Mr 29 '51

Italy

Italian pipeline facilities. For Comm W 42:23 F 5 '51; Correction. 42:23 Mr 5 '51
Oil and gas in Italy. maps Pet Eng 23:A50+ F '51

Japan

Petroleum and natural gas in Japan. L. W. Stach. Pet Eng 23:A48+ Je '51

Kansas City, Supply to

Gas problem solved, Kansas City gets Ford. Bsns W p26 D 16 '50

Kentucky

Oil and gas developments in Kentucky in 1950. E. B. Wood. map Am Assn Pet Geologists Bul 35:1195-201 Je '51

Louisiana

Geology of Erath field, Vermilion Parish, La. M. H. Steig and others. maps diags Am Assn Pet Geologists Bul 35:943-87 My '51

Maryland

Maryland gas; discovery spurs Deer Park structure activity. P. DeArmond. Oil & Gas J 49:195 N 16 '50

Milwaukee, Supply to

Gases for supplementing natural gas in Milwaukee. E. C. Brenner. diags Am Gas Assn Proc 1950:332-47; Same. Am Gas Assn Mo 32:9-13+ D '50; Same cond. Gas Age 106:31-6+ N 9 '50

Minneapolis, Supply to

How Minneapolis built its natural gas sales. H. K. Wrench. il Gas Age 106:32-8+ N 23 '50

Mississippi

Mississippi story; deposits of oil and gas provide abundance of fuel. il Manuf Rec 120:88-9 Je '51

New England, Supply to

FPC divides New England natural gas market. Gas Age 106:46+ N 23 '50
57 New England gas properties tell plans for use of natural gas. H. F. Weeks. map Am Gas J 174:19-21+ My '51
Gas for New England; abstract. G. Symonds. Oil & Gas J 49:57 D 14 '50
Gas goes North. Bsns W p 104+ N 18 '50
Natural gas line reaches New England. il maps Constr Methods 33:82-4+ S '51
Natural gas offers New England unique triple opportunity. F. O. Hess. Gas Age 107:29-31+ My 10 '51
New England gas; FPC solves problem. Oil & Gas J 49:194-5 N 16 '50
New England will receive natural gas during 1951 from two companies. Am Gas J 173:17-18 D '50

New Mexico

New pipeline will siphon off desert's black gold; San Juan basin. il map Bsns W p94-5 Ag 18 '51

New York (city), Supply to

Bringing natural gas to the metropolitan New York area. F. G. Sandstrom. il map diag Am Gas Assn Proc 1950:825-30
Gas from Transco; New York city to get fuel regularly on Dec. 12. D. M. Duff. Oil & Gas J 49:105-6 N 23 '50
New York's cooking with natural gas from Texas. il Gas Age 107:44 F 1 '51

New York (state)

Northeastern Pennsylvania and central New York petroleum probabilities. B. Willard and R. E. Stevenson. bibliog map diag Am Assn Pet Geologists Bul 34:2269-83 D '50

Northwestern states, Supply to

Natural gas essential to Northwest for defense and power programs. C. H. Gueffroy. Am Gas J 174:19-20+ Ap '51
Natural gas for Northwest hinges on hearings in Montana and Alberta. Elec World News ed 136:5 S 17 '51

Ohio

Natural gas in Ohio; a history. T. H. Kerr. il maps diags Ohio State U Eng Exp Sta [Columbus] Circ 52:1-112 '50 (pa $1)

Oklahoma

Interest in McAlester basin revives. P. C. Ingalls. map Oil & Gas J 50:119 Jl 5 '51

Pennsylvania

New Oriskany sand gas pool. Q. L. Wilcox. maps Oil & Gas J 49:91-3 N 23 '50
Northeastern Pennsylvania and central New York petroleum probabilities. B. Willard and R. E. Stevenson. bibliog map diag Am Assn Pet Geologists Bul 34:2269-83 D '50
Pennsylvania develops its major gas field. K. Maxcy. il Gas Age 107:25-8+ F 1 '51
Pennsylvania hot spot; high-pressure-gas drilling at Leidy field. il Oil & Gas J 49:70-1 Ja 18 '51
Pennsylvania surprise; leasing and exploration boom. D. M. Duff. map Oil & Gas J 49:58+ N 9 '50

Rocky Mountain region

Types of oil and gas traps in Rocky Mountain region. A. W. McCoy, 3d and others. maps diags Am Assn Pet Geologists Bul 35:1000-37 My '51

GAS, Natural—*Continued*

Russia

Is petroleum a Soviet weakness? D. B. Shimkin. bibliog map Oil & Gas J 49:214-15+ D 21 '50

Southwestern states

Natural gas newest of the energy giants. J. A. Kornfeld. il map Oil & Gas J 50:supp 432-6+ My 31 '51

Phenomenal growth marks natural-gasoline expansion in Southwest. C. O. Wilson. il Oil & Gas J 50:supp 374-6+ My 31 '51

Southwest natural gas personalities. Oil & Gas J 50:supp 451+ My 31 '51

Tennessee

Oil and gas developments in Tennessee in 1950. H. C. Milhous. map Am Assn Pet Geologists Bul 35:1202-5 Je '51

Texas

Fewer flares light Texas skies. L. J. Logan. il World Oil 132:39-40+ F '51

Gas flaring hit; Texas Commission denounces increase in fuel's waste. Oil & Gas J 50:51 S 27 '51

Gas; hot topic. Oil & Gas J 50:55 Je 28 '51

Gas under attack; fuel is subject of various bills in Texas legislature. L. S. McCaslin, jr. Oil & Gas J 49:59 F 15 '51

Hydrogen sulfide in west Texas. W. A. Cunningham. map Ind & Eng Chem 42:2238-41 N '50

Mushrooming Mustang; new extensions to oil and gas-distillate field in Corpus Christi bay. J. A. Kornfeld. il map Oil & Gas J 49:49-50 N 23 '50

Plymouth's operations at Benedum. R. F. Carlson. il map diag Oil & Gas J 49:66-7+ N 23 '50

Sulfur producer; east Texas gas-distillate discovery. map Oil & Gas J 50:82 My 24 '51

Texas gas hearing; Blount bill calling for minimum price is opposed. Oil & Gas J 49:30 Mr 1 '51

Texas independent producers and royalty owners assn. refuses to favor fixing of state-wide minimum gas price. L. S. McCaslin, jr. Oil & Gas J 49:61 Ap 5 '51

United States

Discovery and development data for 1950's new pools and new pays. Oil & Gas J 49:261-7+ Ja 25 '51

Dynamic natural gas industry; with statistical summary of companies. E. A. Barnes. Mag of Wall St 87:128-9+ N 4 '50

Estimates of proven reserves. P. C. Ingalls. Oil & Gas J 49:107 Ja 18 '51

Future supply of natural gas will exceed 500 trillion cu. ft. L. F. Terry. Gas Age 106:58-60+ O 26 '50; Same. Pet Eng (Ref annual) 23:A48+ Jl 15 '51; Am Gas Assn Proc 1950: 155-9; Abstract. Oil & Gas J 49:127 O 5 '50

Gas outlook. Oil & Gas J 50:44 Ag 2 '51

Gas reserves; discoveries not keeping demand pace, FPC says. Oil & Gas J 49:57-8 F 15 '51

Gas reserves hit new peak. Am Gas Assn Mo 33:3-6+ Ap '51; Gas Age 107:11-13+ Mr 29 '51

Helium-bearing natural gases of the United States; analyses and analytical methods. C. C. Anderson and H. H. Hinson. il diags U S Bur Mines Bul 486:1-141; pa 70c Supt. of doc. '51

Industry is continuing its strong postwar growth. H. Murphy. Barron's 31:13 Ja 22 '51

Natural gas, a look back and ahead. C. E. Bennett. Gas Age 107:26+ Ja 4 '51

Natural gas continues expansion despite difficulties in obtaining materials. D. M. Duff. Oil & Gas J 50:208+ Jl 26 '51

Natural gas in relation to national defense. P. Kayser. Pet Eng 23:D31-2+ Je '51; Same cond. Pub Util 47:714-16 My 24 '51; Same cond. Am Gas Assn Mo 33:8-10 Je '51

Natural gas reserves gain. Pet Eng 23: D8 Ap '51

Natural gas; scarce steel holds the key to its immediate further growth. A. Glenn. Barron's 31:7-8 Je 4 '51

New oil, distillate and gas fields and new pay horizons discovered in United States in Nov. 1950; also important extensions to established fields; tabulations. World Oil 132:82+ Ja '51 [cont monthly]

1950 called big year for natural gas. D. A. Hulcy. Nat Pet N 43:51 Ja 10 '51

Our oil and gas reserves. F. H. Lahee. Oil & Gas J 49:69+ N 30 '50

Prospect for natural gas; with statistical summary of companies. H. L. Blackburn. Mag of Wall St 88:252-3+ Je 2 '51

Proven reserves of crude and other liquids continue climb. P. C. Ingalls. Oil & Gas J 49:197-9 Ja 25 '51

Utility sales of natural gas record greatest increase. D. M. Duff. Oil & Gas J 49:213-14 Ja 25 '51

Venezuela

Gas goes to work in Venezuela. Pub Util 47: 379-80 Mr 15 '51

Vast market awaits development of Venezuela's natural gas. R. M. Poe. il map Oil & Gas J 49:228+ D 21 '50

West Virginia

Acid puts life in tired old gas wells. il Bsns W p60 S 15 '51

Early Devonian gas in northern West Virginia and pre-Devonian oil prospects. F. Reeves and P. H. Price. maps diags Am Assn Pet Geologists Bul 34:2095-132 bibliog(p2131-2) N '50

Oil and gas developments in West Virginia in 1950. R. C. Tucker. Am Assn Pet Geologists Bul 35:1192-4 Je '51

Westchester county, Supply to

Con Edison turns on the gas. il Bsns W p 108-10+ Je 23 '51

Wyoming

Drilling and completion practices in the Church Buttes field. W. C. Dinger. map Pet Eng 23:B16+ Jl '51; Same. il World Oil 133: 178+ Jl '51

GAS, Oil

Bunker C oil cuts operating costs of gas utility. H. E. Nissel. diag Gas Age 107:17-21+ F 1 '51

Experiences at Cambridge with the Hall high Btu process. G. G. Howie. Am Gas Assn Proc 1950:476-80; Same. Gas Age 106:30-2+ Jl 20 '50

Experiences with complete replacement of natural gas sendouts. F. D. Howell. map Am Gas Assn Proc 1950:647-51; Same. Gas Age 105:21-2+ Je 8 '50; Same. Am Gas J 173:23+ Jl '50

Hi-Btu oil gas. R. Kyle. diags Am Gas J 175:27-30 S '51

Interchangeability studied for oil and natural gas. il Am Gas Assn Mo 33:21 Mr '51

Oil gas by two and four-shell sets. H. M. Henry. Am Gas Assn Proc 1950:416-26; Same. Am Gas Assn Mo 32:21-3+ N '50

Oil gas produced in the world's first reverse flow regenerative machine; Central Hudson gas & electric corp., Poughkeepsie. R. J. Horn. diags Am Gas J 175:15-20 Ag '51

Proposed process to produce gas of desired specifications, low cost. V. Stark. flow diag Gas Age 108:24-5+ Jl 5 '51

Summary of HiBtu oil gas progress shows wide adaptability achieved. E. L. Hall. Am Gas J 174:23-6+ My '51

See also

Gas oil

GAS, Producer

Clean producer gas from bituminous coal. il diag Metallurgia 44:146-7 S '51

GAS, Water

Lignite gas. Mech Eng 72:906 N '50

Manufacture

Breaking water-tar emulsions with surface-active agents. I. Pincus, K. F. Ockert and C. R. Kinney. bibliog Ind & Eng Chem 43: 521-4 F '51

Buell breeze collector for water gas sets. J. A. Messenger. il diags Am Gas Assn Proc 1950:712-14

Maintenance of standby water gas plants. H. G. Kaess. Am Gas Assn Proc 1950:490-2

GAS, Water—Manufacture—*Continued*

Making water gas by cracking methanol. W. K. Viertel. diag J Chem Educ 28:220 Ap '51

Processes for manufacturing gas. diags Am Gas J 174:29-30 F '51

Production of water gas with tonnage oxygen. J. W. Blatchford. diag Am Gas Assn Proc 1950:652-8

Water gas from methane. P. W. Sherwood. bibliog flow sheet il diags Pet Processing 5:1308-11 D '50

GAS absorption. See Absorption

GAS analysis

Analog computer for flame gas composition. W. S. McEwan and S. Skolnik. diags R Sci Instr 22:125-32 Mr '51

Analysis of mixtures with double-beam nondispersive infrared instrument. O. G. Koppius. bibliog diags Anal Chem 23:554-9 Ap '51

Analyzer controls gas cleaning equipment at blast furnaces. diags Steel 129:90+ Ag 27 '51; Same abr. Iron & Steel Eng 28:143 Ag '51

Colorimetric method for the determination of thiophene in synthesis gas. H. W. Wainwright and G. I. Lambert. bibliog 7pls U S Bur Mines Rep of Invest 4753:1-11 '50

Continuous gas analyzer serves high-pressure stack. J. de Piccolellis. Steel 128:136+ My 7 '51

Determination of moisture in gases by automatic dew point equipment. R. M. Ilfeld. bibliog il diags Anal Chem 23:1086-9 Ag '51

Determination of traces of water vapor in gases. F. E. Harris and L. K. Nash. diags Anal Chem 23:736-9 My '51

Diaphragm-type micromanometer for use on a mass spectrometer. V. H. Dibeler and F. Cordero. bibliog il diag J Res Nat Bur Stand 46:1-4 Ja '51

Gas analysis; review of 1950. L. K. Nash. Anal Chem 23:74-81 bibliog(188 ref, p79-81) Ja '51

Gravimetric analysis of exhaust gas from gas turbine combustion chambers. F. W. Ruegg and C. Halpern. bibliog diag J Res Nat Bur Stand 45:113-21 Ag '50

Influence of carbon smokes on the dewpoint and sulphur trioxide content of flame gases. G. Whittingham. bibliog diag J Ap Chem 1:382-8 S '51

Low-temperature fractional analysis of liquids and gases. W. J. Podbielniak. bibliog il diags Pet Refiner 30:145-55 My '51

Low temperature separation of ethane from methane and air. R. L. Slobod. bibliog diag Anal Chem 23:361-3 F '51

Microeffusiometry of gaseous mixtures. F. E. Harris and L. K. Nash. bibliog diag Anal Chem 2:1552-6 D '50

Modifications to Gooderham's continuous-flow gas analysis apparatus. R. P. Donnelly and R. Broadbent. bibliog diags Soc Chem Ind J 69(sup no 1):S27-9 '50

New method for analysis of jet engine exhaust gas. diag Automotive Ind 105:60+ Jl 15 '51; Pet Processing 6:885 Ag '51; Franklin Inst J 252:349-50 O '51

Thermal conductivity bridge for gas analysis. C. C. Minter and L. M. J. Burdy. diags Anal Chem 23:143-7 Ja '51

Thermocouple-type combustible gas analyzer expands field of application. F. Taylor, jr. il diag Pet Refiner 30:124-6 Jl '51

What good is a gas analysis? H. E. Ferguson. Am Gas Assn Proc 1950:663-83

See also

Air—Analysis
Carbon monoxide—Analysis
Chlorine—Analysis
Flue gas—Analysis
Gas, Natural—Analysis
Nitrogen oxides—Analysis
Oxygen—Analysis

GAS appliance industry

Code of ethics for manufacturers of industrial gas equipment. Am Gas J 175:22 Jl '51

Corporations are liable to exact terms of appliance sales contracts. L. T. Parker. Am Gas J 174:31-2+ Je '51

Fuel and appliance market in rural America; electric and bottled-gas interests. D. O. Cunnion. il Adv Agency 44:70-1+ Ja '51

GAMA's sales shot up when each one was given real chance to win. S. C. Gorman. il Sales Management 65:82+ D 15 '50

Gas equipment manufacturers ready to double defense contribution. F. O. Hess. Am Gas J 174:17-18 Ja '51; Same. Gas Age 107:24+ Ja 4 '51

Industry upgrading; joint responsibility; manufacturers' viewpoint. F. O. Hess. Am Gas J 175:13-14+ S '51

Sellers may recover expected profits in breach of contract cases. L. T. Parker. Am Gas J 173:27-8+ N '50

Spike driving with a tack hammer. S. H. Hobson. Am Gas Assn Proc 1950:43-7

Why appliance excise tax should be repealed. W. F. Muhlbach. Gas Age 107:31+ Ap 12 '51

Advertising

Why Rheem account is shifting to Campbell-Ewald this week. B. Tolk. il Ptr Ink 236:32-3 Jl 27 '51

Directories

Gas engineering and appliance directory. Gas Age 107:99-192 Je 21 '51

Statistics

Estimated unit sales of gas appliances, 1946-50; estimated unit sales of competitive appliances, 1946-50; estimated appliances in use, Dec. 31; tables. E. R. Martin. Gas Age 107:46-7 My 24 '51

New peaks established during 1950 for gas appliance sales. E. R. Martin. Am Gas J 174:36 F '51

Canada

More and better gas appliances for Canada. Am Gas Assn Mo 33:38 Ja '51

GAS appliance manufacturers association

Annual meeting, 16th, Chicago, April 16-17. Am Gas Assn Mo 33:39-40 My '51; Gas Age 107:66+ My 10 '51; Sheet Metal Worker 42:67 My '51

Installs officers for the coming year. Gas Age 106:50-1+ O 26 '50

Meeting, Atlantic City, Oct. 2-6. Sheet Metal Worker 42:94+ N '50; Dom Eng 176:100 N '50

New officers and chairmen. Am Gas Assn Mo 32:45 N '50

1950 activity. Sheet Metal Worker 42:45-6 D '50

Officers for 1950-51; portraits. Gas Age 108:67 O 11 '51

GAS appliances

Design fundamentals of compact appliance construction. diags Am Gas Assn Mo 33:24+ Mr '51

Gas appliance preview indicates many improvements ahead for 1951. Am Gas Assn Mo 32:2-4+ D '50

See also

Gas burners
Gas cooking
Gas stoves
Gas water heaters
Refrigerators, Gas

Ignition devices

See Gas burners—Ignition devices

Installation

Installation of gas appliances; with timesaver standards. diags Arch Rec 109:175+ Ap; 110:171, 173 Jl '51

Merchandizing

Conferees urged to intensify sales effort; New York-New Jersey regional sales conference, Asbury Park, N.J. June 18-19. Am Gas Assn Mo 33:33-4+ Jl-Ag '51

Dealers check sales techniques; Dealer Day program during A.G.A. convention; GAMA, National association of master plumbers, and National association of radio and appliance dealers. Am Gas Assn Mo 32:42+ N '50

Profit, by the wants of others. J. K. Knighton. Am Gas Assn Proc 1950:277-80

Promotional calendar for '51 stresses flexibility. il Am Gas Assn Mo 33:20-1+ Ja '51

Sale's the thing. H. B. Price, jr. and others. Am Gas Assn Proc 1950:272-7

Thirteenth doughnut. G. A. Saas. Am Gas Assn Proc 1950:238-43

Pilot lights

Automatic gas pilot control device. diags Engineer 190:605 D 15 '50

GAS appliances—Pilot lights—*Continued*

Better heating service from year-round pilot operation. C. S. Hazel. Am Gas Assn Proc 1950:295-301; Same. Gas Age 106:27-30+ N 9 '50

Pilot burner injection and flame stability analyzed. il diag Am Gas Assn Mo 33:14-15 F '51

Standards

A.G.A. approves new appliance standards. Am Gas Assn Mo 33:29+ Ap '51; Same cond. Am Gas J 174:18 Ap '51

25 years of consumer service; A.G.A. laboratories. il Standardization 21:310-11+ D '50

Testing

More and better gas appliances for Canada. Am Gas Assn Mo 33:38 Ja '51

Ventilation

Clothes dryer venting in Chicago. W. D. Egan. il diag Am Gas Assn Mo 33:15-17+ Jl-Ag '51

Installation of gas appliances; venting; with time-saver standards. diags Arch Rec 109: 175+ Ap '51

Requirements for flue or vent connector clearances. diags Sheet Metal Worker 42: 59 Je '51

Venting of gas appliances. diags Dom Eng 178:88-9+ Jl; 87-9+ Ag; 100-1+ S '51

GAS appliances, Domestic

Estimated unit sales of gas appliances, 1946-50; estimated unit sales of competitive appliances, 1946-50; estimated appliances in use, Dec. 31; tables. E. R. Martin. Gas Age 107:46-7+ My 24 '51

Fifteen questions and answers on installation and service policies; table. Gas Age 108:38-41 S 13 '51

Good product, but too hard to sell; General Chef combination range and refrigerator. J. B. Devitt. Sales Management 67:81-2 S 1 '51

Household appliances; heavy switch-over to defense equipment imminent. E. R. Abrams. Barron's 31:13 Ja 29 '51

Modern building, modern fuel help student homemakers. il Am Gas Assn Mo 33:28 S '51

New homes for new customers. M. Livingston. Am Gas Assn Proc 1950:259-62

Why pressure regulators help domestic gas appliances. J. M. Pommersheim. diags Gas Age 108:31-4+ Jl 5 '51

Merchandizing

Cash on the barrelhead. D. A. Strickland. Am Gas Assn Proc 1950:280-2

Five reasons why you should sell automatic gas-fired incinerators. J. G. Dierkes. Gas Age 107:38-9+ Ap 12 '51

Formula for sales. F. C. Smith and others. Am Gas Assn Proc 1950:217-26

How 18 expert salesmen work for each dealer in Portland. C. Matthews. il Gas Age 108: 36-7+ S 27 '51

How to increase gas load in the first quarter of 1951; symposium of latest advertising and sales promotion ideas. Gas Age 107:31-2+ F 15 '51

Kitchen planning made easy; Providence gas co. il Am Gas Assn Mo 33:10+ S '51

Opportunity unlimited. F. M. Foster. Am Gas Assn Proc 1950:230-2; Same. Gas Age 106: 24-6 N 9 '50

Opportunity unlimited. I. L. Muntz. Am Gas Assn Proc 1950:233-4; Same. Gas Age 106: 26+ N 9 '50

Opportunity unlimited. C. H. Rippe. Am Gas Assn Proc 1950:228-30; Same cond. Gas Age 106:22-4 N 9 '50; Same cond. Am Gas Assn Mo 32:24-6+ D '50

Residential gas section set for '51. C. H. Horne. Gas Age 107:32-6+ Ja 4 '51

Residential plans ready for action. Am Gas Assn Mo 33:34-7+ Ja '51

What's new in home laundering. H. W. Kendall. Gas Age 107:28-9+ Mr 1 '51

Safety measures

Customer service responsibility is spelled out in New York city. H. W. Springborn. Gas Age 108:56-60+ O 11 '51

Gas scare; New York starts check of appliances. Bsns W p26 My 5 '51

Servel launches program to replace obsolete models in New York. Am Gas J 175:16 S '51

GAS as fuel

Chemical progress during the 75 years of the American chemical society; gas and fuel chemistry. A. C. Fieldner, A. W. Gauger and G. R. Yohe. bibliog il Ind & Eng Chem 43:1039-48 My '51

Effect of the components of fuel gases on burner flame characteristics and interchangeability. L. Shnidman and J. S. Yeaw. Am Gas Assn Proc 1950:452-75

Equipment performance and fuel cost in our industrial economy. F. O. Hess. Am Gas Assn Proc 1950:210-14; Same. Gas Age 106: 28-31 N 23 '50; Excerpt. Am Gas J 173:36 N '50

Formulas and graphs for representing the interchangeability of fuel gases. E. R. Weaver. bibliog J Res Nat Bur Stand 46:213-45 Mr '51; Abstracts. Chem & Eng N 29:3356-7 Ag 13 '51; Heat & Ven 48:71 Jl '51

Gas ready to play major defense role. Am Gas Assn Mo 33:27-8 Ja '51

Interchangeability; a review. E. L. Hall and E. J. Weber. Am Gas J 175:43 Ag '51

Interchangeability limits charted for various gases. il Am Gas Assn Mo 33:16-17 F '51

Oil and gas trends in warm air heating. C. H. Burkhardt. maps Sheet Metal Worker 42:45-50 My '51

Using the Rochester test burner to predict the interchangeability of fuel gases, manufactured or natural. L. Shnidman and J. S. Yeaw. il diags Am Gas Assn Proc 1950:603-38

Utilizing sludge gas at Los Angeles. il Pub Works 82:58+ Ag '51

See also

Blast furnace gas
Boilers—Gas firing
Butane
Coke oven gas
Gas appliances, Domestic
Gas burners
Gas cooking
Gas heaters
Gas heating
Gas heating, Industrial
Gas stoves
Liquefied petroleum gas
Propane
Sewage sludge—Gas production

Natural gas

Clamp-down on gas; shortage of line pipe leads PAD to issue orders banning acceptance of new customers. Oil & Gas J 50:62 Jl 12 '51

Conversion creates operating problems for service departments. R. H. Bussard. Am Gas J 173:13-16+ N '50; Same. Gas Age 106:54-6+ O 26 '50; Same. Am Gas Assn Mo 32:20-3+ D '50; Same. Am Gas Assn Proc 1950:365-72

Conversion to gas provides storage space as well as economical operation. R. G. Hartman. il Brick & Clay Rec 119:33 Ag '51

Conversion to natural gas. R. J. Horn. il maps diags Gas Age 107:19-25+ Ja 18 '51

Detroit Diesel converted to gas. il Diesel Power 29:51 My '51

Efficient combustion of natural gas. E. M. Bingham. il Power Eng 55:91-2 Je '51

57 New England gas properties tell plans for use of natural gas. H. F. Weeks. map Am Gas J 174:19-21+ My '51

Gas burning Diesel cuts power cost 50 per cent; Elkhorn municipal power plant. A. J. Wolff. il Power Eng 54:71-3 N '50

How can we fill summer valleys? J. F. Oates, jr. Am Gas Assn Mo 32:18-20+ N '50; Same abr. Gas Age 106:42-4+ D 7 '50

How dual-fuel engines help balance Oklahoma Natural Gas load. W. C. Grant. il Gas Age 107:15+ Je 7 '51

Interchangeability studied for oil and natural gas. il Am Gas Assn Mo 33:21 Mr '51

Intermitter installation conserves low-pressure fuel gas. il World Oil 133:220 Ag '51

More natural gas makes more power for more aluminum for defense; Aluminum co. of America. A. Q. Smith. il plan Gas Age 107: 35-7+ Ap 12; 67-70+ Ap 26 '51; Excerpt. Light Metal Age 9:8-10 Ap '51

Natural for industry. F. T. Rainey. Am Gas Assn Proc 1950:248-9

Natural gas comes of age. S. M. Crocker. Am Gas J 174:21-2 Ap; 17-19+ Je '51

GAS as fuel—Natural gas—*Continued*

Natural gas forging new spirit of unity; discussion on Problems of management connected with introducing natural gas into manufactured gas systems. Am Gas Assn Mo 32:12-14+ N '50

Natural gas in relation to national defense. P. Kayser. Pet Eng 23:D31-2+ Je '51, Same cond. Pub Util 47:714-16 My 24 '51; Same cond. Am Gas Assn Mo 33:8-10 Je '51

Natural gas is year-round fuel for Nation's richest school. il Gas Age 108:49-50 Jl 19 '51

Natural gas; scarce steel holds the key to its immediate further growth. A. Glenn. Barron's 31:7-8 Je 4 '51

Natural gas, versatile fuel, serves huge new hospital; Baylor hospital, Dallas. W. C. Grant. il Gas Age 108:32+ Ag 30 '51

New engine uses natural gas. Steel 128:116 Je 25 '51

New England holds forum on natural gas. Am Gas Assn Mo 33:38-9 My '51

Ponca City reports fuel bill cut with gas Diesel. P. Schlesinger. il Diesel Power 29:50-2 S '51

Purging gas piping at Hell Gate station; Consolidated Edison co. C. J. Smith. plan Am Gas Assn Mo 33:19-20 Mr '51

Simultaneous firing of Midwest coal and natural gas. diags Power Eng 55:80-1 Ag '51

Trinidad utilizes waste gas for pumping power. il World Oil 131:300 N '50

Using the Rochester test burner to predict the interchangeability of fuel gases, manufactured or natural. L. Shnidman and J. S. Yeaw. Am Gas Assn Proc 1950:635-8

What oil jobbers think about gas competition. J. Barton. Nat Pet N 43:38-9 F 14 '51

Testing

ASTM standards on gaseous fuels. 136p pa $1.75 Am. soc. for testing materials. 1916 Race st, Philadelphia 3 '51

GAS bubbles. See Bubbles

GAS burners

Blowoff of flames from short burner ports. C. W. Wilson and N. J. Hawkins. bibliog diags Ind & Eng Chem 43:2129-35 S '51

Effect of gas composition on pre-mixer performance and the resulting pre-mix combustion characteristics. E. X. Schmidt. diags Am Gas Assn Proc 1950:715-20

Effect of the components of fuel gases on burner flame characteristics and interchangeability. L. Shnidman and J. S. Yeaw. Am Gas Assn Proc 1950:452-75

Flare stack ignition devices. O. L. Clevenger and W. A. McElhannon. il diag Pet Eng 23:C21-2 My '51

Formulas and graphs for representing the interchangeability of fuel gases. E. R. Weaver. bibliog J Res Nat Bur Stand 46:213-45 Mr '51

Gas and oil combustion equipment for the clay products industry. E. R. Brooks, jr. il diags Brick & Clay Rec 117:36-7+ D '50; 118:68-70 Ja '51

Gas burner controls. C. W. Nessell. diags Sheet Metal Worker 41:69+ Je; 70+ Jl; 76-8+ Ag; 82+ S; 42:78-9+ O; 77+ N; 55-6+ D '50; 98+ Ja; 59-60 My; 62-4 Je; 77-8 Jl; 73-5 Ag '51

Gas-fired boilers and gas conversion burners. il Consumers Res Bul 27:17-23 My '51

Let's go after replacement business in the home heating market. G. M. Smith. Gas Age 106:19-20+ N 9 '50

Power burner firing for heavy-duty cooking. il Am Gas Assn Mo 33:22-4 Mr '51

Specialized types of burners and phases of burner design. il diags Am Gas Assn Mo 33:15-17 Ap '51

Techniques for installing gas conversion units. il diags Dom Eng 176:135-6+ N '50

Three conferences help New England prepare for natural gas. Gas Age 108:47-8+ Jl 19 '51; Same abr. Am Gas Assn Mo 33:29-30+ Jl-Ag '51

Using the Rochester test burner to predict the interchangeability of fuel gases, manufactured or natural. L. Shnidman and J. S. Yeaw. il diags Am Gas Assn Proc 1950:603-38

Ignition devices

Automatic lighter for gas oven burners. il diag Machine Design 23:118-19 S '51

Flash tube ignition has advantages to keep gas ranges gas. C. S. Hazel. diags Am Gas J 174:23-6+ Je '51; Same cond. Gas Age 108:19-22+ Ag 2 '51

Range ignition field test; where it stands today. E. A. Jahn. Gas Age 108:23+ Ag 2 '51

Thermocouple type automatic ignition systems analyzed. L. J. Kane. diags Am Gas Assn Mo 33:22-3+ Jl-Ag '51

Noise

Mineral wool on burner lines cuts annoying gas shriek. il Gas Age 108:43 Ag 16 '51

Testing

Gases for supplementing natural gas in Milwaukee. E. C. Brenner. diags Am Gas Assn Proc 1950:332-47; Same. Am Gas Assn Mo 32:9-13+ D '50; Same cond. Gas Age 106:31-6+ N 9 '50

GAS burning equipment

See also

Gas heaters

Gas heating, Industrial

Gas water heaters

Testing

City code requirements for combustion testing of central gas heating equipment. G. R. Gardner. il Sheet Metal Worker 42:40-3 D '50; 94-6 Ja; 64+ F '51

GAS cleaning

Aerosol build-up techniques. F. Fahnoe, A. E. Lindroos and R. J. Abelson. flow diag il diags Ind & Eng Chem 43:1336-46 Je '51

See also

Blast furnace gas—Cleaning

Gas purification

Venturi scrubbers

GAS companies

Industry honors top achievement. Am Gas Assn Mo 32:24-6+ N '50

See also

Gas industry

also names of companies, e.g. Brooklyn union gas company; Southern union gas company

Accidents

Companies cited for accident reductions. Am Gas Assn Mo 32:45 N '50

Employee accidents at postwar low. Am Gas Assn Mo 33:7+ My '51

Frequency and severity are accident criteria. W. H. Adams. Am Gas J 175:12+ Ag '51

Accounting

Accountants plan for profits. Am Gas Assn Mo 33:24-6+ Ja '51

Accounting for pipe, poles, etc. J. A. Williams. il Am Gas Assn Mo 33:16-18+ My '51

Advanced thinking in plant accounting. H. F. Carey. Am Gas Assn Proc 1950:160-3

Budgeting and rate making. F. Denier. Am Gas Assn Proc 1950:175-8

Coordination for depreciation study. J. Rachor. Am Gas Assn Mo 33:11-12+ S '51

Dollar sales rise again during 1950; semiannual survey of the Credit picture conducted jointly by American gas association and Edison electric institute. Am Gas Assn Mo 33:11+ My '51

Five types of accounting problems in converting to natural gas. L. C. Peters. Gas Age 106:18-22+ D 21 '50

Looking back and looking ahead with the accountants. A. A. Cullman. il Gas Age 107:27+ Ja 4 '51

Material in motion. O. G. Peterson. Am Gas Assn Proc 1950:172-4

National conference of gas and electric utility accountants, Chicago, April 23-25. Am Gas Assn Mo 33:20-3+ Je '51

Responsibility of the internal auditor. J. D. Hogan. Am Gas Assn Mo 33:25-6 Jl-Ag '51

Southern California Gas modernizes pay roll with machine equipment. S. E. Johnson and J. K. Windsor. il Am Gas J 174:15-16 Mr '51

Southern California Gas uses teletype to speed customer billing. A. Rohman. il Am Gas J 174:23 Ja '51

GAS companies—*Continued*

Appliance selling

Get it done in '51; Calapco sales program. Gas Age 107:15-16+ Mr 29 '51

Lone Star begins six-month drive to sell more appliances. W. C. Grant. Gas Age 108:15+ Ag 2 '51

State legislatures reject anti-merchandising laws. Gas Age 108:88 O 11 '51

When you spot the need, turn in a lead! Philadelphia gas works co. encourages employees to turn in leads for appliance sales. F. H. Trembly, jr. Gas Age 107:55 Mr 15 '51

Buildings

How Lone star gas co. solved difficult air conditioning problem. F. L. McFadden, jr. il Gas Age 107:56-8+ My 24 '51

Southern union gas co. midway in $14,000,000 expansion program. il Gas Age 107:58-9 Ap 26 '51

Costs

Gas companies spending five per cent more for advertising this year. Gas Age 108:37-8 Jl 19 '51

Pipeline construction increasing; gas utility construction expenditures. Am Gas Assn Mo 33:13-14+ Jl-Ag '51

Customer relations

Collecting money can be done sensibly with tact and understanding. C. L. Havener. Am Gas J 173:23+ D '50

Collection policy your customer will buy. C. L. Havener. Am Gas Assn Proc 1950: 192-4; Same. Am Gas J 173:23+ D '50

Credit and collection experience of United States electric and gas industries; first six months of 1950 as compared with the first half of 1949. Edison Elec Inst Bul 18: 382 O '50

Credit and collection policies relative to gas space heating business. G. A. Borgo and A. B. Russell. Gas Age 106:48+ D 7 '50

Morale, target for defense. C. L. Digiovanni. Am Gas Assn Mo 33:23-4+ Ap '51

Why 900,000 customers are happy; Peoples gas light and coke co. W. Norris. il Am Bsns 20:18-19+ N '50

Dealer relations

How 18 expert salesmen work for each dealer in Portland. C. Matthews. il Gas Age 108:36-7+ S 27 '51

How home service can train dealer salesmen. D. Dean. Gas Age 107:34-5+ F 1 '51

How Peoples natural gas co. stimulates dealer range sales. R. L. Pijanowski. il Gas Age 108:49-50 S 13 '51

How the smaller gas company runs an old stove round-up. H. Gest. il Gas Age 108: 32+ Ag 2 '51

Use all assets to sell heating. E. A. Norman, jr. Gas Age 107:17-18+ Mr 1 '51

Development work

Broiler raising project creates good will. Gas Age 107:70 Ap 26 '51

Emergency problems

Teamwork licks gas outtage; Northern natural gas co. il Am Gas Assn Mo 33:16-17+ S '51

Texans prove that crisis breeds unity; Swift action by Lone Star employees when pipe line breaks. K. Foree. il Am Gas Assn Mo 33:18-19 Ap '51

Employees

Disability panel and sick absence controls of the Consolidated Edison company of New York. D. S. Sargent. Am Gas Assn Proc 1950:61-73

Evaluation of operating performance and personnel by internal auditor. A. J. Gregory. Am Gas Assn Mo 33:26-8 Jl-Ag '51

Gas service co. rewards employees for flood heroism. Gas Age 108:41 S 27 '51

Gas utilities; wage structure, Sept. 1950. L. E. Lewis. Mo Labor R 72:668-72 Je '51

Importance of the supervisor in an employee relations program. L. A. Brandt. Am Gas Assn Proc 1950:815-18

Incentive to Vote plan undertaken by Seattle gas co. and unions. Am Gas J 173:35 D '50

Modern fire fighting practices; Pittsburgh Group gas companies are being trained to fight fire. W. E. Muldrew. il Gas Age 107:38-9+ F 15 '51

Morale, target for defense. C. L. Digiovanni. Am Gas Assn Mo 33:23-4+ Ap '51

Scientific hiring fo appliance servicemen. A. R. Laney, jr. il Am Gas Assn Mo 33:14-16 Ja '51

Study made of wage and benefit policies of 17 gas utility companies. Am Gas J 174:22 Ap '51

Training ground for management personnel. E. R. Mellon. Am Gas Assn Mo 33:28+ Jl-Ag '51

Tune to employee wave lengths. E. I. Bjork. Am Gas Assn Mo 32:14-17+ D '50; Same. Am Gas Assn Proc 1950:163-8

Utilities and freedom; private utilities are a bulwark for freedom; pass the word to employees. H. E. Stassen. Am Gas Assn Mo 32:11+ N '50

Value for your wage dollar. J. L. Otis. Am Gas Assn Proc 1950:97-100

Weigh your waits; possible ways of utilizing spare time of customer contact employees. G. E. Curtis. Am Gas Assn Proc 1950:184-91

When you spot the need, turn in a lead! Philadelphia gas works co. encourages employees to turn in leads for appliance sales. F. H. Trembly, jr. Gas Age 107:55 Mr 15 '51

Equipment and supplies

Compressed air drilling replaces trench work in laying services. E. C. Powers. il Am Gas J 175:15-16 Jl '51

Extension policies

Policies for extension of gas service to fringe areas. D. S. Martin. Am Gas Assn Proc 1950:858-60

Finance

Gas industry's huge expansion program. O. Ely. Pub Util 48:112+ Jl 19 '51

Gas utility financing sets record. Am Gas Assn Mo 33:12-13+ F '51

Insurance requirements

Direct damage insurance. W. C. Dietzel. Am Gas Assn Proc 1950:92-6

Executive and casualty insurance. R. Shipman. Am Gas Assn Mo 32:5-6+ D '50

Insurance and its effect on utility operations. C. F. Smith. Am Gas Assn Mo 33:13-14+ Ap '51

Law

Contract and sale legalities are problem to gas corporations. L. T. Parker. Am Gas J 174:31-2+ Ap '51

Courts decide rights and wrongs of rate regulation. L. T. Parker. Am Gas J 174:31-2+ Ja '51

Higher court decisions cover matters of interest to utilities. L. T. Parker. Am Gas J 175: 21-2+ Ag '51

Independent contractor seems sensible solvent to utility problems. L. T. Parker. Am Gas J 175:17-18+ Jl '51

Public liability considerations involved in utility-contractor relationship. M. Springer. bibliog Am Gas J 174:19-21 Mr '51

Sellers may recover expected profits in breach of contract cases. L. T. Parker. Am Gas J 173:27-8+ N '50

State statute is necessary for lien to secure payment for gas. L. T. Parker. Am Gas J 174:19-20+ F '51

Variety of gas legal problems involved in 1950 higher court decisions. L. T. Parker. Am Gas J 174:22-3+ Mr '51

See also
Gas, Natural—Laws and regulations

Management

Brooklyn Union has experienced four benefits from clerical control. J. G. Reynolds. Gas Age 107:36-7+ F 15 '51

How Minneapolis built its natural gas sales. H. K. Wrench. il Gas Age 106:32-8+ N 23 '50

Organizing a distribution operations department. J. L. Joachim. Gas Age 106:16-17+ D 21 '50

GAS companies—Management—*Continued*

Why endorse the backs of checks? Oklahoma natural gas co.'s work simplification program. E. Whitmore. il Am Bsns 21:18-19+ My '51

Offices

What to do if employees complain of lighting fixtures in office; Council Bluffs gas co. P. Eastman. il Am Bsns 21:26 Ja '51

Public relations

Atlantic City's unique public relations meets freak changeover disruption. V. F. Stanton. Am Gas J 174:11-14 Mr '51

How Cincinnati Gas and Electric attracts million visitors a year. E. C. Hanford. il Gas Age 108:15-18+ Jl 5 '51

How Southern California won national public relations prize. J. T. Van Rensselaer. il Gas Age 106:13-15+ D 21 '50

How to merchandise your annual report. H. G. Smith. Am Gas Assn Mo 33:20-2+ Ap '51

Public relations begin with the housewife. R. S. Kerr. Pub Util 46:859-61 D 21 '50

Utility fosters community relations; Central Hudson gas and electric corp. il Am Gas Assn Mo 33:8-9+ S '51

Waiting audience; we, the people; Los Angeles gas management documentary film of big pipeline. J. H. Collins. Pub Util 47: 86-91 Ja 18 '51

Radio communication

Communication system speeds up customer service operations for the Public service co. of northern Illinois. il Gas Age 107:52+ Mr 15 '51

Radio communication base station installed at Binghamton. A. B. Lauderbaugh. diag Gas Age 107:50+ Ap 26 '51

Southern California expands radio facilities to link entire transmission system. H. J. Keeling. il Am Gas J 175:13-14 Ag '51

Records

Protect your vital records. il Am Gas Assn Mo 33:13-16+ Mr '51

Regulation

Current trends in state and federal regulation of gas and electric utilities. R. J. LeBoeuf, jr. bibliog Pub Util 46:612-19 O 26 '50

New York Public service commission approves merger to avoid duplicate regulation. Am Gas J 174:38 Mr '51

Safety measures

Accidents, almost. G. A. S. Cooper. Am Gas Assn Proc 1950:480-2

Accidents can cripple your manpower reserves. il Am Gas Assn Mo 33:2-7+ F '51

Employee wrinkles help safety crusade. il Am Gas Assn Mo 33:17-18 Mr '51

Gas industry campaigns for safety. W. H. Adams. Pub Util 47:479-83 Ap 12 '51

New safety honor for Ohio Fuel. Am Gas Assn Mo 33:7-8+ Ap '51

Safe operation and maintenance of automotive fleets. W. O. Schmid. Gas Age 106: 40-1+ D 7 '50

Safe operation of automotive fleets; Consolidated Edison co. W. F. Brown. Gas Age 107:32-4+ Ap 12 '51

Safety conference sponsored by Accident prevention committee of American gas association, Kansas City, Sept. 17-18. Am Gas Assn Mo 33:2-4+ O '51; Gas Age 108:100 O 11 '51

Safety is no accident. G. L. Calderwood. il Am Gas J 175:19-21 Jl '51

Safety means survival. W. H. Adams. Am Gas Assn Mo 33:11-13 Ja '51

Salesmen

How three star salesmen won refrigerator contest prizes; Southern union gas co. Gas Age 107:19+ Mr 1 '51

Securities

Dynamic natural gas industry; with statistical summary of companies. E. A. Barnes. Mag of Wall St 87:128-9+ N 4 '50

Index of yields; selected utilities stocks. Am Gas J 174:33-4 Ja '51 [cont monthly]

Outlook for utility earnings under pressure of mounting taxes; with data on leading companies. E. A. Barnes. Mag of Wall St 87:559-61+ F 24 '51

Prospect for natural gas; with statistical summary of companies. H. L. Blackburn. Mag of Wall St 88:252-3+ Je 2 '51

Recent financial data on gas company stocks. Pub Util 47:49 Ja 4 '51 [cont monthly]

Record volume of security issues attests gas industry growth. Gas Age 107:58+ Mr 15 '51

See also

Gas, Natural—Pipe lines—Finance

Service

Communication system speeds up customer service operations for the Public service co. of northern Illinois. il Gas Age 107:52+ Mr 15 '51

Conversion creates operating problems for service departments. R. H. Bussard. Am Gas J 173:13-16+ N '50; Same. Gas Age 106: 54-6+ O 26 '50; Same. Am Gas Assn Mo 32:20-3+ D '50; Same. Am Gas Assn Proc 1950:365-72

Effect of the new heating load; customers service policy in Chicago. J. G. White. il Am Gas Assn Mo 33:4-6+ My '51

Fifteen questions and answers on installation and service policies; table. Gas Age 108: 38-41 S 13 '51

Home service workshop offers true training course theme. Gas Age 107:30-2+ F 1 '51; Am Gas Assn Mo 33:8-10+ F '51; Am Gas J 174:34+ F '51

How home service can train dealer salesmen. D. Dean. Gas Age 107:34-5+ F 1 '51

Importance of a good service-call analysis. G. B. Johnson. Am Gas Assn Mo 33:18-20+ Jl-Ag '51

New customer service policy benefits Southern California. N. W. Hartleben. Gas Age 108:21-3+ Jl 5 '51

Oklahoma Natural Gas simplifies bill payment. Gas Age 107:66 Ap 26 '51

Opportunity unlimited. I. L. Muntz. Am Gas Assn Proc 1950:233-4; Same. Gas Age 106: 26+ N 9 '50

Philadelphia Gas Works now repairs refrigerator units. il Am Gas J 174:14-16 F '51

Should we charge customers for services performed at their homes and what do we find when we go from manufactured to natural gas? H. C. Smith. Am Gas Assn Proc 1950:194-8

Study of methods of taking and dispatching customer service orders. S. E. Critchfield. Am Gas Assn Proc 1950:804-11

Versatile home service; illustrations with text. Am Gas Assn Mo 33:22-3 Ja '51

What home service can do to help sales. C. H. Horne. Gas Age 107:33-4 F 1 '51; Same. Am Gas Assn Mo 33:11-12+ F '51

What industrial gas men can do in the national emergency. J. P. Leinroth. Gas Age 107:30-1+ Je 7 '51

Where we found apprentices for district work. S. Herndon. Gas Age 107:36+ F 1 '51

Why we hold conferences for school teachers. A. S. Mixter. Gas Age 107:35-6 F 1 '51

Stores systems

Accounting for pipe, poles, etc. J. A. Williams. il Am Gas Assn Mo 33:16-18+ My '51

Material in motion. O. G. Peterson. Am Gas Assn Proc 1950:172-4

Taxation

Excess profits tax versus gas and electric utility industries. Pub Util 46:690-5 N 9 '50

Why a defense emergency tax should wipe out excise taxes. L. Ruthenburg. Gas Age 108:20-2+ Ag 30 '51

War measures

A-bomb exercise alerts gas company defenses. il Am Gas Assn Mo 33:12-13+ My '51

Defense, and how; Philadelphia gas works co. C. G. Simpson. il Gas Age 106:23-6+ N 23 '50

Defense notes; activities of A.G.A. defense group designed to mobilize gas industry's resources behind the preparedness program. Am Gas Assn Mo 33:7 Ja '51

GAS companies—War measures—*Continued*
- Five things gas men should do in the war emergency. J. F. Robinson. Gas Age 107: 61-6+ Ap 26 '51
- Four steps for defense; Brooklyn union gas co. Gas Age 107:14+ Mr 29 '51
- How well is your company protected? il plans Am Gas Assn Mo 33:2-6+ Ja '51
- Protect your vital records. il Am Gas Assn Mo 33:13-16+ Mr '51

GAS compressors
- Application of centrifugal gas compressors. C. T. Chapman. il diags Pet Eng 23:D9-12+ Ap '51
- Built-in pulsation dampener provided in compressor piping system at Richfield's new Cuyama plant. D. H. Stormont. il Oil & Gas J 49:172-3 F 22 '51
- Centrifugal compressors in operation at Seeligson operators' plant. D. T. McDonald. il diag Pet Processing 6:622-5 Je '51; Same cond. Oil & Gas J 50:246+ Jl 26 '51
- Compressor engine cylinder head lifter developed. il Gas Age 107:42 Ap 12 '51
- Development of air and gas compressing plant. E. S. Legat. diags Inst Mech Eng Proc 162 no 4:468-71, pl 1-2 '50
- Gas compressors; work of isentropic compression. J. Joffe. bibliog Chem Eng Prog 47:80-2 F '51
- Maintenance facilities in gasoline cycling plants. H. Givens. il Pet Refiner 30:77-80 Ap '51
- Modern trends in application of centrifugal gas compressors. C. T. Chapman. il diags Am Gas Assn Proc 1950:728-40; Excerpts. Comp Air Mag 56:7-10 Ja '51
- Moving a 50-ton compressor 91 miles. il Oil & Gas J 49:148 F 22 '51
- Preventive maintenance for engines and compressors. R. S. Ridgway. il diags Pet Refiner 30:64-70 Ap '51
- Should the suction pressure come down to zero on the CO_2 compressor? J. M. Gorrie. Power Eng 54:87-8 D '50
- Simple design of Coalinga Nose compressor plant provides vibration-free compressor piping. il diags Oil & Gas J 50:82+ Jl 5 '51
- Speed control and synchronization of multi-unit internal combustion engine plants. H. C. Givens. il diags Instruments 23:1244-7 D '50; Same abr. Oil & Gas J 49:69-70+ Mr 1 '51
- Turbo-machinery in the gas industry. T. P. Latimer. il diags Pet Eng (Ref annual) 23:D16+ Jl 15 '51

See also
Gas, Natural—Pipe lines—Compressor stations

Control
- Compressor station automatic shutdown control. E. Sterrett. il World Oil 131:243-5 N '50
- Control of gas compressor plants. H. C. Givens. diags Pet Refiner 30:95-8 Ja '51

Cooling
- Dry-cooling vs. water-cooling at compressor stations. H. E. Degler. flow diags il Gas Age 108:29-31 Ag 2 '51
- Individual drive cooling units. il World Oil 132:193 Ja '51
- Meeting cooling water problems; gas conversion plant of Long Island lighting co. il Gas Age 107:60+ Ap 26 '51; Same. Am Gas J 174:34 Je '51

Design
- Compressor and expander design; temperature change for reversible polytropic paths. W. C. Edmister. bibliog Chem Eng Prog 47: 191-8 Ap '51

Lubrication
- Cooling tower spray water cools lube oil. R. D. Ricketts. flow diag il World Oil 132:215-16 My '51
- Pipe line compressor lubrication and maintenance. O. H. Moore. diags Gas Age 106: 23-7+ D 21 '50; Same. flow diags Pet Eng 23:D5-8+ S '51

Maintenance and repair
- Maintaining compressor equipment; metalizing a valuable process. F. H. Love. il Pet Eng 23:D19-20+ Jl '51
- Metalizing improves compressor station operation. il Gas Age 107:38+ F 1 '51

Manufacture
- Designing and machining high-speed mixed-flow compressor impellers. H. Woodhouse. il diags Mach 57:152-60 F '51

GAS containers

Manufacture
- Automatic welding on propane tanks. C. G. Herbruck. il Welding J 30:268 Mr '51
- One draw reduces 40-in. diameter blank 66 per cent; manufacture of liquefied petroleum gas cylinders. G. Elivers. il diags Iron Age 167:55-8 Ja 18 '51

GAS cooking
- Data published on cooking tests at Southern Methodist university. Am Gas Assn Mo 33: 12+ Jl-Ag '51
- Demonstration proves gas cooking is better. D. W. Frye. Gas Age 107:30 Mr 1 '51
- Foreign foods come to Kansas. C. Avery. il Gas Age 107:17 Mr 29 '51
- Gas versus electric cooking; Equitable gas co. K. L. Barnes. il Am Gas J 174:17-18 Mr '51
- Power burner firing for heavy-duty cooking. il Am Gas Assn Mo 33:22-4 Mr '51
- What pans out in baking. I. A. McGovern. Am Gas Assn Proc 1950:257-9
- World's largest baking contest is an all-gas promotion. il Gas Age 107:38-9 My 10 '51; Am Gas Assn Mo 33:34 My '51

Cost
- How to save $163.68 every year with an automatic CP range. E. C. Sorby. Gas Age 107: 28-9+ Je 7 '51

GAS detectors
- Analyzers guard pumping stations, save space. il Power 95:103 F '51
- Combustible gas indicator fits limited space. il diags Product Eng 22:232 My '51
- Gas leak detection practices. F. P. Mueller. Am Gas Assn Proc 1950:639-46; Same. Am Gas J 174:21-3+ F '51
- Leaded gasoline cannot poison gas indicator. il diag Product Eng 22:186 F '51

GAS distribution
- Chemical effect of gas changes on diaphragms. H. Laudani. Gas Age 107:22-4+ F 1 '51
- Derivation of maximum day and maximum hour factors. G. A. S. Cooper. Am Gas Assn Proc 1950:861-71
- Distribution conference, Memphis, April 16-18. Gas Age 107:48-50+ My 24 '51
- Elements of gas pressure regulators. R. C. Lisk. il diags Am Gas J 175:27-30 Ag '51
- Gas distribution construction costs can be reduced. R. E. Haun. Am Gas J 175:23+ S '51
- How Brooklyn Union designed airport gas distribution system. il plan Gas Age 108: 78-81 O 11 '51
- How Detroit upped distribution for 150,000 new heating jobs. J. C. Taylor. map Gas Age 107:59-60+ My 24 '51
- How Southern California employs telemetering and remote control. A. C. Alter. il Gas Age 108:42-5+ S 13 '51
- How Southern Union expanded transmission and distribution systems. F. Kutnewsky. il Gas Age 108:68-70+ O 11 '51
- Humidifying and oil fogging experience related by NY & Richmond. B. F. Rogan and J. V. Turpish. Am Gas J 173:31-2+ D '50; Same. Gas Age 106:35-6+ D 7 '50
- Latest method of leakage control in distribution. C. D. Taft. Gas Age 106:50+ D 7 '50
- Management's attitude toward a corrosion control program. R. B. Wilson. Am Gas Assn Proc 1950:328-31; Same. Gas Age 106: 38-40+ N 9 '50
- Organizing a distribution operations department. J. L. Joachim. Gas Age 106:16-17+ D 21 '50
- Peak shaving at Lincoln, Nebr. M. G. Cook. il Gas Age 106:38-9+ D 7 '50
- Transcontinental's Linden station controls eastern operations. W. F. Palmer, jr. il Gas Age 108:36+ Jl 19 '51

GAS distribution—*Continued*

Various combinations of gases. Gas Age 107:25-6+ Mr 29 '51

See also

Gas, Natural—Pipe lines

Gas leakage

Gas mixing

Gas pipes

Change over

Atlantic City's unique public relations meets freak changeover disruption. V. F. Stanton. Am Gas J 174:11-14 Mr '51

Changeover gas conditioning. C. E. Utermohle. Am Gas Assn Mo 33:7+ S '51

Con Edison turns on the gas in Westchester county. il Bsns W p 108-10+ Je 23 '51

Conversion creates operating problems for service departments. R. H. Bussard. Am Gas J 173:13-16+ N '50; Same. Gas Age 106:54-6+ O 26 '50; Same. Am Gas Assn Mo 32:20-3+ D '50; Same. Am Gas Assn Proc 1950:365-72

Conversion to natural gas. R. J. Horn. il maps diags Gas Age 107:19-25+ Ja 18 '51

Conversion to 1015 B.t.u. gas at Lynn. H. E. Ayer. Gas Age 107:24-6+ Mr 1 '51

Economics of changeover mapped; American gas association economics committee 1st conference, Boston, May 17; panel discussion. Am Gas Assn Mo 33:7-9+ Jl-Ag '51

Experience with complete replacement of natural gas sendouts. F. D. Howell. map Am Gas Assn Proc 1950:647-51; Same. Gas Age 105:21-2+ Je 8 '50; Same. Am Gas J 173:23+ Jl '50

Five types of accounting problems in converting to natural gas. L. C. Peters. Gas Age 106:18-22+ D 21 '50

Gas conditioning; how oil fogging and steam saturation may help correct dust complaints or high leakage. J. H. Erwin. plan diags Gas Age 107:29-30+ F 15 '51

Guide covering changeover practices summarizes experiences. J. V. Turpish and others. Am Gas J 174:38+ My '51; Same. Gas Age 107:51-5+ My 24 '51

How Minneapolis built its natural gas sales. H. K. Wrench. il Gas Age 106:32-8+ N 23 '50

Interchangeability of gases. H. M. Henry. Gas Age 106:36-42+ O 12 '50; Same. Am Gas J 173:27-8+ O; 31-4+ N '50

Meter department conversion problems in small companies. J. M. Pickford. Gas Age 107:40-2+ F 15 '51

Natural gas forging new spirit of unity; discussion on Problems of management connected with introducing natural gas into manufactured gas systems. Am Gas Assn Mo 32:12-14+ N '50

Preparations for natural gas change-over as made by Brooklyn Union; illustrations with text. Am Gas J 175:23-6 Jl '51

Problems of management connected with introducing natural gas into manufactured gas systems; panel discussion. Am Gas Assn Proc 1950:146-53

Should we charge customers for services performed at their homes and what do we find when we go from manufactured to natural gas? H. C. Smith. Am Gas Assn Proc 1950:194-8

Three conferences help New England prepare for natural gas. Gas Age 108:47-8+ Jl 19 '51; Same abr. Am Gas Assn Mo 33:29-30+ Jl-Ag '51

Costs

Cost of various gases. Gas Age 107:26-9+ Ja 18 '51

Long distance lines

See also

Gas, Natural—Pipe lines

GAS engineering

A.G.A. production and chemical conference, New York, May 14-16. Am Gas Assn Mo 33:27-32+ Je '51; Gas Age 107:41-3+ Je 21 '51

News from the European gas press. L. T. Minchin. bibliog Gas Age 106:33-4+ D 7 '50; 107:53-4+ Mr 15; 108:16-18+ Ag 2 '51

Technical advances in the gas industry during one hundred years; abstracts. F. M. Birks. Engineering 172:39 Jl 13 '51; Engineer 191:800 Je 15 '51; Discussion. Engineering 172:39-40 Jl 13 '51

See also

Gas distribution

Gas heating

Gas manufacture

Gas pipes

Gas works

Power gas corporation

GAS engines

Design features of the Nordberg radial engine. D. I. Bohn and E. Grieshaber. il diags A S M E Trans 73:795-800 Ag '51; Same abr. Diesel Power 28:46-50 Jl '50; Abstract. Machine Design 23:166-7 Mr '51; Discussion. A S M E Trans 73:800-2 Ag '51

Gas auto engine. Mech Eng 73:422-3 My '51

Maintenance facilities in gasoline cycling plants. H. Givens. il Pet Refiner 30:77-80 Ap '51

Natural gasoline; today's equipment; multicylinder gas engines; abstract. J. W. Tucker. Pet Processing 5:1323-4 D '50

New engine uses natural gas. Steel 128:116 Je 25 '51

Power handbook; Diesels and gas engines. L. N. Rowley, comp. Power 95:94-5 Jl '51

Preventive maintenance for engines and compressors. R. S. Ridgway. il diags Pet Refiner 30:64-70 Ap '51

Starting and maintaining gas engines. J. C. Albright. il Pet Refiner 30:115-17 S '51

Three pumping units operated by one engine. J. C. Albright. il Pet Eng 23:B32+ F '51

See also

Electric plants (central stations)—Gas engine stations

Power plants—Gas engine plants

Control

Automatic shutdown and vent controls for gas engines. R. H. Dale. diag World Oil 132:228 Je '51

Cooling

Auxiliary radiator cools gas engine. il World Oil 132:146 Je '51

Superchargers

Supercharged four-cycle gas engine. R. L. Boyer. il diags World Oil 131:230+ N '50; Power 95:110-13 F '51

GAS flow

Application of the analogy between water flow with a free surface and two-dimensional compressible gas flow. W. J. Orlin and others. bibliog il diags U S Nat Advisory Com for Aeronautics 1947:311-28 '50

Compressible supersonic flow in jets under the Kármán-Tsien pressure-volume relation. N. Coburn. bibliog diags J Ap Phys 22:124-30 F '51

Critical conditions of two-phase flow in packed columns. B. J. Lerner and C. S. Grove, jr. bibliog diags Ind & Eng Chem 43:216-25 Ja '51

Determination of particle density of crushed porous solids; gas flow method. S. Ergun. bibliog Anal Chem 23:151-6 Ja '51

Droplet transfer from suspending air to duct walls. L. G. Alexander and C. L. Coldren. bibliog il diags Ind & Eng Chem 43:1325-31 Je '51

Effective thermal conductivity of granular solids through which gases are flowing. J. O. Hougen and E. L. Piret. bibliog il diag Chem Eng Prog 47:295-303 Je '51

Elements of gas pressure regulators. R. C. Lisk. il diags Am Gas J 175:27-30 Ag '51

Exact analogy between free surface water flow and two-dimensional gas flow; abstract. V. G. Szebehely and L. F. Whicker. Mech Eng 73:516 Je '51

Experiments on gaseous mixing in open-hearth furnace models. R. D. Collins and J. D. Tyler. il diags Iron & Steel Inst J 162:457-66 Ag '49; Discussion. 166:186-93 N '50

Experiments on gaseous mixing in open-hearth furnace models; semi-Venturi designs. R. D. Collins and J. D. Tyler. diags Iron & Steel Inst J 166:235-45 N '50

Experiments on the gas and fluid flow in a side-blown converter model. M. P. Newby. bibliog 4pls diags Iron & Steel Inst J 162:452-6 Ag '49; Discussion. 166:186-93 N '50

GAS flow—*Continued*

Flow of gases in porous media. L. H. Wilson and others. bibliog diag J Ap Phys 22:1027-30 Ag '51

Flow patterns in furnaces. J. H. Chesters. bibliog il diags Chem & Ind p448-55 Je 16 '51

Fluidization studies of solid particles. C. O. Miller and A. K. Logwinuk. bibliog il diags Ind & Eng Chem 43:1220-6 My '51

Fluidized bed; transition state in the vertical pneumatic transport of particles. R. H. Wilhelm and S. Valentine. bibliog diags Ind & Eng Chem 43:1199-203 My '51

Gas flow through the mass spectrometer viscous leak. R. E. Halsted and A. O. Nier. bibliog diag R Sci Instr 21:1019-21 D '50

Gas pipeline flow calculations. H. R. Ross. Instruments 24:345-8 Mr '51

Generality of mixed gas flows. M. M. Munk. J Ap Phys 22:524 Ap '51

Graphical solution of single phase flow promlems. E. R. Brownscombe and L. R. Kern. bibliog Pet Eng 23:B7-10+ F '51

Greaseless gas flow valve. R. E. Honig. diags R Sci Instr 21:1024-5 D '50

Mass transfer; laminar flow of gases through granular beds. M. Hobson and G. Thodos. bibliog diag Chem Eng Prog 47:370-5 Jl '51

Measurement of the internal diameters of metallic capillary tubes. C. T. Collett and others. il diag J Res Nat Bur Stand 45:283-8 O '50

Measurement of velocity and pressure of gases in rocket flames by spectroscopic methods. F. P. Bundy and others. il diags J Ap Phys 22:1069-77 Ag '51

Open flow potential calculation for dual completion wells. C. W. Binckley and W. L. Hixon. il map diag World Oil 132:150-3 F '51

Permeability of glass wool and other highly porous media. A. S. Iberall. bibliog J Res Nat Bur Stand 45:398-406 N '50

Pipe line flow efficiencies. C. McClure. il World Oil 133:282-4+ S '51

Reflection of rectilinear waves in one-dimensional gas flows. L. Poggi. diags J Aeronautical Sci 17:813-15 D '50

Simple interferometric test for conical flow. J. H. Giese and others. il J Ap Phys 21:1226-31 D '50

Sonic-flow pyrometer for measuring gas temperatures. G. T. Lalos. bibliog il diags J Res Nat Bur Stand 47:179-90 S '51

Sweep diffusion gas separation process. M. T. Cichelli, W. D. Weatherford, jr. and J. R. Bowman. bibliog il diags Chem Eng Prog 47:63-74, 122-33 F-Mr '51

Temperature gradients in gas streams flowing through fixed granular beds. C. A. Coberly and W. R. Marshall, jr. bibliog flow sheet Chem Eng Prog 47:141-50 Mr '51

True temperature difference in split flow. D. Q. Kern and C. L. Carpenter. diags Chem Eng Prog 47:211-14 Ap '51

See also

Air flow
Fluidization
Gas meters

GAS heaters

Alignment chart predicts gas furnace performance. Am Gas Assn Mo 33:17-19 Je '51

Gas-fired heaters solve problem of intermittent school use for auditorium, kitchen and cafeteria. il Gas Age 107:25-6 Je 7 '51

GAS heating

Better heating service from year-round pilot operation. C. S. Hazel. Am Gas Assn Proc 1950:295-301; Same. Gas Age 106:27-30+ N 9 '50

Brooklyn Union will emancipate coal furnace slaves. W. B. Hewson. Am Gas J 175:15-16 S '51

City code requirements for combustion testing of central gas heating equipment. G. R. Gardner. il Sheet Metal Worker 42:40-3 D '50; 94-6 Ja; 64+ F '51

Credit and collection policies relative to gas space heating business. G. A. Borgo and A. B. Russell. Gas Age 106:48+ D 7 '50

Effect of the new heating load; customers service policy in Chicago. J. G. White. il Am Gas Assn Mo 33:4-6+ My '51

Five reasons why PAD should drop the proposed ban on heating. L. C. Harvey. Gas Age 108:31-2+ Ag 16 '51

Forecast of Nov. gas heating load; tabulation. Gas Age 106:62 O 26 '50 [cont monthly during heating season]

Gas heating expansion plans. Sheet Metal Worker 42:68 D '50

How can we fill summer valleys? J. F. Oates, jr. Am Gas Assn Mo 32:18-20+ N '50; Same abr. Gas Age 106:42-4+ D 7 '50

How Detroit upped distribution for 150,000 new heating jobs. J. C. Taylor. map Gas Age 107:59-60+ My 24 '51

Large expansion predicted in gas house heating. Am Gas Assn Mo 33:14-15 My '51

Let's go after replacement business in the home heating market. G. M. Smith. Gas Age 106:19-20+ N 9 '50

PAD restricts natural gas extension for space heating use in 15 states. Nat Pet N 43:13-14 Ag 22 '51; Gas Age 108:37-8 Ag 30 '51

Proposed gas heating ban draws industry fire. Dom Eng 178:101 Ag '51

Techniques for installing gas conversion units. il diags Dom Eng 176:135-6+ N '50

There's a busy year ahead in gas heat merchandising. Dom Eng 178:84-5 Jl '51

Use all assets to sell heating. E. A. Norman, jr. Gas Age 107:17-18+ Mr 1 '51

What to do when gas heat comes to town. il Dom Eng 178:86-7+ Jl '51

When selling automatic heating let the customer feel it work! il diags Dom Eng 178:135, 142+ Ag '51

See also

Gas heaters

Control

Techniques for installing gas heating controls. il diags Dom Eng 176:129-30+ D '50

GAS heating, Industrial

Automatic gas soldering gives better, cheaper joints. il Iron Age 168:130 S 20 '51

Equipment performance and fuel cost in our industrial economy. F. O. Hess. Am Gas Assn Proc 1950:210-14; Same. Gas Age 106:28-31 N 23 '50

Experimental, gas-fired, infrared textile slasher. R. A. Rusca and G. J. Kyame. il diags Textile Res J 21:445-50 Je '51

Gas glow tubes for high temperature industrial furnaces. il diag Am Gas Assn Mo 33:15-16 F '51

Gas radiant heaters revive interest in thermal cracking. K. W. Fleischer. il diag Am Gas J 174:35-6 My '51

Gas ready to play major defense role. Am Gas Assn Mo 33:27-8 Ja '51

Heater for lead line paraffin removal. il World Oil 132:140 Ja '51

Immersion heated resin plant. H. W. Chatfield. diags Paint Oil & Chem R 114:12-15 Ag 30 '51

Postwar industrial gas school, 3d, Pittsburgh. Am Gas Assn Mo 33:24-5+ Je '51

Radiant gas heat improves technics of glass manufacture. R. C. LeMay. il diags Am Gas J 174:23-6+ Ap '51; Same cond. Am Gas Assn Mo 33:8-10 My '51; Same. Glass Ind 32:339-44+ Jl '51

Research develops new combustion method. Am Gas J 174:36 Ja '51

See also

Gas as fuel

GAS holders

All welded vertical panel type dry gas holder shell. H. C. Brinkman. diags Am Gas Assn Proc 1950:752-8

Design and construction details of Toronto's new holder. G. F. Knight. diags Gas Age 108:38-40+ S 27 '51

GAS in air conditioning

How Lone star gas co. solved difficult air conditioning problem. F. L. McFadden, jr. il Gas Age 107:56-8+ My 24 '51

GAS in refrigeration

See also

Refrigerators, Gas

GAS industries fund, inc.

Funds have $100 million natural gas holdings. P. A. Johnston. Barron's 31:17-18 Je 4 '51

GAS industry

Importance of manufactured gas in gas industry economy. G. F. Mitchell. Gas Age 107:25+ Ja 4 '51

Industry upgrading; joint responsibility; manufacturers' viewpoint. F. O. Hess. Am Gas J 175:13-14+ S '51

GAS industry—*Continued*

Industry upgrading; joint responsibility; public utilities' viewpoint. A. W. Lundstrum. Am Gas J 175:12+ S '51

What does mass housing mean to the gas industry? six members of the Gas Age Editorial advisory board give their views. Gas Age 108:61-4+ O 11 '51

What industrial gas men can do in the national emergency. J. P. Leinroth. Gas Age 107:30-1+ Je 7 '51

See also

Gas companies
Gas distribution
Gas heating
Gas in air conditioning
Gas manufacture
Gas works

Advertising

Brooklyn Union will emancipate coal furnace slaves. W. B. Hewson. il Am Gas J 175:15-16 S '51

Gas companies spending five per cent more for advertising this year. Gas Age 108:37-8 Jl 19 '51

Gas industry making headline news. C. J. Allen. Gas Age 107:40+ Ja 4 '51

Gas utility ads sell; they have for years. C. G. Cassidy. Ed & Pub 83:24 O 28 '50

How Texas Eastern makes itself a local citizen. il map Gas Age 108:26-8 Ag 30 '51

How to increase gas load in the first quarter of 1951; symposium of latest advertising and sales promotion ideas. Gas Age 107: 31-2+ F 15 '51

Prize-winning advertisements in 1951 P.U.A.A. contest. il Gas Age 108:36-9 Ag 16 '51

Promotion's big ten family; library of sales information ready for gas companies and dealers. il Am Gas Assn Mo 33:6-8+ Mr '51

Television techniques. L. Winslow. Am Gas Assn Proc 1950:262-5

Tremendous opportunities arise for industrial-commercial load. Gas Age 107:44+ Mr 15 '51

What about national advertising? C. Payne, jr. il Gas Age 107:37-9 Ja 4 '51

Exhibitions

Gas exhibit largest at metal show. il Am Gas Assn Mo 32:18-19+ D '50

Utilities and LP-gas operators unite in Pennsylvania show. G. E. Shelley. il Gas Age 107:18-19 Je 7 '51

Washington gas display helps dietitians. Am Gas Assn Mo 32:19 D '50

Laws and regulations

Five reasons why PAD should drop the proposed ban on heating. L. C. Harvey. Gas Age 108:31-2+ Ag 16 '51

Merchandizing

A.G.A. Industrial and commercial gas section, Residential gas section, joint meeting. Am Gas Assn Mo 32:33-5 N '50

A.G.A. opens new hard-hitting PAR drive. Am Gas Assn Mo 33:10+ Ja '51

A.G.A. Residential gas section meeting. Am Gas Assn Mo 32:40-1+ N '50

Commercial kitchen designer is new tool for gas sales. C. C. Hanthorn. Gas Age 107:38+ Ja 18 '51

Eastern natural regional gas sales conference, Pittsburgh, March 26-27; annual conference of the Mid-West regional gas sales council, 25th, Chicago, April 9-11. Am Gas Assn Mo 33:26-8+ My '51

How to sell in the emergency; A.G.A. sales conference, Washington, April 2-4. Am Gas Assn Mo 33:19-20+ My '51

Keeping the public sold on gas; an industry responsibility. W. L. Hayes. Am Gas Assn Proc 1950:56-7

Let's go after replacement business in the home heating market. G. M. Smith. Gas Age 106:19-20+ N 9 '50

Leveling hills and valleys is in the public interest. J. F. Oates, jr. Am Gas Assn Proc 1950:49-56

New sales potential of the gas industry. W. P. Jones. Am Gas Assn Proc 1950:33-8

Operation teamwork. D. A. Hulcy. Am Gas Assn Proc 1950:269-71

Outlook for industrial and commercial gas in 1951. C. H. Lekberg. il Gas Age 107:28-9+ Ja 4 '51

Partners; utility and manufacturer. G. F. Mitchell. Am Gas Assn Mo 33:5-6+ Jl-Ag '51

Tremendous opportunities arise for industrial-commercial load. Gas Age 107:44+ Mr 15 '51

Use all assets to sell heating. E. A. Norman, jr. Gas Age 107:17-18+ Mr 1 '51

Who is winning the commercial fight? J. J. Bourke. Am Gas Assn Proc 1950:206-10

Statistics

Domestic gas use increases; A.G.A. survey. Am Gas Assn Mo 33:13-14+ S '51; Same abr. Am Gas J 175:14+ Ag '51; Same. Gas Age 108:29+ Ag 30 '51

Gas-expansion plans; survey by American gas association. Oil & Gas J 50:46 Je 28 '51; Gas Age 108:31+ Jl 19 '51

Gas industry establishes new records in 1950. D. A. Hulcy. Gas Age 107:19-23+ Ja 4 '51; Excerpts. Am Gas J 174:15-17 Ja '51; Am Gas Assn Mo 33:8-10+ Ja '51; Pet Eng 23: D42+ F '51; Comm & Fin Chr 173:354 sec 2 Ja 18 '51; Abstract. Pub Util 47: 113-17 Ja 18 '51

Growth in residential gas utility customers and residential and rural electric customers, by state, compared with increase in dwelling units, 1940-1950; tabulation. Am Gas Assn Mo 32:31 D '50

Europe

European gas economy is moving toward self sufficient basis. V. Stark. il Am Gas J 174:17-18 F '51

News from the European gas press. L. T. Minchin. bibliog Gas Age 106:33-4+ D 7 '50; 107:53-4+ Mr 15; 108:16-18+ Ag 2 '51

Germany

Increase in sales of Ruhr long-distance gas. For Comm W 45:23 O 8 '51

Great Britain

Gas in the market. Economist 161:111 Jl 14 '51

Report on gas. Economist 160:697-8 Mr 24 '51

New York (city)

Customer service responsibility is spelled out in New York city. H. W. Springborn. Gas Age 108:56-60+ O 11 '51

United States

Gas industry establishes new records in 1950. D. A. Hulcy. Gas Age 107:19-23+ Ja 4 '51; Excerpts. Am Gas Assn Mo 33:8-10+ Ja '51; Am Gas J 174:15-17 Ja '51; Pet Eng 23: D42+ F '51; Comm & Fin Chr 173:354 sec 2 Ja 18 '51; Abstract. Pub Util 47:113-17 Ja 18 '51

Gas spurs defense effort. il Am Gas Assn Mo 33:2-5+ Mr '51

Gas, the flame of progress. H. H. Cuthrell. Am Gas Assn Proc 1950:9-13; Same. Am Gas Assn Mo 32:15-16+ N '50

Total gas industry faces challenge with confidence. Gas Age 107:43-4 Ja 4 '51

See also

American gas association

GAS industry advisory council

Gas industry council assumes PAD advisory post. Gas Age 107:59 Mr 15 '51

GAS industry and the plumbing trade

There's a busy year ahead in gas heat merchandising. Dom Eng 178:84-5 Jl '51

What to do when gas heat comes to town. il Dom Eng 178:86-7+ Jl '51

GAS laboratories

See also American gas association—Appliance testing laboratory

GAS leakage

Binghamton gas works, 1950 program; illustrations with text. W. L. Hewitt. Gas Age 107:44-5 My 10 '51

Gas leak detection practices. F. P. Mueller. Am Gas Assn Proc 1950:639-46; Same. Am Gas J 174:21-3+ F '51

Latest method of leakage control in distribution. C. D. Taft. Gas Age 106:50+ D 7 '50

Streamlining the treatment of mains with anti-leak; use of Carboseal. K. D. Knoblock. il Gas Age 107:48-50 Mr 15 '51

GAS lifts

Gas lift operations and problems. C. V. Kirkpatrick. il diags Pet Eng 22:B7-12 N '50

Gas lift practices in west Texas; with cost data. J. R. Hamilton. World Oil 133:250+ S '51

Gas lifting by continuous flow. C. D. Fletcher and M. M. Livingston. diags Pet Eng 23:B42+ Ag '51

Intermitter installation conserves low-pressure fuel gas. il World Oil 133:220 Ag '51

New gas-lift method. F. L. Resen. il diag Oil & Gas J 50:100-1 Ag 16 '51

GAS manufacture

A.G.A. production and chemical conference, New York, May 14-16. Am Gas Assn Mo 33:27-32+ Je '51; Gas Age 107:41-3+ Je 21 '51

A.G.A. production and chemical conference, New York, May 14-16. Chem & Eng N 29:2150-1 My 28 '51

Coke oven in war. W. R. Morris. bibliog Am Gas Assn Proc 1950:374-94

Electrical gasification. L. T. Minchin. Gas Age 107:53-4 Mr 15 '51

Experiences at Cambridge with the Hall high Btu process. G. G. Howie. Am Gas Assn Proc 1950:476-80; Same. Gas Age 106:30-2+ Jl 20 '50

Factorial experiments in pilot plant studies. J. R. Bainbridge. flow sheet Ind & Eng Chem 43:1300-6 Je '51

Hi-Btu oil gas. R. Kyle. diags Am Gas J 175:27-30 S '51

Importance of manufactured gas in gas industry economy. G. F. Mitchell. Gas Age 107:25+ Ja 4 '51

Laboratory-scale work on synthesis-gas production. J. J. S. Sebastian and others. bibliog 21pls U S Bur Mines Rep of Invest 4742:1-41 '51

Latest in coal gasification; French process produces ammonia, methanol, or hydrocarbon synthesis gas. diags Chem Eng 58:263-4+ S '51

Morgantown fluidized feeder. J. H. Holden and C. W. Albright. il diags Am Gas Assn Proc 1950:493-500

New processing tool; catalytic gas reformer of Gas machinery co. il diag Chem Eng 58:190+ Ap '51

News from the European gas press. L. T. Minchin. bibliog Gas Age 106:33-4+ D 7 '50

Oil gas by two and four-shell sets. H. M. Henry. Am Gas Assn Proc 1950:416-26; Same. Am Gas Assn Mo 32:21-3+ N '50

Pilot-plant gasification of pulverized coal with oxygen and highly superheated steam. G. R. Strimbeck and others. bibliog 45pls U S Bur Mines Rep of Invest 4733:1-41 '50; Same. Am Gas Assn Proc 1950:501-63

Processes for manufacturing gas. diags Am Gas J 174:27-30 F '51

Proposed process to produce gas of desired specifications, low cost. V. Stark. flow diag Gas Age 108:24-5+ Jl 5 '51

Reforming of hydrocarbons as experienced by the Long Island lighting co. S. W. Horsfield. Am Gas Assn Proc 1950:778-80

Regenerative reform; Koppers-Hasche furnaces. Chem W 68:23 Je 2 '51

Rochester plant uses natural gas in new versatile process; Koppers-Hasche process. il Gas Age 108:29-30+ S 27 '51; Same cond. Am Gas J 175:31+ S '51

Survey of carbonizing properties of American coals, Bureau of mines Coal-carbonizing laboratory, 1949-50. J. D. Davis. Am Gas Assn Proc 1950:402-9

Synthesis gas from pulverized coal, oxygen, and highly superheated steam is produced in pilot plant. L. D. Schmidt. flow sheet diags Am Gas J 175:10-14+ Jl '51

Undecomposed steam in lignite gasification. M. H. Chetrick. bibliog 4pls U S Bur Mines Rep of Invest 4738:1-11 '50

See also

Gas, Oil
Gas, Water—Manufacture
Gas companies
Gas works

By-products

Desulphurizing spent oxide. L. T. Minchin. Gas Age 107:54 Mr 15 '51

See also

Tar

Coal mine gasification

Carbonizing underground coal beds. Power 95:134+ F '51

Gas from underground fire. il Chem Ind W 68:23 Mr 10 '51

Gorgas gasification test operates gas turbine; new-type firing planned. Coal Age 56:128+ Mr '51; Mech Eng 73:421-2 My '51

Underground gasification of coal in the United States. J. L. Elder and E. T. Wilkins. diags Engineering 171:513-15 Ap 27 '51

Unmined coal gasified by electric power. il Coal Age 55:130 D '50

Complete gasification processes

Lurgi process; use for complete gasification of coals with steam and oxygen under pressure. J. Cooperman and others. flow diag il diags U S Bur Mines Bul 498:1-38; pa 45c Supt. of doc. '51

GAS masks

Vacuum desorption of ethyl chloride from activated carbon. E. O. Wiig and S. B. Smith. bibliog diags J Phys & Colloid Chem 55:27-44 Ja '51

GAS measurement

See also

Gas, Natural—Measurement
Gas meters

GAS meters

Comparative meter performance under an extended periodic change program. G. G. Dye. Am Gas Assn Proc 1950:812-14

Economic aspects of metering. G. K. Bachmann. Am Gas Assn Proc 1950:426-33

Gas measurement committee report. F. Partridge. Instruments 24:717-18+ Je '51

Gas orifice meter. L. K. Spink; C. B. Nolte. il diags Am Gas J 173:10-12 D '50; 174:20-2+ Ja '51

Impeller type high capacity meter developed by German firms. G. Meyer. diags Gas Age 108:44-6+ Ag 16 '51

Large volume gas measurement. J. E. Overbeck. Am Gas Assn Proc 1950:302-17

Measurement by positive displacement. H. J. Evans. diags Am Gas J 174:27-30 Je '51

Meter department conversion problems in small companies. J. M. Pickford. Gas Age 107:40-2+ F 15 '51

Report of subcommittee on meters and metering. G. K. Bachmann. il Am Gas Assn Proc 1950:360-2

Testing, installation, performance and maintenance of rotary gas meters. F. C. Witting. il diags Am Gas Assn Proc 1950:841-54

Bibliography

Bibliography of gas meters and metering. Am Gas Assn Proc 1950:872-99

Diaphragms

Chemical effect of gas changes on diaphragms. H. Laudani. Gas Age 107:22-4+ F 1 '51

Testing

Air conditioned prover room; Minneapolis gas co. B. C. Holman. il diag Gas Age 107:25-7+ Ap 12 '51

Philadelphia Gas Works tests large capacity rotary gas meters. il Am Gas J 175:24-5 Ag '51

GAS mixing

Central control of operations started at Hunts Point gas plant; Consolidated Edison company of New York. il diag Am Gas J 174:17-18 Ap '51

Controlled gas mixing. W. H. Isaacs and R. B. Paquette. diags Am Gas Assn Proc 1950:659-62; Same. Am Gas Assn Mo 32:21-2 Je '50; Same. Am Gas J 173:28-9 Jl '50

Effect of the components of fuel gases on burner flame characteristics and interchangeability. L. Shnidman and J. S. Yeaw. Am Gas Assn Proc 1950:452-75

Experiences with complete replacement of natural gas sendouts. F. D. Howell. map Am Gas Assn Proc 1950:647-51; Same. Gas Age 105:21-2+ Je 8 '50; Same. Am Gas J 173:23+ Jl '50

Fluid catalyst-gas mixing in commercial equipment. J. W. Askins, G. P. Hinds, jr. and F. Kunreuther. diags Chem Eng Prog 47:401-4 Ag '51

GAS mixing—*Continued*
Gases for supplementing natural gas in Milwaukee. E. C. Brenner. diags Am Gas Assn Proc 1950:332-47; Same. Am Gas Assn Mo 32:9-13+ D '50; Same cond. Gas Age 106:31-6+ N 9 '50
Interchangeability limits charted for various gases. il Am Gas Assn Mo 33:16-17 F '51
Interchangeability of gases. H. M. Henry. Gas Age 106:36-42+ O 12 '50; Same. Am Gas J 173:27-8+ O; 31-4 N '50
Natural gas operation at Central gas works. J. S. Hurd. Am Gas Assn Proc 1950:781-6
Obtaining lower Btu gases by blending natural gas with other gases or air. E. C. Powers. flow chart Am Gas J 174:19 Ja '51
Peak shaving at Lincoln, Nebr. M. G. Cook. il Gas Age 106:38-9 D 7 '50
Using the Rochester test burner to predict the interchangeability of fuel gases, manufactured or natural. L. Shnidman and J. S. Yeaw. il diags Am Gas Assn Proc 1950:603-38
Various combinations of gases. Gas Age 107:25-6+ Mr 29 '51

GAS oil
Bunker C oil cuts operating costs of gas utility. H. E. Nissel. diag Gas Age 107:17-21+ F 1 '51
Catalytic hydro-desulphurization of gas oil; analysis of the kinetics of the reaction. H. Hoog. bibliog diag Inst Pet J 36:738-51 D '50
Selection of oils for high Btu gas production. H. R. Linden and E. S. Pettyjohn. Am Gas Assn Mo 33:14-15 Je '51
Vis-breaking and pour reduction. flow diag Oil & Gas J 49:188-9 Mr 29 '51

GAS pipes
Binghamton gas works, 1950 program; illustrations with text. W. L. Hewitt. Gas Age 107:44-5 My 10 '51
Difficult gas line construction job. il Gas Age 107:24 F 1 '51
How to control gas supply pressures. J. M. Jones, jr. diag Pet Processing 6:633 Je '51
Service connections from cast iron mains. J. E. O'Brien. Gas Age 107:21+ Mr 29 '51
See also
Gas, Natural—Pipe lines
Gas distribution

Cleaning

Long radius ell speeds pipe cleaning; Southern counties gas company of California. A. Rohman. Pub Works 82:89-90 S '51

Corrosion

Field measurements in pipe line corrosion. M. E. Parker. Gas Age 107:18-20+ Mr 29 '51
Fundamentals of galvanic corrosion. A. B. Lauderbaugh. diags Am Gas Assn Proc 1950:900-12
Illustrations of galvanic corrosion given in tabloid primer. A. B. Lauderbaugh. il diags Am Gas J 173:26-30 D '50

Deposits

Gas conditioning; how oil fogging and steam saturation may help correct dust complaints or high leakage. J. H. Erwin. plan diags Gas Age 107:29-30+ F 15 '51
Natural gas can be cleaned of dust at regulating stations. C. A. Brown. il Am Gas J 175:34-6+ Jl '51; Same cond. diags Gas Age 107:32-4+ My 10 '51

Failure

Teamwork licks gas outtage; Northern natural gas co. il Am Gas Assn Mo 33:16-17+ S '51

Protection

Anti-corrosion tape for service pipes. G. M. Carter, jr. il Gas Age 106:42-3+ N 23 '50
Cooling gas to thwart corrosion; Honolulu gas co. H. P. Saueressig. il diag Comp Air Mag 56:114-18 My '51
Corrosion control program; natural gas transmission line, Niagara Mohawk power corp. L. A. Kellogg. il map Gas Age 107:11-13 Mr 1 '51
How coal tar tape solved distribution problems. M. G. Markle. il Gas Age 108:13-14+ Ag 2 '51
Management's attitude toward a corrosion control program. R. B. Wilson. Am Gas Assn Proc 1950:328-31; Same. Gas Age 106:38-40+ N 9 '50
Pipe line corrosion control. E. C. McGraw. Gas Age 107:42-3+ My 10 '51

Repair

Reconditioning of underground steel gas mains. W. H. Schultz. Am Gas Assn Proc 1950:823-4; Same. Am Gas J 173:29+ O '50

Testing

Measurement of stresses in buried pipe lines. J. C. Warren. plan diags Gas Age 107:28-30+ Ap 12 '51

GAS producers
Operation of Kerpely producer with oxygen-enriched blast. H. R. Batchelder and others. flow diag diag Am Gas Assn Proc 1950:348-54

GAS purification
Corrosion of condensers, purifying equipment and precipitators. J. L. Adkins. diags Am Gas Assn Proc 1950:706-11
Dry hydrogen sulphide recovery; new continuous purification process. F. G. Audas. Chem Age (Lond) 64:877-80 Je 9 '51
Girbotol process. flow diag Oil & Gas J 49:216 Mr 29 '51
Natural gas can be cleaned of dust at regulating stations. C. A. Brown. il Am Gas J 175:34-6+ Jl '51; Same cond. diags Gas Age 107:32-4+ My 10 '51
Venturi scrubber for cleaning industrial gases. W. P. Jones. il diag Heat & Ven 48:73-5 Ap '51
Venturi scrubbers; efficient, low cost gas cleaners. W. P. Jones. il diag Steel 129:70-2 Jl 30 '51
See also
Blast furnace gas—Cleaning

Sulfur removal

New sulfur recovery process. flow diag Pet Eng 23:C44+ F '51
Organic sulfur in synthesis gas; occurrence, determination, and removal. A. E. Sands and others. bibliog il diags Am Gas Assn Proc 1950:564-602; Same. U S Bur Mines Rep of Invest 4699:1-51 '50
Processes for removal of hydrogen sulfide from industrial gases. R. M. Reed and others. diags Oil & Gas J 49:48+ Ja 4 '51
Recovery of sulfur from synthesis gas. A. E. Sands and L. D. Schmidt. bibliog flow diag il Ind & Eng Chem 42:2277-87 N '50
Removal of hydrogen sulfide from industrial gases. R. M. Reed and N. C. Updegraff. bibliog flow diags il Ind & Eng Chem 42:2269-77 N '50
Removal of sulphur compounds from industrial gases. W. Francis. Engineering 172:180-2 Ag 10 '51
Removing sulphur compounds from gaseous fuels, with the recovery of elementary sulphur. N. C. Updegraff. flow diags Am Gas Assn Proc 1950:724-7
Selective absorption of hydrogen sulfide from gas streams. H. D. Frazier and A. L. Kohl. bibliog flow diag il diag Ind & Eng Chem 42:2288-92 N '50
Selective H_2S absorption; a review of available processes. A. L. Kohl. bibliog flow diags il diags Pet Processing 6:26-31 Ja '51

GAS ranges. See Gas stoves

GAS rates
Budgeting and rate making. F. Denier. Am Gas Assn Proc 1950:175-8
Courts decide rights and wrongs of rate regulation. L. T. Parker. Am Gas J 174:31-2+ Ja '51
FPC Commissioner Smith approves earnings sufficient to get new capital. Am Gas J 174:26+ Ja '51
Gas utility rates exempt from price freeze. Gas Age 107:46+ F 15 '51
How can we fill summer valleys? J. F. Oates, jr. Am Gas Assn Mo 32:18-20+ N '50; Same abr. Gas Age 106:42-4+ D 7 '50
Report of rate committee. Am Gas Assn Proc 1950:101-4
Report of subcommittee on rate adjustment clauses. Am Gas Assn Proc 1950:112-17
Report of subcommittee on rate changes. Am Gas Assn Proc 1950:104-11

GAS rates—*Continued*

Survey of domestic gas rates; cubic foot and therm rates in A.G.A. rate service, June 1950; tabulation. Am Gas Assn Mo 33:43 Ja '51

See also

Gas, Natural—Rates

GAS refrigerators. See Refrigerators, Gas

GAS research

Formulas and graphs for representing the interchangeability of fuel gases. E. R. Weaver. bibliog J Res Nat Bur Stand 46: 213-45 Mr '51

Industry urged to put research into practice; American gas association research and utilization conference, Cleveland, April 26-27. Am Gas Assn Mo 33:10-12 Jl-Ag '51

Pilot-plant gasification of pulverized coal with oxygen and highly superheated steam. G. R. Strimbeck and others. bibliog 45pls U S Bur Mines Rep of Invest 4733:1-41 '50; Same. Am Gas Assn Proc 1950:501-63

Undecomposed steam in lignite gasification. M. H. Chetrick. bibliog 4pls U S Bur Mines Rep of Invest 4738:1-11 '50

GAS sampling

Mechanical sampling of fuel gases in transmission and distribution systems. W. A. McGlashen and J. S. Powell. diags Oil & Gas J 50:90-1+ My 31 '51

GAS scrubbers. See Gas purification

GAS service company, Kansas City, Missouri

Bonds offered. Comm & Fin Chr 173:2610 Je 25 '51

GAS storage

Methods of storing gas. diags Am Gas J 174: 31-4 My '51

See also

Gas, Natural—Storage

GAS stoves

Flash tube ignition has advantages to keep gas ranges gas. C. S. Hazel. diags Am Gas J 174:23-6+ Je '51; Same cond. Gas Age 108:19-22+ Ag 2 '51

Range ignition field test; where it stands today. E. A. Jahn. Gas Age 108:23+ Ag 2 '51

Sectional range developed by gas industry. il Am Gas Assn Mo 33:42 Ja '51

Western-Holly built-in gas range units. il Arch Rec 110:163 Jl '51

Advertising

Modern gas ranges to be featured in April-June promotions. il Gas Age 107:37-40 Mr 15 '51

Recording of popular radio star is effective promotional come-on; records offered free at Western-Holly dealers. il Ptr Ink 234: 34-5 Mr 2 '51

Manufacture

Planning keeps Roper with the leaders. il Cer Ind 56:60-1+ Mr '51

Merchandizing

Automatic is the buy word in gas range profits and progress. J. I. Gorton. Gas Age 108:44-6 Jl 19 '51

Demonstration proves gas cooking is better. D. W. Frye. Gas Age 107:30 Mr 1 '51

Five million, why not? comments by industry experts. L. C. Ginn and others. Gas Age 106:17-22 S 14; 45-6+ D 7 '50

Gas ranges are pretty, too! home service workers urged to stress beauty of modern ranges. D. R. Schively. Gas Age 106:37+ D 7 '50

Gas versus electric cooking; Equitable gas co. K. L. Barnes. il Am Gas J 174:17-18 Mr '51

How Peoples natural gas co. stimulates dealer range sales. R. L. Pijanowski. il Gas Age 108:49-50 S 13 '51

How the smaller gas company runs an old stove round-up. H. Gest. il Gas Age 108:32+ Ag 2 '51

Little things that count. G. B. Price. Am Gas Assn Proc 1950:265-7

Old stove round up to the rescue. Am Gas Assn Mo 33:21 Jl-Ag '51

What home service can do to help sales. C. H. Horne. Gas Age 107:33-4 F 1 '51; Same. Am Gas Assn Mo 33:11-12+ F '51

Where we found apprentices for district work. S. Herndon. Gas Age 107:36+ F 1 '51

Rating

Gas stoves. il Consumers Res Bul 27:5-11 Mr '51

GAS supply

Chicago

Controlled gas mixing. W. H. Isaacs and R. B. Paquette. diags Am Gas Assn Proc 1950:659-62; Same. Am Gas Assn Mo 32: 21-2 Je '50; Same. Am Gas J 173:28-9 Jl '50

Detroit

How Detroit upped distribution for 150,000 new heating jobs. J. C. Taylor. map Gas Age 107:59-60+ My 24 '51

Great Britain

Gas and electricity; comparing the annual reports. D. J. Bolton. Elec R (Lond) 148: 1125-30 Je 1 '51

Honolulu

Cooling gas to thwart corrosion; Honolulu gas co. H. P. Saueressig. il diag Comp Air Mag 56:114-18 My '51

London

North Thames gas board. il Chem & Ind p510 Je 30 '51

New England

New England is urged to explore possibilities of uniform gas. F. O. Hess. Am Gas J 174:22+ My '51

GAS traps

Traps prevent gas contamination. D. H. Stormont. il Oil & Gas J 50:102 Je 14 '51

GAS turbine-electric locomotives. See Locomotives, Gas turbine-electric

GAS turbine locomotives. See Locomotives, Gas turbine

GAS turbines

Combination gas turbine-steam turbine unit; performance of installation burning natural gas at Belle Isle station; with cost data. J. W. Blake. bibliog Mech Eng 73:14-16 Ja '51

Combustion gas turbine, important new prime mover for the gas pipe-line industry. J. L. Oberseider. Oil & Gas J 50:102+ Ag 9 '51

Compressor using water for gas-turbine research. Engineering 170:485 D 8 '50; Same abr. Mech Eng 73:229-30 Mr '51

Continental buys U.S. rights to nine gas turbines developed by French. Iron Age 168: 97 S 20 '51

Critical review of gas turbine progress, 1950. Engineer 191:50-2 Ja 12 '51

Development of low-carbon N-155 alloy for gas-turbine construction. W. O. Binder. bibliog il 2pls Iron & Steel Inst J 167:121-34 F '51

Development of the Ruston and Hornsby 1,070-h.p. gas turbine. il Engineering 170: 533 D 22 '50

Economic design of heat exchangers for gas turbines. M. Ruddick. diags Engineering 172:229-30 Ag 24 '51

Few problems are now standing in way of gas turbine technical supremacy. C. T. Konecny. flow diag diags Am Gas J 174: 14-16+ Ap '51

Gas turbine centrifugal compressor station for pipe line pumping. J. F. Eichelmann and J. S. Quill. map plan diags Gas Age 107: 20-4+ Je 7 '51; Same. Gen Elec R 54:23-9 Je '51; Same abr. Oil & Gas J 50:81-2+ S 6 '51

Gas turbine in perspective. H. Constant. diag Inst Mech Eng Proc 163 (W.E.P. no 60): 185-92 '50

Gas-turbine performance and materials; abstract. J. B. Bucher. Metal Prog 60:124+ S '51

Gas turbine with pressurized boiler gains 1,000 Btu vs steam alone. R. C. Roe and R. F. Cummings. diag Elec World 134:111-13 N 20 '50

Gas turbines and the chemical industry; great flexibility aids variety of processes. Chem Age (Lond) 64:521-2 Ap 7 '51

Gas turbines in 1950. il diags Engineer 191: 56-8, 91-4, 134-5, pl 10 Ja 12-26 '51

GAS turbines—*Continued*

High temperature steels and alloys for gas turbines; symposium. Engineer 191:313-14, 342-3, 373-4, 404-6 Mr 9-30 '51; Engineering 171:282-3, 312-13, 352, 380-1 Mr 9-30 '51; Metallurgia 43:119-26, 166-8+ Mr-Ap '51; Metal Prog 59:653-6+ My '51

Influence of Reynolds number on the performance of turbomachinery. H. Davis and others. bibliog A S M E Trans 73:499-503; Discussion. 503-9 Jl '51

Investigations of axial-flow compressors. J. T. Bowen and others. bibliog il diags A S M E Trans 73:1-14; Discussion. 14-15 Ja '51

Jets for junior; Continental Motors' new line for powering small planes, missiles, and even assorted tools. Bsns W p68-9 S 29 '51

Liquid-coupled indirect-transfer regenerator for gas-turbine plants. A. L. London and W. M. Kays. bibliog diags A S M E Trans 73:529-40; Discussion. 540-2 Jl '51

Materials and performance; abstract. A. T. Bowden and W. Hryniszak. Metal Prog 60:138 S '51

Mighty midget produces pilot power. il Power 95:113 Jl '51

Outlook for ceramics in gas turbines. W. H. Duckworth and I. E. Campbell. Brick & Clay Rec 118:47-8 My '51

Overall and stage characteristics of axial-flow compressors. A. R. Howell and R. P. Bonham. bibliog diags Inst Mech Eng Proc 163 (W.E.P. no 60):235-48, pl 7-8 '50

Power generation by gas turbines. A. G. Mellor. bibliog il Gen Elec R 54:21-4 Jl '51; Same. Blast F & Steel Pl 39:566-70 My '51

Small gas turbine that may be started by hand. A. D. Zakarian and R. R. Peterson. il diags Automotive Ind 105:34-5+ S 15 '51

Some physical properties of eight refractory oxides and carbides. J. J. Gangler. bibliog il diag Am Cer Soc J 33:367-74; Discussion. 374-5 D 1 '50

Survey of the development of creep-resisting alloys. N. P. Allen. Engineering 171:235-8 F 23 '51

Turbines for gas line; El Paso Natural to install internal-combustion turbines for driving centrifugal compressors on its gas system. P. Reed. diag Oil & Gas J 49:169 Ja 25 '51

See also

Electric plants (central stations)—Gas turbine auxiliaries
Electric plants (central stations)—Gas turbine stations
Hydroelectric plants—Gas turbine auxiliaries
Locomotives, Gas turbine
Locomotives, Gas turbine-electric
Power plants—Gas turbine plants

Bibliography

Bibliography of books and published reports on gas turbines, jet propulsion, and rocket power plants. E. F. Fiock and C. Halpern. U S Nat Bur Stand Circ 509:1-64; pa 20c Supt. of doc. '51

Blades

Experimental determination of the natural modes of vibration of gas-turbine blades. D. A. Nutt. diags Engineering 170:323 N 3 '50

Gauging equipment for gas turbine blades. il Engineer 191:169-70 F 2 '51

Prelocation simplifies turbine blade location. G. Elwers. il Iron Age 167:90-2 My 24 '51

Turbine blade fastenings. H. Woodhouse. diags Machine Design 23:148-53 F '51

Control

Control of gas turbines for power generation. D. C. Hoffmann and others. Elec Eng 70:129 F '51

Cooling

Cooled gas turbine. A. G. Smith and R. D. Pearson. bibliog diags Inst Mech Eng Proc 163 (W.E.P. no 60):221-34, pl 6 '50

Research, design and development problems in gas turbines. J. F. Shannon. il diags Engineer 191:105-7 Ja 19 '51

Design

Operating experience with a 750-kw gas turbine. G. B. R. Feilden. il Engineering 171:358-9, 384-6, 416-18 Mr 23-Ap 6 '51; Same cond. diags Engineer 191:345-8 Mr 16 '51

Research, design and development problems in gas turbines. J. F. Shannon. il diags Engineer 191:105-7 Ja 19 '51

Some fluid dynamic research techniques. A. D. S. Carter and others. bibliog plans diags Inst Mech Eng Proc 163 (W.E.P. no 60):249-63, pl 9-12 '50

Exhaust

Gravimetric analysis of exhaust gas from gas turbine combustion chambers. F. W. Ruegg and C. Halpern. bibliog diag J Res Nat Bur Stand 45:113-21 Ag '50

Fuel

Coal-burning gas turbine. J. I. Yellott. Mech Eng 73:582-3 Jl '51

Coal-burning gas turbine steps ahead fast in 1950 and 1951. J. I. Yellott. il diags Power Eng 55:60-3 Jl '51

Problem of burning residual oils in gas turbines. P. Lloyd and R. P. Probert. bibliog diags Inst Mech Eng Proc 163 (W.E.P. no 60):206-20, pl 3-5 '50

Review of combustion phenomena for the gas turbine. D. G. Shepherd. bibliog(54 titles) A S M E Trans 73:921-32; Discussion. 932-4 O '51

Tests of coal-burning gas turbine under way; abstracts. J. I. Yellott and others. il diags Ry Mech & Elec Eng 125:49-54 Jl '51; Power 95:104-7 Je; 90-1 Ag '51

Manufacture

Development and evaluation of cast turbine rotors. N. J. Grant and others. bibliog il diag Foundry 78:86-93+ D '50

How tool life is affected by heat resisting alloys. Automotive Ind 104:52+ Ap 1 '51

Investment casting of nozzle guide vanes; abstract. H. E. Gresham and A. Dunlop. Metal Prog 59:874+ Je '51

Machining gas turbine alloys; reference book sheet. K. J. B. Wolfe and P. Spear. diags Am Mach 95:125, 127, 129 Ap 30 '51

Some problems in the manufacture of experimental gas turbines. L. H. Leedham. diags Inst Mech Eng Proc 163 (W.E.P. no 61):218-90, pl 3-10 '50; Abstract. Electrician 145:1346 D 8 '50; Discussion. Inst Mech Eng Proc 163 (W.E.P. no 61):290-3 '50

Study and teaching

School of gas turbine technology. Engineering 171:199-200 F 16 '51; Engineer 191:284 Mr 2 '51

Temperature

Sonic-flow pyrometer for measuring gas temperatures. G. T. Lalos. bibliog il diags J Res Nat Bur Stand 47:179-90 S '51

Testing

Coal-burning gas-turbine moves ahead. J. I. Yellott and others. il diags Ry Age 130:39-43 Je 18 '51

Operating experience with a 750-kw gas turbine. G. B. R. Feilden. il Engineering 171:358-9, 384-6 Mr 23-30 '51; Same cond. diags Engineer 191:345-8 Mr 16 '51; Abstracts. Elec R (Lond) 148:630 Mr 30 '51; Electrician 146:888 Mr 16 '51

GAS turbines, Aircraft

Aeronautics in 1950. il Engineer 191:100-1 Ja 19 '51

AF bares secrets of MiG engine. Aviation W 54:16 Je 11 '51

Aircraft power plants. il Product Eng 22:182-3 My '51

Allison gets heavy T-40 orders. A. McSurely. Aviation W 54:14-15 Ja 1 '51

Allison J-35; new number one engine. il Aviation W 54:14-15 Mr 19 '51

Allison super jet. il Aero Digest 62:21+ Ap '51

Analogue techniques for turbojet thrust instrumentation. E. S. Van Valkenburg and N. W. Matthews. diag Elec Eng 69:1004 N '50

GAS turbines, Aircraft—*Continued*

Analysis of performance of jet engine from characteristics of components; aerodynamic and matching characteristics of turbine component determined with cold air. A. W. Goldstein. il diag U S Nat Advisory Com for Aeronautics 1947:397-414 '50

Aviation engine. F. R. Banks. Inst Mech Eng Proc 162 no 4:441-5 '50; Same. Engineer 191: 259-60, 278-80 F 23-Mr 2 '51

Case for the turbojet. W. Boyd. S A E J 58: 49-51 N '50

Ceramic liners; Solar coating can replace scarce alloys. il Aviation W 55:34+ Ag 13 '51

Ceramics; they help steel stand jet temperatures. il Bsns W p46-8+ O 6 '51

Comparison of turbine-propeller engines with various cycle arrangements; abstract. T. F. Nagey. Automotive Ind 103:45+ D 15 '50

Comparison of turbine-propeller engines with various cycle arrangements for subsonic flight speeds; abstract. T. F. Nagey. il S A E J 59:22-3 Mr '51

Compressors for aircraft gas turbines; discussion. Engineering 170:511-12 D 15 '50

Convair triplets; 240, Turboliner, 340; turboprop transport research. il diags Aviation W 54:21-2+ Mr 12 '51

Convair Turboliner. il Aero Digest 62:15-18+ F '51

Current turboprop power-plant installations. F. H. Sharp. il Aeronautical Eng R 9:41-4 N '50

Definition and measurement of jet engine thrust. B. Jakobsson. bibliog diags Roy Aeronautical Soc J 55:226-43 Ap '51

Design and operation of gas turbine propellers. R. C. Treseder and D. D. Bowe. il diag S A E J 59:29-31 Ap '51

Discaloy. E. F. Losco. il diags Westinghouse Eng 11:50-3 Mr '51

Early metallurgical development of the gas turbine engine. il Metallurgia 44:147-8 S '51

Effect of changes in altitude on the controlled behavior of a gas-turbine engine. S. C. Himmel and R. P. Krebs. diag J Aeronautical Sci 18:433-41 Jl '51

Engineering highlights of 1950; story of jet-engine progress. Westinghouse Eng 11:32 Ja '51

Engines; illustrations and brief descriptions. Aero Digest 62:76+ Mr '51

First U.S. turboprop transport flies; Convair Turboliner. T. M. Self. il Aviation W 54: 15-17 Ja 8 '51

Flight experience with turbine propeller powered aircraft. R. C. Loomis and E. D. Shannon. il diag Aviation W 54:21-2+ Ap 23 '51; Abstract. Automotive Ind 104:106+ My 15 '51

French turbo-jet engine ATAR-101. Engineering 172:173 Ag 10 '51

G.E. putting emphasis on gas turbine research. J. S. Bowen. Barron's 30:10 N 27 '50

GE reveals more powerful J-47s. il Aviation W 54:17-18 Je 18 '51

GE's maintenance monitor plan. T. M. Self. il Aviation W 54:21-2 Ap 30 '51

General theory of three-dimensional flow with subsonic and supersonic velocity in turbomachines having arbitrary hub and casing shapes; abstract. C. Wu. Mech Eng 73:154 F '51

High-temperature jet-engine alloys; popular grades listed in order of their decreasing strategic alloy index. Oct. Iron Age 167:340 Ja 4 '51

High-temperature problems in aircraft jet engines and turbo-superchargers. R. B. Johnson. il Metal Prog 59:503-10 Ap '51

How critical metals problems are licked. Aviation W 54:36+ My 28 '51

J-35 points up new thrust achievements. I. Stone. il Aviation W 54:25-6+ Ap 2 '51

J-42 overhaul time set at 1,000 hours. Aviation W 55:17 S 17 '51

Jet-engine developments. Mech Eng 73:504 Je '51

Latest jet engines displayed at Paris aviation show. W. F. Bradley. il diag Automotive Ind 105:45+ Jl 15 '51

Navy names Kaman in gas-turbine test; utilizing gas-turbine as power plant for helicopters. Aviation W 55:18 Jl 16 '51

New Curtiss-Wright Sapphire turbojet. il Aero Digest 61:44+ N '50

New G-E turbo-jet engine for military aircraft. il Mach 57:160 Ag '51; Mech Eng 73:655-6 Ag '51

New high-thrust turbojet seen for GE. I. Stone. il plan Aviation W 53:21-2+ D 4 '50

New props for turbine power. I. Stone. il diags Aviation W 53:21-2+ O 30 '50

Olympus; Wright's ace-in-the-hole? Aviation W 54:33-4 My 7 '51

Packaging turbojet engine parts. A. F. Hinett. il Aero Digest 62:26-8+ Ap '51

Performance of axial-flow compressors as affected by single-stage characteristics. S. M. Bogdonoff. bibliog diag J Aeronautical Sci 18:319-28 My '51

Power in the air; British activities in the jet engine field. D. H. Wood. il Aero Digest 61: 40+ D '50

Practical aspects of turbojets in transport aircraft. R. T. Holland and E. L. Auyer. diags Aeronautical Eng R 10:32-5 Mr '51

Problems related to airworthiness requirements for commercial turbine-engined airplanes. G. W. Haldeman. Aeronautical Eng R 9:33-40 N '50; Abstract. Aviation W 53: 37-8+ Ag 14 '50

Recent developments of the mechanism of the hydraulic variable-pitch aircraft propeller. H. L. Milner. diags Inst Mech Eng Proc 163 (W.E.P. no 57):114-20 '50; Same abr. Engineer 189:476-7 Ap 21 '50; Discussion. Inst Mech Eng Proc 163 (W.E.P. no 57):121-4 '50; Engineer 189:481 Ap 21 '50

Recent gas turbine developments; abstract. R. T. Nalle. S A E J 59:78-9 My '51

Relative merits of centrifugal and axial compressors for aircraft gas turbines; discussion. E. S. Moult and others. il diags Roy Aeronautical Soc J 55:129-52 Mr '51

Round table on compressor surge. J. R. Foley. diags S A E J 59:46-50 S '51

Sandwich metal stands up to heat; Rosslyn metal. G. L. Christian. il Aviation W 55: 34+ S 17 '51

Slant on turboprops for large planes. T. O. McClure, jr. Aviation W 53:43-4 D 18 '50

South Bank exhibition; aircraft propulsion. il Engineer 191:598-600 My 11 '51

Stratos to produce French baby turbine. G. L. Christian. il Aviation W 55:51-2+ Ag 27 '51

Studies on jet engines. Metal Prog 59:243-4 F '51

Surging in centrifugal and axial flow compressors. R. O. Bullock and H. B. Finger. S A E J 59:42-5 S '51; Excerpt. Automotive Ind 104:105 My 15 '51

Thin ceramic coatings on turbojet engine parts yield alloy savings. Steel 129:66 Jl 30 '51

Turbine problems in the development of the Whittle engine; abstracts. F. Whittle. Engineer 191:283-4 Mr 2 '51; Engineering 171:298 Mr 9 '51

Turbojet engine. Mech Eng 73:327 Ap '51

Turboprop engine performance. T. F. Nagey and C. G. Martin. Mech Eng 72:907-8 N '50

Turboprop installation problems; abstract. F. H. Sharp. diags S A E J 59:74 Ja '51

Westinghouse Y-ducted J-40. il Aviation W 54:14 Ap 16 '51

Wright speeds Sapphire to production. I. Stone. il Aviation W 54:22+ Ap 16 '51

See also

Airplane engines—Compounding

Airplanes, Jet propelled

After burners

Turbojet afterburning without an afterburner. H. E. Schmitt. bibliog diags Aeronautical Eng R 9:18-24 D '50

Air supply

Air inlet. bibliog il diags Aero Digest 62:76-85 Ap '51

Screens keep jet engines clean. G. L. Christian. il Aviation W 53:42-3 N 13 '50

Bearings

Analysis of the full-floating journal bearing. M. C. Shaw and T. J. Nussdorfer, jr. bibliog il diags U S Nat Advisory Com for Aeronautics 1947:95-107 '50

GAS turbines, Aircraft—*Continued*

Bibliography

Bibliography of books and published reports on gas turbines, jet propulsion, and rocket power plants. E. F. Fiock and C. Halpern. U S Nat Bur Stand Circ 509:1-64; pa 20c Supt. of doc. '51

Blades

Converted filer laps jet blades at Wright. R. Le Grand. il diags Am Mach 95:136-7 My 14 '51
Free and forced vibrations of rotating blades. R. Plunkett. bibliog J Aeronautical Sci 18:278-82 Ap '51
Gas turbine use seen for bi-metals. Product Eng 21:163-4 N '50
Infiltrated metal powder jet blades. il Am Mach 95:326 Ja 22 '51
Jet blade output hit by plant fire. Aviation W 53:15 N 6 '50
Jet blades made of powder. il Bsns W p42, 44-6 Ja 6 '51
Jet turbine blades tested in flight. Aviation W 54:33 My 21 '51
Laminar boundary layer on a rotating blade. L. E. Fogarty. bibliog diag J Aeronautical Sci 18:247-52 Ap '51
Powder metal boosts jet blade output. il Aviation W 55:30+ S 17 '51
Powdered iron blades for gas turbines. J. Geschelin. il Automotive Ind 103:40-1+ N 15 '50
Research pushed on gas turbine blade materials. A. H. Allen. il Steel 129:72-5+ Ag 27 '51
These machine tools make 14 jet blades at one time; illustrations with text. Bsns W p70+ S 29 '51
Thompson double-wheel grinder for jet-engine buckets and blades. il Am Mach 95:202 Ap 16 '51; Mach 57:207 My '51

Control

Electronic controls for jet engines. il Product Eng 22:155 F '51
Response characteristics of temperature-sensing elements for use in the control of jet engines. A. I. Dahl and E. F. Fiock. bibliog diags J Res Nat Bur Stand 45:292-8 O '50
Teleflex control gets in jet act. diag Aviation W 55:45 Ag 6 '51
Turbojet and turboprop engine controls. F. C. Mock. S A E J 59:56-7 Je '51

Cooling

Ejectors for cooling a turbojet installation. H. C. Towle and F. V. H. Judd. diags Aeronautical Eng R 10:20-4 S '51

Design

Analysis of jet-propulsion-engine combustion-chamber pressure losses. I. I. Pinkel and H. Shames. diags U S Nat Advisory Com for Aeronautics 1947:433-43 '50
Bug-hunting on the Avro Orenda jet. il diags Aviation W 55:21-2+ Ag 6 '51
Determination of elastic stresses in gas-turbine disks. S. S. Manson. diags U S Nat Advisory Com for Aeronautics 1947:241-51 '50
Effects of temperature distribution and elastic properties of materials on gas-turbine-disk stresses. A. G. Holms and R. D. Faldetta. diags U S Nat Advisory Com for Aeronautics 1947:67-73 '50
Extended life of propeller turbine engines. R. N. Dorey. il diags S A E J 58:60-5 N '50
Interference method for obtaining the potential flow past an arbitrary cascade of airfoils. S. Katzoff and others. bibliog diags U S Nat Advisory Com for Aeronautics 1947:415-32 '50
Isolated and cascade airfoils with prescribed velocity distribution. A. W. Goldstein and M. Jerison. bibliog diags U S Nat Advisory Com for Aeronautics 1947:201-15 '50
Refined design puts more power in J-47. il Aviation W 55:21-2 Jl 2 '51
Simplified design comparisons of axial compressers. F. L. Wattendorf. bibliog diags J Aeronautical Sci 18:447-59 Jl '51
Theory of unstaggered airfoil cascades in compressible flow. R. A. Spurr and H. J. Allen. bibliog diag U S Nat Advisory Com for Aeronautics 1947:551-64 '50
Thermodynamic study of the turbojet engine. B. Pinkel and I. M. Karp. bibliog diag U S Nat Advisory Com for Aeronautics 1947:599-627 '50
Turbojet-engine design for high-speed flight. W. V. Hurley. diags A S M E Trans 73:915-20 O '51; Same abr. Aero Digest 62:56-8+ My '51; Abstract. S A E J 58:80+ N '50

Efficiency

Effect of combustor-inlet conditions on performance of an annular turbojet combustor. J. H. Childs and others. il diags U S Nat Advisory Com for Aeronautics 1947:445-69 '50

Exhaust

Apparatus checks jet thermometer. diag Aviation W 53:25-6+ N 27 '50

Fuel

Aircraft gas-turbine fuels. H. A. Murray. il Oil & Gas J 49:218-19+ Mr 29 '51
Electronic brain controls fuel flow. Aviation W 55:40 S 3 '51; Steel 129:97 Ag 6 '51
Evaluating jet fuels. W. L. Nelson. Oil & Gas J 49:362 N 16 '50
Food for the gas turbine. Aero Digest 61:23+ D '50
Jet-fuel problems; abstract. K. C. Hunt. Oil & Gas J 49:37; Discussion. H. Harvey. 37-8 F 1 '51
New fuel specified for jet engines. Aviation W 55:28 Ag 20 '51
Trends in the use of aviation fuel. M. Van Winkle. Pet Refiner 30:91-2 My '51
What properties should jet fuel have? K. C. Hunt. Aviation W 54:26+; Discussion. 37+ Ja 29 '51

Ice problem

Development of the anti-icing system for the J-47 gas turbine. B. F. Morrell and N. F. Frischhertz. il S A E J 59:43-7 F '51
Gas turbine icing tests at Mount Washington, N.H. P. M. Bartlett and T. A. Dickey. il plan S A E J 59:25-8 Ja '51
Mass F-84 crashes traced to inlet icing. Aviation W 54:15 Je 18 '51

Lubrication

Closed-circuit oil system for turbojet and turboprop aircraft engines. P. H. Schweitzer. diags Aeronautical Eng R 10:16-19+ Je '51

Maintenance and repair

Turbojet engines; service experience. J. W. Bailey. S A E J 58:23-5 D '50

Manufacture

Advanced methods for machining jet engine parts; Pratt & Whitney aircraft division. il Automotive Ind 105:38-40+ Ag 15 '51
Air force, Curtiss-Wright report; machinability data for high-temperature alloys. R. Le Grand. il Am Mach 94:99-106 D 25 '50
Centrifugal steel castings for gas turbines; abstract. J. Taylor and D. H. Armitage. Metal Prog 59:868+ Je '51
Contour forming parts for jet engines. il Automotive Ind 104:45 Ap 15 '51
Cultivating the know-how of jet engine manufacture; Allison division of General motors corp. A. H. Allen. il Steel 129:90-5 S 10 '51
How G.E. makes turbojets; illustrations with text. diags Am Mach 95:135-54 F 5 '51
How GE subcontracts its jet production. diags Bsns W p61-2+ N 4 '50
Keeping tabs on production at General Electric Everett aircraft gas turbine factory. R. L. Grunewald. Mill & Factory 48:124-6 Ja '51
Lodge & Shipley right-angle chucking lathes for jet-engine production. il Mach 57:206-7 F '51
Machining studies aid aero production; salient features of the air force study. diag Aviation W 53:22+ D 18 '50
Making jet engine inducers an exacting process. J. Geschelin. il Automotive Ind 105:54-5+ Jl 1 '51

GAS turbines, Aircraft—Manufacture—*Cont.*

New machine-tool types make axial-flow jets in quantity. A. A. Merry. il Am Mach 95:99-104 Ag 6 '51

New machines solve new jet problems. il Bsns W p58+ Ag 11 '51

Operations in building General Electric new turbo-jets; illustrations with text. Mach 57:202-3 F '51

Producing Pratt & Whitney jet-engine compressor blades. G. H. DeGroat. il Mach 57:164-71 Jl '51

Production highlights in making turbine parts; illustrations with text. Automotive Ind 105:44-5 S 1 '51

Revolutionary machines and tooling are devised to finish jet engine components; Pratt & Whitney aircraft. il Steel 129:76-9+ Ag 6 '51

Targeting fixtures boost casting output. E. Preece. il diags Am Mach 95:114-16 Ja 8 '51

Three-dimensional machining of Allison jet-engine inducers. J. C. Cunningham. il Mach 57:202-5 Jl '51

Tool flexibility raises jet engine output; Pratt & Whitney aircraft. il Aviation W 55:21-2+ Ag 13 '51

Tube bender forms sheet metal components. A. Kastelowitz. il Steel 129:78-9 Ag 27 '51

Welding titanium for titans of the air; illustrations with text. Mill & Factory 48:110 F '51

Noise

Comparative study of the noise from turbo-jet and reciprocating aircraft engines in flight. S. C. Ghose. bibliog il diags Roy Aeronautical Soc J 54:697-707 N '50

Specifications

Leading foreign jet engines; tabulation. Aviation W 54:165 F 26 '51

1951 U.S. and British aircraft gas turbines; tabulation. Automotive Ind 104:172-3 Mr 15 '51

U.S. gas turbine engines; tabulation. Aviation W 54:45 F 26 '51

Starting

Cartridge turbo-starters for aeronautical gas turbines. il diag Engineer 190:635-6 D 22 '50

Cordite-charge starter for aircraft gas turbines. il Engineering 171:31 Ja 5 '51

1000 horses to start high-thrust jets. Aviation W 54:22-7 Ja 22 '51

Quick-detachable mountings; Eclipse-Pioneer jet-engine starters. il Machine Design 23:106-8 Ag '51

Starters for turbojet engines. W. D. Downs. diags S A E J 59:18-21 Jl '51; Abstract. Automotive Ind 104:35 F 1 '51

Unit controls jet starter current. il diag Aviation W 55:38-9 S 3 '51

Tables, calculations, etc.

Method of presenting the performance of turbojet engines. C. A. Meyer and H. F. Faught. diags Aeronautical Eng R 10:33-41 Ja '51

Temperature

Effects of temperature distribution and elastic properties of materials on gas-turbine-disk stresses. A. G. Holms and R. D. Faldetta. diags U S Nat Advisory Com for Aeronautics 1947:67-73 '50

Testing temperature-sensing devices. Machine Design 23:112 Ag '51

Testing

Aircraft gas turbines; General electric company's Aircraft gas turbine laboratory. il diag Mech Eng 73:22-4 Ja '51

Axial-flow compressors guarded by potentiometer watchdogs; Westinghouse electric corp. Aviation gas turbine development laboratory. R. N. Grassi and W. H. Wannamaker. il diags Power 95:90-1+ Je '51

Endurance test of turbo-propeller engine. Engineer 192:17 Jl 6 '51

Flying test beds amplify jet data. Aviation W 54:38 Mr 5 '51

Gas turbine icing tests at Mount Washington, N.H. P. M. Bartlett and T. A. Dickey. il plan S A E J 59:25-8 Ja '51

G-E aircraft gas turbine laboratory dedicated. il plan Aeronautical Eng R 10:6-7 F '51

G-E dedicates aircraft gas turbine laboratory; illustrations with text. Automotive Ind 103:32-3 D 1 '50

GE laboratory tests gas turbine components. il Product Eng 22:155 Ja '51

New General Electric aircraft gas-turbine laboratory. il Mach 57:190-1 D '50; Steel 127:98-9 D 18 '50; Am Mach 94:143 N 27 '50

Tons of conditioned air for jet engine research; Lewis flight propulsion laboratory. il Steel 128:80-1 My 21 '51

Tough tests; turboprop engine for Viscount. Aviation W 55:32 Jl 9 '51

24,000 hp. dynamometer for testing turbo-jet engine. il Automotive Ind 105:36+ S 15 '51

Uncle's a tough customer; testing jet engines; illustrations with text. Mod Ind 20:18+ N '50

Wilderness lab serves Avro; jet engine test center. il Aviation W 55:33-4 Ag 27 '51

Thrust augmentation

Desirability of completely expanded nozzles. C. B. Cohen and P. J. Evans, jr. J Aeronautical Sci 17:811-12 D '50

Turbojet afterburning without an afterburner. H. E. Schmitt. bibliog diags Aeronautical Eng R 9:18-24 D '50

Transportation

Jet engine cans give protection. Aviation W 54:29 My 21 '51; Product Eng 22:180 Je '51

GAS turbines, Automotive

Gas turbine for road vehicles. F. R. Banks. Inst Mech Eng Proc 162 no 4:445 '50; Same. Engineer 191:280 Mr 2 '51; Same. Automobile Eng 41:103-4 Mr '51

Gas turbine powered truck has power braking. W. M. Brown. diag Automotive Ind 103:43-5 D 15 '50

Gas turbine propulsion for ground vehicles. W. M. Brown. S A E J 58:52-4 N '50

Gas turbine truck. W. M. Brown. Machine Design 22:175-6 D '50

See also

Locomotives, Gas turbine

GAS turbines, Marine

Boeing gas turbine to be used by navy. il Product Eng 22:150 Mr '51

Gas turbine driven launch. il diag Engineer 190:382-3 O 20 '50; Abstracts. Engineering 170:308-9 O 20 '50; Automotive Ind 103:46+ D 1 '50; Mech Eng 73:17-18 Ja '50

Marine gas-turbine research in Britain. T. W. F. Brown. bibliog il plan diags Mech Eng 72:379-88 My '50; Discussion. 72:923-5 N '50

Marine gas turbo-alternators for tanker Auris. il diag Engineer 191:250-2 F 23 '51; Engineering 171:209-12, 224 F 23 '51; Elec R (Lond) 148:387-9 F 23 '51; Electrician 146:636-9 F 23 '51; Discussion. Engineering 171:322-3 Mr 16 '51

Naval gas turbine developments. Engineer 191:861-2 Je 29 '51

Prospects of gas turbines in naval applications. R. T. Simpson and W. T. Sawyer. bibliog diags Mech Eng 72:712-16 S '50; Same. Marine Eng 55:52-6 My '50; Discussion. Mech Eng 73:338-46 Ap '51

Testing

Testing British marine gas turbines. il Marine Eng 56:70-1 My '51

GAS washing

See also

Gas purification

GAS water heaters

Generator hook-up supplies large amounts of hot water. H. B. Wilson. diag Heat & Ven 48:75-6+ Ag '51

Water heater performance. E. S. Ross and others. Am Gas Assn Mo 33:17-19; Discussion. C. G. Segeler. 19+ Ja '51

What's new in home laundering. H. W. Kendall. Gas Age 107:28-9+ Mr 1 '51

Merchandizing

GAMA's sales shot up when each one was given real chance to win. S. C. Gorman. il Sales Management 65:82+ D 15 '50

How to sell water heaters. Gas Age 107:34+ F 15 '51

King of the Court of flame. R. L. Towne. Am Gas Assn Proc 1950:282-4

GAS water heaters—Merchandizing—*Cont.*

Sells comforts, not plumbing; automatic gas fire water heaters. L. T. White. Sales Management 65:46 D 15 '50

Why the indispensable ingredient will help keep 'em in hot water. J. F. Donnelly. Gas Age 108:46-8+ S 13 '51

Rating

Performance comes first! performance rating. C. E. Bartlett. Am Gas Assn Mo 33:9-11+ Mr '51

GAS welding

Color-match welding solves musical instrument fabrication problem; F. A. Reynolds co. L. D. Richardson. il Materials & Methods 33:82-3 Mr '51

GAS works

Costs

Cost of various gases. Gas Age 107:26-9+ Ja 18 '51

Electric equipment

Electrical dehydration of tar emulsions. W. S. McGraw. il Gas Age 106:28-30+ D 21 '50

Equipment

Central control of operations started at Hunts Point gas plant; Consolidated Edison company of New York. il diag Am Gas J 174:17-18 Ap '51

Coke-oven plant at East Greenwich gasworks. il Engineering 170:499-501 D 15 '50

Construction and development activities of United engineers & constructors, inc. C. A. Schlegel. Am Gas Assn Proc 1950:762-7

Continuous catalytic cracking process used to reform natural gas. S. W. Horsfield. flow diag il map Am Gas J 175:17-20 S '51

Cooling gas to thwart corrosion; Honolulu gas co. H. P. Saueressig. il diag Comp Air Mag 56:114-18 My '51

Corrosion of condensers, purifying equipment and precipitators. J. L. Adkins. diags Am Gas Assn Proc 1950:706-11

Extensions at East Greenwich gasworks. il Engineer 190:565-7 D 8 '50

Gas engineering and appliance directory. Gas Age 107:99-192 Je 21 '51

Maintenance of standby water gas plants. H. G. Kaess. Am Gas Assn Proc 1950:490-2

Oil gas produced in the world's first reverse flow regenerative machine; Central Hudson gas & electric corp., Poughkeepsie. R. J. Horn. diags Am Gas J 175:15-20 Ag '51

Progress in gas-making plant; a record of one hundred years of endeavour. Chem Age (Lond) 64:341 Mr 3 '51

Reforming natural gas in water gas sets; Peoples gas light and coke co. R. B. Paquette. Gas Age 107:14-16+ Mr 1 '51

Report of Koppers company, inc. G. C. Pfaff and J. H. Taussig, jr. Am Gas Assn Proc 1950:748-9

Report of the gas machinery company. K. W. Stookey. il Am Gas Assn Proc 1950:721-4

Rochester plant uses natural gas in new versatile process; Koppers-Hasche process. il Gas Age 108:29-30+ S 27 '51; Same cond. Am Gas J 175:31+ S '51

See also

Power gas corporation

Fires and fire protection

Fire prevention program. W. G. Hall. Gas Age 107:46-8+ My 10 '51

Flood problems

How Gas service co. met challenge of the Nation's worst flood. M. Serif. il Gas Age 108:17-19 Ag 30 '51

Load

Accurate temperature forecasting helps in gas operations. W. J. Hartnett. il Am Gas J 174:27+ My '51

Derivation of maximum day and maximum hour factors. G. A. S. Cooper. Am Gas Assn Proc 1950:861-71

Forecast of Nov. gas heating load; tabulation. Gas Age 106:62 O 26 '50 [cont monthly during heating season]

How can we fill summer valleys? J. F. Oates, jr. Am Gas Assn Mo 32:18-20+ N '50; Same abr. Gas Age 106:42-4+ D 7 '50

Report of subcommittee on customer load characteristics. Am Gas Assn Proc 1950:117-43

Management

Operating men plot '51 offensive. Am Gas Assn Mo 33:30-3+ Ja '51

Peak load

Graphs show vaporization of liquid in propane tanks. A. E. Wastie. Am Gas J 174:21+ Je '51

Power

1,390-kw pass-out turbine for Beckton gas works. il diags Engineering 170:346-8, 350 N 10 '50; Engineer 190:433-5 N 10 '50; Elec R (Lond) 147:723-7 N 10 '50; Electrician 145:909-10 N 10 '50

Protection

A-bomb exercise alerts gas company defenses. il Am Gas Assn Mo 33:12-13+ My '51

Defense, and how; Philadelphia gas works co. C. G. Simpson. il Gas Age 106:23-6+ N 23 '50

How well is your company protected? il plans Am Gas Assn Mo 33:2-6+ Ja '51

Operation-security; Philadelphia electric co. R. V. H. Wood. Gas Age 106:33+ D 21 '50

GASES

Action of hot ionized gases upon zirconium and copper. A. Dravnieks. bibliog diags J Phys & Colloid Chem 55:540-9 Ap '51

Brownian motion in a gas of noninteracting molecules. M. S. Green. bibliog diag J Chem Phys 19:1036-46 Ag '51

Calculation of index of refraction of gases from absorption data. M. A. Greenfield and F. W. Brown. Opt Soc Am J 40:643-6 O '50

Calculation of the molecular diameters from Sutherland's constant. M. el Nadi. J Chem Phys 19:503-4 Ap '51

Compressibility of gases at pressures up to 50 atmospheres; carbon tetrafluoride in the temperature range 0°-400°C; sulfur hexafluoride in the temperature range 0°-250° C. K. E. MacCormack and W. G. Schneider. J Chem Phys 19:845-8 Jl '51

Compressor and expander design; temperature change for reversible polytropic paths. W. C. Edmister. bibliog Chem Eng Prog 47:191-8 Ap '51

Conduction phenomena in gases. J. P. Molnar. diags Elec Eng 69:1071-6 D '50

Configuration of flexible polymethylene molecules in the gas phase. J. C. McCoubrey, J. N. McCrea and A. R. Ubbelohde. diag Chem Soc J p 1961-71 Ag '51

Critical constants of polar gases. J. S. Rowlinson. bibliog J Chem Phys 19:831-3 Jl '51

Critical review of literature on the toxicity of industrial wastes and their components to fish. P. Doudoroff and M. Katz. bibliog Sewage & Ind Wastes 22:1445-51 N '50

Diffusivity of water vapor in some common gases. F. A. Schwertz and J. E. Brow. bibliog diags J Chem Phys 19:640-6 My '51

Dispersions in gases; seventeenth annual chemical engineering symposium. bibliog flow sheets il diags Ind & Eng Chem 43:1311-80 Je '51

Effect of magnetic field on the breakdown of gases at microwave frequencies. B. Lax and others. bibliog diag J Ap Phys 21:1297-304 D '50

Effect of pressure on thermal diffusion in gases. E. W. Becker. bibliog J Chem Phys 19:131-2 Ja '51

Elementary reactions in the gas phase involving excited electronic states. K. J. Laidler and K. E. Shuler. diags Chem R 48:153-224 bibliog(231 ref, p219-24) Ap '51

Emission of radiation from diatomic gases. S. S. Penner and D. Weber. bibliog J Ap Phys 21:685-95; 22:1164-7 Jl '50, S '51

Engineering aspects of separation of gases; fractional permeation through membranes. S. Weller and W. A. Steiner. bibliog flow diags diags Chem Eng Prog 46:585-90 N '50

Gaseous diffusion as a random process. W. H. Furry and P. H. Pitkanen. bibliog diag J Chem Phys 19:729-38 Je '51

Heat transfer through gases at low pressures. R. E. Peck and others. bibliog diags A S M E Trans 73:281-7 Ap '51

GASES—*Continued*

Imprisonment of resonance radiation in gases. T. Holstein. bibliog Phys R 72:1212-33; 83:1159-68 D 15 '47, S 15 '51

Interferometric method of determining diffusion coefficients in gasous systems. C. A. Boyd and others. il diags J Chem Phys 19:548-53 My '51

Interpretation of intermolecular force parameters. S. D. Hamann. J Chem Phys 19:655-6 My '51

Interpretation of relaxation time measurements in gas mixtures. R. A. Walker. J Chem Phys 19:494-7 Ap '51

Microwave measurements of the dielectric properties of gases. G. Birnbaum and others. bibliog il diag J Ap Phys 22:95-102 Ja '51

Milwaukee studies standby gases. E. C. Brenner. diags Am Gas Assn Mo 32:9-13+ D '50; Same cond. Gas Age 106:31-6+ N 9 '50

Nuclear relaxation in gases by surface catalysis. F. Bloch. Phys R 83:1062-3 S 1 '51

Obtaining lower Btu gases by blending natural gas with other gases or air. E. C. Powers. flow chart Am Gas J 174:19 Ja '51

Pressure broadening of an ammonia inversion line for foreign gases. J. Weber. bibliog Phys R 83:1058-9 S 1 '51

Proceedings, American physical society meeting of Conference on gaseous electronics; New York, Oct. 19-21, 1950; abstracts of papers. Phys R 82:566-72 My 15 '51

Quantum mechanics of chemical kinetics of homogeneous gas-phase reactions. S. Golden and A. M. Peiser. bibliog J Chem Phys 17:620-43 Jl '49; pt 3. J Phys & Colloid Chem 55:789-808; Discussion. 808-11 Je '51

Separation of gas mixtures by mass diffusion. M. Benedict and A. Boas. diags Chem Eng Proc 47:51-62, 111-22 F-Mr '51

Sorption of gases on metals at room temperature. A. L. McClellan and N. Hackerman. bibliog J Phys & Colloid Chem 55:374-82 Mr '51

Summary of viscosity and heat-conduction data for He, A, H_2, O_2, N_2, CO, CO_2, H_2O, and air. F. G. Keyes. bibliog A S M E Trans 73:589-95; Discussion. 595-6 Jl '51

Sweep diffusion gas separation process. M. T. Cichelli, W. D. Weatherford, jr. and J. R. Bowman. bibliog il diags Chem Eng Prog 47:63-74, 122-33 F-Mr '51

Thermal conductivity of gases; measurement at high pressure. J. M. Lenoir and E. W. Comings. bibliog diags Chem Eng Prog 47:223-31 My '51

Thermodynamic properties of reactive gas mixtures. A. S. Campbell. Franklin Inst J 251:437-52 Mr '51

Third virial coefficients of polar gases. J. S. Rowlinson. bibliog J Chem Phys 19:827-31 Jl '51

Vibrational relaxation times in gases. W. Griffith. bibliog diags J Ap Phys 21:1319-25 D '50

Viscosity behavior of gases. L. A. Bromley and C. R. Wilke. Ind & Eng Chem 43:1641-8 Jl '51

See also

Absorption
Acetylene
Adsorption
Aerodynamics
Air
Ammonia
Arsine
Blast furnace gas
Bubbles
Carbon dioxide
Chlorine
Coke oven gas
Dew points
Diffusion
Electric discharges
Equation of state
Flue gas
Furnaces—Atmosphere control
Gas
Gas, Natural
Gas analysis
Gas flow
Helium
Hydrogen
Inflammable mixtures
Ionization, Gaseous
Methane
Nitrogen
Oxygen
Vapor pressure
Vaporization
Vapors

Apparatus

Continuous purification of hydrogen in a large electron-pulse chamber. W. N. English. bibliog diag R Sci Instr 22:598-600 Ag '51

Effect of molecular weight of entrained fluid on the performance of steam-jet ejectors. W. C. Holton. il A S M E Trans 73:905-7; Discussion. 907-10 O '51

Helium-bearing natural gases of the United States; analyses and analytical methods. C. C. Anderson and H. H. Hinson. il diags U S Bur Mines Bul 486:1-141; pa 70c Supt. of doc. '51

Modifications to Gooderham's continuous-flow gas analysis apparatus. R. P. Donnelly and R. Broadbent. bibliog diags Soc Chem Ind J 69(sup no 1):S27-9 '50

Portable water-flow gas calorimeter. W. J. Gooderham. diags Soc Chem Ind J 69:377-9 D '50

Simple device for weighing gases. J. W. Chittum and R. I. Grady. diag J Chem Educ 28:33 Ja '51

Use of a pitot tube in a dust-laden gas stream. T. H. Hughes and C. P. Sayles. il diags Engineer 191:503-5 Ap 20 '51

See also

Effusiometers
Nitrites—Analysis

Bibliography

Bibliography on the measurement of gas temperature. P. D. Freeze. U S Nat Bur Stand Circ 513:1-14; pa 15c Supt. of doc. '51

Liquefaction

Design and performance of a Joule-Kelvin helium liquefier. J. G. Dash and others. diags R Sci Instr 21:936-8 N '50

Liquefaction temperatures of gases. W. L. Nelson. Oil & Gas J 49:76-7 F 1 '51

Medium capacity helium liquefier. G. R. Hercus and G. K. White. il diags J Sci Instr 28:4-6 Ja '51

GASES, Asphyxiating and poisonous

Carbon disulfide and hydrogen sulfide; follow-up clinical study of low grade exposures. H. H. Rubin and others. A M A Archives Ind Hygiene & Occup Med 2:529-33 N '50

Mechanical noses sniff escaping gas; Goodyear tire and rubber co., Akron. il Nat Safety N 63:52-3 Ja '51

New developments in the chemistry of war gases. M. F. Sartori. Chem R 48:225-57 bibliog(121 ref, p254-7) Ap '51

Thermal decomposition products and burning characteristics of some synthetic low-density cellular materials. H. A. Watson and others. bibliog 6pls U S Bur Mines Rep of Invest 4777:1-16 '51

See also

Arsine
Carbon disulfide
Carbon monoxide poisoning
Hydrogen sulfide
Ketene
Mustard gas
Nitrogen oxides
Phosgene
Respiratory apparatus

GASES, Compressed

Influence of electrodes on d-c breakdown in gases at high pressure. J. G. Trump and others. bibliog Elec Eng 69:961-4 N '50

Lennard-Jones and Devonshire equation of state of compressed gases and liquids. R. H. Wentorf, jr. and others. bibliog J Chem Phys 18:1484-500 N '50

Specific heat ratio in compression calculations. W. C. Edmister. Pet Eng 22:C13-14+ D '50

Superposition approximation in statistical mechanics of compressed gases. R. W. Hart and others. J Chem Phys 19:139-40 Ja '51

Thermal conductivity of granular beds filled with compressed gases. J. L. Weininger and W. G. Schneider. bibliog diags Ind & Eng Chem 43:1229-33 My '51

Transport phenomena in dense media; thermal diffusion in compressed gases. W. L. Robb and H. G. Drickamer. bibliog J Chem Phys 19:818-20 Jl '51

See also

Gas, Natural—Compression

GASES, Kinetic theory of

Convective heat transfer from spheres in a free-molecule flow. F. M. Sauer. diag J Aeronautical Sci 18:353-4 My '51

Equilibrium hypothesis in chemical kinetics. I. Prigogine. bibliog J Phys & Colloid Chem 55:765-72; Discussion. 772-4 Je '51

Temperature dependence of the self-diffusion coefficients of argon, neon, nitrogen, oxygen, carbon dioxide, and methane. E. B. Winn. bibliog diag Phys R 80:1024-7 D 15 '50

GASES, Kinetic theory of—*Continued*

Transport properties of gases with a square-well molecular interaction potential. E. M. Holleran and H. M. Hulburt. J Chem Phys 19:232-41 F '51

GASES, Liquefied

Contribution of thermal conductivity to the ultrasonic absorption coefficient in liquefied gases. R. T. Beyer. J Chem Phys 19:788-9 Je '51

Technique for transferring cold liquids. D. S. Goalwin. diag Refrig Eng 59:251-5 Mr '51

See also

Gases—Liquefaction
Helium, Liquid
Nitrogen, Liquid

GASES, Rare

Structure of molecular compounds; compounds formed by the inert gases. H. M. Powell. pl Chem Soc J p298-300 Ja '50

Triple-dipole interaction; cohesion in crystals of the rare gases. B. M. Axilrod. J Chem Phys 19:724-9 Je '51

GASKETS

Cork gaskets electronically baked. il Automotive Ind 103:80 N 15 '50

Correlation of specification limits for gasket materials with simulated sub-zero service tests. E. F. Greenleaf. il Rubber Age 68: 557-61 F '51

Designing for economical gasketing. E. C. Frazier. diags Product Eng 22:139-44 Jl '51

Dispenser carton with slot for unreeling coils of automobile door gasket. il Mod Packaging 24:103 F '51

Don't blame it on the gasket. L. J. Murphy. il diags Mill & Factory 49:114-15 S '51

Fibre gaskets for meter couplings. M. B. Cunningham. Am Water Works Assn J 43: 231-3 Mr '51

Gaskets for the oil industry. H. H. Dunkle. diags Oil & Gas J 49:194+ O 5 '50; Same. Pet Refiner 29:135-9 N '50; Abstract. Power 94:136+ N '50

Testing

Studies of relaxation characteristics of non-metallic gasket materials. R. G. Farnam. diag India Rubber World 123:679-82+ Mr '51; Abstract. Mech Eng 73:510-11 Je '51

GASKETS, Plastic

Flexible, corrosion resistant plastic solves gasket problems; Teflon rings and tape for use in chemical processing equipment. B. G. Staples. il Materials & Methods 32:48-9 D '50

Vinyl door gaskets on Westinghouse refrigerators. il Mod Plastics 28:174 Ag '51

GASOLINE

Acid treatment of shale gasoline; hydrolysis of the acid sludge. R. C. Mathews and G. E. Mapstone. Inst Pet J 37:147-57 Mr '51

Activated carbon in solvent recovery; gasoline vapourized during manufacture of asbestos sheet packing. il Can Chem & Process Ind 35:376-7+ My '51; Same cond. Heating-Piping 23:100-1 Jl '51

Aviation gasoline and its component hydrocarbons; wartime research (1940-45). H. M. Smith and others. 19pls[in pocket] diags U S Bur Mines Bul 497:1-79; pa $1.50 Supt. of doc. '51

Comparative operating data of tractors using gasoline or L.P.G. fuel; abstracts. M. J. Samuelson. Oil & Gas J 49:76-7 F 8 '51; S A E J 59:18-20 S '51

How Garlock saves solvent; activated carbon unit recovers gasoline, reduces hazard, eliminates atmospheric pollution. il Chem Eng 58:198 Ag '51

Meeting army oil needs. B. S. Mesick. Nat Pet N 42:25-6 N 15 '50

National annual survey of commercial aviation gasoline, Oct. 1950 production. O. C. Blade. 4pls U S Bur Mines Rep of Invest 4789:1-11 '51; Excerpt. Oil & Gas J 49:238 Ap 19 '51

National motor-gasoline survey, summer 1950. O. C. Blade. 4pls U S Bur Mines Rep of Invest 4765:1-33 '50

National motor-gasoline survey, winter 1950-51. O. C. Blade. 3pls U S Bur Mines Rep of Invest 4809:1-34 '51; Excerpts. Oil & Gas J 50:102 Ag 16 '51

Plasticized gasoline. Chem W 69:26+ O 13 '51

Relative economics of LPG, gasoline, and Diesel fuel in trucks and buses. E. S. Corner and E. H. Berg. bibliog Am Pet Inst Proc 31 M(3):262-70 '51; Excerpts. Automotive Ind 105:48-9 Jl 1 '51; Nat Pet N 43: 31-2 My 9 '51; Discussion. Am Pet Inst Proc 31 M(3):270-2 '51

Role of gasoline in engine development; abstract. D. P. Barnard. Automotive Ind 104: 86+ F 1 '51

Spring-summer gasoline to oil ratio down. P. Wollstadt. map Nat Pet N 43:32 Mr 14 '51

Symposium on the Institute of petroleum safety codes; gasoline vapour concentration tests; danger areas. E. J. Sturgess and others. Inst Pet J 37:170-81 Ap '51

See also

Airplane engines—Fuel
Automobile engines—Fuel
Automotive fuel
Gasoline service stations
Internal combustion engines—Fuel
Motor truck engines—Fuel
Petroleum refining

Analysis

Compound types in gasoline by mass spectrometer analysis. R. A. Brown. bibliog Anal Chem 23:430-7 Mr '51

Determination of free sulfur in gasoline. K. Uhrig and H. Levin. bibliog Anal Chem 23: 1334-5 S '51

Determination of *n*-paraffins in gasoline, oils, and paraffin waxes. W. Leithe. Anal Chem 23:493-5 Mr '51

Determination of tetraethyllead in gasoline by X-ray absorption. S. W. Levine and A. H. Okamoto. bibliog Anal Chem 23:1293-6 S '51

Sweetening and desulfurization of light petroleum products; analysis of sulfur compounds in light petroleum distillates. V. A. Kalichevsky. bibliog il Pet Refiner 29:113-15 D '50

Test for polysulfides in gasoline. G. E. Mapstone. Pet Refiner 30:125-6 S '51

Tetraethyllead in gasoline; symposium. V. A. Smith and others. bibliog il diags Anal Chem 22:1230-61 O '50

Anti-knock and anti-knock mixtures

Antiknock antagonists. H. K. Livingston. bibliog Ind & Eng Chem 43:663-71 Mr '51

Bonus fuels from selective blending. T. H. Risk and D. MacDonald. il Pet Processing 6:618-21 Je '51

Boron stops knock; adding element to leaded gasoline. Bsns W p20 Mr 31 '51

Gasoline octane likely to drop one number with lead allocation. Nat Pet N 43:31 Mr 14 '51

Gasoline octanes begin to suffer as TEL allocation has its effect. Nat Pet N 43:18-19 Ap 25 '51

Lower paraffin hydrocarbons; catalytic conversion by boron fluoride with hydrogen fluoride. E. C. Hughes and S. M. Darling. bibliog Ind & Eng Chem 43:746-50 Mr '51

New light on improving gasoline anti-knock quality. T. H. Risk and M. L. Alspaugh. Oil & Gas J 50:66-9+ Ag 30 '51

New octane trend. Oil & Gas J 49:60-1 My 3 '51

1950 summer octanes reported highest. Nat Pet N 43:20 Ja 17 '51

Octane cut; both sides of argument heard by PAD. B. F. Linz. Oil & Gas J 49:29 F 1 '51

Octane numbers of gasolines hit record levels last summer. O. C. Blade. Oil & Gas J 49:99 F 8 '51

Octane numbers show downward trend. Pet Eng 23:C46 Ag '51

Octane-rating drop. Oil & Gas J 50:174 Jl 26 '51

Octane ratings leveling off, Du Pont survey shows; tabulation. Oil & Gas J 49:167 Ja 25 '51

Octane squeeze. Fortune 43:114-15+ My '51

PAD still strong for octane ceiling. Nat Pet N 43:19-20 Ja 24 '51

PAD's proposed octane ceiling order faces fight on intermediate grade. Nat Pet N 43: 19-20 Ja 17 '51

Potentialities of fuel antiknock qualities. H. E. Hesselberg and W. G. Lovell. S A E J 59:32-7+ Ap '51

GASOLINE—Anti-knock and anti-knock mixtures—*Continued*

Production of high-octane gasoline components. A. A. Draeger and others. bibliog Pet Refiner 30:71-6 Ag; 107-11 S '51 (to be cont)
Quality and performance of petrol; abstract. M. L. McLaughlin. Chem & Ind p47-8 Ja 20 '51
Relation of octane number to cool flame formation. M. R. Barusch and J. Q. Payne. bibliog diags Ind & Eng Chem 43:2329-32 O '51
Road antiknock performance of motor gasolines. M. L. Alspaugh and C. A. Hall. Pet Processing 6:854-60 Ag '51
Road testing petroleum products. I. T. Rosenlund. il Pet Processing 6:510-16 My '51
Some protest, others agree on PAD's proposed gasoline octane ceilings. Nat Pet N 43:17-20 Ja 31 '51
Survey shows octane hike for regular and premium gasoline in most cities; tabulation. Nat Pet N 42:49 N 8 '50
TEL cut; Sun oil co. explains its stand on PAD proposal to lower octane rating of motor gasoline. Oil & Gas J 49:56 F 8 '51
Trends in fuels and engine design; charts. Automotive Ind 103:42 D 1 '50
What lower octanes mean to oil marketers. H. Ridder. Nat Pet N 43:49-53 Ag 22 '51

Blending

Bonus fuels from selective blending. T. H. Risk and D. MacDonald. il Pet Processing 6:618-21 Je '51

Ethyl mixtures

Leaded gasoline cannot poison gas indicator. il diag Product Eng 22:186 F '51
Majors push uniform TEL reduction with exemptions for small refiner. Nat Pet N 43:30-1 F 7 '51
PAD cuts large users of TEL fluid in civilian gasoline by allocation. Nat Pet N 43:22-3 F 28 '51

Evaporation losses

Evaporation losses held near zero; Moorhead, Minn., products pipe-line terminal. R. N. Creek. il diag Oil & Gas J 50:129-30+ My 10 '51
How to save money by stopping product leaks in petroleum bulk plants and terminals. Nat Pet N 42:17-24+ N 22 '50
Standing evaporation losses for different liquids. W. L. Nelson. Oil & Gas J 49:202 F 22; 78 Mr 1 '51

Gum content

Bad gasoline shipment in Midwest damages engines, public confidence. Nat Pet N 43:30 Ag 15 '51

Manufacture

Alkylation commands new interest from refiners. W. L. Bolles. il Pet Refiner 30:150-1 S '51
Alkylation plant improvements. D. H. Putney. diags Pet Eng 23:C27-8+ Je '51; Same. Pet Refiner 30:89-94 Je '51; Same abr. Pet Processing 6:744-8 Jl '51
Another way to get aromatics; Houdry's new continuous catalytic process converts low-octane naphthas to aromatics or high-octane gasolines. il diag Chem Eng 58:196+ Je '51
Aromatics by Platforming. V. Haensel and C. V. Berger. il Pet Processing 6:264-7 Mr '51
Atlantic catalytic reforming process. flow diag il Pet Refiner 30:187+ S '51
Atlas processing co. installs benzene extraction and platforming units. flow diags il Oil & Gas J 50:120+ S 13 '51
Aviation fuels; problem of improving their quality in event of war. D. Read. flow diags diag Oil & Gas J 49:68-9+ Mr 15 '51; Same. Pet Refiner 30:130-6 Mr '51
Catalytic cracking. M. Sittig. bibliog and patent list flow diags il diags Pet Refiner 29:91-5 Je; 99-104 Ag; 130-6 O; 125-32 N '50
Catalytic cracking and reforming processes for increasing the yield and octane number of gasoline; abstract. S. D. Dalton and T. P. Simpson. Pet Processing 6:601 Je '51
Catalytic cracking more attractive than ever with new design improvements; Socony-Vacuum airlift TCC unit. flow diag il Pet Refiner 30:164-5+ S '51
Catalytic polymerization process. flow diag Oil & Gas J 49:192-3 Mr 29 '51
Catalytic reforming process. flow diag Oil & Gas J 49:186-7 Mr 29 '51
Chemical engineering unit processes fourth annual review; pyrolytic and catalytic decomposition of hydrocarbons. V. Haensel and M. J. Sterba. bibliog(86 ref) il Ind & Eng Chem 43:2016-22 S '51
Chemistry of inhibitor sweetening. R. H. Rosenwald. bibliog diag Pet Processing 6:969-73 S '51
Chemistry of the acid treatment of gasoline. G. E. Mapstone. bibliog(84 ref) il Pet Refiner 29:142-50 N '50
Continuous contact coking. flow diag Oil & Gas J 49:190-1 Mr 29 '51
Corrosion-prevention in a TCC gas plant. C. A. Murray and M. A. Furth. bibliog flow diag il diags Pet Eng (Ref annual) 23:C3+ Jl 15 '51; Same abr. Am Pet Inst Proc 31 M(3):99-105 '51; Same abr. Oil & Gas J 50:112+ My 24 '51; Same cond. Pet Processing 6:504-6 My '51; Discussion. Am Pet Inst Proc 31 M(3):105-6 '51
Cycloversion catalytic cracking. flow diag Oil & Gas J 49:180-1 Mr 29 '51
Cycloversion reforming process. flow diag Oil & Gas J 49:182-3 Mr 29 '51
Delayed coking process. flow diag Oil & Gas J 49:190-1 Mr 29 '51
Details on reforming with platinum revealed in new Atlantic patent. Pet Processing 6:887+ Ag '51
Evolution of a process; moving-bed process, Thermofor, Houdriflow, pyrolytic cracking, etc. M. Sittig. diags Chem Eng 57:106-8+ D '50
Fluid catalytic cracking. flow diags Oil & Gas J 49:178-9 Mr 29 '51
Fluid hydroformer converts 55 octane naphtha to 98-175. Automotive Ind 105:47+ S 15 '51; il Chem Eng 58:244+ S '51
Fluid hydroforming. G. Weber. flow diag Oil & Gas J 50:53-4 Je 14 '51
Fluid hydroforming; abstract. E. V. Murphree. diag Pet Processing 6:601-2 Je '51
Fluid hydroforming process. bibliog flow diag Pet Refiner 30:192+ S '51
Gladewater adds Perco reforming unit. H. A. Grebe and others. il Pet Refiner 30:156-7 My '51; Same. flow diag Oil & Gas J 49:80-1 Ap 12 '51
High destruction thermal cracking of catalytic cycle oil. D. M. Little and G. E. Merryfield. diags Oil & Gas J 49:242+ Mr 29 '51
Houdriflow catalytic cracking. flow diag Oil & Gas J 49:180-1 Mr 29 '51
Houdriforming. flow chart il Pet Refiner 30:190-2 S '51
Houdriforming, a continuous process for reforming petroleum naphthas. C. G. Kirkbride. flow chart il Pet Refiner 30:95-8 Je '51; Same. Pet Processing 6:603-6 Je '51; Same. Oil & Gas J 50:60-2+ Jl 5 '51; Same. Pet Eng (Ref annual) 23:C9-12 Jl 15 '51
Hydrofluoric acid alkylation. flow diag Oil & Gas J 49:194-5 Mr 29 '51
Hydrofluoric acid alkylation. bibliog diag Pet Refiner 30:159-61 S '51
HF alkylation today. D. P. Thornton, jr. flow diag il Pet Processing 6:488-91 My '51
Hydroforming process. flow diag Oil & Gas J 49:184-5 Mr 29 '51
H_2SO_4 alkylation; pictured flow sheet. Chem Eng 58:212-15 S '51
Improved alkylation process. G. Weber. flow chart il Oil & Gas J 49:78+ D 28 '50
Improvements in sulfuric acid alkylation process. flow diag il Pet Refiner 30:93-4 F '51
Lower acidity sulfuric acid alkylation. E. C. Hughes, D. G. Stevens and F. Veatch. bibliog diag Ind & Eng Chem 43:1447-51 Je '51
Magnolia's Beaumont T.C.C. units employ catalyst air-lift system. F. L. Resen. il diag Oil & Gas J 50:66-7+ Je 28 '51
Many new catalytic reforming processes now available. Pet Refiner 30:183-4 S '51
Mercapsol process. flow diag Oil & Gas J 49:200-1 Mr 29 '51

GASOLINE—Manufacture—*Continued*

More high octane and benzene promised by new process; catalytic reforming process. il diag Chem & Eng N 29:761-2 F 26 '51; flow diag Chem Eng Prog 47:sup20+ Mr '51; Pet Refiner 20:86-7 Mr '51
Moving bed recycle catalytic cracking correlations; product distribution and process variables. J. B. Maerker, J. W. Schall and J. C. Dart. Chem Eng Prog 47:95-101 F '51
New catalytic reformer produces aromatics. flow chart Pet Eng 23:C47-8 Ap '51
New caustic regeneration process improves mercaptan sulfur removal. O. J. Zandona and C. W. Rippie. flow diag il Pet Processing 6:136-7 F '51
New Platforming units for Wood River, Houston refineries. G. Weber. Oil & Gas J 49:43 N 23 '50
New refining process; Atlantic Refining introduces method which promises high octane yield. G. Weber. flow chart il Oil & Gas J 49:129-31 F 22 '51
New reforming catalyst; Thermofor catalytic reforming process; abstract. E. C. Hughes and others. Oil & Gas J 50:167-8 S 20 '51
Perco copper sweetening. flow diag Oil & Gas J 49:202-3 Mr 29 '51
Platforming of pure hydrocarbons. V. Haensel and G. R. Donaldson. Ind & Eng Chem 43:2102-4 S '51
Platforming process. flow diag Oil & Gas J 49:184-5 Mr 29 '51
Platforming process; abstract. V. Haensel. Chem & Eng N 29:1830 My 7 '51
Process systems applicable to military aviation fuel manufacture. D. Read. flow diags diag Pet Refiner 30:130-6 Mr '51
Production of high-octane gasoline components. A. A. Draeger and others. bibliog Pet Refiner 30:71-6 Ag; 107-11 S '51 (to be cont)
66,000 bbl a day platforming capacity. flow diag il Pet Eng 23:C33-6 Ap '51
Sodafining; catalytic gasoline-stability control by caustic washing. M. C. K. Jones. il Oil & Gas J 49:88-9+ Ap 12 '51
Sulfuric acid alkylation. flow diag Oil & Gas J 49:194-5 Mr 29 '51
Sulfuric acid alkylation. flow diag diags Pet Refiner 30:152+ S '51
Sulfuric acid alkylation for gasoline. J. W. Jewell, jr. and C. C. King. flow diag diags Pet Eng 23:C24-6+ My '51; Same. Oil & Gas J 50:120+ Ag 16 '51
Sunray cat-cracker sets world record. il Pet Eng 22:C46 D '50
Tannin solutizer process. flow diag Oil & Gas J 49:202-3 Mr 29 '51
TCC cracking of Rocky Mountain crudes. A. L. Foster. il diags Pet Eng 22:C7-12 N '50
Thermal cracking. flow diag Oil & Gas J 49:188-9 Mr 29 '51
Thermofor catalytic cracking. flow diag Oil & Gas J 49:182-3 Mr 29 '51
39 per cent benzene yields from a C_6 straight-run fraction. flow diag Pet Processing 6:249-50 Mr '51
Two new air-lift type TCC units put into operation. il diag Pet Refiner 30:95-6 Mr '51
Unisol process. flow diag Oil & Gas J 49:200-1 Mr 29 '51
U.O.P. Platforming. flow diag il Pet Refiner 30:184+ S '51
Why avgas is tight; what one refinery had to do to fill a relatively small military contract. H. D. Ralph. il Oil & Gas J 49:40-1 N 30 '50

See also
Gasoline, Natural—
Manufacture

Hydrogenation process

Bibliography of pressure hydrogenation; review and compilation of the literature on pressure hydrogenation of liquid and solid carbonaceous materials. J. L. Wiley and H. C. Anderson. U S Bur Mines Bul 485:1-306; pa $1.25 Supt. of doc. '50

Hydrogenation process (coal)

Vapor-phase hydrogenation of light and heavy oils. M. L. Wolfson and others. bibliog diags Ind & Eng Chem 43:536-40 F '51

Synthol process

Synthesis gasoline plant will start in South Africa. Mech Eng 73:581-2 Jl '51
Synthol development in Kellogg laboratories. il Pet Eng 23:C68 Jl '51

Measurement

How to reduce product stock loss at stations. Nat Pet N 42:17-19 N 29 '50

Price cutting

Court approval of uniform discount solid footing in antitrust swamp. R. E. Bjorkback. Nat Pet N 42:27 D 13 '50
Court rules Sun, dealers have right to lower prices to meet competition. Nat Pet N 42:29 D 6 '50
Detroit case ruling backs good faith, has no joker, oil counsel advises. Nat Pet N 43:26 Ja 17 '51
Gallonage snatching induces price wars. Nat Pet N 43:23-4 Ag 22 '51
Gas war spreads. Bsns W p26 Je 2 '51
Gasoline pricing; FTC fights for ruling on old Detroit case. Oil & Gas J 49:103 N 30 '50
Jobbers approve Detroit case ruling as boost to competitive marketing. L. Castle. Nat Pet N 43:28 Ja 17 '51
Price reduction made in good faith approved in Supreme court's FTC-Detroit case decision. Nat Pet N 43:21-2 Ja 10 '51
Senators driving for law to protect Supreme court Detroit case ruling. Nat Pet N 43:15 Ja 31 '51
Someone should tell oil investigators facts about marketing competition. R. E. Bjorkback. Nat Pet N 43:29-30 Ja 17 '51
Sun asks court to halt picketing of Camden stations. Nat Pet N 43:34 S 5 '51
Sun fights pickets by telling public they oppose competitive price drop. R. E. Bjorkback. Nat Pet N 43:25 Ag 22 '51
What FTC-Detroit decision means to marketers. Nat Pet N 43:27-8 Ja 17 '51

Price fixing

Gasoline price control won't keep customers from buying elsewhere. R. E. Bjorkback. Nat Pet N 43:31 Mr 28 '51
State price control of oil urged by North Carolina attorney general. H. McMullan. Nat Pet N 43:27 Ag 1 '51

Prices

Jobber cost study backs higher margin bid. Nat Pet N 43:32-3 Ap 4 '51
Jobber margin squeeze. Nat Pet N 43:18 Ja 24 '51
Los Angeles given special ceilings on retail, wholesale gasoline prices. Nat Pet N 43:25-6 Ag 1 '51
1950 service station gasoline prices down, taxes up. Nat Pet N 43:35 Ja 3 '51
OPS names local price specialist after study of amazing market. F. Breese. Nat Pet N 43:26 My 9 '51
Sun's program to show how competition makes prices starts at grass roots. R. E. Bjorkback. Nat Pet N 42:27 O 25 '50
Wholesale price of gasoline, tank wagon, New York; monthly figures and monthly averages, 1935-1949; revised data. Survey of Cur Bsns 31:24 Ja '51

Rating

Winter gasoline. Consumers Res Bul 27:18-19 Mr '51

Sulfur content

Adding sweetening agents to sour gasoline; patent. Pet Processing 6:643 Je '51
Cycloversion desulfurization. flow diag Oil & Gas J 49:198-9 Mr 29 '51
SO_2 and SO_3 in exhaust gases of internal-combustion engines. M. J. van der Zijden and others. bibliog diags Inst Pet J 36:561-74 S '50
Sodium plumbite treating methods and equipment. L. S. Daniels. flow diag il diags Pet Refiner 30:138-42 Ja '51
Sweetening and desulfurization of light petroleum products; analysis of sulfur compounds in light petroleum distillates. V. A. Kalichevsky. bibliog il Pet Refiner 29:113-15 D '50
Test for polysulfides in gasoline. G. E. Mapstone. Pet Refiner 30:125-6 S '51
What's the trouble with caustic regenerative gasoline treating. C. W. Rippie. Pet Eng 23:C127 Jl '51

GASOLINE—*Continued*

Taxation

Essential defense role of gasoline ignored in proposals to hike federal, state taxes. Nat Pet N 43:24-5 Ja 24 '51

Gasoline tax in relation to automobile operation and highway costs. E. M. Cope and L. L. Liston. Pub Roads 26:157-61 Je '51

How lawmakers vote on these proposals will mean much to industry's future. Nat Pet N 43:25-9 Ja 24 '51

How states have acted on oil legislation. Nat Pet N 43:56-8 My 23 '51

1950 service station gasoline prices down, taxes up. Nat Pet N 43:35 Ja 3 '51

State and federal taxes on gasoline exceed luxury rate in all 48 states. map Nat Pet N 43:33 Mr 7 '51

Tax official outlines way to trace shipments of motor fuel by barge. Nat Pet N 43:28 Ag 1 '51

Testing

Effects of pressure and other variables on determinations of octane number. W. J. Levedahl. J Res Nat Bur Stand 45:148-53 Ag '50

Engine dynamometer control for fuel evaluation by stimulated road tests; abstracts. A. R. Isitt and others. diags Pet Processing 6:52-5 Ja '51; S A E J 59:42-4 Mr '51

Evaluating fuels for high compression engines; abstracts. M. M. Roensch and J. C. Hughes. Automotive Ind 103:50-1+ N 1 '50; S A E J 58:17-22 D '50

Motor fuel octane higher but more cars knock on gasoline available in 1949 than in 1948. H. W. Best and others. Nat Pet N 42:20-3 N 29 '50

Road antiknock performance of motor gasolines. M. L. Alspaugh and C. A. Hall. Pet Processing 6:854-60 Ag '51

Transportation

See also

Gasoline pipe lines

Tank trucks

Volatility

Fuel volatility; trends and problems. W. M. Holaday and D. P. Heath. S A E J 59:45-51 My '51

Motor fuel volatility trends. W. M. Holaday and D. P. Heath. Pet Processing 6:158-60, 279-80 F-Mr '51; Abstracts. Automotive Ind 104:91 F 1 '51; Nat Pet N 43:45-6 Ja 17 '51

GASOLINE, Natural

California natural gasoline association annual meeting, Los Angeles, Nov. 9-10. Oil & Gas J 49:188-9 N 16 '50

Natural gasoline, cycling plants record greatest production gain in history. J. C. Casper. Oil & Gas J 50:201 Jl 26 '51

Phenomenal growth marks natural-gasoline expansion in Southwest. C. O. Wilson. il Oil & Gas J 50:supp 374-6+ My 31 '51

Reforming of natural gasoline may solve surplus problem. Pet Processing 6:807-8 Ag '51

Series on new highs reached by light-hydrocarbons industry. J. C. Casper. Oil & Gas J 49:208-9 Ja 25 '51

Southwest natural gasoline personalities. Oil & Gas J 50:supp 398-9 My 31 '51

Trend in refinery use of natural gas liquids. Pet Processing 5:1264 D '50

Manufacture

California, Nation's second-ranking state in natural-gasoline-plant capacity. il Oil & Gas J 49:A59-60 N 9 '50

Centrifugal compressors in operation at Seeligson operators' plant. D. T. McDonald. il diag Pet Processing 6:622-5 Je '51; Same cond. Oil & Gas J 50:246+ Jl 26 '51

Daily input capacity of new plants will exceed billion and a half cubic feet. R. B. Tuttle. Oil & Gas J 50:224-5 Jl 26 '51

Efficiency characteristics of commercial absorbers. E. G. Ragatz. Pet Refiner 29:117-24 D '50

Financial significance of fractional analysis. H. H. Beeson. Oil & Gas J 49:172+ Ap 19 '51

Fractionating unit stabilizes crude oil natural gasoline. flow sheet il Pet Refiner 29:151-2 N '50

Gas gathering facilities of the Snyder gasoline plant. H. G. Teverbaugh. flow diag il diag World Oil 133:275-8+ S '51

Gasoline and cycling plant operation. D. Thornton. Published in monthly numbers of Petroleum processing

Gasoline plant absorber performance. R. A. King. Pet Eng (Ref annual) 23:C14-16+ Jl 15 '51

Gasoline plant at Snyder nears completion. Pet Eng 23:C16 F '51

Gulf Oil's plant at Eunice, N.Mex., completing two years of operation. H. T. Griffin and J. Hoover. flow sheet il Oil & Gas J 49:148-50+ Ap 19 '51

High sulfur gas handled efficiently; Gulf Waddell gasoline plant. A. L. Foster. il diag Pet Eng 23:C7-10 Ap '51

How to test operating efficiency of a natural-gasoline plant. J. B. Armstrong. Oil & Gas J 49:93-7 Ja 11 '51; Same. Pet Eng (Ref annual) 23:C20+ Jl 15 '51; Same. Pet Refiner 29:125-8 D '50

Hydrogen sulfide in west Texas. W. A. Cunningham. map Ind & Eng Chem 42:2238-41 N '50

Influence of production practice upon natural-gasoline recovery from condensate fields. B. H. Sage. bibliog diag Oil & Gas J 49:65-9 F 1 '51

Kermit plant built for present and future. il Pet Eng 23:C24-6+ Ap '51

Maintenance facilities in gasoline cycling plants. H. Givens. il Pet Refiner 30:77-80 Ap '51

Midland's Conroe gasoline plant. C. C. McKee and C. W. Miller. flow sheet il Oil & Gas J 49:146-7+ Ap 19 '51

More treating facilities being completed at Chesterville, Tex. gasoline plant. F. L. Resen. il map Oil & Gas J 49:161+ Ap 19 '51

Most economical gas plant; Upham gas company's gasoline plant. E. D. Soltes. il diag Pet Eng 22:C34-6 N '50

Natural-gas processing; a review of its history, and a resume of current developments. V. E. Middlebrook. diags Oil & Gas J 49:85-7+ D 7 '50

N.G.A.A. low-temperature fractional-analysis seminar. Fort Worth, March 15-16; abstracts of papers. Oil & Gas J 49:205-6 Ap 19 '51

Natural gasoline; today's equipment; from reports at California natural gasoline assn. 25th annual meeting, Los Angeles, Nov. 9-10. Pet Processing 5:1320-4 D '50

New field processing plants exceed billion-foot daily capacity. R. B. Tuttle. Oil & Gas J 49:251+ Ja 25 '51

New gasoline plant; Shell starts operation of Provident City facilities. il Oil & Gas J 49:32 Ja 4 '51; Pet Refiner 30:84 Ap '51

Newest gas processing plant; unitization project at Elk City. D. P. Thornton, jr. flow sheet il diag Pet Processing 6:736-9 Jl '51

Observations and problems in recovery and retention of light hydrocarbons. A. M. L. Kube. flow sheet diags Oil & Gas J 49:98-100+ F 15 '51; Same. Pet Processing 6:138-43 F '51

Packaged gasoline plant is completely portable. L. S. Gregory. flow plan diag Oil & Gas J 49:60-2+ N 30 '50

Panoma plant achieves low maintenance-operation costs. I. E. Nutter and C. D. Van Vliet. flow chart il Pet Refiner 30:71-6 Ap; 98-102 My '51

Platforming natural gasoline, its potentialities for the industry. W. F. Fulton. flow diag Pet Refiner 29:109-12 D '50

Plymouth's operations at Benedum. R. F. Carlson. il Oil & Gas J 49:71+ N 23 '50

Process steam generated by using waste heat. J. C. Albright. il Pet Refiner 30:119-21 Mr '51

Reservoir data sheet for gasoline-plant calculations. J. A. Kornfeld. Oil & Gas J 49:171 Ap 19 '51

Selection of treating processes for gasoline plants. G. M. Brooner. il diags Pet Refiner 30:95-9 Ap '51; Same. Oil & Gas J 49:184+ Ap 19 '51

Small still in gasoline plant has dual function. J. C. Albright. il Pet Refiner 30:130 Je '51

GASOLINE, Natural—Manufacture—*Cont.*

Snyder gasoline plant designed to process 70,000 m.c.f. of gas daily. H. W. Manley. flow diag il plan diags Oil & Gas J 49:174-6+ Ap 19 '51

Survey of natural-gasoline plants. Oil & Gas J 49:193-4+ Ap 19 '51

Taylor-Mayfair cycling plant achieves efficiency with simplicity. L. Gross and C. T. Wells. flow chart il Pet Refiner 30:115-19 F '51

Testing natural gasoline plant stabilizer. W. L. Nelson. Oil & Gas J 49:134 My 3 '51

Water treatment in natural-gasoline plants. B. J. Willard and T. L. McCaleb. il Oil & Gas J 49:78+ Mr 8 '51

Statistics

Natural gasoline increase largest on record; with tabulated statistics of production, 1911-1950. World Oil 132:154-5 F 15 '51

GASOLINE handling

High-speed filling plant moves oil for navy. F. A. Edwards. il Nat Pet N 43:31+ My 30 '51

See also

Gasoline pumps

GASOLINE industry

Consignee headaches; survey shows low commissions, credit and manpower lack are biggest problems. F. C. Sturtevant. il Nat Pet N 43:46-8 Je 27 '51

Dealers demand meeting with suppliers in effort to relieve bad practices. L. Castle. Nat Pet N 43:35-6 S 5 '51

Ethyl splits engines apart in product training clinics. il Sales Management 67:90-1 O 1 '51

How consignees operate. F. C. Sturtevant. il Nat Pet N 43:29-31+ My 23 '51; Discussion. 43:48+ Je 27 '51

Richfield of New York promotes plan to spur sale of premium gasoline. R. E. Bjorkback. Nat Pet N 42:33-4 N 15 '50

Supplier-jobber understanding needed to end protests on commercial accounts. R. E. Bjorkback. Nat Pet N 43:19 Ja 10 '51

Supplier practices called harmful even though they toe legal line. J. E. Stevens. Nat Pet N 43:27-8 Jl 25 '51

Survey shows declining jobber profits. J. F. Cummins. Nat Pet N 43:27 Ja 31 '51

Temperature correction vanishes as an independent-major issue. L. E. Castle. Nat Pet N 43:37 F 7 '51

What lower octanes mean to oil marketers. H. Ridder. Nat Pet N 43:49-53 Ag 22 '51

Advertising

Good copy is worth more than high poster intensity. M. Harper. il Adv Agency 44:80+ Jl '51

Why Shell activated its public relations advertising. M. Beuick. il Ptr Ink 234:36-7 Mr 16 '51

Laws and regulations

How states have acted on oil legislation. Nat Pet N 43:56-8 My 23 '51

Statistics

Bureau of mines predicts 36 per cent greater motor fuel use in 1965 than 1947. Nat Pet N 42:14 N 8 '50

Elasticity of demand for Tennessee gasoline. L. Clark. J Marketing 15:399-414 Ap '51

California

California, Nation's second-ranking state in natural-gasoline-plant capacity. il Oil & Gas J 49:A59-60 N 9 '50

Canada

Survey shows Canada octane ratings on gasoline increased during 1950. Nat Pet N 43:31 Jl 11 '51

Middle western states

Bad gasoline shipment in Midwest damages engines, public confidence. Nat Pet N 43:30 Ag 15 '51

North Carolina

Carolina jobbers hit margin squeeze. Nat Pet N 43:19 Je 27 '51

State price control of oil urged by North Carolina attorney general. H. McMullan. Nat Pet N 43:27 Ag 1 '51

Unbranded gas as good as name brands, North Carolina tells drivers. Nat Pet N 43:30 S 5 '51

Tennessee

Elasticity of demand for Tennessee gasoline. L. Clark. J Marketing 15:399-414 Ap '51

GASOLINE-oxygen cutting

Gas-oxygen cutting torch. J. A. Browning. il Mech Eng 73:414-15 My '51

GASOLINE pipe lines

Short line may also present complex operations. Pet Eng 23:D122 My '51

GASOLINE pumps

Serving two cars at same time with one pump. il plan Nat Pet N 43:29-30 Jl 4 '51

GASOLINE service stations

Balanced sales at service stations. F. A. Bean. Nat Pet N 43:56+ Ag 1 '51

Battery of promotional guns used to open five stations on same day. M. C. Reid. il Nat Pet N 43:54 My 9 '51

Behind the opening; planning, promotion methods that started eight service stations in business on the same day. J. Barton. il Nat Pet N 42:14-16 D 20 '50

Dealer initiative provides spark in oil progress display experiment. F. C. Sturtevant. il Nat Pet N 42:58-9 N 15 '50

Dealer maps urged to define market. Nat Pet N 43:54 Jl 25 '51

Garage trade; how many filling stations? Economist 160:754-5 Mr 31 '51

How company built service station business; Martin oil company. il plan Nat Pet N 43:36-8 Ap 25 '51

How station salesmen sell. N. Hall. Nat Pet N 43:50-3 My 23 '51

How to cut station, plant building costs; independent finds answer by using company employes and salvaging old materials. L. Castle. il plan Nat Pet N 43:42-5 My 16 '51

How to get station building blanks; list of Commerce department field offices where NPA construction application forms can be obtained. Nat Pet N 43:50 Ja 31 '51

How to reduce product stock loss at stations. Nat Pet N 42:17-19 N 29 '50

Jobber streamlines driveway service. il Nat Pet N 43:15 Je 27 '51

Lube oil to gasoline sales ratio less at high gallonage stations. Nat Pet N 42:57 N 15 '50

Modern station in Italy offers complete one-stop service, many extra facilities. il Nat Pet N 42:24, cover D 13 '50

NPA field offices get OK to handle station building hardship requests. Nat Pet N 43:34 F 7 '51

NPA lifts cost ceiling on station building. Nat Pet N 43:17 Ag 8 '51

NPA removes more items from costs in revising station building rules. Nat Pet N 43:19-20 My 30 '51

NPA reports most station building applications approved. Nat Pet N 43:68 Ap 11 '51

New station for old symbolizes how jobber has grown with oil; Sweney gasoline & oil co. il Nat Pet N 43:53-4 Jl 11 '51

Oil men may file building requests for new stations prior to Feb. 15. Nat Pet N 43:21-2 Ja 24 '51

Promotion drive opens station with bang; Mid-continent petroleum corp. il Nat Pet N 43:52-3 Jl 25 '51

Screwball station tests how many motorists will go for zany selling. F. Breese. Nat Pet N 43:26 Ja 3 '51

Service station partnerships; independent oil jobber's system of having partners operate outlets. J. Barton. il Nat Pet N 43:36-8 Mr 28 '51

Station restrictions may aid jobber. G. L. Switzer. Nat Pet N 43:21-3 Je 20 '51

Station split into self-serve, conventional. A. R. Patla. il Nat Pet N 43:25-7 Ap 18 '51

Station vetoes by local NPA offices work hardship on motoring public. L. Castle. Nat Pet N 43:43 Ap 4 '51

Token system of inventory control; what it is and how it operates. W. S. Martin. Nat Pet N 43:55 Ja 17 '51

Value of station construction permits is 47 per cent higher in 1950 than in 1949; list. Nat Pet N 43:33 Ap 18 '51

GASOLINE service stations—*Continued*

Automobile accessories

Canadian TBA men look for good selling ahead; tires, accessories in good supply. F. C. Sturtevant. il Nat Pet N 43:62-3+ Ap 4 '51

Case to save trouble; deny monopoly, Standard companies settle FTC-Atlas. Nat Pet N 43:26 Je 20 '51

Consignee's balanced selling policy pays off in big TBA, gasoline gains. J. Shaw. il Nat Pet N 43:72+ S 5 '51

Get stations to sell transportation, including TBA. W. A. Green. Nat Pet N 43:81-2 Ap 4 '51

Is there a place in oil TBA sales for field men of manufacturers? F. C. Sturtevant. Nat Pet N 42:52+ O 25 '50

Jobber boosts TBA sales by building combined service station-tire store. il Nat Pet N 43:72 Je 6 '51

Merchandise displays help sell TBA but true function is misunderstood. F. C. Sturtevant. il Nat Pet N 43:54+ Ja 3 '51

Oil companies plan to push TBA despite supply question marks. F. C. Sturtevant. Nat Pet N 43:60+ Mr 7 '51

Sales letters to dealers' prospects increase independent jobber's TBA, oil product volume. F. C. Sturtevant. il Nat Pet N 42:54+ D 6 '50

Specialized salesmen, several brands of TBA may be rule at multi-pumps. P. Wollstadt. il Nat Pet N 43:51-2 Ja 3 '51

Station convenience in TBA selling leaves door wide open for more sales. F. C. Sturtevant. il Nat Pet N 43:51-3 Ag 1; 62+ S 5 '51

Station-TBA store with eye appeal. F. C. Sturtevant. il plan Nat Pet N 43:78-80 Ap 4 '51

Teamwork has made oil industry TBA conventions valuable for marketers. F. C. Sturtevant. Nat Pet N 42:60+ N 22 '50

TBA distributor helps oil company supply stations with merchandise. F. C. Sturtevant. il Nat Pet N 43:46-7 Jl 4 '51

TBA market expansion predicted for this year. Nat Pet N 43:70 Mr 7 '51

TBA selling in Far West different from merchandising in other areas. F. C. Sturtevant. Nat Pet N 43:57+ My 2 '51

Top-grade service training needed to keep sales level high; oil industry TBA convention, Chicago, Dec. 4-5. Nat Pet N 42:56+ D 13 '50

Weather evaluation helps chart TBA sales curves. I. P. Krick. Nat Pet N 43:59 Ja 3 '51

Construction and design

Station-TBA store with eye appeal. F. C. Sturtevant. il plan Nat Pet N 43:78-80 Ap 4 '51

Tailor-made station. F. Breese. il Nat Pet N 43:27+ Ag 22 '51

Employees

Bulletin tells how wage-hour changes affect stations. Nat Pet N 42:34 N 1 '50

Good dealers for new stations scarce because of expansions on Texas Gulf. M. C. Reid. Nat Pet N 43:22-3 Ap 25 '51

Labor union wins many self-serves, bids for southern California sweep. F. Breese. Nat Pet N 43:28 Ap 25 '51

Union says Sun pickets did not protest prices. Nat Pet N 43:29 S 19 '51

Equipment

Adequate service station tools necessary if Nation's cars are to get proper care. H. Ridder. Nat Pet N 43:63-4 Mr 14 '51

NPA lists items not station costs. Nat Pet N 43:31 Ap 18 '51

See also
Gasoline pumps

Leasing

Court scratches head over name for Richfield's leased-out operators. F. Breese. Nat Pet N 43:38 Je 13 '51

No control clauses appear in many station leases. F. C. Sturtevant. Nat Pet N 43:56+ S 12 '51

Richfield decision requires supplier to let lessee make brand choices; Richfield ruling effect slight, majors say. Nat Pet N 43:19-20 Jl 11 '51

Richfield loses; court rules leased stations are independent businesses. Bsns W p 107-8 Jl 14 '51

Yankwich refuses to order Richfield to drop 24-hour cancellation now. Nat Pet N 43:19 Ag 8 '51

Lighting

Modern approach to lighting gasoline service stations. H. Ketcham. il Illum Eng 46:422-4 Ag '51

Location

Multi-pump location and facilities. P. Wollstadt. il maps plans Nat Pet N 42:17-26 N 1 '50

Lubricating service

Chassis, wheel bearing lubrication neglected at stations, oil man says. R. Matthews. Nat Pet N 42:50 N 1 '50

More know-how needed by lube service men, API lubrication committee meeting, Detroit, April 9-10; abstracts of papers. Nat Pet N 43:61-3 Ap 18 '51

Management

Dealer of year winner hikes volume by brand selling, using supplier aid. il Nat Pet N 43:53 My 9 '51

Dealer should have authority, dignity to make station click. W. W. Wright. Nat Pet N 43:55-8 Jl 11 '51

Multi-pump management problems. P. Wollstadt. il plan Nat Pet N 42:17+ N 8 '50

Multiple pump stations

Conventional station becomes multi-pump to lure corner traffic with speedy access. F. Breese. il plan Nat Pet N 43:42-4 Ag 15 '51

Gas stations are going super, too. Bsns W p74 N 25 '50

Implications of multi-pump reselling. B. E. Devere. Am Pet Inst Proc 30(2):11-15 '50

Major opens guinea pig multi-pump to find out what makes it tick. F. Breese. Nat Pet N 42:26 D 27 '50

Multi-pump location and facilities. P. Wollstadt. il maps plans Nat Pet N 42:17-26 N 1 '50

Multi-pump management problems. P. Wollstadt. il plan Nat Pet N 42:17+ N 8 '50

Multi-pump offers part service at self-serve prices. il Nat Pet N 43:50-1 Jl 25 '51

Multi-pumps in Houston. M. Reid. il Nat Pet N 43:27+ Ag 29 '51

Multi-pumps; what makes them tick? P. Wollstadt. il Nat Pet N 42:16-24 O 25 '50

Price, service, layout are weapons in multi-pump battle for business. F. Breese. Nat Pet N 43:34 Ag 1 '51

Specialized salesmen, several brands of TBA may rule at multi-pumps. P. Wollstadt. il Nat Pet N 43:51-2 Ja 3 '51

Station tests pump field under canopy. il Nat Pet N 43:22 Ag 22 '51

Rest rooms

Majors step up programs to keep restrooms sparkling for public. R. E. Bjorkback. Nat Pet N 43:33 Ag 1 '51

Restroom blues. F. A. Bean. Nat Pet N 43:30-2 Mr 21 '51

Self service stations

Multi-pump station competition forces most self-serves to give some service. F. Breese. Nat Pet N 43:36 S 5 '51

Self-serve keeps customers working despite mass swing back to service. F. Breese. Nat Pet N 43:28 Jl 25 '51

Self-serves are losing skating girls; high accident insurance rates blamed. F. Breese. Nat Pet N 43:32 S 12 '51

Self-serves win first victory in price sign battle. Nat Pet N 43:18 Je 27 '51

Urich's self-service stations convert to semi-service to meet competition. Nat Pet N 43:44 S 5 '51

Service

Big oil companies don't gyp public. C. V. Little. Nat Pet N 43:54-5 Ag 8 '51

GASOLINE service stations—Service—*Cont.*

Ceilings set for station services; OPS rolls back used drum prices. Nat Pet N 43:27 My 16 '51

Fast car wash at service stations. J. Barton. il Nat Pet N 43:46-8+ Ag 29 '51

Jobber honors all motorist credit cards. F. C. Sturtevant. il Nat Pet N 43:44-6+ Ag 22 '51

Present lubes adequate to do job high compression engines require; automatic transmission servicing. H. Ridder. il Nat Pet N 43:53-6 F 7 '51

Service at West Coast stations rated better than in Midwest. L. Castle. Nat Pet N 42:33 N 15 '50

Shell tests car saver service plan to keep 'em rolling better, longer. R. E. Bjorkback. il Nat Pet N 43:27-8 F 28 '51

Wheel balancing boosts profits at stations, equipment man says. A. H. Singer. il Nat Pet N 42:60+ N 8 '50

Show windows

Station window shadow boxes give 100 different accessory displays. F. C. Sturtevant. il Nat Pet N 43:71-2 My 2 '51

Signs

Vermont order bans road-edge signs. R. E. Bjorkback. Nat Pet N 43:25 Ag 29 '51

Statistics

Average station sales triple in decade. H. Ridder. Nat Pet N 43:37-9+ S 5 '51

Curbs bring sharp dip in station building. Nat Pet N 43:25 S 12 '51

Retail trade, 1948, for metropolitan areas. Ptr Ink 235:148+ My 25 '51

GASOLINE storage

Accurate method for determining average temperatures in storage tanks; averaging resistance thermometer. J. H. Berglund and R. T. Pierce. il diags Pet Eng 23:A39-44+ Ja '51

Evaporation losses held near zero; Moorhead, Minn., products pipe-line terminal. R. N. Creek. il diag Oil & Gas J 50:129-30+ My 10 '51

How to save money by stopping product leaks in petroleum bulk plants and terminals. Nat Pet N 42:17-24+ N 22 '50

GASOLINE tanks

Collapsible storage tank holds oil products. il Nat Pet N 43:48-9 Ja 31 '51

GASTEROPODA, Fossil

Some triassic fresh-water gastropods from northern Arizona. T. Yen. bibliog Am J Sci 249:671-5, pl 1 S '51

GASTON, Herbert Earle, 1881-

Portrait. Bsns W p 141 F 10 '51

GASTRIC juice

Analog of histamine that stimulates gastric acid secretion without other actions of histamine. C. E. Rosiere and M. I. Grossman. Science 113:651 Je 8 '51

Antrum of the stomach; an endocrine organ concerned with gastric secretion; abstract. L. R. Dragstedt. Science 113:478 Ap 27 '51

GATES, Hydraulic

Hay's wharf dock gates. diags Engineer 191:427 Mr 30 '51

Prestressed cross-bracing stiffens lock gates. C. L. Shermer. il Civil Eng 21:345 Je '51

See also

Locks (hydraulic engineering)

Valves, Hydraulic

GATT. See Commercial treaties and agreements

GATTERMANN reaction

Application of the modified Gattermann reaction to methyl and ethyl orsellinate. W. B. Whalley. Chem Soc J p3278-80 D '49

GAVIN, Frank J. 1880-

Great Northern changes chiefs; John Budd succeeds F. J. Gavin. por Ry Age 130:37-8 My 28 '51

GAY-LUSSAC'S law

Lecture demonstration of Gay-Lussac's law. C. C. Dannelly and M. E. Lash. diag J Chem Educ 27:618 N '50

GEAR cutting

Avoid cold-working in gear blanks. diag Am Mach 94:141 D 11 '50

Estimating hobbing time. J. W. Duffy. Tool Eng 27:43 Jl '51

Gear-hobbing attachment roughs out pinion cutters. N. Arakawa. diag Am Mach 95:161 F 5 '51

Gear tooth relieving. H. Pelphrey. diags Machine Design 23:143-7 S '51

High-speed machining of forgings; Ford motor co. C. H. Wick. il diags Mach 57:147-51 F '51

Hobs and hobbing in high production. A. D. Moncrieff and H. Pelphrey. il diags Tool Eng 26:25-30 Je; 27:34-9 Jl '51

Multithread hobs triple gear output at Chevrolet-Muncie. J. M. Finally. il diags Am Mach 95:134-7 Mr 19 '51

Shaper makes gear cutter. J. P. Ramirez A. il diag Am Mach 95:118 Ja 8 '51

Unground hobs reduce gear tool cost. F. Bohle. il diags Iron Age 167:107-9 Je 7 '51

What helix angle for hobbed helical gears? W. A. Tuplin. il diag Machine Design 23:173-4 Ap '51

GEAR cutting machines

Conveyor system for automatic gear finisher; illustrations with text. diag Product Eng 21:102-3 N '50

Gear hobbing; Pfauter machine. il Automobile Eng 41:52 F '51

High-speed cutter; Michigan tool co.'s gear hobber. il Bsns W p49-50 S 1 '51

Loading devices for gear finishing machines. il diag Engineer 191:235-6 F 16 '51

Michigan automatic hobber plunge cuts at 1000 rpm. il diag Am Mach 95:192-4 S 3 '51; Automotive Ind 105:50+ S 1 '51; Iron Age 168:109 S 6 '51; Mach 58:196-8 S '51; Tool Eng 27:84 S '51; Machine Design 23:122-3 O '51

National broach & machine co. Red Ring gear-shaving machine designed to handle large ring gears. il Mach 57:194-6 Ag '51; Automotive Ind 105:55 Ag 1 '51; Machine Design 23:130-1 S '51; Am Mach 95:176 Jl 23 '51

Newark large-capacity gear-cutting machine with electric push-button control. il Mach 57:200-3 My '51

1951 production preview. il Am Mach 95:209-10 Ja 22 '51

Revacycle process increases Chrysler's gear production. C. H. Wick. il diag Mach 57:163-7 Mr '51

Two sizes of gear blanks machined simultaneously. G. Elwers. il diag Iron Age 168:101-2 Jl 12 '51

GEAR grinding machines

Contour grinder for axle gears. il Ry Mech & Elec Eng 125:82-3 S '51

GEAR motors. See Gearmotors

GEAR testing machines

Red Ring gear tester quickly checks pinions for nicks. il Am Mach 94:188 D 11 '50; Mach 57:203 D '50

GEARING

Advantages of cold-drawn pinions. E. H. Rathbone. diags Product Eng 21:114-16 D '50

Common gear types and their uses. J. E. Hyler. il Mill & Factory 48:99-103 Je '51

Gear reduction drive units. il Product Eng 22:179 My '51

How to use a differential gear for speed reduction. O. Flatheim. diag Chem Eng 58:132-3 Ap '51

Index of gear orders, 1936-1950; tabulation. Iron Age 167:347 Ja 4 '51

New differential developed by Ford instrument co. il Aviation W 54:73-4 Je 18 '51

Optimum gear train ratios for instrument servomechanisms. L. N. Canick. diags Product Eng 22:108-9 Jl '51

Powder metal gears. C. G. Levin. il Machine Design 23:117-19 Ag '51

Power drive units. J. E. Hyler. il Mill & Factory 48:79-83 My '51

Use of a mechanical differential gear for speed control. B. M. Burt. diag Pulp & Pa of Can 51:127-9 N '50

GEARING—*Continued*

Welding broken gear teeth. diags Welding J 29:1102 D '50

See also

Chain gear

Power transmission

also subdivision Gearing under special subjects, e.g.

Automobiles—Gearing

Rolling mills—Gearing

Steam turbines, Marine—Gearing

Design

Designers' formulae. W. A. Tuplin. diags Engineer 192:145-7 Ag 3 '51

Designing spur and helical gears for durability; data sheet. H. M. Durham. Machine Design 23:149-52 Ja '51

Gear eccentricity. R. L. Thoen. diags Machine Design 23:155-8 S '51

Gerritsen infinitely-variable gear. diags Engineering 170:530-1 D 22 '50

Naval gearing; war experience and present development. J. H. Joughin. il diags Engineering 171:25-7, 55-6 Ja 5-12 '51

Practical considerations in instrument gear design. L. M. Davison. diags Product Eng 22:183-7 S '51

Shot peening as a factor in the design of gears. J. C. Straub. Machine Design 23:178-80+ Je '51; Same cond. bibliog il Mech Eng 73:565-9 Jl '51; Abstract. Product Eng 22:259-60 S '51

Failure

Gears; improving resistance to service damage. K. N. Mills. il diags Machine Design 23:116-20 My '51

How to reduce gear failures. A. F. Brewer and P. J. Keating. il Steel 128:79-82 Mr 26 '51

Naval gearing; war experience and present development. J. H. Joughin. il Engineering 171:25-7 Ja 5 '51

Manufacture

Automatic honing finishes gear splines to close limits. H. C. Tuttle. il diag Steel 129:84+ Ag 27 '51

British wire gear maker adds powder shop. J. Rigby. il Iron Age 167:90-1 Je 21 '51

Cast metal gears. E. J. Tangerman. diags Am Mach 95:111 Ag 20 '51

Cold-drawn pinions and small gears. E. J. Tangerman. diags Am Mach 95:113 Ag 20 '51

Ductile iron replaces alloy gear castings, forgings; Black-Clawson co. J. D. Sheley. il Iron Age 167:99-100 My 10 '51

Extruded gear stock. E. J. Tangerman. il Am Mach 95:112 Ag 20 '51

Flexibility, key to efficient gear production; 200 types of current production gears by the Caterpillar tractor co. J. Elwood. il diag Iron Age 166:83-6 N 16 '50

Gear distortion curbed sharply. Steel 129:106 Ag 6 '51

Gear hardener loads and unloads automatically. P. Good. il diags Iron Age 167:72-4 Mr 22 '51

Gearing up for defense. il Steel 129:56-7 Ag 13 '51

Gears of exceptional quality; Nash motor division. H. S. Gist. il diag Automotive Ind 104:42-4+ My 15 '51

Grinder used for lapping gear bores. il Iron Age 166:75 N 30 '50

Heat-treatment of crawler tractor gears. R. F. Kern. il plan S A E J 59:54-7 Ja '51

Heat treatment of three per cent nickel-chromium case-hardening steel. H. D. Mansion. il Metallurgia 44:57-62 Ag '51

Honing hardened gears simplifies production. W. G. Patton. il Iron Age 168:92-3 S 27 '51

Liquid flame hardening used to selectively harden steel gear teeth. T. C. Du Mond. il Materials & Methods 33:74-5 Ja '51

Mass marquenching speeds gear output. W. B. Cheney and W. C. Hiatt. il Steel 128:72-4 F 12 '51

Powder-metal gears. D. W. Lynch and others. il Am Mach 95:104-10 Ag 20 '51; Excerpts. Automotive Ind 105:50-2 Jl 1 '51; Machine Design 23:146+ O '51

Ring gear grooves ground automatically. il Steel 128:78 Ap 9 '51

Two new gear materials; Nitralloy N and ductile iron. C. M. Schwitter. il Mach 57:179-82 D '50; 181-8 Ja '51; Same cond. Automotive Ind 104:42-5+ Ja 1 '51

See also

Gear cutting

Gear cutting machines

Measurement

Inspection form for precision gears; reference book sheet. J. W. Duffy. Am Mach 94:173, 175 D 11 '50

Measuring gear components. F. M. Butrick, jr. diags Tool Eng 26:44-5 F '51

Newton profile projector. il Automobile Eng 41:149-51 Ap '51

Standards

Gear makers meet, work on standards. il Am Mach 95:149 Je 25 '51

Tables, calculations, etc.

Gear-tooth stresses at high speed. W. A. Tuplin. diags Inst Mech Eng Proc 163 (W.E.P. no 59):162-7 '50; Same abr. Engineering 169:310-11 Mr 17 '50; Same abr. Engineer 189:342-3 Mr 17 '50; Discussion. Inst Mech Eng Proc 163 (W.E.P. no 59):167-75 '50

Testing

Selection of gear materials; studies of gear tooth surface stresses based on investigations of meehanite metal. C. R. Austin. il diags Machine Design 23:157-60 Mr '51

See also

Gear testing machines

GEARING, Bevel

Improved method for estimating the fatigue life of bevel and hypoid gears; abstract. W. Coleman. Automotive Ind 105:37-8 Jl 1 '51

Some aspects of the manufacture and use of bevel gears. E. B. Wilson. il diags Engineering 171:83-6 Ja 19 '51

GEARING, Helical. See Gearing, Spiral

GEARING, Hypoid

Improved method for estimating the fatigue life of bevel and hypoid gears; abstract. W. Coleman. Automotive Ind 105:37-8 Jl 1 '51

GEARING, Planetary

Allen-Stoeckicht high-speed epicyclic gearing. il diags Engineering 171:117-19 F 2 '51

Combined three-speed gear and back-pedalling brake. diag Engineer 191:623 My 11 '51

Design of logging winch controls. P. L. Brainard. il diags Machine Design 23:193-4 Ap '51

Designing planetary gears for automatic transmissions. D. T. Sicklesteel. Automotive Ind 104:26-9+ Mr 1 '51

Graphical solution of epicyclic gear train problems. W. H. Mann. diags Engineering 171:312 Mr 16 '51; Discussion. 171:408, 472 Ap 6, 20 '51

Planetary gears for automatic transmissions. D. T. Sicklesteel. diags S A E J 59:31-3+ Jl '51

Planetary gears save space in coaster brake. il diag Product Eng 22:110-11 Ap '51

Planetary transmission with hydraulic control. diag Automotive Ind 104:48+ F 15 '51

GEARING, Plastic

Molded plastic gears. F. R. Zumstein. il diag Am Mach 95:114-18 Ag 20 '51; Abstracts. Automotive Ind 105:52+ Jl 1 '51; Machine Design 23:145-6 O '51

GEARING, Spiral

Designing spur and helical gears for durability; data sheet. H. M. Durham. Machine Design 23:149-52 Ja '51

Tooth contact layouts for spur and helical gears. H. M. Durham. diags Product Eng 22:136-40 Je '51

What helix angle for hobbed helical gears? W. A. Tuplin. il diag Machine Design 23:173-4 Ap '51

GEARING, Spur

Designing spur and helical gears for durability; data sheet. H. M. Durham. Machine Design 23:149-52 Ja '51

Effect of oil viscosity on the power-transmitting capacity of spur gears. V. N. Borsoff and others. bibliog il diag A S M E Trans 73:687-94; Discussion. 694-6 Jl '51

GEARING, Spur—*Continued*
Spur gear rotary pump design. T. F. Fitzgibbon. il diags Product Eng 22:101-5 Ja; 129-31 Mr '51
Tooth contact layouts for spur and helical gears. H. M. Durham. diags Product Eng 22:136-40 Je '51

GEARING, Worm
Design of worm-gear hobs. F. G. Watts and R. D. Silversides. diags Mach 57:154-8 N; 164-7 D '50; 190-4 F '51
Flexible worm drives. il diag Machine Design 23:108 O '51
Nomogram simplifies worm and gear design; data sheet. G. Sved. Machine Design 23:157-9 Ag '51

GEARMOTORS
Gearmotor life hinges on gear size. il Power 95:118-20 S '51
Gear motors. il Product Eng 22:180-1 My '51
Motocylinders; gearmotors that supply reciprocating motion. il Westinghouse Eng 11:102-3 My '51

GEBHART, Walter H.
Iron age salutes. por Iron Age 167:71 My 24 '51

GEBRAUCHSGRAPHIK (periodical)
Gebrauchsgraphik is back. A. Nesbitt. il Adv Agency 44:79 Ja '51

GEHLENITE
Phase equilibrium relationships in a portion of the system $MgO-Al_2O_3-2CaO-SiO_2$. A. T. Prince. bibliog Am Cer Soc J 34:44-51 F 1 '51

GEIGER-MÜLLER counters
Atoms help cure failing oil wells. Bsns W p69 S 29 '51
Back-scattering of electrons into Geiger-Müller counters. L. Yaffe and K. M. Justus. bibliog diag Chem Soc J supp no 2:S341-51 '49
Calculation of the geometrical efficiency of end-window Geiger-Müller tubes. E. Berne. diags R Sci Instr 22:509-12 Jl '51
Circular Geiger-Mueller counter. G. Ensell and S. D. Chatterjee. diag R Sci Instr 22:700 S '51
Construction of the external-cathode Geiger counter. M. L. MacKnight and R. L. Chasson. diag R Sci Instr 22:700-1 S '51
Crystals and Geiger counters for scintillation counting. C. E. Mandeville and H. O. Albrecht. Phys R 80:299-300 O 15 '50
Crystals for the scintillation Geiger counter. H. O. Albrecht and C. E. Mandeville. Phys R 81:163 Ja 1 '51
Design of thin-windowed Geiger-Müller counters. R. L. Purbrick and others. diag R Sci Instr 22:482-4 Jl '51
Detection of gamma-ray-induced scintillation from crystals in a photo-sensitive Geiger-Müller counter. C. E. Mandeville and H. O. Albrecht. Phys R 80:300 O 15 '50
Development of end-window Geiger-Müller counter tubes. R. O. Jenkins. bibliog diags Inst E E Proc 98 pt 2:231-6; Discussion 252-5 Ap '51
Gamma-ray logging. F. P. Kokesh. diag Oil & Gas J 50:284+ Jl 26 '51
Gas-filling and some characteristics of bromine-quenched Geiger-Müller counters. D. H. Le Croissette and J. Yarwood. bibliog diag J Sci Instr 28:225-8 Ag '51
Geiger-counter mounting for continuous counting of gas-phase radioactivity. F. Bonner and A. Weinstein. diag R Sci Instr 21:934 N '50
Geiger-counter pulse simulator. M. A. Pomerantz. diag Electronics 24:200+ Ap '51
Geiger-counter X-ray spectrometer; influence of size and absorption coefficient of specimen on position and shape of powder diffraction maxima. A. J. C. Wilson. bibliog diags J Sci Instr 27:321-5 D '50
Geometry of Geiger counter telescopes. H. E. Newell, jr. and E. C. Pressly. diags R Sci Instr 21:918-22 N '50
Loop-line windowless flow Geiger counter. P. E. Damon. diags R Sci Instr 22:587-9 Ag '51
Measurement of Geiger counter plateau slope. D. E. Hull. diag R Sci Instr 22:338 My '51
Multiple-anode anticoincidence ring counter. C. H. Raeth and others. il diags R Sci Instr 22:461-3 Jl '51
Nuclear particle and radiation detectors. J. Sharpe and D. Taylor. bibliog il diags Inst E E Proc 98 pt 2:214-23 Ap '51
Portable Geiger counter. E. Reible. il diag Electronics 23:206+ D '50
Quantum efficiency of bismuth counters for electromagnetic radiation of 0.07-Mev to 2.8-Mev energy. R. J. Hart and others. diag Phys R 81:460-1 F 1 '51
Radiological monitoring; instrumentation; the Geiger-Müller counter. S. S. Friedland. il diags Q S T 35:29-31+ Je '51
Slow discharge in a non-self-quenching Geiger-Mueller counter. W. E. Ramsey. bibliog il Franklin Inst J 252:143-51 Ag '51
Successive peaks of spurious counts in G-M tubes. J. E. Kupperian, jr. and others. bibliog R Sci Instr 22:60-1 Ja '51
Survey equipment using low-voltage halogen-quenched Geiger-Müller counters; for use by prospector in location and assay of radioactive ores. E. Franklin and W. R. Loosemore. bibliog diags Inst E E Proc 98 pt 2:237-44; Discussion. 252-5 Ap '51
Techniques in radiochemical assay with Geiger-Müller counters. G. B. Cook and J. F. Duncan. diags Chem Soc J supp no 2: S369-81 '49
Telemetering system for radioactive snow gage; snowfall measured in terms of radiation between slug of cobalt-60 and Geiger-Müller tube. J. A. Doremus. il diag Electronics 24:88-91 F '51
Temperature effect in Geiger-Müller counters. M. Kimura. Phys R 80:761-2 N 15 '50
Temperature variations in alcohol-argon filled G-M counters. O. Parkash. bibliog Phys R 80:303 O 15 '50
Transmission of beta-rays by nylon and Formvar. R. B. Heller and others. bibliog il diag R Sci Instr 21:898-902 N '50
Two beta-gamma-counters for gas samples. R. Jenkins. R Sci Instr 21:940 N '50
X-ray calibration of radiation survey meters, pocket chambers, and dosimeters. F. H. Day. bibliog U S Nat Bur Stand Circ 507: 1-11; pa 15c Supt. of doc. '51

GEIST, Walter, 1894-1951
Sketch. por Elec World News ed 135:22 F 5 '51

GELATIN
Collagen-gelatin transformation; abstract and discussion. K. G. A. Pankhurst. Chem & Ind p794-5 S 22 '51
Did it thaw? gel will tell; indicator, combining oxidizing enzyme and ascorbic acid, will spot any temperature rise. P. E. Ramstad and F. E. Volz. il Food Ind 22:2091+ D '50
Diffusion of thoron atoms through photographic gelatin. G. G. Eichholz and F. C. Flack. bibliog il J Chem Phys 19:363-6 Mr '51
Jell-O; nominated for packaging's Hall of fame. il Mod Packaging 24:88-93+ D '50
Resistance of a protein-montmorillonite complex to decomposition by soil microorganisms. L. A. Pinck and F. E. Allison. bibliog Science 114:130-1 Ag 3 '51
Some polarographic effects of gelatin and other maximum suppressors. L. Meites and T. Meites. bibliog Am Chem Soc J 73:177-83 Ja '51
Studies in the theory of the polarographic diffusion current; diffusion current constants of some ions in solutions containing gelatin; a critique of the Strehlow-von Stackelberg equation. L. Meites and T. Meites. Am Chem Soc J 73:395-8 Ja '51
Studies in the theory of the polarographic diffusion current; diffusion current constants of some ions in the absence of gelatin. L. Meites. bibliog Am Chem Soc J 73:1581-3 Ap '51

GELATIN capsules. See Capsules, Gelatin

GELATION
Gelation times of various silica sols; effect of low temperatures. R. W. Spencer, A. B. Middleton and R. C. Merrill. bibliog Ind & Eng Chem 43:1129-32 My '51
Influence of soaps on gelling characteristics of hevea latices. D. J. McKeand. Ind & Eng Chem 43:415-20 F '51
Preparation of a stable aluminium dodecanoate (laurate) with no gelling properties in hydrocarbons. J. Glazer, T. S. McRoberts and J. H. Schulman. Chem Soc J p2082-3 Ag '50

GELSEMINE
Molecular structure of gelsemine. M. S. Gibson and R. Robinson. bibliog Chem & Ind p93 F 3 '51

GEMMELL, Welland S.
Ontario Minister of mines; portrait. Can Min J 71:64 N '50

GEMMER manufacturing company
New steering gear aiding Gemmer Manufacturing. Barron's 31:20-1 Mr 5 '51

GEMS
Gem varieties of Canadian feldspar. D. S. M. Field. il Can Min J 72:73-4 Ag '51
Sodalite and apatite in Canada. D. S. M. Field. il Can Min J 72:82-3 S '51
See also
Diamonds
Rubies
Sapphires

Testing

Gem-testing laboratory of Tiffany & co. A. E. Alexander. il J Chem Educ 28:128-33 Mr '51

GENERAL accounting office. See United States—General accounting office

GENERAL agreement on tariffs and trade. See Commercial treaties and agreements

GENERAL American oil company of Texas
Stock offered. Comm & Fin Chr 173:964 Mr 5 '51

GENERAL American transportation company
Companies that should earn more in 1951; with comparative balance sheet items. Mag of Wall St 88:247 Je 2 '51

GENERAL aniline and film corporation
New product may spur sales; PVP. Barron's 31:25-6 Ap 16 '51

GENERAL average. See Average (maritime law)

GENERAL brokers association of metropolitan district
Silver jubilee dinner. East Underw 51:26+ O 27 '50; Weekly Underw 163:974+ O 28 '50

GENERAL electric company
Contact man for GE's publics; Chester H. Lang. Bsns W p58 Je 30 '51
GE creates three top-brass posts. Bsns W p25 F 3 '51
GE jet move; Lockland slated to be focal point of firm's jet engine operations. Aviation W 54:22 Ja 15 '51
GE reshuffles; six affiliates will become departments. Bsns W p 109-10 Je 9 '51
GE's new boss; Ralph J. Cordiner. Bsns W p26 D 23 '50
General Electric's voice of safety. L. R. Boulware. il Safety Maint & Prod 101:51-2+ Je '51
Rearmament will spur profitable heavy goods lines; with financial data, 1940-1950. E. R. Lane. Barron's 31:15-16 F 5 '51
Security I like best. A. Huber. Comm & Fin Chr 173:2662 Je 28 '51
Switchgear divisions laboratory. A. E. Anderson. il plan Gen Elec R 54:23-8 Ag '51
Ton-and-a-half of meat and 75c a share; General electric co. stockholders' meeting; illustrations with text. Elec World News ed 135:16-17 My 14 '51

Power systems engineering course

Power systems engineering course; example of intraindustry education accomplished by co-operation of manufacturer and electrical power industry. L. E. Saline. il Gen Elec R 54:18-21 S '51

Research laboratory

G-E dedicates a laboratory. il plan diag Power Eng 54:68-70 N '50
Industrial research laboratory formal dedication. il Mech Eng 72:998-1000 D '50

GENERAL electric review (periodical)
Everett S. Lee to edit General electric review. Elec World News ed 135:22 F 5 '51

GENERAL foods corporation
Debentures offered. Comm & Fin Chr 174:5 Jl 2 '51
Rising raw materials prices squeeze profit margins; with financial data, 1940-1949. C. A. Clark, jr. Barron's 31:9-10 F 12 '51

GENERAL instrument corporation
Stock offering underwritten. Comm & Fin Chr 173:659-60 F 12 '51

GENERAL mills, inc.
General Mills' progress. H. A. Bullis. il Food Eng 23:105-9+ Je '51

GENERAL motors corporation
Annual report. Comm & Fin Chr 173:1172 Mr 19 '51
GM profits shrink faster and faster. Bsns W p 105 Ag 4 '51
GM turns lender; to put up cash for Jones & Laughlin expansion. Bsns W p 111-12 D 16 '50
GM's in steel; helps finance Republic's expansion. Bsns W p26 My 19 '51
New model for pensions; coordinator trust plan. M. Stroock. Barron's 30:7 D 25 '50
Security I like best. W. Witherspoon. Comm & Fin Chr 173:1014 Mr 8 '51
Tanks and planes won't be as profitable as automobiles; with financial data, 1940-1950. C. A. Clark, jr. Barron's 31:13-14 F 19 '51

GENERAL motors technical center
Five contractors take over defense jobs; heating a research center. il Dom Eng 177:106-7 My '51

GENERAL public utilities corporation
1950 operations. Comm & Fin Chr 173:760 F 19 '51

GENERAL refractories company
Companies to benefit from industrial expansion; with comparative balance sheet items. Mag of Wall St 87:278 D 16 '50

GENERAL telephone corporation
Recent rate boosts to spur earnings. Barron's 31:27-8 Jl 30 '51
Stock offered. Comm & Fin Chr 173:1172; 174:275 Mr 19, Jl 23 '51

GENERAL tire and rubber company
Earnings aided by new lines. Barron's 30:15 N 6 '50
Five companies expanding into new fields; with comparative balance sheet items. Mag of Wall St 88:503 Ag 11 '51
General Tire sales and income set highs in 1950 fiscal year. Rubber Age 68:731 Mr '51
Six stocks behind the market; ready to move. J. C. Clifford. Mag of Wall St 88:656 S 22 '51

GENERATORS, Electric. See Electric generators

GENES
Action of genes affecting secondary sex ratio in man. M. E. Bernstein. Science 114:181-2 Ag 17 '51
Partner of the genes. T. M. Sonneborn. il diags Sci Am 183:30-9 N '50

GENETICS
Science in bondage. H. J. Muller. bibliog Science 113:25-9 Ja 12 '51
Social fitness versus reproductive fitness. S. C. Reed and J. D. Palm. bibliog Science 113:294-6 Mr 16 '51
State of genetics. A. Buzzati-Traverso. il Sci Am 185:22-5 O '51
See also
Chromosomes
Genes
Mutation (biology)
Race

GENETICS society of America
Annual meeting, 19th, Columbus, Sept. 11-14; golden jubilee celebration. Science 112:795-6 D 29 '50

GENEVA stop
Geneva transmits film in camera. il Machine Design 23:126-7 Jl '51

GENTIOBIOSE
Gentiobiose heptaacetates. A. Thompson and M. L. Wolfrom. Am Chem Soc J 73:2966-7 Je '51

GENTISIC acid
Developer activity of di- and trihydroxybenzoic acids. T. H. James. bibliog J Phys & Colloid Chem 55:563-9 Ap '51
New observations on the Elbs persulphate oxidation. J. Forrest and V. Petrow. Chem Soc J p2340-2 S '50
Salicylate competition. il Chem W 68:19 Je 2 '51

GEOCHEMISTRY
Further biogeochemical data from the San Manuel copper deposit, Pinal county, Ariz. H. V. Warren and others. bibliog maps Geol Soc Bul 62:919-29 Ag '51
Geochemical prospecting in the Park City district. R. E. Gilbert. Min Cong J 37:58-61 S '51
Geochemical techniques as applied in recent investigations in the Tintic district, Utah. H. Almond and H. T. Morris. bibliog maps diags Econ Geol 46:608-25 S '51
Geochemistry of earthwork. H. Forbes. il Am Soc C E Proc 76 [no 7]:1-19 Mr '50; Discussion. 77 [no D-7]:1-15 F '51

GEOCHEMISTRY—*Continued*

Geochemists find sulfur in stones and radium in the running brook; A.C.S. Division of physical and inorganic chemistry. Chem & Eng N 29:3838-9 S 17 '51

Geologic history of sea water; an attempt to state the problem. W. W. Rubey. Geol Soc Bul 62:1111-47 bibliog(p 1143-7) S '51

Structure of East tintic district modified. T. S. Lovering. Min Cong J 37:61+ S '51

Trace-element studies, Santa Rita, New Mexico. D. L. Graf and P. F. Kerr. bibliog maps diags Geol Soc Bul 61:1023-52 O '50

What geochemistry is and what it can do. H. E. Hawkes. il diags Min Cong J 37:55-8 S '51

World-wide distribution of natural radiocarbon. E. C. Anderson and W. F. Libby. bibliog Phys R 81:64-9 Ja 1 '51

See also

Ore deposits
Rocks—Analysis
Rocks, Igneous
Soils
Weathering (rocks)

GEODES

Geode note. P. Robertson. Science 114:215 Ag 24 '51

GEODESY

National geodesy, status and planning. L. O. Colbert. Am Soc C E Proc 77 [no 63]:1-6 Mr '51

See also

Isostasy

GEOGRAPHIC pricing. See Price policies

GEOGRAPHICAL distribution of animals and plants

See also

Life zones

GEOGRAPHY

Geography in the twentieth century, by G. Taylor, ed. Review, by H. J. Wiens. Am J Sci 249:617-19 Ag '51

GEOLOGICAL age. See Geological time

GEOLOGICAL maps

Getchell mine study demonstrates paradox of scale. P. Joralemon. il maps Min Cong J 37:34-6 Ja '51

GEOLOGICAL society of America

Abstracts of papers at Cordilleran section meeting, Seattle, April 7-8. Geol Soc Bul 61:1519-35 pt 2 D '50

Abstracts of papers at meeting, Washington, D.C. Nov. 16-18. Geol Soc Bul 61:1439-518 pt 2 D '50

Annual meeting, 63d, Washington, Nov. 16-18. Science 113:47 Ja 12 '51

GEOLOGICAL specimens

Preparation of large size thin sections. A. J. Lang, jr. and H. W. Smedes. plan diags Am J Sci 249:676-82, pl 1 S '51

GEOLOGICAL surveys

Natural resources and geological surveys. M. M. Leighton. bibliog Econ Geol 46:563-77 S '51

GEOLOGICAL time

Abundance of N^{15} in the nitrogen present in crude oil and coal. P. V. Smith, jr. and B. E. Hudson, jr. Science 113:577 My 18 '51

Determination of the age of igneous rocks. S. Miholić. Chem Soc J p3402-5 D '50

Modification of the isotopic lead method for determination of geological ages. C. B. Collins and others. bibliog Phys R 82:966-7 Je 15 '51

Nature of time-stratigraphic units and geologic time units. H. D. Hedberg. Am Assn Pet Geologists Bul 35:1077-81 My '51

Peat samples for radiocarbon analysis; problems in pollen statistics. E. S. Deevey, jr. and J. E. Potzger. bibliog Am J Sci 249: 473-511, pl 1 Jl '51

Radiocarbon age measurements and fossil man in Mexico. H. de Terra. Science 113: 124-5 F 2 '51

Radiocarbon datability of peat, marl, caliche, and archaeological materials. H. H. Bartlett. Science 114:55-6 Jl 20 '51

Radiocarbon dates. J. R. Arnold and W. F. Libby. bibliog Science 113:111-20; 114:291-6 F 2, S 21 '51

Radiocarbon dating for samples from the British Isles. H. Godwin. bibliog Am J Sci 249:301-7 Ap '51

Radiocarbon dating of late-pleistocene events. R. F. Flint and E. S. Deevey, jr. Am J Sci 249:257-300 bibliog(p297-300) Ap '51

GEOLOGISTS, Petroleum

Southwest exploration personalities. Oil & Gas J 50:supp 217-18+ My 31 '51

Directories

American association of petroleum geologists membership list. Am Assn Pet Geologists Bul 35:649-766 Mr '51

GEOLOGY

Abstracts of papers at Cordilleran section of Geological society of America meeting, Seattle, April 7-8. Geol Soc Bul 61:1519-35 pt 2 D '50

Abstracts of papers at Geological society of America meeting, Washington, D.C. Nov. 16-18. Geol Soc Bul 61:1439-518 pt 2 D '50

Abstracts of papers at Geological society of America Section E, AAAS meeting, Cleveland, Dec. 27-29. Geol Soc Bul 61:1561-75 pt2 D '50

Bearing of some biological data on geology. E. Mayr. maps Geol Soc Bul 62:537-46 My '51

Mechanical basis for certain familiar geologic structures. M. K. Hubbert. bibliog diags Geol Soc Bul 62:355-72, pl 1-2 Ap '51

Oceans, atmosphere came from inside the earth. W. W. Rubey. Chem & Eng N 28: 4179 N 27 '50

Society of economic geologists joint technical sessions with divisions of the American institute of mining and metallurgical engineers, St Louis, Feb. 19-21; program and abstracts of papers. Econ Geol 46:94-116 Ja '51

Techniques in photogeology. L. Desjardins. bibliog il map diags Am Assn Pet Geologists Bul 34:2284-317 D '50

See also

Buried hills
Coal—Geology
Continental shelf
Correlation (geology)
Drift
Engineering geology
Faults (geology)
Folds (geology)
Gas, Natural—Geology
Geophysics
Glacial geology
Hydrosphere
Isostasy
Landslides
Metamorphism
Mines and mineral resources
Moraines
Ore deposits
Paleontology
Petroleum—Geology
Rocks
Rocks, Igneous
Salt domes
Sand
Sedimentation and deposition
Shore lines
Soils
Terraces (geology)
Unconformity
Volcanoes
Water, Underground
Weathering (rocks)

Bibliography

Bibliography and index of geology exclusive of North America, v 14, 1949. M. Siegrist, comp. 375p Geological society of America, 419 W. 117th st, New York 27 '50 ($3)

Bibliography and index of geology exclusive of North America, v 15, 1950. M. Siegrist and M. Lakeman, comps. 429p Geological society of America, 419 W. 117th st, New York 27 '51

Bibliography of North American geology 1949. E. M. Thom and others. U S Geol S Bul 977:1-273 '51 (pa 55c)

French bibliographical digest; no. 4, geology-paleontology. 30p Cultural division of the French embassy, 934 Fifth av, New York 21 '49

Guide to geologic literature. R. M. Pearl. 239p $3.75 McGraw-Hill book co, 330 W. 42d st, New York 18 '51

History

Natural resources and geological surveys. M. M. Leighton. bibliog Econ Geol 46:563-77 S '51

Nomenclature

Use of the terms pitch and plunge. R. H. Clark and D. B. McIntyre. bibliog diag Am J Sci 249:591-9 Ag '51

Study and teaching

Earth science institute. H. B. Nichols. Science 113:757 Je 29 '51

Geology in the grade schools. D. Hager. Science 114:19 Jl 6 '51; Reply. H. S. Zim. 114: 468-9 N 2 '51

GEOLOGY—Study and teaching—*Continued*

Photogrammetry and photo interpretation in geology curricula. B. A. Tator. Am Assn Pet Geologists Bul 34:2351-6 D '50

See also
Nova Scotia center for geological sciences

Alabama

Pleistocene history of coastal Alabama. C. W. Carlston. bibliog Geol Soc Bul 61:1119-29, pl 1-3 O '50
Profile sections in Citronelle formation in southwestern Alabama. C. W. Carlston. diags Am Assn Pet Geologists Bul 35:1888-92 Ag '51

Alaska

Accumulation and ablation on the Seward-Malaspina glacier system, Canada-Alaska. R. P. Sharp. bibliog maps diags Geol Soc Bul 62:725-43, pl 1-2 Jl '51

Alberta

Devonian stratigraphy of Rocky mountains and foothills between Crowsnest pass and Athabaska river, Alberta, Canada. F. G. Fox. bibliog map diags Am Assn Pet Geologists Bul 35:822-43 Ap '51
St Mary River formation in Spring Coulee-Magrath area, Alberta, Canada. E. P. Williams. bibliog il map Am Assn Pet Geologists Bul 35:885-98 Ap '51
Structural interpretation of loci of petroliferous parts of Devonian reefs in Edmonton area, Alberta, Canada. R. L. Rutherford. map Am Assn Pet Geologists Bul 35:844-53 Ap '51

Arizona

Alteration and metallization in the Bagdad porphyry copper deposit, Arizona. C. A. Anderson. bibliog maps diags Econ Geol 45:609-28 N '50
Alteration features at Silver Bell, Ariz. P. F. Kerr. bibliog maps diags Geol Soc Bul 62:451-80, pl 1-4 My '51
Correlation of Jurassic formations along Defiance monocline, Arizona-New Mexico. H. E. Wright, jr. and R. M. Becker. bibliog map diags Am Assn Pet Geologists Bul 35:607-14 Mr '51
Megabreccia developed downslope from large faults. C. R. Longwell. bibliog maps diag Am J Sci 249:343-55, pl 1-2 My '51
Paleozoic stratigraphy of part of northwestern Arizona. A. W. McNair. bibliog map diag Am Assn Pet Geologists Bul 35:503-41 Mr '51
Sedimentary basins of Arizona and adjoining areas. E. D. McKee. maps Geol Soc Bul 62:481-505, pl 1-3 bibliog(p500-2) My '51

See also
Hermosa formation

Australia

Geology of the Broken Hill ore deposit, Broken Hill, N.S.W., Australia. J. K. Gustafson and others. maps diags Geol Soc Bul 61:1369-437, pl 1-8 bibliog(p 1436-7) D '50

See also
Water, Underground
—Australia

Brazil

Mica deposits in Minas Gerais, Brazil. W. T. Pecora and others. il map plans diags U S Geol S Bul 964-C:205-305, pl 14-17 [in pocket] bibliog(p295-7); pa 60c Supt. of doc. '50

California

Metamorphic and igneous rocks of the Merrimac area, Plumas national forest, Calif. A. Hietanen. bibliog maps diags Geol Soc Bul 62:565-607, pl 1-5 Je '51
Mount Lincoln-Castle Peak area, Sierra Nevada, Calif. F. S. Hudson. bibliog maps Geol Soc Bul 62:931-52, pl 1-2 Ag '51
Sea bottom off the coast of California; a review of Special paper 31, Geological society of America, by Shepard and Emery. A. C. Lawson. diag Geol Soc Bul 61:1225-41 N '50
Stratigraphy and structure of mountains north-east of Santa Barbara, Calif. B. M. Page and others. bibliog il maps diags Am Assn Pet Geologists Bul 35:1727-80 Ag '51

California, Lower

Manganese on Punta Concepcion, Baja California, Mexico. J. A. Noble. maps Econ Geol 45:771-85 D '50

Canada

Radioactivity of the Bourlamaque, Elzevir, and Cheddar batholiths, Canada. W. N. Ingham and N. B. Keevil. bibliog maps diag Geol Soc Bul 62:131-48 F '51

Colorado

Form and structure of sills near Pando, Colo. A. Tweto. bibliog map diags Geol Soc Bul 62:507-31, pl 1 My '51
Geology and ore deposits of the Front Range, Colorado. T. S. Lovering and E. N. Goddard. il maps plans U S Geol S Professional Pa 223:1-319, pl 1-30 '50
Gold placers and their geologic environment in northwestern Park county, Colorado. Q. D. Singewald. map U S Geol S Bul 955-D:103-72, pl 8-17; pa $1.25 Supt. of doc. '50
Recent evidence for lower cretaceous deposits in Colorado plateau. P. J. Katich, jr. bibliog Am Assn Pet Geologists Bul 35:2093-4 S '51

See also
Hermosa formation

Congo, Belgian

Copper mineralization in the Fungurume region, Katanga. R. Oosterbosch; H. Schuiling. il diags Econ Geol 46:121-48 Mr '51

Dominican Republic

Geology and mineral resources of the Maimón-Hatillo district, Dominican Republic. A. H. Koschmann and M. Gordon, jr. bibliog U S Geol S Bul 964-D:307-59, pl 18-19[in pocket]; pa 75c Supt. of doc. '50

England

Deposits of potassium salts in north-east Yorkshire. A. Fleck. bibliog il maps diags Chem & Ind Extra no p S1-15 O 17 '50

Florida

Pleistocene shore lines in Florida and Georgia. F. S. MacNeil. bibliog U S Geol S Professional Pa 221-F:95-107, pl 19-25; pa $1 Supt. of doc. '50
Rock from Straits of Florida. J. Bush. bibliog il Am Assn Pet Geologists Bul 35:102-7 Ja '51

Georgia

Diabase of the Georgia piedmont. J. G. Lester and A. T. Allen. bibliog map Geol Soc Bul 61:1217-24, pl 1-2 N '50
Pleistocene shore lines in Florida and Georgia. F. S. MacNeil. bibliog U S Geol S Professional Pa 221-F:95-107, pl 19-25; pa $1 Supt. of doc. '50

Gulf Coast region

Continental slope off Apalachicola river, Fla. G. F. Jordan. il maps Am Assn Pet Geologists Bul 35:1978-93 S '51

See also
Citronelle formation
Wilcox formation

Idaho

Metallogenic epochs in Idaho. A. L. Anderson. bibliog Econ Geol 46:592-607 S '51

Illinois

Mississippian-Pennsylvanian unconformity in southern Illinois. R. Siever. maps diags Am Assn Pet Geologists Bul 35:542-81 Mr '51
Petrology of Fredonia oölite in southern Illinois. D. L. Graf and J. E. Lamar. bibliog il map Am Assn Pet Geologists Bul 34:2318-36 D '50
Ste Genevieve-Chester contact in Illinois-Kentucky fluorspar district. A. H. Sutton. bibliog il maps Am Assn Pet Geologists Bul 35:1661-8 Jl '51

See also
Water, Underground
—Illinois

India

Piedmont plains of India and Pakistan. H. L. Chhibber. Science 114:204 Ag 24 '51

GEOLOGY—India—*Continued*

Plio-pleistocene boundary in the Siwalik series of India and in Java. D. A. Hooijer and E. H. Colbert. bibliog Am J Sci 249: 533-8 Jl '51

Japan

Minerals from pumiceous tuff in Japan. T. Sudo. Science 113:266-7 Mr 9 '51

Java

Plio-pleistocene boundary in the Siwalik series of India and in Java. D. A. Hooijer and E. H. Colbert. bibliog Am J Sci 249: 533-8 Jl '51

Kansas

Bluejacket sandstone of Kansas and Oklahoma. W. B. Howe. bibliog diag Am Assn Pet Geologists Bul 35:2087-93 S '51

Lithologic criteria of Arbuckle in western Kansas. J. R. Clair and F. C. Edson. diag World Oil 131:83-4+ D '50

Kentucky

Regional aspects of Silurian and Devonian subsurface stratigraphy in Kentucky. L. B. Freeman. bibliog maps diags Am Assn Pet Geologists Bul 35:1-61 Ja '51

Louisiana

Geology of Erath field, Vermilion parish, La. M. H. Steig and others. maps diags Am Assn Pet Geologists Bul 35:943-87 My '51

Maine

New England intercollegiate field geology trip. L. W. Fisher. Science 112:703 D 8 '50

Maryland

Petrology of the Baltimore gabbro, Maryland. N. Herz. bibliog map diags Geol Soc Bul 62:979-1016, pl 1-6 S '51

St Paul group; a revision of the Stones River group of Maryland and adjacent states. R. B. Neuman. maps diags Geol Soc Bul 62: 267-324, pl 1-10 bibliog(p322-4) Mr '51

Structural relations of cretaceous and tertiary formations in part of Maryland and Virginia. N. H. Darton. bibliog diags Geol Soc Bul 62:745-79, pl 1-4 Jl '51

Structure and petrology of the Peach Bottom slate, Pennsylvania and Maryland, and its environment. S. L. Agron. diags Geol Soc Bul 61:1265-306, pl 1-11 bibliog(p 1305-6) N '50

Structure of the Sugarloaf Mountain area, Maryland, as a key to Piedmont stratigraphy. D. M. Scotford. bibliog maps diags Geol Soc Bul 62:45-75, pl 1-7 Ja '51

Structure of the Sugarloaf Mountain area, Maryland, as a key to Piedmont stratigraphy. A. J. Stose and G. W. Stose. bibliog map diag Geol Soc Bul 62:697-9 Je '51

Mexico

Research on the continental neogene of Mexico. A. R. V. Arellano. bibliog map diags Am J Sci 249:604-16 Ag '51

Michigan

Differentiation in lavas of the Keweenawan series and the origin of the copper deposits of Michigan. H. R. Cornwall. bibliog fold maps (pl 1, 4) diags Geol Soc Bul 62:159-201, pl 2-3 F '51

Ilmenite, magnetite, hematite, and copper in lavas of the Keweenawan series. H. R. Cornwall. bibliog il Econ Geol 46:51-67 Ja '51

Iron formation and associated rocks in the Iron River district, Michigan. H. L. James. bibliog map Geol Soc Bul 62:251-66, pl 1-4 Mr '51

Minnesota

Minor moraines in South Dakota and Minnesota. C. S. Gwynne. bibliog maps diags Geol Soc Bul 62:233-49, pl 1-3 Mr '51

Precambrian stratigraphy of Minnesota. F. F. Grout and others. maps diags Geol Soc Bul 62:1017-78 bibliog(p 1075-8) S '51

Bibliography

Bibliography of Minnesota geology. T. G. Melone and L. W. Weis. (Geol. survey bul. 34) 124p Univ. of Minnesota press, Minneapolis '51

Mississippi

Fearn Springs member of Wilcox formation in Mississippi. F. S. MacNeil. diag Am Assn Pet Geologists Bul 35:1062-70 My '51

Missouri

Magnetic fields associated with igneous pipes in the central Ozarks. C. R. Holmes. maps Min Eng 187:Trans 1143-6 N '50

Stratigraphy of lower Mississippian rocks in southwestern Missouri. C. P. Kaiser. map diags Am Assn Pet Geologists Bul 34:2133-75 bibliog(p2172-5) N '50

Stratigraphy of Plattin group, southeastern Mo. E. R. Larson. bibliog il map diags Am Assn Pet Geologists Bul 35:2041-75 S '51

Montana

Cretaceous glassy welded tuffs; Lewis and Clark county, Mont. J. D. Barksdale. bibliog Am J Sci 249:439-43, pl 1 Je '51

Metamorphism and associated mineralization in the Philipsburg region, Montana. maps diags Geol Soc Bul 61:1053-90, pl 1-14 bibliog(p 1089-90) O '50

Status of Dry Creek shale of central Montana. C. Lochman. bibliog il diags Am Assn Pet Geologists Bul 34:2200-22 N '50

Triassic and Jurassic stratigraphy of southwestern Montana. C. A. Moritz. il maps diags Am Assn Pet Geologists Bul 35:1781-814 bibliog(p 1813-14) Ag '51

New England

Younger intrusive rocks of Plateau province, Nigeria, compared with the alkalic rocks of New England. R. Greenwood. bibliog maps Geol Soc Bul 62:1151-78, pl 1-4 O '51

New Hampshire

Geology of the Woodsville quadrangle, Vermont-New Hampshire. W. S. White and M. P. Billings. bibliog maps diags Geol Soc Bul 62:647-96, pl 1-3 Je '51

New Jersey

Statistical methods applied to the study of rock fractures; quantitative comparative analysis of fractures in gneisses and overlying sedimentary rocks of northern New Jersey. H. J. Pincus. maps diags Geol Soc Bul 62:81-129 bibliog(p 128-9) F '51

New Mexico

Geology of Delaware basin. B. R. Haigh. maps diag Oil & Gas J 49:149-51+ F 22 '51

Loose carbonate accretions from Carlsbad caverns, New Mexico. D. M. Black. diags Science 114:126-7 Ag 3 '51

Trace-element studies, Santa Rita, New Mexico. D. L. Graf and P. F. Kerr. bibliog maps diags Geol Soc Bul 61:1023-52 O '50

See also

Hermosa formation

New York (state)

Middle Devonian coral beds of central New York. W. A. Oliver, jr. map diags Am J Sci 249:705-28, pl 1-2 bibliog(p727-8) O '51

Nigeria

Younger intrusive rocks of Plateau province, Nigeria, compared with the alkalic rocks of New England. R. Greenwood. bibliog maps Geol Soc Bul 62:1151-78, pl 1-4 O '51

North America

Highland centers of former glacial outflow in northeastern North America. R. F. Flint. maps Geol Soc Bul 62:21-37, pl 1 bibliog (p36-7) Ja '51

Bibliography

Bibliography of North American geology 1949. E. M. Thom and others. U S Geol S Bul 977:1-273 '51 (pa 55c)

North Carolina

Blue Ridge front, a fault scarp. W. A. White. bibliog maps diags Geol Soc Bul 61:1309-46, pl 1-3 D '50

Structural analysis of the west border of the Durham triassic basin. J. W. Harrington. bibliog maps diags Geol Soc Bul 62:149-57, pl 1 F '51

GEOLOGY—North Carolina—*Continued*

Structure of the Hot Springs window, Madison county, North Carolina. S. S. Oriel. fold map maps diags Am J Sci 249:1-30 bibliog(p29-30) Ja '51

North Dakota

Discovery heightens interest in North Dakota geology. W. M. Laird. map diag World Oil 132:73-5+ Je; 133:83-4+ Jl 1 '51

Novia Scotia

Acadia, place of plenty; Canadian and American students find opportunity to cement international friendships while studying Nova Scotia's geology. J. J. Rowlands. il Tech R 53:345-50 My '51

Ohio

Illinoian and Wisconsin drift of the southern part of the Grand River lobe in eastern Ohio. G. W. White. bibliog map Geol Soc Bul 62:967-77, pl 1 S '51

Okinawa

Plantation of recent reef flats on Okinawa. F. S. MacNeil. Geol Soc Bul 61:1307-8, pl 1 N '50

Oklahoma

Assimilation in the Cold Springs area of the Wichita Mountains igneous complex, Okla. J. L. Walper. bibliog fold map Am J Sci 249:47-65, pl 1-2 Ja '51

Bluejacket sandstone of Kansas and Oklahoma. W. B. Howe. bibliog diag Am Assn Pet Geologists Bul 35:2087-93 S '51

Faults in sedimentary part of Wichita mountains of Oklahoma. B. H. Harlton. bibliog maps Am Assn Pet Geologists Bul 35:988-99 My '51

Geology of Eola area, Garvin county, Okla. R. M. Swesnik and T. H. Green. bibliog maps diags Am Assn Pet Geologists Bul 34:2176-99 N '50

Ontario

Age relationship of the Murray granite and Sudbury norite. C. R. Lewis. bibliog maps diags Can Min J 72:55-62 My; 70-5 Je '51

Bedrock source of tills in southwestern Ontario. C. P. Gravenor. bibliog map Am J Sci 249:66-71 Ja '51

Crow River area geology. E. O. Chisholm. il map Can Min J 71:112-13 N '50

General geology and structure in Kirkland Lake area. W. S. Savage. il map Can Min J 71:107-9 N '50

General geology of Ontario. M. E. Hurst. il maps Can Min J 71:96-101 N '50

General geology, Red Lake area. E. O. Chisholm. map Can Min J 71:110-11 N '50

Geraldton-Beardmore area, general geology. W. L. Greer. bibliog il map Can Min J 71:114-15 N '50

Glacial clays in Steep Rock lake, Ontario, Canada. E. Antevs. maps Geol Soc Bul 62:1223-62, pl 1-6 bibliog(p 1261-2) O '51

Middle Devonian Columbus limestone near Ingersoll, Ontario, Canada. G. M. Ehlers and E. C. Stumm. bibliog il map Am Assn Pet Geologists Bul 35:1879-88 Ag '51

Porcupine gold area. N. Hogg. bibliog map Can Min J 71:102-6 N '50

Significant replacement textures at Cobalt and South Lorraine, Ontario, Canada. E. S. Bastin. bibliog Econ Geol 45:808-17, pl 1-4 D '50

Pennsylvania

Diamond-drill exploration of the Dillsburg magnetite deposits, York county, Pennsylvania. P. E. Hotz. bibliog U S Geol S Bul 969-A:1-27, pl 1-10 [in pocket]; pa 70c Supt. of doc. '50

Evidence of the Taconic sequence in the vicinity of Lehigh river, Pa. G. W. Stose. bibliog map Am J Sci 248:815-19 N '50

Structure and petrology of the Peach Bottom slate, Pennsylvania and Maryland, and its environment. S. L. Agron. diags Geol Soc Bul 61:1265-306, pl 1-11 bibliog(p 1305-6) N '50

Subdivision and dating of the Cambrian of eastern Pennsylvania. B. F. Howell and others. bibliog map diags Geol Soc Bul 61:1355-67, pl 1-2 D '50

Peru

Rubble bedding and graded bedding in Talara formation of northwestern Peru. J. M. Dorreen. bibliog il maps diags Am Assn Pet Geologists Bul 35:1829-49 Ag '51

Triassic to tertiary stratigraphy near Cerro de Pasco, Peru. W. F. Jenks. bibliog fold map (pl 1) diags Geol Soc Bul 62:203-19, pl 2-3 F '51

Quebec (province)

Geology and mineral occurrances. R. B. Graham. il maps plan diags Can Min J 72:65-71 S '51

Marine crevasse fillings in the Lotbiniere region, Quebec. F. Fitz Osborne. maps Am J Sci 248:874-90 bibliog(p889-90) D '50

Rhodesia

Age of the granites of the northern Rhodesian copperbelt. W. G. Garlick and J. J. Brummer. bibliog maps diags Econ Geol 46:478-97 Ag '51

Probable extreme age of pegmatites from southern Rhodesia. L. H. Ahrens and A. M. Macgregor. Science 114:64-5 Jl 20 '51

Rocky Mountain region

Abstracts of papers at Rocky Mountain section of Geological society of America meeting, Golden, Colo. April 14-15. Geol Soc Bul 61:1549-60 pt 2 D '50

San Francisco bay

Engineering geology of San Francisco bay, Calif. P. D. Trask and J. W. Rolston. bibliog maps diags Geol Soc Bul 62:1079-109 S '51

South Dakota

Minor moraines in South Dakota and Minnesota. C. S. Gwynne. bibliog maps diags Geol Soc Bul 62:233-49, pl 1-3 Mr '51

Revision of Pierre shale of central South Dakota. D. R. Crandell. bibliog maps Am Assn Pet Geologists Bul 34:2337-46 D '50

See also
Black Hills

Tennessee

Great Smoky fault. R. B. Neuman. bibliog maps diags Am J Sci 249:740-54 O '51

Texas

Buried hill at Wilcox-Carrizo contact in east Texas. H. B. Stenzel. bibliog il map diags Am Assn Pet Geologists Bul 35:1815-28 Ag '51

Geology of Delaware basin. B. R. Haigh. maps diag Oil & Gas J 49:149-51+ F 22 '51

Geology of the Barrilla mountains, Texas. G. K. Eifler, jr. bibliog map Geol Soc Bul 62:339-53, pl 1-2 Ap '51

Pegmatites of the Van Horn mountains, Texas. P. T. Flawn. bibliog il pl map diags Econ Geol 46:163-92 Mr '51

Photogeologic study in Kent county, Tex. C. De Blieux; G. F. Shepherd. il maps Oil & Gas J 50:86+ Jl 12 '51

Southwest Texas faults. H. N. Lyle. map diag Oil & Gas J 49:108+ Mr 22 '51

Spraberry and Dean sandstones of west Texas. L. McLennan, jr. and H. W. Bradley. map diags Am Assn Pet Geologists Bul 35:899-908 Ap '51

Trinidad

Mudflow occurrence in Trinidad, B.W.I. T. H. Bower. diags Am Assn Pet Geologists Bul 35:908-12 Ap '51

Utah

Eocene volcanism in central Utah. S. Muessig. Science 114:234 Ag 31 '51

Geology of the Cedar Hills, Utah. S. L. Schoff. bibliog maps diags Geol Soc Bul 62:619-45, p 1-2 Je '51

Mississippian and Pennsylvanian stratigraphy, confusion range, west-central Utah. L. Ogden. bibliog map diags Am Assn Pet Geologists Bul 35:62-82 Ja '51

Pleistocene valley sediments of the Dugway area, Utah. R. L. Ives. bibliog maps diags Geol Soc Bul 62:781-97, pl 1-2 Jl '51

GEOLOGY—Utah—*Continued*

Uranium deposits near Marysvale, Piute county, Utah. J. W. Gruner and others. maps Econ Geol 46:243-51 My '51

See also

Hermosa formation

Venezuela

Geology of the eastern Venezuela basin (Anzoategui-Monagas-Sucre-eastern Guarico portion). H. D. Hedberg. bibliog maps Geol Soc Bul 61:1173-215, pl 1-11 N '50

Vermont

Geology of the Woodsville quadrangle, Vermont-New Hampshire. W. S. White and M. P. Billings. bibliog maps diags Geol Soc Bul 62:647-96, pl 1-3 Je '51

Stratigraphy and structure of the Oak Hill succession in Vermont. V. H. Booth. bibliog maps Geol Soc Bul 61:1131-68, pl 1-3 O '50

Virginia

Blue Ridge front, a fault scarp. W. A. White. bibliog maps diags Geol Soc Bul 61:1309-46, pl 1-3 D '50

Folded overthrust and its effect upon stream development in central Virginia. R. O. Bloomer. bibliog maps diags Am J Sci 249:640-53, pl 1-2 S '51

Late pre-Cambrian or lower Cambrian formations in central Virginia. R. O. Bloomer. bibliog maps diags Am J Sci 248:753-83, pl 1-4 N '50

Structural relations of cretaceous and tertiary formations in part of Maryland and Virginia. N. H. Darton. bibliog diags Geol Soc Bul 62:745-79, pl 1-4 Jl '51

Washington (state)

Blewett iron-nickel deposit, Chelan county, Washington. C. A. Lamey. bibliog map U S Geol S Bul 969-D:87-103, pl 17-19; pa 65c Supt. of doc. '50

McIntosh formation, Centralia-Chehalis coal district, Wash. P. D. Snavely, jr. and others. bibliog il map diag Am Assn Pet Geologists Bul 35:1052-61 My '51

Wyoming

See also

Black Hills

GEOLOGY, Engineering. See Engineering geology

GEOLOGY, Stratigraphic

Geology of the eastern Venezuela basin (Anzoategui-Monagas-Sucre-eastern Guarico portion). H. D. Hedberg. bibliog maps Geol Soc Bul 61:1173-215, pl 1-11 N '50

Regional stratigraphic analysis as a guide to geophysical exploration. W. C. Krumbein. World Oil 132:99-100 Ap '51

Sedimentary basins of Arizona and adjoining areas. E. D. McKee. maps Geol Soc Bul 62:481-505, pl 1-3 bibliog(p500-2) My '51

Some relations among sedimentation, stratigraphy, and seismic exploration. W. C. Krumbein. bibliog map diags Am Assn Pet Geologists Bul 35:1505-22 Jl '51

Stratigraphic analysis in oil exploration. L. L. Sloss. bibliog maps Oil & Gas J 50:102-4+ S 13 '51

Stratigraphy and structure of the Oak Hill succession in Vermont. V. H. Booth. bibliog maps Geol Soc Bul 61:1131-68, pl 1-3 O '50

Nomenclature

Records of the Stratigraphic commission for 1949-1950. Am Assn Pet Geologists Bul 35:1074-81 My '51

Should additional categories of stratigraphic units be recognized? bibliog Am Assn Pet Geologists Bul 34:2360-1 D '50

Stratigraphic classification. H. E. Wheeler and others. bibliog Am Assn Pet Geologists Bul 34:2361-5 D '50

Algonkian

Nankoweap group of the Grand Canyon Algonkian of Ariz. C. E. Van Gundy. bibliog maps Geol Soc Bul 62:953-9, pl 1-3 Ag '51

Cambrian

Late pre-Cambrian or lower Cambrian formations in central Virginia. R. O. Bloomer. bibliog maps diags Am J Sci 248:753-83, pl 1-4 N '50

Status of Dry Creek shale of central Montana. C. Lochman. bibliog il diags Am Assn Pet Geologists Bul 34:2200-22 N '50

Subdivision and dating of the Cambrian of eastern Pennsylvania. B. F. Howell and others. bibliog map diags Geol Soc Bul 61:1355-67, pl 1-2 D '50

Cenozoic

Research on the continental neogene of Mexico. A. R. V. Arellano. bibliog map diags Am J Sci 249:604-16 Ag '51

Cretaceous

Measurement of paleotemperatures and temperatures of the upper cretaceous of England, Denmark, and the southeastern United States. H. C. Urey and others. bibliog Geol Soc Bul 62:399-416, pl 1 Ap '51

Recent evidence for lower cretaceous deposits in Colorado plateau. P. J. Katich, jr. bibliog Am Assn Pet Geologists Bul 35:2093-4 S '51

St Mary River formation in Spring Coulee-Magrath area, Alberta, Canada. E. P. Williams. bibliog il map Am Assn Pet Geologists Bul 35:885-98 Ap '51

Stratigraphy and structure of mountains north-east of Santa Barbara, Calif. B. M. Page and others. bibliog il maps diags Am Assn Pet Geologists Bul 35:1727-80 Ag '51

Structural relations of cretaceous and tertiary formations in part of Maryland and Virginia. N. H. Darton. bibliog diags Geol Soc Bul 62:745-79, pl 1-4 Jl '51

Devonian

Devonian stratigraphy of Rocky mountains and foothills between Crowsnest pass and Athabaska river, Alberta, Canada. F. G. Fox. bibliog map diags Am Assn Pet Geologists Bul 35:822-43 Ap '51

Geology of the Woodsville quadrangle, Vermont-New Hampshire. W. S. White and M. P. Billings. bibliog maps diags Geol Soc Bul 62:647-96, pl 1-3 Je '51

Middle Devonian Columbus limestone near Ingersoll, Ontario, Canada. G. M. Ehlers and E. C. Stumm. bibliog il map Am Assn Pet Geologists Bul 35:1879-88 Ag '51

Regional aspects of Silurian and Devonian subsurface stratigraphy in Kentucky. L. B. Freeman. bibliog maps diags Am Assn Pet Geologists Bul 35:1-61 Ja '51

Status of Dry Creek shale of central Montana. C. Lochman. bibliog il diags Am Assn Pet Geologists Bul 34:2200-22 N '50

Structural interpretation of loci of petroliferous parts of Devonian reefs in Edmonton area, Alberta, Canada. R. L. Rutherford. map Am Assn Pet Geologists Bul 35:844-53 Ap '51

Eocene

Eocene volcanism in central Utah. S. Muessig. Science 114:234 Ag 31 '51

Stratigraphy and structure of mountains north-east of Santa Barbara, Calif. B. M. Page and others. bibliog il maps diags Am Assn Pet Geologists Bul 35:1727-80 Ag '51

See also

Wilcox formation

Jurassic

Correlation of Jurassic formations along Defiance monocline, Arizona-New Mexico. H. E. Wright, jr. and R. M. Becker. bibliog map diags Am Assn Pet Geologists Bul 35:607-14 Mr '51

Triassic and Jurassic stratigraphy of southwestern Montana. C. A. Moritz. il maps diags Am Assn Pet Geologists Bul 35:1781-814 bibliog(p 1813-14) Ag '51

Mississippian

Mississippian and Pennsylvanian stratigraphy, confusion range, west-central Utah. L. Ogden. bibliog map diags Am Assn Pet Geologists Bul 35:62-82 Ja '51

Stratigraphy of lower Mississippian rocks in southwestern Missouri. C. P. Kaiser. map diags Am Assn Pet Geologists Bul 34:2133-75 bibliog(p2172-5) N '50

GEOLOGY, Stratigraphic—*Continued*

Ordovician

Geology of the Woodsville quadrangle, Vermont-New Hampshire. W. S. White and M. P. Billings. bibliog maps diags Geol Soc Bul 62:647-96, pl 1-3 Je '51

St Paul group; a revision of the Stones River group of Maryland and adjacent states. R. B. Neuman. maps diags Geol Soc Bul 62: 267-324, pl 1-10 bibliog(p322-4) Mr '51

Stratigraphy of Plattin group, southeastern Mo. E. R. Larson. bibliog il map diags Am Assn Pet Geologists Bul 35:2041-75 S '51

Paleozoic

Great Smoky fault. R. B. Neuman. bibliog maps diags Am J Sci 249:740-54 O '51

Paleozoic stratigraphy of part of northwestern Arizona. A. W. McNair. bibliog map diag Am Assn Pet Geologists Bul 35:503-41 Mr '51

Pennsylvanian

Mississippian and Pennsylvanian stratigraphy, confusion range, west-central Utah. L. Ogden. bibliog map diags Am Assn Pet Geologists Bul 35:62-82 Ja '51

Pennsylvanian-Permian field conference, Sept. 8-10. Science 112:573 N 10 '50

Permian

Ochoa is Permian. B. Donegan and R. K. Deford. bibliog Am Assn Pet Geologists Bul 34:2356-9 D '50

Pennsylvanian-Permian field conference, Sept. 8-10. Science 112:573 N 10 '50

Pleistocene

Pleistocene history of coastal Alabama. C. W. Carlston. bibliog Geol Soc Bul 61:1119-29, pl 1-3 O '50

Plio-pleistocene boundary in the Siwalik series of India and in Java. D. A. Hooijer and E. H. Colbert. bibliog Am J Sci 249: 533-8 Jl '51

Radiocarbon dating of late-pleistocene events. R. F. Flint and E. S. Deevey, jr. Am J Sci 249:257-300 bibliog(p297-300) Ap '51

Pliocene

See also

Citronelle formation

Pre-Cambrian

Iron formation and associated rocks in the Iron River district, Michigan. H. L. James. bibliog map Geol Soc Bul 62:251-66, pl 1-4 Mr '51

Precambrian stratigraphy of Minnesota. F. F. Grout and others. maps diags Geol Soc Bul 62:1017-78 bibliog(p 1075-8) S '51

Silurian

Geology of the Woodsville quadrangle, Vermont-New Hampshire. W. S. White and M. P. Billings. bibliog maps diags Geol Soc Bul 62:647-96, pl 1-3 Je '51

Regional aspects of Silurian and Devonian subsurface stratigraphy in Kentucky. L. B. Freeman. bibliog maps diags Am Assn Pet Geologists Bul 35:1-61 Ja '51

Tertiary

Blue Ridge front, a fault scarp. W. A. White. bibliog maps diags Geol Soc Bul 61:1309-46, pl 1-3 D '50

Structural relations of cretaceous and tertiary formations in part of Maryland and Virginia. N. H. Darton. bibliog diags Geol Soc Bul 62:745-79, pl 1-4 Jl '51

Trace-element studies, Santa Rita, New Mexico. D. L. Graf and P. F. Kerr. bibliog maps diags Geol Soc Bul 61:1023-52 O '50

Triassic

Structural analysis of the west border of the Durham triassic basin. J. W. Harrington. bibliog maps diags Geol Soc Bul 62:149-57, pl 1 F '51

Triassic and Jurassic stratigraphy of southwestern Montana. C. A. Moritz. il maps diags Am Assn Pet Geologists Bul 35:1781-814 bibliog(p 1813-14) Ag '51

Triassic to tertiary stratigraphy near Cerro de Pasco, Peru. W. F. Jenks. bibliog fold map (pl 1) diags Geol Soc Bul 62:203-19, pl 2-3 F '51

GEOMETRY

Some applications of geometry in the patternshop; data sheet. diags Foundry 79: 143-4 Mr '51

See also

Pythagorean proposition

GEOMETRY, Descriptive

Descriptive geometry for geologists. J. S. Dobrovolny. Am Assn Pet Geologists Bul 35:1674-80 Jl '51

GEOMETRY, Plane

Geometrical representation of the polarization of a plane electromagnetic wave. G. A. Deschamps. diags Inst Radio Eng Proc 39: 540-4 My '51

GEON

New uses seen for Goodrich's Geon; aircraft electrical equipment. Aviation W 54:43+ Mr 12 '51

Polyvinyl resin and latex; production and properties of new resins and dispersions. il Chem Age (Lond) 63:639-41 N 4 '50

Rigid plastic polyvinyl resin; Geon 404. Automotive Ind 104:66 My 1 '51

GEOPHYSICAL instruments

Hydrothermal-differential pressure equipment for experimental studies in low-grade rock metamorphism. H. W. Fairbairn. flow sheet diag Geol Soc Bul 62: 39-43, pl 1 Ja '51

GEOPHYSICS

Asymptotic approximation for the normal modes in sound channel wave propagation. N. A. Haskell. J Ap Phys 22:157-68 F '51

Colloquium on mesospheric physics. Franklin Inst J 250:472-5 N '50

Some implications for geophysics for high-pressure phenomena. P. W. Bridgman. Geol Soc Bul 62:533-5 My '51

Submarine geology of Bikini lagoon as indicated by dispersion of water-borne explosion waves. M. B. Dobrin. bibliog map diag Geol Soc Bul 61:1091-117, pl 1-3 O '50

See also

Atmospheric electricity
Auroras
Earth—Internal structure
Earth temperature
Earthquakes
Geophysical instruments
Hydrosphere
Isostasy
Magnetism, Terrestrial
Meteorology
Petroleum—Prospecting—Geophysical methods
Prospecting—Geophysical methods
Rocks, Igneous
Sedimentation and deposition
Water, Underground
Waves
Weathering (rocks)

Bibliography

Geophysical abstracts 141, April-June 1950 (numbers 11908-12125). M. C. Rabbitt and S. T. Vesselowsky. U S Geol S Bul 976-B: 71-139; pa 25c Supt. of doc. '50

Geophysical abstracts 142, July-September 1950 (numbers 12126-12339). M. C. Rabbitt and S. T. Vesselowsky. U S Geol S Bul 976-C:141-209; pa 25c Supt. of doc. '50

Geophysical abstracts 143, Oct.-Dec. 1950 (numbers 12340-12513). M. C. Rabbitt and S. T. Vesselowsky. U S Geol S Bul 976-D: 211-66; pa 20c Supt. of doc. '51

Geophysical abstracts 144, January-March, 1951 (numbers 12514-12700). M. C. Rabbitt and S. T. Vesselowsky. U S Geol S Bul 981-A:1-54; pa 25c Supt. of doc. '51

GEOPOLITICS

Mediterranean geopolitics. L. B. Blair. il U S Naval Inst Proc 77:134-9 F '51

GEORGE Washington bridge. See Hudson River bridges

GEORGE Washington university

Patent foundation established by George Washington university Law school. Elec Eng 70:841-2 S '51

GEORGIA

Georgia would drop anti-trust complaint; tells court it is willing to have case dismissed. Ry Age 129:169 O 28 '50

See also

Building laws and regulations—Georgia
Geology—Georgia
Taxation—Georgia

Industries and resources

Georgia cites gains made by industry in '50. Manuf Rec 120:114 F '51

GEORGIA institute of technology

1949-50 at Georgia Tech engineering experiment station. B. H. Weil and H. H. Cudd. il Chem & Eng N 28:4069-70 N 20 '50

GEORGIA-Pacific plywood company

Enter Georgia-Pacific; number one producer of Douglas-fir plywood. il Fortune 43:99-101+ My '51

GEORGIA power company

Bonds offered. Comm & Fin Chr 173:2389 Je 11 '51

Georgia power company wins Charles A. Coffin award. il Edison Elec Inst Bul 19:206 Jl '51; Elec World News ed 135:5-6 Je 11 '51

GEORGIA railroad and banking company

Ancient railroad charter still saves taxes. Bsns W p 130 Jl 7 '51

GERANIC acid

Experiments relating to the synthesis of homogeranic acid. D. Barnard and L. Bateman. Chem Soc J p926-32 Mr '50

GERANIOL

Infra-red examination of terpenoid substances. M. F. Carroll and others. Chem Soc J p3457-61 D '50

GERANOYL chloride

Experiments relating to the synthesis of homogeranic acid. D. Barnard and L. Bateman. Chem Soc J p926-32 Mr '50

GERANYL chloride

Infra-red spectroscopic investigation of double-bond structure in simple acyclic terpenes and derivatives thereof. D. Barnard and others. Chem Soc J p915-25 Mr '50

Some reactions of geranylmagnesium chloride. D. Barnard and L. Bateman. Chem Soc J p932-6 Mr '50

GERHARDT, Charles Frédéric, 1816-1856

Auguste Laurent; guide and inspiration of Gerhardt. C. deMilt. bibliog por J Chem Educ 28:198-204 Ap '51

GERIATRICS. See Old age

GERMANE

Germanes and their organo derivatives. O. H. Johnson. Chem R 48:259-97 bibliog(99 ref, p295-7) Ap '51

GERMANICOL

Chemistry of the pentacyclic triterpenes; the formation of 18-*iso*-β-amyranol and germanicol from lupeol. T. R. Ames and others. Chem & Ind p741 S 1 '51

GERMANIUM

Absolute absorption coefficient of germanium and the fine structure in the *K* edge of some of its compounds. H. Glaser. bibliog Phys R 82:616-21 Je 1 '51

Achromatic doublet of silicon and germanium. R. G. Treuting. il Opt Soc Am J 41:454-6 Jl '51

Changes in conductivity of germanium induced by alpha-particle bombardment. W. H. Brattain and G. L. Pearson. diag Phys R 80:846-50 D 1 '50

Characteristics of germanium diodes. B. F. Osbahr. il diags Tele-Tech 9:33-4 D '50

Crystal diodes. R. W. Douglas and E. G. James. bibliog diags Inst E E Proc 98 pt 3: 157-68; Discussion. 177-83 My '51

Crystal diodes in modern electronics. D. T. Armstrong. il diags Radio & Tv N 46:47-50+ O; 66-8 N '51 (to be cont)

Crystal diodes in tv studio equipment. R. Kuehn. diags Electronics 23:114-16 D '50

Crystal triodes. T. R. Scott. bibliog diags Inst E E Proc 98 pt 3:169-77 My '51; Same. Elec Com 28:195-208 S '51; Discussion. il Inst E E Proc 98 pt 3:177-83 My '51

Effect of fast neutron bombardment on the electrical properties of germanium. J. W. Cleland and others. bibliog Phys R 83:312-19 Jl 15 '51

Effect of heat treatment on the electrical properties of germanium. H. C. Theuerer and J. H. Scaff. bibliog il diags J Metals 191:Trans 59-63 Ja '51

Electric forming in *n*-germanium transistors using phosphorus-alloy contacts. J. P. Stelmak. Phys R 83:165 Jl 1 '51

Electrodeposition of germanium. G. Szekely. bibliog diag Electrochem Soc J 98:318-24 Ag '51

Electron bombardment induced conductivity in germanium point contact rectifiers. A. R. Moore and F. Herman. bibliog il Phys R 81:472-3 F 1 '51

Freezing point diagram of the germanium-manganese system. J. H. Downing and D. Cubicciotti. Am Chem Soc J 73:4025 Ag '51

Germanium and gallium; their production, properties, and uses; abstract and discussion. A. R. Powell. Chem & Ind p 108-10 F 10 '51

Germanium trigger photocells. F. A. Stahl. il diags Elec Eng 70:518-20 Je '51

Growth of germanium single crystals containing *p-n* junctions. G. K. Teal and others. Phys R 81:637 F 15 '51

High-performance transistor with wide spacing between contacts. B. N. Slade. diag RCA R 11:517-26 D '50

Intrinsic conductivity of germanium; abstract. W. C. Dunlap, jr. Science 112:419-20 O 13 '50

Inverse voltage characteristic of a point contact on *n*-type germanium. L. P. Hunter. Phys R 81:151-2 Ja 1 '51

p-n Junction rectifier and photo-cell. W. J. Pietenpol. bibliog Phys R 82:120-1 Ap 1 '51

p-n Junction transistors. W. Shockley and others. diags Phys R 83:151-62 Jl 1 '51

Kinetics of the reaction of germanium and oxygen. R. B. Bernstein and D. Cubicciotti. Am Chem Soc J 73:4112-14 S '51

Magneto-resistance effect in oriented single crystals of germanium. G. L. Pearson and H. Suhl. bibliog il diag Phys R 83:768-76 Ag 15 '51

Measurement of hole diffusion in *n*-type germanium. F. S. Goucher. bibliog diag Phys R 81:475 F 1 '51

Mobilities of electrons in high electric fields. E. J. Ryder and W. Shockley. diag Phys R 81:139-40 Ja 1 '51

Mobility and life of injected holes and electrons in germanium. J. R. Haynes and W. Shockley. il diags Phys R 81:835-43 Mr 1 '51

New uses for germanium photocells. il diag Product Eng 22:144 My '51

Observations of Zener current in germanium *p-n* junctions. K. B. McAfee and others. bibliog Phys R 83:650-1 Ag 1 '51

Pressure dependence of resistance of germanium. J. H. Taylor. Phys R 80:919-20 D 1 '50

Properties of pure germanium; abstract. R. N. Hall. Science 112:419 O 13 '50

Pulse measurement of the inverse voltage characteristic of germanium point contacts. A. I. Bennett and L. P. Hunter. Phys R 81:152 Ja 1 '51

Relationships between germanium and cadmium in the electrolysis of zinc sulphate solutions. S. T. Ross and J. L. Bray. bibliog diag J Metals 3:Trans 465-7 Je '51

Semiconductor diodes; characteristics of silicon and germanium crystal diodes, with dimensions and terminal data; tabulations and diagrams. Electronics 24:112-13 Mr '51

Semiconductors will become a major field of electrical engineering; germanium diodes. il Product Eng 22:133 My '51

Significance of composition of contact point in rectifying junctions on germanium. W. G. Pfann. bibliog diags Phys R 81:882 Mr 1 '51

Temperature dependence of the energy gap in semiconductors. H. Y. Fan. bibliog Phys R 82:900-5 Je 15 '51

Theory and experiment for a germanium *p-n* junction. F. S. Goucher and others. Phys R 81:637-8 F 15 '51

Theory of relation between hole concentration and characteristics of germanium point contacts. J. Bardeen. diags Bell System Tech J 29:469-95 O '50

Theory of the flow of electrons and holes in germanium and other semiconductors. W. van Roosbroeck. bibliog Bell System Tech J 29:560-607 O '50

Tiny junction-type germanium transistor achieves nearly ideal efficiencies. il Elec Eng 70:751-2 Ag '51

Analysis

Determination of germanium; colorimetric determination of microgram amounts with oxidized hematoxylin. H. Newcombe and others. bibliog diag Anal Chem 23:1023-7 Jl '51

GERMANIUM—*Continued*

Isotopes

- Microwave study of Ge, Si, and S masses. S. Geschwind and R. Gunther-Mohr. bibliog Phys R 81:882-3 Mr 1 '51
- Nuclear spins and quadrupole moments of stable germanium isotopes. J. M. Mays and C. H. Townes. bibliog Phys R 81:940-1 Mr 15 '51

GERMANIUM chlorides

- Liquid-vapour equilibrium as a function of temperature for the system arsenic trichloride-germanium tetrachloride. F. Sebba. diag Chem Soc J p 1975-7 Ag '51

GERMANIUM compounds

- Chemistry of the tris-(triphenylgermanyl)-silyl group. J. C. Milligan and C. A. Kraus. bibliog Am Chem Soc J 72:5297-300 N '50
- Compounds of germanium and hydrogen; monoalkylgermanes; potassium germanyl; electrolysis of sodium germanyl. G. K. Teal and C. A. Kraus. Am Chem Soc J 72:4706-9 O '50
- Diphenylgermane and dihalodiphenylgermane. O. H. Johnson and D. M. Harris. Am Chem Soc J 72:5564-6 D '50
- Germanes and their organo derivatives. O. H. Johnson. Chem R 48:259-97 bibliog(99 ref, p295-7) Ap '51
- Microwave spectrum and molecular structure of GeF_3Cl. W. E. Anderson and others. bibliog Phys R 81:819-21 Mr 1 '51
- Reaction of germanes; with alkali metals and amides; polyalkylgermanes; phenyl bromide and sodium germanyl. S. N. Glarum and C. A. Kraus. Am Chem Soc J 72:5398-401 D '50
- Some reactions of triphenylgermane. O. H. Johnson and D. M. Harris. Am Chem Soc J 72:5566-8 D '50

GERMANIUM ferrocyanide

- Germanium (germanyl) ferrocyanide. M. Peisach, W. Pugh and F. Sebba. Chem Soc J p949-50 Mr '50

GERMANIUM halides

- Microwave spectrum and molecular structure of GeF_3Cl. W. E. Anderson and others. bibliog Phys R 81:819-21 Mr 1 '51

GERMANIUM iodides

- Friedel-Crafts synthesis of germanium and tin tetraiodides. W. H. Nebergall and R. H. Walsh. Am Chem Soc J 73:4043 Ag '51

GERMANIUM oxides

- Germanous oxide and sulphide. D. A. Everest and H. Terrey. Chem Soc J p2282-5 S '50

GERMANIUM sulfide

- Germanous oxide and sulphide. D. A. Everest and H. Terrey. Chem Soc J p2282-5 S '50

GERMANIUM tetrachloride

- Electrodeposition of germanium. G. Szekely. bibliog diag Electrochem Soc J 98:318-24 Ag '51

GERMANY

- German smuggling; legal fiction of national unity promotes contraband profits. J. Joesten. Barron's 31:11 Ja 8 '51
- German turning points. Economist 160:1144-6 My 19 '51
- German unity; Russia's big four trump. Bsns W p 125-6+ Mr 10 '51

See also

Automobile industry and trade—Germany
Coal mines and mining—Germany
Coal trade—Germany
Debts, Public—Germany
Electric apparatus industry—Germany
Gas industry—Germany
Labor and laboring classes—Germany
Labor laws and legislation—Germany
Machine tool industry—Germany
Metal working industries—Germany
Plastic industries—Germany
Population—Germany
Science—Germany
Steel industry and trade—Germany
Television broadcasting—Germany
Textile industry—Germany
Trade unions—Germany

Allied military government

- Policy for Germany. Economist 160:354-6 F 17 '51

Russian zone

- Screw turns on Soviet Germany. Economist 160:801-2 Ap 7 '51

Army

- German generals as they see themselves. Economist 160:867+, 931-2 Ap 14-21 '51

Commerce

- Germany exports; Britain squirms. Bsns W p 147 Ag 18 '51
- Here's one illegal shipment that didn't reach the East. il Bsns W p 124-6 Jl 21 '51
- Recent foreign-trade developments; western Germany. For Comm W 43:15 Ap 9 '51
- Up go German exports. Mod Ind 22:74+ S '51

Commercial policy

- German signature of Torquay protocol to General agreement on tariffs and trade. For Comm W 44:26-7 S 17 '51
- Germany's export drive. Economist 159:1090 D 16 '50
- Legislation governing settlement of Reichsmark debts amended; export bonus abolished. For Comm W 43:13 My 7 '51
- Payments to German mortgagors. For Comm W 43:13 My 21 '51
- Procedure for licensing foreign enterprises established. For Comm W 44:13 Jl 2 '51
- Red China trade; allied embargo balks west German deal. J. Joesten. Barron's 31:9 Jl 9 '51
- Tariffs and trade controls; western Germany. For Comm W 42:16 Mr 26; 43:13 Ap 30: 44:15 Jl 9; 14-15 Jl 30; 13 Ag 20; 11 S 10 '51
- Tax incentives for exporters in western Germany. For Comm W 45:12 O 8 '51
- Trade agreements with United Kingdom and Switzerland effected by western Germany. For Comm W 41:14-15 N 20 '50
- Trade and payments agreement concluded with Chile. For Comm W 42:11 Ja 8 '51
- Western Germany; provisional trade agreement with Pakistan; protocol to agreement with Poland. For Comm W 41:11 D 11 '50
- Western Germany; trade agreements with Portugal, Japan and Sweden. For Comm W 41:13 O 23 '50

Defenses

- Can you keep a strong Germany down? il Bsns W p 125-6 O 21 '50
- France says Schuman plan is a must; question of German rearmament. Bsns W p 137-8 N 4 '50
- German rearmament issue shifts to professionals. Barron's 31:8 Ag 6 '51
- Russia will fight if Germany should rearm. H. Baillie. Comm & Fin Chr 173:293 Ja 18 '51
- Scapegoat at Bonn. Economist 159:683-4 N 4 '50

Economic conditions

- Economic development and central bank policies in western Germany; excerpts from annual report of the Bank of the German states. Fed Res Bul 36:1293-300 O '50
- Economic developments and central bank policy; Bank deutscher laender 2d annual report; excerpts. Fed Res Bul 37:942-51 Ag '51
- Economic freedom seen for west Germany. il Steel 127:77 D 18 '50
- News by countries; eastern Germany. For Comm W 45:11-12 O 8 '51
- News by countries; western Germany. For Comm W 41:12 N 6; 17-18 D 4 '50; 42:13 Ja 15; 14 Ja 22; 14-15 F 12; 19-20 F 19; 15-16 Mr 5; 43:15-16 Ap 9; 15-16 Ap 16; 12-14 My 7; 14-15 My 14; 12-13 Je 11; 44:12-14 Jl 2; 15-16 Ag 6; 12-13 Ag 20; 14-15 S 24 '51
- Return to Dr Schacht? German near-bankruptcy challenges the E.C.A. K. Bloch. Barron's 30:9 O 30 '50
- Western German economy in first half of 1950. il For Comm W 41:3-4+ N 6 '50
- Western Germany; recovery exceeds expectations. M. Brickman. il For Comm W 44:3-4+ S 24 '51

Economic policy

- Bonn's "optical" economics. Economist 160:496 Mr 3 '51

GERMANY—Economic policy—*Continued*

West Germans want full say on controls. Bsns W p 157 S 8 '51

See also

Prices—Regulation —Germany

Foreign relations

German auction. Economist 159:719-20 N 11 '50

Germany and the West. Economist 161:544-5 S 8 '51

How many Germanies; on whose side? maps Bsns W p 165-6+ O 13 '51

Soviet German offer. Economist 160:378+ F 17 '51

To keep China, Stalin needs Germany. il Bsns W p 105-6 Ja 13 '51

France

France and German arms; French distrust of Germans. B. deJouvenel. Barron's 31:5 Jl 23 '51

Industries and resources

Agreement reached on reorganization of coal and steel industries. For Comm W 43:13-14 My 7 '51

Ceramic, glass, and porcelain production, western Germany. For Comm W 44:18-19 Jl 2 '51

German industry reaches a landmark. Economist 159:749-50, 816+ N 11-18 '50

German labor's new management role; codetermination law. Mod Ind 21:60+ Je '51

Missing link for Europe; ECA-sponsored survey of west German research resources. Chem W 69:39 S 29 '51

New freedom for German industry. Economist 160:791 Ap 7 '51

Young businessmen and Germany's future. J. Winschuh. Harvard Bsns R 29:35-41 My '51

See also

Krupp works, Essen

Politics and government

Dangers to German democracy. Economist 160:1043-4 My 5 '51

Deadlock in Bonn. Economist 159:1133-4 D 23 '50

Dr Adenauer under fire. Economist 159:989-90 D 9 '50

East German elections; votes for yes-men. Economist 159:623 O 21 '50

Russian tactics in Germany; Herr Grotewohl proposes talks on unity. Economist 160:25-6 Ja 6 '51

Successes for Dr Schumacher; election results of Hesse and Wuerttemberg-Baden. Economist 159:871-2 N 25 '50

GERMICIDES. See Disinfection and disinfectants

GERMINATION

Effect of germination on the carotene content of pulses and cereals. H. Chattopadhyay and S. Banerjee. bibliog Science 113:600-1 My 25 '51

Tetrazolium salt. F. E. Smith. bibliog Science 113:751-4 Je 29 '51

GERMINE

Some synthetic esters of germine. H. L. White. Am Chem Soc J 73:492-3 Ja '51

GEROT, Paul S.

Pillsbury executive vice-president. H. Woodward. por Sales Management 66:41 Je 15 '51

GETCHELL, John Stirling, 1899-1940

Getchell ads still sell. por Bsns W p78-80+ D 16 '50

GEYSERS

Exchange of function as a cause of geyser irregularity. G. D. Marler. Am J Sci 249:329-42 My '51

GIANNINI, Lawrence Mario, 1894-

L. M. Giannini of the Bank of America. por Fortune 44:12-13 Ag '51

GIANT yellowknife gold mines, ltd.

Security I like best. H. P. Newell. Comm & Fin Chr 174:686 Ag 23 '51

GIAUQUE, William Francis, 1895-

Gibbs medal awarded for low temperature research. por Chem & Eng N 29:2270-1 Je 4 '51

GIBBS, Josiah Willard, 1839-1903

First chemist elected to Hall of fame. por Chem & Eng N 28:4073 N 20 '50

GIBBS, Willard, medal

Gibbs medal awarded to Giauque for low temperature research. Chem & Eng N 29:2270-1 Je 4 '51

GIBBS-HELMHOLTZ equation

Concerning the temperature coefficient of the emf of reversible galvanic cells operated at variable concentration. J. C. M. Li. J Chem Phys 19:1059-60 Ag '51

Correct application of the Gibbs-Helmholtz equation to reversible galvanic cells in which several phases are in equilibrium at one of the electrodes. R. E. Barieau. bibliog Am Chem Soc J 72:4023-6 S '50

GIBBSITE

Effect of heat treatment on the surface properties of gibbsite. S. J. Gregg and K. S. W. Sing. bibliog diag J Phys & Colloid Chem 55:592-604 Ap '51

GIBRALTAR

Don't sell Gibraltar short. R. A. Preston. il U S Naval Inst Proc 76:1328-35 D '50

GIBSON, Charles Stanley, 1884-1950

Sketch. J. L. Simonsen. Chem Soc J p628-37 F '51

GIBSON, Harvey Dow, 1882-1950

Sketch. por Banking 43:20 O '50

GIBSON island research conferences. See Gordon research conferences

GIBSON refrigerator company

Getting orders for war work. Bsns W p78+ Ag 18 '51

GIFT packages. See Package goods—Gift packages

GIFT tax

State and federal taxation; 1950 legislation; A.B.A. committee report. Trusts & Estates 89:678-9+ O '50

GIFTS

Gift market in 50 consumer items; some new estimates. P. B. B. Andrews. Sales Management 67:128+ O 15 '51

How to get action by mail; International gift of the month club. W. J. Granberg. il Ptr Ink 236:41-2 S 7 '51

See also

Telegift, inc.

GIFTS (in business)

See also

Christmas gifts—Business gifts

GIFTS (law)

Assignment to author's wife of half interest in manuscript. J Account 91:296-8 F '51

Legal and tax problems inherent in gifts to minors. M. A. Shattuck. Comm & Fin Chr 174:1251+ O 4 '51

Taxes on gifts to deceased employees' dependents. W. R. White. Banking 43:70+ O '50

See also

Gift tax

GILL, Sir Frank, 1866-1950

Sketch. por Elec Com 27:324-5 D '50; Engineering 170:332-3 N 3 '50

GILLILAND, Edwin R. 1909-

Professional progress award winner. por Chem & Eng N 28:4444 D 18 '50

GILRUTH, Robert R. 1913-

Sylvanus Albert Reed award, Institute of the aeronautical sciences. por Aeronautical Eng R 10:9+ Mr '51

GIMBEL brothers, inc.

Brands on way up again; Gimbels big promotion. Bsns W p83-4 Ap 21 '51

GIORGI, Giovanni, 1871-1950

Giovanni Giorgi. por Elec Eng 70:587-8 Jl '51

GIRBOTOL process. See Gas purification

GIRDERS. See Beams and girders

GLACÉ fruit. See Candied fruit

GLACIAL drift. See Drift

GLACIAL epoch

Late-glacial and postglacial pollen diagrams from Maine. E. S. Deevey, jr. bibliog map Am J Sci 249:177-207 Mr '51

Pleistocene climate in New Mexico. L. B. Leopold. bibliog Am J Sci 249:152-68 F '51

Present-day snowfall of Labrador-Ungava; origin of Wisconsin ice. F. K. Hare. bibliog maps Am J Sci 249:654-70 S '51

GLACIAL geology

Bedrock source of tills in southwestern Ontario. C. P. Gravenor. bibliog map Am J Sci 249:66-71 Ja '51

Glacial clays in Steep Rock lake, Ontario, Canada. E. Antevs. maps Geol Soc Bul 62:1223-62, pl 1-6 bibliog(p1261-2) O '51

GLACIAL geology—*Continued*

Marine crevasse fillings in the Lotbiniere region, Quebec. F. Fitz Osborne. maps Am J Sci 248:874-90 bibliog(p889-90) D '50

Pleistocene shore lines in Florida and Georgia. F. S. MacNeil. bibliog U S Geol S Professional Pa 221-F:95-107, pl 19-25; pa $1 Supt. of doc. '50

Pleistocene valley sediments of the Dugway area, Utah. R. L. Ives. bibliog maps diags Geol Soc Bul 62:781-97, pl 1-2 Jl '51

See also

Drift

Glacial lakes

Moraines

GLACIAL lakes

Stages of Lake Chicago; their causes and correlations. J. H. Bretz. bibliog map Am J Sci 249:401-29 Je '51

GLACIERS

Accumulation and ablation on the Seward-Malaspina glacier system, Canada-Alaska. R. P. Sharp. bibliog maps diags Geol Soc Bul 62:725-43, pl 1-2 Jl '51

Highland centers of former glacial outflow in northeastern North America. R. F. Flint. maps Geol Soc Bul 62:21-37, pl 1 bibliog(p36-7) Ja '51

See also

Moraines

GLANDS

See also

Sweat glands

GLANDS, Mammary. See Mammary glands

GLARE

Anti-glare screen has numerous advantages. G. F. Burnley. diag Mill & Factory 47:132 D '50

GLASGOW

Water supply

Glasgow corporation water department; annual report. Engineering 172:287 Ag 31 '51

GLASGOW university

Fifth centenary. il plan Engineer 191:817-20 Je 22 '51

GLASS, John H.

New York merchants salute advertising salesman. por Ed & Pub 84:24 Ap 21 '51

GLASS

All in glass; bubble cap columns. il Chem Ind W 68:36-7 Ja 20 '51

ACS Glass division fall meeting, Ohio, Oct. 6-7; with abstracts of papers. Glass Ind 31:576-8 N '50

American ceramic society, Glass division 53d annual meeting, Chicago, April 22-26; with abstracts of papers. Glass Ind 32:229-30+ My '51

ACS Pacific coast regional meeting, San Francisco. Glass Ind 31:579+ N '50

American institute of chemical engineers glass symposium, Columbus, Dec. 3-6. Glass Ind 32:22 Ja '51

Application of rate-process theory to glass. F. B. Hodgdon and others. bibliog diags J Ap Phys 21:1156-70 N '50

Chemical engineering materials of construction; ceramics. J. H. Koenig and N. H. Snyder. bibliog(59 ref) il Ind & Eng Chem 43:2208-17 O '51

Crystal chemistry in ceramics; the crystal chemistry of glass. W. E. Hauth, jr. bibliog Am Cer Soc Bul 30:203-5 Je 15 '51

Designing with modern materials; survey of latest developments in engineering materials. il Machine Design 23:329-31 O '51

Diffusion of ions in some simple glasses. J. R. Johnson and others. bibliog il diags Am Cer Soc J 34:165-72 Je 1 '51

Effect of composition and temperature on the specific heat of glass. D. E. Sharp and L. B. Ginther. bibliog Am Cer Soc J 34:260-71 S 1 '51

Effect of lithium oxide upon the surface tension of several silicate melts. R. M. Williams and H. E. Simpson. bibliog diag Am Cer Soc J 34:280-3 S 1 '51

Glass as an engineering material. K. Rose. il Materials & Methods 33:89-104 Mr '51

Glass, its place in chemical processing. J. C. Smith. bibliog il Chem Eng 58:117-29 Ap '51

Glass panel heats like the sun. il Bsns W p44-6 Ag 25 '51

Glass progress, 1950. J. G. Mohr. bibliog il Glass Ind 32:65-70+ F '51

Glass review of 1950. H. E. Simpson. il Cer Ind 56:52-4 F; 76-7+ Mr '51

Glass selection and production techniques for X-ray and other tubes. M. J. Zunick and J. B. Gosling. bibliog il diags Glass Ind 32:117-20+ Mr '51

International commission on glass. H. R. Lillie. Am Cer Soc Bul 30:215 Je 15 '51

Nature of the vitreous state. I. Peyches. il Glass Ind 32:17-19, 77-8+, 123-6+ Ja-Mr '51

Neutron-absorbing glass; $CdO\text{-}SiO_2\text{-}B_2O_3$ system. L. M. Melnick and others. bibliog diags Am Cer Soc J 34:82-6 Mr 1 '51

New glass developments in the field of illumination. W. W. Shaver. bibliog il Illum Eng 45:631-6 O '50; Excerpts. Glass Ind 31:643+ D '50; Discussion. Illum Eng 45:759-60 D '50

Quenching vitreous body adds strength. F. A. Hummel and H. E. Lowery. bibliog Cer Ind 56:93-4 Je '51

Radiant-glass heating. Mod Ind 21:69 My '51

Radiant heating with glass wall panels. il diags Am Bld 73:186+ Ap '51

Radiation-absorbing glass. Nat Safety N 63:40 Ja '51

Small angle diffraction of light by a glass cube. A. T. Forrester and L. Mittenthal. il diags Phys R 81:268-71 Ja 15 '51

Symposium on the physical chemistry of glass; chemists and glassmen unite. Glass Ind 32:234-8 My '51

Thermal radiation characteristics of some glasses; emissivity, reflectivity, and transmissivity. H. O. McMahon. il diags Am Cer Soc J 34:91-6 Mr 1 '51

Toledo, Ohio, museum starts 'em young on glass; Libbey gift enriches glass collection. il Bsns W p44-6 Ja 20 '50

Variability of the optical properties and the structure of glass. N. J. Kreidl. bibliog Glass Ind 31:573-5+ N '50

Windows. E. Ayres. il map diags Sci Am 184:60-5 F '51

See also

Ampuls

Glass manufacture

Glassware

Glassy state

Glazes

Insurance, Glass

Plate glass

Windows

Analysis

Chemical analysis of soda-lime-silica glasses for trace quantities of several colorants. P. Close and others. diags Am Cer Soc J 33:345-52 N 1 '50

Composition and working properties of ancient glasses. F. R. Matson. bibliog(27 titles) J Chem Educ 28:82-7 F '51

Decomposition of glass by an acid-leaching solution. E. F. Dick and others. diag Am Cer Soc J 34:31-2 Ja 1 '51

Estimation of boric oxide in glass. J. Davies. Chem Age (Lond) 64:519-20 Ap 7 '51

Color

Spectrophotometric study of the colors given by iron in alkali-lime-silica and alkali-lime-borosilicate glasses. H. Moore and S. N. Prasad. Glass Ind 32:362-3 Jl '51

See also

Glass—Decolorization

Decolorization

How to conserve selenium decolorizer. W. H. Manring. Cer Ind 57:49-50 Jl '51

Reducing need for decolorizer. Cer Ind 56:79 Mr '51

Decoration

Know your enamel for best applied color labeling results. Cer Ind 55:76 N '50

Uses know-how in glass decorating; William A. Meier glass co.; illustrations with text. Cer Ind 56:74-5 Mr '51

Durability

Decomposition of glass by an acid-leaching solution. E. F. Dick and others. diag Am Cer Soc J 34:31-2 Ja 1 '51

Electrode function (pH response), hygroscopicity, and chemical durability of soda-lead oxide-silica glasses. D. Hubbard and others. bibliog J Res Nat Bur Stand 45:430-9 N '50

Electrode function (pH response), hygroscopicity, and chemical durability of soda-potash-silica glasses. D. Hubbard and others. bibliog J Res Nat Bur Stand 46:168-75 Mr '51

GLASS—Durability—*Continued*

Improvement of the stain resistance of lead glasses. M. M. Aposhian and N. J. Kreidl. bibliog il diag Am Cer Soc J 34:103-7 Ap 1 '51

Method of measuring surface durability of glass. H. E. Simpson. diags Am Cer Soc Bul 30:41-5 F 15 '51

Some tests of surface durability of bottle glass. H. E. Simpson. il Glass Ind 31:567-8 N '50

Electric properties

Surface conductivity of lead silicate glass after hydrogen treatment. K. B. Blodgett. diag Am Cer Soc J 34:14-27 Ja 1 '51

See also

Electrodes, Glass

Expansion and contraction

Thermal expansion of some glasses in the system Li_2O-Al_2O_3-SiO_2. C. E. Brackbill and others. bibliog Am Cer Soc J 34:107-9 Ap 1 '51

Fracture

Fracture of glass which is subjected to slowly increasing stress. P. Gibbs and I. B. Cutler. il diags Am Cer Soc J 34:200-6 Jl 1 '51

Some views on the breaking of glass derived from the examination of fracture surfaces; abstract. H. M. Bateson. Glass Ind 32:133+ Mr '51

Variation, with temperature, of the cracking velocity of glass. H. M. Dimmick and J. M. McCormick. il Am Cer Soc J 34:240-1 Ag 1 '51

Hardness

Hard glass is a hard problem. Cer Ind 57:62+ Ag '51

Hardening of glass; quenching in air blast; abstract. G. M. Bartenev. Glass Ind 31:629 D '50

Hardening of thin window glass; abstract. Z. I. Bronshtein. Glass Ind 32:24-5 Ja '51

Hardness of glass; abstract. W. H. Willott. Glass Ind 31:643 D '50

Reduction of the degree of hardening of glass by grinding; abstract. G. M. Bartenev. Glass Ind 31:629-30 D '50

Heat tranmission

Solar energy transmittance of figured rolled glass. G. V. Parmelee and W. W. Aubele. bibliog Heating-Piping 23:124-8 F '51

Thermal radiation characteristics of some glasses; emissivity, reflectivity, and transmissivity. H. O. McMahon. il diags Am Cer Soc J 34:91-6 Mr 1 '51

History

Glass in ancient India. Y. P. Varshney. bibliog Glass Ind 31:632-4 D '50

Infrared rays transmission

Absorption of near-infrared energy by certain glasses. J. M. Florence and others. bibliog J Res Nat Bur Stand 45:121-8 Ag '50

Method of sealing sapphire to glass and its application to infra-red photocells. R. P. Chasmar and others. diag J Sci Instr 28:206-7 Jl '51

Iron content

Spectrophotometric study of the colors given by iron in alkali-lime-silica and alkali-lime-borosilicate glasses. H. Moore and S. N. Prasad. Glass Ind 32:362-3 Jl '51

Joining

Method of sealing sapphire to glass. H. Rawson. il diags J Sci Instr 28:208-9 Jl '51

Method of sealing sapphire to glass and its application to infra-red photocells. R. P. Chasmar and others. diag J Sci Instr 28:206-7 Jl '51

Joining to metal

Glass and ceramics soldered to metal. Materials & Methods 33:160+ Je '51

Glass as a coating for steel. W. G. Martin. il diags Mech Eng 73:109-13 F '51

Glass-to-metal seal for vacuum systems. F. P. Strother and H. Granberry. diags R Sci Instr 22:432 Je '51

Glass-to-metal seal; patents. Glass Ind 31:642 D '50

High pressure metal-to-glass fitting. P. C. Davis, T. L. Gore and F. Kurata. il diag Ind & Eng Chem 43:1826-7 Ag '51

Metal sealing techniques for large television tubes. W. L. Hyde. il Radio & Tv N 45:38-9 F '51

Method of sealing glass to metal; patent. diag Glass Ind 32:301-2 Je '51

New glass-to-metal sealing method developed by General Electric. Mach 57:173 Je '51

Nickel-chromium-iron alloy for sealing to glass. J. E. Stanworth. diag J Sci Instr 27:282-4 O '50; Same cond. Metal Prog 59:556+ Ap '51

Physical aspect of glass-metal sealability in the electronic tube industry; tr. by N. J. Kreidl. G. Trebuchon and J. Kieffer. bibliog diags Glass Ind 32:165-74+, 240-7+, 290-5 Ap-Je '51

Lead content

Improvement of the stain resistance of lead glasses. M. M. Aposhian and N. J. Kreidl. bibliog il diag Am Cer Soc J 34:103-7 Ap 1 '51

Surface conductivity of lead silicate glass after hydrogen treatment. K. B. Blodgett. diag Am Cer Soc J 34:14-27 Ja 1 '51

Light transmission

Low-reflection films produced on glass in a liquid fluosilicic acid bath. S. M. Thomsen. RCA R 12:143-9 Mr '51

Low-reflection picture tubes. G. S. Szegho and others. il Electronics 24:97-9 Ja '51

Manufacture

See Glass manufacture

Polishing

Reduction of the degree of hardening of glass by grinding; abstract. G. M. Bartenev. Glass Ind 31:629-30 D '50

Stones

How to identify stones in glass. H. E. Taylor. il diags Cer Ind 55:62-4+ D '50; 56:56-8 F '51

Study your own glass stones. Cer Ind 56:85+ Je '51

Strength

Application of rate-process theory to glass; breaking strength. F. B. Hodgdon and others. bibliog diag J Ap Phys 21:1156-9 N '50

Basic problem of the strength of glass. F. W. Preston. bibliog Glass Ind 32:284-7 Je '51

Changes in the tensile strength of glass caused by water immersion treatment. G. F. Stockdale and others. bibliog il diags Am Cer Soc J 34:116-21 Ap 1 '51

See also

Glass—Fracture

Surface

Adsorption of tagged phosphate ions on glass surfaces as related to alkaline attack. J. W. Hensley. bibliog il Am Cer Soc J 34:188-92 Je 1 '51

Contour mapping of optical surfaces with light waves. il diag Glass Ind 32:409-11 Ag '51

Interference films on glass. S. Anderson and D. D. Kimpton. il Am Cer Soc J 34:141-5 My 1 '51

Low-reflection films produced on glass in a liquid fluosilicic acid bath. S. M. Thomsen. RCA R 12:143-9 Mr '51

Phase contrast method for the study of the state of polish of single glass surfaces. J. V. Ramsay. il diag J Sci Instr 28:24-5 Ja '51

Surface temperatures of window glass. Heat & Ven 48:120 Ag '51

Testing

Measuring surface durability of glass. Glass Ind 32:251 My '51

Transportation

New rail car cuts shipping losses of damageable products. il Cer Ind 56:77+ F; 54-5 Mr '51

GLASS—*Continued*

Ultraviolet rays transmission

Development of glasses transmitting bactericidal radiation; abstract. J. E. Stanworth. Glass Ind 32:187+ Ap '51

Uses

Glass makers; new products lessen dependence on auto, construction industries. F. Henle. Barron's 31:13-14 My 28 '51

House design competition; glass use prize winners. il plans diags Arch Forum 94:152-5 Mr '51

What is glass good for? flow chart il Mill & Factory 48:131-4 Ap '51

GLASS, Ancient

Ancient Asiatic glass studied in Toledo museum of art. Glass Ind 32:26 Ja '51

Composition and working properties of ancient glasses. F. R. Matson. bibliog(27 titles) J Chem Educ 28:82-7 F '51

Glass in ancient India. Y. P. Varshney. bibliog Glass Ind 31:632-4 D '50

GLASS, Cellular

AEC turns to walls of concrete, foam glass for Arco, Idaho reactor. il Bsns W p138-40 S 22 '51

Controlling foam glass cell size. W. F. Lynsavage. il Cer Ind 57:54+ Jl '51; Same. Am Cer Soc Bul 30:230-1 Jl 15 '51

Foam glass in U.S.S.R.; abstract. I. I. Kitaigorodskii. Glass Ind 31:631+ D '50

Surface area of porous adsorbents. Ying Fu and F. E. Bartell. bibliog J Phys & Colloid Chem 55:662-75 My '51

Use of cellular glass insulation in residential construction; technical guide. il diags Am Bld 73:48+ Je '51

GLASS, Colored

Influence of base composition and of minor constituents on the coloration of carbon-sulfur amber glasses. A. K. Lyle. bibliog Am Cer Soc J 33:300-4 S 1 '50; Abstract. Glass Ind 31:585+ N '50

GLASS, International commission on. See International commission on glass

GLASS, Laminated

Glass-resin windows. il Chem W 68:11 Je 2 '51

New glass-plastic laminate resists explosion effects; Flexseal bomb glass. il Am Bld 73:224 S '51; Arch Forum 95:276 S '51

GLASS, Molten

Method for the measurement of thermal diffusivity of molten glass. A. F. Van Zee and C. L. Babcock. diags Am Cer Soc J 34:244-50 Ag 1 '51

Study of the effect of lubricants on the adherence of molten glass to heated metals. W. C. Dowling and others. diags Am Cer Soc J 33:269-73 S 1 '50; Abstract. Glass Ind 31:584-5 N '50

GLASS, Optical

Study of the effect of linear pressure on refractive index change in glass. P. W. Collyer. bibliog il Am Cer Soc J 34:59-62 F 1 '51

Variability of the optical properties and the structure of glass. N. J. Kreidl. bibliog Glass Ind 31:573-5+ N '50

Patents

Barium crown optical glass. Glass Ind 31:582-3 N '50

Ophthalmic glass. Glass Ind 31:581-2 N '50

Testing

Contour mapping of optical surfaces with light waves. il diag Glass Ind 32:409-11 Ag '51

Electrode function (pH response), hygroscopicity, and chemical durability of soda-potash-silica glasses. D. Hubbard and others. bibliog J Res Nat Bur Stand 46:168-75 Mr '51

Viscosity and density of molten optical glasses. L. Shartsis and S. Spinner. bibliog diags J Res Nat Bur Stand 46:176-94 Mr '51

See also

Lenses, Photographic—Testing

GLASS, Photosensitive

Chemical machining; Corning photosensitive opal glass. Chem W 69:39-40 S 29 '51

New glass developments in the field of illumination. W. W. Shaver. il Illum Eng 45:633-6 O '50; Excerpts. Glass Ind 31:643+ D '50; Discussion. Illum Eng 45:759-60 D '50

New photosensitive glass leads to improved chemical engraving; abstract. S. D. Stookey. Chem & Eng N 29:3951 S 24 '51

GLASS, Porous. See Glass, Cellular

GLASS, Powdered

Thermal conductivity of granular beds filled with compressed gases. J. L. Weininger and W. G. Schneider. bibliog diags Ind & Eng Chem 43:1229-33 My '51

GLASS, Safety

New glass-plastic laminate resists explosion effects; Flexseal bomb glass. il Am Bld 73:224 S '51; Arch Forum 95:276 S '51

Standards

Vehicle glazing code. Safety Maint & Prod 100:31 D '50

GLASS, Structural

O.S.U. medical center; a ceramic creation. il Am Cer Soc Bul 30:306-7 S 15 '51

Potentialities of glass in building. A. G. H. Dietz. il diag Arch Rec 109:161-6+ Ap '51

Two decades of progress in use of glass as material of construction. C. O. Brown. Ind & Eng Chem 43:sup53A-4A+ Ag '51

GLASS blocks

Development of prismatic glass block and the daylighting laboratory; abstract. il Arch Rec 109:172 Ap '51

Extensive study of classroom fenestration. Eng N 146:61 Je 28 '51

Glass-block improvements speed cleaning, installation. il Textile World 101:152 Je '51

Prefab glass block panels installed as easily as ordinary window; Kastlux. il Arch Forum 95:302 S '51

GLASS blowing and working

Glass as an engineering material. K. Rose. il Materials & Methods 33:99-104 Mr '51

GLASS center, Corning, New York

Conference at Corning, Living in industrial civilization. il Fortune 44:88-92 Ag '51

Corning's glass center to open this summer. Glass Ind 32:127+ Mr '51

Glass center commemorates Corning's first 100 years. il Factory Management 109:200+ Jl '51

Glass center dedication draws national leaders to Corning. il Glass Ind 32:288-9+, cover Je '51

Glass center is a human relations center. il plans diag Arch Forum 95:125-31 Ag '51

Highbrows; bait for top business brass; conference on Living in industrial civilization. Bsns W p22-3 My 26 '51

GLASS cleaning

Back-to-liquid trend. il Chem Ind W 68:33-4 Ap 28 '51

Synthetic detergents for domestic dishwashing machines. H. L. Sanders and J. A. Yeager. bibliog Ind & Eng Chem 43:866-71 Ap '51

GLASS construction

Beating the leaks in a glass and metal wall like the U.N.'s. il diags Arch Forum 94:204-5+ Je '51

Heating a glass house; glass and steel apartment house in Chicago. il plan diags Dom Eng 177:134-6+ F '51

House design competition; glass use prize winners. il plans diags Arch Forum 94:152-5 Mr '51

Potentialities of glass in building. A. G. H. Dietz. il diag Arch Rec 109:161-6+ Ap '51

GLASS container manufacturers institute

Semi-annual meeting, Quebec, Oct. 16-18. Glass Ind 31:571-2+ N '50

Semi-annual meeting, White Sulphur Springs, W.Va. Glass Ind 32:281-3+ Je '51; Cer Ind 57:51+ Jl '51

GLASS containers

What women like and dislike about packages today; cardboard, plastic, and glass containers. A. R. Hahn. il Sales Management 67:66-8+ Ag 1 '51

See also

Bottles

Glass jars

GLASS containers—*Continued*

Manufacture

Container glass compositions, 1949. A. L. Bracken, jr. and P. A. Webster. Glass Ind 31:625-6+ D '50
Handling is no problem at Ball bros. El Monte, Calif. plant. il diag Cer Ind 55:64-5+ N '50
Here's how to cut soda ash. Cer Ind 57:53+ Jl '51

Testing

Autoclave test of glass containers with acid test liquid; abstract. J. F. Greene and A. L. Hinson. Glass Ind 32:33 Ja '51
Glass durability tests; effect of shape and size of containers for injections; abstract. J. F. Greene and A. J. Hinson. Glass Ind 32:33+ Ja '51

GLASS cutting
Diamond bandsaw blade proved in production. H. J. Chamberland. Cer Ind 56:83 Mr '51

GLASS electrodes. See Electrodes, Glass

GLASS fabrics
Epoxy resins in glass-cloth laminates. I. Silver and H. B. Atkinson, jr. diags Mod Plastics 28:113-14+ N '50
Fiberglas cloth and resin make biggest plastic boat. il Bsns W p47 Je 30 '51
Glass yarns; tips on warping, filling, winding and weaving. H. E. Mahler. il Textile World 101:110-11 Ja '51
Perfected finishing of fiberglas fabrics. il Rayon 32:67+ S '51
Race boat hull; plywood hull is reinforced with fiberglas and polyester resin. il Mod Plastics 28:75 D '50
Some new fiberglas techniques. il Rayon 32:36+ My '51

See also
Dyes and dyeing—
Glass fabrics

GLASS factories

Equipment

Handling is no problem at Ball bros. El Monte, Calif. plant. il diag Cer Ind 55:64-5+ N '50
Monorail cuts unloading time 80 per cent at the Universal Glass plant. il diag Cer Ind 56:114-15 Ap '51
Special alloy pipe solves problem of abrasion in batch system at McKee glass co. flow chart Glass Ind 32:32 Ja '51

See also
Glass tanks

Safety measures

Glassmen report progress in accident prevention at National safety congress, Chicago, Oct. 16-20. Glass Ind 31:530+ N '50
Safety program for tank repair. E. F. Schaeffer. Glass Ind 31:635-6+ D '50
Successful safety planning by Pittsburgh plate glass co. T. R. Donoghue. il Safety Maint & Prod 101:93-5 Je '51
Wise owl clubs save eyes in glass plants. H. H. Slawson. Glass Ind 32:345-6 Jl '51

Waste

Abrasiveness of industrial waste creates treatment problem. P. D. Oesterle. il Water & San 88:27+ Ag '50; Same. Rock Prod 53:132-3 O '50; Same. Water & Sewage Works 98:32-3 Ja '51
Glass-grinding industry processes which can abate stream pollution. H. R. Murdock. Ind & Eng Chem 42:sup 111A-12A N '50
Solves glass grinding waste dilemma; Pittsburgh plate glass co.'s Creighton plant. il Cer Ind 55:66-7 D '50

GLASS fibers
Apply prestress with glass. I. A. Rubinsky. Eng N 146:45 Mr 1 '51
Applying fiberglas perimeter insulation. il Sheet Metal Worker 42:61 Ap '51
Cavity wall features new low cost insulation. il Arch Forum 94:214+ Je '51
Cylinders swallow sound; aluminum tubes stuffed with fiberglas used in aircraft engine test cells. il Bsns W p76-7 Ja 27 '51
Fiberglas takes to the road. il Bsns W p84 Mr 31 '51
Glass-fiber nomenclature. Textile World 101:118-19 S '51
Glass, its place in chemical processing. J. C. Smith. il Chem Eng 58:128-9 Ap '51
Glass yarns; tips on warping, filling, winding and weaving. H. E. Mahler. il Textile World 101:110-11 Ja '51
Inorganic paper from glass fibers and from mica. il Chem Ind W 68:20+ Mr 31 '51
Low-pressure molded glass fiber parts economical in small runs; polyester styrene impregnated glass fiber moldings. C. D. Birmingham. il Materials & Methods 34:78-80 S '51
Manufacturing glass fibers; abstract. A. M. Robertson. Am Dyestuff Rep 40:358 My 28 '51
Medicine show tactics and plain talk sell fiberglas. il Ind Marketing 36:34-5+ Ap '51
Suspended acoustic ceiling uses new fiberglas board. il diag Arch Forum 95:270 S '51
Why fiberglas tells its story with man-in-the-street talk. il Sales Management 66:48-9 Ap 1 '51

See also
Plastic materials—
Glass reinforcement

Patents

Fiber making machine; patent. Glass Ind 31:640 D '50

GLASS fibers, inc.
Volume expanding rapidly. Barron's 31:13-14 Ag 27 '51

GLASS furnaces
Corrosion of refractories in the flame zone of glass furnaces; abstract. A. I. Polinkovskaya and others. Glass Ind 31:630 D '50
Electric melting furnace; patent. diag Glass Ind 32:248 My '51
Experimental investigation of alumino-silicate refractories of high purity for use in glassmaking. Moore and Heeley. Glass Ind 32:417+ Ag '51
Lehr with shaping mechanism; patent. diag Glass Ind 32:299 Je '51
Measurements on a working glass furnace. A. A. Sokolov. diags Glass Ind 32:405-7 Ag '51
New glass annealing lehr provides space and fuel economies; Jeannette glass co. R. P. Cassell. il plans diag Glass Ind 32:176-7+ Ap '51
Refractories for the task. W. L. Fabianic and others. il Cer Ind 54:84-6 Je; 55:72-4 Jl '50; Same. Brick & Clay Rec 117:66-7+ O; 65-6+ N '50
Refractories problems in the melting of glass. C. G. Harman and J. D. Sullivan. bibliog plan diags Glass Ind 32:178-82 Ap '51

Charging

Pipe conveyor wins battle against abrasion; McKee glass co. flow chart Heating-Piping 23:123 Ja '51

GLASS insurance. See Insurance, Glass

GLASS jars
Beech-Nut glassed foods; nominated for packaging's Hall of fame. il Mod Packaging 24:84-90+ Ja '51
Ware gauging machine; patent. diag Glass Ind 32:300-1 Je '51

GLASS lining
Broader horizons for glass-lined piping. il diags Chem Eng 58:144-6+ Mr '51
Glass as a coating for steel. W. G. Martin. il diags Mech Eng 73:109-13 F '51
Glass, its place in chemical processing. J. C. Smith. bibliog il Chem Eng 58:117-29 Ap '51

GLASS machinery

Patents

Hartford batch feeder; patent. diag Glass Ind 32:359-60 Jl '51
Inventions and inventors; summary of recently issued patents. Published in monthly numbers of Glass industry

GLASS manufacture
Application of the absolute reaction rate theory to some problems in annealing. F. W. Cagle, jr. and H. Eyring. bibliog J Ap Phys 22:771-5 Je '51
Chemical engineering in the glass industry. R. A. Miller and A. H. Baker. il Chem Eng Prog 47:205-10 Ap '51

GLASS manufacture—*Continued*

Container glass compositions, 1949. A. L. Bracken, jr. and P. A. Webster. Glass Ind 31:625-6+ D '50

Effect of annealing on mechanical and chemical properties of window glass. N. A. Tyuremnova and S. G. Lioznyanskaya. Glass Ind 32:407-8 Ag '51

Glass batches; recipes. Cer Ind 56:150-1+ Ja '51

Glass making is a timely thing. Cer Ind 57: 63-4 S '51

Half-hardened glass; abstract. S. G. Lioznyanskaya and G. M. Bartenev. Glass Ind 32:356-7 Jl '51

Manufacture of sheet glass without debiteuse in U.S.S.R.; abstract. I. I. Ben. Glass Ind 32:24 Ja '51

Practical problems in the heat treating of flat glass. H. A. McMaster. Glass Ind 31: 569-70+ N '50

Purification of sand for glassmaking; abstract. I. B. Shlain and others. Glass Ind 32:356 Jl '51

Radiant gas heat improves technics of glass manufacture. R. C. LeMay. il diags Am Gas J 174:23-6+ Ap '51; Same cond. Am Gas Assn Mo 30:8-10+ My '51; Same. Glass Ind 32:339-44+ Jl '51

Reaction between sodium hydroxide and quartz sand; abstract. M. A. Khachvankyan. Glass Ind 32:25 Ja '51

See also

Glass containers—Manufacture

Glass factories

Glass tanks

Glassware—Manufacture

History

One hundred years of progress for Corning glass works. il Glass Ind 32:351-5+ Jl '51

Patents

Inventions and inventors; summary of recently issued patents. Published in monthly numbers of Glass industry

GLASS melting

Experiments in melting glass electrically; abstract. M. A. Babadshanyaan and others. Am Cer Soc J 34 (Cer A):154 S 1 '51

Refractories problems in the melting of glass. C. G. Harman and J. D. Sullivan. bibliog plan diags Glass Ind 32:178-82 Ap '51

Solar energy as a means of producing glass under very pure conditions; abstract. W. M. Conn. Cer Ind 56:65 Je '51

GLASS pipes. See Pipes, Glass

GLASS reinforcement of plastics. See Plastic materials—Glass reinforcement; Plastic materials, Laminated—Glass reinforcement

GLASS research

Central glass and ceramic research institute dedicated in India. il Glass Ind 31:648 D '50

New laboratory and research facilities at Knox. R. V. Yount. il Glass Ind 32:20-1+ Ja '51

Rate of melting of briquets; abstract. D. L. Gik and V. V. Pollyak. Glass Ind 31:630-1 D '50

Research digest. Published in monthly numbers of Glass industry

GLASS roofs. See Roofs, Glass

GLASS sand. See Sand

GLASS spheres

Glass spheres for the measurement of the effective opening of testing sieves. F. G. Carpenter and V. R. Deitz. il J Res Nat Bur Stand 47:139-47 S '51

GLASS stones. See Glass—Stones

GLASS tanks

Beta-alumina occurrence in glass tank refractories. L. Bor. il Am Cer Soc J 33: 375-6 D 1 '50

Comparison of mullite and quartz blocks in tanks used for high melting glass; abstract. M. D. Tamarin and A. G. Minakov. Glass Ind 32:357+ Jl '51

Corrosion resistance of pure alumina as a glass refractory. F. Day, jr. and J. P. Ambrosone. Am Cer Soc J 34:163-4 My 1 '51

Developments in refractories for glass furnaces. W. F. Rochow and H. E. Primm. il Am Cer Soc Bul 30:287-90 S 15 '51

Safety program for tank repair. E. F. Schaeffer. Glass Ind 31:635-6+ D '50

Use and misuse of fused cast high-alumina refractories. R. W. Brown and O. R. Stach. il diags Am Cer Soc Bul 30:251-7 Ag 15 '51; Excerpts. Glass Ind 32:518+ O '51

GLASS trade

Better materials, equipment and markets ahead for glass. H. E. Simpson. Cer Ind 56:64+ Ja '51

Eight companies join to hold glassware jubilee. il Cer Ind 57:56-7+ S '51

Glass makers; new products lessen dependence on auto, construction industries. F. Henle. Barron's 31:13-14 My 28 '51

Glass progress, 1950. J. G. Mohr. bibliog il Glass Ind 32:65-70+ F '51

Recent court decisions affecting glass industry. L. T. Parker. Cer Ind 56:67-8 Ja '51

Statistics

Current statistical position of glass. Published in monthly numbers of Glass industry

Glass and glassware; United States production, imports for consumption, and domestic exports, by kinds, years 1947 to 1949; tabulation. Glass Ind 31:587 N '50

Australia

Australian progress mirrored in glass. C. Slocombe. Glass Ind 32:23+ Ja '51

Russia

Purification of sand for glassmaking; abstract. I. B. Shlain and others. Glass Ind 32:356 Jl '51

GLASS tubing

Inexpensive packing gland assembled for glass tubing. J. E. Drummond. diag Elec World 136:116+ S 24 '51

Manufacture

Method of forming tubing; patent. diag Glass Ind 32:248 My '51

Tube cutting machine; patent. diag Glass Ind 32:360-1 Jl '51

GLASS wool

Modified air sampler employing fiberglas. F. W. Sehl and B. J. Havens, jr. il diag A M A Archives Ind Hygiene & Occup Med 3:98-100 Ja '51

Permeability of glass wool and other highly porous media. A. S. Iberall. bibliog J Res Nat Bur Stand 45:398-406 N '50

GLASSINE

Odor permeability of glassine; correlation between organoleptic and instrumental evaluations permits rapid control testing of samples. L. C. Cartwright and P. H. Kelley. bibliog il diag Mod Packaging 24:121-2+ Ja '51

Quality control as an aid in the manufacture of glassine. D. Newcomb. Paper Tr J 133: 22+ Jl 6 '51

What and how of glassine; analysis of basic properties and applications. G. C. Borden, jr. and P. K. Wolper. il Mod Packaging 23: 111-17+ Ag '51; Same. Tappi 34:sup28A+ My '51

GLASSWARE

Decoration

Tearing of colors was ruining our opal glass. W. T. Davies. Cer Ind 57:60 S '51

Design

Design of Steuben glass. J. M. Gates. Am Cer Soc Bul 30:45-6 F 15 '51

Manufacture

Fostoria story. il Cer Ind 56:68-9+ My '51

Machine for manufacture of footed stem ware; patent. diag Glass Ind 31:581 N '50

GLASSWARE, Ancient

Newark museum obtains ancient glass collection. il Glass Ind 32:239 My '51

GLASSWARE, Chinese

East Asiatic glass. D. Blair. il Glass Ind 32: 347-50+ Jl '51

GLASSWARE, Korean

East Asiatic glass. D. Blair. il Glass Ind 32: 402-4+ Ag '51

GLASSWARE, Laboratory

Simple apparatus for producing droplets of uniform size from small volumes of liquids. W. B. Ennis, jr. and D. T. James. il diag Science 112:434-6 O 13 '50

GLASSWARE, Oriental
East Asiatic glass. D. Blair. bibliog il Glass Ind 32:347-50+, 402-4+, 459-62 Jl-S '51

GLASSY state
Melting and glassy state transitions in cellulose esters and their mixtures with diluents. L. Mandelkern and P. J. Flory. bibliog Am Chem Soc J 73:3206-12 Jl '51
Properties of the glassy phase in alumina-silica refractories; abstract. W. D. Fitzpatrick and R. K. Hursh. Brick & Clay Rec 119:54 Jl '51

GLAUBER'S salt. See Sodium sulfates—Manufacture

GLAUCENTRINE
Alkaloids of fumariaceous plants; the structure of glaucentrine. R. H. F. Manske, E. H. Charlesworth and W. R. Ashford. Am Chem Soc J 73:3751-3 Ag '51

GLAXO laboratories, limited
Statement by the chairman at 16th annual general meeting. H. Jephcott. Economist 159:1054 D 9 '50

GLAZES
Adding beauty to concrete masonry construction. il Rock Prod 54:182-3 Je '51
High-fire opaque glazes for zircon bodies. D. V. Van Gordon. diags Am Cer Soc J 34:33-8 F 1 '51
Leadless opaque glazes at cone 04. R. R. Danielson and D. V. Van Gordon. Am Cer Soc J 33:323-7 N 1 '50
Low-temperature glazes; recipes. Cer Ind 56:167-8+ Ja '51
Pottery glazes; recipes. Cer Ind 56:160+ Ja '51
Salt glaze or slip glaze? Brick & Clay Rec 119:78 S '51
Single-fire glazes for low-temperature vitreous ware. R. C. Hannon and C. J. Koenig. il Am Cer Soc Bul 30:69-73 Mr 15 '51
Using copper for coloring glazes. S. S. Singer. bibliog Cer Ind 57:72+ Ag; 69-70+ S '51
See also
Engobes
Frits

GLEEP. See Atomic piles

GLENMORE distilleries company
Better supply of whiskey aids Glenmore. Barron's 31:17 F 19 '51

GLENN, Leonidas Chalmers, 1871-1951
Memorial. W. B. Jewell and C. W. Wilson, jr. por Am Assn Pet Geologists Bul 35:1920-3 Ag '51

GLENNAN, Thomas Keith, 1905-
Portrait. Bsns W p 103 Jl 28 '51

GLIDERS
New French aerobatic glider. il Aviation W 54:32 Ja 15 '51
Performance measurements of a soaring bird; use of Kirby Kite. A. Raspet. il diags Aeronautical Eng R 9:14-17 D '50

GLIKSTEN, J., and son, limited
Statement by the chairman at 45th annual general meeting. A. A. Gliksten. Economist 159:921 N 25 '50

GLIOTOXIN
Gliotoxin; synthesis of the $C_{11}H_8N_2OS$ degradation product. J. R. Johnson and J. B. Buchanan. Am Chem Soc J 73:3749-51 Ag '51
Studies on the $C_{11}H_8N_2OS$ degradation product of gliotoxin. J. D. Dutcher and A. Kjaer. Am Chem Soc J 73:4139-41 S '51

GLOBES
Global changes benefit globe maker; illustrations with text. Bsns W p98-9 S 22 '51

GLOBULINS
Antidiuretic substance obtained by digestion of globulin with pepsin. H. Croxatto and others. bibliog Science 113:494-5 Ap 27 '51
Color reactions of human antibody and normal human gamma globulin. S. M. Beiser and E. A. Kabat. bibliog Am Chem Soc J 73:3501-2 Jl '51
Effect of *p*H on the denaturation of β-lactoglobulin and its dodecyl sulfate derivative. M. L. Groves, N. J. Hipp and T. L. McMeekin. bibliog Am Chem Soc J 73:2790-3 Je '51
Isolation of an electrophoretically homogeneous crystalline component of β-lactoglobulin. B. D. Polis and others. bibliog Am Chem Soc J 72:4965-8 N '50
Molecular weight of lactoglobulin, ovalbumin, lysozyme and serum albumin by light scattering. M. Halwer, G. C. Nutting and B. A. Brice. bibliog Am Chem Soc J 73:2786-90 Je '51
Ultracentrifugal studies of γ-globulins prepared by electrophoresis-convection. J. R. Cann and others. bibliog Science 114:30-3 Jl 13 '51

GLOSS
Color and gloss measurements; abstract. Product Eng 22:240-1 Je '51
See also
Luster

GLOVES
Knitted glove designs are made by simple repeats. A. M. Young, jr. diags Textile World 101:108-9 Ja '51

Statistics

Japanese cotton and woolen gloves; with tabulation of production and exports in 1949 and January-June 1950. For Comm W 41:23 N 6 '50

GLOVES, Rubber

Testing

Compressed air device speeds glove inspection. C. A. Bivenour and others. il Elec World 134:114 D 18 '50
Rubber-glove inflator expedites inspection. il Comp Air Mag 56:79 Mr '51

GLOVES, Safety
Highlighting hand protection. C. H. Jacobson. il Safety Maint & Prod 101:14-15+ Mr '51
Industrial glove salvaging cuts replacements. W. G. Patton. il Iron Age 166:109-11 D 14 '50

GLUC amylase. See Amylases

GLUCONIC acid
Gluconic acid; versatile agent for the textile chemist. J. P. Biliello. Textile World 101:151+ O '51
Increasing applications in industry. Chem Age (Lond) 64:772 My 19 '51

GLUCOPYRANOSE
Preparation of 4,6-ethylidene-D-glucopyranose from sucrose and its hydrogenation to 4,6-ethylidene-D-sorbitol. R. C. Hockett, D. V. Collins and A. Scattergood. bibliog Am Chem Soc J 73:599-601 F '51

GLUCOPYRANOSYL benzene
Nitration and bromination of tetraacetyl-β-D-glucopyranosylbenzene. J. M. Craig and W. A. Bonner. Am Chem Soc J 72:4808-9 O '50

GLUCOPYRANOSYL bromide
Reduction of acetylated glycopyranosyl bromides to 1,5-anhydroglycitols with lithium aluminum hydride; 1,5-anhydro-L-rhamnitol. R. K. Ness, H. G. Fletcher, jr. and C. S. Hudson. bibliog Am Chem Soc J 72:4547-9 O '50

GLUCOPYRANOSYL glucose. See Isomaltose

GLUCOSAMINE

Analysis

Colorimetric determination of glucosamine. B. Schloss. bibliog Anal Chem 23:1321-5 S '51

GLUCOSAN
Enzymic hydrolysis of 1:3-linked polyglucosans. T. Dillon and P. O'Colla. bibliog Chem & Ind p 111 F 10 '51

GLUCOSAZONE
Formation of osazones; the formation of glucosazone. G. J. Bloink and K. H. Pausacker. Chem Soc J p622-3 F '51
Periodate oxidation of D-glucosazone. C. F. Huebner and K. P. Link. Am Chem Soc J 72:4812-13 O '50

GLUCOSE
Acid-catalyzed anomerization of the D-glucose pentaacetates; a kinetic thermodynamic and mechanistic study. W. A. Bonner. bibliog Am Chem Soc J 73:2659-66 Je '51
Action of heat on D-fructose; interconversion to D-glucose. M. L. Wolfrom and W. L. Shilling. bibliog diags Am Chem Soc J 73:3557-8 Ag '51
Alkaline reduction of aromatic nitro compounds with glucose. H. W. Galbraith, E. F. Degering and E. F. Hitch. bibliog Am Chem Soc J 73:1323-4 Mr '51

GLUCOSE—*Continued*

Boiling points of aqueous solutions of dextrose within the pressure range of 200 to 1,500 millimeters. J. L. Torgesen and others. bibliog J Res Nat Bur Stand 45:458-62 D '50

Concerted displacement reactions; the mechanism of acid-base catalysis in water solution. C. G. Swain. bibliog Am Chem Soc J 72:4578-83 O '50

Dodecitol from the alkaline electroreduction of D-glucose. M. L. Wolfrom and others. Am Chem Soc J 73:3357-8 Jl '51

Epimerization of glucose-1-C^{14}. A. A. Bothner-By and M. Gibbs. bibliog Am Chem Soc J 72:4805 O '50

Esters of glucose and lactose. J. H. Schwartz and E. A. Talley. Am Chem Soc J 73:4490 S '51

Heat capacity of crystalline dextrose between 25 and 95°. T. B. Douglas, A. F. Ball and J. L. Torgesen. bibliog Am Chem Soc J 73:1360-1 Mr '51

4-α-Isomaltopyranosyl-D-glucose. M. L. Wolfrom, A. Thompson and T. T. Galkowski. bibliog Am Chem Soc J 73:4093-5 S '51

Mechanism of the chemical formation of lactic acid from glucose studied with C^{14} labeled glucose. M. Gibbs. bibliog Am Chem Soc J 72:3964-5 S '50

Method for the quantitative estimation of copper with particular reference to proofed jute fabrics. W. G. Macmillan and P. C. Das. J Ap Chem 1:132-5 Mr '51

Oxidation of aldoses by hypoiodous acid; comparison of the rates of oxidation of α- and β D-glucose. K. D. Reeve. Chem Soc J p 172-7 Ja '51

Oxidation of glucose and related compounds with oxides of nitrogen. E. F. Degering and R. A. Berntsen. Am Chem Soc J 73:848-9 F '51

Practical synthesis of D-glucuronic acid through the catalytic oxidation of 1,2-isopropylidene-D-glucose. C. L. Mehltretter and others. bibliog Am Chem Soc J 73:2424-7 Je '51

Preferential complexing of iron(III) with β-glucose. J. C. Delaney, Kleinberg and W. J. Argersinger, jr. Am Chem Soc J 72:4277-8 S '50

Some cyclic acetals of D-glucose and its derivatives. R. L. Mellies, C. L. Mehltretter and C. E. Rist. bibliog Am Chem Soc J 73:294-6 Ja '51

Stability of dextrose solutions of varying pH. E. J. McDonald. bibliog J Res Nat Bur Stand 45:200-3 S '50

Studies of trifluoroacetic acid; the use of 4 : 6-benzylidene trifluoroacetyl methyl-α-D-glucopyranoside in the synthesis of 2-and 3-substituted glucoses. E. J. Bourne and others. Chem Soc J p826-33 Mr '51

Utilization of C^{14}-labeled glucose by cardiac muscle treated with a cardiac glycoside. A. Wollenberger. Science 113:64-5 Ja 19 '51

Viscosity of suspensions of spheres; the effect of sphere diameter. J. V. Robinson. J Phys & Colloid Chem 55:455-64 Mr '51

Analysis

Determination of glucose in presence of maltose; rapid and convenient semimicromethod. L. L. Phillips and M. L. Caldwell. Anal Chem 23:1172-4 Ag '51

Quantitative determination of sugars on filter paper chromatograms by direct photometry. E. F. McFarren, K. Brand and H. R. Rutkowski. bibliog Anal Chem 23:1146-9 Ag '51

GLUCOSE phosphates

Glucose-2 phosphate; its preparation and characterisation by hydrolysis studies. K. R. Farrar. Chem Soc J p3131-5 D '49

Synthesis of α-D-glucose-1-phosphate and α-D-galactose-1-phosphate. T. Posternak. bibliog Am Chem Soc J 72:4824-5 O '50

GLUCOSIDES. See Glycosides

GLUCOSYDASES. See Glycosidases

GLUCURONIC acid

Chemical methods for estimating the distribution of C^{14} in biosynthetic glucuronic acid. F. Eisenberg, jr. and S. Gurin. bibliog Am Chem Soc J 73:4440-3 S '51

Pharmacologic action and acute toxicity of glucuronic acid lactone. W. B. Deichmann and B. Hopfenspirger. bibliog Ind Med 20:417-22 S '51

Practical synthesis of D-glucuronic acid through the catalytic oxidation of 1,2-isopropylidene-D-glucose. C. L. Mehltretter and others. bibliog Am Chem Soc J 73:2424-7 Je '51

GLUCURONIDASE

Coenzyme of spleen β-glucuronidase. P. Bernfeld and W. H. Fishman. Science 112:653-4 D 1 '50

GLUE

Animal glue; many millions of pounds used for the sizing of textiles. H. B. Sweatt. Rayon 32:64+ Mr '51

For plywood gluing; phenolic resin. Chem Eng 58:170+ Mr '51

Glue curing speeded with automatic dielectric heat; Rway furniture co. il Elec World 135:142 Mr 26 '51

Synthetic resin glues. Chem Age (Lond) 65:151-2 Ag 4 '51

See also

Adhesives

Mucilage

GLUTAMIC acid

Amino-acids and peptides; an examination of the use of carbobenzyloxy-L-glutamic anhydride in the synthesis of glutamyl-peptides. W. J. Le Quesne and G. T. Young. Chem Soc J p 1954-9 Jl '50

Amino-acids and peptides; synthesis of α- and γ-L-glutamyl-peptides by the azide route. W. J. Le Quesne and G. T. Young. Chem Soc J p 1959-63 Jl '50

In vivo conversion of glutamic acid into proline and arginine. H. J. Sallach, R. E. Koeppe and W. C. Rose. Am Chem Soc J 73:4500-1 S '51

N-(N-phenylacetyl-α-DL-glutamyl)-D-penicillamine. W. Baker and P. G. Jones. Chem Soc J p 1143-5 My '51

New synthesis of glutamine and of γ-dipeptides of glutamic acid from phthalylated intermediates. F. E. King and D. A. A. Kidd. Chem Soc J p3315-19 D '49

Synthesis of β,γ-dihydroxyglutamic acid. O. Touster and H. E. Carter. Am Chem Soc J 73:54-5 Ja '51

Synthesis of indoleacetic acid from glutamic acid and a proposed mechanism for the conversion. S. W. Fox and M. W. Bullock. bibliog Am Chem Soc J 73:2754-5 Je '51

Synthetic polypeptides; polyglutamic acid. W. E. Hanby, S. G. Waley and J. Watson. Chem Soc J p3239-49 N '50

Physiological effect

Effects of a supranormal diet of glutamic acid on the test performance of paretics. R. E. Kantor and F. E. Boyes. bibliog Science 113:681-2 Je 15 '51

GLUTAMINE

New synthesis of glutamine and of γ-dipeptides of glutamic acid from phthalylated intermediates. F. E. King and D. A. A. Kidd. Chem Soc J p3315-19 D '49

Synthesis of *N-p*-aminobenzoyl-DL- and -L-glutamine and -DL-*iso*glutamine. F. E. King and P. C. Spensley. Chem Soc J p3159-62 N '50

Analysis

Determination of glutamine and asparagine in plant tissue extracts. G. W. Butler. bibliog Anal Chem 23:1300-4 S '51

GLUTARALDEHYDE

Preparation of glutaraldehyde and pseudopelletierine. A. C. Cope and others. bibliog Am Chem Soc J 73:3416-18 Jl '51

GLUTARIC acid

Intramolecular acylation; the ring closure of some α-substituted glutaric acids. M. F. Ansell and D. H. Hey. Chem Soc J p2874-81 O '50

Intramolecular acylation; the ring closure of some β-substituted glutaric acids. D. H. Hey and D. H. Kohn. Chem Soc J p3177-81 D '49

Preparation of α-substituted glutaric acids. M. F. Ansell and D. H. Hey. Chem Soc J p 1683-6 Jl '50

Reaction of succinic and glutaric acid with amines. G. B. Hoey and C. T. Lester. Am Chem Soc J 73:4473-4 S '51

Synthesis of potential antibacterial agents; some α-alkylglutaric acids and their derivatives. J. C. Roberts and B. Shaw. Chem Soc J p2842-5 O '50

GLUTATHIONE

In vitro production of cortisone by mammalian cells. H. Seneca and others. bibliog Science 112:524-5 N 3 '50; Reply. A. Grevenstik. 114:74; Rejoinder. 74-5 Jl 20 '51

Inhibition of the lecithinase of clostridium perfringens by some reducing agents. L. D. Smith and M. V. Gardner. bibliog Franklin Inst J 250:465-71 N '50

S^{35}-glutathione preparation from yeast and tracer studies in cancerous and non-cancerous rats. G. E. Woodward. bibliog Franklin Inst J 251:557-62 My '51

Analysis

Paper chromatographic identification of the amino acids of glutathione. F. Lionetti. J Chem Educ 28:152-3 Mr '51

GLUTEN

Sitosterols from corn gluten. D. M. Rathmann and L. R. Morrow. bibliog Am Chem Soc J 72:5647-50 D '50

GLYCALS

Deoxy-sugars; an investigation of the glycal method for the preparation of derivatives of 2-deoxy-D-galactose. W. G. Overend, F. Shafizadeh and M. Stacey. Chem Soc J p992-3 Ap '51

GLYCERALDEHYDE

Relation of the sterol and the glyceraldehyde steric conventions. R. S. Cahn. Chem & Ind p 14-15 Ja 6 '51

GLYCERIC acid

Phosphoglyceric acid in photosynthesis. E. W. Fager and J. L. Rosenberg. bibliog Science 112:617-18 N 24 '50

GLYCERIDES

Configuration of naturally occurring mixed glycerides; the component fatty acids and glycerides of stillingia tallows. S. S. Gupta and M. L. Meara. Chem Soc J p 1337-42 My '50

Directed interesterification in glycerides; the synthesis of single-fatty acid 1,3-diglycerides. F. J. Baur and W. Lange. bibliog Am Chem Soc J 73:3926-8 Ag '51

Glycerides without glycerine? diag Chem Eng 58:200+ Jl '51

Infrared absorption spectra; some long-chain fatty acids, esters, and alcohols. O. D. Shreve and others. bibliog Anal Chem 22:1498-501 D '50

Low-frequency dielectric properties of some symmetrical mixed triglycerides in the solid state. R. W. Crowe and C. P. Smyth. Am Chem Soc J 73:2040-5 My '51

Microscopic appearance of polymorphic forms of one-acid triglycerides. O. T. Quimby. bibliog 2pls Am Chem Soc J 72:5064-8 N '50

Mixed diglycerides containing 4-arsonophenylglycine. R. L. McGeachin and R. E. Cox. Am Chem Soc J 73:860 F '51

Mixed hydrocarbon solvents for fatty acids and their triglycerides. R. Bogash and A. N. Hixson. bibliog il Chem Eng Prog 47:347-53 Jl '51

Polymorphism of 2-acetyl-, 2-butyryl- and 2-caproyldistearin and -dipalmitin. F. L. Jackson, R. L. Wille and E. S. Lutton. bibliog il Am Chem Soc J 73:4280-4 S '51

Polymorphism of certain behenyl mixed triglycerides; a new metastable crystalline form of triglycerides. F. L. Jackson and E. S. Lutton. bibliog Am Chem Soc J 72:4519-21 O '50

Seed fat of parinarium laurinum; component glycerides of the seed fat. J. P. Riley. Chem Soc J p291-3 F '51

Thermal interchange of acyl groups in triglycerides. C. Barker, R. V. Crawford and T. P. Hilditch. Chem Soc J p 1194-200 My '51

Analysis

Component acids and glycerides of a badger fat. S. Gupta, T. P. Hilditch and M. L. Meara. Chem Soc J p3145-51 N '50

GLYCERIN

Comparative toxicity of five glycerol ethers. C. H. Hine and others. bibliog A M A Archives Ind Hygiene & Occup Med 2:574-81 N '50

Electron diffraction by transmission through thin liquid films. C. W. Lufcy and others. bibliog il J Chem Phys 19:217-19 F '51

Formation of formaldehyde from glycerol $-C^{14}$ by propionibacterium. F. W. Leaver. Am Chem Soc J 73:2974-5 Je '51

Glycerine dividend; Epon resins go into large-scale production. il Chem Ind 67:717-18 N '50

Glycerine; its importance in textile progress. M. A. Lesser. bibliog Rayon 32:62+ F '51

Glycerine situation. C. J. O'Connor. Paint Oil & Chem R 113:51 N 23 '50

Glycerol removal from aqueous solutions by anion exchange. S. E. Zager and T. C. Doody. bibliog diag Ind & Eng Chem 43:1070-3 My '51

Mechanism of the softening of paper by glycerin. W. H. McPherson, jr. bibliog il Tappi 33:531-7 N '50

No glycerine glut. Chem W 69:51-2 S 15 '51

Peculiar kinetics of color formation in glycerol-catechol condensation. S. C. Harvey and V. Higby. Am Chem Soc J 73:4472 S '51

Preparation of ethyl D,L-glycerate-1-C^{14} and glycerol-1-C^{14}. A. P. Doerschuk. Am Chem Soc J 73:821-2 F '51

Solubility of sucrose in aqueous glycerol and propylene glycol. M. W. Fey, C. M. Weil and J. B. Segur. bibliog Ind & Eng Chem 43:1435-6 Je '51

Streaming orientation studies on denatured proteins; heat denaturation in 85 per cent aqueous glycerol. E. G. Samsa and J. F. Foster. Am Chem Soc J 73:3190-3 Jl '51

Synthesis of C^{14}-labeled glycerol. H. Schlenk and B. W. DeHaas. Am Chem Soc J 73:3921-2 Ag '51

Synthetic moves in drums. il Chem W 68:37+ Je 2 '51

Thermal cyclization of o-aroyloxyacetoarones; a new synthesis of flavones. A. T. M. Dunne and others. Chem Soc J p 1252-9 My '50

Ultrasonic absorption in liquids. C. J. Moen. bibliog il diag Acoustical Soc Am J 23:62-70 Ja '51

Ultrasonic absorption of glycerin in the liquid and vitreous state. T. A. Litovitz. diags Acoustical Soc Am J 23:75-9 Ja '51

Viscosity of glycerol and its aqueous solutions. J. B. Segur and H. E. Oberstar. bibliog Ind & Eng Chem 43:2117-20 S '51

Manufacture

C.p. glycerol by ion exchange. D. M. Stromquist and A. C. Reents. bibliog il Ind & Eng Chem 43:1065-70 My '51

GLYCERIN dichlorohydrin

Reactions of activated glycerol dichlorohydrin with vitamin A. R. S. Allen and S. W. Fox. bibliog Anal Chem 22:1291-5 O '50

GLYCEROL. See Glycerin

GLYCIDOL

Catalysed transfer of hydrogen chloride from chlorohydrins to epoxides; a new method of preparing glycidol and some of its derivatives. W. Bradley, J. Forrest and O. Stephenson. Chem Soc J p 1589-98 Je '51

GLYCINE

Alanine, glycine and proline contents of casein and its components. W. G. Gordon, W. F. Semmett and M. Bender. Am Chem Soc J 72:4282 S '50

Deamination of amino-acids by nitrous acid with particular reference to glycine; the chemistry underlying the Van Slyke determination of α-amino-acids. A. T. Austin. diag Chem Soc J p 149-57 Ja '50

Diffusion studies on dilute aqueous glycine solutions at 1 and 25° with the Gouy interference method. M. S. Lyons and J. V. Thomas. bibliog Am Chem Soc J 72:4506-11 O '50

Incorporation of glycine carbon into yeast lipides. S. Weinhouse, R. H. Millington and M. Strassman. bibliog Am Chem Soc J 73:1421-3 Ap '51

Ionization constants of glycine and the effect of sodium chloride upon its second ionization. E. J. King. bibliog Am Chem Soc J 73:155-9 Ja '51

Kinetics of the hydrolysis of simple glycine peptides. L. Lawrence and W. J. Moore. bibliog Am Chem Soc J 73:3973-7 Ag '51

Optical rotation of peptides. B. F. Erlanger and others. bibliog Am Chem Soc J 73:3508-12 Jl '51

Studies in the azole series; a new method of peptide synthesis; glycyl peptides. A. H. Cook and A. L. Levy. Chem Soc J p646-51 F '50

GLYCINE—*Continued*

Synthetic polypeptides; synthesis of oxazolid-2 : 5-diones and a new reaction of glycine. A. C. Farthing. Chem Soc J p3213-17 N '50

GLYCOCYAMIDINE

Preparation of glycocyamidines from substituted cyanamides. E. I. Hoegberg and P. Adams. Am Chem Soc J 73:2942 Je '51

GLYCOGEN

Action of β-amylase on amylopectin and on glycogen. T. G. Halsall and others. Chem Soc J p3200-7 D '49

Degradation of glycogen to isomaltose. M. L. Wolfrom, E. N. Lassettre and A. N. O'Neill. bibliog Am Chem Soc J 73:595-9 F '51

Glycogen storage in the heart in experimental renal hypertension in the rat. R. W. Lackey. bibliog Science 113:184-5 F 16 '51

Method for evaluating the relation of glycogen to inorganic salt deposition in surviving cartilage slices in vitro. P. A. Marks and E. Shorr. bibliog Science 112:752-4 D 22 '50

Rate of absorption of and the formation of glycogen by DL-homoserine as compared with DL-alanine. W. J. Wingo and R. A. Smith. Am Chem Soc J 73:2967-8 Je '51

Rates of absorption of and the formation of liver glycogen by L-proline and L-hydroxyproline. W. C. Hess and I. P. Shaffran. Am Chem Soc J 73:474-5 Ja '51

Repeating unit of glycogen. M. Abdel-Akher and F. Smith. bibliog Am Chem Soc J 73:994-6 Mr '51

GLYCOL

Brine film resistance to heat flow of calcium chloride, sodium chloride, and ethylene glycol, with charts. C. T. Shields. Refrig Eng 59:880-4 S '51

Effect of ethylene glycol on pipe friction and heat transfer. F. H. Bridgers and J. Bricker. bibliog Heat & Ven 48:61-4 Jl '51

Glycol ethers as nonaqueous solvents in polarographic analysis. T. D. Parks and K. A. Hansen. bibliog Anal Chem 22:1268-9 O '50

Heat transfer data for kettles with jackets and coils. G. H. Cummings and A. S. West. bibliog diag Ind & Eng Chem 42:2303-13 N '50

Manufacture and uses of ethylene oxide and ethylene glycol. P. P. McClellan. bibliog(43 ref) Ind & Eng Chem 42:2402-7 D '50

On target; new aero fluid; H2. il Chem W 69:27-8 Jl 7 '51

Ternary system furfural-ethylene glycol-water. J. B. Conway and J. J. Norton. bibliog Ind & Eng Chem 43:1433-5 Je '51

GLYCOLS

Alicyclic glycols; 3-hydroxymethyl*cyclo*hexanol. M. F. Clarke and L. N. Owen. Chem Soc J p2108-15 Ag '50

Alicyclic glycols; toluene-*p*-sulphonyl and methanesulphonyl derivatives of *cyclo*hexane-1 : 3-diol. M. F. Clarke and L. N. Owen. Chem Soc J p2103-8 Ag '50

Aqueous nonflammable hydraulic fluids; Hydrolubes. J. E. Brophy and others. bibliog Ind & Eng Chem 43:884-96 Ap '51

Cyclic phosphites of some aliphatic glycols. H. J. Lucas, F. W. Mitchell, jr. and C. N. Scully. bibliog diag Am Chem Soc J 72:5491-7 D '50

Flameproofing, glycol monosulfate; patent. Am Dyestuff Rep 40:4 Ja 8 '51

Isolation of some homologous higher molecular weight glycols from the unsaponifiable fraction of wool wax. D. H. S. Horn and F. W. Hougen. Chem & Ind p670 Ag 4 '51

Oxidations with sodium bismuthate; glycol fission and related reactions. W. Rigby. Chem Soc J p 1907-13 Jl '50

Polyalkylene glycol synthetic lubricants. W. H. Millett. bibliog il Ind & Eng Chem 42:2436-41 D '50

Static electricity prevention; glycols plus common salt used; patent. Am Dyestuff Rep 40:357 My 28 '51

Stereochemistry of metabolic diols from naphthalene and anthracene. J. W. Cook, J. D. Loudon and W. F. Williamson. Chem Soc J p911-14 Mr '50

Toxicology of two butoxypolypropylene glycol fly repellents. C. P. Carpenter and others. A M A Archives Ind Hygiene & Occup Med 4:261-9 S '51

See also

Diethylene glycol dinitrate

Triethylene glycol

GLYCOSIDASES

Action of amylo-glucosidase on amylose and amylopectin. R. W. Kerr, F. C. Cleveland and W. J. Katzbeck. bibliog Am Chem Soc J 73:3916-21 Ag '51

Transglucosidase of aspergillus oryzae. J. H. Pazur and D. French. Am Chem Soc J 73:3536 Jl '51

GLYCOSIDES

Adenine 5′-deoxy-5′-methylthiopentoside (adenine thiomethyl pentoside); a proof of structure and synthesis. J. Baddiley. Chem Soc J p 1348-51 My '51

Afzelin (kœmpferol-3-rhamnoside), a new glycoside isolated from doussié. F. E. King and R. M. Acheson. Chem Soc J p 168-70 Ja '50

Amine-*N*-glycosides; arylamine-*N*-glucosides. J. Honeyman and A. R. Tatchell. Chem Soc J p967-71 Mr '50

Cuprammonium-glycoside complexes; the D-mannosan complex. R. E. Reeves. Am Chem Soc J 73:957-9 Mr '51

Deoxy-sugars; experiments with the *O*- and *N*-glycosides of some deoxy-sugars. K. Butler and others. Chem Soc J p 1433-9 Je '50

Deoxy-sugars; some methanesulphonyl and toluene-*p*-sulphonyl derivatives of α-ethyl-2 : 3-dideoxy-D-glucoside. S. Laland, W. G. Overend and M. Stacey. Chem Soc J p738-43 F '50

cis-trans Enolic β-D-glycosides of methyl acetoacetate. C. E. Ballou and K. P. Link. bibliog Am Chem Soc J 73:1134-40 Mr '51

Glycosides of the seeds of strophanthus intermedius Pax. M. R. Salmon, E. Smith and W. G. Bywater. Am Chem Soc J 73:3824-6 Ag '51

Reductive cleavage of benzyl glycosides for relating anomeric configurations; preparation of some new benzyl pentosides. C. E. Ballou, S. Roseman and K. P. Link. bibliog Am Chem Soc J 73:1140-4 Mr '51

See also

Kellin

Analysis

Detection of glycosides and non-reducing carbohydrate derivatives in paper partition chromatography. J. G. Buchanan, C. A. Dekker and A. G. Long. Chem Soc J p3162-7 N '50

GLYCOSYLAMINES

Mechanisms for the mutarotation and hydrolysis of the glycosylamines and the mutarotation of the sugars. H. S. Isbell and H. L. Frush. bibliog J Res Nat Bur Stand 46:132-44 F '51

GLYCYRRHINIC acid

Constitution of the disaccharide of glycyrrhinic acid. B. Lythgoe and S. Trippett. Chem Soc J p 1983-90 Ag '50

GLYOXAL

Commercial development of glyoxal. J. F. Bohmfalk, jr., R. W. McNamee and R. P. Barry. bibliog flow sheet il diags Ind & Eng Chem 43:786-94 Ap '51

New synthesis of glyoxal tetramethyl acetal. R. C. Schreyer. Am Chem Soc J 73:2962-3 Je '51

Some cyclic acetals of glyoxal. M. M. Sprung and F. O. Guenther. Am Chem Soc J 73:1884-6 Ap '51

Stabilizing cellulose textiles; (shrinkproofing); glyoxal plus magnesium-silicofluoride; patent. Am Dyestuff Rep 40:68 Ja 22 '51

GLYOXALIDINE. See Imidazoline

GLYOXALINE. See Imidazole

GOAD, Louis Clifford, 1901-

Accent on youth; GM executive vice president. por Bsns W p25 D 16 '50

GOATS

Goats mean gold in Texas. il Bsns W p 117-18+ O 13 '51

GOBLE, John E.

Iron age salutes. por Iron Age 166:69 N 2 '50

GODDARD, Robert Hutchings, 1882-1945
- Robert H. Goddard memorial exhibit; illustrations with text. por Aeronautical Eng R 10:8-9 F '51

GOETHE, Johann Wolfgang von, 1749-1832
- Goethe and chemistry. J. E. Cluskey. bibliog J Chem Educ 28:536-8 O '51

GOGGLES
- Between eyes and danger; eye conservation needs right equipment; with list of occupations requiring eye protection. S. C. Herbine. bibliog Nat Safety N 64:28-9+ Jl '51
- Blindness lasts a long time. F. J. Koeth. il Safety Maint & Prod 102:18-19+ Ag '51
- Eye conservation. il Nat Safety N 63:73-4+ Mr '51
- Eye injuries what one transportation department does about them. il Ry Age 131:45-6 S 24 '51
- Eye protection is easy. J. A. Howland. il Safety Maint & Prod 102:21+ Jl '51
- Mid-century safety view; progress in eye protection. T. A. Walsh. il Safety Maint & Prod 101:38+ Je '51
- Safe eyes look backward; strides made in eye and respiratory protection. T. A. Willson. il Safety Maint & Prod 101:23-4+ Je '51
- Safety goggle; frame, head-piece, and lens made of vinyl. il Mod Plastics 28:172 Ag '51
- Safety goggles work a miracle. il Standardization 22:225 Jl '51
- Store sells safety sensibly; Cadillac tank plant. W. M. Stocker, jr. il Am Mach 95:160 Je 11 '51

GOLD
- Annual estimates of world gold production, 1948, 1949 and 1950; tabulation. Economist 160:890 Ap 14 '51
- Deformation of gold wire at high temperature. B. H. Alexander and others. il J Ap Phys 22:439-43 Ap '51
- Energy dependence of the resonant scattering of slow neutrons from gold. J. Tittman and C. Sheer. bibliog diags Phys R 83:746-56 Ag 15 '51
- Gamma-rays from neutron-activated gold. R. W. Pringle and S. Standil. bibliog Phys R 80:762-3 N 15 '50
- Gold, 1950. M. A. Kriz. Eng & Min J 152:74-7 F '51
- Gold number studies, with some observations on sensitization and protection. H. B. Williams and L. T. Chang. bibliog J Phys & Colloid Chem 55:719-25 My '51
- Gold situation. L. W. Knoke. Comm & Fin Chr 173:2153+ My 24 '51
- Gold tide ebbs. H. B. Bratter. Eng & Min J 152:86-7+ Ja '51
- Is there enough gold in the world? Can Min J 72:69-70 Ja '51
- Lattice distortion spectrum of evaporated gold. P. G. Wilkinson. bibliog J Ap Phys 22:419-23 Ap '51
- Less gold for Britain? Economist 159:611 O 14 '50
- Low angle X-ray diffraction of colloidal gold and carbon black. J. Turkevich and H. H. Hubbell. bibliog il diags Am Chem Soc J 73:1-7 Ja '51
- Nuclear interactions in gold of secondary particles emitted in penetrating showers. A. J. Hartzler. il diags Phys R 82:359-72 My 1 '51
- Occurrence of native gold in an ice lens, Giant-Yellowknife gold mines, Yellowknife, Northwest Territories. R. W. Boyle. Econ Geol 46:223-7 Mr '51; Same. diag Can Min J 72:72-4 My '51
- Organic fluorides; fluorination of aromatic hydrocarbons by use of a gold catalyst. R. N. Haszeldine and F. Smith. diag Chem Soc J p2689-94 O '50
- Organic fluorides; fluorination of hydroaromatic hydrocarbons by use of a gold catalyst. R. N. Haszeldine and F. Smith. Chem Soc J p2787-9 O '50
- Plastic deformation and diffusionless phase changes in metals; the gold-cadmium beta phase. L. C. Chang and T. A. Read. bibliog il J Metals 191:Trans 47-52 Ja '51
- Properties of evaporated gold and tungsten oxides. P. G. Wilkinson. il J Ap Phys 22:226-32 F '51
- Properties of particles producing high energy nuclear collisions in gold. M. B. Gottlieb. il diags Phys R 82:349-58 My 1 '51
- Purchase and sale of unrefined gold. M. Seidel. Comm & Fin Chr 173:921 Mr 1 '51; Discussion. G. F. Bauer. 173:1138 Mr 15 '51
- Samuel Montagu & co. foresees further contraction in gold output. Comm & Fin Chr 172:2352 D 14 '50
- Slow neutron resonant scattering of gold. J. Tittman and others. Phys R 80:903 D 1 '50
- Thermodynamic study of liquid metallic solutions; the systems bismuth-gold and thallium-gold. O. J. Kleppa. diags Am Chem Soc J 73:385-90 Ja '51
- Vapor pressure of gold and the activities of gold in gold-copper solid solutions. L. D. Hall. bibliog diag Am Chem Soc J 73:757-60 F '51

See also
Gold ores

Analysis
- Estimation of gold in biological materials. S. Natelson and J. L. Zuckerman. bibliog Anal Chem 23:653-5 Ap '51
- Substituted benzidines and related compounds as reagents in analytical chemistry; new indicators for the microvolumetric determination of gold. R. Belcher and A. J. Nutten. Chem Soc J p550-1 F '51

Isotopes
- Application of proportional scintillation γ-ray counters to the determination of the decay scheme of Au^{198}. P. E. Cavanagh. Phys R 82:791-5 Je 15 '51
- Disintegration scheme of Au^{199}. P. M. Sherk and R. D. Hill. bibliog diag Phys R 83:1097-100 S 15 '51
- Method of isotopic separation by (n,γ) recoil. L. B. Magnusson. Phys R 81:285-6 Ja 15 '51

Physiological effect
- Liver cirrhosis with ascites, induced in dogs by chronic massive hepatic irradiation with radioactive colloidal gold. P. F. Hahn and others. bibliog Science 114:303-5 S 21 '51

Prices
- East Asiatic impact on international gold markets. F. Pick. Comm & Fin Chr 172:1894 N 16 '50
- Gold price under pressure. Economist 160:388-90 F 17 '51
- Gold selling at a premium. P. Einzig. Comm & Fin Chr 173:1242 Mr 22 '51
- Premium sales control free gold price. Can Min J 72:57 Mr '51
- What price gold. F. Lilly. Comm & Fin Chr 173:1030 Mr 8 '51

Statistics
- Annual bullion review, 1950. Can Min J 72:79-80 My '51
- United States sales of gold to foreign countries, calendar year 1950; tabulation. Comm & Fin Chr 173:1161 Mr 15 '51

GOLD alloys
- Coefficients of thermal expansion of Au-Cd alloys containing 47.5 atomic percent Cd. L. Chang. J Ap Phys 22:525-6 Ap '51
- Gold-copper alloys in ancient America. W. C. Root. il J Chem Educ 28:76-8 F '51
- Kinetics of ordering in the alloy AuCu. G. J. Dienes. bibliog J Ap Phys 22:1020-6 Ag '51
- Long-range order in beta-brass and Cu_3Au. D. T. Keating and B. E. Warren. bibliog J Ap Phys 22:286-90 Mr '51
- Vapor pressure of gold and the activities of gold in gold-copper solid solutions. L. D. Hall. bibliog diag Am Chem Soc J 73:757-60 F '51
- X-ray measurement of short range order in Ag-Au. N. Norman and B. E. Warren. maps J Ap Phys 22:483-6 Ap '51

GOLD as money
- Basic principles of gold standard and their implications. F. G. Shull. Comm & Fin Chr 174:775+ Ag 30 '51
- Dollar surplus hits U.S. gold. il Bsns W p22 Ja 27 '51
- Europe and American gold; withdrawal of gold from U.S. and resale for hoarding purposes. P. Einzig. Comm & Fin Chr 173:726 F 15 '51
- Gold, 1950. M. A. Kriz. Eng & Min J 152:74-7 F '51

GOLD as money—*Continued*

Gold-redeemable currency the basic cure for rising prices. H. Buffett. Comm & Fin Chr 173:2049 My 17 '51

Gold standard, the people, and the gold mining industry. D. L. Kemmerer. Comm & Fin Chr 173:717+ F 15 '51

Gold standard; what it means to Nation. F. G. Shull. Comm & Fin Chr 173:1132+ Mr 15 '51

Gold tide ebbs. H. B. Bratter. Eng & Min J 152:86-7+ Ja '51

International movement of gold and dollars in 1950. Fed Res Bul 37:253-62 Mr '51

It is time to reconsider the gold standard. J. W. Bell. Comm & Fin Chr 173:2152+ My 24 '51

Our need for gold standard in a war economy. P. M. McKenna. Comm & Fin Chr 172: 1993-5 N 23 '50

Rats leave the sinking dollar; gold-dollar arbitrage transactions of foreign central banks. M. Palyi. Comm & Fin Chr 173: 1529+ Ap 12 '51

Reversal in gold movements. J. Dana. il Mag of Wall St 88:135-6+ My 5 '51

Reversal in gold movements. V. L. Horoth. Mag of Wall St 88:658-9+ S 22 '51

Soviet propaganda, East-West trade and need of gold standard. G. A. Sloan. Comm & Fin Chr 174:68 Jl 5 '51

Specie payments, not controls, can stop inflation. F. Cramer. Comm & Fin Chr 172: 2091 N 30 '50

Stake of the foreign trader in the gold standard. G. F. Bauer. Comm & Fin Chr 172:1599 O 26 '50

Stop dissipation of our gold reserves. B. F. Pitman, jr. Comm & Fin Chr 173:2675-6 Je 28 '51; Discussion. F. G. Shull. 174:67 Jl 5 '51

They say about gold. H. M. Bratter. Comm & Fin Chr 172:1786+ N 9 '50

What is the future of gold? H. P. Cain. il Min Cong J 36:22-4+ O '50

What price gold. F. Lilly. Comm & Fin Chr 173:1030 Mr 8 '51

Where is our gold going? W. H. Diamond. il Dun's R 59:17-19+ Ap '51

Great Britain

Britain's borrowed gold. P. Einzig. Comm & Fin Chr 173:445 Ja 25 '51

Russia

Reappearance of Russian stamped gold in market. P. Einzig. Comm & Fin Chr 173:939 Mr 1 '51

GOLD chloride

Effects of gold chloride upon hair cortex. D. S. Po-Chedley. Textile Res J 21:165-6 Mr '51

Raman spectrum of the [AuCl$_4$]-ion. J. D. S. Goulden, A. Maccoll and D. J. Millen. Chem Soc J p 1635-6 Je '50

GOLD COAST, Africa

Colonial responsibility. Economist 160:302-3 F 10 '51

Gold Coast since the elections. map Economist 160:1177-8 My 19 '51

Gold Coast's election. map Economist 160: 265-6, 361 F 3, 17 '51

GOLD dredging

Solar thawing increases profit from sub Arctic placer gravels. E. N. Patty. il Min Eng 190:27-8 Ja '51

GOLD foil

Electron diffraction studies of etched Au leaf films. W. V. Stauder and A. H. Weber. bibliog il Franklin Inst J 251:351-7 Mr '51

GOLD metallurgy

Golden Cycle's modern mill. M. W. Bowen. il plan Min Cong J 36:30-3+ N '50

Milling and refining; Kerr-Addison mine. flow sheet il diag Can Min J 72:121-34 Ap '51

Separation of precious metals from anode slimes by flotation. R. T. Hukki and U. Runolinna. flow sheets Min Eng 187:Trans 1131-2 N '50

Simple treatment methods for oxide gold and silver ores. A. L. Engel. U S Mur Mines Rep of Invest 4758:1-14 '51

Simple treatment methods for sulfide gold and silver ores. A. L. Engel. U S Bur Mines Rep of Invest 4790:1-17 '51

See also

Cyanide process

GOLD miners

Better miners aren't just born, you can make them; Hollinger consolidated gold mines. B. Ross. Eng & Min J 152:97-8 Ap '51

Employe program pans out for Canadian mining co.; Hollinger mines. R. Newcomb and M. Sammons. il Ind Marketing 35:90+ S; 126+ O '50

How to help develop supervisors; Hollinger consolidated gold mines. T. E. Hawkins and H. M. Ferguson. il Eng & Min J 152:90-3 Ap '51

Modern operation and welfare; Kerr-Addison mine. il Can Min J 72:66-7 Ap '51

GOLD mines and mining

Getchell mine study demonstrates paradox of scale. P. Joralemon. il maps Min Cong J 37:34-6 Ja '51

Finance

Cost of developing gold mines. Can Min J 72:95-6 S '51

Gold mine beats price control; Central Eureka mining co. il Bsns W p102-3+ Je 9 '51

Gold mining; return to traditional role seen essential. D. H. McLaughlin. il Min Cong J 37:102-3 F '51

Proposed gold bonus. Can Min J 71:133 N '50

See also

Homestake mining company

Placer mining

Gold placers and their geologic environment in northwestern Park county, Colorado. Q. D. Singewald. map U S Geol S Bul 955-D:103-72, pl 8-17; pa $1.25 Supt. of doc. '50

Panning gold with 1500 horsepower; giant dredge in Copper Canyon, Nev. L. A. Luther. il Comp Air Mag 55:232-6 N '50

See also

Gold dredging

Securities

Gyrations in gold; with statistical data on leading gold shares. H. M. Tremaine. il Mag of Wall St 87:510-11+ F 10 '51

Arabia

King Solomon's mines; discovery of ancient gold mines. K. S. Twitchell. map Comp Air Mag 56:78 Mr '51

British Columbia

Grubstakes for B.C. prospectors. J. P. Gillese. Can Min J 72:62-3 Ja '51

California

Mother Lode is not dead. D. C. Demarest. il Eng & Min J 152:63-7 Mr '51

Canada

Canadian subsidy rise no boon to gold mines. N. Willatt. Barron's 31:6 Jl 2 '51

Gold mining industry in Canada. R. E. Dye. Comm & Fin Chr 174:1057+ S 20 '51

Official statement regarding assistance to gold mines. Can Min J 72:82-3 My '51

Proposed gold bonus. Can Min J 71:133 N '50

Subsidy cut may cancel premium gold sales gain. R. Redler. Barron's 31:8 O 8 '51

Colorado

Gold placers and their geologic environment in northwestern Park county, Colorado. Q. D. Singewald. map U S Geol S Bul 955-D:103-72, pl 8-17; pa $1.25 Supt. of doc. '50

Egypt

3000-year old gold mine; El Sid mine was worked by the ancient Egyptians. D. R. Derry. il maps Can Min J 72:68-72 Ag '51

Nevada

Occurrence of gold at the Getchell mine, Nevada. P. Joralemon. bibliog il maps diags Econ Geol 46:267-310 My '51

Panning gold with 1500 horsepower; giant dredge in Copper Canyon. L. A. Luther. il Comp Air Mag 55:232-6 N '50

Nicaragua

Tales of a gold miner in Nicaragua. C. C. Semple. il map Explosives Eng 28:150-4, 184-7+; 29:20-3+, 51-4, 120-3, 180-2 S '50-Mr, Jl, N '51

GOLD mines and mining—*Continued*

Northwest Territories, Canada

Occurrence of native gold in an ice lens, Giant-Yellowknife gold mines, Yellowknife, Northwest Territories. R. W. Boyle. Econ Geol 46:223-7 Mr '51; Same. diag Can Min J 72:72-4 My '51

Ontario

Canadian mine surface plants. map Can Min J 72:72-3 S '51
Canadian mine surface plants; New Dickenson mines, Balmertown, Ont. plan Can Min J 72:60-1 Jl '51
Canadian mine surface plants; Starratt-Olsen gold mines, Madsen. plan Can Min J 72:70-1 My '51
Complete technological description; Kerr-Addison gold mines ltd. flow sheet il maps plans diags Can Min J 72:64-170 Ap '51
Crow River area geology. E. O. Chisholm. il map Can Min J 71:112-13 N '50
Employe program pans out for Canadian mining co.; Hollinger mines. R. Newcomb and M. Sammons. il Ind Marketing 35:90+ S; 126+ O '50
General geology, Red Lake area. E. O. Chisholm. map Can Min J 71:110-11 N '50
Geraldton-Beardmore area, general geology. W. L. Greer. bibliog il map Can Min J 71:114-15 N '50
Gold in Ontario. C. C. Huston. bibliog il Can Min J 71:116-28 N '50
Pillar mining at Teck-Hughes. Eng & Min J 151:104 D '50
Porcupine gold area. N. Hogg. bibliog map Can Min J 71:102-6 N '50
Training school at Sylvanite gold mines. J. F. R. Akehurst. Can Min J 72:77-8 Je '51

Orange Free State

Cost of developing gold mines. Can Min J 72:95-6 S '51
Greatest shaft-sinking program ever. Can Min J 72:84-5 Je '51
New Eldorado; South Africa has staked out a second Witwatersrand. F. Gill. Barron's 31:7-8 Jl 23 '51
Production begins in O.F.S. Can Min J 72:78-9 Ag '51
South Africa's new mines give promising results. Can Min J 72:74-5 Mr '51
Two new South African gold mining companies. Can Min J 71:193-4 N '50

Oregon

Structural control of some gold-base metal veins in eastern Grant county, Ore. R. M. Allen, jr. maps Econ Geol 46:398-403 Je '51

Quebec (province)

Canadian mine surface plants, Malartic gold fields, Halet, Quebec. plan Can Min J 72:54-6 Ja '51
Canadian mine surface plants, Powell Rouyn gold mines, Noranda, Quebec. plan Can Min J 72:66-7 Ag '51
Long hole percussion drilling at Senator-Rouyn. H. R. Rice. il diags Can Min J 72:63-6 My '51
Safety at Sullivan. L. Beliveau. Can Min J 72:76-7 Ag '51
Structural control of orebodies as illustrated by the use of vein contours at the O'Brien gold mine, Cadillac, Quebec. J. W. Mills. bibliog diags Econ Geol 45:786-807 D '50
Tungsten carbide bits at the Consolidated Beattie mines. R. F. Fry. il Can Min J 72:55-7 Mr '51

South Africa

International atomic agreement; United States, United Kingdom and Union of South Africa have concluded an agreement calling for production of uranium from South African gold-bearing ores. Min Cong J 37:54 Ja '51
Marievale consolidated mines; Van Dyk consolidated mines; East Geduld mines and others; annual general meetings. Economist 160:1209-11 My 19 '51
New South African gold mines to start this year. Can Min J 72:101-2 F '51
Record value of South African gold output. Can Min J 71:64-5 D '50
South Africa to produce uranium; South Africa's gold ores one of the largest known sources of uranium. Can Min J 72:68-9 Ja '51
Uranium from gold mines; South African supplies. Chem Age (Lond) 63:900 D 30 '50

South Dakota

Mechanization at Bald Mountain. D. E. Moulds. il Min Cong J 37:27-30+ My '51

Transvaal

Blyvooruitzicht gold mining company, limited; statement by the chairman at annual general meeting. W. M. Frames. Economist 159:917 N 25 '50
Crown mines limited; City deep limited; Rand mines limited; annual meetings. Economist 160:1402-3, 1405 Je 9 '51
Two new South African gold mining companies. Can Min J 71:193-4 N '50

GOLD ores
Mine geology; Kerr-Addison mine. il maps Can Min J 72:68-75 Ap '51
Occurrence of gold at the Getchell mine, Nevada. P. Joralemon. bibliog il maps diags Econ Geol 46:267-310 My '51
Structural control of orebodies as illustrated by the use of vein contours at the O'Brien gold mine, Cadillac, Quebec. J. W. Mills. bibliog diags Econ Geol 45:786-807 D '50
Structural control of some gold-base metal veins in eastern Grant county, Ore. R. M. Allen, jr. maps Econ Geol 46:398-403 Je '51

GOLD plating
Production of colored gold finishes. E. R. Thews. Metal Finishing 49:80-5 S '51

GOLD standard. See Gold as money

GOLDENWEISER, Emanuel Alexander, 1883-
Craftsman plays king; review of American monetary policy, by E. A. Goldenweiser. por Bsns W p65-6 Ag 4 '51

GOLDIN, Florence
Portrait. Sales Management 66:41 F 1 '51

GOLF clubs

Manufacture

Tapered step-down shafts brushed 20 per cent faster. il Steel 128:72 Ja 29 '51

GONIOMETERS
Design for an equi-inclination Weissenberg goniometer. A. M. Mathieson. il diag J Sci Instr 28:112-14 Ap '51
New equi-inclination Weissenberg X-ray goniometer. D. S. Beard and others. bibliog il diag J Sci Instr 28:246-51 Ag '51
Simple goniometer for the study of crystal surfaces. P. R. Rowland. il diag J Sci Instr 28:61-2 F '51

GONIOPHOTOMETERS
Variation in the horizontal distribution of light from candlepower standards. W. E. K. Middleton and E. G. Mayo. diags Opt Soc Am J 41:513-16 Ag '51

GOOD, Percy, 1880-1950
Sketch. por Engineer 190:564 D 8 '50

GOOD roads associations. See Highway associations

GOOD will in business
Accountants' present concept of goodwill depends upon unusual earning power. G. T. Walker. J Account 91:100-3 Ja '51

GOODE Durrant and Murray, limited
Statement by the chairman at 52d annual general meeting. G. P. Schoolar. Economist 159:854 N 18 '50

GOODLASS wall and lead industries, limited
Statement by the chairman at annual general meeting. J. L. McConnell. Economist 161:187 Jl 21 '51

GOODNESS of fit. See Chi square test; Kolmogorov-Smirnov test

GOODRICH, B. F., company
1950 production and sales highest in Goodrich history. Rubber Age 68:731 Mr '51
Security I like best. A. Huber. Comm & Fin Chr 172:2274 D 14 '50

GOODWIN, Robert Clifford
How to get more new manpower in '51. Bsns W p121 N 4 '50
Portrait. Bsns W p31 N 11 '50

GOODYEAR tire and rubber company
Goodyear; it's still the biggest of rubber's big four; with financial data 1941-1950. C. Sutton. Barron's 31:13-14 F 26 '51

GOODYEAR tire and rubber company—*Cont.*
Goodyear net at $35,109,355 as 1950 sales set new record. Rubber Age 68:730 Mr '51
Ten potential market leaders for 1951; with comparative balance sheet items. Mag of Wall St 87:505 F 10 '51

GORDON research conferences
Annual conferences, June 18-August 31; program. Science 113:496-501 Ap 27 '51
Meeting, June 18-August 31. Science 113:731 Je 22 '51

GORMAN, Patrick Emmet
Lawyers of the jungle. por Fortune 43:52+ Je '51

GOSHORN, Clarence Baker, 1893-1950
C. B. Goshorn, agency head, drowns on trip. por Ed & Pub 83:57 D 16 '50

GOSSYPOL
Spot test detection of antimony by means of gossypol. P. W. West and L. J. Conrad. bibliog Anal Chem 22:1336-7 O '50

GOUDY, Frederic William, 1865-1947
Deepdene; the last summer. P. Fisher. pors Inland Ptr 127:48-9+ Ag '51

GOUGH, Christopher A.
Sketch. por East Underw 52:17 Mr 9 '51

GOULD, Jay, 1836-1892
Portrait. Bsns W p45 My 19 '51

GOULD-National batteries, inc.
Prospects seem bright. Barron's 30:17 D 18 '50

GOULD paper company
Rockefeller interests buy Gould. Paper Tr J 132:11-12 Je 29 '51

GOUY interference method. See Diffusion

GOVERNMENT accounting
Government accounting as before. Economist 160:1587-8 Je 30 '51
Is there a need for separate accounting principles for nonprofit enterprises? L. Morey. J Account 91:562-5 Ap '51
Maryland's uniform accounting system expected to benefit local governments. B. S. Schilling, jr. J Account 91:120-3 Ja '51
See also
State accounting
United States—Army—Accounting
United States—General accounting office

GOVERNMENT advertising
See also
Municipal advertising
State advertising

GOVERNMENT aid to business
Industrial plant expansion; how to get government aid. Factory Management 109:B68-9 pt 2 Ap '51
Production planning offices; directory. Am Mach 95:155-6 Ja 22 '51
Uncle spreads the word; government consultants hold clinics for small business. il Bsns W p74-6+ D 2 '50
See also
Information service, Government
Reconstruction finance corporation
Subsidies

GOVERNMENT boards and commissions
See also
Information service, Government

GOVERNMENT bonds. See Bonds, Government

GOVERNMENT buildings. See Public buildings

GOVERNMENT competition with business
Debate on transmission line from Buggs Island dam to Langley Field, Va. Pub Util 47:182-5 F 1 '51
Place of public power in the American economy. J. E. Corette, jr. Edison Elec Inst Bul 18:414-17 N '50
Roadblocks to progress. C. W. Wickersham, jr. Comm & Fin Chr 173:1337+ Mr 29 '51
See also
Government ownership

GOVERNMENT contracts. See Contracts, Government

GOVERNMENT corporations
Government corporations and credit agencies; principal assets and liabilities; classification of loans by purpose and agency, Sept. 30, 1950. Fed Res Bul 37:74 Ja '51 [cont monthly]
See also
Commodity credit corporation
Federal deposit insurance corporation
Reconstruction finance corporation

GOVERNMENT credit agencies. See Government loans and grants

GOVERNMENT employees
Congress receives bill covering surety premiums for officers and employees of government; text of H.R. 2463. Weekly Underw 164:430-1 F 17 '51; Same. East Underw 52:37 F 23 '51
Federal civilian workers and payrolls, 1947-1950; tabulations. Iron Age 167:361 Ja 4 '51
Personnel administration in public service; analyzing characteristic obstacles to effective use of modern policies. P. Monypenny. Advanced Management 16:19-21 Ja '51
Scientist's attitude toward government employment. C. D. Ahlberg and J. C. Honey. Science 113:505-10 My 4 '51
See also
Civil service
Municipal employees
State employees

Salaries

Federal classified employees; salary trends, 1939-50. R. W. Benny. Mo Labor R 72:537-40 My '51
Solvent and satisfied. Chem W 69:14-15 S 15 '51
Wage chronology; Federal classification act employees, 1924-1950. Mo Labor R 72:296-309 Mr '51

GOVERNMENT expenditures
Cease deficit spending and preserve our great middle class. O. W. Adams. Comm & Fin Chr 174:1250 O 4 '51
Congress' own budget bureau. Bsns W p 19-20 Ag 4 '51
Defense spending; slow and steady. Bsns W p 19-20 N 18 '50
Deficit and non-deficit government spending. R. R. Lounsbury. East Underw 52:122+ pt 2 O 5 '51
Federal research and development expenditures for coming fiscal year. R. Gibbs. Chem & Eng N 29:2118+ My 28 '51
Foreign aid by the U.S. government in calendar year 1950; with tabulations by program and by country, July 1, 1945-December 31, 1950. C. E. Shepler. Survey of Cur Bsns 31:12-18 Mr '51
Foreign transactions of the U.S. government in fiscal 1950. Survey of Cur Bsns 30:14-20 N '50
Freedom's war on waste. T. C. Andrews. Credit & Fin Management 53:16-18 Jl '51
Holes in our public purse; abstract. E. B. Steele. Pub Util 47:512-15 Ap 12 '51
Military spending, a leverage for consumer buying. W. Witherspoon. Comm & Fin Chr 174:423 Ag 2 '51
Saving for defense. H. F. Byrd. Banking 43:33-4 Ap '51
We don't have economy in government. H. F. Byrd. Comm & Fin Chr 173:1950+ My 10 '51
World's biggest business. M. R. Gainsbrugh. Comm & Fin Chr 173:1642+ Ap 19 '51
Your defense dollar. Aero Digest 62:52+ My '51
See also
Budget—United States
United States—Appropriations and expenditures

GOVERNMENT investigations
Celler will probe dollar-a-year men. Bsns W p 134 Je 9 '51
Gangland's grip on business; Kefauver report. Bsns W p22 My 12 '51
Kefauver echo; UAW files unfair labor charge against Briggs mfg. Bsns W p 133-4 Mr 24 '51
New concepts of television technique will result from the Kefauver show. G. Seldes. il Ptr Ink 235:33-5 Ap 20 '51
Newspapers praised for anti-crime help. Ed & Pub 84:8 Mr 31 '51
No evidence; Kefauver committee apologizes to A. M. Byers & co. Bsns W p21 My 26 '51
Press also in spotlight at Kefauver hearings. R. Erwin. Ed & Pub 84:12 Mr 24 '51
Product diversification and the public interest. K. R. Andrews. Harvard Bsns R 29:91-107 Jl '51

GOVERNMENT investigations—*Continued*

Rumely appeals contempt conviction. Ed & Pub 84:15 Ag 18 '51

Senate probe stopped New York's clock. il Bsns W p21 Mr 24 '51

See also

Insurance—Government investigation

GOVERNMENT laboratories

Site near Boston chosen for Quartermaster corps' new $11 million consolidated research and development laboratory. R. Gibbs. Chem & Eng N 29:1182 Mr 26 '51

See also

Great Britain—Scientific and industrial research, Department of—Chemical research laboratory

United States—Army—Research

United States—Public health service—Laboratories

GOVERNMENT liability

Hague convention and its bearing on Okinawa accident case; term "foreign country" in Federal tort claims act construed. Spectator (Property ed) 17:44+ S '51

GOVERNMENT libraries

See also

Great Britain—Admiralty library

United States—Armed services—Libraries

United States—Tariff commission—Library

GOVERNMENT loans and grants

Government corporations and credit agencies; classification of loans by purpose and agency, Sept. 30, 1950. Fed Res Bul 37:74 Ja '51 [cont monthly]

Government lending operations. Nat City Bank p59 My '51

Not authorities, but the man on the land; program for river basin development proposed by the National reclamation assn. Elec West 106:59-61 Mr '51

Place credit restraints on government lending agencies. A. W. Crawford. Comm & Fin Chr 174:690-1 Ag 23 '51

Question; is government lending necessary? J. M. Dodge; B. R. Maybank. Banking 44:14-15 S '51

RFC gets defense bankroll. Bsns W p 160 S 22 '51

See also

Reconstruction finance corporation

Rural electrification administration

State finance—Federal aid

GOVERNMENT loans to industry

Defense expansion loan to Lone Star Steel. Bsns W p34+ Ja 20 '51

Don't delay on defense loans. Bsns W p98 D 2 '50

Government loans to expand defense production; where and how to apply. Mill & Factory 48:123 Ja '51

GOVERNMENT officials. See Public officials

GOVERNMENT ownership

Britain piles on socialized services. Pub Util 47:315-18 Mr 1 '51

Controlling the giants; public accountability of the nationalised industries. Economist 159:680-1 N 4 '50

Not authorities, but the man on the land; program for river basin development proposed by the National reclamation assn. Elec West 106:59-61 Mr '51

Oil development slowed by government operation; world survey. R. E. Spann. bibliog World Oil 133:96-8+ Jl 15 '51

Public and private ownership in Sweden. G. Olson. il For Comm W 44:3-4+ Jl 23 '51

Socialisation of industry. Engineer 191:309 Mr 9 '51

State steel. Economist 160:386-8 F 17 '51

Steel nationalization in Britain. P. Einzig. Comm & Fin Chr 173:819 F 22 '51

See also

Electric utilities—Government ownership

Government corporations

Hydroelectric plants—Government ownership

Railroads and state

GOVERNMENT paper. See Paper, Government

GOVERNMENT printing. See Printing, Public

GOVERNMENT publications

Bibliography

Government aids to industry. R. D. Stevens. Mill & Factory 49:117 Jl '51

Government information of interest to the banker; list of recent booklets. R. D. Stevens. Burroughs Clearing House 35:26 Je '51

Priorities in government tools for the business man. (Business literature v. 23, no 2: 3-4 O; 3:5-6 N; 4:7-8 D) Business library, Newark public lib, Newark, N.J. '50

Publications of the government of British Columbia, 1871-1947. M. C. Holmes. 254p pa $3.50 Provincial lib, Parliament bldgs, Victoria, B.C. '50

Specifications issued by the federal government. N. M. Bowman. Special Lib 41:318-19+ N '50

Great Britain

Government indexes and indexing. S. Horrocks. Aslib Proc 3:45-50 F '51

Government publications. W. H. Glasscock. Aslib Proc 3:37-44 F '51

Range of government publications. W. A. Beck. Aslib Proc 3:15-21 F '51

GOVERNMENT publicity

43 states employ 700 to publicize governments. E. Knoll. Ed & Pub 84:13 Ap 7 '51

Handouts are helpful to press. R. Early. Ed & Pub 84:22 Je 9 '51

How I got a $200 million account; agency owner gets 25th infantry division as public information account. A. A. David. Adv Agency 44:71+ O '51

Weapon of publicity; proposed cuts in government's information services. Economist 160:181-2 Ja 27 '51

See also

Advertising mediums—Government publicity

Press agents, Government

GOVERNMENT purchasing. See Purchasing, Government

GOVERNMENT radio stations. See Radio stations, Government

GOVERNMENT regulation of industry

Big business and government regulations. T. S. Petersen. Comm & Fin Chr 174:1256+ O 4 '51

Business week reports to executives on how to live with controls. Bsns W p 113-20 F 17; 77-8+ F 24 '51 (reprints 20¢)

Checklist on controls. Steel 128:30-1 Ja 8 '51 [cont weekly]

Controls and comparisons. M. Palyi. Comm & Fin Chr 173:1221+ Mr 22 '51

Controls digest. Iron Age 167:126 F 1 '51

Controls roundup; digests of restrictions the government has made under the current defense program. Steel 128:59-61 Ap 2 '51

Effect of government regulations on commercial chemical development; from annual meeting of Commercial chemical development association, New York, March 21. Chem & Eng N 29:1716-23, 1816-23, 1933-9 Ap 30-My 14 '51

Governmental sabotaging of business executives. F. D. Siefkin. Comm & Fin Chr 173:64+ Ja 4 '51

How are controls affecting civilian production? Mill & Factory survey. Mill & Factory 48:67-8 Mr '51

How to deal with defense agencies. Eng & Min J 151:72-4 N '50

Influence of government regulation on development of today's accounting practices. P. F. Brundage. J Account 90:384-91 N '50

Legislative and judicial developments in marketing. W. F. Brown, ed. Published in quarterly numbers of Journal of marketing

Line-up of government agencies to control the American economy; organization chart. Mill & Factory 47:82-3 N '50

Menace of profit starvation. R. M. Blough. Comm & Fin Chr 173:2455+ Je 14 '51; Abstract. Pub Util 48:121-3 Jl 19 '51

Pewee case; plant seizure jeopardized. Bsns W p30 My 5 '51

Roadblocks of unrealistic regulations. G. P. Swift. Comm & Fin Chr 173:1455+ Ap 5 '51

Seizure no strike panacea. Bsns W p 110-11 O 21 '50

GOVERNMENT regulation of industry—*Cont.*
Time table for defense controls. E. A. Krauss. Mag of Wall St 87:160-2+ N 18 '50
See also
Commercial policy
Electric utilities—Regulation
Export trade—Regulation
Federal trade commission
Food laws and legislation
Government ownership
Industry and state
Insurance companies—Regulation
Interstate commerce commission
Labor laws and legislation
National war labor board
Prices—Regulation
Priorities and allocations, Industrial
Public utilities—Regulation
Railroads and state
Trade marks
Trusts, Industrial—Law

GOVERNMENT research
Case for government research contracts. R. C. Gunness. Chem Eng Prog 47:331 Jl '51
Government scientific manpower. E. A. Walker. Mech Eng 73:219-20 Mr '51
See also
Brookhaven national laboratory
United States—Army—Research
also Great Britain—Scientific and industrial research, Department of; National science foundation

Directories

Government-sponsored research. il Product Eng 22:96-100 Ja '51

GOVERNMENT seizure of plants. See Government regulation of industry

GOVERNMENT statistics
Form forum; federal reporting forms. Chem Ind 67:883 D '50
Rearmament upsets government marketing data. Bsns W p65 N 11 '50
See also
United States—Labor statistics, Bureau of

GOVERNMENTAL research association

Directories

Supplement to the 1950-1951 GRA directory of organizations and individuals professionally engaged in governmental research and related activities. 21p Governmental research assn, 30 Rockefeller plaza, New York 20 '51

GOVERNORS (machinery)
Electric governor for small generating plants. il Elec World 135:126 My 7 '51
Governor developments. P. S. Kjellgren. Diesel Power 29:50 Ag '51
Governor regulates speed closely regardless of load. il Product Eng 22:182 Mr '51
Navy develops electric governor. il Product Eng 21:152-3 D '50
New governor for wide range of engines. diag Automotive Ind 104:48 Ja 1 '51
Overspeed governor is driven by flexible shaft. il Product Eng 22:173 Ja '51
Pneumatic governor design for high rotational speeds. P. M. Mueller. diags Product Eng 22:170-5 O '51
Steam turbine governor at work. G. Houser. diags Power Eng 55:74-6+ My '51

GRACEY, Harry F.
Portrait. Bsns W p31 N 11 '50

GRADE crossing accidents
Atlantic Coast Line works to eliminate grade crossing accidents. il Ry Age 131:41-3 Ag 27 '51

GRADE crossing elimination
Expressways and railroads integrated in Louisville's city plan. C. E. De Leuw. il plan Civil Eng 21:390-1 Jl '51
Tracks at El Paso put in big ditch. il plan diag Ry Age 130:54-8 Mr 5 '51

GRADE crossings
Cooperation urged on crossing protection costs. W. Paul. Ry Age 129:54-5 D 16 '50
Signals for trains at highway crossings. il plan Ry Age 129:24-5 D 23 '50

GRADES, Students'. See Marks, Students'

GRADUATE schools
Meeting the challenge of the national emergency. G. Schlegel, 3d. Advanced Management 16:15 My '51

GRAEBE-ULLMANN synthesis. See Carbazole

GRAFFIS, Herb
Writes for illiterates. G. A. Brandenburg. por Ed & Pub 83:36 D 23 '50

GRAHAM, Frank Porter, 1886-
Graham appointment won't end union fight. por Bsns W p 131 Mr 17 '51

GRAHAM, Herbert W. 1891-
Iron age salutes. por Iron Age 167:43 Ja 11 '51

GRAIN
Comparison of the niacin and pantothenic acid content of certain cereal grains grown under the same environmental conditions. J. C. Carroll and C. Lee Peng. bibliog Science 113:211-12 F 23 '51
Effect of germination on the carotene content of pulses and cereals. H. Chattopadhyay and S. Banerjee. bibliog Science 113:600-1 My 25 '51
Farm drying of grain and seeds. J. Woodforde. diags Engineering 171:669-73 Je 1 '51
Use of selective fluorescent stains to detect insect egg plugs on grain kernels. M. Milner and others. Science 112:791-2 D 29 '50
World cereals today. C. A. Loombe. Chem & Ind p702-7 O 21 '50
See also
Barley
Corn
Flour
Rice
Wheat

Transportation

Boxcar shift fails to ease flour crisis. Bsns W p20 Mr 3 '51
Canada appoints bulk transport controller. Ry Age 131:35-7 S 10 '51
Improved grain shipping facility on Norfolk Southern; illustrations with text. Ry Age 130:42-3 Mr 5 '51
Marine transport of grain; abstract and discussion. J. Sword. Chem & Ind p291-2 Ap 14 '51
Northwest shippers find grain trucking disruptive. Ry Age 131:44-5 Ag 6 '51
Portable deck grain division. diags Engineer 190:supp7 N 3 '50
Rousing session covers northwest car situation. Ry Age 131:37-8 Ag 20 '51

GRAIN bins
Grain bin assembly on a large scale. H. Chase. il diags Sheet Metal Worker 42:37-41 Ag '51

GRAIN blowers. See Blowers

GRAIN boundaries. See Metallography

GRAIN boundary diffusion. See Diffusion

GRAIN elevators
Gravity does the unloading; truck-trailer units are tilted, at Illinois elevator, to dump bulk materials onto conveyor. il Food Ind 22:2085-6+ D '50
Slip form speedily erects grain building. J. W. MacDonald, jr. il diags Civil Eng 21:148-50 Mr '51

Electric equipment

Grain elevator control; extensive installation at Buenos Aires. il Elec R (Lond) 148:586 Mr 23 '51

GRAIN mills. See Flour mills

GRAIN research laboratory, Winnipeg, Manitoba
G.R.L. keeps close check on quality of Canadian wheat. A. W. J. Dyck. il Can Chem Process 35:637-40 Ag '51

GRAIN storage
Factors in distribution affecting the quality and nutritional value of foodstuffs; abstracts. J. Sword; A. M. Copping. Chem & Ind p 169-70; Discussion. 170-1 Mr 3 '51
From oil to grain; how the Katy assisted in creation of grain storage bins from an abandoned oil tank farm. il map Ry Age 129:58-9 D 2 '50
Grain takes oil's place in east Texas tank farm. il Bsns W p22-3 O 21 '50
Nylon is answer in new system guarding bulk food; foolproof way to scan stored-grain temperatures. il plan Food Eng 23:51-2+ Jl '51

GRAIN trade

Chicago

See also
Chicago board of trade

GRAIN trade—*Continued*

Japan

Japanese grain output at record high. For Comm W 45:18 O 15 '51

Prospects good in Japan for grain harvest. For Comm W 44:20-1 Jl 23 '51

South Africa

Grain crop and trade, Union of South Africa. For Comm W 44:22 S 24 '51

Switzerland

Grains and feeds in Switzerland; with table of imports, first quarter, 1947-51. For Comm W 44:18 Jl 2 '51

GRAIN transit insurance. See Insurance, Grain transit

GRAININESS (photography)

Photographic granularity and graininess; a microphotometer for the measurement of granularity. L. A. Jones and G. C. Higgins. il diag Opt Soc Am J 41:192-200 Mr '51

Photographic granularity and graininess; a variable-magnification instrument for measuring graininess. L. A. Jones and G. C. Higgins. il diags Opt Soc Am J 41:41-52, 64-75 Ja-F '51

GRAMINE

Gramine methiodide. C. H. Schramm. Am Chem Soc J 73:2961-2 Je '51

GRAND canyon of the Colorado river

Nankoweap group of the Grand Canyon Algonkian of Ariz. C. E. Van Gundy. bibliog maps Geol Soc Bul 62:953-9, pl 1-3 Ag '51

GRAND COULEE dam. See Columbia river—Grand Coulee dam

GRAND jury

Insurance and the grand jury; interdependent in unified pattern of democracy. A. W. Fitzgerald. Weekly Underw 164:18+ Ja 6 '51

GRAND RAPIDS, Michigan

Water supply

Studies on mass control of dental caries through fluoridation of the public water supply. H. T. Dean and others. Pub Health Rep 65:1403-8 O 27 '50

GRAND union company

Sales headed for new record this year; profit margins holding steady. J. Dickson. Barron's 30:21 O 30 '50

GRANITE

Age of the granites of the northern Rhodesian copperbelt. W. G. Garlick and J. J. Brummer. bibliog maps diags Econ Geol 46:478-97 Ag '51

Age relationship of the Murray granite and Sudbury norite. C. R. Lewis. bibliog maps diags Can Min J 72:55-62 My; 70-5 Je '51

Plant designed for low labor cost. W. B. Lenhart. il diag Rock Prod 54:70-3 Jl '51

GRANITE city steel company

Little mill that's growing up. il Bsns W p80+ Ja 20 '51

Stock offering. Comm & Fin Chr 173:1477-8 Ap 9 '51

GRANITE dust

Design of exhaust systems for granite dust. F. H. Stebbins. diags Sheet Metal Worker 42:43-5 Jl; 43-5 S '51

GRANTS-in-aid

Committee on award of the Society of Sigma xi and Scientific research society of America; grants-in-aid of research for 1950. Science 112:485 O 20 '50

Public Health grants $1,416,760 for cancer research. Chem & Eng N 29:3720-1 S 10 '51

Research corp. announces impressive program. Chem & Eng N 29:3093-4, 3175-7, 3376 Jl 30-Ag 13 '51

GRANULAR materials

Drying granular solids in superheated steam. L. Wenzel and R. R. White. bibliog il diags Ind & Eng Chem 43:1829-37 Ag '51

Effective thermal conductivity of granular solids through which gases are flowing. J. O. Hougen and E. L. Piret. bibliog il diag Chem Eng Prog 47:295-303 Je '51

Mass transfer; laminar flow of gases through granular beds. M. Hobson and G. Thodos. bibliog diag Chem Eng Prog 47:370-5 Jl '51

Material handling; pneumatic conveyors for pulverized and granular materials; abstract. G. K. Englehart. Rock Prod 53:77-8 N '50

Pressure drop through stacked spheres; effect of orientation. J. J. Martin, W. L. McCabe and C. C. Monrad. il diags Chem Eng Prog 47:91-4 F '51

Pressures in a shallow rectangular bin. R. L. Moore and J. R. Shaw. diags Am Soc C E Proc 77[no 82]:1-13 Ag '51

Storage and handling of pulverized materials. F. Silver. bibliog Mech Eng 73:730-4 S '51

Temperature gradients in gas streams flowing through fixed granular beds. C. A. Coberly and W. R. Marshall, jr. bibliog flow sheet Chem Eng Prog 47:141-50 Mr '51

See also

Powders

GRAPE juice

Superior juice concentrate; yet only a single pass. R. K. Eskew and others. bibliog diag Food Ind 22:2067-9 D '50

GRAPEFRUIT

Texas swaps grapefruit for Swedish prefabs. Bsns W p 101-2 F 3 '51

GRAPEFRUIT trees

Grapefruit and lemon gums; the ratio of sugars present in the gums and the structure of the aldobionic acid (4-D-glucuronosido-D-galactose) isolated by graded hydrolysis of the polysaccharides. J. J. Connell and others. Chem Soc J p 1696-700 Jl '50

GRAPH paper

Methods of calculating with graph paper. W. H. Burrows. Product Eng 22:140-5 Ap; 168-71 Je '51

GRAPHECHON

Graphechon writing characteristics. A. H. Benner and L. M. Seeberger. diags RCA R 12:230-50 Je '51

Storage oscilloscope. L. E. Flory and others. il diags RCA R 12:220-9 Je '51

GRAPHIC arts

Developments in the graphic arts, 1949-1950. R. H. Simmons. bibliog(43 ref) Tappi 33: sup30A+ D '50

Graphic arts. A. P. Reynolds. Paper Tr J 131: 310+ N 30 '50

GRAPHIC methods

Analysis of quaternary mixtures; application of a graphical solution of four simultaneous linear equations. J. Tadayon. Anal Chem 23:1184-6 Ag '51

Calculating the energy losses in hydraulic systems. N. M. Sverdrup. diags Product Eng 22:146-52 Ap '51

Comprehensive numerical method for the analysis of earthquake resistant structures. C. S. Whitney and others. bibliog diags Am Concrete Inst J 23:5-28 S '51

Consumer demand; graphical analysis into component elements. R. T. Hancock. Elec R (Lond) 148:371-3 F 23 '51

Convenient methods for thermionic emission calculations. H. F. Ivey and C. L. Shackelford. Tele-Tech 10:42-3+ F '51

Economical cross section of prestressed I-beams and box girders determined graphically. K. P. Billner. diags Am Concrete Inst J 22:565-7 Mr '51

Graphical analysis of axially end-loaded beams. H. D. Conway. Machine Design 23: 137-40+ Ja '51

Graphical analysis of transistor characteristics. L. P. Hunter. diags Inst Radio Eng Proc 38:1387-91 D '50

Graphical approach to statistics; its use in sanitary engineering. C. J. Velz. Water & Sewage Works 97:195-200, 309-14, 393-400; 98:66-73, 262-5, 289-93 My, Ag, O '50, F, Je-Jl '51

Graphical correlation of physical properties of a ternary system; vapor pressure and specific gravity for ammonia-ammonium nitrate-water. B. H. Sanders and D. A. Young. bibliog Ind & Eng Chem 43:1430-3 Je '51

Graphical design of asymmetric street crowns. D. Weage. Pub Works 81:44-5 N '50

Graphical free energy approach to unary systems. N. O. Smith. J Chem Educ 28:462-5 S '51

Graphical integration. W. L. Vaughan. Aero Digest 63:29+ Jl '51

Graphical method for calculation of recovery from constant percentage decline curves. R. W. Woods. Oil & Gas J 49:103 Mr 15 '51

GRAPHIC methods—*Continued*

Graphical methods of curvature measurement; abstract. Product Eng 22:151 Ja '51

Graphical ray-trace and surface generation methods for aspheric surfaces. R. E. Lewis. bibliog diags Opt Soc Am J 41:456-9 Jl '51

Graphical representation of kinetic energy changes for an adiabatic irreversible expansion. W. B. Nordquist. diags J Eng Educ 42:52-3 S '51

Graphical representation of load on polluted streams. K. Imhoff. map Sewage & Ind Wastes 22:1614-17 D '50

Graphical solution of epicyclic gear train problems. W. H. Mann. diags Engineering 171:312 Mr 16 '51; Discussion. 171:408, 472 Ap 6, 20 '51

Graphical solution of single phase flow problems. E. R. Brownscombe and L. R. Kern. bibliog Pet Eng 23:B7-10+ F '51

Graph-scope, an electronic graph plotter and graphical computer. A. L. Thomas, jr. diags Elec Eng 69:1097-100 D '50

How accident control charts can help your safety record; experience at Ford Instrument. T. R. Leadbeater. Factory Management 109:92-3 Je '51

Maintenance reports; use of charts and graphs. C. C. Winston. Paper Ind 32:1182-3 F '51

Measuring humidity equilibria; new rapid graphical interpolation method. A. H. Landrock and B. E. Proctor. bibliog il diag Mod Packaging 24:123-30+ F '51

Network synthesis by graphical methods for a-c servomechanisms; abstract. G. A. Bjornson. Elec Eng 70:571 Jl '51

Pattern calculator for a-m. G. R. Mather. diags Electronics 24:100-1 Ap '51

Predicting performance of uhf and shf systems. E. A. Slusser. Electronics 24:116-21 Je '51

Simple graphical solution of the Duhamel integral. E. V. Laitone and J. T. Ahlin. diags J Aeronautical Sci 18:142-3 F '51

Sliding curve quickly solves partly full pipe problems. H. J. Miles. Pub Works 82:48-9 S '51

Statistical properties of noise applied to radar range performance. S. M. Kaplan and R. W. McFall. Inst Radio Eng Proc 39:56-60 Ja '51

Steady-state transfer problems; graphical solutions. E. B. Fitch. bibliog diags Chem Eng Prog 47:83-90 F '51

See also

Charts (calculating)
Control charts
Curve fitting
Curve plotting
Nomographs

GRAPHIC panels

Easier control by graphic panel. J. Stackner. il Pet Processing 6:626-8 Je '51

Future of graphic panel in process control. E. J. Grace, jr. Instruments 24:405 Ap '51

Graphic instrumentation; a new tool for industry. W. S. Bowers. il diags Instruments 23:1188-91 N '50

Graphic panels. A. V. Novak. Instruments 23:1128-9+ N '50

Instruments for chemical plant; telemetering, control panels and graphic control desks. il diags Chem Age (Lond) 65:121-5+ Jl 28 '51

GRAPHIC records

See also

Gantt charts

GRAPHIC statics

Approximate method for the calculation of the stresses in sweptback wings. T. Rand. diags J Aeronautical Sci 18:61-3 Ja '51

See also

Flow mappers

GRAPHITE

Adsorption of benzene and cyclohexane by graphite. R. N. Smith. C. Pierce and H. Cordes. bibliog Am Chem Soc J 72:5595-7 D '50

Apparatus for determining gas permeability of carbon and graphite. S. D. Fulkerson and F. J. Lambert. diags Anal Chem 22:1310-12 O '50

Carbon and graphite; value of special properties to the chemical engineer. W. S. Norman. Chem Age (Lond) 63:711-12 N 18 '50

Chemical engineering materials of construction; carbon and graphite. W. M. Gaylord. bibliog(53 ref) il Ind & Eng Chem 43:2199-202, 2284-5 O '51

Colloidal graphite lubricates diecasting machines. W. E. Lang. il Iron Age 167:83-4 F 22 '51

Electrical and thermal conductivities of graphite and amorphous carbon. S. Mizushima and J. Okada. bibliog Phys R 82:94-5 Ap 1 '51

Electrofilm graphite coating processes. Rubber Age 68:698 Mr '51

Graphite advance. il Chem W 69:29-30 S 8 '51

Graphite as a lubricant. E. S. Glauch. Iron & Steel Eng 28:58-60; Discussion. 60-2 Ag '51

Graphite of the Passau area, Bavaria. R. G. Wayland. bibliog il map diags Min Eng 190:Trans 166-72 F '51

Graphite-rod hairpin-resistor radiation furnace for high temperatures. W. J. Kroll and others. bibliog diag J Metals 188:Trans 1394-5 N '50

Improved cutting tool for spectroscopic electrodes. A. T. Myers. bibliog diags Anal Chem 23:209-10 Ja '51

Installation and comparative costs given for steel vs graphite anodes. J. S. Dorsey. plan diags Am Gas J 175:27-8 Jl '51

Linear thermal expansion of artificial graphites to 1,370° C. M. D. Burdick and others. il diags J Res Nat Bur Stand 47:35-40 Jl '51

Lubricating effect of colloidal graphite. E. A. Smith. pl Inst Pet J 37:255-8 My '51

New magnetic clutches use iron-graphite mixture. diags Automotive Ind 103:86+ D 15 '50; Iron Age 166:67 N 23 '50; Steel 127:102 D 4 '50

Phase transitions of argon adsorbed on graphite. G. Jura and D. Criddle. bibliog diags J Phys & Colloid Chem 55:163-72 F '51

Possible identity of rhombohedral and orthorhombic graphite. J. S. Lukesh. J Chem Phys 19:383-4 Mr '51

Properties of proportional tubes and ion chambers with glass envelopes and external graphite electrodes. A. L. Cockroft and J. M. Valentine. diags J Sci Instr 27:262-3 O '50

Some mechanical properties of graphite at elevated temperatures. A. Malmstrom and others. il diags J Ap Phys 22:593-600 My '51

Some physical properties associated with aromatic electrons; the pseudo-metallic properties of potassium-graphite and graphite-bromine. F. R. M. McDonnell, R. C. Pink and A. R. Ubbelohde. diags Chem Soc J p 191-7 Ja '51

Structural aspects of tellurium and graphite additions for chill control in cast iron. E. A. Loria. il Foundry 79:126-9+ Je '51

Suspended graphite-spiral furnace. M. Balicki and others. diag Metal Prog 60:72-4 Ag '51

Symmetry of graphite. J. S. Lukesh. bibliog il Phys R 80:226-9 O 15 '50

Uses of graphite-filled phenolic. il Mod Plastics 28:156 Jl '51

White graphite. Chem Ind W 68:25 Ja 20 '51

See also

Cast iron—Graphitization

GRAPHITE compounds

Properties of the interstitial compounds of graphite; the electronic structure of graphite bisulfate. G. Hennig. diag J Chem Phys 19:922-9 Jl '51

GRAPHITIZATION of iron. See Cast iron—Graphitization

GRAPHITIZATION of piping. See Piping (power plants)—Graphitization

GRAPTOLITES

Athens graptolites from Norway recently identified. C. E. Decker. diags Am Assn Pet Geologists Bul 35:1671-2 Jl '51

Ordovician graptolites from south-central Yukon. C. E. Decker. diags Am Assn Pet Geologists Bul 34:2223-4 N '50

Preliminary note on age of Athens shale. C. E. Decker. bibliog Am Assn Pet Geologists Bul 35:912-15 Ap '51

Small graptolite determines Ordovician horizon. C. E. Decker. diag Am Assn Pet Geologists Bul 35:1673-4 Jl '51

GRASSES
See also
Crabgrass
Hay

Analysis

Studies on fructosans; a fructosan from lolium perenne. R. A. Laidlaw and S. G. Reid. Chem Soc J p 1830-4 Jl '51

Studies on fructosans; triticin from the rhizomes of couch grass (triticum repens L.). P. C. Arni and E. G. V. Percival. Chem Soc J p 1822-30 Jl '51

GRASSHOPPERS

Grasshopper transmission of three plant viruses. H. J. Walters. bibliog Science 113:36-7 Ja 12 '51

GRATINGS

Hydraulic behavior of storm-water inlets. Wen Hsiung Li and others. diags Sewage & Ind Wastes 23:34-46, 722-38 Ja, Je '51

GRAVEL

Origin and significance of openwork gravel. A. S. Cary. il diags Am Soc C E Proc 76 [no 17]:1-13 My '50; Discussion. 77 [no D-17]:1-10 S '51

See also
Aggregates

GRAVEL handling

Handling large tonnages of gravel; mining operation in Nevada employs belt conveyors. W. B. Lenhart. flow sheet il diag Rock Prod 54:56-9+ Jl '51

Self-propelled suction dredge. il plan diag Rock Prod 54:92-3 S '51

See also
Sand and gravel plants

GRAVEL plants. See Sand and gravel plants

GRAVIMETERS

Gravity operations in water-covered areas. L. L. Nettleton. il Oil & Gas J 50:235+ Je 21 '51

GRAVIMETRIC analysis

Analytical use of the formation of the beryllium-fluoride complex. F. Feigl and A. Schaeffer. bibliog Anal Chem 23:351-3 F '51

Continuous weighing in analytical chemistry. C. Duval. bibliog(111 ref) il diags Anal Chem 23:1271-86 S '51

Determination of divinylbenzene in dehydrogenated diethylbenzene. R. P. Marquardt and E. N. Luce. bibliog Anal Chem 23:629-31 Ap '51

Determination of lead as chloride; separation from bismuth and other elements. S. Kallman. Anal Chem 23:1291-3 S '51

Determination of mercury and bromides with 1,10-phenanthroline ferrous sulfate. M. E. Hall and G. M. Smith. bibliog Anal Chem 23:1181-3 Ag '51

Determination of metal oxide content in metallic stearates; magnesium and zinc soaps. P. N. Cheremisinoff. Paint Oil & Chem R 114:14+ F 15 '51

Determination of quartz in presence of silicates using phosphoric acid. N. A. Talvitie. bibliog il Anal Chem 23:623-6 Ap '51

Determination of scandium with 8-quinolinol. L. Pokras and P. M. Bernays. bibliog Anal Chem 23:757-9 My '51

Determination of small amounts of silver in lubricating oils by amperometric and gravimetric methods. T. D. Parks and L. Lykken. Anal Chem 22:1505-7 D '50

Determination of tungsten; gravimetric analytical methods. bibliog Chem Age (Lond) 64:527-9, 601-4 Ap 7, 21 '51

Determination of weight curves in column processes. L. C. Craig and others. diag Anal Chem 23:1326-7 S '51

Determining phosphorus in organic substances; micro-Lorenz method. Y. Tsuzuki, M. Miwa and E. Kobayashi. Anal Chem 23:1179-80 Ag '51

Gravimetric analysis of exhaust gas from gas turbine combustion chambers. F. W. Ruegg and C. Halpern. bibliog diag J Res Nat Bur Stand 45:113-21 Ag '50

Gravimetric determination of solids in steam condensate. J. E. Rayner and D. Logie. bibliog il diags Soc Chem Ind J 69:309-12 O '50

Hypodermic needles put analytical method on mass basis. il Chem & Eng N 29:2282-4 Je 4 '51

Inorganic gravimetric analysis; review of 1950. F. E. Beamish and W. A. E. McBryde. Anal Chem 23:59-66 bibliog(163 ref, p65-6) Ja '51

Microdetermination of chlorine, bromine, and iodine in organic compounds; simplified gravimetric method. H. W. Safford and G. L. Stragand. bibliog diag Anal Chem 23:520-2 Mr '51

Precision multiple sorption-desorption apparatus. W. O. Milligan and others. bibliog il diag Anal Chem 23:739-41 My '51

Separation of iridium from lead on a micro scale; gravimetric determination of iridium. R. R. Barefoot, W. J. McDonnell and F. E. Beamish. bibliog Anal Chem 23:514-16 Mr '51

Separation of iron(III) from aluminum. H. Teicher and L. Gordon. bibliog Anal Chem 23:930-1 Je '51

GRAVITATION

Gravitational acceleration of neutrons. A. W. McReynolds. Phys R 83:172-3 Jl 1 '51

Gravitational transverse-transverse waves. A. E. Scheidegger. Phys R 82:883-5 Je 15 '51

Interactions of Birkhoff's gravitational field with the electromagnetic and pair fields. M. Moshinsky. bibliog Phys R 80:514-19 N 15 '50

GRAY, Francis William, 1874-1948

Sketch. A. Findlay. Chem Soc J p3696-7 D '50

GRAY, Gordon, 1909-

Gray on foreign aid; keep it up. por Bsns W p 137-8+ N 18 '50

GRAY iron. See Cast iron

GRAY iron founders' society

Annual meeting, 22d, Cincinnati, Oct. 12-13. Foundry 78:142-3+ D '50

GRAY report. See United States—Economic relations

GREASE

How to flocculate greases so they won't clog sewers. H. F. Ludwig and R. G. Ludwig. Eng N 147:40 Jl 5 '51

Preventing mould on leather. Chem Age (Lond) 64:204 F 3 '51

GREAT Atlantic and Pacific tea company

One Hartford carries on; last remaining son of founder. Bsns W p21 S 29 '51

GREAT BRITAIN

Century of British industry. Lord McGowan. Engineer 191:126-7 Ja 26 '51

See also
Agriculture—Great Britain
Art industry and trade—Great Britain
Automobile industry and trade—Great Britain
Barclays bank, limited
Bonds, Government—Great Britain
Brewing industries—Great Britain
Budget—Great Britain
Census—Great Britain
Cities and towns—Great Britain
Colleges and universities—Great Britain
Exhibitions—Great Britain
Finance—Great Britain
Housing—Great Britain
Ice cream industry—Great Britain
Industrial mobilization—Great Britain
Investments, Foreign—Great Britain
Labor laws and legislation—Great Britain
Machine tool industry—Great Britain
Munitions industry—Great Britain
Nylon industry—Great Britain
Radio apparatus industry—Great Britain
Radio broadcasting—Great Britain
Socialism—Great Britain
Sports—Great Britain
Steel industry and trade—Great Britain
Textile industry—Great Britain
Tourist trade—Great Britain

Admiralty library

Technical library and information service of the Engineer-in-chief's department, Admiralty, Bath. B. C. Dodge. Aslib Proc 3:169-79 Ag '51

Army

British colonial army. Economist 160:844-5 Ap 14 '51

Exercise broadside. Economist 159:596-7 O 14 '50

Manning the army. Economist 160:60-2 Ja 13 '51

GREAT BRITAIN—*Continued*

Colonies

Britain's island colonies. maps Economist 161:164-5, 225-6, 348 Jl 21-28, Ag 11 '51
British Central Africa. map Economist 160:1415-16, 1510-11 Je 16-23 '51
Colonial responsibility. Economist 160:302-3 F 10 '51
Development by corporation; comments on Colonial development corporation's third report. Economist 160:1022-4 My 5 '51
Freedom and wealth in the colonies. Economist 160:1449-50 Je 16 '51
Marshall aid and the colonies. Economist 161:206 Jl 28 '51
Protecting the colonial worker. Economist 161:573-4 S 8 '51
Twenty million more for the colonies. Economist 159:728+ N 11 '50

Commerce

Balance of payments; with tabulations. Economist 159:662-3 O 28 '50
Britain needs trade with East. H. Shawcross. Comm & Fin Chr 174:877 S 6 '51
British trade with China. Economist 160:1114-16 My 12 '51
Economic survey for 1951; balance of payments. Economist 160:810-11 Ap 7 '51
Latin American market; prospects for expansion of British exports. Economist 161:410-12 Ag 18 '51
New dollar gap may cripple Britain. Bsns W p 121-2 Jl 21 '51
Re-enter, Britain's dollar gap. P. Einzig. Comm & Fin Chr 174:252 Jl 19 '51
Return to deficit; United Kingdom's balance of payments. Economist 161:170-2 Jl 21 '51
Rising sterling balances; with tabulation of UK sterling liabilities, 1945-1950. Economist 160:886 Ap 14 '51
Success story; with tabulation of exports, 1948-1950. Economist 160:214-15 Ja 27 '51
Trade quandary; prospects of restoring the balance of trade; with tables. Economist 161:355-7 Ag 11 '51

Commercial policy

British token import plan continues in 1951. For Comm W 42:10 Ja 1 '51
Cost of government trading. Economist 160:392+ F 17 '51
Eight pennyworth of planning; haggling over meat contract with Argentina. Economist 160:243-4 F 3 '51
Implications of 2nd Anglo-Russian trade agreement. P. Einzig. Comm & Fin Chr 172:1999 N 23 '50
Life without dollars; case for relaxation of controls. Economist 159:863-5 N 25 '50
Prospects of sterling convertibility. P. Einzig. Comm & Fin Chr 174:1072 S 20 '51
Swedish and Norwegian trade. Economist 159:1163 D 23 '50

Defenses

Another bite; new defence programme. Economist 160:241-3 F 3 '51
Armament production in 1951. Economist 160:819-20 Ap 7 '51
British defense economy. P. Einzig. Comm & Fin Chr 172:1606 O 26 '50
British rearmament and U.S. aid. P. Einzig. Comm & Fin Chr 172:2193 D 7 '50
British rearmament drive. P. Einzig. Comm & Fin Chr 173:73 Ja 4 '51
Defence comparisons; with data on U.K. and U.S.A. defence expenditures and defence manpower, 1943-1950. Economist 160:303-4 F 10 '51
Defence estimates; with data on total defence expenditure, 1947-52. Economist 160:419 F 24 '51
Defence of Britain. Economist 160:723-4 Mr 31 '51
Heave and the pull; defence programme. Economist 160:299-300 F 10 '51
How to pay for defence. Economist 159:926-7 D 2 '50
Material shortages endanger British rearmament. P. Einzig. Comm & Fin Chr 172:2309 D 14 '50
Measure of the burden. Economist 160:412-13 F 24 '51
Three-quarters peace. Economist 160:521-3 Mr 10 '51
Wherewithal for defence. Economist 160:444-7 F 24 '51

Directories

Kelly's handbook to the titled, landed and official classes, 1951. 77th ed 2246p $20 Kelly's directories, ltd, 186 Strand, W.C.2. '51

Economic conditions

Britain goes off the dole. Bsns W p69-70+ D 23 '50
Britain's declining commodity reserves. P. Einzig. Comm & Fin Chr 172:2095 N 30 '50
Britain's financial and economic situation. H. Gaitskell. Comm & Fin Chr 174:601+ Ag 16 '51
Britain's new economic crisis. V. L. Horoth. Mag of Wall St 88:551-3+ Ag 25 '51
British business pinched in labor split. il Bsns W p 141-2 Ag 18 '51
British inflation fears. P. Einzig. Comm & Fin Chr 173:2255 My 31 '51
British price trends still upward. P. Einzig. Comm & Fin Chr 174:421 Ag 2 '51
Can Britain do without Marshall aid? P. Einzig. Comm & Fin Chr 172:2542 D 28 '50
Conflicting economic currents in Britain. P. Einzig. Comm & Fin Chr 174:780 Ag 30 '51
Economic survey for 1951. Economist 160:808-13 Ap 7 '51
How Britain resists inflation. P. Einzig. Comm & Fin Chr 173:536 F 1 '51
Inflation in the sterling Commonwealth. Economist 160:1337-8 Je 2 '51
Inflation's gallop. Economist 160:578-80 Mr 17 '51
Is Britain in inflation atmosphere. P. Einzig. Comm & Fin Chr 173:1557 Ap 12 '51
News by countries; United Kingdom. For Comm W 40:22+ S 25; 41:17+ O 23; 16-17 N 27; 14 D 25 '50; 42:18+ Ja 22; 16+ F 26; 43:18 Ap 2; 20+ Ap 30; 18+ Je 4; 44:16+ Jl 23; 22+ S 3; 45:15+ O 8 '51
Outlook uncertain. Economist 161:2-3 Jl 7 '51

Economic policy

Agenda for the age of inflation. Economist 161:382-4, 435-7, 490-1 Ag 18-S 1 '51
Back to controls in Britain. P. Einzig. Comm & Fin Chr 173:163 Ja 11 '51
Britain; a case study for Americans. C. E. Griffin. (Mich. business studies v. 10, no. 3) 78p pa $1.50 Univ. of Michigan press, 311 Maynard st, Ann Arbor '50
Britain's experience with controls. J. Jewkes. Comm & Fin Chr 173:1529+ Ap 12 '51
Britain's over-full employment. P. Einzig. Comm & Fin Chr 173:1762 Ap 26 '51
Domestic planning by the British labor party. M. E. Murphy. J Bsns 24:165-80 Jl '51
Is full employment secure? Economist 159:986-7, 1066-8, 1130-1, 1186-8 D 9-30 '50
London's latest; limitation of dividends compounds previous follies. G. Schwartz. Barron's 31:3 Ag 6 '51
Socialism is like a narcotic. O. W. Hindley. Elec West 106:73-5 Je '51

Economic relations

Fair deal for the Danes; British relations with Denmark. map Economist 160:1083-4 My 12 '51

United States

Dollar aid in suspense; status of Marshall aid to Britain. Economist 159:757-9 N 11 '50
Keynes in America. R. F. Harrod. Fortune 43:89-91+ Ja '51

Foreign relations

Mr Morrison's debut. Economist 160:779-80 Ap 7 '51

China

Hong Kong and the British position in China. E. S. Kirby. Ann Am Acad 277:193-202 S '51

Egypt

Egypt next. Economist 161:487-8 S 1 '51

Iran

Setback in Iran; Anglo-Iranian oil co. il Fortune 43:80-1+ Mr '51

See also
Petroleum industry and trade—Iran

GREAT BRITAIN—Foreign relations—*Cont.*

United States

Anglo-American partnership. L. Hunt. Ann Am Acad 276:105-11 Jl '51

Letter from England. G. Schwartz. Barron's 31:5 F 12 '51

Look to the bridge. Economist 160:1081-3 My 12 '51

Mirrors of Washington; Truman and Attlee seek to restore a battered alliance. F. Morley. Barron's 30:3 D 11 '50

Industries and resources

Britain's battle for productivity. H. L. Waddell. Factory Management 108:68-71 D '50

Britain's industrial economy. W. R. Woolrich. Mech Eng 73:222-3 Mr '51

Britain's raw materials shortage. P. Einzig. Comm & Fin Chr 172:2452 D 21 '50

British mills and Japanese competition. P. Einzig. Comm & Fin Chr 174:335 Jl 26 '51

Controlling the giants; public accountability of the nationalised industries. Economist 159:680-1 N 4 '50

Creation of wealth; increasing productivity; American views and British problems. Economist 161:605-7 S 15 '51

Industry and raw materials; impacts on production; outlook for supplies. Economist 159:1095-8+ D 16 '50

Prospects for output in 1951; Survey's calculations. Economist 160:808-10 Ap 7 '51

Raw materials stymie Britain. Bsns W p 109-10 Mr 31 '51

Materials, Ministry of

Ministry of materials. Economist 160:1021-2, 1515-17 My 5, Je 23 '51

National physical laboratory, Teddington

Fifty years of the N.P.L. V. S. Swaminathan. il Metallurgia 44:69-72, 117-21 Ag-S '51

NPL celebrates fifty-first anniversary. il Chem Age (Lond) 64:871-5 Je 9 '51

National physical laboratory; history. Engineering 171:661-2 Je 1 '51

National physical laboratory; work and development. il diag Automobile Eng 41:275-7 Jl '51

National physical laboratory; work in progress. Engineer 191:724 Je 1 '51

National physical laboratory's jubilee exhibition. il Engineering 171:652-4, 714 Je 1, 15 '51

Photoelastic laboratory. A. F. C. Brown and V. M. Hickson. il plan diag Engineering 171:701-4 Je 8 '51

Research. Elec R (Lond) 148:1135-6 Je 1 '51; Electrician 146:1771-2 My 25 '51

National research development corporation

Development and exploitation of inventions; National research development corporation report, 28th June, 1949 to 30th June, 1950. Engineering 171:39-40 Ja 12 '51

Naval history

Britain's secret weapon against the Bolsheviks; coastal motor boats. G. W. Patterson, 3d. il map U S Naval Inst Proc 77:38-45 Ja '51

Work of Sir Julian Corbett in the dreadnought era. P. M. Stanford. U S Naval Inst Proc 77:60-71 Ja '51

Navy

Royal navy in 1950. Engineering 171:23 Ja 5 '51

Royal navy to-day. il Engineer 191:2-4, 45-8 Ja 5-12 '51

Parliament

Statesmanship on the cheap; problem of parliamentary salaries. Economist 161:196-8 Jl 28 '51

House of commons

Completion of the House of commons. Engineer 190:399 O 27 '50

Engineering features of the new House of commons. il plans diags Engineering 170:393-7, 408, pl 31-3 N 24 '50

New House of commons; electric equipment. il Elec R (Lond) 147:579-84 O 20 '50; Electrician 145:926-8 N 10 '50

House of lords

House of lords; electrical installation. il Elec R (Lond) 148:1132-4 Je 1 '51; Abstract. Electrician 146:1860 Je 1 '51

Lighting in the Lords. il Elec R 149:123-4 Jl 20 '51; Electrician 147:267-8 Jl 27 '51

Politics and government

Commonwealth and Malan. Economist 160:580-2 Mr 17 '51

Commonwealth still holds; London meeting. Bsns W p 121 Ja 20 '51

Controls; emergency powers since 1945. Economist 159:721-2, 865-7, 793-4 N 11-25 '50

Labour without Bevin. Economist 160:897-8 Ap 21 '51

Last act for Britain's labor government. Bsns W p 161-2 My 12 '51

New ministries and old men. Economist 160:179-80 Ja 27 '51

No through road; comments on One way only, by A. Bevan. Economist 161:65-7, 73-4 Jl 14 '51

Rearmament and the British election. P. Einzig. Comm & Fin Chr 174:1369 O 11 '51

Vain calculator; Mr Bevan's position. Economist 160:961-3 Ap 28 '51

See also

Elections—Great Britain

Labor party (Great Britain)

Liberal party (Great Britain)

Scientific and industrial research, Department of

Annual report, 1948-49. Elec R (Lond) 147:638 O 27 '50

Chemical research laboratory

Chemical research laboratory. Science 113:261-3 Mr 9 '51

Work of the chemical research laboratory. il Chem Age (Lond) 65:419-22 S 29 '51

Social conditions

Family life in Britain since the first World war. D. R. Mace. Ann Am Acad 272:179-84 N '50

Treasury

Treasury's role. Economist 159:958-9 D 2 '50

GREAT LAKES

See also

Shipping—Great Lakes

GREAT LAKES states

See also

Forests and forestry—Great Lakes states

GREAT northern railway

Equipment trust certificates offered. Comm & Fin Chr 173:1376 Ap 2 '51

Great Northern changes chiefs; John Budd succeeds. F. J. Gavin. Ry Age 130:37-8 My 28 '51

Great Northern; hauling iron ore and wheat is profitable business. J. B. Skalka. map Barron's 31:9-10 Ag 6 '51

Railroad securities. Comm & Fin Chr 172:1715; 173:2361; 174:974 N 2 '50, Je 7, S 13 '51

Railway repeats; new president, John Budd. Bsns W p54 My 19 '51

Security I like best. A. J. Neumark. Comm & Fin Chr 173:1938+ My 10 '51

GREAT SMOKY fault. See Faults (geology)

GREAT universal stores, limited

Statement by the chairman at 32d ordinary general meeting. I. Wolfson. Economist 159:1118 D 16 '50

GREATER New York insurance brokers' association

Meeting, New York, April 17. East Underw 52:36 Ap 20 '51

New brokers' association formed. Weekly Underw 164:5+ Ja 6 '51; East Underw 52:20 Ja 5 '51

GREECE

See also

Coal mines and mining—Greece

Antiquities

Ancient pigments; particularly second century B.C. pigments from Corinth. M. Farnsworth. bibliog il J Chem Educ 28:72-6 F '51

GREECE—*Continued*

Economic conditions

Greeks at peace. Economist 160:267-8 F 3 '51

News by countries. For Comm W 40:15 S 18; 41:12 N 27 '50; 42:13-14 Ja 29; 20 F 19; 43:16-17 Ap 9; 15 My 14; 44:14 Jl 2; 15 Jl 30; 45:12 O 8 '51

Problems of northern Greece. map Economist 160:997 Ap 28 '51

Politics and government

Uncertain future in Greece. Economist 161: 569 S 8 '51

GREELY relief expedition, 1884

Greely relief expedition. J. M. Merrill. il U S Naval Inst Proc 77:968-75 S '51

GREEN

Color tolerance specifications for paint. T. F. Boyd. Opt Soc Am J 41:552-7 Ag '51

GREEN Mountain power corporation

Common stock offering. Comm & Fin Chr 174:5 Jl 2 '51

Plan approved. Comm & Fin Chr 173:1988-9 My 14 '51; Elec World News ed 135:20 My 14 '51

Public utility securities. O. Ely. Comm & Fin Chr 174:244 Jl 19 '51

GREEN River steel corporation

Securities offered. Comm & Fin Chr 174:453, 544 Ag 6, 13 '51

GREENFIELD tap and die corporation

1951 net put around $6 a share. Barron's 31:15 My 7 '51

GREENHOUSES

Vinyl in the greenhouse; gardening process which uses film extensively in bags, coverings, and linings. il Mod Plastics 28:160 Jl '51

GREENLAND

Huge Greenlandic language book set in record time by vari-typist. S. Hinrichsen. il Inland Ptr 126:60-1 O '50

GREENOCKITE

Natural crystal greenockite (cadmium sulfide) as an X-ray detector. E. L. Criscuolo and D. T. O'Connor. J Ap Phys 21:1196 N '50

GREEN'S function

Effective earth's radius for radiowave propagation beyond the horizon. W. Miller. bibliog diags J Ap Phys 22:55-62 Ja '51

Electric dipoles in the presence of elliptic and circular cylinders. W. S. Lucke. diags J Ap Phys 22:14-19 Ja '51

One-sided Green's function. K. S. Miller. J Ap Phys 22:1054-7 Ag '51

GREER hydraulics, inc.

New guided missiles program to spur Greer. Barron's 30:77 N 13 '50

GREETING card industry

Merry Xmas; three-billion times; Hallmark company produces sizable slice of supply. il Bsns W p89-90 D 16 '50

Put quality control in a package and keep everybody informed; American greeting publishers. il Factory Management 108:114-15 D '50

Advertising

Christmas card ads? get ready for 1951! L. Farrant. Ed & Pub 83:14 D 2 '50

GREGORY, Carl Louis, 1882-1951

Sketch. por Soc Motion Picture & Tv Eng J 57:176-7 Ag '51

GREGORY, Willard G.

President of SCAAA. por Ptr Ink 236:88 Jl 6 '51

GREYHOUND corporation

Greyhound stirs; fight for independence with Port Authority terminal. Bsns W p 100-1 F 10 '51

GRIEVANCES. See Employment management —Grievances; Labor disputes

GRIGNARD reagents

Action of Grignard reagents on anhydrosugars of ethylene oxide type; the behaviour of derivatives of α-methyl-2 : 3-anhydroalloside towards methylmagnesium iodide. F. H. Newth, G. N. Richards and L. F. Wiggins. Chem Soc J p2356-64 S '50

Action of Grignard reagents on diaryl phosphinyl chlorides. D. C. Morrison. Am Chem Soc J 72:4820-1 O '50

Alkylation of Grignard reagents by quaternary ammonium salts; a novel synthesis of 1,3-dialkylindoles. H. R. Snyder, E. L. Eliel and R. E. Carnahan. bibliog Am Chem Soc J 73:970-3 Mr '51

Alpha elimination in Grignard preparations. L. S. Moody. Am Chem Soc J 72:5754 D '50

Anomalous reactions of Grignard reagents. H. J. Shine. Chem Soc J p8-12 Ja '51

Asymmetric reductions; the action of (+)-3-methylpentylmagnesium chloride on methyl *t*-butyl ketone. H. S. Mosher and E. La Combe. bibliog Am Chem Soc J 72:4991-4 N '50

Behavior of 3-methylphthalic anhydride in Friedel-Crafts and Grignard condensations. M. S. Newman and C. W. Muth. bibliog Am Chem Soc J 72:5191-3 N '50

Carbonation of Grignard reagent solutions. A. S. Hussey. bibliog Am Chem Soc J 73:1364-5 Mr '51

Compounds derived from 3-halo-1,1,1-trifluoropropane. E. T. McBee, A. E. Kelley and E. Rapkin. bibliog Am Chem Soc J 72:5071-3 N '50

Condensation of 2-dimethylaminomethyl-*cyclo*hexan-1-one with acetylenic compounds. R. A. Raphael and F. Sondheimer. Chem Soc J p3185-7 N '50

Experiments on the substitution behavior of the silicon chlorobromides. C. J. Wilkins, N. P. H. Brown and A. D. Stevens. Chem Soc J p 163-4 Ja '50

Mechanism of addition of Grignard reagents to ketones. C. G. Swain and H. B. Boyles. Am Chem Soc J 73:870-2 F '51

Perfluorinated Grignard derivatives. A. L. Henne and W. C. Francis. Am Chem Soc J 73:3518 Jl '51

Perfluoroalkyl Grignard reagents; abstract. R. N. Haszeldine. Chem & Eng N 29:3830 S 17 '51

Pivalophenones from Friedel-Crafts and Grignard reactions. D. E. Pearson. bibliog Am Chem Soc J 72:4169-70 S '50

Preparation of triarylsulfonium halides by the action of aryl Grignard reagents on diphenyl sulfoxide. B. S. Wildi, S. W. Taylor and H. A. Potratz. Am Chem Soc J 73: 1965-7 My '51

Reaction of 3,5-dibromocyclopentene with Grignard reagents. G. W. Barber and J. English, jr. bibliog Am Chem Soc J 73: 746-9 F '51

Reaction of Grignard reagents with α,β-unsaturated ethers. C. M. Hill, R. A. Walker and M. E. Hill. Am Chem Soc J 73:1663-4 Ap '51

Reaction of trimethylene oxide with Grignard reagents and organolithium compounds. S. Searles. bibliog Am Chem Soc J 73:124-5 Ja '51

Reduction of trimethylacetonitrile with Grignard reagents. H. S. Mosher and W. T. Mooney. Am Chem Soc J 73:3948-9 Ag '51

Some reactions of geranylmagnesium chloride. D. Barnard and L. Bateman. Chem Soc J p932-6 Mr '50

Some variations of the Grignard synthesis of phosphinic acids. G. M. Kosolapoff. bibliog Am Chem Soc J 72:5508-9 D '50

Studies on the mechanism of conjugate addition; the addition of Grignard reagents to 2-cyclohexenone and some open chain analogs. E. R. Alexander and G. R. Coraor. Am Chem Soc J 73:2721-3 Je '51

Unusual twofold Wagner-Meerwein rearrangement. B. Witkop and J. B. Patrick. bibliog Am Chem Soc J 73:1558-64 Ap '51

GRILLES

Special equipment for making huge die cast grille. il Automotive Ind 103:48+ D 1 '50

GRINDING

Better grinding; Carborundum co.'s new contact wheel reduces glazing of abrasive belts. il Bsns W p58 Ap 21 '51; Aviation W 54:49-50 My 7 '51; Iron Age 167:111-12 My 3 '51

Form grinding by mechanical and optical methods. E. A. Cooke. diags Inst Mech Eng Proc 163 (W.E.P. no 61):265-78, pl 1-2 '50; Same abr. Engineer 190:443-6, 476-8 N 10-17 '50; Discussion. Inst Mech Eng Proc 163 (W.E.P. no 61):278-80 '50; Engineer 190:431-2 N 10 '50

Grindability of tool steels; abstract. L. P. Tarasov. Automotive Ind 103:126+ N 15 '50

GRINDING—*Continued*

Grinding costs reduced by sheet-positioning device. il Mach 57:172 Ap '51

Grinding fixture and method produces accurate radius tools. J. R. Nick. diags Am Mach 95:159 F 5 '51

Hard steel grilled at a mile a minute. J. O. Outwater. diag Am Mach 95:87 Ap 2 '51

Homemade gadget grinds in two dimensions; throat sections are installed in wind tunnels. H. E. Jackson. il diag Am Mach 94:89 O 30 '50

How to assemble and grind fine wire brushes. M. J. Rowan. il diags Am Mach 95:89-92 My 28 '51

How to mill, roll, grind threads for production. W. M. Stocker, jr. il diags Am Mach 95:160-8 Jl 9 '51

Precision form-grinding of punches and dies. G. H. DeGroat. il diag Mach 57:159-64 N '50

Prevent grinding cracks with hot water. J. A. Osborne. il Am Mach 95:116 Ap 2 '51

Production plunge-cut grinding. F. W. Curtis. il diags Tool Eng 26:28-32 My '51

Residual grinding stresses in mild steel. J. Frisch and E. G. Thomsen. bibliog diags A S M E Trans 73:337-42; Discussion. 342-6 Ap '51

Residual stresses in machined or ground surfaces. Engineer 192:118 Jl 27 '51

Ring gear grooves ground automatically. il Steel 128:78 Ap 9 '51

Some considerations of crankshaft regrinding. F. P. Healy. il Diesel Power 28:62-5 D '50

Spindle for grinding punches having various sized threads. L. Kasper. diags Mach 57:193 Mr '51

Study of heat developed in cylindrical grinding. R. E. McKee and others. il A S M E Trans 73:21-33; Discussion. 33-4 Ja '51

Tool-grinding fixture has three angle scales. J. Dernoga. diags Am Mach 95:164 Mr 19 '51

Tooling tricks at Watertown arsenal; directional grinding surfaces. E. L. Pearson. diags Am Mach 95:90-1 Ap 30 '51

Trouble shooting some precision grinding problems. L. P. Tarasov. il Tool Eng 26:30-2+ Ja '51

Unique operation; grinding with liquid N_2. il diags Chem Eng 58:106-7 Je '51

Universal grinding fixture positions thin cutters and saws. C. S. Ricker. diags Am Mach 95:131 Je 25 '51

See also

Grinding machines

Lubrication and lubricants (cutting and grinding)

GRINDING machines

Air grinder. il Blast F & Steel Pl 39:1128-9 S '51

Angle setup block works on grinder table. C. Ashley and J. R. Lucas. il diags Am Mach 94:128 N 27 '50

Automatic feed mechanism with quick return motion. B. Spector. diags Mach 57:192-4 D '50

Automatic grinder cuts stainless conditioning costs. W. G. Patton. il Iron Age 168:90-1 S 27 '51

Automatic precision balancing. H. Ernst. il diags Machine Design 23:107-14 Ja '51

Belt grinding of conveyed parts. il Am Mach 95:194 Je 11 '51

Besley and company double vertical spindle spring grinder. il Automotive Ind 104:238+ Mr 15 '51; Mach 57:213-14 Mr '51

Centreless grinding on Scrivener machines. Automobile Eng 40:362 N '50

Centreless grinding; Scrivener development for transfer machining. il diags Automobile Eng 41:303-4 Ag '51

Cincinnati Filmatic heavy-duty plain and roll grinding machines. il Mach 57:201 D '50

Crankshaft reconditioning; new centreless grinder for journals and crankpins. il Automobile Eng 41:107-8 Mr '51

Crosscountry clinic sells abrasives for Behr-Manning; exhibits latest abrasive machinery. il Bsns W p 118-20 Ag 11 '51

Designing a modern machine; jig grinder. F. C. Victory. il diags Machine Design 22:104-11+ N '50

Diskus surface grinder. il Automobile Eng 41:297 Ag '51; Engineering 172:272 Ag 31 '51

Double-disk precision grinding machine. il Mach 57:215 F '51

Form grinding by mechanical and optical methods. E. A. Cooke. diags Inst Mech Eng Proc 163 (W.E.P. no 61):265-78, pl 1-2 '50; Same abr. Engineer 190:443-6, 476-8 N 10-17 '50; Discussion. Inst Mech Eng Proc 163 (W.E.P. no 61):278-80 '50; Engineer 190:431-2 N 10 '50

Gardner flat-surface grinder uses solid-center disks. il Am Mach 95:179-80 F 5 '51

Grinder setup blocks hold odd parts. F. L. Keller. diags Am Mach 95:172 Ap 16 '51

Huge grinding machine helps turn out tanks in record time. il Am Mach 95:187 S 3 '51

Huge high precision revolving table grinder for armament work. il Mach 57:232 Jl '51

Landis circular slitter knife grinding machine. il Mach 57:209 Ap '51

Landis hydraulic piston-grinding machine. il Mach 57:214 F '51

Landis improved crankpin grinding machine. il Mach 57:204-5 Mr '51

Landis universal grinder. il Automotive Ind 104:62 My 1 '51

Mercury traveling-head grinder eliminates traverse bed. il Am Mach 95:204 O 1 '51

Moving table and wheel takes guess out of tool grinding. il Am Mach 95:186 F 19 '51

1951 production preview. il Am Mach 95:198-208 Ja 22 '51

Norton piston-grinding unit. il Mach 57:209 F '51; Steel 127:123 D 18 '50

Norton semi-automatic valve grinder. il Mach 57:203-4 N '50

Pratt & Whitney cutter and radius grinder. il Automotive Ind 103:56 D 15 '50; Mach 57:202 D '50

Rivett hydraulic grinder with improved universal wheel-head. il Mach 57:209 F '51

Scrivener large centreless grinder. il Engineer 191:203 F 9 '51

Staffa grinding machines. il Metallurgia 43:143 Mr '51

Surface grinder with special fixture for grinding both ends of oil-pump gear. il Mach 57:208 F '51

Table feed mechanism designed to eliminate manual re-engagement. diag Mach 57:188 N '50

Thompson double-wheel grinder for jet-engine buckets and blades. il Am Mach 95:202 Ap 16 '51; Mach 57:207 My '51

Universal grinder for large work operates from front or rear. il Am Mach 94:138 D 25 '50

Unusual applications of disc grinding machines. R. D. Gardner. il Mach 57:157-62 Je '51

Vertical spindle grinding machine. il Engineer 192:161 Ag 3 '51

See also

Burrs

Grinding wheels

Standards

Grinding-machine sizes; proposed American standards; reference book sheet. Am Mach 95:131 Ap 2 '51

GRINDING wheels

Correct mounting methods eliminate grinding wheel breakage. il diags Steel 128:122-4 My 7 '51

How flexibility and safety are combined in modern grinding wheels. R. A. Green. il diag Tool Eng 27:40-2 Jl '51

Internally cooled wheels cut surface grinding costs. il diags Mach 57:151-3 My '51

Mounting wheel sleeves on grinders; reference book sheet. diags Am Mach 95:177 Ap 16 '51

Manufacture

Hydraulic presses form homogeneous wheels. il Steel 129:99-100 Jl 16 '51

Testing

Grading grinding wheels; use of a stroboscopic frequency meter called the Strobo-conn. T. E. Dustin. il Electronics 24:115 Ap '51

Grinding fluids; a method of measuring the metallic-wheel-loading characteristics. L. H. Sudholz and others. il Mech Eng 72:963-5+ D '50

GRINDING wheels—Testing—*Continued*

Study of heat developed in cylindrical grinding. R. E. McKee and others. il A S M E Trans 73:21-33; Discussion. 33-4 Ja '51

Truing

Grinding wheel dresser with variable height adjustment. W. M. Halliday. diags Mach 57:218-19 Jl '51

Grinding-wheel sizing device dresses semiautomatically. T. Brown. diags Am Mach 95:118 Ap 30 '51

Hoglund Magni-Form contour wheel dresser. il Mach 57:207-8 D '50

GRISEIN

Isolation and some chemical properties of grisein. F. A. Kuehl, jr. and others. bibliog Am Chem Soc J 73:1770-3 Ap '51

GRISEOFULVIN

Dechlorogriseofulvin, a metabolic product of penicillium griseofulvum Dierckx and penicillium janczewskii Zal. J. MacMillan. bibliog Chem & Ind p719 Ag 25 '51

Structure of griseofulvin. J. F. Grove and others. bibliog Chem & Ind p219-20 Mr 17 '51

GROCERY stores

Give 'em cash, then take it; Seattle food store cashes aircraft workers' checks; sells canned goods by case. il Bsns W p46-8 S 22 '51

See also

Chain stores

Market stores

GROCERY trade

Chain grocers; despite retailing strides, rising costs may trim profits. F. Henle. Barron's 31:17-18 S 10 '51

Cheaper delivery; truck study for grocery wholesalers. Bsns W p 104 My 5 '51

Few brand-name products have national distribution; Scripps-Howard study. Ptr Ink 234:38-9 F 2 '51; Abstract. Ed & Pub 84:32 Ja 13 '51

GF's new system cuts distribution knots; transit warehouses reship to wholesalers. A. C. Schier. il Food Ind 22:2053-5+ D '50

How retailer shops in new wholesale super market. il Ptr Ink 236:41 Ag 3 '51

How to give away $4 million; Donnelly coupon campaign. A. M. Andersen. il Sales Management 66:72+ Je 1 '51

Now there's family resemblance wherever Warfield brand appears. R. S. Smith, jr. and A. T. MacMath. il Sales Management 66:56+ Ja 15 '51

Schilling explains the why's behind salary and bonus pay plan. J. D. Miller. Sales Management 67:78+ Ag 1 '51

Service + national brands; Winston & Newell co. il Bsns W p 122+ S 8 '51

We built a food brokerage distribution system in five weeks; Mead Johnson & co. D. M. Johnson and R. E. Sessions. il Sales Management 66:44-6+ Mr 15 '51

What women like and dislike about packages today; new survey on grocery store products. A. R. Hahn. il Sales Management 67:50-2+ Jl 15; 66-8+ Ag 1; 48-50+ Ag 15 '51

Why groceries move faster in Frisco. il Sales Management 65:62+ D 1 '50

See also

Canned food

Chain stores

Coffee trade

Food industry and trade

Market stores

also Consolidated grocers corporation; Safeway stores, inc.

Accounting

How Red Owl controls, accounts for, inventories in a chain of retail grocery stores. F. D. Scott. J Account 91:590-4 Ap '51

Advertising

Better cooperation on grocery ads urged. R. M. Kiefer. Ed & Pub 83:7 N 11 '50

Cleveland panel study number three is published. Ed & Pub 84:31 F 3 '51

Grocers offer co-op plan to lick coupon redemption headache. Sales Management 65:96 N 10 '50

How Heinz uses outdoor advertising. il maps Adv Agency 43:54-5 D '50

How to bring your best customers into the act; tradesmen and wives are guests at radio party. D. B. Scully. Ptr Ink 236:38-9 Ag 24 '51

New battle of the brands; competitive status of controlled brands in foods. E. B. Weiss. il Ptr Ink 233:46+ N 3 '50

Argentina

Mrs Peron, grocer. il Bsns W p 142-3 Je 2 '51

Los Angeles

Grocer's bid in wholesaling; Certified grocers of California, ltd. Bsns W p66+ N 11 '50

Switzerland

Switzerland's fantastic Mr Duttweiler; five per cent and flair. il Bsns W p 116-19 Ag 25 '51

GROMYKO, Andrei Andreevich, 1909-

Gromyko hits press. C. Watson. Ed & Pub 84:24 S 15 '51

GROOVING

Lathe fixture for grooving square work. R. Mawson. diags Mach 57:195-6 D '50

Tooling tricks at Watertown arsenal; contour grooving small bores. E. L. Pearson. diags Am Mach 95:89-90 Ap 30 '51

GROSS, Robert Ellsworth, 1897-

Portrait. Fortune 44:128 O '51

GROUND squirrels

Prolongation of clotting time in dormant estivating mammals. A. Svihla and others. Science 114:298-9 S 21 '51

GROUNDS and faults. See Electric distribution—Grounds and faults

GROUP bonus. See Wage payment plans—Group bonus

GROUP discussion. See Discussion

GROUP insurance. See Insurance, Group

GROUP interviews. See Ability tests—Group tests

GROUP life insurance. See Insurance, Group life

GROUP practice of medicine. See Medicine—Group practice

GROUP psychotherapy. See Psychotherapy

GROUPS (sociology)

Some statistical problems in small group research. R. F. Bales. Am Stat Assn J 46:311-22 S '51

GROUTING

Grouted preplaced aggregate for eight-foot slab. il plan diag Eng N 147:32-5 S 27 '51

Grouting a leaking dam. H. Burgess. plan diags Pub Works 82:63-4 Je '51

Grouting checks seepage under dikes forming Granby reservoir in Colorado. il Eng N 147:36 S 27 '51

Stave River highway bridge follows new pattern. G. Sheldon. il Roads & Eng Constr 89:63-7+ Ja '51

Treatment of foundations for large dams by grouting methods. A. W. Simonds and others. il diags Am Soc C E Proc 76 [no 3]:1-20 F '50; Discussion. 76 [no D-3]: 1-7 D '50

GROVES, Leslie Richard, 1896-

General Groves says; interview. pors Bsns W p61-2+ Ap 14 '51

GROWTH

Growth effects on chick fibroblast cultures of fractions of adult and embryonic tissue extracts following differential centrifugation. R. S. Hoffman and others. bibliog Science 113:268-9 Mr 9 '51

Induced and other variations in bacterial cultures; reactions of bact. lactis aerogenes to ultraviolet light and other mutagenic agents. A. C. R. Dean and C. Hinshelwood. Chem Soc J p 1157-77 My '51

Ribose nucleic acid content and cell growth of bact. lactis ærogenes. P. C. Caldwell, E. L. Mackor and C. Hinshelwood. Chem Soc J p3151-5 N '50

GROWTH companies, National conference of. See National conference of growth companies

GROWTH company (term)

Genuine growth companies. W. Gates. Mag of Wall St 88:183-5 My 19 '51

Growth stocks; study of market action reveals characteristic pattern. R. W. Bridwell. Barron's 31:21-2 Je 18 '51

What's a growth company? formula of Excess profits tax act of 1950. R. M. Bleiberg. Barron's 31:5-6 F 5 '51

GROWTH inhibiting substances

Effect of maleic hydrazide on certain dehydrogenases in tissues of onion plants. F. M. R. Isenberg and others. Science 113: 58-60 Ja 19 '51

Growth retarding effect of substituted malononitriles on transplant tumors in mice. E. M. Gal and D. M. Greenberg. Am Chem Soc J 73:502-3 Ja '51

Maleic hydrazide as an antiauxin in plants. A. C. Leopold and W. H. Klein. bibliog Science 114:9-10 Jl 6 '51

Metabolism of blastomyces dermatitidis, antagonists to the growth-inhibiting effect of trimeton maleate. F. Reiss and L. Caroline. bibliog Science 114:15-17 Jl 6 '51

Plant-growth inhibitors from red kidney bean seeds. S. M. Siegel. Science 112:754-5 D 22 '50

Preparation and microbiological activity of an homolog of lysine. A. D. McLaren and C. A. Knight. bibliog Am Chem Soc J 73: 4478-9 S '51

Some new plant-growth inhibitors. R. S. de Ropp. bibliog il Science 112:500-1 O 27 '50

Synthesis of potential purine antagonists; 2,6-diamino[3′,2′-h]-thiazolinopurines. M. Gordon. bibliog Am Chem Soc J 73:984-6 Mr '51

See also

Trichlorophenoxyacetic acid

GROWTH promoting substances

Better growth with arsenicals. il Chem W 69:16 O 6 '51

Biosynthesis of riboflavin, L. bulgaricus factor, and other growth factors; laboratory and pilot plant studies of biosynthesis by A. gossypii cultivated on grain stillage media. K. L. Smiley and others. bibliog Ind & Eng Chem 43:1380-4 Je '51

Infrared-transmitting solvents; triethylamine addition as a means of increasing applicability. J. S. Ard and T. D. Fontaine. bibliog Anal Chem 23:133-7 Ja '51

Mode of action of growth substances and growth inhibitors. H. Linser and K. Kaindl. bibliog Science 114:69-70 Jl 20 '51

Plant growth-regulating activity in certain aryloxyalkylcarboxylic acids. D. J. Osborne and R. L. Wain. bibliog Science 114: 92-3 Jl 27 '51

Plant growth-regulating and systemic fungicidal activity in the aryloxyalkylcarboxylic acids; abstract and discussion. R. L. Wain. Chem & Ind p 144-5 F 24 '51

Plant growth-stimulating hormones in immature bean seeds. J. W. Mitchell and others. bibliog il Science 114:159-61 Ag 10 '51

Replacement of vitamin B_{12} by desoxynucleotides in promoting growth of certain lactobacilli. W. Shive, M. E. Sibley and L. L. Rogers. Am Chem Soc J 73:867-8 F '51

Stimulation of growth of phytophthora citrophthora by a gas produced by mucor spinosus. A. A. Bitancourt and V. Rossetti. Science 113:531 My 4 '51

Wonder drugs snag new laurels; antibiotic feed supplements. il Chem Ind W 68:19-20 Ap 7 '51

See also

Auxins
Dichlorophenoxyacetic acid
Folic acid
Hormones, Plant
Vitamins

GRULLEMANS, Jan Jacobus

Profits at Wayside gardens. por Fortune 44: 104-6+ S '51

GUADALAJARA, Mexico

Industries

Boom town. il Bsns W p 140-1 Je 2 '51

GUAIACOL

Structure of the guaiacol Mannich bases. E. L. Eliel. bibliog Am Chem Soc J 73: 43-5 Ja '51

GUAM

Future business base in the Pacific. Bsns W p 178 O 6 '51

Guam story. W. Thompson. il U S Naval Inst Proc 77:378-85 Ap '51

See also

Architecture—Guam

GUANIDINE

Amidines; preparation of diguanides and guanidines from cyanoguanidine and ammonium sulphonates. P. Oxley and W. F. Short. Chem Soc J p1252-6 My '51

Base strengths of N,N′-dialkylguanidines. B. Neivelt and others. bibliog Am Chem Soc J 73:3475-8 Jl '51

Reaction of aromatic nitriles with guanidine. P. B. Russell and G. H. Hitchings. bibliog Am Chem Soc J 72:4922-5 N '50

GUANIDINE chromate

Thermal decomposition of guanidine chromate and dichromate. C. Ma. Am Chem Soc J 73:1333-5 Mr '51

GUANIDINO compounds

Water absorption of proteins; effect of guanidino groups in casein. E. F. Mellon and others. Am Chem Soc J 73:1870-1 Ap '51

GUANINE

Utilization of guanine by the rat. M. E. Balis, D. H. Marrian and G. B. Brown. bibliog Am Chem Soc J 73:3319-20 Jl '51

GUANOSINE

New synthesis of purine nucleosides; the synthesis of adenosine, guanosine and 2,6-diamino-9-β-D-ribofuranosylpurine. J. Davoll and B. A. Lowy. bibliog Am Chem Soc J 73:1650-5 Ap '51

Synthetic ribonucleoside-2′ phosphates. D. M. Brown, L. J. Haynes and A. R. Todd. Chem Soc J p408 Ja '50

GUAR

Constitution of guar gum. C. M. Rafique and F. Smith. bibliog Am Chem Soc J 72:4634-7 O '50

Effects of natural beater additives on papermaking fibers. J. W. Swanson. bibliog il Tappi 33:451-62 S '50; Same. Pulp & Pa of Can 51:99-108+ S '50

GUARAN

Crystalline mannobiose from the enzymatic hydrolysis of guaran. R. L. Whistler and J. Z. Stein. Am Chem Soc J 73:4187-8 S '51

Enzymatic hydrolysis of guaran. R. L. Whistler, W. H. Eoff and D. M. Doty. bibliog Am Chem Soc J 72:4938-9 N '50

Isolation and characterization of two crystalline disaccharides from partial acid hydrolysis of guaran. R. L. Whistler and D. F. Durso. bibliog Am Chem Soc J 73:4189-90 S '51

Analysis

Automatic fraction collector for chromatographic separations. D. F. Durso, E. D. Schall and R. L. Whistler. il diags Anal Chem 23:425-7 Mr '51

GUARANTY of bank deposits. See Banks and banking—Guaranty of deposits

GUARANTY of earnings. See Wage payment plans—Guaranty of earnings

GUARANTY of foreign investments. See Investments, Foreign—United States

GUARANTY of products

Beware of guarantees. M. J. Simon. Adv Agency 44:68+ Mr '51

See also

Products, Certification of

GUARDS, Factory. See Factory guards

GUATEMALA

Re-opening of frontier aids Guatemalan economy. M. F. Bannell. Barron's 31:26 Je 11 '51

See also

Debts, Public—Guatemala
Investments, Foreign (in Guatemala)

Economic conditions

News by countries. For Comm W 41:11 D 25 '50; 42:14-15 Ja 22; 12-13 F 26; 16-17 Mr 26; 43:13-14 Ap 30; 15-16 Je 4; 44:15 Jl 9; 16-17 Ag 6; 20 S 3; 15-16 S 24 '51

GUAYULE

Deresination as a means of improving the quality of guayule rubber. R. L. Chubb and others. bibliog il diags India Rubber World 123:557-62+ F '51

New strains of guayule found to yield more rubber. Chem & Eng N 28:4276 D 4 '50

Rapid extraction of resins from chilte and guayule rubbers. J. W. Wood and R. J. Fanning. il Rubber Age 68:195-7 N '50

GUEST, Edgar Albert, 1881-
Detroit honors E. Guest on 70th birthday. por Ed & Pub 84:20 Ag 25 '51

GUEST, Keen and Nettlefolds, limited
Statement by the chairman. J. H. Jolly. Economist 160:1596-7 Je 30 '51

GUGGENHEIM, Daniel, medal
1950 Guggenheim medal presented to Dr Dryden. Aeronautical Eng R 10:11 Mr '51

GUGGENHEIM aviation safety center. See Cornell university—Guggenheim aviation safety center

GUIDED missiles. See Bombs, Flying

GUIDED missiles, Office of. See United States —Guided missiles, Office of

GULF coast industrial health conference
Conference, 3d, Houston, Oct. 12-13. Chem & Eng N 28:3776 O 30 '50

GULF Coast region
Gulf Coast hurricane design data. A. H. Glenn. bibliog World Oil 131:101-2+ D '50

See also
Geology—Gulf Coast region
Sulfur mines and mining—Gulf Coast region

GULF insurance company of Dallas
Security I like best. C. V. Campbell. Comm & Fin Chr 174:1046+ S 20 '51

GULF, Mobile and Ohio railroad
Railroad securities. Comm & Fin Chr 173:1656 Ap 19; 174:80 Jl 5 '51
Slim dividends build up equity of Gulf, Mobile. Barron's 31:27 Ap 9 '51

GULF of Alaska. See Alaska, Gulf of

GULF power company
Preferred stock offering. Comm & Fin Chr 172:1928 N 20 '50

GULF states utilities company
Preferred stock offered. Comm & Fin Chr 172:2024 N 27 '50
Public utility securities. O. Ely. Comm & Fin Chr 172:1801 N 9 '50
Stock offered. Comm & Fin Chr 173:1792 Ap 30 '51

GUM, Karaya. See Karaya gum

GUMS and resins
Acacia mollissima Willd; the component sugars and aldobiuronic acid of black wattle gum. A. M. Stephen. Chem Soc J p646-9 Mr '51
Botanical drugs, spices, gums. Published in weekly numbers of Oil, paint and drug reporter
Breaking in a plant for treating gum wastes. H. E. Orford. il flow diag Sewage & Ind Wastes 23:313-18 Mr '51
Constituents of natural phenolic resins; reduction of some lactonic lignans with lithium aluminium hydride. R. D. Haworth and L. Wilson. Chem Soc J p71-2 Ja '50
Deresination as a means of improving the quality of guayule rubber. R. L. Chubb and others. bibliog il diags India Rubber World 123:557-62+ F '51
Euphorbia resins; a comparative study of euphol and tirucallol. D. W. Haines and F. L. Warren. Chem Soc J p 1562-5 Je '50
Euphorbia resins; oxidative degradation in the side chain of euphol. H. K. Krüsi. Chem Soc J p2864-6 O '50
Euphorbia resins; the epimerisation and dehydration of euphol. R. N. E. Bennett and F. L. Warren. Chem Soc J p697-9 F '50
Grapefruit and lemon gums; the ratio of sugars present in the gums and the structure of the aldobionic acid (4-D-glucuronosido-D-galactose) isolated by graded hydrolysis of the polysaccharides. J. J. Connell and others. Chem Soc J p 1696-700 Jl '50
Gum formation in shale-oil naphtha. G. U. Dinneen and W. D. Bickel. Ind & Eng Chem 43:1604-7 Jl '51
Phormium gum. R. J. McIlroy. Chem Soc J p 1372-3 My '51
Rapid extraction of resins from chilte and guayule rubbers. J. W. Wood and R. J. Fanning. il Rubber Age 68:195-7 N '50
Rapid extraction of resins from wild rubbers. Franklin Inst J 251:269-70 F '51
Structure of peach gum; the sugars produced on hydrolysis of the gum. J. K. N. Jones. Chem Soc J p534-7 F '50
Wood gum vs. arabic. il Chem W 69:21 Jl 28 '51

See also
Balata
Balsam of Peru
Cherry gum
Chlorophorin
Dragon's blood
Guar
Gutta percha
Karaya gum
Rosin
Tragacanth

Analysis

Determination of acid number of oils and resins in aqueous medium. G. Narsimhan and S. A. Saletore. bibliog Anal Chem 23:1315-17 S '51

Prices

Botanical drugs, spices, gums; 1950 market trends. Oil Paint & Drug Rep 159:50-4 sec 2 Ja 29 '51

GUNDERSON, Robert W.
Hamming by the touch system; R. W. Gunderson teaches radio techniques and operating to the blind. por Q S T 35:10-12 Mr '51

GUNS

Manufacture

Gunning for lower costs; brazing operation; Ithaca gun co. W. L. Wallis. il diags Mill & Factory 48:121-2 Mr '51
Silver brazing eases shotgun wedding. K. Ireland. il Am Mach 95:164-5 F 19 '51

Testing

Crawler detects gun-barrel cracks. R. D. Kodis and R. Shaw. il diags Electronics 24:92-5 S '51

GUNS (ordnance)
76-mm tank gun. Mech Eng 73:581 Jl '51

Manufacture

Royal ordnance factory, Llanishen, Cardiff. il Engineering 171:494-5 Ap 27 '51
Royal ordnance factory, Nottingham. il Engineer 191:793 Je 15 '51; Engineering 171:718-19 Je 15 '51

GUNS, Aircraft
B-36 firing. il Aviation W 54:13 Ja 1 '51
New gunsight sees first combat use. Aviation W 54:18 My 7 '51

GUNS, Anti-aircraft
Fire-control system for anti-aircraft artillery. Franklin Inst J 251:675-6 Je '51

GUNS, Industrial
Bazooka goes civilian; taps open-hearth furnaces; Jet Tapper; illustrations with text. Bsns W p50 Ap 28 '51
Jet tapping. H. Walker and A. R. Almeida. il diags J Metals 3:374-6 My '51
Jet tapping of open hearth furnaces. H. H. Northrup. il Iron & Steel Eng 28:83-6 Jl '51
Open hearth furnaces jet tapped in 30 seconds. il diags Steel 128:64+ Ap 30 '51
Safety precautions in jet tapping. R. H. Ferguson. il J Metals 3:377-8 My '51

GURLEY, Fred G. 1889-
Portraits. Bsns W p66, cover Mr 24 '51

GUTENBERG, Johann, d 1468
Thompson builds Gutenberg mold and disputes movable type theory. G. M. Todd. Ed & Pub 83:51 D 9 '50

GUTENBERG Bible
Were lines of Gutenberg Bible cast as slugs? J. S. Thompson. Inland Ptr 127:58 Ap '51

GUTLEBEN, Dan
Glorious retirement. A. W. Kramer. por Power Eng 55:82-3 Ap '51

GUTTA percha
Chicle; *cis-* and *trans*-polyisoprenes from a single plant species. W. Schlesinger and H. M. Leeper. bibliog il Ind & Eng Chem 43:398-403 F '51
Chlorination of natural and synthetic polyisoprenes. G. Kraus and W. B. Reynolds. bibliog diag Am Chem Soc J 72:5621-6 D '50
Raw materials for electric cable making; gutta-percha and related products. V. H. Wentworth. il Electrician 146:463-5 F 9 '51

GUTTERS
Hydraulic behavior of storm-water inlets. Wen Hsiung Li and others. diags Sewage & Ind Wastes 23:34-46 Ja '51
Pouring curb and gutter direct from dump truck. A. J. Kronbach. Pub Works 82:36 F '51

GUTTERS (roof)
Two miles of metal gutters; Warren State hospital; illustrations with text. Sheet Metal Worker 42:29-30 F '51

GUYS
Stresses in guys anchoring tall stacks. R. B. Yule. diags Eng N 146:50 My 24 '51

GWINN, William Persons, 1907-
Formula for flexibility; Pratt & Whitney subcontracts. por (cover) Bsns W p72-4+ Je 30 '51

GYMNASIUMS
Features of folding gymnasium partition. il Am Bld 73:208 S '51
Gym floor sealers. E. Brenn. il Soap & San Chem 27:117+ My '51
Gymnasium building for priory school, Portsmouth, R. I. il plans diags Arch Rec 109:136-9 My '51

Lighting

Gymnasium lighting. H. Punter. diags Elec R (Lond) 147:1063-4 D 22 '50

GYPSUM
Gypsum, not sulfur; in synthesis of ammonium sulfate. il Chem W 69:33 O 13 '51
Identification of dehydrated gypsum in portland cement. J. L. Gilliland. bibliog il Am Concrete Inst J 22:809-20 Je '51
In construction; National Gypsum. il plan Fortune 42:94-6+ D '50
National Gypsum's plant operations geared for lowered unit cost; with details on individual plants. il plan Rock Prod 53:94-107 D '50
National Gypsum's quarrying and mining practices. il diags Rock Prod 53:112-15 D '50
Supreme court rules on gypsum pricing. Eng N 145:26 D 7 '50
See also
National gypsum company

GYPSUM mines and mining
Gypsum winning. il Elec R (Lond) 148:1173-9 Je 8 '51

GYPSUM products
Fire resistant plaster board offers apartment builder dry wall economies; Firestop Bestwall. il Arch Forum 95:218 Ag '51
Gypsum in construction. il diags Am Bld 72:73-88 N '50
Gypsum wallboard with aluminum foil backing is effective insulation. il Arch Forum 94:206 Ja '51
National Gypsum's plant operations geared for lowered unit cost; with details on individual plants. il plan Rock Prod 53:94-107 D '50
Research; the key to diversification at National Gypsum. F. L. Marsh. il Rock Prod 53:92-3 D '50
See also
National gypsum company

GYRO compass
How gyro-compass is used to set batter piles. il Eng N 145:34 O 26 '50

GYROBUS
Flywheel engines. il Tech R 53:16+ N '50
Gyrobus powered by flywheel tried out in Switzerland. For Comm W 42:15 Ja 8 '51

GYRODYNE company of America
Stock offered. Comm & Fin Chr 173:860 F 26 '51

GYROMAGNETIC ratio. See Magnetic moment

GYROSCOPE
Air bearing gyro for missile guidance. il Aviation W 53:28 D 4 '50
Dust-free lab produces gyros; illustrations with text. Am Mach 95:100-1 Ja 8 '51
How Lear handles gyro output. il Aviation W 54:21-2 Ja 15 '51
Tricky work at North American; steering controls for guided missiles. il Bsns W p70+ Ja 13 '51

H

h/e. See Photoelectric constant

HACKENSACK, New Jersey

Streets

How Hackensack solved its parking problems. S. F. Malkin. plan Pub Works 82:42+ My '51

HADACOL. See Medicines, Proprietary

HAFNIUM
Adsorption separation of zirconium and hafnium. R. S. Hansen and others. bibliog Am Chem Soc J 72:5043-5 N '50
Allotropic transformation of hafnium. P. Duwez. bibliog J Ap Phys 22:1174-5 S '51
Anion exchange of complex ions of hafnium and zirconium in HCl-HF mixtures. E. H. Huffman and R. C. Lilly. Am Chem Soc J 73:2902-5 Je '51
Pure hafnium arrives. il Chem Ind W 68:19 Mr 3 '51
Recent advances in the chemistry of zirconium and hafnium. E. M. Larsen. bibliog J Chem Educ 28:529-35 O '51

Analysis

Anion exchange of zirconium, hafnium, niobium and tantalum in hydrochloric acid solutions. E. H. Huffman, G. M. Iddings and R. C. Lilly. Am Chem Soc J 73:4474-5 S '51
Determination of zirconium-hafnium ratios with *p*-bromomandelic acid. R. B. Hahn. bibliog Anal Chem 23:1259-61 S '51
Quantitative spectrographic analysis of zirconium-hafnium mixtures. V. A. Fassel and C. H. Anderson. bibliog Opt Soc Am J 40:742-7 N '50

Isotopes

Aqueous solubility of hafnium oxide by the radioactive isotope technique. R. A. Cooley and H. O. Banks. Am Chem Soc J 73:4022 Ag '51
Disintegration of Hf^{181}. W. W. Pratt. bibliog Phys R 80:289 O 15 '50
Radiations from hafnium. S. B. Burson and others. bibliog diags Phys R 83:62-8 Jl 1 '51
Radioactive isotopes of lutetium and hafnium. G. Wilkinson and H. G. Hicks. Phys R 81:540-3 F 15 '51
Radioactivity of Hf^{181} and Hf^{175}. A. Hedgran and S. Thulin. Phys R 81:1072 Mr 15 '51
Two-step isomeric transition in Hf^{179m}. E. der Mateosian and M. Goldhaber. bibliog il Phys R 83:843 Ag 15 '51

HAFNIUM oxide
Aqueous solubility of hafnium oxide by the radioactive isotope technique. R. A. Cooley and H. O. Banks. Am Chem Soc J 73:4022 Ag '51

Analysis

Spectrographic determination of hafnia in mixtures of hafnium and zirconium oxides. G. W. J. Kingsbury and R. B. Temple. bibliog diag J Ap Chem 1:406-11 S '51

HAGERSTOWN gas company
Stock offered. Comm & Fin Chr 172:1732 N 6 '50

HAGEY, Joseph Gerald
New ACA president. por Ptr Ink 235:76 Je 1 '51

HÄGG, Gunnar, 1903-
Sketch. R. E. Oesper. por(front) J Chem Educ 28:484 S '51

HAHN, Otto, 1879-
Sketch. R. C. Oesper. por(front) J Chem Educ 27:590 N '50

HAIL insurance. See Insurance, Hail

HAIR
Effects of gold chloride upon hair cortex. D. S. Po-Chedley. Textile Res J 21:165-6 Mr '51
Mechanical properties and the structure of hair. C. E. Reese and H. Eyring. bibliog diag Textile Res J 20:743-53 N '50
Number of entities inactivated by X-rays in greying of hair. H. B. Chase. bibliog Science 113:714-16 Je 22 '51
Recrystallisation of relaxed animal fibres. L. G. Jagger and J. B. Speakman. bibliog Textile Inst J 42:P771-82 Ag '51

HAIR (animal)

Specialty hair fibers; how to identify them. A. N. Patterson. Rayon 31:41-3 N '50

HAIR, Removal of

Depilatory action of the intermediary polymers of chloroprene. P. Flesch and S. B. Goldstone. bibliog il Science 113:126-7 F 2 '51

HAIR preparations

New shape for Kreml. il Mod Packaging 24: 78-9 Je '51

HAIRBRUSHES. See Brushes

HAIT, James Merritt, 1906-

Portrait. Fortune 43:106 Je '51

HAITI

Economic conditions

News by countries. For Comm W 42:15 F 12; 14-15 Mr 19; 43:14 Ap 30; 13 My 28; 44: 15-16 Jl 30; 11 Ag 27 '51

HALDEMAN, William Strubhar, 1881-

Midwest award winner accents importance of graduate work. por Chem & Eng N 28:4080-1 N 20 '50

HALE, James E. 1884-1950

Sketch. por S A E J 59:17-18 Ja '51

HALE, Matthew

Portrait. Bsns W p56 Jl 7 '51

HALIDES

Action of silver picrate on alkyl halides. G. E. Philbrook and D. J. Massey. bibliog Am Chem Soc J 73:3454-5 Jl '51

Alkali organometal compounds; the reaction of benzylsodium with alkyl halides. D. Bryce-Smith and E. E. Turner. Chem Soc J p 1975-9 Ag '50

Allylic rearrangements; relative tendencies of nucleophilic substitution in organic halides. I. D. Webb and W. G. Young. bibliog Am Chem Soc J 73:777-9 F '51

Bolaform electrolytes; conductance of 1,3-, 1,4- and 1,5-di-(trimethylammonium)-polymethylene halides in water and in methanol. R. M. Fuoss and V. F. H. Chu. bibliog Am Chem Soc J 73:949-52 Mr '51

Bonding of trihalide and bifluoride ions by the molecular orbital method. G. C. Pimentel. bibliog J Chem Phys 19:446-8 Ap '51

Chemical effects of steric strains; the effect of the halogen on the rate of hydrolysis of tertiary aliphatic halides. H. C. Brown and A. Stern. Am Chem Soc J 72:5068-70 N '50

Chemistry of the tris-(triphenylgermanyl)-silyl group. J. G. Milligan and C. A. Kraus. bibliog Am Chem Soc J 72:5297-300 N '50

Concerted displacement reactions; *m*- and *p*-substituent effects as evidence for a unity of mechanism in organic halide reactions. C. G. Swain and W. P. Langsdorf, jr. bibliog Am Chem Soc J 73:2813-19 Je '51

Conductances of potassium iodide, silver nitrate and some alkaline earth halides in methanol at 20° and 0°. L. R. Dawson and W. M. Keely. Am Chem Soc J 73:3783-5 Ag '51

Developments in the theory of cationic polymerization. P. H. Plesch. bibliog J Ap Chem 1:269-72 Je '51

Direct production of carrierless organic radio-halides. E. Glueckauf, R. B. Jacobi and G. P. Kitt. diag Chem Soc J supp no 2:S330-5 '49

Heat of solution of halides, sulphuric acid, oxalic acid, sodium hydroxide, and urea in ethyl alcohol-water mixtures. M. Bobtelsky and R. D. Larisch. diag Chem Soc J p3612-15 D '50

High molecular weight alkyl amine nitrites and hydrohalides. V. C. Petrillo. Am Chem Soc J 73:2381-2 My '51

Kinetics of the reaction between potassium *t*-butylperoxide and organic halides. G. M. Coppinger and T. W. Campbell. Am Chem Soc J 73:1789-91 Ap '51

Mechanical and thermal properties of certain optical crystalline materials. L. S. Combes and others. bibliog diags Opt Soc Am J 41:215-22 Ap '51

Perfluoroalkyl halides prepared from silver perfluoro-fatty acid salts; perfluoroalkyl iodides. M. Hauptschein and A. V. Grosse. Am Chem Soc J 73:2461-3 Je '51

Reaction of aryl azides with hydrogen halides. P. A. S. Smith and B. B. Brown. bibliog Am Chem Soc J 73:2438-41 Je '51

Reactions of organometallic compounds with alkyl halides. S. E. Ulrich and others. bibliog Am Chem Soc J 72:5127-34 N '50

Researches on acetylenic compounds; catalytic and inhibitory effects in the Reppe carboxylation reaction. E. R. H. Jones, T. Y. Shen and M. C. Whiting. Chem Soc J p763-6 Mr '51

Role of halide ions in the ferric-stannous reaction. F. R. Duke and R. C. Pinkerton. bibliog Am Chem Soc J 73:3045-9 Jl '51

Thermal decomposition of iminoester salts and the cleavage of orthoesters by these salts. S. M. McElvain and B. E. Tate. Am Chem Soc J 73:2233-8 My '51

See also

Alkali metal halides
Alkyl halides
Bromides
Chlorides
Cyanogen halides
Fluorides
Germanium halides
Grignard reagents
Iodides
Methyl halides
Phenyl halides

Analysis

Analysis of mercuric ion-anion mixtures. J. B. Fernandez, L. T. Snider and E. G. Rietz. bibliog Anal Chem 23:899-900 Je '51

Separation of seventh group anions by ion-exchange chromatography. R. W. Atteberry and G. E. Boyd. Am Chem Soc J 72: 4805-6 O '50

HALIFAX

Canada's largest eastern city plans a great bridge over its harbor. il Eng N 147:48-9 Jl 12 '51

Water supply

Waterworks planning to meet civil-defense needs. I. P. Macnab. map Munic Util 89: 48+ Je '51

HALL effect

Electrical properties of αFe_2O_3 and αFe_2O_3 containing titanium. F. J. Morin. diag Phys R 83:1005-10 S 1 '51

Hall coefficient and resistivity of evaporated bismuth layers. W. F. Leverton and A. J. Dekker. bibliog Phys R 81:156-7 Ja 1 '51

Hall coefficient and resistivity of thin films of antimony prepared by distillation. W. F. Leverton and A. J. Dekker. bibliog diags Phys R 80:732-6 N 15 '50

Hall coefficient of semiconductors. H. Jones. Phys R 81:149 Ja 1 '51

Hall effect in ferromagnetics. E. M. Pugh and others. bibliog diag Phys R 80:688-92 N 15 '50

Hall effect in ferromagnetics. N. Rostoker and E. M. Pugh. Phys R 82:125-6 Ap 1 '51

Inertia of the carrier of electricity in cadmium. G. G. Scott. Phys R 83:656 Ag 1 '51

Masses of carriers in conductors. D. L. Webster and C. M. Newton. Phys R 82:808-9 Je 15 '51

New method for precision measurement of the Hall and magneto-resistive coefficients. J. J. Donoghue and W. P. Eatherly. diags R Sci Instr 22:513-16 Jl '51

New method for the measurement of Hall coefficients. B. R. Russell and C. Wahlig. diags R Sci Instr 21:1028-9 D '50

Resistivity and Hall constant of semiconductors. C. N. Klahr. bibliog Phys R 82:109-10 Ap 1 '51

HALL of fame for great Americans

Hall of fame. B. L. Lyons. Science 113:573-4 My 18 '51

J. W. Gibbs, first chemist elected. il Chem & Eng N 28:4073 N 20 '50

HALLIBURTON oil well cementing company

Widening range of oil well services lessens dependence on new drilling. E. Murray. Barron's 30:16 D 25 '50

HALLICRAFTERS company

Common stock offered. Comm & Fin Chr 172: 1436 O 16 '50

HALLOWEEN

Halloween. R. Linton. il Sci Am 185:62-6 O '51

Halloween windows; vandalism eliminated by juvenile art competition. J. E. Bedford. il Bankers Mo 47:20+ O '50

HALOGEN compounds

Adrenergic blocking agents; N-aryloxy-isopropyl)-β-haloethylamines. J. F. Kerwin and others. bibliog Am Chem Soc J 73: 4162-8 S '51

HALOGEN compounds—*Continued*

Aryl-2-halogenoalkylamines; a comparison of the stability of esters derived from some aryl-2-halogenoalkylamines with those obtained from other radiomimetic compounds. W. Davis and W. C. J. Ross. Chem Soc J p3056-62 N '50

Aryl-2-halogenoalkylamines; reactions with certain organic sulphur compounds. W. C. J. Ross. Chem Soc J p815-18 Mr '50

Aryl-2-halogenoalkylamines; some derivatives of 2-naphthyldi-2′-halogenoalkylamines. W. Davis, J. L. Everett and W. C. J. Ross. Chem Soc J p 1331-7 My '50

Determination of the molecular structure of the halogenosilanes by microwave spectroscopy; abstract. A. H. Sharbaugh. Science 112:421 O 13 '50

Dinitrophenylhydrazones of the halogenobenzaldehydes. O. L. Brady and S. G. Jarrett. Chem Soc J p 1021 Mr '50

Direction of addition to $CFCl=CF_2$ under free radical conditions. A. L. Henne and D. W. Kraus. Am Chem Soc J 73:1791-2 Ap '51

ω-Halogenomethyl-pyridines, -quinolines, and -*iso*quinolines. B. R. Brown and others. Chem Soc J p 1145-50 My '51

Inductive effect and chemical reactivity; general theory of the inductive effect and application to electric dipole moments of haloalkanes. R. P. Smith and others. bibliog Am Chem Soc J 73:2263-8 My '51

Infrared spectra of eighteen halogen-substituted methanes. E. K. Plyler and W. S. Benedict. J Res Nat Bur Stand 47:202-20 S '51

Nature of the co-ordinate link; halogen-bridged, binuclear platinous complexes; the co-ordinating affinity of the tertiary alkyls of group V elements for platinous chloride. J. Chatt. Chem Soc J p652-8 Mr '51

New reaction of nitriles; preparation of N-(2-halo-1-ethyl)-amides. R. M. Lusskin and J. J. Ritter. Am Chem Soc J 72:5577-8 D '50

Nucleophilic displacement in the naphthalene series. E. Berliner, M. J. Quinn and P. J. Edgerton. bibliog Am Chem Soc J 72:5305-8 N '50

Preparation and polymerization of unsaturated quaternary ammonium compounds; halogenated allyl derivatives. G. B. Butler and F. L. Ingley. Am Chem Soc J 73:895-6 Mr '51

Reaction of O,O-dialkyl thiophosphoric acid salts with some α-haloacyl derivatives. E. I. Hoegberg and J. T. Cassaday. bibliog Am Chem Soc J 73:557-9 F '51

Reaction of phenylhydrazine with α-haloacetophenones. D. Y. Curtin and E. W. Tristram. bibliog Am Chem Soc J 72:5238-42 N '50

Reactivity of halonitrobenzenes and of 1-fluoro-2 : 4-dinitrobenzene. N. B. Chapman and others. Chem & Ind p 148 F 24 '51

Rearrangements of halomagnesium derivatives of halohydrins. T. A. Geissman and R. I. Akawie. bibliog Am Chem Soc J 73:1993-8 My '51

Reduction of α-haloketones to halohydrins by lithium aluminum hydride. R. E. Lutz, R. L. Wayland, jr. and H. G. France. Am Chem Soc J 72:5511-12 D '50

Replacement of the halogen group of acetohalogeno-sugars with retention of configuration. G. A. Howard. Chem Soc J p 1045-6 Ap '50

Rotational isomers of 1,2-dihalogenoethanes. S. Mizushima and Y. Morino. bibliog J Chem Phys 18:1516 N '50

Some dihalo-(trifluoromethyl)-benzenes. E. T. McBee and others. bibliog Am Chem Soc J 73:3932-4 Ag '51

Some factors influencing the activity of Raney nickel catalyst; the poisoning of Raney nickel by halogen compounds. J. N. Pattison and E. F. Degering. bibliog Am Chem Soc J 73:611-13 F '51

Some halogeno-derivatives of 2 : 3-benzacridine. B. Cairns and W. O. Kermack. Chem Soc J p 1322-7 My '50

Structure and pharmacological activity among 2-haloethylamine derivatives with a naphthylmethyl group; variation of the halogen. N. B. Chapman and others. Chem & Ind p633 Jl 21 '51

Synthetic antimalarials; N^1-3 : 4-dihalogenophenyl-N^5-alkyl- and -N^5N^5-dialkyl-diguanides. A. F. Crowther and others. Chem Soc J p 1774-80 Jl '51

See also

Grignard reagents

Halides

Analysis

2,4-Dinitrothiophenol as a reagent for the characterization of organic halogen compounds. R. W. Bost, P. K. Starnes and E. L. Wood. Am Chem Soc J 73:1968-70 My '51

Microdetermination of chlorine, bromine, and iodine in organic compounds; simplified gravimetric method. H. W. Safford and G. L. Stragand. bibliog diag Anal Chem 23:520-2 Mr '51

Spectrophotometric determination of 8-quinolinol and some of its halogenated derivatives. W. T. Haskins and G. W. Luttermoser. bibliog Anal Chem 23:456-8 Mr '51

HALOGEN fluorides

New developments in fluorine chemistry; halogen fluorides as possible reagents. H. J. Emeléus. Chem Age (Lond) 64:525-6 Ap 7 '51

HALOGEN phosphates

Silver as an activator of halophosphate phosphors. P. W. Ranby. Electrochem Soc J 98:299-300 Jl '51

HALOGENATION

Analogs of pteroylglutamic acid; 3′,5′-dihalopteroyl derivatives. D. B. Cosulich and others. bibliog Am Chem Soc J 73:2554-7 Je '51

Chemistry of boron; the reactions and structure of dihydroxydifluoroboric acid. L. H. Long and D. Dollimore. Chem Soc J p 1608-12 Je '51

Chloramphenicol (chloromycetin); the synthesis of ring halogenated compounds. L. L. Bambas, H. D. Troutman and L. M. Long. Am Chem Soc J 72:4445-7 O '50

Cinnolines; experiments with 3-halogeno-4-hydroxycinnolines; some halogen exchange reactions. K. Schofield and T. Swain. Chem Soc J p384-92 Ja '50

Directed halogenation in fluorinated aromatic compounds. J. D. Park, H. A. Brown and J. R. Lacher. Am Chem Soc J 73:709-11 F '51

Effect of halogenation on the C—Br bond dissociation energy in halogenated bromomethanes. M. Szwarc and A. H. Sehon. bibliog diag J Chem Phys 19:656-7 My '51

Halogenation in the liquid phase by means of chlorine trifluoride. J. F. Ellis and W. K. R. Musgrave. diag Chem Soc J p3608-12 D '50

Halogenation of olefins in heterocyclic tertiary amines; cycloalkenes. F. N. Hayes, H. K. Suzuki and D. E. Peterson. bibliog Am Chem Soc J 72:4524-5 O '50

α-Halogenation of secondary nitriles. C. L. Stevens and T. H. Coffield. bibliog Am Chem Soc J 73:103-5 Ja '51

Kinetics of aromatic halogen substitution; nitrosobenzene and azobenzene. P. W. Robertson, T. R. Hitchings and G. M. Will. Chem Soc J p808-12 Mr '50

Kinetics of halogen addition; acetylenic compounds. P. W. Robertson and others. Chem Soc J p 1628-30 Je '50

Kinetics of halogen addition; αβ-ethylenic acids. D. A. Evans, T. R. Watson and P. W. Robertson. Chem Soc J p 1624-8 Je '50

Kinetics of halogen addition to unsaturated compounds; iodine addition. P. W. Robertson and others. Chem Soc J p2191-4 Ag '50

Kinetics of halogen addition to unsaturated compounds; the αβ-ethylenic nitriles. D. A. Evans and P. W. Robertson. Chem Soc J p2834-5 O '50

Kinetics of halogen addition to unsaturated compounds; the mechanisms of addition reactions. P. B. D. de la Mare and P. W. Robertson. Chem Soc J p2838-42 O '50

Kinetics of halogen addition to unsaturated compounds; αβ-unsaturated sulphones. I. R. C. McDonald, R. M. Milburn and P. W. Robertson. Chem Soc J p2836-8 O '50

Kinetics of halogen substitution; halogen addition; benzyl and allyl chloride, bromide, and cyanide. L. D. Swindale, B. E. Swedlund and P. W. Robertson. Chem Soc J p812-14 Mr '50

HALOGENATION—*Continued*

Phthalocyanines and related compounds; further investigations on tetrabenzporphin and allied substances. R. P. Linstead and F. T. Weiss. Chem Soc J p2975-81 N '50

Synthetic antimalarials; the action of halogens on N^1-aryldiguanides. A. F. Crowther, F. H. S. Curd and F. L. Rose. Chem Soc J p 1780-5 Jl '51

X-ray diagnostics; halogenated polycyclic compounds. D. Papa and others. bibliog Am Chem Soc J 72:4909-11 N '50

See also

Bromination
Chlorination
Fluorination
Iodination

HALOGENS

Apparent reduction of halogens by zinc halides in methanol solution. F. J. Shell and H. K. Zimmerman, jr. Am Chem Soc J 73:490-1 Ja '51

Chemical effects of steric strains; the effect of the halogen on the rate of hydrolysis of tertiary aliphatic halides. H. C. Brown and A. Stern. Am Chem Soc J 72:5068-70 N '50

Decomposition temperatures of polytetrafluoroethylene and polymonochlorotrifluoroethylene as indicated by halogen liberation. H. A. Watson and others. 3pls U S Bur Mines Rep of Invest 4756:1-6 '50

Effect of halogen atoms on the SN1 reactivity of other halogen atoms attached to the same carbon atom. J. Hine and D. E. Lee. bibliog Am Chem Soc J 73:22-3 Ja '51

Halogen-activating effect of the N-oxide group in chlorophenazine-N-oxides; synthesis of an isomer of iodinin. D. L. Vivian. bibliog Am Chem Soc J 73:457-8 Ja '51

Locate transformer gas leaks with halogen detector. R. S. Pindar. il Elec World 135:76 Ja 15 '51

Positive halogens from trifluoroacetyl hypohalites. A. L. Henne and W. F. Zimmer. Am Chem Soc J 73:1362-3 Mr '51

Radioactive halogens and the mechanism of replacement reactions. E. D. Hughes. Chem Soc J supp no 2:S400-5 '49

Reactions of halogens with phenols. K. Bowden and C. H. Reece. Chem Soc J p 1686-91 Jl '50

Reactions of metallic salts of acids with halogens; the reaction of metal trifluoroacetates with iodine, bromine, and chlorine. R. N. Haszeldine. Chem Soc J p584-7 F '51

Some effects of temperature, phase and nature of chemical species on halogen atom reactions initiated by radiative neutron capture and by isomeric transition. S. Goldhaber, R. S. H. Chiang and J. E. Willard. bibliog Am Chem Soc J 73:2271-5 My '51

Survey equipment using low-voltage halogen-quenched Geiger-Müller counters; for use by prospector in location and assay of radioactive ores. E. Franklin and W. R. Loosemore. bibliog diags Inst E E Proc 98 pt 2:237-44; Discussion. 252-5 Ap '51

See also

Bromine
Chlorine
Fluorine
Iodine

Analysis

Spectrographic determination of halogens and sulfur in engine deposits. W. O. Mansfield, jr. and others. il Opt Soc Am J 41:412-16 Je '51

HALOHYDRINS

Reduction of α-haloketones to halohydrins by lithium aluminum hydride. R. E. Lutz, R. L. Wayland, jr. and H. G. France. Am Chem Soc J 72:5511-12 D '50

HALOID company

New printing process seen as spur to sales. Barron's 31:19-20 F 19 '51

HAMBRO trading company of America, inc.

Kippers coming; British invade U.S. with smoked herring and Bovril; Hambro plan. il Bsns W p 129-30 O 21 '50

HAMILTON, Alexander, 1757-1804

Portrait. Fortune 43:75 F '51

HAMILTON, Ontario

Two cross-town expressways advocated. N. D. Wilson and A. E. K. Bunnell. map Roads & Eng Constr 89:68-9+ Ja '51

HAMMERS, Drop

Chambersburg new model drop hammer. il Automotive Ind 104:60+ Ap 15 '51; Mach 57:205 My '51

Hammer techniques advance; speed fabrication of aircraft exhaust systems. il Steel 129:88-90 S 3 '51

New device increases hammer's operational flexibility. il Steel 128:80 Je 18 '51

Recent developments in large closed-die forging. E. O. Dixon. il diag Mach 57:184-7 Mr '51; Abstract. S A E J 59:34-5 My '51

Spun neutral shapes facilitate drop hammer forming; Douglas aircraft co. G. C. Close. il Steel 128:72-4 Ja 22 '51

HAMMERSTEIN, Oscar, 1895-

R & H shows are pushing $8-million. por (cover) Bsns W p96-7+ Ag 11 '51

HAMMOND, Edward K. 1885-1950

Sketch. por Mach 57:184 N '50

HAMOR, William Allen, 1887-

Hamor lauded for human relations efforts; Pittsburgh award dinner. pors Chem & Eng N 29:112-13, 114, cover Ja 8 '51

Hamor to receive 1950 Pittsburgh award. por Chem & Eng N 28:4104 N 20 '50

HANBURY-Williams, Sir John Coldbrook

Portrait. Fortune 44:132 O '51

HAND, Augustus Noble, 1869-

Portrait. Fortune 43:94 Ja '51

HAND, Learned, 1872-

Top U.S. commercial court; New York's second circuit. J. P. Frank. por Fortune 43:92-6+ Ja '51

HAND

Hand of the power plant worker. W. Schweisheimer. il Power Eng 54:83-4 D '50

Protection

Hand cleaners and protectants. M. A. Lesser. bibliog il Soap & San Chem 27:30-3+ Je; 34-7+ Jl '51

Hands and arms. Nat Safety N 63:108+ Mr '51

Highlighting hand protection. C. H. Jacobson. il Safety Maint & Prod 101:14-15+ Mr '51

Production clinic. E. G. Thomssen. Soap & San Chem 27:85 Je; 87+ Jl '51

Protective hand creams. il Safety Maint & Prod 102:62-4 Ag '51

Wounds and injuries

Care of hand injuries. Ind Med 19:576-80 D '50

Physical medical and rehabilitation therapy of hand injuries. H. J. Flax. A M A Archives Ind Hygiene & Occup Med 3:236-44 Mr '51

Rehabilitation of workers with hand injuries, Puerto Rico. Mo Labor R 73:182-3 Ag '51

Treatment of open fractures of the hand. M. L. Mason. il Ind Med 20:260-3 Je '51

See also

Wrist—Wounds and injuries

HAND, Artificial

Competing with nature's hand. C. A. McLaurin. il diags Mech Eng 73:719-22+ S '51

HAND cleaners

Hand cleaners and protectants. M. A. Lesser. bibliog il Soap & San Chem 27:30-3+ Je; 34-7+ Jl '51

Production clinic. E. G. Thomssen. Soap & San Chem 27:85 Je; 87+ Jl '51

HAND-made paper. See Paper, Hand-made

HAND stamps

Container that simplifies handling and storage of hand-stamps. W. M. Halliday. diag Mach 57:193-4 My '51

HANDICAPPED

Ability, not disability; handicapped make good employees. il Chem W 69:14-15 O 6 '51

Committee on National employ the physically handicapped week 6th annual meeting, Washington, Aug. 9. Mo Labor R 71:490-1 O '50

Department manned 100 per cent by handicapped workers pays off; Solar aircraft co., San Diego. Factory Management 109:106 Ag '51

Detroit Edison co. aids handicapped workers. il Elec World News ed 135:16-17 Mr 5 '51

Easy way to get good results with handicapped workers. M. J. Murphy. il Factory Management 109:94-6 F '51

HANDICAPPED—*Continued*

Handicapped; major reserve of skilled manpower. il Mod Ind 22:51-5 S '51

Handicapped workers. H. G. Murray. A M A Archives Ind Hygiene & Occup Med 2:542-8 N '50

Handicapped workers are no handicap. C. L. Williamson. il Mill & Factory 49:100-1 Ag '51

Handicapped workers can handle the job in Milwaukee. il Bsns W p38+ My 5 '51

Hope for the handicapped. E. A. Baker. il Nat Safety N 64:98-9, 175-8 O '51

Salvaged skills. il Nat Safety N 63:7+ Mr '51

Solar finds reservoir of talent. H. Waterman. Am Bsns 21:36-8 Ag '51

Study toys for crippled children. Nat Safety N 63:86-7 Ap '51

See also

Heart—Diseases

HANDICRAFT

Danish cooperative group promotes arts and crafts. B. Hemmingsen. il For Comm W 43:3-4+ Je 25 '51

Handicrafts and small-scale industries in Asian countries; possibilities of co-operative organisation. Int Labour R 62:500-24 D '50

Handicrafts in western Germany. For Comm W 41:20 N 27 '50

HANDLES, Plastic

Butyrate handles, better tools. il Mod Plastics 28:62-3 My '51

HANDLING, Mechanical. See Mechanical handling

HANFORD engineering works

Atomic workers enjoy modern bus system. D. O. Carlson. il Bus Transportation 30:40-3 Ap '51

HANGARS

Aluminium hangars at London airport. il Engineer 191:721 Je 1 '51; Engineering 171:654-5 Je 1 '51; Metallurgia 43:295-6 Je '51

Hangar, apron and parking lot in Wichita, Kan.; unit prices. Eng N 147:75 Ag 30 '51

Hangars with long, clear door openings. diags Eng N 146:56 Je 21 '51

New hangar comes apart in the middle. diags Aviation W 54:37 Ap 9 '51

New Marine corps hangar is open and shut case. il Eng N 147:42 Jl 12 '51

Welded aircraft hangar. O. Brødsgaard. il diags Welding J 30:461-2 My '51

HANGARS, Portable

Vinyl-coated fabric plane shelter. il Mod Plastics 28:57 Ja '51

HANGERS, Coat, dress, etc.

Cinderella product thrives in new retail setting; Setwell hangers sold in men's clothing stores. il Ptr Ink 233:39 N 3 '50

HANKINS, George Alexander, 1895-1950

Sketch. por Engineer 190:437-8 N 10 '50

HANLEY, Edward James, 1903-

Iron age salutes. por Iron Age 167:85 Ap 12 '51

HANSEN, Alvin Harvey, 1883-

Economists. J. McDonald. por Fortune 42:108-13+ D '50

HARBISON-WALKER refractories company

Likely to equal 1950 record net. Barron's 31:11 Ag 20 '51

HARBORS

Harbours and waterways in 1950. il diag Engineer 191:84-6 Ja 19 '51

Ports and harbours; abstract and discussion. L. Leighton. Engineering 171:748 Je 22 '51

Ship response to range action in harbor basins. B. W. Wilson. il plan diags Am Soc C E Proc 76 [no 41]:1-29 N '50

See also

Breakwaters	Jetties
Docks	Ports
Estuaries	Sand bars

also Harbor under names of cities, e.g. Los Angeles—Harbor; Milwaukee—Harbor

HARD board. See Fiber board

HARD facing

Conserve your equipment by hard-facing it against wear. il diags Roads & Sts 94:33-7+ F '51

Hard-face cultivator sweeps for longer wear. L. C. Richmann. il Welding J 30:172 F '51

Hardfacing, a design tool. J. J. Barry. il diags Machine Design 23:114-19 Mr '51

Hardfacing alfalfa pulverizing hammers. il Welding J 30:741 Ag '51

Hard-facing increases part life. P. J. McGonagle. diags Welding J 30:451 My '51

Hard-facing is making a name in contractors' maintenance programs. il diags Constr Methods 33:56-9 Jl '51

Hard facing mixer blades. L. J. Johnson. diag Rock Prod 54:185 Je '51

Hard facing of steam valve seats and disks. O. E. Swenson. il diags Welding J 29:1053-8 D '50

Hard-facing prepares blast furnace bell for top-pressure operation. il Blast F & Steel Pl 38:1356 N '50

Hard surfaced casting for giant bit. il Materials & Methods 32:138+ N '50

Metal surfacing for original parts. il diags Product Eng 22:122-4 Jl '51

Metallic and nonmetallic coatings for gray iron. C. O. Burgess. il Foundry 79:96-8 Ja '51

New production applications of hard facing. E. C. Hurt. il diag Welding J 29:1082-6 D '50

Some characteristics of composite tungsten carbide weld deposits. H. S. Avery. bibliog il diags Welding J 30:144-60; Discussion. 160-2 F '51; Reply. 30:532-4 Je '51

HARD woods

B C M; Bathurst's new product. flow diag il plan Pulp & Pa of Can 52:78-87 My '51; Excerpt. Paper Ind 33:286-8 Je '51

Hardwood pulp; Chemigroundwood; abstracts. Mech Eng 72:997-8 D '50; Comp Air Mag 56:132 My '51

High yield pulps from hardwoods. C. E. Libby. Pulp & Pa of Can 51:125 N '50

HARDENING

Age hardenable high-nickel alloys. W. A. Mudge. data sheet(p528B) Metal Prog 59:529-36 Ap '51

Constitution and precipitation-hardening properties of copper-rich copper-tin-beryllium alloys. R. A. Cresswell and J. W. Cuthbertson. bibliog il J Metals 3:Trans 782-91 S '51

Effect of prestraining temperatures on the recovery of cold worked aluminum. T. E. Tietz and others. bibliog J Metals 1:Trans 921-6 D '49; Discussion. 188:Trans 1364-5 N '50

See also

Case hardening

Metals—Aging

Steel, Hardening of

HARDING, Clarence W.

President of National newspaper promotion association. G. A. Brandenburg. por Ed & Pub 84:18 My 12 '51

HARDING-JONES paper company

From Blackbottom mill to Excello, 1865-1951. il Paper Ind 33:164-6+ My '51

HARDNESS

How can hardness values be used in metal design? J. B. Campbell. bibliog il Materials & Methods 32:43-7 D '50

See also

Glass—Hardness

Testing

Analysis of the Rockwell hardness test, employing a new deadweight testing machine. C. E. Phillips and A. J. Fenner. il diag Engineering 172:57-61 Jl 13 '51

Automatic light-load Bergsman type hardness tester. P. Grodzinski. bibliog il diags J Sci Instr 28:117-21 Ap '51

Chart correlates Rockwell C and filar units. Iron Age 168:107 Ag 16 '51

Checks hardness on-the-job; Ernst portable hardness tester. il Iron Age 167:116 F 1 '51

Effect of operating conditions on the hardness of chromium plate. R. E. Howell. bibliog Metal Finishing 49:50-6+ Mr '51

Hardness scale selector for steel. E. F. Bradley. data sheet(p80B) Metal Prog 60:80 S '51

Hoffman scratch hardness tester proves value on outside jobs. diag Paint Oil & Chem R 114:42 Mr 15 '51

Hot hardness of plated finishes measured. il diag Iron Age 168:119 S 20 '51; Product Eng 22:197 O '51

Kentron microhardness tester; quantitative tool in opaque mineral identification. F. Robertson and W. J. Van Meter. il diags Econ Geol 46:541-50 Ag '51

HARDNESS—Testing—*Continued*

Low-cost hardness tester is rugged. il diag Iron Age 167:116 Mr 15 '51

Microhardness of constituents in steel tested. H. A. Unckel. il Iron Age 168:68-71 Ag 30 '51

Microhardness tester for metals at elevated temperatures. A. Brenner. bibliog il diag J Res Nat Bur Stand 46:126-31 F '51; Abstract. Metal Finishing 49:78-9+ S '51

Micro-indentation hardness tester for attachment to the Vickers projection microscope. S. J. Lloyd and D. J. Norris. bibliog il diags J Sci Instr 28:81-4 Mr '51

Portable indentation hardness tester. Engineering 170:437 D 1 '50

Precision measurement of Rockwell hardness diamond penetrators. F. R. Tolmon and J. G. Wood. il diags Engineering 172:89-90 Jl 20 '51

Sheet hardness tester streamlined. Aviation W 54:24 Je 25 '51

Some factors affecting microhardness values. B. B. Hundy. Metallurgia 43:99-102 F '51

HARDWARE

See also

Bolts and nuts
Building fittings
Hinges
Nails
Plumbing supplies industry

HARDWARE industry and trade

New stock control deal; wholesaler operates as store buyer. M. Beuick. il Ptr Ink 234:48+ Mr 2 '51

Now that these loose items are packaged, sales are on the way up; Sargent hardware enters consumer market. J. B. Duff. il Ptr Ink 236:38-9 Jl 27 '51

Why Yale & Towne repeats "Keys to happiness"; co-op promotion with National association of home builders, and other hardware makers. Sales Management 66:79-80 My 20 '51

Advertising

Skilsaw integrates advertising with displays for retail pay-off; industrial marketer adds home shop tools. il Sales Management 66:88+ Ja 15 '51

Statistics

Retail hardware sales; annual listing from 1941; tabulation. Iron Age 167:329 Ja 4 '51

HARDWOOD. See Hard woods

HARDY, Robert M.

Canadian good roads association appoints Dean Hardy to head research study. por Roads & Eng Constr 89:38 Ja '51

HARMINE

Chemistry of the mitragyna genus; synthesis of 7-methoxy-2-methyl- and 7-methoxy-1 : 2-dimethyl-β-carboline. J. W. Cook, J. D. Loudon and P. McCloskey. Chem Soc J p 1203-7 My '51

HARMONIC analysis

See also

Fourier's series

HARMONICS (electric waves)

By-passing for harmonic reduction. G. Grammer. il Q S T 35:14-17 Ap '51

Differential analyzer study of harmonic power generation with nonlinear impedance element; abstract. P. E. Russell and H. A. Peterson. diag Elec Eng 70:690 Ag '51

Influence of rectifier harmonics in a railway system on the dielectric stability of 33-kv cables. S. B. Warder and others. bibliog il diags Inst E E Proc 98 pt 2:399-411; Discussion. 411-21 Je '51

Interference in multi-channel circuits. L. Lewin. Wireless Eng 27:294-304 D '50; Same. Elec Com 28:142-55 Je '51

Mixer harmonic chart; reference sheet. T. T. Brown. Electronics 24:132, 134 Ap '51

Suppression of harmonics in radio transmitters. G. T. Royden. bibliog(35 titles) il diags Elec Com 28:112-20 Je '51

Telephone influence factor in synchronous machine. G. L. Oscarson and I. C. Benson. Elec Eng 70:422 My '51

HARNISCHFEGER corporation

Profits well ahead of 1950. Barron's 31:19 O 8 '51

HARRIMAN, William Averell, 1891-

Harriman settles oil crisis. pors Bsns W p21-3, cover Ag 4 '51

HARRIMAN memorial medals for safety

Harriman medals presented. Nat Safety N 62:42 D '50

Railroad safety awards. Safety Maint & Prod 100:32-3 N '50

Railroads receive awards for 1950 safety performances. Ry Age 131:110-12 O 1 '51

HARRINGTON and King perforating company

Hole maker stays out of the hole. il Bsns W p48+ Je 30 '51

HARRIS, Michael Saul, 1916-

Labor man takes over from diplomat-financier in western Germany. por Bsns W p42 Jl 14 '51

HARRISBURG steel corporation

May earn over $5 a share this year. Barron's 31:19 F 26 '51

HARRISON, George MacGregor, 1895-

Labor's spokesman in ODM. pors Bsns W p34-5+ Je 23 '51

Let George do it. por Fortune 43:50 My '51

HARRISON, William Henry, 1892-

Harrison of N.P.A. por Barron's 30:3 N 6 '50

Sketch. por Mill & Factory 47:76 D '50

HARROD, Roy Forbes, 1900-

Portrait. Fortune 43:90 Ja '51

HARRODS, limited

Statement by the chairman. R. Burbidge. Economist 160:660 Mr 17 '51

HARSHA, Wayne V.

Meet the new editor. por Inland Ptr 127:45 Je '51

HARSHAW chemical company

New sales record likely. Barron's 31:23 Je 18 '51

Preferred stock offered. Comm & Fin Chr 174:1403-4 O 15 '51

HARTFORD, George Huntington

One Hartford carries on; last remaining son of A&P's founder. Bsns W p21 S 29 '51

HARTFORD, Connecticut

Hospitals

Medical building at Hartford hospital for staff doctors' offices. il plans Arch Rec 108:132-7 D '50

HARTREE-FOCK equations

Magnetic effects and the Hartree-Fock equation. J. C. Slater. bibliog Phys R 82:538-41 My 15 '51

Simplification of the Hartree-Fock method. J. C. Slater. bibliog Phys R 81:385-90 F 1 '51

HARVARD university

Architects lift old Harvard's face. il Bsns W p60-2 S 22 '51

Harvard builds a graduate yard; new dormitory center. il plans diags Arch Forum 93:61-71 D '50

Harvard's investments yielding better return. J. S. Bowen. Barron's 31:21-2 O 8 '51

Graduate school of business administration

Giving a supercharge of know-how to rising managers. Ry Age 130:38-40 Ap 9 '51

Old grads return for fun and business. il Bsns W p22-3 Je 16 '51

School to train top brass. il Bsns W p36-7 D 30 '50

Library

Study of a business school library. L. M. Daniells and R. W. Lovett. Special Lib 42:135-9 Ap '51

HARVESTING machinery

New peanut combine cuts 80 per cent of labor in harvest; Lilliston peanut combine. il Manuf Rec 119:40-1 D '50

HARVEY, Julien H.

Honored as safety leader. Safety Maint & Prod 101:33-5 My '51

HARVEY, Leo M.

Portrait. Fortune 43:97 Je '51

HARVEY machine company

Aluminum; Harvey gets loan, plans plant. Iron Age 168:129 S 6 '51

HASHEMITE JORDAN kingdom

Economic conditions

News by countries. For Comm W 42:14 Ja 29; 20-1 F 19; 43:16 Ap 16 '51

HASLAM, Robert Thomas, 1888-

Man of the month. por Chem Eng 57:267 N '50

HATCH covers

Grain barge equipped with new type corrugated hatch cover. il Marine Eng 56:51 Ja '51

Telescoping hatch covers. il Welding J 30:366 Ap '51

HATS, Safety

Head protection. il Nat Safety N 63:112 Mr '51

Manufacture of aluminum hats. H. Jackson. il Light Metal Age 9:8-10 Ag '51

No hurt heads with hard hats. G. Huffman. il Safety Maint & Prod 101:63-5 Je '51

HATTERSLEY, J. F.

Hoover company's new president. H. Woodward. por Sales Management 66:41 My 20 '51

HAUG Kollermill. See Paper making machinery

HAULAGE

See also

Cableways

Conveying machinery

Electric trucks, Industrial

Loading and unloading

Locomotives

Mine haulage

Motor trucks

Tractors

Trucks

HAVRE, France

Harbor

Raytheon harbor radar system for Le Havre. il map Marine Eng 55:61-2 N '50

HAWAII marine laboratory

Hawaii marine laboratory. R. W. Hiatt. Science 114:195-6 Ag 17 '51

HAWAIIAN ISLANDS

See also

Architecture—Hawaiian Islands

Housing—Hawaiian Islands

Mauna Loa

Strikes—Hawaiian Islands

Industries and resources

Macadamia; Castle & Cooke's experiment. il Bsns W p88-90+ Ag 18 '51

HAY

Making hay while it rains. K. L. Riddle. il diag Heating-Piping 23:133-7 Jl '51

HAY baling machines

Localized flame hardening of steel cutters reduces warpage; baler knives; International harvester co. A. P. Alexander. il Materials & Methods 33:76 Mr '51

HAYES, Al J.

Who'll replace Hayes as independents' voice? por Bsns W p111-12 Ja 20 '51

HAYWOOD, Allan Shaw

Portrait. Bsns W p30 S 15 '51

HEAD

Protection

Head protection. il Nat Safety N 63:112 Mr '51

See also

Helmets, Firemen's

Wounds and injuries

Early and late complications of head injuries. W. D. Abbott. Ind Med 20:79-82 F '51

Personality changes after head injury. Safety Maint & Prod 101:66 Mr '51

HEADACHE

Painful thoughts; Ogden's researches. Bsns W p 134 O 6 '51

HEADLIGHTS, Locomotive. See Locomotive headlights

HEALD machine company

Heald celebrates 125 years of metalworking. il Am Mach 95:188-9 S 3 '51

Heald's 125th birthday. G. Hubbard. Steel 129:100 S 10 '51

HEALTH and accident underwriters conference

Annual group insurance meeting, Chicago, Feb. 5-7. East Underw 52:35-42 F 16 '51; Nat Underw 55:23+ F 8 '51; Nat Underw (Life ed) 55:3+ F 9 '51

Annual meeting, 50th, Detroit, May 14-16. East Underw 52:27-30+ My 18 '51; Nat Underw 55:29+ My 17 '51; Nat Underw (H.&A. conference no) 55:3-18 My 18 '51; Nat Underw (Life ed) 55:1+ My 18 '51; Weekly Underw 164:1249+, 1278-83 My 19 '51

Committee heads named. Nat Underw 55:31 S 20 '51; Same. Nat Underw (Life ed) 55:10 S 21 '51

Conference sessions on medical and hospital insurance, Chicago, Feb. 5-7. East Underw 52:28-9+ F 9 '51; Nat Underw 55:21+ F 8 '51; Nat Underw (Life ed) 55:8-9 F 9 '51

Regional meeting, Minneapolis, Nov. 20. East Underw 51:10+ D 1 '50; Nat Underw 54:28 N 23 '50; Nat Underw (Life ed) 54:7 N 24 '50; Weekly Underw 163:1265-6 D 2 '50

Review of 1950 activities. C. O. Pauley. Weekly Underw 164:73+ Ja 6 '51

HEALTH centers

Growth and work of ILGWU health centers. Mo Labor R 71:709-10 D '50

Health care grows under labor-management agreements. il Bsns W p 129 N 4 '50

Hospitals and public health centers. V. M. Hoge. Ann Am Acad 273:34-42 Ja '51

HEALTH council, National. See National health council

HEALTH education

Research on health education in industry. A M A Archives Ind Hygiene & Occup Med 4:161-5 Ag '51

HEALTH farms. See Health resorts, watering places, etc.

HEALTH insurance. See Insurance, Health

HEALTH insurance council

History, activities and problems. J. W. Joanis. Weekly Underw 164:1287-9 My 19 '51; Abstracts. East Underw 52:30 My 18 '51; Nat Underw (H.&A. conference no) 55:5+ My 18 '51

Programs; purpose and scope of assignments. Spectator (Life ed) 158:16 Je '51

Spring meeting, Chicago, April 18-19. East Underw 52:41 Ap 27 '51; Nat Underw 55:22 Ap 26 '51; Nat Underw (Life ed) 55:24 Ap 27 '51; Weekly Underw 164:1103 Ap 28 '51

HEALTH resorts, watering places, etc.

Bill Brown's; rebuilding the businessman. il Bsns W p98-101 Ag 18 '51

HEARING

All experience is of change; survey of the senses reveals large gaps in our knowledge of the mechanism by which man perceives his environment. F. W. Nordsiek. il Tech R 53:25+ N '50

Auditory masking and fatigue. W. A. Rosenblith. bibliog il Acoustical Soc Am J 22:792-800 N '50

Binaural localization and masking. W. E. Kock. il diags Acoustical Soc Am J 22:801-4 N '50

Changes in pitch of tones of low frequency as a function of the pattern of excitation produced by a band of noise. J. P. Egan and D. R. Meyer. diags Acoustical Soc Am J 22:827-33 N '50

Electrical responses to acoustic clicks; influence of electrode location in cats. W. A. Rosenblith and M. R. Rosenzweig. bibliog il diag Acoustical Soc Am J 23:583-8 S '51

Error due to masking in the measurement of aural harmonics by the method of best beats. J. P. Egan and R. G. Klumpp. bibliog Acoustical Soc Am J 23:275-86 My '51

Frequency selectivity of the ear as determined by masking experiments. S. de Walden. Acoustical Soc Am J 23:481 Jl '51

Influence of interaural phase on masked thresholds; the role of interaural time-deviation. F. A. Webster. diags Acoustical Soc Am J 23:452-62 Jl '51

Information and the human ear. H. Jacobson. diags Acoustical Soc Am J 23:463-71 Jl '51

Loudness balance methods for earphone response measurements. D. W. Martin and M. L. Touger. bibliog Acoustical Soc Am J 22:833-7 N '50

Modern status of auditory theory. E. G. Wever. Acoustical Soc Am J 23:287-9 My '51

Neurophysiology of the auditory system. R. Galambos. il diags Acoustical Soc Am J 22:785-91 N '50

Place mechanisms of auditory frequency analysis. W. H. Huggins and J. C. R. Licklider. bibliog diags Acoustical Soc Am J 23:290-9 My '51

Significance of the early diagnosis of hearing impairment in children of preschool age. J. E. Bordley and W. G. Hardy. Pub Health Rep 66:521-8 Ap 27 '51

HEARING—*Continued*

Some electrophysiological correlates of the perception of successive clicks. M. R. Rosenzweig and W. A. Rosenblith. il Acoustical Soc Am J 22:878-80 N '50

Some observations on pitch and frequency. H. Davis and others. bibliog diags Acoustical Soc Am J 23:40-2 Ja '51

Some recent work on auditory adaptation and its relationship to the loudness recruitment phenomenon. C. S. Hallpike and J. D. Hood. bibliog diags Acoustical Soc Am J 23:270-4 My '51

Theory of hearing, by E. G. Wever. Review, by E. B. Newman. Acoustical Soc Am J 23:117-19 Ja '51

Theory of operation of the cochlea; a contribution to the hydrodynamics of the cochlea. J. Zwislocki. bibliog diags Acoustical Soc Am J 22:772-7 N '50

Theory of the acoustical action of the cochlea. J. Zwislocki. bibliog diag Acoustical Soc Am J 22:778-84 N '50

See also

Audiometers
Ear
Hearing aids, Mechanical
Noise
Parmly foundation for auditory research
Sound waves—Physiological effect

HEARING aids, Mechanical

Electrical excitation of nerves in the skin at audiofrequencies. A. B. Anderson and W. A. Munson. il diags Acoustical Soc Am J 23:155-9 Mr '51

Hearing aid; Bonochord Micropak II. il Electrician 145:1333-4 D 8 '50

Hearing aids; symposium at the British institution of radio engineers. Elec R (Lond) 148:231-2 F 2 '51

Long life to hearing-aid batteries; Olin's improved packaging program. il Mod Packaging 24:168 N '50

Potted amplifier in hearing aid. il Mod Plastics 28:78-9 Ja '51

Selection of hearing aids. E. L. R. Corliss. bibliog il U S Nat Bur Stand Circ 516:1-17; pa 15c Supt. of doc. '51

See also

Earphones

Testing

Strain-gauge type artificial mastoid for testing bone conduction receivers. R. W. Carlisle and H. A. Pearson. bibliog il diags Acoustical Soc Am J 23:300-2 My '51

HEARST, William Randolph, 1863-1951

Builder of publishing empire knew advertising's true value. por Ptr Ink 236:33 Ag 24 '51

Ends 65-year career in many fields. por Ed & Pub 84:7+, 9+ Ag 18 '51

He influenced printing. Inland Ptr 127:51 S '51

Hearst, 88, continues vigilance over papers. por Ed & Pub 84:22 Ap 21 '51

Hearst; legend and empire builder. Trusts & Estates 90:592 S '51

Hearst organization plans made four years ago. Ed & Pub 84:9+ Ag 25 '51

Six executors take Hearst estate reins. C. Watson. Ed & Pub 84:11+ S 1 '51

Solemn lensmen cover the Chief's funeral. D. Sarno. Ed & Pub 84:28 S 1 '51

HEARST corporation

Hearst empire; who's boss, and of what? Bsns W p 110-14+ S 22 '51

HEART

Glycogen storage in the heart in experimental renal hypertension in the rat. R. W. Lackey. bibliog Science 113:184-5 F 16 '51

Heart muscle. il Sci Am 185:48-9 Ag '51

Special instrumentation problems encountered in physiological research concerning the heart and circulation in man. E. H. Wood. bibliog il diag Science 112:707-15 D 15 '50

Utilization of C^{14}-labeled glucose by cardiac muscle treated with a cardiac glycoside. A. Wollenberger. Science 113:64-5 Ja 19 '51

See also

Electrocardiograph

Diseases

Aiding the cardiac patient in industry. E. M. Kline. bibliog A M A Archives Ind Hygiene & Occup Med 3:454-60 My '51

Cardiology. B. M. Overholt and others. bibliog Ind Med 19:503-34 N '50

Cardiovascular disease in industry; role of degenerative disease. S. C. Franco. bibliog il diags Ind Med 20:308-15 Jl '51

Cardiovascular disease in the steel industry. L. T. Smyth. Ind Med 20:34-7 Ja '51

Compensation aspects of myocardial infarction in industrial medicine. J. H. Thompson. bibliog A M A Archives Ind Hygiene & Occup Med 3:292-7 Mr '51

Coronary occlusion with myocardial infarction in young males; report of four cases. T. Levy. bibliog il Pub Health Rep 66:1248-55 S 28 '51

Device developed by CAA discovers heart defects; ballistocardiograph. CAA J 12:46 Ap 20 '51

Effects of employment on the course of heart disease; the staff of the Work classification unit, Adult cardiac clinic, third (New York university) Medical division, Bellevue hospital. bibliog A M A Archives Ind Hygiene & Occup Med 3:367-74 Ap '51

Encouraging signs in heart disease picture. R. E. Henning. Nat Underw (Life ed) 55:29 S 28 '51

Evaluation and significance of physical fitness for moderate work; a study of patients with cardiovascular or pulmonary diseases. R. A. Bruce and others. bibliog diag A M A Archives Ind Hygiene & Occup Med 4:236-50 S '51

Heart patients can help in defense effort. J. G. Benton and H. A. Rusk. Nat Safety N 63:103-5 Ap '51

Management of the employee with hypertensive cardiovascular disease. J. C. Leonard. Ind Med 19:532-4 N '50

Placement of the employee with cardiac and vascular disease in industry. C. Pharris. Ind Med 19:523-7 N '50

Psychological considerations in the rehabilitation of the cardiac patient in industry. E. Stainbrook. Ind Med 19:528-31 N '50

Significance of the exercise tolerance test. W. F. Renner. il A M A Archives Ind Hygiene & Occup Med 3:129-34 F '51

Statistical studies of heart disease; mortality from heart disease among Negroes as compared with white persons. M. Y. Pennell and J. L. Lehman. bibliog Pub Health Rep 66:57-80 Ja 19 '51

Statistical studies of heart disease; race and sex differences in the trend of mortality from the major cardiovascular-renal diseases. I. M. Moriyama and T. D. Woolsey. bibliog Pub Health Rep 66:355-68 Mr 23 '51

HEART, Artificial

Mechanical heart designed around squeegee pump; illustrations and diagrams with text. Product Eng 22:98-9 Mr '51

HEAT

Heat reflected and conserved by aluminum paint coatings. G. M. Babcock and F. B. Rethwisch. il Heat & Ven 48:68-9 Mr '51

Power handbook; fundamentals of heat. P. Swain and W. Arrott. diags Power 95:86-8 Mr '51

See also

Boiling points
Calorimeters and calorimetry
Combustion
Entropy
Evaporation
Expansion (heat)
Flames
Heating
Hot weather
Insulation (heat)
Melting points
Pyrometers and pyrometry
Specific heat
Steam
Temperature
Thermochemistry
Thermodynamics
Thermoelectricity
Thermometers and thermometry
Waste heat

Physiological effect

See Temperature—Physiological effect

HEAT capacity. See Specific heat

HEAT conduction

Asymmetric heat conduction in copper-copper oxide rectifiers. F. H. Horn. J Ap Phys 22:1214 S '51

Distribution function in phase space, with application to the statistical theory of liquids. E. Ikenberry. bibliog J Chem Phys 19:467-70 Ap '51

Heat conduction in simple metals. M. L. Storm. bibliog J Ap Phys 22:940-51 Jl '51

HEAT conduction—*Continued*

Problem in heat conduction. B. Podolsky. J Ap Phys 22:581-5 My '51

Summary of viscosity and heat-conduction data for He, A, H_2, O_2, N_2, CO, CO_2, H_2O, and air. F. G. Keyes. bibliog A S M E Trans 73:589-95; Discussion. 595-6 Jl '51

HEAT conductivity

Analysis of errors in measuring thermal conductivity of insulating materials. E. V. Somers and J. A. Cyphers. diags R Sci Instr 22:583-6 Ag '51

Anomalous heat flow in superconductors. K. Mendelssohn and J. L. Olsen. bibliog Phys R 80:859-62 D 1 '50

Contribution of thermal conductivity to the ultrasonic absorption coefficient in liquefied gases. R. T. Beyer. J Chem Phys 19:788-9 Je '51

Effective thermal conductivity of granular solids through which gases are flowing. J. O. Hougen and E. L. Piret. bibliog il diag Chem Eng Prog 47:295-303 Je '51

Electrical and thermal conductivities of graphite and amorphous carbon. S. Mizushima and J. Okada. bibliog Phys R 82:94-5 Ap 1 '51

Heat conductivity of building materials; abstract. A. Watzinger. Refrig Eng 58:1178 D '50

Influence of solid properties on heat transfer from a fluidized solid medium. J. R. Campbell and F. Rumford. bibliog diag Soc Chem Ind J 69:373-7 D '50

Measurement of the thermal conductivities of soils, and the calculation of oil temperatures in buried pipelines. K. G. Brummage. maps diag Inst Pet J 36:575-92 S '50

Measurements of the heat conductivity of nitrogen-carbon dioxide mixtures. F. G. Keyes. bibliog A S M E Trans 73:597-601; Discussion. 601-3 Jl '51

Method for measuring the thermal conductivity of small samples of poorly conducting materials such as optical crystals. S. S. Ballard and others. bibliog diags R Sci Instr 21:905-7 N '50

Technical apparatus for determining thermal conductivity of steels up to 500° C. Z. Horák and F. Krupka. il diags R Sci Instr 21:827-30 O '50

Theory of the envelope type of thermal conductivity tests. A. L. Loeb. diags J Ap Phys 22:282-5 Mr '51; Correction. 22:849 Je '51

Thermal characteristics of soils for ground coil design. W. Parkerson. bibliog diag Heat & Ven 48:83-6 O '51

Thermal conductivity and heat capacity of beryllium carbide. J. J. Neely and others. Am Cer Soc J 33:363-4 D 1 '50

Thermal conductivity bridge for gas analysis. C. C. Minter and L. M. J. Burdy. diags Anal Chem 23:143-7 Ja '51

Thermal conductivity of gases; measurement at high pressure. J. M. Lenoir and E. W. Comings. bibliog diags Chem Eng Prog 47:223-31 My '51

Thermal conductivity of granular beds filled with compressed gases. J. L. Weininger and W. G. Schneider. bibliog diags Ind & Eng Chem 43:1229-33 My '51

Thermal conductivity of liquid helium. C. Grenier. diags Phys R 83:598-603 Ag 1 '51

Thermal conductivity of liquids and polymers and its relation to the pressure coefficient of viscosity. A. Bondi. bibliog J Chem Phys 19:128-9 Ja '51

Thermal conductivity of sulfur vapor. J. R. West. bibliog J Phys & Colloid Chem 55:402-5 Mr '51

Thermal conductivity of various materials vs. temperatures; chart; engineering file facts. Materials & Methods 33:107 Je '51

Thermal diffusivity of refractory oxides. E. S. Fitzsimmons. il diag Am Cer Soc J 33:327-32 N 1 '50

Velocities and effective thermal conductivities in packed beds. M. Morales, C. W. Spinn and J. M. Smith. bibliog diags Ind & Eng Chem 43:225-32 Ja '51

See also
Heat transmission

HEAT content. See Specific heat

HEAT convection

Continuous drying of pulp by convected air. J. F. Gschwind. bibliog il plan diag Tappi 34:167-71 Ap '51

Convection currents in porous media; extended theory of the critical gradient. F. T. Rogers, jr. and H. L. Morrison. J Ap Phys 21:1177-80 N '50

Heat transfer data for kettles with jackets and coils. G. H. Cummings and A. S. West. bibliog diag Ind & Eng Chem 42:2303-13 N '50

HEAT engines

See also
Gas turbines
Internal combustion engines
Steam engines
Steam turbines

HEAT exchangers

Aluminum radiators to save copper; Trane's heat exchanger. il Bsns W p52-4+ O 13 '51

Calculating air pressure drop of heat exchangers. R. E. Shafer. il Machine Design 23:124 Ag '51

Cathodic protection of condensers and heat exchangers. M. E. Parker. Oil & Gas J 49:244 Ap 19 '51

Cold separation processing; nontechnical question-and-answer discussion. J. D. Lowd. diag Oil & Gas J 50:81-5+ Je 28 '51

Economic design of heat exchangers for gas turbines. M. Ruddick. diags Engineering 172:229-30 Ag 24 '51

Heat exchangers reduce air conditioning costs. A. H. Gipson. il diags Heat & Ven 48:71-3 My '51

How much steam do these heat exchangers save? Power Eng 54:85-6 O; 92+ N '50

Integral finned tubing for heat exchangers. W. P. Hill. il Product Eng 22:140-2 S '51

Leak-proof heat exchanger; abstract. J. T. Cullen. diags Power Eng 55:102 Je '51

Liquid-coupled indirect-transfer regenerator for gas-turbine plants. A. L. London and W. M. Kays. bibliog diags A S M E Trans 73:529-40; Discussion. 540-2 Jl '51

Loss coefficients for abrupt changes in flow cross section with low Reynolds number flow in single and multiple-tube systems. W. M. Kays. bibliog diags A S M E Trans 72:1067-74 N '50

Petrocarbon, ltd. special heat exchangers. il Engineer 192:190 Ag 10 '51

Planning refinery heat transfer equipment. T. G. Hicks. il diags Pet Refiner 29:97-101 S; 95-8 O; 113-15 N '50

Practical calculations for shell-and-tube heat exchangers. G. L. Farrar. Pet Eng 23:C11-12+ Ag '51

Pressure drop in exchangers. G. L. Farrar and A. M. Platt. Pet Eng 23:C39-40 Je '51

Proportioning of contraflow heat-exchange apparatus. C. E. Iliffe. Engineering 172:252-3; Discussion. 244 Ag 24 '51

Regenerative heat exchanger for gas-turbine power-plant. M. Cox and R. K. P. Stevens. diags Inst Mech Eng Proc 163 (W.E.P. no 60):193-205, pl 1-2 '50

Review of new plant equipment; heat exchange equipment. il Power 95:153 Mid-Je '51

Selection, operation, and maintenance of cooling towers and air-cooled exchangers. H. E. Degler. diags Oil & Gas J 50:76-8+ S 6 '51

See also
Condensers (steam)

Cleaning

High pressure water + blasting sand = cleaner heat exchangers. W. C. Uhl. flow diag il Pet Processing 6:22-5 Ja '51

Is your problem cleaning exchangers? il diags Pet Processing 6:370-3 Ap '51

Three ways to clean exchangers. C. J. Wenger. il diag Pet Processing 6:150-3 F '51

Design

Heat-transfer and flow-friction characteristics of some compact heat-exchanger surfaces; design data for thirteen surfaces. W. M. Kays and A. L. London. bibliog diags A S M E Trans 72:1087-96; Discussion. 1096-7 N '50

Nomograph of Dittus-Boelter equation for heating and cooling liquids. J. F. Heiss and J. Coull. Ind & Eng Chem 43:1226-9 My '51

HEAT exchangers—Design—*Continued*

Optimum tube size for shell-and-tube type heat exchangers. F. D. Cardwell. diags A S M E Trans 72:1061-5; Discussion. 1066 N '50

True temperature difference in split flow. D. Q. Kern and C. L. Carpenter. diags Chem Eng Prog 47:211-14 Ap '51

Testing

Heat transfer and flow-friction characteristics of some compact heat-exchanger surfaces; test system and procedure. W. M. Kays and A. L. London. bibliog il diags A S M E Trans 72:1075-85 N '50

HEAT insulation. See Insulation (heat)

HEAT of adsorption. See Adsorption, Heat of

HEAT of dissociation. See Dissociation, Heat of

HEAT of formation. See Thermochemistry

HEAT of fusion. See Fusion, Heat of

HEAT of hydration. See Hydration, Heat of

HEAT of hydrolysis. See Hydrolysis, Heat of

HEAT of mixing. See Mixing, Heat of

HEAT of oxidation. See Oxidation, Heat of

HEAT of polymerization. See Polymerization, Heat of

HEAT of solution. See Solution, Heat of

HEAT pump

Application of the heat pump to hydroelectric power house. F. T. Downing. il diag Heating-Piping 23:84-7 Je '51; Discussion. 23:66 Ag '51

Climatology as an aid in heat pump design. G. S. Smith. il Heating-Piping 23:101-7 Je '51; Discussion. 23:137-8 S '51

Factors useful in ground grid design for heat pumps. G. S. Smith. bibliog il plans Heating-Piping 23:169-76 Ja '51

Heat pump. J. F. Sandfort. diags Sci Am 184:54-9 My '51

Heat pump application to a newspaper plant; Portland Oregonian. J. D. Kroeker and others. flow diags il Heating-Piping 23:109-16 S '51; Abstracts. Dom Eng 178:110 Ag '51; Mech Eng 73:1005 D '51

Heat pump at the South Bank. il(p858) diags Engineer 191:859-61 Je 29 '51; Engineering 171:741-3, pl 60 Je 22 '51

Heat-pump domestic water heater. G. G. Freyder. il Heat & Ven 48:77-80 Jl '51

Heat pump efficiency improved with variable capacity compressor. R. A. Gonzalez. diag Refrig Eng 59:260-1 Mr '51

Heat pump; heat sources and sinks. il Heating-Piping 22:87-91 N '50

Heat-pump installations for residential use. E. R. Ambrose. il diags Mech Eng 73:115-20 F '51

Heat pump preferred to gas or oil in large Texas utility building. il Refrig Eng 59:579 Je '51

Heat pump protects underground electric cables against corrosion. A. J. Hess. diag Heating-Piping 23:98-9 F '51

Heat pump research and development survey; list of projects. C. H. Coogan, jr. Refrig Eng 59:47-8 Ja '51

Heat pump serves British festival. P. E. Montagnon. il Heat & Ven 48:74-5 S '51

Heat pump system in the central office building of the Ohio power co. Mech Eng 73:145-6 F '51

Heat pump water heater. A. W. Ruff. il diags Refrig Eng 59:153-4 F '51

Influence of freezing on heat pump ground coil capacity; abstracts. A. D. Kafadar and others. Heat & Ven 48:134-5 My '51; Heating-Piping 23:87 My '51

Performance of an earth heat pump on intermittent operation. E. B. Penrod and others. bibliog diags Ky Acad of Science [Lexington] Trans v13 no 2:82-99 '50 [reprinted]; Excerpts. Refrig Eng 59:267-8 Mr '51

Practical application of the heat pump. A. B. Newton. il diags Refrig Eng 59:143-7+ F '51

Progress report on joint AEIC-EEI heat pump committee activities. bibliog Edison Elec Inst Bul 19:279-81 Ag '51

Progress report on the heat pump. W. F. Friend. Refrig Eng 59:44-7+ Ja '51

Report on residential heat pump water heater operation. il diags Edison Elec Inst Bul 18:379-81+ O '50

Some heat pump design problems. T. C. Johnson. Heat & Ven 48:87-8+ Je '51

Steam-generating station as a source and sink for the heat pump. J. A. Eibling and B. A. Landry. diag Mech Eng 73:554-8+ Jl '51

Tests show how heat pumps perform in different climates. P. Sporn and E. R. Ambrose. il diag Elec World 135:97-100 F 12 '51

Theory of heat exchangers for the heat pump; abstract. L. R. Ingersoll and others. Refrig Eng 59:155 F '51

Thermal characteristics of soils for ground coil design. W. Parkerson. bibliog diag Heat & Ven 48:83-6 O '51

Two-year performance of a heat pump system furnishing year-round air conditioning in modern office building. P. Sporn and E. R. Ambrose. flow diags Heating-Piping 23:101-6 Ag '51; Excerpt. Heat & Ven 48:102 O '51; Abstract. Mech Eng 73:1005-6 D '51; Discussion. Heating-Piping 23:136-7 S '51

Year-round air conditioning with the heat pump. F. R. Ellenberger. bibliog il map diags Gen Elec R 53:10-18 D '50

HEAT radiation

Emission of radiation from diatomic gases. S. S. Penner and D. Weber. bibliog J Ap Phys 21:685-95; 22:1164-7 Jl '50, S '51

Equivalent direct radiation; nomograph; data sheet. T. G. Hicks. Power 95:150 Ap '51

Equivalent temperature; what it is, how it's measured. T. Bedford. Heating-Piping 23:87-91 Ag '51

European research on flame radiation. T. Bishop. Metal Prog 59:248-9 F '51

Radiation screens improve work conditions in hot spots. G. F. Haines, jr. il Heating-Piping 23:96-7 S '51

HEAT resisting alloys. See Alloys, Heat resisting

HEAT resisting materials

Bonding of titanium carbide with metal. W. J. Engel. il Metal Prog 59:664-7 My '51

Ceramic liners; Solar coating can replace scarce alloys. il Aviation W 55:34+ Ag 13 '51

Ceramics for the hot spots. C. L. Foushee, jr. il Aero Digest 63:32+ Ag '51

Ceramics; they help steel stand jet temperatures. il Bsns W p46-8+ O 6 '51

Heat-resistant ceramic coatings broaden low carbon steel applications. bibliog il Steel 129:74-7+ Ag 13 '51

Heat resistant ceramic coatings permit substitutes for critical materials. D. G. Bennett. il Materials & Methods 33:65-7 Mr '51

Heat resistant wire doubles store's feeder capacity. il plan Elec World 135:91-2 Je 4 '51

High-chromium coating protects ceramal; abstract. D. G. Moore and others. Product Eng 22:232+ Ag '51

High temperature bodies in the system MgO-TiN-NiO; abstract. L. D. Hower. Metal Prog 59:566+ Ap '51

High-temperature ceramic coatings for molybdenum. Product Eng 22:105 Ja '51

High-temperature ceramic materials. H. B. Michaelson. bibliog il Product Eng 22:120-3 Ag '51

High-temperature problems in aircraft jet engines and turbo-superchargers. R. B. Johnson. il Metal Prog 59:503-10 Ap '51

High temperature properties of molybdenum investigated. R. A. Lang and others. Materials & Methods 33:146+ My '51

High temperature protection of mild steel by refractory facings. Metallurgia 44:144 S '51

How titanium behaves at temperatures to 900° F. W. L. Williams. il Iron Age 167:81-4 Je 14 '51

Metal refractory alloys; development of metal-ceramic alloys. W. G. Lidman and H. J. Hamjian. il diags Product Eng 22:147-50 O '51

Metals for high-pressure hydrogenation plants. G. A. Nelson. bibliog il A S M E Trans 73:205-11 F '51; Same. Pet Refiner 29:104-10 S '50; Discussion. A S M E Trans 73:211-13 F '51

HEAT resisting materials—*Continued*

Molybdenum a new high-temperature metal. R. M. Parke. bibliog(81 titles) il Metal Prog 60:81-96 Jl '51

New ceramics. il Product Eng 22:162-3 My '51

Production at N.P.L. of alumina and other ware for research involving high temperatures. V. H. Stott. il diags Metallurgia 44:157-62+ S '51

Research pushed on gas turbine blade materials. A. H. Allen. il Steel 129:72-5+ Ag 27 '51

Rocket linings. W. H. Duckworth and H. Z. Schofield. Aviation W 54:31+ Je 25 '51

Safety margins and stress levels in high-temperature equipment. E. L. Robinson. bibliog A S M E Trans 73:89-95; Discussion. 95-9 Ja '51

Sandwich metal stands up to heat; Rosslyn metal. G. L. Christian. il Aviation W 55:34+ S 17 '51

Some properties of high-purity sintered wrought molybdenum metal at temperatures up to 2400 F; abstract. Product Eng 22:231-2 Ag '51

Study of ceramic coatings for high-temperature protection of molybdenum; abstract. D. G. Moore and others. Metal Prog 59:872+ Je '51

Surface protection of high-melting metals to increase their resistance to scaling at high temperatures; abstract. H. Bueckle. Metal Prog 59:288+ F '51

Titanium and titanium alloys for high-temperature applications. Mach 57:183 N '50

See also

Alloys, Heat resisting
Insulation (heat)
Refractory materials
Steel, Heat resisting
Teflon

HEAT resisting paint. See Paint, Heat resisting

HEAT resisting steel. See Steel, Heat resisting

HEAT storage

See also

Heat pump

HEAT transmission

Air-water contact operations in a packed column. F. Yoshida and T. Tanaka. diags Ind & Eng Chem 43:1467-73 Je '51

Astroballistic heat transfer. R. N. Thomas and F. L. Whipple. J Aeronautical Sci 18:636-7 S '51

Boiling coefficients of heat transfer; C_4 hydrocarbon-furfural mixtures inside vertical tubes. W. E. Bonnet and J. A. Gerster. bibliog diag Chem Eng Prog 47:151-8 Mr '51

Calculation of the thermal boundary layer of a body in incompressible laminar flow. W. Dienemann. bibliog J Aeronautical Sci 18:64-5 Ja '51

Chemical engineering unit operations; sixth annual review. G. T. Skaperdas. bibliog(86 ref) Ind & Eng Chem 43:99-102 Ja '51

Convective heat transfer from spheres in a free-molecule flow. F. M. Sauer. diag J Aeronautical Sci 18:353-4 My '51

Determination of rocket-motor heat-transfer coefficients by the transient method. S. Greenfield. bibliog il diags J Aeronautical Sci 18:512-18+ Ag '51

Effect of ethylene glycol on pipe friction and heat transfer. F. H. Bridgers and J. Bricker. bibliog Heat & Ven 48:61-4 Jl '51

Effect of vapor agitation on boiling coefficients. D. B. Robinson and D. L. Katz. bibliog flow sheets il diags Chem Eng Prog 47:317-24 Je '51

Effect of water distribution on evaporative condenser efficiency. H. Vetter. diags Refrig Eng 59:366-8 Ap '51

Estimating temperature rise in electronic equipment cases. R. J. Bibbero. Inst Radio Eng Proc 39:504-8 My '51

Evaluating film coefficients for single condensing vapors. A. Devore. Chem Eng 58:138-9 Je '51

Field studies of heat losses from concrete floor panels. C. M. Humphreys and others. il plan diags Heating-Piping 23:181-6 Ja '51

Freezing of water in exposed pipelines. T. M. Riddick and others. bibliog diags Tappi 34:sup24A+ S '51

Furnace heat absorption in pulverized-coal-fired steam generator, Willow Island station. J. W. Myers and others. bibliog il diags A S M E Trans 73:419-55; Discussion. 457-9 My '51

Furnace thermal efficiency determined from flue and jacket loss. H. L. McPherson and others. diags Heating-Piping 23:109-13 My '51

Ground heat in cold storages. G. F. Sainsbury. diags Refrig Eng 58:1066-9+ N '50

Guided missile friction heating. R. McLarren. bibliog Aero Digest 63:27-9+ Ag '51

Handling sun loads on buildings. W. B. Foxhall. bibliog diags Heat & Ven 48:76-80 Ap '51

Heat and mass transfer; fluid solid systems. B. W. Gamson. bibliog Chem Eng Prog 47:19-28 Ja '51

Heat problems in the design of glassworking molds. W. Giegerich. bibliog diags Glass Ind 32:71-6+ F '51

Heat-transfer coefficient of condensing vapours. J. C. Chu and others. bibliog flow sheet J Ap Chem 1:73-80 F '51

Heat transfer during condensation of steam. H. Hampson. il Engineering 172:221-3 Ag 17 '51; Discussion. 172:244-5 Ag 24 '51

Heat transfer in fluidization beds. O. P. Agarwal and J. A. Storrow. diags Chem & Ind p321-4 Ap 28 '51

Heat transfer in rocket motors and the application of film and sweat cooling. R. H. Boden. il diag A S M E Trans 73:385-90 My '51

Heat transfer; processing viscous materials. E. Perry and F. E. Reese. bibliog Chem Eng Prog 47:354-62 Jl '51

Heat transfer studies, A.F.S. annual meeting. Foundry 79:161+ Je '51

Heat transfer through gases at low pressures. R. E. Peck and others. bibliog diags A S M E Trans 73:281-7 Ap '51

Heat transmission problems; work of Sheffield research team. R. J. Sarjant. bibliog Chem Age (Lond) 63:609-10 O 28 '50

Investigation of turbulent flow and heat transfer in smooth tubes including the effects of variable fluid properties. R. G. Deissler. bibliog A S M E Trans 73:101-7 F '51

Locker room usage heat loads. R. D. Haynes and W. E. Garner. il plans Refrig Eng 59:359-63 Ap '51

Losses from a floor-type panel heating system. F. W. Hutchinson and others. bibliog Heating-Piping 22:117-20 D '50

New data for heat transfer to fluidized solids. R. A. Koble and others. bibliog Chem Eng 58:174-5 S '51

New method of determining thermal diffusivity of solids at various temperatures. D. Rosenthal and A. Ambrosio. il diag A S M E Trans 73:971-4 O '51

New technique for obtaining heat-transfer parameters of the wall and combustion gas in a rocket motor. M. E. Ellion. bibliog diags A S M E Trans 73:109-14 F '51

Photographic study of surface-boiling heat transfer to water with forced convection. F. C. Gunther. il diags A S M E Trans 73:115-23 F '51

Planning refinery heat transfer equipment. T. G. Hicks. il diags Pet Refiner 29:97-101 S; 95-8 O; 113-15 N '50

Power handbook; heat-transfer equipment. T. G. Hicks, comp. diags Power 95:104-5 Jl '51

Report of progress on measurements of friction coefficients, recovery factors, and heat-transfer coefficients for supersonic flow of air in a pipe. J. Kaye and others. il diags A S M E Trans 73:267-77; Discussion. 277-9 Ap '51

Research programme for heat transfer. Chem Age (Lond) 64:589-91 Ap 21 '51

Response characteristics of temperature-sensing elements for use in the control of jet engines. A. I. Dahl and E. F. Fiock. bibliog diags J Res Nat Bur Stand 45:292-8 O '50

Short cuts to heat-transfer coefficients. G. F. Davies. Chem Eng 58:122-4 Ag '51

Study of the mechanism of boiling heat transfer. W. M. Rohsenow and J. A. Clark. bibliog A S M E Trans 73:609-16; Discussion. 616-20 Jl '51

HEAT transmission—*Continued*

Temperature and velocity distribution in wake of a heated cylinder. G. W. Billman, D. M. Mason and B. H. Sage. bibliog il diags Chem Eng Prog 46:625-33; Discussion. 633-4 D '50

Temperature gradients in gas streams flowing through fixed granular beds. C. A. Coberly and W. R. Marshall, jr. bibliog flow sheet Chem Eng Prog 47:141-50 Mr '51

Theory of heat tranfer through a laminar boundary layer. A. N. Tifford. J Aeronautical Sci 18:283-4 Ap '51

Thermodynamics of lime manufacture; heat transfer rates. R. Gibbs. diag Rock Prod 53:110-12 O '50; 54:108-11+ F '51

Transient temperature distribution in a wing flying at supersonic speeds. J. Kaye. bibliog diags J Aeronautical Sci 17:787-807+ D '50

Turbulent boundary-layer temperature recovery factors in two-dimensional supersonic flow; abstract and discussion. M. Tucker and S. H. Maslen. Aviation W 54:35-6 Mr 19 '51

Warm air perimeter heating, heat emitted from floor surface. J. R. Jamieson and others. plan diags Sheet Metal Worker 42:62-4 Jl; 54-6+ Ag '51; Same abr. bibliog Heating-Piping 23:117-26 Jl '51

See also

Drying
Glass—Heat transmission
Heat conduction
Heat conductivity
Heat convection
Heat exchangers
Heat radiation
Insulation (heat)
Textile fabrics—Heat transmission
Thermal analysis

Electric analogies

Study of curing of tires. V. Paschkis. il diags Rubber Age 69:45-50 Ap '51

Tables, calculations, etc.

Brine film resistance to heat flow of calcium chloride, sodium chloride, and ethylene glycol; with charts. C. T. Shields. Refrig Eng 59:880-4 S '51

Calculation of the rate of heat transfer through a laminar boundary layer. A. N. Tifford and J. Wolansky. bibliog J Aeronautical Sci 18:427-8 Je '51

Heat losses for various U-values and areas; reference data. Heat & Ven 48:136a-136b S; 138a-138b O '51

Heat-transfer and flow-friction characteristics of some compact heat-exchanger surfaces. W. W. Kays and A. L. London. bibliog il diags A S M E Trans 72:1075-95 N '50

Heat transfer and heat release in fluidized beds. N. L. Carr and N. R. Amundson. bibliog Ind & Eng Chem 43:1856-62 Ag '51

Heat transfer coefficients in horizontal tube evaporators. W. L. Bryan and G. W. Quaint. bibliog diags Refrig Eng 59:67-72; Discussion. 72 Ja '51

Heat transfer to a fluid flowing turbulently in a smooth pipe with walls at constant temperature. R. A. Seban and T. T. Shimazaki. bibliog A S M E Trans 73:803-7; Discussion. 807-9 Ag '51

Liquid metal heat-transfer coefficients. R. N. Lyon. bibliog il Chem Eng Prog 47:75-9 F '51

Loss coefficients for abrupt changes in flow cross section with low Reynolds number flow in single and multiple-tube systems. W. M. Kays. bibliog diags A S M E Trans 72:1067-74 N '50

Method for the calculation of heat transfer in solids with temperature-dependent properties. R. Plunkett. A S M E Trans 73:605-7; Discussion. 607-8 Jl '51

Packed-tube heat transfer. M. Leva. diags Ind & Eng Chem 42:2498-501 D '50

Process variables in furnace operations. P. Buthod. Oil & Gas J 50:79-81+ Ag 30 '51; Same. Pet Refiner 30:77-82 Ag '51

HEAT treatment

Age hardenable high-nickel alloys. W. A. Mudge. data sheet(p528B) Metal Prog 59:529-36 Ap '51

Effect of heat treatment on the electrical properties of germanium. H. C. Theuerer and J. H. Scaff. bibliog il diags J Metals 191:Trans 59-63 Ja '51

Effect of heat treatment on the surface properties of gibbsite. S. J. Gregg and K. S. W. Sing. bibliog diag J Phys & Colloid Chem 55:596-604 Ap '51

Effect of rate of cooling on the alpha-beta transformation in titanium and titanium-molybdenum alloys. P. Duwez. bibliog il J Metals 3:Trans 765-71 S '51

Engineering properties of iron castings can be improved by heat treatment. C. E. Herington. il diags Materials & Methods 32:50-3 D '50

Heat treatment and structure of commercial titanium. J. Maltz and V. De Pierre. il Metal Prog 58:862-6 D '50

Heat treatment improves brittle lacquer accuracy; abstract. K. C. Rockey. Product Eng 22:283-4 My '51

Heat treatment of welds in pipelines. A. H. Goodger. il Engineering 172:125-7, 157-8, 191 Jl 27-Ag 10 '51

Improvements in furnaces and methods for heat treatment. F. E. Harris. il diags Metal Prog 59:62-8 Ja '51

Iron-silicon alloys heat treated in a magnetic field. M. Goertz. J Ap Phys 22:964-5 Jl '51

Measurement of stress relief. C. R. Tottle. Metallurgia 43:148-50 Mr '51

Nickel-aluminum bronze. J. S. Vanick. il Foundry 79:108-11+ S '51

Progress in heat treatment in the last twenty-one years. P. F. Hancock. il Metallurgia 42:329-33 N '50

Relief by heat-treatment of externally applied stresses to cast iron; abstract. G. N. Gilbert. Metal Prog 60:134 S '51

Technical forum on progress in metalworking; heat treating. Steel 128:162-4+ Ja 1 '51

See also

Aluminum alloys, Heat treatment of
Case hardening
Electric furnaces, Heat treating
Furnaces, Heat treating
Quenching
Steel, Heat treatment of

Bibliography

Mid-century reference of heat treating; complete and modern index of references on time-temperature-transformation reactions; ferrous and nonferrous metals. F. R. Morral. bibliog (334 titles) Iron Age 167:267-8+ Ja 4 '51

HEAT treatment of aluminum alloys. See Aluminum alloys, Heat treatment of

HEAT treatment shops

Heat treating shops; tabulation. Iron Age 167:343 Ja 4 '51

Heat-treatment of crawler tractor gears. R. F. Kern. il plan S A E J 59:54-7 Ja '51

Modernized heat-treat unit improves quality, cuts costs; International harvester co. E. F. Johnson and C. C. Miller. il Am Mach 95:96-9 Ja 8 '51

Layout

Heat-treating setup for smooth flow of materials at Allis-Chalmers. R. F. Kern. plan Automotive Ind 103:49+ D 1 '50

HEAT units

Heat unit. E. Griffiths. bibliog Engineer 191:517-18 Ap 20 '51; Same. Engineering 171:577 My 11 '51; Discussion. J. R. Finniecome. 171:792 Je 29 '51

Unit of heat. Roy Aeronautical Soc J 55:52-5 Ja '51; Abstract. Engineer 190:506 N 24 '50

Unit of heat; with memorandum by C. Darwin. Inst Pet J 37:158-61 Mr '51; Same abr. Iron & Steel Inst J 167:445-6 Ap '51

HEATERS

Additional draft control with space heaters. diag Sheet Metal Worker 42:59 Je '51

Efficiency of bituminous-coal-burning space heaters. J. W. Tieman and F. L. Bagby. diags Heating-Piping 23:117-23 F '51

Forming method reduces heater tooling cost; illustrations with text. Product Eng 21:104-5 N '50

Heating a sheet and plate mill. il Heat & Ven 48:77-8 Mr '51

How to use direct fired units for plant heating. H. B. Schlosser. il diags Heating-Piping 23:93-5 F '51

New lightweight ground heater. Aviation W 53:36 N 27 '50

HEATERS—*Continued*

Selection of unit heaters; reference data. Heat & Ven 48:126a-126b Jl '51

Suspended units heat race track grandstand converted to factory. il Sheet Metal Worker 42:57-8 My '51

Unit heaters; tips on how to sell, apply and install them. il diags Dom Eng 176:120-1+ S; 134-5+ O; 142-3+ N '50

Units heat big airport building at Logan international airport. il Heating-Piping 23:117 Ap '51; Same cond. Dom Eng 177:110+ My '51

See also

Electric heaters
Gas heaters
Hot water heaters
Steam heaters

Testing

High-speed motion pictures detect defects in design. L. G. Waller. il Machine Design 22:143-5 D '50

HEATING

Climatology as an aid in heat pump design. G. S. Smith. il Heating-Piping 23:101-7 Je '51

Earth heat pump on intermittent operation; abstract. E. B. Penrod and others. diag Refrig Eng 59:267-8 Mr '51

Experience is my classroom. T. W. Reynolds. Heat & Ven 48:94-7 Ja '51 [cont monthly]

Heat pump efficiency improved with variable capacity compressor. R. A. Gonzalez. diag Refrig Eng 59:260-1 Mr '51

Heat-pump installations for residential use. E. R. Ambrose. il diags Mech Eng 73:115-20 F '51

Heating and cooling media other than water; physical properties; abstract. D. G. Lewis. Heat & Ven 48:84-6 Mr '51

Heating and ventilating of factories and public buildings; abstract. L. C. Watts. Electrician 146:304 Ja 26 '51

Heating systems for large buildings. J. C. McCabe. diags Eng N 145:42-4 N 9 '50

House heating practice has changed over the past decade, HHFA survey reveals. Heat & Ven 48:112 S '51

How to eliminate rule-of-thumb in heating. il plan diags Dom Eng 176:136-8+ Jl; 131-3+ Ag; 158-60+ S; 140-2+ O; 120+ N; 138-40 D '50

Physiological aspects of heating and ventilating. E. F. Du Bois. bibliog Heating-Piping 23:134-6; Discussion. 147-50 Ap '51

Power handbook; heating. J. C. McCabe, comp. plan diags Power 95:100-1 Jl '51

Practical application of the heat pump. A. B. Newton. il diags Refrig Eng 59:143-7+ F '51

Progress report on the heat pump. W. F. Friend. Refrig Eng 59:44-7+ Ja '51

Radiant conditioning in use at Reflection Point. C. A. Mills. il Heating-Piping 22:88-91 D '50; Same cond. Arch Forum 93:127-31 N '50; Discussion. Heating-Piping 23:69-70 Mr; 69-70 D '51

See also

Air conditioning
Boilers, Heating
Building—Heating aspects
Car heating
Electric heating
Fuel
Furnaces, Warm air
Gas heating
Heaters
Heating, Warm air
Heating from central stations
Hot water heating
Insulation (heat)
Lighting—Heating aspects
Oil burners
Oil fuel
Solar heating
Steam heating
Ventilation

also subdivision Heating and ventilation under special subjects, e.g.

Airplanes
Automobiles
Churches
Factories
Hospitals
School buildings
Steel works

Baseboard heating

Baseboard radiation. il diag Dom Eng 178:166+ S '51

How to use continuous circuit baseboard heating system. R. A. Parsons. il diag Heating-Piping 23:88-9 Mr '51

Radiant baseboard heating and effects of reduced thermostat setting and open bedroom windows at night. W. S. Harris and R. H. Weigel. il plans diags Ill U Eng Exp Sta Bul 391:1-67 '51 (pa 70c)

Radiant heating panels fit into baseboards; Electriglas panels. il diag Arch Forum 94:204+ F '51

Warm air heating through perimeter baseboard. il diag Sheet Metal Worker 42:87-8 Mr '51

Bibliography

Articles in "Heating and ventilating" relating to wartime production. Heat & Ven 48:79-80 Mr '51

Control

Automatic heating control systems for homes and small commercial structures. L. H. Johnson. il diags Am Bld 73:147-9+ Ja; 128-9+ F '51

Electronic control of heating systems. F. A. Annett. diags Power 95:90-1+ S '51

Electronic control of home heating. J. M. Wilson. il diag Electronics 23:84-7 D '50

Home-heating control modification. E. M. Howe. diag Electronics 24:171-2+ Jl '51

To zone or not to zone. L. Smith. diags Heat & Ven 48:81-4 Jl '51

Cost

Domestic heating; utilisation of appliances and fuel expenditure. Electrician 147:126 Jl 13 '51

Estimates

Heating installation time study. Sheet Metal Worker 42:66-7 My '51

Practical pointers on estimating job costs. R. C. Soronen. Heating-Piping 23:90-2 F '51

Laws and regulations

Laws and regulations controlling school heating and ventilating. N. N. Wolpert. Heat & Ven 48:70-3 Mr; 105-7+ Ap; 103-6 My; 96-9 Je '51

Panel system

Air distribution ceiling panels eliminate need for supplementary heat; REA Meeker County co-op building. F. F. Lange. il diags Heating-Piping 23:80-2 Ag '51

Check your own radiant heating jobs against these facts! P. B. Gordon. il diags Dom Eng 177:144-5+ Ja '51

Comfort at the outside walls. Heating-Piping 23:103 My '51

Field studies of heat losses from concrete floor panels. C. M. Humphreys and others. il plan diags Heating-Piping 23:181-6 Ja '51

Heating and cooling with air in a radiant tile floor. L. B. Nye, jr. il plan diag Heat & Ven 48:72-3 Jl '51

How does radiant heating affect hardwood floors? P. S. Park, jr. Heating-Piping 23:142-3 Ja '51

How to stop heat loss from the floor. diags Dom Eng 178:94-7+ Jl '51

Optimum panel surface distribution determined from human shape factors. F. W. Hutchinson and M. Baker. Heating-Piping 23:108-12 Je '51

Radiant panel design tips. il diag Dom Eng 176:138-40 D '50

Warm air perimeter heating, heat emitted from floor surface. J. R. Jamieson and others. plan diags Sheet Metal Worker 42:62-4 Jl; 54-6+ Ag '51; Same abr. bibliog Heating-Piping 23:117-26 Jl '51

See also

Electric heating—Panel system
Hot water heating—Panel system

Study and teaching

National college for heating, ventilating, refrigeration and fan engineering. il plan Engineering 171:156-7, 162 F 9 '51

HEATING, Industrial

Aluminum aircraft parts hot formed successfully. G. C. Close. il Steel 128:84-6 Mr 5 '51

Bakelite heating costs lowered with radiant glass panels. il Elec World 135:114 Je 4 '51

Basic factors in hot-machining of metals. E. J. Krabacher and M. E. Merchant. bibliog il diag A S M E Trans 73:761-9; Discussion. 769-76 Ag '51

Finish your products the hot spray way. J. A. Bede. il diags Refrig Eng 58:1084-6 N '50

HEATING, Industrial—*Continued*

Heat requirements for retorting oil shale. H. W. Sohns and others. bibliog flow diag il diag Ind & Eng Chem 43:33-6 Ja '51

High temperature liquid process piping systems; installation utilizing tetra cresyl silicate. W. F. Moore. diags Heating-Piping 23:100-2 My '51

High-velocity burners cut fuel costs and furnace size. L. C. Peskin. il diags Iron Age 168:63-6 Ag 9; 104-7 Ag 16 '51

Hot gas welding of plastics. J. A. Neumann. il diags Mod Plastics 28:97-102 N '50

Hot-joggling aluminum extrusions. T. E. Piper. il Mach 57:144-8 N '50

Hot paint spraying saves finishing materials. labor. H. J. Holtz. il Steel 128:85-6 Mr 12 '51

How the metalworking industry uses LP gas. O. Johnson. Iron Age 167:96-8 Je 14 '51

Liquid resin curing in component manufacture. R. G. Peters. Tv Eng 2:18-19+ Ag '51

Magnesium sheet hot formed at less cost at Douglas Aircraft. G. C. Close. il Steel 127:56-8 N 27 '50

Methods of heating laminated plastics for postforming. W. I. Beach. diags Mach 57:170-2 Mr; 185-7 My '51

New development in radiant heating for the petroleum industry. C. C. Tate. il diags Oil & Gas J 50:106+ My 10 '51; Same. Pet Refiner 30:103-6 My '51; Same. Pet Eng 23:C14-16+ Je '51; Abstract. Pet Processing 6:616-17 Je '51

Plastics can be joined by several welding methods. L. M. Jaroff. il diags Materials & Methods 33:74-8 F '51

Radiant heater cuts costs. il diag Chem Eng 58:200 Je '51

See also

Drying
Drying apparatus
Electric heating, Industrial
Foundry practice
Furnaces, Heating
Gas as fuel
Gas heating, Industrial
Heat treatment
Hot water heating, Industrial
Infrared rays—Industrial heating
Metallurgy
Oil fuel
Oil heating
Open hearth process
Ovens
Oxyacetylene flame
Paint—Drying
Paper drying
Steel, Heat treatment of
Welding

Control

Controllability and plant design. L. Walter. bibliog il diags Chem Age (Lond) 65:359-62, 391-5 S 15-22 '51

Radiation pyrometers control new high-gradient heating process. H. W. Cox. il diags Instruments 24:878-9 Ag '51

Tables, calculations, etc.

Heat transfer data for kettles with jackets and coils. G. H. Cummings and A. S. West. bibliog diag Ind & Eng Chem 42:2303-13 N '50

HEATING, Warm air

Air distribution ceiling panels eliminate need for supplementary heat; REA Meeker County co-op building. F. F. Lange. il diags Heating-Piping 23:80-2 Ag '51

Bathtub warming; warm air heating system. diags Am Bld 73:218 Ag '51

Blower adjustment for comfort conditions. W. A. Rockafield. Sheet Metal Worker 42:51-2+ Je '51

Combination car drying and winter heating system. il Sheet Metal Worker 42:76-7 Ag '51

Designing warm air perimeter heating systems. R. Follansbee. il plan Sheet Metal Worker 42:51-2+ My '51

Duct layouts for heating schools. S. Lewis. diags Heating-Piping 23:104-5 S '51

Each apartment has a furnace; Parkway Gardens, Parma, Ohio. il plans Arch Rec 108:154 D '50

Electronic air filters; untapped market exists. il diag Sheet Metal Worker 42:62-3 S '51

Fiber tubing, economical substitute for metal duct work in warm air heating; Sonoairduct. il diag Arch Forum 94:206 Je '51

Heater-cooler home installation. il Sheet Metal Worker 42:57+ Je '51

Heating and cooling with air in a radiant tile floor. L. B. Nye, jr. il plan diag Heat & Ven 48:72-3 Jl '51

Heating contractor goes after the big ones; zone control in warm air heating. A. Stout. il Sheet Metal Worker 42:48-9+ Ag '51

Heating, drying in auto laundry. il Sheet Metal Worker 42:58+ D '50

Heating enclosed porch area. S. R. Lewis. Heating-Piping 22:103 N '50

Heating installation time study. Sheet Metal Worker 42:66-7 My '51

Heating job goes to school; Illinois institute of technology. il diags Dom Eng 177:152+ Ap '51

Heating system lowers school costs; Hillsborough township elementary school, N.J. il plans diags Arch Rec 109:191-4 Je '51

Heating systems for large buildings. J. C. McCabe. diags Eng N 145:44 N 9 '50

Heating the small rural school. E. M. Tarnoff. il Heat & Ven 48:81-2 S '51

Hot and cold ducts feature direct fired system for school. H. A. Vernay, jr. il Heating-Piping 23:79-81 Jl '51

How to stop heat loss from the floor. diags Dom Eng 178:94-7+ Jl '51

How to use direct fired units for plant heating. H. B. Schlosser. il diags Heating-Piping 23:93-5 F '51

Make your own weather; Columbia steel co. il Steel 127:69 O 30 '50

Newer concepts of forced warm-air heating. N. C. Sewells. diags Sheet Metal Worker 42:68-9+ Jl; 69-70+ Ag; 64-5 S '51

Perimeter heating installations defined. Sheet Metal Worker 42:61+ S '51

Perimeter heating provides answer to problem of heating homes without basements. il Dom Eng 176:132-3+ D '50

Perimeter layout for large residence. plan diag Sheet Metal Worker 42:66+ S '51

Perimeter warm air heating. il diags Am Bld 73:54+ Ja; 48+ F '51

Practical applications of warm air heating. il plans diags Dom Eng 176:129+ O; 147+ N '50

Radiant and convected warm air heat meet auto showroom needs. F. S. Lappin. il Heating-Piping 22:92-3 N '50

Registers along outside walls. G. A. Voorhees. plans diags Sheet Metal Worker 42:87+ Ja '51

Research points to perimeter heating as efficient method. Gas Age 107:4 My 10 '51

Sheet metal worker and the heating industry. il Sheet Metal Worker 42:49-50+ D '50

Simplified heating lessons. C. H. Burkhardt. diags Sheet Metal Worker 41:59-60+ My; 78+ Je; 79-80+ Jl; 73-4+ Ag; 81+ S; 42:72-3+ O; 88+ N '50; 105-6 Ja; 61-2 F; 68-9 Ap; 72+ My; 66+ Je; 78+ S '51

Something new in heating; Caldwell system of heating and air conditioning. il Dom Eng 177:107+ My '51

Steel usage in warm air heating industry. Sheet Metal Worker 42:52 N '50

Trends in warm air heating. C. H. Burkhardt. maps Sheet Metal Worker 42:45-50 My; 54-6 Je '51

Try these ideas on your warm air heating jobs. diags Dom Eng 177:137 My '51

Two way job gives year-round comfort; combination oil-fired heating and mechanical cooling. il plans diag Dom Eng 177:158+ Ja '51

Versatility is the word for unit heaters for airport building in Boston. il Dom Eng 177:110+ My '51

Walking on warm air; basementless house has floor of two thin concrete slabs, and channels of brick between to circulate warm air. il plan diags Am Bld 73:176+ Ja '51

Wall base perimeter heating; technical guide. il plan diags Am Bld 73:50+ Jl '51

Warm air forced through cellular steel floors in exhibition home; Detroit builders' show ideal home. J. S. Bobbio. il plan diags Heat & Ven 48:55-7 Ja '51

Warm air heating for schools. F. W. Osborn. diag Heat & Ven 47:67-9 D '50

Warm air heating through perimeter baseboard. il diag Sheet Metal Worker 42:87-8 Mr '51

HEATING, Warm air—*Continued*

Warm air perimeter heating, heat emitted from floor surface. J. R. Jamieson and others. plan diags Sheet Metal Worker 42:62-4 Jl; 54-6+ Ag '51; Same abr. bibliog Heating-Piping 23:117-26 Jl '51

Warm air wins over steam; Ueber tool & manufacturing co. il Sheet Metal Worker 42:82 S '51

Year-round air conditioning for residences. G. R. Wachter and C. M. Gerhart. diags Heat & Ven 48:87-102 My '51

See also

Furnaces, Warm air

Registers (heating)

HEATING contracts

According to law; review of legal decisions which will help plumbing and heating contractors to avoid law suits. Dom Eng 176:115-16+ D '50; 177:112+ Ja; 95+ Ap; 123+ Je; 178:114+ Ag; 130+ S; 114-15+ O '51 (to be cont)

Review of legal decisions of value to air conditioning and heating contractors. L. T. Parker. Heat & Ven 48:88-91 Ja; 99-101 Ap; 87-90 Jl '51

HEATING equipment

Fuel trends revealed in Census of Housing report. Heat & Ven 48:108+ S '51

Heating and fuel trends. Sheet Metal Worker 42:62+ Ag '51

Heating equipment for buildings. J. C. McCabe. il Eng N 145:43-5 N 23 '50

Heating, piping, and air conditioning equipment for industry and large buildings; trade names. Heating-Piping 23:94d-109d Ja '51

How defense program will affect heating products. il Dom Eng 177:94-5+ Mr '51

How to select a-c motors for heating and air conditioning. C. P. Potter. il diags Heating-Piping 23:83-9 F '51

MIMA specification for the insulation of heating systems; data sheet. Heating-Piping 23:128-9 Ap '51

Oil-heat show, Chicago, April 2-6. Dom Eng 177:156+ Je '51

Selection of induction motors for air conditioning, heating and ventilating equipment. G. Nafe. il diags Heat & Ven 48:75-84 Je '51

Something new in heating; products on display at the ASHVE exposition. Dom Eng 176:89+ D '50

See also

Boilers, Heating	Heat pump
Furnaces	Heaters

HEATING from central stations

Churchill gardens. il diag Elec R (Lond) 149:228-9 Ag 3 '51; Electrician 147:265-6 Jl 27 '51

Extension to the steam plant at the University of Idaho. H. F. Gauss. il plan diag Power Eng 55:74-6+ Je '51

Steam-generating station as a source and sink for the heat pump. J. A. Eibling and B. A. Landry. diag Mech Eng 73:554-8+ Jl '51

HEATING industry

Contract forms. Dom Eng 176:112-13+ N '50

CMP pie is ready for cutting; how much for plumbing and heating. Dom Eng 177:82-4 My '51

Doctor of heating. il Dom Eng 177:125 F '51

Don't overlook the FHA. A. Stout. Sheet Metal Worker 42:72-4+ F '51

Education; expansion of the industry's educational effort during the current year. il Sheet Metal Worker 42:47-8 D '50

Everybody gets ideas! contest winners get good publicity. il Dom Eng 176:103-5 D '50

Everybody sells! at Benedict's. il Dom Eng 176:102 D '50

Five contractors take over defense jobs. il Dom Eng 177:82-3+ Mr; 88-9+ Ap; 106-7 My; 108+ Je '51

Guns or plumbing and heating? Dom Eng 177:84-6 Je '51

Heating is in the news. Dom Eng 178:112+ Jl; 142+ S; 146-8+ O '51

Here's how to get defense contracts. Dom Eng 177:83+ F '51

Here's how to level out the peaks and valleys in a heating business. il Dom Eng 177:100-2 Ja '51

How P-H contractors can use the MRO program to obtain vital supplies; questions and answers. Dom Eng 177:86 Je '51

How to level out the peaks and valleys in a heating business. il Dom Eng 177:90-3 My; 100-1+ Je '51

Let's see you do it training is heart of Winkler's dealer course. R. C. Hulse. il Sales Management 66:42-4 My 20 '51

Look ahead at 1951; opinions of executives. Sheet Metal Worker 42:53-7 Ja '51

Mr Cummings had a problem maintaining good customer relations; Clinton plumbing & heating co. il Dom Eng 177:96-9 Ap '51

More good ideas from contest winners. il Dom Eng 177:110-11 Ja '51

181 get prizes, everybody gets ideas! All-industry merchandising contest. il Dom Eng 176:90-2+ N '50

Plumbing-heating surveys are good business. E. Phillips. Dom Eng 177:100-1 Mr '51

Polishing the crystal ball; how sheet metal and heating dealers can increase their business. J. E. Philips. Sheet Metal Worker 42:47-8+ Je '51

Reasonable prices, nominal profits; Nordby slogan. il Sheet Metal Worker 42:39-40 Mr '51

Sales training, even now; Coleman, heater manufacturer, launches $2-million program. il Bsns W p 114-15 Mr 17 '51

Sell the gifts that keep on giving; suggestions for Christmas business. il Dom Eng 176:86-8+ D '50

Sheet metal worker and the heating industry. il Sheet Metal Worker 42:49-50+ D '50

Should you hire an engineer? here's how an engineer pays-out at the Home improvement co. il Dom Eng 176:94-5+ D '50

Some tips on good management. Dom Eng 176:90-1+ D '50; 177:104-6+ Ja '51

Strategy guide for doing business in a mobilization economy. il Dom Eng 177:106-7 Mr '51

Strategy guide for 1951. il Dom Eng 177:86-8 Ja '51

Ten-point guide to successful retailing. il Dom Eng 176:114-15+ N; 110-13+ D '50

Three ways to meet competition from the cut-rate store. L. P. Hudson. il Dom Eng 177:94-5+ F '51

2,001 sales promotion ideas push plumbing and heating; Domestic Engineering's contest. B. Aitchison. il Ind Marketing 36:37-9 S '51

Washington authority analyzes the CMP program and its likely affect on our industry. P. B. B. Andrews. Dom Eng 177:84+ My '51

Washington report; brief review of the mobilization program and its likely effect on our industry. Dom Eng 176:84-5 D '50

Ways to get free publicity. Dom Eng 177:98-9 Mr; 107-8 Ap '51

What makes a top merchandiser? success story of Robert Schaefer's home improvement co. il Dom Eng 176:94-8+ N '50

X-ray heating system display. il Dom Eng 178:102-3 Ag '51

See also National heating wholesalers association

Advertising

How much should I budget for advertising? Dom Eng 177:112+ F '51

How to make satisfied customers your best salesmen! Detweiler brothers, of Twin Falls, Idaho. il Dom Eng 176:98-9 N '50

Let's analyze the benefits of price advertising. il Dom Eng 177:88-9+ Je '51

Only 55 more days until Christmas! il Dom Eng 176:104-5+ N '50

Sales aid for dealers to spur use of oil heating. il Dom Eng 178:135 S '51

When prospects put up with the status quo; Minneapolis-Honeywell program. Sales Management 67:44-6 O 1 '51

Directories

Directory section; names and addresses of manufacturers of equipment and products used in air conditioning, sheet metal work, ventilation and warm-air heating. Sheet Metal Worker 42:161-82 Ja '51

HEATING, Industrial—Directories—*Continued*

1951 directory; heating, piping, and air conditioning equipment for industrial, commercial, institutional and public buildings; classified by products, trade names and manufacturers' addresses. Heating-Piping 23:1d-127d Ja '51

Exhibitions

Impressive displays highlight exposition. il Sheet Metal Worker 42:90+ Mr '51

International heating and ventilating exposition; exhibitors and their exhibits. plan Heating-Piping 23:148-60 Ja '51; Sheet Metal Worker 42:121-5 Ja '51; il Arch Rec 109:151+ Mr '51; Dom Eng 177:96-7+ Mr; 144-5+ Ap '51

Remodeling

Oldest market is the best market! heating and air conditioning contract for remodeled office building. il Dom Eng 177:128-9+ F '51

Trend is to remodeling! il Dom Eng 177:90-1 Mr; 92-3+, 94 Ap '51

Statistics

Heating equipment shipments up to April 30. Sheet Metal Worker 42:53 Ag '51

Heating sales and statistics, 1950. Sheet Metal Worker 42:36-9+ D '50

Inventories of warm air heating products. Sheet Metal Worker 42:57-8 Ag '51

HEATING pads, Electric

Heating pads and blankets; methods of construction and control. H. Reik. Elec R (Lond) 148:545-8 Mr 16 '51

HEATING pipes

German method of heating design; Rietschel-Brabbee method. E. A. Kaplun. Heating-Piping 23:99-100 Je '51

Heating contractor goes after the big ones; zone control in warm air heating. A. Stout. il Sheet Metal Worker 42:48-9+ Ag '51

Pipe and boiler insulation techniques. il diags Dom Eng 177:132-3+ My; 146+ Je '51

Simplified heating lessons; how to use the friction and other charts in determining pipe sizes. diag Sheet Metal Worker 42: 66+ Je; 78+ S '51

Standardized fittings. il Dom Eng 178:146-7+ Ag '51

HEATING, piping and air conditioning contractors national association

Annual meeting, 62d, Washington. Dom Eng 177:90-1+ Je; 178:125+ Jl '51

Annual meeting, 62d, Washington. Heating-Piping 23:74-7 Je '51

HEATING research

American society of heating and ventilating engineers Environment laboratory, Cleveland. Heat & Ven 48:120 O '51

Annual report of committee on research; report of director of research, American society of heating and ventilating engineers. bibliog Heating-Piping 23:132-8 Mr '51

Barometric draft-control analysis. H. B. Nottage and others. il diags Heating-Piping 23:115-22 Je '51

Cooperative research projects. Heating-Piping 22:121 N '50

Experimental cooling-heating system cuts fuel bills by use of heat reflective surfaces in rooms. C. A. Mills. il plans diags Arch Forum 93:127-31 N '50

Field studies of heat losses from concrete floor panels. C. M. Humphreys and others. il plan diags Heating-Piping 23:181-6 Ja '51

Heat pump; heat sources and sinks. il Heating-Piping 22:87-91 N '50

Laboratory studies of the thermal characteristics of plaster panels. C. M. Humphreys and others. il diags Heating-Piping 23:127-32 Jl '51

Optimum panel surface distribution determined from human shape factors. F. W. Hutchinson and M. Baker. Heating-Piping 23:108-12 Je '51

Radiant baseboard heating and effects of reduced thermostat setting and open bedroom windows at night. W. S. Harris and R. H. Weigel. il plans diags Ill U Eng Exp Sta Bul 391:1-67 '51 (pa 70c)

Warm air perimeter heating, heat emitted from floor surface. J. R. Jamieson and others. plan diags Sheet Metal Worker 42: 62-4 Jl; 54-6+ Ag '51; Same abr. bibliog Heating-Piping 23:117-26 Jl '51

HEATING wholesalers' association, National. See National heating wholesalers' association

HEAVY media separation. See Sink and float process

HEAVY water. See Water—Heavy water

HECOGENIN

Bromination of hecogenin acetate. G. P. Mueller, R. E. Stobaugh and R. S. Winniford. Am Chem Soc J 73:2400-1 My '51

Sources of hecogenin. R. K. Callow and others. bibliog Chem & Ind p699-700 Ag 18 '51

HEDGEHOGS

Alarm reaction and the hibernating gland. P. Suomalainen and A.-M. Herlevi. Science 114: 300 S 21 '51

HEDGING

British inflation fears; problem of individual hedging. P. Einzig. Comm & Fin Chr 173: 2255 My 31 '51

Common stocks can hedge inflation, if you pick right. Bsns W p 114-16 F 24 '51

What can we expect from common stock investments? G. F. Shaskan, jr. Comm & Fin Chr 172:1692 N 2 '50

Which common stocks as inflation hedges? with statistical data on selected stocks. W. Gates. Mag of Wall St 87:111-13+ N 4 '50

HEDVALL, Johan Arvid, 1888-

Johan Arvid Hedvall. R. E. Oesper. por(front) J Chem Educ 28:381 Jl '51

HEELS, Rubber

Sole and heel industry. India Rubber World 124:64-5 Ap '51

HEINDEL, Louis E.

Heindel sees need for better selling. G. A. Brandenburg. por Ed & Pub 84:28 Ap 7 '51

HEINZ, Henry John, 1908-

President, H. J. Heinz co. por Fortune 42: 12-13 D '50

HEINZ, H. J., company

Heinz mobilizes for mass markets. L. M. Hughes. il Sales Management 65:37-9+ D 1 '50

HEISENBERG operators. See Quantum electrodynamics

HELICAL gearing. See Gearing, Spiral

HELICOPTERS

Adapting Cyclones for copter use. il Aviation W 54:35-6 My 14 '51

American helicopter society annual forum, Washington. Aviation W 54:16-17 My 7 '51

Analysis of helicopter propulsion systems. J. A. Johnson and R. H. Eustis. bibliog diags A S M E Trans 73:519-27 Jl '51

Ask fund to study passenger copters. Aviation W 54:14 Je 11 '51

Ask prototype aid for helicopters. Aviation W 54:18 Mr 26 '51

BEA's helicopter service. Economist 160:704 Mr 24 '51

Canada's first certificated copter. il Aviation W 54:36 Je 11 '51

CAB approves helicopter use for points in Los Angeles area. CAA J 12:87 Ag 20 '51

Commercial helicopter operations. Engineering 171:419 Ap 6 '51

Copter shares lure speculators. S. Altschul. Aviation W 54:43 Ja 22 '51

Copters lure speculating public. S. Altschul. Aviation W 54:61-2 Je 18 '51

Copters Westland wants to make. il Aviation W 55:30 Ag 20 '51

Faster helicopters are future goal; abstract. I. Sikorsky. S A E J 58:85 D '50

Goodyear to build Piasecki components. Aviation W 53:19 D 18 '50

Government aid asked for copters. Aviation W 55:17 Ag 13 '51

Helicopter drives; mechanical transmission system. D. W. Botstiber. il diags Machine Design 23:185-91 Ap '51

Helicopter, logical answer in solving the short-haul passenger problem. C. Belinn. Aeronautical Eng R 10:10 F '51

Helicopter strings duplex line in three minutes. T. M. Blakeslee. il Elec World 135: 160 My 21 '51

Helicopter surveys northern Canada. il map World Oil 132:264-5 Ap '51

HELICOPTERS—*Continued*

Helicopters. il Aero Digest 62:52+ F '51

Helicopters, a versatile oil-field tool. F. W. Lee and B. M. Tinder. il Oil & Gas J 50:225+ Je 21 '51

Helicopters; illustrations and drawings with brief descriptions. Aero Digest 62:54-6+ Mr '51

Helicopters; present and future. I. I. Sikorsky. il Aeronautical Eng R 10:37-8 F '51

Helicopters speed Humble's exploratory operations. il Oil & Gas J 50:95-6 Jl 12 '51

Helicopters will star in show and study. A. McSurely. il Aviation W 54:13-14 F 12 '51

Laminar boundary layer on a rotating blade. L. E. Fogarty. bibliog diag J Aeronautical Sci 18:247-52 Ap '51

Look at tomorrow's passenger copters. D. A. Anderton. il Aviation W 54:21-4+ Ap 9 '51

LAA readies passenger copter service. il maps Aviation W 55:55-6 Jl 23 '51

McCulloch tandem-rotor helicopter. il Automotive Ind 104:48+ Ap 15 '51; Aviation W 54:32-3+ Ap 30 '51

Maintenance by real sky-hook; helicopters for stack or tower painting. il Pet Processing 6:636 Je '51

1951 U.S. rotary wing aircraft; tabulation. Automotive Ind 104:153 Mr 15 '51

Scheduled passenger copters for N.Y.? Aviation W 53:45-8 N 6 '50

Siting microwave antennas by helicopter. B. I. McCaffrey. il diag Electronics 24:82-4 S '51

Some operational problems of public transport helicopters. R. H. Whitby. bibliog diags Roy Aeronautical Soc J 55:27-42 Ja '51

Soundings above Niagara falls obtained by helicopter and Kytoons. F. P. Bane. il map Civil Eng 21:529-32 S '51

Speed copter work, ACC group urges. Aviation W 54:84-5 Je 18 '51

Taxis on the wing; West Coast helicopter passenger service marks new air milestone. R. P. Cooke. Barron's 31:9-10 Jl 23 '51

Up with the helicopter. il Fortune 43:91-5+ My '51

Control

Automatic pilots developed for helicopters. il Aviation W 53:17 N 20 '50

Helicopter stability and automatic control. D. N. Meyers and others. il diag Aeronautical Eng R 10:27-32 Jl '51; Same. Aero Digest 62:17-19+ Je '51

Cost of operation

LAA cuts copter operating expenses. Aviation W 54:70 My 21 '51

Design

Bristol finishing prototype 173 copter. il plan diags Aviation W 54:21-2+ My 7 '51

Desirable longitudinal flying qualities for helicopters and means to achieve them. F. B. Gustafson. bibliog il Aeronautical Eng R 10:27-33 Je '51

Helicopter design. diags Aero Digest 62:76-82+ F '51

Type of lifting rotor with inherent stability. K. Hohenemser. bibliog diags J Aeronautical Sci 17:555-64 S '50; Discussion. G. J. Sissingh. 18:210-11 Mr '51

Forestry use

Helicopter as a fire fighting unit; other forestry uses. il Pulp & Pa of Can 52:139+ S '51

Helicopter seeding speeds reforestation; Crown Zellerbach corp. G. H. Schroeder. il map Paper Ind 32:1175-7 F '51

Use of helicopters to combat forest fires. W. H. D. Hanchet and J. W. R. Drummond. il Pulp & Pa of Can 52:134-6 S '51

Ice protection

Investigation of a rotor blade thermal ice-prevention system for the H-5 helicopter. E. F. Katzenberger. bibliog il Aeronautical Eng R 10:25-33 S '51

Jet propulsion

American helicopter wins jet award. Aviation W 54:17 Je 4 '51

How GE tested ramjet for helicopters. il diag Aviation W 55:32+ S 10 '51

Jet copter; McDonnell Model 86. Aviation W 55:221 S 24 '51

Jet copter; S.O. 1020 Ariel III. il Aviation W 55:25-6 Jl 2 '51

Little Henry proves ramjet copter practical. C. R. Wood, jr. il S A E J 59:69 Ag '51

Navy names Kaman in gas-turbine test; utilizing gas-turbine as power plant for helicopters. Aviation W 55:18 Jl 16 '51

New helicopter powered by twin ram jet engines. il Automotive Ind 104:36 Mr 1 '51

Ramjets power Hornet helicopter. il Aviation W 54:25 F 19 '51

Military use

Army copter groups get H-19 transports. Aviation W 53:14 O 30 '50

Army copters. B. S. Lee. Aviation W 54:17-18 Ap 9 '51

Bell's big YH-12B put through paces. il Aviation W 53:17 N 6 '50

'Copters in Korea. G. W. Fey. il Aero Digest 61:21+ N '50

Helicopter value recognized by military. Aviation W 54:79-80+ F 26 '51

Invasion by air; U.S. marines and helicopters. il Aero Digest 62:24+ Ja '51

Jet copter; McDonnell Model 86. Aviation W 55:221 S 24 '51

Services to buy 800 helicopters. Aviation W 55:15 S 17 '51

Sikorsky, McDonnell copters for marines. Aviation W 54:17 Mr 26 '51

Two new copters offered military. il Aviation W 54:18 Ap 23 '51

USAF copter instrument course. Aviation W 54:27-8 Ja 22 '51

Specifications

Leading helicopters of the U.S.; tabulation. Aviation W 54:84 F 26 '51

HELICOPTERS in insect control

Helicopter effective for spraying elm trees. R. B. Meaney. Pub Works 82:88-9 Je '51

HELIOPLANE. See Airplanes, Light—Design

HELIOPSIS

Constituents of heliopsis species; scabrin, an insecticidal amide from the roots of H. scabra Dunal. M. Jacobson. bibliog Am Chem Soc J 73:100-3 Ja '51

HELIUM

Anomalous first layer of adsorbed helium and a modified B.E.T. theory. J. G. Aston and S. V. R. Mastrangelo. bibliog J Chem Phys 19:1067-8 Ag '51

Atmospheric helium. P. Harteck and V. Faltings. Chem Age (Lond) 64:174 Ja 27 '51

Cross sections for ion-atom collisions in He, Ne, and A. J. A. Hornbeck and G. H. Wannier. Phys R 82:458 My 1 '51

Electron removal in helium afterglows. R. A. Johnson and others. Phys R 80:376-9 N 1 '50

Engineering aspects of separation of gases; fractional permeation through membranes. S. Weller and W. A. Steiner. bibliog flow diags diags Chem Eng Prog 46:585-90 N '50

Formation of molecular helium in a glow discharge. W. D. Parkinson. bibliog Opt Soc Am J 41:619-22 S '51

Helium and its uses. R. A. Cattell and H. P. Wheeler, jr. World Oil 131:64+ D '50; Same cond. flow chart il Pet Refiner 30:91-4 Mr '51

Helium strengthens aluminum welds. Bsns W p70+ My 26 '51

Helium tracer gas studies; Shuler field, Ark. E. M. Frost, jr. maps diags Pet Eng 23:B7-12+ Mr '51

Influence of argon, helium, oxygen, and carbon dioxide on emission spectra in the d.c. arc. B. L. Vallee and others. bibliog diag Opt Soc Am J 40:751-4 N '50

Influence of foreign gases at high pressures on the infrared absorption band of methane at 3.3μ. H. L. Welsh and others. bibliog diag J Chem Phys 19:340-4 Mr '51

Ionization of argon atoms by helium or neon metastable atoms. M. A. Biondi. Phys R 83:653-4 Ag 1 '51

Liquid-solid transition in helium near absolute zero; abstract. F. E. Simon and C. A. Swenson. Refrig Eng 59:570-1 Je '51

Mobile multilayer adsorption of a Bose-Einstein gas; helium. W. Band. bibliog J Chem Phys 19:435-8 Ap '51

HELIUM—*Continued*
Mobilities of molecular and atomic rare gas ions in the parent gases; helium, neon, and argon. J. A. Hornbeck. bibliog Phys R 80:297-8 O 15 '50
New 15 cu ft cryostat in operation at MIT. il Refrig Eng 58:1196+ D '50; Machine Design 23:172 Mr '51
Photodisintegration of He^4 nuclei by X-rays from a 100-Mev betatron. E. R. Gaerttner and M. L. Yeater. bibliog il diag Phys R 83:146-50 Jl 1 '51
Preparation of extremely pure helium gas. M. A. Biondi. diags R Sci Instr 22:535-6 Jl '51
Products of the high energy helium ion and deuteron bombardment of tungsten. S. E. Turner and L. O. Morgan. Phys R 81:881-2 Mr 1 '51
Recombination and the helium afterglow spectrum. D. R. Bates. Phys R 82:103 Ap 1 '51
Scattering of 20-Mev alpha-particles by helium. K. B. Mather. diag Phys R 82:126 Ap 1 '51
Solid helium at high temperatures; abstract. F. A. Holland and others. Refrig Eng 59:570 Je '51
Some measurements of thermal transpiration. S. Chu Liang. diag J Ap Phys 22:148-53 F '51
Stability of short arcs in oxygen, hydrogen, and helium. W. M. Brubaker. bibliog diag Phys R 83:979-81 S 1 '51
Surface-area determination by adsorption of nitrogen-helium mixtures. W. V. Loebenstein and V. R. Deitz. bibliog diag J Res Nat Bur Stand 46:51-5 Ja '51
Theory of slow neutron scattering by solid and liquid helium. L. Goldstein and D. W. Sweeney. bibliog Phys R 80:141-4 O 15 '50
Total cross section of helium for fast neutrons. S. Bashkin and others. bibliog diags Phys R 82:378-80 My 1 '51

Analysis

Helium-bearing natural gases of the United States; analyses and analytical methods. C. C. Anderson and H. H. Hinson. il diags U S Bur Mines Bul 486:1-141; pa 70c Supt. of doc. '51

Isotopes

Angular distribution of the products of the $T(d,n)He^4$ reaction. J. E. Brolley, jr. and others. bibliog Phys R 82:502-5 My 15 '51
Apparatus for concentration of He^3 by thermal diffusion. O. F. Schuette, jr. and others. diags R Sci Instr 21:1016-18 D '50
$D—H^4$ interaction for 10.3-Mev deuterons. J. C. Allred and others. bibliog diag Phys R 82:786-90 Je 15 '51
Disintegration of He^3 by fast neutrons. J. H. Coon. bibliog Phys R 80:488 N 1 '50
Evidence for an excited state of He^5. W. T. Leland and H. M. Agnew. bibliog Phys R 82:559-60 My 15 '51
Excitation curve for the $H^3(p,\gamma)He^4$ reaction. C. E. Falk and G. C. Phillips. bibliog Phys R 83:468-9 Jl 15 '51
Isotopic weight of helium. K. T. Bainbridge. bibliog Phys R 81:146-7 Ja 1 '51
Low states of He^5 and Li^5. R. K. Adair. bibliog Phys R 82:750-1 Je 1 '51
Photodisintegration of He^4. T. S. Benedict and W. M. Woodward. diag Phys R 83:1269-70 S 15 '51
Precise determination of the $Li^7(p, \alpha)He^4$ and $Be^9(d, \alpha)Li^7$ Q-values. W. Whaling and C. W. Li. bibliog Phys R 81:150-1 Ja 1 '51
Reactions of He^3+He^3. W. M. Good and others. diag Phys R 83:845-6 Ag 15 '51
Spectrum of He^3 I. M. Fred and others. bibliog Phys R 82:406-21 My 1 '51

HELIUM, Liquid
Adiabatic oscillations in liquid helium. J. E. Robinson. Phys R 82:440-1 My 1 '51
Contribution to the theory of Bose-Einstein liquids. C. V. Heer and J. G. Daunt. bibliog Phys R 81:447-54 F 1 '51
Cooling by the mechano-caloric effect in helium; abstract. F. E. Simon. Refrig Eng 59:571 Je '51
Design and performance of a Joule-Kelvin helium liquefier. J. G. Dash and others. diags R Sci Instr 21:936-8 N '50
Float for liquid helium. J. Babiskin. R Sci Instr 21:941 N '50
Liquid helium held 100 days. Steel 128:97-8 Ap 23 '51; Product Eng 22:198 My '51; il Mech Eng 73:466, 509-10 Je '51; Elec Eng 70:651-2 Jl '51; Westinghouse Eng 11:124 Jl '51
Medium capacity helium liquefier. G. R. Hercus and G. K. White. il diags J Sci Instr 28:4-6 Ja '51
Pressure dependence of second sound velocity in liquid helium II. R. D. Maurer and M. A. Herlin. bibliog Phys R 81:444-7 F 1 '51
Pressure measurement in superflow. R. Bowers and others. bibliog diags Phys R 80:856-8 D 1 '50
Second shock in liquid helium II? F. Reines. Phys R 81:282 Ja 15 '51
Second sound in He^3-He^4 mixtures. E. A. Lynton and H. A. Fairbank. bibliog diags Phys R 80:1043-6 D 15 '50
Simple helium transport vessel. O. D. Gonzalez and others. diag R Sci Instr 22:702-3 S '51
Solidification of He^3. D. W. Osborne and others. diag Phys R 82:263-4 Ap 15 '51
Storage container for liquid helium. A. Wexler and H. S. Jacket. diag R Sci Instr 22:282 Ap '51
Thermal conductivity of liquid helium. C. Grenier. diags Phys R 83:598-603 Ag 1 '51
Transport rates of the helium II film over various surfaces. J. G. Dash and H. A. Boorse. bibliog diags Phys R 82:851-6 Je 15 '51
Two-fluid theory of liquid helium II below 1°K. S. Nakajima and M. Shimizu. Phys R 80:923 D 1 '50
Vapor pressure, critical point, heat of vaporization, and entropy of liquid He^3. B. M. Abraham and others. bibliog diag Phys R 80:366-71 N 1 '50
Vapor pressure of liquid helium at the lambda-point. E. Long and L. Meyer. Phys R 83:860 Ag 15 '51

HELLEBORE, American. See Veratrum

HELLER and Kramers theory
Classical spin-wave theory of Heller and Kramers. M. J. Klein and R. S. Smith. Phys R 80:1111 D 15 '50

HELL'S canyon
Hells canyon challenges dam builders. il Comp Air Mag 56:42-3 F '51

HELM, Grover C.
Country banker Grover C. Helm says, our job is to loan money; interview. pors Bsns W p50+ Mr 10 '51

HELMETS, Aviators'
Helmet visor. il Mod Plastics 28:157 My '51

HELMETS, Firemen's
Phenolic-impregnated fire helmet. il Mod Plastics 28:91 N '50

HELMHOLTZ equation
Solutions of some partial differential equations; with tables. L. Weinberg. Franklin Inst J 252:43-62 Jl '51

HELP wanted ads. See Employment systems—Advertising aids

HELSTEIN, Ralph
Lawyers of the jungle. por Fortune 43:52+ Je '51

HEMACYTOMETER
Collection of mist and dust for particle size measurement; electrostatic precipitation on hemacytometer. H. G. Bourne, jr. and L. B. Fosdick. bibliog il diags Anal Chem 22:1563-5 D '50

HEMATITE
Ilmenite, magnetite, hematite, and copper in lavas of the Keweenawan series. H. R. Cornwall. bibliog il Econ Geol 46:51-67 Ja '51

HEMATOXYLIN
Determination of germanium; colorimetric determination of microgram amounts with oxidized hematoxylin. H. Newcombe and others. bibliog diag Anal Chem 23:1023-7 Jl '51

HEMICELLULOSE
Aldose end-group estimation by cyanide consumption. A. P. Yundt. Tappi 34:95-6 F '51
Crystalline hemicelluloses. A. P. Yundt. bibliog il Tappi 34:89-95 F '51
Influence of hemicelluloses in wood pulp fibers on their papermaking properties. L. G. Cottrall. bibliog il Tappi 33:471-80 S '50; Same. Pulp & Pa of Can 51:135-43 S '50

HEMISPHERIC insurance conference
Annual meeting, 3d, Santiago, Chile, Oct. 3-11. East Underw 51:20 N 10 '50; Nat Underw 54:7 N 9 '50; Nat Underw (Life ed) 54:9 N 10 '50; Weekly Underw 163:769+, 1078 O 7, N 11 '50
Conference points way to cooperation and friendship. J. A. Diemand. Weekly Underw 164:1334+ My 26 '51
Resolutions regarding marine insurance approved at conference. Weekly Underw 163: 1247-8 D 2 '50

HEMLOCK
Essential oil of tsuga canadensis (L.) Carr. A. C. Shaw. bibliog Am Chem Soc J 73: 2859-61 Je '51

HEMOGLOBIN
Continuous recording of circulatory hemoglobin. A. C. Guyton and others. bibliog il diags R Sci Instr 22:205-9 Mr '51
Hemoglobin structure; abstract. L. Pauling. Chem & Eng N 29:3815 S 17 '51
Relation of oxygen uptake to hemoglobin synthesis. J. E. Richmond and others. bibliog Science 113:404-5 Ap 13 '51
Spectrophotometric determination of hemoglobin and oxyhemoglobin in whole hemolyzed blood. G. G. Nahas. il Science 113: 723-5 Je 22 '51

HEMOLYSIS
Hemolytic and antihemolytic activities of various centrifugally separated fractions of adult and fetal liver cells. D. B. Tyler. bibliog Science 112:456-9 O 20 '50
Hemolytic substance present in animal tissue. H. Laser. Science 113:609 My 25 '51

HEMP
Contradictory data on spiral structures in the secondary cell wall of fibers of flax, hemp, and ramie. P. S. Roelofsen. il diags Textile Res J 21:412-18 Je '51
See also
Sisal hemp

HENDERSON case. See Partnership—Taxation

HENDERSON medal
Presentation of the Henderson medal to Paul Walter Kiefer. Franklin Inst J 250: 564-5 D '50

HENEQUEN
Mechanics of elastic performance of textile materials; mechanical properties of hard fibers with reference to their use in cordage structures. E. R. Kaswell and M. M. Platt. bibliog Textile Res J 21: 263-76 My '51

HEPARIN
Evidence for the heparin nature of the nonspecific hyaluronidase inhibitor in tissue extracts and blood serum. D. Glick and B. Sylvén. bibliog Science 113:388-9 Ap 6 '51
Structure of heparin. M. L. Wolfrom and others. Am Chem Soc J 72:5796-7 D '50

HEPTACHLOR
Seven up; cotton bug killers. Chem Ind 67: 722-3 N '50

HEPTACHLOROCYCLOHEXANE

Analysis

Application of paper chromatography to the analysis of chlorinated organic insecticides. P. Moynihan and P. O'Colla. bibliog Chem & Ind p407 My 26 '51

HEPTALENE
Attempts to prepare new aromatic systems. G. O. Aspinall and W. Baker. Chem Soc J p743-7 F '50

HEPTAMETHYLTRIDECANOL
Synthesis and reactions of branched-chain hydrocarbons; hydrocarbons with the 3 : 5 : 5-trimethylhexyl group. E. M. Gutman and W. J. Hickinbottom. Chem Soc J p2064-7 Ag '51

HEPTANE
Apparatus for studying autoignition of engine fuels; results with normal heptane and normal hexane. W. J. Levedahl and F. L. Howard. bibliog il J Res Nat Bur Stand 46:301-9 Ap '51
Critical behavior and liquid-vapor equilibrium in mixtures of fluids. C. A. Boyd. bibliog il diag J Phys & Colloid Chem 54:1347-57 D '50
Distillation in 2, 4 and 5.75 inch diameter packed columns. A. C. Heinlein and others. Chem Eng Prog 47:344-6 Jl '51
Raman spectra of hydrocarbons; *n*-hexane, *n*-heptane, 2-methylpentane, 3-methylpentane, 2,4-dimethylpentane, and 2,3-dimethylbutane. F. F. Cleveland and P. Porcelli. bibliog J Chem Phys 18:1459-61 N '50
Solubility of perfluoro-*n*-heptane with benzene, carbon tetrachloride, chloroform, *n*-heptane and 2,2,4-trimethylpentane. J. H. Hildebrand, B. B. Fisher and H. A. Benesi. bibliog Am Chem Soc J 72:4348-51 O '50

HEPTATRIENE
Diamidides; derivatives of triazapentadiene and tetra-azaheptatriene. F. C. Cooper, M. W. Partridge and W. F. Short. Chem Soc J p391-404 F '51

HEPTOSES
Definitive proof that α-fucohexose is 7-desoxy-L-gala-D-*manno*-heptose. E. Zissis, N. K. Richtmyer and C. S. Hudson. bibliog Am Chem Soc J 72:3882-4 S '50

HEPTYNE
Hydration of 2-heptyne. G. F. Hennion and C. J. Pillar. Am Chem Soc J 72:5317-18 N '50

HERBERT, John K.
Portrait. Sales Management 65:40 D 15 '50

HERBS, Medicinal. See Botany, Medical

HERCULIN
Synthesis of long-chain aliphatic acids from acetylenic compounds; the synthesis of a geometrical isomer of herculin. R. A. Raphael and F. Sondheimer. Chem Soc J p 115-19 Ja '50

HERD, J. Victor, 1902-
Sketch. por East Underw 52:21-2 Ja 19 '51

HEREDITARY chorea. See Chorea, Hereditary

HEREDITY
Partner of the genes. T. M. Sonneborn. il diags Sci Am 183:30-9 N '50

HERMOSA formation
Reef limestones of Hermosa formation, San Juan canyon, Utah. S. A. Wengerd. bibliog il maps diags Am Assn Pet Geologists Bul 35:1038-51 My '51

HERNIA
Critical study of fifty recurrent hernias. B. C. Kilbourne. bibliog il Ind Med 20:83-5 F '51

HEROD, William Rogers, 1898-
Production; toughest job in NATO is held by W. R. Herod. por(cover) Bsns W p 157-8 My 26 '51

HEROISM. See Courage

HERRING
Kippers coming; British invade U.S. with smoked herring and Bovril; Hambro plan. il Bsns W p 129-30 O 21 '50

HERTY medal
Metallurgical pioneer, J. T. MacKenzie, wins. Chem & Eng N 29:2051 My 21 '51

HETEROCYCLIC compounds
Addition of heterocycles to conjugate unsaturated carbonyl compounds; difunctional derivatives. I. D. Webb and G. T. Borcherdt. bibliog Am Chem Soc J 73:752-3 F '51
Arylaminoheterocycles; trisubstituted pyrimidines. M.-J. Langerman and C. K. Banks. Am Chem Soc J 73:3011-12 Jl '51
Catalytic synthesis of heterocycles; dehydrocyclization of *o*-alkylbenzenes to indoles. C. Hansch and G. Helmkamp. bibliog Am Chem Soc J 73:3080-2 Jl '51
Catalytic synthesis of heterocycles; dehydrocyclization of anils to nitrogen heterocycles. C. Hansch and others. bibliog Am Chem Soc J 73:704-6 F '51
Chemistry of simple heterocyclic systems; a comparative study of some 4-substituted cinnolines, quinazolines, and quinolines. J. R. Keneford and others. Chem Soc J p 1104-11 Ap '50
Colour of organic compounds; a new method of assessing the ±*M* effect of heterocyclic nuclei. E. B. Knott and L. A. Williams. Chem Soc J p 1586-9 Je '51
Configuration of heterocyclic antimony compounds; preparation of 9-stibiafluorenes and optical resolution of 2-carboxy-9-*p*-tolyl-9-stibiafluorene. I. G. M. Campbell. diag Chem Soc J p3109-16 N '50
Heterocyclic basic compounds; 4-aminocoumarin derivatives. D. P. Spalding, H. S. Mosher and F. C. Whitmore. Am Chem Soc J 72:5338-9 N '50
Heterocyclic perfluoro-compound. R. N. Haszeldine. Chem Soc J p 1638 Je '50

HETEROCYCLIC compounds—*Continued*

- Heterocyclization of epimeric aminocyclanols. G. E. McCasland and E. C. Horswill. bibliog Am Chem Soc J 73:3744-6, 3923-6 Ag '51
- Influence of structure on the ultra-violet absorption spectra of heterocyclic systems. G. R. Clemo and D. G. I. Felton. Chem Soc J p671-7 Mr '51
- New syntheses of heterocyclic compounds; the condensation of ethyl β-aminocrotonate with some cyclic amidines. H. Antaki and V. Petrow. Chem Soc J p551-5 F '51
- N-heterocyclic benzenesulfonamides. M. E. Hultquist and others. bibliog Am Chem Soc J 73:2558-66 Je '51
- Polarographic reduction of some heterocyclic molecules; coumarin and certain derivatives thereof. A. J. Harle and L. E. Lyons. Chem Soc J p 1575-8 Je '50
- Polarographic reduction of some heterocyclic molecules; the reduction of cinchoninic acid. D. J. Casimir and L. E. Lyons. Chem Soc J p783-6 Mr '50
- Potential trypanocides of the *N*-heterocyclic series; 9-benzoyl- and 9 : 10-dihydro-phenanthridines. A. G. Caldwell, F. C. Copp and L. P. Walls. Chem Soc J p2698-704 O '50
- Some heterocyclic *N*-oxides. P. Mamalis and V. Petrow. Chem Soc J p703-11 F '50
- Steroids and related compounds; some heterocyclic derivatives. H. Antaki and V. Petrow. Chem Soc J p901-4 Ap '51
- Studies of the localization theory of organic reactions; the effects of annelation and of introducing hetero-atoms. R. D. Brown. Chem Soc J p 1955-61 Ag '51
- Synthesis of heterocyclic compounds from aryl azides; bromo and nitro carbazoles. P. A. S. Smith and B. B. Brown. bibliog Am Chem Soc J 73:2435-7 Je '51
- Synthesis of heterocyclic compounds from aryl azides; carbolines and thienoindole. P. A. S. Smith and J. H. Boyer. bibliog Am Chem Soc J 73:2626-9 Je '51
- Synthesis of heterocyclic nitrogen-containing ketones; ketones derived from 2-picoline. N. N. Goldberg, L. B. Barkley and R. Levine. bibliog Am Chem Soc J 73:4301-3 S '51
- Synthetic neuromuscular blocking agents; heterocyclic decamethylenebis(quaternary ammonium salts). E. P. Taylor. Chem Soc J p 1150-7 My '51
- Willgerodt reaction in the heterocyclic series; some compounds of the α- and β-thienyl series. J. A. Blanchette and E. V. Brown. bibliog Am Chem Soc J 73:2779-81 Je '51

HEVEA. See Rubber plants and planting

HEWITT-ROBINS, inc.

- Well along toward another peak year. Barron's 31:13 Ag 27 '51

HEXACHLOROCYCLOHEXANE

- Control of nuisance from flies in sewage filters; use of Gammexane. Munic Util 89:31-2+ My '51
- Electric moments of five of the isomeric hexachlorocyclohexanes. E. L. Lind, M. E. Hobbs and P. M. Gross. bibliog Am Chem Soc J 72:4474-7 O '50
- Hexachloro-cyclohexane. Chem Age (Lond) 64:358 Mr 3 '51
- Insecticides in industry and public health. H. Pirie. Chem & Ind p 100-4 F 10 '51
- Intracellular fat deposits in the kidney. M. L. Silver. Science 113:43 Ja 12 '51
- Mechanisms of elimination reactions; the kinetics of the alkaline dehydrochlorination of the benzene hexachloride isomers. S. J. Cristol, N. L. Hause and J. S. Meek. bibliog Am Chem Soc J 73:674-9 F '51
- Microscopic analysis of benzene hexachloride. C. J. Arceneaux. il Anal Chem 23:906-11 Je '51
- Structure of the hexachlorocyclohexane melting at 145^0. G. Calingaert, A. J. Kolka and H. D. Orloff. bibliog Am Chem Soc J 73:2359 My '51

Analysis

- Application of paper chromatography to the analysis of chlorinated organic insecticides. P. Moynihan and P. O'Colla. bibliog Chem & Ind p407 My 26 '51
- Determination of gamma isomer content of 1,2,3,4,5,6-hexachlorocyclohexane. E. E. Toops, jr. and J. A. Riddick. bibliog il diags Anal Chem 23:1106-10 Ag '51

HEXACHLOROPHENE

- Bactericidal bonanza; formulations incorporating hexachlorophene. il Chem W 69:33-4 S 22 '51
- New soap cuts industrial dermatitis. R. B. Trusler. il Foundry 79:139 My '51

HEXACHLOROPROPANE

- Preparation of 1,1,1,3,3,3-hexachloropropane. H. W. Davis and A. M. Whaley. Am Chem Soc J 73:2361 My '51

HEXADECAFLUOROHEPTANE

- Some thermodynamic properties of hexadecafluoroheptane. G. D. Oliver and J. W. Grisard. Am Chem Soc J 73:1688-90 Ap '51

HEXADIENE

- Polyalkylene sulfides; the polymer from tetramethylenedithiol and biallyl. C. S. Marvel and A. Kotch. Am Chem Soc J 73:481 Ja '51
- Polyarylene-alkylene sulfides. C. S. Marvel and P. D. Caesar. bibliog Am Chem Soc J 73:1097-9 Mr '51
- Reaction of hexa-1 : 5-diene with *N*-bromosuccinimide. L. Bateman and others. Chem Soc J p936-41 Mr '50

HEXAHYDROINDOLE

- Reactions of 2-arylcyclohexanones; 1-phenylcyclohexaneethylamine, 1-methyl-9-phenyl-Δ^7-hexahydroindole and related compounds. W. E. Bachmann and E. J. Fornefeld. Am Chem Soc J 73:51-4 Ja '51

HEXALUPINE

- Papilionaceous alkaloids; identity of hexalupine with *d*-thermopsine. L. Marion, W. F. Cockburn and J. F. Couch. Am Chem Soc J 73:1769-70 Ap '51

HEXAMETHYLCYCLOTRISILOXANE

- Raman spectra of hexamethylcyclotrisiloxane and octamethylcyclotetrasiloxane. H. Murata. J Chem Phys 19:659-60 My '51

HEXAMETHYLENE glycol. See Hexanediol

HEXAMETHYLENE tetramine

- 1-Acetoxymethyl-3,5,7-trinitro-1,3,5,7-tetrazacyclooöctane and its reactions; significance in the nitrolysis of hexamethylenetetramine and related compounds. W. E. Bachmann and E. L. Jenner. Am Chem Soc J 73:2773-5 Je '51
- Cyclic and linear nitramines formed by nitrolysis of hexamine. W. E. Bachmann and others. Am Chem Soc J 73:2769-73 Je '51
- Method for preparing secondary amines and Schiff's bases from phenols and hexamine. J. C. Duff and V. I. Furness. Chem Soc J p 1512-15 Je '51
- Methylene-nitramines; the reaction of hexamine dinitrate with nitric acid at low temperatures. K. W. Dunning and W. J. Dunning. Chem Soc J p2920-4 N '50
- Nitrosation of hexamethylenetetramine and related compounds. W. E. Bachmann and N. C. Deno. Am Chem Soc J 73:2777-9 Je '51
- Prevention of the phytotoxic action of sodium orthophenylphenate on citrus fruits by hexamine. E. F. Hopkins and K. W. Loucks. il Science 112:720-1 D 15 '50
- Structure determination and synthesis of 1-acetamidomethylhexamine nitrate. W. E. Bachmann, E. L. Jenner and L. B. Scott. Am Chem Soc J 73:2775-7 Je '51
- Structure of Knudsen's base and of related compounds. M. E. Foss and others. 2pls Chem Soc J p624-8, 1691-5 F, Jl '50

HEXAMINE. See Hexamethylenetetramine

HEXANE

- Analysis of fat acid oxidation product by countercurrent distribution methods; model compounds. K. T. Zilch and H. J. Dutton. bibliog Anal Chem 23:775-8 My '51
- Apparatus for studying autoignition of engine fuels; results with normal heptane and normal hexane. W. J. Levedahl and F. L. Howard. bibliog il J Res Nat Bur Stand 46:301-9 Ap '51
- Benzene made from normal hexane on laboratory scale. Pet Processing 5:1263 D '50
- Catalytic isomerization of isomeric hexanes. B. L. Evering and R. C. Waugh. bibliog Ind & Eng Chem 43:1820-3 Ag '51
- Flow rates through soybean flakes; gravity percolation of hexane miscella. D. Cornell and D. L. Katz. bibliog il diag Ind & Eng Chem 43:992-6 Ap '51

HEXANE—*Continued*

Fractional extraction process for recovery of pure tar acids. M. B. Neuworth, V. Hofmann and T. E. Kelly. bibliog diag Ind & Eng Chem 43:1689-94 Jl '51

Isobaric heat capacities at bubble point; *n*-hexane, methylcyclopentane, and *n*-octane. T. J. Connolly, B. H. Sage and W. N. Lacey. bibliog Ind & Eng Chem 43:946-50 Ap '51

Raman spectra of hydrocarbons; *n*-hexane, *n*-heptane, 2-methylpentane, 3-methylpentane, 2,4-dimethylpentane, and 2,3-dimethylbutane. F. F. Cleveland and P. Porcelli. bibliog J Chem Phys 18:1459-61 N '50

Raman spectroscopic investigation of the isomerization of *n*-hexane. S. Mizushima, H. Ohno and T. Sakura. Am Chem Soc J 72:4820 O '50

Solubilization of four typical hydrocarbons in aqueous solution by three typical detergents. J. W. McBain and K. J. Lissant. bibliog J Phys & Colloid Chem 55:655-62 My '51

HEXANEDIOL

Conversion of fibrinogen to fibrin; sedimentation and viscosity studies on clotting systems inhibited by hexamethylene glycol. S. Shulman and J. D. Ferry. bibliog J Phys & Colloid Chem 55:135-44 Ja '51

HEXANEDIONE

Cleavage of dimercaptols of acetonylacetone by mercuric chloride. R. A. Dinerstein. Am Chem Soc J 73:1357-8 Mr '51

Synthesis of substituted 2 : 3-benzpyrrocolines. R. Robinson and J. E. Saxton. Chem Soc J p3136-40 N '50

HEXANITRATOAMMONIUM cerate

Color reactions of thiophene derivatives and of other compounds with a ceric nitrate reagent. H. D. Hartough. bibliog Anal Chem 23:1128-30 Ag '51

HEXANOIC acid. See Caproic acid

HEXENE

Catalytic isomerization of 1-hexene. E. A. Naragon. bibliog diag Ind & Eng Chem 42:2490-3 D '50

HEXENOIC acid

Partial reduction of the double bond in 2-hexenoic acid by lithium aluminum hydride. R. W. Freedman and E. I. Becker. bibliog Am Chem Soc J 73:2366-7 My '51

HEXENOL

Leaf alcohol and the stereochemistry of the *cis*- and the *trans*-*n*-hex-3-en-1-ols and -*n*-pent-3-en-1-ols. L. Crombie and S. H. Harper. Chem Soc J p873-7 Mr '50

Studies of compounds related to natural perfumes; concerning *cis*- and *trans*-hex-3-en-1-ol. F. Sondheimer. Chem Soc J p877-82 Mr '50

HEXESTROL

Chemistry of some ketones derived from hexestrol. N. P. Buu-Hoï, N. Hoán and N. D. Xuong. bibliog Am Chem Soc J 72:3992-4 S '50

Micro syntheses with tracer elements; the synthesis of hexestrol labeled with tritium. D. L. Williams and A. R. Ronzio. diag Am Chem Soc J 72:5787-9 D '50

HEXOSES

Kinetics of hexose formation from trioses in alkaline solution. W. G. Berl and C. E. Feazel. Am Chem Soc J 73:2054-7 My '51

HEXYL alcohol

Distribution of several bivalent and trivalent metallic nitrates between water and *n*-hexyl alcohol at 25°. C. C. Templeton and L. K. Daly. Am Chem Soc J 73:3989-91 Ag '51

Heat-transfer coefficient of condensing vapours. J. C. Chu and others. bibliog flow sheet J Ap Chem 1:73-80 F '51

System aluminum nitrate-water-*n*-hexyl alcohol at 25°C. C. C. Templeton. bibliog J Phys & Colloid Chem 54:1255-69 D '50

HEXYNE

Condensation of aliphatic diketones with hex-1-yne. J. Cymerman and P. Rowe-Smith. Chem Soc J p3368-70 D '49

HEXYNOL

Studies of compounds related to natural perfumes; concerning *cis*- and *trans*-hex-3-en-1-ol. F. Sondheimer. Chem Soc J p877-82 Mr '50

HEYDEN chemical corporation

New financing approved. Comm & Fin Chr 174:1101 S 24 '51

Stockholders offered rights. Comm & Fin Chr 174:1404 O 15 '51

HEYMANN, Erich, 1901-1949

Sketch. E. J. Hartung. Chem Soc J p2910-12 O '50

HIBERNATION

Alarm reaction and the hibernating gland. P. Suomalainen and A.-M. Herlevi. Science 114:300 S 21 '51

Effect of hibernation upon survival time following whole-body irradiation in the marmot (marmota monax). F. Smith and M. M. Grenan. bibliog Science 113:686-8 Je 15 '51

Hibernation. C. P. Lyman and P. O. Chatfield. il Sci Am 183:18-21 D '50

HIBISCUS cannabinus

Composition of bimlipatam and mesta fibres; hibiscus cannabinus. D. B. Das and others. bibliog Textile Inst J Trans 42:T 181-4 Ap '51

HICKMAN, Kenneth Claude Devereux, 1896-

Awarded John Price Wetherill medal. por (cover) Chem & Eng N 28:3882 N 6 '50

Hickman honored for vitamin distillation work. por Chem & Eng N 28:3883 N 6 '50

Presentation of the John Price Wetherill medal. por Franklin Inst J 250:566-7 D '50

HICKORY

Effect of bark in the neutral sulphite semichemical pulping of aspen, hickory, and slash pine. E. L. Keller. bibliog Tappi 33:556-60 N '50

HIDDEN products. See Products, Identification of

HIDES and skins

Hide controls relaxed, but market still dull. Barron's 31:19 Ag 6 '51

Hide rollback tougher than leather control. Barron's 31:28+ F 5 '51

HIDRAW process. See Metal drawing

HIGGINS, Richard R. 1899-

Kendall company's new president. H. Woodward. por Sales Management 66:40 Ap 15 '51

HIGH buildings

Deep foundation for Pittsburgh skyscraper. R. C. Johnston. il diags Eng N 145:40-2 D 7 '50

Enter the consulting contractor; he expedited construction and helped keep costs down; First national building, Tulsa, Okla. il plans Eng N 145:42-4 O 26 '50

Man-made weather 41 stories up; heating and cooling for tall buildings. il Dom Eng 178:96-8+ S '51; Same. Heating-Piping 23:95-7 O '51

Safety at every stage for skyscraper construction. il Nat Safety N 63:22-3 Ap '51

See also

Empire State building

HIGH frequency heating. See Electric heating, Industrial—High frequency heating

HIGH pressure plants. See Steam plants—High pressure

HIGH schools

Let's be a high school freshman. W. S. Evans. J Eng Educ 41:249-53 D '50

Curriculum

High school education for family living. E. S. Force. Ann Am Acad 272:156-62 N '50

HIGH speed photography. See Photography, High speed

HIGH speed steel. See Tool steel

HIGH voltages

Adequate high-voltage equipment isolates trouble. R. R. Gobeli. il Factory Management 109:106-8 Je '51

Application of phase-comparison principles to power-swing conditions on long high-voltage transmission lines. G. W. Donaldson. diags Inst E E Proc 98 pt 2:47-9 F '51

Corona investigation on extra-high-voltage lines; 500-kv test project of the American gas and electric co. I. W. Gross and others. bibliog Elec Eng 70:224-30 Mr '51

Corona loss at extra-high voltages. R. L. Tremaine and others. bibliog il diags Westinghouse Eng 11:144-50 S '51

HIGH voltages—*Continued*

Development and design of high-voltage impulse generators. F. S. Edwards and others. bibliog il diags Inst E E Proc 98 pt 1:155-68; Discussion. 168-80 My '51

Development of high-voltage transmission with particular reference to hydro-electric projects. T. G. N. Haldane. Engineering 172:249-51; Discussion. 245-6 Ag 24 '51; Engineer 192:232-3 Ag 24 '51

Extra high-voltage cable developments in France. M. Laborde and R. Tellier. il map diags Engineering 170:319-20 O 27 '50

High-voltage ignitron rectifiers. M. J. Mulhern. diag Elec Eng 69:1006 N '50

High-voltage, open-type capacitor banks. R. E. Marbury. il diag Westinghouse Eng 11:82-6 My '51

High-voltage stabilization by means of the corona discharge between coaxial cylinders. S. W. Lichtman. bibliog il diags Inst Radio Eng Proc 39:419-24 Ap '51

Influence of electrodes on d-c breakdown in gases at high pressure. J. G. Trump and others. bibliog Elec Eng 69:961-4 N '50

Modern controls for high-voltage motors. B. J. Dalton. il Mill & Factory 49:84-6 Jl '51

New control for high-voltage industrial motors; operating experience with current-limiting fuses and air-break contactors. B. J. Dalton. il diags Gen Elec R 54:49-55 My '51

Out-of-phase high-voltage switching. Elec Eng 70:60 Ja '51

Precision regulated high voltage supplies. W. A. Higinbotham. diags R Sci Instr 22:429-31 Je '51

Progress and trends in high-voltage transmission. S. B. Crary. bibliog Gen Elec R 54:22-6 My '51

Proposed basic impulse insulation levels for high-voltage systems. J. E. Clem and others. bibliog Elec Eng 70:61-6 Ja '51

Radio influence tests in field and laboratory; 500-kv test project of the American gas and electric co. G. D. Lippert and others. bibliog diag Elec Eng 70:481-6 Je '51

Series capacitor and the high-voltage line. R. E. Marbury. il diags Westinghouse Eng 11:138-43 S '51

Sweden has world's longest, highest voltage power line. il Power Eng 55:78-80 Ap '51

Synchronized high voltage pulse generator. C. F. Johnson. diag R Sci Instr 22:541 Jl '51; Abstract. Electronics 24:164+ O '51

300/315-kv extra high voltage transmission system of the American gas and electric co. P. Sporn and others. il diag Elec World 135:73-6+ F 26 '51

Three-phase transmission at 400 kv with four duplex conductors. J. R. Mortlock. Engineering 171:28 Ja 5 '51

HIGHWAY accidents. See Automobile accidents

HIGHWAY administration

American association of state highway officials annual meeting, Miami, Dec. 4-7. Roads & Sts 94:53-5 Ja '51

Cities at a disadvantage in road improvement. L. D. Jackson. Roads & Eng Constr 89:114+ Mr '51

Getting our main roads built. G. D. Kennedy. Roads & Eng Constr 88:105+ O '50

Highway control sections; their establishment and use. G. D. Gronberg. il maps plans Pub Roads 26:180-5 Ag '51

See also

Highway departments
Roads—Contracts
Roads—Finance

War measures

Traffic control planning for civil defense. B. A. Lefeve. il plan Pub Works 82:74-6+ Ap '51

HIGHWAY associations

Citizens of many nations forming good roads association. Roads & Sts 94:45 Jl '51

HIGHWAY contracts. See Roads—Contracts

HIGHWAY departments

County highway leader is known by the men he keeps with him. E. H. Coffin. il Roads & Sts 94:80+ Ja '51

See also

Radio telephone—Highway department use

Accounting

Highway control sections; their establishment and use. G. D. Gronberg. il maps plans Pub Roads 26:180-5 Ag '51

Procedure for determining the annual cost of a section of rural highway. H. W. Hansen. il Pub Roads 26:141-7 Ap '51

Buildings

Road camp; Mill Creek summit maintenance yard, Los Angeles country road department. il plans Arch Rec 109:149-52 My '51

Equipment

Equipment suggestions for more efficient roadside work. W. J. Garmhausen. il Roads & Sts 94:46-9+ Ap; 52-6 My '51

Equipment used by county engineers. il Pub Works 82:42-3 Ja '51

How a poor county can be rich in road equipment. J. G. Cooney. il Pub Works 82:41-2 F '51

Mobile minutemen maintain Florida's bridges. E. C. DeGarmo. il Constr Methods 32:74-5+ N '50

New equipment improves economic status. R. F. Mott. il Pub Works 82:44-5 Ja '51

Pavement widened with job-modified equipment. B. W. Davis. il Pub Works 82:56 Ag '51

Water-filled pneumatic tires for weed mowers. J. F. Snyder. il Roads & Sts 94:94 Jl '51

Safety measures

Counting the savings; safety program of Connecticut highway department. G. A. Hill. il Nat Safety N 62:30-1 N '50

HIGHWAY engineering

Canada's road problem and its solution. E. F. Willis. Roads & Eng Constr 88:84+ D '50

Extra lanes on grades provide cheaper mountain highways. il Eng N 146:47-8 Ap 19 '51

Factors affecting the selection of the route of Trans-Canada highway in Ontario. W. J. Fulton. il map diags Roads & Eng Constr 89:83-4+ Ag '51

Geophysics on the Pennsylvania turnpike. H. L. Scharon and A. B. Cleaves. maps diags Min Eng 3:Trans 351-5 Ap '51

Highway planning in Turkey. H. E. Hilts. Am Soc C E Proc 77 [no 58]:1-11 F '51

Houston urban expressways promise savings of $2,750,000 annually. W. J. Van London. il diag Civil Eng 21:131-3 Mr '51

North Carolina bond program. W. R. Macatee. il maps diags Roads & Sts 93:31-40 D '50

Planning the big turnpike paving job. H. J. McKeever. il map diag Roads & Sts 94:37-41+ Ap '51

Progress report on San Antonio expressway. G. B. Arthur. il map Pub Works 82:52-3 S '51

Review of road problems. W. H. Glanville. Engineer 190:432-3, 455-7 N 10-17 '50; Engineering 170:345, 387-8 N 10-17 '50

Solution to highway problems, tollways. C. E. DeLeuw. il map Midwest Eng 3:10-13+ My '51

Stabilization of some rockslides in Grainger county, Tenn. R. A. Laurence. il maps plan diag Econ Geol 46:329-36 My '51

Terraced highway side slopes in loess, southwestern Iowa. C. S. Gwynne. map Geol Soc Bul 61:1347-54, pl 1-2 D '50

Transposed traffic lanes proposed for Ohio turnpike. il plans diags Eng N 147:32-5 Jl 26 '51

Unusual construction problem on sand-spit highway. M. McMillin. il Pub Works 82:43-5 Mr '51

Work starts on west section of expressway for Pittsburgh. J. R. Dietz. map diag Eng N 145:35-6 O 26 '50

See also

Bridge design
Bridges
Expressways
Highway research
Pavements
Roads
Roads—Surveying
Snow removal
Streets

Bibliography

Highway and airport digest. map Published in monthly numbers of Public works

HIGHWAY law

Michigan highway laws get a complete overhaul. Eng N 147:40 S 27 '51

HIGHWAY law—*Continued*

Michigan overhauls its road legislation, why can't your state? L. A. Rubin. Roads & Sts 94:41-4 Jl '51

Peak activity marks fiftieth year of Ontario's road legislation. J. D. Millar. Roads & Eng Constr 89:115+ Mr '51

HIGHWAY officials

Directories

Municipal road officials in the incorporated cities, towns and villages of Canada. Roads & Eng Constr 89:142+ Je '51

Officials of improvement districts and reserves in Ontario. Roads & Eng Constr 89:128 Je '51

Provincial highway officials; organization chart, Provincial department of highways. Roads & Eng Constr 89:74+ Je '51

Township road officials in Ontario. Roads & Eng Constr 89:130+ Je '51

HIGHWAY research

Canadian good roads association appoints Dean Hardy to head research study. Roads & Eng Constr 89:38 Ja '51

Committee of seven to study plans for C.G.R.A.'s highway research institute. Roads & Eng Constr 89:122-4 My '51

Research project on weight loads permitted on highways. F. Burggraf. plan Roads & Eng Constr 89:90+ S '51

See also

Roads—Testing

Roads, Experimental

HIGHWAY research board

Highway research board 30th annual meeting, Washington, Jan. 9-12. Eng N 146:28 Ja 18; 29-30 Ja 25 '51; Roads & Sts 94:40-2 Mr '51

HIGHWAY surveying. See Roads—Surveying

HIGHWAY transportation

Highways for war or peace. E. Reybold. Roads & Eng Constr 89:110-12 F '51

Highways to meet our transportation needs. R. M. Sale. Roads & Eng Constr 88:182-6 O '50

Roads are everybody's business. C. W. Gilchrist. Roads & Eng Constr 89:117+ Mr '51

Some current observations on highway transportation, East coast. A. B. Gorman. il Am Pet Inst Proc 30(5):86-95 '50

Some current observations on highway transportation in the West. J. W. Sinclair. Am Pet Inst Proc 30(5):83-5 '50

Traffic trends on rural roads in 1949. T. B. Dimmick. Pub Roads 26:85-98 D '50; Same cond. Roads & Eng Constr 88:89-92+ D '50

War mobilization situation and its effect on the West Coast transportation industry. A. T. Colwell. S A E J 59:82-3 S '51

See also

Motor bus lines

Motor trucks and roads

Motor trucks in freight service

Road traffic

Roads

Street traffic

Trailers

Great Britain

Britain's nationalized transport operated at huge loss and leaves trail of widespread discontent. W. F. Bradley. Automotive Ind 105:45+ S 15 '51

Progress of British road services. Engineering 171:79 Ja 19 '51

Greece

Greek truck pools reorganized. For Comm W 44:25 S 24 '51

Iceland

Iceland's highway notes. For Comm W 42:20-1 F 26 '51

India

Indian states enter highway transportation field. For Comm W 44:17+ Ag 13 '51

Uruguay

Highway trucking in Uruguay. For Comm W 42:21 F 26 '51

HIGHWAYS. See Roads

HILGER-MÜLLER monochromator. See Monochromators

HILL, A. V.

New president of the British association; portrait. Chem & Ind p732 S 1 '51

HILL, Alfred Gibson, 1893-

Career of Emporia's A. G. Hill is in best William Allen White tradition. por Ptr Ink 235:76 Je 1 '51

HILL, Fred W. d. 1950

Plea for civic service is editor's valedictory. R. B. Gandy. por Ed & Pub 83:28 D 16 '50

HILL, J. Bennett

Presentation of API Certificate of appreciation. R. E. Wilson. Am Pet Inst Proc 30(3):20-1 '50

HILL, Sir Roderic Maxwell, 1894-

Air chief marshal. por Chem & Ind p504 Je 30 '51

HILLEBRAND prize

Government chemists honored for allergy studies. Chem & Eng N 29:1105 Mr 19 '51

Sleuthing oilseed allergens wins Hillebrand prize for three; Henry Stevens, E. Jack Coulson and Joseph R. Spies. Chem & Eng N 29:663 F 19 '51

HILLER helicopters

Copters lure speculating public. S. Altschul. Aviation W 54:61-2 Je 18 '51

Offering of debentures. Comm & Fin Chr 173:2289 Je 4 '51

HILLMAN, Sidney, 1887-1946

Labor's coming of middle age. D. Bell. Fortune 44:114-15+ O '51

HILLSIDE architecture

Difficult site no obstacle to woman builder; Perego Heights apartments, San Francisco. il plan Am Bld 73:125 F '51

Five-level house in Belmont, Mass. il plans diag Arch Rec 109:108-11 Ja '51

Hillside apartments, Berkeley, Cal. il plan diag Arch Rec 109:95-9 Ja '51

Hillside school, Richmond, Calif. J. C. Warnecke. il plan diag Arch Forum 94:185-9 Je '51

Hillside site used to obtain maximum privacy, San Rafael, Calif. il plan Arch Rec 109:108-11 F '51

House in the Pacific Northwest; Blue Ridge, Wash. il plan Arch Rec 109:130-4 Ap '51

John Pew house in Madison, Wis.; designed by F. L. Wright. il plans Arch Forum 94:94-7 Ja '51

Livability on a small, hilly lot, San Francisco. il plans Arch Rec 109:168-71 Je '51

Textured mansion on a Mexican hillside near Taxco. il plan Arch Forum 94:136-41 Ja '51

Three-zone house follows contours of hilltop site. U. J. Franzen. il plans diag Arch Forum 94:176-80 Je '51

Women's dormitory on tough hilltop site for Washington state university. il plans Arch Forum 95:176-7 S '51

HILSCH'S tube

How the Ranque-Hilsch-vortex tube operates. F. Schultz-Grunow. diag Refrig Eng 59:52-3 Ja '51

HILTON, Conrad Nicholson, 1887-

Forging a chain in Europe; Hilton Hotels plans to expand. Bsns W p 108-9 Ja 13 '51

C. Hilton receives award for service in interfaith cause. Ed & Pub 83:10 D 2 '50

HILTON hotels corporation

Earnings increase despite lower occupancy. Barron's 30:19 N 20 '50

HINGES

Hinges for fastening structural parts. H. G. Brilmyer. il diags Product Eng 22:153-5 Je '51

See also

Automobiles—Door hinges

HIPPOPOTAMUS

Component acids of a hippopotamus fat. C. Barker and T. P. Hilditch. Chem Soc J p3141-4 N '50

HISTAMINE

D-Catechol and antihistaminogenesis. S. Malkiel and M. D. Werle. bibliog il Science 114:98-9 Jl 27 '51

See also

Antihistamines

HISTAMINE, Analogs of

Analog of histamine that stimulates gastric acid secretion without other actions of histamine. C. E. Rosiere and M. I. Grossman. Science 113:651 Je 8 '51

HISTAMINE, Analogs of—*Continued*

Synthesis of phenyl-substituted triazole analogs of histamine. J. C. Sheehan and C. A. Robinson. bibliog Am Chem Soc J 73:1207-10 Mr '51

Synthesis of some analogs of histamine and histidine containing the thiazole nucleus. R. G. Jones, E. C. Kornfeld and K. C. McLaughlin. bibliog Am Chem Soc J 72:4526-9 O '50

HISTIDINE

D-Catechol and antihistaminogenesis. S. Malkiel and M. D. Werle. bibliog il Science 114: 98-9 Jl 27 '51

L-Histidinol, a precursor of L-histidine in escherichia coli. H. J. Vogel, B. D. Davis and E. S. Mingioli. Am Chem Soc J 73: 1897-8 Ap '51

Synthesis of some analogs of histamine and histidine containing the thiazole nucleus. R. G. Jones, E. C. Kornfeld and K. C. McLaughlin. bibliog Am Chem Soc J 72:4526-9 O '50

HISTOCHEMISTRY

Critical evaluation of quantitative histo- and cytochemical microscopic techniques. D. Glick and others. bibliog Science 114:253-8 S 7 '51

Histochemical demonstration of succinic dehydrogenase. A. M. Seligman and A. M. Rutenburg. bibliog il Science 113:317-20 Mr 23 '51

Loss of choline esterase activity in nerve tissue resulting from processes of histological preparation. W. L. Hard and M. D. Fox. bibliog Science 112:598-9 N 17 '50

Nondiffusibility of alkaline phosphatase in fixed tissue. F. Moog. Science 114:109 Jl 27 '51

Validity of histochemical phosphatase methods on the intracellular level. A. B. Novikoff. bibliog il Science 113:320-5 Mr 23 '51

HISTOPLASMA capsulatum

Failure of streptomycin to enhance the infectivity of histoplasma capsulatum in mice. C. C. Campbell and S. Saslaw. Pub Health Rep 66:16-19 Ja 5 '51

Isolation of histoplasma capsulatum and allescheria boydii from soil. L. Ajello and L. D. Zeidberg. Science 113:662-3 Je 8 '51

Isolation of histoplasma capsulatum from soil in an unused silo. J. T. Grayston and others. bibliog Science 114:323-4 S 28 '51

HISTOPLASMOSIS

Atabrine therapy of histoplasma infections in mice. C. C. Campbell and S. Saslaw. bibliog Pub Health Rep 66:570-7 My 4 '51

HISTORICAL libraries

See also

Southwest museum library, Los Angeles

HISTORICAL museums

See also

Southwest museum library, Los Angeles

HISTORY

Study and teaching

Method is the bond. A. Gilmore. J Eng Educ 41:518-22 My '51

HOAGLAND, Dennis Robert, 1884-1949

D. R. Hoagland. D. I. Arnon. Science 112: 739-42 D 22 '50

HOARDING

DMA bans hoarding of strategic minerals; list. Oil Paint & Drug Rep 159:5 Ja 8 '51

U.S. places ban on hoarding, lists 55 materials as essential. Oil Paint & Drug Rep 159:3+ Ja 1 '51

HOBBIES

$10-million worth of fun on model rails. il Bsns W p24-5 Ja 13 '51

Bibliography

How-to-do-it books: a selected guide. R. E. Kingery. 293p $3.50 R. R. Bowker co, 62 W. 45th st, New York 19 '50

HOBBING

Estimating hobbing time. J. W. Duffy. Tool Eng 27:43 Jl '51

Hobs and hobbing in high production. A. D. Moncrieff and H. Pelphrey. il diags Tool Eng 26:25-30 Je; 27:34-9 Jl '51

HOBBING machines

See also

Gear cutting machines

HOBBY, Oveta Culp, 1905-

Service in 19 groups is Mrs Hobby's hobby. A. K. Tyler. por Ed & Pub 84:20 F 24 '51

HOBS

Design of worm-gear hobs. F. G. Watts and R. D. Silversides. diags Mach 57:154-8 N; 164-7 D '50; 190-4 F '51

Hobs and hobbing in high production. A. D. Moncrieff and H. Pelphrey. il diags Tool Eng 26:25-30 Je; 27:34-9 Jl '51

Multithread hobs triple gear output at Chevrolet-Muncie. J. M. Finally. il diags Am Mach 95:134-7 Mr 19 '51

Unground hobs reduce gear tool cost. F. Bohle. il diags Iron Age 167:107-9 Je 7 '51

HOELL, George S. 1878-

Sketch. por Welding J 29:1029 N '50

HOES

Rolling mill for hoe and trowel blades. il Engineering 171:481 Ap 20 '51

HOESCH reaction

Organic fluoro-compounds; the Hoesch reaction with trifluoromethyl and trichloromethyl cyanides. W. B. Whalley. Chem Soc J p665-71 Mr '51

HOFMANN, August Wilhelm, 1818-1892

European chemical developments in the nineteenth century. F. E. Wall. bibliog J Chem Educ 28:355-8 Jl '51

HOFMANN degradation

Studies of the structure of emetine; elucidation of the structure of emetine. A. R. Battersby and H. T. Openshaw. Chem Soc J p3207-13 D '49

HOFMANN reaction

Hofmann, Lossen and Curtius rearrangements. C. R. Hauser and S. W. Kantor. bibliog Am Chem Soc J 72:4284-5 S '50

HOG houses. See Swine houses

HOGS. See Swine

HOGSHEAD. See Barrels

HOISTING

How to increase fork truck hoisting speeds. Paper Tr J 133:30+ Ag 17 '51

Rope slings and rope tackle. S. Reed. diags Marine Eng 56:67-9 Ap '51

Safety measures

Chain for industrial use. il Nat Safety N 63:136 Mr '51

Safer lifts; care in selection, use and maintenance of sling chains. S. N. Morison. il Nat Safety N 62:34-5+ N '50

See also

Mine hoisting—Safety measures

HOISTING machinery

Bucket elevators, effective movers of bulk materials. E. L. Cady. il Mill & Factory 48:120-4 Je '51

Huge special tongs handle 30-ton breakwater stones. H. W. Holzhauer. il Roads & Sts 94:56 Je '51

Hydraulic hoist of 6000-pound capacity. il Blast F & Steel Pl 39:720-1 Je '51

Hydraulic lifting equipment. il Engineer 191: 298 Mr 2 '51

Self-loading pick-up element; Riverside metal company device. diags Safety Maint & Prod 102:46 Jl '51

See also

Cranes, derricks, etc.

Mine hoisting

Wire rope

Safety measures

Loads held safely with automatic brake. il diags Product Eng 22:218 My '51

Safety built into high tower hoists. R. L. Moore. il Constr Methods 33:75-6+ My '51

HOISTING machinery, Electric

Developments in the design of coal and ore bridges. B. A. Rose. il diags Iron & Steel Eng 27:60-4; Discussion. 64-5 O '50

Electric hoist maintenance; it can make or break your building job. F. C. Grover. il Constr Methods 33:107+ Jl '51

Fluid drive electric hoist. il Engineer 192:241 Ag 24 '51

Improved d-c crane hoist control. S. Rifkin. il diags Iron & Steel Eng 27:90-6; Discussion. 96-9 O '50

HOISTING machinery, Electric—*Continued*

Ore unloader built on East coast. W. B. MacLean. il diags Iron & Steel Eng 27:122-4 D '50; Same cond. Elec World 135:118 F 26 '51

See also

Mine hoisting, Electric

Advertising

Campaign lifts sales index curve 200 per cent higher than industry level; direct mail follows through on trade-paper ads; Yale & Towne electric cable hoist. Ptr Ink 234:35 F 23 '51

HOLCOMBE, John Marshall, 1889-1951

Sketch. Nat Underw (Life ed) 55:1+ My 18 '51

HOLDING companies

Alphabetical review of holding company dissolution programs. O. Ely. Pub Util 46: 583-7 O 26 '50

Eastern utilities associates files plan for reorganization with SEC. Elec World News ed 135:20 Ap 2 '51

Glamorous new life (instead of dissolution) for one utility holding company? O. Ely. Pub Util 47:860 Je 21 '51

How to avoid personal holding company pitfalls in corporate reorganizations. T. J. Dolan. J Account 91:704-9 My '51

See also

Mission corporation

United gas improvement company

Laws and regulations

Benefits of Holding company act to utility industry. H. A. McDonald. Comm & Fin Chr 174:62-3+ Jl 5 '51; Same cond. Gas Age 108:33-6+ Ag 30 '51; Same cond. Am Gas J 175:21-2+ S '51

Fifteen years of the Holding company act. N. D. Lobell. Pub Util 47:292-9 Mr 1 '51

Securities

Holding company securities. O. Ely. Comm & Fin Chr 174:423, 527, 615 Ag 2, 9, 16 '51

Important holding company developments. O. Ely. Pub Util 47:365-8 Mr 15 '51

Progress report on utility holding companies; with position on leading shares. Mag of Wall St 87:603-4+ Mr 10 '51

SEC can hold warrants worthless, court rules. Elec World News ed 135:14 Ja 22 '51

Taxation

How personal holding company tax affects operations of corporations. G. E. Cleary. J Account 92:95-6 Jl '51

HOLDING devices

Adjustable grip removes glass meter covers. E. C. Kohl. il Elec World 135:102 F 26 '51

Fixtures aid in sharpening dies used to cut rubber tensile test specimens. R. H. Taylor. il India Rubber World 123:441+ Ja '51

Induction heat + versatile fixture = doubled production; Northwest bolt and nut co. W. R. Yeakel. il Am Mach 94:164-5 D 11 '50

Optical tooling, faster more accurate. G. Elwers. il Iron Age 166:119-22 D 7 '50

See also

Collets

Manipulators, Welding

HOLDING devices (machine work)

Universal locator sets up aircraft fixtures. L. E. Laux. il diags Am Mach 94:125-7 N 27 '50

Versatile holding device for arbor press. diag Mill & Factory 48:139 Je '51

You need to overhaul workholding methods. G. Hubbard. Steel 128:76 Ja 8 '51

See also

Machine tools—Fixtures

HOLIDAYS

Holiday provisions in union agreements, 1950. I. Rubenstein and R. Theodore. Mo Labor R 72:24-7 Ja '51

HOLL, Julius S. d 1950

Sketch. por Ind Marketing 35:118+ N '50

HOLLAND. See Netherlands

HOLLAND tunnel

Holland tunnels provide tough test for asphaltic concrete. A. L. Ruefer. plan Eng N 146:41-2 Je 28 '51

New ventilation system in Holland tunnel. il Roads & Eng Constr 89:80 Mr '51

HOLLANDS, John

Portrait. Bsns W p56 Jl 7 '51

HOLLIDAY, Wallace Trevor, 1884-1950

Oil industry enriched by Holliday's philosophy; editorial. Nat Pet N 42:23-4 D 6 '50

Sketch. por Nat Pet N 42:42 N 15 '50

HOLLINGER consolidated gold mines

Better mining through better management. il Eng & Min J 152:71-102 Ap '51

HOLLISTER, Solomon Cady, 1891-

President, A.S.E.E., 1951-52. por J Eng Educ 42:1-3 S '51

HOLMAN brothers

Holmans celebrate one hundred and fifty years. Can Min J 72:77-8 My '51

HOLMBLAD, Edward Charles

Who's who in industrial medicine. por Ind Med 20:191-5 Ap '51

HOLMES, Oliver Wendell, 1841-1935

Holmes was wrong; his philosophy needs reversing. por Fortune 43:85-6 Je '51

HOLMES, W. C., and company

Centenary of W. C. Holmes and co. Engineer 191:348 Mr 16 '51

HOLMES safety association

Annual awards honor individuals and mining companies. Coal Age 56:128+ Jl '51

HOLOCELLULOSE

Investigation of the carbohydrate fraction of spruce chlorite liquors. W. J. Bublitz. bibliog flow sheet Tappi 34:427-32 S '51

HOME builders, National association of. See National association of home builders

HOME economics

See also

Domestic appliances

Domestic finance

Food

Heating

Laundry

Study and teaching

Today's tools for the bride of tomorrow; Southern California Edison program to modernize equipment in school home economics departments. J. H. Collins. Pub Util 47:145-51 F 1 '51

HOME furnishing. See Household products industries

HOME industries. See Home labor

HOME labor

Handicrafts and small-scale industries in Asian countries; possibilities of co-operative organisation. Int Labour R 62:500-24 D '50

Home work in Switzerland. A. Zimmermann. Int Labour R 62:242-63 S-O '50

HOME office life underwriters association

Annual meeting, White Sulphur Springs, April 9-11. East Underw 52:3+ Ap 13 '51; Nat Underw (Life ed) 55:2+ Ap 13 '51

HOME office underwriters, Institute of. See Institute of home office underwriters

HOME owners' loan corporation

Housing activities of the federal government. Am Bld 73:sup 12-13 S '51

HOME ownership

Build a new home now. R. W. Babson. Comm & Fin Chr 172:2099 N 30 '50

Nation of home owners. Tech R 53:287-8 Ap '51

1951 survey of consumer finances; purchases of durable goods and houses in 1950 and buying plans for 1951. J. Frechtling and T. Smith. Fed Res Bul 37:759-76 Jl '51

Finance

Credit in the construction field; with text of Regulation X and supplement. J. P. McGrogan. Credit & Fin Management 53: 12-13+ Ja '51

Home financing business in partially mobilized economy. W. J. L. Ray. Comm & Fin Chr 174:506+ Ag 9 '51

House purchases in the five months following the introduction of real estate credit regulation. Fed Res Bul 37:777-99 Jl '51

New home financing in nine large city areas. D. K. Newman. Mo Labor R 71:673-5 D '50

HOME ownership—Finance—*Continued*
New home financing in Washington area, 1949-51. A. L. Stucke. Mo Labor R 72:534-7 My '51
Purchasers' incomes and new-home financing. S. Shapiro. Mo Labor R 73:1-7 Jl '51

HOMEOSTASIS
Homeostasis in the individual and society. N. Wiener. Franklin Inst J 251:65-8 Ja '51

HOMES, Institutional
Chesters; dedication of I.E.E. residential estate for the rehabilitation of members, or their dependants. il Elec R (Lond) 148:1092-3 My 25 '51
Five-way heating job; children's home in Franklin county, Ohio. il plan diag Dom Eng 176:133+ N '50

HOMES for the aged. See Old age homes

HOMESTAKE mining company
Homestake vs. Kerr Addison; analysis of North America's top gold producers. W. F. Boericke. Barron's 31:9-10 My 21 '51
Securities disturbing investors. R. Colston. Mag of Wall St 88:374-5 Je 30 '51
Security I like best. G. Wood. Comm & Fin Chr 173:1014+ Mr 8 '51

HOMING pigeons. See Pigeons

HOMOGENIZATION
Why homogenization helps slashing and weaving. J. H. Kennedy. il diags Textile World 101:130-1+ My '51

HOMOGENIZERS
Air blending of materials for dry process kiln feed; Fluxo homogenizer. N. Nielsen. il diags Rock Prod 54:158-9+ Ag '51
Homogenizer pump isolates liquid. il diag Machine Design 23:124 O '51
New homogenizer helps Jefferson mills. S. F. Bryan. il Textile World 101:123+ O '51
Simple, inexpensive microhomogenizer. H. Brendler. diag Science 114:61-2 Jl 20 '51
Study of grinding techniques for bacterial cells. W. B. Dockstader and H. O. Halvorson. Science 112:618-20 N 24 '50
Unique homogenizer is highly sanitary. il diag Food Eng 23:117 Ag '51

HOMOLANTHIONINE
Preparation of the diastereoisomers of cystathionine and homolanthionine. S. Weiss and J. A. Stekol. bibliog Am Chem Soc J 73:2497-9 Je '51

HOMOPHTHALIC acid
Formation of five and six-membered rings by the acyloin condensation; the cyclization of dimethyl hexahydrohomophthalate. J. C. Sheehan and R. C. O'Neill. bibliog Am Chem Soc J 72:4614-16 O '50

HOMOSERINE. See Amino hydroxybutyric acid

HONDURAS

Economic conditions

News by countries. For Comm W 41:13-14 D 18 '50; 42:15 Ja 22; 13 F 26; 15 Mr 19; 43:14-15 Ap 30; 13-14 My 21; 13 Je 25; 44:11-12 Ag 27; 11-12 S 10; 45:12-13 O 8 '51

HONDURAS, British. See British Honduras

HONES
Honing equipment. il Engineer 191:107-8 Ja 19 '51

HONG KONG, China
Hong Kong and the British position in China. E. S. Kirby. Ann Am Acad 277:193-202 S '51

Commerce

Embargo on Hongkong. Economist 159:1191-2 D 30 '50
Resentment in Hongkong; results of embargo. Economist 160:1240+ My 26 '51

Economic conditions

News by countries. For Comm W 42:14 F 5 '51

HONGKONG and Shanghai banking corporation
Statement by the chairman. A. Morse. Economist 160:651 Mr 17 '51

HONING
Honing finishes an automobile cam. M. P. Ellis. il Am Mach 95:114 Ap 30 '51
Honing hardened gears simplifies production. W. G. Patton. il Iron Age 168:92-3 S 27 '51
Portable machine for honing and polishing calender stock base rolls. F. Lindberg and H. Fish. diags Pulp & Pa of Can 52:101 Mr '51
Refined honing method levels hills and valleys: Superfinishing process. il Steel 129:73 Jl 23 '51

HONING machines
Automatic honing finishes gear splines to close limits. H. C. Tuttle. il diag Steel 129:84+ Ag 27 '51
Fulmer heavy-duty honing machine. il Mach 57:213-14 F '51
Honer has controlled tool expansion. il diag Machine Design 23:126 O '51
Honing equipment. il Automobile Eng 41:73-4 F '51
Micromatic single-spindle and multiple-spindle rotating-base honing machines. il Mach 57:197-8 Ag '51
1951 production preview. il Am Mach 95:198-208 Ja 22 '51
Turret hone developed for high production. W. G. Patton. il Iron Age 167:98-9 My 24 '51

HONOLULU

Architecture

Architecture in Hawaii. il plans Arch Rec 108:112-19 O; 113-27 N '50

Sewerage

Jumbo places ocean outfall for sewage. il Eng N 146:32 My 17 '51

Water supply

Honolulu (Hawaii) Board of water supply annual report, 1949-50. Am Water Works Assn J 43:sup52+ S '51

HONOLULU academy of arts
Honolulu academy of arts. M. Morse. Special Lib 42:181+ My-Je '51

HONOLULU oil corporation
Common stock offered. Comm & Fin Chr 172:2480 D 25 '50
Newly-listed Honolulu Oil has notable growth record. Barron's 31:23-4 Ja 29 '51

HOOF-and-mouth disease. See Foot-and-mouth disease

HOOPED foundations. See Dresses—Hooped foundations

HOOPER-HOLMES bureau inc.
New home office bldg. at Morristown, N.J. il East Underw 52:54 S 14 '51

HOOSAC tunnel. See Tunnels and tunneling—Hoosac tunnel

HOOVER, William Harold, 1889-
Sketch. por Explosives Eng 29:4-5 Ja '51

HOOVER, limited
Statement by the chairman. C. Colston. Economist 160:654-7 Mr 17 '51

HOOVER commission. See United States—Executive departments

HOOVER medal
Compton awarded Hoover medal for 1950. por(cover) Elec World News ed 134:6 D 25 '50; Civil Eng 21:42 Ja '51
Karl Taylor Compton, Hoover medalist for 1950; presentation address by C. G. Suits, response by K. T. Compton. Elec Eng 70:190-6 Mr '51

HOPLOPHONEUS
Habits and adaptation of the oligocene saber tooth carnivore, hoplophoneus. J. Hough. U S Geol S Professional Pa 221-H:125-35, pl 26-31; pa 40c Supt. of doc. '50

HOPPERS
Designing hopper feeds for square and hexagonal nuts. J. R. Paquin. diags Mach 57:158-62 Mr '51

HOPS
Austrian hop cultivation and trade. For Comm W 44:16 Ag 27 '51
Chemistry of hop constituents; humulinone, a new constituent of hops. A. H. Cook and G. Harris. Chem Soc J p 1873-6 Jl '50
Consumption of hops for beer, Brazil. For Comm W 44:18 S 17 '51
Efforts to increase output of hops, Japan. For Comm W 44:15 S 10 '51
French hops industry. For Comm W 45:16 O 8 '51
1950 German hops crop at prewar level; export sales good. For Comm W 42:18 Ja 1 '51
See also
Humulone

HORDENINE
New synthesis of hordenine and other *p*-dialkylaminoethylphenols and some of their derivatives. C. Cheng and others. bibliog Am Chem Soc J 73:4081-4 S '51

HORMEL plan. See Wage payment plans—Guaranty of earnings

HORMONES

Adrenal conversion of C^{14} labeled cholesterol and acetate to adrenal cortical hormones. A. Zaffaroni, O. Hechter and G. Pincus. Am Chem Soc J 73:1390-1 Mr '51

Adrenocortical hormones; third Lister memorial lecture. G. F. Marrian. bibliog Chem & Ind p804-7 S 29 '51

AAAS symposium on steroid hormones. Chem & Eng N 29:194+ Ja 15 '51

Chemical constitution and sex-hormonal-activity; the synthesis of some 1-*cyclo*pentyl- and 1-*cyclo*hexyl-1 : 2-diarylethylenes. D. H. Hey and O. C. Musgrave. Chem Soc J p3156-64 D '49

Effects of male hormone upon the tail of the slider turtle, pseudemys scripta troostii. L. T. Evans. bibliog il Science 114:277-9 S 14 '51

Enzyme in endocrine tissues which oxidizes Δ^5-3 hydroxy steroids to α,β unsaturated ketones. L. T. Samuels and others. bibliog Science 113:490-1 Ap 27 '51

Hydroaromatic steroid hormones; 10-nortestosterone. A. J. Birch. Chem Soc J p367-8 Ja '50

Hydroaromatic steroid hormones; some hydrochrysene derivatives. A. J. Birch and H. Smith. Chem Soc J p 1882-8 Jl '51

Influence of hormones on enzymes; a symposium. Science 114:222-3 Ag 24 '51

Influence of hormones on growth; abstract. C. M. Williams. Chem & Eng N 29:1940 My 14 '51

Partial synthesis of compounds related to adrenal cortical hormones; 17α, 21-dihydroxy-Δ^4-pregnene-3,20-dione (Reichstein's substance S). B. A. Koechlin, T. H. Kritchevsky and T. F. Gallagher. bibliog Am Chem Soc J 73:189-94 Ja '51

Partial synthesis of compounds related to adrenal cortical hormones; preparation of the dihydroxyacetone side chain; 17α-hydroxyprogesterone and substances L and P. T. H. Kritchevsky and T. F. Gallagher. bibliog Am Chem Soc J 73:184-9 Ja '51

Revolution in synthetic hormones; Syntex S.A. il Chem Eng 58:198+ Ap '51

Sex hormones, possibly cortisone derived from tomato leaves. il Chem & Eng N 29:916+ Mr 5 '51

Total synthesis of androgenic hormones. H. M. E. Cardwell and others. bibliog Chem & Ind p389-90 My 19 '51

See also

Adrenocorticotropic hormone
Corticosterone
Cortisone
Equilenin
Estradiol
Estrone
Hydroxycorticosterone
Pregnenetetrolone
Progesterone
Testosterone

HORMONES, Plant

Hormones, plant growth regulators. P. W. Zimmerman. il J Chem Educ 28:113-15 F '51

Plant growth-stimulating hormones in immature bean seeds. J. W. Mitchell and others. bibliog il Science 114:159-61 Ag 10 '51

HORNE, Charles F.

Horne appointed CAA head; Nyrop new Board chairman. por(p48) CAA J 12:37 Ap 20 '51

HORNE, George

N.Y. Times ship editor honored. por Ed & Pub 83:24 D 23 '50

HORNER, Horace Mansfield, 1903-

Horner of United Aircraft. por Fortune 43:16-17 Mr '51

Portrait. Fortune 44:128 O '51

HORNS

Leslie-Supertyfon locomotive horn. il diag Ry Age 131:79-80 S 17 '51; Same. Ry Mech & Elec Eng 125:100+ O '51

HORNS, Automobile. See Automobile horns

HOROSCOPES. See Newspapers—Columnists

HORSE insurance. See Insurance, Horse

HORSE racing

Racing license denial follows paper's poll. Ed & Pub 84:28 Je 2 '51

HORSEPOWER

Figuring horsepower by Prony brake; chart; data sheet. J. F. Hyman. Power 94:144 D '50

General Electric marine shaft horsepower-hour meter. A. V. Merchon and A. L. Ruiz. il diag Marine Eng 56:45-7 Je '51

Theoretical horsepower; table. Water & Sewage Works 98:R71 Ap '51

HORSES

How a horse can sell beer; Anheuser-Busch's hitches champion Clydesdales to sales promotion caravans. il Bsns W p22-3 Ag 25 '51

HORSES, Fossil

Fluorine content of some miocene horse bones. R. Olsen. Science 112:620-1 N 24 '50

Neohipparion leptode (Merriam) from the pliocene of northwestern Nevada. C. Stock. diags Am J Sci 249:430-8, pl 1-6 Je '51

HORSESHOES

Technology elbows out a union; merger of Blacksmiths, drop forgers and helpers and Boilermakers, iron ship builders and helpers. il Bsns W p38-40+ Jl 14 '51

HORTICULTURE

See also

Nurseries (horticulture)
Plant breeding

HOSE

Conservation of hose and belting; reference book sheet. Am Mach 95:129 My 28 '51

Conserve your hose. Brick & Clay Rec 119:28 Jl '51

How to get the most out of rubber hose and belts; maintenance data sheet. W. L. Smith. Factory Management 109:90, 92, 94 Ap '51

Non-sweating duct for refrigerator walls. P. E. James and C. P. Davis, jr. il diags Refrig Eng 59:463 My '51

Manufacture

Goodrich method of curing braided hose; illustrations with text. Rubber Age 68:198-9 N '50

HOSE clamps

Complicated part produced on a multi-slide machine; speed clamp for hose attachments. J. Spofford. il diags Mach 57:160-3 D '50

HOSIERY

Be prepared for changes in women's nylon hosiery; rayon may come back. V. A. Schiffer. Rayon 31:69-70 O '50

Packaging machine for stockings. il Engineering 172:93-5 Jl 20 '51

See also

Dyes and dyeing—Hosiery

Manufacture

Argyle socks producible on a commercial basis; abstract. J. H. Blore. Textile World 100:145 D '50

Full-fashioned hosiery yarns; the current sizing situation. V. A. Schiffer. il Rayon 32:39-40 Ap '51

Hosiery dryer eliminates final boarding. il Textile World 100:175 N '50

Knitter-fixer team sparks half-hose program. E. D. White. il Textile World 101:157+ F '51

Loopless-toe hosiery saves 10 to 15c per doz. H. B. LeFaux. il Textile World 101:119-21 Ag '51

Nylonizing for comfort; Bick process. il Rayon 31:85 O '50

Socks from nylon staple. Rayon 32:56 My '51

See also

Hosiery machines

Rating

How well do women's nylons wear? CR's study of ten brands. il Consumers Res Bul 26:5-9 D '50

Men's hose. il Consumers Res Bul 27:11-12 Ap '51

Testing

Comparative tests on the shrink-resisting of men's half-hose. J. R. Stewart. Soc Dyers & Col J 67:138-41 Ap '51

HOSIERY machines

Development of fine gauge knitting machines. W. A. Dutton. bibliog il Textile Inst J 42:P615-32 Ag '51

How we train our knitters to straighten needles. H. B. LeFeaux. diags Textile World 101:122-3 My '51

HOSIERY machines—*Continued*

Knitter-fixer team sparks half-hose program. E. D. White. il Textile World 101:157+ F '51

Loopless-toe hosiery saves 10 to 15c per doz. H. B. LeFaux. il Textile World 101:119-21 Ag '51

Suction turns socks in hosiery mill; Unique knitting co. Acworth, Ga. il Comp Air Mag 56:214 Ag '51

What's new in knitting machines? G. A. Urlaub. il Rayon 32:34-5+ Ap '51

Maintenance and repair

Don't forget maintenance on full-fashioned machines. H. B. LeFeaux. il diag Textile World 101:102+ Ap '51

Nine keys to maintenance of 400-needle machines. T. D. Efland. il Textile World 101:98-9+ Ap '51

Overhaul your half-hose knitting machines now. E. D. White. il Textile World 101:92-3 Ap '51

Recondition full-fashioned machines for worsted-hosiery knitting. W. A. Simond. Textile World 101:103+ Ap '51

HOSIERY mills

Good housekeeping improves knit-goods quality; Maryon hosiery mill. E. D. White. il Textile World 101:114-15 My '51

How Maryon hosiery mill maintains knitting quality. il Textile World 101:129 Ag '51

Senorita hosiery mills knits 15-den. 51-gage nylons. C. W. Bendigo. il Textile World 101:118 Mr '51

Air conditioning

Knit products corp. installs air-conditioning system. R. S. Fullerton. il Textile World 100:120-1 D '50

Tailored air conditioning for temperamental nylon at Sapphire hosiery mills. H. L. Kempaner. il Rayon 31:37-9+ N '50

Electric equipment

Electronic knitting-machine drive. il diag Electronics 24:136+ Je '51

Employees

Earned-bonus plan pays in knitting mill; Lawler hosiery mills. E. D. White. il Textile World 101:122-3 Mr '51

Effect of 75-cent minimum; men's seamless hosiery industry. F. W. Mohr. Mo Labor R 72:674-6 Je '51

Exit questionnaires help our employee relations; Hand knit hosiery co. R. P. Kreuter. Factory Management 109:90-1 Jl '51

Hosiery manufacture; earnings in Oct. 1950. F. W. Mohr. Mo Labor R 72:396-8 Ap '51

Wage chronology no. eight; full fashioned hosiery; supplement, 1951. Mo Labor R 72:295 Mr '51

Equipment

Stockings packed and labeled mechanically. il Textile World 100:145 O '50

Take a trip through the Hans Bick plant; camera tour. Textile World 100:96-9 O '50

You can up seaming efficiency if you preset nylon stockings. H. B. LeFeaux. il Textile World 101:145+ O '51

See also

Hosiery machines

HOSIERY trade

Why Gotham is bringing out a low-priced line in a rising market. V. J. Dallaire. Ptr Ink 236:32 Ag 24 '51

Great Britain

Co-operative research in the hosiery industry; abstract. D. Starkie. Chem & Ind p308-9 Ap 21 '51

HOSPITALIZATION insurance. See Insurance, Hospitalization

HOSPITALS

Civilian hospital construction proceeds at record volume. Heat & Ven 47:120-2 D '50

Constructing the steam service to Henry Ford hospital. W. D. McCully. plan diags Heat & Ven 48:80-2 O '51

Economic aspects of hospital care. H. E. Klarman. bibliog J Bsns 24:1-24 Ja '51

Economics of hospital service. H. E. Klarman. Harvard Bsns R 29:71-89 S '51

Hospitals and public health centers. V. M. Hoge. Ann Am Acad 273:34-42 Ja '51

Museum cheer to hospital patients. J. I. Smith. Special Lib 42:184+ My-Je '51

Precasting cuts cost of hospitals. il diag Eng N 146:39 Mr 8 '51

Regional organization of hospitals. P. A. Lembcke. Ann Am Acad 273:53-61 Ja '51

Use of state advisory councils in the hospital survey and construction program. L. S. Reed. Pub Health Rep 66:487-500 Ap 20 '51

See also

Tuberculosis—Hospitals and sanatoriums

Accidents

Behind the glass door; first-aid rooms have hazards common to hospitals. il Nat Safety N 63:37-8 F '51

Accounting

Use of per diem costing can help establish sound hospital rates. J. Weiner. J Account 91:439-43 Mr '51

Air conditioning

Hospital air conditioning. il Dom Eng 178:127+ Jl '51

Hospital buys cooling piecemeal. il Refrig Eng 59:662 Jl '51; Heat & Ven 48:106 S '51

Costs

Civilian hospital costs studied. Eng N 146:161+ Mr 29 '51

Designs and plans

Children's hospitals; U.S. planners can take a tip from the Finns. il plans diags Arch Forum 95:152-7 Jl '51

Community hospital, Hobbs, New Mexico. il plans diag Arch Forum 93:96-100 D '50

Community hospital, Overbrook, Pa. il plans Arch Forum 95:134-7 Ag '51

Top architect's hospital; Eric Mendelsohn's Maimonides health center, San Francisco. il plans diag Arch Forum 94:92-9 F '51

Top builder's hospital; Memorial hospital, Morristown, N.J. il plans diags Arch Forum 94:100-3 F '51

Electric equipment

Mass production methods adapted to hospital meals; electric cooking and conveyor-line tray assembly; Sacred Heart hospital in Spokane. C. L. Hoffman. il Elec World 134:94-5 N 6 '50

Equipment

Central oxygen, anesthetic piping, important services in hospitals. il Heating-Piping 22:84-7 D '50

Four techniques used to insulate hospital piping. il diags Heating-Piping 23:140-1 Ja '51

Hospital intercom helps nurses do more. il Bsns W p 130+ O 6 '51

Natural gas, versatile fuel, serves huge new hospital; Baylor hospital, Dallas. W. C. Grant. il Gas Age 108:32+ Ag 30 '51

Oxygen piping systems an important hospital service. il diag Heating-Piping 23:94-6 Mr '51

Repairing hospital equipment by welding. il diag Welding J 30:367-8 Ap '51

Fires and fire protection

Progress of hospital inspections. P. C. Cothran. Nat Underw 55:3 Ag 16 '51

Food service

Mass production methods adapted to hospital meals; electric cooking and conveyor-line tray assembly; Sacred Heart hospital in Spokane. C. L. Hoffman. il Elec World 134:94-5 N 6 '50

Heating and ventilation

Heating system for Michigan State hospital. Heat & Ven 48:76 Mr '51

Law

Charitable institutions held liable for servants' torts notwithstanding traditional concept of public policy; Ray v. Tucson medical center. Weekly Underw 164:1480 Je 9 '51

Iowa high court sweeps aside hospital immunity; Haynes vs. Presbyterian hospital association. Nat Underw 55:21 Ja 18 '51

HOSPITALS—*Continued*

Lighting

Hospital theatre lighting. il Elec R (Lond) 147:716 N 3 '50

Public relations

Wesley gets scarce workers, wins friends with public relations plan. R. Newcomb and M. Sammons. il Ind Marketing 36:46+ Ap '51

Statistics

Hospital beds in the United States, 1950. J. W. Cronin and others. Pub Health Rep 65:1461-73 N 10 '50

Finland

Children's hospitals; U.S. planners can take a tip from the Finns. il plans diags Forum 95:152-5 Jl '51

Great Britain

Charity and the hospitals. Economist 160:967-8 Ap 28 '51

Scotland

Hospital costs in Scotland; with chart. Economist 160:364 F 17 '51

HOSPITALS, College

O.S.U. medical center; a ceramic creation. il Am Cer Soc Bul 30:306-7 S 15 '51

HOSPITALS, Military

How we can get better federal medical services. Ind Med 20:376-7 Ag '51

Medical care for veterans. P. B. Magnuson Ann Am Acad 273:76-83 Ja '51

New Orleans hospital foundations designed to end settlement trouble. R. P. Linfield and H. M. Favrot. il map diags Eng N 147:40-2 S 13 '51

Veterans administration 5th semiannual radioisotope conference, Framingham, Mass. Nov. 29-Dec. 1. Science 113:71 Ja 19 '51

Veterans administration research hospital, Chicago. il plans Arch Rec 109:151-7 Je '51

Veterans' hospital, Seattle, Wash. il plans Arch Forum 95:196-7 S '51

Welding a ten-story VA hospital. R. A. Phelps. il Eng N 146:32-5 Je 21 '51

HOSPITALS, Psychiatric

Mental hospital; recreation and occupational therapy wing for Philadelphia psychiatric hospital. il Arch Forum 95:198-200 S '51

HOSPITALS, Rural

Hospital for rural area; Clearwater County memorial hospital, Bagley, Minn. il plan Am Bld 73:140-1+ Ja '51

HOSTETTER, John Clyde, 1886-

Recipient of fourth annual Bleininger award. por Am Cer Soc Bul 30:156 Ap 15 '51

To receive Bleininger award. por Glass Ind 32:25 Ja '51; Chem & Eng N 29:1040 Mr 12 '51

HOT boxes. See Cars—Bearings

HOT springs

Radioactivity of the hot springs of Tiberias. D. B. Rosenblatt. Science 114:46 Jl 13 '51

HOT water heaters

How to select and install unit heaters. il plans diags Mill & Factory 48:93-7 Mr '51

Unit heaters move to the farm. il diag Dom Eng 177:141+ Ja '51

HOT water heating

Convectors; selection, application, installation. il diag Dom Eng 177:90-1+ F; 125+ Mr '51

District heating at Pimlico. plan diags Engineer 192:129-31 Jl 27 '51

Errors often made in forced hot water heating systems. T. W. Reynolds. diags Heat & Ven 47:83-8 N; 70-5 D '50

Five-way heating job; children's home in Franklin county, Ohio. il plan diag Dom Eng 176:133+ N '50

German method of heating design; Rietschel-Brabbee method. E. A. Kaplun. Heating-Piping 23:99-100 Je '51

Get your heating system in order. diags Power 95:118-19 O '51

Heating a housing project; Glen Oaks village, Queens county, N.Y. il diags Dom Eng 178:96-7+ Ag '51

Heating systems for large buildings. J. C. McCabe. diags Eng N 145:43-4 N 9 '50

High temperature water system. T. W. Reynolds. il diags Heat & Ven 48:85-96 S '51

How do you know when there are leaks in heating system? F. J. Ardolino. diags Power 95:120-1 My '51

How to use continuous circuit baseboard heating system. R. A. Parsons. il diag Heating-Piping 23:88-9 Mr '51

Machine drills air intakes for room conditioning units. W. D. Sampson. il diags Heating-Piping 23:82-4 Jl '51

Oil heating job deluxe; Campana-Italian balm co. il diags Dom Eng 177:100-2+ Ap '51

Plans and layouts for modern boiler rooms. il plans Dom Eng 177:104-5 My; 136-7 Je '51

Radiant baseboard heating and effects of reduced thermostat setting and open bedroom windows at night. W. S. Harris and R. H. Weigel. il plans diags Ill U Eng Exp Sta Bul 391:1-67 '51 (pa 70c)

Selection, application and installation of circulating pumps. il Dom Eng 177:142-4+ Je '51

Small boilers solve big heating problem; Arundel estates, Annapolis. il plan Dom Eng 178:133+ S '51

Wall to wall convector radiation for school buildings. D. F. Bennett. il Heat & Ven 47:62-3 N '50

See also

Electric plants (central stations)—Hot water distribution

Hot water heaters

Control

Individual apartment heating control. L. Johnson. diags Heat & Ven 48:81-3 Ag '51

Panel system

Acoustic pan ceiling can be custom engineered for panel heating and cooling. il diag Arch Forum 94:186+ My '51

Aluminum ceiling panels for heating and cooling. E. S. Howarth and others. il diags Heating-Piping 23:125-33 S '51

Ductile steel tubing; low cost replacement for copper in radiant heating. il Arch Forum 94:206 Je '51

Engineer designs own working quarters. Heat & Ven 48:79 My '51

Floor panel system serves California high school. il Heat & Ven 48:70 Ja '51

Heating a glass house; glass and steel apartment house in Chicago. il plan diags Dom Eng 177:134-6+ F '51

Insulating concrete improves radiant panel performance. Sheet Metal Worker 42:43 D '50

Laboratory studies of the thermal characteristics of plaster panels. C. M. Humphreys and others. il diags Heating-Piping 23:127-32 Jl '51

Losses from a floor-type panel heating system. F. W. Hutchinson and others. bibliog Heating-Piping 22:117-20 D '50

100-mile heating job; installing piping; housing project now under construction near Springfield, Mass. il plan Dom Eng 176:100-1+ D '50

Radiant heat for air base residences at Westover Field air base. il Heat & Ven 48:108+ Ja '51

Radiant heating systems for houses; hot water systems; with time-saver standards. W. J. McGuinness. diags Arch Rec 110:163+ Ag; 181+ S '51

Radiant warming for modern factory. F. H. Slade. il Metallurgia 44:123-4 S '51

Steel pipe and brains cut heating-job costs; illustrations with text. Constr Methods 33:60-1 Mr '51

Tabular design procedure for radiant panel heating. W. P. Chapman. bibliog plan diags Heat & Ven 48:72-82 Ja '51

Tempered air ventilation with floor panel hot water heating. J. Joseph. il plan diags Sheet Metal Worker 42:61-3 My '51

What's effect of floor heating in schools? il Heating-Piping 22:100-2 N '50

Wood floor panels installed in old homes prove satisfactory. Heat & Ven 48:133 Ap '51

HOT water heating, Industrial

How to figure steam for heating water. Mill & Factory 48:130 Ap '51

Water-heating time converted to production time in New England dyehouse. E. H. Helliwell. il diag Textile World 101:130 Ja '51

HOT water supply

Cures heater troubles, saves money. E. H. Roper. il diag Power 94:94-5 N '50

Diesel steam for a laundry; Union Pacific railroad laundry. il plan Power Eng 55:72-3 S '51

District heating at Pimlico. plan diags Engineer 192:129-31 Jl 27 '51

Domestic water heating. B. Bennett. Elec R (Lond) 148:975-6 My 11 '51

Generator hook-up supplies large amounts of hot water. H. B. Wilson. diag Heat & Ven 48:75-6+ Ag '51

Heat pump domestic water heater. G. G. Freyder. il Heat & Ven 48:77-80 Jl '51

Heat pump water heater. A. W. Ruff. il diags Refrig Eng 59:153-4 F '51

High temperature water system. T. W. Reynolds. il diags Heat & Ven 48:85-96 S '51

Hot water; Our health, our strength; booklet distributed by Gas appliance manufacturers association. Dom Eng 177:104 Je '51

Hot water piping systems. W. F. Schaphorst. diags Pet Eng 23:C49 S '51

How much steam do these heat exchangers save? Power Eng 54:85-6 O; 92+ N '50

How to eliminate rule-of-thumb in heating; domestic water heating. R. H. Weigel. diags Dom Eng 176:120+ N '50; 177:116+ Ja '51

Measures to avoid troubles in domestic hot water systems. T. W. Reynolds. diags Heat & Ven 48:73-7 O '51 (to be cont)

Report on residential heat pump water heater operation. il diags Edison Elec Inst Bul 18:379-81+ O '50

Water heater performance. E. S. Ross and others. Am Gas Assn Mo 33:17-19; Discussion. C. G. Segeler. 19+ Ja '51

See also

Electric water heaters

Gas water heaters

HOT weather

Hot weather health. Nat Safety N 63:190 Mr '51

Office cracks down on bathing-beauty garb. Bsns W p37 Jl 7 '51

HOTELS

Biggest hotel since the Waldorf, designed to be earthquake-proof; Los Angeles' new Statler Center. il diags Eng N 147:35-7 Ag 23 '51

New era for hotels. J. B. Herndon, jr. Comm & Fin Chr 173:627+ F 8 '51

Paper in the hotel industry. E. Hershberger. Paper Tr J 132:30+ My 4 '51

Designs and plans

Golden Strand hotel, Miami Beach, Fla. il plans Arch Rec 109:132-5 My '51

Hotel made for the tropics; El Panama, Panama City. il plans diag Arch Forum 94:138-45 Ap '51

New hotel for the Caribbean; Virgin Isle hotel. il plan Arch Rec 110:138-43 S '51

Statler Center, Los Angeles. il plans diags Arch Rec 109:89-104, 147-8 Mr '51

Finance

Hilton earnings increase despite lower occupancy. Barron's 30:19 N 20 '50

Room clerks aren't so busy. Bsns W p 106-7 Jl 21 '51

Fires and fire protection

Careless guests cause most hotel fires. J. J. O'Toole. Weekly Underw 164:1129+ My 5 '51

Insurance requirements

Agree on study of Florida waterfront hotel coverage. Nat Underw 55:1 Ap 5 '51

Europe

Forging a chain in Europe; Hilton Hotels plans to expand. il Bsns W p 108-9 Ja 13 '51

Panama

Hotel made for the tropics; El Panama, Panama City. il plans diag Arch Forum 94:138-45 Ap '51

Virgin Islands

New hotel for the Caribbean; Virgin Isle hotel. il plan Arch Rec 110:138-43 S '51

HOUCK, George C.

Portrait. Bsns W p31 N 11 '50

HOUDRIFORMING. See Gasoline—Manufacture

HOUDRY process

Another way to get aromatics; new continuous catalytic process converts low-octane naphthas to aromatics or high-octane gasolines. il diag Chem Eng 58:196+ Je '51

Moving bed recycle catalytic cracking correlations; product distribution and process variables. J. B. Maerker, J. W. Schall and J. C. Dart. Chem Eng Prog 47:95-101 F '51

Sun's new Houdriflow unit. P. D. Barton. flow diag il diag Oil & Gas J 49:232+ Mr 29 '51

HOUGEN, Olaf Andreas, 1893-

Man of the month. por Chem Eng 57:116+ D '50

HOURS of labor

Conditions of employment in postal, telegraph and telephone services. Int Labour R 63:537-70 My '51

Facts about hours of work vs output; interview with Max D. Kossoris. Factory Management 109:68-73 F '51

Is there plenty of time, nine to five? E. L. Deckinger. Ptr Ink 233:114 N 3 '50

Shorter work week. H. R. Richmond. Pulp & Pa of Can 52:84-6 Ag '51

See also

Night work

Overtime

Five-day week

Five-day week legislation by states as of June 1, 1951; table and map. Banking 44:78 Jl '51

Shift schedules

How can we set up a work schedule? il Power 95:132-4 O '51

Production around the clock no guarantee of minimum trouble and maximum profit. R. Savery. Inland Ptr 126:41-4 D '50

Shift operations in metalworking plants, Jan. 1951. Mo Labor R 72:533-4 My '51

Statistics

Earnings and hours. Published in Monthly labor review

Employment, average hours and earnings; reported by companies having more than 93 per cent of the total employment of the steel industry; tabulation. Iron Age 167:291 Ja 4 '51

Hours of work in key industries, Dec. 1950. R. H. Lewis. Mo Labor R 72:523-7 My '51

Metalworking, wages and hours, employment; tabulations. Steel 128:143 Ja 1 '51

Statistics of hours of work per week in manufacturing. Int Labour R 63:227 F '51 [cont bi-monthly]

Steel employment, wages, hours and payrolls, 1947-1950, by months; monthly averages, 1936-1949; tabulations. Steel 128:142 Ja 1 '51

Union wages and hours; building trades, July 1, 1950. J. F. Laciskey. U S Bur Labor Statistics Bul 1011:1-33; pa 20c Supt. of doc. '51

Union wages and hours; motortruck drivers and helpers, July 1, 1950. U S Bur Labor Statistics Bul 1012:1-27; pa 20c Supt. of doc. '51

Union wages and hours; printing industry, July 1, 1950. J. F. Laciskey. U S Bur Labor Statistics Bul 1018:1-33; pa 20c Supt. of doc. '51

HOUSE lighting

Decorative features in the home. L. E. A. Phillips. col il Elec R (Lond) 147:1031-4 D 22 '50

Fluorescent lighting in the home. E. W. Commery and K. A. Leighton. Illum Eng 45:743-51; 46:29-38 D '50-Ja '51

Functional visual activities in the home. il plans diags Illum Eng 46:375-82 Jl '51

Home lighting for the Festival; demonstration at Lighting service bureau. il Elec R (Lond) 148:836 Ap 27 '51

Home lighting test room brings them in. M. W. Held. il Elec World 134:115-16 D 4 '50

Household illumination. F. Jackson. col il Elec R (Lond) 147:1027-30 D 22 '50

HOUSE lighting—*Continued*

Lamp wattages increased through R-40 promotion. Elec World 134:140-1+ D 4 '50

Light conditioned home draws crowds. Elec World 136:124 S 24 '51

Light conditioning homes; illustrations with text. Elec Eng 69:1066-9 D '50

Lighting a hallway. M. Taepke. il diags Illum Eng 46:359-60 Jl '51

Lighting an apartment living room. M. Taepke. il Illum Eng 46:395-6 Ag '51

Lighting for fabrics; need for colour discrimination in home furnishing. H. Hewitt. Elec R (Lond) 147:1069-70 D 22 '50

Recipes; the practical approach to home lighting. il Elec West 105:108+ O '50

Rosslyn Hill. R. Berry. col il Elec R (Lond) 147:1035-8 D 22 '50

Sample sells home lighting; New Day model home. il Elec West 107:90 S '51

Use of fluorescent tubes. Illum Eng 45:719-20 N '50

HOUSE moving. See Moving of structures

HOUSE numbers

Uniform house numbering and street naming system. D. S. Martin. plan Pub Works 82:53-4+ Je '51

HOUSE organs

Company paper; it makes or breaks community spirit. M. B. Andrews. Textile World 101:165 My '51

Employer-employee relations; more hard work for company- and business-publication editors. il Ptr Ink 233:29 D 29 '50

Gifts and thank you's win friends for externals. H. Manischewitz. il Ind Marketing 35:52+ N '50

How a free premium proved the effectiveness of a dealer magazine. A. I. Glazier. il Ptr Ink 236:44+ Ag 3 '51

Industrial bulletin builds customer usage. J. F. Morton. il Elec World 135:95 My 7 '51

Salesmen's corner; advantages of house magazines as listed by the users. F. Rundell. il Inland Ptr 126:56-8 Mr '51

Salesmen's corner; three classifications of house magazines. F. Rundell. Inland Ptr 127:56-8 Ap '51

Your company magazines. A. Reese. il World Oil 132:68-70 My '50

See also

Advertising mediums—House organs

Employees' magazines

Directories

Many new house organs supplement P.I. directory. Ptr Ink 236:41-2+ Jl 20 '51

Printers' Ink directory of house organs. 3d ed 163p pa $5 Printers' Ink publishing co, 205 E. 42d st, New York 17 '50

Editors

How industrial editors view their profession. Management R 40:129 Mr '51

Take those shackles off your editor. Factory Management 109:236+ Jl '51

Terminology

If they aren't house organs what in the world are they? Ptr Ink 234:36-7 F 23 '51

HOUSE-to-house selling. See Door-to-door selling

HOUSE trailers. See Automobile trailers

HOUSEHOLD appliances. See Domestic appliances

HOUSEHOLD budget. See Budget, Household

HOUSEHOLD employees. See Servants

HOUSEHOLD products

See also

Domestic appliances

HOUSEHOLD products industries

Avco's expanding universe. il Fortune 43:74-7+ Ja '51

Furnishing goods leaders expect active first quarter; uncertain over longer-term; symposium. Comm & Fin Chr 173:450-1 Ja 25 '51

Home furnishings merchandisers see no basis for lower prices or reduced sales; symposium. Comm & Fin Chr 174:70-1 Jl 5 '51

Prizes, premiums and parties build a 70-million-dollar bonanza; Stanley home products. M. Beuick. il Ptr Ink 234:40-2 Mr 9 '51

See also

Furniture industry and trade

Advertising

Family of products re-united by one sales theme for all; Fieldcrest blankets, sheets, towels, etc. il Ptr Ink 234:30-1 Mr 16 '51

See also

Vacuum cleaners—Advertising

Statistics

Retail trade, 1948, for metropolitan areas. Ptr Ink 235:114+ My 25 '51

HOUSES

Add pleasing variation with materials and color; McKel homes, Portland, Ore. il plan Am Bld 73:126 F '51

Argument for basementless houses; Schmitt homes, Mansfield, Ohio. il plans Am Bld 73:154-5 Ja '51

Builder's houses in Tujunga, Calif. H. D. Byles and E. Weston, 3d. il plans Arch Forum 94:160-1 Je '51

Customer complaints; no problem for housebuilder Lester Robbins. il Arch Forum 93:50+ D '50

Features and costs of new one-family houses. Mo Labor R 73:13-14 Jl '51

Fire station-residence for Louisiana town with volunteer fire department. il plan Am Bld 73:160 Je '51

Flat-top builder houses; California's pioneering Earl Smith demonstrates that public will buy them. il plan diags Arch Forum 95:169-75 Jl '51

House is a house is a house; building types study. il plans diags Arch Rec 108:131-54 N '50

Houses in uniform; planned harmony in exterior colors gives individuality. il Am Bld 73:166-7+ Ja '51

Landia; Long Island's Levitt & sons 1951 house. il plans Arch Forum 94:140-6 F '51

Modular coordination in frame houses; with time-saver standards. J. T. Lendrum. il plans diags Arch Rec 109:153-5, 177+ My '51

Ned Cole's idea factory for builders' houses. il plans diag Arch Forum 95:162-5+ Ag '51

Promoting comfort builds a business; Swanbuilt house in Redondo beach, Calif. il plan Am Bld 72:174+ N '50

Selected homes exhibited during National home week. il plan Am Bld 73:112-28 Ja '51

What houses are made of; FHA analysis of components of construction, a partial list of applications; tabulation. Iron Age 167:332 Ja 4 '51

Year around air conditioning in medium priced houses. il Sheet Metal Worker 42:91-2 N '50

See also

Apartment houses

Architecture, Domestic

Beach houses

Brick houses

Cabins

Concrete houses

Country houses

Desert houses

Home ownership

House lighting

Housing

Steel houses

Mechanical equipment

Building products on review; photographs with text. Am Bld 73:68+, 112-28+ Ja '51

Ingersoll's utility unit; its post mortem proves again that prefabrication usually has rough going. il Arch Forum 93:152+ N '50

HOUSES, Concrete. See Concrete houses

HOUSES, Model

All-electric house of the 50's. il plan Am Bld 73:90-7 Mr '51

Builder's home at rear of office serves as display model. il plans diags Am Bld 73:104-5 S '51

Compact kitchen for thrift home, electrical living model home. il plans diags Am Bld 73:116-17 Jl '51

Holiday house, Quogue, N.Y. il plan diags Arch Rec 109:162-7 Je '51

Home of tomorrow; Fritz Burns postwar house of 1946 remodeled. il plan diags Am Bld 73:102-5 Je '51

HOUSES, Model—*Continued*

Home week display houses indicate design trend. il plans diags Am Bld 73:106-15 F '51

House of the year; San Diego house wins AIA award. il plan Arch Forum 93:78-9 D '50

House that plastics built. il Bsns W p56+ S 8 '51

How a small city lumber dealer staged a National home week. il plan Am Bld 73:92-4 Je '51

Lighting and electrical living sell out tract; Los Gatos, Calif. il plan Am Bld 73:184-5 Ap '51

Model house remodeled; Netherwood Estates, North Plainfield, N.J. il plan Arch Forum 93:122-3 N '50

Southwest research institute house features full space utilization. il plans diags Am Bld 73:118-20 Ag '51

Stucco offers design innovations; Melody House features Tacoma home show. il plan diag Am Bld 73:108-9 N '50

2500 people visit National home week house in town of 1400. il plan Am Bld 73:132-3 Jl '51

Versatility of concrete products shown in unique model home. il plans diags Am Bld 73:100-3 S '51

Warm air forced through cellular steel floors in exhibition home; Detroit builders' show ideal home. J. S. Bobbio. il plan diags Heat & Ven 48:55-7 Ja '51

See also Electric industries—Electric homes exhibitions

HOUSES, Prefabricated

Better design, legal attack on codes stressed by Prefabricated home manufacturers' institute. Arch Forum 94:21+ My '51

Engineered houses no delusion, after all; Knox corp., Thomson, Ga., supplies business areas; photo visit. Mod Ind 21:18+ Je '51

Factory-built homes do better and better; illustrations with text. Bsns W p56+ F 10 '51

Market for prefabricated housing. R. Ferber and H. G. Wales. J Marketing 16:18-28 Jl '51

Prefabrication speeds Dutch housing project. il diag Eng N 145:52 O 26 '50

Public prefabs; government-subsidized project buys packaged houses from Gunnison. Bsns W p83 Jl 28 '51

What next in prefabrication; excerpts from Burnham Kelly's Prefabrication of houses. il diags Arch Forum 94:136-7+ My '51

HOUSES, Remodeled

Adding floor presents a problem. W. B. Buck. il plan Heating-Piping 23:102-3 Mr '51

From ancient chalet to classic colonial. il plans Am Bld 73:98-9 Mr '51

HOUSES, Row

Fire-resistant roofs for row houses. diags Arch Rec 109:163 My '51

HOUSING

Housing starts surprisingly high. Steel 128:47 My 21 '51

How to build more houses in 1952; an open letter to NAHB. Arch Forum 95:131-2 Jl '51

Perspective on housing migratory agricultural laborers. P. S. Taylor. Land Econ 27:193-204 bibliog(p203-4) Ag '51

See also

Architecture, Domestic
Building
City planning
Company towns
Federal housing administration
Housing projects
Negroes—Housing
Rent
Slums
Veterans—Housing

Cost

Features and costs of new one-family houses. Mo Labor R 73:13-14 Jl '51

Income and housing cost trends of Boston's middle-income groups; 1846-1947. L. Rodwin. bibliog Land Econ 26:368-82 N '50

Lift-slab housing in San Antonio and Corpus Christi; with cost data. il plans Arch Forum 95:184-7 S '51

Public housing construction costs, New York city Municipal housing authority. Eng N 146:167 Mr 29 '51

Economic aspects

Land values in relation to planning and housing in the United States; reprinted from Feb. '41 issue. R. Unwin. Land Econ 27:280-6 Ag '51

Negroes

See Negroes—Housing

Statistics

Growth in residential gas utility customers and residential and rural electric customers, by state, compared with increase in dwelling units, 1940-1950; tabulation. Am Gas Assn Mo 32:31 D '50

Market trend; big scale builders erect third of U.S. homes, BLS finds. Arch Forum 95:61 S '51

New housing starts, 1947-1950; tabulation. Iron Age 167:333 Ja 4 '51

Aiken, South Carolina

Defense housing; Aiken, with new H-bomb plant, has tough problem. il map Arch Forum 94:124-5 Ap '51

Asia

Workers' housing programmes in Asian countries. Int Labour R 63:390-401 Ap '51

Boston

Income and housing cost trends of Boston's middle-income groups; 1846-1947. L. Rodwin. bibliog Land Econ 26:368-82 N '50

Brazil

Brazil's housing is bright; public housing project for lower paid workers. il plans Arch Forum 95:183 Jl '51

Clinton, Iowa

Lumber dealer spurs low-price custom-built housing. il plans Am Bld 73:120-3 S '51

Dallas, Texas

Dallas slum clearance tied up by decision. Eng N 145:29 N 30 '50

Great Britain

Britain's new towns lag. il Bsns W p 122-3 D 2 '50

Five years of housing; with graph of construction, 1948-1950. Economist 160:310 F 10 '51

Housing figures; with tables and charts for selected years, 1920-1950. Economist 160:356-8 F 17 '51

More houses being built; with table. Economist 161:388 Ag 18 '51

What happened to the new towns? a report on a British experiment. F. R. Brewster. il map plan Eng N 146:39-41 Ja 4 '51; Discussion. G. B. Taylor. 146:48 F 22 '51

Hartford, Connecticut

Hartford, Conn. has an unusual housing problem. il Eng N 146:58+ Ja 4 '51

Hawaiian Islands

Aina Haina housing, Wailupe valley, Oahu. il plan Arch Rec 108:128-30 N '50

London

Passkey to Pimlico, London's new housing. il Arch Forum 95:182 Jl '51

Memphis, Tennessee

Memphis plan for private slum clearance; Carver homes project is guidepost for Dixie. Arch Forum 94:32 Ap '51

Seeking the how in low rental housing; Wallace E. Johnson projects. il plans Am Bld 73:126-7 Ag '51

Middleborough, Massachusetts

Low-rent housing; Middleborough housing project. il plans Arch Rec 109:120-2 My '51

Morristown, New Jersey

Pace-setting 1951 subdivision; Klausner's 250-family project, Morristown. il plans diag Arch Forum 94:130-5 Ja '51

New Orleans

700 sales in four weeks; Hamilton Crawford's Gentilly Woods housing project, New Orleans. il plans diags Arch Forum 95:206-13+ S '51

HOUSING—*Continued*

New York (city)

How world's largest landlord heats low cost housing; procedures adopted by New York City Housing authority. L. Smith. il diags Heating-Piping 22:80-3 N; 80-3 D '50

Rollover in rental housing. J. Backman and A. Gitlow. Land Econ 27:58-66 F '51

North Hollywood, California

Short cut to low rents; Burns apartment project. il Bsns W p78-80+ Jl 28 '51

Northampton, Massachusetts

Low-rent housing; Hampshire Heights project. il plans diags Arch Rec 109:116-19 My '51

Northeastern states

Some factors relating to farm housing in the Northeast. G. H. Beyer. Land Econ 26:383-9 N '50

Paducah, Kentucky

FHA officials admit relaxed credit rules don't make homes sell. il Arch Forum 95:37+ Jl '51

Park Forest, Illinois

Park Forest; proving ground for community planning techniques. il plans diags Arch Rec 109:94-110 My '51

Pittsburgh

Pittsburgh's magic three; two down, one to go, this last a housing job. Eng N 147:55-6 Ag 2 '51

Puerto Rico

Housing is his meat; Leonard D. Long. Eng N 146:132 F 15 '51

Russia

Houses for Russians. map Economist 161:198-9 Jl 28 '51

St Louis

Slum surgery in St Louis. il plans Arch Forum 94:128-36 Ap '51

San Francisco Bay region

Subdivision of the year; builder Eichler and architects Anshen & Allen team up. il plans diags Arch Forum 93:80-7 D '50

Sweden

Housing characteristics of the United States and Sweden. D. Monson. Land Econ 27:79 F '51

Texas

Lift-slab housing in San Antonio and Corpus Christi; with cost data. il Arch Forum 95:184-5 S '51

United States

Brakes on housing take hold. Bsns W p24-5 Ap 21 '51

Credit curbs bite housing hard. Arch Forum 94:9 Je '51

Dark face of housing. F. B. Burns. il Elec West 106:80-1 Je '51

Family income and new rental housing. G. G. Rudney. Mo Labor R 73:8-12 Jl '51

FHA and housing situation. F. D. Richards. Comm & Fin Chr 172:2460-1 D 21 '50

Federal housing policy developments, 1932-50. Mo Labor R 71:682-3 D '50

House building; yea and nay. Bsns W p25 S 8 '51

Housing activities of the federal government; who, what, where and how. maps Am Bld 73:sup 1-24 S '51 (reprints 25c)

Housing and population in metropolitan areas. M. F. Carney. Mo Labor R 72:22-3 Ja '51

Housing characteristics of the United States and Sweden. D. Monson. Land Econ 27:79 F '51

Housing commitments put at half million. Eng N 145:31 D 7 '50

Housing shrinks according to plan. il Bsns W p27-8 Jl 21 '51

Housing slows, as planned. Bsns W p 19-20 F 17 '51

Housing trends; summary of recent reports by Bureau of labor statistics, Census bureau, and HHFA. Arch Forum 95:60-1 Ag '51

New housing in metropolitan areas; structural characteristics of new one-family houses started July-December 1949. D. K. Newman. Mo Labor R 71:429-32 O '50

New housing; trends in 1949-51. Mo Labor R 73:1-14 Jl '51

Residential real estate under controls. Fed Res Bul 37:901-12 Ag '51

Round table report of home building experts. Arch Forum 94:115-30 F '51; Discussion. 94:46+ My; 40+ Je '51

Tottering edifice; the postwar housing boom won't survive 1951. R. M. Bleiberg. Barron's 31:5 Ap 2 '51

Uproar over public housing; builders, bankers attack dishonesty of officials. Arch Forum 95:43+ Ag '51

Urban real estate markets; characteristics and financing; abstract. E. M. Fisher. Comm & Fin Chr 174:876 S 6 '51

See also

Federal housing administration

Defense workers

Billions for defense housing. Bsns W p30-1 Ja 20 '51

Defense housing. Bsns W p24 My 12 '51

Defense housing; a look at the lessons of World war II. il map Arch Forum 94:122-7+ Ap '51

Defense housing bill, law at last, brings threat of permit system. Arch Forum 95:39-40 S '51

Defense housing fiasco; with tabulation of critical defense areas and housing under relaxed credit controls. il Arch Forum 95:36-7+ Jl '51

Defense housing; proposed bill. Bsns W p34 D 30 '50

Mortgage terms for defense areas. Arch Forum 94:25+ Ap '51

Regulation X relaxed in defense areas. E. Mickel. Arch Rec 109:23-4+ Ap '51

Seams burst in little boom towns; with Business Week survey of six typical towns. il Bsns W p70-2+ O 13 '51

Washington, D.C.

New home financing in Washington area, 1949-51. A. L. Stucke. Mo Labor R 72:534-7 My '51

Wichita, Kansas

Defense housing; biggest boom town has a housing shortage. il Arch Forum 94:126-7 Ap '51

Wichita home builders meet a crisis. il map Am Bld 73:120-1 Jl '51

HOUSING and home finance agency

Housing activities of the federal government. maps Am Bld 73:sup 1-24 S '51 (reprints 25c)

HHFA asks for advice on how to cut building waste, then bobbles it. Arch Forum 94:25 My '51

HHFA lists projects. E. Mickel. Arch Rec 108:24+ N '50

Typical slum clearance projects outlined. Eng N 146:54+ My 17 '51

HOUSING authorities

Securities

Public housing bonds; PHA will float $860 million in year. Arch Forum 95:61 Jl '51

Security I like best; new housing authority bonds. P. Frederick. Comm & Fin Chr 174:238 Jl 19 '51

HOUSING finance

Credit curbs disturb housers. E. Mickel. Arch Rec 108:15-16+ N '50

Credit in the construction field; with text of Regulation X and supplement. J. P. McGrogan. Credit & Fin Management 53:12-13+ Ja '51

Drastic cut in house production will result from credit curb; Regulation X. Arch Forum 93:9-10 N '50

Easier curb; new regulations on multi-family housing. Bsns W p92-3 N 25 '50

Fanny May has $350-million to buy up mortgages on new homes. Bsns W p 100 Ag 4 '51

Housing credit curbs. N. P. Gregory. Burroughs Clearing House 35:37-8 N '50

HOUSING finance—*Continued*

Mortgage lenders analyze Regulation X repercussions. Burroughs Clearing House 35: 3-4+ D '50

New housing law eases credit terms. Bsns W p 134+ Ag 25 '51

Not enough homes? Regulation X. Fortune 42:17-18+ N '50

Outlook for new housing. T. S. Holden. Comm & Fin Chr 173:1952 My 10 '51

Predicted effects of new construction in credit control; Regulation X; with summary. Am Bld 72:9, 38B-38C N '50

Real estate credit; amendment no. 6 to Regulation X; with text. Fed Res Bul 37:1131-3 S '51

Regulation X relaxed to meet emergency housing needs. Arch Forum 94:13 Mr '51

Relaxed housing credit rules; FHA and conventional loans; VA loans; table. Arch Forum 95:39 S '51

Residential real estate credit; amendment to Regulation X; effective Nov. 14, 1950; with text. Fed Res Bul 36:1472-5 N '50

Residential real estate credit; interpretations of Regulation X. Fed Res Bul 36:1621-3 D '50

Residential real estate credit; Regulation X and supplement as amended effective Jan. 12, 1951; text. Fed Res Bul 37:22-33 Ja '51

Restrictions on residential real estate construction credit; Regulation X, effective Oct. 12, 1950; with text. Fed Res Bul 36: 1284-6, 1314-21 O '50; Excerpt. Banking 43: 135-7 N '50

Revised restrictions on real estate credit. Fed Res Bul 37:13-15 Ja '51

Round table report on mortgages. Arch Forum 94:102A-102P Je; 95:121-4+ Ag '51; Excerpts. Comm & Fin Chr 174:975 S 13 '51; Discussion. Arch Forum 95:86+ S '51

See also

Federal housing administration

Housing projects, Cooperative

HOUSING laws

See also

City planning—Zone system

United States

Defense housing act of 1951; excerpts relating to residential credit restrictions. Fed Res Bul 37:1130-1 S '51

Defense housing bill after a second look. Arch Forum 94:9+ Mr '51

Defense housing bill, law at last, brings threat of permit system. Arch Forum 95:39-40 S '51

Defense housing bill; with summary. Arch Forum 94:9+ F '51

Federal housing policy developments, 1932-50. Mo Labor R 71:682-3 D '50

New housing law eases credit terms. Bsns W p 134+ Ag 25 '51

Provisions of housing bill as approved by Senate. Am Bld 73:172-3 My '51

Residential real estate under controls. Fed Res Bul 37:901-12 Ag '51

HOUSING projects

Ban on commercial building defers housing project; Landia development, Jericho, L.I. il plans Am Bld 73:114-15 Je '51

Builder-architect teamwork pays off for Luria brothers; project in Holmes Run section, Va. il plans Arch Forum 95:166-9+ Ag '51

Building for less than seven dollars a square foot; All weather enterprises, El Monte, Calif. il plan diag Am Bld 73:130-1 S '51

Building for quality, not for price; R. W. Gordner, home builder, Yakima, Wash. il plan Am Bld 73:138-9 Ja '51

Country club living at supermarket prices; Forest City housing development, Wantagh, L.I. il plans Am Bld 73:99-101 Je '51

Design and color sell new homes; Meadowlark Park project, San Fernando valley. il plans Am Bld 73:96-8 Je '51

Heating a housing project; Glen Oaks village, Queens county, N.Y. il diags Dom Eng 178:96-7+ Ag '51

Homes grow from magazine's pages; 50-house-per-year builder Lester Harris of Cheshire, Conn. il plans Am Bld 73:141-3 F '51

Houses in uniform; planned harmony in exterior colors gives individuality; Bonforte construction co., Colorado Springs. il Am Bld 73:166-7+ Ja '51

How color helped to sell these ranch homes at Wantagh, Long Island. il plans Am Bld 73:128-9 S '51

Lansbury estate, Poplar; supply services. Electrician 146:1615-16 My 11 '51

Low-rent housing in Massachusetts; Hampshire Heights, Northampton and Middleborough housing project, Middleborough. il plans diags Arch Rec 109:116-22 My '51

Lumber dealer spurs low-price custom-built housing in Clinton, Iowa. il plans Am Bld 73:120-3 S '51

Model house remodeled; Netherwood Estates, North Plainfield, N.J. il plan Arch Forum 93:122-3 N '50

New precutting versatility and speed with patterns and power tools; houses at Keesler air force base, Biloxi, Miss. il Am Bld 73: 100-3 My '51

Pace-setting 1951 subdivision; Klausner's 250-family project, Morristown, N.J. il plans diag Arch Forum 94:130-5 Ja '51

Power equipment builds a city; Lakewood Park, Los Angeles. il plan Am Bld 73:96-9 My '51

Radiant heat for air base residences at Westover Field air base. il Heat & Ven 48:108+ Ja '51

Realty company takes responsibility; Brown & Vaughn development co. has provided complete sewage disposal for its Longvue Acres project. il diag Eng N 146:42-3 Mr 1 '51

700 sales in four weeks; Hamilton Crawford's Gentilly Woods housing project, New Orleans. il plans diags Arch Forum 95:206-13+ S '51

Short cut to low rents; Burns apartment project, North Hollywood, Calif. il Bsns W p78-80+ Jl 28 '51

Short-cuts from a suggestion box; Place homes, South Bend, Ind. il plan Am Bld 73:118-21 F '51

Special ready mix plant for housing project. il Concrete 59:3-4 Ap '51

Speculative houses with custom quality; E. A. Ballin, Hewlett Harbor, L.I. il plan Am Bld 73:125 Mr '51

Standard kitchen units aid project sales at Birmingham, Mich. il plans Am Bld 73:100-1 Jl '51

Subdivision of the year; builder Eichler and architects Anshen & Allen team up in San Francisco Bay area. il plans diags Arch Forum 93:80-7 D '50

Three builders let experts handle the paper work; 168-home project in Spokane, Wash. il plans Am Bld 73:104-5 Mr '51

Under roof in two hours; new techniques speed construction for H. C. Huber construction co., Dayton, Ohio. il plans Am Bld 73:162-5 Ja '51

Unusual product needs unusual promotion; 250-million-dollar housing project for 70,000 people gets mass market treatment; Lakewood Park, Calif. L. F. Thomann. il Ptr Ink 234:42 Ja 19 '51

Vote for flat roofs; builder Jere Strizek of Sacramento. il plan Am Bld 73:130-1 F '51

What does mass housing mean to the gas industry? six members of the Gas Age Editorial advisory board give their views. Gas Age 108:61-4+ O 11 '51

See also

Suburban development

HOUSING projects, College

Clemson House and Clemson Homes. il plans Arch Rec 110:106-13 Ag '51

Factors in sound self-liquidating college housing projects. E. H. Cress. Comm & Fin Chr 174:605+ Ag 16 '51

HOUSING projects, Cooperative

Popular cooperatives; new program may ease U.S. into middle-income housing. R. M. Bleiberg. Barron's 31:7-8 Ja 8 '51

HOUSING projects, Government

Air force housing; Edwards air force base, Muroc, Calif. il plan diags Arch Rec 109: 123-5 My '51

Grass roots more hostile to public housing program. R. M. Bleiberg. Barron's 31:10 Je 18 '51

HOUSING projects, Government—*Continued*

Housing, Mather air force base, Sacramento, Calif. plans diag Arch Rec 110:124 S '51

Housing, naval testing station, Inyokern, Calif. il plans Arch Rec 110:114-15 S '51

Housing, Travis air force base, Fairfield, Solano county, Calif. il plans diags Arch Rec 110:116-17 S '51

Small boilers solve big heating problem; Arundel estates, Annapolis. il plan Dom Eng 178:133+ S '51

HOUSING projects, Municipal

How world's largest landlord heats low cost housing; procedures adopted by New York City Housing authority. L. Smith. il diags Heating-Piping 22:80-3 N; 80-3 D '50

New-type bonds promise more public housing. Eng N 146:67 Je 28 '51

New York to try multi-site public housing project. Eng N 147:75 Ag 2 '51

Public housing construction costs, New York city Municipal housing authority. Eng N 146:167 Mr 29 '51

HOUSING research

Housing research projects. Eng N 146:63 Ja 11 '51

HOUSING surveys

House purchases in the five months following the introduction of real estate credit regulation. Fed Res Bul 37:777-99 Jl '51

Market trend; big scale builders erect third of U.S. homes, BLS finds. Arch Forum 95:61 S '51

New housing; trends in 1949-51. Mo Labor R 73:1-14 Jl '51

1951 survey of consumer finances; purchases of durable goods and houses in 1950 and buying plans for 1951. J. Frechtling and T. Smith. Fed Res Bul 37:759-76 Jl '51

HOUSTON, Florence MacDonald

Keeping wages in line; administrator at Alexander Smith, inc. pors Mod Ind 21:50-2+ Je '51

HOUSTON, Texas

Dredges enlarge 50-mile Houston ship channel. K. Heagy. il map Civil Eng 21:152-4 Mr '51

Houston now the South's largest city. il Eng N 146:52 Ja 25 '51

Houston urban expressways promise savings of $2,750,000 annually. W. J. Van London. il diag Civil Eng 21:131-3 Mr '51

Industries

Consumer market development; Diamond alkali co., caustic soda-chlorine plant. G. F. Rugar. il Ind & Eng Chem 43:1751-3 Ag '51

Sewerage

Houston sludge disposal plant profits from use of existing facilities. J. G. Turney and others. il map plan Civil Eng 21:256-9 My '51

Water supply

Sanitary supervision of the Houston water supply. Pub Works 82:42 F '51

HOWARD, Henry, 1868-

Early chemical development outlined by Henry Howard; Perkin medal award. por Chem & Eng N 29:1824+ My 7 '51

Early recollections. H. Howard. por Chem & Ind p692-3 Ag 18 '51

H. Howard's career tells story of American chemical industry. por(cover) Chem & Eng N 29:1840 My 7 '51

Perkin medal for 1951. F. J. Curtis. Chem & Ind p436-7 Je 9 '51

HOWARD, Roy Wilson, 1883-

Praised for U.P.'s service. E. J. Meeman. Ed & Pub 84:38 My 12 '51

HOWDEN, Norman M.

Howden figured story would rate George Westinghouse science writing award. S. Hammer. por Ed & Pub 84:48 Ja 6 '51

HOWE sound company

Sales, earnings continue upward trend. Barron's 31:13-14 Je 4 '51

Security I like best. P. Dysart. Comm & Fin Chr 173:710+ F 15 '51

HUBER, Hans

Portrait. Bsns W cover Jl 7 '51

HUBER, J. M., corporation

Ink starts a gas and oil business. il Bsns W p98+ Jl 7 '51

HÜCKEL, Erich, 1896-

Erich Hückel. R. E. Oesper. por J Chem Educ 27:674 D '50

HÜCKEL, Walter, 1895-

Sketch. R. E. Oesper. por J Chem Educ 27:625 N '50

HUDSON Bay mining and smelting company

Twenty years continuous operation. J. P. deWet. il Can Min J 72:58-60 Mr '51

HUDSON motor car company

What about the automobile independents? G. W. Mathis. Mag of Wall St 88:305-7+ Je 16 '51

HUDSON pulp and paper corporation

Security I like best. S. Van Vechten. Comm & Fin Chr 174:623 Ag 16 '51

Stock offering oversubscribed. Comm & Fin Chr 173:2496-7 Je 18 '51

HUDSON river

Builder readies tap on Hudson. il Eng N 145:32-4 N 16 '50

HUDSON River bridges

Army approves plans for mid-Hudson River bridge. il Civil Eng 21:54 Ja '51

Army okays construction of Thruway key bridge over Hudson near Nyack. Concrete 59:23 Je '51

Engineer for $20 million Hudson River bridge named. Eng N 147:26 Ag 23 '51

Its aching joints are overhauled; George Washington bridge. il Bsns W p96-8 N 4 '50; Constr Methods 32:42-4 N '50

This is how we build the bridge; hearing on New York Thruway authority's proposal to build a 15,000-ft. bridge-causeway across the Hudson river at its widest part. Eng N 146:112 F 1 '51

Thruway span will cross Hudson at widest point. il Civil Eng 21:50 Ja '51

Two new bridges for the Hudson. il Eng N 145:25 D 14 '50

HUEBNER, Solomon Stephen, 1882-

Honored at New York meeting. por East Underw 52:3 O 5 '51

HUGGINS masks

Multiple projector for the Huggins masks. D. McLachlan, jr. and R. H. Woolley. il diags R Sci Instr 22:423-7 Je '51

HUGHES, Howard Robard, 1905-

Who'll get Hughes' stock? scramble for his holdings in RKO Theatres. por Bsns W p 121-3 F 17 '51

HULL, Joseph Poyer Deyo, 1889-

Sketch. C. E. Dobbin. bibliog por Am Assn Pet Geologists Bul 35:1698-700 Jl '51

HUMAN rights, Covenant on. See United nations—Covenant on human rights

HUMANITIES

Values inherent in the humanities. J. R. Naiden. J Eng Educ 41:484-8 Ap '51

HUMIC acids

Humic acids from coal; controlled air-oxidation of coals and carbons at 150° to 400° C. L. D. Friedman and C. R. Kinney. bibliog Ind & Eng Chem 42:2525-9 D '50

HUMIDIFICATION

Air humidification coefficients in spray towers; gas-film mass transfer coefficients at low air velocities for use in scrubber design. C. F. Bonilla, J. R. Mottes and M. Wolf. bibliog il Ind & Eng Chem 42:2521-5 D '50

Chemical engineering unit operations; sixth annual review; absorption and humidification. R. L. Pigford. bibliog(99 ref) Ind & Eng Chem 43:41-6 Ja '51

Fireside deposits on steam generators minimized through humidification of combustion air. P. Murphy, jr. and others bibliog il diags A S M E Trans 73:821-31; Discussion. 831-43 Ag '51

Wet combustion air reduces slagging. il Power 95:71-4 My '51

HUMIDIFIERS

Air-water contact operations in a packed column. F. Yoshida and T. Tanaka. diags Ind & Eng Chem 43:1467-73 Je '51

Here's how humidifiers boost plant efficiency. F. Honerkamp. il Rayon 32:31+ F '51

Humidifiers as profit builders. A. Stout. il Sheet Metal Worker 42:71+ Mr '51

Modernizing a humidifier by switch from metal to styrene. il Mod Plastics 28:72-3 Mr '51

Simple humidifying system for a small high-humidity room. J. H. M. Henderson and D. L. Hunt. il diags Science 114:262-4 S 7 '51

HUMIDITY

Cause of the humidity effect in fluorescent lamps. R. H. McFarland. diags Illum Eng 46:345-9 Jl '51

Dependence of direct spark-over voltage of gaps on humidity and time; abstract. P. B. Jacob, jr. and G. M. L. Sommerman. Elec Eng 70:595 Jl '51

Design of small air conditioning systems to maintain comfort during mild, humid weather. D. D. Wile diags Refrig Eng 59: 447-52+ My '51

Effect of humidity on mould growth on constructional materials; abstract and discussion. J. B. M. Coppock and E. D. Cookson. Chem & Ind p72-3 Ja 27 '51

Effects of humidity on ultrasonic absorption in air at 1.46 megacycles. G. S. Verma. Acoustical Soc Am J 22:861-2 N '50

Humidity control for small air conditioning systems. W. T. Smith. diag Refrig Eng 59: 653-5; Discussion. 655-6 Jl '51

Humidity principles. W. H. Martin. Power Eng 55:95 Je '51

Humidity sensing element. il diag Machine Design 23:117-18 S '51

It isn't the heat, it's the humidity. C. A. Mabey. il Instruments 24:280-3+ Mr '51

Measuring humidity equilibria; new rapid graphical interpolation method. A. H. Landrock and B. E. Proctor. bibliog il diag Mod Packaging 24:123-30+ F '51

Measuring relative humidity; experiments with sintered ceramic blocks. A. G. Thomson. Elec R (Lond) 147:640-1 O 27 '50

Piezoelectric crystals as sensing elements of pressure, temperature, and humidity. E. A. Roberts and P. Goldsmith. il diags Elec Eng 70:776-80 S '51

Relative humidity important in processing of wool fibers. H. R. Rich and N. B. Chase. il Textile World 101:118-19 My '51

Role of atmospheric humidity in sterilization of surfaces; evaluation of O-Syl as a surface germicide. E. W. Dunklin and W. Lester, jr. Soap & San Chem 27:127+ Jl '51

Simplified heating lessons; humidity and human comfort. C. H. Burkhardt. Sheet Metal Worker 42:72-3+ O; 88+ N '50; 105-6 Ja '51

See also

Dampness in buildings

Hygrometers

HUMPHREY, F. Thomas

Marshall Dana retires, ex-printer now editor. por Ed & Pub 83:18 D 30 '50

HUMPTY-DUMPTY toys, inc.

Post-retirement can be hectic as a three-ring circus. il Bsns W p 110-12+ O 13 '51

HUMULENE

Contribution to the chemistry of the sesquiterpene humulene. G. R. Clemo and J. O. Harris. Chem Soc J p22-5 Ja '51

Structure of humulene. G. R. Clemo and J. O. Harris. Chem & Ind p799-800 S 22 '51

Structure of humulene. E. R. Klein and F. N. Lahey. Chem & Ind p760 S 8 '51

HUMULINONE

Chemistry of hop constituents; humulinone, a new constituent of hops. A. H. Cook and G. Harris. Chem Soc J p 1873-6 Jl '50

HUMULONE

Hydrogenation of lupulone and humulone. J. F. Carson. Am Chem Soc J 73:1850-1 Ap '51

Synthesis and absorption spectra of some analogs of humulon. T. W. Campbell and G. M. Coppinger. bibliog Am Chem Soc J 73:1849-50 Ap '51

HUMUS

Reforestation with synthetic humus; abstract. E. Farber. Chem Eng 57:294-5 N '50

HUNGARY

Hungarian deportations. Economist 161:292-4 Ag 4 '51

See also

Accounting—Hungary

Economic conditions

Economic life in Russia's orbit. S. K. Margold. Harvard Bsns R 28:65-78 S; 86-113 N '50

Economic troubles in Hungary. Economist 160:381-2 F 17 '51

Industries and resources

Hungary revises its five-year plan. Economist 160:1223-4 My 26 '51

HUNT, Roy Arthur, 1878-

Sketch. por Weekly Underw 163:1140-1+ N 18 '50

HUNTINGTON laboratories, inc.

Brewery switched to liquid soap and became Huntington laboratories. J. L. Brenn. il Soap & San Chem 27:122-3+ Ap '51

HUNTINGTON'S chorea. See Chorea, Hereditary

HUNTSVILLE, Alabama

Seams burst in little boom towns. il Bsns W p78+ O 13 '51

HURDMAN, Frederick Harold, d. 1951

Sketch. J Account 92:163-4 Ag '51

HURLEY, Roy T.

Portrait. Fortune 44:128 O '51

HURRICANES

Gulf Coast hurricane design data. A. H. Glenn. bibliog World Oil 131:101-2+ D '50

Miami suffers slight structural damage in severe hurricane. E. A. Anderson and H. S. Saffir. il Civil Eng 20:774-6 D '50

HURSH, Ralph Kent, 1885-

R. K. Hursh to get 1951 Purdy award. por Am Cer Soc Bul 30:27 Ja 15 '51

HUSBAND and wife

If a wife knew what a widow learns. N. Condee. Trusts & Estates 89:750-1 N '50

Marital deduction pointers; overcoming tax and administrative problems. T. S. Edmonds. Trusts & Estates 90:389-91 Je '51

Wife can sue in consortium loss, New York court holds; Passalacqua et al vs. Draper. Nat Underw 55:27 S 27 '51

See also

Community property

HUSBANDS

And Eve told Adam; wives influence husbands' job attitudes; survey of industrial workers' wives in Cleveland. Mod Ind 21: 45-7 My '51

HUTCHINSON, Bernice Edwin, 1888-

Portrait. Bsns W p68 S 15 '51

HUTTERIAN brethren

Happy Hutterites. Sci Am 184:36+ Je '51

HÜTTIG equation

Comparison of the specific surface areas of solids as calculated by the Brunauer-Emmett-Teller and the Hüttig equations. M. L. Corrin. J Phys & Colloid Chem 55:612-13 Ap '51

HÜTTIG multilayer adsorption. See Adsorption

HYALURONIC acid

Analysis of the products formed on hydrolysis of hyaluronic acid by testicular hyaluronidase. M. M. Rapport, K. Meyer and A. Linker. bibliog Am Chem Soc J 73:2416-20 Je '51

HYALURONIDASE

Analysis of the products formed on hydrolysis of hyaluronic acid by testicular hyaluronidase. M. M. Rapport, K. Meyer and A. Linker. bibliog Am Chem Soc J 73:2416-20 Je '51

Evidence for the heparin nature of the nonspecific hyaluronidase inhibitor in tissue extracts and blood serum. D. Glick and B. Sylvén. bibliog Science 113:388-9 Ap 6 '51

Existence of hyaluronidase substrate factors in microbiological culture media. G. H. Warren and J. G. Durso. Science 113:359 Mr 30 '51

Question of hyaluronidase in sea-urchin spermatozoa. M. Krauss. bibliog Science 112:759 D 22 '50

Thromboplastic activity of hyaluronate. S. K. Abul-Haj and others. bibliog Science 114: 237-9 Ag 31 '51

HYATT award

Hyatt award for 1950 presented to James Bailey for research in extrusion of thermoplastics. Mod Plastics 28:78 Jl '51

HYBRIDIZATION

Hybrid corn. P. C. Mangelsdorf. il diag Sci Am 185:39-47 Ag '51

HYDANTOINS

Studies on the $C_{11}H_8N_2OS$ degradation product of gliotoxin. J. D. Dutcher and A. Kjaer. Am Chem Soc J 73:4139-41 S '51

Sulphonium derivatives of DL-methionine and 5-(2-methylthioethyl)hydantoin. R. O. Atkinson and F. Poppelsdorf. Chem Soc J p 1378 My '51

Thiohydantoins; the *N*- and *S*-methyl derivatives of 5 : 5-disubstituted hydantoins and their mono- and di-thio-analogues. H. C. Carrington and W. S. Waring. Chem Soc J p354-66 Ja '50

HYDATID disease. See Echinococci

HYDRAFRAC process. See Petroleum—Production methods

HYDRANTS

How to install and maintain hydrants. H. Stalin. Pub Works 82:110-12 Ap '51

New idea in blow-torches for faucet and hydrant sterilization. A. H. Ullrich. il Water & Sewage Works 98:247 Je '51

Practical methods for hydrant discharge measurements. P. S. Wilson. il Water & Sewage Works 98:R61-4 Ap '51

Valve and hydrant maintenance. H. W. Niemeyer. Am Water Works Assn J 42:680-6 Jl '50; Same. Water & Sewage Works 98: R69-71 Ap '51

Testing

Coefficient of friction and fire flow. D. R. Taylor. Water & Sewage Works 98:149-55 Ap '51

HYDRASTIC acid

Synthesis of hydrastic acid. W. Reeve and H. Myers. Am Chem Soc J 73:1371-2 Mr '51

HYDRASTINE

New route to the phthalide-*iso*quinoline bases, and a synthesis of (-)-hydrastine. R. D. Haworth and A. R. Pinder. Chem Soc J p 1776-80 Jl '50

HYDRATES

Magnetic study of some hydrates of boron compounds. M. Prasad and others. bibliog J Chem Phys 19:686-9 Je '51

Sodium tartrate dihydrate as a primary standard for Karl Fischer reagent. J. D. Neuss, M. G. O'Brien and H. A. Frediani. bibliog Anal Chem 23:1332-3 S '51

Study of the system barium oxide-aluminum oxide-water at 30° C. E. T. Carlson and others. bibliog J Res Nat Bur Stand 45: 381-98 N '50

Suggested structures of water in inert gas hydrates. W. F. Claussen. il J Chem Phys 19:259-60 F '51; Correction. 19:662 My '51

HYDRATION

Acid-catalysed hydration of acraldehyde; kinetics of the reaction and isolation of β-hydroxypropaldehyde. R. H. Hall and E. S. Stern. Chem Soc J p490-8 F '50

Bound water and hydration. A. J. Stamm. bibliog diag Tappi 33:435-9 S '50; Same. Pulp & Pa of Can 51:90-3 S '50

Density correction of sedimentation constants. H. K. Schachman and M. A. Lauffer. bibliog Am Chem Soc J 72:4266-8 S '50

Hydration of 2-heptyne. G. F. Hennion and C. J. Pillar. Am Chem Soc J 72:5317-18 N '50

Hydration of tenoyltrifluoroacetone in benzene solution. E. L. King and W. H. Reas. Am Chem Soc J 73:1806-8 Ap '51

Ionization and hydration equilibria of periodic acid. C. E. Crouthamel, A. M. Hayes and D. S. Martin. bibliog Am Chem Soc J 73: 82-7 Ja '51

Rates and temperature coefficients in the hydration of gaseous isobutene by dilute aqueous nitric acid. J. B. Levy and others. diag Am Chem Soc J 73:3792-6 Ag '51

See also

Cement—Hydration

HYDRATION, Heat of

Study of the determination of the heat of hydration of portland cement. E. S. Newman. bibliog J Res Nat Bur Stand 45:411-17 N '50

HYDRATION of lime. See Lime

HYDRAULIC control

Curvilineal machining now in bailiwick of planers, shapers, application of hydraulic tracer controlled tooling. G. Hubbard. il Steel 127:94-7 N 13 '50

Dynamic response of hydraulic systems. H. Raiklen. diags Machine Design 23:137-40 S '51

Gemmer's new power steering gear, the Hydraguide. J. Geschelin. il diags Automotive Ind 104:50-1+ F 1 '51

Hydraulic assist; steering gear moves into passenger car field. diag Steel 128:92, 110 F 5 '51; Machine Design 23:191-2 Ap '51

Hydraulic booster for steering gear designed to retain feel of road. il diag Product Eng 22:112-13 Ja '51

Hydraulic control system quickly hooked in. il Food Eng 23:119 S '51

Hydraulic controls installed in Cross Transfermatic machines. il Am Mach 94:191 D 11 '50

Hydraulic duplicating attachments speed contour turning and facing. il Mach 57:160-2 F '51

Hydraulic remote control system. il Automotive Ind 104:78+ Je 15 '51

Hydraulic servocontrols in the steel industry. H. Ziebolz. il diags Instruments 24:650-1+ Je '51

Now it's power steering; Hydraguide. il Bsns W p21 D 9 '50

Planetary transmission with hydraulic control. diag Automotive Ind 104:48+ F 15 '51

Recent developments of the mechanism of the hydraulic variable-pitch aircraft propeller. H. L. Milner. diags Inst Mech Eng Proc 163 (W.E.P. no 57):111-20 '50; Same abr. Engineer 189:476-7 Ap 21 '50; Discussion. Inst Mech Eng Proc 163 (W.E.P. no 57):121-4 '50; Engineer 189:481 Ap 21 '50

Screw slotter goes versatile; pneumatic and hydraulic hookups. C. Kazek. il diags Am Mach 95:110-11 Ja 8 '51

Unit pressure reduced without disturbing system. il Product Eng 22:168 Mr '51

Weighing system is hydraulically controlled. il diag Product Eng 22:134-5 Ag '51

See also

Electrohydraulic control

HYDRAULIC conveying

Balky ash-removal system. D. C. Swift. diag Power 95:80+ Jl '51

Hydraulic hoisting; abstracts. P. S. Gardner, jr. Min Cong J 36:68 O '50; Steel 128:82 Ja 8 '51

Phosphate rock pumped five miles to hold down transport costs. H. L. Pascoe. il plan Eng & Min J 152:104-7 Ap '51

Pipeline to move coal to be constructed in Ohio. Elec World News ed 135:13 F 19 '51

Water-jet eductors perform mixing function in addition to conveying solids in suspension. T. W. Rodes. diags Ind & Eng Chem 43:sup97A-8A My '51

HYDRAULIC engineering

High-velocity flow in open channels; symposium. bibliog il plan diags Am Soc C E Proc 75:1287-385 N '49; Discussion. 76 [no D-XXIII]:1-37 N '50

See also

Aqueducts
Breakwaters
Bridges—Foundations and piers
Caissons
Cofferdams
Dams
Dikes (engineering)
Drainage
Flood control
Flumes
Gates, Hydraulic
Harbors
Hydraulic laboratories
Hydraulic machinery
Hydraulic models
Hydraulic transmission
Hydraulics
Hydrodynamics
Hydroelectric plants
Irrigation
Jetties
Levees
Locks (hydraulic engineering)
Piers
Pumping
Pumping machinery
Pumping stations
Pumps
Reservoirs
Rivers—Regulation
Sand traps
Siphons
Spillways
Tidal power
Water flow
Water supply engineering
Waterworks
Wells

Tables, calculations, etc.

Calculating the energy losses in hydraulic systems. N. M. Sverdrup. diags Product Eng 22:146-52 Ap '51; Correction. 22:238+ Jl '51; Discussion. V. Tatarinov. 22:270+; Reply. 273-4+ S '51

Complicated hydraulic structures analyzed by Hazen-Williams formula. R. C. Youngquist. Civil Eng 21:411-13 Jl '51

Ground-water movement controlled through spreading. P. Baumann. il diags Am Soc C E Proc 77[no 86]:1-38 Ag '51

HYDRAULIC filling

Hydraulic fill to support relocated highway; New Haven, Conn. il Constr Methods 33: 74-5+ Ag '51

HYDRAULIC filling—*Continued*

Sand brought back from watery grave saves money on hydraulic fill jobs; New Jersey turnpike. il map Eng N 147:30-3 S 13 '51

HYDRAULIC jacks

Jacks provide safety while installing shoring. il Eng N 145:50 D 21 '50

HYDRAULIC laboratories

British hydromechanics research laboratory. il Engineering 171:667-8 Je 1 '51

Calibrations of six Beth-Flow meters at Alden hydraulic laboratory, Worcester polytechnic institute. L. J. Hooper. il diags A S M E Trans 72:1099-102; Discussion. 1102-10 N '50

New Hydrodynamics laboratory at M.I.T. A. T. Ippen. il Tech R 53:399-403+ Je '51

HYDRAULIC machinery

Designing hydraulic dampers. W. E. Soong. diags Machine Design 23:109-12 Ag '51

Friction of flexible packings. D. F. Denny. diags Inst Mech Eng Proc 163 (W.E.P. no 57):98-102; Discussion. 103-10 '50

New gland for hydraulic stop valve spindles. B. Cooke. il diags Engineer 191:170-1 F 2 '51

Packings for hydraulic equipment. G. N. Dorr. diags Mach 58:170-5 S; 180-3 O '51

Portable shear handles one-inch rod. E. Jasper. il Iron Age 166:74-6 N 23 '50

Precision hydraulics in jiggering operations. W. C. Miller. il Am Cer Soc Bul 29:444-6 D 15 '50

Pulsating-pressure testing plant for pressure vessels. il diag Engineering 170:384-5 N 17 '50

Synchronizing piston movement in hydraulic cylinders. diags Product Eng 22:156-7 Jl '51

Ten steps to prevent hydraulic disaster. R. Tyler. il Am Mach 95:159 S 17 '51; Factory Management 109:138 S '51; Machine Design 23:141-2 S '51

Tubular sections in frame design of hydraulic benders. E. J. DeWitt and others. il Welding J 30:139-43 F '51

See also

Airplanes—Hydraulic equipment
Hydraulic presses
Hydraulic transmission
Pumps
Turbines
Valves, Hydraulic

Standards

JIC hydraulic standards for industrial equipment; data sheets. Tool Eng 25:40 O; 41-2 N; 41-2 D '50; 26:47-8 Ja; 63-4 Mr; 47 Ap '51

Terminology

JIC hydraulic standards for industrial equipment; data sheet. Tool Eng 25:40 O; 41-2 N '50

Testing

Testing your hydraulics pays dividends. il Am Mach 95:93 Ja 8 '51

HYDRAULIC mining

See also

Gold dredging

HYDRAULIC models

Ground-water movement controlled through spreading. P. Baumann. il diags Am Soc C E Proc 77[no 86]:1-38 Ag '51

Model and prototype studies of sand traps. R. L. Parshall. il Am Soc C E Proc 77 [no 67]:1-9 My '51

Model investigations of Aberdeen harbour. J. D. Lawson. il plan diag Engineering 172:283-4 Ag 31 '51

Model studies aid in design of Brazilian hydro project. E. M. Laursen. il maps diags Civil Eng 21:24-7 Ja '51

Model study aids designers of spillway for Lyman Run dam. A. L. Jorissen and V. L. Dutton. il plan diag Civil Eng 21:514-15 S '51

Model tests using low-velocity air. J. W. Ball. diags Am Soc C E Proc 77 [no 76]:1-13 Je '51

HYDRAULIC presses

Automatic hydraulic preforming press. il Engineer 192:30-1 Jl 6 '51

Density of powder metal parts controlled accurately by means of hydraulic presses having fine degree of adjustment. A. H. Allen. il Steel 129:84-5 S 17 '51

Elmes hydraulic press has pipeless main circuit. il Am Mach 95:143 Ap 2 '51; Mach 57:204-5 Ap '51; Automotive Ind 104:72+ My 15 '51

50,000-ton hydropresses. Mech Eng 73:423 My '51

How big should presses get? C. Ricker. il Am Mach 95:148-9 Mr 5 '51

Huge hydraulic presses needed for making large aircraft parts. K. B. Wolfe. il Automotive Ind 104:50-1+ Ja 1 '51

Hydraulic metal-powder press repeats to tolerance of 0.002 in. il diag Am Mach 95:140-1 Ap 2 '51

Hydraulic press for large aircraft components. il Engineering 171:641-2 My 25 '51

Hydraulic presses and hydraulic press users. H. A. Trishman. il diags India Rubber World 123:673-8 Mr '51

Hydraulic presses form homogeneous wheels. il Steel 129:99-100 Jl 16 '51

New giant presses will speed plane production. B. Olson. il Iron Age 167:75-6 Ja 18 '51

1951 production preview. il diags Am Mach 95:242-4 Ja 22 '51

Vibratory press speeds swaging job 800 per cent. diag Iron Age 168:71 Ag 9 '51

HYDRAULIC rams

GE photoelectric control levels ram on Verson press brake. il Am Mach 95:143 Ag 20 '51

Hydraulic lifting equipment. il Engineer 191:298 Mr 2 '51

HYDRAULIC research

High-velocity flow in open channels; symposium. bibliog il plan diags Am Soc C E Proc 75:1287-385 N '49; Discussion. 76 [no D-XXIII]:1-37 N '50

Hydraulic research in the United States. H. K. Middleton and S. W. Matchett, eds. U S Nat Bur Stand Misc Pub 201:1-190; pa $1.25 Supt. of doc. '51

Investigation of flow through screens. W. D. Baines and E. G. Peterson. bibliog diags A S M E Trans 73:467-77; Discussion. 477-80 Jl '51

See also

Hydraulic laboratories

HYDRAULIC transmission

Automatic transmissions for automotive use; story about Buick's Dynaflow transmission. R. J. Gorsky. il diags Midwest Eng 3:4-7+ D '50

Designing an integral dashpot for a hydraulic cylinder. W. E. Soong. diags Machine Design 23:129-32+ Jl '51

Diesel industrial locomotives with Voith hydraulic transmission. il Engineer 192:95 Jl 20 '51; Engineering 172:95 Jl 20 '51

Displacement versus time characteristics of hydraulic actuators. L. S. Linderoth, jr. il diags ASME Trans 73:147-52; Discussion. 152-4 F '51

Dynaflow drive increases efficiency of Orton crane. Steel 128:110+ Mr 26 '51

Fluid drive electric hoist. il Engineer 192:241 Ag 24 '51

Fluid drives. il Product Eng 22:181 My '51

Fluid drives for drilling rigs. K. N. Mills. il diags World Oil 132:87-90+ Ja '51

How new hydraulic spotter helps in cutting trip-changing time. il diags Coal Age 56:103-5 F '51

Hydraulic fluids in industrial equipment. G. N. Dorr. Mach 57:151-3 Ag '51

Hydraulic motor-in-wheel drives truck. il diag Machine Design 23:141-2 Ap '51

Hydraulics and pneumatics; progress evaluation. il Product Eng 22:192-5 My '51

Mine locomotive with hydraulic transmission. il Engineer 191:730 Je 1 '51

New Budd Diesel railroad car RDC-1 with torque converter transmission. R. M. Schaefer. il S A E J 59:49-51 Mr '51

100-h.p. mine locomotive with Voith hydraulic transmission. il diags Engineering 171:720-1 Je 15 '51

Packaged hydraulic system operates presses, feeds. il Product Eng 22:181 Ja '51

Parking, neutral, drive, low, reverse; a detailed study of the American torque-converter transmissions. O. D. North. il diags Automobile Eng 41:83-90, 123-31 Mr-Ap '51

HYDRAULIC transmission—*Continued*

Pipe joints for hydraulic power transmission. B. Cooke. il diags Engineering 171:413-16 Ap 6 '51; Excerpts. Engineer 191:382-3 Mr 23 '51

Proportionalizing dither increases sensitivity of hydraulic servo. P. B. Sebring. il diags Machine Design 23:125-8 Ag '51

Sequential operation of hydraulic cylinders; drawings with text. H. L. Stewart. Product Eng 22:160-1 Je '51

Six cars boost automatic transmission drains from 15,000 to 25,000 miles. H. Ridder. Nat Pet N 42:59 N 22 '50

Synthetic rubber O-ring seals. E. L. Carlotta. il diags Product Eng 22:130-5 Je '51

Ten ways to prevent flash fires from leaks in hydraulic fluid power systems; illustrations with text. R. Tyler. Factory Management 109:138 S '51

Torque converter and transmission data on latest model cars. Automotive Ind 104:53-4 F 1 '51

Torque converter transmission. C. Carmichael. il diags Machine Design 23:163-8 F '51

Transmission reflects high-rate precision manufacturing; Hydramatic transmission. Steel 129:80+ Jl 9 '51

Wafer licks hydraulic pulsation. G. L. Christian. il Aviation W 53:31-2+ N 27 '50

What size motor for proper operation of servomechanism. G. C. Newton, jr. bibliog il diags Machine Design 22:125-30+ N '50

What to look for in hydraulic fluids. A. J. Zino, jr. il Iron & Steel Eng 28:119-25 S '51

See also

Airplanes—Hydraulic equipment

Terminology

Hydrodynamic drive terminology; SAE recommended practice. diags S A E J 59:39-41 Mr '51

HYDRAULICS

Experiments on the movement of shells by water. H. W. Menard and A. J. Boucot. bibliog diags Am J Sci 249:131-51 F '51

Hydraulic behavior of storm-water inlets. Wen Hsiung Li and others. diags Sewage & Ind Wastes 23:34-46, 722-38 Ja, Je '51

Hydraulic characteristics of gravity-type oil-water separators. G. A. Rohlich. bibliog il diags Am Pet Inst Proc 31 M(3):63-84; Discussion. 84-5 '51

Hydraulics group studies pumps, gates; 6th annual National conference on industrial hydraulics, Chicago. Eng N 145:42 D 7 '50

Power handbook; hydraulics and pumping. P. Swain and W. Arrott. diags Power 95:98-100 Mr '51

Regime theory for self-formed sediment-bearing channels. T. Blench. bibliog il Am Soc C E Proc 77 [no 70]:1-18 My '51

River channel roughness. H. A. Einstein and N. L. Barbarossa. il diag Am Soc C E Proc 77[no 78]:1-12 Jl '51

Sanitary engineering is short on fluid mechanics knowledge. T. R. Camp. Eng N 147:45-6 Ag 9 '51

Study of head loss in Venturi-meter diffuser sections. J. Warren. diags A S M E Trans 73:399-402 My '51

See also

Cavitation
Floods
Flow meters
Fluids
Hydraulic engineering
Hydrodynamics
Hydrostatics
Liquids
Nozzles
Silt
Siphons
Stream flow
Water flow
Wells

Electric analogies

There's an easy way out of your pipe-network woes; pipeline-network analyzer at Binghamton, N.Y. M. S. McIlroy. map Eng N 147:35-6 Ag 30 '51

Use of alternating-current network calculator in distribution system design. M. V. Suryaprakasam and others. bibliog diags Am Water Works Assn J 42:1154-64 D '50

Tables, calculations, etc.

Quick conversions for flow quantities and velocities. F. Lerman. Chem Eng 58:138 Je '51

Solution of Manning's formula and velocity and discharge for partially full circular sewers. J. P. Messina. Water & Sewage Works 98:418-19 O '51

Water pressure; table. Water & Sewage Works 98:R71 Ap '51

See also

Stream flow

HYDRAZIDES

Fluorescent reagents; acyl chlorides and acyl hydrazides. W. Baker, C. N. Haksar and J. F. W. McOmie. Chem Soc J p 170-3 Ja '50

Papain-catalyzed synthesis of acyl-D- and L-phenylalanylphenylhydrazides from a series of enantiomorphic pairs of acylated phenylalanines. W. H. Schuller and C. Niemann. bibliog Am Chem Soc J 73:1644-6 Ap '51

Synthesis of 2,4-dihydroxybenzohydrazide. B. Camber and D. D. Dziewiatkowski. Am Chem Soc J 73:4021 Ag '51

HYDRAZINE

Action of hydrazine on benzoxazolones. J. D. Bower and F. F. Stephens. Chem Soc J p325-8 F '51

Autoxidation of hydrazine; effect of dissolved metals and deactivators. L. F. Audrieth and P. H. Mohr. bibliog Ind & Eng Chem 43:1774-9 Ag '51

Calculated thermochemical properties for hydrazine-hydrogen peroxide reaction at high pressures. W. J. Barr and E. J. Wilson, jr. J Chem Phys 19:470-3 Ap '51

Catalytic decomposition of highly concentrated hydrazine by Raney nickel. L. F. Audrieth and W. L. Jolly. bibliog J Phys & Colloid Chem 55:524-31 Ap '51

Catalytic reduction with hydrazine. L. P. Kuhn. bibliog Am Chem Soc J 73:1510-12 Ap '51

Cinnolines; some 4-cinnolylhydrazines, their preparation and oxidation; miscellaneous quinoline derivatives. K. Schofield and T. Swain. Chem Soc J p392-5 Ja '50

Complex formation between nickel ion and hydrazine in solution. E. C. Gilbert and W. H. Evans. Am Chem Soc J 73:3516-18 Jl '51

Compounds related to thiosemicarbazide; 4 : 5-diamino-3-phenyl-4 : 1 : 2-triazole. E. Hoggarth. Chem Soc J p614-17 F '50

Compounds related to thiosemicarbazide; further routes to 4 : 5-diamino-3-phenyl-4 : 1 : 2-triazole and related compounds. E. Hoggarth. Chem Soc J p 1579-82 Je '50

Enzymatic synthesis of *sym*-bis-(N-carbobenzoxyl-L-alanyl)-hydrazine. F. W. Holly, J. J. Cahill, jr. and K. Folkers. Am Chem Soc J 73:2944-5 Je '51

Formation of osazones; the reaction of 2-hydroxy*cyclo*hexanone with arylhydrazines. G. J. Bloink and K. H. Pausacker. Chem Soc J p 1328-31 My '50

Freezing-point diagram of the hydrazine-water system. T. C. H. Hill and J. F. Sumner. diag Chem Soc J p838-40 Mr '51

Green light for hydrazine. il Chem Ind W 68:10-11 Mr 17 '51

Heat capacity of the hydrazine-water system. E. W. Hough, D. M. Mason and B. H. Sage. Am Chem Soc J 72:5774-5 D '50

Nature of the vapor state of hydrazine monohydrate and ethylenediamine monohydrate. L. V. Coulter. bibliog Am Chem Soc J 73:3505-6 Jl '51

New wonder chemical for industry. Mod Ind 21:89 Ja '51

Polymerization induced by catalytic decomposition of hydrazine at palladium surfaces. G. Parravano. bibliog Am Chem Soc J 72:3856-60 S '50

Production of hydrazine by the reaction of chlorine with anhydrous ammonia. R. Mattair and H. H. Sisler. diags Am Chem Soc J 73:1619-22 Ap '51

Reaction between diborane and anhydrous hydrazine. H. J. Emeléus and F. G. A. Stone. Chem Soc J p840-1 Mr '51

Thermal decomposition of hydrazine vapor in silica vessel. T. J. Hanratty and others. bibliog diags Ind & Eng Chem 43:1113-16 My '51

Analysis

Determinations of small amounts of ammonia in the presence of hydrazine. E. F. Wiebke. bibliog Anal Chem 23:922-3 Je '51

HYDRAZINE—Analysis—*Continued*
Potentiometric analytical methods for hydrazino compounds; hydrazine sulfate. W. R. McBride, R. A. Henry and S. Skolnik. bibliog Anal Chem 23:890-3 Je '51

HYDRAZINE sulfate
Potentiometric analytical methods for hyrazino compounds; hydrazine sulfate. W. R. McBride, R. A. Henry and S. Skolnik. bibliog Anal Chem 23:890-3 Je '51

HYDRAZOBENZENE
Benzidine rearrangement; kinetics of the rearrangements of hydrazobenzene. R. B. Carlin, R. G. Nelb and R. C. Odioso. bibliog Am Chem Soc J 73:1002-7 Mr '51
Intramolecular nature of the benzidine rearrangement. G. J. Bloink and K. H. Pausacker. Chem Soc J p950-3 Mr '50
Stereochemistry of the semidine transformations. D. L. Hammick and D. C. Munro. Chem Soc J p2049-52 Ag '50

HYDRAZOIC acid
Reaction of hydrazoic acid with thioethersulfoxides; synthesis of sulfoximines. F. Misani, T. W. Fair and L. Reiner. Am Chem Soc J 73:459-61 Ja '51
Reaction of unsymmetrical cycloalkanones and hydrazoic acid; synthesis of *d,l*-lysine. H. Schechter and J. C. Kirk. bibliog Am Chem Soc J 73:3087-91 Jl '51

HYDRAZONES
Autoxidation of phenylhydrazones. K. H. Pausacker. Chem Soc J p3478-81 D '50
Certain substituted benzaldehydes and substituted benzaldehyde dinitrophenylhydrazones. J. B. Bowen and E. M. Wilkinson. Chem Soc J p750-1 F '50
2,4-Dinitrophenylhydrazones of some flavanones. C. D. Douglass, Q. L. Morris and S. H. Wender. Am Chem Soc J 73:4023 Ag '51
Fischer indole synthesis; a kinetic investigation. K. H. Pausacker and C. I. Schubert. Chem Soc J p 1814-16 Jl '50
Fischer indole synthesis; the cyclisation of some *cyclo*hexanone *o*-substituted hydrazones. C. S. Barnes, K. H. Pausacker and W. E. Badcock. Chem Soc J p730-3 Mr '51
Fischer indole synthesis; the cyclisation of the phenylhydrazones of some 2-substituted *cyclo*hexanones. K. H. Pausacker. Chem Soc J p621-4 F '50
L-Rhamno-2,4-dinitrophenylhydrazone. J. A. Domínguez. Am Chem Soc J 73:849 F '51

HYDRIDES
Formation of metallic hydrides and nitrides and their significance in the synthesis of ammonia. A. Soliman. bibliog J Ap Chem 1:98-104 Mr '51
Pseudo-metallic bonding of hydrides. A. R. Ubbelohde. diag Chem Soc J p 1143-6 Ap '50

HYDRINDANTIN
Studies on indene derivatives; new reactions of triketoindane and experiments with hydrindantin and related compounds. R. Moubasher and others. Chem Soc J p 1998-2000 Ag '50

HYDRINDENE. See Indan

HYDRIODIC acid
Electrolytic properties of aqueous solutions of polyvinylpyridine neutralized with hydroiodic acid. F. T. Wall, J. J. Ondrejcin and M. Pikramenou. diag Am Chem Soc J 73:2821-5 Je '51
Kinetics of the reduction of aromatic iodo-compounds by hydriodic acid in solution. V. Gold and M. Whittaker. Chem Soc J p 1184-90 My '51

HYDROBROMIC acid
Formal potential of the bromoperosmite-bromoösmate electrode in hydrobromic acid solutions. R. W. Mertes, W. R. Crowell and R. K. Brinton. diags Am Chem Soc J 72:4218-21 S '50
Isomerization of saturated hydrocarbons; the effect of light upon the isomerization of methylcyclopentane in the presence of aluminum bromide-hydrogen bromide. H. Pines, E. Aristoff and V. N. Ipatieff. Am Chem Soc J 72:4055-6 S '50
Some reactions of elemental bromine, hydrogen bromide and Szilard-Chalmers bromine with ethylene bromide. G. Levey and J. E. Willard. Am Chem Soc J 73:1866-7 Ap '51

HYDROCARBONS
Absorption spectra of substances containing the carbon-iodine bond. R. A. Durie, T. Iredale and J. M. S. Jarvie. Chem Soc J p 1181-4 Ap '50
Addition of thiolacetic acid to unsaturated compounds. R. Brown, W. E. Jones and A. R. Pinder. Chem Soc J p2123-5 Ag '51
Azeotrope formation between sulfur compounds and hydrocarbons. D. H. Desty and F. A. Fidler. bibliog Ind & Eng Chem 43:905-10 Ap '51
Azeotropes of 2-ethoxyethanol with alkyl benzenes. W. F. Kieffer and C. E. Grabiel. bibliog Ind & Eng Chem 43:973-5 Ap '51
Boiling coefficients of heat transfer; C_4 hydrocarbon-furfural mixtures inside vertical tubes. W. E. Bonnet and J. A. Gerster. bibliog diag Chem Eng Prog 47:151-8 Mr '51
Bromination of hydrocarbons; photochemical and thermal bromination of neopentane in the gas phase; the C—H bond strength in neopentane. E. I. Hormats and E. R. Van Artsdalen. bibliog J Chem Phys 19:778-83 Je '51
Carbon formation in flames. W. G. Parker and H. G. Wolfhard. pl diags Chem Soc J p2038-49 Ag '50
Catalytic combustion method in elimination of hydrocarbon fumes. diag Chem & Eng N 29:1252 Mr 26 '51
Catalyzed reactions of unsaturated hydrocarbons with hydrogen and deuterium. T. I. Taylor and V. H. Dibeler. bibliog diag J Phys & Colloid Chem 55:1036-65; Discussion. 1065-6 Je '51
Chemical engineering unit processes fourth annual review; pyrolytic and catalytic decomposition of hydrocarbons. V. Haensel and M. J. Sterba. bibliog(86 ref) il Ind & Eng Chem 43:2016-22 S '51
Chemistry of eight-membered carbocycles. L. E. Craig. diags Chem R 49:103-236 bibliog(174 ref, p232-6) Ag '51
Co-coagulation of rubbers and extenders; use of petroleum products. F. S. Rostler. Rubber Age 69:559-78 bibliog(86 titles, p577-8) Ag '51
Crossed reaction chains in oxidation by molecular oxygen; oxidation of hydrocarbons in aldehyde-air mixtures. N. J. H. Small and A. R. Ubbelohde. diags Chem Soc J p723-8 F '50
Determination of hydrocarbon liquid-vapor equilibria. G. L. Farrar. diag Pet Eng 23:C41+ Je '51
Dicyclic hydrocarbons; 2-alkylbicyclohexyls. I. A. Goodman and P. H. Wise. Am Chem Soc J 73:850-1 F '51
Diffusion of hydrocarbons in polyisobutylene. S. Prager and F. A. Long. bibliog diag Am Chem Soc J 73:4072-5 S '51
Direct method for solving flash equilibrium calculations. P. M. Reilly. bibliog Pet Refiner 30:132-6 Jl '51
Effect of added hydrocarbons upon critical concentrations of soap and detergent solutions. H. B. Klevens. bibliog J Phys & Colloid Chem 54:1012-16 O '50
Empirical equation for thermodynamic properties of light hydrocarbons and their mixtures; constants for twelve hydrocarbons. M. Benedict, G. B. Webb and L. C. Rubin. Chem Eng Prog 47:419-22 Ag '51
Empirical equation for thermodynamic properties of light hydrocarbons and their mixtures; fugacities and liquid-vapor equilibria. M. Benedict, G. B. Webb and L. C. Rubin. bibliog Chem Eng Prog 47:449-54 S '51
Explosive sensitivity of ammonium nitrate-hydrocarbon mixtures. M. A. Cook and E. L. Talbot. bibliog il Ind & Eng Chem 43:1098-102 My '51
Fischer-Tropsch reaction mechanism involving stepwise growth of carbon chain. R. B. Anderson and others. bibliog J Chem Phys 19:313-19 Mr '51
Flame propagation; correlation of maximum fundamental flame velocity with hydrocarbon structure. R. R. Hibbard and B. Pinkel. Am Chem Soc J 73:1622-5 Ap '51
Flame propagation; the determination of fundamental burning velocities of hydrocarbons by a revised tube method. M. Gerstein, O. Levine and E. L. Wong. bibliog il diags Am Chem Soc J 73:418-22 Ja '51

HYDROCARBONS—*Continued*

Flame propagation; theoretical consideration of the burning velocities of hydrocarbons. D. M. Simon. bibliog Am Chem Soc J 73: 422-5 Ja '51

Heats of combustion, formation, and isomerization of ten C_4 hydrocarbons. E. J. Prosen and others. bibliog J Res Nat Bur Stand 46:106-12 F '51

Hydrocarbon jugglers. Comp Air Mag 55:280 D '50

Hydrogen transfer over silica-alumina catalysts. R. W. Blue and C. J. Engle. bibliog Ind & Eng Chem 43:494-501 F '51

Interfacial tension at elevated pressure and temperature; interfacial properties of hydrocarbon-water systems. A. S. Michaels and E. A. Hauser. bibliog il J Phys & Colloid Chem 55:408-21 Mr '51

Interfacial tension of some hydrocarbons against water. W. E. Rose and W. F. Seyer. bibliog diags J Phys & Colloid Chem 55:439-47 Mr '51

Kinetic mechanisms and hydrocarbon flame spectra. R. C. Herman and others. bibliog Science 112:497-8 O 27 '50

Liquid hydrocarbon plant completed by Tennessee gas transmission co. Gas Age 108: 108+ O 11 '51

Manufacture of furnace carbon black from liquid hydrocarbons at Ellesmere Port. L. W. Cabot and others. 2pls diags Inst Pet J 36:707-18; Discussion. 718-26 D '50

Measurement of density of hydrocarbon liquids by the pycnometer. H. M. Smith and others. diag Anal Chem 22:1452-3 N '50

Nuclear proton resonance in related liquid hydrocarbons. R. Bradford and others. Phys R 83:656-7 Ag 1 '51

Organic fluorides; fluorination of hydrocarbons with cobalt trifluoride. R. N. Haszeldine and F. Smith. diag Chem Soc J p3617-23 D '50

Phase behavior of hydrocarbon systems. M. R. Dean and F. H. Poettmann. bibliog diags Pet Eng 23:C18+ S '51

Phase equilibria in hydrocarbon systems; volumetric and phase behavior of the methane-*n*-butane-decane system. H. H. Reamer, B. H. Sage and W. N. Lacey. bibliog Ind & Eng Chem 43:1436-44 Je '51

Purification, purity, and freezing points of twenty-nine hydrocarbons of the API-Standard and API-NBS series. A. J. Streiff and others. J Res Nat Bur Stand 45:173-91 Ag '50

Raman spectra of hydrocarbons; *n*-hexane, *n*-heptane, 2-methylpentane, 3-methylpentane, 2,4-dimethylpentane, and 2,3-dimethylbutane. F. F. Cleveland and P. Porcelli. bibliog J Chem Phys 18:1459-61 N '50

Reactions of methyl radicals. A. F. Trotman-Dickenson and E. W. R. Steacie. bibliog J Phys & Colloid Chem 55:908-22; Discussion. 922-4 Je '51

Reactions of oxygen with fatty material; review of progress from 1945-1951. R. P. A. Sims. bibliog(57 ref) Can Chem & Process Ind 35:125-9+ F '51

Rubber hydrocarbons in freshly tapped hevea latex; abstract. G. F. Bloomfield. Rubber Age 69:581 Ag '51

Solubility of polystyrene fractions in hydrocarbons. P. O. Powers. bibliog Ind & Eng Chem 42:2558-62 D '50

Structure of monolayers and multilayers of polar hydrocarbon molecules on solid substrates. H. T. Epstein. bibliog il diags J Phys & Colloid Chem 54:1053-69 O '50

Synthesis and reactions of branched-chain hydrocarbons; hydrocarbons with the 3 : 5 : 5-trimethylhexyl group. E. M. Gutman and W. J. Hickinbottom. Chem Soc J p2064-7 Ag '51

System of process calculations for light hydrocarbons. A. J. L. Hutchinson. il diags Pet Refiner 29:83-9 O; 117-22 N; 97-103 D '50; 30:145-8 Ja; 107-12 F; 107-14 Mr; 119-22 Ap '51

Temperature variation of mass spectra of hydrocarbons. R. M. Reese and others. bibliog J Res Nat Bur Stand 46:79-84 F '51

Total ionization of hydrocarbons from mass spectral data. F. L. Mohler and others. J Res Nat Bur Stand 45:235-8 S '50

Vapor-liquid equilibrium of C_4 hydrocarbon-furfural-water mixtures; experimental and theoretical methods for three- and four-component systems. D. Jordan and others. bibliog Chem Eng Prog 46:601-13 D '50

Vapor-liquid relation; system *n*-butane—*cis*-2-butene-furfural-water. F. Welty, J. A. Gerster and A. P. Colburn. bibliog Ind & Eng Chem 43:162-72 Ja '51

Viscosity of liquid hydrocarbon mixtures. F. W. Lima. J Chem Phys 19:137-8 Ja '51

See also

Acetylene
Benzene
Butadiene
Butane
Coal tar products
Ethane
Fischer-Tropsch process
Heptane
Hexane
Isoprene
Methane
Naphthalene
Octane
Olefins
Paraffins
Petroleum
Propane
Styrene (and polymers)
Terpenes
Toluene

Analysis

Analysis of mixtures of liquid hydrocarbons examined; seminar on low temperature fractional analysis. Chem & Eng N 29: 1314+ Ap 2 '51

Analysis of mixtures of olefin hydrocarbons produced by codimerization of butenes. A. R. Glasgow, jr. J Res Nat Bur Stand 46:43-50 Ja '51

Determination of n-paraffins in gasoline, oils, and paraffin waxes. W. Leithe. Anal Chem 23:493-5 Mr '51

Infra-red and Raman frequencies of hydrocarbon groupings. N. Sheppard. Inst Pet J 37:95-106; Discussion. 3pls diags 135-46 Mr '51

Low-temperature fractional analysis of liquids and gases. W. J. Podbielniak bibliog il diags Pet Refiner 30:145-55 My '51

Mass spectrometer analysis of some oxygenated compounds; the sorption problem. H. M. Kelley. bibliog Anal Chem 23: 1081-5 Ag '51

Mass spectrometry of heavy hydrocarbons. M. J. O'Neal, jr. and T. P. Wier, jr. bibliog diag Anal Chem 23:830-43 Je '51

Precise fractional distillation analysis. W. J. Podbielniak. Pet Refiner 30:85-92 Ap '51

Ring analysis of hydrocarbon mixtures. R. E. Hersh and others. bibliog Inst Pet J 36: 624-68 O '50

Simple method for the determination of rubber hydrocarbon. Can Chem Process 35:565 Jl '51; Same. Rubber Age 69:444 Jl '51; Same. Chem Age (Lond) 65:351-2 S 15 '51

Separation processes

Aromatics recovery by solvent refining; β,β'-oxydipropionitrile as a selective solvent. E. C. Medcalf and others. Pet Refiner 30: 97-100 Jl '51

Hypersorption in modern gas processing plants. C. Berg. flow sheets il diags Pet Refiner 30:241-3+ S '51

Latest in hypersorbers. il diag Chem Eng 58:183-4 Jl '51

Liquid thermal diffusion, a continuous separation process. A. L. Jones. bibliog diags Pet Processing 6:132-5 F '51

Low-temperature separation. il Oil & Gas J 49:78 F 15 '51

Modified Edeleanu process for recovery of aromatics. flow diag Pet Refiner 30:237-8 S '51

New adsorption process recovers aromatics. flow sheet Pet Eng 23:C21-2+ Ag '51; Same. il Pet Refiner 30:227-8+ S '51

Nitriles as selective solvents; extraction of aromatics from petroleum hydrocarbons. K. W. Saunders. bibliog Ind & Eng Chem 43: 121-6 Ja '51

Separation of hydrocarbons by selective adsorbents; patent. P. J. Gaylor. diag Pet Processing 5:1331+ D '50

Separation of sulfur and aromatics from petroleum with boron fluoride and hydrogen fluoride. E. C. Hughes and others. bibliog Ind & Eng Chem 43:750-3 Mr '51

Urea extractive crystallization of straight-chain hydrocarbons. W. A. Bailey, jr. and others. bibliog flow diag Ind & Eng Chem 43:2125-9 S '51

HYDROCARBONS—*Continued*

Synthesis

Hydrocarbon synthesis catalyst studies; use of deuterochloric acid. H. I. Weck, S. Meyerson and H. S. Seelig. Am Chem Soc J 73:2331-3 My '51

Hydrocarbons; synthesis of nineteen decenes. C. J. Stehman and others. bibliog Am Chem Soc J 72:4163-5 S '50

Process development in the hydrocarbon synthesis to 1941. S. Kodama and others. 37pls U S Bur Mines Information Circ 7593:1-41 '51

Production of cheap oxygen for hydrocarbon synthesis; patent. flow diag diag Pet Processing 5:1211+ N '50

Synthesis of hydrocarbons of high molecular weight. B. Bannister and B. B. Elsner. Chem Soc J p 1055-68 Ap '51

Synthesis of hydrocarbons; report of the Imperial fuel research institute of Japan, July 25, 1935; revised and edited by R. C. Grass. S. Tsutsumi. bibliog 8pls U S Bur Mines Information Circ 7594:1-60 '51

See also

Fischer-Tropsch process

HYDROCARBONS, Aromatic

Alumina activated with anhydrous hydrogen fluoride; a dealkylation catalyst for aromatic hydrocarbons. L. Berg and others. bibliog diag Chem Eng Prog 47:469-72 S '51

Another way to get aromatics; Houdry's new continuous catalytic process converts low-octane naphthas to aromatics or high-octane gasolines. il diag Chem Eng 58:196+ Je '51

Aromatic hydrocarbons; 1 : 2-3 : 4-dibenzpyrene. E. Clar and D. G. Stewart. Chem Soc J p687-90 Mr '51

Aromatic hydrocarbons; the structure of azulene. E. Clar. Chem Soc J p 1823-6 Jl '50

Aromatics by adsorption. V. B. Guthrie. flow diag Pet Processing 6:833-5 Ag '51

Aromatics by Platforming. V. Haensel and C. V. Berger. il Pet Processing 6:264-7 Mr '51

Aromatics production by the Platforming process. V. Haensel. diag Oil & Gas J 50:80+ Ag 9 '51

Aromatics recovery by solvent refining; β,β′-oxydipropionitrile as a selective solvent. E. C. Medcalf and others. Pet Refiner 30:97-100 Jl '51

Aromatizing cracking of hydrocarbon oils; conversion of butylene into aromatics. C. Weizmann, V. Henri and E. Bergmann. bibliog Ind & Eng Chem 43:2325-6 O '51

Aromatizing cracking of hydrocarbon oils; influence of the nature of charging stock. C. Weizmann and others. bibliog Ind & Eng Chem 43:2322-5 O '51

Aromatizing cracking of hydrocarbon oils; polycyclic fractions. C. Weizmann and others. bibliog(65 ref) Ind & Eng Chem 43:2318-21 O '51

Aromatizing cracking of hydrocarbon oils; process data and mechanism. C. Weizmann and others. bibliog diag Ind & Eng Chem 43:2312-18 O '51

Attempts to prepare new aromatic systems; heptalene. G. O. Aspinall and W. Baker. Chem Soc J p743-7 F '50

Benzenoid hydrocarbon with no Kekulé structure described; abstract. E. Clar and D. G. Stewart. Chem & Eng N 29:3968 S 24 '51

Catalysed hydrogen peroxide oxidation of aromatic hydrocarbons. J. W. Cook and R. Schoental. Chem Soc J p47-54 Ja '50

Excited triplet states of some polyatomic molecules. D. S. McClure. bibliog il diags J Chem Phys 19:670-5 Je '51

Frequency of the third harmonic O-H band of methanol in various solvents, and the hydrogen bonding of methanol with aromatic hydrocarbons. L. H. Jones and R. M. Badger. bibliog Am Chem Soc J 73:3132-4 Jl '51

Infra-red spectra of carcinogens; polynuclear hydrocarbons. S. F. D. Orr and H. W. Thompson. Chem Soc J p218-21 Ja '50

Interaction of Friedel-Crafts catalysts with alkyl halides and aromatic hydrocarbons. H. C. Brown, H. Pearsall and L. P. Eddy. Am Chem Soc J 72:5347 N '50

Kinetics of anionotropic rearrangement; the effects of polycyclic aromatic substituents on reactivity; a comparison of the electronic properties of the phenyl, 1-naphthyl, 2-naphthyl, 9-anthryl, and 9-phenanthryl groups. E. A. Braude and J. S. Fawcett. Chem Soc J p800-8 Mr '50

Modified Edeleanu process for recovery of aromatics. flow diag Pet Refiner 30:237-8 S '51

New adsorption process recovers aromatics. flow sheet Pet Eng 23:C21-2+ Ag '51; Same. il Pet Refiner 30:227-8+ S '51

New Arosorb process; Sun makes available commercial method for purifying aromatics. G. Weber. flow diag Oil & Gas J 50:58-9 Jl 19 '51

New catalytic reformer produces aromatics. flow chart Pet Eng 23:C47-8 Ap '51

Organic fluorides; fluorination of aromatic hydrocarbons by use of a gold catalyst. R. N. Haszeldine and F. Smith. diag Chem Soc J p2689-94 O '50

Organic fluorides; fluorination of hydroaromatic hydrocarbons by use of a gold catalyst. R. N. Haszeldine and F. Smith. Chem Soc J p2787-9 O '50

Platforming of pure hydrocarbons. V. Haensel and G. R. Donaldson. Ind & Eng Chem 43:2102-4 S '51

Polycyclic aromatic hydrocarbons; carcinogenic compounds. J. W. Cook. Chem Soc J p 1210-19 bibliog(78 ref, p 1218-19) Ap '50

Polycyclic aromatic hydrocarbons; synthesis of the metabolic oxidation products of 3 : 4-benzpyrene. J. W. Cook, R. S. Ludwiczak and R. Schoental. Chem Soc J p 1112-21 Ap '50

Production of aromatics from natural gas liquids. C. R. Williams and R. E. Sutherland. flow diag Oil & Gas J 50:84+ Ag 9 '51

Properties of high boiling petroleum products; distillation studies with relation to polynuclear aromatic components. L. T. Eby, G. G. Wanless and J. Rehner, jr. bibliog il Ind & Eng Chem 43:954-60 Ap '51

Properties of high boiling petroleum products; physical and chemical characterization studies with relation to polynuclear aromatic components. G. G. Wanless, L. T. Eby and J. Rehner, jr. bibliog Anal Chem 23:563-71 Ap '51

Reaction of aromatic hydrocarbons with lithium aluminium hydride, and a new technique for the use of the reagent. I. Goodman. Chem Soc J p2209-11 Ag '51

Reduction of aromatic hydrocarbons with lithium aluminium hydride. I. Goodman. Chem Soc J p846-7 Mr '51

Silica gel employed for separation of aromatics; Arosorb process. Chem & Eng N 29:3015-16 Jl 23 '51

Solubility of aromatic hydrocarbons in water. R. L. Bohon and W. F. Claussen. bibliog Am Chem Soc J 73:1571-8 Ap '51

Solvent induced frequency shifts for catacondensed aromatics. N. D. Coggeshall and A. Pozefsky. J Chem Phys 19:980-1 Jl '51

Studies in light absorption; the relation between absorption intensities and molecular dimensions, and its application to the electronic spectra of polyenes and polycyclic benzenoid hydrocarbons. E. A. Braude. diags Chem Soc J p379-84 Ja '50

Studies in molecular rearrangement; oxotropic rearrangements in the polycyclic aromatic series. E. A. Braude, J. S. Fawcett and D. D. E. Newman. Chem Soc J p793-9 Mr '50

Study of effect of impingement-particle velocity in radiolysis of some aromatic hydrocarbons. T. J. Sworski and M. Burton. bibliog Am Chem Soc J 73:3790-2 Ag '51

Theoretical investigation of reactivities of conjugated bonds. R. D. Brown. Chem Soc J p3249-54, 1950-5 N '50, Ag '51

Theoretical treatment of the Diels-Alder reaction; equilibria for aromatic hydrocarbons. R. D. Brown. Chem Soc J p 1612-14 Je '51

Theoretical treatment of the Diels-Alder reaction; polycyclic aromatic hydrocarbons. R. D. Brown. Chem Soc J p691-7 F '50

See also

Benzene

HYDROCARBONS, Aromatic—*Continued*

Analysis

Aromatic hydrocarbons in some Diesel fuel fractions; ultraviolet spectrometric identification. N. G. Adams and D. M. Richardson. bibliog Anal Chem 23:129-33 Ja '51

Characterization of benzene ring substitution by infrared spectra. C. W. Young, R. B. DuVall and N. Wright. Anal Chem 23:709-14 My '51

Determination of aromatics and olefins in wide boiling petroleum fractions. A. E. Spakowski, A. Evans and R. R. Hibbard. Anal Chem 22:1419-22 N '50

Infrared analysis of five C_{10} aromatics. J. A. Perry. Anal Chem 23:495-7 Mr '51

X-ray diffraction patterns of solid aromatic hydrocarbons. L. J. E. Hofer and W. C. Peebles. bibliog Anal Chem 23:690-5 My '51

HYDROCELLULOSE

Studies on modified cellulose; alkali stability of oxidized, hydrolyzed, and methanolized celluloses. A. Meller. bibliog(52 titles) Tappi 34:171-9 Ap '51

HYDROCHLORIC acid

Adsorption of iron by anion exchange resins from hydrochloric acid solutions. G. E. Moore and K. A. Kraus. Am Chem Soc J 72:5792-3 D '50

Adsorption of protactinium from hydrochloric acid solutions by anion exchange resins. K. A. Kraus and G. E. Moore. Am Chem Soc J 72:4293-4 S '50

Anion exchange of complex ions of hafnium and zirconium in HCl-HF mixtures. E. H. Huffman and R. C. Lilly. Am Chem Soc J 73:2902-5 Je '51

Anion exchange of zirconium, hafnium, niobium and tantalum in hydrochloric acid solutions. E. H. Huffman, G. M. Iddings and R. C. Lilly. Am Chem Soc J 73:4474-5 S '51

Catalysed transfer of hydrogen chloride from chlorohydrins to epoxides; a new method of preparing glycidol and some of its derivatives. W. Bradley, J. Forrest and O. Stephenson. Chem Soc J p 1589-98 Je '51

Dissolution of magnesium in hydrochloric acid. B. Roald and W. Beck. bibliog il Electrochem Soc J 98:277-90 Jl '51

Electromotive force studies in aqueous solutions of hydrochloric acid and *d*-fructose at 25°. H. D. Crockford and A. A. Sakhnovsky. Am Chem Soc J 73:4177-9 S '51

Exchange reaction between hydrogen chloride and chlorine in the gaseous state. W. H. Johnston and W. F. Libby. Am Chem Soc J 73:854-5 F '51

Heat of reaction of americium metal with 1.5 *M* hydrochloric acid and a note on the heats of formation of La^{+3} (aq.) and Pr^{+3} (aq.). H. R. Lohr and B. B. Cunningham. bibliog diag Am Chem Soc J 73:2025-8 My '51

Heat of solution of zinc oxide in 2 *N* hydrochloric acid. R. B. Peppler and E. S. Newman. bibliog J Res Nat Bur Stand 46:121-3 F '51

Hydrocarbon synthesis catalyst studies; use of deuterochloric acid. H. I. Weck, S. Meyerson and H. S. Seelig. Am Chem Soc J 73:2331-3 My '51

Hydrogen chloride-aluminium chloride as an agent of isomerisation. G. Baddeley. Chem Soc J p994-7 Mr '50

Investigation of possible interactions between palladium(II) and -(IV) and between palladium(II) and platinum(IV) in hydrochloric acid solutions and in the crystalline state. A. J. Cohen and N. Davidson. bibliog Am Chem Soc J 73:1955-8 My '51

Materials of construction report. il diags Chem Eng 57:121-4 N '50

Methane chlorination using hydrogen chloride and oxygen. H. P. Meissner and E. F. Thode. bibliog Ind & Eng Chem 43:129-33 Ja '51

Nickel plating without nickel chloride. M. B. Diggin. Metal Finishing 49:63 F '51

Photochemical exchange reaction between tin(II) and tin(IV) in hydrochloric acid solution. R. P. Craig and N. Davidson. diag Am Chem Soc J 73:1951-4 My '51

Quantitative phloroglucinol-HCL test in the evaluation of lignin preparations. R. M. De Baun and F. F. Nord. bibliog Tappi 34:71-3 F '51

Reaction between methanol and hydrogen chloride at 0° C in the degradation of cellulose. R. E. Reeves and others. Textile Res J 21:81-2 F '51

Rearrangement in the reaction of 2,3,4-trimethyl-3-pentanol with hydrochloric acid; chlorination of 2,3,4-trimethylpentane. H. C. Brown and R. S. Fletcher. Am Chem Soc J 73:1317-20 Mr '51

Solubilities of the sulfides of arsenic, antimony, and tin in hydrochloric acid. C. H. Sorum and H. A. Wolf. J Chem Educ 27:614-16 N '50

Solubility of cobalt hydroxide, $Co(OH)_2$, in solutions of hydrochloric acid and sodium hydroxide at 25°. K. H. Gayer and A. B. Garrett. bibliog Am Chem Soc J 72:3921-3 S '50

Some tensile properties of wool in solutions containing salt and acid. H. Bogaty and others. Textile Res J 21:479-81 Jl '51

Spectrophotometric and radiochemical investigation of the interaction between tin(II) and -(IV) in hydrochloric acid solutions. C. I. Browne, R. P. Craig and N. Davidson. bibliog Am Chem Soc J 73:1946-51 My '51

Spectrophotometric investigation of the interaction between iron(II) and iron(III) in hydrochloric acid solutions. H. McConnell and N. Davidson. bibliog Am Chem Soc J 72:5557-60 D '50

Spectrophotometric study of tripositive manganese in hydrochloric acid solution. J. A. Ibers and N. Davidson. bibliog Am Chem Soc J 72:4744-8 O '50

Synthesis of substituted 2 : 3-benzpyrrocolines. R. Robinson and J. E. Saxton. Chem Soc J p3136-40 N '50

Use of equilibrium constants to calculate thermodynamic quantities; equilibria in the system *tert.*-butyl chloride, *iso*butene, hydrogen chloride. K. E. Howlett. diag Chem Soc J p 1409-12 Je '51

See also

Dehydrochlorination

Manufacture

Falling-film type HCl absorbers control weak acid temperature. W. M. Gaylord. il diag Chem Eng 57:286+ N '50

HCl demand now at peak. il Chem Ind W 68:7+ Mr 17 '51

Now byproduct hydrochloric rules the roost; commodity survey. A. J. P. Wilson. diags Chem Eng 58:284-7 Jl '51

HYDROCHRYSENE

Hydroaromatic steroid hormones; some hydrochrysene derivatives. A. J. Birch and H. Smith. Chem Soc J p 1882-8 Jl '51

HYDROCINNAMIC acid

Dehydrobromination of α,β-dibromohydrocinnamic acid in liquid ammonia. R. V. Paulson and W. S. MacGregor. bibliog Am Chem Soc J 73:679-81 F '51

HYDROCYANIC acid

Aldose end-group estimation by cyanide consumption. A. P. Yundt. Tappi 34:95-6 F '51

Cyanide manufactured from sewage gas in South Africa; abstract. W. A. Barr. Water & Sewage Works 97:516 D '50

Cyanides from the coke oven. M. L. Kastens and R. Barraclough. bibliog flow sheet il diags Ind & Eng Chem 43:1882-92 S '51

Fibers spur cyanide boom. Chem Ind W 68:41-2 My 12 '51

Koppers recovers H_2S and HCN from coke oven gas. Chem & Eng N 29:2470 Je 18 '51

Quantitative application of the Kiliani reaction. V. L. Frampton and others. bibliog diag Anal Chem 23:1244-7 S '51

Studies on hydrogen cyanide: some physical properties of anhydrous hydrogen cyanide. J. E. Coates and R. H. Davies. diag Chem Soc J p 1194-9 Ap '50

Toxicity of carbon monoxide and hydrogen cyanide gas mixtures. R. H. Moss and others. bibliog diags A M A Archives Ind Hygiene & Occup Med 4:53-64 Jl '51

HYDRODYNAMICS

Approximation of axisymmetric body forms for specified pressure distributions. J. S. McNown and E. Hsu. bibliog diags J Ap Phys 22:864-8 Jl '51

Chemical engineering unit operations; sixth annual review; fluid dynamics. M. Leva and M. Weintraub. Ind & Eng Chem 43:90-9 bibliog(344 ref, p96-9) Ja '51

Flow through whirling tubes. H. Zychlin and J. A. Storrow. bibliog diags Soc Chem Ind J 69:379-84 D '50

Hydrodynamic pressure due to horizontal earthquake shock computed by curves. V. T. Chow. Civil Eng 21:532-3 S '51

Hydrodynamics of cathode films. G. H. Keulegan. bibliog J Res Nat Bur Stand 47:156-69 S '51

Magneto-hydrodynamic shocks. F. de Hoffmann and E. Teller. bibliog Phys R 80:692-703 N 15 '50

Review of high-speed hydrodynamic development. E. R. Stout. Aviation W 55:18 S 10; 20-6 O 1 '51

Tank investigation of a powered dynamic model of a large long-range flying boat. J. B. Parkinson and others. bibliog il diags U S Nat Advisory Com for Aeronautics 1947:217-39 '50

Theoretical investigation of hydrodynamic impact loads on scalloped-bottom seaplanes and comparisons with experiment. B. Milwitzky. bibliog il U S Nat Advisory Com for Aeronautics 1947:109-24 '50

Turbulent transfer mechanism and suspended sediment in closed channels. H. M. Ismail. bibliog diags Am Soc C E Proc 77 [no 56]:1-26 F '51

Virtual mass of a sphere entering water vertically. A. May and J. C. Woodhull. il J Ap Phys 21:1285-9 D '50

Virtual mass of water associated with an immersing wedge. J. D. Pierson. J Aeronautical Sci 18:430-1 Je '51

Volume viscosity and compressibilities from acoustic phenomena. Hoff Lu. bibliog Acoustical Soc Am J 23:12-15 Ja '51

See also

Aerodynamics
Cavitation
Drops
Fluidization
Hydrostatics
Ship resistance
Turbulence
Viscosity
Waves

HYDROELECTRIC plants

Development of high-voltage transmission with particular reference to hydro-electric projects. T. G. N. Haldane. Engineering 172:249-51; Discussion. 245-6 Ag 24 '51; Engineer 192:232-3 Ag 24 '51

Development of hydroelectric power schemes; abstract and discussion. W. Halcrow. Engineering 171:746-7 Je 22 '51

Improved penstocks reduce costs for high-head hydroelectric plants. G. A. Whetstone. il Power Eng 55:64-9 Ag '51

Production economies in hydro-power. C. K. Willey. diags Midwest Eng 3:10-12+ Ap '51

Water power and water storage in 1950. il map Engineer 191:42-4, 98-100, pl 10 Ja 12-19 '51

WRPC on FPC hydro licenses. Pub Util 47:117-18 Ja 18 '51

Water use and control. il maps Eng N 146:192+ Mr 29 '51

Construction

Bulkhead on scroll case allows one-pour encasement; hydroelectric units installed at Center Hill dam on Caney Fork river, Tenn. il Eng N 145:42 N 2 '50; Power 94:105+ N '50; Elec World 134:98 D 18 '50

Davis Dam project, U.S.A. il map plans diags Engineer 192:74-6, 106-8, 138-41 Jl 20-Ag 3 '51

Development of the river Rhone. il map plans diags Engineer 190:548-51, 580-4, 616-19, 644-6 D 8-29 '50

Diesels on the Columbia River projects. W. J. Granberg. il Diesel Power 29:76-7 Ja '51

Fannich scheme; North of Scotland hydro-electric board. il plan diags Engineering 172:65-8, 129-32, pl 3-4, 10-11 Jl 20, Ag 3 '51

Machines conquer tough slope-paving job; dikes for U.S. government power plant at the Soo. il diags Eng N 147:28-9 Ag 9 '51

McNary Dam project; with cost data. J. R. Thatcher; R. R. Garnett. il maps diags Civil Eng 21:337-44 Je '51

More power at Niagara. il Comp Air Mag 56:243 S '51

North of Scotland hydro-electric schemes; Fannich project. il map diags Engineer 191:746-9, 780-3 Je 8-15 '51

Ottawa River power development; Chenaux project. W. M. Goodwin. il map Comp Air Mag 55:248-50 N '50

Ottawa River power development; La Cave project. A. S. Park. il maps Comp Air Mag 55:272-6 D '50

Tummel-Garry scheme of the North of Scotland hydro-electric board. il plans diags Engineering 170:425-9, 440, 460-2, 493-7, 504, 521-5, 536, pl 34-5, 40 D 1-22 '50

Tunnels for power; Big Creek no. 4 project of Southern California Edison co. D. W. Lutes. il diags Comp Air Mag 55:237-41 N '50

Cost

Falcon dam and power plants, Texas-Mexico; unit prices. Eng N 145:61 D 21 '50

Hungry Horse dam and power plant in Montana; unit prices. Eng N 146:80 Ap 12; 71 Ap 19 '51

Pole Hill power plant, Colo.-Big Thompson project; unit prices. Eng N 145:66 N 2 '50

Design

Fundamental economics in hydro-electric design. C. M. Roberts. Engineer 191:262-3 F 23 '51

Hydro-electric schemes; modern trends in civil engineering. T. A. L. Paton. Engineering 172:253-4 Ag 24 '51; Discussion. Engineer 192:206-7 Ag 17 '51

Model studies aid in design of Brazilian hydro project. E. M. Laursen. il maps diags Civil Eng 21:24-7 Ja '51

Outdoor construction + identical equipment = lower hydro costs. il diag Elec World 136:90-2 S 24 '51

Outdoor plants for Owens gorge project. il Elec West 107:68-9 Ag '51

Petenwell hydroelectric project. E. M. Fucik. il map plan diags Am Soc C E Proc 77[no 81]:1-15 Jl '51

Submersible hydro plants increase low-head output; hydraulic turbines mounted in conduits through the base of low overflow dams. diags Eng N 145:35-6 N 16 '50

Underground hydroelectric plants. il diag Power Eng 54:58-9+ D '50

Underground power station; features of the Lavey undertaking. il plan Elec R (Lond) 147:705-7 N 3 '50

Vast hydro system developing in Scottish Highlands. J. Williamson. il map Power Eng 54:72-4 D '50

Wassen power station on the river Reuss, Switzerland. il maps diags Engineering 170:305-7, 313-15, pl 24-25 O 20-27 '50

Employees

Staff college of the North of Scotland hydro-electric board. il Engineering 171:529 My 4 '51; Elec R (Lond) 148:688-90 Ap 6 '51

Equipment

Control of hydro-electric plant. A. C. H. Frost and W. Brittlebank. bibliog diags Inst E E Proc 98 pt 1:129-43 My '51; Same cond. Engineer 190:569-73 D 8 '50; Abstract. Engineering 171:56-7 Ja 12 '51; Discussion. Inst E E Proc 98 pt 1:144-54 My '51; Elec R (Lond) 147:1079-80 D 22 '50; Electrician 145:1447-8 D 15 '50

Extensions to the Pangani hydroelectric scheme. il map Engineer 190:649-50 D 29 '50; Same cond. Electrician 145:1513-14 D 22 '50; Abstract. Engineering 171:368-9 Mr 30 '51

40 years at Kilbourn hydro plant. N. A. Landt and E. Uehling. il diag Power 95:112-15 Ja '51

Generating plant in Grudie Bridge power station. il Engineer 192:191-4 Ag 10 '51

Lavey hydroelectric power station for Lausanne. il plan diags Engineering 171:333-6, pl 14-15 Mr 23 '51

Miniature direct-wire remote control at Loch Sloy power station. il Elec Com 28:106-7 Je '51

HYDROELECTRIC plants—Equipment—*Cont.*

Modern trends in the design of vertical water wheel generators. C. M. Laffoon and others. bibliog il diags Elec Eng 70:887-92 O '51

More hydro for Southern California Edison co.; Big Creek four plant. il Elec West 107: 76-7 Ag '51

See also

Turbines

Finance

Pacific power & light co. negotiates $13.5 million loan for Yale project. Elec World News ed 135:20 Je 25 '51

Gas turbine auxiliaries

Regenerative gas turbine efficiently supplements hydro; Bangor hydro-electric co. P. F. Kruse. il diag Elec World 135:54-6+ Ja 1 '51

Government ownership

Advantages of redevelopment of Niagara power by private enterprise. E. J. Machold. Edison Elec Inst Bul 19:289-92+ S '51

Arizona power authority becomes operating agency, sells U.S. energy. Elec World 135: 84 Mr 12 '51

Case of Buggs island. A. Glenn. Barron's 31:9-10 F 19 '51

Co-ordinating federal, state, and local hydroelectric development. R. A. Wehe. Pub Util 48:12-21 Jl 5 '51

Current and future development on USBR projects (power plants); tabulation. Elec West 106:83 F '51

Federal family fight for power over power. R. Tucker. Pub Util 48:267-74, 347-54 Ag 30-S 13 '51

Federal power policy invades local regulation. W. A. Bryans, 3d. Edison Elec Inst Bul 18:409-13 N '50

Government-agency hydroelectric projects; tabulation. Power 94:108 D '50

Governor fights Hell's Canyon dam. Eng N 146:26 F 22 '51

Here's what the report of the Water resources policy commission actually said. Elec World News ed 134:4 D 25 '50

Home rule and home ownership for federal multipurpose projects. A. V. Watkins. Pub Util 46:645-50 N 9 '50

House votes to sustain cuts made in Interior power agency budgets. Elec World News ed 135:12 My 14 '51

Interior, country's largest utility holding company. J. A. Whitlow. Pub Util 47:21-30 Ja 4 '51

Interior markets 24.1 billion kwhr in fiscal '50, takes in $59.8 million. map Elec World News ed 135:11 F 19 '51

Interior's power projects; map and tabulations. Elec World News ed 135:16-17 F 5 '51

Niagara power; business goes over the Falls. map Fortune 44:83-5+ O '51

Path to perdition. A. J. G. Priest. Edison Elec Inst Bul 19:218-22 Jl '51; Same. Comm & Fin Chr 173:2453+ Je 14 '51

Place of public power in the American economy. J. E. Corette, jr. Edison Elec Inst Bul 18:414-17 N '50

Preference clause. G. A. Dondero. Pub Util 47:801-2 Je 7 '51

Preference clause in the Bonneville power act. Pub Util 48:376-7 S 13 '51

Public power's revolving door to the U.S. Treasury; controversy in the Southwest. F. M. Wilkes. Pub Util 47:737-43 Je 7 '51

Self-perpetuating bureaucracy by the Bureau of reclamation. E. Abel. il Elec West 105: 65-9 D '50

TVA-type river basin projects get nod from water policy group. Elec World 134:71-2 D 18 '50

Truman seeks more federal power. Elec World News ed 135:4-5 Ja 22 '51

Unfair preference for public power. H. N. Beamer. Pub Util 48:333-9 S 13 '51

WRPC report. Pub Util 47:37-8 Ja 4 '51

See also

Bonneville power administration

Ontario—Hydro-electric power commission

Tennessee Valley authority

Heating and ventilation

Application of the heat pump to hydroelectric power house. F. T. Downing. il diag Heating-Piping 23:84-7 Je '51; Discussion. 23:66 Ag '51

Small plants

Scottish textile works; private generation hydro-electric scheme. il Elec R (Lond) 148:367-9 F 23 '51

Utility tie props industrial hydro; United board and carton corp. paperboard mill. E. Gorham. il diag Power 95:71-4 F '51

Storage type

Power from pumped storage in Texas. il diags Eng N 146:37-8 Je 21 '51

Power to pay for Brazos River development. C. R. Marks, 3d. il maps diags Civil Eng 21:264-7 My '51

Pump at Buchanan dam adds peak capacity to power system. C. L. Dowell. il diags Power 95:95-7 Ag '51

Pumped storage at the Etzel power station, Switzerland. Engineer 191:158-9 F 2 '51

Pumped-storage hydro plant in Texas proves economical. G. E. Schmitt. il map diags Civil Eng 21:251-5 My '51

Pumped-storage plants in the United States. Eng N 146:38-9 Je 21 '51

Pumped water storage; Herdecke station in the Ruhr. T. C. Gilbert. il diag Elec R (Lond) 147:1105-7 D 29 '50

Triple water diversion for Brazil power. il map Eng N 147:28-30 Jl 5 '51

Arizona

Davis Dam power plant nears completion. il Elec West 106:66-7 Mr '51

Davis Dam project, U.S.A. il map plans diags Engineer 192:74-6, 106-8, 138-41 Jl 20-Ag 3 '51

Australia

Australia has many power projects under way or under consideration. il Eng N 147: 68+ S 27 '51

Australian hydro-electric power. Electrician 146:1045 Mr 30 '51

Engineers are needed for Snowy Mountains project. Eng N 145:66, 68 D 7 '50

Brazil

Model studies aid in design of Brazilian hydro project. E. M. Laursen. il maps diags Civil Eng 21:24-7 Ja '51

Triple water diversion for Brazil power. il map Eng N 147:28-30 Jl 5 '51

British Columbia

British Columbia ready for hugh Alcan project. Eng N 146:25 Ja 11 '51

Western Canada busy with water, power. Eng N 147:25 Jl 12 '51

California

Feather River hydro-electric project, California. il map Engineer 191:472-3 Ap 13 '51

More hydro for Southern California Edison co.; Big Creek four plant. il Elec West 107: 76-7 Ag '51

Outdoor construction + identical equipment = lower hydro costs. il diag Elec World 136:90-2 S 24 '51

Outdoor plants for Owens gorge project. il Elec West 107:68-9 Ag '51

Pacific G&E co. loses 460,000 kw of capacity when floods hit system. il Elec World 134: 89 D 4 '50

Tunnels for power; Big Creek no. 4 project of Southern California Edison co. D. W. Lutes. il diags Comp Air Mag 55:237-41 N '50

See also

Central Valley project, California

Canada

Canadian hydro keeps pace with industrial development. C. Bassett. Pub Util 48:135-46 Ag 2 '51

Canadian hydroelectric plants put in operation or under construction in 1949-50; tabulation. Power 94:106-7 D '50

Canadian hydro-electric power output sets record. J. Montagnes. Barron's 31:6 Ap 30 '51

HYDROELECTRIC plants—Canada—*Cont.*

Canadian securities; growth of Canada's hydro-electric power. W. J. McKay. Comm & Fin Chr 174:434 Ag 2 '51

Hydro-electric progress in Canada in 1950. Engineer 191:197-8 F 9 '51; Abstracts. Elec R (Lond) 148:350 F 16 '51; Electrician 146:398 F 2 '51

Less than 23 per cent of Canada's total water-power resources have been developed. R. H. Winters. Roads & Eng Constr 89:50 Ja '51

Water power, a key factor in Canadian industry. G. B. Hall. il For Comm W 41:3-4+ D 25 '50

White coal; hydro-electric power for Canada's homes and mills. C. M. Short. il Dun's R 59:24+ My '51

England

Tidal power and the Severn barrage. H. Headland. bibliog map diags Inst E E Proc 96 pt 2:427-42 Je '49; Same. 96 pt 1:185-200 Jl '49; Discussion. Inst E E Proc 96 pt 2:443-51; 97 pt 2:827-35 Je '49, D '50; 96 pt 1:201-9; 98 pt 1:112-20 Jl '49, Mr '51

France

Development of the river Rhone. il map plans diags Engineer 190:548-51, 580-4, 616-19, 644-6 D 8-29 '51

France's push for kilowatts pays off. W. G. Bowman. il map Eng N 146:30-4 Ap 5 '51

French touch in dams. W. G. Bowman. il map diags Eng N 146:28-33 My 10 '51

More electric power for France. map Economist 160:438-9 F 24 '51

Germany

Pumped water storage; Herdecke station in the Ruhr. T. C. Gilbert. il diag Elec R (Lond) 147:1105-7 D 29 '50

Idaho

Full speed ahead for Cabinet Gorge. il map Elec West 106:73 Ap '51

Governor fights Hell's Canyon dam. Eng N 146:26 F 22 '51

Valley development by private enterprise. T. E. Roach. il Elec West 105:61-3 N '50

India

Bhakra-Nangal project in the Punjab. maps plan diags Engineer 192:170-2 Ag 10 '51

First dams for India's great barren plateau. W. G. Bowman. il map diag Eng N 146:35-8 Je 7 '51

India stakes future on her rivers. il map Eng N 146:32-6 Mr 1 '51

Italy

Italy installs hydro power above Rome. il map Eng N 147:52 Jl 12 '51

Maine

See also
Passamaquoddy tidal power project

Montana

British Columbia sticks to Libby Dam demands. Elec World News ed 136:14 Ag 6 '51

New York (state)

Advantages of redevelopment of Niagara power by private enterprise. E. J. Machold. Edison Elec Inst Bul 19:289-92+ S '51

Federal role debated in Niagara power plan. Eng N 147:27 Ag 23 '51

New York's future drinking water to produce power for private utility. il Elec World 136:69 Jl 30 '51

New York's plan for the St Lawrence. J. E. Burton. Pub Util 47:819-24 Je 21 '51

Private utilities in New York state offer plan to build Niagara project. Elec World News ed 136:11 S 3 '51

Senate group hears three-way battle over Niagara power development plans. Eng N 147:27 Ag 30 '51

New Zealand

Coleridge power station. il map Elec R (Lond) 148:261-3 F 9 '51

North Carolina

Are federal agencies trying to block hydro developments? Virginia electric & power company struggle to build dam on Roanoke river. J. J. Kilpatrick. Pub Util 47:78-85 Ja 18 '51

FPC examiner okays Roanoke Rapids site. Eng N 145:26 N 30 '50; Excerpts. Elec World News ed 134:13 N 27 '50

FPC rules for private enterprise; VEPCO's Roanoke Rapids license. R. R. Harwood, jr. Manuf Rec 120:29+ Mr '51

Final decision on Roanoke Rapids will be made by USSC. Elec World News ed 136:12 S 17 '51

Roanoke goes to court; Interior department's cause célèbre against the hydroelectric jurisdiction of the Federal power commission. Pub Util 48:429-30 S 27 '51

Vepco license for Roanoke project OK'd by FPC; Chapman rebuked. Elec World News ed 135:6 F 5 '51

Northwestern states

Plenty of water ahead for hydro-power. Eng N 146:31 F 1 '51

Ontario

Canada builds a 1,200,000-hp plant at Niagara falls. il map Power 95:78-81 O '51

Master labor contract covers all construction at Niagara project of Ontario hydro commission. Roads & Eng Constr 89:86 Mr '51

More power at Niagara. il Comp Air Mag 56:243 S '51

Ontario goes after new Niagara water. il map diag Eng N 147:39-40 S 6 '51

Ontario hydro starts $157,000,000 project. map Roads & Eng Constr 89:63+ F '51

Ottawa River power development; Chenaux project. W. M. Goodwin. il map Comp Air Mag 55:248-50 N '50

Ottawa River power development; La Cave project. A. S. Park. il maps Comp Air Mag 55:272-6 D '50

See also
Ontario—Hydro-electric power commission

Oregon

Comprehensive plan for the Columbia basin. W. Whipple, jr. il maps Am Soc C E Proc 76 [no 45]:1-23 N '50

Valley development by private enterprise. T. E. Roach. il Elec West 105:61-3 N '50

Peru

Tunnel eight miles long ready for Peruvian hydro plant. il Eng N 146:52 F 22 '51

Portugal

Portugal's new hydro plant inaugurated; others planned. For Comm W 42:26 Mr 19 '51

Vila Nova power station. il Electrician 146:2014 Je 15 '51

Vila Nova power station, Portugal. il Engineer 191:842-3 Je 22 '51; Engineering 172:208 Ag 17 '51

Quebec (province)

Huge power project planned for Quebec North Shore paper co. E. Griffin. maps Paper Ind 32:1276-7 Mr '51

Hydraulic resources in Quebec. A. Dussault. il Pulp & Pa of Can 51:106-10 N '50

Ottawa River power development; Chenaux project. W. M. Goodwin. il map Comp Air Mag 55:248-50 N '50

Quebec's third largest river to have its first power development. il maps Roads & Eng Constr 89:108-9+ Ap '51

Shawinigan growth to aid industry. il maps Elec World News ed 134:4-5 D 11 '50

Rhodesia

Harnessing the Zambesi. map Elec R (Lond) 149:70-1 Jl 13 '51; Electrician 147:397-8 Ag 10 '51

Russia

Power for peace, says U.S.S.R. map Bsns W p 136-7 N 11 '50

Volga hydroelectric projects. il Power Eng 55:63-5 My '51

HYDROELECTRIC plants—*Continued*

Scotland

Affric hydro-electric scheme. Elec R (Lond) 149:227 Ag 3 '51
Annual report of the North of Scotland hydro-electric board. Engineer 191:796 Je 15 '51; Electrician 146:2025 Je 15 '51; Elec R (Lond) 148:1319-20 Je 22 '51; For Comm W 44:17 Ag 13 '51; Engineering 172:123 Jl 27 '51
Breadalbane and Kilmelfort hydro-electric schemes. map Engineer 191:453-4 Ap 6 '51; Electrician 146:1040 Mr 30 '51
Electrical aspects of modern hydro-electric development in Scotland. T. Lawrie. map Engineering 172:313-15 S 7 '51; Abstract. Electrician 147:470-1 Ag 17 '51; Discussion. Engineering 172:276-7 Ag 31 '51; Engineer 192:233 Ag 24 '51
Fannich scheme; North of Scotland hydro-electric board. il plan diags Engineering 172:65-8, 129-32, pl 3-4, 10-11 Jl 20, Ag 3 '51
Generating plant in Grudie Bridge power station. il Engineer 192:191-4 Ag 10 '51
Miniature direct-wire remote control at Loch Sloy power station. il Elec Com 28:106-7 Je '51
Morar and Lochalsh schemes of the North of Scotland hydro-electric board. il Engineering 171:38-9, pl 3 Ja 12 '51
North of Scotland hydro-electric schemes; Fannich project. il map diags Engineer 191:746-9, 780-3 Je 8-15 '51
Opening of Loch Sloy scheme. il Electrician 145:937-8 N 10 '50
Opening of the Loch Sloy scheme; illustrations with text. Engineer 190:398-9 O 27 '50
Orrin hydro-electric scheme. Electrician 146:978 Mr 23 '51
Shin hydro-electric scheme. map Engineer 191:326 Mr 9 '51
Tummel-Garry scheme of the North of Scotland hydro-electric board. il plans diags Engineering 170:425-9, 440, 460-2, 493-7, 504, 521-5, 536, pl 34-5, 40 D 1-22 '50
Tunnelers blast plug in lake bottom to make intake for Scottish hydro job. diag Eng N 147:65 Ag 30 '51
Vast hydro system developing in Scottish Highlands. J. Williamson. il map Power Eng 54:72-4 D '50

Sweden

Unusual rock-fill dam built for power in Sweden; Harspranget project. il diags Eng N 146:47-8 Ja 18 '51

Switzerland

Lavey hydroelectric power station for Lausanne. il plan diags Engineering 171:333-6, pl 14-15 Mr 23 '51
Pumped storage at the Etzel power station, Switzerland. Engineer 191:158-9 F 2 '51
Swiss complete new power dam. il Eng N 146:59 F 1 '51
Underground power station; features of the Lavey undertaking. il plan Elec R (Lond) 147:705-7 N 3 '50
Wassen power station on the river Reuss, Switzerland. il maps diags Engineering 170:305-7, 313-15, pl 24-25 O 20-27 '50

Tanganyika

Extensions to the Pangani hydroelectric scheme. il map Engineer 190:649-50 D 29 '50; Same cond. Electrician 145:1513-14 D 22 '50; Abstract. Engineering 171:368-9 Mr 30 '51

Tennessee

Forty-year-old Wilbur hydro project rejuvenated. D. H. Mattern. il map plans diags Civil Eng 21:466-71 Ag '51

Texas

Power from pumped storage in Texas. il diags Eng N 146:37-8 Je 21 '51
Power to pay for Brazos River development. C. R. Marks, 3d. il maps diags Civil Eng 21:264-7 My '51
Pump at Buchanan dam adds peak capacity to power system. C. L. Dowell. il diags Power 95:95-7 Ag '51
Pumped-storage hydro plant in Texas proves economical. G. E. Schmitt. il map diags Civil Eng 21:251-5 My '51

United States

United States Bureau of reclamation; with tabulated summary of hydro-electric power developments. Engineer 191:282-3 Mr 2 '51
United States hydroelectric plants put in operation or under construction in 1949-50; tabulation. Power 94:102-7 D '50

Washington (state)

Comprehensive plan for the Columbia basin. W. Whipple, jr. il maps Am Soc C E Proc 76 [no 45]:1-23 N '50
Pacific power & light co. negotiates $13.5 million loan for Yale project. Elec World News ed 135:20 Je 25 '51
Pacific Power & Light plans $26-million, 100,000-kw hydro project. Elec World News ed 135:11 F 5 '51

Wisconsin

40 years at Kilbourn hydro plant. N. A. Landt and E. Uehling. il diag Power 95:112-15 Ja '51
Petenwell hydroelectric project. E. M. Fucik. il map plan diags Am Soc C E Proc 77[no 81]:1-15 Jl '51

HYDROELECTRIC power

Production economics in hydro-power. C. K. Willey. diags Midwest Eng 3:12-14+ Mr; 10-12+ Ap '51
Relationship of hydroelectric power to the Columbia River basin development. O. E. Walsh. Elec Eng 70:861-5 O '51

See also

Hydroelectric plants
Ontario—Hydroelectric power commission
St Lawrence waterway and power project
Tidal power

HYDROELECTRIC power commission. See Ontario—Hydroelectric power commission

HYDROFLUORIC acid

Alumina activated with anhydrous hydrogen fluoride; a dealkylation catalyst for aromatic hydrocarbons. L. Berg and others. bibliog diag Chem Eng Prog 47:469-72 S '51
Anion exchange of complex ions of hafnium and zirconium in HCl-HF mixtures. E. H. Huffman and R. C. Lilly. Am Chem Soc J 73:2092-5 Je '51
Crop and soil reactions to applications of hydrofluoric acid. W. H. MacIntire and others. bibliog il Ind & Eng Chem 43:1800-3 Ag '51
Difference effect on titanium dissolving in hydrofluoric acid. M. E. Straumanis and P. C. Chen. bibliog il diag Electrochem Soc J 98:351-5 S '51
Formation of complex fluorides; reactions in anhydrous hydrogen fluoride and iodine pentafluoride. A. A. Woolf. Chem Soc J p3678-81 D '50
Hydrofluoric acid alkylation. flow diag Oil & Gas J 49:194-5 Mr 29 '51
Hydrofluoric acid alkylation. bibliog diag Pet Refiner 30:159-61 S '51
Hydrofluoric acid burns. Chem Age (Lond) 64:658 Ap 28 '51
HF alkylation today. D. P. Thornton, jr. flow diag il Pet Processing 6:488-91 My '51
Hydrogen transfer; reaction of *m*-cymene and *o*-cymene with methylcyclohexene in the presence of hydrogen fluoride. H. Pines, D. R. Strehlau and V. N. Ipatieff. bibliog Am Chem Soc J 72:5521-3 D '50
Intramolecular acylation; the ring closure of some α-substituted glutaric acids. M. F. Ansell and D. H. Hey. Chem Soc J p2874-81 O '50
Isomerisation reactions. R. R. Aitken, G. M. Badger and J. W. Cook. Chem Soc J p331-5 Ja '50
Lower paraffin hydrocarbons; catalytic conversion by boron fluoride with hydrogen fluoride. E. C. Hughes and S. M. Darling. bibliog Ind & Eng Chem 43:746-50 Mr '51
Materials of construction report. il Chem Eng 57:124-6 N '50
Mechanism and rate of dissolution of titanium in hydrofluoric acid. M. E. Straumanis and P. C. Chen. bibliog diag Electrochem Soc J 98:234-40 Je '51
Separation of sulfur and aromatics from petroleum with boron fluoride and hydrogen fluoride. E. C. Hughes and others. bibliog Ind & Eng Chem 43:750-3 Mr '51

HYDROFLUORIC acid—*Continued*

Synthesis of aromatic fluorides through diazotization in anhydrous hydrogen fluoride. R. L. Ferm and C. A. VanderWerf. bibliog Am Chem Soc J 72:4809-10 O '50

Ultraviolet absorption spectrum of gaseous hydrogen fluoride. E. Safary and others. bibliog J Chem Phys 19:379-80 Mr '51

Vapor-liquid equilibrium of antimony pentafluoride-hydrogen fluoride; properties of antimony pentafluoride. R. C. Shair and W. F. Schurig. bibliog diag Ind & Eng Chem 43:1624-7 Jl '51

HYDROGEN

Absolute rate of the chemisorption of hydrogen on reduced copper. T. Kwan and M. Kujirai. J Chem Phys 19:798-9 Je '51

Absorption of π^--mesons in hydrogen. R. E. Marshak and others. Phys R 80:765-6 N 15 '50

Application of a modified quantum-mechanical cellular method to the hydrogen molecule. V. A. Lewinson and G. E. Kimball. diag J Chem Phys 19:690-3 Je '51

Associating effect of the hydrogen atom; the structure of diacylamines and related substances. L. Hunter and N. G. Reynolds. Chem Soc J p2857-64 O '50

Atomic masses of H^1, C^{12}, and S^{32}. A. O. Nier. bibliog Phys R 81:624 F 15 '51

Atomic masses of H^1, D^2, and C^{12}. A. H. Wapstra. bibliog Phys R 82:756-7 Je 1 '51

Averaged field calculation of the polarity of the carbon-hydrogen bond. C. R. Mueller and H. Eyring. bibliog J Chem Phys 19:193-6 F '51

$3p^3\Sigma \rightarrow 2s^3\Sigma$-Bands of TH and T_2. G. H. Dieke and F. S. Tomkins. Phys R 82:796-807 Je 15 '51

Binding of organic ions by proteins; optical evidence of coöperative interactions with hydrogen ions. I. M. Klotz and J. M. Urquhart. Am Chem Soc J 73:3182-6 Jl '51

Catalytic activation of hydrogen by metals. A. Farkas. bibliog J Phys & Colloid Chem 55:1013-17 Je '51

Catalyzed reactions of unsaturated hydrocarbons with hydrogen and deuterium. T. I. Taylor and V. H. Dibeler. bibliog diag J Phys & Colloid Chem 55:1036-65; Discussion. 1065-6 Je '51

Collision cross sections of hydrogen and of deuterium. I. Amdur and others. bibliog J Chem Phys 18:1676-8 D '50

Condensed gas calorimetry; heat capacities, latent heats and entropies of pure parahydrogen from 12.7 to 20.3°K; description of the condensed gas calorimeter in use in the cryogenic laboratory of the Ohio state university. H. L. Johnston and others. bibliog diags Am Chem Soc J 72:3933-8 S '50

Continuous purification of hydrogen in a large electron-pulse chamber. W. N. English. bibliog diag R Sci Instr 22:598-600 Ag '51

Critical temperatures, pressures, and volumes of hydrogen, deuterium, and hydrogen deuteride. H. J. Hoge and J. W. Lassiter. bibliog J Res Nat Bur Stand 47:75-9 Ag '51

Cross section for production of charged π-mesons in C and H at 90° to a 381-Mev proton beam. M. M. Block and others. Phys R 83:167 Jl 1 '51

Decay of the hydrogen discharge. J. M. Richardson and R. B. Holt. Phys R 81:153-4 Ja 1 '51

Design closed vessels to withstand internal explosions. E. W. Cousins and P. E. Cotton. diags Chem Eng 58:133-7 Ag '51

Determination of the ratio of the $gJ(^2S_1/_2)$ values for potassium and hydrogen; the gyromagnetic ratio of the electron. W. B. Pohlman and others. bibliog Phys R 83:475 Jl 15 '51

Deuteron quadrupole moment and the radiofrequency spectra of H_2 and D_2 in low magnetic fields. H. G. Kolsky and others. bibliog Phys R 81:1061 Mr 15 '51

Effect of acoustical radiations on the hydrogen electrode. E. Yeager and F. Hovorka. bibliog Electrochem Soc J 98:14-20 Ja '51

Electron-capture cross sections for protons passing through hydrogen gas. F. L. Ribe. bibliog diags Phys R 83:1217-25 S 15 '51

Electron loss cross sections for hydrogen atoms passing through hydrogen gas. J. H. Montague. diags Phys R 81:1026-34 Mr 15 '51

Engineering aspects of separation of gases; fractional permeation through membranes. S. Weller and W. A. Steiner. bibliog flow diags diags Chem Eng Prog 46:585-90 N '50

Enzymatic transfer of hydrogen from alcohol to DPN. F. H. Westheimer and others. Am Chem Soc J 73:2403 My '51

Equilibria in the systems Fe_2C-Fe-CH_4-H_2 and Fe_3C-Fe-Ch_4-H_2. L. C. Browning, T. W. DeWitt and P. H. Emmett. bibliog diag Am Chem Soc J 72:4211-17 S '50

Equilibrium measurements in the system C-CH_4-H_2. L. C. Browning and P. H. Emmett. bibliog Am Chem Soc J 73:581-3 F '51

Exchange reaction between hydrogen and lithium hydride; the preparation of lithium hydride-*t* and lithium aluminum hydride-*t*. K. E. Wilzbach and L. Kaplan. Am Chem Soc J 72:5795-6 D '50

Gamma-ray spectrum resulting from capture of negative π-mesons in hydrogen and deuterium. W. K. H. Panofsky and others. bibliog diags Phys R 81:565-74 F 15 '51

Hydrogen bond formation with saturated cyclic ethers. S. Searles and M. Tamres. bibliog Am Chem Soc J 73:3704-6 Ag '51

Hydrogen bonds in solids. Chem & Eng N 29:1633-4 Ap 23 '51

Hydrogen-calomel cell. G. J. Hills and D. J. G. Ives. diags Chem Soc J p305-23 F '51

Hydrogen-deuterium exchange activity of silica-alumina catalysts. V. C. F. Holm and R. W. Blue. bibliog diag Ind & Eng Chem 43:501-5 F '51

H_2-D mass difference and the determination of secondary atomic mass standards. T. R. Roberts. bibliog Phys R 81:624-5 F 15 '51

Hydrogen exchange between cracking catalyst and the butanes. S. G. Hindin, G. A. Mills and A. G. Oblad. bibliog Am Chem Soc J 73:278-81 Ja '51

Hydrogen-oxygen reaction at the second explosion limit. H. P. Broida. J Chem Phys 19:790 Je '51

Hydrogen positions in uranium hydride by neutron diffraction. R. E. Rundle. diag Am Chem Soc J 73:4172-4 S '51

Hydrogen transfer over silica-alumina catalysts. R. W. Blue and C. J. Engle. bibliog Ind & Eng Chem 43:494-501 F '51

Hydrogen transfer; reaction of *m*-cymene and *o*-cymene with methylcyclohexene in the presence of hydrogen fluoride. H. Pines, D. R. Strehlau and V. N. Ipatieff. bibliog Am Chem Soc J 72:5521-3 D '50

Hyperfine structure of hydrogen and deuterium. F. E. Low and E. E. Salpeter. Phys R 83:478 Jl 15 '51

Induced infrared absorptions of H_2, N_2, and O_2 in the first overtone regions. H. L. Welsh and others. Phys R 83:1264 S 15 '51

Infra-red absorption of hydrogen induced by foreign gases. M. F. Crawford and others. Phys R 80:469-70 N 1 '50

Internal motion of hydrogen absorbed in tantalum. M. A. Garstens. bibliog Phys R 81:288 Ja 15 '51

Ion-exchange studies; the sodium-hydrogen system. J. F. Duncan and B. A. J. Lister. diags Chem Soc J p3285-96 D '49

Low energy photomeson production in hydrogen. S. D. Drell. bibliog Phys R 83:555-60 Ag 1 '51

Low temperature vapor-liquid equilibria in hydrogen-*n*-butane system. H. J. Aroyan and D. L. Katz. bibliog flow sheet Ind & Eng Chem 43:185-9 Ja '51

Magnetic shielding constant of H_2. G. F. Newell. bibliog Phys R 80:476-7 N 1 '50

Magnetic shielding of the proton resonance in H_2, H_2O, and mineral oil. H. S. Gutowsky and R. E. McClure. bibliog il diag Phys R 81:276-7 Ja 15 '51

Mechanisms of surface reactions involving hydrogen. K. J. Laidler. bibliog J Phys & Colloid Chem 55:1067-78 Je '51

Meson reactions in hydrogen and deuterium. R. E. Marshak. Rs Mod Phys 23:137-46 Ap '51

Molecular hydrogen and metallic surfaces. D. D. Eley. J Phys & Colloid Chem 55:1017-33 bibliog (90 ref, p 1032-3); Discussion. 1034-6 Je '51

HYDROGEN—*Continued*

Molecular orbital calculations for H_3. J. M. Walsh and F. A. Matsen. bibliog J Chem Phys 19:526-8 My '51

Neutral mesons produced in the capture of π mesons in hydrogen. A. Sachs and J. Steinberger. diag Phys R 82:973 Je 15 '51

Orthogonal atomic orbitals. J. C. Slater. J Chem Phys 19:220-3 F '51

Out-of-plane hydrogen vibrations in triborine triamine. R. A. Spurr and S. Chang. bibliog J Chem Phys 19:518 Ap '51

Permeability of zirconium to hydrogen. R. B. Bernstein and D. Cubicciotti. bibliog diag J Phys & Colloid Chem 55:238-48 F '51

Photolysis of acetone; diffusion of methyl radicals from the light beam and the activation energy of hydrogen abstraction. A. J. C. Nicholson. bibliog Am Chem Soc J 73:3981-6 Ag '51

Polymerization induced by hydrogen in metals. G. Parravano. diag Am Chem Soc J 73:628-30 F '51

Preparation of high-purity hydrogen deuteride. A. Fookson and others. bibliog diag Science 112:748-9 D 22 '50

Pressure-induced absorption in hydrogen. J. van Kranendonk and R. B. Bird. bibliog Phys R 82:964-5 Je 15 '51

Production of positive mesons by photons on hydrogen. A. S. Bishop and others. Phys R 80:291 O 15 '50

Raman spectra study of hydrogen bond in acetoxime. C. N. Caughlan, H. V. Tartar and E. C. Lingafelter. bibliog Am Chem Soc J 73:1180-2 Mr '51

Rayleigh afterglow in hydrogen discharges. R. J. Lee and R. G. Fowler. il diag Phys R 81:457-8 F 1 '51

Reactions of benzofurans with hydrogen. J. Entel, C. H. Ruof and H. C. Howard. bibliog Am Chem Soc J 73:4152-8 S '51

Reactions of methyl radicals. A. F. Trotman-Dickenson and E. W. R. Steacie. bibliog J Phys & Colloid Chem 55:908-22; Discussion. 922-4 Je '51

Reactions of methyl radicals; abstraction of hydrogen atoms from olefins. A. F. Trotman-Dickenson and E. W. R. Steacie. bibliog J Chem Phys 19:169-71 F '51

Reactions of methyl radicals; abstraction of hydrogen atoms from paraffins. A. F. Trotman-Dickenson and others. J Chem Phys 19:163-8 F '51

Reactions of methyl radicals; the abstraction of hydrogen atoms from cyclic hydrocarbons, butynes, amines, alcohols, ethers, and ammonia. A. F. Trotman-Dickenson and E. W. R. Steacie. bibliog J Chem Phys 19:329-36 Mr '51

Reduction of uranium hexafluoride with hydrogen. J. K. Dawson, D. W. Ingram and L. L. Bircumshaw. Chem Soc J p 1421-2 My '50

Relative rates of reaction of hydrogen and tritium hydride with chlorine. W. M. Jones. bibliog diag J Chem Phys 19:78-85 Ja '51

Removal of oxygen from commercial cylinder-hydrogen by means of palladized asbestos. L. W. Owen. bibliog diags Soc Chem Ind J 69:272-5 S '50

Scattering of 10.4-Mev deuterons by hydrogen. L. Rosen and J. C. Allred. bibliog diags Phys R 82:777-82 Je 15 '51

Solubility of hydrogen in molten lead. W. R. Opie and N. J. Grant. J Metals 3:Trans 244-5 Mr '51

Some considerations on the strengths of hybrid bonds in excited states of the hydrogen molecule-ion. H. O. Pritchard and H. A. Skinner. Chem Soc J p945-52 Ap '51

Some measurements of thermal transpiration. S. Chu Liang. diag J Ap Phys 22:148-53 F '51

Spectroscopic study of N-H isomerism in porphyrin free bases. G. D. Dorough and K. T. Shen. bibliog diag Am Chem Soc J 72:3939-44 S '50

Stability of short arcs in oxygen, hydrogen, and helium. W. M. Brubaker. bibliog diag Phys R 83:979-81 S 1 '51

Stabilization of highly polar resonance structures by hydrogen bonding; electric moments. C. Curran and G. K. Estok. bibliog Am Chem Soc J 72:4575-8 O '50

Study of the amount of hydrogen left on the surface of a reduced and evacuated iron synthetic ammonia catalyst. J. T. Kummer and P. H. Emmett. bibliog J Phys & Colloid Chem 55:337-46 Mr '51

Surface conductivity of lead silicate glass after hydrogen treatment. K. B. Blodgett. diag Am Cer Soc J 34:14-27 Ja 1 '51

Sweep diffusion gas separation process. M. T. Cichelli, W. D. Weatherford, jr. and J. R. Bowman. bibliog il diags Chem Eng Prog 47:63-74, 122-33 F-Mr '51

Synthesis of methane from carbon dioxide and hydrogen. G. G. Binder and R. R. White. bibliog flow sheet Chem Eng Prog 46:563-74 N '50

Thermal diffusion in hydrogen-water vapor mixtures. E. Whalley. J Chem Phys 19:509-10 Ap '51

Thermal hydrogen-oxygen reaction at relatively low temperatures. H. P. Broida and O. Oldenberg. bibliog J Chem Phys 19:196-202 F '51

Titanium-hydrogen system and titanium hydride; low-pressure studies. T. R. P. Gibb, jr. and H. W. Kruschwitz, jr. bibliog diag Am Chem Soc J 72:5365-9 D '50

Titanium-hydrogen system and titanium hydride; studies at high pressure. T. R. P. Gibb, jr., J. J. McSharry and R. W. Bragdon. diag Am Chem Soc J 73:1751-5 Ap '51

Total scattering cross section of neutrons by hydrogen and carbon. E. E. Lampi and others. diag Phys R 80:853-6 D 1 '50

Two hydrogen-bonded spiral configurations of the polypeptide chain. L. Pauling and R. B. Corey. Am Chem Soc J 72:5349 N '50

Vapor pressures of hydrogen, deuterium, and hydrogen deuteride and dew-point pressures of their mixtures. H. J. Hoge and R. D. Arnold. bibliog diag J Res Nat Bur Stand 47:63-74 Ag '51

Vapor pressures of hydrogen, deuterium and tritium up to three atmospheres. E. R. Grilly. bibliog Am Chem Soc J 73:843-6 F '51

Vapor pressure of normal hydrogen from the boiling point to the critical point. D. White, A. S. Friedman and H. L. Johnston. bibliog Am Chem Soc J 72:3927-30 S '50

See also
Hydrogenation
Steel—Hydrogen effect

Analysis

Determination of hydrogen in liquid steel. R. M. Cook and J. D. Hobson. Iron & Steel Inst J 169:24-5 S '51

Kinetics of the photolysis of acetaldehyde, the determination of ethane and hydrogen in the reaction products by the use of a mass spectrometer. C. J. Danby, A. S. Buchanan and I. H. S. Henderson. Chem Soc J p 1426-30 Je '51

Microdetermination of carbon and hydrogen; a statistical study of factors. C. L. Ogg and others. Anal Chem 23:911-14 Je '51

Modified vacuum fusion apparatus for determination of oxygen, hydrogen, and nitrogen in certain metals. A. F. Torrisi and J. L. Kernahan. diag Anal Chem 23:928-9 Je '51

Organic microanalysis. G. Ingram. Chem Age (Lond) 64:125-7 Ja 20 '51

Sampling and analysis of liquid steel for hydrogen. D. J. Carney and others. bibliog diags J Metals 188:Trans 404-13 F '50; Discussion. 188:Trans 1334-5 N '50

Atomic hydrogen

Fine structure of the hydrogen atom. W. E. Lamb, jr. and R. C. Retherford. bibliog diags Phys R 79:549-72; 81:222-32 Ag 15 '50, Ja 15 '51

Kinetics of the reaction of atomic hydrogen with acetylene. J. R. Dingle and D. J. Le Roy. diags J Chem Phys 18:1632-7 D '50

Industrial applications

Hydrogen coolers for turbo-generators. il Engineer 191:657-8 My 18 '51; Engineering 171:772 Je 22 '51; Elec R (Lond) 148:1111-12 My 25 '51; Electrician 146:1706 My 18 '51

Is the reduction of iron ore by hydrogen a commercial possibility? P. E. Cavanagh; H. W. McQuaid. Metal Prog 59:523-6 Ap '51

HYDROGEN—Industrial application—*Cont.*

Minimizing hydrogen leakage in hydrogen-cooled machines. D. S. Snell and E. B. Morrison. il Power Eng 55:56-62 My '51

Stourport B station of the British electricity authority; hydrogen-cooled main alternator. il diag Engineering 171:305-6 Mr 16 '51

Isotopes

Angular distribution of protons from the D(*d, p*)T reaction at 10.3-Mev bombarding energy. J. C. Allred and others. bibliog Phys R 82:782-5 Je 15 '51

Critical constants, boiling points, triple point constants, and vapor pressures of the six isotopic hydrogen molecules, based on a simple mass relationship. A. S. Friedman and others. J Chem Phys 19:126-7 Ja '51

Effect of target thickness in the search for H^4. J. S. McIntosh. Phys R 83:1246 S 15 '51

Evidence regarding instability of H^4. G. Breit and J. S. McIntosh. bibliog Phys R 83:1245 S 15 '51

Mass spectra of some simple isotopic molecules. V. H. Dibeler and others. bibliog J Res Nat Bur Stand 45:288-91 O '50

Possibility of the reaction $H^3(d,p)H^4$. K. G. McNeill and W. Rall. Phys R 83:1244-5 S 15 '51

See also
Deuterium

Manufacture

Haber in reverse; to supply hydrogen. Chem Ind 67:575 O '50

Separation of gas mixtures by mass diffusion; extraction of hydrogen. M. Benedict and A. Boas. bibliog diags Chem Eng Prog 47:111-22 Mr '51

HYDROGEN bomb

AEC picks H-bomb plant site for $260-million project. map Eng N 145:25-6 D 7 '50

Du Pont may try to make tritium at new AEC plant. map Chem Eng 58:181-2+ Ja '51

H-bomb program gains speed as Du Pont picks Savannah site. Chem & Eng N 28:4345-6 D 11 '50

H-bomb project in South Carolina may get power from Sepa plants. Elec World 134:90-1 D 4 '50

Lithium and the hydrogen bomb. J. De Ment. Eng & Min J 152:83 Ja '51

New electric utility for H-bomb plant. Bsns W p24 D 16 '50

Utilities, TVA act to serve H-bomb plant in lower Mississippi basin. map Elec World 134:73 D 18 '50

HYDROGEN compounds

Estimated bond energies in carbon, nitrogen, oxygen, and hydrogen compounds. G. Glockler. bibliog J Chem Phys 19:124-5 Ja '51

Hydride research expands frontiers of hydrogen chemistry. H. I. Schlesinger. Chem & Eng N 29:1202-3 Mr 26 '51

HYDROGEN cyanide. See Hydrocyanic acid

HYDROGEN deuteride. See Water—Heavy water

HYDROGEN fluoride. See Hydrofluoric acid

HYDROGEN halides

See also
Hydrobromic acid
Hydrochloric acid
Hydrofluoric acid

HYDROGEN ion concentration

Activated sludge studies; effect of pH of sewage on the activated sludge process. C. E. Keefer and J. Meisel. bibliog Sewage & Ind Wastes 23:982-91 Ag '51

Effect of pH on the denaturation of β-lactoglobulin and its dodecyl sulfate derivative. M. L. Groves, N. J. Hipp and T. L. McMeekin. bibliog Am Chem Soc J 73:2790-3 Je '51

Electronic methods of pH measurement; discussion. Inst E E Proc 97 pt 2:755-6 D '50

Evaluation of pH measurements with regard to the basicity of metallurgical slag. C. W. Sherman and N. J. Grant. J Metals 1:Trans 898-903 N '49; Discussion. 188:Trans 1338-40 N '50

Experiment for the pH meter. R. L. Pecsok. il J Chem Educ 28:252-3 My '51

Formaldehyde condensations with phenol and its homologues; the effect of *p*H on the yields of isomeric dihydroxydiphenylmethanes. S. R. Finn and J. W. G. Musty. bibliog Soc Chem Ind J 69(sup no 2):S49-51 '50

pH and buffering; values for various acids and bases commonly used in metal cleaning and plating operations; engineering data sheet. Metal Finishing 49:80 Je '51

pH; measure of acidity and alkalinity. D. A. MacInnes. il diags Sci Am 184:40-3 Ja '51

pH standards of high acidity and high alkalinity and the practical scale of pH. R. G. Bates and others. bibliog diag J Res Nat Bur Stand 45:418-29 N '50

Influence of weathering and of microorganisms on the aqueous-extract pH of cotton fiber. P. B. Marsh and others. bibliog il Textile Res J 21:565-79 Ag '51

Instruments for chemical plant; pH and rate of flow control. il diags Chem Age (Lond) 64:945-50 Je 23 '51

Meaning, application and measurement of pH. Power Eng 55:84-5 Jl '51

Mold growth and the pH of tartrate buffer solutions. R. G. Bates. Anal Chem 23:813-14 My '51

New pH standards. Franklin Inst J 250:554-5 D '50

Newly developed unit checks pH right on line; acidity of cream continuously tabbed. L. E. Slater. il diag Food Eng 23:98-9+ S '51

Paper chromatography of amino acids; effect of pH of sample. A. J. Landua, R. Fuerst and J. Awapara. il Anal Chem 23:162-8 Ja '51

Paper chromatography of pH indicators. M. Lederer. Science 112:504-5 O 27 '50

Polarographic behavior of organic compounds; effect of ionic strength, buffer nature and concentration, and pH. P. J. Elving and others. bibliog Anal Chem 23:1218-23 S '51

Polyalkylene sulfides; the effect of *p*H on polymer size. C. S. Marvel and G. Nowlin. Am Chem Soc J 72:5026-9 N '50

Potential-*p*H diagram of zinc and its applications to the study of zinc corrosion. P. Delahay and others. bibliog Electrochem Soc J 98:101-5 Mr '51

Potential-pH diagrams. P. Delahay and others. bibliog J Chem Educ 27:683-8 D '50

Quantitative relationship between pH and the activity of weak acids and bases in biological experiments. E. W. Simon and H. Beevers. bibliog Science 114:124-6 Ag 3 '51

Significance of pH, ion activities, and membrane potentials in colloidal systems. E. Eriksson. bibliog Science 113:418-20 Ap 13 '51

Stability of carbonate buffered cupritartrate reagents of low *p*H for estimating micro and macro quantities of reducing sugars. L. J. Heidt and K. A. Moon. Am Chem Soc J 72:4130-5 S '50

Stability of dextrose solutions of varying pH. E. J. McDonald. bibliog J Res Nat Bur Stand 45:200-3 S '50

Studies in water-in-oil emulsions; the effect of *p*H on the reciprocal mobility. P. Sherman. Soc Chem Ind J 69(sup no 2):S74-5 '50

Study on the relation between *p*H of ion exchange resin phase and the composition of solution at equilibrium. M. Honda. Am Chem Soc J 73:2943-4 Je '51

Use of pH meters in conjunction with chromatographic columns. R. N. Jeffrey. Anal Chem 23:937 Je '51

HYDROGEN overvoltage. See Overvoltage

HYDROGEN peroxide

Adsorption effects in the decomposition of hydrogen peroxide vapor. M. Tamres and A. A. Frost. Am Chem Soc J 72:5340 N '50

Calculated thermochemical properties for hydrazine-hydrogen peroxide reaction at high pressures. W. J. Barr and E. J. Wilson, jr. J Chem Phys 19:470-3 Ap '51

Catalysed hydrogen peroxide oxidation of aromatic hydrocarbons. J. W. Cook and R. Schoental. Chem Soc J p47-54 Ja '50

Catalytic decomposition of hydrogen peroxide over supported oxides of manganese. J. Moor and P. W. Selwood. Am Chem Soc J 72:4333-4 S '50

HYDROGEN peroxide—*Continued*

Catalytic polarographic waves of hydrogen peroxide; the kinetic wave for the ferric iron-hydrogen peroxide system. I. M. Kolthoff and E. P. Parry. bibliog Am Chem Soc J 73:3718-23 Ag '51

Chlorine dioxide and alkaline peroxide in kraft bleaching. F. Casciani and G. K. Storin. bibliog Tappi 33:588-94 D '50

Constitution of copper peroxide and the catalytic decomposition of hydrogen peroxide. A. Glasner. Chem Soc J p904-10 Ap '51

Control of the caustic-silicate ratio in peroxide bleaching liquors. K. D. Ballou and others. bibliog Am Dyestuff Rep 40:218-22 Ap 2 '51

Error in the average coefficients of specific volume change from 0 to 20° in aqueous solutions of hydrogen peroxide. F. G. Keyes and C. E. Huckaba. Am Chem Soc J 72:5324-5 N '50

Ferric-catalyzed hydrogen peroxide decomposition; effect of nitrate ion. S. Peterson. bibliog Am Chem Soc J 73:3521-2 Jl '51

Four glass men help solve a container plant's problem; decomposition of hydrogen peroxide in glass containers. Cer Ind 56:80-1 Je '51

Hydrogen peroxide. E. S. Shanley. bibliog il J Chem Educ 28:260-6 My '51

Hydrogen peroxide bleaching of chemical and mechanical pulps. R. L. McEwen and others. bibliog(44 ref) il diags Tappi 34:193-201 My '51

Hydrogen peroxide dry-in process for bleaching wool. E. S. Shanley and others. Am Dyestuff Rep 40:1-4 Ja 8 '51

Hydrogen peroxide vapor explosions; determination of explosive composition. C. N. Satterfield and others. Am Chem Soc J 72:4308-9 S '50

Molybdate-catalyzed hydrogen peroxide oxidation of β-naphthol. A. R. Bader. Am Chem Soc J 73:3731-2 Ag '51

Peroxide bottle. il Chem Ind W 68:32 F 17 '51

Photochemical reaction between ozone and hydrogen peroxide. D. H. Volman. bibliog diag Am Chem Soc J 73:1018-22 Mr '51

Primary salt effect in the reaction between hydrogen peroxide and iodide ions. F. Bell and others. bibliog J Phys & Colloid Chem 55:874-81 Je '51

Radioactive tracers in solid solution investigations. W. T. Foley and P. A. Giguere. bibliog Science 113:754-5 Je 29 '51

Sulphite bleaching with hydrogen peroxide. F. R. Sheldon. diags Pulp & Pa of Can 52:104-7 S '51

Synthesis of tartaric acid by hydroxylation of maleic acid. J. M. Church and R. Blumberg. bibliog flow sheet diag Ind & Eng Chem 43:1780-6 Ag '51

Manufacture

Hydrogen peroxide; chemical engineering and electrochemistry combined in modern H_2O_2 plants. G. A. Zotos. diag Chem Eng 58:114-16 Ap '51

Hydrogen peroxide; some lesser known production processes. Chem Age (Lond) 65:355-7 S 15 '51

HYDROGEN sulfates

Racemization of alkyl hydrogen sulfates in sulfuric acid. N. C. Deno and M. S. Newman. bibliog Am Chem Soc J 73:1920-3 My '51

HYDROGEN sulfide

Action of hydrogen sulphide on certain methyleneimines. E. R. Braithwaite and J. Graymore. Chem Soc J p208-10 Ja '50

Addition of hydrogen sulphide to *iso*-pentene with aluminium chloride as catalyst. A. J. van Riemsdijk and others. diag Inst Pet J 37:265-9 My '51

Addition of sodium nitrate to a river prevents formation of hydrogen sulfide odor nuisance. H. R. Murdock. Ind & Eng Chem 43:sup79A-80A Ja '51

Application of hydrogen sulphide in sulphidity control. L. B. Taylor. diag Tappi 34:12-15 Ja '51

Centrifugal distortion in asymmetric molecules; HDS. R. E. Hillger and M. W. P. Strandberg. Phys R 83:575-81 Ag 1 '51

Cyanides from the coke oven. M. L. Kastens and R. Barraclough. bibliog flow sheet il diags Ind & Eng Chem 43:1882-92 S '51

Dry hydrogen sulphide recovery; new continuous purification process. F. G. Audas. Chem Age (Lond) 64:877-80 Je 9 '51

Fundamental vibrations and crystal structure of H_2S and D_2S. J. B. Lohman and others. bibliog J Chem Phys 19:252-3 F '51

Hydrogen sulfide band at 1180 cm^{-1}. H. C. Allen, jr. and P. C. Cross. bibliog J Chem Phys 19:140 Ja '51

Hydrogen sulfide band at 1183 cm^{-1}. R. H. Noble. J Chem Phys 19:799 Je '51

Hydrogen sulfide in west Texas. W. A. Cunningham. map Ind & Eng Chem 42:2238-41 N '50

Koppers recovers H_2S and HCN from coke oven gas. Chem & Eng N 29:2470 Je 18 '51

New sulfur recovery process. flow diag Pet Eng 23:C44+ F '51

Phase equilibria in hydrocarbon systems; volumetric and phase behavior of the methane-hydrogen sulfide system. H. H. Reamer, B. H. Sage and W. N. Lacey. bibliog Ind & Eng Chem 43:976-81 Ap '51

Processes for removal of hydrogen sulfide from industrial gases. R. M. Reed and others. diags Oil & Gas J 49:48+ Ja 4 '51

Production of sulfur from hydrogen sulfide at Elk basin, Wyoming, repressure plant. M. Webb. flow diag il Oil & Gas J 49:71-2 Ja 11 '51

Reaction between paraffin hydrocarbons and sulphur vapour. W. A. Bryce and C. Hinshelwood. diag Chem Soc J p3379-87 D '49

Recovery of sulfur from synthesis gas. A. E. Sands and L. D. Schmidt. bibliog flow diag il Ind & Eng Chem 42:2277-87 N '50

Removal of hydrogen sulfide from industrial gases. R. M. Reed and N. C. Updegraff. bibliog flow diags il Ind & Eng Chem 42:2269-77 N '50

Selective absorption of hydrogen sulfide from gas streams. H. D. Frazier and A. L. Kohl. bibliog flow diag il diag Ind & Eng Chem 42:2288-92 N '50

Selective H_2S absorption; a review of available processes. A. L. Kohl. bibliog flow diags il Pet Processing 6:26-31 Ja '51

Sources of hydrogen sulfide in Wyoming. R. H. Espach. map Ind & Eng Chem 42:2235-7 N '50

Tensile failure of carbon and stainless steel wires in the presence of water and hydrogen sulphide. J. E. Truman. il Metallurgia 43:8-10 Ja '51

Ventilation system lessens H_2S vapor hazard. H. P. Bradley. il plan World Oil 132:219+ My '51

Analysis

Colorimetric determination of hydrogen sulphide and methyl mercaptan in sulphate pulp mill effluents and of sodium sulphide in black liquor. R. H. Wright and others. bibliog il Tappi 34:289-94 Jl '51

Physiological effect

Carbon disulfide and hydrogen sulfide; follow-up clinical study of low grade exposures. H. H. Rubin and others. A M A Archives Ind Hygiene & Occup Med 2:529-33 N '50

Fatalities from hydrogen sulfide in wells. J. M. McDonald and A. P. McIntosh. A M A Archives Ind Hygiene & Occup Med 3:445-7 My '51

Hydrogen sulfide; casualties in Poza Rica, Mexico. L. C. McCabe. il Ind & Eng Chem 43:sup79A-80A+ F '51

Hydrogen sulfide poisoning in shale oil industry. G. Ahlborg. bibliog A M A Archives Ind Hygiene & Occup Med 3:247-66 Mr '51

HYDROGENATION

Activation of a solid nickel catalyst for the hydrogenation of ethylene by heat treatment in a high vacuum. R. K. Sherburne and H. E. Farnsworth. bibliog J Chem Phys 19:387-8 Mr '51

Carbonyl nickel films as hydrogenation catalysts. L. L. Baker, jr. and R. B. Bernstein. bibliog Am Chem Soc J 73:4434-6 S '51

Catalytic hydro-desulphurization of gas oil; analysis of the kinetics of the reaction. H. Hoog. bibliog diag Inst Pet J 36:738-51 D '50

HYDROGENATION—*Continued*

Catalytic hydrogenation of cholesterol. E. B. Hershberg and others. bibliog Am Chem Soc J 73:1144-5 Mr '51

Catalytic hydrogenation of diphenyl in the presence of Raney nickel. I. Goodman. Chem Soc J p 1371-2 My '51

Catalytic hydrogenation of 3 : 4-epoxido-4-methyl-2-pentanone. E. D. Bergmann. bibliog J Ap Chem 1:380-2 S '51

Catalyzed reactions of unsaturated hydrocarbons with hydrogen and deuterium. T. I. Taylor and V. H. Dibeler. bibliog diag J Phys & Colloid Chem 55:1036-65; Discussion. 1065-6 Je '51

Chemical engineering unit processes fourth annual review; hydrogenation and hydrogenolysis. H. W. Fleming. Ind & Eng Chem 43:1978-86 bibliog(170 ref, p 1985-6) S '51

Chemistry of the oxo and related reactions; hydrogenation. I. Wender, R. Levine and M. Orchin. bibliog Am Chem Soc J 72:4375-8 O '50

Cuprous oxide as a catalyst; preparation and promotion by metallic oxides. F. E. Brown and others. bibliog Am Chem Soc J 72:5602-5 D '50

Directive catalytic hydrogenation of organic compounds; abstract. D. G. Jones and A. W. Taylor. Chem & Ind p 126 F 17 '51

Heterogeneous catalysis; hydrogenation by binary alloys. P. W. Reynolds. Chem Soc J p265-71 Ja '50

High pressure fixed-bed catalytic unit. G. B. Arnold, F. P. Frascati and N. D. Carter. flow sheet il diags Ind & Eng Chem 43:1013-18 Ap '51

Hydrogenation of diphenylene oxide and 2 : 2′-dihydroxydiphenyl. J. I. Jones and A. S. Lindsey. Chem Soc J p 1836-41 Jl '50

Hydrogenation of Douglas-fir lignin. I. T. Clark and others. bibliog Tappi 34:6-11 Ja '51

Hydrogenation of hydroxynaphthoic acids. W. G. Dauben, C. F. Hiskey and A. H. Markhart, jr. bibliog Am Chem Soc J 73:1393-400 Ap '51

Hydrogenation of lupulone and humulone. J. F. Carson. Am Chem Soc J 73:180-1 Ap '51

Hydrogenation of nitro compounds with Raney nickel treated with chloroplatinic acid and with alkali. G. S. Samuelsen, V. L. Garik and G. B. L. Smith. bibliog Am Chem Soc J 72:3872-4 S '50

Hydrogenation of petroleum nitrogen bases. R. J. Miller. bibliog Ind & Eng Chem 43:1410-14 Je '51

Hydrogenation of shale-oil coker distillate. E. L. Clark and others. bibliog flow diags diag Ind & Eng Chem 43:2173-8 S '51

Hydrogenation of some *iso*oxazolones. G. Shaw. Chem Soc J p720-3 F '50

Hydrogenation yields fatty alcohols; De Nora high-pressure process. R. F. Warren. il diag Chem Eng 58:117-19 Je '51

Hydrogenolysis of thiophene over vanadium oxide. V. I. Komarewsky and E. A. Knaggs. bibliog diag Ind & Eng Chem 43:1414-18 Je '51

Improved hydrogenation of cholesterol to cholestanol. H. R. Nace. Am Chem Soc J 73:2379 My '51

Infra-red studies of retene and its hyrogenation products. P. V. Laakso, S. F. D. Orr and H. W. Thompson. Chem Soc J p221-5 Ja '50

Investigations on the mechanism of catalytic hydrogenations; studies with colloidal iridium. W. P. Dunworth and F. F. Nord. bibliog Am Chem Soc J 72:4197-8 S '50

Isomerization and hydrogenation reactions in a rectification column. L. Berg, P. R. Hippely and W. S. Reveal. bibliog Chem Eng Prog 47:283-6 Je '51

Kinetics of coal hydrogenation. S. Weller, M. G. Pelipetz and S. Friedman. bibliog Ind & Eng Chem 43:1572-9 Jl '51

Kinetics of the catalytic hydrogenation of the nitro group on platinum. H. A. Smith and W. C. Bedoit, jr. bibliog J Phys & Colloid Chem 55:1085-104 Je '51

Mechanism of the oxo and related reactions; evidence for homogeneous hydrogenation. I. Wender, M. Orchin and H. H. Storch. Am Chem Soc J 72:4842-3 O '50

Mechanisms of surface reactions involving hydrogen. K. J. Laidler. bibliog J Phys & Colloid Chem 55:1067-78 Je '51

Metals for high-pressure hydrogenation plants. G. A. Nelson. bibliog il A S M E Trans 73:205-11 F '51; Same. Pet Refiner 29:104-10 S '50; Discussion. A S M E Trans 73:211-13 F '51

Partial hydrogenation of difurfuralacetone and related compounds. K. Alexander and others. Am Chem Soc J 72:5506-7 D '50

Partial hydrogenation of triolein. J. H. Benedict and B. F. Daubert. bibliog Am Chem Soc J 72:4356-9 O '50

Preparation of a platinum oxide catalyst of reproducible activity. V. L. Frampton, J. D. Edwards, jr. and H. R. Henze. diag Am Chem Soc J 73:4432-4 S '51

Preparation of 4,6-ethylidene-D-glucopyranose from sucrose and its hydrogenation to 4,6-ethylidene-D-sorbitol. R. C. Hocknett, D. V. Collins and A. Scattergood. bibliog Am Chem Soc J 73:599-601 F '51

Recent pyridine research; investigation of hydrogenation by-products. Chem Age (Lond) 64:551-2 Ap 14 '51

Soap plant observer; diversifying fat supply sources through hydrogenation. J. W. McCutcheon. Soap & San Chem 27:87 Ap '51

Stereochemical course of hydrogenation of ring D-unsaturated equilenane derivatives. A. L. Wilds, J. A. Johnson, jr. and R. E. Sutton. bibliog Am Chem Soc J 72:5524-9 D '50

Stereochemistry of catalytic hydrogenation; the hydrogenation of *trans-as*-octahydrophenanthrene derivatives; a new form of the perhydrophenanthrene ring and a model for the inversion of the 6-keto-steroids. R. P. Linstead and R. R. Whetstone. Chem Soc J p 1428-32 Je '50

Structure and hydrogenation of key intermediates in the equilenin synthesis. W. S. Johnson and others. bibliog Am Chem Soc J 73:322-6 Ja '51

Studies of coal tar bases; by-products of the hydrogenation of pyridine with Raney nickel. J. I. Jones. Chem Soc J p 1392-7 My '50

Studies on lignin by means of catalytic hydrogenation of aspen wood and wheat straw. J. M. Pepper, C. J. Brounstein and D. A. Shearer. Am Chem Soc J 73:3316-19 Jl '51

Syringe-type apparatus for quantitative hydrogenation at constant pressures above one atmosphere. C. W. Gould and H. J. Drake. il diags Anal Chem 23:1157-60 Ag '51

Vapor-phase hydrogenation of light and heavy oils. M. L. Wolfson and others. bibliog diags Ind & Eng Chem 43:536-40 F '51

See also

Fischer-Tropsch process

Hydrocarbons—Synthesis

Bibliography

Bibliography of pressure hydrogenation; review and compilation of the literature on pressure hydrogenation of liquid and solid carbonaceous materials. J. L. Wiley and H. C. Anderson. U S Bur Mines Bul:485:1-306; pa $1.25 Supt. of doc. '50

HYDROGENATORS

Low pressure rotary hydrogenator. E. B. Hershberg and others. bibliog il diags Ind & Eng Chem 42:2336-9 N '50

HYDROGENOLYSIS

Catalytic hydrogenolysis of wood. E. G. Hallonquist. bibliog Ind & Eng Chem 43:1427-30 Je '51

Chemical engineering unit processes fourth annual review; hydrogenation and hydrogenolysis. H. W. Fleming. Ind & Eng Chem 43:1978-86 bibliog(170 ref, p 1985-6) S '51

Hydrogenolysis of carbazole. A. K. Mandal. H. B. Charmbury and C. C. Wright. bibliog Am Chem Soc J 72:4478-80 O '50

Hydrogenolysis of dithioesters and thioamides. J. Baddiley. Chem Soc J p3693-4 D '50

Hydrogenolysis of 4-phenyl-1,3-dioxanes. W. S. Emerson and others. Am Chem Soc J 72:5314-15 N '50

Hydrogenolysis of sulfilimines and its application to the purification of sulfides. M. A. McCall, D. S. Tarbell and M. A. Havill. Am Chem Soc J 73:4476-8 S '51

HYDROGENOLYSIS—*Continued*

Hydrogenolysis of thiophene over vanadium oxide. V. I. Komarewsky and E. A. Knaggs. bibliog diag Ind & Eng Chem 43:1414-18 Je '51

Study in terpene series; the dehydroxymethylation of bicyclic primary terpenic alcohols by hydrogenolysis in the presence of nickel catalysts. V. N. Ipatieff, G. J. Czajkowski and H. Pines. bibliog Am Chem Soc J 73: 4098-101 S '51

Study in the terpene series; isomerization accompanying hydrogenolysis of alcohols. V. N. Ipatieff, W. W. Thompson and H. Pines. bibliog Am Chem Soc J 73:553-5 F '51

HYDROGRAPHIC bureau, International. See International hydrographic bureau

HYDROGRAPHIC surveying

Continental slope off Apalachicola river, Fla. G. F. Jordan. il maps Am Assn Pet Geologists Bul 35:1978-93 S '51

Navy's oceanographic survey vessels. T. S. Austin. il U S Naval Inst Proc 77:386-91 Ap '51

Sound waves will tell Chicago where water tunnel should go; sonar depth finding method. il Eng N 147:44 Ag 23 '51

See also

International hydrographic bureau

Sounding

HYDROHALIC acids

Oxidation levels of rhenium; oxidation of rhenide at the dropping mercury electrode; nature of the rhenide species in hydrohalic acid media. C. L. Rulfs and P. J. Elving. Am Chem Soc J 73:3287-92 Jl '51

HYDROJUGLONE. See Naphthalenetriol

HYDROLYSIS

Acid hydrolysis and the amino acid composition of sheep pituitary adrenocorticotropic hormone. Choh Hao Li. bibliog il Am Chem Soc J 73:4146-8 S '51

Acid treatment of shale gasoline; hydrolysis of the acid sludge. R. C. Mathews and G. E. Mapstone. Inst Pet J 37:147-57 Mr '51

Alkaline hydrolysis of riboflavin. A. R. Surrey and F. C. Nachod. bibliog Am Chem Soc J 73:2336-8 My '51

Alkyl-oxygen fission in carboxylic esters; hydrolysis of methyl-β-naphthylcarbinyl hydrogen phthalate. M. P. Balfe, J. Kenyon and C. E. Searle. Chem Soc J p380-1 F '51

Alternative method for the hydrolysis of thioamides in the Willgerodt-Kindler reaction. M. A. T. Rogers. Chem Soc J p3350 N '50

Analysis of the products formed on hydrolysis of hyaluronic acid by testicular hyaluronidase. M. M. Rapport, K. Meyer and A. Linker. bibliog Am Chem Soc J 73:2416-20 Je '51

Auto-hydrolysis of acidic oxycelluloses. G. F. Davidson and H. A. Standing. Textile Inst J Trans 42:T141-4 Mr '51

Carbon-sulphur fission in thio-ethers; the retarding influence of α-methyl groups and of the length of the acid chain on the alkaline hydrolysis of (2-ketoalkylthio)-and (*p*-nitrotriphenylmethylthio)-acetic acids. Y. Iskander and R. Tewfik. Chem Soc J p2050-3 Ag '51

Carbon-sulphur fission in thio-ethers; the retarding influence of α-methyl groups and of the length of the acid chain on the alkaline hydrolysis of (nitrobenzylthio) acetic acids. Y. Iskander and Y. Riad. Chem Soc J p2054-8 Ag '51

Carbon-sulphur fission in thio-ethers; the retarding influence of the length of the radical chain and of a second α-thio-acetic acid group on the alkaline hydrolysis of (nitrobenzylthio)- and (nitrodiphenylmethylthio)-acetic acids. Y. Iskander and A. Salama. Chem Soc J p2058-62 Ag '51

Cellulose studies; the heterogeneous hydrolysis of trimethyl cellulose. R. Steele and E. Pacsu. bibliog il Textile Res J 19:771-83 D '49; Discussion. 21:168-9; Reply. 169 Mr '51

Chemical effects of steric strains; the effect of the halogen on the rate of hydrolysis of tertiary aliphatic halides. H. C. Brown and A. Stern. Am Chem Soc J 72:5068-70 N '50

Chemical kinetics of procaine and chloroprocaine hydrolysis. M. Aven and F. F. Foldes. Science 114:206-8 Ag 24 '51

Chemistry of the vitamin B_{12} group; acid hydrolysis studies; isolation of a phosphorus-containing degradation product. J. G. Buchanan and others. Chem Soc J p2845-55 O '50

Cherry gum; an examination of the products of hydrolysis of methylated degraded cherry gum, using the method of paper partition chromatography. J. K. N. Jones. Chem Soc J p3141-5 D '49

Constitution of the mucilage from the bark of ulmus fulva (slippery elm mucilage); the isolation of 3-monomethyl D-galactose from the products of hydrolysis. E. L. Hirst, L. Hough and J. K. N. Jones. Chem Soc J p323-5 F '51

Crystalline hemicelluloses; acid and enzymatic hydrolysis of xylans. A. P. Yundt. Tappi 34:92-4 F '51

Crystalline mannobiose from the enzymatic hydrolysis of guaran. R. L. Whistler and J. Z. Stein. Am Chem Soc J 73:4187-8 S '51

Cyclic intermediates in substitution reactions; steric effects in the alkaline hydrolysis of the epimeric 3-chloro-6//7-cholestanedicarboxylic acids. D. W. Wujciak, R. L. Feller and J. F. Lane. bibliog Am Chem Soc J 73:2392-4 My '51

Cyclic intermediates in substitution reactions; the alkaline hydrolysis of some aliphatic bromoacids. J. F. Lane and H. W. Heine. bibliog Am Chem Soc J 73:1348-50 Mr '51

Degradation of glycogen to isomaltose. M. L. Wolfrom, E. N. Lassettre and A. N. O'Neill. bibliog Am Chem Soc J 73:595-9 F '51

Deoxy-sugars; experiments with the *O*- and *N*-glycosides of some deoxy-sugars. K. Butler and others. Chem Soc J p 1433-9 Je '50

Effect of halogen atoms on the S_N1 reactivity of other halogen atoms attached to the same carbon atom. J. Hine and D. E. Lee. bibliog Am Chem Soc J 73:22-3 Ja '51

Effect of varying the cation in some organic reactions requiring an alkaline medium. O. L. Brady and J. Jakobovits. Chem Soc J p767-77 Mr '50

Effects of substituents on the rate of hydrolysis of triarylsilanes in wet piperidine. H. Gilman and G. E. Dunn. bibliog Am Chem Soc J 73:3404-7 Jl '51

Enzymatic hydrolysis of guaran. R. L. Whistler, W. H. Eoff and D. M. Doty. bibliog Am Chem Soc J 72:4938-9 N '50

Exchange reaction and hydrolysis of *p*-nitrobenzyl bromide in dioxane-water solutions. J. W. Hackett and H. C. Thomas. bibliog Am Chem Soc J 72:4962-4 N '50

Experiments on the synthesis of carbonyl compounds; the acidolysis of acylmalonic esters. R. E. Bowman. Chem Soc J p322-5 Ja '50

Fibre structure and pulp properties; abstract. W. H. Algar and others. Pulp & Pa of Can 52:123 S '51

Fucoidin; the hydrolysis of a methylated fucoidin prepared from fucus vesiculosus. J. Conchie and E. G. V. Percival. Chem Soc J p827-32 Mr '50

Glucose-2-phosphate; its preparation and characterisation by hydrolysis studies. K. R. Farrar. Chem Soc J p3131-5 D '49

Grapefruit and lemon gums; the ratio of sugars present in the gums and the structure of the aldobionic acid (4-D-glucuronosido-D-galactose) isolated by graded hydrolysis of the polysaccharides. J. J. Connell and others. Chem Soc J p 1696-700 Jl '50

Hydrolyses and derivatives of some vesicant arsenicals. W. A. Waters and J. H. Williams. Chem Soc J p 18-22 Ja '50

Hydrolysis and polymerization of zirconium in perchloric acid solution. R. E. Connick and W. H. Reas. Am Chem Soc J 73:1171-6 Mr '51

Hydrolysis of aryl sulphonates. C. A. Bunton and Y. F. Frei. Chem Soc J p 1872-3 Jl '51

Hydrolysis of β-butyrolactone. A. R. Olson and P. V. Youle. Am Chem Soc J 73: 2468-71 Je '51

Hydrolysis of *NN'*-dinitro-oxamide-*NN'*-bis-(2-ethyl nitrate). J. Vaughan. Chem Soc J p748-9 F '50

Hydrolysis of ethyl silicate. R. Aelion, A. Loebel and F. Eirich. bibliog Am Chem Soc J 72:5705-12 D '50

HYDROLYSIS—*Continued*

Hydrolysis of fats at high temperatures. A. Sturzenegger and H. Sturm. bibliog diag Ind & Eng Chem 43:510-15 F '51

Hydrolysis of ferric iron in sulphate solution. T. V. Arden. Chem Soc J p350-63 F '51

Hydrolysis of 2-fluoroquinoline in acid solution. W. K. Miller, S. B. Knight and A. Roe. Am Chem Soc J 72:4765-7 O '50

Hydrolysis of mercuric acetate. E. G. Long and K. A. Kobe. Ind & Eng Chem 43:2366-9 O '51

Hydrolysis of 1-nitro-4-methyl-2-nitramino-2-imidazoline. A. F. McKay and S. J. Viron. Am Chem Soc J 72:3965-6 S '50

Hydrolysis of the acetal of D(+)-2-octanol. J. M. O'Gorman and H. J. Lucas. bibliog Am Chem Soc J 72:5489-90 D '50

Hydrolysis of the uranyl ion. J. Sutton. Chem Soc J supp no 2:S275-86 '49

Hydrolytic behavior of metal ions; the acid constants of uranium(IV) and plutonium (IV). K. A. Kraus and F. Nelson. bibliog Am Chem Soc J 72:3901-6 S '50

I-Strain as a factor in the chemistry of ring compounds. H. C. Brown, R. S. Fletcher and R. B. Johannesen. bibliog diags Am Chem Soc J 73:212-21 Ja '51

Improved method for the hydrolysis of diazonium salts. J. P. Lambooy. diag Am Chem Soc J 72:5327-8 N '50

Isolation and characterization of two crystalline disaccharides from partial acid hydrolysis of guaran. R. L. Whistler and D. F. Durso. bibliog Am Chem Soc J 73:4189-90 S '51

Isomerism of the oximes; the acid hydrolysis of acetyl-α-aldoximes. O. L. Brady and J. Miller. Chem Soc J p 1234-42 My '50

Isomerism of the oximes; the hydrolysis of acyl derivatives. M. Benger and O. L. Brady. Chem Soc J p 1221-7 My '50

Isomerism of the oximes; the hydrolysis of acyl halogenobenzaldoximes by alkalis. O. L. Brady and S. G. Jarrett. Chem Soc J p 1227-32 My '50

Kinetics of the alkaline hydrolysis of monoethyl malonate ion. W. J. Svirbely and I. L. Mador. bibliog Am Chem Soc J 72:5699-705 D '50

Kinetics of the α-chymotrypsin-catalyzed competitive hydrolysis of acetyl-L-tryptophanamide and acetyl-L-tyrosinamide in aqueous solutions at 25° and pH 7.9. R. J. Foster and C. Niemann. bibliog Am Chem Soc J 73:1552-4 Ap '51

Kinetics of the α-chymotrypsin-catalyzed hydrolysis of acetyl- and nicotinyl-L-tryptophanamide in aqueous solutions at 25° and pH 7.9. H. T. Huang and C. Niemann. bibliog Am Chem Soc J 73:1541-8 Ap '51

Kinetics of the α-chymotrypsin-catalyzed hydrolysis of acetyl-L-tyrosinamide in aqueous solution at 25° and pH 7.8-8.0. D. W. Thomas, R. V. MacAllister and C. Niemann. bibliog Am Chem Soc J 73:1548-52 Ap '51

Kinetics of the α-chymotrypsin catalyzed hydrolysis of nicotinyl-L-tyrosinamide in aqueous solutions at 25° and pH 7.9. H. T. Huang and others. Am Chem Soc J 73:3231-4 Jl '51

Kinetics of the hydrolysis of simple glycine peptides. L. Lawrence and W. J. Moore. bibliog Am Chem Soc J 73:3973-7 Ag '51

Liberation of amino acids by mild acid hydrolysis of hog blood group A and O substances. H. Van Vunakis and E. A. Kabat. Am Chem Soc J 73:2977-8 Je '51

Mechanism of hydrolysis in aqueous soap solutions. M. A. Cook. bibliog J Phys & Colloid Chem 55:383-402 Mr '51

Mechanism of hydrolysis of acid chlorides; the effect of hydroxyl ions, temperature, and substituents on the rate of hydrolysis of benzoyl chloride. R. F. Hudson and J. E. Wardill. diag Chem Soc J p 1729-33 Jl '50

Mechanism of the hydrolysis of acid chlorides, the effect of temperature and solvent composition. B. L. Archer and R. F. Hudson. diags Chem Soc J p3259-69 N '50

Mechanism of the hydrolytic cleavage of carbon-carbon bonds; alkaline hydrolysis of β-diketones. R. G. Pearson and E. A. Mayerle. bibliog Am Chem Soc J 73:926-30 Mr '51

Mechanism of the hydrolytic cleavage of the interunit bonds in the cellulose molecule. G. Beall and L. Jörgensen. bibliog Textile Res J 21:203-14 Ap '51

Mechanisms for the mutarotation and hydrolysis of the glycosylamines and the mutarotation of the sugars. H. S. Isbell and H. L. Frush. bibliog J Res Nat Bur Stand 46:132-44 F '51

Oxygen exchange as evidence for the existence of an intermediate in ester hydrolysis. M. L. Bender. bibliog Am Chem Soc J 73:1626-9 Ap '51

Polysaccharide hydrolysis during the sulphite cook; abstracts. J. Sundman. Paper Ind 32:1000 D '50; Pulp & Pa of Can 51:94 D '50

Preparation and hydrolysis of some acetals and esters of D(—)-2,3-butanediol. H. K. Garner and H. J. Lucas. bibliog Am Chem Soc J 72:5497-501 D '50

Quantitative studies of the reactivities of mixed carboxylic anhydrides; the determination of some reaction velocities involving acetic chloroacetic anhydride. A. R. Emery and V. Gold. Chem Soc J p 1447-55 Je '50

Quantitative studies of the reactivities of mixed carboxylic anhydrides; the hydrolysis and some acylation reactions of a series of acetic chloroaliphatic acid anhydrides. A. R. Emery and V. Gold. Chem Soc J p 1455-60 Je '50

Reaction-kinetic investigations of the incomplete dissociation of salts; the hydrolysis of carbethoxymethyltriethylammonium iodide and of ethyl acetate by solutions of metal hydroxides. R. P. Bell and G. M. Waind. Chem Soc J p 1979-83 Ag '50

Reactions of the alkyl-sulphate ion; kinetics and mechanism of the reaction with hydroxide ion. G. H. Green and J. Kenyon. Chem Soc J p 1389-91 My '50

Reinvestigation of the kinetics of the urease-catalyzed hydrolysis of urea; the activity of urease in the presence of sodium and potassium phosphate. G. D. Fasman and C. Niemann. bibliog Am Chem Soc J 73:1646-50 Ap '51

Salt effects on the acid-catalyzed hydrolysis of γ-butyrolactone. F. A. Long, W. F. McDevit and F. B. Dunkle. bibliog J Phys & Colloid Chem 55:813-42 Je '51

Spectrophotometric study of the hydrolysis of iron(III) ion. T. H. Siddall, 3d and W. C. Vosburgh. bibliog Am Chem Soc J 73:4270-2 S '51

Spectrophotometric study of the hydrolysis products, some possible complexes and metal salts of fluoroboric acid. E. R. Scheffer and E. M. Hammaker. bibliog Am Chem Soc J 72:5607-9 D '50

Structure of peach gum; the sugars produced on hydrolysis of the gum. J. K. N. Jones. Chem Soc J p534-7 F '50

Structure of sterculia setigera gum; an investigation by the method of paper partition chromatography of the products of hydrolysis of the gum. E. L. Hirst, L. Hough, and J. K. N. Jones. Chem Soc J p3145-51 D '49

Structure of sterculia setigera gum; an investigation by the method of paper partition chromatography of the products of hydrolysis of the methylated gum. L. Hough and J. K. N. Jones. Chem Soc J p 1199-203 Ap '50

Substituent effects in the acid and base hydrolyses of aromatic amides. I. Meloche and K. J. Laidler. bibliog Am Chem Soc J 73:1712-14 Ap '51

Trypsin hydrolysis of lysine ethyl ester. H. Werbin and A. Palm. Am Chem Soc J 73:1382 Mr '51

Unit processes; Chemical Engineering report, March 1951. S. J. Lloyd and W. F. Hamner. diag Chem Eng 58:137-8 Mr '51

HYDROLYSIS, Heat of

Heat of hydrolysis of acetyl fluoride. H. O. Pritchard and H. A. Skinner. Chem Soc J p 1099 Ap '50

Heats of hydrolysis of chloral and bromal, and the C-C bond dissociation energies in chloral and bromal. H. O. Pritchard and H. A. Skinner. Chem Soc J p 1928-31 Jl '50

Heats of hydrolysis of the benzoyl halides. A. S. Carson, H. O. Pritchard and H. A. Skinner. Chem Soc J p656-9 F '50

HYDROLYSIS, Heat of—*Continued*

Heats of hydrolysis of the chloro-substituted acetyl chlorides. H. O. Pritchard and H. A. Skinner. Chem Soc J p272-6 Ja '50

HYDROMECHANICS

Chemical engineering research; work of British Hydromechanics. Chem Age (Lond) 65: 93-5 Jl 21 '51

See also

British hydromechanics' research association

HYDROMETALLURGY

What the future holds for hydrometallurgy. N. Arbiter and H. H. Kellogg. bibliog il Eng & Min J 152:139-43 Jl '51

HYDROMETERS

Accurate density meter; how it works, how it is used. C. M. Marquardt. il diags Eng & Min J 152:78-82 Ja '51

HYDROPEROXIDES

Infrared absorption spectra of some hydroperoxides, peroxides, and related compounds. O. D. Shreve and others. bibliog Anal Chem 23:282-5 F '51

Kinetics of the decomposition of tertiary hydroperoxides in solvents. V. Stannett and R. B. Mesrobian. Am Chem Soc J 72:4125-30 S '50

Mechanism of autoxidation of monoethenoid fatty acids and their derivatives. J. H. Skellon and A. Gordon. bibliog Chem & Ind p629-32 Jl 21 '51

Mechanism of oxidation of monoethenoid fatty acids; factors influencing hydroperoxide formation and transition in catalytic autoxidations. J. H. Skellon. Chem Soc J p2020-3 Ag '50

Peroxides of tetrahydrocarbazole and related compounds; tetrahydrocarbazolyl hydroperoxide. R. J. S. Beer, L. McGrath and A. Robertson. Chem Soc J p2118-26 Ag '50

Reactions of organic peroxides; reaction of ferrous sulphate with methylcyclopentyl and methylcyclohexyl hydroperoxides. E. G. E. Hawkins and D. P. Young. Chem Soc J p2804-8 O '50

Reactions of organic peroxides; reactions of αα-dimethylbenzyl hydroperoxide (*iso*propylbenzene hydroperoxide). E. G. E. Hawkins. Chem Soc J p2169-73 Ag '50

Reactions of organic peroxides; reactions of methyl*cyclo*pentyl and methyl*cyclo*hexyl hydroperoxides. E. G. E. Hawkins. Chem Soc J p2801-4 O '50

Reduction of organic hydroperoxides with lithium aluminium hydride. D. A. Sutton. bibliog Chem & Ind p272 Ap 7 '51

Analysis

Determination of organic peroxides by reaction with ferrous iron. I. M. Kolthoff and A. I. Medalia. bibliog Anal Chem 23:595-603 Ap '51

HYDROPHENANTHRENE

New route to hydrophenanthrene ketones; the synthesis of the C_{18} ketone derived from dehydroabietic acid. G. Stork and A. Burgstahler. Am Chem Soc J 73:3544-6 Jl '51

HYDROPLANES

Virtual mass of water associated with an immersing wedge. J. D. Pierson. J Aeronautical Sci 18:430-1 Je '51

HYDROQUINONE

Quinolinequinones; quinones and hydroquinones related to pentaquine. N. L. Drake and Y. T. Pratt. bibliog Am Chem Soc J 73:544-50 F '51

Quinone-hydroquinone exchange reactions; non-exchange in duroquinhydrone. A. A. Bothner-By. bibliog Am Chem Soc J 73: 4228-30 S '51

HYDROSOLS. See Colloids

HYDROSPHERE

Origin of the hydrosphere. J. L. Kulp. bibliog Geol Soc Bul 62:326-9 Mr '51

HYDROSTATICS

Effect of hydrostatic pressure in an electron beam on the operation of traveling-wave devices. P. Parzen and L. Goldstein. bibliog J Ap Phys 22:398-401 Ap '51; Same. Elec Com 28:228-32 S '51

Formulas for the center of hydrostatic pressure. G. P. Loweke. diag J Eng Educ 41: 633-4 Je '51

Laboratory hydrostatic pressing chamber. L. R. McCreight. bibliog il diag Am Cer Soc Bul 30:127-9; Discussion. D. G. Bennett. 129 Ap 15 '51

Physical factors involved in ultrasonically induced changes in living systems; amplitude duration relations and the effect of hydrostatic pressure for nerve tissue. W. J. Fry and others. diags Acoustical Soc Am J 23:364-8 My '51

Stability of magneto-hydrostatic fields. S. Lundquist. diags Phys R 83:307-11 Jl 15 '51

HYDROXAMIC acids

Analogs of aspergillic acid; substituted 2-bromopyridine-N-oxides and their conversion to cyclic thiohydroxamic acids. E. Shaw and others. bibliog Am Chem Soc J 72:4362-4 O '50

Formation of polypeptides by rearrangement of α-carboxy hydroxamic acids. C. D. Hurd and C. M. Buess. bibliog Am Chem Soc J 73:2409-12 Je '51

Pyrazine derivatives; synthesis of homologues of aspergillic acid. D. W. C. Ramsay and F. S. Spring. Chem Soc J p3409-11 D '50

Rearrangement of aminoacetohydroxamic acid. C. D. Hurd and J. Wang Fan. Am Chem Soc J 73:110 Ja '51

HYDROXIDES

Applications of the Eastman thermocell equation; certain absolute ionic entropies and entropies of transfer of alkali metal and tetraalkylammonium bromides and hydroxides. J. C. Goodrich and others. bibliog diags Am Chem Soc J 72:4411-18 O '50

Electrolytic dissociation of metal hydroxides. C. W. Davies. Chem Soc J p 1256-8 My '51

Reaction-kinetic investigations of the incomplete dissociation of salts; the hydrolysis of carbethoxymethyltriethylammonium iodide and of ethyl acetate by solutions of metal hydroxides. R. P. Bell and G. M. Waind. Chem Soc J p 1979-83 Ag '50

Reactions of the alkyl-sulphate ion; kinetics and mechanism of the reaction with hydroxide ion. G. H. Green and J. Kenyon. Chem Soc J p 1389-91 My '50

Recent X-ray diffraction studies on the hydrous oxides and hydroxides. W. O. Milligan. bibliog il J Phys & Colloid Chem 55: 497-507 Ap '51

HYDROXIMYL chlorides

Hydroximyl chlorides from nitrostyrenes. C. D. Hurd, M. E. Nilson and D. M. Wikholm. bibliog Am Chem Soc J 72:4697-9 O '50

HYDROXY acids

Anhydrocarboxy-derivatives of hydroxy- and mercapto-acids. W. H. Davies. Chem Soc J p 1357-9 My '51

Enzymatic resolution of some higher α-amino acids and preparation of optically active α-hydroxy acids. C. G. Baker and A. Meister. bibliog Am Chem Soc J 73:1336-8 Mr '51

Researches on acetylenic compounds; the preparation and properties of αβ-acetylenic γ-keto-esters. E. R. H. Jones, T. Y. Shen and M. C. Whiting. Chem Soc J p236-41 Ja '50

Seed oil of onguekoa gore Engler; the position of the hydroxyl group in the unsaturated monohydroxy-C_{18} acid (or acids). J. P. Riley. Chem Soc J p 1346-8 My '51

Synthesis of some δ-lactones of α,β,δ-trihydroxy acids. J. English, jr., J. D. Gregory and J. R. Trowbridge, 2d. bibliog Am Chem Soc J 73:615-18 F '51

Analysis

Paper chromatography of hydroxy and keto-acids. L. A. Liberman, A. Zaffaroni and E. Stotz. Am Chem Soc J 73:387-8 Mr '51

HYDROXYAMINOPROPANE

Electrochemical reduction of nitroalkanes; preparation of *N*-alkylhydroxylamines (hydroxaminoalkanes). M. W. Leeds and G. B. L. Smith. bibliog Electrochem Soc J 98: 129-33 Ap '51

HYDROXYAPATITE

Some granular carbonaceous adsorbents for sugar refining; a study of bone char replacements based on hydroxyapatite; Synthads. E. P. Barrett, J. M. Brown and S. M. Oleck. il Ind & Eng Chem 43:639-54 Mr '51

HYDROXYBENZAMIDINE
Preparation of some derivatives of *p*-hydroxybenzamidine. M. W. Partridge. Chem Soc J p2901-2 O '50

HYDROXYBENZOIC acid
Action of formaldehyde on *m*-hydroxybenzoic acid; stepwise degradation of the lactone of 6-hydroxymethyl-1,3-benzodioxan-5-carboxylic acid. C. A. Buehler and others. Am Chem Soc J 73:2347-9 My '51
Alicyclic glycols; 3-hydroxymethyl*cyclo*-hexanol. M. F. Clarke and L. N. Owen. Chem Soc J p2108-15 Ag '50
Crystal structures of the acid salts of some monobasic acids; potassium hydrogen di-*p*-hydroxybenzoate hydrate. J. M. Skinner and J. C. Speakman. diags Chem Soc J p 185-91 Ja '51
Determination of the dipole moments of some derivatives of hydroxybenzoic acid. C. S. Copeland and M. W. Rigg. bibliog Am Chem Soc J 73:3584-8 Ag '51
Developer activity of di- and tri-hydroxybenzoic acids. T. H. James. bibliog J Phys & Colloid Chem 55:563-9 Ap '51
Mechanism of decarboxylation; kinetics of the acid-catalysed decarboxylation of 2 : 4 : 6-trihydroxybenzoic acid. B. R. Brown, W. W. Elliott and D. L. Hammick. Chem Soc J p 1384-9 Je '51
Mechanism of decarboxylation; kinetics of the decarboxylation of hydroxybenzoic acids. B. R. Brown, D. L. Hammick and A. J. B. Scholefield. Chem Soc J p778-80 Mr '50

HYDROXYCINNAMIC acid
Alkyl-β-cyano-α-hydroxycinnamates and pyrrolidinetriones. G. S. Skinner, J. A. Gladner and R. F. Heitmiller. Am Chem Soc J 73:2230-3 My '51

HYDROXYCINNOLINE
Cinnolines; experiments with 3-halogeno-4-hydroxycinnolines; some halogen exchange reactions. K. Schofield and T. Swain. Chem Soc J p384-92 Ja '50

HYDROXY compounds
Experiments on the interaction of hydroxy-compounds and phosphorus and thionyl halides in the absence and in the presence of tertiary bases. K. H. V. French and others. Chem Soc J p3326-30 D '49; p2088-92 Ag '50
β-Hydroxy esters from ketones and esters. C. R. Hauser and W. H. Puterbaugh. Am Chem Soc J 73:2972 Je '51
Some β-hydroxypropyl sulfides and their derivatives. T. K. Todsen, C. B. Pollard and E. G. Rietz. bibliog Am Chem Soc J 72:4000-2 S '50

Analysis

Determination of hydroxy compounds in amine mixtures. S. Siggia and I. R. Kervenski. bibliog Anal Chem 23:117-18 Ja '51

HYDROXYCORTICOSTERONE
Biosynthesis of 17-hydroxycorticosterone from 11-desoxy-17-hydroxycorticosterone. D. A. McGinty and others. Science 112:506 O 27 '50
Compound F synthesized by four Merck chemists. Oil Paint & Drug Rep 159:5 Ja 1 '51
Enzymatic synthesis of 17-hydroxycorticosterone. M. L. Sweat. Am Chem Soc J 73:4056 Ag '51
Probability that compound F (17-hydroxycorticosterone) is the hormone produced by the normal human adrenal cortex. J. W. Conn and others. bibliog Science 113:713-14 Je 22 '51
Synthesis of 11-hydroxylated cortical steroids; 17(α)-hydroxycorticosterone. N. L. Wendler and others. bibliog Am Chem Soc J 72:5793-4 D '50

HYDROXYCOUMARIN
Antibacterial properties of compounds containing the tricarbonylmethane group; syntheses of 3-alkylated or 3-acylated 4-hydroxycoumarins and of a related pyrone. T. Ukita, S. Nojima and M. Matsumoto. bibliog Am Chem Soc J 72:5143-4 N '50
Studies in 4-hydroxycoumarins; acylation of 3-(α-phenyl-β-acetylethyl)-4-hydroxycoumarin. M. Seidman, D. N. Robertson and K. P. Link. bibliog Am Chem Soc J 72:5193-5 N '50
Studies on 4-hydroxycoumarins; the condensation of chloral with 4-hydroxycoumarin and the mechanism of aldehyde condensations with 4-hydroxycoumarin. M. Ikawa and K. P. Link. Am Chem Soc J 72:4373-4 O '50

HYDROXYDIMETHYL quinoline
Nitration of 2-hydroxy-4 : 6-dimethyl-quinoline and the preparation of some related compounds. J. L. C. Marais and O. G. Backeberg. Chem Soc J p2207-11 Ag '50

HYDROXYETHYLAMINE
Further studies on the stability of β-hydroxyethylamines toward the Oppenauer oxidation; *cis*- and *trans*-1-amino-2-indanols. R. E. Lutz and R. L. Wayland, jr. bibliog Am Chem Soc J 73:1639-41 Ap '51

HYDROXYETHYLBENZYL alcohol
Improved synthesis of *o*-2-bromoethylbenzyl bromide. E. L. Anderson and F. G. Holliman. Chem Soc J p 1037-9 Ap '50

HYDROXYETHYL cellulose

Analysis

Studies on the structure of hydroxyethylcellulose. S. G. Cohen and H. C. Haas. bibliog Am Chem Soc J 72:3954-8 S '50

HYDROXYETHYLPYRAZINE
Vinylpyrazine. L. J. Kitchen and E. S. Hanson. Am Chem Soc J 73:1838-9 Ap '51

HYDROXYINDENOQUINOLINE
Synthesis of 1-hydroxy-11-indeno(2,1-f)-quinoline. K. Bremer and C. S. Hamilton. bibliog Am Chem Soc J 73:1844-5 Ap '51

HYDROXYINDOLE
Chemistry of the melanins; the synthesis of hydroxyindoles from *p*-benzoquinones. R. J. S. Beer and others. Chem Soc J p2029-32 Ag '51

HYDROXYISOCHROMAN
Preparation of 6-hydroxyisochroman. L. Schieler and R. D. Sprenger. Am Chem Soc J 73:4045-6 Ag '51

HYDROXYKETOCHOLENIC acid
Conversion of cholic acid into 3α-hydroxy-12-keto-$\Delta^{9(11)}$-cholenic acid. L. F. Fieser and others. Am Chem Soc J 73:4133-5 S '51

HYDROXYKYNURENINE
In vivo transformation of D-1-3-hydroxykynurenine in xanthurenic acid. L. Musajo and others. bibliog Science 113:125-6 F 2 '51
Studies on amino acids; the synthesis of 3-hydroxykynurenine. M. Kotake, T. Sakan and S. Senoh. bibliog Am Chem Soc J 73:1832-4 Ap '51

HYDROXYLYSINE
Synthesis of hydroxylysine. G. Van Zyl, E. E. van Tamelen and G. D. Zuidema. bibliog Am Chem Soc J 73:1765-7 Ap '51
Synthesis of hydroxylysine from the cyanohydrin of γ-acetamido-γ,γ-dicarbethoxybutyraldehyde. O. Touster. Am Chem Soc J 73:491 Ja '51

HYDROXYMETHOXY acetophenone. See Acetovanillone

HYDROXYMETHYL butyl methyl phenol
Dimorphic forms of 2-hydroxymethyl-4-*t*-butyl-6-methylphenol. G. Sprengling, S. Beatty and K. B. Adams. Am Chem Soc J 72:4314 S '50

HYDROXYMETHYLCHROMONE
Chromones; the preparation of 2-methyl-7-hydroxychromone and 2-methyl-5,8-dimethoxy-7-hydroxychromone. T. A. Geissman. Am Chem Soc J 73:3514-15 Jl '51

HYDROXYMETHYLCYCLOHEXANOL
Alicyclic glycols; 3-hydroxymethyl*cyclo*-hexanol. M. F. Clarke and L. N. Owen. Chem Soc J p2108-15 Ag '50

HYDROXYMETHYL dimethyl phenol
Formaldehyde condensation with phenol and its homologues; the preparation of 2-hydroxymethyl-3 : 5-dimethylphenol by a new general method. S. R. Finn and J. W. G. Musty. bibliog J Ap Chem 1:182-4 Ap '51

HYDROXYMETHYLIMIDAZOLE
Ethers of 4(5)-hydroxymethylimidazole. P. M. Ruoff and R. C. Scott. bibliog Am Chem Soc J 72:4950-3 N '50

HYDROXYMETHYL morpholinylmethyl diphenylfuran
3-(4-Morpholinylmethyl)-2,5-diphenylfuran and 3-(hydroxymethyl)-4-(4-morpholinylmethyl)-2,5-diphenylfuran from Mannich reactions with 1,2-dibenzoylethane in benzene medium. P. S. Bailey, G. Nowlin and H. W. Bost. Am Chem Soc J 73:4078-80 S '51

HYDROXYMETHYLATION
Hydroxymethylation of kojic acid. L. L. Woods. Am Chem Soc J 72:4322 S '50

HYDROXYNAPHTHALENES. See Naphthols

HYDROXYNAPHTHOIC acid
Hydrogenation of hydroxynaphthoic acids. W. G. Dauben, C. F. Hiskey and A. H. Markhart, jr. bibliog Am Chem Soc J 73:1393-400 Ap '51
Ultra-violet spectrum and constitution of 3-hydroxy-2-naphthoic acid and related compounds. E. D. Bergmann, Y. Hirshberg and S. Pinchas. Chem Soc J p2351-6 S '50

HYDROXYNAPHTHOQUINONE
Syntheses in the naphthalene series; 3-hydroxy-1 : 4-naphthaquinone-2-acetic acid and its homologues. G. Soliman and A. Latif. Chem Soc J p93-6 Ja '51

HYDROXYOCTANONE
Clemmensen reduction of butyroin. W. T. Smith, jr. Am Chem Soc J 73:1883-4 Ap '51

HYDROXYPHENYLDIMETHYLAMMONIUM bromide
Respiratory effect of Ro 2-3198 (3-hydroxyphenyldimethylethylammonium bromide) in syncurinized dogs. H. H. Su and others. bibliog Science 113:743-5 Je 29 '51

HYDROXYPREGNENE
Epimeric 20-hydroxypregnene derivatives. R. B. Turner and D. M. Voitle. bibliog Am Chem Soc J 73:2283-6 My '51

HYDROXYPTERIDINE
Pteridines; an unambiguous synthesis of 7 : 8-dihydro-6-hydroxypteridines. W. R. Boon, W. G. M. Jones and G. R. Ramage. Chem Soc J p96-102 Ja '51

HYDROXYPYRIDINE
Dependence of optical rotatory power on chemical constitution; (+)-2-(2-hydroxy-*n*-propyl)pyridine. I. G. Anderson, M. P. Balfe and J. Kenyon. Chem Soc J p 1868-71 Jl '50

HYDROXYQUINALDINE
Analysis by permanganate titrations of 8-quinolinols. J. P. Phillips and F. J. O'Hara. Anal Chem 23:535-6 Mr '51
Nitration of 4-hydroxy- and 4-chloro-3-methylquinoline. A. Adams and D. H. Hey. Chem Soc J p2092-6 Ag '50
Spectrophotometric study of 8-hydroxyquinaldine chelates; notes on 8-quinolinol chelates. J. P. Phillips and H. P. Price. bibliog Am Chem Soc J 73:4414-15 S '51

HYDROXYQUINOLINE
Apparent ionization exponents of 4-hydroxyquinoline, 4-methoxyquinoline and N-methyl-4-quinolone; evaluation of lactam-lactim tautomerism. G. F. Tucker, jr. and J. L. Irvin. bibliog Am Chem Soc J 73:1923-9 My '51
Chemistry of scandium. L. Pokras and P. M. Bernays. bibliog Am Chem Soc J 73:7-9 Ja '51
Quinamine; sulphobenzeneazoquinamine and nitration and oxidation of quinamine to 3 : 6 : 8 - trinitro - 4 - hydroxyquinoline. G. Bendz and others. Chem Soc J p 1130-8 Ap '50
Some quaternary salts of 8-hydroxyquinoline. C. T. Bahner and others. Am Chem Soc J 73:4011 Ag '51
Synthesis of some 3-nitro- and 3-amino-4-dialkylaminoalkylaminoquinoline derivatives. A. R. Surrey and R. A. Cutler. bibliog Am Chem Soc J 73:2413-16 Je '51

HYDROXYSTEARIC acid
Hydroxystearic acid and glyceride. Chem Ind 67:934 D '50

HYDROXYSTREPTOMYCIN
Hydroxystreptomycin, a new antibiotic from streptomyces griseocarneus. F. H. Stodola and others. bibliog il Am Chem Soc J 73:2290-3 My '51

HYDROXYTETROLIC acid
Researches on acetylenic compounds; further Reformatsky reactions with propargyl bromides. H. B. Henbest, E. R. H. Jones and I. M. S. Walls. Chem Soc J p3646-50 D '50

HYDROXYL
Kinetics of OH radicals from flame emission spectra. K. E. Shuler. bibliog J Chem Phys 18:1221-6, 1466-70; 19:888-94 S, N '50, Jl '51

HYDROXYL group
Action of hydroxyl radicals on cholesterol and some of its esters. G. R. Clemo, M. Keller and J. Weiss. Chem Soc J p3470-2 D '50
Δ^5-Cholestene-3β,4β,7α-triol and the inhibition of the oxidation of hydroxyl groups by vicinal substituents. S. Lieberman and D. K. Fukushima. bibliog Am Chem Soc J 72:5211-18 N '50
Displacement of nuclear hydroxyl in quinoline series by aryl-S group. G. Illuminati and H. Gilman. Am Chem Soc J 72:4288-9 S '50
Intensities of bands due to free and bonded hydroxyl groups in the three micron region. S. A. Francis. J Chem Phys 19:505-6 Ap '51
Mechanism of hydrolysis of acid chlorides; the effect of hydroxyl ions, temperature, and substituents on the rate of hydrolysis of benzoyl chloride. R. F. Hudson and J. E. Wardill. diag Chem Soc J p 1729-33 Jl '50
Oxidation of phenols with the free hydroxyl radical. S. L. Cosgrove and W. A. Waters. Chem Soc J p 1726-30 Jl '51
Pteridines; replacement reactions of amino, hydroxyl and mercapto groups in the pteridine series. E. C. Taylor, jr. and C. K. Cain. Am Chem Soc J 73:4384-7 S '51
Radical mechanisms in saturated and olefinic systems; the reaction of hydroxyl radicals with olefins. E. H. Farmer and C. G. Moore. Chem Soc J p 149-53 Ja '51
Seed oil of ongukoa gore Engler; the position of the hydroxyl group in the unsaturated monohydroxy-C_{18} acid (or acids). J. P. Riley. Chem Soc J p 1346-8 My '51

HYDROXYLAMINE
Decomposition of diacylhydroxylamines. J. E. Leffler. Am Chem Soc J 72:4294-5 S '50
Electrochemical reduction of nitroalkanes; preparation of *N*-alkylhydroxylamines (hydroxaminoalkanes). M. W. Leeds and G. B. L. Smith. bibliog Electrochem Soc J 98:129-33 Ap '51
Some reactions of *p*-tolyl toluene-*p*-thiolsulphonate. H. T. Hookway. Chem Soc J p 1932-4 Jl '50

HYDROXYLATION
Chemical actions of ionising radiations on aqueous solutions; hydroxylation of benzoic acid by free radicals produced by X-rays. H. Loebl, G. Stein and J. Weiss. Chem Soc J p405-7 F '51
Chemical actions of ionising radiations on aqueous solutions; hydroxylation of nitrobenzene by free radicals produced by X-rays. H. Loebl, G. Stein and J. Weiss. Chem Soc J p2704-9 O '50
ortho-Hydroxylation of phenols; a new case of the Smiles rearrangement. J. D. Loudon and others. Chem Soc J p55-8 Ja '50
Synthesis of tartaric acid by hydroxylation of maleic acid. J. M. Church and R. Blumberg. bibliog flow sheet diag Ind & Eng Chem 43:1780-6 Ag '51

HY-DU-LIGNUM. See Wood, Laminated

HYGIENE
Disaster control; pestilence; handbook for metalworking. Am Mach 94:161 N 13 '50

See also
Air pollution
Children—Care and hygiene
Diet
Disinfection and disinfectants
Exercise
Fatigue
Food
Mental hygiene
Nutrition
Physical examinations
Public health
Sanitation
Sickness
Temperature—Physiological effect
Ventilation
Water pollution
Water purification
Water supply

HYGIENE, Industrial
Activities of state and local agencies in industrial health. V. M. Trasko. A M A Archives Ind Hygiene & Occup Med 3:483-94 My '51
Air sanitation important aspect of industrial health promotion; summarization of conference on industrial health, Atlantic City. A. D. Brandt. Heating-Piping 23:92-3 Ag '51
Cardiology. B. M. Overholt and others. bibliog Ind Med 19:503-34 N '50

HYGIENE, Industrial—*Continued*

Contribution of Charles Turner Thackrah; English pioneer in the field of industrial health. J. W. Brown. A M A Archives Ind Hygiene & Occup Med 2:517-28 N '50

Engineering practice and design in relation to man's anatomical, physiological, and psychological capabilities and limitations. Ind & Eng Chem 43:sup85A-6A F '51

Executive health program for industry. J. P. Callahan. Pub Util 47:31-5 Ja 4 '51

Executives need the doctor; companies start medical programs. Bsns W p48-50 Ap 14 '51

Fatigue greater loss to industry than compensated claims; Gulf Coast regional conference on industrial health, Houston, Sept. 27-29. Chem & Eng N 29:4262+ O 15 '51

Health engineer and industrial medicine; industrial health team. M. E. M. Herford. Chem & Ind p470-2 Je 23 '51

Health maintenance of key personnel. R. C. Page. bibliog il Ind Med 20:325-30 Jl '51

How to work in comfort; Washington conference discusses illumination, color, noise, ventilation, and safety. Bsns W p 108-10 N 18 '50

Industrial dermatitis. H. J. Sanders. il Metal Finishing 49:49-52 Ag '51

Industrial health conference, Atlantic City, April 21-28. Heat & Ven 48:118+ Je '51

Industrial health conference, Atlantic City; program. Ind Med 20:196-7 Ap '51

Industrial health in Kentucky. W. W. Stalker. Ind Med 20:129-32 Mr '51

Industrial hygiene at American smelting and refining co. J. N. Abersold and K. W. Nelson. il J Metals 191:Trans 33-6 Ja '51

Industrial hygiene dividends. F. A. Patty. Safety Maint & Prod 101:58-9 F '51

Industrial hygiene in the western zone of Germany. I. R. Tabershaw. A M A Archives Ind Hygiene & Occup Med 3:298-315 Mr '51

Industrial sickness absenteeism; males and females, 1949, and males, first and second quarters, 1950. W. M. Gafafer. Pub Health Rep 65:1556-61 N 24 '50

Industrial sickness absenteeism third and fourth quarters, 1950. W. M. Gafafer. Pub Health Rep 66:779-80 Je 15 '51

Industry urged to clean house or face government control; 3d Gulf Coast industrial health conference, Houston, Oct. 12-13. Chem & Eng N 28:3776 O 30 '50

Keeping the worker well. C. R. Walmer. il Safety Maint & Prod 101:122+ Je '51

Library classification system for the literature of industrial hygiene and allied subjects. L. Sullivan and W. C. L. Hemeon. 70p Industrial hygiene foundation, Mellon institute, 4400 Fifth av, Pittsburg 13 '51

Medicine in industry; Ann Arbor discussional on industrial health, Univ. of Michigan School of public health, Oct. 27-28. Ind Med 19:581-3 D '50

Motorola's vision program pays off. K. Piper. il Advanced Management 16:24-5 S '51

National safety congress speakers discuss industrial hygiene problems. Safety Maint & Prod 101:54-8 Ja '51

Nation's center of industrial hygiene research, Cincinnati. Ind Med 19:540-1 N '50

Nutrition program for employee health and morale; abstract. W. D. Murray. Management R 40:277 My '51

Preliminary evaluation of employee health and environmental factors. Ind & Eng Chem 42:sup89A-90A D '50

Radiation protection from the industrial hygiene standpoint. J. C. Soet. Ind Med 20:227-33 My '51

Radiation screens improve work conditions in hot spots. G. F. Haines, jr. il Heating-Piping 23:96-7 S '51

Research on health education in industry. A M A Archives Ind Hygiene & Occup Med 4:161-5 Ag '51

Symposium on industrial health and safety. bibliog il Chem & Eng N 29:1196-200, 1302-5, 1399-401, 1517-18, 1640-2, 1729-30 Mr 26-Ap 30 '51

Symposium on the dynamics of industrial medicine; unidentified occupational case history. R. J. Hasterlik. A M A Archives Ind Hygiene & Occup Med 3:147-9 F '51

Telling workers of health hazards encourages cooperation; Industrial hygiene foundation 15th annual meeting, Pittsburgh. Chem & Eng N 28:4177-8 N 27 '50

Training for disaster; American Cyanamid. il Chem Ind W 68:29+ Mr 3 '51

See also

Air purification
Beryllium poisoning
Diseases, Industrial
Dust
Dust removal
Electric welding, Arc—Hygienic aspects
Eye—Examination
Factories—Cleanliness
Factory sanitation
Fatigue
Lavatories
Lead poisoning
Lunchrooms and cafeterias, Employees'
Lungs—Dust diseases
Medical service, Industrial
Miners—Diseases and hygiene
Noise
Nurses and nursing, Industrial
Physical examinations
Poisons, Industrial
Safety devices and measures
Temperature—Physiological effect
Trade agreements—Safety and health provisions
Welding—Hygienic aspects

also American foundation of occupational health; Industrial hygiene foundation of America; Michigan university—Institute of industrial health

Bibliography

Sources of morbidity and mortality material in industrial health. V. M. Trasko. Pub Health Rep 66:732-9 bibliog(p738-9) Je 8 '51

HYGIENE, Rural

See also

Medical service, Rural

HYGROMETERS

Automatic frost point hygrometer. S. H. Jury and W. Licht, jr. bibliog diags Anal Chem 22:1536-40 D '50

Electrical measurement of water vapor with a hygroscopic film. E. R. Weaver. bibliog diags Anal Chem 23:1076-80 Ag '51

It isn't the heat, it's the humidity. C. A. Mabey. il Instruments 24:280-3+ Mr '51

New development in the measurement of high relative humidities. W. R. Steiger. Science 114:152-3 Ag 10 '51

Testing

Controlled humidity for research. Franklin Inst J 252:172-4 Ag '51

Recirculating apparatus for testing hygrometers. A. Wexler. il diags J Res Nat Bur Stand 45:357-62 N '50

HYGROSCOPICITY

Electrode function (pH response), hygroscopicity, and chemical durability of soda-lead oxide-silica glasses. D. Hubbard and others. bibliog J Res Nat Bur Stand 45:430-9 N '50

Electrode function (pH response), hygroscopicity, and chemical durability of soda-potash-silica glasses. D. Hubbard and others. bibliog J Res Nat Bur Stand 46:168-75 Mr '51

Hygroscopicity of amino acids and its relationship to the vapor phase water absorption of proteins. E. F. Mellon and S. R. Hoover. bibliog Am Chem Soc J 73:3879-82 Ag '51

HYPERBOLIC functions. See Functions, Exponential

HYPERSORBERS

Hypersorption in modern gas processing plants. C. Berg. flow sheets il diags Pet Refiner 30:241-3+ S '51

Latest in hypersorbers. il diag Chem Eng 58:183-4 Jl '51

HYPNOTICS

Safer sleep; Schering's Dormison. Chem W 69:34+ S 22 '51

HYPOBROMOUS acid

Dissociation constant of hypobromous acid. L. Farkas and M. Lewin. bibliog Am Chem Soc J 72:5766-7 D '50

Significance of the bromine cation in aromatic substitution. D. H. Derbyshire and W. A. Waters. Chem Soc J p564-77 F '50

HYPOCHLORITES

Quaternaries vs. hypochlorites as disinfectants. W. A. Hadfield. bibliog Soap & San Chem 27:124-5+ Ap '51

HYPOCHLORITES—*Continued*
Sweetening and desulfurization of light petroleum products; hypochlorite treatment. V. A. Kalichevsky. patent list(55 ref) Pet Refiner 30:95-6 F '51

HYPOCHLOROUS acid
Acid-catalysed chlorination by means of hypochlorous acid. D. H. Derbyshire and W. A. Waters. Chem Soc J p73-5 Ja '51

Infrared spectra of HOCl and DOCl. K. Hedberg and R. M. Badger. bibliog J Chem Phys 19:508-9 Ap '51

Kinetics of chlorohydrin formation; the reaction between hypochlorous acid and allyl alcohol in aqueous solution. G. C. Israel, J. K. Martin and F. G. Soper. Chem Soc J p 1282-5 My '50

Kinetics of chlorohydrin formation; the reaction between hypochlorous acid and allyl alcohol in the presence of sodium acetate-acetic acid buffers of constant *p*H. G. C. Israel. Chem Soc J p 1286-9 My '50

HYPODERMIC needles
Hypodermic needles put analytical method on mass basis. il Chem & Eng N 29:2282-4 Je 4 '51

HYPOIODOUS acid
Oxidation of aldoses by hypoiodous acid; comparison of the rates of oxidation of α- and β-D-glucose. K. D. Reeve. Chem Soc J p 172-7 Ja '51

HYPOPHOSPHATE
Investigation of the forms of phosphorus in neutron-bombarded phosphates; role of hypophosphate. J. G. A. Fiskell. bibliog Science 113:244-6 Mr 2 '51

HYPOPHYSIS. See Pituitary body

HYPOTENSION. See Blood pressure

HYSTERESIS
High saturation magnetic alloy with a rectangular hysteresis loop. J. F. Libsch and E. Both. Elec Eng 70:420-1 My '51

Sorption hysteresis; some factors determining the size of the hysteresis loop. A. G. Foster. bibliog J Phys & Colloid Chem 55: 638-43 My '51

Temporary enhancement of hysteresis in barium titanate samples. D. R. Young. J Ap Phys 22:523-4 Ap '51

HYSTERESIS (mechanics)
Mechanical hysteresis properties of single fibers and cords. H. Wakeham and E. Honold. bibliog il Textile Res J 21:1-5 Ja '51

Plastic strain and hysteresis in drawn steel wire. R. S. Brown. il pl Iron & Steel Inst J 162:189-200 Je '49; Discussion. 166:319-20 D '50

I

I.G. Farbenindustrie. See Interessen gemeinschaft farbenindustrie aktiengesellschaft

I-T-E circuit breaker company
Preferred stock offered. Comm & Fin Chr 174: 1196 O 1 '51

ICE
Corona from ice points. H. W. Bandel. il diag J Ap Phys 22:984-5 Jl '51

Effect on water vapour pressure of superimposed air pressure. T. J. Webster. diags Soc Chem Ind J 69:343-6 N '50

Ice supplement; Fran-Kem. Chem Ind W 68: 29+ Mr 17 '51

Military uses of ice dams. H. A. Pax. Refrig Eng 58:1072 N '50

Sodium fluoride in ice cubes. D. B. Williams. Water & Sewage Works 97:512 D '50

See also
Airplanes—Ice protection
Electric lines—Ice problem
Gas turbines, Aircraft—Ice problem
Glacial geology
Glaciers
Ice on rivers, ponds, etc.
Railroads—Ice supply
Roads—Ice control
Streets—Ice control

Manufacture
Transient vs steady state ice freezing processes. E. G. Thomsen. Refrig Eng 58:889-93 S '50; Discussion. 58:1072+ N '50

See also
Ice machines
Refrigeration and refrigerating machinery

ICE cream
Buttermilk builds better ice cream. il Food Ind 23:90 Mr '51

Free rides bring profits; Camden ice cream distributor uses merry-go-rounds on premium basis to boost sales. il Bsns W p38-9 D 9 '50

Sanitary milk and ice cream legislation in the United States. A. C. Dahlberg and H. S. Adams, comps. map tables Nat Res Council Bul 121:1-59 '50

ICE cream factories

Electric equipment
Ammeter aids in freezer performance. diags Food Eng 23:9+ Jl '51

Dairy show; prominence of ice-cream equipment. il Elec R (Lond) 147:692-4 N 3 '50

Equipment
Better ice cream by fast, capacity-plus hardening. C. R. Havighorst. il diag Food Eng 23:72-4 My '51

Stick and all; machine wraps and seals ice-cream-stick bars in printed cellophane. il Mod Packaging 24:86-8 My '51

ICE cream freezers

Rating
Ice-cream freezers. il Consumers Res Bul 28: 8-10 Jl '51

ICE cream industry
Carnation's retail stores, they're sales proving grounds. il Sales Management 65:42-3 N 20 '50

Fat increases in dealer sales when Brown's shows 'em how. B. L. Gough. il Sales Management 67:53-5+ S 15 '51

Ice cream at the melting point. il Bsns W p46+ Ag 4 '51

Igloo for ice cream. il Mod Packaging 24:72-4 Ag '51

Great Britain
Ice cream industry. Economist 160:6-7 Ja 6 '51

ICE handling
Machines ice two cars per minute. il Ry Age 129:48-51 S 16 '50; Same. Ry Mech & Elec Eng 124:728-31 D '50

ICE industry
How faltering ice industry bounced back to new life. J. G. Pool, jr. il Am Bsns 21:16-17 S '51

Safety measures
Cold war on accidents. M. H. Seelig. il Nat Safety N 63:36-7+ My '51

ICE machines
Carrier automatic ice cube maker. il Refrig Eng 59:86 Ja '51

Manufacture of small ice. C. Field. bibliog diags A S M E Trans 73:347-55 My '51; Same. Refrig Eng 58:1163-7+ D '50; Discussion. A S M E Trans 73:355-7 My '51

ICE on rivers, lakes, etc.
Oil bargemen battle gorging ice to keep river supply lines open. D. Warren. il Nat Pet N 43:58+ Mr 14 '51

Theory of air-coupled flexural waves. F. Press and M. Ewing. bibliog diag J Ap Phys 22: 892-9 Jl '51

ICE plants
Ammonia spill in a large plate ice-making system. H. C. Welch. diag Power 95:115 S '51

See also
Cold storage warehouses

Equipment

See also
Ice machines

ICE protection
Icephobia; armed services seek industry's aid. il Chem Ind 67:559-60 O '50

ICELAND
Many of our latest chemical processes and engineering techniques have traveled to near the Arctic circle. C. O. Brown. diag Ind & Eng Chem 43:sup77A-8A+ Je '51
See also
Highway transportation—Iceland

Yearbooks

Directory of Iceland, 1950. H. Foss, ed. 27th ed 680p Icelandic year book, Hafnarstraeti 11, Reykjavik, Iceland '50 ($1.50)

ICINGS, Cake
Now, a readily made fondant for bakers, confectioners. R. N. Prince. il Food Eng 23:100-1+ Ag '51

IDAHO
See also
Geology—Idaho
Hydroelectric plants—Idaho
Petroleum industry and trade—Idaho

IDAHO power company
Bonds offered. Comm & Fin Chr 174:1297 O 8 '51
Idaho Power, four federal projects integrated; Chapman ok's contract. Elec World News ed 135:11 Ja 8 '51
Lukewarm FPC appeal? Pub Util 47:849-50 Je 21 '51
Preferred stock offered. Comm & Fin Chr 173:2497 Je 18 '51

IDEAS in business
An idea a day. W. E. Backus. Ptr Ink 234:98 Ja 26 '51
Getting ahead with ideas; how can you get ideas in coal mining? Coal Age 55:70-3 D '50
Idea file gives new twist to old ideas. E. Mills. Ed & Pub 84:46 Ap 14 '51
Whose idea? A. M. Elliott. Am Mach 95:128-9 Jl 23 '51
Why confine the creative urge? D. David. Adv Agency 44:80+ Je '51
Why not an idea-reporter in your plant? Factory Management 109:67 Ag '51
See also
Advertising copy
Suggestion systems

IDITOL
Anhydrides of polyhydric alcohols; the amino-derivatives of 1 : 4-3 : 6-dianhydro-mannitol, -sorbitol, and -L-iditol, and their behaviour towards nitrous acid. V. G. Bashford and L. F. Wiggins. pl Chem Soc J p371-4 Ja '50
Anhydrides of polyhydric alcohols; the reactions of sodium iodide and lithium chloride with dimethanesulphonyl and ditoluene-*p*-sulphonyl derivatives of the 1 : 4-3 : 6-dianhydrides of D-mannitol, D-sorbitol, and L-iditol. L. F. Wiggins and D. J. C. Wood. Chem Soc J p 1180-4 My '51

IGNEOUS rocks. See Rocks, Igneous

IGNITION
Ignition temperatures of magnesium and magnesium alloys. W. M. Fassell, jr. and others. bibliog diags J Metals 3:Trans 522-8 Jl '51; Discussion. 3:Trans 1075-6 N '51
See also
Gas burners—Ignition devices

IGNITION, Electric. See Electric ignition

IGNITION locks. See Automobile locks

IGNITRON
Amplistat regulators for power rectifiers. M. J. Mulhern. bibliog il diags Gen Elec R 54:27-33 My '51
Development of a pumpless ignitron. C. C. Herskind and E. J. Remscheid. il diags Elec Eng 70:855-8 O '51
High-voltage ignitron rectifiers. M. J. Mulhern. diag Elec Eng 69:1006 N '50
Ignitron pulse equipment for particle accelerators. C. C. Herskind and J. E. Hudson. il Elec Eng 69:959 N '50
Ignitron rectifiers for electric railroads. Electronics 24:194+ Ap '51
Load sharer for welder ignitrons; flip-flop thyratron circuit transfers load from one pair of ignitrons to another every two seconds. G. M. Chute. il diags Electronics 24:71-3 F '51
Resistance welding. E. Bukstein. il diags Radio & Tv N 45:52+ My '51
Trends in electronic nonsynchronous resistance welding controls. S. Rockafellow. Welding J 30:801-2 S '51

ILLINOIS
Illinois prepares against atomic bombs. J. B. Oldendorf. Midwest Eng 3:8-9+ D '50
See also
Geology—Illinois

ILLINOIS bankers life assurance company
Extra stock is now distributed. Nat Underw (Life ed) 55:13 Ag 24 '51
Offer unclaimed stock. Nat Underw (Life ed) 55:1 Je 15 '51

ILLINOIS Bell telephone company
Bill Kahler elected president. Midwest Eng 3:15 D '50

ILLINOIS central railroad
All-out centennial celebration. il Ry Age 130:88-9 F 12 '51
Extensive system taps the wealth of Mid-America; with financial data for selected years, 1929-50. A. Jansen. map Barron's 31:9-10 Ag 20 '51
Five well situated stocks offering good yields; with comparative balance sheet items. Mag of Wall St 87:124 N 4 '50
Illinois Central celebrates centennial in '51. Midwest Eng 3:10 F '51
Illinois Central heritage, 1851-1951. W. A. Johnston. il Ry Age 130:94-100 F 12 '51
Is a centennial worth it? il Bsns W p 113-14 S 8 '51
Men, money, materials, and management; policies, principles and practices which make Illinois Central a successful enterprise. il map Ry Age 130:101-12+ F 12 '51
Panel of experts looks at the Illinois Central. Ry Age 130:90-3 F 12 '51
Railroad securities. Comm & Fin Chr 173:436, 1869 Ja 25, My 3 '51
Six stocks behind the market; ready to move. J. C. Clifford. Mag of Wall St 88:655-6 S 22 '51
Ten potential market leaders for 1951; with comparative balance sheet items. Mag of Wall St 87:505 F 10 '51

ILLINOIS commercial telephone company
Preferred stock offered. Comm & Fin Chr 172:1928 N 20 '50

ILLINOIS power company
Public utility securities. O. Ely. Comm & Fin Chr 172:1608; 173:1567 O 26, Ap 12 '51
Securities offered. Comm & Fin Chr 172:1633-4 O 30 '50
Stock offered. Comm & Fin Chr 173:2089-90 My 21 '51

ILLINOIS university

Chemistry building

Illinois cited for chemical work at dedication program. Chem & Eng N 29:1529 Ap 16 '51

ILLITERACY
Problems of United nations in fight against illiteracy; Florian-Larsen plan. S. Hinrichsen. il Inland Ptr 127:73-4 Ap '51

ILLUMINATING engineering society
Annual report of the general secretary 1949-1950. A. H. Manwaring. Illum Eng 45:773-90 D '50
Committees 1950-1951; official representatives. Illum Eng 45:727-32+ N '50
I.E.S. research for defense. A. F. Wakefield. Illum Eng 46:373-4 Jl '51
National restaurant association joins I.E.S. to study food service areas. il Illum Eng 45:725 N '50
National technical conference, Pasadena, Aug. 21-24. Illum Eng 45:654-62 O '50
New officers. Nat Safety N 64:82 S '51
Northwest conference, 5th, Spokane, March 22-23. Elec West 106:96-7 Ap '51
Officers and council, section and chapter chairmen, 1950-1951; portraits. Illum Eng 45:665-9 O '50
Publications of the I.E.S. Illum Eng 46:sup 17A-18A F '51

ILLUMINATING engineering society, London
Annual dinner, London, May 9. Elec R (Lond) 148:1033-4 My 18 '51
Early years of illuminating engineering; abstracts. J. W. T. Walsh. Elec R (Lond) 148:127-8 Ja 19 '51; Electrician 146:209-10 Ja 19 '51

ILLUSTRATIONS of books and periodicals
Credit where credit is due; sources of portraits for "Women are here to stay". A. Rogers. Special Lib 42:56-7+ F '51
Fit your illustration to the paper on which it prints. F. Rundell. il Inland Ptr 126:38-9 N '50

ILMENITE

Florida ilmenite. Chem Ind W 68:17 My 12 '51

Ilmenite, magnetite, hematite, and copper in lavas of the Keweenawan series. H. R. Cornwall. bibliog il Econ Geol 46:51-67 Ja '51

New smelting process means more TiO_2 for US. il map Chem Eng 58:184+ Je '51

Pilot-plant smelting of ilmenite in the electric furnace. C. K. Stoddard and others. bibliog 6pls U S Bur Mines Rep of Invest 4750:1-15 '50

Short road to titanium; U.S. companies use new process to smelt ore from Canadian deposit. maps Bsns W p42-4 D 9 '50

Truck haulage at the National lead co. open-cut ilmenite-magnetite mine, Tahawus, N.Y. R. S. Sanford. bibliog 9pls U S Bur Mines Information Circ 7584:1-14 '50

Analysis

Magnetic and chemical analyses of ores and mill products containing magnetite and ilmenite. E. Laurila and others. il diags Min Eng 3:Trans 797-802 S '51

IMAGE force theory

Quantum limits of the electrostatic image force theory. R. G. Sachs and D. L. Dexter. J Ap Phys 21:1304-8 D '50

IMAGE orthicon. See Television cameras

IMIDAZOLE

Amidines; preparation of 2-substituted 4 : 5-dihydroglyoxalines and ring homologues from substituted amidines and alkylenediamines. P. Oxley and W. F. Short. Chem Soc J p859-64 Mr '50

New 5-aminoglyoxalines as potential adrenergic agents. H. Bader, J. D. Downer and Mrs P. Driver. Chem Soc J p2775-84 O '50

Some amidines and dihydroglyoxalines of the 1 : 1-diphenylethane and 1 : 1-diphenylpropane series. J. O. Jílek and M. Protiva. Chem Soc J p 188-90 Ja '50

Studies in the azole series; the preparation of some natural xanthines and related purines. A. H. Cook and G. H. Thomas. Chem Soc J p 1884-8 Jl '50

Synthesis of 2-alkylamino-4,5-dihydro-imidazoles. S. R. Aspinall and E. J. Bianco. Am Chem Soc J 73:602-3 F '51

Synthetic analgesics and related compounds; amidines and 4 : 5-dihydroglyoxalines. W. Wilson. Chem Soc J p2173-6 Ag '50

IMIDAZOLIDINE

Stereochemistry of the imidazolidine ring. E. Fischer. J Chem Phys 19:395-6 Ap '51

IMIDAZOLINE

2-Benzylphenol derivatives; imidazolines. W. B. Wheatley and others. bibliog Am Chem Soc J 72:4443-5 O '50

Analysis

Determination of residual glyoxalidine fungicides on apples and cherries. E. F. Hillenbrand, jr., W. W. Sutherland and J. N. Hogsett. Anal Chem 23:626-9 Ap '51

IMIDES

Positive bromine from perfluorinated N-bromoimides. A. L. Henne and W. F. Zimmer. Am Chem Soc J 73:1103-4 Mr '51

Quinone imides; addition of dienes to *p*-quinone sulfonimides. R. Adams and C. R. Walter, jr. Am Chem Soc J 73:1152-5 Mr '51

Quinone imides; aluminum chloride-catalyzed arylations of *p*-quinone dibenzenesulfonimides. R. Adams and K. R. Eilar. Am Chem Soc J 73:1149-52 Mr '51

Quinone imides; 1,2- and 2,6-naphthoquinone disulfonimides. R. Adams and R. A. Wankel. Am Chem Soc J 73:2219-20 My '51

Quinone imides; 1,4-naphthoquinone disulfonimides. R. Adams and R. A. Wankel. Am Chem Soc J 73:131-4 Ja '51

Quinone imides; *p*-quinone diacyl and diaroylimides. R. Adams and J. L. Anderson. bibliog Am Chem Soc J 72:5154-7 N '50

Quinone imides; *p*-quinone disulfonimides. R. Adams and A. S. Nagarkatti. bibliog Am Chem Soc J 72:4601-6 O '50

Quinone imides; *p*-quinone monosulfonimides. R. Adams and J. H. Looker. Am Chem Soc J 73:1145-9 Mr '51

IMIDODISULFURIC acid

Amine salts of imidodisulfuric acid. C. E. Boatman and H. H. Sisler. Am Chem Soc J 73:559-60 F '51

IMINES

Ketimines; ω-cyclohexylalkyl alkyl type. P. L. Pickard and C. W. Young. Am Chem Soc J 73:42-3 Ja '51

Ketimines; diaryl type. P. L. Pickard and D. J. Vaughan. Am Chem Soc J 72:5017-19 N '50

Phosphorus oxychloride in the preparation of ketimines. A. W. Weston and R. J. Michaels, jr. Am Chem Soc J 73:1381-2 Mr '51

See also

Ethylenimine

IMMIGRATION and emigration

Australia

Australian development and immigration. D. Copland. Int Labour R 63:633-56 Je '51

Can Australia remain white? Economist 160: 384 F 17 '51

DP trouble; Australia's immigration plan bogs down. Bsns W p 137-8 D 16 '50

Bolivia

National council of immigration and colonization created. For Comm W 43:11 Ap 9 '51

Canada

Canada pushes program for more immigrants. J. Montagnes. Barron's 31:21 Ja 22 '51

Europe

Europe's emigration needs. Economist 160: 1110 My 12 '51

Mexico

New immigration tax law. For Comm W 42: 23-4 F 19 '51

Puerto Rico

Puerto Rican workers for labor-short areas in U.S. Bsns W p 150 Jl 7 '51

IMMUNITY

Deamination of crystalline egg albumin; quantitative immunochemical studies on crystalline egg almumin and its denatured and deaminated derivatives. P. H. Maurer and M. Heidelberger. bibliog Am Chem Soc J 73:2076-80 My '51

IMMUNITY (law)

Diplomatic immunity problems in casualty and liability insurance. H. Starling. Nat Underw 55:16 Mr 8 '51

Public liability coverage held superfluous where governmental immunity to suit protects county officials against torts. Weekly Underw 164:1304 My 19 '51

IMPACT

Falling-weight impact test of welded aluminum alloy plates. E. C. Hartmann. il diags Welding J 30:sup303-6 Je '51

Impact resilience as a brittleness test for polyvinyl plastics. G. Friedlander. bibliog il diags Anal Chem 22:1545-51 D '50

Impact strength of sands. H. W. Dietert. il Foundry 79:150-1 Ag '51

Micro-mechanism of fracture in the tension-impact test. W. H. Bruckner. il diags Welding J 29:sup467-76 S '50; Discussion. 30: sup255-9 My '51

Micro-mechanism of fracture in the tension impact test; supplementary report number one. W. H. Bruckner. il Welding J 30:sup 459-69 S '51

Theoretical investigation of hydrodynamic impact loads on scalloped-bottom seaplanes and comparisons with experiment. B. Milwitzky. bibliog il U S Nat Advisory Com for Aeronautics 1947:109-24 '50

Upper and lower transitions in Charpy test. W. J. Harris, jr. and others. bibliog diags Welding J 30:sup417-22 S '51

Variation of the coefficient of static friction with the rate of application of the tangential force. R. C. Parker and others. bibliog il diags Inst Mech Eng Proc 163 (W.E.P. no59):176-84 '50

IMPEDANCE

Cathode-follower input impedance; effect of capacitive load. J. E. Flood. bibliog diags Wireless Eng 28:231-9 Ag '51

Characteristic impedance of shielded coils. C. Susskind. Tv Eng 2:26-7+ Mr '51

IMPEDANCE—*Continued*

Coaxial impedance standards. R. A. Kempf. il diag Bell System Tech J 30:689-705 Jl '51

Evaluation of coaxial slotted-line impedance measurements. H. E. Sorrows and others. bibliog Inst Radio Eng Proc 39:162-8 F '51

Impedance and the Laplace transform. E. E. Ward. diags Wireless Eng 28:192-4 Je '51

Impedance changes in image iconoscopes; methods of automatic compensation. J. E. Cope and R. Theile. bibliog il diags Wireless Eng 28:239-47 Ag '51

Interelectrode impedances in triodes and pentodes. E. E. Zepler and S. S. Srivastava. bibliog diags Wireless Eng 28:146-50 My '51

Loci and complex impedance and admittance functions. E. L. Michaels. diags Elec Eng 70:127 F '51

Measurement of impedance with the impedometer. W. Sichak. diag Inst Radio Eng Proc 38:951 Ag '50; Same. Elec Com 28:54 Mr '51

Minimum-loss matching pads; reference sheet. J. C. Bregar. Electronics 24:118 F '51

Problem of a non-ohmic resistor in series with an impedance. E. B. Moullin. diags Inst E E Proc 98 pt 1:87-96 Mr '51

Theoretical limitations to impedance matching. R. L. Tanner. diags Electronics 24:234+ F '51

Theory of the negative impedance converter. J. L. Merrill, jr. diags Bell System Tech J 30:88-109 Ja '51

Transforming impedance with folded dipoles. E. R. Thomas. Q S T 35:52-3 O '51

Transmission-line impedance curves. H. A. Wheeler. bibliog Inst Radio Eng Proc 38:1400-3 D '50

Transmission-line load impedance for maximum efficiency. S. G. Lutz. Elec Eng 70:128 F '51

IMPEDANCE, Acoustic. See Acoustic impedance

IMPERATORIN

Experiments with xanthotoxin and imperatorin obtained from the fruits of ammi majus (L). A. Schönberg and A. Sina. bibliog Am Chem Soc J 72:4826-8 O '50

IMPERIAL chemical industries, ltd.

Annual report, 1950. Chem Age (Lond) 64:845-6, 963 Je 2, 23 '51

ICI and Dunlop; an analysis of their annual reports. Economist 160:1246-8 My 26 '51

Statement by the chairman. J. Rogers. Economist 160:1534 Je 23 '51

IMPERIAL college of science and technology

Chemical laboratories. il Chem & Ind p557 Je 30 '51

IMPERIAL tobacco company (of Great Britain and Ireland), limited

Statement by the chairman. R. Sinclair. Economist 160:710-11 Mr 24 '51

IMPERIALISM

Mantle of empire; it has fallen on the shoulders of the U.S. republic. R. Strausz-Hupe. Barron's 31:5-6 My 7 '51

IMPORTS

Current price controls threaten disastrous import decline. A. M. Strong. Comm & Fin Chr 173:918 Mr 1 '51

Import license and exchange control regulations in principal foreign countries applying to imports from the United States, revised as of Jan. 25, 1951; tabular summary. For Comm W 42:27-8 F 12 '51

Imported articles essential to the United States; value of such imports in 1949, and percentage supplied by principal countries; tabulation. For Comm W 42:27-8 Ja 15 '51

Imported articles essential to the United States; value of such imports in 1950 and percentage supplied by principal countries; tabulation. For Comm W 42:31-2 Mr 26 '51

Imports at United States ports; list by ports of chemical products, with amounts and consignors. Published in weekly numbers of Oil, paint and drug reporter

17 cost-saving ways to use our free ports. il Sales Management 67:78+ S 1 '51

United States foreign trade, 1950; with charts and tabulations. G. A. Witherow. For Comm W 43:3-7+ Ap 16 '51

IMPROVED products. See Products, Improved

INCENTIVE pay. See Wage payment plans—Group bonus

INCENTIVES in industry

Group incentives in products plant; Neff concrete products, inc. J. W. Shaver. il Concrete 59:8-9 Jl '51

How to design an incentive system you can live with; Hollinger consolidated gold mines. H. Bressler. Eng & Min J 152:83-5 Ap '51

In defense of security. W. Weir. Ptr Ink 236:50+ S 7 '51

Incentive handling system ups production 25 per cent; Thew shovel co. W. J. Allaback. il Steel 128:82-4 Je 11 '51

Incentives for tool grinding. E. A. Cyrol and W. R. Olson. il Mill & Factory 48:115-17 F '51

Increased productivity through incentives. R. C. Cooper. Iron & Steel Eng 28:138+ Ag '51

Successful small-mine incentive plan; Callahan zinc-lead co. J. E. Dunn. diags Eng & Min J 152:85-7 Je '51

This new approach to a maintenance incentive program is getting results. E. G. Fischbach. il Bus Transportation 30:32-3 Jl '51

What about incentives for maintenance? E. A. Cyrol and W. R. Olson. il Mill & Factory 48:105-8 Ja '51

See also

Wage payment plans
—Group bonus

INCINERATORS

Incineration as means of reducing volume of radioactive waste materials presents problems. L. C. McCabe. il Ind & Eng Chem 43:sup 105A-6A+ Je '51

INCOME

Does gift of property create income? R. N. Miller. J Account 90:516 D '50

Heaviest tax load is borne by our citizens; comparisons of government revenues and national incomes. V. L. Horoth. map Mag of Wall St 88:447-9 Jl 28 '51

Ratio of income to money supply; an international survey. E. M. Doblin. bibliog R Econ & Stat 33:201-13 Ag '51

What is business income? five monographs on the subject. G. O. May. J Account 91:142-4 Ja '51

Women's wealth; what is really their income and spending power? M. Adams. Barron's 30:7 D 18 '50

See also

Consumption (economics)
Dividends
Farm income
Profit
Salaries
Wages

Accounting

Case against price-level adjustments in income determination. E. B. Wilcox and H. C. Greer. J Account 90:492-504; Discussion. G. O. May. 504-5 D '50

Trade unionist views net income determination. S. Barkin. N A C A Bul 32:1193-206 Je '51

Statistics

Contribution of manufacturing wages to regional differences in per capita income. F. A. Hanna. R Econ & Stat 33:18-28 F '51

Disposition of income, 1935-1950; tabulation. Iron Age 167:335 Ja 4 '51

Estimated annual rates of disposable income and spending, third quarter 1950 and end of 1951; tabulation. Comm & Fin Chr 172:2207 D 7 '50

Family spending in Memphis, 1949. M. C. Ruark and G. H. Mulcahy. Mo Labor R 72:655-60 Je '51

Gross national product, national income, and personal income, annual totals, selected years, 1929-1949 and by quarters for 1950. Fed Res Bul 37:90-1 Ja '51 [cont monthly]

Income; it levels out as it rises; summary of FRB's 1951 consumer finance survey. Bsns W p25 Ag 25 '51

Income of physicians, 1929-49; with tabulations by region and state. W. Weinfeld. map Survey of Cur Bsns 31:9-26 Jl '51

Living standards and productivity. J. Burkhead. R Econ & Stat 33:241-7 Ag '51

INCOME—Statistics—*Continued*

Money belts are concentrated geographically. Ptr Ink 235:51-2 My 25 '51

Monthly estimates of certain national product components, 1946-49. C. Chang and T. Liu. R Econ & Stat 33:219-27 Ag '51

National income and corporate profits, first quarter 1951; with figures for 1948-1950. Survey of Cur Bsns 31:8+ Jl '51

National income and national product in 1950; with figures for other years. Survey of Cur Bsns 31:4-10 F '51

National income and product in the second quarter of 1951; with charts and table. Survey of Cur Bsns 31:3-9 Ag '51

National income comparisons; 1949 data from statistical office of the United nations. Economist 160:164 Ja 20 '51

National income; status and prospects as seen by an estimator. G. Jaszi. Am Stat Assn J 46:345-57 S '51

National product and income in the third quarter of 1950. Survey of Cur Bsns 30:4-10 N '50

National product and income in the first quarter of 1951; with table. Survey of Cur Bsns 31:6-11 My '51

1950 survey of consumer finances; distribution of assets, liabilities, and net worth of consumers, early 1950. Fed Res Bul 36:1584-611 D '50

1951 survey of consumer finances; distribution of consumer income in 1950. I. Schweiger. Fed Res Bul 37:920-37 Ag '51

Price system and national income and product. H. Oshima. bibliog R Econ & Stat 33:248-54 Ag '51

Recent changes in personal income. Survey of Cur Bsns 31:4-6 Ap '51

Regional report on income. map Bsns W p40+ Ja 13 '51 [cont monthly]

Sales Management survey of buying power, May 10, 1951; population estimates, effective buying income, retail sales, farm market data, etc. Sales Management 66:1-604 My 10 '51; Correction. 66:125 Je 15 '51

State income payments in 1950; with tables, 1929-1950. R. E. Graham, jr. map Survey of Cur Bsns 31:11-21 Ag '51

What's U.S. consumer worth? summary of FRB survey on assets, liabilities and net worth of consumers. Bsns W p68-9 Ja 6 '51

Great Britain

National dividend in 1950; summary of National income white paper for 1950. Economist 160:880-2 Ap 14 '51

Personal incomes; with tables. Economist 160:1418-20 Je 16 '51

Southern states

Income study reveals need for improved farming methods. C. R. Walker. Manuf Rec 120:37 Mr '51

United States

Expenditures and incomes in 1950. Fed Res Bul 36:1565-76 D '50

Factors related to recent changes in income distribution in the United States. H. P. Miller. bibliog R Econ & Stat 33:214-18 Ag '51

Family income and new rental housing. G. G. Rudney. Mo Labor R 73:8-12 Jl '51

National income and national product in 1950; with figures for other years. Survey of Cur Bsns 31:4-10 F '51

Regional report on income. map Bsns W p40+ Ja 13 '51 [cont monthly]

Top income group gets smaller share in total income. Trusts & Estates 89:832 D '50

U.S. has a bloodless revolution; Kuznets' studies on shifts in income distribution. Bsns W p38+ Je 2 '51

INCOME statements

Accounting research bulletins 13 and 26 cancelled; no. 35 (presentation of income) supplemented. J Account 92:200-1 Ag '51

Advantages of break-even income statement compared with conventional statement. A. Bac. J Account 91:106-11 Ja '51

More informative costs on the income statement. E. E. Rennhack. N A C A Bul 32:883-92 Ap '51

Suggestions for operating under the SEC's new rules governing financial statements. J Account 91:230-7 F '51

INCOME tax

State and federal taxation; 1950 legislation; A.B.A. committee report. Trusts & Estates 89:678-9+ O '50

Still needed; depreciation reform. Steel 127:30-3 N 27 '50

Under some conditions Americans working abroad can escape taxes. J Account 92:94-5 Jl '51

Valuation and depreciation related to income tax. M. R. Scharff. Am Soc C E Proc 77 [no 69]:1-7 My '51

See also

Excess profits tax

Accounting

How to deal with the inconsistencies in the tax law on prepayments, deferrals, reserves, so as to obtain the maximum benefits for taxpayer. M. D. Bachrach. J Account 91:282-5 F '51

Hybrid accounting is bad taxwise, whether you stay in it or get out; a note on Koby case. R. F. Jones. J Account 92:206-8 Ag '51

New Canadian depreciation regulations diminish gap between law and good accounting. E. H. Robertson. J Account 91:428-33 Mr '51

Payment received for use of a patent; is it income or capital gain? N. E. Schlesinger. bibliog J Account 91:595-9 Ap '51

Records you must have to back tax deductions; salesmen's expense accounts. J. Shoenfeld. il Sales Management 66:60+ Mr 15 '51

Research stymie; tax law says lab projects are capital items. Bsns W p44+ O 28 '50

Should tax be deferred on intercompany profits eliminated in consolidation? J Account 92:220-1 Ag '51

Tax saving tips for plumbing-heating contractors. Dom Eng 178:94-5+ S '51

Taxability of noncash benefits to employees. J Account 91:455-7 Mr '51

What are the accountant's responsibilities in preparing income-tax returns? D. G. Willard. J Account 91:549-53 Ap '51

See also

Depreciation

Income tax—Deductions

Auditing

14-million taxpayers can be wrong; incorrect returns. Bsns W p 116 Jl 14 '51

Capital gains tax

How to minimize your taxes on stock market profits. A. C. Strasburger. Mag of Wall St 87:218-19+ D 2 '50

Is your fire a capital gain? watch out for involuntary conversion. il Bsns W p 104+ O 13 '51

No justification for raising capital gains tax. R. P. Boylan. Comm & Fin Chr 173:922 Mr 1 '51

Profitable tax pointers in 1951 investment planning. A. C. Strasburger. Mag of Wall St 87:598-9+ Mr 10 '51

Proposal for revising capital gains tax. E. M. Friedman. Comm & Fin Chr 173:1224 Mr 22 '51

Proposed changes in capital gains tax. E. Schram. Comm & Fin Chr 174:251 Jl 19 '51

Sale of land and crops; tax consequences. A. R. White. Banking 43:49+ F '51

Selling your business? how to soften the tax blow. Bsns W p73-4+ Jl 14 '51

Short sale income tax advantage ended. Bankers Mo 68:46-7 F '51

Treasury would have gained if holding period in capital gains tax were shortened. T. B. Meek. Comm & Fin Chr 172:2007 N 23 '50

Collection

Withholding interest and dividend payments; insurance lawyers appear before Senate committee. East Underw 52:3-4 Jl 20 '51

Deductions

Accelerated amortization of facilities for military production; how it works today. J. J. Fox. J Account 91:816-21 Je '51

Administration's proposal to reduce oil, gas, and mineral percentage depletion allowance. R. Gibbs. Chem & Eng N 29:1282-3 Ap 2 '51

INCOME tax—Deductions—*Continued*

Ceiling pitfalls; payments made in violation of rules cannot be deducted. Bsns W p44+ Ap 21 '51
Cut in depletion allowance would limit new oil finds. E. R. Abrams. Barron's 31:6 My 21 '51
Deductibility of life premiums for income tax purposes; estate of Frank Hall v. Commissioner. F. L. Morton. Spectator (Life ed) 159:38-42 O '51
Deductions for unpaid salaries by closed corporations under 24(c). E. J. Mann. J Account 91:614 Ap '51
Depreciation on lessee's improvements; First national bank of Kansas City, trustees for L. S. Williams v. Collector of internal revenue. W. R. White. Banking 43:54 D '50
Fiduciary income taxes; deduction for depletion and depreciation. B. A. Lewis. Trusts & Estates 90:129-30 F '51
Fiduciary income taxes; deductions on estate or income return; administration expenses. A. Y. Bennion. Trusts & Estates 90:128-9 F '51
Five-percenter o.k.'d; tax court allows hiring of agent to get government contract. Bsns W p48 O 28 '50
How the plant engineer can save tax money; deductible repairs; gains and losses from sales of property. J. K. Lasser. Factory Management 109:109-11 Mr '51
How to handle net operating loss deductions in income-tax returns. D. L. Alkire. J Account 91:710-14 My '51
Income taxes and your insurance; abstract. Rough Notes 94:31 Ag '51
I.R.B. rules on deduction for loss from casualty. Nat Underw 54:4 N 9 '50
It doesn't hurt much to give; tax advantages of five per cent gift deduction. Bsns W p28 Ag 18 '51
Payments held deductible when made to satisfy predecessor's guarantee. J Account 91:294-5 F '51
Plan for tax credit on all medical cost loses. Nat Underw 55:29 O 4 '51; Nat Underw (Life ed) 55:1 O 5 '51
"Public policy" axe often hits deductions. Bsns W p 101 Je 2 '51
Publisher contribution to plan not deductible. A. W. Gray. Ed & Pub 83:49 D 9 '50
Records for accelerated amortization deductions. J.-B. Van Haelen. N A C A Bul 33:50-7 S '51
Supreme court says assets contributed by community for construction may be depreciable; Brown Shoe case. C. A. Reynolds. bibliog J Account 91:715-17 My '51
Tax effects of union welfare funds. J Account 91:459-60 Mr '51
Tax pointers for sales executives. L. Gold. Sales Management 66:50+ F 15 '51
Ten tips to tax thrift. F. Merish. Radio & Tv N 45:65+ F '51
War wear speeds depreciation. Bsns W p86 Ja 16 '51
What are costs? BIR's definitions. Bsns W p 118+ My 19 '51

Joint returns

Potshot at income splitting; Treasury wants to change law. Bsns W p62-3 Mr 3 '51

Canada

New Canadian legislation reduces double taxation of corporate income. K. L. Carter. J Account 92:209-13 Ag '51

Connecticut

Supreme court rules on taxation by states of carriers engaged in interstate commerce exclusively. W. R. Montgomery. Credit & Fin Management 53:24 My '51

Great Britain

Tax collectors' kaleidoscope; with tabulation of incomes and taxation, selected years 1938-1949. Economist 159:830-1 N 18 '50

India

Indian income tax. Economist 161:169 Jl 21 '51

Iraq

Income-tax amendment. For Comm W 43:14 My 21 '51

Massachusetts

State can't tax transfer of foreign realty to resident as income; Riesman v. Commissioner of corporations and taxation. Banking 43:73 Mr '51

United States

Are high taxes curbing incentive? Mill & Factory survey. Mill & Factory 49:67-8 S '51
Are strike benefits taxable? Bsns W p38-9 Ap 21 '51
Depletion in federal income taxation of mines. K. S. Benson. Min Eng 3:Trans 612-16 Jl '51
Five-year write-off and you; how quick depreciation can backfire as well as help. Eng N 145:84 N 30 '50
Greener pastures; Americans working abroad pay no U.S. income tax. Bsns W p94+ Je 2 '51
How taxpayer can lose protection of statute of limitations; a trap in the law. H. W. Wolfram. J Account 91:580-5 Ap '51
Income tax program for mineral producers. G. S. Borden. Min Eng 3:503-4 Je '51
Industry leaders offer views on rapid write-off on defense units. Pet Refiner 30:58+ F '51
National defense plants are given tax advantage. W. O. Taylor. Pet Refiner 30:57-8+ F '51
New tax bill; the personal income tax. Nat City Bank p89-91 Ag '51; Excerpt. Comm & Fin Chr 174:624 Ag 16 '51
Relations between lawyers and certified public accountants in income-tax practice. M. Austin. bibliog J Account 91:805-15 Je '51
Sky is now the limit. Manuf Rec 120:27 Jl '51
Taxation for the overprivileged; 12½ per cent proposal. Nat City Bank p66-7 Je '51
Taxes and the chemical industry; impact of tax structures on industrial research. F. Olsen and T. G. Blake. bibliog il Chem & Eng N 29:2724-8 Jl 2 '51
Taxes on gifts to deceased employees' dependents. W. R. White. Banking 43:70+ O '50
Taxes; pattern for the next two years. Bsns W p 19-20 S 1 '51
Treasury sets up procedure for avoiding double tax on endowment installments. Nat Underw (Life ed) 54:8-9 O 27 '50
Who doesn't pay taxes; amount of income reported; chart. Bsns W p46 Ap 21 '51
Who pays the taxes? Musgrave findings challenged by Tucker. Nat City Bank p 103-7 S '51; Excerpt. Comm & Fin Chr 174:876 S 6 '51

See also
Excess profits tax

Decisions

Commissions tax-exempt? rulings drafted on local board public business placement. Nat Underw 55:2 O 4 '51
Effect of Henderson case on tax accounting period of deceased partner. G. B. Lourie and A. R. Cutler. bibliog J Account 91:260-5 F '51
Eliminating competition not tax deduction item; Toledo blade co. A. W. Gray. Ed & Pub 83:45 N 4 '50
Employers' annuity contributions ruled taxable income; with text of Ruling 4041. Nat Underw (Life ed) 55:3 Ja 19 '51
Payment received for use of a patent; is it income or capital gain? N. E. Schlesinger. bibliog J Account 91:595-9 Ap '51
Payments to deceased employees' dependents; Bureau revises IT 3329. W. R. White. Banking 43:54+ D '50
Recent income tax rulings. F. L. Morton. Spectator (Life ed) 158:41-6 Ja '51
Review of significant 1950 federal tax decisions. M. M. Lore. J Account 91:78-85 Ja '51
Sale of land and crops; tax consequences. W. R. White. Banking 43:49+ F '51
Snares for unwary in gross income of personal holding company. V. H. Maloney. J Account 91:882 Je '51
Some light on the Clifford doctrine; Meir case. W. R. White. Banking 43:47+ Ap '51
Supreme court says assets contributed by community for construction may be depreciable; Brown Shoe case. C. A. Reynolds. bibliog J Account 91:715-17 My '51

INCOME tax—United States—Decisions—*Cont.*
Tax on fringes? Bsns W p40+ O 13 '51
Xmas bonus; gift or compensation? Bsns W p57-8 D 2 '50

Virginia

Virginia cuts taxes another five per cent. Bsns W p 104 Jl 21 '51

Washington (state)

State of confusion; Washington new corporate income tax ruled illegal. Bsns W p 156 S 15 '51

INCOME tax, State
See also
Income tax—Connecticut
Income tax—Massachusetts
Income tax—Virginia

INCONEL. See Nickel alloys

INCUBATORS, Bacteriological
Low-temperature incubator. J. C. Picken, jr. and W. R. Bauriedel. diag Science 112:409 O 6 '50; Same. Refrig Eng 59:163 F '51

INDAN
1,3-Diketo-2,2-diphenylhydrindene. R. Moubasher. Am Chem Soc J 73:3245-6 Jl '51
Perhydroindanes; some products from 1-hydroxy*cyclo*hexylpropiolic acid. D. W. Mathieson. Chem Soc J p 177-81 Ja '51
Some adsorption colors and their significance for thermochromic and tautomeric effects; experiments with spiropyrans and with 1,3-diketohydrindene. A. Schönberg, A. Mustafa and W. Asker. bibliog diag Am Chem Soc J 73:2876-9 Je '51
Studies on indene derivatives; new reactions of triketoindane and experiments with hydrindantin and related compounds. R. Moubasher and others. Chem Soc J p 1998-2000 Ag '50

INDANDIONE
Addition of thiols to 2-arylmethylideneindane-1 : 3-diones. A. Mustafa. Chem Soc J p 1370-1 My '51

INDANTHRENE
Chemistry of indanthrone; alkylsulphonylindanthrones. W. Bradley and H. E. Nursten. Chem Soc J p2177-85 Ag '51
Chemistry of indanthrone; an isomer of indanthrone and the constitution of indanthren. B. W. Bradley, E. Leete and D. S. Stephens. Chem Soc J p2163-9 Ag '51
Chemistry of indanthrone; *tert.*-butyl derivatives of indanthrone and flavanthrone; the mode of formation of flavanthrone in the alkali fusion of 2-aminoanthraquinone. W. Bradley and H. E. Nursten. Chem Soc J p2170-7 Ag '51
Chemistry of indanthrone; the cyclisation of 2-amino-1 : 2′-dianthraquinonylamine. W. Bradley, E. Leete and D. S. Stephens. Chem Soc J p2158-62 Ag '51
Chemistry of indanthrone; the formation of dianthraquinonyl-*N*-methylamines. W. Bradley and E. Leete. Chem Soc J p2147-58 Ag '51
Chemistry of indanthrone; the mode of formation of indanthrone from 2-aminoanthraquinone and potassium hydroxide. W. Bradley and E. Leete. Chem Soc J p2129-46 Ag '51

INDANTHRONE. See Indanthrene

INDENE
Experiments relating to œstrogenic indenes. D. S. Morris. Chem Soc J p 1913-17 Jl '50
Indene series; a synthesis of 1 : 2 : 3 : 4 : 9 : 10-hexahydro-2-keto*cyclo*pent[*a*]indene. L. H. Groves and G. A. Swan. Chem Soc J p867-70 Ap '51
Indene series; a synthesis of 1 : 2 : 3 : 8-tetrahydro-1-keto*cyclo*pent[*a*]indene. G. R. Clemo and others. Chem Soc J p863-7 Ap '51
Indene series; the cyclisation of 1-benzyl*cyclo*pentene and isomeric compounds. L. H. Groves and G. A. Swan. Chem Soc J p871-2 Ap '51
Studies on indene derivatives; methylenedioxyindanetrione. R. Moubasher. Chem Soc J p2243-5 Ag '50
Studies on indene derivatives; new reactions of triketoindane and experiments with hydrindantin and related compounds. R. Moubasher and others. Chem Soc J p 1998-2000 Ag '50

INDEPENDENT aluminum corporation
Two aluminum users planning to make their own. J. Delaney. Iron Age 167:105-6 My 17 '51

INDEPENDENT insurers, National association of. See National association of independent insurers

INDEPENDENT natural gas association of America
Annual meeting, Houston. Oil & Gas J 49:59 O 26 '50
Annual meeting, Houston, Oct. 23. Gas Age 106:27+ N 23 '50
Annual meeting, Oklahoma City, Sept. 24. Oil & Gas J 50:48-9 S 27 '51

INDEPENDENT petroleum association of America
Midyear directors' meeting, Denver. Oil & Gas J 50:91 My 10 '51

INDEPENDENT steelworkers union
Weirton holds out; CIO steelworkers lose to independent union. Bsns W p 126+ N 4 '50

INDEPENDENT telephone association, United States. See United States independent telephone association

INDEX numbers (economics)
Adjusted consumers' price index; relative importance of items. Mo Labor R 72:697-702 Je '51
American Machinist index of metalworking production; 1935-1950; tabulation and chart. Am Mach 95:143-8 Ja 22 '51
Appraisal of productivity measures at Washington conference. H. J. Greenspan. Mo Labor R 72:313-16 Mr '51
Boeckh index of building costs; U S average 1926-'29. Eng N 146:125 Mr 29 '51
Correction of new unit bias in rent component of CPI. G. Johnson and B. Schiro. Mo Labor R 72:437-44 Ap '51
Cost of living index is overhauled as indicator of controlled economy. Elec World 135:86 My 7 '51
Effects of outlet type and location on price; revision of Consumers' price index. R. Rosakrans. Mo Labor R 73:63-7 Jl '51
Engineering News-Record construction and building cost indexes. Eng N 146:121-2 Mr 29 '51
Escalator clauses; consumer price index of the Bureau of labor statistics. Fortune 42:46+ N '50
Face lifting for cost-of-living index. Bsns W p 104-5 O 28 '50
Four changes in the cost-of-living; effects on the index. E. Clague. Dun's R 59:18-20+ Je '51
Ifs and buts of steel price; ABC of what's behind some key statistics. il Bsns W p63-4+ My 19 '51
Indexes of industrial production, 1946-1950. Steel 128:141 Ja 1 '51
Interim adjustment of consumers' price index. D. P. Rothwell. Mo Labor R 72:421-9 Ap '51
Making commodity prices; ABC of what's behind some key statistics. Bsns W p60+ My 12 '51
Possible technique for determining the relationship between certain national indices and the demand for engineers. W. P. Wallace and others. bibliog J Eng Educ 41:95-100 O '50
Transformation functions in the theory of production indexes. P. B. Simpson. bibliog Am Stat Assn J 46:225-32 Je '51
Wage escalators and the adjusted CPI. L. M. Kramer and J. Nix. Mo Labor R 72:509-13 My '51
Which cost-of-living index? Bsns W p 112+ Mr 10 '51
Wholesale prices, 1949; including index numbers of 900 different commodities. U S Bur Labor Statistics Bul 1007:1-60; pa 30c Supt. of doc. '51
Willard Phillips, a predecessor of Paasche in index number formulation. R. W. Jastram. Am Stat Assn J 46:124-6 Mr '51
See also
Stocks—Price indexes and averages

INDEXING
Government indexes and indexing. S. Horrocks. Aslib Proc 3:45-50 F '51

INDEXING—*Continued*

Library use of new indexing system; Division of metallurgical research of Kaiser aluminum and chemical corp. D. L. Edelman. il Metal Prog 59:526-8 Ap '51

Structure of a connective index. B. C. Vickery. bibliog J Doc 6:140-51 S '50

Symposium on indexing. Special Lib 42:62-6 F '51

INDEXING (machine work)

Device for locking index-plate in any desired position. F. L. Keller. diags Mach 57:191 Ag '51

Drill fixture indexes. M. Moran. diag Am Mach 95:175 O 1 '51

Indexer rotates work for operations 120 deg. apart. il Product Eng 22:168 F '51

Indexing fixture aids drilling close holes for IBM electric typewriters. il Iron Age 167: 64 Ja 18 '51

Lynn hydraulic drive speeds turret indexing. il Am Mach 95:198 F 19 '51

Multiple drill jig with indexing V-blocks. R. Mawson. diags Mach 58:189-90 S '51

Welded indexing jig for drilling a casting of complicated shape. R. Mawson. diags Mach 57:198-200 Ja '51

INDIA

Letter from India. W. G. Bowman. il Eng N 146:40-1 Mr 8 '51

Malaise among the princes. Economist 160: 747 Mr 31 '51

Recovery from disillusionment. Economist 161:402+ Ag 18 '51

See also

Budget—India
Cement industry and trade—India
Chemical industries—India
Engineering—India
Food supply—India
Hydroelectric plants—India
Income tax—India
Insurance—India
Paper industry and trade—India

Commercial policy

Import-licensing policy. For Comm W 42:21 F 19 '51

India resumes trade with Pakistan. Bsns W p 138-9 Mr 3 '51

Mutual supply agreement and collateral exchange understanding with Pakistan. For Comm W 42:15-16 Mr 19 '51

Tariffs and trade controls. For Comm W 43:14 Je 11; 44:17 Ag 6 '51

Economic conditions

India can't go it alone. il Bsns W p 141-2 F 24 '51

News by countries. For Comm W 41:22-3 O 2; 19 D 4 '50; 43:13-14 Je 11; 44:16 Jl 30 '51

Economic relations

Aid for India? Bsns W p 161-2 S 8 '51

Foreign relations

As India sees the treaty. Economist 161:633 S 15 '51

India and Pakistan. Economist 161:139-41 Jl 21 '51

India's northern neighbours. Economist 159: 936 D 2 '50

Nehru, idealist or appeaser? Economist 160: 993 Ap 28 '51

Peace or war in the Punjab? Economist 161: 460-1 Ag 25 '51

Role of India. Economist 160:62-3 Ja 13 '51

Industries and resources

India announces a five-year plan for development of its resources. Eng N 147:63 Ag 23 '51

Politics and government

India on the fence. K. Nair. Fortune 43:61+ Ja '51

India's need for an opposition. Economist 160:268+ F 3 '51

Social conditions

Social tensions. G. Murphy. Ann Am Acad 276:35-42 Jl '51

INDIAN iron and steel company, limited

Statement by the chairman at 33d ordinary general meeting. T. L. Martin. Economist 159:1055-6 D 9 '50

INDIAN ocean science congress. See Pan Indian ocean science congress

INDIANA associated telephone corporation

Preferred stock offered. Comm & Fin Chr 173:1478 Ap 9 '51

INDIANAPOLIS

Letter from Indianapolis. il Eng N 146:112 Ja 4 '51

INDIANAPOLIS power and light company

Bonds offered. Comm & Fin Chr 173:660 F 12 '51

Stock offering underwritten. Comm & Fin Chr 173:566 F 5 '51

INDIANS

Antiquities

Gold-copper alloys in ancient America. W. C. Root. il J Chem Educ 28:76-8 F '51

INDIANS of North America

Early Americans. F. H. H. Roberts. il diag Sci Am 184:15-19 F '51

How man came to North America. R. Solecki. il map Sci Am 184:11-15 Ja '51

Antiquities

Peoples of Pine Lawn valley. P. S. Martin. il Sci Am 185:46-51 Jl '51

Health and hygiene

Phlyctenular keratoconjunctivitis among Alaskan Indians and Eskimos. M. H. Fritz and P. Thygeson. bibliog Pub Health Rep 66: 934-9 Jl 20 '51

Alaska

Problems of Alaskan Eskimos, Indians, Aleuts. J. C. Haldeman. Pub Health Rep 66:912-17 Jl 20 '51

INDICATORS (for internal combustion engines)

Construction and calibration of a laboratory engine pressure indicator. G. L. Laserson. bibliog il diags Instruments 24:156-7+ F '51

Development of a high-speed, multi-point indicator. J. C. Morrison. diags Engineer 191: 178-80 F 9 '51

Engine indicating; C.A.V.-Ricardo photoelectric pressure and movement gauges. il diags Automobile Eng 41:341-3 S '51

Fuel peak pressure indicator. diag Engineer 191:394-5 Mr 23 '51

Maximum pressure indicator. il diag Automobile Eng 41:79 F '51

Standard-Sunbury engine indicator Mark, 6. E. S. L. Beale and R. Stansfield. il diag Engineer 192:215-17, 246-8 Ag 17-24 '51

INDICATORS and test papers

Alkalimetric determination of metals with the aid of acid-base indicators. J. F. Coetzee. Chem Soc J p997-1004, 2098-102 Ap, Ag '51

Alphazurine G and some *N,N'*-substituted benzidines as redox indicators. R. N. Adams and E. M. Hammaker. bibliog Anal Chem 23:744-6 My '51

Ionisation of triarylcarbinol indicators in sulphuric acid-water mixtures. M. A. Murray and G. Williams. Chem Soc J p3322-6 N '50

Luminol as a chemiluminescent indicator in acid-base titrations with a dark-chamber titrimeter. F. Kenny and R. B. Kurtz. bibliog Anal Chem 23:339-41 F '51

Polyvinyl alcohol as indicator in iodometry. S. A. Miller and A. Bracken. Chem Soc J p 1933 Jl '51

Sensitized paper for estimation of mercury vapor. F. Stitt and Y. Tomimatsu. Anal Chem 23:1098-101 Ag '51

Some new indicators in various titrimetric processes. A. J. Nutten. bibliog Metallurgia 42:216-19, 271-3, 407-10 S-O, D '50

Substituted benzidines and related compounds as reagents in analytical chemistry; 3 : 3'-dimethylnaphthidine as indicator in the titration of zinc with ferrocyanide. R. Belcher, A. J. Nutten and W. I. Stephen. Chem Soc J p 1520-1 Je '51

Substituted benzidines and related compounds as reagents in analytical chemistry; 3-methylbenzidine and 3 : 3'-diethylbenzidine as indicators in argentometry. R. Belcher and A. J. Nutten. Chem Soc J p547-8 F '51

Substituted benzidines and related compounds as reagents in analytical chemistry; new indicators for the microvolumetric determination of gold. R. Belcher and A. J. Nutten. Chem Soc J p550-1 F '51

INDICATORS and test papers—*Continued*

Wet comparison. Chem Ind W 68:30 Ja 27 '51

Xylene cyanole FF, redox indicator. H. M. Tomlinson, O. T. Aepli and H. M. Ebert. bibliog Anal Chem 23:286-7 F '51

INDIGENOUS labor. See Native races

INDIGO

Colour of organic compounds; indigo and related dyes. E. B. Knott. bibliog Soc Dyers & Col J 67:302-6 Ag '51

See also

Thionindigo

INDIGOSOL printing pastes. See Textile printing—Patents

INDIUM

Band spectrum of HgIn. R. L. Purbrick. il Phys R 81:89-94 Ja 1 '51

Crystal structures and transformations in indium-thallium solid solutions. L. Guttman. bibliog il J Metals 188:Trans 1472-7 D '50; Discussion. 3:Trans 1056-7 N '51

Crystallography of cubic-tetragonal transformation in the indium-thallium system. J. S. Bowles and others. bibliog il diags J Metals 188:Trans 1478-85 D '50

Investigation of bremsstrahlung by means of the nuclear isomerism of indium. E. J. Schillinger, jr. and others. bibliog diag Phys R 83:320-3 Jl 15 '51

Nuclear moment discrepancies in gallium and indium. H. M. Foley. bibliog Phys R 80:288-9 O 15 '50

Rare advance; strategic importance of indium. Chem Ind W 68:17-18 Ja 20 '51

Susceptibility and magnetic anisotropy of indium single crystals. J. Verhaeghe and others. bibliog Phys R 80:758 N 15 '50

Thermoelectromotive force of a superconductor versus the same metal in the non-superconductive state. M. C. Steele. bibliog diag Phys R 81:262-7 Ja 15 '51

Three job-hungry metals now report for duty: indium, tellurium and thallium. il Mod Ind 21:48-51 My '51

Isotopes

Directional distribution of 1040-kev radiation from a high voltage X-ray tube. N. Goldstein and others. diags J Ap Phys 22:417-18 Ap '51

Dual decay of the 50-day In^{114} isomer and angular momenta of the excited states of Cd^{114}. R. M. Steffen. bibliog Phys R 83:166 Jl 1 '51

Natural radioactivity of In^{115}. E. A. Martell and W. F. Libby. bibliog Phys R 80:977-82 D 15 '50

Radioactivity of Ag^{111}, Cd^{111}, In^{111}, and Sn^{111}. C. L. McGinnis. bibliog Phys R 81:734-40 Mr 1 '51

INDIUM alloys

Ferromagnetism in the manganese-indium system. W. V. Goeddel and D. M. Yost. Phys R 82:555 My 15 '51

Lattice parameter of InSb. T. S. Liu and E. A. Peretti. J Metals 3:Trans 791 S '51

INDIUM chloride

Study of indium(III) chloride complexes by polarographic methods. J. A. Schufle, M. F. Stubbs and R. E. Witman. bibliog Am Chem Soc J 73:1013-15 Mr '51

INDIUM plating

Indium plating; tabulation; engineering data sheet. Metal Finishing 48:86 D '50

INDIVIDUALISM

Individualism comes of age. Fortune 43:113-15+ F '51

INDO-CHINA, French

De Lattre for Indo-China. Economist 159:1073-4 D 16 '50

Economic trends in first half of 1951. For Comm W 45:10-11 O 15 '51

Freedom of choice. Economist 159:872-3 N 25 '50

Paris views Indochina. Economist 161:33-4 Jl 7 '51

Third front in Asia. Economist 159:618-19 O 21 '50

Viet Nam fighting grows. Economist 159:573 O 7 '50

Vietminh front against the French. Economist 159:696 N 4 '50

Vietminh looks ahead. Economist 161:102 Jl 14 '51

See also

Trade unions—Indo-China, French

INDOLE

Alkylation of Grignard reagents by quaternary ammonium salts; a novel synthesis of 1,3-dialkylindoles. H. R. Snyder, E. L. Eliel and R. E. Carnahan. bibliog Am Chem Soc J 73:970-3 Mr '51

Amino derivatives of 5-keto-1,3,4,5-tetrahydrobenz[cd]indole. F. C. Uhle. Am Chem Soc J 73:2402-3 My '51

Catalytic synthesis of heterocycles; dehydrocyclization of *o*-alkylbenzene to indoles. C. Hansch and G. Helmkamp. bibliog Am Chem Soc J 73:3080-2 Jl '51

Catalytic synthesis of heterocycles; dehydrocyclization of anils to nitrogen heterocycles. C. Hansch and others. bibliog Am Chem Soc J 73:704-6 F '51

Ethylindole-, 5-methylindole-, and 5-methoxyindole-3-carboxylate. G. F. Smith. Chem Soc J p 1637-8 Je '50

Fischer indole synthesis; a kinetic investigation. K. H. Pausacker and C. I. Schubert. Chem Soc J p 1814-16 Jl '50

Fischer indole synthesis; the cyclisation of some *cyclo*hexanone *o*-substituted hydrazones. C. S. Barnes, K. H. Pausacker and W. E. Badcock. Chem Soc J p730-3 Mr '51

Fischer indole synthesis; the cyclisation of the phenylhydrazones of some 2-substituted *cyclo*hexanones. K. H. Pausacker. Chem Soc J p621-4 F '50

Indoles; the preparation and oxidation of the *Bz*-nitro-2-methyl-3-ethyl-, -2 : 3-diphenyl-, and -2-methyl-3-phenyl-indoles. K. Schofield and R. S. Theobald. Chem Soc J p 1505-9 Je '50

Melanin and its precursors; model experiments on the reactions between quinones and indoles, and consideration of a possible structure for the melanin polymer. J. D. Bu'Lock and J. Harley-Mason. Chem Soc J p703-12 Mr '51

Novel sulfidation reaction and its application to some indoles and pyrroles. R. G. Woodbridge, 3d and G. Dougherty. bibliog Am Chem Soc J 72:4320-2 S '50

Structure and properties of certain polycyclic indolo- and quinolino-derivatives. F. G. Mann and others. Chem Soc J p 1898-914 Jl '51

Synthesis of substituted 2 : 3-benzpyrrocolines. R. Robinson and J. E. Saxton. Chem Soc J p3136-40 N '50

INDOLEACETIC acid

Characterization of indole-3-acetic acid and its esters. C. T. Redemann, S. H. Wittwer and H. M. Sell. Am Chem Soc J 73:2957-8 Je '51

Synthesis of 4-chloro-3-indoleacetic acid. C. Hansch and J. C. Godfrey. Am Chem Soc J 73:3518 Jl '51

Synthesis of indoleacetic acid from glutamic acid and a proposed mechanism for the conversion. S. W. Fox and M. W. Bullock. bibliog Am Chem Soc J 73:2754-5 Je '51

Synthesis of indole-3-acetic acids and 2-carboxyindole-3-acetic acids with substituents in the benzene ring. S. W. Fox and M. W. Bullock. bibliog Am Chem Soc J 73:2756-9 Je '51

INDOLINE

Synthesis of 1-substituted phosphindolines. F. G. Mann and I. T. Millar. Chem Soc J p2205-6 Ag '51

INDOLOCARBAZOLE

Experiments on the preparation of indolocarbazoles. P. V. Clifton and S. G. P. Plant. Chem Soc J p461-6 F '51

Experiments on the preparation of indolocarbazoles; some observations on the Graebe-Ullmann carbazole synthesis. G. G. Coker, S. G. P. Plant and P. B. Turner. Chem Soc J p 110-15 Ja '51

Experiments on the preparation of indolocarbazoles; the preparation of indolo (3′ : 2′-1 : 2)carbazole. M. L. Tomlinson. Chem Soc J p809-11 Mr '51

INDONESIA

Allocations under export-import bank loan to Indonesia. For Comm W 42:9 F 12 '51

Cloud over Indonesia. map Economist 159:936 D 2 '50

Dismay in Indonesia. Economist 159:1148-9 D 23 '50

Indonesia is paradise for working newsmen. E. Allen. Ed & Pub 83:15 D 30 '50

INDONESIA—*Continued*
Indonesia's lack of order. map Economist 160:1512+ Je 23 '51
Indonesia's reign of terror. il Bsns W p 128-30 S 1 '51
Re-do in Indonesia; White Engineering gets two-year contract to revamp economy. Bsns W p 130-1 Mr 10 '51
Uneasy Indonesia. Economist 160:871 Ap 14 '51

See also
Petroleum industry and trade—Indonesia

Commercial policy

Commodities to be traded under recent agreement with India; list. For Comm W 42:17 Mr 26 '51

Economic conditions

News by countries. For Comm W 41:14 N 13 '50; 42:14 F 5; 43:15 Ap 30; 14 Je 25; 44:16-17 Jl 30; 13-14 Ag 20; 45:11-12 O 15 '51

INDOXYL
Addition reactions and Wagner-Meerwein rearrangements in the indoxyl series. B. Witkop and J. B. Patrick. bibliog Am Chem Soc J 73:713-18 F '51

INDUCTANCE
Inductance chart for solenoid coil. H. A. Wheeler. bibliog diags Inst Radio Eng Proc 38:1398-400 D '50
Maintaining oscillations by the periodic variation of *L* or *C*. G. W. O. Howe. Wireless Eng 28:69-70 Mr '51
Sinusoidal variation of inductance in a linear series *RLC* circuit. E. I. Hawthorne. bibliog Inst Radio Eng Proc 39:78-81 Ja '51

INDUCTANCE coil
Discharge lamp chokes; methods of production noise testing. C. A. Mason and D. A. Nutt. il Elec R (Lond) 148:489-92 Mr 9 '51

INDUCTION motors. See Electric motors, Induction

INDUSTRIAL advertising. See Advertising, Industrial

INDUSTRIAL advertising research foundation
First official report on ad research foundation. Ind Marketing 36:103+ Ag '51
New research foundation started. Ind Marketing 36:103 Jl '51

INDUSTRIAL allocations. See Priorities and allocations, Industrial

INDUSTRIAL and commercial finance corporation, ltd.
ICFC and risk capital. Economist 160:1119 My 12 '51

INDUSTRIAL arbitration. See Arbitration, Industrial

INDUSTRIAL arts
See also
Agriculture
Architecture
Building
Ceramics
Chemical engineering
Chemistry, Technical
Clay products
Design
Dyes and dyeing
Electric engineering
Engineering
Factories
Foundry practice
Glass manufacture
Industrial research
Inventions
Machine shop practice
Machine shops
Machinery
Manufactures
Mechanical engineering
Metal work
Metallurgy
Paint
Paper making
Patents
Photography
Plumbing
Pottery
Printing
Production
Rubber
Shipbuilding
Soap
Tanning
Technology
Textile industry
Weaving

INDUSTRIAL buildings
Arched industrial building integrates display, repair and office space for Caterpillar Tractor; Rio de Janeiro. il plan diags Arch Forum 93:136-7 N '50
Builders' blues; NPA puts brakes on plant expansion. Bsns W p 134 Ag 25 '51
Building types study. il plans diag Arch Rec 110:127-50 Jl '51
Electronic engineering associates, ltd.; building in San Carlos, Calif. il plans Arch Rec 110:125-9 S '51
Industrial buildings; building types study. il plans diag Arch Rec 109:119-41 F '51
Plotting borings to show best layout for a plant. diags Eng N 145:51 D 14 '50
Round table report on commercial and industrial construction. Arch Forum 94:163-78 Mr '51
17th annual plant building issue. il diag Factory Management 109:B65-164 pt 2 Ap '51
Today's industrial building; a portfolio of the work of Giffels & Vallet, inc., L. Rossetti. il diags Arch Forum 94:144-59 My '51

See also
Chemical plants
Factories
Foundries
Machine shops
Metallurgical plants
Office buildings, Industrial
Petroleum refineries
Printing offices
Warehouses

Finance

Revenue bonds step into new roles; financing plants for rental to private companies. il Bsns W p 102+ S 1 '51

INDUSTRIAL chaplains. See Chaplains, Industrial

INDUSTRIAL coatings inc.
Common stock offered. Comm & Fin Chr 172:2024 N 27 '50

INDUSTRIAL cooling. See Cooling, Industrial

INDUSTRIAL cooperation
Cooperative oil and gas operations. W. Hawkins. Pet Eng 22:B68+ N '50
See also
Business management
Contracts, Government—Pooling
Trade associations

INDUSTRIAL demobilization

Government plants

Landlord on a shoestring; C. W. Carlstrom. Bsns W p 104+ Ag 25 '51

INDUSTRIAL design. See Design

INDUSTRIAL development corporations
How Missouri does it; industrial development program. Bsns W p92-4 O 21 '50

INDUSTRIAL diamonds. See Diamonds, Industrial

INDUSTRIAL education
Books in industry. J. French. Aslib Proc 3:8-14 F '51
College professors go to business! summer sessions at company plants. N. Keine. il Ptr Ink 236:31-2 Jl 20 '51
How Canada controls apprentices. G. Rousseau. Am Mach 95:144-6 F 19 '51
Industrial education in Great Britain; contrast and similarity between British and American systems. J. Rich. Personnel 27:328-36 Ja '51
Industrial training of chemists and engineers in industry. C. H. Kline; P. D. V. Manning and others. bibliog Chem & Eng N 29:1394-8, 1513-16, 1637-9 Ap 9-23 '51
Rochester schools teach defense workers skills. Bsns W p46 Mr 3 '51

See also
Apprentices
Engineering education
Foremen—Training
Foundry educational foundation
Foundry practice—Study and teaching
Industrial engineering—Study and teaching
Paper making—Study and teaching
Supervisory workers—Training
Technical education
Textile education
Trade schools
Trade unions—Educational work
Vocational education

Cooperative plan

Saskatchewan training plan solves printer shortage. E. L. Pulford. Inland Ptr 126:39-40 N '50
Spare-time courses benefit employes and company; Socony-Vacuum oil co. A. F. Grant. World Oil 131:65-6 N '50

INDUSTRIAL efficiency. See Efficiency, Industrial

INDUSTRIAL electric locomotives. See Electric locomotives, Industrial

INDUSTRIAL engineering
Chemical engineering economics, what it holds for you. R. Stahl and J. E. Kasch. Chem Eng 58:270+ F '51
Effects of quality standards on production standards. W. A. McConnell. Advanced Management 16:16-18 Ap '51
Employment opportunities in small industries for engineers. A. R. Hellwarth. J Eng Educ 41:393-6 Mr '51

INDUSTRIAL engineering—*Continued*

Engineering and purchases. T. D. Jolly. Iron & Steel Eng 27:81-4 N '50

Engineering production. T. U. Matthew. Engineering 170:486 D 8 '50

New tasks in engineering for small plants. F. W. Miller. il plans Mech Eng 73:481-3+ Je '51

Plant engineering handbook. W. Staniar, ed. 2007p $15 McGraw-Hill book co, 330 W. 42d st, New York 18 '50

What are the problems in the field of industrial engineering? H. R. Beatty. J Eng Educ 41:389-91 Mr '51

See also

Engineering departments

Industrial management

Motion study

Time study

Study and teaching

Management and the engineering college. T. Saville. Advanced Management 16:10-11 My '51

Tables, calculations, etc.

Sharp tool for industrial engineers. J. M. Allderige. Advanced Management 16:12-15 S '51

INDUSTRIAL engineers

Industrial engineers' relations with accounting. J. L. Wilson. Advanced Management 16:13-15 Ap '51

Industrial-management engineer and his place in society. R. T. Livingston. Mech Eng 73:400-4+ My '51

Opportunities for engineers to share in management's social responsibilities. B. M. Reynolds. Chem Eng 58:248+ Ja '51

Why not a suggestion box for engineers and supervisors? J. D. Leonard. Chem Eng 58:117-18 Ja '51

INDUSTRIAL espionage

Sabotage and espionage are top means Communists would use to hurt oil. L. Castle. Nat Pet N 42:27-8 O 25 '50

This is no time to laugh off plant security. A. N. Wecksler. il Mill & Factory 49:75-80 Jl '51

INDUSTRIAL expansion

Are we heading for a bust in capital expenditures? D. M. Keezer. Comm & Fin Chr 174:1151+ S 27 '51

Billions for greater industrial expansion. J. D. C. Weldon. il Mag of Wall St 88:76-7+ Ap 21 '51

Defense facilities approved for fast tax write-offs; list. Automotive Ind 104:94+ My 15; 105:54+ Jl 15; 116+ Ag 15 '51

Defense plants get certificates of necessity; list. Am Mach 95:226-7 My 14 '51

DPA lists fast writeoffs for 396 facilities. Iron Age 167:106+ Ap 19 '51; Steel 128:45+ Ap 23 '51

Expansion snafu. Bsns W p 164-5 O 6 '51

Fast tax write-off for defense plants. Eng N 146:157+ Mr 29 '51

Fast tax write-off granted more defense plant requests. Iron Age 167:129-30 My 3; 116-17 My 10; 119-21 My 24; 90 My 31; 133-5 Je 7; 116-17 Je 14; 118 Je 21; 168:111-15 Jl 5; 118-20 Jl 12; 132-3 Jl 19; 99-101 Jl 26; 122+ Ag 2; 98+ Ag 9; 132-3 Ag 16; 97-9 Ag 23; 100 Ag 30; 137-9 S 6; 50-1 S 27 '51

Fast tax write-off granted on 313 new industrial projects; DPA issues certificates of necessity. Iron Age 167:95-6+ Mr 22 '51

Fast writeoffs; with list of companies; list. Bsns W p68+ Mr 24; p71-2+ Ap 28 '51

Getting writeoffs into line; Wilson calls 60-day moratorium. Bsns W p24 Ag 18 '51

Growth industries of the '50s. Product Eng 22:145-7 My '51

Industry's expansion goal, $21.5 billion. Elec World News ed 135:11-12 Ap 2 '51

More stuff; basic materials get lion's share of fast writeoff certificates. Bsns W p24 My 12 '51

ODM orders 60-day moratorium in rapid tax write-off awards. Oil Paint & Drug Rep 160:3 Ag 20 '51

Plant expansion; nobody's backing out. Bsns W p21-2 Jl 14 '51

Tax aid approved for plant expansion. Am Mach 95:230+ S 3 '51

Tax hazards of plant expansion. R. Modley. Aviation W 54:40+ Je 25 '51

Tax writeoffs; Wilson orders 60-day rest. Iron Age 168:125 Ag 16 '51

Today's defense expansion justified by rapid growth of our population. W. Gates. il Mag of Wall St 87:546-7+ F 24 '51

Why business keeps expanding. Bsns W p 19-20 Jl 28 '51

Statistics

Big spending; summary of SEC-Commerce dept. survey on capital spending plans. Bsns W p24 Mr 31 '51

Boom within a boom; capital spending. Bsns W p26 S 29 '51

Business capital expenditures programs in 1951. Survey of Cur Bsns 31:4-5 Ja '51

Business investment and sales expectations in 1951; expenditures for new plant and equipment; with tabulations. L. Bridge. Survey of Cur Bsns 31:11-15+ Ap '51

Business investment programs and their realization. I. Friend and J. Bronfenbrenner. Survey of Cur Bsns 30:11-22 D '50

Canada builds; capital investment plans hit new high. Bsns W p 158-9 Ap 21 '51

Capital goods programs show effects of defense effort; with data on expenditures on new plant and equipment, 1945-1951. Survey of Cur Bsns 31:5-7 S '51

Capital spending goes through roof; 1951 plans. Bsns W p20 Ja 6 '51

Companies undertaking new expansion pointing to higher earnings potential; with statistics on selected companies. S. Devlin. Mag of Wall St 88:294-5+ Je 16 '51

Domestic business investment in 1950; plant and equipment expenditures; inventories. Survey of Cur Bsns 31:19-21 F '51

Estimates of 1951 business expansion by SEC and Commerce department. Comm & Fin Chr 173:187 Ja 11 '51

Expanded demand for plant and equipment; with data on business expenditures on new plant and equipment, 1945-51. Survey of Cur Bsns 30:4-5 D '50

Expansion's third, and biggest, wave; plans for new plant and equipment. il Bsns W p 19-22 N 11 '50

Industry planning enormous expenditures in 1951; highlights of McGraw-Hill survey. Comm & Fin Chr 173:1446-7 Ap 5 '51

Industry raises its sights; summary of SEC-Commerce department third quarter estimates. Bsns W p25 Je 23 '51

Plant expansion plans for 1951; highlights of McGraw-Hill's survey. Factory Management 109:48A-48C Ap '51

SEC raises estimate of 1951 capital outlay. Comm & Fin Chr 173:2567 Je 21 '51

Third quarter trends in capital outlays; with table of expenditures on new plant and equipment, 1945-51. Survey of Cur Bsns 31:6-7 Jl '51

U.S. industry is getting bigger and bigger; McGraw-Hill survey of capital spending plans for 1951. Bsns W p68-74 Mr 31 '51 (reprints 20c)

What are the 1951 prospects for plant expansion? Mill & Factory survey. Mill & Factory 48:67-70 F '51

INDUSTRIAL films. See Moving pictures in industry

INDUSTRIAL health. See Hygiene, Industrial; Michigan university—Institute of industrial health

INDUSTRIAL heating. See Electric heating, Industrial; Gas heating, Industrial; Heating, Industrial; Hot water heating, Industrial; Infrared rays—Industrial heating; Steam heating, Industrial

INDUSTRIAL hygiene foundation of America

Annual meeting, 15th, Pittsburgh. Chem & Eng N 28:4177-8 N 27 '50

Fifteen years later; annual meeting, 15th, Pittsburgh, Nov. 15-16, with program. Ind Med 20:38-40 Ja '51

Walmer to head hygiene group. J. F. McMahon. Safety Maint & Prod 101:52 F '51

INDUSTRIAL insurance. See Insurance, Industrial

INDUSTRIAL laws and legislation

Great Britain

Industrial law during 1950. Chem Age (Lond) 64:71-2 Ja 13 '51

INDUSTRIAL locomotives. See Locomotives, Industrial

INDUSTRIAL management

Control during action. C. J. Koenig. Advanced Management 16:9-11 Je '51

Engineering and management. H. J. Klingler. S A E J 59:17-18 My '51

Future; whose responsibility? E. L. Lindseth. Edison Elec Inst Bul 19:79-81+ Mr '51

Joint responsibility for productivity. W. Clark. Mech Eng 73:5-6+ Ja '51

Management's approach to productivity. J. J. Gracie. Engineering 170:561-2 D 29 '50

Modern organization theories; theory of games; servomechanisms; linear programming. H. A. Simon. il Advanced Management 15:2-4 O '50

Productivity in British industry (cont). B. White and others. il plans diags Engineer 190:373-7, 612-15+; 191:146-8, 274-8 O 20, D 22 '50, F 2, Mr 2 '51

Some observations on engineering management. J. C. Zeder. S A E J 59:32-5 Ag '51

They tackle management's intangibles; Ansul chemical company's executive committee. il Mod Ind 22:48-51 Ag '51

Who manages your research? Steel 129:54-5 Ag 27 '51

See also

Business management
Coal mines and mining—Management
Company towns
Controllers
Efficiency, Industrial
Employees' representation in management
Employment management
Employment systems
Engineering departments
Factory management
Foremen
Foundry management
Hygiene, Industrial
Industrial development corporations
Industrial engineering
Industrial relations
Inspection
Insurance, Business
Inventories
Job analysis
Machine shop management
Machine tools
Machinery, Replacement of
Mine management
Office management
Organization in industry
Planning
Public relations
Purchasing
Railroads—Management
Standardization
Suggestion systems
Time study
Wage payment plans

Study and teaching

Industrial blooms on campus; Stanford university's industrial laboratory. il Bsns W p94+ F 17 '51

Utility executives go back to school; special course at University of Michigan. il Elec World 136:64-6 Jl 30 '51

See also

Massachusetts institute of technology—School of industrial management

INDUSTRIAL market

Buffalo, N.Y. as a sanitary supply market. E. Weller. il Soap & San Chem 26:110-13+ N '50

Defining, measuring the industrial market. J. A. Priebe. il Ind Marketing 35:40-1+ O '50

Distributors blessed the day Morse revamped its packages; factory-cut and packaged roller chain. il Sales Management 66:52+ Mr 15 '51

Five ways to submit your proposals to industrial prospects. H. W. Green. Sales Management 67:50+ Jl 1 '51

Industrial distributor is an aid to plant operations. E. E. Holrod. Mill & Factory 47:126-7 D '50

Industry to introduce new products in old markets; spot check by Industrial marketing. Ind Marketing 36:44+ S '51

It's easy to dig up vital market data with the right tools. A. H. Dix. Ptr Ink 234:29-31+ Mr 9 '51

Motives that move industrial buyers. Sales Management 65:80 N 1 '50

Open house for customers sells industrial equipment. K. F. Kirchhofer. Ind Marketing 35:110 N '50

Prosperous but complicated year seen for industry; editors forecast. Ind Marketing 36:35+ Ja; 46+ F '51

Sanitary supplies for industry; survey conducted in Asheville, N.C. F. W. Brewer. Soap & San Chem 26:119+ O '50

Sanitary supplies for the Chicago market. H. H. Slawson. il Soap & San Chem 26:121-3+, 149+ D '50

Western Union phone survey finds an elusive market; materials handling periodical builds circulation list of purchasing agents. N. L. Cahners. Ind Marketing 35:44+ N '50

What distributors want to know before they'll take on your line. L. H. Brendel. Sales Management 67:76+ O 1 '51

What kind of product preview when top brass prospects come? Shakeproof pre-assembled nut and lock washer. J. O'Connor and J. S. Hawley. il Sales Management 66:64+ Mr 1 '51

INDUSTRIAL medical association (formerly American association of industrial physicians and surgeons)

President's page, Association news, etc. Published in monthly numbers of Industrial medicine and surgery

INDUSTRIAL medicine. See Medical service, Industrial

INDUSTRIAL mobilization

Agencies and controls; expansions, etc. Chem Eng 58:114-16 F '51

All-out expansion, but; tough mobilizers lose fight to limit plant expansion. Bsns W p21 Mr 10 '51

American power mobilizes for freedom. C. E. Wilson. Pub Util 47:732-6 Je 7 '51

American security; lowest common denominator. E. Janeway. Harvard Bsns R 29:115-24 Jl '51

Boom rate of output must continue. il Iron Age 168:110-11 Jl 12 '51

Business week reports to executives on how to live with controls. Bsns W p113-20 F 17; 77-8+ F 24 '51 (reprints 20¢)

Company mobilization planning. D. Armstrong. Foundry 79:106-7+ Mr '51

Control of inflation major obstacle in defense mobilization. R. Gibbs. Chem & Eng N 29:1602 Ap 23 '51

Defense build-up. Nat City Bank p86 Ag '51

Defense; going fine but getting tough; Wilson's report. Bsns W p 19-20 Ap 7 '51

Defense mobilization organization; chart. Iron Age 167:81 Ja 11 '51

Defense output falls behind. Bsns W p27-8 Jl 14 '51

Defense preparedness as a continuing policy. C. E. Wilson. Comm & Fin Chr 174:1347+ O 11 '51

Directory of mobilization agencies. Factory Management 109:238+ F; 274+ Mr '51

Drive and direction of mobilization. E. Janeway. Harvard Bsns R 29:99-109 S '51

Effect of government regulations on commercial chemical development; from annual meeting of Commercial chemical development association, New York, March 21. Chem & Eng N 29:1716-23, 1816-23, 1933-9 Ap 30-My 14 '51

Engine is turning over. Fortune 43:59-60 Mr '51

Executive order no. 10193; providing for the conduct of the mobilization effort of the government; text. H. S. Truman. Fed Res Bul 37:16 Ja '51

For armed peace; a new turn to mobilizing. Bsns W p26-7 Ag 11 '51

Government officials outline mobilization policy to industry. Chem & Eng N 29:2152 My 28 '51

Government stockpiling called chief culprit in defense economy. Chem & Eng N 28:4442 D 18 '50

Government's organization for defense mobilization. R. Gibbs. Chem & Eng N 29:442-3+ F 5 '51

Guideposts to industrial mobilization. E. A. Tupper. Harvard Bsns R 28:29-44 N '50

Guns tomorrow: the trouble is we need them now. Barron's 31:1 My 28 '51

How is business doing profit-wise? Mill & Factory survey. Mill & Factory 48:87-8 Je '51

INDUSTRIAL mobilization—*Continued*

How to participate in the production allocation program. map Mill & Factory 47:121-2 N '50

How will mobilization affect my company? A. Uris. il Food Ind 23:40-3 Ja '51

Industrial expansion, new pitch; Wilson isn't satisfied with present government aid program. Bsns W p21 F 24 '51

Industrial mobilization and standardization. J. C. Green. Standardization 22:14-15 Ja '51

Industrial mobilization of the job plating industry. W. Zinn. Metal Finishing 49:70-1 Ja '51

Industrial mobilization plan for the malleable iron castings industry. Foundry 78:100+ N '50

Industrial mobilization planning with the aircraft industry. A. H. Johnson. S A E J 58: 23-4+ N '50

Industry looks to defense. G. W. Merck. il Chem & Eng N 29:12-14 Ja 1 '51

Industry poised for all-out mobilization. il Aviation W 53:13-14 D 11 '50

Industry turns to war work as flow of arms orders accelerates. W. Gates. il Mag of Wall St 87:494-5+ F 10 '51

Let's put more plants to work on defense! J. Sparkman. Sales Management 66:88+ Je 1 '51

Major economic problems of mobilization. S. E. Harris. Harvard Bsns R 29:29-36 Mr '51

Manpower mobilization; president calls for voluntary measures. Oil & Gas J 49:164 Ja 25 '51

Master plan for defense mobilization is now set. Factory Management 109:64A-64D F '51

Military production; report on the defense mobilization program of the United States. C. E. Wilson. Mech Eng 73:735-7 S '51

Mobilization. A. S. Flemming. il map Sci Am 185:89-94+ S '51

Mobilization endangers small business. J. M. Mead. Comm & Fin Chr 173:1452 Ap 5 '51

Mobilization factors affecting marketing. N. A. Miller. J Marketing 16:68-73 Jl '51

Mobilization; is it tough or easy? Bsns W p 19-20 Mr 3 '51

Mobilization issue; expansion. Bsns W p 134-6+ Ap 14 '51

Mobilization means change in use-patterns for CPI. Chem Eng 58:281 Ja '51

Mobilization quarterback; NSRB's W. Stuart Symington. Bsns W p24 N 11 '50

Mobilization; six big problems and how Caterpillar Tractor plans to lick them. Factory Management 109:68-71 Mr '51

Mobilization speedup begins. il Bsns W p25-6+ Ja 6 '51

Mobilization today and in the next four years; power requirements are assured providing material and manpower are available. il Elec World 135:119-50 My 21 '51

Mobilizing our strength. C. Sawyer. For Comm W 42:3-4+ Ja 22 '51

More controls seen likely as mobilization gears up. V. B. Smith. Eng N 146:23 F 22 '51

National industrial conference board looks for full mobilization burden toward year's end. Comm & Fin Chr 173:1347 Mr 29 '51

Nation's industries share air contracts. Aviation W 54:15 Ja 15 '51

Pattern of defense. F. Morley. Barron's 31:3 O 1 '51

Performing industry's dual job in present crisis. H. Ford, 2d. Comm & Fin Chr 173: 2156 My 24 '51

Practical aspects of industrial mobilization. R. A. Lester. Comm & Fin Chr 173:634 F 8 '51

Prepared for mobilization. il Elec West 105: 69-71 O '50

President asks for rapid expansion of national war industry capacity. Eng N 146:25 Ja 11 '50

Problems of military preparedness; economic background. J Account 90:459-60 D '50

Report on rearmament. il Fortune 43:92-9+ Ap '51

Reports on industrial mobilization. Chem & Eng N 28:3783-4 O 30 '50

Role of conservation in mobilization planning. H. Coonley. Mech Eng 73:3-4+ Ja '51

Role of the pulpwood industry in industrial mobilization. D. C. Everest. Paper Tr J 132:121-3 F 23 '51

Sales management; start selling friendship now. Ptr Ink 233:22 D 29 '50

Senators ask why stall full mobilization. K. Johnsen. Aviation W 54:12-14 Ja 1 '51

Shift to defense output begins to hurt. Bsns W p21-2 Ja 13 '51

Short cut to more production; war reserve plants. Bsns W p 102 Je 30 '51

Shortages found Nation's number one problem. Chem & Eng N 29:1306-7 Ap 2 '51

Standards; spearhead of industrial mobilization. R. E. Gay. Advanced Management 16:13-15 Ja '51; Abstract. Standardization 22:9 Ja '51

Statistical measurement and economic mobilization planning. G. E. McLaughlin. Am Stat Assn J 46:358-65 S '51

Strategy of direct control in economic mobilization. J. K. Galbraith. R Econ & Stat 33:12-17 F '51

Switch to war work gathers speed. Bsns W p21-2 Je 9 '51

There's more than meets the eye. il Bsns W p26 F 17 '51

This is the year. Fortune 43:53-60 Ja '51

Transition problems intensified by new price-wage controls. S. Fish. Manuf Rec 120:33+ Mr '51

Trends in consumer metal-goods industries, 1939-1950. S. Goldstein. Mo Labor R 72:263-9 Mr '51

War plants still tooling up. il Bsns W p27 Ap 21 '51

Washington gears for industrial mobilization. Oil Paint & Drug Rep 159:5+ sec2 Ja 29 '51

What companies in the Cleveland area are doing to get ready for war production; chart. Factory Management 108:82-3 N '50

What creeping mobilization means to industry. E. D. Foster. il Standardization 22:205-10+ Jl '51

What industry must do now about defense mobilization. Factory Management 109:64A-64D Ja '51

What mobilization means to the company personnel program; abstract. G. B. Arthur, jr. Management R 40:73-4 F '51

What's holding up the works? policy on government loans and fast amortization. Bsns W p 120 Jl 28 '51

Where do we stand in industrial mobilization? A. N. Wecksler. il Mill & Factory 48:75-80 F '51

York plan; defense job, too big for big business alone. E. P. Reiley. il Dun's R 58:20-3+ N '50

See also

Automobile industry and trade—Munitions manufacture
Contracts, Government
Factories—Conversion
Priorities and allocations, Industrial
Stockpiling
United States—Munitions board

Canada

Canadian defense production. C. D. Howe. For Comm W 42:13 Mr 12 '51

Great Britain

Wherewithal for defence; industry's changing tasks. Economist 160:445-7 F 24 '51

INDUSTRIAL motor trucks. See Motor trucks, Industrial

INDUSTRIAL museums

Birmingham museum of science and industry; section dealing with fire arms. il Engineering 171:622-3 My 25 '51

See also

Museum of science and industry, Chicago
Paris—Conservatoire national des arts et metiers

INDUSTRIAL office buildings. See Office buildings, Industrial

INDUSTRIAL pensions. See Pensions, Industrial

INDUSTRIAL photography. See Photography—Industrial applications

INDUSTRIAL plants. See Factories

INDUSTRIAL poisons. See Poisons, Industrial

INDUSTRIAL press

Industrial press announces annual $1000 award to advertising executives. Mach 57: 181 N '50

INDUSTRIAL psychiatry. See Psychiatry, Industrial

INDUSTRIAL psychology. See Psychology, Industrial

INDUSTRIAL psychology, inc.
Aptitude tests by the bundle. il Bsns W p72+ S 15 '51

INDUSTRIAL relations
Boston declaration. W. von Pechmann. Ind & Eng Chem 43:sup 117A-18A+ O '51
Can you use these industrial-relations twists? P. King. Textile World 101:164+ Ja '51
Cause of industrial unrest. F. Peterson. Ann Am Acad 274:25-31 Mr '51
Challenge in human relations; abstract. W. H. Wheeler, jr. Management R 40:112-13 Mr '51
Civil rights in labor-management relations; management viewpoint, by P. B. Willauer; labor viewpoint, by A. J. Goldberg. Ann Am Acad 275:140-54 My '51
Communications; what are employees really interested in? do they accept management as competent in economies? P. F. Drucker. Advanced Management 16:7-9 F '51
Constructive policies of labor relations. A. R. Heron. Ann Am Acad 274:166-70 Mr '51
Effects of sickness disability legislation on employee relations. R. E. Chislett, 2d. A M A Archives Ind Hygiene & Occup Med 2:675-81; Discussion. 689-97 D '50
Employee cooperation versus the rule book at Central Arizona light & power co. J. T. Kimball. Pub Util 46:862-6 D 21 '50
Employees and management, working together. P. G. Stitt. Personnel J 29:175-7 O '50
Employer-employee relations; more hard work for company- and business-publication editors. il Ptr Ink 233:29 D 29 '50
Government's responsibility in promotion of class war between labor and management. W. H. Ruffin. Comm & Fin Chr 174:33+ Jl 26 '51
How Avondale mills works its human-relations program. P. M. Thomas. il Textile World 100:121-8 O '50
How can we improve labor-management relations? abstract. F. H. Kirkpatrick. Management R 39:595-7 O '50
Human factor in industry. G. U. Cleeton. Ann Am Acad 274:17-24 Mr '51
Human relations. H. L. Eggleston. Pet Eng 23:A40+ F '51
Human relations for employers and employees. C. Estes. Am Cer Soc Bul 30:210-11 Je 15 '51
Human relations in industry. N. Cantor. Personnel J 29:336-40 F '51
Human relations in industry. H. F. Dunning. Tappi 33:sup 101A-4A N '50
Human relations in industry. R. E. Roberts. Iron & Steel Eng 28:68-71 Je '51
Human relations; the Armco story. E. Schmid, jr. Advanced Management 16:3-6 Je '51
Impact of mechanized logging on industrial-relations. F. A. Harrison. Pulp & Pa of Can 52:88-90 My '51
Increased productivity through human relations. C. L. Huston, jr. Iron & Steel Eng 28:140 Ag '51
Industrial relations conference to undertake intensive study of key economic problems. F. E. Verdin. Edison Elec Inst Bul 19:298 S '51
Industrial relations ideas you can use. P. King. Textile World 101:148, 234 Ap '51
Industrial relations; keystone of good management. E. C. Brehmer. Mill & Factory 48:116-17 My '51
Industrial relations round-table. B. H. Kiner, ed. Published in American gas association monthly
Labor-management relations in Scandinavia. J. A. Flexner. Mo Labor R 72:528-32 My '51
Labor-management relations in the cement industry. A. Bercowitz. Mo Labor R 72:17-21 Ja '51
Labour relations in the British chemical industry. W. H. Garrett. Chem & Ind p712-15 Ag 25 '51
Labor relations picture seen from both sides; by a union leader turned foreman. Factory Management 109:240+ Ja '51
Labor relations today; symposium. A. C. Thornton and others. Min Cong J 36:74-5 O '50
Lauds industrial application of golden rule. J. T. MacKenzie. Chem & Eng N 29:2050 My 21 '51
Management and labor learn together; Botany plan. I. J. Phillipson. Dun's R 59:20+ S '51
Management-labor relations in a changing economy. C. S. Golden. Ann Am Acad 274:171-8 Mr '51
Management's responsibility. O. Lipstreu. Personnel J 29:270-1 D '50
Movies find drama in union-boss issue. il Bsns W p46-8 Ag 11 '51
Ninth annual industrial relations conference; training programs for maximum manpower effectiveness, April 12-13. 61p Univ. of Minnesota, Center for continuation study, Minneapolis 14 '51
Opportunities for engineers to share in management's social responsibilities. B. M. Reynolds. Chem Eng 58:248+ Ja '51
Organizational teamwork; fact or fiction? P. Pigors. Advanced Management 16:25-9 Je '51
People will listen; developing channels of communication for better industrial relations. J. E. Boulet. Pub Util 48:94-8 Jl 19 '51
Personalities in labor-management conflicts. A. A. Imberman. Advanced Management 15:19-22 D '50
Problems and policies of dispute settlement and wage stabilization during World war II. U S Bur Labor Statistics Bul 1009:1-380; pa 75c Supt. of doc. '50
Productivity, America's secret; Ford motor company's management meeting program. J. K. Sutherland. Blast F & Steel Pl 39:1095-6 S '51
Public relations, bold new concept pays off; Inland and Borg-Warner develop new program called In our hands. B. Packard. Iron Age 168:85 Ag 23 '51
Recent industrial relations developments; relations of labor-management negotiations to 1950 economic and international conditions and a review of union activities. B. Stern. Mo Labor R 71:663-7 D '50
Rediscovery in labor relations. J. O. Wells. Paper Tr J 131:23-4+ N 9 '50
Semantics of industrial relations. W. Exton, jr. bibliog Personnel 26:418-23; 27:194-201 My, N '50
Significant labor developments. P. A. King. Factory Management 109:214+ Ja '51 [cont monthly]
Sincerity of purpose means good labor-management relations. C. A. Wimpfheimer. Textile World 101:178+ Mr '51
Social science and industrial relations; how management can use the human relations specialist. W. F. Whyte. Personnel 27:258-66 Ja '51
Summary of industrial relations activities (cont as) Developments in industrial relations. Published in Monthly labor review
Supervisory officials and labor relations. C. J. Flippen. il Min Cong J 37:30-3 Jl '51
Tips to good human relations for factory executives. Published in monthly numbers of Factory management
Triple audit of industrial relations. D. Yoder and others. (Bul. 11) 77p pa $1 Industrial relations center, Univ. of Minnesota, Minneapolis 14 '51
Value for your wage dollar. J. L. Otis. Am Gas Assn Proc 1950:97-100
Wages and labour relations; example of the electricity supply industry. W. Walsh. Elec R (Lond) 148:643-6 Mr 30 '51

See also
Arbitration, Industrial
Atomic energy labor relations panel
Building trades—Labor conditions
Coal miners—United States
Collective bargaining
Company towns
Employees
Employees, Reports to
Employees' benefit plans
Employees' representation in management
Employment management
Labor and laboring classes
Labor disputes
Medical service, Industrial

INDUSTRIAL relations—See also—*Continued*

National labor relations board
National war labor board
Open and closed shop
Profit sharing
Psychology, Industrial
Safety devices and measures
Shop stewards
Strikes
Suggestion systems
Trade agreements
Trade unions
Trade unions—Co-operation with management
Unemployment
Wage payment plans

Bibliography

Sources of information on personnel management and labor relations. A. W. Baker and F. S. Rawson. (Research monograph no. 62) 117p Ohio state univ, College of commerce and administration, Columbus 10 '51 (pa $1)

Study and teaching

Industrial relations research at universities; progress report, 1950-51. Personnel 28:86-96, 178-96 Jl-S '51 (to be cont)

Labor relations and the engineer. A. Startz. J Eng Educ 41:397-401 Mr '51

Training supervisors in human relations. F. J. Roethlisberger. Harvard Bsns R 29:47-57 S '51

University courses in industrial relations. K. E. Schnelle and H. Fox. Personnel J 30:128-33 S '51

University of Wisconsin serves industry. D. D. Hay. Personnel J 29:424-6 Ap '51

INDUSTRIAL research

Annual conference on industrial research, 2d, New York. Chem & Eng N 29:2632-4 Je 25 '51

Applied research in new product development. W. A. Jordan. Ind & Eng Chem 43:832-4 Ap '51

Appraising returns from research. A. Abrams. Mech Eng 72:645-6 Ag '50; Same cond. Management R 39:588-9 O '50

CCDA-CMRA symposium on industry needs. il Chem & Eng N 29:448-55, 545-7, 644-9, 744-52 F 5-26 '51

Cold facts on your product's future. il Mod Ind 21:42-7 Ap '51

Co-operative research in the hosiery industry; abstract. D. Starkie. Chem & Ind p308-9 Ap 21 '51

Coordination of research and development work. J. A. Leermakers. Chem & Eng N 29:3152-4 Ag 6 '51

Development and pricing of a new product; Kelley Island acoustical tile. J. O. Kamm. J Marketing 15:343-7 Ja '51

Director of research called director of the future; conference on administration of research, Ann Arbor, Sept. 11-13. Chem & Eng N 28:3424+ O 2 '50; Mech Eng 72:932 N '50

Diversification research. N. W. Flodin. Chem & Eng N 29:449 F 5 '51

DuPont research jackpot. Mod Ind 21:82 Je '51

Electrical research; is committee control restrictive? Elec R (Lond) 147:691 N 3 '50

General industrial practice regarding fellowships. M. J. Bergen. J Eng Educ 41:513-17 My '51

Growth of industrial research. C. E. K. Mees. Am Cer Soc Bul 29:448-53 D 15 '50

How directors look at research. T. D. Cabot. Chem Eng 58:268+ F '51

How to make research pay; how Wyandotte does it. T. H. Vaughn. Chem Eng 58:143-5 S '51

How to push metal around for profit; research programs sparked by military agencies and industry. il diag Mod Ind 21:40-5 Je '51

Human element in research and industry. W. H. Kohl. Inst Radio Eng Proc 39:228-9 Mr '51

Improving liaison between research and engineering. il Chem Eng Prog 47:161-7 Ap '51

Industrial fellowships for graduate study from the university viewpoint. W. L. Everitt. J Eng Educ 41:508-12 My '51

Industrial research and its effect on industrial trends in the Pacific Northwest. D. W. Walters. J Eng Educ 41:241-4 D '50

Industrial research practices in 41 companies. D. B. Hertz and A. H. Rubenstein. Management R 39:609-10 O '50

Industry's problem solvers; Arthur D. Little, inc. sells ingenuity. D. Hartwell. il Am Bsns 21:8-9+ S '51

International industrial research institute to be known as Battelle international institute. Metallurgia 44:140 S '51

More important than to pay dividends; Du Pont's experimental work. il Chem Ind W 68:21+ My 12 '51

Operations research. H. Solow. Fortune 43:105-7+ Ap '51

Partners in research. C. C. Furnas. Machine Design 23:175+ F '51

Pursuit of science for utilitarian ends. J. Taylor. bibliog Chem & Ind p56-9 Ja 27 '51

Research and development personnel in industrial laboratories. M. J. Rand. maps Chem & Eng N 29:3604-8 S 3 '51

Research and you. R. E. Montonna. Refrig Eng 59:258-9+ Mr '51

Research for the benefit of industry. M. P. O'Brien. Chem & Eng N 28:3764-5 O 30 '50

Research in a defense economy. J. E. Hobson. Elec Eng 70:660-2 Ag '51

Research; risks and return; symposium based on selected papers from the fourth annual conference on the administration of research. Chem Eng 58:252+ Ag '51

Research stymie; tax law says lab projects are capital items. Bsns W p44+ O 28 '50

Research; the key to diversification at National Gypsum. F. L. Marsh. il Rock Prod 53:92-3 D '50

Service to industry; University of Maine research. J. B. Calkin. il J Chem Educ 28:394-6 Jl '51

Small scale industrial information services. A. H. Raine. Aslib Proc 3:31-5 F '51

Southwest research institute reports progress. H. Vagtborg. il Chem & Eng N 28:3966-9 N 13 '50

State of the art in design. R. J. S. Pigott. il Product Eng 22:102-5 My '51

Successful research pays off. W. A. LaLande. il Chem Ind 67:890-2, 904 D '50

Taxes and the chemical industry; impact of tax structures on industrial research. F. Olsen and T. G. Blake. bibliog il Chem & Eng N 29:2724-8 Jl 2 '51

Using mathematics for design, research and production; use of computing machines; interview with J. H. Curtiss. il Product Eng 22:156-9 Je '51

Who manages your research? Steel 129:54-5 Ag 27 '51

See also

Cement research
Ceramic research
Chemical research
Coal research
Concrete research
Corrosion research
Cotton research
Dairy research
Dye research
Electric research
Engineering research
Foundry research
Gas research
Glass research
Information service
Laboratories
Lubrication research
Market research
Metallurgical research
Milk research
Paint research
Paper research
Petroleum research
Railroad research
Research workers
Rubber research
Scientific research
Steel research
Textile research
Welding research
Wood research
Wool research

also Armour research foundation; Battelle international institute; Great Britain—Scientific and industrial research, Department of; Pittsburgh university. Mellon institute of industrial research; Southern research institute

Accounting

Budgeting for the research and development department. A. G. Lurie. Tappi 34:sup40A+ Ag '51

Cost accounting for a research laboratory. J. A. McFadden, jr. N A C A Bul 32:822-38 Mr '51

Is own product research a current fixed expense? D. S. Moffitt. N A C A Bul 32:1251-4 Je '51; Same. Product Eng 22:254-6+ S '51

INDUSTRIAL research—*Continued*

Directories

Industrial research laboratories of the United States including consulting research laboratories. M. J. Rand and others, comps. 9th ed Nat Res Council Bul 120:1-444 '50 ($5)

Finance

Research; risks and return; symposium based on selected papers from the fourth annual conference on the administration of research. Chem Eng 58:252+ Ag '51

Reports

Informing management on product development; Pennsylvania salt manufacturing co. E. M. Ott. Ind & Eng Chem 43:841-3 Ap '51

Publicizing research results. H. B. McClure. il Chem & Eng N 29:3457-60 Ag 20 '51

INDUSTRIAL research institute

Medal award dinner, Washington, May 15. Chem & Eng N 29:2145 My 28 '51

INDUSTRIAL sand association, National. See National industrial sand association

INDUSTRIAL statistics

ABC of key statistics; exploring statistical measures on Figures of the Week page. Bsns W p38+ Mr 3; 60-2 Mr 10; 58+ Mr 17; 88-9+ Mr 24; 42-4+ Ap 14; 70-2+ Ap 21; 63-4+ My 19; 117-18+ My 26; 47-8+ Je 2; 106+ Je 16; 92-4+ Je 23 '51

Automotive industries 1951 statistical issue. Automotive Ind 104:78-124+ Mr 15 '51

Sales Management survey of buying power, May 10, 1951; population estimates, effective buying income, retail sales, farm market data, etc. Sales Management 66:1-604 My 10 '51; Correction. 66:125 Je 15 '51

World resources and industries. E. W. Zimmerman. rev ed 832p $7.50 Harper & bros, 49 E. 33d st, New York 16 '51

See also

Employment—Statistics
Manufactures—Statistics
Market statistics
Production—Statistics
Wages—Statistics

also subdivision Statistics under names of industries, e.g. Petroleum industry and trade—Statistics

INDUSTRIAL tours

Closer co-operation between business and education. A. L. White. Dun's R 59:21+ Je '51

Grateful Omaha thanks its hinterland. il Bsns W p93-4+ Je 16 '51

INDUSTRIAL traffic league, National. See National industrial traffic league

INDUSTRIAL union of marine and shipbuilding workers of America

CIO shipbuilders see boom. Bsns W p86-7 F 3 '51

Shipyard blues. Fortune 43:41-2+ Mr '51

INDUSTRIAL unions. See Trade unions

INDUSTRIAL waste. See Trade waste

INDUSTRIES, Location of. See Factories—Location

INDUSTRY

Century of British industry. Lord McGowan. Engineer 191:126-7 Ja 26 '51

Concentration of power in the American economy; big-little business, big labor, big agriculture. C. Wilcox. Harvard Bsns R 28:54-60 N '50

Conference at Corning, Living in industrial civilization. il Fortune 44:88-92 Ag '51

Industry's future. T. C. Campbell. Iron Age 167:263-6 Ja 4 '51

Input-output economics. W. W. Leontief. Sci Am 185:15-21 O '51

Productivity in British industry (cont). B. W. White and others. il plans diags Engineer 190:373-7, 612-15+; 191:146-8, 274-8 O 20, D 22 '50, F 2, Mr 2 '51

Soft spots showing up in various industries. W. Gates. il Mag of Wall St 88:343-5+ Je 30 '51

Which industries offer best prospects for 1951? G. W. Mathis. Mag of Wall St 87: 370-3+, 436-9+ Ja 13-27 '51

See also

Art and industry
Business
Cities and towns—Industries
Corporations
Diversification in industry
Efficiency, Industrial
Factories
Government regulation of industry
Home labor
Industrial development corporations
Industrial market and other headings beginning Industrial
Labor and laboring classes
Manufactures
Moving pictures in industry
Planning
Production
Production standards
Standardization
Trade associations
Unemployment

also names of industries, e.g.
Gas industry
Petroleum industry and trade

Decentralization

Big business in small plants; Sylvania Electric benefits from decentralized operation. D. G. Mitchell. il Advanced Management 15: 2-5 D '50; Same. Mech Eng 73:397-9 My '51

Big industry moves to the country; General electric co. is building small suburban plants. il map plan diags Arch Forum 95:144-51 Jl '51

Dispersal; a guide for tomorrow. Aviation W 55:14-15 S 3 '51

Industry shifts its plants away from old strongholds. maps Bsns W p22-4 S 8 '51; Discussion. L. C. Yaseen. p56+ S 22 '51

Plant dispersal action stirs fight. Eng N 147: 74 Ag 30 '51

History

American industry, from Plymouth to Detroit; review of Epic of American industry, by J. B. Walker. E. Ahern. Personnel J 29: 231-2 N '50

INDUSTRY and science. See Science and industry

INDUSTRY and state

Observations of a WOC; what helps and what hurts the government-industry relationship. A. P. Frame. Pet Eng 23:A53-4+ Ag '51

Technology and the state. D. M. Newitt. Chem & Ind p694-6 O 14 '50

See also

Commercial policy
Economic planning
Economic policy
Government aid to business
Government ownership
Government regulation of industry
Industrial mobilization
Labor laws and legislation
Public utilities
Railroads and state
Tariff
Taxation

Great Britain

F.B.I. statement on industrial building problems. Engineer 190:508-9 N 24 '50

United States

Federal power policy invades local regulation. W. A. Bryans, 3d. Edison Elec Inst Bul 18: 409-13 N '50

FTC's search for a new role. L. B. Mason. il Standardization 22:5-8 Ja '51

For a strong America; co-operation. C. Sawyer. il Dun's R 59:15-16+ Ap '51

Good government; industry know-how can help; work of Pennsylvania economy league. il maps Mod Ind 20:48-51 D '50

Industry advisory committees to government agencies. I. B. Oseas. Paper Tr J 132:18+ Je 1 '51

Is business appeasing socialism? J. S. Piper. Banking 44:54+ Jl '51

Profits and plutonium; a government monopoly wants business to help it cut costs. Fortune 44:66-8 Ag '51

Prospects for American industry. B. Moreell. Comm & Fin Chr 172:1491+ O 19 '50

Truth in action. A. N. Booth. Am Gas Assn Proc 1950:26-33; Same cond. Am Gas Assn Mo 32:7-8+ D '50

INDUSTRY evaluation board. See United States —Industry evaluation board

INERT gases. See Gases, Rare

INFANT mortality

Trend of infant mortality; with graph showing trends in England and Wales, 1938-1950. Economist 160:188-9 Ja 27 '51

INFANTILE paralysis

Encephalitis in the Missouri River basin; studies on a focal outbreak of encephalitis in North Dakota. H. A. Wenner and others. bibliog map Pub Health Rep 66:1075-85 Ag 24 '51

Poliomyelitis, hospital inquiry, England and Wales, 1949. W. H. Bradley and A. H. Gales. Pub Health Rep 66:740-8 Je 8 '51

Vaccination and polio. Sci Am 183:25-6 N '50

INFANTILE paralysis, National foundation for. See National foundation for infantile paralysis

INFANTILE paralysis insurance. See Insurance, Infantile paralysis

INFANTS, Newborn

Pressure tank aids stork; used to start the breathing organs of newborn babies. Comp Air Mag 55:278 D '50

INFANTS, Premature

Effect of ACTH and some adrenocortical steroids on the metabolism of tyrosine and phenylalanine in premature infants. S. Z. Levine and others. bibliog Science 113:311-12 Mr 23 '51

Louisiana program for premature infants. S. J. Phillips. Pub Health Rep 66:1120-1 Ag 31 '51

INFANTS' food

Gerber's miniatures; semi-automatic line produces 15,000 samples per day. il Mod Packaging 24:90-1 My '51

Advertising

Pablum starts consumer ads to save dominant position. il Ptr Ink 234:70 Ja 12 '51; Ed & Pub 84:10 Ja 6 '51; Sales Management 66:55 F 1 '51

INFANTS' supplies

Eighty years young, still pioneering; I. B. Kleinert rubber co. R. K. Guinzburg. J Retailing 26:122-7 Fall '50

INFANTS' supplies industry

Advertising

How to build a business with small-space ads; Kantwet crib mattresses. il Ptr Ink 236:48-9 S 7 '51

INFECTION

See also

Disinfection and disinfectants
Immunity
Infectious diseases
Insects as carriers of infection

INFECTIOUS diseases

Epidemiology. Pub Health Rep 65:1679-90 D 15 '50

Hopes seen for antibiotic control of all infectious diseases. Chem & Eng N 28:3774 O 30 '50

Transmission of disease by water. C. R. Trask. Munic Util 88:25+ N '50

See also

Brucellosis
Epidemics
Histoplasmosis
Infantile paralysis
Influenza
Insects as carriers of infection
Plague
Q fever
Tuberculosis
Typhus fever
Viruses

Statistics

Reported incidence of communicable diseases in the United States, third quarter, 1950. Pub Health Rep 65:1745-53 D 29 '50

Reported incidence of communicable diseases in the United States, fourth quarter, 1950. Pub Health Rep 66:472-9 Ap 13 '51

Reported incidence of communicable diseases in the United States, 1950. map Pub Health Rep 66:673-84 My 25 '51

INFLAMMABLE liquids

Aqueous nonflammable hydraulic fluids; Hydrolubes. J. E. Brophy and others. bibliog Ind & Eng Chem 43:884-96 Ap '51

Cut down tank fires. H. C. Lein. diag Chem Eng 58:184 Jl '51

Fire hazards investigated. Chem Age (Lond) 65:251-3 Ag 25 '51

Fire hazards of paints and cleaners. Safety Maint & Prod 101:55-7 Mr '51

Flammables can be stored safely. P. C. Hensler. Safety Maint & Prod 100:24-5+ D '50

States urged to require placarding of trucks carrying dangerous cargo. Nat Pet N 43:49-50 Ja 10 '51

Underwriters' laboratories warns against storage of flammables in refrigerator. Refrig Eng 58:1099 N '50

INFLAMMABLE materials

Manual on handling ammonium nitrate. Safety Maint & Prod 101:56-7 Ap '51

Thermal decomposition products and burning characteristics of some synthetic low-density cellular materials. H. A. Watson and others. bibliog 6pls U S Bur Mines Rep of Invest 4777:1-16 '51

See also

Aluminum—Fire hazards
Magnesium—Fire hazards
Plastic materials—Fire hazards

INFLAMMABLE mixtures

Combustible gas alarm aids safety in solvent extraction; Hunter packing co. il Heating-Piping 23:99-101 Mr '51; Same. Safety Maint & Prod 101:30-1+ Ap '51

Comparison of quenching distance and inflammability limit data for propane-air flames. D. M. Simon. J Ap Phys 22:103 Ja '51

Design closed vessels to withstand internal explosions. E. W. Cousins and P. E. Cotton. diags Chem Eng 58:133-7 Ag '51

Effect of high pressures on the explosibility of mixtures of ethane, air, and carbon dioxide and of ethane, air and nitrogen. R. E. Kennedy and others. bibliog 6pls U S Bur Mines Rep of Invest 4751:1-11 '50

Esterification by dinitrogen tetroxide. A. D. Yoffe and P. Gray. Chem Soc J p 1412-14 Je '51

Explosion-proof lighting. E. H. Church. il Illum Eng 46:269-70 My '51

Flame propagation; the effect of initial temperature on flame velocities of propane-air mixtures. G. L. Dugger. bibliog diag Am Chem Soc J 72:5271-4 N '50

Flammability of benzene-chlorine mixtures. G. Calingaert and W. E. Burt. Ind & Eng Chem 43:2341-3 O '51

Inflammation of methyl and ethyl nitrate vapours; characteristics of the explosion process and intermediate reactions involving nitrogen dioxide. P. Gray and A. D. Yoffe. diag Chem Soc J p3180-5 N '50

Limits of flammability of paraffin hydrocarbons in air. M. G. Zabetakis, G. S. Scott and G. W. Jones. il diag Ind & Eng Chem 43:2120-4 S '51

Safe communication in inflammable gas or vapour hazards. R. C. Woods. Inst E E Proc 98 pt 1:12-13 Ja '51

Safe handling of volatile materials; Esso standard oil co. training program. il Pet Processing 6:378-9 Ap '51

Safety device for pipeline pumping. il Diesel Power 29:50 My '51

Sampling and analyzing units check combustible concentrations. il World Oil 132:248+ Ap '51

Suppression of flame in explosive systems. E. Jones. bibliog J Ap Chem 1:411-13 S '51

Symposium on the Institute of petroleum safety codes; gasoline vapour concentration tests; danger areas. E. J. Sturgess and others. Inst Pet J 37:170-81 Ap '51

Thermocouple-type combustible gas analyzer expands field of application. F. Taylor, jr. il diag Pet Refiner 30:124-6 Jl '51

Ventilation and operation of open-surface tanks; American standard safety code Z 9.1-1951. diags Metal Finishing 49:64-73+ Je '51

INFLAMMATION

Effects of various analgesics on inflammatory edema resulting from silver nitrate injection. A. La Belle and J. A. Tornaben. Science 114:187-8 Ag 17 '51

INFLATABLE boats. See Boats, Inflatable

INFLATION (finance)

Advertising, a basic anti-inflationary weapon. J. Hirsch and A. R. Wilson. Ptr Ink 234:29-30+ F 23 '51

Age of inflation. Economist 161:542-3 S 8 '51

Agenda for the age of inflation. Economist 161:382-4, 435-7, 490-1 Ag 18-S 1 '51; Discussion. Nat Underw (Life ed) 55:8+ O 19 '51

INFLATION (finance)—*Continued*

American inflation spells international disaster. P. Cortney. Comm & Fin Chr 174:949+ S 13 '51

Anti-inflation battle report. M. S. Szymczak. Comm & Fin Chr 172:1989+ N 23 '50

Anti-inflation drive released by Advertising council. Ed & Pub 84:70 Ap 28 '51

Arms and the price system. Fortune 42:80-3+ D '50

Bank credit and inflation. Nat City Bank p31-2 Mr '51

Bank loans and inflationary trends; excerpts from annual report of Comptroller of the currency. P. Delano. Comm & Fin Chr 174:517 Ag 9 '51

Bankers do a job; Voluntary credit restraint committee. Fortune 44:93-4+ O '51

Banks must finance defense without inflation. W. R. Burgess. Comm & Fin Chr 173:1754+ Ap 26 '51

British trust manager gives inflation views. Barron's 30:25-7 N 20 '50

Business and the federal government comments on current inflation trend. J. J. Rowe. Comm & Fin Chr 173:149+ Ja 11 '51

Cabbages and rabbits; are we trying to kill the boom before we can replace it? Barron's 30:5 O 30 '50

Can we avoid a boom? M. Nadler. Comm & Fin Chr 173:259+ Ja 18 '51

Capital improvement pays; thwarts threat of inflation. C. R. Walker. Manuf Rec 119:31 D '50

Case against controls; inflation may be on the way out. K. Bloch. Barron's 31:3 My 21 '51

Common stocks can hedge inflation, if you pick right. Bsns W p 114-16 F 24 '51

Compensating for dollar inflation in rate regulation. C. H. Ross. Pub Util 47:663-73 My 24 '51

Consumers' expenditures and inflation. D. H. Angney. Comm & Fin Chr 173:817+ F 22 '51

Controversy over monetary policy. S. E. Harris and others. R Econ & Stat 33:179-200 Ag '51

Credit management in a transitory economy.. R. H. Collacott. Credit & Fin Management 52:17-18+ D '50

Curb inflation with a purchasing-power bond. S. H. Slichter. Comm & Fin Chr 173:1121+ Mr 15 '51

Economic, financial and investment implications of inflation. H. F. Vultee. Comm & Fin Chr 173:613+ F 8 '51

Economic outlook; inflation or deflation. A. R. Upgren. Comm & Fin Chr 174:765, 781 Ag 30 '51

Economic problems of rearmament; abstract. R. Blough. Management R 40:38-9 Ja '51

End of inflation? A. M. Wolkiser. Comm & Fin Chr 174:859+ S 6 '51

Europe's inflation; can she export it? case for currency revolution. Bsns W p 157-8 Je 23 '51

Expanding bank credit minor inflation cause. W. R. Burgess. Comm & Fin Chr 173:2661+ Je 28 '51; Excerpts. Banking 44:78+ Ag '51

Federal debt; vehicle of inflation? L. R. Robinson and H. R. Brinberg. Comm & Fin Chr 173:1945+ My 10 '51

Fiscal and credit control to beat inflation. L. H. Brown. Comm & Fin Chr 172:1891+ N 16 '50

Fiscal policy as inflationary curb. R. Blough. Comm & Fin Chr 172:1790-1+ N 9 '50

Flight from inflation. W. Sonneberg. Comm & Fin Chr 173:1446 Ap 5 '51

Future of the dollar. E. A. Krauss. Mag of Wall St 87:108-10+ N 4 '50

Government spending, not credit expansion, is chief inflation cause. F. N. Belgrano, jr. Comm & Fin Chr 173:1026 Mr 8 '51

Government's money manufacturing policy; crux of inflation threat. E. A. Krauss. Mag of Wall St 87:592-4, 642+ Mr 10 '51

Groping for an inflation damper; summary of opinions of bankers and bank economists. E. S. Adams. Banking 43:36-7+ D '50; 51+ Ja '51

Has inflation spiral ended? E. P. Schmidt. Comm & Fin Chr 173:2450 Je 14 '51

Has price inflation been halted? E. A. Krauss. Mag of Wall St 88:8-10+ Ap 7 '51

Hazards of inflation under a severe defense economy. T. J. Kreps. Comm & Fin Chr 173:2269-71 My 31 '51

Higher interest rates as inflation curb. P. W. McCracken. Comm & Fin Chr 172:2451 D 21 '50

How are we doing on the anti-inflation front? J. P. Wolcott; P. H. Douglas. Banking 44:50-1 Jl '51

How Europe fights resurgent inflation. V. L. Horoth. map Mag of Wall St 87:171-3+ N 18 '50

How high taxes can raise prices. A. M. Sakolski. Comm & Fin Chr 172:1687+ N 2 '50

How long can it last? government's anti-inflation program. Bsns W p 19-20 My 26 '51

How shall we overcome inflation? A. Valentine. Comm & Fin Chr 172:1982-3 N 23 '50

How to deal with inflation. L. H. Keyserling; E. P. Schmidt. Banking 44:14-15 Ag '51

How to prevent inflation and fiscal disaster. H. A. Bullis. Comm & Fin Chr 173:528+ F 1 '51

How to slow inflation, increase goods. D. B. Woodward. Nat Underw (Life ed) 55:6 F 2 '51

How to stop inflation? W. H. Ruffin. Comm & Fin Chr 173:1328+ Mr 29 '51

Incentives by inflation. M. Palyi. Comm & Fin Chr 172:1980 N 23 '50

Inflation; an unworkable fiscal policy. L. von Mises. Comm & Fin Chr 173:1745+ Ap 26 '51

Inflation and banking. A. L. M. Wiggins. Comm & Fin Chr 173:1534+ Ap 12 '51

Inflation and credit. J. A. Walker. Credit & Fin Management 53:13-15 Jl '51

Inflation and life insurance. C. M. Shanks. Comm & Fin Chr 173:2141+ My 24 '51; Excerpts. East Underw 52:3+ My 18 '51; Management R 40:442-3 Jl '51

Inflation and price controls in a war-peace economy. J. Hirsch. Comm & Fin Chr 173:1231+ Mr 22 '51

Inflation and the banking system. T. B. McCabe. Comm & Fin Chr 172:2436+ D 21 '50

Inflation and the individual. D. M. Keezer. Comm & Fin Chr 173:1846+ My 3 '51

Inflation, and what we can do about it. J. L. W. R. Burgess. Comm & Fin Chr 173:2661+ Mr 29 '51

Inflation costs more than taxes; supports pay-as-you-go policy. H. L. Lutz. Comm & Fin Chr 174:694 Ag 23 '51

Inflation danger not over. L. W. Dawson. Comm & Fin Chr 174:974 S 13 '51

Inflation-deflation cross currents. E. A. Krauss. Mag of Wall St 88:340-2 Je 30 '51

Inflation disease has reached critical stage, Northwestern Life bureau warns. Weekly Underw 164:168-9 Ja 13 '51

Inflation impact on the Canadian investment industry. P. Kilburn. Comm & Fin Chr 173:3+ sec 2 Je 28 '51

Inflation impacts on investments. R. Rodgers. Comm & Fin Chr 172:1681+ N 2 '50

Inflation in the sterling Commonwealth. Economist 160:1337-8 Je 2 '51

Inflation no safeguard against market decline. C. W. Richardson. Comm & Fin Chr 172:1785 N 9 '50

Inflation; our real danger. J. E. McCarthy. Comm & Fin Chr 174:685+ Ag 23 '51

Inflation should be stopped. P. H. Nystrom. Comm & Fin Chr 172:1688+ N 2 '50

Inflation, spending and taxes. P. H. Douglas. Comm & Fin Chr 173:1948+ My 10 '51

Inflation; the job ahead. A. Valentine. Comm & Fin Chr 173:152+ Ja 11 '51

Inflation's gallop. Economist 160:578-80 Mr 17 '51

Insufficiency of monetary and fiscal controls. R. F. Harrod. Comm & Fin Chr 173:1642+ Ap 19 '51

Integrity of the dollar. S. H. Slichter. Comm & Fin Chr 173:1532+ Ap 12 '51

Investment during inflation. E. W. Flender. Comm & Fin Chr 173:151+ Ja 11 '51

It's now or never to lick inflation. Bsns W p21 Ap 28 '51

Land of make believe; Washington is fanning, not fighting, inflation. Barron's 31:1 S 10 '51

INFLATION (finance)—*Continued*

Life companies take strong stand in fight against inflation. Weekly Underw 163: 1319 D 9 '50; East Underw 51:16 D 8 '50; Nat Underw (Life ed) 54:11+ D 15 '50; Spectator (Life ed) 158:12-13 F '51; Comm & Fin Chr 172:2544 D 28 '50

Life insurance buyers forget other inflations. il East Underw 52:11-12+ pt 2 O 5 '51

Life insurance companies and inflation. T. I. Parkinson. Comm & Fin Chr 173:2581 Je 21 '51

Mobilization on the home front; inflation problem. J. E. Shelton. Comm & Fin Chr 173:1647+ Ap 19 '51; Same abr. Pub Util 48:3-11 Jl 5 '51

Monetary controls under defense mobilization; avenues of attack on inflation. C. C. Davis. Comm & Fin Chr 172:2085+ N 30 '50

Money market factors in industrial problems; federal policy of low interest rates and pegged bond prices engenders inflation. R. C. Tyson. Comm & Fin Chr 173:2060 My 17 '51

Needed; tough policy to stop inflation. M. S. Eccles. Comm & Fin Chr 172:1503 O 19 '50

No present danger of further inflation. R. Rodgers. Comm & Fin Chr 174:57+ Jl 5 '51; Excerpts. East Underw 52:4 Jl 13 '51; Nat Underw (Life ed) 55:1+ Jl 6 '51

Offers road block against inflation. W. E. Spahr. Comm & Fin Chr 172:1704 N 2 '50

Our common problem; maintenance of a sound banking system. T. B. McCabe. Fed Res Bul 36:1287-90 O '50; Same abr. Comm & Fin Chr 172:1187+ S 28 '50

Our fluid defense against inflation. O. S. Powell. Comm & Fin Chr 172:2282+ D 14 '50

Our money system has an inflation bias. A. A. Smith. Comm & Fin Chr 174:1360-1+ O 11 '51

Pegged Treasury bond market; primary cause of inflation. M. S. Eccles. Comm & Fin Chr 173:1021 Mr 8 '51

Personal saving in an inflationary economy. S. H. Slichter. Comm & Fin Chr 174:1149+ S 27 '51

Planned inflation and synthetic prosperity. J. E. Shelton. Comm & Fin Chr 172:2433+ D 21 '50

Plea of Bank for international settlements for credit restrictions to offset inflationary effects of rearmament. P. Einzig. Comm & Fin Chr 173:2674 Je 28 '51

Policies for effective inflation control. J. E. Shelton. Trusts & Estates 90:84-6 F '51

Price controls vs. inflation? A. L. Gitlow. Comm & Fin Chr 172:1992 N 23 '50

Production declared only real antidote for inflation. R. S. Reynolds. Chem & Eng N 28: 4557 D 25 '50

Production, not inflation, our serious problem. L. H. Keyserling. Comm & Fin Chr 173: 2048+ My 17 '51

Public utility rate control in a period of price inflation. J. C. Bonbright. bibliog Land Econ 27:16-23 F '51; Excerpts. Pub Util 47:642-4 My 10 '51

Recommendations for inflation control; excerpts from statement before House ways and means committee. A. B. Kline. Comm & Fin Chr 173:1022+ Mr 8 '51

Role of monetary policy in inflation control. J. F. Weston. Comm & Fin Chr 174: 243+ Jl 19 '51

Sham fight against inflation; politics vs. realities. E. A. Krauss. Mag of Wall St 87:488-90+ F 10 '51

Specie payments, not controls, can stop inflation. F. Cramer. Comm & Fin Chr 172: 2091 N 30 '50

Steel hike fuels inflation. Bsns W p26 D 9 '50

Stopping inflation is everybody's job; radio interview with W. R. Burgess. Banking 44:140-1 S '51

Strategy of direct control in economic mobilization. J. K. Galbraith. R Econ & Stat 33:12-17 F '51

To defend America, we must avoid inflation. L. H. Brown. Comm & Fin Chr 172:2278+ D 14 '50

To halt inflation is everybody's job. A. Valentine. Comm & Fin Chr 172:1792-3 N 9 '50

Treasury securities and inflation. A. G. Lanston. Comm & Fin Chr 173:2569+ Je 21 '51

Trust investments and inflation. J. G. Taylor. Trusts & Estates 89:752-5+ N '50

Two kinds of inflation. Economist 160:1490-2 Je 23 '51

Wage policy and inflation. S. H. Slichter. Barron's 31:23-6 Ap 23 '51

Wage-price policy and inflation; with tabulations. J. Backman. Comm & Fin Chr 173: 914+ Mr 1 '51

We will win fight against inflation! W. S. Symington. Comm & Fin Chr 172:1795+ N 9 '50

What can we do about inflation? H. E. Hoagland. Comm & Fin Chr 173:2352+ Je 7 '51

What is happening to your dollar? R. S. Byfield; L. H. Keyserling. Comm & Fin Chr 173:1442 Ap 5 '51

What is inflation? fund head gives views. K. S. Gaston. Barron's 30:18-19 N 6 '50

What lies behind sapping of dollar's strength. L. R. Robinson. Comm & Fin Chr 172:2196 D 7 '50

What protection against inflation. A. W. May. Comm & Fin Chr 173:1017+ Mr 8 '51

World inflation in perspective; what investment policy now? A. W. May. Comm & Fin Chr 174:1249+ O 4 '51

See also

Accounting—Inflation problem

INFLUENZA

Antigenically distinct subtype of influenza virus A which is virulent for mice in primary passage of allantoic fluid. T. G. Ward and B. E. Eddy. bibliog Science 112: 501-3 O 27 '50

Identification of another epidemic respiratory disease. T. Francis, jr. and others. Science 112:495-7 O 27 '50

Influenza. Safety Maint & Prod 101:68-9 Ap '51

Influenza outbreaks under continuing observation. Pub Health Rep 66:126-8 Ja 26 '51

Methanol precipitation of influenza virus. A. W. Moyer and others. Science 112:459-60 O 20 '50

Preparation of dried antigen and antiserum for the agglutination-inhibition test for virus influenza. M. R. Hilleman and others. bibliog Pub Health Rep 66:1195-203 S 21 '51

INFORMATION

See also

Reports

INFORMATION, Control of. See Censorship

INFORMATION service

Report on technical information services. J Doc 7:92-112 Je '51

Small scale industrial information services. A. H. Raine. Aslib Proc 3:31-5 F '51

Washington sources on international affairs; a guide to some research facilities in the District of Columbia area. G. C. Linebarger and others. 54p pa $1 Bur. of public administration, College of business and public administration, Univ. of Md, College Park '51

What's your information rating? C. M. Lewis. Special Lib 42:249-54+ S '51

See also

Curtis publishing company—Information section
Libraries, Special
Library service
Motor bus lines—Information service
Railroads—Information service

Cost

Costing information services; Information department of the British scientific instrument research association. C. W. Hanson. Aslib Proc 3:85-8; Discussion. 88-90 My '51

Statistics

Estimating the value of information services. J. B. Pears. Aslib Proc 3:76-84 My '51

INFORMATION service, Government

Defense document control progress; symposium on standardization in technical information services for government contractors. M. H. Smith. Special Lib 42:216-17+ Jl-Ag '51

INFORMATION service, Government—*Cont.*

Defense organizations; directory. Steel 128: 102+ Ja 1 '51

Where to go for defense production information. Steel 128:44-5 Ja 22 '51

Where to go for government help. Am Mach 95:150-2 Ja 22 '51

INFORMATION theory. See Communication, Theory of

INFRARED photography. See Photography, Infrared

INFRARED pyrometer. See Pyrometers and pyrometry

INFRARED rays

Effect of infra-red on emission and trapping in ZnS:Cu phosphors. R. H. Bube. Phys R 80:764-5 N 15 '50

Infrared absorption and intrinsic semiconductivity of condensed aromatic systems. E. A. Kmetko. Phys R 82:456-7 My 1 '51

Near infrared pleochroism; the 0.8—2.5μ region of some linear polymers. L. Glatt and J. W. Ellis. bibliog diags J Chem Phys 19:449-57 Ap '51

See also

Glass—Infrared rays transmission

Spectrum, Infrared

Apparatus

Infrared instrument for industrial product control. N. C. Jamison, T. R. Kohler and O. G. Koppius. bibliog il diags Anal Chem 23:551-4 Ap '51

Industrial applications

Industry sees infrared; infrared spectrometer for automatic process control. il Mod Ind 21:56-7 F '51

Infrared instrument for industrial product control. N. C. Jamison, T. R. Kohler and O. G. Koppius. bibliog il diags Anal Chem 23: 551-4 Ap '51

Industrial heating

Bantam suns spot heat where you want it. C. E. Egeler. il diags Mill & Factory 49: 92-5 Jl '51

Cloth shrinking; automatic infra-red machine. Elec R (Lond) 148:1204 Je 8 '51; il Electrician 146:1954 Je 8 '51

Cut costs, build business with infrared oven. B. M. Davis and W. W. Huntley. il Elec World 134:146 N 20 '50

Experimental, gas-fired, infrared textile slasher. R. A. Rusca and G. J. Kyame. il diags Textile Res J 21:445-50 Je '51

Forty cents worth of infrared does the job; infrared oven for car painting. il Elec West 107:92 S '51

Infrared aids handling and improves quality of records. F. C. Neal. il Elec World 136: 138 Jl 16 '51

Infrared and germicidal lamps aid in potato conditioning. H. E. Rucks. il Elec World 135:174 My 21 '51

Infrared boosts bumper drying 133 per cent. E. M. Wenner. il Elec World 136:112-13 Jl 30 '51

Infra-red equipment. il Electrician 145:1519 D 22 '50

Infrared heat for autos or hamburgers. Mod Ind 21:99 Je '51

Infrared heaters keep food at serving temperature. il Elec World 135:90 Ja 15 '51

Infra-red heating and drying. G. Broughton. Paper Tr J 131:23-4+ O 26 '50; 133:22+ Jl 27 '51

Infra-red heating for a wood finishing process. il Engineer 190:636 D 22 '50

Infrared oven cuts paint drying costs. S. Burck. il Elec World 136:101 Jl 2 '51

Infrared oven triples slipper dehydrating. il Elec World 135:92 Ja 15 '51

Infrared quadruples display rack production. G. H. McCartney. il Elec World 136:158 S 10 '51

Infrared solves moisture problem; making asphalt coated roofing paper at the Becker roofing co. M. G. Slawin. il Elec World 136: 122 S 24 '51

Leather production stepped up with infrared. L. Albertson. il Elec World 135:140 F 12 '51

Radiant heaters accelerate coating tenfold. il Elec World 136:160 Ag 13 '51

Radiant heaters dry plastics faster. il Elec World 135:133 Ap 9 '51

Today's electrical heating equipment; infrared equipment. G. A. Van Brunt. il Factory Management 109:108 F '51

Lamps

Infrared heat saves pigs during farrowing. J. H. Bodwell. il Elec World 134:128 N 6 '50

Rare, medium or well, with infrared; restaurant use of infrared electric energy for cooking, baking and retaining food in appetizing display. A. H. Greisser. il Elec West 107:68-9 Jl '51

INFRARED spectrum. See Spectrum, Infrared

INGOT strippers

Portable ingot stripper offers flexibility. il diag Iron Age 166:71 N 23 '50

INHERITANCE tax

Avoiding conflict of interests in marital deduction methods. J. E. Williams. Trusts & Estates 90:156 Mr '51

Basis for gain or loss. C. A. Stutsman, jr. Trusts & Estates 90:237-8 Ap '51

Close corporation stock redemption for death taxes. R. O. Schwartz. Trusts & Estates 89:824-5 D '50

Estate tax simplified; review of What you should know about estate and gift taxes, by J. K. Lasser. E. S. MacNeill. Banking 44:66-7 Jl '51

Family corporations and estate taxes. E. S. MacNeill. Banking 43:72 D '50

High federal estate taxes create new business opportunities. J. Dutton. Comm & Fin Chr 174:882 S 6 '51

Hints on marital deduction problems; A.B.A. committee report. Trusts & Estates 89: 669-75 O '50

How to provide for changes in marital deduction values between tax date and final distribution. F. Smith. Trusts & Estates 90:16+ Ja '51

Necessity for estate planning; analysis of Tax court decision in Selznick v. Commissioner. F. L. Morton. Spectator (Life ed) 158:31-3 F '51

New tax law; effects on personal and business estate planning. S. J. Foosaner. map Trusts & Estates 89:640-3+ O '50

Plan to ease estate taxation; issue of interest-bearing tax anticipation certificates. M. G. Meyers and R. B. Westerfield. Comm & Fin Chr 174:323+ Jl 26 '51

Residue formula for maximum marital deduction; will drafting problems. T. S. Kiley and J. R. Golden. Trusts & Estates 89: 744-7+ N '50

Review of buy-and-sell insurance agreements; decision in case of estate of G. C. Ealy. F. L. Morton. Spectator (Life ed) 159:39-41 Ag '51

Some legal superstitions never die. E. S. MacNeill. Banking 43:67 Je '51

State and federal taxation; 1950 legislation; A.B.A. committee report. Trusts & Estates 89:678-9+ O '50

Technical changes act of 1949; reversionary interest; reserved life estates. M. M. Lore. Trusts & Estates 89:705 O '50

INHIBITORS of corrosion. See Corrosion and anti-corrosives

INJECTIONS, Intravenous

Method of intravenous injection of drugs from a distance in conditional reflex studies. H. A. Teitelbaum and W. H. Gantt. diags Science 113:603-5 My 25 '51

INJUNCTIONS

State court injunctions in labor management disputes. Mo Labor R 73:59-61 Jl '51

INJURIES. See Trauma

INJURIES (law). See Personal injuries

INJURIES from electricity. See Electricity, Injuries from

INK

Buy the right ink for paper, process, press and job. E. St John. Inland Ptr 126:59-60 O '50

First printing ink symposium yields active discussion; A. C. S. Division of paint, varnish and plastics chemistry. Chem & Eng N 29:3834-5 S 17 '51

Ink making; abstract. G. Welp. Mod Packaging 24:122-3 D '50

INK—*Continued*

Inks, vinyls and pigment properties featured on A.C.S. fall program; abstracts of papers. Paint Oil & Chem R 114:12 Ag 16 '51

Measuring rate of ink penetration. C. F. King. Inland Ptr 126:61-3 N '50

Nature of tack. A. Voet and C. F. Geffken. bibliog il diags Ind & Eng Chem 43:1614-24 Jl '51

Paper testing and research in Great Britain. A. G. Thomson. Pulp & Pa of Can 52:109 My '51

Printing ink and equipment development and their effect on paper requirements. L. F. Engelhart. Tappi 34:sup 116A-19A Ag '51

Roto revolution. il Chem Ind W 68:13-14 Ja 27 '51

Scuff resistance; abstract. R. D. Head, jr. Mod Packaging 24:124 D '50

Specular and diffuse reflectances of printing ink and common papers. H. M. Sharp and J. F. Parsons. plan diag Illum Eng 46:413-14 Ag '51

Standards for estimating ink coverage. E. St John. Inland Ptr 126:49-50 F '51

Tankers assure supply of ink. R. C. Persons. Ed & Pub 84:52 Je 30 '51

There's no secret about the new fluorescent inks. il Ptr Ink 235:40-1 Je 15 '51

Trouble with fast drying ink. E. St John. Inland Ptr 126:65 N '50

Testing

Empirical flow test in printing ink technology; abstract. R. F. Bowles. Chem Age (Lond) 64:269-71; Discussion. 271-2 F 17 '51

INK, Lithographic

Characteristics of offset inks. C. F. King. Inland Ptr 127:62-3+ Jl '51

Inkometer measures length and tack of inks. C. F. King. il Inland Ptr 127:78-9 Ag; 66 S '51

INKOMETER

Inkometer measures length and tack of inks. C. F. King. il Inland Ptr 127:78-9 Ag; 66 S '51

INLAND daily press association

Annual meeting, 66th, Chicago. Ed & Pub 83:5+ O 28 '50

Midwinter meeting, Chicago. Ed & Pub 84:7-8 F 17 '51

Spring meeting, 67th, Chicago. Ed & Pub 84:9+ My 26 '51

INLAND marine insurance. See Insurance, Inland marine

INLAND steel company

Companies that should maintain their dividends in 1951; with comparative balance sheet items. Mag of Wall St 88:355 Je 30 '51

INLAND waterways. See Waterways

INLET gratings. See Gratings

INOSAMINE

N→O acyl migration in epimeric acetyl inosamines. G. E. McCasland. bibliog Am Chem Soc J 73:2295-7 My '51

INOSITOL

Corn chemical catches on. il Chem W 68:25+ Je 23 '51

Up output tenfold; inositol from corn steep liquor. diag Chem Eng 58:200 Jl '51

INOSOSE

Dimorphism of esters of *scyllo*inosose. S. J. Angyal and N. K. Matheson. Chem Soc J p3349 N '50

INQUIRIES

See also

Advertising, Industrial—Inquiries

INSANE

Laws and legislation

For the mentally ill. Sci Am 183:26+ N '50

INSECT cages

Rabbit-ear cage for bloodsucking arthropods. P. A. Woke. il diags Pub Health Rep 66:464-71 Ap 13 '51

INSECT infestation. See Food—Insect infestation; Freight cars—Insect infestation

INSECT repellents

Insect repellent quest. il Chem W 68:35 Je 23 '51

Protection of paper and textile products from insect damage. S. S. Block. bibliog il Ind & Eng Chem 43:1558-63 Jl '51

INSECT traps

Electric light traps reduce tobacco worms. L. L. Koontz. il Elec World 135:134 My 7 '51

INSECTICIDES

Alkaloids from tripterygium wilfordii Hook; wilforine and wilfordine. M. Beroza. bibliog Am Chem Soc J 73:3656-9 Ag '51

American association of economic entomologists 62d annual meeting, Denver, Dec. 18-21. Soap & San Chem 27:113 Ja '51

Constituents of heliopsis species; scabrin, an insecticidal amide from the roots of H. scabra Dunal. M. Jacobson. bibliog Am Chem Soc J 73:100-3 Ja '51

Controlling filter flies; Chem-Larv. A. M. Livingston. il Pub Works 82:39+ Ja '51

Critical studies of new insecticides; colonial research progress. Chem Age (Lond) 63:680 N 11 '50

Dry aerosol; Dispercide. il Chem Ind W 68:23-4 F 10 '51

Effect of fluorine carriers on crops and drainage waters. W. H. MacIntire and others. bibliog Ind & Eng Chem 43:1797-9 Ag '51

Home-canned aerosols. il Chem W 69:25-6 Ag 4 '51

Insect and rodent control in civil defense. il Pub Works 82:79-80 Ap '51

Insect control on aircraft. R. W. Sherman. bibliog il Soap & San Chem 27:122-3+ Ag '51

Insect invasions test distribution channels of agricultural chemicals; C&EN annual review. L. S. Hitchner. il Chem & Eng N 29:40-1 Ja 1 '51

Insecticidal activity of 1,1,4,4-tetra-[p-chlorophenyl]-2,2,3,3-tetrachlorobutane. J. Bernimolin. Am Chem Soc J 71:2274-5 Je '49; Reply. R. Riemschneider. 73:1374-5 Mr '51

Insecticidal phosphorus compounds. B. Topley. Chem & Ind sup S859-68 D 30 '50

Insecticide-fertilizer producers told to market mixtures slowly. Oil Paint & Drug Rep 158:3+ O 16 '50

Insecticide vaporizing device investigated by US committee. Oil Paint & Drug Rep 160:51 O 8 '51

Insecticides and fungicides; progress in 75 years. H. L. Haller. il Ind & Eng Chem 43:569-72 Mr '51

Insecticides and their study. C. Potter. Chem Age (Lond) 64:48 Ja 13 '51

Insecticides in industry and public health. H. Pirie. Chem & Ind p 100-4 F 10 '51

Insecticides in 1950. bibliog Chem Age (Lond) 64:91-3 Ja 13 '51

Isopestox; a new insecticide. Chem & Ind p 123 F 17 '51; il Chem W 68:29 Je 16 '51

Labelled insecticides in pest research. Chem Age (Lond) 64:345-6+ Mr 3 '51

Mighty miticide. Chem Ind W 68:34-5 Ap 28 '51

New insecticide described; Pyrolan; abstract. R. Wiesmann. Chem & Eng N 29:3970 S 24 '51

New insecticide is selective, it kills only bad bugs; Isopestox. il Chem Eng 58:164-5 Jl '51

New materials and methods for pest control. A. M. Livingston. il Pub Works 82:46-7+ Mr '51

Organic phosphorus insecticides; recent German investigations; abstract. G. Schrader. Chem Age (Lond) 63:742 N 25 '50

Organic phosphorus insecticides; synthesis of bisdimethylaminophosphonous anhydride containing ^{32}P. J. E. Gardiner and B. A. Kilby. diags Chem Soc J p 1769-72 Jl '50

Pest control in Germany; Schrader's work on insecticides. Chem Age (Lond) 64:813-16 My 26 '51

Pest control in the food industry. R. L. Brett. il Safety Maint & Prod 102:25-6+ Jl '51

Pesticides '51 production topped 1,000,000,000 pounds, NACA told. Oil Paint & Drug Rep 160:5+ S 10 '51

Pesticides; International congress of pure and applied chemistry section meeting. Chem & Eng N 29:3969-71 S 24 '51

Pesticides output tied to chlorine, benzene; with tabulation of 1951 needs and 1950 consumption. F. K. Woolley. Oil Paint & Drug Rep 159:3 F 26 '51

INSECTICIDES—*Continued*

Pesticides supply outlook held favorable; lead arsenate short. K. H. Klipstein. Oil Paint & Drug Rep 160:4+ O 8 '51

Physico-chemical problems in the use of insecticides; abstract and discussion. G. S. Hartley. Chem & Ind p70-1 Ja 27 '51

Preparation of some chlorinated aryl silanes for the examination of their insecticidal properties. H. Gilman and L. S. Miller. bibliog Am Chem Soc J 73:968-70 Mr '51

Pyrethrum-in-oil insecticides; abstract. E. A. Parkin. Chem Age (Lond) 63:773-4 D 2 '50

Radioactive tracer studies on the fate of insecticides; abstract and discussion. F. P. W. Winteringham. Chem & Ind p405-6 My 26 '51

Research on contact insecticides. F. Neurath. bibliog Chem Age (Lond) 65:485-8 O 13 '51

Resistance of DDT-resistant drosophila to other insecticides. R. Weiner and J. F. Crow. bibliog Science 113:403-4 Ap 13 '51

Scabrin; a new botanical insecticide. R. C. Roark. Soap & San Chem 27:125+ Mr '51

Self-defense for plants; systemics, Systox, Pestox 3. il Chem Ind W 68:21+ F 24 '51

Seven up; cotton bug killers. Chem Ind 67: 722-3 N '50

Small chemical industries for China; sugar and insecticides manufacture. J. E. Stepanek and C. H. Prien. bibliog il Chem & Eng N 28:4250-3 D 4 '50

Some esters of 2-trichloro-1-(*p*-chlorophenyl)-ethanol as potential insecticides. T. C. Chen and W. T. Sumerford. bibliog Am Chem Soc J 72:5124-5 N '50

Structural and insecticidal relationships in rotenone, methoxychlor, and DDT. R. W. Hummer and E. E. Kenaga. bibliog il Science 113:653-5 Je 8 '51

Synergists widen scope of non-toxic insecticides. M. Goldberg. il Chem Ind 67:578-81 O '50

Synthetic organic insecticides; their values and limitations. Chem Age (Lond) 64:985-7 Je 30 '51

This laboratory is a bug house; U. S. Rubber's Naugatuck chemical division, Bethany Conn.; illustrations. Chem & Eng N 29:3552-3 Ag 27 '51

Turmoil among the bees. Sci Am 185:34+ Ag '51

Whither insecticides? R. A. E. Galley. Chem & Ind sup S877-80 D 30 '50

See also

Allethrin
Chlordane
DDT (dichlorodiphenyltrichloroethane)
Fly sprays and repellents
Hexachlorocyclohexane
Insect repellents
Insect traps
Methyl bromide
Mothproofing preparations
Parathion
Pyrethrins
Pyrethrum
Rotenone
Toxaphene

Analysis

Colorimetric determination of 2-nitro-1,1-bis (*p*-chlorophenyl)alkanes. L. R. Jones and J. A. Riddick. bibliog Anal Chem 23:349-51 F '51

Insecticide residues study. il Chem & Eng N 29:1491-2 Ap 16 '51

Application

Modern insecticide sprayers. E. D. Anderson. il Soap & San Chem 27:121-3+ F '51

Law

Chlordane insecticides label rules tightened. Oil Paint & Drug Rep 160:3 S 17 '51

Insecticide laws up-to-date. C. C. McDonnell. Soap & San Chem 27:110-11+ My '51

Manufacture

Insecticide formulation; Plant Protection factory at Yalding. Chem Age (Lond) 64: 379-80 Mr 10 '51

Physiological effect

Ants, and other bugs, in the pantry. il Consumers Res Bul 28:13-15 S '51

Study of workers exposed to the insecticides chlordan, aldrin, dieldrin. F. Princi and G. H. Spurbeck. bibliog A M A Archives Ind Hygiene & Occup Med 3:64-72 Ja '51

Testing

Biological tests of insecticides for stored product insects; abstract and discussion. E. A. Parkin. Chem & Ind p770-1 D 2 '50

Laboratory method for evaluating the phytotoxicity or phytostimulation of insecticides. J. E. Casida and T. C. Allen. il Science 113:553-5 My 11 '51

INSECTS

Function of the symbiotic yeasts of two insect species, lasioderma serricorne F. and stegobium (sitodrepa) paniceum L. N. C. Pant and G. Frankel. diags Science 112: 498-500 O 27 '50

Rate of circulation of the body fluid in adult tenebrio molitor Linnaeus, anasa tristis (de Geer), and murgantia histrionica (Hahn). R. Craig and N. A. Olson. bibliog Science 113:648-50 Je 8 '51

Why do insects have six legs? U. N. Lanham. Science 113:663 Je 8 '51

See also

Cockroaches
Entomological laboratories
Fertilization of plants
Leafhoppers
Lepidoptera

Collection and preservation

C-M medium; a mounting medium for small insects, mites, and other whole mounts. E. W. Clark and F. Morishita. Science 112: 789-90 D 29 '50

INSECTS, Effect of temperature on

Thermophobic insect. R. I. Sailer. Science 112:743 D 22 '50

INSECTS, Injurious and beneficial

Bugs; how the battle is going. Bsns W p64 Jl 14 '51

Control of Alaskan biting insects. C. S. Wilson. bibliog Pub Health Rep 66:917-22 Jl 20 '51

Insect and rodent control in civil defense. il Pub Works 82:79-80 Ap '51

See also

Airplanes in insect control
Bark beetles
Food—Insect infestation
Fruit flies
Galls (botany)
Insecticides
Spruce budworms

Bacteriological control

Laboratory of insect pathology, Sault Ste Marie, Ontario. il plans Pulp & Pa of Can 51:110-17 D '50

INSECTS as carriers of infection

Grasshopper transmission of three plant viruses. H. J. Walters. bibliog Science 113: 36-7 Ja 12 '51

Insecticides in industry and public health. H. Pirie. Chem & Ind p 100-4 F 10 '51

See also

Mosquitoes

INSEMINATION, Artificial

Method for artificial insemination in viviparous fishes. E. Clark. bibliog Science 112: 722-3 D 15 '50

INSERTS. See Advertisements—Inserts

INSPECTION

Automatic devices reduce inspection costs; Ford motor co. J. Geschelin. il Automotive Ind 103:32-3+ N 1 '50

Crystal-electric inspection discovery. il Automotive Ind 104:78+ F 15 '51; Steel 128:82 F 26 '51

Defense production; inspection keyed to new needs; illustrations with text. Mod Ind 22:46-7 S '51

Dial-indicator setups simplify inspection jobs. M. Bell. diags Am Mach 95:166-7 F 19 '51

How to inspect screwthread elements. W. M. Stocker, jr. il diags Am Mach 95:137-52 O 15 '51

Inspecting, 1,000 times better; cadmium sulphide crystal increases efficiency of X-ray. il Bsns W p78+ Mr 3 '51

Inspection by optical projection methods. E. C. Polidor. il diags Tool Eng 27:43-6 Ag; 52-4 S '51

Inspection form for precision gears; reference book sheet. J. W. Duffy. Am Mach 94:173, 175 D 11 '50

1951 production preview. il Am Mach 95:265-75 Ja 22 '51

Optimum speeds of translation and rotation for the visual inspection of cylindrical surfaces; abstract. E. P. DeGarmo and others. Mech Eng 73:513-14 Je '51

INSPECTION—*Continued*

Radiographic inspection of steel castings. J. M. Flanagan. il diag Instruments 24:655+ Je '51

Six ways to better inspection via good lighting; illustrations with text. Factory Management 109:71 Jl '51

Some inspection techniques using electric lamps; illustrations with text. Illum Eng 46:266-7 My '51

Special inspection lights increase production. H. E. Vogel. il Elec World 136:122 S 24 '51

Statistics in production and inspection. E. G. Olds. Am Stat Assn J 46:297-310 bibliog (p309-10) S '51

Technical forum on progress in metalworking; inspection and testing. Steel 128:267-8+ Ja 1 '51

Toward more efficient inspection; abstract. Management R 40:211-12 Ap '51

Two new inspection devices; automatic inspection machine for cylinder bores, and instrument for precision checking of gears and camshafts, Ford equipment for quality control. il diags Automotive Ind 104:44-5+ Mr 1 '51

Ultrasonic inspection today. H. E. Van Valkenburg. diag Tool Eng 27:36-8 Ag '51

Use of quality control on 100 per cent inspections. Management R 40:419-20 Jl '51

See also

Gages

Magnetic testing

INSTALMENT plan

Industry should push budget sales with TBA free from credit curbs. F. C. Sturtevant. Nat Pet N 42:62+ N 8 '50

Study of the installment transaction. R. G. Moser. J Account 92:53-4 Jl '51

See also

Finance companies

Loans, Bank—Instalment payment

Accounting

Installment purchase where payment schedule varies with future services. J Account 92:338-9 S '51

Regulation

Automobile appraisal guides designated by Board of governors of Federal reserve system for purposes of Regulation W. Fed Res Bul 36:1311-14 O '50

Cars; refrigerators; bigger down-payment; shorter time to pay. W. B. French. Banking 43:81-2+ O '50

Consumer buying and credit developments. Survey of Cur Bsns 30:10-13+ N '50

Consumer credit; interpretations of Regulation W. Fed Res Bul 36:1471-2, 1612-21; 37:20-2, 269-71, 645-7, 813, 1134-5 N '50-Ja, Mr, Je-Jl, S '51

Consumer credit regulation in a garrison economy. R. M. Evans. Fed Res Bul 36:1437-40 N '50

Consumer credit restraint as an anti-inflationary measure. W. M. Martin, jr. Fed Res Bul 37:748-51 Jl '51

Consumer credit; text of amendment no. 3 to Regulation W. Fed Res Bul 37:509-10 My '51

Consumer credit; text of amendment no. 4 to Regulation W. Fed Res Bul 37:958-9 Ag '51

Credit crisis; FRB's tougher terms for used cars. Bsns W p21 N 18 '50

Easier credits, few takers; relaxed Regulation W. Bsns W p25-6 S 1 '51

Instalment credit terms before and during regulation. P. M. Webster. Fed Res Bul 37:800-6 Jl '51

Recent developments in instalment credit. Fed Res Bul 36:1427-36 N '50

Regulation of consumer credit; statement before Joint committee on defense production. T. B. McCabe. Fed Res Bul 36:1577-81 D '50

Regulation of consumer instalment credit; Regulation W, effective Sept. 18, 1950; with text. Fed Res Bul 36:1281-3, 1308-11 O '50

Retailers; they worry, but still sell; consumer credit tightened. Bsns W p 19-20 O 21 '50

State regulation of retail instalment financing; progress and problems. W. P. Mors. bibliog J Bsns 23:199-218; 24:43-71 O '50-Ja '51

Statistics

Consumer credit statistics, total credit, by major parts; consumer instalment loans, selected years 1929-1949 and monthly Oct. 1949-Nov. 1950. Fed Res Bul 37:92 Ja '51 [cont monthly]

Consumer instalment sale credit; consumer instalment credits of commercial and industrial banks and of industrial loan companies; furniture store statistics and ratio of collections to accounts receivable; tabulations for selected periods 1929-Nov. 1950. Fed Res Bul 37:93-4 Ja '51 [cont monthly]

Measurement of consumer credit. R. A. Young. Fed Res Bul 36:1456-64 N '50

Revised estimates of consumer credit; with monthly figures Jan. 1929-Sept. 1950. Fed Res Bul 36:1465-6 N '50

INSTITUTE of boiler and radiator manufacturers

Annual meeting, 35th, Absecon. Dom Eng 176:127 D '50

INSTITUTE of British foundrymen

Annual meeting, 48th, Newcastle-on-Tyne, July 13-15, with abstracts of papers. Metallurgia 44:32-8 Jl '51; Foundry 79:83+ Ag '51; Engineering 171:763-4 Je 22 '51

INSTITUTE of ceramic engineers

Roster. Am Cer Soc Bul 29:sup40+ O 15 '50

Rules. Am Cer Soc Bul 30:20-2 Ja 15 '51

INSTITUTE of cooking and heating appliance manufacturers

Winter convention and management conference, Cincinnati, Dec. 4-6. Cer Ind 56:60-2+ Ja '51

INSTITUTE of food technologists

Annual meeting, 11th, New York, June 17-21. Oil Paint & Drug Rep 159:5+ Je 25 '51; Chem & Eng N 29:2818-19 Jl 9 '51

Annual meeting, 11th, New York, June 17-21. Soap & San Chem 27:147 Jl '51

Exhibition, New York. Food Eng 23:87+ Ag '51

INSTITUTE of fuel

Some considerations on policy, thought and words; abstract. J. F. Ronca. Chem & Ind p459-60 Je 16 '51

INSTITUTE of gas technology

Dedicates new building in Chicago. Am Gas Assn Mo 32:6 D '50; Same. Am Gas J 173:22 D '50

Institute of gas technology inaugurated by North Carolina State. Gas Age 108:39 Ag 30 '51

INSTITUTE of home office underwriters

Annual meeting, 14th, Omaha, Nov. 1-3. East Underw 51:3+ N 3 '50

INSTITUTE of industrial health. See Michigan university—Institute of industrial health

INSTITUTE of inter-American affairs

Progress of the Institute; Point IV in action. K. R. Iverson. il For Comm W 43:3-5+ Ap 9 '51

INSTITUTE of life insurance

Annual meeting, New York, Dec. 8. East Underw 51:30, 34 D 15 '50; Weekly Underw 163:1326 D 9 '50

Highlights from 1950 annual report. H. J. Johnson. Spectator (Life ed) 158:17-19 Ja '51

Institute battles inflation. Weekly Underw 164:400 F 10 '51

Institute literature widely used in battle to check inflation. East Underw 52:8+ Mr 23 '51

Institute readies 110,000 fact books for sixth and largest distribution. Nat Underw (Life ed) 55:2+ Jl 20 '51

Life Institute's program in family security education. R. W. Kelsey. Weekly Underw 164:290 Ja 27 '51

National advertising program of Institute; importance of policyholders' thrift to national economy theme. East Underw 52:1+ S 28 '51

INSTITUTE of metals

Annual meeting, 43d, London, March 13-15. Engineering 171:324, 340-1, 395, 473-4, 492-3 Mr 16-23, Ap 6, 20-27 '51; Engineer 191:376-8, 419-21, 437-8 Mr 23-Ap 6 '51

Appeal for financial support. Engineer 190:602 D 15 '51

Autumn meeting, 42d, Bournemouth, Sept. 18-22; with abstracts of papers. Engineering 170:291-2, 341, 372-3, 398-9 O 6, N 10-24 '50

INSTITUTE of metals—*Continued*

Autumn meeting, 42d, Bournemouth, Sept. 18-22; with abstracts of papers on corrosion. Foundry 78:197-8 N '50

INSTITUTE of newspaper controllers and finance officers

Annual meeting, 3d, Cleveland. Ed & Pub 83: 7+, 8 O 21; 14 O 28 '50

Meeting, St Louis. Ed & Pub 84:14 S 29 '51

INSTITUTE of Pacific relations

Lucknow conference. Economist 159:823 N 18 '50

INSTITUTE of paper chemistry. See Lawrence college—Institute of paper chemistry

INSTITUTE of petroleum

Annual report, year ending Dec. 31, 1950. Inst Pet J 37:324-36 Je '51

Hydrocarbon research group annual report Oct. 1949-Sept. 1950. Inst Pet J 36:752-4 D '50

Past-presidents, council 1950-51, officers, committees, branch secretaries. Inst Pet J 36: sup ii-vii D '50

Symposium on the Institute of petroleum safety codes. E. J. Sturgess and others. plans Inst Pet J 37:163-97; Discussion. 197-208 Ap '51

Standardization committee

Interim report of the oxidation panel of standardization sub-committee no. 6. diags Inst Pet J 36:336-44, 669-71 Je, O '50

INSTITUTE of power engineers

Annual meeting, 10th, Montreal, Oct. 19-21. Power 95:118 Ja '51

INSTITUTE of radio engineers

Annual airborne electronics conference, 2d, Dayton. Aviation W 55:33 Jl 2 '51

Annual meeting, New York, March 19-22; program. Electronics 24:148+ Mr '51

Canadian IRE section; Council, 1950; portraits. Inst Radio Eng Proc 38:1458-9 D '50

Convention and radio show, New York, March 19-22; technical papers program; list of exhibitors. Tele-Tech 10:45-7+ Mr '51

Elects officers for 1951. Electronics 24:246+ Ja '51

Expansion of the IRE professional group system. Inst Radio Eng Proc 39:201-2 F '51

Institute committees, technical committees, representatives in colleges. Inst Radio Eng Proc 39:720-3 Je '51

I.R.E. professional group founders and professional group chairmen; portraits. Inst Radio Eng Proc 39:994-5 S '51

National convention, New York, March 19-22; with program and summaries of technical papers. Inst Radio Eng Proc 39:292-315 Mr '51

Report of the secretary, 1950. Inst Radio Eng Proc 39:709+ Je '51

What's behind IRE? J. V. L. Hogan. Inst Radio Eng Proc 39:340-1 Ap '51

INSTITUTE of the aeronautical sciences

Annual meeting, 19th; impressions and comments. Aeronautical Eng R 10:35-48 Ap '51

Annual meeting, 19th, Jan. 29-Feb. 1; with abstracts of papers. Aviation W 54:28-9+ F 5; 30-2 F 12; 26+ F 19 '51

Annual meeting, 19th, New York; honors and awards; annual report. Aeronautical Eng R 10:5-18 Mr '51

Bane and Chanute awards presented to J. B. Johnson and Lt. Col. M. E. Carl. Aeronautical Eng R 10:5 Ag '51

Gifts to the Institute collections. Aeronautical Eng R 9:8-9 N '50

I.A.S. fellowship; editorial. Aeronautical Eng R 9:13 D '50

IAS grants awards. Aviation W 55:31-2 Jl 9 '51

IAS Honors night awards go to five. Aviation W 54:16 Ja 29 '51

I.A.S. president for 1951, Rear Adm. L. B. Richardson, U.S.N. (ret.); other officers. Aeronautical Eng R 9:5+ D '50

Three organizations join I.A.S. Aeronautical Eng R 9:6-7 N '50

INSTITUTION of chemical engineers

Annual meeting and dinner, 29th, London, May 18. Chem Age (Lond) 64:803-6 My 26 '51; Chem & Ind p424-5 Je 2 '51

Convention, London, April 11-15. Chem & Ind p798-9 S 22 '51

Northwestern branch

Annual meeting, 6th, Manchester, Jan. 26. Chem Age (Lond) 64:195-6 F 3 '51

INSTITUTION of civil engineers

Conversazione, London, June 8. Engineering 171:728-9 Je 15 '51

INSTITUTION of electrical engineers

Annual dinner, London, Feb, 22. Elec R (Lond) 148:434-6 Mr 2 '51; Electrician 146: 718 Mr 2 '51

Annual report, year ended March 31. Engineering 171:604 My 18 '51; Abstracts. Elec R (Lond) 148:1052 My 18 '51; Electrician 146: 1712 My 18 '51

Background to the formation of the Northwestern centre. H. G. Bell. Inst E E Proc 98 pt 1:18-19 Ja '51

Chesters; dedication of I.E.E. residential estate for the rehabilitation of members, or their dependants. il Elec R (Lond) 148: 1092-3 My 25 '51

New president, council and section chairmen for 1951-52. Elec R (Lond) 149:185-6 Jl 27 '51

Report of the council. Engineer 191:733-5 Je 1 '51

Revision of the bye-laws. Inst E E Proc 98 pt 1:63-72 Ja '51

INSTITUTION of mechanical engineers

Annual report of the Council for the year 1950. Inst Mech Eng Proc 164 no 1:68-81 '51; Excerpts. Engineer 191:454-5 Ap 6 '51

Brief subject and author index of papers in the Proceedings, 1847-1950. A. R. Stock. comp. 235p Institution of mechanical engineers, Storey's Gate, St James's park, London, S.W.1 '51

Clayton fellowships and grants, 1951. Engineer 192:220 Ag 17 '51

INSTITUTION of metallurgists

Presidential address. C. J. Smithells. Metallurgia 43:299-300 Je '51

INSTITUTION of naval architects

Spring meeting, London, March 14-15; with abstracts of papers. Engineer 191:357, 388-9, 408-9, 438-9 Mr 16-Ap 6 '51; Engineering 171:351-2, 378-80, 398-9, 440-2 Mr 23-Ap 13 '51

INSTITUTIONAL advertising. See Advertising, Institutional

INSTITUTIONAL homes. See Homes, Institutional

INSTRUCTION in use of product

Denison slide film speeds conversion for Korea. J. Gallant. il Ind Marketing 35:56+ O '50

Disston fights shortages by head-on attack on waste; illustrations with text. Mod Ind 21:39-40 Ja '51

Fight tool waste; aids offered by Henry Disston & sons. Iron Age 167:96-7 My 17 '51

Industrial advertising can boost wartime machine productivity. A. R. Tofte. il Ind Marketing 36:38-9 Je '51

Manufacturers join in maintenance fight. il Power 95:152+ My '51

Products; their use and misuse. D. D. Irish. Chem & Eng N 29:1729-30 Ap 30 '51

Tape recorder solves mass training problem; Allen Electric's factory instructor records training story and 70 sales engineers carry it to mechanics' after-hours classes. il Sales Management 65:74 N 20 '50

INSTRUCTION manuals

Aircraft data handling. K. E. Barnes. Aero Digest 62:22+ F '51

Guide your preventive maintenance with a master service manual. H. C. Campbell. Constr Methods 33:100-1 Mr '51

How to produce good instruction manuals. E. Anthony. diags Electronics 24:88-91 S '51

How to set up an instruction manual department. E. Anthony. Electronics 24:100-4 Je '51

How to tool-up for technical manuals; guide for manufacturers preparing manuals for air force, navy, Signal corps. S. Gerstin. flow chart Tele-Tech 10:52-3 Je '51

INSTRUCTIONS

See also

Safety instructions and training

INSTRUMENT departments

Instrument department grows up. R. F. Angell and R. Tobi. il Pet Eng 23:C23-4+ Je '51

INSTRUMENT dials. See Dials, Instrument

INSTRUMENT society of America

National conference and exhibit, Houston, Sept. 10-14. Science 114:367 O 5 '51

Reports. Instruments 23:1061-3 O '50

INSTRUMENTS

Blast furnace instrumentation. E. T. Mortson and S. T. Paisley. il Blast F & Steel Pl 39: 789-99 Jl '51

Bridge balance indicator and a process monitoring system for measuring 1600 variables. R. H. Müller. il Anal Chem 22:sup31A-2A O '50

Careers in chemistry and chemical engineering; instrumentation in the plant and laboratory. S. D. Ross. il Chem & Eng N 28: 4434-6 D 18 '50

Central instrumentation widens testing scope. F. Friswold. il Product Eng 22:168-71 Ag '51

Classifications; keys to know-how in instrument work. M. F. Behar. diags Instruments 24:393-9 Ap '51

Course in instrumental analysis. L. G. Bassett and others. bibliog il J Chem Educ 28:466-71 S '51

Designing noncircular surfaces for pure rolling contact. F. W. Hannula. il diags Machine Design 23:111-14+ Jl '51

Economics of instrumentation. J. F. Lynch. il Instruments 23:1125+ N '50

Enormous demands upon instrumentation; education is a bottleneck. R. H. Müller. Anal Chem 23:sup 19A-20A Ja '51

Graphic instrumentation. W. S. Bowers. il Oil & Gas J 49:115 O 26; 95 N 2; 181 N 9 '50

How instrumentation facilitates industrial waste treatment for Cooper-Bessemer corp. W. E. Oesterling. il diag Water & Sewage Works 98:60-2 F '51

Increasing combustion efficiency in the steel industry. J. G. Sparks. il diags Iron & Steel Eng 28:89-94; Discussion. 94-6 Ap '51

Industrial water pollution, a new headache for power engineers?—not necessarily! instrumentation techniques offer a way out. W. B. Hart and others. il Power 95:107-9+ F '51

Instrument makers; demand picture bright, but shortages present problems. F. Henle. Barron's 31:13-14 Mr 19 '51

Instrumentation and control for mixed fuels and oxygen in open hearth furnaces. M. J. Conway and E. H. Cauger. il diags Iron & Steel Eng 28:106-14 Jl '51

Instrumentation and control for small power plants. P. S. Dickey. il diags Blast F & Steel Pl 39:694-6+ Je '51; Same. Gen Elec R 54:37-41 Jl '51; Same cond. Power Eng 55:78-9+ Je '51

Instrumentation as applied to Diesel engines. R. J. B. Keig. Engineer 190:567 D 8 '50

Instrumentation for metallurgy. R. R. Webster. il Metal Prog 59:86-92 Ja '51

Instrumentation for the study of engine fuel requirements. H. J. Eatwell and H. J. Hulf. il diags Engineer 191:803-5 Je 15 '51

Instrumentation in perspective. W. A. Wildhack. bibliog Science 112:515-19 N 3 '50

Instrumentation in steelmaking; Pittsburgh section, Instrument society of America 1st regional conference. Metal Prog 59:657-9 My '51

Instrumentation studies; photoelectric instruments for measurement of color; reflectance and transmittance; photovolt photoelectric reflection meter, Model 610. L. R. Dearth and others. bibliog il diag Tappi 33:sup 85A-9A O '50

Instruments are made to be used. C. F. King. Inland Ptr 126:79-82 O '50

Instruments' role cited; National instrument conference and exhibit, 6th, Houston. il Oil & Gas J 50:166-7 S 20 '51

Instruments save technicians. Steel 129: 116+ S 24 '51

Locomotive instrument lighting. F. H. Catlin. il Ry Mech & Elec Eng 125:43-4 Ja '51

Optimum gear train ratios for instrument servomechanisms. L. N. Canick. diags Product Eng 22:108-9 Jl '51

Possibilities of mercury poisoning in instrument shops. R. F. Angell. Pet Eng 23:C18 F '51

Practical considerations in instrument gear design. L. M. Davison. diags Product Eng 2:183-7 S '51

Problem of accuracy. H. Koenig. il Standardization 22:44-5 F '51

Quality electronic components for instrument circuits. W. R. Clark. il Instruments 24:966-8 Ag '51

Question and answer session at Texas A&M's fifth annual symposium on instrumentation for the process industries. Instruments 24:160-2+ F '51

Questions and answers on instrumentation. Pet Processing 5:1318-19 D '50

Radiation monitoring; symposium on nucleonic instrumentation. Electrician 145:1240-2 D 1 '50

Refinery instruments; what makes them tick? C. E. Shannahan. il diags Pet Processing 6:730-3, 848-53, 983-6 Jl-S '51

Review of new plant equipment; meters and instruments. il Power 95:162-4 Mid-Je '51

Select best instrument for each application. R. H. Munch. Ind & Eng Chem 43:sup83A-4A+ Je '51

Use of measuring and automatic process control instruments. L. Walter. il diags Can Chem & Process Ind 35:204-9+ Mr '51

See also

Aeronautic instruments
Balances
Consistometers
Control equipment
Dynamometers
Electric instruments
Magnetic instruments
Measuring instruments
Medical instruments and apparatus
Optical instruments
Radio instruments
Recording instruments
Scientific apparatus and instruments
Surgical instruments and apparatus
Tariff—United States—Instruments
Verniers

Exhibitions

British instrument industries exhibition. il Metallurgia 44:9-14 Jl '51; Engineer 192:12-14, 51-3, 86-7 Jl 6-20 '51; Engineering 172: 9-10, 43, 103-6 Jl 6-13, 27 '51

Instrument society of America 6th annual exhibit, Houston, Sept. 10-14, list of exhibits. plan Instruments 24:902-8 Ag '51

Second report on Europe's industrial and instrument fairs. R. Rimbach. il Instruments 24:1042-6+ S '51

$10 million instrument exhibit largest in western hemisphere. Chem & Eng N 29: 3989-90 S 24 '51

Standards

Standardization of parts and dimensions, terminology, coding, and charts in instrumentation results in savings. R. H. Munch. Ind & Eng Chem 43:sup59A-60A+ Ag '51

Statistics

8719 new instruments; a tabulation of new instrument items in Instruments each year during the 23 years. Instruments 24:273 Mr '51

Study and teaching

Instrumentation and automatic control course for mechanical engineers. M. H. LaJoy. il Instruments 24:406-7 Ap '51

Many groups need to understand instrumentation. R. H. Munch. Ind & Eng Chem 43:sup63A-4A+ Ja '51

Survey of industrial instruments courses in engineering schools. M. B. Hall and K. A. Bell. il Instruments 24:886-7 Ag '51

INSULATING board. See Fiber board

INSULATING materials

Chemistry and the electrical engineer. F. M. Clark. bibliog il Gen Elec R 54:11-23 F '51

Raw materials for electric cable making; black varnished cambric. A. King. il Electrician 147:107-11 Jl 13 '51

INSULATING materials—*Continued*

Raw materials for electric cable making; cable impregnating oils and compounds. A. King. il diag Electrician 146:1938-49 Je 8 '51

See also

Barium titanate
Glass—Electric properties
Insulating oil
Mica
Paper, Insulating
Porcelain, Insulating
Resinous products—Insulating materials
Thyrite
Varnish, Insulating

Testing

Aging of class-B insulating material in nitrogen. H. C. Stewart and L. C. Whitman. il Elec Eng 70:257-8 Mr '51

Thermal evaluation of Formvar resin. T. D. Callinan. bibliog diags Electrochem Soc J 98:171-6 My '51

INSULATING oil

Deterioration of transformer oil and paper insulation by temperatures. F. J. Vogel and others. bibliog Elec Eng 70:244-7 Mr '51

Diffusion as a rate-limiting factor in the oxidation of transformer oils. R. Irving and C. N. Thompson. bibliog Inst Pet J 37:67-79 F '51

Inhibited oil is oxidation resistant. il Elec West 105:37-8+ O '50

Inhibitors lengthen life of transformer oil. J. G. Ford and T. K. Sloat. Westinghouse Eng 10:250-2 N '50

Non-combustible oils. il Elec R (Lond) 148:699-701 Ap 6 '51

Operation of bushings in carbonized oil; abstract. W. R. Wilson and L. Wetherill. Elec Eng 70:884 O '51

Oxidation stability of transformer oils. A. J. Ham and C. N. Thompson. bibliog 4pls Inst Pet J 36:673-83 N '50

Raw materials for electric cable making; cable impregnating oils and compounds. A. King. il diag Electrician 146:1938-49 Je 8 '51

Test program investigate DBPC oil inhibitor. R. G. Call. Elec World 134:134+ N 20 '50

Transformer oil. E. D. Treanor and E. L. Raab. Elec Eng 70:40 Ja '51

Transformer oil acidity; abstract. L. Goodall. Inst E E Proc 98 pt 1:26 Ja '51

Transformer oil in the steel plant. J. F. Boal. il Iron & Steel Eng 28:97-103; Discussion. 103-5 Jl '51

Water in transformer oil. M. R. Dickson. Inst Pet J 37:373-87 bibliog(p386-7) Jl '51

Specifications

Insulating oil; revised specification for transformer and switchgear type. W. R. Stoker. Elec R (Lond) 148:426-8 Mr 2 '51

Testing

Life of inhibited oil revealed by accelerated tests. W. G. Horsch. il diag Elec World 135:116+ Mr 26 '51

Method for evaluating the oxidation stability of inhibited transformer oils. G. H. Beaven and others. bibliog pl diag Inst Pet J 37:25-39 Ja '51

INSULATING paper. See Paper, Insulating

INSULATING porcelain. See Porcelain, Insulating

INSULATING varnish. See Varnish, Insulating

INSULATION (electric)

Designing with modern materials; survey of latest developments in engineering materials. Machine Design 23:352 O '51

Electrical breakdown over insulators in high vacuum. P. H. Gleichauf. bibliog il diag J Ap Phys 22:535-41, 766-71 My-Je '51

Factors affecting minimum surface leakage distances in direct-current power systems. J. E. Hart and others. il diag Elec Eng 70:910-14 O '51

Influence of electrodes on d-c breakdown in gases at high pressure. J. G. Trump and others. bibliog Elec Eng 69:961-4 N '50

Insulated joints in cathodic protection. M. E. Parker. Oil & Gas J 50:81 Jl 5 '51

Insulating a radio mast. C. J. Clackett. il Elec R (Lond) 149:305-7 Ag 10 '51

Lower maintenance and increased service life for electric motors; Reliance electric and engineering co. J. L. Van Nort. il Paper Ind 32:1288-9 Mr '51

New high-voltage insulation for turbine-generator stator windings. C. M. Laffoon and others. Elec Eng 70:521 Je '51

New insulation extends motor service. il Steel 127:72+ O 30 '50

New methods speed insulator output at Jeffery-Dewitt. E. Mosthaf. il diags Cer Ind 56:80-1+ My '51

Proposed basic impulse insulation levels for high-voltage systems. J. E. Clem and others. bibliog Elec Eng 70:61-6 Ja '51

Pulse method of determining the energy distribution of secondary electrons from insulators. K. G. McKay. bibliog diags J Ap Phys 22:89-94 Ja '51

Rubber pads insulate low-voltage cable joints. V. A. Veit. il Elec World 135:128+ Ap 9 '51

Trends in insulation reliability. A. M. Thomas. bibliog Elec R (Lond) 147:751-4 N 10 '50

Use and abuse of insulated joints. M. E. Parker. il diags Oil & Gas J 49:70-2+ F 1 '51

Vacuum-drying of electrical insulation in the service shop. N. R. Maleady. il Gen Elec R 54:52-4 Ag '51

Vhf/uhf insulation production and application techniques. R. G. Peters. il Tv Eng 2:10-12 Mr '51

See also

Dielectrics
Insulating oil

Testing

Check-ups for generators. J. S. Johnson. il Westinghouse Eng 11:56-60 Mr '51

Insulation field test results; abstract. W. F. Dunkle. Elec Eng 70:579 Jl '51

Insulation test set. il J Sci Instr 27:286 O '50

Measurement of insulation resistance on energized systems. E. L. Brancato and A. T. McClinton. diags Elec Eng 70:150-4 F '51

Nondestructive testing of generator insulation. E. H. Povey and F. S. Oliver. diag Elec Eng 70:498 Je '51

Routine insulation testing of synchronous machines. L. F. Hunt and J. H. Vivian. Elec Eng 70:499 Je '51

Testing insulation with the surge comparator. D. J. Reynolds and others. il diags Westinghouse Eng 11:112-16 Jl '51

Testing panel for faulty insulation. il diag Eng & Min J 151:111 N '50

Testing your insulation. Power 95:121 S '51

Winding insulation tester for d-c armatures. F. H. Catlin and N. Rohats. il diags Elec Eng 70:591-4 Jl '51

Winding-insulation testers. N. Rohats and E. C. Schrom. il diags Gen Elec R 54:51-5 S '51

INSULATION (heat)

Air-conditioning principles applicable in any mill. G. Eckman. diag Textile World 101:139+ Ag '51

Analysis of errors in measuring thermal conductivity of insulating materials. E. V. Somers and J. A. Cyphers. diags R Sci Instr 22:583-6 Ag '51

Applying fiberglas perimeter insulation. il Sheet Metal Worker 42:61 Ap '51

Before you insulate, take into account boiler capacity, payout period, experimental heat loss data. S. R. Steinbock. Chem Eng 58:173-4 My '51

Better magnesia insulation by new process. S. A. Abrahams. flow sheet il Chem Eng 58:140-2 S '51

British insulation materials. Refrig Eng 59:683 Jl '51

Cavity wall features new low cost insulation. il Arch Forum 94:214+ Je '51

Cavity wall that can be insulated; technical guide. il diags Am Bld 73:50+ S '51

Chart giving insulation thickness to prevent sweating. Power Eng 54:91-2 N '50

Double insulation for safer service. Safety Maint & Prod 101:51 Ap '51

Efficiency in pipe insulation means economy in use. il Heating-Piping 23:92 Je '51

Four techniques used to insulate hospital piping. il diags Heating-Piping 23:140-1 Ja '51

Gypsum wallboard with aluminum foil backing is effective insulation. il Arch Forum 94:206 Ja '51

INSULATION (heat)—*Continued*

Heat insulation aids plant safety. Safety Maint & Prod 102:57 S '51

Home insulation market. A. Stout. il Sheet Metal Worker 42:80-1+ Jl '51

How to apply removable insulation over process vessel welds. M. A. Allen. diag Chem Eng 57:155 N '50

How to stop heat loss from the floor. diags Dom Eng 178:94-7+ Jl '51

How your steam turbine is insulated. C. H. TeBrake. il Power 95:116-17 Ja '51

Insulated frozen-food shipper needs no ice. il Food Ind 23:148 Mr '51

Insulating air conditioning system. il Heating-Piping 22:102 N '50

Insulating at service temperatures eliminates cracking; carbonizers at Disco corp. Iron Age 167:89 My 17 '51

Insulating while hot prevents expansion problems. Pet Eng (Ref annual) 23:C48 Jl 15 '51

Insulation; banded-block technique. R. L. Davis. il diag Pet Eng 22:C40-1 D '50

Insulation cuts mercury-unit losses. il Power 95:150 Jl '51

Insulation handbook (cont). P. Swain. diags Power 95:78-81 F; 76-80 My '51

Insulation has low thermal conductivity; Refrasil. il Product Eng 22:210 O '51

Insulation increases riser efficiency; Erie bronze co. W. H. Piper, jr. and J. O'Keeffe, jr. il diags Foundry 78:72-5+ D '50

Insulation of complete air conditioning unit saves time and materials. il Power Eng 55:85-6 Mr '51

Insulation of roll ends cuts power costs. il Steel 127:104 D 18 '50

Insulation symposium at ASTM spring meeting; abstract. Heat & Ven 48:137-40 My '51

Keeping in the heat; mineral wool insulating cement. il diags Mill & Factory 48:90-2 My '51

MIMA specification for the insulation of heating systems; data sheet. Heating-Piping 23:128-9 Ap '51

Method of installing pellet-type insulation. P. E. James and C. P. Davis, jr. il Refrig Eng 59:562 Je '51

Mineral wool forms blanket; insulation of turbines. Steel 129:114+ Ag 13 '51; il Power Eng 55:76-7 S '51

New low-cost jacketing cuts maintenance on insulated lines. il Pet Eng 23:E18 F '51

Optimum insulation thickness. il Pet Eng 23:C35-6 F '51

Physical properties of some usual insulating materials for cold stores; abstract. J. S. Cammerer. Refrig Eng 59:456 My '51

Pipe and boiler insulation techniques. il diags Dom Eng 177:132-3+ My; 146+ Je '51

Piping insulation problems of open structures; New York bus terminal. il Heat & Ven 48:74-5 My '51

Power handbook; insulation. P. W. Swain, comp. Power 95:107 Jl '51

Precast insulation for water-cooled supports; abstract. J. E. Hovis. Steel 128:101-2 Je 4 '51

Proper spacing of hangers to support insulated piping; data sheet. S. C. Martin. diag Heating-Piping 23:107-8 Jl '51

Radiation screens improve work conditions in hot spots. G. F. Haines, jr. il Heating-Piping 23:96-7 S '51

Reclaimable cement insulates boilers. World Oil 132:120 Je '51

Recommended mixes for perlite concrete. Concrete 59:46 S '51

Redwood bark fiber insulation; its properties and application. E. Simons. bibliog il Refrig Eng 59:782-7; Discussion. 787+ Ag '51

Rigid insulating sheathing eliminates need for diagonal corner bracing; Bildrite processed fiber board. il diag Arch Forum 94:198 F '51

Sandwich walls precast for pulp mill. S. B. Roberts. il diags Eng N 146:32-4 F 22 '51

Specific heat of insulating materials. N. H. Spear. Refrig Eng 58:1077 N '50

Tilt-up block walls insulate warehouse. il diags Eng N 146:28-9 My 17 '51

Tips on insulating hot equipment. Power 95:81 F '51

Twin walled dual insulating construction; Alcon. il diags Am Bld 72:136-7 D '50

Two ways to insulate flanges, valves, and fittings. R. L. Davis. il diag Pet Eng (Ref annual) 23:C54 Jl 15 '51

Use of cellular glass insulation in residential construction; technical guide. il diags Am Bld 73:48+ Je '51

Vermiculite insulation allows shipment of hot ingots. il Manuf Rec 120:39 Mr '51

Wire-spotting technique for insulation; application of mineral wool blanket insulation by spot-welding galvanized wires. R. L. Davis. il diag Pet Eng 22:C21-2 N '50

See also

Building—Heating aspects
Celotex
Fire brick
Glass fibers
Mineral wool
Refractory materials

Testing

Reflective-type pipe insulation tested at navy station. R. B. Plate. Heat & Ven 48:101-2 O '51

INSULIN

Countercurrent distribution of insulin. E. J. Harfenist and L. C. Craig. Am Chem Soc J 73:877-8 F '51

English chemist determines more than half of insulin structure; abstract. F. Sanger. Chem & Eng N 29:3840 S 17 '51

Hormonal influence upon the in vitro synthesis of radioactive fatty acids. R. O. Brady and others. Science 113:413-15 Ap 13 '51

INSURABLE interest

Kentucky court upholds bank's interest; Michael Schum vs. Lawrenceburg (Ky.) National bank. Nat Underw (Life ed) 54:5 D 29 '50

INSURANCE

Executives comment on insurance in 1950; excerpts from company reports. Spectator (Property ed) 16:16-20 Ap '51

Greatest protection instrumentality is insurance. A. Conway. East Underw 52:50+ S 21 '51

Looking back on 1950. il Spectator (Property ed) 16:12-16+ Ja '51

Prospective implications of business. C. D. Minor. Weekly Underw 164:1493+ Je 16 '51; Excerpt. East Underw 52:20 Je 15 '51

Urges insurance take 7th inning stretch. J. A. North. Weekly Underw 164:1553+ Je 23 '51; Excerpts. East Underw 52:1+ Je 22 '51; Abstract. Nat Underw 55:1+ Je 21 '51

See also

Atomic bombs—Insurance aspects
Atomic energy commission (United States)—Insurance problems
Benefit societies
Contracts, Government—Insurance aspects
Floods—Insurance aspects
Insurance companies and other headings beginning Insurance
Negroes—Insurance discrimination
Pension trusts
Radioactivity—Insurance aspects
Sports—Insurance aspects
Trade unions—Insurance plans
Vending machines—Insurance company use
War damage corporation

also subdivision Insurance requirements under various subjects, e.g.

Banks and banking
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Farmers
Hotels
Railroads
Railroads, Cable
Rapid transit
Retail trade
Trusts and trustees

also American bar association—Insurance section; American management association—Insurance division; Chamber of commerce of the United States—Insurance department; New York board of trade—Insurance section; New York state bar association—Insurance section

Adjustment of claims

Asks one agency speak for industry in big losses. T. F. Buchanan. Nat Underw 55:26 Mr 15 '51

High verdicts, bigger awards order of the day. F. J. Marryott. Nat Underw 55:30+ My 17 '51

How an insurance agency can speed loss adjustments. Rough Notes 94:28-9 Jl '51

How medical jurisprudence enters into claim work. E. J. Bohne. East Underw 51:53+ D 15 '50

INSURANCE—Adjustment of claims—*Cont.*

Insurance and the grand jury; interdependent in unified pattern of democracy. A. W. Fitzgerald. Weekly Underw 164:18+ Ja 6 '51

Insurance court decisions. A. W. Fitzgerald. Weekly Underw 164:128-9+ Ja 6 '51 [cont weekly]

Less litigation by insurers because of cost. F. Van Orman. Nat Underw 51:19 F 1 '51

National Board suggestions for procedure in storm adjustments. East Underw 51:28+ D 8 '50

Plus values for every one; activities of Claims bureau of Association of casualty and surety companies. J. F. Matthai. East Underw 51:91-2 D 15 '50

Policyholder patience needed while eastern storm losses are unpiled; National Board news release. Nat Underw 55:8 Ja 11 '51

See also

Insurance adjusters

International claim association

Loss executives association

National association of independent insurance adjusters

also subdivision Adjustment of claims under special forms of insurance, e.g. Insurance, Fire—Adjustment of claims

Advertising

See also

Insurance, Automobile—Advertising

Insurance, Life—Advertising

Insurance agents—Advertising

Insurance companies—Advertising

also Insurance advertising conference

All-risk policies

Coverages and forms; Founder's homeowner's package policy. Spectator (Property ed) 16:52-3 Je '51

Founders brings out new package policy in California. Nat Underw 55:20 Ja 25 '51; Weekly Underw 164:257 Ja 27 '51; East Underw 52:21 F 9 '51

Founders of Los Angeles puts out intermediary home owners' package policy; covers named perils. East Underw 52:27 Ag 10 '51; Nat Underw 55:20 S 20 '51

Gives support to all-cover policies. W. E. Allyn. East Underw 52:20 Je 8 '51

North America homeowners policy has wide sales appeal; coverages and forms. Spectator (Property ed) 16:56-7 O '50

North America offers two new package plans. Nat Underw 54:11 N 16 '50

Package insurance seen offering public protection that should appeal. L. R. Burbach. Weekly Underw 163:1135+ N 18 '50; Excerpts. Nat Underw 54:23+ N 16 '50

Problems of all-risk property insurance. M. L. Landis. Nat Underw 55:5+ Ag 23 '51

Prospect for multiple-peril underwriting. A. J. Bohlinger. Weekly Underw 165:424-6, 691-2 Ag 25, S 22 '51; Excerpts. East Underw 52:45+ My 25 '51; Nat Underw 55:30 My 24 '51

Some pertinent observations on package idea. Nat Underw 54:32-3 D 7 '50

See also

Insurance, Fire—All-risk policies

Atomic power risks

Brokers find gap in peacetime atom cover. East Underw 52:14 Ag 3 '51

Some war and peace aspects of atomic energy. C. M. Smith. Weekly Underw 164:45-6 Ja 6 '51

Binders

California commissioners' bulletin discusses binding. Weekly Underw 164:550+ Mr 3 '51

How to use binders. B. G. Brissman. Rough Notes 93:28-9+ N '50

Leslie raps free insurance under binders in Pa. Nat Underw 55:9 S 13 '51

Cancellation

See also

Insurance, Automobile—Cancellation

Insurance, Fire—Cancellation

Insurance, Workmen's compensation—Cancellation

Catastrophe coverage

Hawaii commissioner rules on excess of loss coverage; suspends rate filing requirements for catastrophe coverage. Weekly Underw 165:346 Ag 18 '51

Illinois frees certain catastrophe risks of filing burden. Nat Underw 54:1 N 9 '50

N.A.I.C. adopts Illinois treatment of catastrophe cover; favor suspension of filing requirement but approve other controls. Nat Underw 54:2+ D 21 '50

See also

Insurance, Fire—Catastrophe coverage

Insurance, Tornado—Catastrophe coverage

Claims

See Insurance—Adjustment of claims

Coercion in purchasing

See Insurance—Purchasing

Coinsurance

See also

Insurance, Fire—Coinsurance

Collecting of premiums

See Insurance—Premiums, Payment of

Coverage

Avoid making these mistakes. W. S. Bodden. Rough Notes 94:34+ S '51

Credit aspects

Insurance factor in bank credit; recent Banking survey. Banking 43:82 N '50

See also

Insurance, Accident—Credit aspects

Insurance, Life—Credit aspects

Economic aspects

Background for your business. W. H. Doty. Spectator (Property ed) 16:18-19 D '50

Explores problems of inflation. H. R. Price, jr. East Underw 52:31-2 S 28 '51

Inflation menace to insurance; abstracts. J. M. Cahill. East Underw 52:33+ Mr 2 '51; Nat Underw 55:19+ Mr 1 '51

Employees' insurance

See also

Insurance, Group—Employees' insurance

Insurance, Health—Employees' insurance

Pension trusts

Pensions, Industrial

Farmers as prospects

Approaching farmer prospects. Rough Notes 94:76-7 S '51

How I sell farm insurance. R. G. Frey. Rough Notes 94:76-8 F '51

How to sell farm insurance. T. K. Scott and others. Rough Notes 93:21-5+ N '50

Fraudulent claims

See also

Insurance, Fire—Fraudulent claims

Fraudulent promotion

Arcadia National mail fraud verdict upheld. Nat Underw 55:29+ My 3 '51; Same. Nat Underw (Life ed) 55:2+ My 4 '51

Collection troubles; Chicago jail for chummy counsellor for Reliance Life & Casualty of Phoenix. Nat Underw 55:35 S 20 '51; Same. Nat Underw (Life ed) 55:11 S 21 '51

Fraudulent statements

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Insurance, Fire—Fraudulent statements

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Government investigation

Eye allegation of insurance mask for income tax fix; House group probes dealings of St Louis people. Nat Underw 55:2+ O 11 '51; Same. Nat Underw (Life ed) 55:1-2 O 12 '51

Hemispheric conference

See Hemispheric insurance conference

INSURANCE—*Continued*

Instalment premiums

Big swing to installment, from straight term. P. Otteson. Nat Underw 55:1 My 17 '51

Installment premium bogie. F. I. McPherson. Weekly Underw 164:642+ Mr 10 '51; Same. Rough Notes 94:34+ Ap '51; Excerpts. Nat Underw 55:7 Mr 8 '51

International aspects

French insurance visiting group has big week at Chicago. Nat Underw 55:6+ S 6 '51; Nat Underw (Life ed) 55:1 S 7 '51

Insurance and foreign exchange; abstract. H. J. H. Smith. Spectator (Property ed) 16:32-3 Ja '51

Insurance provisions in Japanese peace treaty. East Underw 52:44 S 14 '51

Practical differences between British and American insurance industries. J. Peyton-Jones. Weekly Underw 164:52-3+ Ja 6 '51

Restrictive foreign legislation. J. Sachs. Weekly Underw 163:1368+ D 16 '50; Excerpts. East Underw 51:31 N 17 '50

United States international reinsurance transactions in 1949; abstract. J. Sachs and S. E. Bielouss. East Underw 52:18 Je 15 '51

Visiting French insurance experts under auspices of ECA. East Underw 52:1+ Ag 17 '51; Weekly Underw 165:345+ Ag 18 '51

World outlook for insurance in 1951. A. L. Kirkpatrick. East Underw 52:33 Ja 19 '51

See also

Hemispheric insurance conference

Insurance companies—Foreign business

Interstate aspects

Deposit law committee report. Nat Underw 55:13 O 4 '51; Nat Underw (Life ed) 55:11 O 5 '51; Weekly Underw 165:802 O 6 '51

Illinois raises retaliation issue on New York security funds. Nat Underw 55:6 Ag 2 '51

Law

See Insurance agents—Law; Insurance law

Losses

Big blow of 1950. F. J. Malley. il Spectator (Property ed) 16:20-2+ D '50

Eastern storm estimate up to $125 million on 600,000 losses; National Board figures. Nat Underw 54:1+ D 21 '50

Eastern storm puts big strain on mechanics and personnel; mountain of claims won't be disposed of until April. Nat Underw 54:1+ D 28 '50

General adjustment bureau reports more storm claims than expected in East. Nat Underw 55:1 F 1 '51

Insurance loss in eastern storm reaches monumental proportions. Nat Underw 54:1+ N 30; 1+ D 7 '50; East Underw 51:1+ D 1 '50; Weekly Underw 16:1233+ D 2 '50

National Board holds press parley on big storm. Nat Underw 54:11 N 30 '50

Northeast storm losses still being revised upward; with tabulation by companies. Nat Underw 55:1+ Ja 4 '51

Northeast storm one of insurers' largest catastrophes. Nat Underw 54:2+ D 14 '50

Pennsylvania railroad may face $10 million bodily injury loss in wreck; Lloyds cover is only $1 million. Nat Underw 55:17 F 15 '51

Survey of section hit by eastern storm shows character and extent. K. O. Force. Nat Underw 54:3+ D 21 '50

Western Adjustment reports on 1950; windstorm claims push losses to record high of 700,000. Nat Underw 55:1+ F 1 '51

Mail order selling

Arcadia National mail fraud verdict upheld. Nat Underw 55:29+ My 3 '51; Same. Nat Underw (Life ed) 55:2+ My 4 '51

Doubts Travelers Health case affects true mail operation. W. Berge. Nat Underw 55:26 Je 7 '51; Same. Nat Underw (Life ed) 55:3+ Je 8 '51

FTC sees improvement in mail order advertising. Nat Underw 55:20 F 15 '51; Same. Nat Underw (Life ed) 55:24 F 16 '51

Landmark or molehill? role of Travelers Health decision. S. R. Ogden. Nat Underw 55:14 My 31 '51; Same. Nat Underw (Life ed) 55:4 Je 1 '51

Postal Life, New York, well ahead of schedule in completing conversion to agency basis. R. A. Foan. Nat Underw (Life ed) 55:4 Ja 5 '51

Merchandizing uses

See also

Insurance, Accident—Merchandizing uses

Mortgagee interest

Bank urged to help agent insure mortgage property. T. F. Glavey. Nat Underw 54:12 N 23 '50

Defendant seeks to simplify mortgage anti-trust action; Investors diversified services, inc. Nat Underw 55:2 S 13 '51

Gary, Ind. local board gets U.S. expression on coercion question; insurance on mortgaged property. Nat Underw 55:1 Jl 26 '51

Investors syndicate, four subsidiaries named in government suit; insurance purchases from mortgage lenders called Sherman law violation. Nat Underw 55:2 My 3; 9 My 10 '51

New twist seen on theory of coercing insurance premiums by mortgage lenders; suit against Investors diversified services, inc. W. H. Bennett. Weekly Underw 164:1192+ My 12 '51

Tracking down the mortgagee; origin of anti-trust suit against Investors diversified services, inc. N. Stiglitz. Nat Underw 55:12 My 17 '51

See also

Insurance, Fire—Mortgagee interest

Municipal policies

Controversy at Miami on placing city insurance. Nat Underw 55:28 S 27 '51

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Insurance, Automobile—Municipal policies

Policies

British policy simplicity and brevity; abstracts. B. D. Cooke. East Underw 51:19 N 3 '50; Nat Underw 54:4 N 2 '50

Policy delivery

Delivery of policy to broker still held same as delivery to assured; Gandelman vs. Mercantile insurance co. East Underw 52:18 Ag 24 '51

Political aspects

GOP swing lays lot of dust in insurance world. Nat Underw 54:1+ N 9 '50; Same abr. Nat Underw (Life ed) 54:1+ N 10 '50

Premium financing

Anglo Bank all-in-one insurance payment plan. Burroughs Clearing House 35:21-2 Mr '51

Premiums, Payment of

Collections don't worry us now. T. C. Parsons. Rough Notes 94:30-1+ Ap '51

Collectors' corner; handling premiums against assureds following insolvency proceedings. L. M. Seff. Weekly Underw 164:454 F 17 '51

Plan credit policy carefully. J. G. Franz. Rough Notes 94:30-1 Mr '51

See also

Insurance—Instalment premiums

Insurance—Premium financing

Premiums, Recovery of

Commissioner Murphy aims to cut refund costs. Weekly Underw 165:234+ Ag 4 '51

Prospects

Background for your business; economic trends are important in prospecting. W. H. Doty. Spectator (Property ed) 16:18-19 D '50

See also

Insurance—Farmers as prospects

also subdivision Prospects under various insurance headings, e.g. Insurance, Life—Prospects

INSURANCE—*Continued*

Purchasing

American Legion magazine sampling of subscribers shows distribution of purchasing. Nat Underw 54:7 D 21 '50

AMA debate on multiple lines; abstracts. B. Gentry and others. East Underw 51:26 D 8 '50; Nat Underw 54:2+ N 23 '50

Anti-coercion bills in state legislatures. Weekly Underw 164:755 Mr 24 '51

Ask anti-coercion law in proposed Virginia code. Nat Underw 55:44 S 20 '51

Buyers' executive calls year epic making. E. L. Clark. Weekly Underw 164:1605+ Je 30 '51; Same cond. Nat Underw 55:3 Jl 5 '51

Buyers get answers to queries on current cover at AMA New York meeting. Nat Underw 55:8+ My 17 '51; East Underw 52:1+ My 18 '51

Chicago broker fights for ruling against coercion by Federal savings and loan assns. Nat Underw 54:2+ D 14 '50

Coercion issue. M. J. Miller. Nat Underw 55:26+ S 13 '51

Do you have adequate insurance coverage? M. B. Goff. Inland Ptr 127:51 Je '51

Engineer your client's insurance. R. B. Gallagher. Spectator (Property ed) 16:18-20+ Mr '51; Abstract. Nat Underw 54:34 N 16 '50

Gary, Ind. local board gets U.S. expression on coercion question; insurance on mortgaged property. Nat Underw 55:1 Jl 26 '51

Higher rates, more selectivity by insurers ahead; effects of inflation for buyers. L. C. Irvine. Nat Underw 55:4+ My 17 '51

Insurance buyer; a monthly department for corporate insurance managers. R. W. Budlong, ed. Weekly Underw 165:755-6+ S 29 '51 [cont monthly]

Insurance buyer looks ahead. R. H. Blanchard. Life Ins Courant 56:8-9+ Ja '51; Excerpts. Weekly Underw 163:1214+ N 25 '50; Abstract. Management R 40:306 My '51

Investors syndicate, four subsidiaries named in government suit; insurance purchases from mortgage lenders called Sherman law violation. Nat Underw 55:2 My 3 '51; Nat Underw 55:9 My 10 '51

Lack of flexibility causes buyer unrest. R. B. Gallagher. Nat Underw 55:18 Jl 12 '51

Need for adequate cover. H. J. Kiefer. Weekly Underw 164:1258 My 19 '51

New Pennsylvania coercion law in effect. Nat Underw 55:6 S 13 '51

New twist seen on theory of coercing insurance premiums by mortgage lenders; suit against Investors diversified services, inc. W. H. Bennett. Weekly Underw 164:1192+ My 12 '51

Responsibilities of buyer of corporation insurance; A.M.A. panel discussion; New York, June 7. Nat Underw 55:6+ Je 7 '51

Review of cover programs beneficial to assureds. R. Kenney. Weekly Underw 164:1260+ My 19 '51

Tracking down the mortgagee; origin of antitrust suit against Investors diversified services, inc. N. Stiglitz. Nat Underw 55:12 My 17 '51

Under-insured? Kemper and Hartford Accident surveys. Bsns W p 146-8 O 13 '51

What do your clients think of you? survey of insurance buying habits in residential areas. H. C. Wolff. Rough Notes 94:20+ S '51

What the buyer expects from producers. R. B. Gallagher. Weekly Underw 165:762+, 1032-4 S 29, O 27 '51

What will it cost to replace your personal property today? expiring contents policies and personal property floaters should be adjusted to cover today's values (cont). Rough Notes 94:34 F; 36 My '51

See also subdivision Purchasing under various insurance headings, e.g. Insurance, Life—Purchasing

also National insurance buyers association

Rates

All-industry law sham in most states. W. Downey. Nat Underw 54:38 N 2 '50

Clash on rating theories at Zone four meeting. Nat Underw 55:6 Ap 5 '51

Companies should revise schedule plan. C. Sanders. East Underw 52:55 S 21 '51

Independent Insurers adopt statement on rating laws and their administration. Nat Underw 54:25 N 9 '50

Simple faith in loss experience plays pretty tricks; problems of rate filing justifications. D. M. Pruitt. Nat Underw 55:19+ My 24 '51

Wants schedule and experience rating plans applied to all eligible risks. C. Sanders. Nat Underw 55:29 Ap 19 '51

Rating bureaus

Multiple line organization planned for rating and filing of certain all-risk and multiple-line policies. Spectator (Property ed) 16:16 My '51

Mutuals' multiple line rating plan. W. H. Rodda. Nat Underw 55:2 Ap 5 '51

See also

Insurance, Fire—Rating bureaus

Insurance, Workmen's compensation—Rating bureaus

Reinstatement after loss

Free unearned premium cover move may spread; S.E.U.A. and I.E.A. action. Nat Underw 55:1 Ja 11 '51

Oppose immediate action on automatic free reinstatement. Nat Underw 55:3 Ja 18 '51

Reinsurance

Country-wide experience of the reinsurance companies 1946-50; table. East Underw 52:30 pt 2 Je 22 '51

Downey reinsurance committee report is adopted by NAIC. Nat Underw 54:32 D 14 '50

German reinsurers entering foreign markets again. East Underw 52:19 Ja 19 '51

Less reinsurance placed facultatively in 1950. Nat Underw 54:25+ D 28 '50

Mulvehill reports to NAIC on reinsurance. East Underw 51:88 D 15 '50

Propose federal reinsurer for catastrophes. Nat Underw 55:5 S 27 '51

Reinsurance progress. W. F. Delaney, jr. East Underw 52:38+ S 21 '51

Reinsurance review. Nat Underw 54:21-36 D 28 '50

Reinsurers profit little, serve much; treaty and spread loss reinsurance. W. J. Langler. Nat Underw 54:22+ D 28 '50

United States international reinsurance transactions in 1949; abstract. J. Sachs and S. E. Bielouss. East Underw 52:18+ Je 15 '51

World reinsurance scene. W. Juul. Nat Underw 55:2+ Ja 4 '51

See also subdivision Reinsurance under special subjects, e.g. Insurance, Fire—Reinsurance

Renewal notices

Missouri agents renewal notice stand draws replies. Nat Underw 55:19+ Ag 9; 17 Ag 16; 12 Ag 30; 6 S 20; 8 O 18 '51

Risks

New York committee calls for insurers' cooperation in solving problems of aged. Nat Underw 54:14 S 28 '50; Same. Nat Underw (Life ed) 54:19 N 10 '50

Social aspects

Security in good old American way. J. W. Randall. East Underw 52:20 Je 22 '51; Abstracts. Nat Underw 55:17+ Je 21 '51; Nat Underw (Life ed) 55:3 Je 22 '51

State policies

Hoosier editor blasts Viehmann; wants full information on insurance that state buys. Nat Underw 55:9 Jl 26 '51

Insurance on Illinois autos and state buildings cancelled. Weekly Underw 164:260 Ja 27 '51

Study and teaching

Columbia to give credits for degree to students of New York Society school. East Underw 52:34+ My 25 '51; Same abr. Weekly Underw 164:1340+ My 26 '51

Courses announced by School of insurance of the Insurance society of New York. East Underw 52:20 Ag 24 '51

INSURANCE—Study and teaching—*Cont.*
Fellowships for insurance teachers; progress report. East Underw 52:5 Ag 10 '51; Same. Weekly Underw 165:294 Ag 11 '51
High school students learn about insurance; educational program at Ottawa, Ill. East Underw 52:142+ pt 2 O 5 '51
Huebner foundation opens insurance scholarship grants for next year. Nat Underw (Life ed) 55:3 Ja 12 '51
Insurance education. R. H. Blanchard. East Underw 52:17 Ja 5 '51
Insurance education in the United States. A. C. Goerlich. Rough Notes 94:42+ S '51
NAIA education committee report. Weekly Underw 165:672+ S 22 '51
Nebraska insurance institute is big success. Nat Underw 54:2, 29 N 23 '50
Need of broad view; abstracts. J. A. North. Nat Underw 55:2 F 1 '51; East Underw 52: 20+ F 2 '51
Open moves to integrate insurance education courses in Illinois. Nat Underw 55:3 Jl 19 '51
School of insurance of the Insurance society of New York will hold suburban classes in agency and brokerage. East Underw 51:18 N 3 '50
Wagner college Institute of business technique starts insurance course. Weekly Underw 164:396 F 10 '51
See also
Insurance, Life—Agents—Training
also subdivision Study and teaching under various insurance headings, e.g. Insurance, Life—Study and teaching
also American association of university teachers of insurance; American institute for property and liability underwriters; Insurance institute of America; Insurance society of New York

Surplus line problems

Day cracks down on surplus line operators in Illinois. Nat Underw 55:4 Ja 18 '51
Function of excess line broker in New York insurance market. A. J. Flegenheimer. East Underw 52:28+ pt 2 Je 22 '51
How to place surplus line coverage. L. B. Menner. Rough Notes 94:18+ S '51
Illinois director asks strict law compliance on surplus lines. Weekly Underw 163:1126 N 18 '50
Illinois director issues new surplus line regulations. Nat Underw 55:19 Mr 29 '51
Illinois moves to clamp down on surplus line monkeyshines. Nat Underw 54:6 D 7 '50
New York excess line brokers under fire. Weekly Underw 164:193+ Ja 20 '51; Nat Underw 55:2 Ja 18 '51
Washington state ruling; department must approve surplus line carriers. Weekly Underw 164:1190 My 12 '51

Tax problems

Income taxes and your insurance; abstract. Rough Notes 94:31 Ag '51

Taxation

See also
Insurance, Life—Taxation
Insurance companies—Taxation

Unearned premium policies

Free unearned premium cover move may spread; S.E.U.A. and I.E.A. action. Nat Underw 55:1 Ja 11 '51
Oppose immediate action on automatic free reinstatement. Nat Underw 55:3 Ja 18 '51
See also
Insurance, Fire—Unearned premium policies

Valuation of property

Agent must learn to appraise for insuring purposes. M. L. Landis. Nat Underw 55:2 Je 28 '51
Expert on appraisal speaks on insurance values. C. Crocheron. East Underw 52:1+ O 5 '51
See also
Insurance, Fire—Valuation of property
Insurance, Inland marine—Valuation of property

War problems

Defense economy may bring some poor large lines. Nat Underw (Life ed) 55:11 Je 22 '51
See also
Insurance, War risk
Insurance companies—War problems

Wholesale insurance

See also
Insurance, Accident—Wholesale insurance

Arkansas

Arkansas department issues annual report. East Underw 52:13 Ag 24 '51

Canada

Results of insurance business in Canada for 1950. Weekly Underw 164:1078 Ap 28 '51

Chile

Insurance supervision and practices in Chile and Dominican Republic. J. Sachs. Weekly Underw 164:326 F 3 '51

Denmark

Insurance in Denmark. For Comm W 42:26 F 26 '51

Dominican Republic

Insurance in the Dominican Republic. For Comm W 40:35 S 18 '50; Same abr. Spectator (Property ed) 16:31-2 D '50
Insurance supervision and practices in Chile and Dominican Republic. J. Sachs. Weekly Underw 164:326 F 3 '51

Ecuador

Insurance in Ecuador. For Comm W 44:27 Ag 6 '51; Same, with table of premiums and losses for 1947 and 1950. Weekly Underw 165:956 O 20 '51

Egypt

Insurance in Egypt. For Comm W 42:27 Mr 12 '51

Finland

Insurance in Finland. For Comm W 42:29 Mr 19 '51

France

Insurance in France. For Comm W 41:27 N 27 '50; Same. Weekly Underw 164:631+ Mr 10 '51

Great Britain

Insurance survey. Economist 159:839-40+ N 18 '50
Practical differences between British and American insurance industries. J. Peyton-Jones. Weekly Underw 164:52-3+ Ja 6 '51
Survey of British insurance. Economist 161: 245-6 Jl 28 '51

Guatemala

Insurance in Guatemala. For Comm W 44:28 S 17 '51
Insurance in Guatemala shows upward trend. R. Ellezingue. Weekly Underw 165:612 S 15 '51

Hawaiian Islands

Hawaii commissioner rules on excess of loss coverage; suspends rate filing requirements for catastrophe coverage. Weekly Underw 165:346 Ag 18 '51

India

Insurance in India. For Comm W 43:27-8 Ap 23 '51; Same. Weekly Underw 164:1266 My 19 '51

Indiana

Hoosier editor blasts Viehmann; wants full information on insurance that state buys. Nat Underw 55:9 Jl 26 '51
Papers attack Viehmann; insurance business is victim in Indiana political fight. Nat Underw (Life ed) 55:2 Ag 10 '51

Ireland

Insurance in Ireland. For Comm W 42:17 F 12 '51

Israel

Insurance in Israel. For Comm W 41:28 N 20 '50

INSURANCE—*Continued*

Italy

Insurance in Italy. For Comm W 43:32 Ap 2 '51; Same. Weekly Underw 164:1207 My 12 '51

Japan

How insurance in Japan has revived since end of war. Y. Ishii. Nat Underw 55:5-6 Ag 16 '51

Insurance in Japan. For Comm W 43:28 My 28 '51; Same. East Underw 52:15 Jl 27 '51; Same. Weekly Underw 165:82-3 Jl 14 '51

Japanese insurance men active with rebuilding. T. Okamoto. Weekly Underw 165:612 S 15 '51

Japanese insurance; reprinted from Review of London. Spectator (Property ed) 16:10-11 Ja '51

Lebanon

Insurance in Lebanon. For Comm W 45:27 O 8 '51

Missouri

Missouri premiums show gain in 1949. Weekly Underw 163:1134 N 18 '50

Norway

Insurance in Norway. For Comm W 43:32 Ap 9 '51

Pakistan

Insurance in Pakistan. For Comm W 42:25 Ja 22 '51

Peru

Insurance in Peru. For Comm W 43:12 Je 11 '51

Philippine Islands

Effects of World war II on Philippine policyholders. C. Villar. Weekly Underw 165:126+ Jl 21 '51

Insurance in the Philippines. For Comm W 44:28 Jl 23 '51

Portugal

Insurance in Portugal. For Comm W 40:34 Ag 7 '50; Same. Weekly Underw 163:326 Ag 12 '50; Same abr. Spectator (Property ed) 16:31 D '50

Saskatchewan

Saskatchewan government insurers report 1950 gains. Nat Underw 55:16 Mr 22 '51

South Africa

Insurance in Union of South Africa. For Comm W 43:26 Je 4 '51; Same. Weekly Underw 165:470+ S 1 '51

Southern states

Insurance expands with other business in South. Nat Underw 55:12 S 6 '51

Progress in South. E. M. Ransom. East Underw 51:22 N 10 '50

Spain

Insurance in Spain. For Comm W 40:37 S 11 '50; Same abr. Spectator (Property ed) 16:29 Ja '51

Sweden

Insurance in Sweden. For Comm W 41:27 O 30 '50

Texas

Texas gains for 1950; volume of insurance increases, loss ratios favorable. Weekly Underw 164:146 Ja 13 '51

Turkey

Insurance in Turkey. For Comm W 44:28 Ag 27 '51

Venezuela

Insurance in Venezuela. For Comm W 44:25 Jl 16 '51; Same. Weekly Underw 165:610-11 S 15 '51

Western states

Pacific Coast insurance expansion sound. R. B. Masters. Weekly Underw 164:12-13+ Ja 6 '51

INSURANCE, Accident

A.&H. business today. R. J. Wetterlund. East Underw 52:37 Je 29 '51

A.&H. escapes destructive regulation, gives greater service to insured. J. M. Smith. Nat Underw 55:13 My 31 '51; Same abr. Nat Underw (Life ed) 55:3 Je 1 '51

A.&H. insurance dynamic. E. J. Faulkner. Nat Underw (H.&A. conference no) 55:8 My 18 '51

Accident and health insurance, in retrospect and prospect. J. R. Williams. East Underw 52:46 Mr 30 '51

A.&H. loss ratio study getting under way. East Underw 52:45 Mr 16 '51

A.&H. picture in 1950. W. L. Clapp. East Underw 51:100+ D 15 '50

A.&H. problems before NAIC in Swampscott. East Underw 52:38 Je 8 '51; Nat Underw (Life ed) 55:9+ Je 8 '51

Bureau of A.&H. underwriters educational seminar, New York, May 23-24. East Underw 52:37-8+ Je 1 '51

Commissioners' A.&H. subcommittee proposes minimum 30 per cent loss ratio. Nat Underw (Life ed) 55:2 S 21 '51

Commissioners delve into low A.&H. loss ratios; to question 57 companies. Nat Underw 55:23+ Mr 8 '51; Same abr. Nat Underw (Life ed) 55:8 Mr 9 '51

Expansion of voluntary insurance urged; abstracts. W. B. Cornett. East Underw 52:37 O 12 '51; Nat Underw 55:22 O 11 '51; Nat Underw (Life ed) 55:14 O 12 '51

First big selling job is at the level of top management. E. J. Faulkner. East Underw 52:39 Ap 13 '51

Life insurance agency management association second annual spring meeting on A.&H. Chicago, April 9-10. East Underw 52:16, 38-9 Ap 13 '51; Nat Underw 55:24 Ap 12 '51; Nat Underw (Life ed) 55:1+, 4 Ap 13 '51; Weekly Underw 164:941+ Ap 14 '51

N.A.L.U. sets up A.&H. committee. Nat Underw 55:28 F 1 '51; Same. Nat Underw (Life ed) 55:2 F 2 '51

Present day commercial accident and health insurance. J. F. Follmann, jr. Weekly Underw 164:588-9 Mr 3 '51; Same abr. East Underw 52:37 Mr 2 '51

Recent developments in the accident and health field. J. F. Follmann, jr. East Underw 52:37-8 Ja 19 '51

Report on legislative trends. E. H. O'Connor. East Underw 52:35 Je 15 '51

Society of actuaries discuss A.&H. East Underw 52:6+ O 12 '51

Underwriting forum conducted by H&A underwriters conference, Omaha. E. F. Brewer and others. East Underw 51:36 N 10 '50

Warns of need for adequate A.&H. A. J. Bohlinger. Nat Underw 54:24 N 16 '50

See also

Insurance, Disability

Insurance, Liability

Insurance, Life—Disability provisions

Insurance, Workmen's compensation

also Bureau of accident and health underwriters; Health and accident underwriters conference; International association of accident and health underwriters

Adjustment of claims

Presence of alcohol and amytol in vital organs of deceased insured held by New York court to be essentially a jury question. Weekly Underw 164:1594 Je 23 '51

Proof of accidental means as cause required in addition to accidental result in suit on bodily injury policy. Weekly Underw 163:1485 D 30 '50

Settlement by adjuster set aside where based on misrepresentation of meaning of bodily injuries; National security life and casualty co. v. Benham. Weekly Underw 163:1396 D 16 '50

Agents

Accent the approach. Rough Notes 94:56-7 Ja '51

Accident and health coverage considered ideal prospecting approach for salesman. J. L. Kowins. Weekly Underw 165:35 Jl 7 '51

INSURANCE, Accident—Agents—*Continued*

Accident and health insurance; its importance and how to sell it; abstracts. J. F. Follmann, jr. Weekly Underw 164:1220-2 My 12 '51; Management R 40:444-5 Jl '51; Spectator (Property ed) 17:34-5 Ag '51; Spectator (Life ed) 159:48-9 Ag '51
Accident salesman termed public relations keyman. V. J. Scutt. Weekly Underw 164:958 Ap 14 '51
Akron A.&H. ethics code formed with aid of Better business bureau. East Underw 52:38 Ja 19 '51
Analyze A.&H. market. E. M. Schwemm. Nat Underw 54:18 N 30 '50; Same. Nat Underw (Life ed) 54:6 D 1 '50
Assisting producers by means of modern applications and policy forms. H. A. Sym. Weekly Underw 163:1155-6 N 18 '50
Drilling for A&H sales skill three times as vital as knowledge. T. Wallace. Nat Underw (Life ed) 55:9 Ap 13 '51
Golden egg. W. F. DeFries. Rough Notes 94:66-7 F '51
In pursuing his calling accident salesman does far more than place policies. D. C. Mac Ewen. Weekly Underw 165:92 Jl 14 '51; Same abr. East Underw 52:32+ Je 15 '51
Memorized A.&H. sales talk has advantages. W. Cantwell. Weekly Underw 163:1209 N 25 '50
Now is time for local agent to get into A.&H. D. J. Reap. Nat Underw 55:10+ Ag 16 '51
Problems of producer. C. B. Stumpf. Weekly Underw 163:1086+ N 11 '50; Same cond. East Underw 51:36+ N 10 '50; Excerpts. Nat Underw 54:27 N 2 '50
Sales pointers. J. E. Rawles. Weekly Underw 164:1464-5 Je 9 '51
Selling A&H at county fairs. F. J. Davee. Rough Notes 93:62-3 N '50
Selling efficiency. T. T. Wallace. East Underw 52:30 Je 15 '51
Selling tips. B. A. Hedges. Weekly Underw 164:787 Mr 24 '51
Ten sales objections. A. O. Levy. Weekly Underw 165:208-9 Jl 28 '51; Excerpts. East Underw 52:34 Je 15 '51; Nat Underw (Life ed) 55:16 Je 15 '51
Three closings for A&H sales presentation. T. W. Walker. Spectator (Property ed) 16:34+ My '51; Same. Spectator (Life ed) 159:24-5 Jl '51
Value of disability insurance has strong appeal to prospects. R. R. Ross. Weekly Underw 165:314-15 Ag 11 '51

Sales conventions

Chicago A.&H. association sales congress. Nat Underw 55:21 F 22 '51; Same. Nat Underw (Life ed) 55:4+ F 23 '51

Aviation risks

Effect of CAB rule on airline injury actions. L. B. Mackall. Weekly Underw 163:1039-40, 1093-4 N 4-11 '50; Abstract. Nat Underw 54:34 S 28 '50
Flying millions are your prospects; with tabular summary of aviation accident policy coverages. I. Davis. il Spectator (Property ed) 16:12-14+, 22 Je '51; Same. Spectator (Life ed) 159:10-14+, 18 Jl '51
Vending machine insurance; Slater v. Fidelity & casualty co. of N.Y. L. A. Burke. Spectator (Life ed) 159:46-7 Ag '51

Credit aspects

Fight A.&H. rate regulation in North Carolina; sale of insurance as a requisite with loans. Nat Underw 55:25 Mr 29 '51; Same. Nat Underw (Life ed) 55:4 Mr 30 '51
New A.&H. rules in North Carolina; writing insurance in connection with loans. Nat Underw 55:36 S 6 '51; Same. Nat Underw (Life ed) 55:16-17 S 7 '51
Texas hearing; say small lenders need commission on credit insurance. Nat Underw 55:16 S 13 '51; Same. Nat Underw (Life ed) 55:7 S 14 '51

Finance

A&H aggregates for 1950 and comparison for 1949; with table. Spectator (Property ed) 17:14-15 Jl '51; Same. Spectator (Life ed) 159:20-1 Jl '51
Accident and health business of 155 life companies; table. W. M. Montgomery. Spectator (Life ed) 158:24-5 My '51
Accident and health by states; with tabulation for 1949. P. R. T. Carroll. map Spectator (Property ed) 16:42+, 90 N '50; Same. Spectator (Life ed) 158:34-6 D '50
A.&H. earned premiums and incurred losses of 68 companies for 1950; tabulation. East Underw 52:38-9+ F 23 '51
California A.&H. direct writings and net losses incurred; table. Nat Underw (Life ed) 55:10 My 4 '51
Illinois A.&H. business, direct writings and net losses; tabulation. Nat Underw (Life ed) 55:20 Ap 13 '51
Indiana A.&H. direct writings and net losses incurred; table. Nat Underw (Life ed) 55:11 My 4 '51
Michigan A.&H. direct writings and net losses incurred; table. Nat Underw (Life ed) 55:22 My 11 '51
Missouri A.&H. premiums; direct writings and net losses; table. Nat Underw (Life ed) 55:17 Jl 13 '51
New York A.&H. premiums; 1950 direct writings and net losses; tabulation. Nat Underw (Life ed) 55:11 Mr 16 '51
Survey of 1950 A.&H. results shows volume up twenty per cent for ten months; summaries for selected companies. East Underw 51:101-2 D 15 '50
Wisconsin A.&H. premiums; direct writings and net losses; table. Nat Underw (Life ed) 55:9 Je 29 '51

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Lapses and surrenders

Delivery date named in application held by Illinois court to govern premium payments where date on face of policy differs. Weekly Underw 165:52 Jl 7 '51

Life company selling

Accident and sickness production exceeds New York Life first estimates. Nat Underw (Life ed) 55:10 O 5 '51
Companion Life now in A.&H. field. East Underw 52:30 Jl 13 '51
Growing interest of the larger life companies in entering individual A.&H. field. W. L. Clapp. East Underw 52:110+ pt 2 O 5 '51
Impact of A.&H. on life insurance in years immediately ahead. Nat Underw (Life ed) 55:10 My 25 '51
Mutual Life to enter accident insurance field. Weekly Underw 165:552 S 8 '51; Nat Underw (Life ed) 55:1+ S 7 '51
New York Life makes debut in the accident and sickness field. East Underw 52:29 Je 22 '51; Nat Underw (Life ed) 55:8 Je 22 '51; Weekly Underw 164:1588+ Je 23 '51
New York Life prepares to enter personal A.&H. field. East Underw 51:33 O 20 '50; Nat Underw (Life ed) 54:1 O 20 '50; Weekly Underw 163:919+ O 21 '50
New York Life's entry in accident and sickness field. J. D. Dunning. East Underw 52:38-9 Ap 13 '51; Same cond. Weekly Underw 164:966-7 Ap 14 '51; Excerpts. Nat Underw (Life ed) 55:1 Ap 13 '51
Prudential adopts name for department; Sickness and accident. Weekly Underw 164:1636 Je 30 '51; Same abr. Nat Underw (Life ed) 55:14 Je 29 '51
Prudential to enter accident-health field. East Underw 52:5+ My 11 '51; Nat Underw 55:33 My 17 '51; Nat Underw (Life ed) 55:1 My 11 '51
Welcome form of competition; entry of larger life companies into A.&H. field; editorial. Nat Underw (Life ed) 55:12 S 21 '51

Merchandizing uses

Indiana charter insurer defies Viehmann on free gas station A.&H. cover. Nat Underw 55:23 Ag 9 '51; Same. Nat Underw (Life ed) 55:13 Ag 10 '51

Noncancellable policies

Non-can. A.&H. looms up as answer to long term fit the need coverage. J. L. Ullman. East Underw 52:50+ S 14 '51

INSURANCE, Accident—Noncancellable policies—*Continued*

Union Mutual Life non-can benefits are liberalized. Nat Underw 55:27 Jl 12 '51; Nat Underw (Life ed) 55:2 Jl 13 '51

Policies

Analyzes new A.&H. law; its effect on policy drafting. C. J. McBride. East Underw 52:40 Je 1 '51
Dependent riders in wide use. F. T. Corby. Nat Underw 55:11 Je 7 '51; Same. Nat Underw (Life ed) 55:11 Je 8 '51
Effect of model A.&H. bill on operations discussed at educational seminar of Bureau of A.&H. underwriters. Nat Underw 55:14 Je 7 '51; Same. Nat Underw (Life ed) 55:7 Je 8 '51
Legislative picture on policy provisions law; now enacted in six states. East Underw 52:42 Ap 27 '51
1951 status of policy provisions legislation; NAIC bill filed in 19 states. East Underw 52:46-7 Mr 23 '51
Progress on policy provisions law. C. C. Fraizer. East Underw 52:32+ My 18 '51
Sample policies ready; drafted in accordance with requirements of uniform provisions law. J. F. Follmann, jr. Weekly Underw 165:632-3 S 15 '51; Same. East Underw 52:58 S 21 '51
Status of policy provisions laws enacted in 1951. J. F. Follmann. East Underw 52:38+ Je 1 '51
Uniform policy provisions law adopted in 15 states. Nat Underw 55:27 Jl 12 '51; Same. Nat Underw (Life ed) 55:13 Jl 13 '51

See also
Insurance, Accident—Aviation risks
Insurance, Accident—Noncancellable policies
Insurance, Accident—Travel risks

Premiums, Payment of

Delivery date named in application held by Illinois court to govern premium payments where date on face of policy differs. Weekly Underw 165:52 Jl 7 '51

Risks

A.&H. club of New York hears panel of doctors. East Underw 52:38 Ap 20 '51
Experience in special risks field. L. C. Morrell. East Underw 52:29+ My 18 '51; Excerpts. Nat Underw (H.&A. conference no) 55:9 My 18 '51
H.&A. Conference underwriting committee predicts important developments. Weekly Underw 164:1354 My 26 '51
Importance of special risks to A.&H. field. F. V. McCullough. Nat Underw 54:22 O 19 '50

See also
Insurance, Accident—Aviation risks
Insurance, Accident—Travel risks

Statistics

Four leading companies wrote half of group A&H in 1949. Spectator (Property ed) 16:26 O '50
New records set in 1950 for A.&H. coverage sold; Health insurance council report. East Underw 52:52 S 14 '51; Nat Underw 55:15 S 13 '51; Nat Underw (Life ed) 55:8 S 14 '51

Study and teaching

Continental Casualty school graduated 738. Weekly Underw 163:1092 N 11 '50

Travel risks

Coverages and forms; travel protector policy; tripmaster policy. Spectator (Property ed) 16:32-3 My '51
How accident insurance started; indebted to Railway passengers assurance co. East Underw 51:19 D 8 '50
Offer stock in insurance vending machine; Tele-Trip policy co. Nat Underw 54:16+ O 26 '50; Same. Nat Underw (Life ed) 54:4 O 27 '50

See also
Insurance, Accident—Aviation risks

Wholesale insurance

Franchise insurance. S. L. Horman. East Underw 52:46 F 16 '51
Join the big parade; selling franchise insurance. Rough Notes 94:68-9 Ap '51

INSURANCE, Accountants' liability

Accountants liability form reviewed. L. E. Dangelmeier. Nat Underw 55:9 Ja 11 '51

INSURANCE, Agricultural

Fire cover now offered for Cuban sugar cane crops. Nat Underw 55:8 Ap 12 '51

See also
Federal crop insurance corporation
Insurance, Cotton
Insurance, Hail
Insurance, Livestock

INSURANCE, Automobile

Another one on auto business; editorial. Nat Underw 55:16 O 11 '51
Auto bodily injury trend worsens. Nat Underw 55:29+ My 17 '51
Auto property damage excess limit is still untapped field. Nat Underw 55:19+ Ag 16 '51
Automobile and aviation insurance number. Nat Underw (Auto & aviation no) 55:1-16a Jl 27 '51
Automobile liability has gone sour. J. M. Cahill. East Underw 52:35 Ap 20 '51
C.&S. association plans second workshop; points covered in first; preservation, destruction and retention of records. East Underw 52:21-2 Ag 3 '51
Conference of mutual casualty companies reviews auto underwriting problems. Nat Underw 55:27+ Mr 15 '51
Examiners report; only mild criticism made of N.A.U.A. operations. Nat Underw 55:3+ Ap 19 '51
Executives worried about trends in automobile and workmen's compensation. J. L. Barter and others. East Underw 52:10-11 pt 2 Je 22 '51
I.C.C. examiner against higher bodily injury limit rule. Nat Underw 54:36 N 2 '50
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Autos and auto premiums; with tabulations giving automobile registrations and premiums by states for 1949. P. Reddy. Spectator (Property ed) 16:28-9, 98 N '50

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INSURANCE, Burglary

Burglary likely to lose separate identity in time. Nat Underw 54:22 D 7 '50

Church burglary, robbery, theft and larceny policy; analysis; underwriting. Rough Notes 94:73-4 Ag '51

How to sell storekeeper's burglary, theft and robbery policy. A. R. Fromm and others. Rough Notes 94:21-6 Ja '51

National Bureau issues new burglary manual. East Underw 51:35+ O 27 '50; Same. Nat Underw 54:15+ O 26 '50; Same. Rough Notes 93:20+ N '50; Same. Weekly Underw 163:1028+ N 4 '50

New York burglary rates revised; approved by Department. Weekly Underw 163:1088 N 11 '50

Personnel training course; mercantile open stock burglary policy. Rough Notes 93:31+ D '50

Robbery policy does not cover fraudulent theft. Nat Underw 55:15 Mr 15 '51

Storekeepers' burglary and robbery policy; personnel training course. Rough Notes 94:30+ F '51

See also

Insurance, Theft

Losses

$75,000 White Sox concession robbery is fully insured. Nat Underw 55:25 Je 14 '51

INSURANCE, Burial

Illinois checking legality of funeral insurer's operation. Nat Underw (Life ed) 55:1 My 4 '51

Illinois department OKs insured funeral plan with agreed changes. Nat Underw (Life ed) 55:2+ My 11 '51

INSURANCE, Business

Business approach to business insurance urged. D. B. Fluegelman. Nat Underw (Life ed) 55:19 F 16 '51

Business insurance. V. A. Miletti. East Underw 52:4 Ja 5 '51

Business insurance forum of the Life underwriters association of the city of New York. S. L. Zeigen and others. East Underw 51:3+ D 1 '50

Business insurance is a growing favorite with more agents. T. A. Bradshaw and others. Nat Underw (Life ed) 55:17 Mr 23 '51

Business insurance leaders hit high points. H. P. Gravengaard and others. Nat Underw (Life ed) 55:2 F 23 '51

Business insurance; panel discussion. K. H. Kreder and others. Nat Underw (Life ed) 55:8-9 Je 29 '51

Business life contributes to economic system. D. J. Reidy. Nat Underw (Life ed) 55:3+ S 21 '51

Business life insurance values. A. J. Nussbaum. Spectator (Life ed) 158:16-20 F '51

Buy and sell agreements; a suggested approach outlined. R. W. Osler. Rough Notes 94:94-7 O '51

Companies prepare for increases in business insurance. Nat Underw (Life ed) 54:4 D 1 '50

Compendium of business insurance agreements. J. L. Miller. Insurance research and review service, 123 West North st, Indianapolis 9 '51

Conserving business assets. W. Highfield. Spectator (Life ed) 159:34 Ag '51

From a small beginning. W. H. Jackson. Life Ins Courant 56:18-19 Jl '51

Great expectations for pension, group and business insurance in 1951. Nat Underw (Life ed) 55:1+ Ja 12 '51

Ideas for building business. S. Huber. East Underw 52:18 Ap 20 '51

Key man sale motivation. H. P. Gravengaard. Nat Underw (Life ed) 55:24 Mr 9 '51

Life insurance and the family corporation. R. Hull. il Life Ins Courant 55:14-15+ N '50

Life insurance creates guaranteed market and conserves value of business interest. G. B. Gordon. Nat Underw (Life ed) 54:17 O 27 '50

Mutual Trust Life concentrates on extra business insurance service. Nat Underw (Life ed) 54:9 D 22 '50

Values of business life insurance. G. J. Richards. East Underw 52:47+ Ap 20 '51

War booms prospects for business insurance. E. J. Mintz. Nat Underw (Life ed) 55:22 F 23 '51

Partnership interest

Frequent checking of partnership structures urged; insurance on partners. B. Shaw. Nat Underw 54:20 O 19 '50

Legal aspects of partnership insurance. S. L. Zeigen. Life Ins Courant 56:25-30 O '51

Legallet problem; departing from standard partnership buy and sell pattern. R. H. Forster. Nat Underw (Life ed) 55:6 S 28 '51

Partnership insurance; tax analysis. F. L. Morton. Spectator (Life ed) 158:14-16+ Mr '51

Stock liquidation agreements

Court endorses business life insurance; Emeloid case. F. L. Morton. Spectator (Life ed) 159:16-18 S '51

Decision in Emeloid case provides useful plugs for stock purchase cover. Nat Underw (Life ed) 55:4 Je 22 '51

Emeloid case. G. Katz. Life Ins Courant 56:45-7 O '51

How to use new 115 (g) exemption; purchase of insurance to buy stock. D. B. Maduro. Nat Underw (Life ed) 54:18 O 20 '50

Review of buy-and-sell insurance agreements; decision in case of estate of G. C. Ealy. F. L. Morton. Spectator (Life ed) 159:39-41 Ag '51

Study and teaching

Provident's new business insurance course. East Underw 52:12 O 5 '51

Tax problems

Business insurance; new wrinkles in purchase agreements. W. J. Casey. Trusts & Estates 89:818-19+ D '50

Partnership insurance; tax analysis. F. L. Morton. Spectator (Life ed) 158:14-16+ Mr '51

Sales opportunities created by developments in tax law. C. P. Lundy. Nat Underw (Life ed) 55:19 F 2 '51

INSURANCE, Business interruption. See Insurance, Use and occupancy

INSURANCE, Camera

Camera floater; analysis of policy; underwriting. Rough Notes 93:85-6 N '50

Camera insurance, a sales opportunity. K. H. Stein. Rough Notes 93:52 N '50

INSURANCE, Casualty

Business covers underdeveloped, second part of Hartford Accident survey shows; business properties and executives polled. Spectator (Property ed) 16:24-5 F '51

Casualty picture. J. M. Cahill. Nat Underw 55:37 S 13 '51

Casualty volume mounts first half and may go higher. Nat Underw 55:17 Jl 19 '51

Diplomatic immunity problems in casualty and liability insurance. H. Starling. Nat Underw 55:16 Mr 8 '51

INSURANCE, Casualty—*Continued*
Hartford Accident & Indemnity's survey of 23,000 individuals shows undeveloped market. Spectator (Property ed) 16:26-7 Ja '51
Hartford Accident check gives data on coverage. Weekly Underw 163:1084 N 11 '50; East Underw 51:28 N 3 '50; Nat Underw 54:27 N 2 '50
Hartford Accident survey shows best sales markets, most promising covers. Nat Underw 54:27 N 9 '50
In 1950, an oasis; since 1930, a change of direction. C. G. Hale. Spectator (Property ed) 16:10-12+ F '51
Insurance review of 1950 and outlook for 1951. W. L. Clapp. East Underw 52:30-1 Ja 26 '51
Looking ahead in-the-shadow-of-war economy. J. C. Mullen. East Underw 52:35 Ja 26 '51
Mutual casualty insurance 1950 review. J. S. Kemper. Weekly Underw 164:64+ Ja 6 '51
National Casualty entering general casualty field. Nat Underw 55:17 Ja 11 '51
Plenty of insurance; property companies in good shape. Bsns W p 103-4 Ja 27 '51
Volume of legislation affecting casualty lines increasing. R. Murphy. Weekly Underw 164:1251+ My 19 '51
See also
Insurance, Accident
Insurance, Automobile
Insurance, Aviation
Insurance, Boiler
Insurance, Burglary
Insurance, Flood
Insurance, Glass
Insurance, Hail
Insurance, Liability
Insurance, Machinery
Insurance, Money and securities
Insurance, Motor truck
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Insurance, Tornado
Insurance, Valuable papers
Insurance, Workmen's compensation
also Association of casualty and surety companies; Casualty actuarial society; International association of casualty and surety underwriters; National bureau of casualty underwriters

Accounting

Experience rating. L. R. Willson. Rough Notes 94:36+ O '51

Accounting (insureds')

I.R.B. rules on deduction for loss from casualty. Nat Underw 54:4 N 9 '50

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Adjustment bureaus

Canadian underwriters adjustment bureau is successful. East Underw 52:18 Jl 13 '51
General adjustment bureau sets up complete casualty adjusting plan. Nat Underw 55:31 Ap 26 '51

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See also
Insurance, Casualty—Adjustment bureaus

Agents

Account selling plan proves the extra value of dealing with one agency. R. D. Hodson. East Underw 52:8+ pt 2 Je 22 '51
Background for your business; economic trends are important in prospecting. W. H. Doty. Spectator (Property ed) 16:18-19 D '50
Casualty insurance has 100,000 laboratories; agents encouraged to make helpful suggestions. R. A. Duffus. East Underw 51:98-9 D 15 '50
Developing lesser-known coverages. A. E. Redding. East Underw 51:32 N 10 '50
See also National association of casualty and surety agents

Economic aspects

Inflation; its effect on 1951 production. C. J. Haugh. East Underw 52:5+ pt 2 Je 22 '51

Finance

Assets and liabilities, stock casualty companies, 1940-49; with tabulations. Spectator (Property ed) 16:65, 88 N '50
California 1950 direct casualty writings and net losses incurred; table. Nat Underw 55:26-7 Ap 26 '51
Casualty companies premiums and losses, 1940-1949 for four leading lines; graphs. Spectator (Property ed) 16:30 D '50
Casualty expense exhibit for year ending Dec. 31, 1950; table. Nat Underw 55:26 Je 14 '51
Casualty insurance in the United States, 1950; paid-up capital, admitted assets, liabilities, etc.; tabulation by company. Spectator (Property ed) 16:74+ Ap '51
Character of casualty and fire stocks analyzed in Kidder, Peabody booklet. Nat Underw 54:9 N 16 '50
Classification of net premiums written in 1950 of 443 property insurance companies; tabulation. Spectator (Property ed) 16:78+ Ap '51
Commission and brokerage on direct business for 1950; table. Nat Underw 55:30 Je 14 '51
Comparative financial and operating results of stock and mutual fire and casualty companies for year ending Dec. 31, 1950 and 1949; tabulation. Spectator (Property ed) 16:64, 66 Mr '51
Comparison of earned premiums and underwriting results for 1946 to 1950 inclusive; countrywide experience of stock casualty companies entered in New York; table. Nat Underw 55:28 Je 14 '51
Comparison of expense ratios and loss ratios for 1946 to 1950 inclusive; table. Nat Underw 55:28 Je 14 '51
Country-wide underwriting results, 1946-50 of companies licensed in New York state; tables. East Underw 52:6-7+, 12 pt 2 Je 22 '51
Distribution of 1949 assets, fire and casualty companies; charts. Spectator (Property ed) 16:26 D '50
Illinois 1950 direct writings and net losses incurred; tabulation. Nat Underw 55:31-2 Ap 5 '51
Indiana 1950 direct writings and net losses incurred; tabulation. Nat Underw 55:27-8 Ap 12 '51
Iowa 1950 direct writings and net losses incurred; table. Nat Underw 55:25-6 My 24 '51
Kansas 1950 direct writings and net losses incurred; table. Nat Underw 55:31-3 Je 7 '51
Michigan 1950 direct writings and net losses incurred; table. Nat Underw 55:27-8 My 3 '51
Missouri 1950 direct writings and net losses incurred; table. Nat Underw 55:21-3 My 24 '51
National Bureau exhibit shows 1.8 per cent underwriting profit for year 1950; with table. East Underw 52:36 Je 8 '51; Same abr. Nat Underw 55:25 Je 7 '51
New Jersey casualty-surety writings during 1950; tabulation by companies and by lines. East Underw 52:38-42 Mr 30 '51
New York 1950 direct casualty writings and net losses incurred; tabulations by companies and by lines. Nat Underw 55:29-30 Mr 8; 22 Mr 29 '51
News of the casualty companies; figures from annual statements. Nat Underw 55:25 F 1; 12-13, 26 F 8; 24-5 F 15; 27, 30 F 22; 26-30 Mr 1; 32-6 Mr 8; 36-40 Mr 15; 28-30 Mr 22; 24 Mr 29 '51
1950 aggregates; fire and casualty business. Spectator (Property ed) 17:19 O '51
1950 casualty-surety results of all companies for New York state; with tables. East Underw 52:16+ pt 2 Je 22 '51
Ohio 1950 direct writings and net losses incurred; table. Nat Underw 55:25-6+ My 10 '51
Ratio of losses and expenses incurred to earned premiums; countrywide experience of stock casualty companies entered in New York; table. Nat Underw 55:33 Je 14 '51
Relationship between premiums and losses, 1940-1949; graph. Spectator (Property ed) 16:26 D '50
Underwriting and investment profits and losses, 1950; record of 150 stock casualty insurance companies; table. Spectator (Property ed) 17:42+ Jl '51
Wisconsin 1950 direct writings and net losses incurred; table. Nat Underw 55:31-3 My 10 '51

INSURANCE, Casualty—*Continued*

Instalment premiums

Are casualty installment plans under rating law? Nat Underw 55:24 Mr 8 '51

North Carolina tackles casualty installment rule. Nat Underw 55:19 Mr 1 '51

International aspects

Casualty underwriting abroad. L. C. Richardson, jr. East Underw 52:26 Ja 12 '51

Investments

Government bond decision faces insurers; some companies are converting half into 2¾ per cent issue. Nat Underw 55:1+ Mr 29; 12 Ap 19 '51

Security holdings of stock fire and casualty companies; with tabulations for 1949. W. M. Montgomery. Spectator (Property ed) 16: 58+, 84+ N '50

Preventive work

Association of casualty and surety companies pledges aid to government and industry. East Underw 52:54 My 25 '51

Loss control comes of age. G. E. Peterson. il Safety Maint & Prod 101:21-2+ Je '51

Planning a small company safety program. Rough Notes 94:21-2+ Ag '51

Practice of true safety lags behind; editorial. Nat Underw 55:24 Mr 15 '51; Discussion. C. L. Erickson. 55:10 Ap 5 '51

Publicity

Association of casualty and surety companies to step up public relations activities. Nat Underw 55:26 Jl 12 '51; Weekly Underw 165:84-5 Jl 14 '51

Purchasing

Executive and casualty insurance. R. Shipman. Am Gas Assn Mo 32:5-6+ D '50

Rates

Experience rating. L. R. Willson. Rough Notes 94:36+ O '51

North Carolina deviators listed. Nat Underw 54:35 N 23 '50

Sees continued upward trend in rates. W. C. Cheek. East Underw 52:28 Jl 13 '51

To provide for five percent profit; casualty companies to speak up for their rights; meeting of commissioners casualty-surety committee. Nat Underw 55:25+ Je 7 '51

Reinsurance

Inflation causes inequitable split; reinsurance experience on bodily injury liability. Nat Underw 54:23+ D 28 '50

Meeting of casualty reinsurance committee of National association of mutual insurance companies, Detroit. Nat Underw 55: 19 O 11 '51

Plight of reinsurers. J. B. Robertson. Nat Underw 55:33+ S 20 '51

Reinsurance review; prospects are not too favorable. Nat Underw 54:26-7 D 28 '50

Statistics

All property insurance lines; ranking of lines for 1949; with tabulation. J. Horan. Spectator (Property ed) 16:32 N '50

Hartford A.&I. survey; sales according to geographical sections delineated. Nat Underw 54:22 D 21 '50

Hartford Accident graphs show fields which need aggressive sales activity. Nat Underw 54:21+ N 30 '50

Relationship between population and property insurance premiums. F. J. Malley. Spectator (Property ed) 16:16-18 N '50

Stock casualty ranking by '50 premiums; table. Nat Underw 55:29 My 17 '51

See also

Insurance, Casualty—Finance

Study and teaching

Answers to the 1950 C.P.C.U. questions. Rough Notes 94:34+ Je '51

C.&S. association prepares kit of 16 commonly used policy and bond forms for students. East Underw 51:29 N 3 '50

Canada

Premiums rise in Canada in 1949; with tabulation. East Underw 51:37 O 27 '50

New York (city)

Several insurers cut writings sharply in N.Y.C. Nat Underw 55:23 Je 14 '51

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New York picture. W. L. Clapp. East Underw 52:3+ pt 2 Je 22 '51

INSURANCE, Compulsory

Increasing sentiment for compulsory insurance laws. R. L. Davis. Nat Underw 55:29 Je 14 '51

See also

Insurance, Automobile—Financial responsibility laws

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INSURANCE, Contractors' equipment floater

Equipment floater a natural for these times. Spectator (Property ed) 17:24 Jl '51

How to sell contractors' equipment floater. Rough Notes 94:22-6 F '51

INSURANCE, Contractors' liability

Damage to windows by building cleaner's acid is claim covered by property damage; Cross et al. vs. Zurich. Nat Underw 54:29 N 16 '50

Decision clarifies meaning of care, custody and control exclusion. L. A. Burke. Spectator (Property ed) 17:44+ Ag '51

Manufacturers' and contractors' liability; personnel training course. Rough Notes 93:30+ N '50

Owners' or contractors' protective liability; analysis of policy; underwriting. Rough Notes 94:83-4 F '51

INSURANCE, Cotton

Expect better results on cotton business in 1951. Nat Underw 55:6 Ja 18 '51

Moultrie cotton loss now estimated at $3 million. Nat Underw 54:15 D 7 '50

Survey on causes and prevention of cotton fires. Weekly Underw 163:1359 D 16 '50; Same abr. Nat Underw 55:27 F 15 '51

Texas hearing on higher cotton rates. East Underw 51:21 D 1 '50

INSURANCE, Credit

See also

Insurance, Accident—Credit aspects

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INSURANCE, Deferred payment investments

Insured savings plans follow mutual fund insured purchase plan by 20 years. Nat Underw (Life ed) 54:6 D 1 '50

INSURANCE, Dental expense

Problems of insuring dental care. G. Kline. Nat Underw 55:23 Mr 22 '51; Same. Nat Underw (Life ed) 55:21 Mr 23 '51

INSURANCE, Dentists' liability. See Insurance, Malpractice liability

INSURANCE, Depositors' forgery. See Insurance, Forgery

INSURANCE, Diamond. See Insurance, Jewelry

INSURANCE, Disability

Attitudes of organized labor toward sickness disability insurance. D. Kaplan. A M A Archives Ind Hygiene & Occup Med 2: 670-4; Discussion. 689-97 D '50

Cash sickness and injury benefits bills and amendments to laws; list by states. Weekly Underw 164:687 Mr 17 '51

Effects of sickness disability legislation on employee relations. R. E. Chislett, 2d. A M A Archives Ind Hygiene & Occup Med 2:675-81; Discussion. 689-97 D '50

Fringe benefits aid inflation; cash sickness programs. H. Dann. Comm & Fin Chr 173: 1944+ My 10 '51

Growth of voluntary insurance against loss of income caused by disability; panel discussion of LIAA. East Underw 52:5+ Je 1 '51

Meeting federal threat to disability insurance. J. Farley. East Underw 52:36 My 18 '51

Pay for the sick; Bureau of employment security reports on 1949 plans. Bsns W p65 D 30 '50

Probable future developments in sickness disability insurance. M. D. Miller. A M A Archives Ind Hygiene & Occup Med 2:658-65; Discussion. 665-8 D '50

Relationships of sickness disability insurance to workmen's compensation and unemployment insurance. A. J. Bohlinger. A M A Archives Ind Hygiene & Occup Med 2:639-45; Discussion. 645-9 D '50

INSURANCE, Disability—*Continued*

Sickness disability insurance and preventive medicine. L. J. Goldwater. A M A Archives Ind Hygiene & Occup Med 2:682-9; Discussion. 689-97 D '50

Significance of sickness disability laws as social legislation. M. E. Segal. A M A Archives Ind Hygiene & Occup Med 2:633-8 D '50

State programs for disability; Chicago address; abstract. M. Donlon. Nat Underw 54:26 D 14 '50

Underwriting principles in sickness disability insurance; groups of employees. H. S. Beers. A M A Archives Ind Hygiene & Occup Med 2:650-7; Discussion. 665-8 D '50

Urges fight on disability benefits by states in 1951 legislatures. R. R. Reno. East Underw 51:10 D 1 '50; Same cond. Nat Underw (Life ed) 54:3+ D 1 '50

Voluntary and compulsory nonoccupational disability. N. Pilling. Weekly Underw 164:721-3+ Mr 17 '51

See also

Insurance, Accident
Insurance, Health
Insurance, Life—Disability provisions

Policies

Coverages and forms: Employers' home owners' disability policy. Spectator (Property ed) 16:54 Mr '51

Home owners' cover offered by Employers' Group enables additional service. E. C. Trefy. Weekly Underw 163:1378 D 16 '50; Same cond. Nat Underw 54:27 D 14 '50

California

Attorney general rules accurate collection allowances aren't rebates. Nat Underw 55:30 Jl 12 '51

Benefits under California UCD law increased. Nat Underw 55:32 Je 14 '51; Same. Nat Underw (Life ed) 55:12 Je 15 '51

California bill expands state's disability law. Weekly Underw 164:815 Mr 31 '51

California UCD law. T. H. Kirkpatrick. East Underw 52:36 F 16 '51

Downey issues minimum benefits law ruling. East Underw 51:40 O 27 '50; Nat Underw 54:15 O 26 '50; Nat Underw (Life ed) 54:3+ O 27 '50

New policy form filings required. Nat Underw 54:18 N 30 '50; Same. Nat Underw (Life ed) 54:13 D 1 '50

Private companies' profit on '49 UCD cover 5.45 per cent. Nat Underw 54:21 O 26 '50

Illinois

Cash sickness bill introduced in Illinois. Nat Underw (Life ed) 55:1 Mr 23 '51

Massachusetts

Employers, insurers oppose Massachusetts state fund sickness bills. Nat Underw 55:27 Mr 15 '51; Same. Nat Underw (Life ed) 55:9 Mr 16 '51

Kill compulsory state fund TDB bill in Massachusetts. Nat Underw 55:26 Ap 19 '51; Same. Nat Underw (Life ed) 55:6 Ap 20 '51

Michigan

Michigan commissioner rules on group disability literature; can't describe coverage as non-cancellable. Weekly Underw 163:902 O 21 '50; Nat Underw (Life ed) 54:14 O 20 '50

New Jersey

Advisory council on disability benefits of New Jersey first report; abstracts. East Underw 52:41 Mr 9 '51; Nat Underw 55:27+ Mr 8 '51; Nat Underw (Life ed) 55:3 Mr 2 '51

New Jersey disability payments drop. East Underw 52:19 Ja 19 '51

New Jersey disability statute is subject of several bills; list. Weekly Underw 164:308 F 3 '51

New Jersey inaugurates new plan; three-in-one claims form. East Underw 51:34 D 8 '50

New Jersey TDB law. W. J. Huggan. East Underw 52:36 F 16 '51

1,800,000 Jersey workers enjoy disability rights. Weekly Underw 165:204 Jl 28 '51

New York (state)

Annual report of Workmen's compensation board tells disability benefits progress; abstracts. Weekly Underw 164:1036 Ap 21 '51; Nat Underw 55:32 Ap 19 '51; Nat Underw (Life ed) 55:8 Ap 20 '51

Disability benefits fund assessment low. M. Donlon. East Underw 52:27 Jl 20 '51; Same. Weekly Underw 165:155-6 Jl 21 '51

DBL results in 1950. M. Donlon. East Underw 52:40 Ap 13 '51

Do-gooders aim to kill N.Y. disability act. A. J. Bohlinger. East Underw 51:34 O 20 '50

First decisions under sickness disability law. Weekly Underw 164:1218 My 12 '51

First year's operation of New York's DBL appraised; ABA panel discussion; abstracts. East Underw 52:61-2 S 21 '51; Nat Underw 55:36 S 20 '51; Nat Underw (Life ed) 55:33 S 28 '51

Lower D.B.L. rate pattern develops in New York. Nat Underw (Life ed) 55:2 Je 8 '51; Same abr. Nat Underw 55:28 Je 7 '51

New form for disability benefits; DB-455. East Underw 51:34 D 8 '50

New York irregular remuneration and assessment rulings; text of regulations 51 and 131. Weekly Underw 164:399 F 10 '51

1950 operations under DBL in New York state. L. A. Orsini. East Underw 51:104-5 D 15 '50

Outline of procedure in disputed compensation claims; payment of disability benefits pending determination of controverted workmen's compensation claims. M. Donlon. East Underw 51:34 N 3 '50

Predicts New York DBL changes. J. W. Noel. East Underw 52:36-7 F 16 '51

Problems encountered in inaugurating New York state's disability benefits law. E. E. Towson. A M A Archives Ind Hygiene & Occup Med 2:669; Discussion. 689-97 D '50

Report on New York DBL status. M. Donlon. East Underw 51:42 O 27 '50; Same cond. Nat Underw 54:15 O 26 '50; Same cond. Nat Underw (Life ed) 54:11 O 27 '50

Reports success of disability benefits law in first year of operation. M. Donlon. Weekly Underw 164:1628 Je 30 '51; Excerpt. Nat Underw 55:16 Jl 5 '51; Nat Underw (Life ed) 55:6 Jl 6 '51

See lower rates coming for DBL cover in New York. Nat Underw 55:24 My 10 '51; Same. Nat Underw (Life ed) 55:7 My 11 '51

Workmen's compensation board hears first claimants under new disability benefits law. Weekly Underw 164:840 Mr 31 '51

Rhode Island

Recommends changes in R.I. cash sickness act. T. H. Bride. East Underw 51:33 D 22 '50

Washington (state)

UCD bill is smothered in three to one vote. Nat Underw 54:23 N 16 '50; Same. Nat Underw (Life ed) 54:4 N 17 '50

Wisconsin

Non-occupational disability state fund bill killed by Wisconsin assembly. Nat Underw 55:27 Mr 22 '51; Nat Underw (Life ed) 55:14 Mr 23 '51

INSURANCE, Elevator

Make rate revisions on elevator liability. East Underw 52:26 Ja 12 '51; Same abr. Nat Underw 55:20 Ja 11 '51

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Adjustment of claims

Cardinal case; New York Appeals court upholds U.S. Casualty position. Weekly Underw 164:1568 Je 23 '51; Same. East Underw 52:27 Je 22 '51

Court rules state fund not authorized to cover against third part liability; Cardinal vs. State of New York. East Underw 52:40 Mr 16 '51; Nat Underw 55:27 Mr 15 '51

U.S. Casualty successful in vital workmen's case; Cardinal vs. United States Casualty. Weekly Underw 164:222 Ja 20 '51; Same. East Underw 52:26 Ja 5 '51; Same cond. Nat Underw 55:21 Ja 4 '51

INSURANCE, Errors and omissions

Could you afford a mistake in your agency? errors and omissions insurance for agent and broker. C. Brown. Rough Notes 94:38+ Mr '51

Devise errors and omissions policy for New York brokers. Weekly Underw 165:70 Jl 14 '51

INSURANCE, Explosion

Big P.D.L. loss in series of Rochester explosions. Nat Underw 55:25 S 27 '51

Jet fuel blast loss at Indianapolis is $8 million. Nat Underw 55:12 Jl 19 '51

Propane gas loss is $1,750,000 total to cover. Nat Underw 55:2 Jl 12 '51

See also

Insurance, Boiler

INSURANCE, Extra expense

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Operations in 1950. For Comm W 43:11 Ap 23 '51

INSURANCE, Extra expense

Business interruption insurance and other time contracts. C. A. Snow. East Underw 52:23 Jl 20 '51

Premium newsprint covered by insurance. Ed & Pub 83:38 D 16 '50

U.&O. and extra expense covers explained to buyers. M. B. Dalton. East Underw 52:30+ Mr 30 '51; Excerpts. Nat Underw 55:3 Mr 29 '51

INSURANCE, Fidelity. See Insurance, Surety and fidelity

INSURANCE, Fire

Cleveland Board answers federal charges; opposing views given. Spectator (Property ed) 16:12-14 My '51

Cleveland Board answers Justice department allegations. Nat Underw 55:1+ Ap 12 '51; Excerpt. East Underw 52:29 Ap 20 '51

Cleveland Board is cited by U.S. government in anti-trust suit. East Underw 52:1+ Mr 2 '51; Nat Underw 55:1 Mr 1 '51; Weekly Underw 164:549+ Mr 3 '51

Cleveland Board is confident on suit; feels its rules are legal. East Underw 52:22 Mr 9 '51; Nat Underw 55:1 Mr 8 '51

Current trends in fire insurance laws. H. Feuerstein. Weekly Underw 163:909+ O 21 '50

Dwelling underinsurance shows up in loss analysis. Nat Underw 55:3 Ag 23; 2 O 11 '51

Government tests McCarran act; Department of justice sues Insurance board of Cleveland. Spectator (Property ed) 16:42-5 Ap '51

Homes under-insured, National Board reports. Weekly Underw 164:1007 Ap 21 '51; Same. East Underw 52:24 Jl 6 '51

In 1950, an oasis; since 1930, a change of direction. C. G. Hale. Spectator (Property ed) 16:10-12+ F '51

Industry underinsured for fire. H. G. Kemper. East Underw 52:27 Ag 17 '51

Insurance turmoil; Justice department sues Cleveland Board. Bsns W p 106+ Mr 10 '51

My fire insurance philosophy. E. L. Williams. Nat Underw 55:1+ Mr 15 '51; Excerpts. East Underw 52:24+ Mr 16 '51; Weekly Underw 164:685+ Mr 17 '51

Need for more insurance to protect rising values. C. W. Pierce. East Underw 51:79 D 15 '50

New company at Hamilton, Ohio is launched; Ohio security insurance company. Nat Underw 55:12 Mr 8 '51

1950 fire results seem satisfactory; losses on increase. East Underw 51:1+ D 15 '50

Plenty of insurance; property companies in good shape. Bsns W p 103-4 Ja 27 '51

Talks on deductibles, commissions, multiple risk rating. J. F. Van Vechten. East Underw 52:28 F 23 '51

What will it cost to rebuild your property? expiring policies should be increased to cover today's values (cont). Rough Notes 94:32 Ja; 36 Ap; 34 Jl; 48 O '51

See also

Insurance, Cotton
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also Factory insurance association; Fire underwriters association of the Pacific; National board of fire underwriters; Western underwriters association

Accounting

Annual statements present another snag in installment payment problem; commissioners discuss problem at Los Angeles. Nat Underw 54:1+ D 14 '50

Averaging in fire insurance and the part of reinsurance. J. H. Lea. Nat Underw 54:24+ D 28 '50

NAIC committee suggestions for installment premium uniformity. East Underw 51:17+ D 22 '50

NAIC proposal for annual reporting of instalment premiums. East Underw 52:1+ Je 15 '51

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1950 underwriting and investment profits and losses for 200 stock and 25 mutual fire insurance companies; tables. Spectator (Property ed) 16:66+ Je '51

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That's the way the money goes; with detailed breakdown of expenses of stock fire companies. A. Senda. Spectator (Property ed) 16:30 N '50

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North America rejustifies rate deviation at Illinois hearings. Nat Underw 55:4 My 17 '51

North America ten per cent deviation O.K. Nat Underw 55:10 S 20 '51

North America wins on deviation; with excerpts from Day's opinion. Weekly Underw 165:665+ S 22 '51; Same abr. East Underw 52:46 S 21 '51

North Carolina agreement on rating of superprotected risks about reached. Nat Underw 55:9 My 24 '51

North Carolina deviators listed. Nat Underw 54:35 N 23 '50

North Carolina farm dwelling rating put on suburban basis. Nat Underw 55:12 Mr 1 '51

North Carolina rate deviations; action taken. Weekly Underw 163:920 O 21 '50

Ohio fire rate increases and decreases approved. Nat Underw 55:17 Ag 30 '51

Rhode Island rates reduced 2.39 per cent. Nat Underw 55:8 S 20 '51

Texas fire record credits bring rate cut of $435,000. Nat Underw 55:7 F 22 '51

Texas rates reduced; twenty-five classes of property affected. Weekly Underw 165:806 O 6 '51

Texas; seek to fit F.I.A. into rigid rate system. Nat Underw 54:2 N 9 '50

West Virginia rate reductions approved. Weekly Underw 163:1128 N 18 '50

Wisconsin; Lange abandons insistence on 2½ per cent profit ceiling. Nat Underw 54:2+ O 26 '50

Wisconsin rate regulatory system upheld. J. R. Lange. Nat Underw 55:32 Ap 12 '51

Wisconsin rating bureau bulletin gives new rates. Nat Underw 54:24 N 30 '50

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Insurance, Fire—Multiple location policies

Rating bureaus

Illinois draws up tentative deviation filing regulations; procedure by which bureaus request interrogatories. Nat Underw 55:2+ Mr 1 '51

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Multiple peril insurance rating organization

Records

Property records for insurance purposes. W. Y. Armstrong. N A C A Bul 32:664-74 F '51

Reinstatement after loss

Automatic reinstatement of loss clause emerges. Nat Underw 55:1 My 31 '51

Incompatibility problem in unearned premium, automatic reinstatement. Nat Underw 55:4 Jl 12 '51

Insurance executives association revises form for automatic reinstatement. Nat Underw 55:3 F 8 '51

Many questions arise on automatic reinstatement. J. C. O'Connor. Nat Underw 55:9 Ag 2 '51; Discussion. R. G. Hubbell. 55:5 Ag 9 '51

Problems eyed in automatic reinstatement plan. Nat Underw 55:7 Jl 19 '51

Unearned premium death knell; plan to introduce automatic reinstatement without charge. Nat Underw 55:1 Je 7 '51

Reinsurance

Averaging in fire insurance and the part of reinsurance. J. H. Lea. Nat Underw 54:24+ D 28 '50

Fire loss excess reinsurance, by G. Benktander; review. East Underw 52:27 Mr 23 '51

Pro rata and spread loss reinsurance compared; fire and allied lines. E. D. Obrecht and D. R. MacKay. Nat Underw 54:28-9+ D 28 '50

Reinsurance review; 1950 will be a good year. K. O. Force. Nat Underw 54:21+ D 28 '50

Renewal and extension plans

Advantages of annual renewal plan. T. C. Morrill. East Underw 51:28 O 27 '50

Annual extension is winning many converts. Nat Underw 55:1+ My 3 '51

Bureau filings on time payment plans approved in Kentucky; annual renewal, installment plans get standard rules. Nat Underw 55:1 My 31 '51

Buyers appeal for renewal certificate. J. C. Sullivan and others. Nat Underw 55:10 My 3 '51

Deviations taboo; uniform renewal, installment plans ordered in Arkansas. Nat Underw 55:2 Jl 5 '51

Installment and renewal plans being widely filed. Nat Underw 55:1+ Je 7 '51

Installment and renewal term plans. G. V. Whitford. Rough Notes 94:17-18 O '51

Iowa department clarifies stand on annual renewal and installment premium payment plan. Nat Underw 55:1 Mr 22 '51

National insurance buyers association strongly supports renewal certificate. East Underw 52:1+ Ap 27 '51

North Carolina backs annual renewal plan. East Underw 52:30 Je 29 '51; Nat Underw 55:2 Je 21 '51

Oklahoma raises questions on two important new filings. Nat Underw 55:2 Ag 16 '51

Swing is seen to annual renewal plan. Nat Underw 55:23 F 15 '51

Reporting policies

Failure to protest agent's acts waives company right; value reporting policy; Columbia Fire vs. Boykin & Tayloe. Nat Underw 55:5 Ja 18 '51

Rewriting

Introduce rewrite endorsement for Chicago rate change; eliminates cancellation and rewrite problem. Nat Underw 55:8 Ap 12 '51

Risks

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Insurance, Fire—Inspection

Insurance, Fire—War risks

Smoke odor damage

Three unusual salvage operations; Airkem treatment. Nat Underw 55:4 Ag 23 '51

State policies

Deductible cover on Michigan state buildings proposed. Nat Underw 55:33 Ap 26 '51

Excess cover on North Carolina state buildings in eight companies. Nat Underw 55:1+ Ap 19 '51

Michigan state building stop loss cover bill signed. Nat Underw 55:2 Je 14 '51

Seek to reinstate private insurance on Michigan buildings. Nat Underw 55:9 Mr 1 '51

Wisconsin takes steps to avoid Michigan state catastrophe. Nat Underw 55:17 My 3 '51

State self insurance

Fire fund wiped out; costly Michigan fire likely to bring criticism of economies of state self-insurance fund. East Underw 52:27 F 23 '51

Indiana state buildings valued at $45 million not insured. Nat Underw 55:1 Je 21 '51

Michigan fund problems. East Underw 52:34 Mr 16 '51

Statistics

Duties of actuaries; limitations of statistics in the fire insurance field. D. J. Cowie. Weekly Underw 164:1269+ My 19 '51; Same abr. East Underw 52:16+ My 18 '51; Abstract. Nat Underw 55:2+ My 17 '51

Leading companies in leading fire lines; with tables of rank. Spectator (Property ed) 17:16-17 Jl '51

Unearned premium policies

Incompatibility problem in unearned premium, automatic reinstatement. Nat Underw 55:4 Jl 12 '51

Many questions arise on automatic reinstatement. J. C. O'Connor. Nat Underw 55:9 Ag 2 '51; Discussion. R. G. Hubbell. 55:5 Ag 9 '51

Oklahoma raises questions on two important new filings; proposed elimination of unearned premium insurance. Nat Underw 55:2 Ag 16 '51

INSURANCE, Fire—Unearned premium policies—*Continued*

Rephrasing of unearned premium clause proposed. J. L. Ebaugh, jr. Nat Underw 55:3+ Ag 30 '51

Unearned premium death knell; plan to introduce automatic reinstatement without charge. Nat Underw 55:1 Je 7 '51

Valuation of property

Correct values as volume producers. J. W. Marshall. Weekly Underw 165:18-20 Jl 7 '51: Excerpt. Nat Underw 55:23 Je 21 '51

Determining insurable values in fire losses. R. L. Berry. Rough Notes 93:19+ N; 32+ D '50

How to determine insurable values. W. S. Bodden. Rough Notes 94:22+ Je '51

Syracuse savings bank v. Yorkshire insurance co.; a study of the case. D. A. Ticktin. East Underw 51:24-5 O 20 '50

Washington code prohibits use of side agreements to accept appraisals as agreed value. Weekly Underw 164:1378 Je 2 '51

Why not try a pictorial inventory. H. C. Sturhahn. Rough Notes 94:22+ Jl '51

War risks

Some war and peace aspects of atomic energy; complications for fire companies. C. M. Smith. Weekly Underw 164:45-6 Ja 6 '51

Arkansas

Three-fold benefit from classified experience plan. W. Plangman. Nat Underw 55:29 Ja 4 '51

Canada

Blue Book issued by Canadian department; 1949 fire insurance record. East Underw 51: 23 D 29 '50

Fire premiums written in Canada and loss ratios higher in 1950. East Underw 52:32 Ap 6 '51; Same abr. Nat Underw 55:15 Mr 22 '51

1949 premiums written in Canada show increase. Weekly Underw 163:960 O 28 '50

Detroit

Detroit public adjusters air their woes; Harold Warren is center of feud. Nat Underw 55:1+ S 13 '51

Hits minor rackets in adjusting; Detroit survey. D. B. Sherwood. East Underw 52:25 S 28 '51; Excerpts. Nat Underw 55:17 S 20 '51

Illinois

Illinois director asks strict law compliance on surplus lines. Weekly Underw 163:1126 N 18 '50

Illinois dwelling rates reduced; alter many forms. Nat Underw 54:4+ D 21 '50

Illinois farm rates and rules extensively revised. Nat Underw 54:4+ D 21 '50

Louisiana

Legible coinsurance stamp on Louisiana policies required; Jonesboro Lodge 280 of the Masons vs. American Central. Nat Underw 55:6 Ja 18 '51

Louisiana throws term rule open to nearly all classes. Nat Underw 55:1+ F 8 '51

Massachusetts

Harrington bars two installment plans and Escott plan. East Underw 52:33 F 23 '51

Harrington locks horns with industry on fire policy issue. Nat Underw 54:5 N 30 '50

Michigan

Fire fund wiped out; costly Michigan fire likely to bring criticism of economies of state self-insurance fund. East Underw 52: 27 F 23 '51

Minnesota

Minnesota high court upholds two per cent fire premium surcharge. Nat Underw 55:33 Ap 12 '51; Same. Weekly Underw 164:950 Ap 14 '51

Minnesota standard fire policy law cuts into marine field; Fireman's Fund vs. Vermes credit jewelry, inc. Nat Underw 54:10 D 7 '50

New York (state)

"Confiscation" and adequacy of rates of Escott plan; excerpts from Bohlinger's decision. East Underw 52:22 Ja 5 '51

Escott rating plan for multiple risks upheld by New York. East Underw 51:1+ D 29 '50; Same abr. Weekly Underw 163:1453+ D 30 '50

Minimum on fire policy up, other changes in N.Y. Nat Underw 55:12 Ag 9 '51

New York gives green light to Escott plan. Nat Underw 54:1+ D 28 '50

Quantity discount O.K.'d on fire insurance; Bohlinger rules on Escott plan. Bsns W p92 Ja 6 '51

Ohio

Restore materials clause in Ohio. Nat Underw 54:2+ D 14 '50

Oklahoma

Oklahoma department rules on one-year policies. Weekly Underw 164:490 F 24 '51

Pennsylvania

Leslie raps free insurance under binders in Pa. Nat Underw 55:9 S 13 '51

Puerto Rico

Question arises as to loss liability in Porto Rico; coverage under riot and civil commotion clauses of extended coverage. Nat Underw 54:11 N 16; 4 N 23; 3 N 30 '50

Texas

Broad cover fire and casualty suggestions made at Texas hearing. East Underw 52:18 Ag 3 '51; Nat Underw 55:11-12 Jl 19 '51

Wisconsin

Wisconsin rate regulatory system upheld. J. R. Lange. Nat Underw 55:32 Ap 12 '51

INSURANCE, Flood

Congressional bills for flood insurance. East Underw 52:24 S 28 '51

Cry for flood insurance. Bsns W p 106 S 1 '51

Federal flood insurance bill; text. Weekly Underw 165:514-15 S '51

Flood cover is being studied from all angles. Nat Underw 55:1+ Ag 23 '51

Flood insurance impractical. H. Hutson. Rough Notes 94:48+ S '51

Flood risks may be written. M. T. Jones. East Underw 52:24 Ag 24 '51

Give flood insurance views at congressional hearing. J. R. Berry; J. V. Herd. East Underw 52:20 O 12 '51

House group shuns U.S. flood insurance plan. Nat Underw 55:1+ O 11 '51

See cancellation of flood covers in Canada following Winnipeg loss. East Underw 52: 28 Ja 26 '51

Truman backs flood insurance reinsured by government. East Underw 52:1+ Ag 24 '51; Weekly Underw 165:401+ Ag 25 '51

See also

Floods—Insurance aspects

INSURANCE, Forgery

Bonded defense against check forgers; depositor's forgery bond. Rough Notes 94:17-18+ F '51

Forgery losses can be fatal; abstract. J. G. Cannon. Management R 40:239 Ap '51

INSURANCE, Fraternal. See Benefit societies

INSURANCE, Funeral. See Insurance, Burial

INSURANCE, Fur

Selling jewelry-fur lines. R. G. Sundheim. Rough Notes 94:48 F '51

INSURANCE, Furriers' customers

Big market for furriers policies. C. Martell. Spectator (Property ed) 16:58+ O '50

Ohio court distinguishes repair contract from storage contract in case involving disappearance of insured fur coat. Weekly Underw 165:111 Jl 14 '51

INSURANCE, Glass

Factors which cause heat breakage of glass; implications for insurance. C. M. Boycott. Rough Notes 94:20+ Ja '51

National bureau of casualty underwriters introduces countrywide glass manual revision. East Underw 51:34 D 22 '50; Same cond. Nat Underw 54:18 D 21 '50

November winds bring record glass loss. Nat Underw 55:26 My 3 '51

Plate glass losses in eastern storm may hit $1 million. Nat Underw 55:21 Ja 4 '51

Why not try glass insurance. J. J. Moore. Rough Notes 94:20+ Je '51

INSURANCE, Golfers' public liability

Contributory negligence of caddy held to prevent any recovery in Washington golf ball case. Weekly Underw 165:926 O 13 '51

INSURANCE, Grain transit

Cost of grain cover in transit sharply higher. Nat Underw 55:9 O 11 '51

INSURANCE, Group

Consultants constitute problem in group field. A. C. Campbell. Nat Underw (Life ed) 55: 3+ Mr 16 '51; Same abr. Nat Underw 55: 28 Mr 15 '51

Four leading companies wrote half of group A&H in 1949. Spectator (Property ed) 16: 26 O '50

Great expansion of group insurance. N. E. Horelick. East Underw 52:34+ pt 2 O '51

Group coverage extended beyond honest limits is danger to business. R. E. Stevens. East Underw 51:74 D 15 '50

Group plans urged as bulwark against socialization. E. B. Whittaker. Nat Underw (Life ed) 54:1+ N 24 '50; Same. East Underw 51:9+ N 24 '50

Group writing serious agency menace. H. E. Barnhart. Weekly Underw 163:903 O 21 '50

Health & accident conference annual group meeting, Chicago, Feb. 5-7. East Underw 52:35-42 F 16 '51; Nat Underw 55:23+ F 8 '51; Nat Underw (Life ed) 55:3+ F 9 '51

How to sell group. F. A. Conerton. Life Ins Courant 56:39-44 Je '51

How to sell group insurance. C. Cass and others. Rough Notes 94:24-7+ Ag '51

John Hancock's group seminar, Melvin Village, N.H. East Underw 52:15 Jl 13 '51; Nat Underw (Life ed) 55:4 Jl 13 '51

Mass coverage makes insurance available to untold millions. H. W. Manning. East Underw 52:28 pt 2 O 5 '51

New York Life group policies perfected. Nat Underw (Life ed) 55:4 Ag 31 '51

Trade and professional association group insurance. P. S. Fisher. East Underw 52:40 F 16 '51

See also

Insurance, Hospitalization

Employees' insurance

Automatic merchandising industry covered by group plan. Weekly Underw 164:972 Ap 14 '51

Bargaining on employee health benefits; abstract. J. M. Brumm. Management R 40:341-2 Je '51

Employers more group minded than in last war; panel discussion. Nat Underw (Life ed) 55:8+ My 18 '51; Same abr. Nat Underw 55:33 My 17 '51

Engineering the sale; outlines group approach to salary allotments. A. J. Keating. Nat Underw (Life ed) 55:10 O 12 '51

Equitable increases cover of Montgomery Ward group. Nat Underw 55:26 Mr 15 '51; Same. Nat Underw (Life ed) 55:21 Mr 16 '51

Group men advised to switch emphasis to conservation; employees and management must stay sold. B. Tarrant. Nat Underw 54:26 N 16 '50; Same. Nat Underw (Life ed) 54:3+ N 10 '50

Group men hope for ruling on freeze status. Nat Underw (Life ed) 55:1+ Ag 3 '51

Group plan covers 40,000 seamen with 97 employers; written by Hancock. Nat Underw (Life ed) 55:4 Ja 26 '51; Weekly Underw 164:253+ Ja 27 '51

Group sales feel pinch of wage stabilization order. Nat Underw (Life ed) 55:2+ Je 8 '51

Group salesmen cheered up by rumors of approaching end of freeze problem. Nat Underw (Life ed) 55:34 S 28 '51

Growth of pension schemes. Economist 161: 249-50 Jl 28 '51

Loss of time coverage. R. C. Knoblock. East Underw 52:37 F 16 '51

May unfreeze group lines involving war contracts. East Underw 52:21 Mr 16 '51

National industrial conference board surveys effect of military leave on employe benefits. Nat Underw (Life ed) 55:6 Ja 12 '51

Need adequate cover under employe plans. E. C. McDonald. East Underw 52:24 My 25 '51

Raise General Electric group benefits. Nat Underw (Life ed) 54:5 D 29 '50

Selling employee plans. E. A. Starr. Life Ins Courant 56:34-6+ My '51

Stabilization has less effect on sale of smaller groups. Nat Underw (Life ed) 55:1+ Ap 27 '51

Stock exchange firms have group A.&H. plan. East Underw 52:42 Mr 9 '51

Union developments described. W. S. Collins. East Underw 52:37+ F 16 '51

Union group plans outrun state statutory authority. G. C. Reeves. Nat Underw (Life ed) 55:28-30 O 12 '51

United States Life offers "baby group" plan. East Underw 52:37 Je 29 '51; Weekly Underw 164:1592 Je 23 '51

What are group annuities? D. S. Fuerth. Life Ins Courant 56:41-4 Ap; 38-9 My '51

Finance

Prudential using variant of deposit administration; immediate participation guarantee contract. Nat Underw (Life ed) 55:7 Je 29 '51

Statistics

Group disability premiums top life first time in record year; survey by Life insurance association; with tabular summary. Nat Underw 55:13 Jl 26 '51; Same. Nat Underw (Life ed) 55:4+ Jl 27 '51; Excerpt (Tabular summary). Life Ins Courant 56:56 S '51

INSURANCE, Group life

Bank deposit insurance opposed in Missouri. Weekly Underw 164:598 Mr 3 '51; Excerpts. Nat Underw (Life ed) 55:21 F 23 '51

Committee of group life experts to assist government on insurance angles. East Underw 51:1 N 3 '50; Same abr. Nat Underw (Life ed) 54:23 N 3 '50

Continental not to write group on savings accounts; agents told why. Nat Underw (Life ed) 55:2 Ja 19 '51

Danger to life business if NAIC group plan gets into Florida code. J. E. Larson. Nat Underw (Life ed) 55:2 Mr 30 '51

Free bonus; business advice; Metropolitan Life helps solve management problems for its corporate group-insurance policyholders. il Bsns W p72+ D 16 '50

Great expectations for pension, group and business insurance in 1951. Nat Underw (Life ed) 55:1+ Ja 12 '51

Group life insurance 40 years old, Equitable Society recalls. East Underw 52:3 Je 8 '51; Same abr. Weekly Underw 164:1466+ Je 9 '51; Same abr. Spectator (Life ed) 159: 28-9 Jl '51

Group sales record clouded by errors in reporting. Nat Underw (Life ed) 55:6 Ja 12 '51

Illinois department permits group life on savings accounts. Nat Underw (Life ed) 55: 2 Ja 19 '51

Insured savings plans follow mutual fund insured purchase plan by 20 years. Nat Underw (Life ed) 54:6 D 1 '50

July sales drop shows effects of new group freeze. Nat Underw (Life ed) 55:1 Ag 24 '51

Manhattan Life pleased with plan of letting agent handle own group case. Nat Underw (Life ed) 55:11 My 11 '51

Multiple line companies and group life discussed by committee of commissioners. East Underw 52:13 Je 15 '51

New York Life group policies perfected. Nat Underw (Life ed) 55:4 Ag 31 '51

New York Life's first group policy on world bank. Nat Underw (Life ed) 55:16 Jl 27 '51

Occidental group in force figure passes $1 billion. Nat Underw (Life ed) 55:14 Ja 12 '51

One brand of bank depositor cover. W. R. Snyder. Nat Underw (Life ed) 54:6 O 20 '50

Recognition of group man's importance gives him leverage. Nat Underw (Life ed) 55:1+ Je 1 '51

Selling group life policies. R. H. Feldman. Rough Notes 94:74-5 S '51

Texas group life statute upheld by Supreme court. Weekly Underw 164:1360 My 26 '51; Same cond. Nat Underw (Life ed) 55:6 My 18 '51

INSURANCE, Group life—*Continued*

Statistics

Group disability premiums top life first time in record year; survey by Life insurance association; with tabular summary. Nat Underw 55:13 Jl 26 '51; Same. Nat Underw (Life ed) 55:4+ Jl 27 '51; Excerpt (Tabular summary). Life Ins Courant 56:56 S '51

Tenant lease insurance

Continental writes group to cover term of lease. Nat Underw (Life ed) 55:8 S 14 '51

War risks

Can we pool assets against an atomic bombing? John Hancock survey. Spectator (Life ed) 159:20-1 O '51

INSURANCE, Hail

Analyze Texas storm loss ratio by policy size. Nat Underw 54:20 N 2 '50

Crop-hail premiums drop $8 million in 1950; with tabulation of premiums and losses by states. Nat Underw 54:1+ D 7 '50

Drop Texas deductible for farm risks except on coast. Nat Underw 55:32 F 22 '51

Expect close shave on crop-hail. Nat Underw 55:9 Ag 23 '51

Hail outlook is for only slight premium increase. Nat Underw 55:7 My 24 '51

How to sell hail insurance. Rough Notes 94:24-8 Ap '51

Kansas, Oklahoma wind and hail storms to cost $2½ million plus. Nat Underw 55:4 Je 28 '51

North Carolina hail-crop rates revised. Weekly Underw 164:319 F 3 '51

$1 million wind, hail loss in St Louis area. Nat Underw 54:11 D 7 '50

Prospects clouded as hail writing season commences. Nat Underw 55:1 Mr 22 '51

Texas mandatory deductible again sustained. East Underw 51:22 O 27 '50; Same. Weekly Underw 163:959 O 28 '50

Windstorm and hail insurance; analysis of policy; underwriting. Rough Notes 94:65-6 Ja '51

INSURANCE, Health

American public health association against compulsory insurance idea. Nat Underw 54:31 N 9 '50; Same. Nat Underw (Life ed) 54:10 N 10 '50

Challenge of disability insurance is to meet need for broad protection in health field. L. H. Pink. Weekly Underw 163:1041-2 N 4 '50; Excerpts. East Underw 51:37-8 N 10 '50

Clark health report. B. B. Kendrick. Nat Underw (Life ed) 55:6+ Jl 20 '51; Same abr. East Underw 52:26 Jl 20 '51; Same abr. Weekly Underw 165:155 Jl 21 '51

Compulsory medical care insurance, 1910-1950. O. W. Anderson. Ann Am Acad 273:106-13 Ja '51

Current health insurance trends in light of past experience. G. S. Parker. East Underw 52:37-8+ Je 1 '51

Evaluation of polio insurance; may prove bridge to far broader sickness coverage. S. Miller. Nat Underw 55:20-1 Ag 2 '51; Same. Nat Underw (Life ed) 55:2+ Ag 3 '51

Expansion of voluntary insurance urged; abstracts. W. B. Cornett. East Underw 52:37 O 12 '51; Nat Underw 55:22 O 11 '51; Nat Underw (Life ed) 55:14 O 12 '51

Expect 90,000,000 will be protected by voluntary plans in near future. E. L. Henderson. Weekly Underw 164:344 F 3 '51

First report on health insurance study submitted to Senate subcommittee. East Underw 51:37 N 24 '50

Health Council reports to Senate subcommittee; reveals role of insurance in voluntary health plans. East Underw 52:43 F 23 '51; Same abr. Nat Underw (Life ed) 55:6 F 16 '51

Health insurance in the United States. R. A. Hohaus. East Underw 52:36 Je 15 '51

Medical care plans of four states analyzed by speakers at Chicago meeting of Health & accident underwriters conference. East Underw 52:39+ F 16 '51

Senate committee on health seeking still further data. Nat Underw 55:24 F 22 '51; Same abr. Nat Underw (Life ed) 55:10 F 23 '51

Senate group reports; ask permanent unit for U.S. health study. Nat Underw 55:25+ Je 7 '51; Nat Underw (Life ed) 55:16 Jl 13 '51; East Underw 52:35+ Je 1 '51

Senate medical-care report, a summary; with charts and tables. I. Davis. Spectator (Life ed) 159:18-26 Ag '51; Same. Spectator (Property ed) 17:8-10+, 48 S '51

Senators laud health plans survey; insurance organizations participated. East Underw 52:32 Jl 13 '51

Voluntary medical care insurance. M. C. Klem. Ann Am Acad 273:99-105 Ja '51

See also

Insurance, Accident
Insurance, Disability
Insurance, Hospitalization
Insurance, Infantile paralysis
Insurance, Medical expense

also Bureau of accident and health underwriters; Health and accident underwriters conference; Health insurance council; International association of accident and health underwriters

Employees' insurance

Collective bargaining health plans in New York state surveyed by State labor department. East Underw 52:36 Je 15 '51; Same cond. Nat Underw 55:30 Je 14 '51; Same cond. Nat Underw (Life ed) 55:16 Jl 13 '51

Finance

Accident and health by states; with tabulation for 1949. P. R. T. Carroll. map Spectator (Property ed) 16:42+, 90 N '50; Same. Spectator (Life ed) 158:34-6 D '50

Legislation, Proposed

National health scene gets three-way clarification. Nat Underw 55:10 Jl 12 '51; Same. Nat Underw (Life ed) 55:4 Je 29 '51

Statistics

New records set in 1950 for A.&H. coverage sold; Health insurance council report. East Underw 52:52 S 14 '51; Nat Underw 55:15 S 13 '51; Nat Underw (Life ed) 55:8 S 14 '51

Cuba

450,000 workers covered for medical in Cuban group. Nat Underw 55:21 Ja 25; 30 F 1 '51; Same. Nat Underw (Life ed) 55:7 Ja 26; 15 F 2 '51

Medical reimbursement coverage plan adopted for Cuban sugar industry workers. Weekly Underw 164:227 Ja 20 '51

Great Britain

Drugs and chemists; cost of general health services; disappearing balance. Economist 161:150 Jl 21 '51

INSURANCE, Horse

$250,000 mortality loss paid but horse is kept by Lloyds. Nat Underw 55:4 Ap 5 '51

INSURANCE, Hospital liability

Iowa high court sweeps aside hospital immunity; Haynes vs. Presbyterian hospital association. Nat Underw 55:21 Ja 18 '51

INSURANCE, Hospitalization

Accident and health by states, 1949; hospitalization plans included; with tabulation by states. P. R. T. Carroll. map Spectator (Property ed) 16:42+, 90 N '50; Same. Spectator (Life ed) 158:34-6 D '50

Blue cross. M. Levita. Nat Underw 55:38-9 O 4 '51; Same. Nat Underw (Life ed) 55:3+ O 5 '51

Blue Cross, Blue Shield plans headache for commissioners; A.&H. committee raps lack of organization. Nat Underw 54:21+ D 14 '50; Same. Nat Underw (Life ed) 54:2+ D 15 '50

Blue cross does a job for banks; bank cooperation in local plans. C. Kirkpatrick. Bankers Mo 67:14+ N '50

British Columbia compulsory hospital plan losses bring political crisis. Nat Underw 55:27 Ap 5 '51

Chamber of commerce survey of hospital expense. East Underw 52:29 S 7 '51; Same cond. Nat Underw 55:36 S 6 '51; Same cond. Nat Underw (Life ed) 55:16 S 7 '51

Cites Blue Cross efforts to provide for aged. L. H. Pink. Weekly Underw 163:1476 D 30 '50

INSURANCE, Hospitalization—*Continued*

Economic aspects of hospital care. H. E. Klarman. bibliog J Bsns 24:1-24 Ja '51

Economics of hospital service. H. E. Klarman. Harvard Bsns R 29:71-89 S '51

Experience and trends in group hospital and surgical insurance; panel discussion conducted by Health & accident underwriters conference. East Underw 52:38-9+ F 16 '51

Experience turns unhealthy in face of hospital boom. Nat Underw (Life ed) 55:8 My 4 '51; Same. Nat Underw 55:15 Jl 12 '51

Florida county may sponsor voluntary health cover; new idea in hospitalization insurance. Nat Underw 55:21 Ap 21 '51; Same. Nat Underw (Life ed) 55:10 Ap 13 '51

Group hospital charges discussed by Society of actuaries. Weekly Underw 164:1046+ Ap 21 '51

Group hospital, medical catastrophe cover coming. Nat Underw 55:15 My 31 '51; Same. Nat Underw (Life ed) 55:1 My 25 '51

H&A conference sessions on medical and hospital insurance, Chicago, Feb. 5-7. East Underw 52:28-9+ F 9 '51; Nat Underw 55:21+ F 8 '51; Weekly Underw 164:460 F 17 '51

Hospital insurance; volume increases, loss ratios high. I. A. Weaver. East Underw 52:29 F 9 '51

Low pay to New York hospitals for indigents causes higher Blue Cross rates. L. H. Pink. Nat Underw 55:31 Ap 12 '51

Maryland Blue Cross changes. Nat Underw 55:16 S 13 '51

Nebraska opposes interstate operation bill of Blue cross. Nat Underw 55:29 F 1 '51; Same. Nat Underw (Life ed) 55:14 F 2 '51

Public support urged for insurance plan at Miami. Nat Underw 55:22 Ag 9 '51; Same. Nat Underw (Life ed) 55:13 Ag 10 '51

Slide-film replaces slide rule to sell complex hospital plan to Doubleday employes. R. Newcomb and M. Sammons. Ind Marketing 36:90-1+ F '51

We can afford better medical care. L. H. Pink. Weekly Underw 164:1037-9 Ap 21 '51

Wisconsin Blue cross to raise rates 18 per cent. Nat Underw 54:24 N 16 '50; Same. Nat Underw (Life ed) 54:13 N 17 '50

Adjustment of claims

Exclusion in hospital service policy inoperative where claimant by third-part action has reimbursed compensation carrier. Weekly Underw 164:1118 Ap 28 '51

Policies

Equitable offers medical catastrophe cover to individuals; in-hospital major expense policy. Nat Underw 55:15 Ag 2 '51; Same. Nat Underw (Life ed) 55:3 Ag 3 '51

INSURANCE, Household furniture

Guiding principles revision on undisclosed household contents insurance; overlapping coverage. East Underw 52:19 Mr 9 '51

INSURANCE, Industrial

Adjustment of claims

Authorization to inspect records held not part of proof of loss under industrial life policy. Weekly Underw 163:1442 D 23 '50

Agents

Combination agent; questions and answers. Life Ins Courant 56:29-30 Ag '51

Combination field again faces dearth of agent recruits. Nat Underw (Life ed) 55:2+ Jl 13 '51

Debit agent unions setting stage for fall campaigns. Nat Underw (Life ed) 55:7 S 7 '51

Economic revolution renders the debit agent a key figure. R. J. Thain. Nat Underw (Life ed) 55:3+ Mr 9 '51

New homes on the debit. B. C. Cornely. Life Ins Courant 56:23 O '51

Opening new homes. E. M. Fields. Life Ins Courant 56:23+ O '51

Present policyholders are best market. A. S. Soll. Nat Underw (Life ed) Daily ed 55:22+ S 20 '51

Prudential will not reopen contract; debit men return. Nat Underw (Life ed) 55:1 Ja 19 '51

2,300 Prudential debit agents in wildcat walkout. Nat Underw (Life ed) 55:1 Ja 12 '51

Premiums, Recovery of

Not subject to premium tax; Massachusetts high court affirms decision as to premium refunds to industrial policyholders. East Underw 52:3 Ag 3 '51

Terminology

Committee to study insurance language; look for substitute for word debit; its meaning misunderstood. East Underw 52:5+ F 9 '51

"Industrial" outgrown; favor use of term "weekly premium." M. B. Williams. East Underw 51:8+ N 10 '50

New York (state)

Higher juvenile and weekly premium limits in New York asked by companies. Weekly Underw 164:401+ F 10 '51; Nat Underw (Life ed) 55:1+ F 9 '51

Limitation and restriction views of New York state association of life underwriters. East Underw 52:4 F 9 '51

Representatives of life insurance industry urge higher industrial and juvenile limits. East Underw 52:3 F 9 '51

INSURANCE, Infantile paralysis

Asks for cooperation on polio statistics. B. O'Connor. Nat Underw (H.&A. conference no) 55:6 My 18 '51

Companies' duty to provide polio insurance. R. S. Finley. East Underw 52:41 F 16 '51

Evaluation of polio insurance. S. Miller. Nat Underw 55:20-1 Ag 2 '51; Same. Nat Underw (Life ed) 55:2+ Ag 3 '51

High three year polio rate alters normalcy concept. Nat Underw (Life ed) 55:9 Jl 20 '51

Modern Woodmen initiates polio benefit program. Nat Underw (Life ed) 55:18 F 2 '51

Polio insurance association turns over statistical work to Conference. Nat Underw 55:28 Mr 8 '51; Nat Underw (Life ed) 55:24 Mr 9 '51; East Underw 52:42 Mr 9 '51

Polio insurance cover that intrigues underwriters. A. P. Dowlen. Weekly Underw 163:933-4, 978+ O 21-28 '50; Abstracts. East Underw 51:48 S 29 '50; Nat Underw 54:38 S 28 '50; Nat Underw (Life ed) 54:12 S 29 '50

Polio peace pipe; March of dimes and sellers of insurance get together. Bsns W p136 My 26 '51

Prudential group polio policy. Life Ins Courant 55:51 N '50

INSURANCE, Inland marine

Broadening inland marine powers held logical for modern coverage. F. J. Rogers. East Underw 51:86-7+ D 15 '50

Inland marine fastest growing field. W. H. Rodda. Weekly Underw 164:50-1 Ja 6 '51

Inland marine insurance bureau new filings cover five classes. Nat Underw 55:4 Mr 1 '51

Mutual men give inland marine lines a going over at Chicago rally. Nat Underw 55:8-9 My 24 '51

Reviews inland marine problems. H. L. Wayne. Weekly Underw 164:1336-8 My 26 '51; Abstracts. East Underw 52:44 My 25 '51; Nat Underw 55:1+ My 24 '51

Reviews rapid, broad expansion of inland marine lines. A. W. Barthelmes. East Underw 52:26+ Mr 23 '51

Why inland marine line should be developed by carriers. W. H. Rodda. Weekly Underw 165:819+ O 6 '51

See also

Insurance, Bailees' customers
Insurance, Camera
Insurance, Contractors' equipment floater
Insurance, Fur
Insurance, Furriers' customers
Insurance, Jewelers' block
Insurance, Jewelry
Insurance, Motor truck contents
Insurance, Personal effects
Insurance, Physicians' and surgeons' equipment floater

Adjustment of claims

Adjuster in inland marine insurance. W. M. Mortimer. Weekly Underw 165:767-70 S 29 '51; Excerpts. East Underw 52:49+ S 21 '51; Nat Underw 55:11 S 27 '51

INSURANCE, Inland marine—Adjustment of claims—*Continued*

Decisions affecting limitation of carriers' liability by receipts. H. S. Daynard. East Underw 52:27 My 4 '51; Same. Weekly Underw 164:1510 Je 16 '51

Guiding principles revision on undisclosed household contents insurance; overlapping coverage. East Underw 52:19 Mr 9 '51

Inland marine legal decisions of interest to underwriters because of concepts. H. S. Daynard. Weekly Underw 164:954+, 1020+, 1084+ Ap 14-28 '51

Recent court decisions involving inland marine points interest underwriters. H. S. Daynard. Weekly Underw 163:915-16+, 970+ O 21-28 '50; Excerpts. East Underw 51:27 O 20 '50

Revise fire-inland guiding principles. Nat Underw 55:4 Mr 1 '51

Tale of two cities, Rimouski and Winnipeg. J. Barnes. il Spectator (Property ed) 16: 20-2+ O '50

Urges inland marine form limit shippers' recovery to declared valuation. H. B. Zipser. Nat Underw 55:8 F 8 '51

Finance

How the company groups stand on inland marine income in 1950; tabulations. East Underw 52:36-9 Mr 23 '51

Inland marine premium writings for 1950 and comparisons for 1947-1949; with tabulation by company. East Underw 52:31+ Mr 23 '51

Inland marine premiums, losses for 1950; tabulation by company. East Underw 52: 40+ Mr 23 '51

New York state inland marine net premiums and losses for 1950; tabulation. East Underw 52:41-2 Mr 23 '51

1950 premiums may show moderate increase. East Underw 52:1+ Ja 12 '51

1951 premiums continue to reveal increases. East Underw 52:1+ Jl 13 '51

Losses

Inland marine losses bulk large in Kansas-Missouri floods. Nat Underw 55:1 Ag 2 '51

PPF and bailee losses may be heavy in Kansas. B. Ward. Nat Underw 55:24 Jl 19 '51

Tale of two cities, Rimouski and Winnipeg. J. Barnes. il Spectator (Property ed) 16: 20-2+ O '50

Policies

Garment contractors' floater

Contribution issue gets first test in garment contractor's floater case. Nat Underw 55:4 Jl 5 '51

Personal property floater

Check P.P.F. extensions. J. A. Dodd, jr. Rough Notes 94:51-2 Ja '51

Complexities of personal floater policy. H. C. Daynard. Weekly Underw 164:504-6, 574-5 F 24-Mr 3 '51; Excerpts. East Underw 52:25 F 9 '51

Cover to value cure for PPF. A. J. Bohlinger. Nat Underw 55:2 F 1 '51

How to sell the personal property floater. R. A. Cosbey and others. Rough Notes 94: 24-9+ Je '51

Inventory sells the PPF. B. Bailey. Rough Notes 94:19-20+ Ap '51

Personal property floater underwriting problem gets attention of New York City local agents. Nat Underw 55:8 Ja 25 '51

What to say to sell the PPF. R. L. Jennings. Rough Notes 94:17-18 Ja '51

Wire recorders in making inventories for PPF risks. W. R. Blake. East Underw 52: 20 S 7 '51

Scheduled property floater

Scheduled property floaters. B. E. Lindquist. Rough Notes 93:50-1 D '50

Stamp and coin collection floater

Coverages and forms; stamp and coin collection floater. Spectator (Property ed) 16:46-7 Ja '51

Preventive work

Inland marine loss prevention for local agents and brokers. W. H. Rodda. Rough Notes 93:21-2+ D '50

Prospects

Building agency with marine. S. Hyde. Rough Notes 94:56+ My '51

Farmers as marine prospects; selling floater policies. M. L. Crippen. Rough Notes 94: 56+ Ap '51

Rates

PPF minimum premiums and rates increased in New York City areas. East Underw 52:36 Mr 16 '51; Nat Underw 55:14 Mr 15 '51

Risks

Address before National association of mutual insurance companies, Boston meeting. W. H. Rodda. East Underw 51:26 N 3 '50; Same. Weekly Underw 163:1022+ N 4 '50

Valuation of property

Wire recorders in making inventories for PPF risks. W. R. Blake. East Underw 52:20 S 7 '51

INSURANCE, Jewelers' block

Coverages and forms; jewelers block policy improved. Spectator (Property ed) 16:46-7 D '50

Minnesota standard fire policy law cuts into marine field; Fireman's Fund vs. Vermes credit jewelry, inc. Nat Underw 54:10 D 7 '50

INSURANCE, Jewelry

Diamonds in the desert. W. C. Crocker. Weekly Underw 164:1175+ My 5 '51

Selling jewelry-fur lines. R. G. Sundheim. Rough Notes 94:48 F '51

Adjustment of claims

Court interprets sense of "insured value" phrases; Gerhard vs. Boston insurance co. Nat Underw 55:6 Ag 16 '51

Diamonds and jewelry loss adjusting. M. Salzberg. Weekly Underw 164:1620-3 Je 30 '51

New York Appellate court holds jeweler was agent of insured owner where ring was entrusted to another. Weekly Underw 165: 171 Jl 21 '51

INSURANCE, Lawyers' liability

Lawyers' protective liability policy; analysis of policy; underwriting. Rough Notes 94: 85 My '51

INSURANCE, Liability

Bureau announces underwriting rules amendment for liability lines. Weekly Underw 163:921 O 21 '50; East Underw 51:28 O 20 '50; Nat Underw 54:19 O 19 '50

Diplomatic immunity problems in casualty and liability insurance. H. Starling. Nat Underw 55:16 Mr 8 '51

Hartford Accident & Indemnity's survey of 23,000 individuals shows undeveloped market. Spectator (Property ed) 16:26-7 Ja '51

Liability market problem grows more acute in New York city. Nat Underw 55:22 Ag 9 '51

Line up cover for Milwaukee rapid transit line. Nat Underw 54:15 D 28 '50

See also

Insurance, Accountants' liability
Insurance, Automobile
Insurance, Contractors' liability
Insurance, Elevator
Insurance, Employers' liability
Insurance, Fire—Liability property damage policies
Insurance, Hospital liability
Insurance, Lawyers' liability
Insurance, Malpractice liability
Insurance, Manufacturers' liability
Insurance, Morticians' liability
Insurance, Motor truck
Insurance, Owners' landlords' and tenants' public liability
Insurance, Products liability
Insurance, Safe deposit box
Insurance, Warehousemen's liability
Insurance, Workmen's compensation

Accounting

Some difficulties in modern reserving for compensation and liability claims. D. M. Pruitt. Nat Underw 54:33 N 16 '50

INSURANCE, Liability—*Continued*

Adjustment of claims

Cardinal case: New York Appeals court upholds U.S. casualty position. Weekly Underw 164:1568 Je 23 '51; Same. East Underw 52:27 Je 22 '51

Court rules state fund not authorized to cover against third part liability; Cardinal vs. State of New York. East Underw 52:40 Mr 16 '51; Nat Underw 55:27 Mr 15 '51

Duty to defend. C. W. Tye. Rough Notes 94:54+ O '51

Fall on unlighted stairway held not covered by liability policy where personal hobby is efficient cause. Weekly Underw 164:1421 Je 2 '51

Public liability coverage held superfluous where governmental immunity to suit protects county officials against torts. Weekly Underw 164:1304 My 19 '51

Standard employe exclusion in public liability policy held valid in Cardinal vs. U.S. Casualty. East Underw 52:26 Ja 5 '51; Same. Weekly Underw 164:222 Ja 20 '51; Same cond. Nat Underw 55:21 Ja 4 '51

Who is liable in fuel delivery for faulty equipment. J. R. Baylor. Nat Underw 55:20 S 27 '51

Agents

Contact people and sell comprehensive personal. C. R. Gage. Rough Notes 94:59 Ap '51

Economic aspects

Inflation and liability insurance. A. M. Meyer. Weekly Underw 165:630-1 S 15 '51

Farm policies

Farmer's comprehensive personal liability; analysis of policy. Rough Notes 94:93-4 Ap '51

Policies

Analysis of policy provisions covering contractual liability and fire legal liability. T. Y. Beams. East Underw 52:36+ Ap 13 '51

Comprehensive general liability policy; personnel training course. Rough Notes 94:32+ Mr '51

Comprehensive liability gives complete protection. H. Bernstein. Rough Notes 94:32 S '51

Owner's or contractors' protective liability; analysis of policy; underwriting. Rough Notes 94:83-4 F '51

Why sell comprehensive general liability. W. A. Simonson. Spectator (Property ed) 16:48-9 D '50; 48-9 Ja '51

Purchasing

Strong case for higher limits of third party coverage. R. B. Rowe. East Underw 51:33+ N 24 '50; Excerpts. Nat Underw 54:38 N 23 '50

Rates

Other liability, bodily injury and property damage goes way of auto. Nat Underw 55:25 Je 14 '51

Plan D approved in New Jersey; can be applied to auto and general liability but not to compensation risks. East Underw 52:40 Mr 16 '51; Same abr. Nat Underw 55:24 Mr 22 '51

Rating plans for compensation and liability. L. C. Coit. Rough Notes 94:20-2 My '51

INSURANCE, Life

Broaden insurance scope, urge newsmen at U.S. Life luncheon meeting. East Underw 65:5 S 28 '51

Business helped by field, home office idea trades. R. Rhodebeck. Nat Underw (Life ed) 55:2 Ap 20 '51

Challenge of changing needs. D. Dowell. Weekly Underw 163:1334-5, 1394-5 D 9-16 '50; Same abr. Life Ins Courant 56:20-4 Ja '51; Abstracts. East Underw 51:6 N 24 '50; Nat Underw (Life ed) 54:3+ N 24 '50

Columbia starts life insurance management research center. East Underw 52:20+ Mr 30 '51; Nat Underw (Life ed) 55:3+ Mr 30 '51

Commissioners seek more control of purchase of life companies; report criticizes methods. East Underw 51:11 D 22 '50

Encroachment on insurance by federal government; address before Institute of home office underwriters. E. M. Thore. East Underw 51:3+ N 3 '50; Abstract. Nat Underw (Life ed) 54:1 N 3 '50

Endorsement of life insurance; presidents, cabinet members, lawyers, statesmen, newspapermen, businessmen, actors, etc. Spectator (Life ed) (Endorsement no 1950-1951) 158:10-16+ N '50

Executives comment on state of the business; excerpts from life company reports. Spectator (Life ed) 158:22-5+ Ap '51

Federal encroachment seen as threat to initiative. E. M. Thore. East Underw 52:4+ S 14 '51

Insurance should continue on rise. C. G. Taylor, jr. Nat Underw (Life ed) 55:4 Mr 9 '51

Life insurance meets changing conditions. L. A. Lincoln. Weekly Underw 165:665+ S 22 '51; Same abr. Nat Underw (Life ed) Daily ed 55:12+ S 19 '51; Same abr. Spectator (Life ed) 159:16-19 O '51

Life insurance now better understood. H. J. Johnson. Weekly Underw 164:96+ Ja 6 '51

Life insurance review of 1950. C. C. Klocksin. East Underw 51:3+ D 29 '50; Same. Nat Underw (Life ed) 54:2+ D 29 '50; Same. Spectator (Life ed) 158:7-11 Ja '51; Same. Weekly Underw 164:92+ Ja 6 '51; Same. Life Ins Courant 56:12-13+ F '51

Life problems on national level increase. B. E. Shepherd. Weekly Underw 164:94+ Ja 6 '51

1950 Washington, D.C. box score; what life insurance leadership has done in handling legislation and regulatory matters; abstracts. E. M. Thore. East Underw 51:6 N 17 '50; Nat Underw (Life ed) 54:6 N 17 '50; Spectator (Life ed) 158:20-1+ D '50

No business is under such public scrutiny as is life insurance. O. E. Beal. East Underw 52:1+ Je 29 '51

Position of life insurance today. H. L. Amber. East Underw 52:4 Je 29 '51

Russell award recipients, 1942-1951; list. Spectator (Life ed) 159:9 O '51

Russell award to Zimmerman. Nat Underw (Life ed) 55:1 S 28 '51

Sales predictions for 1951 clouded by mobilization. D. J. Reap. Nat Underw (Life ed) 54:1 D 29 '50

Twelve U.S. life companies pass century mark; Institute report. Life Ins Courant 56:47 F '51

Visualizes future production. J. W. Yates. East Underw 52:8+ My 25 '51

See also

Annuities
Benefit societies
Insurance, Accident—Life company selling
Insurance, Business
Insurance, Group life
Insurance, Industrial
Insurance, Military and naval service
Insurance trusts
Military service—Insurance aspects
Savings banks—Insurance selling
Savings deposits—Insured deposits

also American life convention; Berkshire life insurance company; Illinois bankers life assurance company; Institute of life insurance; Jefferson standard life insurance company; John Hancock mutual life insurance company; Life insurance agency management association; Massachusetts mutual life insurance company; Metropolitan life insurance company; Missouri state life insurance company; Monarch life insurance company; Mutual life insurance company of New York; Phoenix mutual life insurance company; Postal life insurance company; Prudential insurance company of America; Sun life assurance company of Canada

Actuaries

See Insurance actuaries

Adjustment of claims

Down to cases. L. A. Burke. Spectator (Life ed) 158:48-9 Ja '51 [cont monthly]

Long Island rail crash claims swell to million dollar proportions. Nat Underw (Life ed) 54:1+ D 1 '50

Much claim litigation wasted or harmful. V. V. R. Booth. Nat Underw (Life ed) 55:4 S 14 '51

INSURANCE, Life—Adjustment of claims— *Continued*

New Jersey train wreck death claims to exceed $500,000. Nat Underw (Life ed) 55:3 F 16 '51

New York Life's claims records show close connection between life insurance and U.S. history. Nat Underw (Life ed) 54:9+ D 1 '50

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Insurance, Life—First year claims

Insurance, Life—War death claims

Advertising

Avoidance of sales plugs adds potency to Metropolitan's radio promotion. Nat Underw (Life ed) 55:20 Mr 30 '51

Awards of Freedoms foundation; John Hancock gets first place in national advertising. East Underw 52:8 Mr 2 '51

Don't aim at widows, insurance men told. C. R. R. Noyes; W. Weir. Ed & Pub 83:16 N 25 '50

Good reception for Prudential tv dramas. East Underw 52:4 Mr 30 '51

LIAA makes survey on company use of claims stories and testimonials. Weekly Underw 165:210+ Jl 28 '51; Same. Nat Underw (Life ed) 55:2 Jl 27 '51; Same. East Underw 52:1+ Ag 24 '51

Life insurance sales jump with local ads; Prudentials' Phoenix campaign. Ed & Pub 84:24 Je 16 '51

Mutual Life lives in public relations gold fish bowl. C. B. Reeves. Ed & Pub 84:59 Mr 3 '51

Mutual Life of New York gets direct mail award. East Underw 51:14 O 20 '50

National advertising doing impressive job for companies and their fieldmen. J. R. Morris. East Underw 52:56-7+ pt 2 O 5 '51

Prudential discovers at Phoenix the value of local advertising. Nat Underw (Life ed) 55:7 Je 22 '51

Starch reports best-read advertisements. il Adv Agency 44:72-3 Jl '51

Winners of LAA exhibit awards. East Underw 51:3+ O 27 '50; Nat Underw (Life ed) 54:9 O 27 '50

See also Life insurance advertisers association

Agency location

Companies start swing to suburban agency thinking. Nat Underw (Life ed) 54:18 N 10 '50

Agency management

Address at NALU general agents and managers' session, Los Angeles. R. B. Coolidge. Nat Underw (Life ed) Daily ed 55:20-2 S 20 '51

American life convention agency section meeting, Toronto. Nat Underw (Life ed) 55:22+ O 12 '51

Are managers buying men or selling life insurance? R. Durrett. Nat Underw (Life ed) 55:18 S 7 '51

Building an agency from scratch. C. G. Eklund. East Underw 52:16 Ap 6 '51

Failing managers can't blame lack of information. W. C. Gentry. Nat Underw (Life ed) 55:4 Je 8 '51

Financial management. C. A. Brown. East Underw 52:12 F 2 '51

Financing may increase agent turnover. R. W. Osler. Nat Underw (Life ed) 55:19 My 18 '51

First Michigan management conference great success. Nat Underw (Life ed) 55:4 S 21 '51

Help yourself to these ideas. K. H. Mathus. Spectator (Life ed) 158:8-9+ F; 159:22-3 Jl '51

Holderman's $2,000,000 a month rural agency; how he hires and develops men. C. Axman. East Underw 52:40-1 pt 2 O 5 '51

How I built a $10 million Detroit agency. C. Eklund. Nat Underw (Life ed) 55:2 Ja 12 '51

Management and the life insurance agent. J. O. Stalson. East Underw 52:70-1 pt 2 O 5 '51

Management responsibility for field force. E. M. McConney. East Underw 52:8 O 12 '51

Merchandising boosts life sales. C. R. Corcoran. Nat Underw (Life ed) 55:9 Je 1 '51

Pattern for agency growth. W. H. Nicholls, jr. East Underw 52:5+ Ap 6 '51

Problems of agency management. R. B. Lawless. East Underw 52:30+ Ap 6 '51

Sessions on agency management problems at annual meeting of L.I.A.M.A. Atlantic alumni association Rye, N.Y. Nat Underw (Life ed) 54:2+ N 3 '50

Slant on agency management. B. N. Woodson. Nat Underw (Life ed) 54:6 N 10 '50

Sound supervision vs. laissez faire. R. B. Coolidge. East Underw 51:7 N 17 '50

Trend away from specialization in life agencies. Nat Underw (Life ed) 55:9 Mr 30 '51

See also Life insurance agency management association

Costs

L.I.A.M.A. forum on agency costs; abstracts. W. R. Furey and others. East Underw 51:13 N 24 '50; Nat Underw (Life ed) 54:1+ N 24 '50

L.I.A.M.A. reports on agent financing. Nat Underw (Life ed) 55:3+ S 28 '51

Agency managers

Agency officers urged to be generals in fight against inflation. J. M. Holcombe. Nat Underw (Life ed) 54:4 N 17 '50; Same abr. East Underw 51:11 N 17 '50

Connecticut Mutual's general agents conference, Hollywood, Fla. East Underw 52:7 F 9 '51

Country's largest insurance agency; B. W. Walker, manager of San Francisco branch of New York Life. East Underw 52:72-3 pt 2 O 5 '51

Does the general agent as a species face extinction? Nat Underw (Life ed) 55:3+ My 18 '51; Discussion. 55:6 Je 15 '51

Fewer agency heads are producing personal business; recognize full time nature of job of recruiting and coaching. Nat Underw (Life ed) 55:2 Ag 31 '51

Learned selling by cold canvass route; Arthur V. Youngman Mutual Benefit general agent. East Underw 52:14 Mr 30 '51

Lester Einstein will not be bored in retirement. East Underw 52:12 Mr 23 '51

Massachusetts Mutual general agents meeting, Chicago, Feb. 5-6. East Underw 52:18 F 16 '51; Nat Underw (Life ed) 55:6 F 9 '51

Metropolitan Life manager's conference, New York. East Underw 52:3, 14-15 Mr 16 '51

Mutual Benefit general agents meeting, Bellaire, Fla. Jan. 22-25. East Underw 52:3-4, 12 F 2 '51

Mutual Life agency managers meeting, New York. East Underw 52:3-4 Ja 19 '51; Nat Underw (Life ed) 55:2+ Ja 12 '51

National Life of Vermont general agents annual spring conference, Hollywood Beach, Fla. East Underw 52:5+ Mr 30 '51

New England Mutual general agents meeting, Palm Beach. East Underw 52:15+ Ap 6 '51

New York state managers annual meeting, Saratoga Springs. East Underw 52:3+ F 23 '51; Nat Underw (Life ed) 55:3+ F 23 '51

Phoenix Mutual Life managerial changes; portraits. East Underw 52:7 S 28 '51; Nat Underw (Life ed) 55:36 S 28 '51

Research agencies group meeting, Pocono Manor, Pa. Nat Underw (Life ed) 55:8 Je 15 '51

Training

Five-star program winds up LIAMA's 100th school. Nat Underw (Life ed) 55:3+ Ap 27 '51

Progress story of School in agency management; abstracts. H. F. Monley. Weekly Underw 164:356 F 3 '51; Nat Underw (Life ed) 55:22 Mr 16 '51

Training of assistant managers is most important. R. C. Johnson. East Underw 51:10 N 17 '50; Excerpts. Nat Underw (Life ed) 54:10 N 17 '50

Agents

Answers to 18 objections to purchasing insurance. T. H. Leaver. Rough Notes 94:58-9 Ja '51

Answers to objections. B. N. Woodson. Nat Underw (Life ed) 55:17-18 My 4 '51

Answers to 21 objections. H. S. Bell. Rough Notes 94:48-9 Ag '51

Asks return to career concept in selling. V. B. Coffin. Nat Underw (Life ed) Daily ed 55:5 S 20 '51

INSURANCE, Life—Agents—*Continued*

Avoid multiple selling choices. R. W. Osler. Rough Notes 94:62-3 Mr '51
Basic purposes still sell best. R. Hull. Nat Underw (Life ed) 55:17 S 14 '51
Combination agent; questions and answers. Life Ins Courant 56:29-30 Ag '51
Companies overlook agents in campaign against inflation. W. E. Hays. Nat Underw (Life ed) 55:3 My 4 '51
Doing five things reasonably well guarantees success. H. J. Cummings. Nat Underw (Life ed) 54:20 N 3 '50
Elements of persuasion. J. D. McLaren. East Underw 52:41+ Ap 20 '51
Fifteen sales in one; talk to several prospects at once. J. F. LoBosco. Life Ins Courant 56:23 Je '51
Follow through on your sales. V. Sundelson. Spectator (Life ed) 158:38-40 My '51
Georgia cracker sells insurance. E. N. McKoy. Life Ins Courant 55:18-19+ D '50; Excerpts. Nat Underw (Life ed) Daily ed 54:22 S 28 '50; Spectator (Life ed) 158:40-1 O '50
Give warmth and life to insurance by use of visual materials. S. C. Ferris. East Underw 52:47 Ap 20 '51
Here's an idea (cont). K. H. Mathus. Spectator (Life ed) 158:22-3 D '50; 8-9+ F; 18-19 Je; 159:37 Ag; 14-15 S '51
How Jim Hamill of Rochester, N.Y. has triumphed over polio handicap. East Underw 52:104-5 pt 2 O 5 '51
How outstanding life agents are selling now (cont). Spectator (Life ed) 158:24-5 D '50; 16-20 F '51
It's a religion with me. G. H. Jennings. Life Ins Courant 56:16-17 My '51
Know where you're going each morning or you're unemployed. C. E. Cleeton. Nat Underw (Life ed) 55:17 Ja 26 '51
Life insurance agent a key man in the community. E. M. Belkin. Weekly Underw 164:1233-5 My 12 '51
Life man sells more than merely life insurance. N. Johnston. Nat Underw (Life ed) 55:16-17 Je 1 '51
Life salesmen overseas finding ripe pickings. Nat Underw (Life ed) 55:10 Mr 16 '51
Life underwriters alerted to menace of bank savings account plans. Weekly Underw 164:193+ Ja 20 '51
Lift that iron curtain of inertia. A. J. Schick. Weekly Underw 164:415-16 F 10 '51; Same. Life Ins Courant 56:21-3 Ap '51
Long Island mortgage association letter stirs up wrath among New York agents. Nat Underw (Life ed) 54:6 N 3 '50
Magic circle. W. B. Hoyer. Life Ins Courant 55:24-7+ D '50
Mass selling plans called menace to individual agent. H. J. Peirce. Nat Underw (Life ed) 54:17 D 22 '50
Military camp sales insurance under fire. East Underw 52:16 Je 8 '51
Million dollar round table annual meeting, Coronado, Calif. East Underw 52:14 S 28 '51; Nat Underw (Life ed) 55:1-2+ S 28 '51
MDRT background. J. O. Todd. East Underw 52:5 S 21 '51
MDRT qualification requirements tightened. Nat Underw (Life ed) 55:8 S 28 '51
Million dollar round table qualifiers listed. Nat Underw (Life ed) 55:8+ F 23; 2+ Mr 9; 1+ Je 1 '51
Million dollar writers, what makes them click? R. G. Engelsman. East Underw 52:102+ pt 2 O 5 '51
Modern professional life underwriting. H. A. Austin, jr. Weekly Underw 164:41+ sec 2 My 12 '51
Motivate to impel to action. F. J. O'Brien. Life Ins Courant 56:15-17+ Je '51
My wife can work; knocking down a frequently met objection. B. N. Woodson. Life Ins Courant 56:13-14 Ag '51
New selling fields. H. J. Burridge. Nat Underw (Life ed) 54:4 O 20 '50
Novel Mutual Trust Life device increases prospect participation in interview. Nat Underw (Life ed) 55:18 Je 8 '51
Policyholders; the agent's responsibility. A. D. L. Panet. Spectator (Life ed) 158:20-1 F '51
Preaches gospel of self-induced enthusiasm. F. Bettger. Nat Underw (Life ed) 55:13 Jl 27 '51
Prospecting and selling the American way. A. F. Laut. Life Ins Courant 56:16-17 S '51
Record their objections. J. M. Wylie. Life Ins Courant 55:21-2 N '50
Sees salesmen coming into their own. E. M. McConney. Nat Underw (Life ed) 55:7 O 12 '51
Sees selling and counseling and conserving and serving as separate duties of field underwriters. C. J. Zimmerman. East Underw 52:9+ Mr 23 '51; Same cond. Nat Underw (Life ed) 55:1+ Mr 23 '51
Selling in suburbia. R. S. Ponsoldt. il Life Ins Courant 55:13 N '50
Success means doing what successful men have done. H. L. Nutt. Nat Underw (Life ed) Daily ed 55:10+ S 20 '51
Utilizing human tensions for selling. J. A. Kiss. Life Ins Courant 56:21-2 Mr '51
Warns against easy life. W. R. Furey. East Underw 52:5+ Je 29 '51
What 15 years' work means. C. L. O'Quinn. Nat Underw (Life ed) Daily ed 55:42-4 S 20 '51
What would you do if you had to move next week to a distant town and sell? H. D. Josephson. Nat Underw (Life ed) 54:16 D 1 '50
When; put definiteness into all your plans. E. B. Renwick. Life Ins Courant 56:35 Ap '51
Who runs your sales life, the boss or the bum? A. T. Haley. Nat Underw (Life ed) 55:16 Je 1 '51
You need more than money to retire; few careers offer better opportunity for retirement years than life insurance. S. G. Hale. Life Ins Courant 56:37-8 Je '51
You possess the power to succeed. J. M. Utter. Life Ins Courant 56:28-32 Ap '51

See also
Insurance, Life—
Prospects
also Life underwriters association of the city of New York; National association of life underwriters

Approach

Approach. W. F. Lee. Life Ins Courant 56:25-6+ Mr '51
Ask a question. R. W. Osler. Rough Notes 93:58-9 D '50
Business insurance for the professional man; with compound discount and life expectancy tables. F. L. Morton. Spectator (Life ed) (Endorsement no 1950-1951) 158:32-5 N '50
Cold canvass specialist tells how it works. B. Chafin. Nat Underw (Life ed) 55:14 Ag 24 '51
Emotion used with dollar advantage as a sales lever by Solomon Huber agency. Nat Underw (Life ed) 55:23 My 4 '51
Everyday selling. F. Brand, jr. Life Ins Courant 55:20-3 D '50; Abstract. Nat Underw (Life ed) Daily ed 54:4+ S 28 '50
How I sell much cold canvas. J. W. Stephens, jr. East Underw 52:91 pt 2 O 5 '51
Plea for cold canvass. E. Convicer. Life Ins Courant 56:25 Je '51
Revise programs to catch up with inflation; social security approach. D. Oberst. Nat Underw (Life ed) 54:19 D 8 '50
Social security and its selling opportunities. A. M. Royal. East Underw 51:44+ D 15 '50; Same. Life Ins Courant 56:20-2 F '51; Same cond. Nat Underw (Life ed) 54:15 D 22 '50
Social security can be a vital sales aid. G. N. Butz. Spectator (Life ed) 159:43-4 S '51
Talk taxes in '51, but first gain prospects' interest. E. D. Haseltine. Nat Underw (Life ed) 55:20 Ja 12 '51
Thar's gold in that thar bill; using social security to sell insurance. R. B. Thompson. Life Ins Courant 56:14-17 Jl '51
What's different about night calls? Life Ins Courant 55:32 D '50

Closures

Closing combination. D. S. Eier. Life Ins Courant 56:30-1 My '51
Where should it begin? symposium on closing. H. S. Smith, jr. and others. Life Ins Courant 56:22-6 Jl '51

INSURANCE, Life—Agents—*Continued*

Commissions

Agent's status under social security; renewal commissions situation. D. P. Cavanaugh. East Underw 52:3+ Jl 13 '51; Same cond. Nat Underw (Life ed) 55:3+ Jl 13 '51

Bill amends New York law on life agents' compensation; S. 2257. Weekly Underw 164: 551-2 Mr 3 '51; Same. East Underw 52:7 Mr 2 '51

Equitable ups first year commissions; with table of rates. Nat Underw (Life ed) 55:6 Ja 5 '51

Federal agencies answer SS queries on retired agents. Nat Underw (Life ed) 55:1+ Ag 31 '51

Federal control of commissions firmly opposed by union representatives. Nat Underw (Life ed) 55:1+ S 21 '51

Full text of Section 213 revision proposal; New York agency expense limitation law. Nat Underw (Life ed) 55:1+ Mr 9 '51

Lump commissions into first three years. J. H. Wood. Nat Underw (Life ed) 55:5 Ap 6 '51

N.A.L.U. position on Section 213. C. E. Cleeton. Nat Underw (Life ed) 55:4-6 O 12 '51; Excerpts. East Underw 52:3 O 12 '51

Phoenix Mutual announces higher commission scale. Nat Underw (Life ed) 55:3 S 14 '51; East Underw 52:1+ S 14 '51

Prudential boosts first year ordinary commission scale. Nat Underw (Life ed) 55:8 O 12 '51

Revision of New York's Section 213 would affect agents throughout country. S. L. McCarty. Nat Underw (Life ed) Daily ed 55:10 S 19 '51

Section 213 revision must wait another year, legislators say; NALU bill introduced. Nat Underw (Life ed) 55:1+ F 23 '51

Section 213 revision proposal analyzed. D. J. Reap. Nat Underw (Life ed) 55:1+ Mr 2 '51

SS rulings on renewals to retired agents pose problem. Nat Underw (Life ed) 55:2+ Ag 24 '51

Warns of danger if renewals are ruled service fees by social security administration. P. B. Hobbs. Nat Underw (Life ed) 54:2 D 1 '50

Warns on boosting premiums to pay higher commissions. D. Dowell. Nat Underw (Life ed) 55:3 My 4 '51

Company relations

Equitable signs settlement agreement with NLRB. Nat Underw (Life ed) 55:11 Je 29 '51

New union wins Hancock agents; opens all-out campaign. Sales Management 67:52+ Ag 1 '51

O.K. settlement in case involving Nola Patterson charges against Prudential. Nat Underw (Life ed) 55:4 F 16 '51

Practices in acknowledging agent or agency accomplishment; abstract. F. J. Kiefner. East Underw 51:14 N 10 '50; Same. Weekly Underw 163:990+ O 28 '50

Settlement pact disposes of New York Life's NLRB case. Nat Underw (Life ed) 55:7 Je 1 '51

We studied our failures; Commonwealth's study of agents terminations. M. Boyd. East Underw 51:10 N 17 '50; Same. Nat Underw (Life ed) 54:7 N 17 '50

Contracts

Mutual Benefit Life contract for new agents bunches renewals. Nat Underw (Life ed) 55:16 Jl 27 '51

Phoenix adopts new agents compensation program for field. East Underw 52:1+ S 14 '51; Nat Underw (Life ed) 55:3 S 14 '51

Conventions

Illinois state association of life underwriters mid-year meeting, Peoria. Nat Underw (Life ed) 54:2+ N 10 '50

Indiana association of life underwriters annual meeting, Indianapolis. Nat Underw (Life ed) 55:8 Je 1 '51

Indiana life underwriters association midyear meeting, Indianapolis. Nat Underw (Life ed) 54:16-17 N 24 '50

Milwaukee life underwriters association 35th annual meeting. Nat Underw (Life ed) 54:1+, 20 N 3 '50

Pennsylvania association of life underwriters annual meeting, Philadelphia. Nat Underw (Life ed) 55:3+ Je 15 '51

Insurance for agents

Convention A.&H. cover for agents of Connecticut Mutual. Nat Underw (Life ed) 54: 10 N 17 '50

Legal status

Agent's social security. O. C. Pogge. Spectator (Life ed) 158:10 F '51

Agents' social security status; NALU committee report. East Underw 52:5+ Ap 6 '51

Agent's status under social security. D. P. Cavanaugh. East Underw 52:3+ Jl 13 '51; Same cond. Nat Underw (Life ed) 55:3+ Jl 13 '51

Federal agencies answer SS queries on retired agents. Nat Underw (Life ed) 55:1+ Ag 31 '51

IRB issues mimeograph on full-time life agents' SS status. Nat Underw (Life ed) 54:3 D 29 '50

LIAMA sends out questionnaire on handling agents' SS. Nat Underw (Life ed) 54:3+ N 24 '50

No regulations in sight; companies must make own social security determinations. R. H. Kastner. Nat Underw (Life ed) 55:3+ Mr 23 '51

Proposed social security tax rulings published. Nat Underw (Life ed) 55:4 Je 15 '51

SS rulings on renewals to retired agents pose problem. Nat Underw (Life ed) 55:2+ Ag 24 '51

Social security status of agents complicated but highly gratifying. Nat Underw (Life ed) 55:4 Ag 3 '51

Warns of danger if renewals are ruled service fees by social security administration. P. B. Hobbs. Nat Underw (Life ed) 54:2 D 1 '50

Letters to prospects

Direct mail spark plugs. T. R. Quilter. Life Ins Courant 56:18-19 Ja '51

LAA forum on direct mail. East Underw 52:6 Mr 23 '51

What your letters tell your clients. M. F. Stone. Life Ins Courant 56:26-7 S '51

Pensions

Adequate pensions vital to stabilized agency force. G. D. McKinney. Nat Underw (Life ed) 55:3 Ag 17 '51

Company counsel ask pension tax relief for agent. Nat Underw (Life ed) 55:3 Ag 17 '51

Public relations

Making Canada public insurance conscious. L. W. Dunstall. East Underw 52:74-5 pt 2 O 5 '51

Model agent. F. D. Russell. East Underw 52:3 S 14 '51

Recruiting

See Insurance, Life—Agents—Selection

Sales campaigns

Gotham LAA group weighs merits of sales campaigns. Nat Underw (Life ed) 55:3-4 Je 1 '51

Sales conventions

Aetna Life's conference of top producers, Hartford, Jan. 17-19. East Underw 52:16 Ja 26 '51

Aetna Regionnaires meet at Lake George. East Underw 52:8 Jl 6 '51; Nat Underw (Life ed) 55:2+ Jl 6 '51

Aids for agents offered at New Jersey agents sales congress at Asbury Park. Nat Underw (Life ed) 55:20-1 My 25 '51

Colonial Life annual field convention, White Sulphur Springs, W.Va. East Underw 52:1+ O 12 '51

Connecticut association of life underwriters annual sales congress, New Haven. Nat Underw (Life ed) 55:6+ Ap 13 '51

Continental American Life President's club convention, Atlantic City, Sept. 10-13. East Underw 52:3-4 S 28 '51; Weekly Underw 165:786-7 S 29 '51

Federal Life's leading producers convention, Atlantic City. East Underw 52:25+ Jl 20 '51

Indiana association of life underwriters annual caravan sales congress. Nat Underw (Life ed) 55:8 Ap 13 '51

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Jamison and Phelps agency of Northwestern Mutual Life annual sales congress, Chicago. Nat Underw (Life ed) 55:8 Ja 26 '51

Life underwriters of Los Angeles annual sales congress, 24th, Los Angeles, Feb. 14. East Underw 52:18 Mr 2 '51

Minnesota sales congress pulls crowd from wide area. Nat Underw (Life ed) 55:23 Ap 13 '51

Mutual Benefit Life winds up regional meetings. East Underw 52:3-4+ Jl 6 '51; Nat Underw (Life ed) 55:1, 4+ Jl 6 '51

Mutual Life's field leaders conference, Houston. East Underw 52:26-35 S 21 '51; Nat Underw (Life ed) 55:2+ S 14 '51

New England Mutual leaders meeting, Jasper Park, Alberta. East Underw 52:16 S 21 '51; Nat Underw (Life ed) 55:6 S 14 '51

New England Mutual regional meeting, Skytop, Pa. East Underw 51:12 N 3 '50

Northwestern Mutual agents association meeting, Milwaukee. East Underw 52:3-4 Jl 27 '51; Nat Underw (Life ed) 55:1+ Jl 27; 16-17 Ag 3 '51

Northwestern Mutual Life regional conference, Chicago. Nat Underw (Life ed) 55:3 Ja 26 '51

Northwestern Mutual Life's annual eastern states convention, New York. East Underw 52:1, 2-4+ Ja 5 '51; Nat Underw (Life ed) 55:1-2+ Ja 5 '51

Penn Mutual's quarter million club conference, Hollywood Beach, Fla. East Underw 52:3-4+ My 11 '51; Nat Underw (Life ed) 55:23-4 My 11 '51

Peoria sales congress features leaders of varied backgrounds. Nat Underw (Life ed) 54:20 N 10 '50

Philadelphia association of life underwriters annual sales congress. Nat Underw (Life ed) 55:22 F 23 '51

Phoenix Mutual field leaders meeting at Banff marks company's centenary. East Underw 52:1+ Ag 31 '51

Provident Mutual regionals windup. East Underw 52:16 S 14 '51

Sales helps for agents featured at Ohio State Life meeting. Nat Underw (Life ed) 55: 18-19 Jl 6 '51

Security Mutual Life field convention, Dixville Notch, N.H. East Underw 52:3+ S 14 '51; Nat Underw (Life ed) 55:20-1 S 21 '51

Union Central leaders meeting, White Sulphur Springs, W.Va. East Underw 52:6 My 11 '51; Weekly Underw 164:1224+ My 12 '51

Union Mutual Muskoka Lake conference. Nat Underw (Life ed) 55:3+ Jl 6 '51

Wisconsin agents receive advice from five breakers of sales records. Nat Underw 55:20 My 18 '51

Selection

Agency management association's selection interview blueprint. East Underw 52:4 My 18 '51; Same abr. Nat Underw (Life ed) 55: 24 My 11 '51

Agent procurement described as at standstill; Life Advertisers in New York discuss ways of aiding replacements. Nat Underw (Life ed) 55:7 Mr 9 '51

Agents' turnover. R. B. Coolidge. East Underw 52:7 S 21 '51

All out for new LIAMA interview guide. F. Munnerlyn. Nat Underw (Life ed) 54:3+ N 17 '50

Can eliminate many eventual failures after first half-year; L.I.A.M.A. report shows importance of postselection. Nat Underw (Life ed) 54:3 D 22 '50; Same. East Underw 52:11 Mr 30 '51

Canadian selection data; experience predictive for U.S. S. R. Wallace, jr. Nat Underw (Life ed) 54:8 N 17 '50

Cautions against lowering agent selection rules. D. E. Hanson. Nat Underw (Life ed) 54:9 N 3 '50

Companies revising recruiting plans in light of defense requirements. Nat Underw (Life ed) 55:11 Mr 30 '51

Equitable, Iowa finds recruiting college men worth while. E. E. Cooper. Nat Underw (Life ed) 55:8 Mr 23 '51; Excerpts. Weekly Underw 164:795 Mr 24 '51

Facts about selection. A. C. Hansch. East Underw 52:12 F 2 '51

Recruiting picture more hopeful. Nat Underw (Life ed) 55:3 F 9 '51

Recruiting problems. J. E. Rawles. Nat Underw (Life ed) 55:19 Ja 19 '51

Sentiment swinging toward agents in younger age groups. Nat Underw (Life ed) 55:7 Mr 16 '51

Talk with wife of prospective agent. A. R. Klein. Nat Underw (Life ed) 55:7 Ja 26 '51

Tips to companies on how to get college graduates. E. C. Sweeten, jr. East Underw 52:18 F 23 '51

Training, selection principles. D. B. Slattery; S. R. Wallace, jr. Nat Underw (Life ed) 54:6 O 27 '50

Service

Better agents helpful in rendering real service; abstracts. J. G. Parker. Weekly Underw 165:914 O 13 '51; Nat Underw (Life ed) 55:20-1 O 12 '51

Doctor's double problem; my best life insurance program. R. A. Young. Life Ins Courant 56:30-1 F '51

Life insurance agent and the practice of law. J. Barker, jr. East Underw 52:26-7+ pt 2 O 5 '51; Excerpts. Nat Underw (Life ed) 55:8 My 25 '51

Seek aid of life salesmen in U.S. savings bond drive. Nat Underw (Life ed) 55:4 Je 22 '51

Service after sales is agent's responsibility; abstracts. J. Lantz, jr. Spectator (Life ed) 158:21-2 Je '51; Life Ins Courant 56:18-19 O '51

Things to do today. N. Wasson. Spectator (Life ed) 158:24-5 D '50

Training

Advisory council on life underwriter education and training announces program. East Underw 52:4 Ja 12 '51; Same cond. Nat Underw (Life ed) 55:4 Ja 12 '51

Booklet features institutional programs; Training for today's life underwriter. East Underw 52:7 Ag 3 '51

How I built a $10 million Detroit agency. C. Eklund. Nat Underw (Life ed) 55:2 Ja 12 '51

Institutional training opportunities offered today. V. B. Coffin. East Underw 51:7 N 17 '50

LIAMA trainers' sessions. Nat Underw (Life ed) 54:4+ N 24 '50

LUTC group proved sales method index's value to teacher. J. D. Anderson. Nat Underw (Life ed) 54:11 N 17 '50

Mirror for mistakes; electric recorders valued as agent training device. F. R. Amthor. Nat Underw (Life ed) 54:8 D 1 '50

Penn Mutual to step up field training program. Nat Underw (Life ed) 54:6 D 29 '50

Semantics training needed by agents to better skills. R. U. Redpath. Nat Underw 55:9 Mr 16 '51

State Mutual maps expanded training program in 1951. C. W. Earnshaw. Nat Underw (Life ed) 55:5 Ja 12 '51

3,000 better trained agents serve the public; L.U.T.C. classes. Nat Underw (Life ed) 55:8 Jl 20 '51

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Women agents

Follow-up on beneficiaries feature of Lillian Joseph's sales to women. Nat Underw (Life ed) Daily ed 55:8+ S 20 '51

Mrs Sundelson, pioneer woman general agent, dies. East Underw 52:5+ Mr 2 '51

Problems may prove to be privileges. N. F. Burns. Nat Underw (Life ed) Daily ed 55: 39-40+ S 20 '51

Selling as a career for women. M. Morton. East Underw 52:4+ Ag 31 '51

New York (state)

Agents qualifying examinations; philosophy behind New York state insurance department's testing of applicants for licenses. W. F. Brooks. East Underw 51:14 D 15 '50

Ontario

Ontario life agents can't act as brokers, consultants. Nat Underw (Life ed) 55:8 Je 8 '51

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Agents' wives

Wives' contribution to success. E. R. Hodgkins. East Underw 52:62 pt 2 O 5 '51

Annuities

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Applications

97 out of 100 ordinary applicants accepted as risks; Institute study. Nat Underw (Life ed) 55:4 Jl 20 '51

Underwriting practices; supervisors are important link between home office and the applicant and agent. P. Shepherd. East Underw 52:17 F 23 '51

Aviation risks

More war and aviation clause changes listed; list by companies. Nat Underw (Life ed) 54:7+ N 10 '50

Policy restrictions; action by New York Life, Prudential and Mutual Life. Spectator (Life ed) 158:38-9 Ap '51

Prudential offering extra premium aviation coverage. East Underw 52:6 Mr 9 '51; Same abr. Nat Underw (Life ed) 55:18 Mr 9 '51

Use of term "participation" held unambiguous by Florida court in double indemnity case involving aviation exclusion clause. Weekly Underw 165:221 Jl 28 '51

Biography

Some interesting personalities in the life insurance business. pors East Underw 51: 4-6+ D 15 '50

Brokers

Agents applying pressure against brokerage business; some agency heads forced to choose. Nat Underw (Life ed) 55:3 Ag 10 '51

Big agencies, companies up ante to woo booming life brokerage trade. Nat Underw 55:18 Ag 30 '51

Brokerage deserves some study; Connecticut General's plan; editorial. Nat Underw (Life ed) 55:8 Jl 27 '51

Connecticut General to have network of brokerage agencies. Nat Underw (Life ed) 55: 1+ Jl 13 '51

Business beneficiaries

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Children's policies

Continental American revises juvenile; issues new plan. Nat Underw (Life ed) 54:19 N 17 '50

Higher juvenile and weekly premium limits in New York asked by companies. Weekly Underw 164:401+ F 10 '51; Nat Underw (Life ed) 55:1+ F 9 '51

Insurance on minors; need for increasing maximum amounts. C. G. Dougherty. East Underw 52:3 F 9 '51

Juvenile is a gold mine. J. L. Allen. Life Ins Courant 56:12-13 Je '51

Juvenile sales increase; Life insurance agency management association's report. East Underw 51:10 N 3 '50; Weekly Underw 163:992 O 28 '50

L.I.A.M.A. second report sheds more light on those buying juvenile. Nat Underw (Life ed) 55:4 Ja 12 '51; Same. Weekly Underw 164:176 Ja 13 '51

More companies turning to juvenile; underwriting and contracts liberalized. Nat Underw (Life ed) 55:4 Ag 24 '51

New York Life new juvenile program. Nat Underw (Life ed) 55:6 Ja 12 '51

No-war-clause appeal helps sell juvenile insurance. Nat Underw (Life ed) 55:5 Ag 17 '51

Pacific Mutual issues new juvenile coverage. East Underw 52:14 Ja 19 '51

Policy on "most beautiful baby" matures; proceeds left with company. East Underw 52:9 Ag 24 '51

Policy purchases on youngsters at peak in 1950, Institute reports. Nat Underw (Life ed) 55:9 My 25 '51

Provident Mutual eases its juvenile coverages; new Hancock juvenile forms. Nat Underw (Life ed) 54:11 D 29 '50

Representatives of the life insurance industry urge higher industrial and juvenile limits. East Underw 52:3 F 9 '51

Sales talk for juvenile. E. Lonie. Life Ins Courant 56:16-17 Ja '51

Claims

See Insurance, Life—Adjustment of claims, Insurance, Life—First year claims; Insurance, Life—War death claims

Cost

Cost of income to wife; with tables. Life Ins Courant 56:42-6 S '51

Current scales; tables of average cost based on present dividend scales, for policies of ordinary life type. Life Ins Courant 56: 46-52 Je '51

Paradox; companies show lower net costs despite inflation. Nat Underw (Life ed) 55:7 Ag 24 '51

Study investment picture for effect on insurance cost. Nat Underw (Life ed) 54:4 N 3 '50

20-year histories; dividends actually paid on life policies issued in 1931; average yearly payments, net cost; tables. Life Ins Courant 56:37-41 Ag '51

What's all this about net cost? scales and histories of 1930 policies compared; with tabulation. Life Ins Courant 56:45-7 Mr '51

Credit aspects

Texas hearing; say small lenders need commission on credit insurance. Nat Underw 55:16 S 13 '51; Same. Nat Underw (Life ed) 55:7 S 14 '51

Disability provisions

Experience is good; more companies issuing $10 per $1,000 disability cover. Nat Underw (Life ed) 55:6 Ag 24 '51

Guardian doubles disability income business in year to ten per cent of paid volume. Nat Underw (Life ed) 55:5 Ag 10 '51

New Lincoln National income disability rider. Nat Underw (Life ed) 54:22 N 10 '50

Rescission of disability benefits; Equitable Life of Iowa v. Verploeg. L. A. Burke. Spectator (Life ed) 158:47-9 Mr '51

Double indemnity provisions

Deviation from established pattern of abuse held sufficient to satisfy requirement of accidental means in life policy. Weekly Underw 164:1176 My 5 '51

Double indemnity and accidental death benefit; abstract. J. Hancock and O. F. Graham. Nat Underw (Life ed) 55:2 Ap 20 '51

Down to cases; Russian roulette; Thompson v. Prudential. L. A. Burke. Spectator (Life ed) 159:45-6 S '51

Fighting back is an accident; Shields v. Prudential. L. A. Burke. Spectator (Life ed) 159:42-3 Jl '51

Violation a jury question; Gusson vs. Boston Life. Nat Underw (Life ed) 55:19 Ja 26 '51

Economic aspects

Agency officers urged to be generals in fight against inflation. J. M. Holcombe. Nat Underw (Life ed) 54:4 N 17 '50; Same abr. East Underw 51:11 N 17 '50

Average family income tops higher living costs; insurance needs to bridge gap. M. Adam. East Underw 52:3+ My 11 '51

Bright life insurance future. A. H. Johnson. East Underw 52:3+ F 23 '51

Building cooperative individualism; life companies and the free bond market. A. A. Berle, jr. Life Ins Courant 56:8+ S '51

Devaluation objections. R. W. Osler. Rough Notes 93:58-9 N '50

Five point plan to check inflation; thrift and life insurance. F. W. Ecker. East Underw 52:3+ Mr 16 '51

Generalizes in inflation talk; best savings aid is more sales. J. D. Moynahan. East Underw 52:8 Mr 16 '51

Growing importance of life insurance in Nation's economy; symposium of life insurance executives. C. Woods and others. East Underw 52:16-18+ pt 2 O 5 '51

Home Life puts on all-out campaign to fight inflation; to reach policyholders. Nat Underw (Life ed) 55:2 F 9 '51; East Underw 52:1+ F 9 '51

How life insurance dollars stabilize. M. A. Linton. Weekly Underw 165:166+ Jl 21 '51; Abstract. Nat Underw (Life ed) 55:3 Jl 20 '51

INSURANCE, Life—Economic aspects—*Cont.*

How life insurance stands up under inflation. J. A. Budinger. East Underw 52:14+ pt 2 O 5 '51

Inflation and life insurance. C. M. Shanks. Comm & Fin Chr 173:2141+ My 24 '51; Excerpts. East Underw 52:3+ My 18 '51; Management R 40:442-3 Jl '51

Insurance dollars not inflationary. C. Adams. East Underw 52:5 Mr 2 '51

Insurance impact on Nation's economy. A. A. Berle, jr. East Underw 52:4 Je 15 '51

Interest rates made up government, not life companies. V. Howell. East Underw 52:7 O 12 '51

Life insurance buyers forget other inflations. il East Underw 52:11-12+ pt 2 O 5 '51

Life insurance combats inflationary economy. J. D. Moynahan. East Underw 52:4 S 21 '51

Life insurance companies and inflation. T. I. Parkinson. Comm & Fin Chr 173:2581 Je 21 '51

Life insurance declared defense support. L. W. Dawson. Weekly Underw 164:141+ Ja 13 '51

Life insurance dollar and inflation. C. L. Benner. Comm & Fin Chr 173:1652-3 Ap 19 '51

Mutual Life special issue of Points, field magazine, discusses individual's stake in inflation. Weekly Underw 164:1470+ Je 9 '51

One-third of population inflation victims; how life insurance is affected. C. M. Shanks. East Underw 52:3+ F 23 '51

Optimistic on business outlook, insurance sales. C. L. Benner. Nat Underw (Life ed) 55:6 S 21 '51

Production outlook good. C. L. Benner. East Underw 51:10 O 20 '50; Abstract. Nat Underw (Life ed) 54:7 O 20 '50

Trends in financial and economic fields. J. S. Thompson. East Underw 52:3-4 Jl 6 '51

Urges realistic appraisal of inflation trend. R. E. Dineen. Nat Underw 55:9 O 4 '51; Same. Nat Underw (Life ed) 55:24+ S 28 '51

Varied views on inflation control aired at forum of Life insurance association. Nat Underw (Life ed) 54:3 D 15 '50

Warns against pessimism; sees challenge in inflationary period. E. L. G. Zalinski. Weekly Underw 164:792+ Mr 24 '51

Warns inflation may make life men liars. R. R. Lounsbury. Nat Underw (Life ed) 55:4 F 23 '51

Educational endowment policies

Moving in with educational insurance. C. B. Wilkinson. Life Ins Courant 56:25-6 Ja '51

Estate protection

Estate attorney's place in planning. J. A. Appleman. Nat Underw (Life ed) 54:2 N 10 '50

Estate planning is profession in itself. J. D. Marsh. Nat Underw (Life ed) 55:20-1 Mr 23 '51

Highlights of estate planning. S. Huber. East Underw 52:14 Mr 23 '51

Insurance and the will; integrating policy provisions with testamentary plan. S. A. Monroe. Trusts & Estates 90:166-7 Mr '51

Life insurance and the family corporation. R. Hull. il Life Ins Courant 55:14-15+ N '50

Professional aspects of estate planning. M. A. Shattuck. Life Ins Courant 55:30-1 N '50

Solomon Huber agency 8th annual estate planners forum, New York. East Underw 51:8 N 3 '50

Stresses opposition to charging fees for estate work. G. B. Byrnes. Nat Underw (Life ed) 54:2 O 27 '50

200 attend Chicago C.L.U. estate planning seminar. Nat Underw (Life ed) 54:17 N 24 '50

See also

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Insurance trusts

Family income policies

Family income policy. G. H. Amerman. East Underw 52:3-4 S 28 '51

Family income; today's policy. E. J. Belair. Spectator (Life ed) 158:71-3 Ap '51

Lincoln National new family protection plan. East Underw 51:11 D 29 '50; Nat Underw (Life ed) 54:17 D 22 '50

Planning family income. L. R. Miller. Life Ins Courant 55:42-3 D '50

Farmers as prospects

Dealing with the farmer. M. Rankin. Life Ins Courant 56:37-9 O '51

Finance

Activity in Canadian life company shares starts profits curb. East Underw 51:1+ N 10 '50; Nat Underw (Life ed) 54:3+ N 10 '50

Annual statements, 1950; excerpts from company reports. Spectator (Life ed) 158:22-4+ Mr; 12-14+ Ap '51; Correction. 158:31 My '51

California figures for 1950, new business and in force; table. Nat Underw (Life ed) 55:8 Ap 27 '51

Companies show increases in '50; new business and in force, 1949 and comparison with 1950; tabulation. Nat Underw (Life ed) 55:1 Ja 12; 4 Ja 19; 8 Ja 26; 17 F 2; 20 F 9 '51

Figures from companies' year-end statements; tabulation. Nat Underw (Life ed) 55:7 Ja 26; 4 F 2; 2 F 9; 13 F 16; 9 Mr 2; 12 Mr 9; 24 Mr 16; 8 Mr 23; 28 Ap 6 '51

Franklin Life marks passing of billion insurance in force. East Underw 52:1+ Jl 6 '51; Nat Underw (Life ed) 55:8 Jl 6 '51

Illinois 1950 results, new business and in force; tabulation. Nat Underw (Life ed) 55: 10-11 Mr 23 '51

Indiana 1950 results, new business and in force; tabulation. Nat Underw (Life ed) 55: 10 Mr 30 '51

Life insurance companies; business of 1950 and condition Dec. 31, 1950; table. Weekly Underw 164:82-7 sec 2 My 12 '51

Life insurance establishes new records in 1950. C. M. Shanks. Weekly Underw 163: 1293+ D 9 '50; Abstract. Nat Underw (Life ed) 54:1 D 8 '50

Life insurance in the United States, 1950; admitted assets, surplus, premiums received, etc.; tabulation by company. Spectator (Life ed) 158:26+ Ap '51

Life insurance written and in force in the United States by classes for 270 companies, year ending Dec. 31, 1950; tabulation. Spectator (Life ed) 158:32+ Ap '51

London Life passes $2 billion in force. East Underw 52:11+ Ap 6 '51

Michigan 1950 figures, new business and in force; table. Nat Underw (Life ed) 55: 15 Ap 27 '51

Mutual Benefit Life passes $3 billion mark. Nat Underw (Life ed) 55:8 My 18 '51

Net rate earned on mean ledger assets, 1935, 1937-50; table by company. Life Ins Courant 56:42-3 Ag '51

New York Life exceeds $10½ billion of cover. East Underw 52:1+ Mr 23 '51

New York Life's sales exceed billion for first time. Nat Underw (Life ed) 55:3 Ja 12 '51

New York 1950 figures, new business and in force; tabulation. Nat Underw (Life ed) 55:25 Mr 9; Mr 16 '51

Ohio figures for 1950, new business and in force; table. Nat Underw (Life ed) 55:19 My 4 '51

Patterns of growth; with tabular record of 174 life insurance companies. T. J. V. Cullen. Spectator (Life ed) 159:9-17 Ag '51

Peak year's results are shown in 1950; excerpts from company reports. Nat Underw (Life ed) 55:1 Ja 26; 1+ F 2; 1+ F 9; 1 F 16; 1+ F 23; 7 Mr 2; 13 Mr 9; 6 Mr 16; 4 Mr 23; 7 Mr 30 '51

Premium receipts since organization to Dec. 31, 1950; table by company and commentary. Spectator (Life ed) 159:22-3 S '51

Reliance Life of Pittsburgh hits $1 billion in force. Nat Underw (Life ed) 55:13 S 28 '51

Results of operations of life insurance companies as of Dec. 31, 1950 and 1949; tabulation. Spectator (Life ed) 158:20-1 Mr '51

Settlement options again prove big loss producer; with tabulation showing 1950 experience of New York admitted companies on disability, annuities, settlement options and double indemnity. D. J. Reap. Nat Underw (Life ed) 55:4+ Mr 16 '51

U.S. investors buying to control Canadian insurers; Financial times of Montreal. Nat Underw (Life ed) 54:3 N 3 '50

INSURANCE, Life—Finance—*Continued*

Wisconsin 1950 figures, new business and in force; table. Nat Underw (Life ed) 55:18 My 4 '51

See also

Insurance, Life—
Investments

First year claims

Great purchasing power of premium dollars; case histories. East Underw 52:13+ pt 2 O 5 '51

$29,000,000 paid in 1950 on 29,500 1st-year deaths; with case histories. Weekly Underw 164:3-6+ sec 2 My 12 '51

Fraudulent statements

Misrepresentations in application for life policy held immaterial by city court of Albany, N.Y. Weekly Underw 165:333 Ag 11 '51

International aspects

Points out International labor organization threat to insurance. R. H. Kastner. Nat Underw (Life ed) 55:26-7 O 12 '51; Same abr. East Underw 52:4 O 19 '51

Investment value

Best hedge against debt; life insurance. W. L. Shield. East Underw 52:15 pt 2 O 5 '51

Bond maturities open way to sell retirement income. R. L. Russell. Nat Underw (Life ed) 55:19-20 Ja 12 '51

Dollar mark fallacy in insurance objections. D. Josephs. East Underw 52:10 Mr 16 '51

Don't sell life insurance short. E. L. Hall. Spectator (Life ed) (Endorsement no 1950-1951) 158:40-1 N '50

How inflation argument is handled by producers of Mutual Benefit Life. Weekly Underw 164:1056 Ap 21 '51; Same cond. Nat Underw (Life ed) 55:21 Ap 20 '51

How to use inflation to boost sales. J. O. Todd. Nat Underw (Life ed) 55:4 Je 8 '51

Inflation and life insurance. A. J. Wohlgemuth. Rough Notes 94:66-7 Ap '51

Is life insurance a good investment? comparison with common stocks; with charts. Spectator (Life ed) (Endorsement no 1950-1951) 158:52-4 N '50

Life insurance appeal today. M. A. Linton. East Underw 52:58 pt 2 O 5 '51

Life insurance dollar a bargain; abstracts. C. L. Benner. East Underw 52:20 Ap 13 '51; Nat Underw (Life ed) 55:8 Ap 13 '51

Life insurance inflation hedge; study by New England Mutual Life. Weekly Underw 164: 40+ sec 2 My 12 '51; Excerpts. East Underw 52:19 My 25 '51

Life insurance only real hedge against inflation. H. J. Peirce. Nat Underw (Life ed) 54:24 N 17 '50

Life insurance only sure way to beat inflation. R. C. Laub. East Underw 52:44+ Ap 20 '51

Mutual Benefit men answer inflation, term objections. Nat Underw (Life ed) 55:19 S 7 '51

Organized answers to common stock fans prove potent. Nat Underw (Life ed) 55:10 Mr 16 '51

Investments

Add common stock provision to New York investment bill. Nat Underw (Life ed) 55:3 Mr 16 '51

Billions to invest. Bsns W p98-9 O 28 '50

Building cooperative individualism; life companies and the free bond market. A. A. Berle, jr. Life Ins Courant 56:8+ S '51

Canadian companies take steps to restrain inflation; screening investments. Nat Underw (Life ed) 55:11 Ap 20 '51

Caution keynotes company feeling on New York common stock bill. Nat Underw (Life ed) 55:1+ Mr 30 '51

Companies going for new U.S. bonds in a big way, some of larger insurers converting all eligible holdings to 2¾s. Nat Underw (Life ed) 55:1+ Mr 30 '51

Companies react favorably to new U.S. bond issue. Nat Underw (Life ed) 55:1+ Mr 9 '51

Companies report farm loan business is dwindling fast. Nat Underw (Life ed) 55:3 F 23 '51

Companies turned down on common stock plan in New York. Nat Underw (Life ed) 55:1 Mr 2 '51

Company funds going into defense plants; Institute report. East Underw 52:23 S 21 '51

Credit control procedures set up for life companies. East Underw 52:11 Ap 27 '51; Nat Underw (Life ed) 55:1 Ap 27 '51; Weekly Underw 164:1069+ Ap 28 '51

Credit restraint program. J. J. O'Leary. Spectator (Life ed) 159:27 Jl '51

Credit restraint program in force countrywide. Nat Underw (Life ed) 55:2 My 11 '51

Credit restriction program effective. T. E. Lovejoy, jr. Nat Underw (Life ed) 55:6 My 25 '51

Direct placement of securities. G. T. Conklin, jr. Comm & Fin Chr 173:154+ Ja 11 '51; Excerpts. East Underw 51:9+ D 29 '50; Nat Underw (Life ed) 55:3+ Ja 5 '51

Direct placement of securities with insurance companies; with tabulation of corporate bonds placed directly and offered publicly, 1934-1949. O. Ely. Pub Util 46:680-1 N 9 '50

Directors shouldn't be held personally responsible if loans, conscientiously made, meet difficulties; Texmass loan. J. M. Hancock. East Underw 52:3-4 Mr 9 '51

Ecker's faith in Empire State building proven correct. East Underw 52:19+ Je 8 '51

Equipment leases spread to autos. Bsns W p 153 S 22 '51

Equitable's equipment-leasing plan raises questions as to its merits, I. C. C. says. il Ry Age 130:16-18 Ja 29 '51

Freight and Diesel leases year's big step; urges sale of long term government bonds to life companies. T. I. Parkinson. Weekly Underw 164:104-5 Ja 6 '51; Excerpt. Nat Underw (Life ed) 55:2+ Ja 5 '51

Gross rate of interest earned on mean invested funds by leading life insurance companies from 1930 to 1949, inclusive; tabulation; with commentary by W. M. Montgomery. Spectator (Life ed) 158:40-1 F '51

Guardian Life investments. J. A. McLain. East Underw 52:9 Mr 16 '51

Hancock gets confidence vote on Texmass loan. Nat Underw (Life ed) 55:11 F 16 '51

Hits companies which sold U.S. bonds. T. I. Parkinson. Nat Underw (Life ed) 55:3 Ag 3 '51

Insurance companies and the program for voluntary credit restraint. C. M. Shanks. East Underw 52:20+ pt 2 O '51

Insurance investments show marked changes; with tables. E. R. Abrams. Barron's 31:16 Jl 30 '51

Insuring America's future. C. Sawyer. Life Ins Courant 56:9-10 S '51; Abstracts. Weekly Underw 164:1355+ My 26 '51; East Underw 52:9+ My 25 '51

Interest increases 30 basis points after Treasury move; companies are converting eligible bonds. Nat Underw (Life ed) 55: 1+ Ap 6 '51

Interest rate up ½ per cent but commitments dilute benefits. Nat Underw (Life ed) 55:3 Jl 13 '51

Investment earnings rise; with table showing influence of interest rate on net cost. J. J. McCarthy. Spectator (Life ed) 158:41 My '51

Investment law changes vital to company progress; Woodward and others testify before New York joint legislative committee. Nat Underw (Life ed) 55:1+ F 9; 1+ F 16 '51

Investment outlook good till summer, then doubtful. Nat Underw (Life ed) 55:3+ F 23 '51

Investments during first half ran over $10 billion; Institute report. Nat Underw (Life ed) 55:3 Ag 24 '51; Bsns W p 136 S 8 '51; Comm & Fin Chr 174:782 Ag 30 '51

Investments of mortgage loans. T. S. Burnett. East Underw 52:150+ pt 2 O 5 '51

Keeping pace with industry's growth. T. I. Parkinson. East Underw 52:48-9 pt 2 O 5 '51

Last ditch plea on Missouri Pacific; Young addresses open letter to insurance companies. Nat Underw (Life ed) 55:1 Ja 12 '51

Life companies back of Federal Reserve new credit program. C. M. Shanks. Nat Underw (Life ed) 55:1+ Mr 16 '51

INSURANCE, Life—Investments—*Continued*

Life company investments not inflationary in character. F. W. Hubbell. East Underw 51:28 D 15 '50; Same abr. Nat Underw (Life ed) 54:10+ D 15 '50

Life insurance in tune with the times, investment pattern indicates. L. W. Dawson. East Underw 52:22 pt 2 O 5 '51

Life insurance investments. V. B. Gerard. Comm & Fin Chr 173:1537+ Ap 12 '51

Life officers investment seminar at Beloit (Wis.) college. Nat Underw (Life ed) 55: 1+ Jl 6 '51

Long or short-term bonds? study of bank, life insurance and Treasury trust fund holdings of U.S. government bonds, March 3, 1941-July 31, 1950. L. S. Hayden. Banking 43:36-7+ Ja '51

Massachusetts Mutual insured told about Texas oil loans. L. J. Kalmbach. East Underw 52:13+ Ap 13 '51

Massachusetts Mutual investment operations. L. J. Kalmbach. East Underw 52:14 Ap 13 '51

Metropolitan Life investment details. H. C. Hagerty. East Underw 52:14 Mr 16 '51

Met's loan program drags. Bsns W p 102-4 Mr 10 '51

More opportunities to invest than companies can use; conversion to U.S. 2¾s will take up slack. Nat Underw (Life ed) 55:1+ Ap 13 '51

More prudent men; New York bill would allow companies to invest in stocks. Bsns W p81 F 3 '51

New investment; Mutual Life loans on auto fleets of business firms. Nat Underw (Life ed) 55:8 S 14 '51; Same abr. East Underw 52:29 S 21 '51

New life company investments proposed; revision of New York state law to permit purchase of equities. Weekly Underw 164: 253+ Ja 27 '51

New-money pool starts drying up. Bsns W p 124-6 Ap 21 '51

New N.Y. insurance law widens life investments. J. Bosse. Barron's 31:6 Ap 9 '51

New York state to permit insurance investment in common stocks. Comm & Fin Chr 173:1225 Mr 22 '51

1950 record of life insurance investments; with tabulation. J. J. O'Leary. Spectator (Life ed) 158:20-3 Ja '51; Same cond. East Underw 51:3 D 8 '50; Same cond. Nat Underw (Life ed) 54:2 D 8 '50

1951 outlook for mortgage loans. J. P. Traynor. Nat Underw (Life ed) 55:23 Mr 16 '51

19 life companies invest $100 million in Labrador project. Nat Underw (Life ed) 54:2 N 24 '50

Policyholders vindicate Massachusetts Mutual directors in connection with Texmass and other loans. Nat Underw (Life ed) 55: 3 Ap 13 '51

Pomerantz sues Hancock, Massachusetts Mutual directors for role in Texmass loan. Nat Underw (Life ed) 54:5 D 1 '50

Possible investment law change; common stock angle. S. C. Davis. Weekly Underw 163:1065+ N 11 '50

Realistic approach by companies is industrial loan aim. O. M. Whipple. East Underw 51:51 D 15 '50

Report on effect of life insurers' loan reductions. Nat Underw (Life ed) 55:5 Ag 24 '51

Strong case made for New York legislation permitting investment in common stocks; Bohlinger, Ecker and others appear before Joint legislative committee on insurance rates and regulation. Weekly Underw 164: 430+ F 17 '51

Study effect of defense economy on farm loans. Nat Underw (Life ed) 54:3 D 8 '50

Study investment picture for effect on insurance cost. Nat Underw (Life ed) 54:4 N 3 '50

Texmass petroleum company investment of John Hancock. H. S. Payson. East Underw 52:8 F 23 '51

Urges re-examination of New York investment act. D. B. Woodward. East Underw 52:4 F 9 '51

Valuation of security holdings of life insurance companies. H. G. Fraine. Comm & Fin Chr 173:66+ Ja 4 '51; Excerpts. East Underw 52:3 Ja 12 '51; Nat Underw (Life ed) 54:4 D 29 '50

Victory bond peg removal results in glut of mortgages. Nat Underw (Life ed) 55:3 Ap 27 '51

Voluntary credit restraint discussion at LIAA meeting. East Underw 52:16 Je 1 '51

We lend to small business. J. M. Bryan. Credit & Fin Management 52:11-13+ N '50

Young links up insurers in attack on Missouri Pacific railroad plan. Nat Underw (Life ed) 54:7 D 8 '50

See also
Insurance, Life—
Real estate operations

Lapses and surrenders

Dividend must be applied to keep policy from lapsing; Fleischer vs. State Mutual Life. Nat Underw (Life ed) 55:21 F 23 '51

Ratio of lapses and surrenders for New York admitted companies goes up to 2.90 per cent; tabulation by company. Nat Underw (Life ed) 55:2 Mr 16 '51; Correction. 55:6 Mr 30 '51

See also
Insurance, Life—
Policies—Nonforfeiture benefits

Lawyers' cooperation

Estate attorney's place in planning. J. A. Appleman. Nat Underw (Life ed) 54:2 N 10 '50

Life insurance agent and the practice of law. J. Barker, jr. East Underw 52:26-7+ pt 2 O 5 '51; Excerpts. Nat Underw (Life ed) 55:8 My 25 '51

Life men, lawyers conference meets in New York city. Nat Underw (Life ed) 55:10 S 21 '51

Life people, American bar assn. form joint conference committee. Nat Underw (Life ed) 55:20 Jl 6 '51

Relationship between insurance home office counsel and local trial counsel. F. Van Orman. East Underw 52:37 F 2 '51

Unauthorized practice of law; objection to use of simple trust agreement form. J. Barker. East Underw 51:12 O 27 '50

Legal departments

See also Association of life insurance counsel

Mathematics

Actuarial science; a survey of theoretical developments. C. A. Spoerl. Am Stat Assn J 46:334-44 S '51

Medical departments

Board of life insurance medicine is set up for training by Association of life insurance medical directors. East Underw 52:1+ Mr 9 '51; Nat Underw (Life ed) 55:9 Mr 9 '51

Mervyn Davis heads Equitable Society medical division. Nat Underw (Life ed) 55:4 S 14 '51

United States Life booklet reveals medical reports of 1873-1879. O. J. Jones. East Underw 52:3 Ja 26 '51

See also Association of life insurance medical directors of America

Medical examinations

Non-medical shows popularity rise; Equitable survey. Nat Underw (Life ed) 55:17 Jl 20 '51

Medical research

Life insurance medical research fund reports. Weekly Underw 164:590+ Mr 3 '51; Excerpt. East Underw 52:10 Mr 2 '51

Mortality statistics

See Mortality—Statistics

Mortgage redemption policies

Court sustains Equitable mortgage plan in W.Va. Nat Underw (Life ed) 55:6 O 5 '51

Negroes as policy holders

Wisconsin court says state fund need not accept Negroes at standard rates. Weekly Underw 165:158+ Jl 21 '51; Nat Underw (Life ed) 55:7 Jl 20 '51

Non-medical

See Insurance, Life—Medical examinations

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Periodicals

Help yourself to these ideas. Spectator (Life ed) 158:18-19+ Mr; 42+ Ap; 18-19 My '51

Policies

Berkshire Life new policies explained. G. F. Knight. Nat Underw (Life ed) 55:19 Je 29 '51

Berkshire's portfolio of 1951 policies. East Underw 52:14-19 Je 29 '51; Same abr. Spectator (Life ed) 159:40-1 Jl '51

Current underwriting practice and procedure; table of specialized types of policies offered by 121 companies. W. M. Montgomery. Spectator (Life ed) 158:46-7 Je '51

Current underwriting practice and procedure; tabulation by company. W. M. Montgomery. Spectator (Life ed) 158:40-1 Mr '51

Prudential changes in ordinary policies. East Underw 51:10 N 10 '50; Nat Underw (Life ed) 54:22 N 3 '50

Recent policy changes; data listed for various companies. Nat Underw (Life ed) 54:4 O 20; 22 N 10 '50

Several Equitable policy changes. Nat Underw (Life ed) 55:18 Ja 19 '51

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Insurance, Life—Children's policies

Insurance, Life—Disability provisions

Insurance, Life—Double indemnity provisions

Insurance, Life—Family income policies

Insurance, Life—Mortgage redemption policies

Insurance, Life—War risks

Non-forfeiture benefits

Current non-forfeiture provisions; table by company. W. M. Montgomery. Spectator (Life ed) 158:48-9 Je '51

Term policies

Inflation pushes term bandwagon. Nat Underw (Life ed) 55:20 S 7 '51

Los Angeles panel debates present term trend. Nat Underw (Life ed) 55:7 F 2 '51

Magazine article in Family circle stirs up controversial letters on term plus self-investment. Nat Underw (Life ed) 54:6 D 22 '50

Special policies account for rise in term insurance. Nat Underw (Life ed) 54:9 O 20 '50

Stemming the term trend. R. L. Woods. Life Ins Courant 56:28-9+ My '51

Policy assignment

Assignee given priority over beneficiary in N.J. case; Phoenix Mutual Life vs. Connelly. Nat Underw (Life ed) 55:4 My 25 '51

Kentucky court upholds bank's interest; Michael Schum vs. Lawrenceburg (Ky.) National bank. Nat Underw (Life ed) 54:5 D 29 '50

Validity of oral assignments. D. Porter, jr. Nat Underw (Life ed) 55:27+ O 12 '51

Policy beneficiaries

Common disaster. L. P. Thompson. Weekly Underw 165:108-10, 330-2 Jl 14, Ag 11 '51

Forgotten daughter-in-law. M. K. Gunz. Life Ins Courant 56:30-1 Je '51

New York court holds change of beneficiary effectuated by insured's intent and acts notwithstanding requirements of policy; Cantala v. Travelers insurance co. Weekly Underw 164:1366 My 26 '51

Planning for contingent beneficiaries. R. Szabo. Life Ins Courant 56:38-9 Ja '51

Right to change beneficiary by last will and testament denied in divided opinion by Ohio Supreme court. Weekly Underw 165:567 S 8 '51

Right to interplead beneficiary upheld; Maguire vs. Equitable Life and Melanie G. Barber. East Underw 52:17 Ja 26 '51

Spendthrifts and your beneficiaries. W. H. Satterthwaite. Life Ins Courant 56:40-3 Ja '51

Where the law is deficient; common disaster. S. M. Hollander. Weekly Underw 164:1478-9 Je 9 '51

Widening the beneficiary pattern. M. K. Gunz. Life Ins Courant 56:38-9 Ap; 41-4 My '51

Policy dividends

Application of policyholders' dividends during 1950; table by company. Spectator (Life ed) 159:49 O '51

Canada Life revises dividend scale; tables. Life Ins Courant 56:32-4 Ag '51

Comparisons; dividend scale in effect for 1941 compared with actual histories; with tables. Life Ins Courant 56:44-7 Jl '51

Current dividend provisions, 1951; table by company. Spectator (Life ed) 158:16 My '51

Dividend actions since issue of 1950 compend; tabulation by company. Life Ins Courant 55:57 D '50; 56:6 Ja '51

How Prudential '51 scale affects various policies. Nat Underw (Life ed) 55:16 Ja 12 '51

Mutual Life dividends increased 20 per cent for 1951. East Underw 51:14 D 1 '50; Same. Weekly Underw 163:1268 D 2 '50

1951 dividend actions; tabulation by company. Nat Underw (Life ed) 54:4 N 10 '50

20-year histories; dividends actually paid on life policies issued in 1931; average yearly payments, net cost; tables. Life Ins Courant 56:37-41 Ag '51

Why termination dividends? R. Rosenquist. Nat Underw (Life ed) 55:3+ Ag 10 '51

Policy holders

Policyholder and his problems of first importance; abstracts. C. Woods. Nat Underw (Life ed) 55:19+ O 12 '51; East Underw 52:5 O 12 '51

Problems involved in disappearance cases. R. S. Rust. East Underw 51:9 O 20 '50

See also

Insurance, Life—First year claims

Policy loans

Estate effects of loans against insurance; policies subject to an insurance trust. J. A. Segal. Trusts & Estates 90:614-16 S '51

Extended term not cut by loan made in grace period. Nat Underw (Life ed) 55:3 Ap 20 '51

Policy loan control and inflation; editorial. Nat Underw (Life ed) 55:10 Ag 24 '51

Policy settlement

Arranging insurance options; company practices surveyed in light of economic trends. L. D. Stark. Trusts & Estates 90:542-4 Ag '51

Compulsory vs. discretionary income arrangements. M. K. Gunz. Life Ins Courant 56:34-5 F; 30-1 Mr '51

Fixed amount vs. fixed period. B. W. Steinberg. Life Ins Courant 55:16-17 N '50

Income use of policy benefits shows growth. Nat Underw (Life ed) 55:8 Je 22 '51

Modified insurance option; flexible plan gives executor right to take cash under settlement. R. R. Ferguson. Trusts & Estates 90:572-3+ S '51

Option plans; with table of optional modes of settlement trends in 1930, 1940 and 1950. I. Davis. Spectator (Life ed) 158:23 My '51

Optional modes of settlement, current policies; table by company. Spectator (Life ed) 159:46-7 Jl '51

Options need to be brought up to date. G. L. Hill. East Underw 52:10 O 5 '51

Use of options in 1949; with tabulation by companies. Life Ins Courant 55:46-7 N '50

Policy valuation

Valuation of exchanged insurance policies for income purposes; Charles C. Parsons v. Commissioner. F. L. Morton. Spectator (Life ed) 158:56+ Ap '51

Premiums, Payment of

Cash with the app. B. C. Lewis. Life Ins Courant 56:32-3 O '51

Monthly premium plan widely used; Institute survey. East Underw 52:13 Ag 24 '51; Same cond. Nat Underw (Life ed) 55:2 Ag 24 '51

Popularize monthly premiums; cut their cost. D. Dowell. Nat Underw (Life ed) 54:3 N 24 '50

Receipt-on-request plan in national use by New York Life. Nat Underw (Life ed) 55:11 My 25 '51

INSURANCE, Life—*Continued*

Prospects

Big opportunity in blue collar market. C. J. Zimmerman. Nat Underw (Life ed) 55:23+ O 12 '51

Business insurance for the professional man; with compound discount and life expectancy tables. F. L. Morton. Spectator (Life ed) (Endorsement no 1950-1951) 158: 32-5 N '50

Career prospecting. H. K. Gutmann. East Underw 52:10 Je 29 '51

Developing centers of influence. J. Carr. Life Ins Courant 55:18-20 N '50

Don't push agents too hard to upgrade prospect level. R. H. Belknap. Nat Underw (Life ed) 55:3 Ja 19 '51

He runs an asylum for "orphan" policyholders; change of address leads. L. B. Crabbs. Life Ins Courant 56:12-13 O '51

Help yourself to ideas; prospecting. K. H. Mathus. Spectator (Life ed) 159:37 Ag '51

How to sell your friends and stay in business. R. W. Evans. Life Ins Courant 56: 18-19 F '51

Keep your eye on young men. S. M. Loud. Life Ins Courant 56:16-17 F '51

Life insurance for the government employee. A. L. Neveux, jr. Life Ins Courant 55:16-17 D '50

Make contacts count. C. E. Patton. Life Ins Courant 56:21 Ag '51

New status of blue collar field; big market for agents. J. M. Huebner. East Underw 52: 4+ My 11 '51

Population shifts for defense work may boom sales. Nat Underw (Life ed) 54:19 D 1 '50

Progressive prospecting. J. C. Krause. Life Ins Courant 55:36-7 D '50; Same abr. Spectator (Life ed) 158:21+ F '51

Prospecting. J. Dutton. Comm & Fin Chr 174:78, 163 Jl 5, 12 '51

Prospecting is life blood of sales work. L. T. Stearns. Nat Underw (Life ed) Daily ed 55: 30+ S 20 '51

Selling army personnel. G. W. Mitchell, jr. Life Ins Courant 56:23 F '51

Selling the blue collar market. F. L. Longwill. Life Ins Courant 56:18-19 S '51; Same cond. Nat Underw (Life ed) 55:23 My 11 '51

Selling the professional man. H. R. Fleck. Life Ins Courant 56:14-17 O '51

Selling to young physicians. A. C. F. Finkbiner, jr. Spectator (Life ed) 159:36-7 O '51; Same. East Underw 52:15 S 28 '51

Stress prospecting ideas at Mutual Benefit regionals. Nat Underw (Life ed) 55:4+ Jl 6 '51

Tested ideas on prospecting for referred names. R. K. Lindop. East Underw 52:43-4 Ap 20 '51

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Insurance, Life—Farmers as prospects

Insurance, Life—Women as prospects

Publicity

Life insurance business must speak out on real issues. R. E. Dineen. Nat Underw (Life ed) 55:1+ F 23 '51

Life insurance uses press; abstracts. H. J. Johnson. Weekly Underw 164:726+ Mr 17 '51; East Underw 52:19 Mr 16 '51

Policyholders of the future; how to reach high school students. D. Layman. Weekly Underw 164:985-7 Ap 14 '51; Excerpts. Nat Underw (Life ed) 55:10 F 23 '51

Purchasing

Attribute some sales already to Long Island wreck. Nat Underw (Life ed) 54:3 D 8 '50

Boom not helping; agency officials puzzled at low defense-area sales. Nat Underw (Life ed) 55:3 F 16 '51

Check list for perfect protection. K. H. Mathus. Spectator (Life ed) (Endorsement no 1950-1951) 158:10-16, 18-22+ N '50

Fewer income dollars going into insurance; abstracts. C. J. Zimmerman. Weekly Underw 165:916 O 13 '51; Nat Underw (Life ed) 55:23+ O 12 '51

Let me buy insurance; prospect's views on the agent. P. Wright. Life Ins Courant 56: 19-20 Mr '51

Life insurance buying in U.S. at record pace in 1950; Institute report. Life Ins Courant 56:45-6 F '51

Magazine article in Family circle stirs up controversial letters on term plus self-investment. Nat Underw (Life ed) 54:6 D 22 '50

People's temper veers from scare buying to saving. Nat Underw (Life ed) 55:3 Jl 20 '51

Social security changes affect life policy plans; Institute survey. Life Ins Courant 55:52 D '50

Why lives should be insured; reprinted from 1871 issue of Spectator. H. Greeley. Spectator (Life ed) (Endorsement no 1950-1951) 158:46-7 N '50

Why the market will continue broad. M. Adam. Nat Underw (Life ed) 55:8 O 5 '51

Willingness to save not impaired by mass coverages. Nat Underw (Life ed) 55:1 Jl 27 '51

Rates

Lincoln National Life non-par rates reduced. East Underw 51:6 D 29 '50; Nat Underw (Life ed) 54:17 D 22 '50

Prudential alters policy rates. Nat Underw (Life ed) 55:4 O 12 '51

Why rate variations by state don't catch on; Connecticut General plan. W. A. Thompson. Nat Underw (Life ed) 55:5 Ap 13 '51

Real estate operations

Chicago's great task in slum clearance; New York Life's south side housing project. C. Axman. East Underw 52:3 Ag 10 '51

Companies would up real estate limits. S. C. Thompson. East Underw 51:11 N 10 '50

Construction ban to have effect on investment picture. Nat Underw (Life ed) 55:1 Ja 19 '51

Life companies shy away from public housing projects. Nat Underw (Life ed) 55:1, 23 F 16 '51

Life companies will be customers for war damage cover; property ownership increases. Nat Underw (Life ed) 54:3 D 22 '50

Metropolitan Life explains need for rent increases. Nat Underw (Life ed) 55:9 Jl 6 '51

Naming of Hynes as city real estate chief by Equitable stirs interest. A. A. Hoehling. Nat Underw (Life ed) 54:9 N 24 '50

New housing curbs seen shrinking investment field. Nat Underw (Life ed) 54:3 O 20 '50

New money for construction. il Eng N 145:128 N 2 '50

Pacific Mutual finances shopping center in Norwalk, Calif. Weekly Underw 163:1478 D 30 '50

Pacific Mutual reports success of shopping center. T. Lowe. Weekly Underw 164:600 Mr 3 '51

Realty investments; New York herald tribune survey reveals varying views among life executives; abstracts. Weekly Underw 163:1484 D 30 '50; Nat Underw (Life ed) 54:8 N 17 '50

Recent developments in lease financing. A. Bornemann. bibliog Land Econ 27:225-34 Ag '51

Sale and lease-back agreements for utilities. C. H. Ross. Pub Util 48:424-8 S 27 '51

Reserves

Define "borrowed capital" for life companies under excess profit tax law. Nat Underw (Life ed) 55:3 Ja 12 '51

Retirement income policies

Bond maturities open way to sell retirement income. R. L. Russell. Nat Underw (Life ed) 55:19-20 Ja 12 '51

Holiday with pay; selling retirement income. Life Ins Courant 56:16-18 Ap '51

Selling retirement security. Life Ins Courant 56:18-19 My '51

Who said folks would go South when they retired? with map showing percentage of population aged 65 and over in each state, 1948. Life Ins Courant 56:42 F '51

INSURANCE, Life—*Continued*

Risks

Liberality of underwriting in striking contrast to that of only a decade ago. Nat Underw (Life ed) 55:9 Ag 17 '51
Medical selection problems reviewed at Colorado Springs meeting of A.L.C. Medical section. Nat Underw (Life ed) 55:2 Je 29 '51
Selection men advised to sell their ratings to agents; address before Institute of home office underwriters. C. E. Carlson. Nat Underw (Life ed) 54:11 N 3 '50
Selectors might utilize modern personality tests. J. W. Johnson, jr. Nat Underw (Life ed) 54:8 N 10 '50
Some of problems confronting home office underwriters. W. H. Neely. East Underw 51:3 N 3 '50; Same abr. Weekly Underw 163: 1043+ N 4 '50; Excerpts. Nat Underw (Life ed) 54:21 N 3 '50
Underwriting practices; supervisors are important link between home office and the applicant and agent. P. Shepherd. East Underw 52:17 F 23 '51

See also
Insurance, Life—Aviation risks
Insurance, Life—War risks
Insurance, Life—Substandard risks
also Home office life underwriters association; Institute of home office underwriters

Salary savings plan

Salary-savings insurance opens doors to sales and prospects. Nat Underw (Life ed) 55:19 Je 22 '51

Social aspects

Climate for life insurance; importance to society. H. K. Gutmann. Life Ins Courant 55:12-14 D '50
Only two routes to security; state and life insurance. H. W. Manning. Nat Underw (Life ed) 55:1+ Je 29 '51
Special services. H. J. Johnson. East Underw 52:8 Je 29 '51

Statistics

Average ordinary policy written, 1940-1950; table by company. Spectator (Life ed) 158: 37 My '51
Average policy size; with tables. Life Ins Courant 56:36-8 Jl '51
Life companies' rankings for 1950 shown by assets, total income, premium income, etc; tables. Nat Underw (Life ed) 55:2+ Je 15; 2+ Je 22 '51
Nationwide savings shown by regional figures; distribution of life insurance at end of 1949. map Life Ins Courant 55:53 D '50
1950 death benefits by states; ordinary, group, industrial and totals; table. Life Ins Courant 56:57 My '51; Same. Weekly Underw 164:20 sec 2 My 12 '51
Ordinary sales by states, 1950; tabulation. Life Ins Courant 56:49 Mr '51
Rank of leading life insurance companies on Jan. 1, 1951 by insurance in force, new business paid for, premium income, payments to policyholders, admitted assets and surplus funds. Weekly Underw 164:77-80 sec 2 My 12 '51
Ranking of life companies in force for 1941, 1950-51. Nat Underw (Life ed) 55:4+ Ap 20 '51
Rankings, Dec. 31, 1950, ordinary, group and industrial; tabulations by company. Life Ins Courant 56:56-7 Ap '51
Record 1950 sales beat estimates by nearly half billion, according to L.I.A.M.A. Nat Underw (Life ed) 55:1 Ja 26 '51
Total ordinary sales by states, first six months of 1951; table. Life Ins Courant 56: 55 S '51

See also
Insurance, Group life—Statistics
Insurance, Life—First year claims
Insurance, Life—Finance

Study and teaching

American Society sets up nationwide prospect machinery to insure steady flow of C.L.U. candidates. Nat Underw (Life ed) 55:3+ My 11 '51
C.L.U. answers to questions used in 1948 and 1949 examinations. Life Ins Courant 54: 56-61 Je; 29-34 Jl; 27-32 Ag; 48-53 S; 50-4 O; 51-4 N; 48-53 D '49; 55:49-52 Ja; 40-5 F; 48-50 Mr; 51-6 Ap; 48-54 My; 37-42 Je; 28-35 Ag; 39-43 S; 40-4 O; 32-7 N; 44-7 D '49; 56:44-8 Ja; 37-40 F '51
C.L.U. answers to questions used in 1950 examinations. Life Ins Courant 56:37-9+ Mr; 47-8+ Ap; 45-9 My; 32-3+ Je; 29-33 Jl; 26-8+ Ag; 29-31+ S; 48-53 O; 32-6 N '51 (to be cont)
Chartered life underwriter designation to record 415; with list. Life Ins Courant 55: 39-40+ N '50
Policyholders of the future; how to reach high school students. D. Layman. Weekly Underw 164:985-7 Ap 14 '51; Excerpts. Nat Underw (Life ed) 55:10 F 23 '51
Results of June CLU examinations; with names of New York and New Jersey candidates. East Underw 52:3 Ag 17 '51
Sixth annual C.L.U. institute, Storrs, Conn. Nat Underw (Life ed) 55:1+ Ag 10 '51
Southern Methodist offers C.L.U. study by correspondence. Nat Underw (Life ed) 55: 5 Jl 13 '51; Weekly Underw 165:105 Jl 14 '51
380 complete academic requirements for C.L.U.; list by states. Nat Underw (Life ed) 55:1+ Ag 17 '51
University of British Columbia to have life insurance course. Nat Underw (Life ed) 55:8 My 25 '51
Visual aids in life insurance teaching. R. W. Kelsey. Weekly Underw 164:177-80 Ja 13 '51

See also
Insurance, Life—Agents—Training
also American college of life underwriters; Life office management association; Life underwriter training council

Substandard risks

Great-West Life rates diabetics on duration basis. Nat Underw (Life ed) 55:6 Jl 13 '51
Improved medical knowledge lowers insurance rejects. H. E. Ungerleider. Nat Underw (Life ed) 54:9 D 8 '50
More than 50 Northwestern Mutual general agents using Connecticut General substandard channel. Nat Underw (Life ed) 55:6 Jl 27 '51
Problem of substandard. C. E. Carlson. East Underw 51:8 N 10 '50
Substandard insurance. E. A. Lew. Weekly Underw 164:1115 Ap 28 '51
Wisconsin court says state fund need not accept Negroes at standard rates. Weekly Underw 165:158+ Jl 21 '51; Nat Underw (Life ed) 55:7 Jl 20 '51

Tax problems

Withholding interest and dividend payments; insurance lawyers appear before Senate committee. East Underw 52:3-4 Jl 20 '51; Abstract. Nat Underw (Life ed) 55:1 Jl 13 '51

Taxation

American bar association favors tax bill change helpful to agents. Nat Underw (Life ed) 55:10 S 28 '51
Commissioner tries again; analysis of decision on estate of Idamay Swift Minotto. F. L. Morton. Spectator (Life ed) 158:38-42 D '50
Deductibility of life premiums for income tax purposes; estate of Frank Hall v. Commissioner. F. L. Morton. Spectator (Life ed) 159:38-42 O '51
Federal taxation of proceeds. H. G. Borden. Nat Underw (Life ed) 55:30-1 S 28 '51
Life annuity tax problems. W. D. Freyburger. Nat Underw (Life ed) 54:7 N 3 '50
Life insurance valuated for estate tax; C. Francis Weeks v. Commissioner. F. L. Morton. Spectator (Life ed) 158:38+ Je '51
Life insurance valuated for estate tax; estate of Emil M. Goldblatt v. Commissioner. F. L. Morton. Spectator (Life ed) 158:46+ My '51
Necessity for estate planning; analysis of Tax court decision in Selznick v. Commissioner. F. L. Morton. Spectator (Life ed) 158:31-3 F '51
Recent income tax rulings. F. L. Morton. Spectator (Life ed) 158:41-6 Ja '51

INSURANCE, Life—Taxation—*Continued*

Sell tax advantages of insurance as property. I. S. Bober. Nat Underw (Life ed) 55:17 Je 15 '51

Some legal superstitions never die. E. S. MacNeill. Banking 43:67 Je '51

Tax advantages of life insurance trusts. R. L. Olson. Trusts & Estates 90:17-19+ Ja '51

Tax incidence of life insurance and annuities. W. D. Freyburger. Trusts & Estates 90:256-8 Ap '51

Treasury sets up procedure for avoiding double tax on endowment installments. Nat Underw (Life ed) 54:8-9 O 27 '50

Valuation of exchanged insurance policies for income tax purposes; Charles C. Parsons v. Commissioner. F. L. Morton. Spectator (Life ed) 158:56+ Ap '51

Terminology

Is "ordinary" mediocre? obsolete terms hamper public relations. P. Stamper. Nat Underw (Life ed) 55:5 Je 22 '51

Trust company cooperation

Insurance trust company cooperation more needed than ever. M. D. Conklin. Nat Underw (Life ed) 55:2 Ja 26 '51

Veterans' policies

Survey shows war veterans are more insurance minded. Nat Underw (Life ed) 55:19 Jl 20 '51

War death claims

Claims on soldiers missing in Korea posing new settlement problems. Nat Underw (Life ed) 55:8 F 16 '51

Court holds status clause applies to army nurse corps; New York Life vs. White. Nat Underw (Life ed) 55:5 Jl 27 '51; East Underw 52:1+ Jl 27 '51

Down to cases; "home area" rider; New York Life vs. White. L. A. Burke. Spectator (Life ed) 159:43-5 O '51

Mutual Life pays $133,000 in Korean war death benefits; Hartford companies figures. Nat Underw (Life ed) 55:11 Je 29 '51

War problems

Impact of war emergencies on the national economy and the business of life insurance. F. V. Keesling, jr. Weekly Underw 165:564-6, 922-5 S 8, O 13 '51

War problems in life insurance. R. D. Murphy. East Underw 52:25+ pt 2 O 5 '51

War risks

Asia war trends make problems for home office underwriters. W. H. Dallas. East Underw 51:1+ D 15 '50

Bomb pooling futile. A. Pedoe. Nat Underw (Life ed) 55:3 Jl 27 '51

Can we pool assets against an atomic bombing? John Hancock survey. Spectator (Life ed) 159:20-1 O '51

Civilian exclusion clause essential; Los Angeles address. R. E. Dineen. Nat Underw (Life ed) 54:3 O 20 '50

Companies relaxing attitudes toward military categories. Nat Underw (Life ed) 54:1 O 27 '50

Company views vary widely on atomic catastrophe pool; what to do, how quickly. Nat Underw (Life ed) 54:1+ D 29 '50

Continued use of war clause even if Korea war ends. Nat Underw (Life ed) 55:1 Je 29 '51

Equitable Society adopts war and aviation clauses. Nat Underw (Life ed) 55:6 F 2 '51

Hancock ordinary war risk applicants regulations; former rules are revised. East Underw 52:8 S 28 '51

Impact of war emergencies on the national economy and the business of life insurance. F. V. Keesling, jr. Weekly Underw 165:564-6, 922-5 S 8, O 13 '51; Excerpt. East Underw 52:12 Je 1 '51

Insurance companies to share A-bomb risks. Bsns W p 112+ D 16 '50

Insurers study war clauses on older doctors. Nat Underw (Life ed) 54:7 O 27 '50

John Hancock adopts new war risk underwriting rule. East Underw 52:5 Ja 19 '51; Nat Underw (Life ed) 55:18 Ja 19 '51

Let's have an atom-bomb pool now; editorial. Nat Underw (Life ed) 55:10 F 2 '51

Life companies' war clauses differ widely, Institute reports. Weekly Underw 164:526+ F 24 '51

Life insurance views the atomic hazard, pooling and civilian defense. G. D. Bleicken. East Underw 52:24+ pt 2 O 5 '51

More war and aviation clause changes; list by companies. Nat Underw (Life ed) 54:7+ N 10 '50

N.A.I.C. life group's war clause action pleases companies. Nat Underw (Life ed) 54:1+ D 22 '50

New York Life using results war clause. East Underw 52:7 Mr 9 '51; Same cond. Nat Underw (Life ed) 55:18 Mr 9 '51

No breaks in war clause front. Nat Underw (Life ed) 55:8 Ag 3 '51

Pooling of civilian war risks. A. N. Guertin. East Underw 52:7 Je 15 '51

Pooling of war hazards; Life insurance association forum; abstracts. S. Milligan and others. East Underw 51:36-7 D 15 '50; Nat Underw (Life ed) 54:3+ D 15 '50

Problems raised by atomic warfare. M. Bartels. Nat Underw (Life ed) 55:24-5 O 12 '51

Proposed plan of pooling bomb death losses. S. Milligan. East Underw 52:3+ Mr 16 '51

Prudential war clause move helps those on the fence. Nat Underw (Life ed) 54:2+ D 8 '50

Red offensive halts liberalization of selection rules. Nat Underw (Life ed) 55:1 Ap 27 '51

Results type war clause urged for services, civilians. R. Dechert. Nat Underw (Life ed) 54:3+ D 15 '50

Risk in civilian war clause scare selling; Milwaukee address. R. E. Dineen. Nat Underw (Life ed) 54:1+ N 3 '50

Several months before companies can act on atom-death pool. Nat Underw (Life ed) 55:1 Ja 5 '51

Slate action on war risk pool in a few weeks. Nat Underw (Life ed) 55:1+ My 4 '51

Triple-pool plan for civilian war deaths recommended by LIA committee. Nat Underw (Life ed) 55:1+ Je 1 '51; Same. East Underw 52:1+ Je 1 '51

War clause problem; with NAIC model war clause. N. Belmont. Spectator (Life ed) 158:8+ D '50

War clause situation. W. E. Allyn. East Underw 51:29 D 15 '50

War clause summary brought up to date; questionnaire results tabulated by company. Life Ins Courant 56:42-4 Mr '51

War risk is big topic at Denver meeting of Society of actuaries. Nat Underw (Life ed) 55:1+ My 25 '51

Wide divergence found in accepting military personnel; attitudes of companies on non-war-clause underwriting. Nat Underw (Life ed) 55:1+ Ag 24 '51

Women agents

See Insurance, Life—Agents—Women agents

Women as prospects

One of the fast growing markets; views of women agents. J. M. Luidens. East Underw 52:64-5+ pt 2 O 5 '51

Wives need life insurance. R. W. Osler. Rough Notes 94:54-5 Jl '51

Women's attitude

Don't forget the wives; they can make or break a sale. Life Ins Courant 56:22-4 My '51

Dual role of life insurance. M. S. Eberly. Weekly Underw 164:1409+ Je 2 '51

If urgent, women will save. E. Ullrich. East Underw 52:4 Ap 13 '51

Women's responsibility to increase. M. S. Eberly. East Underw 52:13 Ja 12 '51; Same. Weekly Underw 164:167 Ja 13 '51

Canada

Activity in Canadian life company shares starts profits curb. East Underw 51:1+ N 10 '50; Nat Underw (Life ed) 54:3+ N 10 '50

Canadian insurance reaches $15¾ billion. B. R. Power. Weekly Underw 164:98+ Ja 6 '51

Companies of three nations write in Canada. R. L. Foster. East Underw 52:54 pt 2 O 5 '51

Insurance in Canada at close of 1950. G. C. Cumming. East Underw 52:12 Ja 12 '51

INSURANCE, Life—Canada—*Continued*

No trade barriers in insurance in Canada. R. L. Foster. East Underw 52:4 F 23 '51

Prudential's Toronto head office opens; Canadian employees go to Newark for training period. J. Jenkins. East Underw 51:43+ D 15 '50

U.S. investors buying to control Canadian insurers; Financial times of Montreal. Nat Underw (Life ed) 54:3 N 3 '50

Great Britain

New records in life assurance; with tabulation by companies 1938, 1947-1950. Economist 160:43 Ja 6 '51

Refuge assurance company limited; Scottish life assurance company, limited; annual general meetings. Economist 160:825-7 Ap 7 '51

Standard life assurance company; statement by the chairman. A. Cochrane. Economist 160:769 Mr 31 '51

Sun life assurance society; statement by the chairman. W. M. Pryor. Economist 160:575 Mr 10 '51

What a life premium buys; with tabulations. Economist 159:840+ N 18 '50

Japan

Life insurance in Japan. R. J. Myers. il Spectator (Life ed) 158:10-12 My '51

New York (state)

Preliminary report to legislature on insurance operations in 1950; abstract. A. J. Bohlinger. East Underw 52:1+ Je 22 '51

South America

South America companies use New York Life ideas. R. G. Waller. East Underw 52:12 Mr 30 '51

Southern states

Down south; market for life insurance has continuously expanded. Spectator (Life ed) 159:36 Ag '51

Texas

Mutual Life again in Texas; managers named. East Underw 52:4 Ja 19 '51

Texas boom brings companies back; Robertson law no longer major factor in return. Nat Underw (Life ed) 55:2 S 7 '51

INSURANCE, Liquor law liability

How could tavern keeper protect himself from liability? Spectator (Property ed) 16:60-1 Je '51

INSURANCE, Livestock

Hogs decline to comply with floater rules as revised. Nat Underw 55:17 Jl 12 '51

Livestock insurance office entering second year of operation. Nat Underw 55:8 O 4 '51

See also

Insurance, Horse

INSURANCE, Longshoremen's and harbor workers' compensation

Deny refund to New York shippers in compensation case. Nat Underw 55:22 Je 21 '51

Stevedoring filing is sustained by Bohlinger. East Underw 52:26 Je 22 '51

Supreme court holds fatal rescue attempt compensable under Longshoremen's act as an incident to employment; O'Leary v. Brown-Pacific-Maxon, inc. et al. Weekly Underw 164:861 Mr 31 '51

INSURANCE, Machinery

How to sell commercial boiler and machinery insurance. G. H. Prall and others. Rough Notes 94:22-7+ S '51

Modernizing boiler and machinery coverage; abstract of report by N.Y. chapter of National insurance buyers assn. Management R 40:582-3 S '51

New boiler and machinery standard forms put out. Nat Underw 55:21 S 13 '51

Record volume for boiler and machinery in 1950. L. B. Brainerd. Weekly Underw 164:70+ Ja 6 '51

Adjustment of claims

Adjusting losses on depreciated machinery. Rough Notes 94:21-2+ Ap '51; Reply. 94:22-3+ Ag '51

INSURANCE, Malpractice liability

California court holds malpractice not proved where technique of general practitioner matches that of other dentists. Weekly Underw 164:1644 Je 30 '51

How to sell professional liability. D. C. Hawkins and others. Rough Notes 94:23-7 Jl '51

See also

Insurance, Hospital liability
Insurance, Morticians' liability

INSURANCE, Manufacturers' liability

Manufacturers' and contractors' liability; personnel training course. Rough Notes 93:30+ N '50

INSURANCE, Marine

Chief developments in marine insurance during the year. J. A. Bogardus. Weekly Underw 163:1196+ N 25 '50; Same abr. East Underw 51:24-5 N 24 '50; Excerpts. Nat Underw 54:15 N 23 '50

Free action cherished by marine underwriters; Post magazine of London. Weekly Underw 163:1080 N 11 '50

International chamber of commerce attacks discrimination in transport insurance. Weekly Underw 164:892 Ap 7 '51; Same. East Underw 52:33 Ap 6 '51; Same cond. Nat Underw 55:11 Ap 5 '51

Marine insurance in anomalous situation. E. R. King. Weekly Underw 164:48+ Ja 6 '51

Marine Syndicates elect officers. East Underw 52:38 Mr 23 '51

Mobilization spurs cargo premiums, but not enough. Spectator (Property ed) 16:58 Ap '51

Ocean marine insurance undergoes readjustments to conform with changing geopolitical picture. G. Inselman. East Underw 51:63+ D 15 '50

Ocean marine picture. I. Davis. Spectator (Property ed) 16:36+ N '50

Resolutions regarding marine insurance approved at third Hemispheric conference, Santiago, Chile. Weekly Underw 163:1247-8+ D 2 '50

Trade warranties maps. Spectator (Property ed) 16:44+ F '51

See also

Average (maritime law)
Insurance, Longshoremen's and harbor workers' compensation
Insurance, Motor boat
Salvage

also American institute of marine underwriters; Board of underwriters of New York; International marine insurance union

Adjustment of claims

Damage survey procedure. R. W. Morrell. Marine Eng 55:36-8 D '50

Lack of proper ventilation for cargo held efficient cause of explosion of Ocean Liberty. Weekly Underw 165:500 S 1 '51

Finance

Automobile, ocean marine figures for business in New York state; tabulation. East Underw 52:33 Mr 9 '51

Ocean marine business by underwriting groups and agencies, 1947-49; tabulation. Spectator (Property ed) 16:92+ N '50

Government policies

Agree on insurance for vessels operated by National shipping authority agents. Spectator (Property ed) 17:30+ Jl '51

Instructions for handling protection and indemnity covers on government vessels. East Underw 52:31 Je 8 '51

International aspects

Red China cover disturbs marine writers. Weekly Underw 165:181+ Jl 28 '51; Nat Underw 55:19 Jl 26 '51

Senator O'Conor said to be barking up wrong tree; insurance on shipments to Communist countries. Nat Underw 55:7 Ag 2 '51

Losses

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Insurance, Marine—Theft losses

Premiums, Payment of

Foreign buyers of American ships must pay for insurance in dollars. E. L. Cochrane. East Underw 51:25 N 17 '50

INSURANCE, Marine—*Continued*

Preventive work

Los Angeles harbor safety group reports findings after inspection. East Underw 51:24 D 1 '50

Prospects

Sea brings commissions even to Lima, Ohio. A. O. Jensen. Spectator (Property ed) 16:50-1 Je '51

Rates

Reduce Great Lakes post-season rates. Nat Underw 54:7 N 23 '50

Reinsurance

Effect of new Reinsurance union of South Africa on marine insurance. D. King-Page. Weekly Underw 163:1421-2 D 23 '50

Operations of the American cargo war risk reinsurance exchange in the second war. D. H. Chadwick. Nat Underw 54:11+ S 28 '50; Same cond. Spectator (Property ed) 16:34 D '50; 36 Ja '51

Theft losses

Fear dissuades waterfront thefts; abstract. R. Phalon. Nat Underw 55:23 My 17 '51

Port thefts fewer; Security bureau reports larcenies decline each year. Weekly Underw 163:1465 D 30 '50

Security bureau war against waterfront thefts proves effective. J. C. Hilly. Weekly Underw 164:1454 Je 9 '51

War risks

American institute of marine underwriters asked to form body as government agent for war risk. East Underw 52:16 F 9 '51

British commentator sees small chance of any Coxwold case in America. Weekly Underw 165:534-5 S 8 '51

Government marine insurance activated. Spectator (Property ed) 16:40 D '50

Government to cover war risks on ships in military transportation. East Underw 51:30 N 10 '50; Nat Underw 54:5 N 9 '50

Marine insurers ready to meet war risk needs. P. Chubb, 2d. Nat Underw 54:2+ N 9 '50

Marine interests are warned of increased fire risk by sabotage. J. K. Carson, jr. East Underw 51:33 O 27 '50

Marine war risk unit to aid U.S. nears perfection. Nat Underw 55:2 Mr 22 '51

Maritime administration to write war risk insurance. Weekly Underw 163:1466 D 30 '50; East Underw 51:24 D 29 '50; Nat Underw 54:4 D 28 '50; Marine Eng 56:75 F '51

Notes from Britain; war risks voyage clauses. Spectator (Property ed) 16:36-8 D '50

Operations of the American cargo war risk reinsurance exchange in the second war. D. H. Chadwick. Nat Underw 54:11+ S 28 '50; Same cond. Spectator (Property ed) 16:34 D '50; 36 Ja '51

Private marine insurance may lose more risks as defense proceeds. J. L. Van Name. East Underw 52:44 My 25 '51

Requisition cover on hulls being written in New York. Spectator (Property ed) 17:54+ O '51

Supreme court rules on marine war risk; collisions not war acts; Standard Oil and Libby, McNeill cases. East Underw 51:18 D 1 '50; Weekly Underw 163:1252 D 2 '50

Trade warranties amended in view of Korean UN action. Spectator (Property ed) 16:50 O '50

War risk coverage held not to apply where conditions of wartime not effective cause of collision; Halifax insurance co. v. Mehdi Dilmoghani co. et al. Weekly Underw 163:1169 N 18 '50

Great Britain

Liverpool underwriters assn. reviews insurance developments: packaging still big problem. Weekly Underw 164:826-7 Mr 31 '51

Notes from Britain; war risks voyage clauses. Spectator (Property ed) 16:36-8 D '50

Reviews merchant marine operations. Lord Courtauld-Thomson. Weekly Underw 164:1396 Je 2 '51

INSURANCE, Medical expense

Catastrophe cover is topic at Society of actuaries. Nat Underw 55:32 O 4 '51; Same. Nat Underw (Life ed) 55:6+ O 5 '51

Catastrophic medical insurance. G. W. Jacobson. East Underw 52:42 F 16 '51

Connecticut General is offering group medical catastrophe insurance for wage earners. Nat Underw 55:39 S 20 '51; Same. Nat Underw (Life ed) 55:15 S 21 '51

Evolution of medical care coverage has been rapid. Weekly Underw 164:1353 My 26 '51

Group hospital, medical catastrophe cover coming. Nat Underw 55:15 My 31 '51; Same. Nat Underw (Life ed) 55:1 My 25 '51

Group medical expense cover. M. D. Miller. East Underw 52:41+ F 16 '51

H&A conference panel terms catastrophe only true insurance in medical field. Nat Underw 55:22 F 15 '51

H&A conference sessions on medical and hospital insurance, Chicago, Feb. 5-7. East Underw 52:28-9+ F 9 '51; Nat Underw 55:26-7 F 8 '51; Weekly Underw 164:460 F 17 '51

Insuring against medical catastrophe; from Towers, Perrin, Forster & Crosby newsletter. Management R 40:510 Ag '51

Liberty Mutual offers medical disaster insurance. East Underw 51:41 O 27 '50

Medical coverage; Liberty Mutuals "disaster" policy. Bsns W p 155-6 Je 16 '51

Medical disaster insurance. H. S. Cramer. East Underw 52:29 Ja 5 '51

Metropolitan broadens sickness expense plan. East Underw 52:30 Jl 13 '51; Nat Underw (Life ed) 55:3 Jl 13 '51; Spectator (Life ed) 159:32 Ag '51; Weekly Underw 165:65+ Jl 14 '51

Prudential offers group medical catastrophe cover. Nat Underw (Life ed) 55:1+ Je 22 '51; Same abr. Nat Underw 55:17+ Je 21 '51

See also

Insurance, Dental expense

Insurance, Surgical expense

INSURANCE, Military and naval service

Analyzes gratuitous cover for servicemen. D. M. McGill. Nat Underw (Life ed) 55:6 Je 15 '51

Company misgivings about GI proposals; testimony before House committee. R. Lounsbury. Nat Underw (Life ed) 54:8+ D 15 '50

Company sentiment bearish on H.R. 1; concern felt over future broadening. Nat Underw (Life ed) 55:3+ Ap 20 '51

Comptroller general weighs varied service life insurance proposals. Nat Underw (Life ed) 54:6 D 8 '50

Free GI cover could be boomerang. R. E. Dineen. Nat Underw (Life ed) 54:1+ N 3 '50

Free indemnity bill for servicemen passes the House; Rankin bill. Nat Underw (Life ed) 55:6 Ja 26 '51

Free insurance for servicemen adopted. East Underw 52:15 Ap 20 '51

Government civilian cover wrong; opposes insurance for veterans. J. D. Moynahan. Weekly Underw 164:685+ Mr 17 '51

Gratuitous insurance bill passes in House; H.R. 9911. East Underw 51:13 D 22 '50

Gratuitous plan for servicemen will cost more, VA says. Nat Underw (Life ed) 55:6 My 18 '51

Hails new H.R. 1 and NALU's part in it. J. D. Moynahan. Nat Underw (Life ed) 55:1 Ap 20 '51

House committee opens hearings on NSLI substitute plans. Nat Underw (Life ed) 54:17 D 1 '50

House report suggests covering veterans' dependents by SS. Nat Underw (Life ed) 54:4 D 1 '50

Life insurance association forum on national service life insurance; abstracts. R. R. Lounsbury and others. East Underw 51:37+ D 15 '50; Nat Underw (Life ed) 54:6+ D 15 '50

Life people more dubious about companies' ability to supply NSLI substitute. Nat Underw (Life ed) 54:21 N 10 '50

Many legal problems under gratuitous indemnity law. Nat Underw (Life ed) 55:20 Je 22 '51

INSURANCE, Military and naval service—*Continued*

N.A.L.U. placed squarely behind gratuitous indemnity. G. McKinney. Nat Underw (Life ed) 54:1+ D 8 '50

NSLI cheaper than gratuitous, says VA. Nat Underw (Life ed) 55:4 Ja 12 '51

NSLI system believed likely to be continued. Nat Underw (Life ed) 55:3+ Mr 2 '51

NSLI veteran could pick up but doesn't; why NALU is so solidly behind gratuitous plan. J. D. Moynahan. Nat Underw (Life ed) 55:3+ Mr 9 '51

New NSLI policies; gratuitous indemnity. R. W. Osler. Rough Notes 94:64-5 F '51

New service insurance wedge for expansion. C. J. Zimmerman. East Underw 52:21 My 11 '51; Same cond. Nat Underw (Life ed) 55:8 My 11 '51

Outlook in Senate for gratuitous indemnity dubious. Nat Underw (Life ed) 55:3+ F 2 '51

Problems faced in military business. G. B. Butler. Nat Underw (Life ed) 55:9 O 5 '51

Proposed legislation ups veterans' benefits. Bsns W p24 D 30 '50

Senate finance committee reports Rankin gratuitous indemnity bill favorably. Nat Underw (Life ed) 55:2+ F 16 '51

Senate okay of gratuitous bill unlikely this term. Nat Underw (Life ed) 54:2 D 22 '50

Service men's insurance bill signed by President. Weekly Underw 164:1130-1 My 5 '51

Servicemen's indemnity act; with summary. Life Ins Courant 56:41-3 Jl '51

Study flat-rate group plan as NSLI substitute. Nat Underw (Life ed) 54:23 N 3 '50

Summary and text of revised H.R. 1; gratuitous indemnity bill. Nat Underw (Life ed) 55:1+ Ap 20 '51

United States Chamber offered two declarations on insurance. Nat Underw (Life ed) 55:24 F 23 '51

U.S. Senate votes for gratuitous insurance. East Underw 52:12 Mr 2 '51

Veterans administration insurance; government life insurance program. H. V. Stirling. East Underw 52:46 pt 2 O 5 '51

Views of life insurance companies on gratuitous indemnity and group life in connection with NSLI; material prepared at request of Rankin subcommittee. East Underw 51:3+ D 22 '50

Would alter H.R. 1; veterans protest loss of right to renew or convert. Nat Underw (Life ed) 55:1 Je 22 '51

Adjustment of claims

Dividends under G.I. insurance; Weiss v. United States. L. A. Burke. Spectator (Life ed) 158:42-3 My '51

Policy beneficiaries

Adopted brother eligible as NSLI beneficiary. Nat Underw (Life ed) 55:24 Ap 27 '51

Policy dividends

Dividends under G.I. insurance; Weiss v. United States. L. A. Burke. Spectator (Life ed) 158:42-3 My '51

NSLI second special dividend cut-off date. Life Ins Courant 56:56 Je '51

To start paying second NSLI dividend in April. Nat Underw (Life ed) 55:8 F 2 '51; Life Ins Courant 56:52-3 Mr '51

Rates

Rates for term in H.R. 1 and comparison for NSLI and U.S. government life insurance; table. Nat Underw (Life ed) 55:13 Ap 20 '51

INSURANCE, Money and securities

How to insure your client's money against loss by fire. J. F. Keating. Rough Notes 94:22 My '51

Money and securities broad form questions for inspectors; list. J. H. Kingshott. Rough Notes 94:42 O '51

Write your money and securities risks right. W. C. Leavitt. Rough Notes 93:19-20 D '50

INSURANCE, Monkey

Insured monkeys have fun without costing insurer; details of coverage. Nat Underw 55:6 Ap 5 '51

INSURANCE, Mortgage

Coverages and forms; Employers' home owners' disability policy. Spectator (Property ed) 16:54 Mr '51

Home owners' cover offered by Employers' Group. E. C. Trefy. Weekly Underw 163:1378 D 16 '50; Same cond. Nat Underw 54:27 D 14 '50

See also

Insurance, Life—Mortgage redemption policies

INSURANCE, Mortgage interest

New form to cover fee mortgagee. G. T. Cowan. Nat Underw 55:7 My 10 '51

Stock company assn. continues even though HOLC expires. Nat Underw 55:6 Je 7 '51

See also

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INSURANCE, Morticians' liability

Lawsuits against morticians. Rough Notes 94:58 Ag '51

INSURANCE, Motor boat

Outboard motor boat and/or motor policy; personnel training course. Rough Notes 94:32+ Ap '51

Yacht policies are needed now. R. J. Ruel, jr. Rough Notes 94:19-20+ Ag '51

INSURANCE, Motor truck

Coverage for long-haul trucks poses problem; NAIA committee report. Weekly Underw 165:614 S 15 '51

Heavy Michigan penalties on Markel service contracts. Nat Underw 55:22 Je 28 '51

Higher liability limits ordered in New York for motor carriers of property. East Underw 52:24 Ag 3 '51

ICC orders doubling of bodily injury, property damage covers. Nat Underw 55:15 My 17 '51

NAIA long haul trucking committee reports. East Underw 52:31 Ap 20 '51; Same. Weekly Underw 164:1014 Ap 21 '51

Truck agreements subject to Michigan code, premium tax. Nat Underw 55:7 Je 21 '51

Veness confers with underwriters on gypsy trucker problem. Nat Underw 55:20 Mr 29 '51

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Lessee liable for interstate operation of leased truck. F. J. Pause. Nat Underw 55:30 Mr 15 '51

Trailer, carrying mast, tips; considered overturn; Mercury insurance co. vs. Varner. Nat Underw 55:30 Ja 4 '51

INSURANCE, Motor truck contents

Coverage for long-haul trucks poses problem; NAIA committee report. Weekly Underw 165:614 S 15 '51

Growing possibility of illegal markets emphasizes need for protecting goods; statement by Cargo protection bureau of New York. Weekly Underw 164:47 Ja 6 '51; Same. East Underw 52:24 Ja 12 '51; Excerpt. Nat Underw 55:17 F 8 '51

Motor truck cargo underwriting tips. E. S. Nowers. Nat Underw 55:17 Je 7 '51

NAIA long haul trucking committee reports. East Underw 52:31 Ap 20 '51; Same. Weekly Underw 164:1014 Ap 21 '51

1950 truck cargo thefts at all-time high, Cargo protection bureau of New York reports. Weekly Underw 164:1615 Je 30 '51

Truck cargo protection looms important in 1951; Babaco year-end statement. Weekly Underw 164:151 Ja 13 '51

Truck cargo trends in 1950; abstracts. J. Seide. Weekly Underw 164:49+ Ja 6 '51; East Underw 51:82+ D 15 '50

Truck losses are higher this year. Rough Notes 94:34+ Mr '51

Truck theft prevention. W. F. Anderson. East Underw 52:31 Je 8 '51; Same. Weekly Underw 164:1264 My 19 '51

Adjustment of claims

Decides trucking issue; court rules coverage did not cover portion of goods in carton; Hoffenberg & co. v. Flying Tiger line inc., and others. Weekly Underw 164:443+ F 17 '51; Same abr. East Underw 52:17 F 9 '51

Motor truck merchandise policy; transporting two-story house; Utica carting storage & contracting co. vs. World Fire & Marine. L. A. Burke. Spectator (Property ed) 16:46-7 Mr '51

INSURANCE, Multiple location. See Insurance, Fire—Multiple location policies

INSURANCE, Municipal
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Insurance—Municipal policies
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INSURANCE, Mutual
Annual study of mutual operations; abstract. C. C. Kennedy. Nat Underw 55:8 O 11 '51
Answer Webb charges; mutual agents fight back on tax issue. Nat Underw 55:2 Mr 8 '51
Argues mutual tax position. J. J. Wicker. Nat Underw 55:2 Mr 15 '51
Battle of briefs rages in mutual income tax issue; Senate hearings. Nat Underw 55:1+ Ag 9 '51
Claim possibilities under new mutual cover; comprehensive dwelling endorsement. T. L. Osborn. Nat Underw 55:4 Jl 12 '51
Comprehensive dwelling endorsement issued by the mutual companies; coverages and forms. Spectator (Property ed) 17:32-3 Ag '51
Country-wide underwriting results, 1946-50 of companies licensed in New York state; table. East Underw 52:12 pt 2 Je 22 '51
Court move to block Pacific Mutuals' mutualization made by old company's stockholders. East Underw 51:16 N 17 '50; Nat Underw (Life ed) 54:9 N 17 '50
Mutual casualty insurance 1950 review. J. S. Kemper. Weekly Underw 164:64+ Ja 6 '51
Mutual insurance groups hold conclave in Boston. Nat Underw 54:2+, 40 N 2; 3+ N 9 '50; Weekly Underw 163:1009+ N 4 '50
Mutualization of Pacific Mutual approved by its policyholders. Weekly Underw 164:228 Ja 20 '51
Mutuals take cognizance of federal tax issue. Nat Underw 54:4 N 2 '50
1950 auto results of mutual full cover companies; table. Nat Underw (Auto & aviation no) 55:14-15 Jl 27 '51
1,000 mutual executives meet in Detroit. Nat Underw 55:1+ O 4 '51
Representative Reed asks U.S. probe of tax equality fight on mutuals. Nat Underw 55:3 Jl 26 '51
Scores tax demands on mutual companies. T. I. Parkinson. East Underw 52:14 Mr 9 '51
Spokesman for mutuals defends taxing method. J. J. Wicker, jr. East Underw 52:32 Ag 10 '51
Tax equality chairman replies to Representative Reed attack. E. J. Bachman. Nat Underw 55:26 Ag 9 '51
23 agents groups headed by W. E. Webb enter plea to revise mutual tax. Nat Underw 55:3+ Mr 1 '51
Urges new tax base; mutual vs. stock companies. W. Montgomery. East Underw 52:5 Mr 9 '51
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INSURANCE, Owners', landlords' and tenants' liability
Butane business not covered by O.L.&T. stores classification; United Pacific vs. Northwestern National. Nat Underw 55:22 Ja 4 '51
National bureau of casualty underwriters announces rate revisions in 18 jurisdictions. East Underw 52:32 Je 8 '51
National Bureau revises rates on O.L. & T. cover; Mutual Bureau acts. East Underw 52:24 Jl 20 '51; Nat Underw 55:18 Jl 19 '51
New York bodily injury rates revised for O.L.&T. classifications. Nat Underw 54:23 D 21 '50; East Underw 51:32 D 22 '50
New York O.L.&T. rates increased by 12.6 per cent. East Underw 52:35 Mr 2 '51
O.L.&T. rates are revised in 13 territories by National bureau of casualty underwriters. Nat Underw 55:27 Ap 5 '51; Same. East Underw 52:34 Ap 6 '51; Same. Weekly Underw 164:909 Ap 7 '51
Study effect of rent control on O.L.&T. losses. Nat Underw 55:21 F 8 '51

INSURANCE, Personal effects
Personnel training course; personal effects floater. Rough Notes 94:30 Ja '51

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Nieman-Marcus apportionment issue is resolved. Nat Underw 55:15 Ja 25 '51

INSURANCE, Products liability
Bureau in revision of product liability rates. East Underw 51:28 O 20 '50; Nat Underw 54:19 O 19 '50; Rough Notes 93:76-7 N '50; Weekly Underw 163:921 O 21 '50
Factors in products liability insurance; abstract. O. G. Anderson. Management R 40:446 Jl '51
Insurers ahead of courts as to products liability. R. W. Miller. Nat Underw 55:37 S 20 '51
Product liability cover for garages. N. L. Reuter. Rough Notes 93:22+ D '50

INSURANCE, Public liability. See Insurance, Liability

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Chicago reciprocal blows; receivership, fraud actions brought against W. N. Lowe. Nat Underw 55:26 Ap 19 '51

INSURANCE, Registered mail
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INSURANCE, Rent
Continental writes group to cover term of lease. Nat Underw (Life ed) 55:8 S 14 '51

INSURANCE, Replacement
Replacement cost cover desirability is questioned. Nat Underw 55:8 Ja 25 '51; Discussion. 55:26 F 15 '51

INSURANCE, Riot and civil commotion
Question arises as to loss liability in Porto Rico; coverage under riot and civil commotion clauses of extended coverage. Nat Underw 54:11 N 16; 4 N 23; 3 N 30 '50

Vandalism coverage

Try to make vandalism loss fall within civil commotion coverage; Liberty national bank of Chicago as trustee for Villa Turicum syndicate. Nat Underw 55:6 My 24 '51
Vandalism and malicious mischief endorsement; analysis; underwriting. Rough Notes 94:93-4 Je '51

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INSURANCE, Sabotage (term)
Sabotage losses are insurable, study by National association of insurance brokers holds. East Underw 164:330-1 F 3 '51

INSURANCE, Safe deposit box
Safe deposit insurance; panel discussion at Massachusetts association of savings bank auditors and comptrollers. Rough Notes 94:46 O '51

INSURANCE, Sickness. See Insurance, Health

INSURANCE, Social
Labor's unhealthy welfare plans. Fortune 43:75-6 My '51
Social security substructure proof against currency depreciation; problem of protecting benefits against falls in purchasing power. L. Féraud. Int Labour R 62:141-56 Ag '50
Threat to business seen in adoption of ILO social security convention. Nat Underw (Life ed) 55:4 O 5 '51
See also
Insurance, Health
Insurance, State
Insurance, Unemployment
Old age pensions

Bibliography

Selected technical bibliography on the welfare state. R. Nelson. 10p Industrial relations center, Univ. of Minnesota, Minneapolis '51

Cost

New social security act offers pensions at bargain prices. Nat Underw (Life ed) 55:11 Ap 13 '51

Finance

Financial review of the operation of the French social security system in 1949. Int Labour R 63:402-11 Ap '51

INSURANCE, Social—*Continued*

Canada

Canada's new old age security program. W. M. Anderson. East Underw 52:30+ pt 2 O 5 '51

Cuba

450,000 workers covered for medical in Cuban group. Nat Underw 55:21 Ja 25; 30 F 1 '51; Same. Nat Underw (Life ed) 55:7 Ja 26; 15 F 2 '51

Medical reimbursement coverage plan adopted for Cuban sugar industry workers. Weekly Underw 164:227 Ja 20 '51

France

Financial review of the operation of the French social security system in 1949. Int Labour R 63:402-11 Ap '51

Insurance carriers operating in France total 967; what supervision includes. Weekly Underw 164:631+ Mr 10 '51

Great Britain

Actuary's warning on new national insurance bill. Economist 160:906 Ap 21 '51

Fourpence more on the cards. Economist 159: 873-4 N 25 '50

More people on assistance. Economist 161:13 Jl 7 '51

Removing the stigma; remarks on occasion of second reading of Welfare state (consequential provisions) bill. Economist 161: 6-7 Jl 7 '51

New Zealand

New Zealand social insurance. K. Lang and others. East Underw 51:3 N 17 '50

Sweden

Sidetrack sickness cover; social benefits hit by inflation in Sweden. Weekly Underw 165: 427 Ag 25 '51

United States

Agents alert self-employed persons on impending social security deadlines. Nat Underw (Life ed) 55:4 Jl 20 '51

Agent's social security. O. C. Pogge. Spectator (Life ed) 158:10 F '51

Agent's status under social security. D. P. Cavanaugh. East Underw 52:3+ Jl 13 '51; Same cond. Nat Underw (Life ed) 55:3+ Jl 13 '51

Building your retirement under social security. W. H. Hillyer. Am Bld 72:133+ D '50

Compulsory medical care insurance, 1910-1950. O. W. Anderson. Ann Am Acad 273:106-13 Ja '51

Curb handout state trend. J. D. Moynahan. Nat Underw (Life ed) 55:6 Ap 27 '51

Encroachment on insurance by federal government; address before Institute of home office underwriters. E. M. Thore. East Underw 51:3+ N 3 '50; Abstract. Nat Underw (Life ed) 54:1 N 3 '50

Federal agencies answer SS queries on retired agents. Nat Underw (Life ed) 55:1+ Ag 31 '51

Federal social security act amendments of 1950. Mo Labor R 71:457-60 O '50

George Spelvin, American, buys some insurance; reprinted from New York Journal-American. W. Pegler. Weekly Underw 163: 1392 D 16 '50

Health services, medical care insurance, and social security. I. S. Falk. Ann Am Acad 273:114-21 Ja '51

House report suggests covering veterans' dependents by SS. Nat Underw (Life ed) 54:4 D 1 '50

Household tax service for bank customers; bank handles social security tax returns for domestic servants. V. F. Ostrom. il Burroughs Clearing House 35:30-1+ Mr '51

How to pay servants' tax. Bsns W p94-5 D 9 '50

Humphrey bill would increase social security benefits. East Underw 52:3 Ag 17 '51

Increase in OASI benefits of $3 per month rejected by Senate; committee wants study. Nat Underw (Life ed) 55:9 Ag 3 '51

Insuring benefits under social security. F. P. McGuire. Trusts & Estates 90:8-9+ Ja '51

IRB issues mimeograph on full-time life agents' SS status. Nat Underw (Life ed) 54:3 D 29 '50

LIAMA sends out questionnaire on handling agents' SS. Nat Underw (Life ed) 54:3+ N 24 '50

Maintaining balance in social security. B. B Kendrick. East Underw 52:13+ pt 2 O 5 '51

New social security law and private pension plans. H. W. Otis. Trusts & Estates 89: 748-9+ N '50

New start under social security. C. J. O'Connell. Life Ins Courant 56:18-20+ Ag '51

No regulations in sight; companies must make own social security determinations. R. H. Kastner. Nat Underw (Life ed) 55: 3+ Mr 23 '51

Now a pension for proprietors. A. J. Altmeyer. il Dun's R 58:17-19+ D '50

Number of oldsters on OASI rolls nearing assistance group. Life Ins Courant 56:5 Ag '51

Presents N.A.L.U. stand on pension, SS integration. N. H. Seefurth. Nat Underw (Life ed) 55:3+ F 2 '51

Private insurance in the field of social security. C. F. J. Harrington. Weekly Underw 164:670-1 Mr 10 '51

Proposed SS tax rulings published. Nat Underw (Life ed) 55:4 Je 15 '51

Social security administration annual report; abstracts. East Underw 52:47 Mr 23 '51; Nat Underw 55:23 Mr 22 '51; Nat Underw (Life ed) 55:9 Mr 23 '51

Social security and its selling opportunities. A. M. Royal. East Underw 51:44+ D 15 '50; Same. Life Ins Courant 56:20-2 F '51; Same cond. Nat Underw (Life ed) 54:15 D 22 '50

Social security can be a vital sales aid. G. N. Butz. Spectator (Life ed) 159:43-4 S '51

Social security changes affect life policy plans; Institute survey. Life Ins Courant 55:52 D '50

SS officials urge adding disability cover to OASI. Nat Underw 55:39 S 20 '51; Same. Nat Underw (Life ed) 55:7 S 21 '51

SS rulings on renewals to retired agents pose problem. Nat Underw (Life ed) 55:2+ Ag 24 '51

Social security status of agents complicated but highly gratifying. Nat Underw (Life ed) 55:4 Ag 3 '51

Sole proprietor-agent and social security. L. J. Ackerman. Rough Notes 94:30-1 My '51

Suggests further increases in OASI benefits. W. Cohen. Nat Underw (Life ed) 55:8 S 7 '51

Thar's gold in that thar bill; using social security to sell insurance. R. B. Thompson. Life Ins Courant 56:14-17 Jl '51

Trend from social schemes seen; abstracts. J. W. Randall. East Underw 51:30+ N 24 '50; Weekly Underw 163:1192 N 25 '50

Truman presents social security program; excerpts from message to Congress. East Underw 52:1+ Ja 19 '51; Nat Underw (Life ed) 55:4 Ja 19 '51; Nat Underw 55:23 Ja 18 '51

Truman urges OASI boost if relief payments are upped. Nat Underw (Life ed) 55:9 Jl 20 '51

INSURANCE, Soldiers' and sailors'. See Insurance, Military and naval service

INSURANCE, Sprinkler leakage

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Sprinkler leakage problem clarified in Allied lines association bulletin. Nat Underw 55: 10 Ag 2 '51

INSURANCE, Stamp and coin collection floater. See Insurance, Inland marine—Policies—Stamp and coin collection floater

INSURANCE, State

Big public majority for private insurance shown in poll of editors. East Underw 52:40 Ap 6 '51

Creeping socialism hard fought in 1950. E. H. O'Connor. Weekly Underw 164:111+ Ja 6 '51

Fight on government encroachment. E. M. Thoré. Nat Underw (Life ed) 55:2+ S 14 '51

Government threats to insurance; abstracts. M. J. Miller. East Underw 52:21 Je 22 '51; Weekly Underw 165:12+ Jl 7 '51

INSURANCE, State—*Continued*

Saskatchewan government insurers report 1950 gains. Nat Underw 55:16 Mr 22 '51

Socialistic grip in Saskatchewan analyzed. H. E. Curry. Nat Underw 55:21+ F 22 '51; Discussion. G. R. Bothwell. 55:27+; Reply. 27+ Ap 5 '51

Warns on state monopoly. C. M. Smith. Weekly Underw 164:753+ Mr 24 '51

See also

Insurance, Military and naval service

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Insurance, Unemployment

War damage corporation

INSURANCE, Storekeepers' burglary. See Insurance, Burglary

INSURANCE, Strike

Strike insurance; Oil workers international union sets up own plan. Bsns W p 128 Mr 3 '51

INSURANCE, Student

Heavy operating deficits in Wisconsin school athletic and pupil plans. Nat Underw 54:28 N 16 '50

Large field still undeveloped by underwriters. D. J. Moe. Weekly Underw 164:1040-1 Ap 21 '51

INSURANCE, Sugar cane. See Insurance, Agricultural

INSURANCE, Surety and fidelity

Answers interesting questions on fidelity. R. T. Wood. Nat Underw 55:32 My 3 '51

Bonding business is one of human relations. F. W. Selsor. Nat Underw 55:37 Mr 8 '51

Federal surety limits; Treasury qualifying list April 1951 and comparisons; table by companies. Nat Underw 55:27 Je 7 '51

Fidelity and surety has satisfactory year. A. F. Lafrentz. Weekly Underw 164:59+ Ja 6 '51

Insurance review of 1950 and outlook for 1951. W. L. Clapp. East Underw 52:30-1 Ja 26 '51

Problem of bonds with cumulative liability; abstracts. E. V. Roth. Nat Underw 55:18 S 27 '51; East Underw 52:56 S 21 '51

Sound suretyship in the public interest. J. J. Malley. Weekly Underw 164:516-20 F 24 '51

Treasury department issues list of acceptable surety companies; table by states. East Underw 52:29 Jl 13 '51

Treasury's approved companies; Hartford A.&I. continues as no. one in new list; tabulation by states. East Underw 51:26 D 1 '50

Treasury's new qualifying list; Oct. 1950 and comparisons; tabulation by company. Nat Underw 54:15 N 30 '50

Why should I bond my employees? R. H. Dexter. Rough Notes 94:66-7 Mr '51

See also

Bankers' blanket bond

Insurance, Forgery

Insurance companies blanket bond

also Association of casualty and surety companies; National association of surety bond producers; Surety association of America

Adjustment of claims

Inventory shortages and problems they present; abstract. W. W. Downs. Nat Underw 54:28-9 O 19 '50

1950 cases of interest to sureties reviewed. D. Q. Cohen. Nat Underw 55:17 Ja 11 '51

Agents

Dishonesty insurance, a sales opportunity. E. L. Lederer. Weekly Underw 163:931-2, 983-4 O 21-28 '50; Same cond. Spectator (Property ed) 16:14-16 Mr '51; Abstracts. East Underw 51:33 O 13 '50; Nat Underw 54:36+ O 5 '50

Fidelity bonds are easy to sell. M. E. Freiburg. Rough Notes 94:20-1+ Ap '51

Forgery bonds only real defense against forgery hazard; other bonding lines; selling angles. C. H. Peterson. East Underw 51:33+ D 8 '50

It's easy when you know how; simplified manual proposed. J. K. Cormack. Weekly Underw 165:1039+ O 27 '51; Same cond. East Underw 52:38+ S 14 '51; Same cond. Nat Underw 55:26+ S 13 '51

NAIA committee scores naming of lawyers and attorneys as agents for writing fidelity bonds. East Underw 52:34 S 14 '51

Alien admission bonds

Bonds for immigrants and aliens; abstract. E. H. Critchett. East Underw 52:16 Ag 10 '51

Contract bonds

Association of casualty and surety companies defines suretyship's value in defense plans. East Underw 52:37+ Mr 16 '51

Bond outlook under defense programs. M. W. Lewis. Nat Underw 55:19+ Mr 29 '51; Excerpts. East Underw 52:36+ Mr 30 '51

Completing surety is not superior, U.S. court holds; Standard Accident vs. United States. Nat Underw 55:18 Je 28 '51

Contract bond picture bright in 1950. C. C. Conlon. East Underw 51:96-7+ D 15 '50

Defense department holds parleys with surety people. Nat Underw 55:15+ Ja 18; 17+ Ja 25 '51

Developments in Bureau of contract information in 1950. W. D. Dean. East Underw 51:88+ D 15 '50

How suretyship aids contractors. H. G. Sheehy. Spectator (Property ed) 16:24-6+ Mr '51

Materialman's right to sue surety on subcontractor's bond in general contractor's favor denied; Daniel-Morris co. v. Glens Falls Indemnity. Weekly Underw 164:536 F 24 '51

Mechanics' lien law facts; suppliers of material and equipment may not assume protection under Miller act. E. H. Cushman. Weekly Underw 164:836 Mr 31 '51; Same. East Underw 52:44 Mr 30 '51

Need for corporate surety protection for private construction contracts. C. G. Roth. Weekly Underw 164:1100-2, 1350-2+ Ap 28, My 26 '51

Payment bonds do not guarantee an account. J. A. Nickerson. Credit & Fin Management 53:8-10+ S '51

Surety carriers praised for part they play in aiding construction effort. H. W. Morrison. Weekly Underw 165:890 O 13 '51

Court bonds

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Finance

Country-wide underwriting results, 1946-50 of companies licensed in New York state; tables. East Underw 52:6-7+, 12 pt 2 Je 22 '51

Fidelity and surety experience, countrywide and New York state, 1946-1950; table. East Underw 52:28 Ag 17 '51

New Jersey casualty-surety writings during 1950; tabulation by companies and by lines. East Underw 52:38-42 Mr 30 '51

New York department analyzes 1950 experience for stock, mutual and reinsurance companies; with tables. Nat Underw 55:22, 28 Ag 16 '51

1950 casualty-surety results of all companies for New York state; with tables. East Underw 52:16+ pt 2 Je 22 '51

Immigrants' bonds

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Judicial bonds

Court bonds for plaintiff; policy analysis. Rough Notes 93:77-8 D '50

Losses

Firm, sans bond, is in receivership; Salisbury Kaiser-Frazer co. Nat Underw 55:32 Mr 22 '51

Northwestern Mutual's auditor is charged with $87,553 theft. Nat Underw (Life ed) 55:9 F 9 '51

Story of forgery; $83,000 loss minimized by solid work of surety; case of Paul Neil Lewis. Nat Underw 55:17+ F 15 '51

Preventive work

Employee defalcations. W. L. Flynn. Weekly Underw 164:277-8 Ja 27 '51

Prospects

Takes agent to Main street; almost every business is prospect for fidelity and surety bonds. J. P. Madigan. East Underw 52:36 S 14 '51

INSURANCE, Surety and fidelity—*Continued*

Public officials bonds

Congress receives bill covering surety premiums for officers and employees of government; text of H.R. 2463. Weekly Underw 164:430-1 F 17 '51; Same. East Underw 52:37 F 23 '51

Surety group takes lead in clarifying Illinois rule; bond required of township treasurer. Nat Underw 55:20 Ag 23 '51

Purchasing

How much is enough dishonesty protection? G. A. Conner. Weekly Underw 164:1577-9 Je 23 '51; Excerpts. Nat Underw 55:19 My 17 '51

Study and teaching

C.&S. association prepares kit of 16 commonly used policy and bond forms for students. East Underw 51:29 N 3 '50

INSURANCE, Surgical equipment. See Insurance, Physicians' and surgeons' equipment floater

INSURANCE, Surgical expense

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INSURANCE, Taxicab

Citizens Casualty abolishes zone rating system for taxicabs in Chicago. Nat Underw 55:22 F 1 '51

Massachusetts plan upheld; experience rating plan on fleets. Nat Underw 55:19 Ag 9 '51

Rules short rate applies to severable cancellation; Rothman et al v. National Mutual. Nat Underw 55:27 Mr 29 '51

Seek to double liability limits on New York taxis. Nat Underw 55:18 Ja 25 '51

INSURANCE, Theft

Compare householders' limited theft form and residence and outside cover. H. E. Foos. Nat Underw 55:22 Jl 19 '51

Features of householders' theft endorsement. D. D. Pillsbury. Weekly Underw 165:684-5+ S 22 '51; Same cond. Nat Underw 55:20 S 20 '51

Householders' limited theft policy and endorsement; coverage and forms. Spectator (Property ed) 17:50-1 O '51

New householders' limited theft policy. H. F. Gee. Rough Notes 94:30+ Jl '51

New householders limited theft policy introduced. Weekly Underw 165:26+ Jl 7 '51; Same. East Underw 52:28+ Jl 6 '51; Same. Nat Underw 55:13, 22 Jl 5 '51

New limited theft cover to be ready by early summer. Nat Underw 55:25+ Ap 19 '51

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Insurance, Burglary
Insurance, Fire—
  Policies—Theft
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INSURANCE, Tornado

Analyze Texas storm loss ratio by policy size. Nat Underw 54:20 N 2 '50

Assessment needed to boost reserve fund of Iowa Mutual Tornado. Nat Underw 55:6 Ja 25 '51

Florida wind cover improvements discussed at Savannah conference. Nat Underw 55:11 Ap 12 '51

Hartford Fire takes firm stand against windstorm deductibles. Nat Underw 55:1+ Ja 18 '51

Pros and cons on wind deductible reviewed. Nat Underw 55:2+ Ja 11 '51

Texas agents oppose, companies favor wind deductibles. Nat Underw 54:1 D 28 '50; Weekly Underw 163:1455-6 D 30 '50

Texas commissioners abolish mandatory wind deductible except along coast. Nat Underw 55:3 F 8; 32 F 22 '51

Texas mandatory deductible again sustained. East Underw 51:22 O 27 '50; Same. Weekly Underw 163:959 O 28 '50

Three kinds of deductibles now found in Texas. Nat Underw 55:12 Mr 1 '51

Windstorm and hail insurance; analysis of policy; underwriting. Rough Notes 94:65-6 Ja '51

Adjustment of claims

Food spoilage held within windstorm endorsement by New York municipal court. Weekly Underw 165:857 O 6 '51; East Underw 52:24 S 28 '51

Handling adjustments after great storm taxed industry; constructive plan for future. P. B. Reed. Weekly Underw 165:968-72 O 20 '51; Excerpts. Nat Underw 55:3 S 27 '51

Home adds up what it learned from Nov. 25 storm. Nat Underw 55:1+ S 6 '51

Many adjusting lessons learned from big storm. P. M. Adamson. Nat Underw 55:10 Ap 12 '51

National Board suggestions for procedure in eastern storm adjustments. East Underw 51:28+ D 8 '50

National Board suggests interpretations on covers in Florida hurricane. Nat Underw 54:15 N 16 '50

Policyholder patience needed while eastern storm losses are unpiled; National Board news release. Nat Underw 55:8 Ja 11 '51

Royal-Liverpool mechanized loss system pays off on storm claims. Nat Underw 55:1 Mr 8 '51

Storm made small town friendships for insurance agents and companies; Ritter agency of Middletown, N.Y. I. Shyke. East Underw 52:19 My 4 '51

What happens when disaster strikes your community? experience of G. R. Murray, inc., Princeton. J. Weller. Rough Notes 94:32+ O '51

Catastrophe coverage

Big demand, tight market for wind catastrophe cover. Nat Underw 55:2 Ag 30 '51

Move to create farm mutual wind catastrophe pool. Nat Underw 55:8 Ap 19 '51

Losses

Big blow of 1950. F. J. Malley. il Spectator (Property ed) 16:20-2+ D '50

Big blow payoff mounts. Bsns W p94 Je 30 '51

Eastern storm bill of $40-million hits underwriters. Bsns W p82 D 9 '50

Eastern storm claims place big burden on insurers. East Underw 52:26 Ja 19 '51

Eastern storm estimate up to $125 million on 600,000 losses; National Board figures. Nat Underw 54:1+ D 21 '50

Eastern storm losses still being revised upward; with tabulation by companies. Nat Underw 55:1+ Ja 4 '51

Eastern storm one of insurers' largest catastrophes. Nat Underw 54:2+ D 14 '50

Eastern storm puts big strain on mechanics and personnel; mountain of claims won't be disposed of until April. Nat Underw 54:1+ D 28 '50

Expect $1 million loss from Pacific Coast storms. Nat Underw 54:8 N 16 '50

Florida hurricane losses. East Underw 51:18 N 3 '50; Nat Underw 54:1+ O 26; 7 D 7 '50

General adjustment bureau reports more storm claims than expected in East. Nat Underw 55:1 F 1 '51

Heavy damage by wind during the past decade. L. Peterson. Weekly Underw 164:1194 My 12 '51

Insurance loss in eastern storm reaches monumental proportions. Nat Underw 54:1+ N 30; 1+ D 7 '50; East Underw 51:1+ D 1 '50; Weekly Underw 163:1233+ D 2 '50

Kansas, Oklahoma wind and hail to cost $2½ million plus. Nat Underw 55:4 Je 28 '51

National Board holds press parley on big storm. Nat Underw 54:11 N 30 '50

$1 million wind, hail loss in St Louis area. Nat Underw 54:11 D 7 '50

Survey of section hit by eastern storm shows character and extent. K. O. Force. Nat Underw 54:3+ D 21 '50

Texas storms to cost insurers over $3 million. Nat Underw 55:2 Je 14 '51

Travelers' storm claims. Weekly Underw 163:1372+ D 16 '50

Twin cities storm loss. il Nat Underw 55:1 Jl 26; 14 Ag 2 '51

Virginia, Louisiana storms add $2 million to Texas loss of $4 million. Nat Underw 55:3 Je 21 '51

Weather bureau gives report on Oct. 17 Florida blow. Nat Underw 54:8 N 23 '50

INSURANCE, Tornado—*Continued*

Rates

Florida beach wind rate issue is subject of hearing. Nat Underw 55:6 Ag 2 '51

Hearing held in Florida on higher windstorm rates. Nat Underw 55:2 Ag 23 '51

Need ten years to fix reasonableness of wind, E.C. rates. L. Peterson. Nat Underw 55:1 Mr 29 '51

Texas; extra premiums assessed for windstorm cover. Weekly Underw 164:818 Mr 31 '51; Nat Underw 55:1 Mr 29 '51

Reinsurance

Concentration of liability and reinsurance, windstorm problems; from Cravens, Dargan & co. Review. East Underw 52:30 Mr 2 '51

Reinsurers may pay more than half of big wind loss. Nat Underw 55:3+ F 15 '51

INSURANCE, Transportation

Demand grows for transport cover. Nat Underw 55:14 O 11 '51

Recent decisions respecting liability of carrier. H. S. Daynard. Weekly Underw 165:678+, 744+ S 22-29 '51; Excerpt. East Underw 52:33 N 2 '51

Transportation cover held vital despite responsibility of carriers. P. M. Corbett. East Underw 51:29 N 24 '50

Trip transit policy analysis; underwriting. Rough Notes 94:101-2 S '51

Trip transit policy; personnel training course. Rough Notes 94:32 My '51

INSURANCE, Tree

Storm damage insurance for trees. O. W. Spicer. Weekly Underw 164:889-90 Ap 7 '51

INSURANCE, Trip transit. See Insurance, Transportation

INSURANCE, Turkey

Turkey losses heavy. Nat Underw 55:4 S 27 '51

INSURANCE, Unearned premium. See Insurance—Unearned premium policies; Insurance, Fire—Unearned premium policies

INSURANCE, Unemployment

Back-pay verdict; jobless benefits can't be deducted when worker unlawfully fired. Bsns W p 115 Ja 27 '51

Employer control of unemployment benefit charges. R. A. Buehler. N A C A Bul 33:90-2 S '51

Relationships of sickness disability insurance to workmen's compensation and unemployment insurance. A. J. Bohlinger. A M A Archives Ind Hygiene & Occup Med 2:639-45; Discussion. 645-9 D '50

Social security unlimited. J. K. Polk. Am Gas Assn Proc 1950:16-19; Same. Am Gas Assn Mo 32:17+ N '50

New York (state)

Work of Division of placement and unemployment insurance of New York state employment service. East Underw 51:30 D 22 '50

INSURANCE, Use and occupancy

Aim at U.&O. form that will sell more cover. Nat Underw 55:21 S 20 '51

Business interruption insurance; abstract. G. V. Whitford. East Underw 52:44 S 14 '51

Business interruption insurance and other time element contracts. C. A. Snow. East Underw 52:22+ Jl 13; 20+ Jl 20 '51; Excerpts. Nat Underw 55:4 My 3 '51

Common mistakes made in valuations under business interruption policies. F. S. Glendening. Nat Underw 54:38-9 N 23 '50

Determination of business interruption value; abstract. A. C. Guy. East Underw 51:18 D 8 '50

Does U.&O. need a junior size? editorial. Nat Underw 55:10 My 31 '51; Discussion. 55:11 Je 21 '51

Explore opportunities in business interruption. W. Rusher; H. Hyer. Nat Underw 54:8 N 30 '50

Four business interruption selling ideas. L. M. Latta. Rough Notes 94:42+ Je '51

How to sell business interruption insurance. H. C. Klein and others. Rough Notes 94:23-8+ My '51

Illinois abolishes priorities assumption clause. Nat Underw 54:7 D 21 '50

Insurers believe priorities hazard is well covered. Nat Underw 55:16 Mr 8 '51

Losses caused by federal defense rules on reconstruction believed covered; text of report to National association of insurance brokers. East Underw 52:26-7 Je 8 '51

Pleads for clarity of language by form framers. J. T. Even. Nat Underw 55:6-7 Je 14 '51

Predicts reappearance of priorities assumption clause. H. W. Kohler. Nat Underw 55:13 Mr 1 '51

Priorities effect on U.&O. underwriting. W. S. Ellis. Nat Underw 55:4 Ja 25 '51

Sound U.&O. discussion at Connecticut agents' midyear. Nat Underw 55:4 My 31 '51

Unique presentation sells U.&O. to small merchants. H. O'Loughlin. Nat Underw 55:15 Je 7 '51

Urges wider sale of business interruption insurance. H. C. Klein. East Underw 51:24 D 22; 22 D 29 '50; Same cond. Nat Underw 55:4+ Ja 4 '51

U.&O. and extra expense covers explained to buyers. M. B. Dalton. East Underw 52:30+ Mr 30 '51; Excerpts. Nat Underw 55:3 Mr 29 '51

Use and occupancy tips to buyers. F. L. Erion. Nat Underw 55:12 My 17 '51

Adjustment of claims

Fire and business interruption claim problems. J. F. Sullivan. N A C A Bul 32:1050-63 My '51

INSURANCE, Valuable papers

Householders limited theft, new valuable papers policy issued. Nat Underw 55:13, 22 Jl 5 '51; Same. East Underw 52:28+ Jl 6 '51; Same. Weekly Underw 165:26+ Jl 7 '51

Sell blueprint insurance. Rough Notes 94:36 S '51

INSURANCE, Vandalism. See Insurance, Fire—Policies—Extended coverage endorsements; Insurance, Riot and civil commotion—Vandalism coverage

INSURANCE, War risk

British view on writing war risks. B. D. Cooke. East Underw 51:1+ N 3 '50

Budget bureau offers war damage proposal. Nat Underw 55:18 Jl 12 '51

Budget bureau proposal on war damage studied. Nat Underw 55:17 Jl 19 '51; Same. Nat Underw (Life ed) 55:1 Jl 20 '51

Budget bureau proposes war disaster act. Spectator (Property ed) 17:22+ S '51

Casualty group confers at Capital on war damage plan. Nat Underw 55:19 Ag 9 '51

Casualty people submit amendments to war damage bill. Nat Underw 55:8 Ag 23 '51

Current status of war damage bills. M. Herndon. East Underw 52:25 Ap 20 '51

Enemy bombing attack solution. P. C. Cothran. Weekly Underw 164:1502 Je 16 '51; Same abr. Nat Underw 55:4 Je 21 '51

Government war damage insurance; revival of War damage corporation. L. L. Vance. Comm & Fin Chr 172:2538+ D 28 '50

Hearings on war damage bills. Nat Underw 55:1+ Ap 26; 1+ My 3 '51

Insurance problems in a mobilized economy. C. G. Hale. Spectator (Property ed) 16:46-8+ N '50; Excerpts. East Underw 51:33 N 24 '50; Nat Underw 54:39 N 23 '50

Issues protest over war damage bill. M. J. Miller. East Underw 52:29 Ag 24 '51

Life companies will be customers for war damage cover; property ownership increases. Nat Underw (Life ed) 54:3 D 22 '50

Nevada damage inspires caution on exclusion. Nat Underw 55:2 Mr 1 '51

Policy-issuing war damage plan. H. F. Perlet. Nat Underw 55:1+ My 17 '51

Propose federal war damage act. Weekly Underw 165:65+ Jl 14 '51

Share the risk; administration's insurance plan. Bsns W p 126-8 Ag 11 '51

Stellwagen is spokesman for C.&S. Association before war damage hearing; Delaney and others testify. East Underw 52:37+ Ap 27 '51

U.S. Chamber of commerce gives war damage views. Nat Underw 55:27 Ja 4; 21 F 22 '51

INSURANCE, War risk—*Continued*

U.S. Chamber raps administration war damage proposal. Nat Underw 55:2 Jl 26 '51; Same. Nat Underw (Life ed) 55:2 Jl 27 '51; Same. East Underw 52:1+ Jl 27 '51

Urges federal indemnification of war damage. G. C. Johnson. Comm & Fin Chr 174: 606-7 Ag 16 '51; Excerpts. East Underw 52:20 Ag 17 '51; Abstract. Nat Underw 55: 7 Ag 16 '51

War damage bill; final action awaited. Nat Underw 54:1+ D 28 '50

War damage indemnification. I. Davis. il Spectator (Property ed) 16:12-17 D '50

War damage insurance developments. H. F. Perlet. Rough Notes 94:23+ Je '51; Excerpts. East Underw 52:40 My 25 '51

War damage insurance is coming back. Spectator (Property ed) 16:54 O '50

See also

Insurance, Aviation—War risks

Insurance, Fire—War risks

Insurance, Life—War risks

Insurance, Marine—War risks

Insurance, Military and naval service

Insurance, Workmen's compensation—War risks

War damage corporation

INSURANCE, Warehousemen's liability

Insurance agent and the law; warehouseman's liability. R. A. Wherry. Rough Notes 94:18+ O '51

INSURANCE, Weather. See Insurance, Hail; Insurance, Tornado

INSURANCE, Windstorm. See Insurance, Tornado

INSURANCE, Workmen's compensation

Compensation group saves again; Employers' association of roofing and sheet metal workers of greater New York. Sheet Metal Worker 42:76 F '51

Compensation line in red; experience especially bad on Pacific coast, in metropolitan East. Nat Underw 55:13 Ag 30 '51

Executives worried about trends in automobile and workmen's compensation. J. L. Barter and others. East Underw 52:10-11 pt 2 Je 22 '51

Relationships of sickness disability insurance to workmen's compensation and unemployment insurance. A. J. Bohlinger. A M A Archives Ind Hygiene & Occup Med 2:639-45; Discussion. 645-9 D '50

Urges higher workmen's compensation benefits instead of rate reductions. M. Dawson. Nat Underw 55:15 Mr 8 '51

See also

Employers' liability

Insurance, Longshoremen's and harbor workers' compensation

Workmen's compensation

Accounting

Carriers' stand on factor for profit. H. F. Richardson. East Underw 52:33+ Je 8 '51

Enigma of the permissible loss ratio. H. T. Barber. East Underw 51:31+ N 24 '50

Report on study of W.C. expenses by size of risk; with tabulation. H. F. Richardson. Nat Underw 54:24 D 14 '50

Some difficulties in modern reserving for compensation and liability claims. D. M. Pruitt. Nat Underw 54:33 N 16 '50

Summarizes study of expenses by risk size. A. Z. Skelding. East Underw 52:36 Je 8 '51

Watch payroll audits. J. H. Kelly. Rough Notes 94:28-30 S '51

Accounting (insureds')

Workmen's compensation controlled; abstract. W. B. Harrell. Management R 40:571-2 S '51

Adjustment of claims

Award for injuries that prevented promotion; Perkins vs. Brown paper mill co. Nat Underw 55:28 Ap 26 '51

Cardinal case; New York Appeals court upholds U.S. casualty position. Weekly Underw 164:1568 Je 23 '51; Same. East Underw 52:27 Je 22 '51

Court rules state fund not authorized to cover against third party liability; Cardinal vs. State of New York. East Underw 52:40 Mr 16 '51; Nat Underw 55:27 Mr 15 '51

Employer-employee relationship contrasted in two Pennsylvania cases with independent contractor status; Gearheart v. Summit fast freight, inc. and Gadd v. Barone et al. Weekly Underw 163:1053 N 4 '50

Fatal accident caused by defective vehicle not controlled by employer held not compensable in Kentucky. Weekly Underw 165: 275 Ag 4 '51

Injury while attending union meeting on premises of employer held not arising out of nor in the course of employment; Tegels v. Kaiser-Frazer corp. Weekly Underw 164:240 Ja 20 '51

Loses suit for consortium of wife paid workmen's compensation in full. Nat Underw 55:27 Ag 9 '51

Three-plus alcoholic content in brain held merely a conjunctive cause in New York compensation case. Weekly Underw 165:791 S 29 '51

U.S. Casualty successful in vital workmen's case; Cardinal vs. United States Casualty. Weekly Underw 164:222 Ja 20 '51; Same. East Underw 52:26 Ja 5 '51; Same cond. Nat Underw 55:21 Ja 4 '51

United States Casualty wins appeal in Cardinal case. Nat Underw 55:18 Je 21 '51

Violation of employer's rule against drinking on job held compensable where horseplay is cause: Burns v. Merritt engineering co. et al. Weekly Underw 164:800 Mr 24 '51

Wisconsin court rules traveling salesman is covered though killed after working hours. Nat Underw 55:28 Mr 15 '51

Agents

Commissions

Producers of California protest commission cuts. Weekly Underw 165:68 Jl 14 '51

Cancellation

No elasticity to Virginia cancellation rule. Nat Underw 55:34 Mr 15 '51

Cost

How much does it hurt in dollars? cost of workmen's compensation in New York state and comparisons with other states. Paper Tr J 131:21-4 D 21 '50

Coverage

California self-insurers are alerted on issue of consortium. Nat Underw 55:40 S 6 '51

Finance

Workmen's compensation record countrywide analyzed by New York department; tables by company. Nat Underw 55:20 Jl 26 '51

Premiums, Payment of

Collectors' corner. L. M. Seff. Weekly Underw 164:454, 838-9 F 17, Mr 31 '51

Preventive work

How insurers make plants safe. il Bsns W p74-6 Ag 4 '51

Rates

Annual compensation report. H. D. Sayer. East Underw 52:32 F 2 '51; Abstract. Nat Underw 55:20 F 1 '51

Base rates on compensation insurance for construction, Jan. 1, 1951; table. Eng N 146:153 Mr 29 '51

California approves rate hikes of about 12 per cent. Nat Underw 55:16 Ag 30 '51

California commissioner approves multi-split comp rating plan. East Underw 52:32 Ag 10 '51; Nat Underw 55:24 Ag 9 '51

California workmen's compensation hearings end; await ruling. Nat Underw 55:16 Ag 2 '51

Carriers' stand on factor for profit. H. F. Richardson. East Underw 52:33+ Je 8 '51

Casualty people win rate principle at N.A.I.C. parley. Nat Underw 55:1+ Je 14 '51

Decision on Missouri comp rates deferred. Nat Underw 54:28 D 7 '50

Illinois compensation rating issue settled with new plan OK'd. Nat Underw 55:32 Ap 26 '51

Illinois department orders compensation rate justification; hearing on National Bureau's fitness set. Nat Underw 55:17 F 15 '51

Maryland compensation rates up. East Underw 52:28 Jl 13 '51

INSURANCE, Workmen's compensation—Rates—*Continued*

Minnesota compensation rates 8.2 per cent higher. East Underw 51:28 D 1 '50

Minnesota employers protest to high court; compensation rate appeal. East Underw 52:35 O 5 '51

Missouri rates cut 6.3 per cent. Weekly Underw 163:1470 D 30 '50

New York compensation rates increased 13.5 per cent. Nat Underw 55:21 Je 14 '51

North Carolina approves 5.8 per cent rate increase. Nat Underw 55:24 O 11 '51

North Carolina compensation rates increased. East Underw 52:35 Je 15 '51; Weekly Underw 164:1460 Je 9 '51

Oklahoma compensation rate problem resolved. Nat Underw 55:20 S 13 '51

Rating plans for compensation and liability. L. C. Coit. Rough Notes 94:20-2 My '51

Report of manager of National council on compensation insurance. H. F. Richardson. East Underw 52:34+ Mr 9 '51; Abstract. Nat Underw 55:24+ Mr 8 '51

Rhode Island compensation rates are reduced 3.4 per cent. Nat Underw 55:34 S 6 '51

Texas compensation rates down eight per cent. East Underw 51:32 D 22 '50; Same. Nat Underw 54:27 D 21 '50

Texas hearing on rates; mathematicians have day. Nat Underw 54:22 D 7 '50; Discussion. 54:22 D 21 '50; Correction. 55:26 Ja 4 '51

Workmen's compensation rating complexities criticized. W. C. Cheek. Nat Underw 55:24 S 27 '51

Retrospective plan

Massachusetts adopts retrospective plans. East Underw 52:28 Ag 24 '51

Rating bureaus

Illinois department orders compensation rate justification; hearing on National Bureau's fitness set. Nat Underw 55:17 F 15 '51

War risks

Chorus insists on comp coverage in war damage plan. Nat Underw 55:1+ Ap 26 '51

Debate WDC reinsurance of workmen's compensation; hearings on H.R. 9802. Nat Underw 54:21+ D 14 '50

Government reinsurance only solution to war injuries' problem. G. Watts. East Underw 52:47 My 18 '51

International association of industrial accident boards and bureaus urges federal action to plan for emergency. East Underw 52:34 O 12 '51; Same abr. Weekly Underw 165:892 O 13 '51; Abstract. Nat Underw 55:25 O 11 '51

War injury liability. J. J. Wicker, jr. East Underw 52:55+ S 21 '51; Same cond. Nat Underw 55:19-20 S 27 '51

War risk problems of workmen's compensation insurance carriers. F. J. Marryott. Weekly Underw 164:457-9 F 17 '51

Workmen's compensation and atomic warfare. H. S. Baile. Weekly Underw 165:151-4 Jl 21 '51

Workmen's compensation insurance in time of war. A. J. Bohlinger. East Underw 51:28+ O 20 '50; Abstract. Nat Underw 54:19 O 19 '50

California

Proposals in California to modernize rating procedure. Nat Underw 55:28 Mr 15 '51

Great Britain

British employers liability situation; from Post magazine. East Underw 52:16 Jl 13 '51

Indiana

Indiana deputy asks changes in comp conduct. P. Pfister. Nat Underw 54:8 N 23 '50

Minnesota

Minnesota compensation board approves profit provision. Weekly Underw 163:1258 D 2 '50

Minnesota legislature increases compensation benefits 14 per cent. Nat Underw 55:26 Ap 19 '51

Would include farm worker under compensation in Minnesota. Nat Underw 55:16 Ag 30 '51

Montana

Senate kills Montana state fund compensation bill. Nat Underw 55:21 F 15 '51

New Jersey

New Jersey court sets $25 weekly maximum in workmen's compensation case. Nat Underw 55:28 Jl 12 '51

New York (state)

Annual report of Workmen's compensation board; abstract. Weekly Underw 164:1036 Ap 21 '51

Bohlinger approves endorsements for civilian defense workers. East Underw 52:29 Jl 6 '51; Excerpt. Nat Underw 55:16 Jl 5 '51

Outline of procedure in disputed compensation claims; payment of disability benefits pending determination of controverted workmen's compensation claims. M. Donlon. East Underw 51:34 N 3 '50

State fund bill signed; to sustain fund's right to insure third party liability risks. East Underw 52:37 Ap 6 '51

Oklahoma

Ask revised rates in Oklahoma to meet new law's cost. Nat Underw 55:18 Jl 19 '51

Exclusive death benefit bill reported out in Oklahoma. Nat Underw 55:24 Ap 26 '51

New Oklahoma compensation death benefit law poses problems for the insurers. B. A. Bowman. Nat Underw 55:40 Je 7 '51

Texas

Mathematicians have day in Texas; hearing on rates. Nat Underw 54:22 D 7 '50; Discussion. 54:22 D 21 '50; Correction. 55:26 Ja 4 '51

Wisconsin

Court rules traveling salesman is covered though killed after working hours. Nat Underw 55:28 Mr 15 '51

INSURANCE, Yacht. See Insurance, Motor boat

INSURANCE accountants association

Annual conference, 10th, Skytop, Pa. Nat Underw 54:4 N 9; 5+ N 16 '50

INSURANCE accounting and statistical association

Annual meeting, Chicago. Nat Underw 55:7, 22 My 17 '51; Nat Underw (Life ed) 55:2 My 18 '51

Organization has grown fast. C. Axman. East Underw 52:16+ O 5 '51

INSURANCE actuaries

Actuaries club of the Pacific states meeting, Denver. Nat Underw (Life ed) 55:3 Je 8 '51

Casualty actuarial profession. H. T. Barber. Weekly Underw 165:205-7+ Jl 28 '51; Excerpts. East Underw 52:41+ My 11 '51

Duties of actuaries. D. J. Cowie. Weekly Underw 164:1269-70+ My 19 '51; Same abr. East Underw 52:16+ My 18 '51; Abstract. Nat Underw 55:2+ My 17 '51

Importance of actuaries' clubs. E. M. McCooney. Nat Underw (Life ed) 54:1+ N 10 '50

Shift in mortality concepts changes actuary's viewpoint. C. A. Spoerl. Nat Underw (Life ed) 55:5 Ja 5 '51

Travelers promotes nine of its actuaries. East Underw 51:34 N 24 '50

See also

Casualty actuarial society

Society of actuaries

INSURANCE adjusters

Adjusting controversy in Detroit is settled. Weekly Underw 165:834 O 6 '51; Nat Underw 55:2 O 4 '51

California association of independent insurance adjusters annual convention, Los Angeles. Nat Underw 54:30 O 26 '50

Detroit public adjusters air their woes; Harold Warren is center of feud. Nat Underw 55:1+ S 13 '51

Detroit public adjusters band to curb abuses. Nat Underw 55:1, 19 Jl 12 '51

Florida to require outside adjusters to be certified. Nat Underw 55:21 Jl 5 '51

Hits minor rackets in adjusting; Detroit survey. D. B. Sherwood. East Underw 52:25 S 28 '51

Lively panel on adjusters at loss managers conference of Mutual loss research bureau. Nat Underw 54:27 O 26 '50

INSURANCE adjusters—*Continued*

Pennsylvania department revokes license rule for adjusters. East Underw 51:20 N 3 '50

See also

Insurance—Adjustment of claims

also National association of independent insurance adjusters; National association of public insurance adjusters

Training

Adjuster course at Vale Tech is gaining in popularity. il Nat Underw 55:49 S 13 '51

Complete course in property loss adjustment offered for first time; Insurance society of New York. Weekly Underw 164:203 Ja 20 '51

Schools for General adjustment bureau's personnel. East Underw 52:21 F 16 '51

Type of training makes adjusting differences. R. V. Lennen. Weekly Underw 163:1014 N 4 '50

INSURANCE advertising conference

Annual meeting, Shawnee-on-Delaware, Pa. Sept. 16-18. East Underw 52:1+, 51-4 S 21 '51; Nat Underw 55:2+ S 20 '51; Weekly Underw 165:682+ S 22 '51

Spring meeting, New York, April 2. East Underw 52:35+ Ap 6 '51; Nat Underw 55:14 Ap 5 '51; Weekly Underw 164:888 Ap 7 '51

Year of accomplishment. A. E. Duncan, jr. Weekly Underw 164:20 Ja 6 '51

INSURANCE agents

C.L.U. and C.P.C.U. designation being cheapened. R. H. Alexander. Weekly Underw 164:709+ Mr 17 '51

Could you afford a mistake in your agency? errors and omissions insurance for agent and broker. C. Brown. Rough Notes 94:38+ Mr '51

Don't under-rate your customer relations. S. W. Schellenger. Spectator (Property ed) 16:40 F '51

For agents entering military service; check list to put your business affairs in order. Rough Notes 94:31 Mr '51

Good field man and agent who works spell success. C. S. Stults. Nat Underw 55:22 Ap 5 '51

How a field man looks to a local agent. L. A. Beck. Rough Notes 93:34+ N '50

How to be a better fieldman. A. H. Dunham. Rough Notes 94:34+ Ag '51

How to improve your efficiency in selling insurance; abstracts. L. J. Ackerman. Rough Notes 93:38+ N '50; East Underw 51:32-3 O 13 '50; Nat Underw 54:38+ O 5 '50; Spectator (Property ed) 16:56+ Mr '51

How to sell and save more, do better job. L. E. Woodbury. Nat Underw 55:43 S 13 '51

How young agent can gain success. C. Tellman. East Underw 52:20+ Jl 13 '51

Insurance agents in public life; sketches. East Underw 52:14-15 pt 2 Je 22 '51

Obligations assured, agents, companies owe each other. E. F. Gallagher. Nat Underw 54:19 N 16 '50

Open doors to salesmanship. R. D. Ross. East Underw 52:31+ Je 15 '51

Sound sales advice. E. H. Luecke. Nat Underw 54:3 N 23 '50

Think success! J. M. Wylie. Life Ins Courant 56:25-6 F '51

13 qualifications for fieldmen. Rough Notes 94:36 Mr '51

What a local agent expects from his fieldman. F. B. Anderson. Rough Notes 94:34+ Ja '51

Why every agent should be depression-proof. W. S. Chandler. East Underw 52:19 S 28 '51; Same cond. Nat Underw 55:11 Ag 30 '51

See also

Insurance brokers

also subdivision Agents under various forms of insurance, e.g. Insurance, Life—Agents

also National association of insurance agents; National association of mutual insurance agents

Accounting

Agency monthly statements. A. J. Wohlgemuth. Rough Notes 94:36+ F '51

Speeding agency accounting methods. J. C. Spurlin. Spectator (Property ed) 17:26 S '51

Advertising

Advertising can help agent; personal effort comes first; abstracts. J. F. White. Nat Underw 54:28 N 23 '50; East Underw 51:32 N 24 '50

Big play being given agents in company ads. East Underw 51:61+ D 15 '50

59-point checklist on testimonials. K. H. Mathus. Spectator (Life ed) 158:24-5+ Ja '51

Formula for agent ad success. E. R. Hurd, jr. Nat Underw 55:13 Ap 12 '51

Letting the public know need not be expensive, produces good income. W. T. Burns. East Underw 52:22 Ag 17 '51

Sam Frech toots his own horn. Nat Underw (Life ed) 55:20 Jl 20 '51

Waldman "crying baby" mailing piece captures lot of attention, some business. Nat Underw 55:8 Ja 25 '51; Same. Nat Underw (Life ed) 55:17 Ja 26 '51

Well prepared folders by agent successful in getting customers for Griffith Harris of Greenwich, Conn. East Underw 52:24 F 16 '51

Agency management

Agency management. R. R. Wright and others. Rough Notes 93:23-8+ D '50

Agency management service provided by company's fieldmen. W. S. Chandler. Rough Notes 94:20-1+ F '51; Same abr. Nat Underw 54:5+ O 19 '50; Same. East Underw 51:24 O 27 '50

Agency management; steps that save both time and money. W. S. Chandler. Weekly Underw 165:243-6, 466-8 Ag 4, S 1 '51; Excerpt. Rough Notes 94:30 Ag '51

Agency monthly statements. A. J. Wohlgemuth. Rough Notes 94:36+ F '51

How to build a successful one-man agency; Roger Clarke of Fredericksburg, Va. J. R. Gregory. Rough Notes 93:17-18+ N '50

How to file daily reports. Rough Notes 94:28-9 Ja '51

How to save time in the field. A. T. Moyer. Rough Notes 93:34+ N '50

National association of mutual insurance agents hold forum on agency management at annual convention. Nat Underw 54:9+ O 26 '50

New local agency record-keeping forms. R. J. Layton. Rough Notes 94:19-20+ Ja; 28-9 F '51

Renewals are jewels; agency renewal handling. L. Bentley. Rough Notes 94:18+ F '51

Simplified agency record-keeping. J. C. Spurlin. Spectator (Property ed) 17:24-5 Ag '51

Take your problems to an agency management school; school at Storrs, Conn. R. G. Hill. Rough Notes 94:22-3+ Ap '51

Urges work simplification program to meet clerical problems. W. M. Sheldon. East Underw 52:40 S 21 '51; Same cond. Nat Underw 55:34 S 13 '51

Wage and hour law questions answered for local agents. W. J. Rogers. Nat Underw 54:32-5 O 19 '50

What's my agency worth today? reprinted from the Hartford agent. A. L. Polley. Rough Notes 94:19+ O '51

Costs

Agency operation costs; NAIA committee report. Weekly Underw 165:600+ S 15 '51

Exhibit of expense factors by size of agency; table. J. H. Briscoe, comp. Nat Underw 55:4 My 24 '51

Agency system

Agency system's strength is in teamwork. M. J. Miller. Weekly Underw 164:10+ Ja 6 '51

Consultants constitute problem in group field; asks agency aid to combat threat. A. C. Campbell. Nat Underw (Life ed) 55:3+ Mr 16 '51; Same abr. Nat Underw 55:28 Mr 15 '51

Group writing serious agency menace. H. E. Barnhart. Weekly Underw 163:903 O 21 '50

Service, knowledge bulwarks of agency system. W. E. Allyn. Nat Underw 55:12 S 27 '51

Threats to agency men; direct writers, farm co-operatives and discriminatory federal laws. J. W. Reynolds. Weekly Underw 165:812 O 6 '51

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Agents' wives

Better half; advice to wives. E. C. Bush. Life Ins Courant 56:32-3 S '51; Same. Weekly Underw 165:42-3 Jl 7 '51; Same cond. Nat Underw (Life ed) 55:19 Jl 13 '51

May train wives of agents. R. G. Engelsman. Nat Underw (Life ed) 55:2 Ja 19 '51

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Accent the approach. Rough Notes 94:56-7 Ja '51

Right and wrong approaches. J. H. Kerr. East Underw 52:29 pt 2 Je 22 '51

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Commissions

Agency overhead and commission problems. W. F. Stanz. Weekly Underw 164:1456+ Je 9 '51; Same cond. East Underw 52:38 My 25 '51; Excerpts. Nat Underw 55:10 My 24 '51

Agents' earnings controlled under stabilization order. Nat Underw (Life ed) 55:1 My 11 '51

Commission competition. E. F. Gallagher. East Underw 51:28 N 24 '50

Georgia agents sharply oppose commission control by state. Nat Underw 55:1 My 24 '51

NAIA votes statement dealing with commissions. East Underw 52:1+ Ap 20 '51

Offers 25-point plan on agents' commissions; would restrict NAIA power to consult. C. I. Fisher. East Underw 52:1+ F 9 '51; Same cond. Nat Underw 55:7 F 15 '51

Permanent commission committee proposed. J. A. Neumann. East Underw 52:32+ My 11 '51

Producers, adjusters not under price rule; ruling by OPS. East Underw 52:23 Jl 6 '51; Nat Underw 55:1 Jl 5 '51

Washington agents want NAIA to keep hands off commissions. East Underw 52:23-4 Ja 26 '51; Nat Underw 55:4 Ja 25 '51

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How to help local agents sell. J. A. Lindsey, jr. Rough Notes 94:40+ Je '51

Makes plea for conference procedure. M. J. Miller. East Underw 52:22 Mr 2 '51

Missouri agents renewal notice stand draws replies. Nat Underw 55:19+ Ag 9; 17 Ag 16; 12 Ag 30; 6 S 20; 8 O 18 '51

Obligations assured, agents, companies owe each other. E. F. Gallagher. Nat Underw 54:19 N 16 '50

Raps lack of company cooperation; abstracts. J. H. Carney. Nat Underw 55:2 Je 7 '51; East Underw 52:1+ Je 8 '51

What agent wants in company leader. E. H. Mueller. Nat Underw (Life ed) 55:9 My 25 '51

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Alabama association of insurance agents annual convention, Mobile. Nat Underw 55:2+ My 17 '51

Arkansas association of insurance agents annual convention, Hot Springs. Nat Underw 55:1+ Je 21 '51

Arkansas association of insurance agents mid-year meeting, Little Rock. Nat Underw 54:2+ D 7 '50

California association of insurance agents annual meeting, San Francisco. Nat Underw 54:6+ O 26 '50; Weekly Underw 163:1141 N 18 '50

Colorado association of insurance agents annual meeting, Colorado Springs. Nat Underw 54:25+ N 9 '50

Colorado insurors association (formerly Colorado association of insurance agents) annual meeting, Colorado Springs. Nat Underw 55:2+ O 11 '51

Connecticut association of insurance agents annual convention, Hartford. Nat Underw 54:1 N 16; 2+ N 23 '50

Connecticut association of insurance agents annual convention, New Haven. Nat Underw 55:7 S 27 '51

Connecticut association of insurance agents midyear meeting, Norwich. Nat Underw 55:13+ My 31 '51

Georgia association of insurance agents annual convention, Albany. Nat Underw 55:1 My 24 '51

Idaho association of insurance agents annual convention, Sun Valley. Nat Underw 55:4 O 4 '51

Illinois association of insurance agents annual convention, Springfield, Nov. 13-14. Nat Underw 54:19-21+ N 16 '50

Indiana association of insurance agents annual meeting, Indianapolis. Nat Underw 54:19-20 N 23 '50

Iowa association of insurance agents annual convention, Des Moines. Nat Underw 55:1+ My 17 '51

Kansas association of insurance agents annual convention, Wichita. Nat Underw 54:30-3 N 2 '50

Kentucky association of insurance agents annual meeting, Louisville. East Underw 51:29 D 8 '50; Nat Underw 54:23 N 16 '50

Louisiana association of insurance agents annual meeting, Edgewater Park, Miss. Nat Underw 55:4+ My 10 '51

Maryland association of insurance agents annual convention, 14th, Baltimore, Nov. 15-16. East Underw 51:26 N 17 '50; Nat Underw 54:25+ N 23 '50

Massachusetts association of insurance agents annual convention, Springfield. pors Nat Underw 54:3+ O 26; 35+, cover N 2 '50

Michigan association of insurance agents annual meeting, Mackinac Island. Nat Underw 55:29 S 20 '51

Michigan association of insurance agents midyear convention, Detroit. Nat Underw 55:1+ F 22 '51

Minnesota association of insurance agents annual meeting, St Paul. Nat Underw 55:2 S 6 '51

Mississippi association of insurance agents annual convention. Weekly Underw 164:1496+ Je 16 '51

Missouri association of insurance agents annual meeting, Excelsior Springs. Nat Underw 54:4 N 30; 24 D 7 '50

Montana association of insurance agents annual convention, Great Falls. Nat Underw 55:13 Ag 30 '51

Nebraska association of insurance agents annual meeting, Lincoln. Nat Underw 54:36 N 2 '50

New England associations of insurance agents annual meeting, Poland Spring, Me. Nat Underw 55:1+ Je 28 '51

New Hampshire association of insurance agents annual convention, Portsmouth. Nat Underw 55:19 O 4 '51

New Jersey association of insurance agents annual convention, 58th, Asbury Park, Sept. 27-28. East Underw 52:17-19 O 5 '51; Nat Underw 55:1+ O 4 '51

New Jersey association of insurance agents midyear convention, Camden, April 5. East Underw 52:25-6 Ap 13 '51; Nat Underw 55:6 Ap 12 '51

New Mexico association of insurance agents annual convention, Santa Fe. Nat Underw 55:6 S 27 '51

New York state association of insurance agents 69th annual convention, Syracuse. East Underw 52:1+, 27-30 My 11; 18 My 18 '51; Nat Underw 55:1-2+, 5+ My 10 '51; Weekly Underw 164:1201+ My 12 '51

North Carolina association of insurance agents annual convention, Pinehurst. Nat Underw 55:1+ My 10 '51

North Carolina association of mutual insurance agents annual convention. Nat Underw 55:4 Je 7 '51

Ohio association of insurance agents annual meeting, Columbus, Oct. 30-31. Nat Underw 54:1-2+ N 2 '50

Oklahoma association of insurance agents annual convention, Oklahoma City. Nat Underw 55:4 My 17 '51

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Rocky Mountain territorial conference, Colorado Springs. Nat Underw 55:2+ Ap 19 '51

Tennessee association of insurance agents annual meeting, Memphis. Nat Underw 54:35+ N 2 '50

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Texas association of insurance agents annual meeting, San Antonio. Nat Underw 55:5 My 31 '51

Utah association of insurance agents annual meeting, Salt Lake City. Nat Underw 55:1+ S 27 '51

Washington association of insurance agents annual meeting, Tacoma. Nat Underw 55:15+ Ag 23 '51

Wisconsin association of insurance agents annual meeting, Milwaukee. Nat Underw 54:12-13 O 26; 24 N 2 '50

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Fraudulent practice

Nylen loses Illinois license for spook insurer deals. Nat Underw 55:8 F 22 '51

Law

Agents qualifying examinations; philosophy behind New York state insurance department's testing of applicants for licenses. W. F. Brooks. East Underw 51:28 D 15 '50

All-industry agent licensing law draft unveiled; with text. Nat Underw 54:4+ D 14 '50; Same. Nat Underw (Life ed) 54:4+ D 15 '50

Asks revision of examination procedure. W. A. Sullivan. Weekly Underw 165:582 S 15 '51

Claims realtors are in same boat with Ohio auto dealers. V. G. Martin. Nat Underw 55:8 F 1 '51

Commissioners' discussion of agents' qualification law. Weekly Underw 164:1554+ Je 23 '51

Connecticut commissioner sets up new agents' exams. Weekly Underw 164:754+ Mr 24 '51; East Underw 52:45 Mr 23 '51

Connecticut plans to tighten up on examinations for new agents. East Underw 52:24 Ja 26 '51

Frequent checking of partnership structures urged. B. Shaw. Nat Underw 54:20 O 19 '50

H. E. Cotter case on issue of agency to get new squint; Indemnity of North America vs. Midwest transfer co. Nat Underw 54:36 N 2 '50

Illinois to crack down on licensing of solicitors. Nat Underw 55:1+ S 6 '51

Indiana groups reject licensing change. Nat Underw (Life ed) 54:15 O 20 '50

Indiana managers committee backs qualification law. Nat Underw (Life ed) 54:2+ N 17 '50

Indianapolis managers against license exam law. Nat Underw (Life ed) 54:16 D 29 '50

Legal responsibilities of agents. J. S. Bolton. Rough Notes 94:34+ My '51

License suspension, fine for "free insurance" on Detroit home construction projects. Nat Underw 55:5 Ag 30 '51

Life insurance agent and the practice of the law. J. Barker, jr. East Underw 52:26-7+ pt 2 O 5 '51; Excerpts. Nat Underw (Life ed) 55:8 My 25 '51

Life insurance agent and the state insurance department. C. G. Dougherty. East Underw 52:50+ pt 2 O 5 '51

More detailed license application now required in Arkansas. Nat Underw 55:44 S 20 '51

Oklahoma agents' license law changes discussed. Weekly Underw 164:308 F 3 '51

Ontario life agents can't act as brokers, consultants. Nat Underw (Life ed) 55:8 Je 8 '51

Producers, adjusters not under price rule; ruling by OPS. East Underw 52:23 Jl 6 '51; Nat Underw 55:1 Jl 5 '51

Reviews brokers, agents liability. C. R. Conklin. Nat Underw 55:22 Ap 12 '51

Sole proprietor-agent and social security. L. J. Ackerman. Rough Notes 94:30-1 My '51

State requirements for agent's and broker's licenses; table. Rough Notes 94:44 S '51

Wage and hour law questions answered for local agents. W. J. Rogers. Nat Underw 54:32-5 O 19 '50

Would prevent agents from using adviser title under Texas licensing proposal. D. W. Sleeper. Nat Underw 55:4 Mr 15 '51; Same. Nat Underw (Life ed) 55:21 Mr 16 '51

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How I keep my name fresh in my prospect's memory. M. S. Wall. Rough Notes 94:21+ Je '51

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Miscellaneous lines are not to be deemed inconsequential. E. H. Carson. East Underw 52:29-30 My 11 '51; Excerpts. Nat Underw 55:17 My 10 '51

Multiple line writing big opportunity and responsibility for producers. W. H. Rodda. Weekly Underw 163:962+ O 28 '50; Same cond. East Underw 51:20 O 20 '50; Same cond. Nat Underw 54:3+ O 19 '50

Multiple line policies will not lessen need for agents; address at NAIA convention; abstracts. L. A. Beck. East Underw 52:31 S 14 '51; Nat Underw 55:45 S 13 '51

Sees additional burdens for producers in new developments in property insurance field. R. B. Taylor. Weekly Underw 165:890+ O 13 '51

What will multiple line underwriting mean to agents? L. A. Beck. Rough Notes 94:17-18+ S '51

You have summer time to sell miscellaneous lines. Nat Underw 55:11 Jl 12 '51

Part-time agents

Full-time occupation. Nat Underw 55:11 Ag 16 '51

Inflation inclines many to selling in spare time. Nat Underw 55:8 Ag 16 '51

Policy execution

Illinois department issues rules on countersignatures. Weekly Underw 163:1182 N 25 '50; Same cond. Nat Underw 54:34 N 23 '50; Same cond. Nat Underw (Life ed) 54:2 D 1 '50

Public relations

Akron A.&H. ethics code formed with aid of Better business bureau. East Underw 52:38 Ja 19 '51

Better relations with public. C. D. Minor. Weekly Underw 163:1190 N 25 '50

Blueprint for making local boards a success. H. G. Whitney. Nat Underw 54:19+ N 23 '50

Telling our story. E. H. Carson. Weekly Underw 163:1030 N 4 '50

Records

Bordereau reports for large agencies. D. S. McFalls. Rough Notes 93:28+ D '50

How I keep my office records efficiently. R. G. Hill. Rough Notes 93:25-7, 63 D '50

How to file daily reports. Rough Notes 94:28-9 Ja '51

How to keep agency production records. S. W. Lebens. Rough Notes 93:24-5 D '50

New local agency record-keeping forms. R. J. Layton. Rough Notes 94:19-20+ Ja; 28-9 F '51

Simplified agency record-keeping. J. C. Spurlin. Spectator (Property ed) 17:24-5 Ag '51

Standard form for renewals. K. I. Fulton. Rough Notes 94:30 O '51

Rural agents

Holderman's $2,000,000 a month rural agency. C. Axman. East Underw 52:40-1 pt 2 O 5 '51

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How I sell farm insurance. R. G. Frey. Rough Notes 94:76-8 F '51

Sales campaigns

Silver corral roundup of G. A. Mavon & co. H. A. Vaughan. East Underw 52:27+ pt 2 Je 22 '51

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Milwaukee insurance day. Nat Underw 55:21+ Ap 26 '51

750 top producers at birthday celebrations of the Companion companies. East Underw 52:32-3 O 5 '51

Service

Agent service main attraction to buyer; abstracts. R. B. Gallagher. Nat Underw 55:7 Ag 23 '51; East Underw 52:17+ Ag 24 '51

Agent's responsibility; integrating basic advisory services, law and accounting, with insurance program. R. B. Gallagher. East Underw 52:39+ Ap 6 '51; Excerpts. Nat Underw 55:18 Ap 5 '51

Agents' service important, sometimes professional. Nat Underw 55:8+ S 6 '51

American opportunity program of Chamber of commerce of U.S.; agents can introduce it locally. W. H. Leonhart. East Underw 52:23+ pt 2 Je 22 '51

Complete survey is essential to find insurance needs. U. M. Lelli. East Underw 52:26 O 5; 26 O 12 '51; Excerpt. Rough Notes 94:21+ Jl '51

Engineer your client's insurance. R. B. Gallagher. Spectator (Property ed) 16:18-20+ Mr '51; Abstract. Nat Underw 54:34 N 16 '50

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Unions

Debit agent unions setting stage for fall campaigns. Nat Underw (Life ed) 55:7 S 7 '51

Equitable signs settlement agreement with NLRB. Nat Underw (Life ed) 55:11 Je 29 '51

Hancock district agents to vote on union affiliation. Nat Underw (Life ed) 55:23 Mr 23 '51

Life insurance field force of America, Nola Patterson's association, joins CIO. Nat Underw (Life ed) 54:7 D 22 '50

New union wins Hancock agents; opens all-out campaign. Sales Management 67:52+ Ag 1 '51

Settlement pact disposes of New York Life's NLRB case. Nat Underw (Life ed) 55:7 Je 1 '51

Illinois

Five Illinois field organizations hold giant rally at Peoria. Nat Underw 55:10-11 Ja 25 '51

Missouri

Charges trembling taxpayers offered insurance escape; Finnegan-Brodsky deal. Nat Underw 55:4 My 10 '51; Same abr. Nat Underw (Life ed) 55:4 My 11 '51

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Blueprint for making local boards a success. H. G. Whitney. Nat Underw 54:19+ N 23 '50

Economic man and his trade association; implications of the Cleveland Board case. Spectator (Property ed) 17:12-14+ Ag '51

Successful local board building. P. Bliss and others. East Underw 52:27+ My 11 '51

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Tax problems

Commissions tax-exempt? rulings drafted on local board public business placement. Nat Underw 55:2 O 4 '51

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Board set to battle anti-trust action. H. K. Dawson. Weekly Underw 164:1001+ Ap 21 '51

Cleveland Board answers federal charges; opposing views given. Spectator (Property ed) 16:12-14 My '51

Cleveland Board answers Justice department allegations. Nat Underw 55:1+ Ap 12 '51; Excerpt. East Underw 52:29 Ap 20 '51

Cleveland Board is cited by U.S. government in anti-trust suit. East Underw 52:1+ Mr 2 '51; Nat Underw 55:1 Mr 1 '51; Weekly Underw 164:549+ Mr 3 '51

Cleveland Board is confident on suit; feels its rules are legal. East Underw 52:22 Mr 9 '51; Nat Underw 55:1 Mr 8 '51

Economic man and his trade association; implications of the Cleveland Board case. Spectator (Property ed) 17:12-14+ Ag '51

Government tests McCarran act; Department of justice sues Insurance board of Cleveland. Spectator (Property ed) 16:42-5 Ap '51

Insurance turmoil; Justice department sues Cleveland Board. Bsns W p 106+ Mr 10 '51

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California brokers oppose solicitation by employees; take stand in other matters. Weekly Underw 165:130+ Jl 21 '51

Day cracks down on surplus line operators in Illinois. Nat Underw 55:4 Ja 18 '51

Devise errors and commissions policy for New York brokers. Weekly Underw 165:70 Jl 14 '51

Excess line brokers under fire in New York. Weekly Underw 164:193+ Ja 20 '51; Nat Underw 55:2 Ja 18 '51

Function of the excess line broker in the New York insurance market. A. J. Flegenheimer. East Underw 52:28+ pt 2 Je 22 '51

Insurance brokers' secretarial service possesses many advantages. Weekly Underw 164:818 Mr 31 '51

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Commissions

55 per cent brokerage commission spreads among companies. Nat Underw (Life ed) 55:1 Jl 13 '51

New York state fund commission legislation opposed. H. J. Pohs. East Underw 52:28 Ja 12 '51

Return commissions; hold that broker earns full commission when policy is sold; Haph brokerage, inc. Nat Underw 55:4 Mr 15 '51

Return of broker's commissions before maturity; Western national insurance co. v. Haph brokerage, inc. L. A. Burke. Spectator (Property ed) 16:46 O '50

Significance and effect of case of Western National vs. Haph brokerage. E. D. Finkelman. East Underw 52:26+ Ap 27 '51

Law

Foreign freight forwarders handling insurance need broker's license in New York. Weekly Underw 164:210; 165:734 Ja 20, S 29 '51

Los Angeles brokers must post ceiling prices and commissions. Nat Underw 55:3 Je 28 '51

Nylen loses Illinois license for spook insurer deals. Nat Underw 55:8 F 22 '51

Producers, adjusters not under price rule; ruling by OPS. East Underw 52:23 Jl 6 '51; Nat Underw 55:1 Jl 5 '51

Reviews brokers, agents liability. C. R. Conklin. Nat Underw 55:22 Ap 12 '51

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Cheek starts new term. Weekly Underw 163:1294 D 9 '50

Dever ousts Harrington; names Dennis Sullivan in Massachusetts. Nat Underw (Life ed) 55:4 F 2 '51

Fate of several commissioners is in balance on Election day. Nat Underw 54:1+ N 2 '50; Same abr. Nat Underw (Life ed) 54:1+ N 3 '50

Fischer again made Iowa commissioner. Nat Underw 55:2 Mr 29 '51; Same. Nat Underw (Life ed) 55:1 Mr 30 '51

Forbes bows out in Michigan. Nat Underw 55:1 My 10 '51; Same. Nat Underw (Life ed) 55:1 My 11 '51

George F. Mahoney new Maine commissioner. Weekly Underw 165:66 Jl 14 '51

GOP swing lays lot of dust in insurance world. Nat Underw 54:1+ N 9 '50; Same abr. Nat Underw (Life ed) 54:1+ N 10 '50

Harvey Chesney slated to be Maryland commissioner. Weekly Underw 164:6 Ja 6 '51

Hawaiian comissioner Brown; sketch. East Underw 52:15 Jl 20 '51

Maryland department change; H. A. Joyce retires; Coppage named. Nat Underw 55:1 Jl 12 '51; Same. Nat Underw (Life ed) 55:5 Jl 13 '51

Navarre new Michigan commissioner. Nat Underw 55:23 Je 7 '51; Nat Underw (Life ed) 55:2 Je 8 '51; East Underw 52:19 Je 15 '51

Nelson new Minnesota commissioner; Chesney Maryland commissioner. Nat Underw 55:1 My 3 '51; Same. Nat Underw (Life ed) 55:1 My 4 '51

New Alaska official; Neil Moore named auditor and insurance commissioner. Weekly Underw 164:142 Ja 13 '51

New California chief; John R. Maloney. Nat Underw 54:2 D 28 '50; Same. Nat Underw (Life ed) 54:1 D 29 '50

New Massachusetts commissioner; Dennis E. Sullivan. por East Underw 52:15 F 9 '51; Nat Underw 55:2 F 15 '51; Nat Underw (Life ed) 55:7 F 16 '51

New Wyoming commissioner; Ford S. Taft. Weekly Underw 164:618 Mr 10 '51

Paul A. Hammel Nevada's first commissioner. Nat Underw 55:18 My 3 '51

Procedural restraints on commissioner eyed; case of Superintendent Jordan revoking insurance agent's license of Car credit co. Nat Underw 54:10 N 2 '50

Vermont commissioner takes office; Alexander H. Miller. Weekly Underw 164:619 Mr 10 '51

Walter D. Davis is commissioner-elect for Mississippi. Nat Underw 55:4 S 6 '51; Nat Underw (Life ed) 55:6 Ag 31 '51

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"National" now nasty word; little advertised law change necessitates Hoosier firm rebaptism. Nat Underw 55:15 Jl 26 '51; Same abr. Nat Underw (Life ed) 55:7 Jl 27 '51

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Accounting

Analysis of excess profits tax; companies likely to use capital method figured on asset basis. M. Johnson. Nat Underw 55:10+ Ja 18 '51

Apportionment of expenses and price level problem. J. J. Higgins. East Underw 52:22-3 Ag 24 '51

Assails "stat" system complexity. H. E. Curry. Nat Underw 55:22 My 17 '51

Assesses net good of Regulation 30. W. N. MacKenzie. Nat Underw 54:35 N 23 '50

Define "borrowed capital" for life companies under excess profit tax law. Nat Underw (Life ed) 55:3 Ja 12 '51

Developments in uniform accounting. C. W. Makin. East Underw 52:35+ My 25 '51

Elimination of schedule P. Nat Underw 55:32 S 6 '51

Expense allocation problems. J. J. Higgins. East Underw 52:24 Je 15 '51

Insurer problems where electronics may help. E. G. Crasper. Nat Underw 55:2 Ap 5 '51

National Board opposes investment income in rate making. East Underw 52:20-1 Je 8 '51

New statement blank elicits U.S. tax ruling; treatment of unauthorized reinsurance, agency balances, etc. Nat Underw 55:4 Mr 29; 6 Ap 5 '51

New York department gives procedure for installment income. East Underw 52:1+ Je 29 '51; Same abr. Nat Underw 55:1 Je 28 '51

New York sets up rules for auto experience reports. Nat Underw 55:16 Jl 12 '51; East Underw 52:1+ Jl 6 '51

Pennsylvania to accept reporting of installment premiums on term policies in statements. Nat Underw 55:2 S 13 '51

Problem of basing rate levels on company cost allocations. J. J. Higgins. East Underw 52:17+ Jl 20 '51

Uniform accounting ideas. J. J. Higgins. Nat Underw 55:27 My 17 '51

Use by insurers of differential cost compilations. J. J. Higgins. East Underw 52:19+ S 7 '51

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Acceptance of advertising at top management level essential. W. K. Beard, jr. East Underw 52:54 S 21 '51

Advice on advertising. L. E. Rutledge. Nat Underw 54:20 N 9 '50

American Surety's advertising agency displays clients' services. il Nat Underw 54:23 N 30 '50

Awards of Freedom foundation for insurance company advertising. East Underw 52:8, 28 Mr 2 '51; Nat Underw 55:8 Mr 1 '51

Big play being given agents in company ads. East Underw 51:61+ D 15 '50

Moser and Hubbard dispute at N.A.I.C. session on unauthorized insurance and fraudulent advertising. Nat Underw 54:17+ D 21 '50; Same. Nat Underw (Life ed) 54:1+ D 22 '50

Mutual advertising awards are given by committee at Boston meeting. Nat Underw 54:19 N 2 '50

Prudential discovers at Phoenix the value of local advertising. Nat Underw (Life ed) 55:7 Je 22 '51

Trade paper advertising success story; two-color double-page advertisement of Berkshire Mutual Fire. Weekly Underw 164:119 Ja 6 '51

Urges companies to join in effort to feature agents in advertising. W. H. Roddy. East Underw 52:36 Ap 6 '51

Van Beynum idea blossoms into impressive text; Travelers' series of natural history advertisements. il Nat Underw (Life ed) 55:7 Jl 6 '51

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John Hancock's art tie-up with Connecticut development commission. East Underw 52:17 S 21 '51

Branch offices

New York Life makes branches part of the community. Nat Underw (Life ed) 55:10 S 7 '51

Only a chunk of bronze, but Standard men fight for it; Standard Accident offers annual trophy for best showing on volume, profit and collections. Sales Management 67:110 S 1 '51

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New York insurance department's complaint bureau. East Underw 52:17 My 4 '51

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Agreement reached in Mutual Benefit, United Benefit case. Nat Underw 55:15 Ja 18 '51; Same. Nat Underw (Life ed) 55:1 Ja 19 '51
Pave way for Fidelity & Guaranty to be merged into U.S.F.&G. Nat Underw 55:28 Ap 5 '51

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Actuaries given company angle on Sec. 213 revision. R. C. Guest and others. Nat Underw (Life ed) 55:22 O 5 '51
Analysis of expenses paid by policy size, calendar year 1949 (excluding commissions and taxes), stock and non-stock companies; tabulation. Nat Underw 54:18 D 21 '50
Full text of Section 213 revision proposal; New York agency expense limitation law. Nat Underw (Life ed) 55:1+ Mr 9 '51
High acquisition costs may bring state action. E. M. Ransom. Nat Underw 55:4 Je 7 '51
Legislative hurdles faced in Sec. 213 change are analyzed. Nat Underw (Life ed) 55:1+ Ag 3 '51; Discussion. 55:1+ Ag 17 '51
NALU Section 213 position outlined. E. L. G. Zalinski. East Underw 52:10 Mr 23 '51; Excerpt. Nat Underw (Life ed) 55:7 Mr 23 '51
Paradox; companies show lower net costs despite inflation. Nat Underw (Life ed) 55:7 Ag 24 '51
Section 213 revision must wait another year, legislators say; NALU bill introduced. Nat Underw (Life ed) 55:1+ F 23 '51
Section 213 revision proposal analyzed. D. J. Reap. Nat Underw (Life ed) 55:1+ Mr 2 '51

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Providence Washington makes news reel available for Rhode Island schools. Weekly Underw 164:953 Ap 14 '51

Employees

Best workers gripe the most; Institute of social research study at Prudential. Bsns W p68-72 F 10 '51; Discussion. R. Likert. p100+ S 8 '51
Competing for workers in today's short labor market; panel discussion. W. J. Hindman and others. Nat Underw 54:32 N 16 '50
Employers' Group raises employes' salaries ten per cent. East Underw 52:32 F 9 '51
Employers' Liability to send employees abroad; five selected for company-sponsored trip to head office in England. Weekly Underw 164:450-1 F 17 '51
Hartford Accident's night shift for married women eases clerical shortage. East Underw 52:34 Je 8 '51
Help problem is getting no better fast. Nat Underw 55:12 Je 7 '51
Old Line cleared of unfair labor practices charge. Nat Underw (Life ed) 55:10 O 5 '51
Personnel problems plague in Chicago. Nat Underw 55:11 Mr 8 '51
Personnel shortage eased by using some ten to four. Nat Underw 55:10 Mr 29 '51; Same. Nat Underw (Life ed) 55:4 Mr 30 '51
Personnel shortage threat to less essential services. Nat Underw (Life ed) 55:2+ F 2 '51
Responsibility of field and home office. H. Mayer, jr. East Underw 52:4 S 28 '51
Round pegs for right round holes; tests for 5,000 employes of Kemper insurance companies. East Underw 51:29 D 22 '50
Short personnel of concern to insurer officials. Nat Underw 55:22 Mr 1 '51
Sound approach to hiring for key insurer posts; services of Klein institute for aptitude testing. Nat Underw 55:27 S 27 '51
Supervision and morale factors in productivity; Institute of social research study at Prudential home office. Mo Labor R 72:564 My '51
Unions seek wage control exemption for insurance. Nat Underw (Life ed) 55:6 Je 22 '51
Why turnover is low in insurance office; Companion Companies home offices, Omaha. W. Norris. il Am Bsns 21:18-19+ Ja '51
Women's talents in home office jobs considered by educational directors. East Underw 52:18+ Jl 6 '51

Training

Companies now offering 600 courses for field men. Nat Underw (Life ed) 55:19 Mr 23 '51
Expense reduction and control for the insurer; study by O'Toole associates. Nat Underw 55:13-14 Ag 9 '51; Same. Nat Underw (Life ed) 55:2+ Ag 10 '51
How to train fieldmen in the home office. H. P. Abbott. Rough Notes 93:36+ D '50
Prudential's Toronto head office opens; Canadian employees go to Newark for training period. J. Jenkins. East Underw 51:43+ D 15 '50

Employees' pensions

Metropolitan's insurance retirement plan. East Underw 52:14 Mr 16 '51
Pensions a vital aid in keeping insurance help. E. A. Green. Nat Underw 54:30 N 16 '50

Equipment and supplies

Companies warming up to magic brain calculators. Nat Underw (Life ed) 55:8 Ja 12 '51
Modern punched card equipment and electronic machines used by insurance companies. P. C. Coulter and C. H. Mahan. il East Underw 51:28+ N 17 '50
New calculator gives direct five-year reading; CalCo products Duplex. Nat Underw 55:10 Ap 26 '51
New IBM electronic calculators used by 16 companies. Nat Underw 54:26+ N 23 '50
Office equipment shortage may be felt this spring. Nat Underw (Life ed) 55:8 Mr 16 '51
Office machines enable insurance company to reduce rates; Wisconsin farm bureau federation. il Am Bsns 21:18-19+ Je '51
Unit desk arrangement provides privacy and saves space; New Orleans office of Hardware Mutuals. il Am Bsns 21:20-1 Mr '51

Examination

Court will determine Dearborn companies' status. East Underw 52:28 Ag 10 '51; Same abr. Nat Underw 55:24 Ag 2 '51
Dearborn National petition against Forbes dismissed. Nat Underw 54:7 N 30 '50
Michigan high court decision goes against Broderick; Dearborn National case. Nat Underw 54:21 D 7 '50

Exhibits

Connecticut General's 85-year history summarized in display. East Underw 51:9 O 27 '50
Penn Mutual Life exhibition about William Penn. East Underw 51:12 O 20 '50
See also
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Finance

Annual statements, 1950; excerpts from company reports. Spectator (Property ed) 16:30 Mr; 24-6+ Ap '51
Argus chart; 1950 fire experience shown by lines; table by company. Nat Underw 55:6-7 Ap 26 '51
Classification of net premiums written in 1950 of 443 property insurance companies; tabulation. Spectator (Property ed) 16:78+ Ap '51
Commissioners seek more control of purchase of life companies; report criticizes methods. East Underw 51:11 D 22 '50
How were losses in your state? with tabulations of premiums and losses by lines for 1949. J. J. McCarthy. maps Spectator (Property ed) 16:20-2+ N '50
Kansas City Fire & Marine buys Prudential Fire; also buys Braniff company. East Underw 52:20+ S 14 '51; Same abr. Nat Underw 55:7 S 13 '51
Labor unions buy stock control of Insurance company of Texas. Nat Underw 55:1 S 6 '51
Lincoln National buys control of Reliance Life. Nat Underw (Life ed) 55:1+ S 7 '51; Same abr. East Underw 52:1+ S 7 '51

INSURANCE companies—Finance—*Continued*

Mellon will shed Reliance life insurance co. Bsns W p 156-7 S 15 '51

Net investment earnings, 48 casualty and surety companies; yearly figures, 1948 and 1949 and five year totals 1945-1949; tabulation. Spectator (Property ed) 16:50 F '51

Net investment earnings, 48 fire and marine insurance companies; yearly figures for 1948 and 1949 and five-year totals, 1945-49; tabulation. Spectator (Property ed) 16:50 D '50

Foreign business

AIU enters Security insurance company into Greece to write all lines. Weekly Underw 164:1616 Je 30 '51

Casualty underwriting abroad. L. C. Richardson, jr. East Underw 52:26 Ja 12 '51

Life salesmen overseas finding ripe pickings. Nat Underw (Life ed) 55:10 Mr 16 '51

Phone call that netted $5,000; using facilities of American international underwriters corporation. Spectator (Property ed) 17:26-7 O '51

Restrictive foreign legislation. J. Sachs. Weekly Underw 163:1368+ D 16 '50; Excerpts. East Underw 51:31 N 17 '50

Top partners round the world; network of American protection follows big business. K. J. Brown. Weekly Underw 165:755+ S 29 '51

U.S. insurers grow as factors in South America. Nat Underw 55:2 Je 7 '51

Unprecedented development of insurance in foreign fields seen. L. H. Collier. Weekly Underw 165:883+ O 13 '51; Same abr. East Underw 52:30 O 12 '51

World sale of life insurance; Canadian companies in international field. P. McDonald. East Underw 52:32 pt 2 O 5 '51

Forms, blanks, etc.

Annual statement bank improved by changes but needs more doctoring. W. Chodorcoff. Nat Underw (Life ed) 55:3 Je 22 '51

Assisting producers by means of modern applications and policy forms. H. A. Sym. Weekly Underw 163:1155-6 N 18 '50

Blanks committee approves new annual statement. Nat Underw (Life ed) 55:1+ Ap 6 '51

Flaws in new blanks; abstracts. C. M. Smith. East Underw 52:33 Je 8 '51; Nat Underw 55:12 Je 7 '51

Important changes are made in fire and casualty blank. Nat Underw 55:2 Ap 12 '51

New statement blank elicits U.S. tax ruling; treatment of unauthorized reinsurance, agency balances, etc. Nat Underw 55:4 Mr 29; 6 Ap 5 '51

Pleads for clarity of language by form framers. J. T. Even. Nat Underw 55:6-7 Je 14 '51

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  Policy forms

Fraudulent promotion

Dominican Republic has troubles with its baby; operations of London, Amsterdam & Zurich assurance group. Nat Underw 55:19 S 20 '51

New court chapter; Dominican risk emanation faces Illinois skepticism; London-Amsterdam-Zurich insurance group. Nat Underw 55:9 Ag 16 '51

Insurance requirements

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  blanket bond

Investments

Caution keynotes company feeling on New York common stock bill. Nat Underw (Life ed) 55:1+ Mr 30 '51

Connecticut passes bill easing investment limitation. Nat Underw (Life ed) 55:10 My 18 '51

Corporate financing by direct placement. E. R. Corey. Harvard Bsns R 28:67-76 N '50

Illinois investment law liberalized. Nat Underw (Life ed) 55:2 Jl 6 '51

Insurers as investors; with analysis of insurance investments and interest rates. Economist 161:253, 255 Jl 28 '51

Insurers as investors; with tabulations. Economist 159:847-8 N 18 '50

Investments. E. L. Hall. Published in monthly numbers of Spectator (Life ed) and Spectator (Property ed)

Net investment earnings, 48 casualty and surety companies; yearly figures, 1948 and 1949 and five year totals 1945-1949; tabulation. Spectator (Property ed) 16:50 F '51

Net investment earnings, 48 fire and marine insurance companies; yearly figures, 1948 and 1949 and five-year totals, 1945-49; tabulation. Spectator (Property ed) 16:50 D '50

New N.Y. insurance law widens life investments. J. Bosse. Barron's 31:6 Ap 9 '51

New York state to permit insurance investment in common stocks. Comm & Fin Chr 173:1225 Mr 22 '51

Pennsylvania investments bill signed by governor. Weekly Underw 164:1250 My 19 '51

Place seen for more common stocks, tax exempts in total portfolios. S. C. Davis. Nat Underw 54:1+ N 9 '50

Security holdings of stock fire and casualty companies; with tabulations for 1949. W. M. Montgomery. Spectator (Property ed) 16:58+, 84+ N '50

Ten insurers investing $60 million in Kaiser Steel 3¾ per cent first mortgage bonds. Nat Underw (Life ed) 54:4 O 27 '50

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Valuation

Bohlinger opposes change in securities valuation rules pending N.A.I.C. action. Nat Underw (Life ed) 55:7 F 9 '51

Company plan for security valuation makes progress; commissioners' committee holds hearings. Nat Underw (Life ed) 55:7+ Ap 27 '51

Life and property security valuation systems may part. Nat Underw 55:1+ Ap 26 '51

New securities valuation plan outlined to commissioners by life carriers. Weekly Underw 164:1070-1 Ap 28 '51; Same abr. East Underw 52:12 Ap 27 '51; Same abr. Nat Underw (Life ed) 55:2+ Ap 27 '51

No change in bond yield test for 1951; report of N.A.I.C. committee on valuation of securities. Nat Underw (Life ed) 55:5+ Je 8 '51; Same abr. Nat Underw 55:10 Je 7 '51

Security valuation methods criticized by N.A.I.C. committee; offers substitute. Nat Underw (Life ed) 55:1+ Je 29 '51

Valuation committee, NAIC, advises companies on Treasury bonds. Weekly Underw 164:754 Mr 24 '51; Nat Underw (Life ed) 55:3 Mr 23 '51

Valuation of securities; ALC and LIAA present plan to commissioners. Spectator (Life ed) 158:28-9 My '51

Valuation of security holdings of life insurance companies. H. G. Fraine. Comm & Fin Chr 173:66+ Ja 4 '51; Excerpts. East Underw 52:3 Ja 12 '51; Nat Underw (Life ed) 54:4 D 29 '50

Valuation problem in securities. W. E. Allyn. East Underw 52:4+ Je 8 '51; Same cond. Nat Underw (Life ed) 55:1 Je 8 '51

Management

Columbia starts life insurance management research center. East Underw 52:20+ Mr 30 '51; Nat Underw (Life ed) 55:3+ Mr 30 '51

Daily progress reports spotlight office bottlenecks; Guarantee reserve life insurance co. of Hammond. il Am Bsns 21:30+ Jl '51

Describes device for saving precious space in offices. K. B. Willett. Nat Underw 55:23 Ja 25 '51; Same. Nat Underw (Life ed) 55:9 Ja 26 '51

Expense reduction and control for the insurer; study by O'Toole associates. Nat Underw 55:13-14 Ag 9 '51; Same. Nat Underw (Life ed) 55:2+ Ag 10 '51

Fight inflation pressure on expenses of operation. Nat Underw (Life ed) 55:6+ Ag 3 '51

Five insurance companies honored by American institute of management. East Underw 52:18 Ja 12 '51

Life insurance agency management association small companies' meeting, Chicago. East Underw 52:17 Mr 23 '51; Nat Underw (Life ed) 55:2+, 4 Mr 23 '51

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Modern office management. W. J. Adams. East Underw 52:36 pt 2 O 5 '51

Plan course in management problems at Columbia graduate school of business. East Underw 52:14 Mr 9 '51

Planning department saves money with little changes; offices of Woodmen of the world life insurance society. il Am Bsns 21:8-9+ Ja '51

Recommends management research. R. H. Platts. East Underw 52:30+ S 28 '51; Same cond. Nat Underw 55:17 S 27 '51

Royal-Liverpool mechanized loss system pays off on storm claims. Nat Underw 55:1 Mr 8 '51

Savings from modern office lower cost to policyholders; United services automobile association. E. Whitmore. il Am Bsns 21:10+ F '51

Survey enabled Dodson to toss out 1,500 forms. J. Garth. il Am Bsns 21:10-11+ Ja '51

This company finds change no strain; Employers Mutuals, Wausau, Wisconsin. W. Norris. il Am Bsns 21:8-9+ Je '51

Too big to manage; Farm bureau insurance companies moves management out into regional offices. Bsns W p92+ O 13 '51

War crisis challenges ingenuity of office managers; abstract. M. K. Doehler, jr. Nat Underw 55:27 F 15 '51

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Multiple line writing

Additional extended coverage is moving most fire insurers into casualty. Nat Underw 55:19 Ag 16 '51

AMA debate on multiple lines; abstracts. B. Gentry and others. East Underw 51:26 D 8 '50; Nat Underw 54:2+ N 23 '50

Day issues rules for multiple line writing. East Underw 52:17 Jl 27 '51

Full multiple line coverage will develop soundly. L. E. Wilkins. East Underw 52:22 F 9 '51; Abstract. Nat Underw 55:7 F 1 '51

Harrington would give casualty companies right to write group life. Nat Underw 54:21+ D 14 '50; Same. Nat Underw (Life ed) 54:1 D 15 '50

Impact of A.&H. on life insurance in years immediately ahead. Nat Underw (Life ed) 55:10 My 25 '51

Miscellaneous lines are not to be deemed inconsequential. E. H. Carson. East Underw 52:29-30 My 11 '51; Excerpts. Nat Underw 55:17 My 10 '51

Multiple line cause in Ohio lost, partisans concede. Nat Underw 55:8 My 3 '51

Multiple line companies and group life discussed by committee of commissioners. East Underw 52:13 Je 15 '51

Multiple line operation is topic at C.P.C.U. institute at Storrs, Conn. Nat Underw 55:15+ Je 28 '51

Multiple line organization planned for rating and filing of certain all-risk and multiple-line policies. Spectator (Property ed) 16:16 My '51

Multiple line trend continues in New York. A. J. Bohlinger. Nat Underw 55:2 Je 21 '51

Multiple line underwriting laws bring new problems. T. Y. Beams. East Underw 52:34 Jl 13 '51

Multiple line writing. W. D. Winter. Weekly Underw 163:1194 N 25 '50; Same abr. East Underw 51:22 N 17 '50

Multiple line writing powers in various states; list by states. Nat Underw 54:8 N 2 '50

Private insurance in the field of social security; companies should furnish package benefits. C. F. J. Harrington. Weekly Underw 164:670-1 Mr 10 '51

Problems dealing with multiple lines. H. C. Conick. East Underw 51:1+ N 10 '50; Excerpts. Nat Underw 54:6 N 9 '50

Prospect for multiple-peril underwriting. A. J. Bohlinger. Weekly Underw 165:424-6, 691-2 Ag 25, S 22 '51; Excerpts. East Underw 52:45+ My 25 '51; Nat Underw 55:30 My 24 '51

Small companies face difficulties in meeting multiple line problems. East Underw 52:19 Jl 13 '51

Underwriter faces challenge of changing needs; abstracts. H. P. Stellwagen. East Underw 51:32+ N 17 '50; Weekly Underw 163:1142+ N 18 '50

Untangling multiple lines. E. E. Simpson. Weekly Underw 164:142-3, 1390-1 My 5, Je 2 '51

What will multiple line underwriting mean to agents? L. A. Beck. Rough Notes 94:17-18+ S '51

Officials

Aetna group names new vice presidents. Weekly Underw 164:373+ F 10 '51

America Fore has 21 changes. Nat Underw 55:1 Je 28 '51

America Fore makes top official changes. Weekly Underw 164:193+ Ja 20 '51; Nat Underw 55:5 Ja 25 '51

Atlantic Mutual shift in top brass. Nat Underw 54:2+ D 14 '50

Brower succeeds Clarke as head of Occidental. Nat Underw (Life ed) 54:3-4 D 29 '50

Career of J. Truman Streng. East Underw 52:12-13 Jl 20 '51

Connecticut Mutual Life home office promotions. East Underw 51:5 N 17 '50; Nat Underw (Life ed) 54:6+ N 17 '50

Death roll of the year 1950. Weekly Underw 164:123-7 Ja 6 '51

Equitable advances eight home office executives. Nat Underw (Life ed) 55:2+ F 23 '51

Executive development. H. W. Flitcraft. Life Ins Courant 56:12-13 S '51

General American elects Powell B. McHaney president. Weekly Underw 164:281+ Ja 27 '51

Hancock ups eight senior officers and five others. Nat Underw (Life ed) 55:3+ F 16 '51

Home Indemnity vice presidents. East Underw 52:36 Ap 13 '51

Home life of New York elects as president William J. Cameron; Worthington is executive vice president. East Underw 51:1+ O 20 '50

Home's three new directors. C. Axman. East Underw 52:25-6+ Mr 16 '51

J. M. Haines retiring as U.S. chief of Phoenix-London group. Nat Underw 54:1+ N 30 '50

Junker president of U.S. Fire as Wyatt retires. Nat Underw 55:1 Ja 18 '51

Lincoln National promotions. East Underw 52:17 Mr 2 '51

Metropolitan Life's executive changes. East Underw 51:5+ D 22; 8-9 D 29 '50; Nat Underw (Life ed) 54:4+ D 22 '50; Weekly Underw 163:1409+ D 23 '50

Naming of Hynes as city real estate chief by Equitable stirs interest. A. A. Hoehling. Nat Underw (Life ed) 54:9 N 24 '50

North America promotions. Weekly Underw 163:1191 N 25 '50

100 agencies under his supervision; Stanton G. Hale of Mutual Life. J. Jenkins. East Underw 52:3 Ag 31 '51

Pearl American group U.S. manager interprets, for British readers, American ideas and principles. D. J. Cowie. East Underw 52:26-7 Ap 6 '51

Spaulding succeeds Lewis in top Aetna Life spot at N.Y. Nat Underw 54:25+ N 23 '50

Standard Accident; White vice president; others also promoted. East Underw 52:40 F 23 '51

Wilsterman to retire as General Accident U.S. manager, other changes. Nat Underw 54:21+ D 7 '50; East Underw 51:32 D 8 '50

Public relations

Association of casualty and surety companies to step up public relations activities. Nat Underw 55:26 Jl 12 '51; Weekly Underw 165:84-5 Jl 14 '51

Beam New England Mutual workers' message to world. Nat Underw (Life ed) 55:11 Jl 20 '51

Canadian survey of public relations. W. F. Spry. East Underw 52:19 Ja 12 '51

Crutch or challenge? public relations' role is up to top management. A. M. Kennedy. Nat Underw (Life ed) 55:4 Je 15 '51

Fireman's Fund shows teachers how insurance operates. Weekly Underw 163:1181+ N 25 '50

INSURANCE companies—Public relations—*Continued*

Help yourself to ideas; public relations and publicity. K. H. Mathus. Spectator (Life ed) 159:23 O '51

Insurance needs more advertising to rid misunderstanding; abstracts. J. W. Randall. East Underw 52:48 S 14 '51; Nat Underw 55:15+ S 13 '51; Nat Underw (Life ed) 55:1+ S 14 '51

Insurance party; barbecue for 8,000 given by Farm bureau insurance companies. il Bsns W p 138-9 My 12 '51

Molding public opinion; abstracts. T. A. White. East Underw 52:39 S 14 '51; Nat Underw 55:7 S 20 '51

Need for consumer research in insurance field; questions company practice of leaving contacts with assureds solely with producers. K. C. Bell. East Underw 52:1+, S 21 '51

Objectives of new public education program of Association of casualty and surety companies. J. D. Dorsett. East Underw 52:53 S 21 '51; Same cond. Nat Underw 55:11 S 20 '51

Role of research in public relations cited. F. Lang. East Underw 51:32 D 22 '50; Excerpt. Nat Underw 54:24 D 21 '50

Teachers study business at offices of companies; progress report on fellowship program. Weekly Underw 165:294 Ag 11 '51; Same. East Underw 52:5 Ag 10 '51

Telling our story. E. H. Carson. Weekly Underw 163:1030 N 4 '50

Washington responsibilities and trends; political pressure and lobbying. E. M. Thore. East Underw 52:3+ Je 22 '51; Same cond. Nat Underw (Life ed) 55:1+ Je 15 '51

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Receiverships

Bohlinger acts to defend Preferred's policyholders in pending court cases. East Underw 52:50 My 25 '51

Bohlinger to liquidate Preferred Accident by order of N.Y. court. East Underw 52:28 My 4 '51

Chicago reciprocal blows; receivership, fraud actions brought against W. N. Lowe. Nat Underw 55:26 Ap 19 '51

File claims at once against Preferred Accident; advice to stockholders. W. H. Bennett. East Underw 52:24 Ag 3 '51

Illinois raises retaliation issue on New York security funds; Preferred Accident case. Nat Underw 55:6 Ag 2 '51

Insurance failure; Preferred Accident of New York. Bsns W p 140-1 My 12 '51

Law firm makes report on Preferred Accident. East Underw 52:29 Jl 6 '51

Liquidation is ordered for Preferred Accident. Nat Underw 55:25+ My 3 '51

Mutual Commerce Casualty case reviewed on appeal. Nat Underw 55:19 Mr 22 '51

Navarre named receiver for Dearborn National. Nat Underw 55:22 S 20 '51

Preferred Accident claims; legal problems arising out of company's liquidation. G. F. Sullivan. East Underw 52:33+ O 12 '51

Preferred Accident handcuffed by court order. Nat Underw 55:21 Ap 26 '51

Preferred collapse stirs N.Y. brokers. Nat Underw 55:30 My 17 '51

Receiver gives Rhode Island June 30 figures. Nat Underw 55:9 S 13 '51

Receiver of Rhode Island still seeks rehabilitation. Nat Underw 54:1+ D 7 '50; 55:5 Mr 1 '51

Receiver shows $1,150,511 surplus for Rhode Island. Nat Underw 55:9 My 10 '51

Receivership move against World Life & Accident. Nat Underw (Life ed) 55:17 Ag 3 '51

Rehabilitation of Rhode Island insurance co. still possible. Nat Underw 55:4 Ag 9 '51

World Life & Accident under fire in Indiana, appeals to governor. Nat Underw 55:23 Ag 9 '51; Same. Nat Underw (Life ed) 55:13 Ag 10 '51

Records

C.&S. association plans second workshop; points covered in first; preservation, destruction and retention of records. East Underw 52:21-2 Ag 3 '51

No old look in new home of Colonial Life; microfilming program. A. J. Hastaba. il Spectator (Life ed) 158:17-19 D '50

Premium history cards unessential, National of Vermont's 50-year experience shows. H. J. George. Nat Underw (Life ed) 55:9 Jl 13 '51

Regulation

Advocates national insurance board. J. F. Van Vechten. East Underw 52:28+ My 11 '51; Same. Weekly Underw 164:1189+ My 12 '51

All-industry committee rejects interstate compact idea. Nat Underw 54:6+ D 14 '50; Same. Nat Underw (Life ed) 54:9-10 D 15 '50

Business must unite to retain right to develop own forms. D. Brooke. Nat Underw (Life ed) 55:2+ My 25 '51

Commissioners seek more control of life company purchase; report criticizes methods. East Underw 51:11 D 22 '50

Controls necessary but they must be kept at minimum. R. L. Hogg. Nat Underw (Life ed) 55:21 O 12 '51

Deplores competition restraints. S. Southall. Weekly Underw 164:941+ Ap 14 '51

Doubts Travelers Health case affects true mail operation. W. Berge. Nat Underw 55:26 Je 7 '51; Same. Nat Underw (Life ed) 55:3+ Je 8 '51

FTC attitude. J. E. Day. Nat Underw 55:15 S 27 '51; Same. Nat Underw (Life ed) 55:19 S 28 '51

FTC parley with state officials is harmonious. Nat Underw 55:1+ S 27 '51; Same abr. Nat Underw (Life ed) 55:2 S 28 '51

Herd heads industry committee to get classifications uniformity. East Underw 51:27 D 22 '50

Hits at back door efforts to influence decisions. J. E. Day. Nat Underw 55:4+ Ap 19 '51; Same. Nat Underw (Life ed) 55:1 Ap 20 '51

Landmark or molehill? role of Travelers Health decision. S. R. Ogden. Nat Underw 55:14 My 31 '51; Same. Nat Underw (Life ed) 55:4 Je 1 '51

Let competition work. R. H. Matthias. Nat Underw 55:34 My 17 '51

Liberal attitude by commissioners asked; abstracts. E. M. Ransom. East Underw 52:1+ Je 1 '51; Weekly Underw 164:1377+ Je 2 '51

Mid-West is company without a state. Nat Underw 55:33 Ap 12 '51

Moser and Hubbard dispute at N.A.I.C. session on unauthorized insurance and fraudulent advertising. Nat Underw 54:17+ D 21 '50; Same. Nat Underw (Life ed) 54:1+ D 22 '50

National uniformity trend. J. C. Stott. Weekly Underw 163:1076-7 N 11 '50

Need for cutting of red tape. W. L. Hays. East Underw 52:34-5 S 28 '51; Same cond. Nat Underw 55:33 S 20 '51

Opposes compulsion, centralization. F. Sullivan. Nat Underw (Life ed) 55:3 O 12 '51

Place of an interstate compact in insurance regulation. B. R. Stone. Weekly Underw 163:1009-10 N 4 '50

Problems facing commissioners. W. E. Allyn. Weekly Underw 164:1433+ Je 9 '51

Problems in the U.S; abstracts. F. A. Christensen. East Underw 52:1+ Mr 16 '51; Nat Underw 55:6 Mr 15 '51; Weekly Underw 164:689+ Mr 17 '51

Regulation of insurance treated in Duke University's symposium. East Underw 51:29 O 20 '50

Scores complainers who change their minds. J. E. Day. Nat Underw (Life ed) 55:4+ S 7 '51

Sees lessening threat of federal control. G. L. Ekern. East Underw 52:41 My 18 '51

Warns Zone three group of competition, war, inflation dangers. S. Southall. Nat Underw 55:5+ Ap 12 '51

Zone 2 rejects interstate compact and central sifting of rate filings. Nat Underw 54:1+ N 2 '50

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Reports

Companies to tackle controversial issues in annual reports. Nat Underw (Life ed) 55:3+ Ja 5 '51

Executives comment on insurance in 1950; excerpts from company reports. Spectator (Property ed) 16:16-20 Ap '51

Executives comment on state of the business; excerpts from life company reports. Spectator (Life ed) 158:22-5+ Ap '51

Life companies getting modernized statement report; Institute release. Nat Underw (Life ed) 55:1 S 21 '51

Mutual Benefit Life changes style of annual report. Weekly Underw 164:798 Mr 24 '51

Some suggestions for improving annual reports. K. H. Mathus. Spectator (Life ed) 159:22 O '51

Spectator report on annual reports. I. Davis. Spectator (Property ed) 16:22-3 Ap '51

29 companies cited for modernized statements. East Underw 52:19 Ag 31 '51

Urges life companies make reports more readable; abstracts. W. Smith. Weekly Underw 163:1436 D 23 '50; Nat Underw (Life ed) 54:6 D 22 '50

Reserves

Some difficulties in modern reserving for compensation and liability claims. D. M. Pruitt. Nat Underw 54:33 N 16 '50

Securities

Activity in Canadian life company shares starts profits curb. East Underw 51:1+ N 10 '50; Nat Underw (Life ed) 54:3+ N 10 '50

Character of casualty and fire stocks is analyzed in Kidder, Peabody booklet. Nat Underw 54:9 N 16 '50

Insurance boom falters. Bsns W p 153-4 O 6 '51

Insurance shares show good gains; outlook ahead. S. C. Davis. Nat Underw 55:31+ S 6 '51

Insurance stock prices still cheap. N. T. Robertson. Weekly Underw 164:26+ Ja 6 '51

Insurance stocks; a defensive investment. S. C. Davis. Comm & Fin Chr 173:912+ Mr 1 '51; Same cond. Nat Underw 55:7+ Mr 15 '51

Insurance stocks held excellent investment. F. H. Merrill. Weekly Underw 163:1244-5 D 2 '50

Market adjusting on company stocks. Nat Underw 55:6 F 8 '51

Offer unclaimed Illinois Bankers stock. Nat Underw (Life ed) 55:1 Je 15 '51

Providence Washington prepares for convertible preferred issue. Nat Underw 54:14 N 9 '50

Range of insurance stocks in 1950; tabulation by company. H. W. Cornelius, comp. Nat Underw 55:19 Ja 4 '51

To return securities; British-owned American securities deposited as collateral for war loans. Weekly Underw 165:235+ Ag 4 '51

U.S. investors buying to control Canadian insurers; Financial times of Montreal. Nat Underw (Life ed) 54:3 N 3 '50

Service

Begin now to enjoy tomorrow; Mutual Benefit's book on retirement. H. G. Kenagy. East Underw 52:96-7 pt 2 O 5 '51

Guide for middle-aged; Mutual Benefit aid for 40-plusers. Weekly Underw 164:734-5 Mr 17 '51

Home Life puts on all-out campaign to fight inflation; to reach policyholders. Nat Underw (Life ed) 55:2 F 9 '51; East Underw 52:1+ F 9 '51

How insurers make plants safe. il Bsns W p74-6 Ag 4 '51

Mutual Benefit Life's book tells how to get ready for happy retirement. Nat Underw (Life ed) 55:3 My 11 '51

Mutual Life offers radio program to fight inflation. Nat Underw (Life ed) 55:16 S 14 '51

See also

Insurance companies
—Educational work

Management aids

Free bonus; business advice; Metropolitan Life helps solve management problems for its corporate group-insurance policyholders. il Bsns W p72+ D 16 '50

Service to government

Committee of group life experts to assist government on insurance angles. East Underw 51:1 N 3 '50; Same abr. Nat Underw (Life ed) 54:23 N 3 '50

Statistics

Leading insurance companies in New York and in California by rank; tables. Spectator (Property ed) 16:42-3 Je '51

Ranking of company groups by net premiums written for 1950; table. Nat Underw 55:10 Ap 26 '51

Simple faith in loss experience plays pretty tricks. D. M. Pruitt. Nat Underw 55:19+ My 24 '51

Spectator statistical issue. Spectator (Property ed) 16:16-98 N '50

Tabulation shows domiciliary states of 609 companies. Nat Underw (Life ed) 55:5 Ja 12 '51

Taxation

Acacia Mutual vs. the industry; editorial. Nat Underw (Life ed) 55:10 Jl 6 '51

Allstate counsel asks Senate finance committee to amend excess profits tax act to remove inequity. East Underw 52:20 Ag 3 '51

A.L.C.-L.I.A. get set to carry fight to Senate for 6½ per cent tax on investment yield. Nat Underw (Life ed) 55:4 My 25 '51

Analysis of excess profits tax; companies likely to use capital method figured on asset basis. M. Johnson. Nat Underw 55:10+ Ja 18 '51

Answer Webb charges; mutual agents fight back on tax issue. Nat Underw 55:2 Mr 8 '51

Argues mutual tax position. J. J. Wicker. Nat Underw 55:2 Mr 15 '51

Arkansas bills upping premium taxes have dim future. Nat Underw 55:7 F 15 '51

Battle of briefs rages in mutual income tax issue; Senate hearings. Nat Underw 55:1+ Ag 9 '51

Colorado wins first round in attempt to tax paid-up additions. Nat Underw (Life ed) 54:7 D 15 '50

Companies propose 6½ per cent tax on their investment income. Nat Underw (Life ed) 55:1 My 11; 3 My 18 '51

Companies suggest new investment income flat six per cent tax rate. East Underw 52:1+ Jl 20 '51

Connecticut insurers urge tax revision bill. Nat Underw (Life ed) 55:6 Mr 30 '51

Excess profits tax bill to alter basis of computing credit; invested capital and average earnings methods to be offered insurers. Nat Underw 54:13 D 28 '50

Fire and stock casualty interests enter plea for insurance protection in EPT law; abstracts. J. R. Berry; R. Murphy. Nat Underw 54:1+ N 23 '50; East Underw 51:27 D 1 '50

Heavy Michigan penalties on Markel service contracts. Nat Underw 55:22 Je 28 '51

Illinois casualty companies come under tax law. Weekly Underw 164:195 Ja 20 '51; Excerpt. Nat Underw 55:27 Ja 18 '51

Illinois director advises companies on fire marshal tax. Weekly Underw 164:255 Ja 27 '51

Illinois director explains life company levy. Weekly Underw 164:619 Mr 10 '51

Illinois taxes increase $1,000,000 in year. Weekly Underw 164:1379 Je 2 '51

Insurers oppose West Virginia tax move. Nat Underw 55:4 Jl 19 '51; Same. Nat Underw (Life ed) 55:3 Jl 20 '51

Life company taxes. I. V. Brunstrom. Weekly Underw 165:920 O 13 '51

Manner, amount of additional taxing remains nebulous. Nat Underw (Life ed) 55:5 Mr 2 '51

Must pay premium tax on old fraternal policies, Director Day rules. Nat Underw (Life ed) 55:15 Jl 13 '51

Mutuals take cognizance of federal tax issue. Nat Underw 54:4 N 2 '50

INSURANCE companies—Taxation—*Cont.*

Nebraska bill would revise insurance taxation basis. Nat Underw 55:13 Ap 19 '51

New statement blank elicits U.S. tax ruling; treatment of unauthorized reinsurance, agency balances, etc. Nat Underw 55:4 Mr 29; 6 Ap 5 '51

New York 1950 fire, extended coverage results and federal income tax figures; tabulation by company. Nat Underw 55:6+ Mr 8 '51

Not subject to premium tax; Massachusetts high court affirms decision as to premium refunds to industrial policyholders. East Underw 52:3 Ag 3 '51

Pennsylvania bill increases domestic life company tax. Weekly Underw 165:666 S 22 '51

Representative Reed asks U.S. probe of tax equality fight on mutuals. Nat Underw 55:3 Jl 26 '51

Savings banks win life insurance tax status; other provisions of revenue bill, as recommended by Senate finance committee, of interest to insurance. Nat Underw (Life ed) 55:32 S 28 '51

Scores tax demands on mutual companies. T. I. Parkinson. East Underw 52:14 Mr 9 '51

Spokesman for mutuals defends taxing method. J. J. Wicker, jr. East Underw 52:32 Ag 10 '51

Suit looms in West Virginia corporate tax dispute. Nat Underw 55:11 Je 7 '51; Same. Nat Underw (Life ed) 55:1 Je 8 '51

Tax equality chairman replies to Representative Reed attack. E. J. Bachman. Nat Underw 55:26 Ag 9 '51

Tax equalization plea is filed with Senate. East Underw 52:17 Jl 27 '51

Tax possibilities given thorough analysis. M. Johnson. Nat Underw 54:10-12 N 9 '50

23 agents groups headed by W. E. Webb enter plea to revise mutual tax. Nat Underw 55:3+ Mr 1 '51

Urge insurance be classed as public utility under EPT. J. R. Berry; R. Murphy. Nat Underw 54:5+ D 14 '50

Urges new tax base; mutual vs. stock companies. W. Montgomery. East Underw 52:5 Mr 9 '51

Warns of danger in field of municipal taxes. I. V. Brunstrom. Nat Underw (Life ed) 55:25 O 12 '51

Ways-means hearings held on 6½ per cent income tax proposal. Nat Underw (Life ed) 55:1+ Jl 20 '51

Wisconsin bill would alter taxation of companies. Nat Underw (Life ed) 55:19 Mr 30 '51

Wisconsin premium tax revision proposed. Nat Underw 55:9 Mr 8 '51; Weekly Underw 164:618 Mr 10 '51

Wisconsin taxation bill hits storm of opposition. Weekly Underw 164:1002 Ap 21 '51

War problems

Home offices reactivate air defense setups. Nat Underw (Life ed) 55:6 F 2 '51

John Hancock announces three-phase disaster program. Weekly Underw 164:847 Mr 31 '51; Same cond. Nat Underw (Life ed) 55:15 Mr 30 '51

Metropolitan Life completes its plan for raid protection. Nat Underw (Life ed) 55:5 Mr 16 '51

New York companies prepare to meet threat of bombing. Nat Underw (Life ed) 54:1+ O 20 '50

Plans of life companies against possible future bombing; Life office management association survey. East Underw 52:1+ Ja 26 '51; Same. Weekly Underw 164:352-3 F 3 '51; Same cond. Nat Underw (Life ed) 55:2 F 16 '51

Argentina

Argentine charges against British insurers. Economist 161:527 S 1 '51

Royal Liverpool & London & Globe ordered to cease in Argentina. Nat Underw 55:4 Ag 30 '51

Dominican Republic

Dominican Republic has troubles with its baby; operations of London, Amsterdam & Zurich assurance group. Nat Underw 55:19 S 20 '51

Georgia

Bribery indictment is Cravey's latest move in war on Bankers L.&C. Nat Underw (Life ed) 55:19 S 7 '51; Same abr. Nat Underw 55:38 S 6 '51

Double standard in Georgia; licensing law; editorial. Nat Underw (Life ed) 55:12 S 7 '51

License revoked by Georgia; Bankers Life & Casualty of Chicago. East Underw 52:22 Ag 3 '51

Mandamus action is Bankers L.&C.'s answer to Georgia ouster attempt. Nat Underw (Life ed) 55:5 Jl 27 '51

Great Britain

Alliance assurance company, limited; Northern assurance company limited; Legal and general assurance society, and others; annual general meetings. Economist 160:1131-5 My 12 '51

British insurance in 1950. Economist 160:1528 Je 23 '51

Commercial union assurance company shows excellent worldwide 1950 report. East Underw 52:26-7 Ag 10 '51

Co-operative insurance society ltd.; statement by the chairman. A. Davies. Economist 160:712 Mr 24 '51

Eagle Star reports 1950 expansion. B. Mountain. East Underw 52:23 Jl 20 '51

Insurers as investors; with analysis of insurance investments and interest rates. Economist 161:253, 255 Jl 28 '51

Insurers as investors; with tabulations. Economist 159:847-8 N 18 '50

London and Lancashire 1950 results; statement of the chairman. A. S. Rogers. East Underw 52:17 My 18 '51

Mercantile and general reinsurance company limited; statement by the chairman. H. K. Goschen. Economist 161:596-7 S 8 '51

Phoenix assurance company; Eagle star insurance company; North British and mercantile insurance company; Atlas assurance company, limited; annual general meetings. Economist 160:1202-4 My 19 '51

Royal exchange assurance; statement by the governor. Lord Bicester. Economist 160:1341-2 Je 2 '51

Wesleyan and general assurance society; Britannic assurance company limited; annual general meetings. Economist 160:827-8 Ap 7 '51

Yorkshire insurance co.; London assurance; Equitable life assurance society; Scottish union and national insurance co.; annual general meetings. Economist 160:1261-3 My 26 '51

See also

Prudential assurance company

Guatemala

Guatemala tightens up rules on foreign insurers. Nat Underw 55:5 Ag 30 '51

Hawaiian Islands

Official setup of new Hawaiian insurer; Financial Security Life. Nat Underw (Life ed) 55:17 Jl 13 '51

Illinois

Illinois casualty companies come under tax law. Weekly Underw 164:195 Ja 20 '51; Excerpt. Nat Underw 55:27 Ja 18 '51

Illinois moves to impound assets of London Amsterdam Zurich assurance group. Nat Underw 55:9 Mr 1; 4 Mr 22 '51

New court chapter; Dominican risk emanation faces Illinois skepticism; London-Amsterdam-Zurich insurance group. Nat Underw 55:9 Ag 16 '51

Indiana

World Life & Accident under fire in Indiana, appeals to governor. Nat Underw 55:23 Ag 9 '51; Same. Nat Underw (Life ed) 55:13 Ag 10 '51

Japan

Royston vice chairman of joint committee of Japanese and foreign non-life insurance association; other officers. East Underw 52:21 Je 8 '51

Michigan

Court will determine Dearborn companies' status. East Underw 52:28 Ag 10 '51; Same abr. Nat Underw 55:24 Ag 2 '51

INSURANCE companies—Michigan—*Continued*

Dearborn National petition against Forbes dismissed. Nat Underw 54:7 N 30 '50

Michigan high court decision goes against Broderick; Dearborn National case. Nat Underw 54:21 D 7 '50

Philippine Islands

Effects of World war II on Philippine policyholders. C. Villar. Weekly Underw 165:126+ Jl 21 '51

Growth of insurance in the Philippines greatly aids republic's economy. C. Villar. Weekly Underw 165:236+ Ag 4 '51

Insurance in Philippines winning in public favor, abstracts. C. Villar. Weekly Underw 165:6+ Jl 7 '51; East Underw 52:19 Jl 6 '51

South America

U.S. insurers grow as factors in South America. Nat Underw 55:2 Je 7 '51

Texas

Butler asks end to promoters paradise in Texas. Nat Underw 55:1+ F 22 '51; Nat Underw (Life ed) 55:6 F 23 '51

Texas boom brings companies back; Robertson law no longer major factor in return. Nat Underw (Life ed) 55:2 S 7 '51

Virginia

Virginia fines unlicensed Texas mutual $10,900; Lincoln County Mutual Fire. Nat Underw 55:4 Ja 25 '51

Wisconsin

Wisconsin senate votes insurance probe. Nat Underw 55:1 Je 14 '51; Same. Nat Underw (Life ed) 55:3 Je 15 '51

INSURANCE companies blanket bond

Losses point to spots of largest dishonesty danger. K. Force. Nat Underw (Life ed) 55:7-8 Jl 13 '51; Same abr. Nat Underw 55:13, 23 Jl 5 '51; Same abr. Rough Notes 94:21+ S '51

Surety association revises insurance blanket bond; Form no. 25, 25-L. East Underw 52:33 Je 29 '51; Same. Nat Underw 55:17 Je 28 '51; Same. Weekly Underw 164:1627 Je 30 '51

INSURANCE company buildings

Auto's portrait album on insurance co's walls; Allstate's Chicago office. il Bsns W p92-3 Jl 21 '51

Big business moves to the country; Pacific headquarters for Insurance company of North America, San Jose. il diag Arch Rec 110:161-3 S '51

Boston landmark is popular with visitors and sightseers; 26th floor of John Hancock tower. Weekly Underw 165:438 Ag 25 '51

Fireman's Fund opens southern department headquarters. il Weekly Underw 165:127+ Jl 21 '51; Same cond. Nat Underw 55:8 Jl 19 '51

Maryland Casualty's N.Y. branch moves to new building. East Underw 51:37 O 27 '50

New home office features Peerless Casualty's 50th year. il East Underw 52:36 O 12 '51

Planning department saves money with little changes; offices of Woodmen of the world life insurance society. il Am Bsns 21:8-9+ Ja '51

Prudential to build regional home office on Chicago's lake front. il East Underw 52:3 Mr 9 '51; Nat Underw (Life ed) 55:1+ Mr 2 '51

Rio Grande National Life building, Dallas. il plans Arch Rec 108:110-12 N '50

Steel saved in lightweight building; Republic National Life building, Dallas; with cost data. J. A. Murlin. il Arch Rec 109:188-90 Je '51

Wellpoints hold tricky soil for building foundation; Phoenix fire insurance co. home office building. il Eng N 145:24 D 28 '50

Why Prudential decided to locate mid-western home office in Chicago. C. M. Shanks. Weekly Underw 164:617+ Mr 10 '51

Why turnover is low in insurance office; Companion Companies home offices, Omaha. W. Norris. il Am Bsns 21:18-19+ Ja '51

INSURANCE company of Texas

Labor unions buy stock control. Nat Underw 55:1 S 6 '51

INSURANCE conventions

Buffalo's third insurance day is highly successful. Nat Underw 55:21+ Ap 12 '51

Chicago insurance day attracts 900. Nat Underw 55:4+ Ap 12 '51

Insurance day at Pittsburgh hits new high mark. Nat Underw 55:1+ Mr 1 '51

South Carolina insurance days program, May 10-11, Columbia. East Underw 52:50 My 18 '51

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Insurance, Life—Agents—Conventions

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INSURANCE departments

Against heckling; tells his attitude on running department. J. E. Day. Nat Underw 54:7 N 16 '50; Same. Nat Underw (Life ed) 54:14 N 17 '50

Bartsch to leave Illinois department. Nat Underw 55:2 O 4 '51

Life insurance agent and the state insurance department. C. G. Dougherty. East Underw 52:50+ pt 2 O 5 '51

Michigan department aims at better public service; two-day school for staff. East Underw 52:23 S 28 '51

Michigan department records intact despite $4 million fire in state building. Nat Underw (Life ed) 55:23 F 23 '51; Same abr. Nat Underw 55:9 F 22 '51

New Hampshire department 100 years old. D. Knowlton. East Underw 52:37 My 18 '51

New York insurance department's complaint bureau. East Underw 52:17 My 4 '51

Problems of new commissioner. J. E. Day. East Underw 52:43 Mr 30 '51

Scores complainers who change their minds. J. E. Day. Nat Underw (Life ed) 55:4+ S 7 '51

Separate insurance department approved in Alabama. Nat Underw 55:18 Jl 26 '51; Same. Nat Underw (Life ed) 55:13 Jl 27 '51

State receipts vs. insurance department appropriations shown; tabulation. Nat Underw 55:24 Ja 25 '51

Thinks too many run to department. D. E. Sullivan. East Underw 52:8 Je 29 '51

West Virginia insurance department; history and personnel. J. Morgan. East Underw 51:3+ D 15 '50

INSURANCE economics society of America

Annual meeting, Toronto. Nat Underw 55:19 O 11 '51; Nat Underw (Life ed) 55:6 O 12 '51

Meeting, Chicago, Feb. 5. East Underw 52:29+ F 9 '51

Organization devoted to study of social insurance. E. H. O'Connor. Weekly Underw 164:111+ Ja 6 '51

INSURANCE ethics

Akron A.&H. ethics code formed with aid of Better business bureau. East Underw 52:38 Ja 19 '51

INSURANCE executives association

IEA moves to enlarge scope. East Underw 52:16 Jl 20 '51; Same. Weekly Underw 165:76 Jl 14 '51; Same cond. Nat Underw 55:4 Jl 19 '51

INSURANCE federation of Illinois

Annual meeting, Chicago. Nat Underw 55:25 Mr 22 '51

INSURANCE federation of New York

Annual meeting, 36th, New York, Dec. 6. East Underw 51:31+ D 8 '50; Weekly Underw 163:1310+ D 9 '50; Nat Underw 54:28 D 14 '50

INSURANCE institute of America

Annual meeting, New York. East Underw 52:1+ O 12 '51; Nat Underw 55:1 O 11 '51

Annual meeting, 42d, New York, Nov. 16. East Underw 51:1+ N 17; 19 N 24 '50; Weekly Underw 163:1133 N 18 '50

INSURANCE law

Current trends in fire insurance laws. H. Feuerstein. Weekly Underw 163:909+ O 21 '50

Delivery of policy to broker still held same as delivery to assured; Gandelman vs. Mercantile insurance co. East Underw 52:18 Ag 24 '51

Deposit law committee report. Nat Underw 55:13 O 4 '51; Nat Underw (Life ed) 55:11 O 5 '51; Weekly Underw 165:802 O 6 '51

INSURANCE law—*Continued*

Duty to defend. C. W. Tye. Rough Notes 94:54+ O '51

Insurance court decisions. A. W. Fitzgerald. Weekly Underw 164:128-9+ Ja 6 '51 [cont weekly]

Legislative measures in several states applying to various phases of insurance; list by subjects and by states. Weekly Underw 164:687-8 Mr 17 '51

Uniform deposit law is recommended by NAIC. East Underw 52:25 Je 15 '51

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Insurance, Automobile—Financial responsibility laws

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Arkansas

Substituted service held due process violation where policy issued in foreign state by non-admitted insurer; American farmers insurance company of Phoenix, Arizona vs. Thomason. Weekly Underw 164:181 Ja 13 '51

California

California commissioners' bulletin discusses binding, countersigning policies, issuing cover notes. Weekly Underw 164:550+ Mr 3 '51

California reciprocal cited on judgment rate making; first order under rate regulatory law. Nat Underw 55:9 O 11 '51

Coast independents rap California department attitude on rate law. Nat Underw 55:19 Mr 22 '51

Hearing held on bills that department proposes. Nat Underw 54:36 N 16 '50; Same abr. Nat Underw (Life ed) 54:4 N 17 '50

Colorado

Four insurance measures are signed in Colorado. Nat Underw 55:3 Mr 8 '51

Florida

Florida code with revisions goes to legislature. Nat Underw 55:10 Ap 12 '51; Nat Underw (Life ed) 55:2 Ap 13 '51

Hearings on proposed new Florida insurance code. Nat Underw 55:23+ Mr 8 '51; Same abr. Nat Underw (Life ed) 55:10-11 Mr 9 '51

Larson opposes state-made rate proposal. Nat Underw 55:1 Mr 29 '51

Proposed Florida insurance code. Nat Underw 55:1 F 15 '51

Georgia

Double standard in Georgia; licensing law; editorial. Nat Underw (Life ed) 55:12 S 7 '51

Great Britain

Uberrima fides and the duty of disclosure. Economist 159:844+ N 18 '50

Idaho

Idaho novel rating bill; other bills passed. Nat Underw 55:12 Mr 1 '51

Insurance laws passed by legislature of Idaho. Weekly Underw 164:942 Ap 14 '51

Illinois

Illinois department issues rules on countersignatures. Weekly Underw 163:1182 N 25 '50; Same cond. Nat Underw 54:34 N 23 '50; Same cond. Nat Underw (Life ed) 54:2 D 1 '50

Illinois director asks strict law compliance on surplus lines. Weekly Underw 163:1126 N 18 '50

Illinois legislature winds up good insurance record. Nat Underw 55:14 Jl 5 '51

Illinois moves to clamp down on surplus line monkeyshines. Nat Underw 54:6 D 7 '50

Illinois raises retaliation issue on New York security funds. Nat Underw 55:6 Ag 2 '51

Louisiana

Louisiana insurance exchange plans campaign to inform state's legislators; seek code amendment. Weekly Underw 164:255 Ja 27 '51; Nat Underw 55:26 Ja 25 '51

Michigan

Forbes charges illegal deals to tie up insurance on new buildings. Nat Underw 54:24 N 2 '50

Michigan bills would alter insurance code appreciably. Nat Underw (Life ed) 55:7 Ap 6 '51

Michigan legislature passes several insurance bills. Nat Underw 55:9 Je 7 '51

Progress of insurance measures in Michigan legislature. Nat Underw 55:30 My 10 '51

Two major bills signed by Michigan governor. Nat Underw 55:6 Je 28 '51; Nat Underw (Life ed) 55:6 Je 29 '51

New York (state)

Actuaries given company angle on Sec. 213 revision. R. C. Guest and others. Nat Underw (Life ed) 55:22 O 5 '51

Few controversial insurance measures in New York legislature. Nat Underw 55:1+ Mr 15: 23+ Mr 22 '51

Function of the excess line broker in the New York insurance market. A. J. Flegenheimer. East Underw 52:28+ pt 2 Je 22 '51

Illinois raises retaliation issue on New York security funds. Nat Underw 55:6 Ag 2 '51

Legislative hurdles faced in Sec. 213 change are analyzed. Nat Underw (Life ed) 55:1+ Ag 3 '51; Discussion. 55:1+ Ag 17 '51

North Carolina

Omnibus bill in N.C. to revise insurance laws. Nat Underw 55:14 Mr 22 '51

Pennsylvania

A.&H., fraternal bills signed by Governor. Nat Underw (Life ed) 55:17 Je 1 '51

Pennsylvania bills will modernize insurance law. Nat Underw (Life ed) 55:4 Je 22 '51

Policy, investment changes in Pennsylvania bills. Nat Underw 55:5 Je 28 '51

Texas

Butler asks end to promoters paradise in Texas; recommends changes in insurance code. Nat Underw 55:1+ F 22 '51; Nat Underw (Life ed) 55:6 F 23 '51

Federal court of appeals holds Texas motor vehicle guest statute inapplicable to accident caused by motorboat operating on lake. Weekly Underw 165:652 S 15 '51

Recodification of Texas insurance laws proposed. Weekly Underw 164:490 F 24 '51

Washington, D.C.

Excess or rejected defined; District of Columbia commissioner interprets insurance act. Weekly Underw 165:262+ Ag 4 '51

Washington (state)

St Paul-Mercury, agency fined for violating Washington experience rating plan. Nat Underw 55:32 Mr 22 '51

Washington legislature enacts insurance bills. Weekly Underw 164:686+; 814 Mr 17, 31 '51

Washington tort feasor bill still before legislature; other legislation affecting insurance. Nat Underw 55:8 Mr 15 '51

West Virginia

Department backing 13 insurance bills in W.Va. Nat Underw 55:5 Mr 8 '51; Nat Underw (Life ed) 55:20 Mr 9 '51

Wisconsin

Wisconsin commissioner sponsoring new legislation. Weekly Underw 164:686 Mr 17 '51

Wisconsin legislature insurance action reviewed. Nat Underw 55:12 Je 21 '51

INSURANCE lawyers

Noted insurance law firm adds member, changes name; Barry, Wainwright, Thacher & Symmers becomes Thacher, Proffitt, Prizer, Crawley & Wood. Weekly Underw 163:1465 D 30 '50; Same abr. East Underw 51:24 D 29 '50

INSURANCE libraries

See also

Insurance society of New York—Library

Life insurance association of America—Library

INSURANCE of bank deposits. See Banks and banking—Guaranty of deposits

INSURANCE research

Need for consumer research in insurance field. K. C. Bell. East Underw 52:1+, S 21 '51

INSURANCE society of New York

Annual meeting. East Underw 52:34 Je 29 '51; Weekly Underw 164:1624+ Je 30 '51

50th anniversary. East Underw 52:30 F 23 '51; Nat Underw 55:2 F 22 '51

Future plans. R. V. Goodwin. Weekly Underw 164:560+ Mr 3 '51; Same abr. East Underw 52:23 Mr 2 '51

International in scope. A. C. Goerlich. Weekly Underw 163:957+ O 28 '50

Society publishes story of its first fifty years. East Underw 52:28 Je 1 '51

Some early memories of Society. M. E. Inch. Weekly Underw 164:310+ F 3 '51

Library

Churchill presents Insurance society with 150 volumes on earthquakes. East Underw 51:15 D 29 '50; Same abr. Weekly Underw 163:1351+ D 16 '50

INSURANCE surveys

Insurers get questionnaire from Insurance management & service, inc, Chicago. Nat Underw 55:35 O 4 '51

Under-insured? Kemper and Hartford Accident surveys. Bsns W p 146-8 O 13 '51

What do your clients think of you? survey of insurance habits in residential areas. H. C. Wolff. Rough Notes 94:20+ S '51

INSURANCE surveys, Agents'. See Insurance agents—Service

INSURANCE trusts

Estate effects of loans against insurance; policies subject to an insurance trust. J. A. Segal. Trusts & Estates 90:614-16 S '51

Tax advantages of life insurance trusts. R. L. Olson. Trusts & Estates 90:17-19+ Ja '51

INSURANCE women

Chicago CLU president, Lorraine Sinton. East Underw 52:8 Je 15 '51

First woman director of Home Life of New York; Millicent Carey McIntosh. East Underw 51:8 D 22 '50

Labor department survey shows how many women hold higher level positions in insurance. Nat Underw (Life ed) 55:9-10 Mr 16 '51

Mrs Mabel L. Criss wins achievement award of NOMA. Weekly Underw 164:1407 Je 2 '51

Three women successfully operate James W. Garrett, inc. of New York. East Underw 52:38 S 28 '51

See also

National association of insurance women

INSURED mortgages. See Federal housing administration—Insured mortgage plan

INTAKES

Big precast tubes are sunk for power plant intake. il Constr Methods 33:49-51 Ja '51

Leak detection on sub-aqueous raw water intake line; Wyandotte, Mich. G. Hazey. il diag Water & Sewage Works 98:382-4 S '51

Tunnelers blast plug in lake bottom to make intake for Scottish hydro job. diag Eng N 147:65 Ag 30 '51

Unique cofferdam foils Old Man River; building intake was to supply cooling water for Venice no. 2 plant. G. F. Flay, jr. il diag Civil Eng 20:780-4 D '50

INTEGRAL equations

First passage time probability problem. A. J. F. Siegert. bibliog Phys R 81:617-23 F 15 '51

Integral-equation solution of the daylighting problem. D. E. Spencer and V. J. Stakutis. bibliog diag Franklin Inst J 252:225-37 S '51

Monte Carlo method for solving a class of integral equations. R. E. Cutkosky. J Res Nat Bur Stand 47:113-15 Ag '51

INTEGRALS

Concerning a definite integral. Y. L. Luke and D. Ufford. bibliog J Aeronautical Sci 18:429-30 Je '51

Convergence of Cauchy-Riemann sums to Cauchy-Riemann integrals. O. Szász and J. Todd. J Res Nat Bur Stand 47:191-6 S '51

Infinite integrals in quantum electrodynamics. D. C. Peaslee. Phys R 81:107-9 Ja 1 '51

INTEGRATION

Numerical integration as a labor-saving device in the compilation of thermodynamic properties of polyatomic molecules. R. E. Pennington and K. A. Kobe. J Chem Phys 19:510-11 Ap '51

INTEGRATORS

Chart reading by the Emco McGaughy integrator method. W. J. Kennedy. Instruments 23:1082-3 O '50

Combined current indicator and integrator. W. A. Higinbotham and S. Rankowitz. diags R Sci Instr 22:688-90 S '51

Current integrator. G. M. B. Bouricius and F. C. Shoemaker. diag R Sci Instr 22:183-4 Mr '51

Electronic work-recovery integrator. L. P. Haner. il diags Textile Res J 21:277-80 My '51

Light flux integrator. E. Atherton. diag Soc Dyers & Col J 66:545-60 O '50

Principle and design of a new type Stieltjes integrator. E. H. Winkler. il diag R Sci Instr 22:406-10 Je '51

INTELEX

Electric ticket-reserving system. W. R. Triem and J. S. Jammer. il diags Elec Eng 69:775-80 S '50; Same. Elec Com 27:250-9 D '50

INTELLECTUAL cooperation

First exploratory effort in world metallurgy; World metallurgical congress, Detroit, Oct. 15-19. A. H. Allen. Steel 128:76-7+ Je 11 '51

INTELLECTUAL property

Copyright and the right to credit. R. R. Shaw. Science 113:571-3 My 18 '51

INTELLIGENCE

Advertising and the decline of national intelligence. W. S. Roberts and others. Ptr Ink 236:29-31 Jl 27 '51; Discussion. 236:32 Ag 10; 32-3 Ag 17 '51

Intellectual resources. D. Wolfle. Sci Am 185:42-6 S '51

INTER-AMERICAN affairs, Institute of. See Institute of inter-American affairs

INTER-AMERICAN conferences. See Pan American conferences

INTER-AMERICAN press association

Annual meeting, Montevideo, Oct. 8-12. Ed & Pub 84:28 S 15 '51

IAPA to have its headquarters in New York. Ed & Pub 84:13 Mr 10 '51

INTER-AMERICAN press conference

Latin American delegates end visit in D.C. Ed & Pub 83:6 O 21 '50

INTER-AMERICAN relations

Inter-American solidarity and the Asian crisis. J. S. Carson. Ann Am Acad 276:112-17 Jl '51

INTERCHANGEABLE mechanism

Interchangeable heads on metering pumps. il diags Product Eng 22:208-9 O '51

Stamped switch mechanism is designed for interchangeability. E. Drewitz. il diag Machine Design 23:137-40 F '51

INTERCOMMUNICATING systems

AMC redesigns plane intercoms. il Aviation W 54:36+ My 21 '51

Hospital intercom helps nurses do more. il Bsns W p 130+ O 6 '51

How loudspeakers expedite yard operation on the Wabash at Moberly. il plan Ry Age 131:42-5 Ag 13 '51

How modern communications systems expedite operations at Toledo; New York Central's new Central union terminal. il Ry Age 131:70-1 Jl 9 '51

Intercoms replace two girls handling timecards at Burd piston ring co. il Am Bsns 21:36-7 Jl '51

Interplant tube speeds ready mix orders. il Concrete 58:8-9 D '50

New tube system solves problems of interoffice communication. Elec Eng 69:1134-5 D '50

Now hear this! modern power plant communication. W. B. Jarzembski. il Power Eng 55:58-9 S '51

Semi-automatic production technique. diags Tv Eng 2:8 Jl '51

We pick up a phone to get real control of operations; Tuttle & Bailey's inside phone system. G. E. Herre. il Factory Management 109:78-80 Ja '51

INTERCONNECTION of power systems. See Electric plants—Interconnection

INTERESSEN gemeinschaft farbenindustrie aktiengesellschaft

Dispersal of I. G. Farbenindustrie. For Comm W 43:13 My 21 '51

I.G. Farben shareholders invited to declare shares. For Comm W 44:15 Ag 6 '51

INTEREST

Bank rates on business loans; average of rates charged on short-term loans to businesses by banks in selected cities, yearly average, 1941-1950 and quarterly for 1950. Fed Res Bul 37:66 Ja '51 [cont monthly]
Borrowing costs climb on new issues; Consumers Power bonds. Bsns W p 126+ Ap 7 '51
Case for monetary policy. Economist 160:1112-14, 1184-6 My 12-19 '51
Cheaper money. Bsns W p24-5 Jl 28 '51
Dearer commercial credit. Economist 161:109-11 Jl 14 '51
Dearer money in Britain. P. Einzig. Comm & Fin Chr 174:63 Jl 5 '51
Financial mobilization and the interest rate. J. W. Snyder. Comm & Fin Chr 173:429+ Ja 25 '51
High cost of cheap money. D. W. Michener. Comm & Fin Chr 173:2552-3 Je 21 '51
Higher interest rates as inflation curb. P. W. McCracken. Comm & Fin Chr 172:2451 D 21 '50
Higher rates for bank advances. Economist 160:1520 Je 23 '51
Impact of flexible interest rate policy on bond prices. R. L. Reierson. Comm & Fin Chr 173:1758+ Ap 26 '51
Interest rates in Europe. Economist 159:1039+ D 9 '50
Interest rates made by government, not life companies. V. Howell. East Underw 52:7 O 12 '51
Money market factors in industrial problems; federal policy of low interest rates and pegged bond prices engenders inflation. R. C. Tyson. Comm & Fin Chr 173:2060 My 17 '51
New phase in interest rate policy. J. S. Williams. Mag of Wall St 88:14-15+ Ap 7 '51
On the cheap; let's quit fooling about easy money. Barron's 31:1 Mr 5 '51
Open-market money rates in New York city, 1948-1950 yearly average, monthly Dec. 1949-Dec. 1950 and weekly Dec. 1950. Fed Res Bul 37:66 Ja '51 [cont monthly]
Open-market rates; Canada, United Kingdom, France, Netherlands, Sweden and Switzerland, yearly Oct. 1942-Oct. 1949 and monthly Nov. 1949-Oct. 1950. Fed Res Bul 37:115 Ja '51 [cont monthly]
Schumpeter's theory of interest. G. Haberler. R Econ & Stat 33:122-8 My '51
What tightening money portends for business. J. S. Williams. Mag of Wall St 88: 180-2+ My 19 '51

See also

Savings deposits—
  Interest
Usury

Taxation

Tax discrimination against the investor; proposed withholding tax on interest and dividends. W. Jackman. Comm & Fin Chr 174: 249+ Jl 19 '51
Withholding interest and dividend payments; insurance lawyers appear before Senate committee. East Underw 52:3-4 Jl 20 '51; Abstract. Nat Underw (Life ed) 55:1 Jl 13 '51

INTERESTERIFICATION. See Esterification

INTERFACES

Effect of the cutting fluid upon chip-tool interface temperature. M. C. Shaw and others. bibliog il diags A S M E Trans 73: 45-52; Discussion. 52-6 Ja '51
Interface and marker movements in diffusion in solid solutions of metals. L. C. Correa da Silva and R. F. Mehl. bibliog il diags J Metals 191:Trans 155-73 F '51
Intergranular energy of iron and some iron alloys. L. H. Van Vlack. bibliog il diags J Metals 3:Trans 251-9 Mr '51
Leaky-condenser oxide cathode interface. A. Eisenstein. bibliog il diags J Ap Phys 22: 138-48 F '51
Measurement of relative interface energies in twin related crystals. C. G. Dunn and others. bibliog il diags J Metals 188:Trans 368-77 F '50; Discussion. 188:Trans 1361-2 N '50
Metallographic study of diffusion interfaces. G. C. Kuczynski and B. H. Alexander. il J Ap Phys 22:344-9 Mr '51
Properties of freshly formed surfaces; the application of the contracting liquid-jet technique to the measurement of tensions at liquid-liquid interfaces. C. C. Addison and T. A. Elliott. diag Chem Soc J p3090-6 N '50
Reflection and transmission. B. A. Lengyel. J Ap Phys 22:263-4 Mr '51

INTERFACIAL tension

Crystallography and interfacial free energy of noncoherent twin boundaries in copper. R. L. Fullman. il diags J Ap Phys 22:456-60 Ap '51
Effect of temperature on the thermodynamic properties and interfacial tension of water with some alkyl esters of monochloroacetic acid. J. J. Jasper and W. J. Mayer. bibliog Am Chem Soc J 72:4767-9 O '50
Interfacial free energy of coherent twin boundaries in copper. R. L. Fullman. bibliog il diags J Ap Phys 22:448-55 Ap '51
Interfacial tension at elevated pressure and temperature; interfacial properties of hydrocarbon-water systems. A. S. Michaels and E. A. Hauser. bibliog il J Phys & Colloid Chem 55:408-21 Mr '51
Interfacial tension of some hydrocarbons against water. W. E. Rose and W. F. Seyer. bibliog diags J Phys & Colloid Chem 55: 439-47 Mr '51
Surface and interfacial tension titrations of long chain quaternary salts in brom phenol and brom thymol blue solutions. E. L. Colichman. bibliog Am Chem Soc J 73:1795-8 Ap '51

See also

Contact angle

INTERFERENCE (light)

Contour mapping of optical surfaces with light waves. Product Eng 22:155 Jl '51; Excerpt. Mach 57:160 Ag '51
Fresnel interference in the Michelson interferometer. P. G. Guest and J. G. Clouston. diag Opt Soc Am J 40:787 N '50
Interference mirrors for arc projectors. G. J. Koch. diag Soc Motion Picture & Tv Eng J 55:439-42 O '50
Study of the diffusion of potassium chloride in water at 25° with the Gouy interference method. L. J. Gosting. bibliog diags Am Chem Soc J 72:4418-22 O '50
Wavelength calibration in the infrared by interference. C. V. Cooper and J. D. Stroupe. bibliog Opt Soc Am J 41:427 Je '51

INTERFERENCE, Radio. See Radio communication—Interference

INTERFEROMETERS

Compound Fabry-Perot interferometer. D. H. Rank and others. bibliog il Opt Soc Am J 41:351-3 My '51
Design and performance of a simple interferometer for wind-tunnel measurements. H. I. Ashkenas and A. E. Bryson. il diag J Aeronautical Sci 18:82-90 bibliog(44 titles, p89-90) F '51
Effect of phase changes in white light interferometry. L. G. Schulz. bibliog diags Opt Soc Am J 41:261-4 Ap '51
Effect of size and spectral purity of source on fringe pattern of the Mach-Zehnder interferometer. F. D. Bennett. J Ap Phys 22: 776-9 Je '51
Fresnel interference in the Michelson interferometer. P. G. Guest and J. G. Clouston. diag Opt Soc Am J 40:787 N '50
Interferometric calibration of precision screws and control of ruling engines; Commensurator. G. R. Harrison and J. E. Archer. bibliog il diags Opt Soc Am J 41:495-503 Ag '51
Interferometric method for accurate thickness measurements of thin evaporated films. L. G. Schulz. diags Opt Soc Am J 40:690-2 O '50
Interferometric method of determining diffusion coefficients in gaseous systems. C. A. Boyd and others. il diags J Chem Phys 19: 548-53 My '51
Interferometry in electrophoresis. L. G. Longsworth. bibliog diags Anal Chem 23: 346-8 F '51
Measurement of thin film thickness by interferometry. S. Tolansky. Opt Soc Am J 41:425-6 Je '51

INTERFEROMETERS—*Continued*

Mercury and krypton isotope electric discharge lamps; their applications to interferometry. N. L. Harris. il Engineer 190: 409-11 N 3 '50

Method for the adjustment of the compensator plate of a Michelson interferometer. J. E. H. Braybon. il diags J Sci Instr 27: 331-2 D '50

Optimum source size for the Mach-Zehnder interferometer. F. D. Bennett. diag J Ap Phys 22:184-90 F '51

Phase-shift measurement of thin films and its amplification. K. Ishiguro. Opt Soc Am J 40:789-90 N '50

Photoelectric recording interferometer for measurement of dimensional changes. R. N. Work. diags J Res Nat Bur Stand 47: 80-6 Ag '51

Precise topography of optical surfaces. J. B. Saunders. il diags J Res Nat Bur Stand 47:148-55 S '51

Shape of reflected interference fringes from interferometers coated with thin metal films. J. Holden. bibliog il Opt Soc Am J 41:504-10 Ag '51

Simple interferometric test for conical flow. J. H. Giese and others. il J Ap Phys 21: 1226-31 D '50

Tiselius-Claesson interferometric adsorption analysis apparatus. R. T. Holman and L. Hagdahl. bibliog il Anal Chem 23:794-7 My '51

INTERFEROMETERS, Sonic

Dispersion of velocity and anomalous absorption of ultrasonics in nitrogen. A. J. Zmuda. bibliog diags Acoustical Soc Am J 23:472-7 Jl '51

Energy transfer by collision in benzene vapor. L. M. Cheng. bibliog J Chem Phys 19: 693-7 Je '51

Hot-wire ultrasonic interferometer and its application to vapors. K. Matta and E. G. Richardson. bibliog diags Acoustical Soc Am J 23:58-61 Ja '51

Ultrasonic velocities in gases at low pressures. R. A. Boyer. bibliog diag Acoustical Soc Am J 23:176-8 Mr '51

INTERFLECTION tables. See Lighting—Tables, calculations, etc.

INTERIOR decoration

See also

Wall coverings, Plastic

INTERLOCKING devices

Electrical control of dangerous machinery and processes; electrically interlocked guards on machines. W. F. Cooper. il diags Inst E E Proc 98 pt 2:349-57 Je '51; Same cond. Engineering 171:171-3 F 9 '51; Discussion. Inst E E Proc 98 pt 2:358-61 Je '51; Electrician 146:315-16 Ja 26 '51

INTERLOCKING directorates

Federal trade commission indicts itself; Report on interlocking directorates. M. T. Copeland. Harvard Bsns R 29:25-34 S '51

FTC planning legislation to cover indirect interlocking directorates. Oil Paint & Drug Rep 159:5+ Mr 19 '51

INTERMETALLIC compounds

Intermetallic compounds in the system molybdenum-beryllium. S. G. Gordon and others. bibliog il diag J Metal 3:Trans 637-8 Ag '51

Pseudo-metallic bonding of hydrides. A. R. Ubbelohde. diag Chem Soc J p 1143-6 Ap '50

INTERNAL combustion engines

Chemical engineering unit processes fourth annual review; combustion, 1948-1950. B. Lewis and G. von Elbe. Ind & Eng Chem 43:1925-41 bibliog(834 ref, p 1933-41) S '51

Crankcase explosions. F. V. Cook. diags World Oil 131:213-14+ N '50; Same. Oil & Gas J 49:291+ N 16 '50; Same. Pet Eng 22:D15-16+ D '50; Same cond. Pet Processing 5:1304-5 D '50; Discussion. World Oil 131:201-2+ D '50; Pet Processing 5:1305-6 D '50

Crankless engine nears production stage. R. Sneddon. il Pet Eng 23:C41-2 Ag '51

Early Akroyd oil engines. A. E. Davidson. Engineering 170:415, 450-2 N 24-D 1 '50

More mileage per gallon promised from new engine; knock-proof engine being developed by the Texas co. World Oil 131:48 N '50

Small engines and dynamometers for pilot testing; abstract. W. F. Ford and O. L. Spilman. S A E J 59:79+ F '51

Texaco combustion process. E. M. Barber and others. il diags Diesel Power 29:32-5+ My '51; Abstract. Pet Eng 22:C34-5+ D '50

Twin cylinder gasoline engine is light weight. il Product Eng 22:184 Ja '51

See also

Airplane engines
Automobile engines
Cylinders (engines, etc.)
Diesel engines
Gas turbines
Indicators (for internal combustion engines)
Locomotives, Diesel
Motor boat engines, Outboard
Motor bus engines
Motor cars (railroad)
Motor truck engines

Care

Simple protection stops deterioration of idle engines. Constr Methods 32:68+ N '50

Combustion research

Electronic particle counter for engine combustion studies. il Automotive Ind 104:52+ Je 1 '51

New method for analysis of jet engine exhaust gas. diag Automotive Ind 105:60+ Jl 15 '51; Pet Processing 6:885 Ag '51; Franklin Inst J 252:349-50 O '51

Power output; work of Weslake laboratories. il diags Automobile Eng 41:283-6 Ag '51

Significant contributions of the Diesel research laboratory. C. G. A. Rosen. bibliog diags Inst Mech Eng Proc (Auto div pt 1): 7-25, pl 1-8 '50-51

Control

Speed control and synchronization of multi-unit internal combustion engine plants. H. C. Givens. il diags Instruments 23:1244-7 D '50; Same abr. Oil & Gas J 49:69-70+ Mr 1 '51

Cooling

Dry-cooling vs. water-cooling at compressor stations. H. E. Degler. flow diags il Gas Age 108:29-31 Ag 2 '51

Individual drive cooling units. il World Oil 132:193 Ja '51

Jacket-water temperature control; Signal Oil & Gas uses vapor-phase cooling on drilling engines. il Oil & Gas J 50:88-9 Ag 2 '51

New concept in internal combustion engine cooling; use of Orsil. R. A. Hundley. diag S A E J 58:33-9 N '50

Exhaust

Analysis of the exhaust process in four-stroke reciprocating engines. J. D. Stanitz. bibliog A S M E Trans 73:319-26; Discussion. 326-9 Ap '51

Catalytic exhaust for gas lift trucks. il Automotive Ind 104:56 Ja 1 '51

SO_2 and SO_3 in exhaust gases of internal-combustion engines. M. J. van der Zijden and others. bibliog diags Inst Pet J 36:561-74 S '50

Take the poison out of engine exhausts; industrial trucks. il Safety Maint & Prod 101: 28+ Ap '51

Fuel

Apparatus for studying autoignition of engine fuels; results with normal heptane and normal hexane. W. J. Levedahl and F. L. Howard. bibliog il J Res Nat Bur Stand 46:301-9 Ap '51

Emission spectra of first-stage combustion in an engine. H. P. Broida and others. J Chem Phys 19:797 Je '51

Evaluation of fuels using the Jentzsch ignition tester. R. B. Gilmer and H. F. Calcote. bibliog il Ind & Eng Chem 43:181-4 Ja '51

Fuel feeding

Engine and carburetion-equipment requirements for L.P.G. fuel; abstracts. A. J. St George. flow diag Oil & Gas J 49:77-8 F 8 '51; S A E J 59:66-8 Ag '51

Petrol injection; special Bosch equipment for two-stroke engines. diag Automobile Eng 41:344-5 S '51

Ignition devices

Good ignition spells economical engine performance. H. C. Campbell. Constr Methods 33:79-80 S '51

INTERNAL combustion engines—*Continued*

Lubrication

Crankcase oil control in vertical engines. C. J. Kremer, jr. diags Pet Eng 23:D3-4 S '51

Lubrication of refinery equipment. C. M. Larson. il diags Pet Eng 23:C9-12 Ja '51

Maintenance and repair

Dirt; engine enemy number one. H. C. Campbell. il Constr Methods 33:123-4 Jl '51

Manufacture

Boring the big rods; Cooper-Bessemer corp. J. A. Stevenson. il diags Am Mach 94:116-17 O 30 '50

Engines that power our tanks. C. H. Wick. il diag Mach 57:146-57 Ja '51

Manual handling reduced on Waukesha engine assembly lines; illustrations with text. Automotive Ind 105:46-7 Jl 1 '51

Permanent mold casting of aluminum engine blocks. il diag Foundry 78:84-5+ D '50

Models

Plexiglas engine built. Steel 128:112+ Je 11 '51; il Materials & Methods 33:10 Je '51; Mod Plastics 28:91 Ag '51

Mufflers

Muffler arrangement for engines. J. C. Albright. il Pet Eng 23:B52 Mr '51

Muffler mounting to check back drainage. il World Oil 131:134 D '50

Mufflers; their function and design in stationary internal-combustion engines. M. P. Siroff. il diags Oil & Gas J 49:73-4+ Mr 1 '51

Specifications

1951 automotive gasoline engines; tabulations. Automotive Ind 104:156-65 Mr 15 '51

1951 U.S. small gasoline engines; tabulation. Automotive Ind 104:176-7 Mr 15 '51

Starting

How to operate a tractor cold-weather starting system. diags Coal Age 56:97 Ja '51

Starter works on compressed air. il Product Eng 22:210 S '51

Storage

Mothballs for idle engines. Sewage & Ind Wastes 23:109-10 Ja '51

Superchargers

Supercharging of internal-combustion engines. H. R. Ricardo. il diag Inst Mech Eng Proc 162 no 4:421-8 '50; Same. Engineer 190:501-2, 519-22 N 24-D 1 '50; Same. Engineering 170:433-4, 481-3 D 1-8 '50

See also

Airplane engines—Superchargers

Diesel engines—Superchargers

Testing

Effects of pressure and other variables on determinations of octane number. W. J. Levedahl. J Res Nat Bur Stand 45:148-53 Ag '50

Valves

Engine valve failures and remedies. A. L. Pomeroy. il diags World Oil 133:224+ Jl '51

INTERNAL combustion engines, Marine

Marine engines at the motor show. il Engineer 190:463-4 N 17 '50

Torsional vibrations minimized in reverse and reduction gears. il Automotive Ind 104:48+ Ap 1 '51

See also

Diesel engines, Marine

Motor boat engines, Outboard

Motor ships

INTERNAL conversion. See Gamma rays

INTERNAL friction. See Friction, Internal

INTERNAL revenue

See also

Corporations—Taxation

Excise tax

Income tax

Inheritance tax

INTERNAL revenue bureau. See United States—Internal revenue, Bureau of

INTERNATIONAL acetylene association

Address of the president. C. E. Monlux. Welding J 30:764-5 Ag '51

INTERNATIONAL advertising. See Advertising—International aspects

INTERNATIONAL advertising conference, London

Advertising in free world gets going over in London. Ptr Ink 236:11 Jl 13 '51

Conference, London. Ed & Pub 84:11-12+ Jl 14; 12 Jl 21 '51

Conference, London, July 7-13. Ed & Pub 84:58 My 12 '51

Program, July 7-13. Ed & Pub 84:20+ Je 30 '51

Public service ads top agenda of IAC parley. Ed & Pub 84:22 Mr 17 '51

INTERNATIONAL air line pilots association. See Air line pilots Association, International

INTERNATIONAL association of accident and health underwriters

Annual meeting, Dallas, June 10-13. East Underw 52:28, 30-4 Je 15; 30 Je 22 '51; Nat Underw 55:25+ Je 14 '51; Nat Underw (Life ed) 55:3+ Je 15 '51; Weekly Underw 164:1525-6 Je 16 '51

Review of 1950 activities. J. B. Lambert. Weekly Underw 164:60+ Ja 6 '51

INTERNATIONAL association of casualty and surety underwriters

Joint meeting with National association of casualty and surety agents, White Sulphur Springs, W.Va. Sept. 23-26. East Underw 52:28-33 S 28; 30+ O 5 '51; Nat Underw 55:17 S 27; 30+ O 4 '51; Weekly Underw 165:752-3 S 29 '51

INTERNATIONAL association of electrical inspectors

Northwestern and Southwestern sections annual meetings, Seattle and San Jose. Elec West 105:94-7 O '50

INTERNATIONAL association of machinists

Drive on garages by IAM and Teamsters. Bsns W p32+ Jl 7 '51

Who'll replace Hayes as independents' voice? Bsns W p 111-12 Ja 20 '51

INTERNATIONAL association of printing house craftsmen

Annual convention, 32d, Boston, Aug. 19-22. Inland Ptr 127:48-51 S '51

Annual convention, 32d, Boston, Aug. 19-22; program. Inland Ptr 127:54-5+ Ag '51

Annual meeting, 31st, Chicago, Sept. 10-13. Inland Ptr 126:47-9 O '50

1951 album of presidents. Inland Ptr 127:62-7 Ag '51

INTERNATIONAL associations

Towards international collaboration in science. L. H. Lampitt. Chem & Ind p485-93 Je 30 '51

Directories

Directory of international scientific organizations. (Unesco pub. 619) 221p pa $1 Columbia univ. press, 2960 Broadway, New York 27 '50

INTERNATIONAL bank for reconstruction and development

Bretton Woods institutions today. J. W. Snyder. Comm & Fin Chr 174:958 S 13 '51

Ethiopia gets BRD loan for telecommunication improvement. For Comm W 42:23 Mr 12 '51

Foreign loans mobilized, too. Bsns W p 141-2 F 10 '51

Fund and bank; notes on the Washington meetings. Economist 161:640-2 S 15 '51

Guideposts and procedures in world bank loans. O. A. Schmidt. Comm & Fin Chr 172:1501+ O 19 '50

International bank; financial condition September 1949 and March, June and September 1950. Fed Res Bul 37:110 Ja '51 [cont monthly]

IBRD active on three building fronts. Eng N 147:49-50 Ag 9 '51

International bank loans made to Union of South Africa. For Comm W 42:10 Mr 12 '51

International bank more active. Economist 160:101-5 Ja 13 '51

International bank today. E. R. Black. Comm & Fin Chr 174:951+ S 13 '51

International bank's reserves; another successful fiscal year. Economist 161:362 Ag 11 '51

$100,000,000 issue marketed. Comm & Fin Chr 174:968 S 13 '51

Report for fiscal year ended June 30, 1951; summary. Comm & Fin Chr 174:615 Ag 16 '51; Same abr. Banking 44:136 S '51

INTERNATIONAL bank for reconstruction and development—*Continued*
World bank adopts new borrowing policy. Comm & Fin Chr 173:530 F 1 '51
World bank and fund. D. C. Abbott. Comm & Fin Chr 174:954-5 S 13 '51
World bank and fund meetings. Nat City Bank p 116-19 O '51
World bank bonds. Bsns W p 118-19 F 10 '51
World bank bonds marketed in Britain. E. R. Black. Comm & Fin Chr 173:2271 My 31 '51
World bank loan in London. Economist 160:1118, 1188 My 12-19 '51
World bank operations on business basis. S. Aldewereld. Comm & Fin Chr 174:878-9 S 6 '51

INTERNATIONAL bank of Washington
Ford, du Pont, others take over a bank. Bsns W p20 Jl 28 '51

INTERNATIONAL banks. See Bank for international settlements; International bank for reconstruction and development

INTERNATIONAL botanical congress
Congress, 7th, Stockholm, Sweden, July 12-20. Science 112:443-5 O 13 '50

INTERNATIONAL brotherhood of blacksmiths, drop forgers and helpers (now International brotherhoods of boilermakers, iron ship builders, blacksmiths, forgers and helpers)
Rail maintenance unions unite. Bsns W p 124 Mr 3 '51

INTERNATIONAL brotherhood of boilermakers, iron ship builders and helpers of America (now International brotherhoods of boilermakers, iron ship builders, blacksmiths, forgers and helpers)
Rail maintenance unions unite. Bsns W p 124 Mr 3 '51

INTERNATIONAL brotherhood of paper makers
Damage suit dismissed; suit of the Paterson parchment co. against the AFL paper makers. Paper Tr J 133:20 Ag 24 '51

INTERNATIONAL brotherhood of teamsters, chauffeurs, warehousemen and helpers
Drive on garages by IAM and Teamsters. Bsns W p32+ Jl 7 '51

INTERNATIONAL brotherhoods of boilermakers, iron ship builders, blacksmiths, forgers and helpers
Technology elbows out a union; merger of Blacksmiths, drop forgers and helpers and Boilermakers, iron ship builders and helpers. il Bsns W p38-40+ Jl 14 '51

INTERNATIONAL business machines corporation
Annual report. Comm & Fin Chr 173:1071 Mr 12 '51
Security I like best. O. G. Judd. Comm & Fin Chr 174:858+ S 6 '51

INTERNATIONAL chamber of commerce
Biannual congress, 13th, Lisbon, Portugal. Bsns W p 116-17 Je 30 '51

INTERNATIONAL circulation managers association
Annual convention, 52d, Washington. Ed & Pub 84:9-11 Je 23 '51
Annual meeting, 52d, Washington, June 19-21; program. Ed & Pub 84:46 My 12 '51
ICMA reports. Ed & Pub 84:53 Je 23 '51

INTERNATIONAL claim association
Annual meeting, 42d, Spring Lake, N.J., Sept. 10-12. East Underw 52:4, 17 S 14 '51; Nat Underw 55:15+, 20 S 13 '51; Nat Underw (Life ed) 55:1+ S 14 '51; Weekly Underw 165:638-9+ S 15 '51
Committees for 1951. Weekly Underw 164:160 Ja 13 '51
Review of 1950 activities. J. W. Ayer. Weekly Underw 164:61+ Ja 6 '51

INTERNATIONAL commission of optics
Meeting, 2d, London, July 17-21. Opt Soc Am J 40:697-8 O '50

INTERNATIONAL commission on glass
International commission on glass. H. R. Lillie. Am Cer Soc Bul 30:215 Je 15 '51
Meeting, Paris, June 5-9. Am Cer Soc Bul 30:276-7 Ag 15 '51
Meeting, Paris, June 5-9. Glass Ind 32:397-401 Ag '51

INTERNATIONAL commission on illumination
Meeting, 12th, Stockholm. Elec R (Lond) 149:13-14, 119-22 Jl 6, 20 '51

INTERNATIONAL competition. See Competition, International

INTERNATIONAL confederation of free trade unions
Congress, 2d, Milan. Economist 161:149 Jl 21 '51
Trade union struggle for Asia and Africa. Economist 160:1378-9 Je 9 '51
World congress of unions supports West. il Bsns W p36-7 Jl 21 '51
Year after. Fortune 43:38+ F '51

INTERNATIONAL conference of naval architects and marine engineers
Conference, London, June 26-29. Engineer 192:23-5, 45-7, 79-81+, 108-11 Jl 6-27 '51; Engineering 172:10-12, 41-2, 86-8, 116-17, 136-7, 165-6, 199-200, 227-9 Jl 6-Ag 24 '51

INTERNATIONAL conferences
See also
Pan American conferences
also Inter-American press conference; International union of pure and applied chemistry

INTERNATIONAL congress of crystallography
Congress, 2d, Stockholm, June 27-July 5. Chem & Eng N 29:3082-3 Jl 30 '51

INTERNATIONAL congress of mathematicians
Congress, Cambridge, Mass. Aug. 30-Sept. 6. Science 112:547-8 N 3 '50

INTERNATIONAL congress of microbiology
Congress, 5th, Rio de Janeiro, Aug. 17-24. Science 112:511 O 27 '50

INTERNATIONAL congress of pure and applied chemistry
Conference, 12th, Sept. 10, New York; abstracts of papers on elastomers and plastomers. Rubber Age 69:581-3 Ag '51
Congress, 12th, New York, Sept. 10-13; program. Chem & Eng N 29:2592-626 Je 25 '51
U.S. seizes opportunity for distinguished foreign lecturers. Chem & Eng N 29:3166+ Ag 6 '51
World congress in chemistry, 12th, New York, Sept. 9-13. Chem & Eng N 29:3936-78 S 24 '51

INTERNATIONAL congress of refrigeration, London, 1951
List of papers. Refrig Eng 59:789+ Ag '51
Meeting, 8th, London, Aug. 29-Sept. 11. Refrig Eng 59:557+ Je '51

INTERNATIONAL cooperation
Canada-U.S. form industrial co-op for defense order needs. Iron Age 166:140 D 7 '50
Honors night dinner address. J. E. Webb. Aeronautical Eng R 10:30-1 Mr '51
International co-operation in the service of health. C.-E. A. Winslow. Ann Am Acad 273:192-200 Ja '51
See also
Aeronautics, Commercial—International aspects
Institute of Pacific relations
Intellectual cooperation
International hydrographic bureau
Science—International aspects
United nations educational, scientific and cultural organization

INTERNATIONAL correspondence schools
Industrial training as you like it. il Bsns W p42-4+ Mr 3 '51

INTERNATIONAL council for building documentation
International council for building documentation. R. L. Mushabac. Special Lib 42:220+ Jl-Ag '51

INTERNATIONAL council on archives
International council on archives. L. K. Born. J Doc 7:15-17 Mr '51

INTERNATIONAL electrotechnical commission
Technical committees and committee of action meeting, Estoril, Portugal, July 4-12. Elec R (Lond) 149:193-7 Jl 27 '51

INTERNATIONAL ethics
Moral edge. E. E. Wilson. Air Affairs 3:541-7 D '50

INTERNATIONAL federation
Sovereignty is no giveaway gimmick! H. Cope. il U S Naval Inst Proc 77:504-11 My '51
See also
Atlantic union (proposed)

INTERNATIONAL federation of editors in chief
Congress, Paris, May 7-9. Ed & Pub 84:22 My 26 '51

INTERNATIONAL federation of newspaper publishers and editors
FIEJ heeds U.S. leaders in shunning government controls. D. Willens. Ed & Pub 84:9 Je 2 '51

INTERNATIONAL federation of technical engineers, architects and draftsmen's unions
Technical engineers get union-minded. Bsns W p36 Je 2 '51

INTERNATIONAL fur and leather workers
Welfare state in Williamsburg. Fortune 44:85 O '51

INTERNATIONAL harvester company
Camera watches directors at work. Bsns W p37-8 F 3 '51
International Harvester continues to share in farmer's prosperity; with financial data, 1940-1950. J. A. McWethy. Barron's 31:11-12 Mr 5 '51
One boss at I-H. Bsns W p 112-13 Je 9 '51

INTERNATIONAL hydro-electric system
Assets are increasing in value. Barron's 31:29-30 Ap 16 '51
Public utility securities. O. Ely. Comm & Fin Chr 173:1765 Ap 26 '51
Security I like best. B. F. Seligmann. Comm & Fin Chr 173:1244-5 Mr 22 '51

INTERNATIONAL hydrographic bureau
International hydrographic bureau. C. L. Nichols. il U S Naval Inst Proc 77:716-20 Jl '51

INTERNATIONAL labor conference
Conference, 34th, Geneva, June 6-30. Mo Labor R 73:159-63 Ag '51
Thirty-third session, Geneva, June-July 1950. Int Labour R 62:211-41 S-O '50

INTERNATIONAL labor organization
Points out threat to insurance in ILO social security minimum standards. R. H. Kastner. Nat Underw (Life ed) 55:26-7 O 12 '51; Same abr. East Underw 52:4 O 19 '51
Threat to business seen in adoption of ILO social security convention. Nat Underw (Life ed) 55:4 O 5 '51

Committee of experts on indigenous labour

Meeting, 1st, La Paz, Bolivia. Int Labour R 64:61-84 Jl '51

Joint maritime commission

Joint maritime commission and the maritime work of the I.L.O. Int Labour R 62:337-63 N '50

INTERNATIONAL ladies garment workers union
Growth and work of ILGWU health centers. Mo Labor R 71:709-10 D '50
How to become a labor leader; ILGWU's training institute; illustrations with text. Bsns W p96-8 Ja 13 '51
Labor relations take a holiday. il Bsns W p30+ Je 16 '51
Please organize! New York dress shops' unusual appeal. Bsns W p 106-7 Ja 6 '51

INTERNATIONAL law
See also
Air rights (international law)
Submarine warfare

Yearbooks

Inter-American juridical yearbook, 1949. 389p $3 Pan American union, Constitution av & C st, NW, Washington 6 '50

INTERNATIONAL life insurance company
Debentures offered. Comm & Fin Chr 173:761 F 19 '51

INTERNATIONAL lighthouse conference
Conference, 4th, Paris, July 3-8. Engineering 170:138-9, 160-1, 186, 274, 400, 477, 570-1 Ag 11-25, S 29, N 24, D 8, 29 '50

INTERNATIONAL longshoremen's and warehousemen's union
Bridges still top man. Bsns W p41-3 Ap 21 '51
Dock security check; ILWU yields. il Bsns W p 112-13 Ja 20 '51
Hapco to ILWU. il Bsns W p37+ Ag 4 '51
ILWU faces payment of $750,000 damages. Bsns W p39-40 My 19 '51
Peace at Hapco. Bsns W p32 S 22 '51
Pineapple trouble; Bridges' local at Hawaiian Pine wants more pay. Bsns W p38 Ap 7 '51
Red strength has faded in Canal Zone, but is still great in Hawaii. Bsns W p38+ Ag 18 '51
San Francisco waterfront battleground; AFL gangs up on Bridges. il Bsns W p32+ O 6 '51

INTERNATIONAL longshoremen's association
Last of the business rackets; New York waterfront. D. Bell. il Fortune 43:88-91+ Je '51

INTERNATIONAL mailers union
Urges IMU to arbitrate differences. G. N. Dale. Ed & Pub 84:12 Ag 25 '51

INTERNATIONAL marine insurance union
Annual meeting, Eastbourne, England, Sept. 25-27. Nat Underw 54:9+ O 19 '50; Weekly Underw 163:860-1 O 14 '50
Annual meeting, St Moritz, Switzerland. East Underw 52:30+ O 19; 23, 30 O 26 '51; Nat Underw 55:1+ S 27 '51; Weekly Underw 165:743+ S 29 '51
International marine union. H. Jackson. East Underw 51:87 D 15 '50

INTERNATIONAL minerals and chemicals corporation
Security I like best. P. L. Bernstein. Comm & Fin Chr 174:1046 S 20 '51
Stock offered. Comm & Fin Chr 172:2221 D 11 '50

INTERNATIONAL monetary and financial problems, National advisory council on. See National advisory council on international monetary and financial problems

INTERNATIONAL monetary fund
Bretton Woods institutions today. J. W. Snyder. Comm & Fin Chr 174:958 S 13 '51
Exchange control reviewed; comment on second annual report. Economist 160:1577-8 Je 30 '51
Fund and bank; notes on the Washington meetings. Economist 161:640-2 S 15 '51
International fund; financial condition, October 1949 and April, July and October 1950; data on currency purchased Nov. 1949 and Sept.-Nov. 1950. Fed Res Bul 37:110 Ja '51 [cont monthly]
World bank and fund. D. C. Abbott. Comm & Fin Chr 174:954-5 S 13 '51
World bank and fund meetings. Nat City Bank p 116-19 O '51

INTERNATIONAL news photos
Fall fashion note; INP's new photo dept. J. L. Collings. Ed & Pub 84:30 S 8 '51
Photo library gets darnedest requests. J. Collings. Ed & Pub 83:44 D 16 '50

INTERNATIONAL news service
Global expansion noted in INS report. S. Berkson. Ed & Pub 84:139+ Ap 28 '51

INTERNATIONAL nickel company
Higher metal prices may raise it to new earnings level; with financial data 1940-1950. W. T. Moran. Barron's 31:13-14 Mr 12 '51
Overwhelming nickel superiority. Chem Age (Lond) 64:755-6 My 12 '51
Squeeze on nickel. map Fortune 42:93-6+ N '50

INTERNATIONAL organizations
International non-governmental organizations; their purposes, methods, and accomplishments. L. C. White and M. R. Zocca. 325p bibliog(p312-14) $5 Rutgers univ. press, New Brunswick, N.J. '51

INTERNATIONAL paper company
Companies which should maintain their dividends in 1951; with comparative balance sheet items. Mag of Wall St 87:384 Ja 13 '51

INTERNATIONAL patents institute
International patents' institute officially inaugurated. Product Eng 21:161-2 N '50

INTERNATIONAL photo-engravers' union of North America
Annual convention, 50th, New York. Ed & Pub 84:12 Ag 25 '51

INTERNATIONAL physiological congress
Congress, 18th, Copenhagen, Aug. 15-18. Science 112:767-9 D 22 '50

INTERNATIONAL press institute
Institute may open in Switzerland soon. Ed & Pub 84:65 F 10 '51
International institute starts with $270,000 aid. L. Markel. Ed & Pub 84:13 Ap 21 '51

INTERNATIONAL printing pressmen and assistants' union
Union honors Jackson with working card. Ed & Pub 84:56 Je 2 '51

INTERNATIONAL products corporation
Security I like best; investment in Paraguay. M. Winkler. Comm & Fin Chr 172:2078 N 30 '50

INTERNATIONAL railway congress

Congress, 15th, Rome, Sept. 25-Oct. 4. Engineering 170:447, 465-6, 509, 542-3, 571-2; 171: 22, 51, 67-8, 106-7, 136-7, 197-8, 216-18, 249, 293-4 D 1 '50-F 2, 16-Mr 9 '51

INTERNATIONAL refineries, inc.

Offering of securities oversubscribed. Comm & Fin Chr 174:1196 O 1 '51

INTERNATIONAL relations

Neutralism. Economist 160:300-1 F 10 '51

World asks; will armies march? Bsns W p 149-50+ Ap 14 '51

See also

Aeronautics, Commercial—International aspects

Commercial treaties and agreements

International cooperation

International federation

North Atlantic defense alliance

Trading with the enemy

also subdivision Foreign relations under names of countries, e.g. Great Britain—Foreign relations; Russia—Foreign relations; United States—Foreign relations

Bibliography

Washington sources on international affairs; a guide to some research facilities in the District of Columbia area. G. C. Linebarger and others. 54p $2; pa $1 Bur. of public administration, College of business and public administration, Univ. of Md, College Park '51

INTERNATIONAL road federation

International road federation; outline of the objectives and accomplishments. R. O. Swain. Roads & Eng Constr 88:174+ O '50

INTERNATIONAL shoe company

Annual report. Comm & Fin Chr 173:660 F 12 '51

INTERNATIONAL society for cell biology

International congress, 8th, New Haven, Sept. 4-8. Science 112:769-70 D 22 '50

INTERNATIONAL standards. See Standards, International

INTERNATIONAL telephone and telegraph corporation

IT&T dickers for ABC network. Bsns W p 122-4+ Ap 7 '51

Timely study of I.T.&T. S. Devlin. Mag of Wall St 88:405-7+ Jl 14 '51

INTERNATIONAL typographic composition association

Annual convention, Sept. 14-16. Inland Ptr 126:51-2 O '50

INTERNATIONAL typographical union

ANPA brief attacks hellbox extortion. Ed & Pub 84:24 Je 30 '51

Convention, 93d, Atlanta. Ed & Pub 84:7+ Ag 25; 12+ S 1 '51

I got to tell Woodruff Randolph exactly what. J. W. DeVine. Inland Ptr 126:35-7 N '50

ITU contract policy before federal court. Ed & Pub 84:7 F 3 '51

ITU says NLRB erred in findings. Ed & Pub 84:12 S 8 '51

ITU starts its own presses rolling; to create jobs for its members. Bsns W p34+ Ag 11 '51

NLRB insists Congress failed to bar bogus. Ed & Pub 84:9 Jl 28 '51

INTERNATIONAL union of electrical, radio and machine workers

Home run for IUE. Bsns W p35-6 Je 16 '51

IUE hits snag at Westinghouse. Bsns W p33 Ap 21 '51

IUE now on its own with 250,000 members. Bsns W p90 D 9 '50

UE and IUE tangle again. Bsns W p40 My 26 '51

War at Westinghouse. il Fortune 43:49-50+ Je '51

INTERNATIONAL union of leather chemists' societies

Conference, London; abstracts of papers. Chem Age (Lond) 65:349-50 S 15 '51

INTERNATIONAL union of mine, mill and smelter workers

Copper slowup. Bsns W p23 S 1 '51

Peace or truce in copper. Bsns W p33 S 8 '51

Red metal union riding high. Bsns W p34-5 Ag 25 '51

Struggle for control between mine labor unions catches operators and vital productions in line of fire. J. M. Gambatese. Eng & Min J 152:101-2 S '51

Truman decides to seek injunction to halt nationwide copper strike. Elec World 136: 106 S 10 '51

Why a copper strike? Fortune 44:59-60 O '51

INTERNATIONAL union of pure and applied chemistry

Conference, 16th, New York, Sept 8-9; Washington, D.C. Sept. 14-15. Chem & Eng N 29:2591 Je 25 '51

Conference, 16th, Washington, Sept. 14-15; with abstracts of papers. Chem & Eng N 29:4072-82 O 1 '51

International union of pure and applied chemistry; preliminary program of international conclave. W. A. Noyes, jr. Chem & Eng N 29:1290-301 Ap 2 '51

See also

International congress of pure and applied chemistry

INTERNATIONAL union of pure and applied physics

Agenda for symbols, units and nomenclature commission, July 1951. F. G. Brickwedde. Science 113:213-15 F 23 '51

INTERPLANETARY flight

Brainwork is done; rocket missile to escape the earth can be built. R. McLarren. il Aero Digest 63:34+ O '51

Human body in space. H. Haber. il diags Sci Am 184:16-19 Ja '51

Preview of space flight. L. S. Black. il Aero Digest 63:17-24 O '51

INTERPOLATION

Checking and interpolation of functions tabulated at certain irregular logarithmic intervals. H. E. Salzer. bibliog J Res Nat Bur Stand 46:74-7 Ja '51

INTER-SOCIETY color council

Annual meeting, 20th, Washington. Chem & Eng N 29:1117 Mr 19 '51

Annual meeting, 20th, Washington, Feb. 28. Oil Paint & Drug Rep 159:70 Mr 5 '51

INTERSTATE advertising managers' association

Meeting, Harrisburg, Jan. 19-20. Ed & Pub 84:20 Ja 27 '51

Spring meeting, Hagertown, Md, May 11-12. Ed & Pub 84:14+ My 19 '51

INTERSTATE commerce

How interstate commerce laws affect bus companies. L. T. Parker. Bus Transportation 30:31-3 Ag '51

Supreme court rules on taxation by states of carriers engaged in interstate commerce exclusively. W. R. Montgomery. Credit & Fin Management 53:24 My '51

See also

Carriers

INTERSTATE commerce commission

Annual report. il Ry Age 130:16-19 Ja 29 '51

Geographical equality proposed for the I.C.C. Ry Age 130:77 Je 11 '51

ICC hits leasing. Bsns W p 118+ F 24 '51

Rogers calls Tobey quiz intimidation. Ry Age 130:48-9 Ap 16 '51

Teamsters will oppose Rogers for Commissioner. Ry Age 130:73 Mr 19 '51

Bureau of locomotive inspection

Annual report. Ry Age 130:51-3 F 5 '51; Same, with additional tables. Ry Mech & Elec Eng 125:64-8 Mr '51

Bureau of safety

Fiscal 1950 reviewed by Bureau of safety. Ry Age 130:38+ Ja 29 '51

INTERSTATE commission on the Potomac River basin

Potomac commission doesn't want to be an adjunct of federal agency. Elec World News ed 136:11 S 17 '51

INTERSTATE compacts

Interstate compact development of river basins. J. L. Donnelly. Pub Util 48:22-31 Jl 5 '51

Threat to pacts; West Virginia tries to pull out of water-pollution compact. Bsns W p60-2 D 9 '50

INTERSTATE oil compact commission

Compact a target? reluctance of Justice department to testify on Compact extension looked on as possible preview of court action. Oil & Gas J 50:61 Je 14 '51

Spring meeting, Santa Fe, April 26-28. Oil & Gas J 49:62-3 My 3 '51

Winter meeting, Houston. Oil & Gas J 49:58 D 14 '50

INTERSTATE power company

Adjusted plan approved. Comm & Fin Chr 173:965 Mr 5 '51

INTERVIEWING

Depth questioning. L. M. Paradise and A. B. Blankenship. bibliog J Marketing 15:274-88 Ja '51

Interviewing as a fact-finding technique. J. M. Rosow. Personnel 27:321-7 Ja '51

Response errors in surveys. M. H. Hansen and others. Am Stat Assn J 46:147-90 Je '51

Snowball interview; new tool for market research; group interview played back to agency personnel. P. C. Nahl. Ptr Ink 234:35-6 Mr 23 '51

Why, when and how of personal interviews with customers. O. E. Barnum. Credit & Fin Management 53:11-12+ Mr; 9-10+ Ap '51

See also

Employment management—Interviewing

INTERVIEWS

Study of interview refusals; abstract. S. Benson and others. Personnel J 30:112 Jl-Ag '51

INTESTINAL and parasitic worms. See Worms, Intestinal and parasitic

INTESTINES

Pharmacologic analysis of intestinal stimulants. S. Ellis. bibliog Science 114:325-6 S 28 '51

Sulphonamides; sulphanilamidocarboxyamides as intestinal antiseptics; the influence of pK^a and hydrogen-bonding capacity. J. H. Gorvin. Chem Soc J p3304-11 D '49

INTRICAST process. See Foundry practice—Mercast process

INULIN

Studies on fructosans; inulin from dahlia tubers. E. L. Hirst, D. I. McGilvray and E. G. V. Percival. Chem Soc J p 1297-302 My '50

INVENTIONS

Development and exploitation of inventions; National research development corporation report, 28th June, 1949 to 30th June, 1950. Engineering 171:39-40 Ja 12 '51

National inventors council; seeking solutions to some technical problems affecting national defense. C. F. Kettering. Mech Eng 73:500-1 Je '51

Scientists, inventors, and executives. J. B. Conant. Chem & Eng N 29:2262-4 Je 4 '51; Same. Pet Refiner 30:85-6+ S '51

What do modern inventions do to family life? M. F. Nimkoff. Ann Am Acad 272:53-8 N '50

See also

Patent laws and legislation

Patents

INVENTIONS, Employees'

Shop right in inventions; brief summary of Supreme court decisions clarifying employer right to employee inventions. A. W. Gray. Machine Design 23:121-2+ S '51

INVENTORIES

ABC inventory analysis shoots for dollars not pennies; General electric co. H. F. Dickie. Factory Management 109:92-4 Jl '51

Brief guide-lines to business inventory policy. H. Spero. Credit & Fin Management 53:22-3 S '51

Continuing inventory glut clouds business prospects. J. C. Clifford. Mag of Wall St 88:291-3 Je 16 '51

Domestic business investment in 1950; plant and equipment expenditures. Survey of Cur Bsns 31:19-21 F '51

Here's how you can mechanize for CMP; Caterpillar's inventory control procedures. C. W. Boyce. Factory Management 109:70-1 Ap '51

Hidden costs exposed by production and inventory control. S. A. Peck. Steel 129:74-6+ Jl 2 '51

Huge savings in inventory control; PAA, only partly through long-term program. S. H. Reiniger. Aviation W 54:36-7 F 12 '51

Inventories and business cycles; abstract. M. Abramovitz. Comm & Fin Chr 172:1990 N 23 '50

Inventory control order affects building materials. W. H. Harrison. Am Bld 72:172 N '50

Inventory control system doubled turnover of stock; Barber and Ross co. E. E. Maust. il Am Bsns 21:12-13+ F '51

Inventory is an investment; abstract. J. H. O'Connor. Management R 40:79-80 F '51

Inventory limit on war-essential metals. Bsns W p94 N 25 '50

Inventory, planning, and development of the management organization; United parcel service. C. W. L. Foreman. Personnel 27:267-76 Ja '51

Keeping track of your inventory; control system at the National supply co., Torrance, Calif. G. A. Hatfield. il Mill & Factory 47:85-7 D '50

New inventory control system licks back order problem for Woodward Wight & co. il Am Bsns 21:18-19 Mr '51

Properly engineered material and inventory control saves money; Allis-Chalmers' system. M. W. Schaefer. Mill & Factory 47:93-6 N '50

Tool for management control; combining operational review meetings with series of status and trend charts and graphs at RCA. J. R. Curley. Harvard Bsns R 29:45-59 Mr '51

Warns of high inventories. J. Backman. Comm & Fin Chr 173:1342 Mr 29 '51

See also

Stores systems

Accounting

Choice of inventory methods depends on specific needs of each business. M. E. Peloubet. J Account 91:70-7 Ja '51

Control of inventory consigned to suppliers. C. W. Bendel. N A C A Bul 32:1446-56 Ag '51

Counting three-million items; semiannual inventory at Brooklyn's Abraham & Straus; illustrations with text. Bsns W p44-5 F 10 '51

How Red Owl controls, accounts for, inventories in a chain of retail grocery stores. F. D. Scott. J Account 91:590-4 Ap '51

How to simplify use of LIFO by the dollar-value method of calculating inventories. L. M. Nad. J Account 91:266-71 F '51

Inventory management know how. H. E. Bliss. N A C A Bul 32:1474-84 Ag '51

Is LIFO proper in valuing excess over normal stock? J Account 91:136-7 Ja '51

Keeping track of 15,000 items; Horder's inc., Chicago retailer and wholesaler of office supplies. il Am Bsns 21:18-19+ Ap '51

Meaning of the term cost as used in inventory valuation. J Account 91:141-2 Ja '51

New inventory control system reduces customer complaints, speeds delivery of orders. A. Weiss. J Account 91:570-4 Ap '51

New law allows more liberal election to taxpayer who undergoes involuntary liquidation where LIFO is used. J Account 90:511 D '50

Once over every quarter, a cycle inventory. J. Babillus. N A C A Bul 32:274-9 N '50

Physical inventory day-by-day. W. V. Stoughton. N A C A Bul 32:280-5 N '50

Quantity control of manufacturing inventory; a detail posting method; accumulation posting method. O. B. Aaberg; J. R. Watt. N A C A Bul 32:433-43 D '50

Rising prices indicate reconsideration of LIFO. D. M. Freudenthal. Comm & Fin Chr 173:441+ Ja 25 '51

Swing to LIFO. Bsns W p 110+ F 24 '51

Turning the spotlight on turnover. Dom Eng 178:90-1 Ag '51

What is auditor's responsibility for quantities of coal stored in piles? J Account 91:303-5 F '51

Wholesaler cuts costs by keeping close control of inventory; General steel co. L. Bolger. il Am Bsns 21:28+ Ja '51

Statistics

Inventories expand to new records. Fortune 44:17 Ag '51

Trend of inventories in the mobilization period; with tabulations for selected periods, 1926 to date. M. F. Foss and L. E. Holmes. Survey of Cur Bsns 31:16-24 Ap '51

INVENTORS

Sinclair plan offers unusual opportunity to inventors. Chem & Eng N 29:1848-9 My 7 '51; il Pet Refiner 30:104-5 Je '51; Product Eng 22:176 Je '51

See also

Bessemer, Henry

INVERSION. See Isomerization

INVERTERS, Electric. See Electric inverters

INVESTMENT advisers

See also

Banks and banking—Investment advice

INVESTMENT bankers association of America

Annual convention, 39th, Hollywood, Fla. Barron's 30:11-12 D 11 '50

Annual convention, 39th, Hollywood, Fla. Nov. 26-Dec. 1. Comm & Fin Chr 172:2273+ D 14 '50

1950-51 group governors and chairmen. Comm & Fin Chr 173:195 Ja 11 '51

U.S. vs. investment bankers. M. Stroock. Barron's 30:5-6 N 27 '50

INVESTMENT banking

Impact of voluntary credit restraints on investment banking. R. Smutny. Comm & Fin Chr 173:1649 Ap 19 '51

Investment bankers' role in the voluntary credit restraint program. O. S. Powell. Comm & Fin Chr 173:1763+ Ap 26 '51

Lehman brothers celebrate centenary. Comm & Fin Chr 172:2539 D 28 '50

Their years in court; Judge Medina's famous trial; anti-trust suit against investment bankers. Barron's 31:1 F 26 '51

U.S. vs. bankers; antitrust suit against Investment bankers association and 17 underwriting houses. Bsns W p 100 N 25 '50

U.S. vs. investment bankers. M. Stroock. Barron's 30:5-6 N 27 '50

See also

Investment bankers association of America

Public relations

Public relations and training programs in financial industry. W. H. Smith. Comm & Fin Chr 172:1086+ S 21 '50; Abstract. Trusts & Estates 89:785-7 N '50

Study and teaching

Investment in education; IBA program. il Burroughs Clearing House 35:3-4 Ja '51

INVESTMENT casting. See Lost wax process

INVESTMENT companies

Investment trusts buy air shares. S. Altschul. Aviation W 54:18 F 19 '51

See also

Investment trusts

INVESTMENT dealers' association of Canada

Annual convention, 35th, Jasper, Alberta, June 11-14. Comm & Fin Chr 173:1-27 sec 2 Je 28 '51

INVESTMENT traders association of Philadelphia

Annual mid-winter dinner, Feb. 21; portraits. Comm & Fin Chr 173:931+ Mr 1 '51

INVESTMENT trusts

British trust manager gives inflation views. Barron's 30:25-7 N 20 '50

Changes in common stock holdings of 44 investment management groups, Sept. 29-Dec. 31, 1950; tabulation. Comm & Fin Chr 173:734-5 F 15 '51

Financial angle; investment trusts taking profits by secondary offerings. Bsns W p 130 Ap 28 '51

How the funds view air stocks. S. Altschul. Aviation W 54:51 Ap 9 '51

Insured savings plans follow mutual fund insured purchase plan by 20 years. Nat Underw (Life ed) 54:6 D 1 '50

Interlocking relationships; open-end investment companies; opinion of the Board. Fed Res Bul 37:645 Je '51

Investment trend may aid little fellow. Steel 129:45 Ag 6 '51

It's mutual I'm sure; reflections on the open-end investment trust. I. U. Cobleigh. Comm & Fin Chr 173:1940 My 10 '51

Managing an investment portfolio. K. Woodworth. Comm & Fin Chr 173:1761+ Ap 26 '51

Mutual fund industry comprises many units. P. A. Johnston. Barron's 31:17-18 Ag 27 '51

Mutual funds. R. R. Rich. Comm & Fin Chr 173:86-7 Ja 4 '51 [cont weekly]

Mutual funds eye pension money to expand sales. Nat Underw (Life ed) 54:3+ D 1 '50

Mutual funds; their growth in Canada. A. Chippindale. Comm & Fin Chr 173:9+ sec 2 Je 28 '51

1950 reshuffles favorite 50; tabular analysis of year-end holdings of 158 investment companies. Bsns W p 129 Mr 24 '51

Oil holdings maintain lead in favorite fifty in investment trust portfolios at mid-year 1951. P. A. Johnston. Barron's 31:35-7 S 10 '51

Popular mutual fund investments; tabulation. Trusts & Estates 90:242 Ap '51

Rails and utilities feature trusts' purchases; analysis of first quarter buying; with tables. H. A. Long. Comm & Fin Chr 173:1937+ My 10 '51

Responsibilities of investment trust management. A. W. May. Comm & Fin Chr 172:14-15 sec 2 O 19 '50

Stocks the experts like the best; analysis of trusts' midyear portfolios; table. Bsns W p 161 O 6 '51

With the investor's investor. P. A. Johnston. Barron's 31:17+ Ja 1 '51 [cont weekly]

Accounting

Fidelity investment associates illustrates HIFO accounting. R. R. Rich. Comm & Fin Chr 173:624 F 8 '51

Finance

Closed-end reports show satisfactory gains; with digest of company reports, years ended Dec. 31, 1950 and 1949. J. S. Bowen. Barron's 31:15 F 12 '51

Closed-ends outpace fast moving composite; with tabulation of leading closed-end investment companies. J. S. Bowen. Barron's 30:22-3 O 30 '50

Fund records reflect rising security values; with quarterly investment company record as of Dec. 31, 1950. Barron's 31:29-34 Ja 22 '51

Funds' records reveal offset to dollar erosion; with quarterly investment company record as of March 31, 1951. P. A. Johnston. Barron's 31:19-20, 23-6 Ap 30 '51

Index of mutual funds. H. A. Long. Trusts & Estates 90:36-7 Ja '51 [cont monthly]

Investment companies; closed-end versus open-end. J. A. Close. Harvard Bsns R 29:79-88 My '51

Investment companies gear to a war economy; with tabulations. H. A. Long. Comm & Fin Chr 172:1783+ N 9 '50

Mutual fund reports reflect mid-year gains; with table. P. A. Johnston. Barron's 31:15-16 Ag 13 '51

New statistical record serves detailed analysis; with quarterly investment company record as of Sept. 30, 1950. P. A. Johnston. Barron's 30:19-21, 23-6 O 16 '50

Open-end records show little change in quarter; with tables for quarters ended June 30, 1941-1951, inclusive. P. A. Johnston. Barron's 31:19-22 Jl 23 '51; Correction. 31:31-2 Jl 30 '51

Portfolios show few important shifts; with portfolio position of leading mutual funds. Barron's 31:15-18 Ag 20 '51

Trends in mutual funds' statistics. R. R. Rich. Comm & Fin Chr 173:1856-7 My 3 '51

Trusts continue switching to stocks of war industries in fourth quarter; with tabulations. H. A. Long. Comm & Fin Chr 173:709+ F 15 '51

25 investment trusts; their 1950 patterns; tabulation. Bsns W p 106 Ja 27 '51

Utilities favored by investment companies; analysis of second quarter operations; with tables. H. A. Long. Comm & Fin Chr 174:593+ Ag 16 '51

Year-end fund reports reflect many increases; with digest of open-end investment company reports, years ended Dec. 31, 1950 and 1949. P. A. Johnston. Barron's 31:23-6 F 5 '51

Securities

Capital gain distributions; clauses to eliminate question of allocating investment company dividends. D. Rogers. Trusts & Estates 90:300-2 My '51

INVESTMENT trusts—Securities—*Continued*

Court rules fund's "capital gains dividends" to be life beneficiary income; text of decision in case of estate of Rebecca J. Lovett. Comm & Fin Chr 174:770+ Ag 30 '51

Investment company securities as trustee investments. R. L. Osgood. Comm & Fin Chr 174:1257+ O 4 '51

Investment in mutual funds. J. M. Dalenz. Comm & Fin Chr 173:725 F 15 '51

Mutual funds as investments for profit-sharing trusts. D. F. Cates. Trusts & Estates 89:766-7 N '50

Mutual funds make small trusts possible. W. B. Putney, 3d. Trusts & Estates 89:836-7+ D '50

Open-end trust sales soar but redemptions are up; with chart showing data, 1941-1950. Bsns W p 106-8 Ja 27 '51

Periodic purchase plans of mutual funds. W. I. Johnston. Comm & Fin Chr 172:1593 O 26 '50; Discussion. E. E. Mathews. 172:2191+ D 7 '50; Reply. 172:2447 D 21 '50

Sales of trust shares at peak. Bsns W p92-4 Je 30 '51

Should capital gain distributions be principal or income? investment company shares. H. R. Anderson. Trusts & Estates 90:530-1 Ag '51

Socony savings plan lists 31 eligible funds; with excerpts from company's booklet of information. P. A. Johnston. Barron's 31:17-19 O 1 '51

Some bull market investment trust considerations. A. W. May. Comm & Fin Chr 173:1329+ Mr 29 '51

Storm clouds in Pennsylvania; Berger bill and mutual fund shares as trust investment. R. R. Rich. Comm & Fin Chr 173:2158 My 24 '51

Japan

First postwar Japanese investment trust formed. P. A. Johnston. Barron's 31:31 Jl 30 '51

INVESTMENTS

Alice in investment land; satire. G. F. Shaskan, jr. Comm & Fin Chr 174:776 Ag 30 '51

Anatomy of investment decisions; based on field study of Twin Cities manufacturing firms. W. W. Heller. Harvard Bsns R 29:95-103 Mr '51

Atomic bombs and investments. C. ter Kuile. Comm & Fin Chr 173:716 F 15 '51

Business and investment outlook for 1951. L. Spangenberg. Comm & Fin Chr 173:918 Mr 1 '51

Can you save if dollars sag? small investor's problem. Bsns W p42+ N 25 '50

Elementary facts for the untutored investor. C. Schick. Comm & Fin Chr 172:1605 O 26 '50

Experimenting in investment studies. O. K. Burrell. Comm & Fin Chr 173:152+ Ja 11 '51

Farm investments; federal income taxes conducive to capital accumulation in land, livestock. J. L. Hopkins. Barron's 31:15-16 Ja 8 '51

Farms; inflation insurance. Bsns W p 101-2+ My 26 '51

For long-term investment; stocks or bonds? with tabulation showing comparison of stocks and bonds for ten-year investment, 1900-1950. D. L. Kemmerer. Comm & Fin Chr 173:521+ F 1 '51

How to capitalize capital; America's fastest growing market. G. Dock, jr. Comm & Fin Chr 173:1851 My 3 '51

How to protect a nest egg. I. W. Foster. Banking 43:74+ F '51

I like the wide open spaces; ownership of acreage through purchase of land-bearing shares of various companies. I. U. Cobleigh. Comm & Fin Chr 173:2144 My 24 '51

Importance of growing demand for stocks by institutions. J. S. Williams. Mag of Wall St 87:215-17+ D 2 '50

In which industry shall I invest? G. M. Loeb. Comm & Fin Chr 172:1881+ N 16 '50

Income tax laws give real estate better tax position than stocks and bonds. W. W. Brudno. Comm & Fin Chr 173:2678-9 Je 28 '51

Industrial approach to investments. W. H. Winfield. Comm & Fin Chr 172:1884-5 N 16 '50

Inflation impact on the Canadian investment industry. P. Kilburn. Comm & Fin Chr 173:3+ sec 2 Je 28 '51

Inflation impacts on investments. R. Rodgers. Comm & Fin Chr 172:1681+ N 2 '50

Investing under a rearmament economy. P. J. Fitzgerald. Comm & Fin Chr 174:501+ Ag 9 '51

Investment during inflation. E. W. Flender. Comm & Fin Chr 173:151+ Ja 11 '51

Investment market; governments, other securities. M. Olyphant; H. E. Dickhuth. Banking 43:70-2 Ja '51 [cont monthly]

Investment policies and business outlook. H. B. Dorsey. Comm & Fin Chr 173:429+ Ja 25 '51

Investor's first line of defense. B. K. Thurlow. Comm & Fin Chr 172:2534 D 28 '50

Investors must fight enemies. R. S. Byfield. Comm & Fin Chr 172:2277+ D 14 '50; Same. Trusts & Estates 90:26-8 Ja '51

Investors; watch federal financing. B. B. Griffith. Comm & Fin Chr 172:1796 N 9 '50

Labor bite; labor cost ratios and investment. I. U. Cobleigh. Comm & Fin Chr 173:1531+ Ap 12 '51

Market opportunities are still abundant. A. Neumark. Comm & Fin Chr 174:1158 S 27 '51

Need of widespread equity investment. H. P. Hargrave. Comm & Fin Chr 173:58+ Ja 4 '51

Outlook for investment. L. H. Haney. Comm & Fin Chr 173:1013+ Mr 8 '51

Perspective for investors. D. G. Ferguson. Comm & Fin Chr 174:510+ Ag 9 '51

Plight of the investor. E. W. Flender. Comm & Fin Chr 173:69 Ja 4 '51

Population trends and investment. J. J. Spengler. Comm & Fin Chr 174:247+, 331+, 511+ Jl 19, 26, Ag 9 '51

Private investment in a laboristic economy. F. C. Pierson. bibliog Ann Am Acad 274:139-44 Mr '51

Profitable tax pointers in 1951 investment planning. A. C. Strasburger. Mag of Wall St 87:598-9+ Mr 10 '51

Security I like best; selections of experts in the investment and advisory field. Comm & Fin Chr 173:54+ Ja 4 '51 [cont weekly]

Selecting investments in 1952. E. Sharpe. Comm & Fin Chr 174:866 S 6 '51

Simple formula for common stock investment. H. S. Schneider. Comm & Fin Chr 173:60+ Ja 4 '51

Small investor; his problems and opportunities; radio panel discussion. L. H. Whitehead and others. Barron's 31:27+ Mr 19 '51

Smart money tries to diversify; Business Week survey. Bsns W p24 O 6 '51

Stocks and bonds; a reader's reasoning behind a rule which has served him well. Barron's 31:19-20 Ap 9 '51

Supply of investments in 1951. R. Rodgers. Comm & Fin Chr 173:619+ F 8 '51

Testing formula plans. C. S. Cottle and W. T. Whitman. Comm & Fin Chr 173:65+ Ja 4 '51

Timing investment purchases. R. H. Axe. Comm & Fin Chr 173:1860 My 3 '51

Today's investor must be willing to alter past concepts. R. F. Newman. Barron's 31:11-12 Je 11 '51

What can we expect from common stock investments? G. F. Shaskan, jr. Comm & Fin Chr 172:1692 N 2 '50

What investment policy now? H. E. Aul. Comm & Fin Chr 173:909+ Mr 1 '51

What the investor must look for to safeguard his position today. E. A. Krauss. Mag of Wall St 87:653-5 Mr 24 '51

What to do about idle funds in 1952. E. L. Quirin. Comm & Fin Chr 174:875 S 6 '51

When to sell; value approach in investing. B. K. Thurlow. Comm & Fin Chr 173:525+ F 1 '51; Discussion. 173:1125+ Mr 15 '51

Where do I go to invest my dollars? A. W. May. Comm & Fin Chr 172:1685+ N 2 '50

World inflation in perspective; what investment policy now? A. W. May. Comm & Fin Chr 174:1249+ O 4 '51

See also

Banks and banking—Investments
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Stockholders
Stocks
Trusts and trustees—Investments
Women as investors

Bibliography

Dealer-broker investment recommendations and literature. Published in weekly Thursday numbers of Commercial and financial chronicle

Study and teaching

One woman's experience teaches others to invest. P. A. Johnston. Barron's 31:17-18 Ag 6 '51

INVESTMENTS, Foreign
Gloomy outlook for foreign investment under United nations. P. Einzig. Comm & Fin Chr 174:869 S 6 '51
New blood in world capital arteries. Burroughs Clearing House 35:8-9 S '51

Brazil

Foreign investments classified. For Comm W 44:10-11 Jl 30 '51

Canada

Canadians push program for outside investment. J. Montagnes. Barron's 31:26 Mr 19 '51

Germany

Blocked marks may now be sold. For Comm W 42:15-16 Mr 26 '51; Comm & Fin Chr 173:1438 Ap 5 '51

Great Britain

Britain's overseas investments; with tabulation. Economist 159:611-12 O 14 '50
Overseas lending again? Economist 159:1212-13 D 30 '50
To return securities; British-owned American securities deposited as collateral for war loans. Weekly Underw 165:235+ Ag 4 '51

United States

Census of American direct investments in foreign countries. For Comm W 43:7 Je 11 '51; Same abr. Fed Res Bul 37:649 Je '51
Deterioration in the quality of foreign bonds issued in the United States, 1920-1930; abstract. I. Mintz. Comm & Fin Chr 173:1960-1 My 10 '51
Foreign investment, a weapon for world peace. N. A. Rockefeller. Paper Tr J 132:77-9 Je 15 '51
Guaranteeing private foreign investment. H. J. Dernburg. Comm & Fin Chr 174:779 Ag 30 '51
International investment position of the U.S. S. Pizer. il For Comm W 43:3-5+ Ap 2 '51
Obstacles to direct foreign investment; survey by National industrial conference board. Comm & Fin Chr 174:696 Ag 23 '51; Excerpts. Steel 129:53 Ag 27 '51; Management R 40:572-3 S '51
Obstacles to United States private investment abroad. J. H. Moseley. Comm & Fin Chr 172:1792 N 9 '50
Outlook for private foreign lending. M. Winkler. Comm & Fin Chr 172:1887+ N 16 '50
Point-four program. T. Hibben. il For Comm W 41:3-4+ N 27 '50
Population and investment. J. J. Spengler. Comm & Fin Chr 174:331+ Jl 26 '51
Private United States direct investments abroad; with tabulations for selected years, 1919-1949. S. Pizer and F. Cutler. Survey of Cur Bsns 31:20-3 Ja '51
Rising trend of American investing abroad. V. L. Horoth. Mag of Wall St 87:443-4+ Ja 27 '51
State enters Iran Point four picture, but private consultants stay. Eng N 145:25 N 9 '50
Why investment falls short; businessmen tell Washington it's because of tax laws and scheme for government guarantees. Bsns W p 144-5 F 24 '51

INVESTMENTS, Foreign (in Canada)
American investors ease Canada's growing pains. N. Willatt. Barron's 31:8 Ag 13 '51
Canada's investment opportunities. W. W. Turnbull. Comm & Fin Chr 173:1437+ Ap 5 '51
Dollar lifesaver; U.S. investment money cancels out Dominion's unfavorable balance of trade. Bsns W p 169-70 O 13 '51
Investment in Canada. N. Willatt. Barron's 31:5 Jl 30 '51
Investment outlook in Canada, and the more promising industries. A. S. Torrey. Comm & Fin Chr 173:2355+ Je 7 '51

INVESTMENTS, Foreign (in Colombia)
Colombia bids for foreign capital. il Bsns W p 113-14 Je 30 '51
New law governs importation of foreign capital. For Comm W 44:9 S 10 '51

INVESTMENTS, Foreign (in Europe)
Investment in Europe. F. Ayer, jr. Comm & Fin Chr 173:2676+ Je 28 '51; Same abr. Credit & Fin Management 53:21-2+ Ag '51

INVESTMENTS, Foreign (in Guatemala)
Guatemala to encourage more foreign investment. M. Bannell. Barron's 31:8 S 17 '51

INVESTMENTS, Foreign (in Israel)
What chance for investment in Israel? A. W. May. Comm & Fin Chr 174:593+ Ag 16 '51

INVESTMENTS, Foreign (in Jamaica)
Investment possibilities in Jamaica. For Comm W 43:8-9 Ap 16 '51

INVESTMENTS, Foreign (in Japan)
Future of Japan's credit; problem of prewar loans. E. J. Speyer. Comm & Fin Chr 173:2555 Je 21 '51
Investments involving technological assistance desired; list by industries. For Comm W 43:15-16 My 21 '51; Correction. 44:11 Ag 13 '51
Japanese recovery creates tempting market for foreign capital. J. Bosse. Barron's 31:5 Ag 13 '51
New investment in Japan; Remington Rand's and Goodrich Chemical. Bsns W p 144-5 F 10 '51

INVESTMENTS, Foreign (in Latin America)
Bond-selling extravaganza of the 1920's; sale of Latin American government bonds by investment bankers of the U.S. J. F. Rippy. J Bsns 23:238-47 O '50

INVESTMENTS, Foreign (in Mexico)
Aleman's Mexico rides high. Bsns W p 117-18 O 28 '50

INVESTMENTS, Foreign (in Scotland)
American business in Scotland. J. Kingsley. Am Bsns 21:40 Ag '51

INVESTMENTS, Foreign (in South Africa)
Foreign capital plays vital role in South Africa's development. B. Blankenheimer. il For Comm W 44:3-4+ S 17 '51

INVESTMENTS, Foreign (in South America)
Business week reports to executives on South America; outside help needed. il Bsns W p85-9 Ag 25 '51

INVESTMENTS, Foreign (in Tunisia)
Capital account for foreign assets established. For Comm W 43:18 My 14 '51

INVESTMENTS, Foreign (in Turkey)
Law to encourage foreign investments effective. For Comm W 44:17 S 17 '51

INVESTMENTS, Foreign (in United States)
How foreigners should protect their American investments. F. M. Joseph. Comm & Fin Chr 173:1546 Ap 12 '51
International capital transactions of the United States; by types and by countries. Fed Res Bul 37:102-7 Ja '51 [cont monthly]
International investment position of the U.S. S. Pizer. il For Comm W 43:3-5+ Ap 2 '51

INVESTORS' brokers, National association of. See National association of investors' brokers

INVESTORS diversified services, inc.
Defendant seeks to simplify mortgage antitrust action. Nat Underw 55:2 S 13 '51
Syndicate and four subsidiaries named in government suit; insurance purchases from mortgage lenders called Sherman law violation. Nat Underw 55:2 My 3 '51

INVOICES
Allen-Bradley company films invoices and saves 98 per cent of storage space. A. F. North. Am Bsns 21:40+ Ja '51

INVOICES—*Continued*

Cancellation of purchase invoices and other vouchers by perforation advocated as barrier against fraud. R. H. Greenberg. J Account 91:128-9 Ja '51

IODATES

Determination of chloride in presence of iodate. L. S. Stanton. Anal Chem 23:1331 S '51

Mechanism of the iodate-iodide reaction. K. J. Morgan, M. G. Peard and C. F. Cullis. Chem Soc J p 1865-7 Jl '51

Some aqueous ternary systems involving univalent iodates. J. E. Ricci and I. Amron. bibliog Am Chem Soc J 73:3613-18 Ag '51

IODIDES

Lanthanon purifications by the use of hexa-antipyrine lanthanon iodides. J. K. Marsh. Chem Soc J p 1337-9 My '51

Mechanism of the iodate-iodide reaction. K. J. Morgan, M. G. Peard and C. F. Cullis. Chem Soc J p 1865-7 Jl '51

Perfluoroalkyl halides prepared from silver perfluoro-fatty acid salts; perfluoroalkyl iodides. M. Hauptschein and A. V. Grosse. Am Chem Soc J 73:2461-3 Je '51

Primary salt effect in the reaction between hydrogen peroxide and iodide ions. F. Bell and others. bibliog J Phys & Colloid Chem 55:874-81 Je '51

See also

Ethyl iodide

Analysis

Linear starch reagents; linear starch, iodate reagent selective for iodide ion. J. L. Lambert. Anal Chem 23:1251-5 S '51

IODINATION

Cyclization of a diiodinated diphenyl sulfide. P. Block, jr. bibliog Am Chem Soc J 72:5641-3 D '50

Kinetics of halogen addition to unsaturated compounds; iodine addition. P. W. Robertson and others. Chem Soc J p2191-4 Ag '50

Kinetics of the iodination of aniline. E. Berliner. Am Chem Soc J 72:4003-9 S '50

Kinetics of the iodination of phenol. E. Berliner. bibliog Am Chem Soc J 73:4307-11 S '51

Oxidation of a di-*o*-substituted diphenyl sulfide. P. Block, jr. and J. L. Balmat. Am Chem Soc J 72:5638-40 D '50

Synthesis of thyroxine and related substances; the preparation of some derivatives of DL-thyroxine. J. C. Clayton and B. A. Hems. Chem Soc J p840-3 Mr '50

IODINE

Absorption spectra of I_2, I_3^-, I^-, IO_3^-, $S_4O_6^=$ and $S_2O_3^=$; heat of the reaction $I_3^- = I_2 + I^-$. A. D. Awtrey and R. E. Connick. Am Chem Soc J 73:1842-3 Ap '51

Action of pyridine and iodine upon two *o*-phenolic-1,4-diketones; 4,6,7-trimethylcoumarandione and its 5-hydroxy derivative. L. I. Smith and R. R. Holmes. bibliog Am Chem Soc J 73:4294-7 S '51

Anion exchange resins may recover iodine from brines; abstract. M. Sekino. Chem & Eng N 29:3973 S 24 '51

Complexes of naphthalene with iodine and bromine; on the origin of the spectra of complexes between halogens and aromatics. N. W. Blake, H. Winston and J. A. Patterson. Am Chem Soc J 73:4437-40 S '51

Decomposition of benzoyl peroxide in the presence of iodine; in carbon tetrachloride solution. G. S. Hammond and L. M. Soffer. bibliog Am Chem Soc J 72:4711-15 O '50

Dehydration of phenylmethylcarbinol with iodine. A. J. Castro. bibliog Am Chem Soc J 72:5311-12 N '50

Evidence for the existence of unipositive iodine ion in solutions of iodine in pyridine. R. A. Zingaro, C. A. VanderWerf and J. Kleinberg. Am Chem Soc J 73:88-90 Ja '51

Kinetics of the dissolution of zinc in aqueous iodine solutions. L. L. Bircumshaw and A. C. Riddiford. Chem Soc J p598-603, 1490-3 F, Je '51

Kinetics of the recombination of methyl radicals and iodine atoms. R. A. Marcus and O. K. Rice. bibliog J Phys & Colloid Chem 55:894-908 Je '51

Oxidation of iodide to iodine by dilute solutions of organic peroxides. R. D. Cadle and H. Huff. bibliog diag J Phys & Colloid Chem 54:1191-5 N '50

Oxidation-reduction; the kinetics of the reduction of iodine by titanous ion. C. E. Johnson, jr. and S. Winstein. bibliog Am Chem Soc J 73:2601-5 Je '51

Photolysis of aliphatic aldehydes; the butyraldehydes with iodine vapor. F. E. Blacet and J. G. Calvert. bibliog Am Chem Soc J 73:667-74 F '51

PVP-iodine. Chem Eng 58:172 Ap '51

Properties and reactions of free alkyl radicals in solution; reactions with iodine, bromine, and sulphuryl chloride. M. C. Ford and W. A. Waters. Chem Soc J p 1851-5 Jl '51

Rate law and mechanism of the reaction of iodine with thiosulfate ion; the formation of the intermediate $S_2O_3I^-$. A. D. Awtrey and R. E. Connick. bibliog diag Am Chem Soc J 73:1341-8 Mr '51

Reaction of ketones with iodine and selenourea. L. C. King and R. J. Hlavacek. Am Chem Soc J 73:1864-5 Ap '51

Reactions in the system azide-iodine-thiocyanate. P. Senise. bibliog J Phys & Colloid Chem 55:1151-70 O '51

Simplified procedure for the characterization of starch fractions by viscosity and iodine sorption. I. A. Wolff, L. J. Gundrum and C. E. Rist. bibliog Am Chem Soc J 72:5188-91 N '50

Spectrum of iodine excited in the presence of argon. P. Venkateswarlu. bibliog Phys R 81:821-9 Mr 1 '51

Analysis

Determination of serum iodine; evaluation by radioactive tracer technique of the alkaline fusion method. J. W. Decker and H. S. Hayden. bibliog Anal Chem 23:798-800 My '51

Some (n,γ) effects in iodobenzene. P. F. D. Shaw. Chem Soc J p443-7 F '51

Use of radioactive iodine in microdetermination of protein-bound blood iodine. F. Nesh and W. C. Peacock. Anal Chem 22:1573 D '50

Isotopes

Decay of I^{131}. S. Thulin. bibliog Phys R 83:860-1 Ag 15 '51

Decay of $Xe^{125} \rightarrow I^{125} \rightarrow Te^{125}$. I. Bergström. bibliog. Phys R 82:111-12 Ap 1 '51

Detection of trace quantities of radioactive materials in waste streams. P. R. Fields and G. L. Pyle. bibliog Anal Chem 23:1004-8 Jl '51

Disintegration scheme of I^{131}. P. R. Bell and others. diags Phys R 82:103-5 Ap 1 '51

Effect of sensitization and X-radiation on the metabolism of I^{131} labeled proteins. F. J. Dixon and others. bibliog Science 113:274-6 Mr 9 '51

Exchange between radioactive iodine and derivatives of monopyridine iodine(I) in pyridine. J. Kleinberg and J. Sattizahn. Am Chem Soc J 73:1865-6 Ap '51

Extraction of carrier-free ^{131}I from pile-irradiated tellurium. A. W. Kenny and W. T. Spragg. Chem Soc J supp no 2:S323-6 '49

Gamma-radiation from I^{132}. F. C. Maienschein and others. bibliog il Phys R 83:477-8 Jl 15 '51

Half-life of I^{129} and the age of the elements. S. Katcoff and others. bibliog Phys R 82:688-90 Je 1 '51

Hot radical reactions in the photolysis of methyl and ethyl iodides in the liquid phase. W. H. Hamill and R. H. Schuler. bibliog Am Chem Soc J 73:3466-70 Jl '51

I^{129} and the age of the elements. H. E. Suess and H. Brown. Phys R 83:1254-5 S 15 '51

Low intensity radiations in I^{131} decay. H. Zeldes and others. bibliog Phys R 81:642 F 15 '51

Nuclear magnetic moment of I^{129}. H. Walchli and others. bibliog Phys R 82:97 Ap 1 '51

Nuclear magnetic moment of Rb^{85}, Rb^{87}, and I^{127}. E. Yasaitis and B. Smaller. Phys R 82:750 Je 1 '51

Purity of diiodofluorescein-I_2^{131}. A. Roe, R. L. Hayes and H. D. Bruner. Am Chem Soc J 73:4483-4 S '51

Radiations from I^{126}. M. L. Perlman and G. Friedlander. bibliog Phys R 82:449-50 My 1 '51

Radioactive decay of I^{131}. J. M. Cork and others. bibliog il Phys R 81:482-3 F 1 '51

Radioactive decay of I^{131}. E. W. Emery. bibliog Phys R 83:679-80 Ag 1 '51

IODINE—Isotopes—*Continued*

Radioactive I^{122}. J. N. Young and others. Phys R 83:1060-1 S 1 '51

Radioactive tracers in antisera. F. D. S. Butement. Chem Soc J supp no 2:S408-10 '49

Therapeutic use

Ointment iodine. Chem Ind W 68:34 Ap 14 '51

IODINE bromide

Dissociation of iodine monobromide in carbon tetrachloride solution. A. I. Popov and others. Am Chem Soc J 73:514-15 F '51

IODINE chloride

Electrical conductivity of iodine monochloride and iodine trichloride. N. N. Greenwood and H. J. Emeléus. diag Chem Soc J p987-90 Mr '50

Interaction of iodine monochloride with benzene and certain of its derivatives. R. M. Keefer and L. J. Andrews. bibliog Am Chem Soc J 72:5170-3 N '50

IODINE compounds

Absorption spectra of substances containing the carbon-iodine bond. R. A. Durie, T. Iredale and J. M. S. Jarvie. Chem Soc J p 1181-4 Ap '50

Alkyliodosilanes; ethyl series and monododecyl. H. H. Anderson, D. L. Seaton and R. P. T. Rudnicki. Am Chem Soc J 73:2144-5 My '51

Alkyliodosilanes; methyl, propyl, butyl and amyl. H. H. Anderson. Am Chem Soc J 73:2351-2 My '51

Completely halogenated ethanes containing iodine. J. T. Barr, J. D. Gibson and R. H. Lafferty, jr. Am Chem Soc J 73:1352-3 Mr '51

Isomerism of the oximes; the action of alkali on *α*- and *β*-*o*-iodobenzaldoximes. O. L. Brady and S. G. Jarrett. Chem Soc J p 1232-3 My '50

Kinetics of the reduction of aromatic iodo-compounds by hydriodic acid in solution. V. Gold and M. Whittaker. Chem Soc J p 1184-90 My '51

New iodine compound is internal antiseptic. Chem & Eng N 29:664 F 19 '51

Polarities of molecules containing iodine of valency higher than one. C. G. Le Fèvre and R. J. W. Le Fèvre. Chem Soc J p3373-5 D '50

Polarographic behaviour of iodo-compounds. E. Gergely and T. Iredale. Chem Soc J p 13-15 Ja '51

Preparation and reactions of positive iodine salts. R. A. Zingaro, C. A. VanderWerf and J. Kleinberg. Am Chem Soc J 72:5341-2 N '50

X-ray diagnostics; cholecystographic agents. D. Papa and others. bibliog Am Chem Soc J 72:4906-9 N '50

IODINE cyanide. See Cyanogen iodide

IODINE fluoride

Formation of complex fluorides; reactions in anhydrous hydrogen fluoride and iodine pentafluoride. A. A. Woolf. Chem Soc J p3678-81 D '50

Heat of formation of iodine pentafluoride. A. A. Woolf. Chem Soc J p231-2 Ja '51

Reactions of fluorocarbon radicals; the reaction of trifluoroiodomethane with acetylene. R. N. Haszeldine. diag Chem Soc J p3037-41 N '50

IODINE halides

Reactions of iodine monohalides in different solvents. F. W. Bennett and A. G. Sharpe. Chem Soc J p 1383-4 My '50

IODINE oxides

Magnetic susceptibility of iodine dioxide. W. K. Wilmarth and S. S. Dharmatti. Am Chem Soc J 72:5789-90 D '50

IODININ

Halogen-activating effect of the N-oxide group in chlorophenazine-N-oxides; synthesis of an isomer of iodinin. D. L. Vivian. bibliog Am Chem Soc J 73:457-8 Ja '51

IODOACETIC acid

Chloro- and iodo-acetates of dihydrolanosterol and dihydroagnosterol. R. G. Curtis. Chem Soc J p 1017-18 Mr '50

Polarographic behavior of organic compounds; iodoacetic acid and the bromoacetic acids. P. J. Elving, I. Rosenthal and M. K. Kramer. bibliog Am Chem Soc J 73:1717-22 Ap '51

IODOACETOPHENONE

Reaction of phenylhydrazine with α-haloacetophenones. D. Y. Curtin and E. W. Tristram. bibliog Am Chem Soc J 72:5238-42 N '50

IODOBENZENE

Some (*n*,γ) effects in iodobenzene. P. F. D. Shaw. Chem Soc J p443-7 F '51

IODOFORM

Iodoform reaction. H. Booth and B. C. Saunders. bibliog Chem & Ind p824-5 D 23 '50

Iodoform reaction. K. J. Morgan, J. Bardwell and C. F. Cullis. Chem Soc J p3190-5 N '50

IODOMETRY

Coulometric titrations with externally generated reagents. D. D. DeFord, J. N. Pitts and C. J. Johns. bibliog diags Anal Chem 23:938-40 Jl '51

Determination of purity and water content of xanthates and dithiocarbamates; use of iodine reagents. A. L. Linch. bibliog Anal Chem 23:293-6 F '51

Determination of trivalent and tetravalent manganese. W. S. Fyfe. Anal Chem 23:174-5 Ja '51

Iodometric determination of cobalt. H. A. Laitinen and L. W. Burdett. bibliog Anal Chem 23:1268-70 S '51

Iodometric determination of ozone of high concentration. E. D. Boelter, G. L. Putnam and E. I. Lash. bibliog Anal Chem 22:1533-5 D '50

Polyvinyl alcohol as indicator in iodometry. S. A. Miller and A. Bracken. Chem Soc J p 1933 Jl '51

IODOPERMANGANATE

Iodopermanganate determination of nitrites in the presence of nitric acid. R. C. Brasted. bibliog Anal Chem 23:980-3 Jl '51

IODOTELLURITE

Spectrophotometric determination of tellurium as the iodotellurite complex. R. A. Johnson and F. P. Kwan. bibliog Anal Chem 23:651-3 Ap '51

ION exchange resins. See Resinous products—Ion exchanging

ION exchangers

Acidic properties of cotton cellulose and derived oxycelluloses; ion-exchange reactions with basic dyes. G. F. Davidson. bibliog Textile Inst J Trans 41:T361-80 O '50

Adsorption of silver ion by sphalerite. A. M. Gaudin and others. bibliog il Min Eng 3: Trans 780-4 S '51

AIChE-sponsored symposium on ion exchange, Pittsburgh, April 20. Chem & Eng N 29:1829 My 7 '51

Analytical applications of ion exchange separations. J. Schubert. bibliog(82 ref) flow sheets Anal Chem 22:1359-68 N '50

Anion exchange of complex ions of hafnium and zirconium in HCl-HF mixtures. E. H. Huffman and R. C. Lilly. Am Chem Soc J 73:2902-5 Je '51

Chemical engineering unit operations; sixth annual review. R. Kunin. Ind & Eng Chem 43:102-8 bibliog(321 ref, p 105-8) Ja '51

Chromium salvage. Chem Ind W 68:21+ Mr 3 '51

Exchange reactions of tetracyanonickelate ion; the structure of nickel cyanide. F. A. Long. bibliog Am Chem Soc J 73:537-40 F '51

Exchange reactions of uranium ions in solution. E. Rona. bibliog Am Chem Soc J 72:4339-43 O '50

Exchange studies with complex ions; the exchange of radiocyanide with certain heavy metal complex cyanides. A. W. Adamson, J. P. Welker and M. Volpe. bibliog Am Chem Soc J 72:4030-6 S '50

Further studies of the ion-exchange separation of the rare earths. B. H. Ketelle and G. E. Boyd. Am Chem Soc J 73:1862-3 Ap '51

Ion charge and exchange rates with ion-exchange polymers. G. E. Boyd, A. W. Adamson and L. S. Myers, jr. Am Chem Soc J 72:4807-8 O '50

Ion exchange. H. F. Walton. diags Sci Am 183:48-51 N '50

Ion-exchange and ion-sieve processes in crystalline zeolites. R. M. Barrer. Chem Soc J p2342-50 S '50

ION exchangers—*Continued*

Ion exchange for water treatment. E. B. Showell. il diags Am Water Works Assn J 43:522-38 Jl '51

Ion exchange in beet sugar manufacture. J. E. Maudru. bibliog flow diag Ind & Eng Chem 43:615-18 Mr '51

Ion exchange measurements of activity coefficients and association constants of cerous salts in mixed electrolytes. R. E. Connick and S. W. Mayer. Am Chem Soc J 73:1176-9 Mr '51

Ion exchange; review of 1950. R. Kunin. bibliog(86 ref) Anal Chem 23:45-6 Ja '51

Ion exchange separation of europium, gadolinium and terbium. G. H. Higgins and K. Street, jr. Am Chem Soc J 72:5321-2 N '50

Ion exchange separations. E. R. Tompkins. bibliog(92 ref) Anal Chem 22:1352-9 N '50

Ion-exchange studies; the sodium-hydrogen system. J. F. Duncan and B. A. J. Lister. diags Chem Soc J p3285-96 D '49

Ion exchange symposium. bibliog il diags Ind & Eng Chem 43:1062-93 My '51

Ion-pair formation in ion exchange systems. H. P. Gregor. Am Chem Soc J 73:3537-8 Jl '51

Kinetics of anion exchange on wool fibers. R. F. Hudson and G. A. Schmeidler. bibliog J Phys & Colloid Chem 55:1120-30 O '51

Kinetics of exchange reactions; substituted phenyl and benzyl bromides. S. Sugden and J. B. Willis. Chem Soc J p 1360-3 My '51

Kinetics of the exchange of sulfur between thiosulfate and sulfite. D. P. Ames and J. E. Willard. bibliog Am Chem Soc J 73:164-72 Ja '51

Plastics that sort atoms. il diags Fortune 44:107-10+ Jl '51

Precipitate-ion exchange reactions using radiosilver. G. K. Schweitzer and J. W. Nehls. bibliog diag J Phys & Colloid Chem 55:215-21 F '51

Separation of adenosine polyphosphates by ion exchange and paper chromatography. W. E. Cohn and C. E. Carter. bibliog Am Chem Soc J 72:4273-5 S '50

Separation of monosaccharides by ion exchange. J. X. Khym and L. P. Zill. bibliog Am Chem Soc J 73:2399-400 My '51

Separation of seventh group anions by ion-exchange chromatography. R. W. Atteberry and G. E. Boyd. Am Chem Soc J 72:4805-6 O '50

Treatment of chromium wastes by ion exchange. R. G. Tyler and others. Sewage & Ind Wastes 23:1032-5 Ag '51

Treatment of radioactive waste by ion exchange. J. A. Ayres. bibliog Ind & Eng Chem 43:1526-31 Jl '51

Use of ion exchangers for the determination of physical-chemical properties of substances, particularly radiotracers, in solution; activity coefficients of barium nirtate in uranyl nitrate. J. Schubert. Am Chem Soc J 73:4488-9 S '51

IONIUM

Analysis

Analysis of ore residues for ionium and protactinium. L. I. Katzin, Q. Van Winkle and J. Sedlet. bibliog Am Chem Soc J 72:4815-17 O '50

IONIZATION, Electrolytic

Acidic dissociation constant and related thermodynamic quantities for monoethanolammonium ion in water from 0° to 50° C. R. G. Bates and G. D. Pinching. bibliog J Res Nat Bur Stand 46:349-52 My '51

Apparent ionization exponents of 4-hydroxyquinoline, 4-methoxyquinoline and N-methyl-4-quinolone; evaluation of lactam-lactim tautomerism. G. F. Tucker, jr. and J. L. Irvin. bibliog Am Chem Soc J 73:1923-9 My '51

Aromatic sulphonation; the ionisation constants of *p*-nitrotoluene, nitrobenzene, and *p*-chloronitrobenzene, and the acidity function of oleum. J. C. D. Brand. Chem Soc J p997-1003 Mr '50

Chemical actions of ionising radiations in solution; radiation chemistry of sterols; the action of X-rays on cholesterol and 3β-hydroxypregn-5-en-20-one. M. Keller and J. Weiss. Chem Soc J p2709-14 O '50

Chemical actions of ionising radiations in solution; radiation chemistry of sterols; the action of X-rays on cholic acid in aqueous solution. M. Keller and J. Weiss. Chem Soc J p25-6 Ja '51

Chemical actions of ionising radiations in solution; radiation chemistry of sterols; the action of X-rays on (+)-œstrone-b in aqueous solution. M. Keller and J. Weiss. Chem Soc J p 1247-9 My '51

Chemical actions of ionising radiations on aqueous solutions; hydroxylation of benzoic acid by free radicals produced by X-rays. H. Loebl, G. Stein and J. Weiss. Chem Soc J p405-7 F '51

Chemical actions of ionising radiations on aqueous solutions; hydroxylation of nitrobenzene by free radicals produced by X-rays. H. Loebl, G. Stein and J. Weiss. Chem Soc J p2704-9 O '50

Chemical actions of ionising radiations on aqueous solutions; introductory remarks and description of irradiation arrangements. F. T. Farmer, G. Stein and J. Weiss. diags Chem Soc J p3241-5 D '49

Chemical actions of ionising radiations on aqueous solutions; the action of neutrons and of α-particles on benzene. G. Stein and J. Weiss. Chem Soc J p3254-6 D '49

Chemical actions of ionising radiations on aqueous solutions; the action of X-rays on some amino-acids. G. Stein and J. Weiss. Chem Soc J p3256-63 D '49

Chemical actions of ionising radiations on aqueous solutions; the formation of free radicals; the action of X-rays on benzene and benzoic acid. G. Stein and J. Weiss. diag Chem Soc J p3245-54 D '49

Cryoscopic measurements in nitric acid; the solutes dinitrogen pentoxide and water; the self-dissociation of nitric acid. R. J. Gillespie, E. D. Hughes and C. K. Ingold. Chem Soc J p2552-8 S '50

Cryoscopic measurements in sulphuric acid; ionisation of nitric acid in sulphuric oleum. R. J. Gillespie and J. Graham. Chem Soc J p2532-7 S '50

Cryoscopic measurements in sulphuric acid; reactions of ionised sulphates in sulphuric oleum; self-ionisation equilibria in sulphuric acid; and ionic equilibria in oleum; the polysulphuric acids. R. J. Gillespie. Chem Soc J p2516-31 S '50

Degree of ionization of nitric acid to the nitronium ion in sulphuric acid solution. T. G. Bonner and G. Williams. bibliog Chem & Ind p820-1 S 29 '51

Determination of the dissociation constants of very sparingly soluble weak electrolytes. R. N. Beale and A. Liberman. Chem Soc J p2287-90 S '50

Dissociation constant of calcium hydroxide. C. W. Davies and B. E. Hoyle. Chem Soc J p233-4 Ja '51

Dissociation constants of 4-aminobenzophenone calculated from ultraviolet spectra at several temperatures. E. E. Sager and I. J. Siewers. bibliog J Res Nat Bur Stand 45:489-96 D '50

Dissociation constants of some monosubstituted benzeneseleninic acids; a new synthesis of diaryl diselenides. E. S. Gould and J. D. McCullough. bibliog Am Chem Soc J 73:1109-12 Mr '51

Dissociation energies of the Cd^{++} vacancy complex and of the double vacancy in sodium chloride. J. R. Reitz and J. L. Gammel. bibliog J Chem Phys 19:894-9 Jl '51

Electrolytic dissociation of lanthanum ferricyanide in mixed solvents. J. C. James. Chem Soc J p 1094-8 Ap '50

Electrolytic dissociation of metal hydroxides. C. W. Davies. Chem Soc J p 1256-8 My '51

Electrolytic dissociation of zinc sulphate, copper sulphate, and zinc malonate in mixed solvents. J. C. James. Chem Soc J p 153-7 Ja '51

Electrolytic dissociation processes; the dielectric polarisation of iodine cyanide and the ionisation of the cyanogen halides. F. Fairbrother. Chem Soc J p 180-5 Ja '50

Electrolytic properties of aqueous solutions of polyvinylpyridine neutralized with hydroiodic acid. F. T. Wall, J. J. Ondrejcin and M. Pikramenou. diag Am Chem Soc J 73:2821-5 Je '51

IONIZATION, Electrolytic—*Continued*

Electrolytic transference properties of polymeric acids. F. T. Wall, G. S. Stent and J. J. Ondrejcin. bibliog diag J Phys & Colloid Chem 54:979-90 O '50

Equivalent and ionic conductances for sodium and potassium chlorides in anhydrous methanol at 25°C. J. P. Butler and others. bibliog J Chem Phys 19:752-4 Je '51

Extent of dissociation of salts in water; calcium salts of some amino-acids and dipeptides. C. W. Davies and G. M. Waind. Chem Soc J p301-3 Ja '50

First dissociation contant of phosphoric acid from 0° to 60°C; limitations of the electromotive force method for moderately strong acids. R. G. Bates. bibliog J Res Nat Bur Stand 47:127-34 S '51

First dissociation constant of succinic acid from 0° and 50° C and related thermodynamic quantities. G. D. Pinching and R. G. Bates. bibliog J Res Nat Bur Stand 45:444-9 D '50

Inexpensive transference number apparatus. T. J. Roemer and R. A. Cooley. bibliog diag J Chem Educ 28:37-8 Ja '51

Ionization and hydration equilibria of periodic acid. C. E. Crouthamel, A. M. Hayes and D. S. Martin. bibliog Am Chem Soc J 73:82-7 Ja '51

Ionization constant of sulfanilic acid from 0 to 50° by means of e.m.f. measurements. R. O. MacLaren and D. F. Swinehart. bibliog Am Chem Soc J 73:1822-4 Ap '51

Ionization constants of β-alanine in water and isopropyl alcohol-water mixtures. M. May and W. A. Felsing. Am Chem Soc J 73:406-9 Ja '51

Ionization constants of *p*-diethylaminobenzylidenerhodanine. E. B. Sandell and J. J. Neumayer. Am Chem Soc J 73:654-5 F '51

Ionization constants of fluorinated acids. A. L. Henne and C. J. Fox. Am Chem Soc J 73:2323-5 My '51

Ionization constants of glycine and the effect of sodium chloride upon its second ionization. E. J. King. bibliog Am Chem Soc J 73:155-9 Ja '51

Ionization of amino acids in the solvent sulfuric acid. J. L. O'Brien and C. Niemann. bibliog Am Chem Soc J 73:4264-7 S '51

Ionisation of triarylcarbinol indicators in sulphuric acid-water mixtures. M. A. Murray and G. Williams. Chem Soc J p3322-6 N '50

Ionisation of triarylcarbinols in strong acids and the definition of a new acidity function. V. Gold and B. W. V. Hawes. diag Chem Soc J p2102-11 Ag '51

Mechanism of the action of ionizing radiations on sodium thymonucleate. D. B. Smith and G. C. Butler. bibliog Am Chem Soc J 73:258-61 Ja '51

Nicotinamide; ultraviolet absorption spectra and dissociation constants. H. H. G. Jellinek and M. G. Wayne. bibliog J Phys & Colloid Chem 55:173-80 F '51

Paper ionophoresis. E. L. Durrum. Science 113:66-8 Ja 19 '51

Partition studies; partition coefficients and ionization constants of methyl-substituted anilines. C. Golumbic and G. Goldbach. bibliog Am Chem Soc J 73:3966-7 Ag '51

Partition studies; partition coefficients and ionization constants of methyl-substituted pyridines and quinolines. C. Golumbic and M. Orchin. bibliog Am Chem Soc J 72:4145-7 S '50

Reaction-kinetic investigations of the incomplete dissociation of salts; the hydrolysis of carbethoxymethyltriethylammonium iodide and of ethyl acetate by solutions of metal hydroxides. R. P. Bell and G. M. Waind. Chem Soc J p1979-83 Ag '50

Relation between steric hindrance and ionization constant of certain acids. H. L. Lochte and P. Brown. bibliog Am Chem Soc J 72:4297-8 S '50

Second dissociation constant of succinic acid from 0° to 50° C. G. D. Pinching and R. G. Bates. bibliog J Res Nat Bur Stand 45:322-8 O '50

Studies in the theory of the polarographic diffusion current; the effect of ionic strength on the diffusion current constant in the absence of gelatin. L. Meites. Am Chem Soc J 73:4257-9 S '51

Study of protein-ion interaction by the moving boundary method; the combination of bovine serum albumin with chloride ion. R. A. Alberty and H. H. Marvin, jr. bibliog Am Chem Soc J 73:3220-3 Jl '51

System cellulose—sodium hydroxide—water; determination of the ionization constant of cellulose. J. B. Calkin. bibliog Tappi 34: sup 108A-12A S '51

Transference numbers for sodium and potassium chlorides in anhydrous methanol at 25°C. J. A. Davies and others. bibliog J Chem Phys 19:749-51 Je '51

Vibrational spectra of ionic forms of oxides and oxy-acids of nitrogen. C. K. Ingold and others. Chem Soc J p2576-627 O '50

IONIZATION, Gaseous

Action of hot ionized gases upon zirconium and copper. A. Dravnieks. bibliog diags J Phys & Colloid Chem 55:540-9 Ap '51

Convergence of the Chapman-Enskog method for a completely ionized gas. R. Landshoff. Phys R 82:442 My 1 '51

Deceleration and ionizing efficiency of radar meteors. D. W. R. McKinley. bibliog il J Ap Phys 22:202-13 F '51

Electrical conductivity of an ionized gas. R. S. Cohen and others. bibliog Phys R 80:230-8 O 15 '50

Electron current regulator for mass spectrometer ion sources. V. J. Caldecourt. diag R Sci Instr 22:58-9 Ja '51

Electrostatic source of ionizing energy. J. G. Trump. bibliog il diags Elec Eng 70:781-7 S '51

Empirical relations involving ionization potentials. J. P. Teegan and A. D. Walsh. J Chem Phys 19:1070 Ag '51

Ionization by the collision of pairs of metastable atoms. M. A. Biondi. bibliog Phys R 82:453-4 My 1 '51

Ionization control makes indoor air like outdoor air. Franklin Inst J 251:538 My '51

Ionization defects of fission fragments. J. K. Knipp and others. bibliog Phys R 80:478 N 1 '50

Ionization loss of μ-mesons at relativistic energies in anthracene. T. Bowen and F. X. Roser. bibliog diag Phys R 83:689-90 Ag 1 '51

Ionization of argon atoms by helium or neon metastable atoms. M. A. Biondi. Phys R 83:653-4 Ag 1 '51

Ionization yields of fission fragments. R. B. Leachman. bibliog diag Phys R 83:17-20 Jl 1 '51

Ionization yields of heavy particles. J. K. Knipp and R. C. Ling. bibliog Phys R 82:30-5 Ap 1 '51

LCAO self-consistent field calculation of the ground state of carbon dioxide. J. F. Mulligan. bibliog J Chem Phys 19:347-62 Mr '51

Measurement of the electron density in ionized gases by microwave techniques. M. A. Biondi. diags R Sci Instr 22:500-2 Jl '51

Plasma oscillations in a static magnetic field. E. P. Gross. bibliog Phys R 82:232-42 Ap 15 '51

Relativistic theory of electro-magneto-ionic waves. V. A. Bailey. bibliog Phys R 83:439-54 Jl 15 '51

Stopping power and energy loss for ion pair production for 340-Mev protons. C. J. Bakker and E. Sergrè. bibliog diag Phys R 81:489-92 F 15 '51

Theory of radiation chemistry; some effects of variation in ionization density. J. L. Magee. bibliog Am Chem Soc J 73:3270-5 Jl '51

Total ionization of hydrocarbons from mass spectral data. F. L. Mohler and others. J Res Nat Bur Stand 45:235-8 S '50

Wave function of ionized lithium. P. J. Luke and others. Phys R 83:847 Ag 15 '51

See also

Cosmic rays—Ionization effects

IONIZATION chambers

Altitude and latitude dependence of bursts in a lead-shielded ionization chamber. A. J. McMahon and others. bibliog il diags Phys R 80:157-63 O 15 '50

Improved dc amplifier for portable ionization chamber instruments. N. F. Moody. il diags R Sci Instr 22:236-9 Ap '51

IONIZATION chambers—*Continued*

Instrumentation of the M.I.T. cyclotron for the study of nuclear reactions. K. Boyer and others. il diags R Sci Instr 22:310-20 My '51

Ionization chamber bursts at high altitudes. T. Coor, jr. bibliog diag Phys R 82:478-85 My 15 '51

Nuclear particle and radiation detectors; ion chambers and ion-chamber instruments. D. Taylor and J. Sharpe. bibliog(41 titles) il diags Inst E E Proc 98 pt 2:174-90; Discussion. 204-8 Ap '51

Properties of proportional tubes and ion chambers with glass envelopes and external graphite electrodes. A. L. Crockroft and J. M. Valentine. diags J Sci Instr 27:262-3 O '50

Radiological monitoring; instrumentation; the ionization chamber. S. S. Friedland. il diags Q S T 35:21-3+ Ag '51

Simple laboratory setup for rapid measurement of β-ray dosages above one rep/sec. J. S. Krohmer and W. A. McCarthy. il Science 113:360-1 Mr 30 '51

Use of polytetrafluoroethylene insulators in integrating ion chambers. H. Lysons. diags J Sci Instr 27:334-5 D '50

X-ray calibration of radiation survey meters, pocket chambers, and dosimeters. F. H. Day. bibliog U S Nat Bur Stand Circ 507: 1-11; pa 15c Supt. of doc. '51

IONONE

Studies in the polyene series; preparation of 3-dehydro-β-ionone and some 3-substituted β-ionones. H. B. Henbest. Chem Soc J p 1074-8 Ap '51

IONOPHORESIS. See Electrophoresis

IONOSPHERE. See Atmosphere, Upper

IONS

Absorption spectra of certain nickel(II) and cobalt(II) complex ions. G. L. Roberts and F. H. Field. bibliog Am Chem Soc J 72: 4232-5 S '50

Application of the mass law to adsorption of divalent ions on hydrous ferric oxide. M. H. Kurbatov and others. J Chem Phys 19:258-9 F '51

Application of the Onsager theory of ionic mobilities to self-diffusion. L. J. Gosting and H. S. Harned. Am Chem Soc J 73:159-61 Ja '51

Applications of the Eastman thermocell equation; certain absolute ionic entropies and entropies of transfer of alkali metal and tetraalkylammonium bromides and hydroxides. J. G. Goodrich and others. bibliog diags Am Chem Soc J 72:4411-18 O '50; Reply. H. J. V. Tyrrell and G. L. Hollis. 73:2401-2 My '51

Association of cerous ion with iodide, bromide and fluoride ions. S. W. Mayer, and S. D. Schwartz. bibliog Am Chem Soc J 73:222-4 Ja '51

Association of cerous ion with sulfite, phosphate and pyrophosphate ions. S. W. Mayer and S. D. Schwartz. bibliog Am Chem Soc J 72:5106-10 N '50

Binding of organic ions by proteins; optical evidence of coöperative interactions with hydrogen ions. I. M. Klotz and J. M. Urquhart. Am Chem Soc J 73:3182-6 Jl '51

Bound metal in ethyl cellulose effect on dilute solution properties. E. F. Evans and H. M. Spurlin. bibliog Am Chem Soc J 72:4750-6 O '50

Building-up principle and atomic and ionic structure. D. F. Swinehart. bibliog J Chem Educ 27:622-4 N '50

Cathode-type arc-ion source. E. H. Beach and W. C. Parkinson. diags R Sci Instr 22:697-9 S '51

Complex ion symposium, Chicago, Feb. 21-23. Chem & Eng N 29:906-8 Mr 5 '51

Composition and stability of the beryllium-sulfosalicylate complex ion. H. V. Meek and C. V. Banks. bibliog Am Chem Soc J 73:4108-12 S '51

Cross sections for ion-atom collisions in He, Ne, and A. J. A. Hornbeck and G. H. Wannier. Phys R 82:458 My 1 '51

Cryoscopic measurements in sulphuric acid; the solutes acetic anhydride and benzoic anhydride; cryoscopic evidence for the acetylium and benzoylium ions. R. J. Gillespie. Chem Soc J p2997-3000 N '50

Determination of dissociation constants of complex ions by a radioactive indicator method. C. M. Cook, jr. and F. A. Long. Am Chem Soc J 73:4119-21 S '51

Effect of ionic strength on polarographic half-wave potentials. D. D. DeFord and D. L. Andersen. bibliog Am Chem Soc J 72:3918-20 S '50

Electromigration on filter paper. K. A. Kraus and G. W. Smith. Am Chem Soc J 72:4329-30 S '50

Electron transfer (exchange) between cobaltous and cobaltic amine complexes. W. B. Lewis, C. D. Coryell and J. W. Irvine, jr. Chem Soc J supp no 2:S386-92 '49

Elementary processes in radiation chemistry; negative ion formation by electron capture in neutral molecules. J. L. Magee and M. Burton. Am Chem Soc J 73:523-32 F '51

Equilibrium between copper and cupric and cuprous ions and the behavior of the copper electrode in dilute copper sulphate solutions. S. E. S. El Wakkad. Chem Soc J p3563-6 D '50

General equation for the entropies of aqueous ions; abstract. W. M. Latimer. Science 112: 424-5 O 13 '50

Hollow cathode for positive ion studies in cathode-ray tubes. C. H. Bachman and others. il diags J Ap Phys 22:1208-10 S '51

Hydrolysis of the uranyl ion. J. Sutton. Chem Soc J supp no 2:S275-86 '49

Hydrolytic behavior of metal ions; the acid constants of uranium(IV) and plutonium(IV). K. A. Kraus and F. Nelson. bibliog Am Chem Soc J 72:3901-6 S '50

Interaction between hexacyanatoferrate(III) ions and (a) hexacyanatoferrate(II) or (b) iron(III) ions. J. A. Ibers and N. Davidson. Am Chem Soc J 73:476-8 Ja '51

Ionic association in aqueous solutions of uranyl sulphate and uranyl nitrate. R. H. Betts and R. K. Michels. Chem Soc J supp no 2:S286-94 '49

Ionic theory of slag-metal equilibria. P. Herasymenko and G. E. Speight. bibliog Iron & Steel Inst J 166:169-83, 289-303 N-D '50; Discussion. 168:376 Ag '51

Ions and radicals in biochemical processes. W. A. Mosher. bibliog Franklin Inst J 251: 665-74 Je '51

Light scattering in solutions of serum albumin; effects of charge and ionic strength. J. T. Edsall and others. bibliog Am Chem Soc J 72:4641-56 O '50

Magnetic electron multipliers for detection of positive ions. L. G. Smith. bibliog il diags R Sci Instr 22:166-70 Mr '51

Mass spectrometer resolution of ion pairs of similar *m/e*. D. V. Kniebes and others. J Chem Phys 19:654-5 My '51

Metal ion-catalyzed decarboxylation; a model for an enzyme system. R. Steinberger and F. H. Westheimer. Am Chem Soc J 73:429-35 Ja '51

Polarizabilities of ions in perovskite-type crystals. S. Robert. bibliog Phys R 81:865-8 Mr 1 '51

Polarographic investigation of iron-sulfosalicylate complex ions. C. V. Banks and J. H. Patterson. bibliog Am Chem Soc J 73:3062-4 Jl '51

Properties of electrolytic solutions; effect of substituent groups on the properties of long chain ions. M. J. McDowell and C. A. Kraus. Am Chem Soc J 73:2173-6 My '51

Reactions involving like-charged ions; the rate of disproportionation of uranium(V) in deuterium oxide. F. R. Duke and R. C. Pinkerton. Am Chem Soc J 73:2361-2 My '51

Relation of movement to time in ionography. H. J. McDonald, M. C. Urbin and M. B. Williamson. Am Chem Soc J 73:1893-4 Ap '51

Role of halide ions in the ferric-stannous reaction. F. R. Duke and R. C. Pinkerton. bibliog Am Chem Soc J 73:3045-9 Jl '51

Solubility of the rare earth oxalates and complex ion formation in oxalate solution; neodymium and cerium(III). C. E. Crouthamel and D. S. Martin, jr. bibliog Am Chem Soc J 73:569-73 F '51

Studies in the theory of the polarographic diffusion current; diffusion current constants of some ions in solutions containing gelatin; a critique of the Strehlow-von Stackelberg equation. L. Meites and T. Meites. Am Chem Soc J 73:395-8 Ja '51

IONS—*Continued*

Studies in the theory of the polarographic diffusion current; diffusion current constants of some ions in the absence of gelatin. L. Meites. bibliog Am Chem Soc J 73: 1581-3 Ap '51

Study of some complex chlorides and oxalates by solubility measurements. J. E. Barney, 2d, W. J. Argersinger, jr. and C. A. Reynolds. bibliog Am Chem Soc J 73:3785-8 Ag '51

Symposium on complex ions and polyelectrolytes, Ithaca, N.Y. June 18-21. Chem & Eng N 29:2746-7 Jl 2 '51

Use of radioactive isotopes in the study of the diffusion of ions in solution. J. S. Anderson and K. Saddington. diag Chem Soc J supp no 2:381-6 '49

See also
Anions
Cations

Mobility

Mobilities of molecular and atomic rare gas ions in the parent gases; helium, neon, and argon. J. A. Hornbeck. bibliog Phys R 80: 297-8 O 15 '50

Motion of gaseous ions in a strong electric field. G. H. Wannier. bibliog diags Phys R 83:281-9 Jl 15 '51

Recombination

Concerning the mechanism of electron-ion recombination. M. A. Biondi and T. Holstein. bibliog Phys R 82:962-3; 83:1078-80 Je 15, S 1 '51

Effect of recombinations in electron avalanches. G. M. Petropoulos and P. A. Ampariotis. Phys R 83:658 Ag 1 '51

IOWA power and light company

Public utility securities. O. Ely. Comm & Fin Chr 172:2546 D 28 '50

IOWA public service company

Bonds offered. Comm & Fin Chr 174:188 Jl 16 '51

IPECAC

Ipecac-root exports, Nicaragua, 1940-49; table. For Comm W 44:18 Ag 20 '51

IRAN

Outline of the social and economic structure of Iran. M. A. Djamalzadeh. Int Labour R 63:24-39, 178-91 Ja-F '51

State enters Iran Point four picture, but private consultants stay. Eng N 145:25 N 9 '50

See also
Petroleum industry and trade—Iran

Commerce

Marketing in Persia. H. S. Hettinger. J Marketing 15:289-97 Ja '51

Commercial policy

Tariffs and trade controls. For Comm W 44: 14 Jl 16 '51

Economic conditions

News by countries. For Comm W 41:12 D 11 '50; 42:13 Ja 15; 14-15 F 5; 16 Mr 19; 43:14 My 7; 14-15 Je 25 '51

Outline of the social and economic structure of Iran. M. A. Djamalzadeh. Int Labour R 63:24-39, 178-91 Ja-F '51

Economic relations

United States

Point IV agreements with Iran and Ceylon. R. Gibbs. Chem & Eng N 28:4056 N 20 '50

U.S. moves in; export-import loan to Iran. Bsns W p 130-1 O 21 '50

Foreign relations

Persia faces both ways. Economist 159:748-9 N 11 '50

Setback in Iran; Anglo-Iranian oil co. il Fortune 43:80-1+ Mr '51

See also Petroleum industry and trade—Iran

Russia

Moscow line on Persia. Economist 161:34+ Jl 7 '51

Politics and government

Persia in trouble. Economist 160:692, 746, 802+ Mr 24-Ap 7 '51

IRAQ

Exodus from Iraq; departing Jews. Economist 160:928+ Ap 21 '51

See also
Petroleum industry and trade—Iraq

Commercial policy

Regulation no. 11 of 1951 for the disposal, administration and liquidation of frozen properties. For Comm W 43:15 Je 25 '51

Economic conditions

News by countries. For Comm W 42:15 F 5; 43:13 My 28; 44:17 Jl 30; 12 S 10 '51

IRELAND

See also
Banks and banking—Ireland

Commercial policy

Tariffs and trade controls. For Comm W 42:13-14 Ja 15 '51

Economic conditions

Cheques and balances. Economist 160:144-6 Ja 20 '51

Politics and government

Ireland in search of an issue. Economist 160: 1238-9 My 26 '51

Marking time in Eire. Economist 160:1358-60 Je 9 '51

IRIDIUM

Investigations on the mechanism of catalytic hydrogenations; studies with colloidal iridium. W. P. Dunworth and F. F. Nord. bibliog Am Chem Soc J 72:4197-8 S '50

Radioactivity induced in iridium by neutron capture. J. M. Cork and others. Phys R 82:258-9 Ap 15 '51

Analysis

Iridium in perchloric, phosphoric, and nitric acid mixtures; a spectrophotometric study. G. H. Ayres and Q. Quick. bibliog Anal Chem 22:1403-8 N '50

Separation of iridium from lead on a micro scale; gravimetric determination of iridium. R. R. Barefoot, W. J. McDonnell and F. E. Beamish. bibliog Anal Chem 23:514-16 Mr '51

Prices

Nonferrous prices; tabulation. Steel 128:129 Ja 1 '51

IROKO

Constitution of chlorophorin, a constituent of iroko, the timber of chlorophora excelsa. F. E. King and M. F. Grundon. Chem Soc J p3348-52 D '49

IRON

Adsorption of iron by anion exchange resins from hydrochloric acid solutions. G. E. Moore and K. A. Kraus. Am Chem Soc J 72:5792-3 D '50

Aging studies on redox polymers; effect of iron. C. R. Parks, J. O. Cole and J. D. D'Ianni. bibliog Ind & Eng Chem 42:2553-7 D '50

Catalytic polarographic waves of hydrogen peroxide; the kinetic wave for the ferric iron-hydrogen peroxide system. I. M. Kolthoff and E. P. Parry. bibliog Am Chem Soc J 73:3718-23 Ag '51

Chemical engineering materials of construction; iron, mild steels, and low-alloy steels. C. P. Larrabee and B. J. Kelly. bibliog il Ind & Eng Chem 43:2239-42 O '51

Chemisorption of carbon monoxide and the heterogeneity of the surface of iron catalysts. J. T. Kummer and P. H. Emmett. Am Chem Soc J 73:2886-9 Je '51

Contact potentials of evaporated iron films in air and in nitrogen at low pressure. N. Hackerman and L. L. Antes. Science 112: 471 O 20 '50

Corrosion of bare iron or steel in sea water. J. C. Hudson. il Iron & Steel Inst J 166: 123-36 O '50

Cumene hydroperoxide-iron(II) reaction in the absence of oxygen. J. W. L. Fordham and H. L. Williams. Am Chem Soc J 73: 1634-7 Ap '51

Decomposition of cumene hydroperoxide by ferrous iron in the presence of oxygen. J. W. L. Fordham and H. L. Williams. bibliog Am Chem Soc J 72:4465-9 O '50

IRON—*Continued*

Determination of organic peroxides by reaction with ferrous iron. I. M. Kolthoff and A. I. Medalia. bibliog Anal Chem 23:595-603 Ap '51

Exchange between N_2^{30} and N_2^{28} over iron catalysts. J. T. Kummer and P. H. Emmett. bibliog J Chem Phys 19:289-92 Mr '51

Ferric-catalyzed hydrogen peroxide decomposition; effect of nitrate ion. S. Peterson. bibliog Am Chem Soc J 73:3521-2 Jl '51

Heat treatment and properties of iron and steel. S. J. Rosenberg and T. G. Digges. il diags U S Nat Bur Stand Circ 495:1-33 bibliog(p32-3); pa 25c Supt. of doc. '50

Inelastic scattering of 15-Mev neutrons by lead, iron, and aluminum. P. H. Stelson and C. Goodman. bibliog diag Phys R 82:69-71 Ap 1 '51

Interaction between the *d*-shells in the transition metals; calculation of the Weiss factors in Fe, Co, and Ni. C. Zener. Phys R 83:299-301 Jl 15 '51

Light absorption as a result of an interaction of two states of valency of the same element. W. A. Weyl. bibliog il J Phys & Colloid Chem 55:507-12 Ap '51

Medium for the study of the bacterial oxidation of ferrous iron. W. W. Leathen and others. Science 114:280-1 S 14 '51

Oxidation potentials of the Pu(III)-Pu(IV) and Fe(II)-Fe(III) couples in perchloric acid solution; heat content and entropy changes. R. E. Connick and W. H. McVey. Am Chem Soc J 73:1798-804 Ap '51

Polarographic investigation of iron-sulfosalicylate complex ions. C. V. Banks and J. H. Patterson. bibliog Am Chem Soc J 73:3062-4 Jl '51

Polarographic studies of metal complexes; the cadmium(II), zinc(II) and iron(III) citrates. L. Meites. Am Chem Soc J 73:3727-31 Ag '51

Precipitation of carbon and nitrogen in cold-worked alpha-iron. S. Harper. bibliog Phys R 83:709-12 Ag 15 '51

Precise mechanical measurement of the gyromagnetic ratio of iron. G. G. Scott. bibliog diags Phys R 82:542-7 My 15 '51

Preliminary studies on the solubility of iron in liquid sodium; abstract. L. F. Epstein. Science 112:426 O 13 '50

Preparation of carrier-free ^{32}P from pile-irradiated sulphur; adsorption of ^{32}P on ferric hydroxide and dialysed iron. A. W. Kenny and W. T. Spragg. Chem Soc J supp no 2:S326-30 '49

Radiographic method of dilatometry, A. H. Smith and others. il diags R Sci Instr 22:138-40 Mr '51

Rate equation of ammonia-synthesis on iron-type catalysts of different composition. R. Brill. bibliog J Chem Phys 19:1047-50 Ag '51

Reaction between ferrous iron and peroxides; reaction with potassium persulfate. I. M. Kolthoff, A. I. Medalia and H. P. Raaen. bibliog diags Am Chem Soc J 73:1733-9 Ap '51

Reaction of ferrous and ferric iron with 1,10-phenanthroline; application to investigation of zinc phenanthroline complexes. I. M. Kolthoff, D. L. Leussing and T. S. Lee. bibliog Am Chem Soc J 73:390-4 Ja '51

Room temperature solubility of iron in copper. T. S. Hutchison and J. Reekie. bibliog Phys R 83:854-5 Ag 15 '51

Scattering and polarization of neutrons in an iron single crystal. D. J. Hughes and others. bibliog Phys R 80:481-2 N 1 '50

Segregation of iron and manganese in some aluminium casting alloys. W. H. Glaisher. diag Metallurgia 43:127-31 Mr '51

Separation of iron(III) from aluminum. H. Teicher and L. Gordon. bibliog Anal Chem 23:930-1 Je '51

Spectrophotometric studies on complex formation with sulfosalicylic acid; with iron(III) at higher *p*H values. R. T. Foley and R. C. Anderson. bibliog Am Chem Soc J 72:5609-12 D '50

Spectrophotometric study of the hydrolysis of iron(III) ion. T. H. Siddall, 3d and W. C. Vosburgh. bibliog Am Chem Soc J 73:4270-2 S '51

Studies of the Fischer-Tropsch synthesis; phase changes of iron catalysts in the synthesis. R. B. Anderson and others. Am Chem Soc J 73:944-6 Mr '51

Studies of the Fischer-Tropsch synthesis; surface area and pore volume studies of iron catalysts. W. K. Hall, W. H. Tarn and R. B. Anderson. bibliog Am Chem Soc J 72:5436-43 D '50

Studies on galvanic couples; polarization and cathodic protection. H. D. Holler. diags Electrochem Soc J 97:453-61 D '50

Study of the amount of hydrogen left on the surface of a reduced and evacuated iron synthetic ammonia catalyst. J. T. Kummer and P. H. Emmett. bibliog J Phys & Colloid Chem 55:337-46 Mr '51

Thermodynamic functions of iron. L. S. Darken and R. P. Smith. bibliog Ind & Eng Chem 43:1815-20 Ag '51

Thermodynamics of iron-silicate slags; slags saturated with gamma iron. R. Schuhmann, jr. and P. J. Ensio. bibliog diags J Metals 3:Trans 401-11 My '51

Thermomagnetic investigations of promoted and unpromoted iron oxide and iron catalysts. L. R. Maxwell and others. bibliog diag J Chem Phys 19:303-9 Mr '51

Transport rates of the helium II film over various surfaces. J. G. Dash and H. A. Boorse. bibliog diags Phys R 82:851-6 Je 15 '51

Welding electrodes and rods for ferrous and nonferrous metals; filler metals for steels and irons. H. R. Clauser. il Materials & Methods 32:68-75 D '50

See also

Blast furnaces
Cast iron
Chilled iron
Corrosion and anti-corrosives
Foundry practice
Iron, Powdered
Iron, Sponge
Iron alloys
Iron founding
Iron metallurgy
Iron ores
Pig iron
Steel
Water purification—Iron removal
Wrought iron

Analysis

Colorimetric determination of iron. T. S. West. bibliog Metallurgia 43:204-6, 260-1+, 311-13+ Ap-Je '51

Determination of copper and iron in oils by amperometric titration. T. D. Parks and L. Lykken. bibliog Anal Chem 22:1503-5 D '50

Determination of formal oxidation potentials of ferric-ferrous and dichromate-chromic systems; selection of substituted 1,10-phenanthroline indicators for determination of iron at low acidity. G. F. Smith. bibliog Anal Chem 23:925-7 Je '51

Determination of iron in wood and wood pulp. R. M. Kingsbury. bibliog diag Tappi 34:382-4 Ag '51

Determining spout analysis from raw materials charged in the cupola; data sheet. Foundry 79:161 Ag '51

Evaluation of three iron methods using a factorial experiment; phenanthroline. L. K. Reitz, A. S. O'Brien and T. L. Davis. Anal Chem 22:1470-3 D '50

How to obtain accurate carbon analyses. W. H. White. Foundry 79:107 S '51

Potentiometric method for microdetermination of iron; extension of use of silver reductor. I. C. Wells. bibliog Anal Chem 23:511-14 Mr '51

Spectrochemical determination of iron, magnesium, and manganese in titanium metal. M. J. Peterson. bibliog Anal Chem 22:1398-400 N '50

Survey of methods for aluminum determination and a disinvolved phosphate method applicable to iron ores and analogues. E. T. Saxer and E. W. Jones. bibliog Blast F & Steel Pl 39:445-50+, 549-52 Ap-My '51

Third annual review of analytical chemistry; ferrous metallurgy. H. F. Beeghly. bibliog(90 ref) Anal Chem 23:228-31 F '51

Volumetric determination of iron in aluminium alloys. G. Norwitz. Metallurgia 43:154 Mr '51

Bibliography

Abstracts of current literature and book notices. Published in monthly numbers of the Journal of the Iron and steel institute

IRON—Bibliography—*Continued*

Review of iron and steel literature for 1950. M. Schrero. Blast F & Steel Pl 39:688-90+, 813-16+, 1101-5 Je-Jl, S '51 [reprinted by Carnegie library of Pittsburgh]

Isotopes

Half-life of Fe^{55} and Co^{60}. G. L. Brownell and C. J. Maletskos. bibliog Phys R 80:1102-3 D 15 '50

Mn$^{55}(p,n)$Fe^{55} neutron spectrum. P. H. Stelson and W. M. Preston. bibliog diag Phys R 82:655-7 Je 1 '51

Photoneutron cross sections of Fe^{54}, Ni^{58}, and Zn^{64}. L. Katz and others. bibliog Phys R 82:271-2 Ap 15 '51

Metallography

Barley shell structure in iron-silicon alloys. R. V. Riley. bibliog il J Metals 3:Trans 412 My '51

Carbide phase in iron-carbon-silicon alloys. W. S. Owen. bibliog pl Iron & Steel Inst J 167:117-20 F '51

Constitution of iron-nickel-chromium alloys at 650° to 800° C. W. P. Rees and others. bibliog 6pls Iron & Steel Inst J 162:325-36 Jl '49; Discussion. 166:200-12 N '50

Effect of oxygen content on iron casting properties. F. S. Kleeman. bibliog il Foundry 79:100-3+ Ja '51

Formation and behavior of subboundaries in silicon iron crystals. C. G. Dunn and F. W. Daniels. bibliog il diags J Metals 191:Trans 147-54 F '51

Further X-ray study of the equilibrium diagram of the iron-nickel system. E. A. Owen and Y. H. Liu. bibliog pl Iron & Steel Inst J 163:132-7 O '49; Discussion. 166:200-12 N '50

Influence of low percentages of certain elements on the microstructure of pure iron-carbon alloys and cast irons. W. J. Williams. bibliog 10 pls Iron & Steel Inst J 164:407-22 Ap '50; Discussion. 167:374-8 Ap '51

Intergranular energy of iron and some iron alloys. L. H. Van Vlack. bibliog il diags J Metals 3:Trans 251-9 Mr '51

Iron-chromium-nickel ternary system. J. W. Pugh and J. D. Nisbet. bibliog il diags J Metals 188:Trans 268-76 F '50; Discussion. 188:Trans 1356-8 N '50

Kinetics of solid phase reactions in oxide films on iron; the reversible transformation at or near 570° C. E. A. Gulbransen and R. Ruka. bibliog il J Metals 188:Trans 1500-8 D '50

Measurement of relative interface energies in twin related crystals. C. G. Dunn and others. bibliog il diags J Metals 188:Trans 368-77 F '50; Discussion. 188:Trans 1361-2 N '50

Metallurgical considerations in machining. M. C. Shaw and P. A. Smith. il diags Am Mach 95:89-92 Ag 20; 139-42 S 17 '51

Micro-mechanism of fracture in the tension impact test; supplementary report number one. W. H. Bruckner. il Welding J 30:sup459-69 S '51

Microstructures of metals; reference book sheet. M. Field and others. il Am Mach 95:315+ Ja 22; 165+ F 5 '51

Self-diffusion in alpha and gamma iron. C. E. Birchenall and R. F. Mehl. bibliog J Metals 188:Trans 144-9 Ja '50; Discussion. 188:Trans 1374-5 N '50

Spherulite formation in nodular cast iron. A. L. De Sy. il Metal Prog 59:798-801 Je '51

Structural aspects of tellurium and graphite additions for chill control in cast iron. E. A. Loria. il Foundry 79:126-9+ Je '51

Study of precipitates of C and N in iron with an electron microscope. J. Radavich and C. Wert. il J Ap Phys 22:367-71 Ap '51

Tessellated stresses. F. László. bibliog diags Iron & Steel Inst J 147:173-99 no 1; 148:137-59 no 2 '43; 150:183-207 no 2 '44; 152:207-28 no 2 '45; 164:5-26 Ja '50; Discussion. 150:207-9 no 2 '44; 167:28-30 Ja '51

Transformations $\alpha \to \gamma$ and $\gamma \to \alpha$ in iron-rich binary iron-nickel alloys. N. P. Allen and C. C. Earley. 6pls Iron & Steel Inst J 166:281-8 D '50

See also

Cast iron—Graphitization

Nitrogen content

Study of precipitates of C and N in iron with an electron microscope. J. Radavich and C. Wert. il J Ap Phys 22:367-71 Ap '51

Oxygen content

Solubility of oxygen in liquid iron containing aluminum. D. C. Hilty and W. Crafts. bibliog il diag J Metals 188:Trans 414-24 F '50; Discussion. 188:Trans 1342-5 N '50

Solubility of oxygen in liquid iron containing silicon and manganese. D. C. Hilty and W. Crafts. bibliog il J Metals 188:Trans 425-36 F '50; Discussion. 188:Trans 1346-7 N '50

Phosphorus content

Effect of phosphorus content on mechanical properties of a nodular cast iron; abstract. J. E. Rehder. Foundry 79:126 Jl '51

Sulfur content

Desulphurization of pig iron with pulverized lime. B. Kalling and others. bibliog il diag J Metals 3:Trans 732-8 S '51

Desulphurizing molten iron with calcium carbide. S. D. Baumer and P. M. Hulme. il diags J Metals 3:Trans 313-18 Ap '51; Discussion. 3:Trans 1051-2 N '51

Distribution of sulphur between liquid iron and slags of low iron-oxide concentrations. R. Rocca and others. bibliog J Metals 3:Trans 319-26 Ap '51

Effect of carbon on the activity of sulphur in liquid iron. J. P. Morris and R. C. Buehl. bibliog diag J Metals 188:Trans 317-22 F '50; Discussion. 188:Trans 1349 N '50

Effect of silica reduction on the desulphurizing power of blast-furnace type slags. N. J. Grant and others. J Metals 3:Trans 672-3 Ag '51; Discussion. 3:Trans 1049-50 N '51

Effects of manganese and its oxide on desulphurization by blast-furnace type slags. N. J. Grant and others. bibliog diag J Metals 3:Trans 666-71 Ag '51; Discussion. 3:Trans 1048-9 N '51

Kalling-Domnarfvet process at Surahammar works. S. Fornander. il diags J Metals 3:Trans 739-41 S '51

Mechanism of sulphur transfer between carbon-saturated iron and $CaO\text{-}SiO_2\text{-}Al_2O_3$ slags. G. Derge and others. bibliog flow sheet diag J Metals 188:Trans 1111-19 S '50; Discussion. 188:Trans 1336-8 N '50

Thermodynamic properties of sulphur in molten iron-sulphur alloys. C. W. Sherman and others. bibliog diag J Metals 188:Trans 334-40 F '50; Discussion. 188:Trans 1347-8 N '50

Temperature effect

Tensile properties of ingot iron at low temperatures. G. W. Geil and N. L. Carwile. bibliog il J Res Nat Bur Stand 45:129-47 Ag '50

Testing

Tensile properties of ingot iron at low temperatures. G. W. Geil and N. L. Carwile. bibliog il J Res Nat Bur Stand 45:129-47 Ag '50

IRON, Aluminum clad

Aluminum-clad iron for electron tubes. W. Espe and E. B. Steinberg. bibliog Tele-Tech 10:28-30+ F '51

New vacuum tube materials; aluminum-clad iron that replaces nickel. A. P. Haase and E. B. Fehr. il Tele-Tech 10:33-5 Jl '51

IRON, Galvanized

Investigation of the longevity of galvanized roofing sheets and wires. D. J. Swaine. bibliog Chem & Ind p764-7 S 15 '51

IRON, Molten

Desulphurizing molten iron with calcium carbide. S. D. Baumer and P. M. Hulme. il diags J Metals 3:Trans 313-18 Ap '51; Discussion. 3:Trans 1051-2 N '51

Distribution of sulphur between liquid iron and slags of low iron-oxide concentrations. R. Rocca and others. bibliog J Metals 3:Trans 319-26 Ap '51

Effect of carbon on the activity of sulphur in liquid iron. J. P. Morris and R. C. Buehl. bibliog diag J Metals 188:Trans 317-22 F '50; Discussion. 188:Trans 1349 N '50

Silicon distribution between austenite and liquid metal in freezing hypo-eutectic cast iron. A. Hultgren and O. Carlsson. diag Iron & Steel Inst J 166:303-4 D '50

IRON, Molten—*Continued*

Solubility of iron in liquid magnesium-aluminium alloys. W. A. Baker and M. D. Eborall. Metallurgia 44:145-6 S '51

Solubility of oxygen in liquid iron containing aluminum. D. C. Hilty and W. Crafts. bibliog il diag J Metals 188:Trans 414-24 F '50; Discussion. 188:Trans 1342-5 N '50

Solubility of oxygen in liquid iron containing silicon and manganese. D. C. Hilty and W. Crafts. bibliog il J Metals 188:Trans 425-36 F '50; Discussion. 188:Trans 1346-7 N '50

Thermodynamic properties of sulphur in molten iron-sulphur alloys. C. W. Sherman and others. bibliog diag J Metals 188:Trans 334-40 F '50; Discussion. 188:Trans 1347-8 N '50

Vanadium-oxygen equilibrium in liquid iron. J. Chipman and M. N. Dastur. bibliog il J Metals 191:Trans 111-15 F '51

IRON, Powdered

Army eyes another material. il Bsns W p83-4+ My 19 '51

Cold war puts heat on metal powder; rotating band for artillery shells by using iron powder. J. Kolb. il Iron Age 167:95-9 My 3 '51

Iron powder, average monthly prices, imports, shipments; tabulations. Iron Age 167:342 Ja 4 '51

New magnetic clutches use iron-graphite mixture. diags Automotive Ind 103:86+ D 15 '50; Iron Age 166:67 N 23 '50; Steel 127:102 D 4 '50

Ordnance holds key to vast iron powder growth; shell rotating band and bullet projects would require vast quantities. B. Packard. Iron Age 167:109-10 F 15 '51

Pickle liquor may yield cheaper iron powder. Iron Age 167:112 My 3 '51

Powdered iron blades for gas turbines. J. Geschelin. il Automotive Ind 103:40-1+ N 15 '50

Powdered iron core dimensions standardized. Electronics 24:148 Jl '51

Role of gases in the production of high density powder compacts. D. Warren and J. F. Libsch. bibliog il J Metals 3:Trans 774-81 S '51

Rolling of powder metals; abstract. G. Naesen and F. Zirm. Metal Prog 59:586 Ap '51

Shell rotating bands successfully made from iron powders. H. R. Clauser. il diags Materials & Methods 33:61-5 Ap '51

Some properties and tests of magnetic powders and powder cores. C. E. Richards and others. bibliog diags Inst E E Proc 97 pt 2:236-45 Ap '50; Same. Elec Com 28:55-69 Mr '51; Discussion. Inst E E Proc 97 pt2:267-74 Ap '50

Some relations of powder characteristics to the elastic modulus and shrinkage of sintered ferrous compacts. G. D. McAdam. bibliog pl diags Iron & Steel Inst J 168:346-58 Ag '51

Steel strip experimentally rolled from powder; tr. by B. M. Pearson. F. Zirm. Iron Age 167:110-14 F 1; 95-9 F 15 '51

IRON, Sponge

Plans for treating Greater Butte Project ores. F. F. Frick. il Min Cong J 37:42-3+ Ag '51

Sponge iron, a remedy for scrap shortage? with cost data. P. E. Cavanagh. diags Steel 128:92+ Je 11 '51

IRON, Wrought. See Wrought iron

IRON alloys

Alloyed metal powders replace machine casting. D. W. Hoyt. il diag Iron Age 168:63-5 Ag 23 '51

Chemical engineering materials of construction; stainless steels and other ferrous alloys. W. A. Luce. il Ind & Eng Chem 43:2258-71, 2288-9 bibliog(328 ref, p2269-71) O '51

Discaloy. E. F. Losco. il diags Westinghouse Eng 11:50-3 Mr '51

Intergranular energy of iron and some iron alloys. L. H. Van Vlack. bibliog il diags J Metals 3:Trans 251-9 Mr '51

Production of high-purity iron and iron alloys on a 25-lb. scale. B. E. Hopkins and others. bibliog diags Iron & Steel Inst J 168:377-83 Ag '51

See also
Meehanite
Steel

Analysis

Modified photometric determination of copper in ferrous alloys. K. W. Nance. Anal Chem 23:1034-5 Jl '51

Carbon alloys

Influence of low percentages of certain elements on the microstructure of pure iron-carbon alloys and cast irons. W. J. Williams. bibliog 10 pls Iron & Steel Inst J 164:407-22 Ap '50; Discussion. 167:374-8 Ap '51

Magnetic analysis of iron-carbon alloys; the tempering of martensite and retained austenite. J. Crangle and W. Sucksmith. bibliog Iron & Steel Inst J 168:141-51 Je '51

Chromium alloys

Effect of magnetic transformation at the Curie temperatures on oxidation rates of chromium-iron alloys. H. H. Uhlig and A. D. Brasunas. bibliog Electrochem Soc J 97:448-52 D '50; Discussion. 98:259-61 Je '51

Influence of vacuum fusion upon the characteristics of ferrite containing 25 per cent chromium. J. Hochmann. Metal Prog 59:852+ Je '51

Space group of the σ-FeCr crystal structure. B. G. Bergman and D. P. Shoemaker. J Chem Phys 19:515 Ap '51

Chromium aluminum alloys

Russians have new heat-resistant alloys. Iron Age 167:65-9 Mr 22 '51

Chromium molybdenum alloys

Constitution of iron-chromium-molybdenum alloys at 1200°F. S. R. Baen and P. Duwez. bibliog il J Metals 3:Trans 331-5 Ap '51

Chromium nickel alloys

Iron-chromium-nickel ternary system. J. W. Pugh and J. D. Nisbet. bibliog il diags J Metals 188:Trans 268-76 F '50; Discussion. 188:Trans 1356-8 N '50

Specification for chromium-nickel-iron alloy castings for sulphite pulp processing equipment; revision of TAPPI official standard E 400 s-43. Tappi 34:sup 117A-18A Je '51

Chromium silicon alloys

New chromium alloy neutralizes effect of varying cooling rate in gray iron. R. A. Clark. il Foundry 79:94-7 Ag '51

Cobalt alloys

Single crystal magnetostriction constants of an iron-cobalt alloy. J. E. Goldman. bibliog Phys R 80:301-2 O 15 '50

Copper alloys

Alloys of copper and iron. C. S. Smith and E. W. Palmer. bibliog il J Metals 188:Trans 1486-99 D '50

Some relations of powder characteristics to the elastic modulus and shrinkage of sintered ferrous compacts. G. D. McAdam. bibliog pl diags Iron & Steel Inst J 168:346-58 Ag '51

Manganese alloys

Free-energy and metastable states in the iron-nickel and iron-manganese systems. F. W. Jones and W. I. Pumphrey. bibliog diags Iron & Steel Inst J 163:121-31 O '49; Discussion. 166:200-12 N '50

New magnetic transition of Mn ferrite. T. Okamura and J. Simoizaka. Phys R 83:664-5 Ag 1 '51

Molybdenum cobalt alloys

Precipitation and diffuse scattering in an Fe-Mo-Co alloy. A. H. Geisler and F. E. Steigert. J Metals 3:Trans 259-60 Mr '51

Nickel alloys

Burst phenomenon in the martensitic transformation. E. S. Machlin and M. Cohen. bibliog il J Metals 3:Trans 746-54 S '51

Free energy and metastable states in the iron-nickel and iron-manganese systems. F. W. Jones and W. I. Pumphrey. bibliog diags Iron & Steel Inst J 163:121-31 O '49; Discussion. 166:200-12 N '50

Further X-ray study of the equilibrium diagram of the iron-nickel system. E. A. Owen and Y. H. Liu. bibliog pl Iron & Steel Inst J 163:132-7 O '49; Discussion. 166:200-12 N '50

IRON alloys—Nickel alloys—*Continued*

High-permeability magnetic alloys. G. A. V. Sowter. Inst E E Proc 98 pt 2:5-8 F '51

Saga of nickel in machine tools. G. R. Brophy and W. S. Mounce. Am Mach 95:159 Je 11 '51

Transformations $\alpha \to \gamma$ and $\gamma \to \alpha$ in iron-rich binary iron-nickel alloys. N. P. Allen and C. C. Earley. 6pls Iron & Steel Inst J 166:281-8 D '50

Nickel aluminum alloys

Microscopical studies on the iron-nickel-aluminium system. A. J. Bradley. bibliog 4pls Iron & Steel Inst J 163:19-30 S '49; Discussion. 166:200-12 N '50

Microscopical studies on the iron-nickel-aluminum system; breakdown of the body-centred cubic lattice. A. J. Bradley. bibliog 4pls Iron & Steel Inst J 168:233-44 Jl '51

Nickel chromium alloys

Constitution of iron-nickel-chromium alloys at 650° to 800° C. W. P. Rees and others. bibliog 6pls Iron & Steel Inst J 162:325-36 Jl '49; Discussion. 166:200-12 N '50

Nickel-chromium-iron alloy for sealing to glass. J. E. Stanworth. diag J Sci Instr 27: 282-4 O '50; Same cond. Metal Prog 59:556+ Ap '51

Tough pipe ends McKee problem. diag Cer Ind 56:87 Je '51

Nickel molybdenum alloys

Thermal variation of Young's modulus in some Fe-Ni-Mo alloys. M. E. Fine and W. C. Ellis. J Metals 3:Trans 761-4 S '51

Silicon alloys

Barley shell structure in iron-silicon alloys. R. V. Riley. bibliog il J Metals 3:Trans 412 My '51

Formation and behavior of subboundaries in silicon iron crystals. C. G. Dunn and F. W. Daniels. bibliog il diags J Metals 191:Trans 147-54 F '51

Influence of magnetization on ultrasonic attenuation in a single crystal of nickel or iron-silicon. S. Levy and R. Truell. il Phys R 83:668-9 Ag 1 '51

Iron-silicon alloys heat treated in a magnetic field. M. Goertz. J Ap Phys 22:964-5 Jl '51

Magnetostriction of single crystals of iron-silicon alloys. W. J. Carr, jr. and R. Smoluchowski. bibliog il Phys R 83:1236-43 S 15 '51

Metallography of carbon in silicon-iron alloys containing four per cent silicon. E. D. Harry. bibliog flow diag 4pls Iron & Steel Inst J 167:241-6 Mr '51

Relations between initial and final orientations in rolling and annealing of silicon ferrite. B. F. Decker and D. Harker. il diags J Ap Phys 22:900-4 Jl '51

Variation in electrical properties of silicon-iron transformer sheet; statistical analysis. S. Rushton and D. R. G. Davies. bibliog diags Iron & Steel Inst J 167:247-61 Mr '51

IRON and steel institute

Annual general meeting, 82d, London, May 30-June 1. Metallurgia 43:300-1 Je '51

Annual meeting, 82d, London, May 30-June 1; with abstracts of papers. Engineer 191: 763-4, 787-8, 834-7, 853-5 Je 8-29 '51; Engineering 171:664-5, 712-13, 760-1, 776-7 Je 1, 15-29 '51

Autumn meeting, London, Nov. 15-16. Engineer 190:493-4, 522-4, 552-4 N 24-D 8 '50; Engineering 170:414, 447-8, 463, 491-2 N 24-D 15 '50; Metallurgia 42:355-60 D '50

Iron and steel institute and the industry. R. Mather. Iron & Steel Inst J 168:121-5 Je '51; Abstract. Engineering 171:665 Je 1 '51

Report of council for 1950. Iron & Steel Inst J 168:1-14 My '51

IRON boride

Thermal stability of the chromium, iron, and tungsten borides in streaming ammonia and the existence of a new tungsten nitride. R. Kiessling and Y. H. Liu. bibliog J Metals 3:Trans 639-42 Ag '51

IRON bromides

Action of liquid ammonia solutions of potassium and potassium amide upon iron(II) bromide. G. W. Watt and W. A. Jenkins, jr. Am Chem Soc J 73:3275-6 Jl '51

Crystal structure of ferric bromide. N. W. Gregory. Am Chem Soc J 73:472-3 Ja '51

IRON carbides

Automatic magnetic balance for the study of ferromagnetic materials. R. F. S. Robertson and P. W. Selwood. bibliog diags R Sci Instr 22:146-52 Mr '51

Equilibria in the systems Fe_2C-Fe-CH_4-H_2 and Fe_3C-Fe-CH_4-H_2. L. C. Browning, T. W. DeWitt and P. H. Emmett. bibliog diag Am Chem Soc J 72:4211-17 S '50

Mode of transition from Hägg iron carbide to cementite. E. M. Cohn and L. J. E. Hofer. bibliog Am Chem Soc J 72:4662-4 O '50

Preparation, stability and adsorptive properties of the carbides of iron. H. H. Podgurski and others. bibliog Am Chem Soc J 72: 5382-8 D '50

IRON carbonyls

Spectra and structure of iron carbonyls; iron tetracarbonyl. R. K. Sheline. bibliog Am Chem Soc J 73:1615-18 Ap '51

IRON chlorides

Acids and bases; aluminum chloride, ferric chloride and stannic chloride as acid catalysts in the reaction of metals with thionyl chloride. R. A. Hubbard, 2d and W. F. Luder. Am Chem Soc J 73:1327-9 Mr '51

Determination of liquid-film absorption coefficients; a new type of column and its application to problems of absorption in presence of chemical reaction. E. J. Stephens and G. A. Morris. bibliog diags Chem Eng Prog 47:232-42 My '51

Ferric chloride solutions as demercurisators. S. F. Yavorovskaya. Chem Age (Lond) 64: 231-2 F 10 '51

Low-temperature heat capacity, entropy at 298.16°K., and high-temperature heat content of ferric chloride. S. S. Todd and J. P. Coughlin. Am Chem Soc J 73:4184-5 S '51

Materials of construction vs. ferric chloride. Chem Eng 58:244+ My '51

Reactions of ferric chloride with *o*- and *p*-cresol. K. Bowden and C. H. Reece. Chem Soc J p2249 Ag '50

Spectrophotometric investigation of the interaction between iron(II) and iron(III) in hydrochloric acid solutions. H. McConnell and N. Davidson. bibliog Am Chem Soc J 72:5557-60 D '50

IRON chromide

Crystal structure of a sigma phase, FeCr. D. P. Shoemaker and B. G. Bergman. Am Chem Soc J 72:5793 D '50

IRON compounds

Electron transfer between ferrous and ferric ions in perchloric acid solutions. R. H. Betts, H. S. A. Gilmour and R. K. Leigh. bibliog Am Chem Soc J 72:4978-80 N '50

Interaction between hexacyanatoferrate(III) ions and (a) hexacyanatoferrate(II) or (b) iron(III) ions. J. A. Ibers and N. Davidson. Am Chem Soc J 73:476-8 Ja '51

Oxidation of sulphurous acid. H. Bassett and W. G. Parker. Chem Soc J p 1540-60 Je '51

Preferential complexing of iron(III) with β-glucose. J. C. Delaney, J. Kleinberg and W. J. Argersinger, jr. Am Chem Soc J 72:4277-8 S '50

Role of halide ions in the ferric-stannous reaction. F. R. Duke and R. C. Pinkerton. bibliog Am Chem Soc J 73:3045-9 Jl '51

Spectrophotometric methods of establishing empirical formulas of colored complexes in solution. A. E. Harvey, jr. and D. L. Manning. Am Chem Soc J 72:4488-93 O '50

Studies in coordination chemistry; complexes of iron with a ditertiary arsine. R. S. Nyholm. Chem Soc J p851-6 Mr '50

IRON founding

British and American iron-foundry practice; conference arising from the report of the Grey ironfounding productivity team. Engineering 171:219-20, 269 F 23-Mr 2 '51

British gray iron foundrymen report on trip to United States. Foundry 78:132+ D '50

Centrifugal casting of pipe in sand-lined molds. K. R. Daniel. il plans diags Mech Eng 73:644-8 Ag '51

Compressed air provides versatile power supply; Schaefer-Goodnow foundries, inc. il Foundry 79:146+ F '51

Deoxidation in production of nodular cast iron. G. Derge. Foundry 79:122-3 Ap '51

IRON founding—*Continued*

Effect of boron on cast iron. W. G. Wilson. Foundry 79:88-9+ S '51

Efficient operation doubles foundry production; Massey-Harris co. R. H. Herrmann. il Foundry 79:90-5+ Mr '51

Foundry innovations produce big savings; Buick foundry. A. S. Hall. il Iron Age 167:110-13 Mr 1 '51

Foundry modernization expands gray iron casting capacity; National supply co.'s Engine division plant. il Steel 128:60-2 Ap 30 '51

Gray iron course; A.F.S. annual meeting. Foundry 79:149+ Jl '51

Grey ironfounding productivity report; conference on technical aspects. Metallurgia 42:235-7 O '50

Grey ironfounding; Productivity team's report. Metallurgia 42:222 O '50

Homemade devices give core work economies; gray iron foundry of Buick motor div. H. Chase. il Iron Age 167:95-8 Ap 19 '51

How to cast a heavy table. P. Dwyer. diags Foundry 79:120-1+ F '51

Industrial mobilization plan for the malleable iron castings industry. Foundry 78:100+ N '50

Installs modern cupola charging equipment; Hajoca corp. il Foundry 79:136+ Mr '51

Lufkin gray iron foundry serves industrial Southwest. W. G. Gude. il Foundry 79:90-3+ My '51

Malleable founders' society, market development-mobilization conference, Troy, April 19-20. Foundry 79:172+ Je '51

Malleable iron sessions, A.F.S. annual meeting. Foundry 79:163-4 Je '51

Melting control pays off in malleable foundry; Edgewater plant of Auto specialties mfg. co. E. Bremer. il plan Foundry 79:98-101+ O '51

Modernized foundry gains in efficiency and capacity; National supply co.'s Engine division. C. G. Presser. il plan Foundry 79:92-7+ F '51

Need stronger foundry coke. H. W. Lownie, jr. il Foundry 79:72-6 Jl '51

New Budd foundry produces 500 brake drums per hour. T. MacNew. il Automotive Ind 103:32-3+ N 15 '50

New cast-iron pipe plant is born; will serve the Southwest and Midwest in particular. L. D. Webster. il Water & Sewage Works 97:462-3 N '50

Nodular iron conference sponsored by Massachusetts institute of technology, Swampscott, Sept. 12-13. Foundry 78:156+ N '50

Nodular iron experiments. E. M. Stein. il Foundry 78:96-9+ N '50

Pattern engineer and the foundry. G. A. Pealer. il Foundry 79:102-3+ O '51

Pipe molding methods. P. Dwyer. diags Foundry 79:88-9+ Ja '51

Rapid growth marks Texas malleable foundry. W. G. Gude. il Foundry 79:110-13+ Je '51

Refrigeration controls blast moisture. W. K. Mitchell. il Foundry 79:134-7 Ap '51

Sessions sponsored by Gray iron division at AFS convention. Foundry 79:126+ Jl '51

70 million castings in 243 days; Foundry division of Eaton mfg. co. W. Czygan. il Iron Age 167:89-91 Je 14 '51

Shell molded parts are machined 30 per cent faster. il Steel 129:82 Jl 9 '51

Steel castings production; iron and steel foundry employment; earnings, gray iron and semisteel foundries; earnings, steel casting industry; tabulations. Iron Age 167:338 Ja 4 '51

Studebaker doubles foundry capacity. R. H. Moore. il diag Foundry 79:72-9 Ag; 98-105+ S; 114-19 O; 102-7+ N '51

Technical forum on progress in metalworking; casting. Steel 128:193-4+ Ja 1 '51

Twenty-one years of iron foundry progress. J. Blakiston. il Metallurgia 42:344-6 N '50

White coal pig iron; tests to determine the properties of castings. E. K. Smith. il Foundry 79:90-3+ Ja '51

Zirconium for manganese in cupola iron. W. C. Jeffery. Metal Prog 60:65-6 Ag '51

See also

Cast iron
Chilled iron
Cupola furnaces
Molds (for casting)
Pig iron

IRON hydroxides

Color change of ferrous hydroxide upon oxidation. R. R. Shively, jr. and W. A. Weyl. J Phys & Colloid Chem 55:512-15 Ap '51

Solubility products of ferrous and ferrosic hydroxides. T. V. Arden. Chem Soc J p882-5 Mr '50

IRON industry and trade

Problem of iron and steel. Engineering 171:683-4, 715-16 Je 8-15 '51

See also

Iron founding
Iron mines and mining
Iron ores
Iron works
Steel industry and trade

History

Early days of iron and steel in North America. Q. Bent. Blast F & Steel Pl 39:351-3 Mr '51

Hammersmith, America's first successful iron works. E. L. Bartholomew, jr. il Metal Prog 58:874-6 D '50

New England rebuilds its first industry; Saugus ironworks. il Bsns W p78-80+ O 6 '51

Securities

Our expanding steel industry; with position of leading steel and iron companies. H. F. Travis. Mag of Wall St 88:613-15+ S 8 '51

Statistics

Exports and imports of iron and steel products, 1937 to 1950; tabulations. Iron Age 167:298 Ja 4 '51

U.S. foreign trade in iron and steel; with tabulations. J. J. W. Palmer. il For Comm W 43:3-5 My 14 '51

Alabama

Economics of raw material supplies in the Birmingham district; with cost data. E. C. Wright. Min Eng 187:1214-20 D '50

History of pig iron manufacture in Alabama. B. C. Colcard. Blast F & Steel Pl 39:223-6+ F '51

Austria

Present metallurgical bases of Austrian iron and steel production. B. Matuschka. Iron & Steel Inst J 168:343-5 Ag '51

2000-year tradition of the Austrian iron and steel industry. R. Walzel. il maps diags Iron & Steel Inst J 168:364-73 Ag '51

Chile

Ferrous scrap in Chile. For Comm W 41:21-2 D 18 '50

Great Britain

British iron and steel industry in 1950. il Engineer 191:17-19, 62-4, pl 3 Ja 5-12 '51

Progress in the British iron and steel industry during the last two decades. Metallurgia 42:276-8 N '50

India

India maintains production; with tabulation of iron and steel production for 1950. For Comm W 41:20 N 6 '50

Luxembourg

Luxembourg output rising. For Comm W 41:22 N 13 '50

Sweden

Sweden's iron and steel industry. T. L. Joseph. bibliog il J Metals 3:507-10 Jl '51

IRON metallurgy

Beneficiation of taconites by pyro-metallurgy. R. G. Wuerker. flow sheet diags Min Eng 190:25-6 Ja '51

Blast furnace sintering practice surveyed. R. E. Powers. Steel 128:95+ F 5 '51

Bureau of mines studies iron ore concentration; gravity-flotation combination appears best. B. H. Clemmons. bibliog il Min Eng 187:1221-4 D '50

Desulphurization of pig iron with pulverized lime. B. Kalling and others. bibliog il diag J Metals 3:Trans 732-8 S '51

Direct reduction of iron ore using the fluidized solids technique; abstracts. M. Tenenbaum and C. M. Squarcy. Iron Age 167:72-3 My 31 '51; Iron & Steel Eng 28:119-20 Ag '51

Direct reduction won't arrive overnight; process has been worked out in pilot stage. Iron Age 167:93 F 22 '51

IRON metallurgy—*Continued*

Germans make pig iron without coking coal; Humboldt distillation process. B. M. Pearson. Iron Age 167:71-2 Ja 11 '51

Huge expansion in prospect for iron ore beneficiation. L. A. Roe. il Eng & Min J 152:119-21 F '51

Investigation of the effects of controlled variables on sinter quality. E. W. Voice and others. 2pls diag Iron & Steel Inst J 167: 393-9 Ap '51

Iron smelting problems. E. C. Smith. diag Metal Prog 58:721-4 N '50

Is the reduction of iron ore by hydrogen a commercial possibility? P. E. Cavanagh; H. W. McQuaid. Metal Prog 59:523-6 Ap '51

Kalling-Domnarfvet process at Surahammar works. S. Fornander. il diags J Metals 3: Trans 739-41 S '51

Kinetics of the reduction of iron oxide above 1400°C. T. E. Dancy. bibliog il diags Iron & Steel Inst J 169:17-24 S '51

Krupp-Renn tests on French minette ore; with cost data. P. E. Henry and others. bibliog flow sheet diag Iron & Steel Eng 28:66-78 F '51; Same abr. Steel 128:92+ Mr 12 '51

Mechanism of sulphur transfer between carbon-saturated iron and $CaO-SiO_2-Al_2O_3$ slags. G. Derge and others. bibliog flow sheet diag J Metals 188:Trans 1111-19 S '50; Discussion. 188:Trans 1336-8 N '50

New taconite plant; ore shortage antidote. map Steel 129:37 O 1 '51

Operating factors in heavy-media processing. L. J. Erck. il diag Min Cong J 37:18-20+ Ja; 88-91 Ap '51

Ore preparation and sintering; abstract and discussion. A. H. Fosdick. Steel 128:90+ Mr 5 '51

Panorama of steel. C. M. Parker. il J Chem Educ 28:236-42 My '51

Pelletizing magnetic taconite concentrate. E. W. Davis and H. H. Wade. flow sheet il diags Steel 129:82+ Jl 30 '51

Pilot-plant smelting of ilmenite in the electric furnace. C. K. Stoddard and others. bibliog 6pls U S Bur Mines Rep of Invest 4750:1-15 '50

Production of high-purity iron and iron alloys on a 25-lb. scale. B. E. Hopkins and others. bibliog diags Iron & Steel Inst J 168:377-83 Ag '51

Recent and prospective sinter plant improvements. A. A. Nilsen. Iron & Steel Eng 28:122-4 Ag '51

Review of the developments in the metallurgy of cast iron. J. E. Hurst. Metallurgia 42: 289-92 N '50

Screening and charging practice increases furnace yield; Bethlehem steel co. A. H. Fosdick. il Steel 128:86+ Je 18 '51

Significance of equilibrium and reaction rate in the blast-furnace process. J. B. Austin. bibliog Iron & Steel Inst J 167: 358-63 Ap '51; Discussion. Engineer 191:788, 834-5 Je 15-22 '51

Sinter making at Appleby-Frodingham. G. D. Elliot and N. D. Macdonald. bibliog pl diags Iron & Steel Inst J 167:261-72 Mr '51

Sintering helps ore reserves live longer. il Iron Age 168:87 Ag 23 '51

Sintering of Northamptonshire iron ore; a production-plant study of factors affecting sinter quality. D. W. Gillings and others. il diags Iron & Steel Inst J 167:400-39 Ap '51

Smidth agglomerating kiln for the treatment of fine ores and flue dust. W. E. Simons. il plan diag Iron & Steel Inst J 167:1-8 Ja '51

Taconite; commercial use near. Iron Age 168: 38 S 27 '51

Taconite is steel industry's ace-in-the-hole. B. Lloyd. Iron Age 167:105-6 F 8 '51

Testing of sinter. E. G. Hill and R. E. Powers. Iron & Steel Eng 28:121-2 Ag '51

Thermodynamic background of iron and steel making processes. F. D. Richardson and J. H. E. Jeffes. bibliog(72 ref) Iron & Steel Inst J 163:397-420 D '49; Discussion. 167: 378-82 Ap '51

Thermodynamic background of iron and steelmaking processes; deoxidation. F. D. Richardson. bibliog(42 ref) Iron & Steel Inst J 166:137-46 O '50

Thermodynamics of substances of interest in iron and steel making; compounds between oxides. F. D. Richardson and others. Iron & Steel Inst J 166:213-34+ bibliog(134 ref, p233-4+) N '50

Third annual review of analytical chemistry; ferrous metallurgy. H. F. Beeghly. bibliog(90 ref) Anal Chem 23:228-31 F '51

Unit operations score again; usable iron ore from abundant taconite. il diag Chem Eng 58:194+ Ag '51

See also

Blast furnaces
Cast iron
Foundry practice
Iron, Sponge
Iron alloys
Iron founding
Iron works
Pig iron
Sintering
Slag
Steel metallurgy
Wrought iron

History

Truth about Dud Dudley; historical note. H. R. Schubert. Iron & Steel Inst J 166: 184-5 N '50

IRON miners

Iron mining employment, wages; tabulation. Iron Age 167:315 Ja 4 '51

Oliver's training program. W. E. Cotter, jr. and F. Roleff. il Eng & Min J 151:74-81 D '50

IRON mines and mining

Iron ore; production for defense sparks near-record year. W. S. Cumings. il Min Cong J 37:59-61 F '51

Iron ore shipments from United States mines will approximate 97,000,000 gross tons. V. D. Johnston. il Blast F & Steel Pl 39:57-62 Ja '51

Trackless mining succeeds in heavy, abrasive iron ore. il plans Eng & Min J 152:58-62 Ja '51

Alabama

Brown iron ore mining active in Georgia-Alabama field. E. D. White. il Eng & Min J 152:98-9 My '51

Opening the Pyne mine of the Woodward iron co. J. V. Beall. il diags Min Eng 187:1230-5 D '50

Canada

Canadian iron reserves boom production outlook. W. Wells. Barron's 31:18 Jl 9 '51

Georgia

Brown iron ore mining active in Georgia-Alabama field. E. D. White. il Eng & Min J 152:98-9 My '51

Labrador

Air lift hauls tractors and scrapers to Labrador. il Constr Methods 33:40-3 Ag '51

Diesel equipment flown to Canadian iron ore fields; construction of Quebec, North Shore, and Labrador railway. il map Diesel Power 29:44-5 S '51

How Labrador ore is shaping up. il Bsns W p 102-4 Ag 11 '51

Labrador community built and supplied by air lift. il Heat & Ven 48:116 O '51

Labrador ore shipments to start in 1955. map Steel 127:73 N 20 '50

Progress of Labrador ore development. J. A. Retty. il map Roads & Eng Constr 89:91-2+ My '51

Quebec-Labrador railway. map Can Min J 71:59-60 D '50

Lake Superior region

Magnetic base stations in Lake Superior iron districts. G. D. Bath. bibliog 16pls U S Bur Mines Rep of Invest 4804:1-16 '51

Liberia

African ore arrives. Steel 129:56 Jl 2 '51

Liberia is newest foreign source for U.S. iron ore. il Bsns W p24-5 Je 30 '51

Republic gets first Liberian ore. B. Hatschek. il Iron Age 167:93 Je 28 '51

Michigan

Inland Steel acquires ore mine. Blast F & Steel Pl 39:sup60 Ap '51

New mining methods tested by Menominee Range iron ore producers. P. D. Pearson and W. W. Jamar. il diags Min Eng 3: Trans 337-46 Ap '51

IRON mines and mining—*Continued*

Minnesota

Developing Mesabi orebodies under lake beds. J. R. Stuart. map diags Min Eng 3:Trans 777-9 S '51

Earthmoving equipment on the Minnesota iron ranges. J. H. Hearding, jr. il S A E J 59:22-5 Ap '51

Power plants and torque converters; fit trucks for operation on Mesabi range. C. R. Burton. il Min Cong J 37:44-7 My '51

New Jersey

Iron mining to resume at Ringwood, N.J. il Eng & Min J 152:104 S '51

New York (state)

New York state towns boom as J&L enlarges Benson mines. Iron Age 167:119 My 10 '51

Truck haulage at the National lead co. open-cut ilmenite-magnetite mine, Tahawus, N.Y. R. S. Sanford. bibliog 9pls U S Bur Mines Information Circ 7584:1-14 '50

Norway

Norway equips iron mine with Marshall plan aid. il Eng & Min J 152:68-71 Mr '51

Ontario

Iron in Ontario. M. E. Hurst. il maps diags Can Min J 71:144-51 N '50

Steep Rock to develop more mines. M. S. Fotheringham. il Roads & Eng Constr 89:54 Ja '51

Underwater iron mine pans out; Steep Rock. maps Bsns W p94-6+ Ap 28 '51

Quebec (province)

Diesel equipment flown to Canadian iron ore fields; construction of Quebec, North Shore, and Labrador railway. il map Diesel Power 29:44-5 S '51

Quebec-Labrador railway. map Can Min J 71:59-60 D '50

Venezuela

Bethlehem moves first Venezuelan iron ore. il map diag Eng N 147:35-7 Jl 12 '51

Venezuelan iron ore. il Min Cong J 37:118-21+ Ap '51; Same. Blast F & Steel Pl 39:679-83+ Je '51; Same abr. Iron & Steel Eng 28:124-8 Ap '51; Excerpt. map Steel 128:126+ Je 25 '51; Abstract. Min Eng 3:410-11 My '51

IRON ores

Bureau of mines studies iron ore concentration; gravity-flotation combination appears best. B. H. Clemmons. bibliog il Min Eng 187:1221-4 D '50

Conveyor belt stackers facilitate iron ore handling. il Steel 129:96 Jl 9 '51

Drying of ironstone. Metallurgia 43:29-30 Ja '51

Experiments on the deposition of iron with special reference to the Clinton iron ore deposits. J. R. Castaño and R. M. Garrels. bibliog Econ Geol 45:755-70 D '50

Future supply looks bright. T. Campbell. Iron Age 168:37-8 S 27 '51

Heavy-media separation increases brown ore reserves; illustrations with text. Min Eng 187:1236-7 D '50

Iron formation and associated rocks in the Iron River district, Michigan. H. L. James. bibliog map Geol Soc Bul 62:251-66, pl 1-4 Mr '51

Iron ore scare. Bsns W p20 D 16 '50

Iron ore shipments from United States mines will approximate 97,000,000 gross tons. V. D. Johnston. il Blast F & Steel Pl 39:57-62 Ja '51

Laboratory studies on iron ore sintering and testing. F. M. Hamilton and H. F. Ameen. bibliog il diags Min Eng 187:Trans 1275-82 D '50

Open hearth charge ore; key to steel capacity expansion. L. B. Lindemuth. bibliog il J Metals 3:592-6 Ag '51

Potential sources of iron ore bolster conservation program. O. R. Rice. map Steel 129:88+ O 1 '51

Review of world coal and iron ore resources and their utilization for manufacture of steel. W. C. Rueckel. bibliog maps Blast F & Steel Pl 39:195-9, 327-32, 426-38, 540-8 F-My '51

See also

Chromite
Hematite
Ilmenite
Iron metallurgy
Iron mines and mining
Magnetite
Pyrites
Taconite

Statistics

World iron ore production; U.S. iron ore production; tabulations. Iron Age 167:315 Ja 4 '51

World reserves of iron ore and coking coal; tabulation. Iron Age 167:314 Ja 4 '51

Transportation

All-rail ore shipments flunk first winter test. Bsns W p24 Mr 10 '51

B.&O. invests $5 million in ore import pier at Baltimore. C. E. Sloan. il Ry Age 131:36-41 Jl 2 '51

Bethlehem moves first Venezuelan iron ore. il map diag Eng N 147:35-7 Jl 12 '51

Cars of frozen ore thawed. Blast F & Steel Pl 39:sup88 Ap '51

Construction under way on 350-mile line to Canadian ore deposits. il map Ry Age 131:34-7 Jl 23 '51

How Labrador ore is shaping up. il Bsns W p 102-4 Ag 11 '51

Importance of the Caribbean in the search for iron ore. J. B. Blackford. il U S Naval Inst Proc 77:582-9 Je '51

New $8 million pier for iron ore to be built in Philadelphia. Iron Age 168:125 Ag 16 '51

Ore unloader built on East coast. W. B. MacLean. il diags Iron & Steel Eng 27:122-4 D '50; Same cond. Elec World 135:118 F 26 '51; Abstract. Eng & Min J 152:79 Mr '51

Ore unloaders busy again; Great Lakes shipping season. il Bsns W p22-3 My 12 '51

Record ore haul needed to supply 1951 furnace demand. il Iron & Steel Eng 28:141-2+ My '51

Twin Ports' fortunate disaster; iron ore shipping wanes. il Bsns W p30-2+ D 2 '50

U.S. Steel ships ore through winter by rail. il Steel 128:27 Ja 8 '51

Venezuelan iron ore. il Min Cong J 37:120-1 Ap '51; Same. Iron & Steel Eng 28:126-7 Ap '51; Same. Blast F & Steel Pl 39:681-3 Je '51; Abstract. map Min Eng 3:410-11 My '51

Winter all-rail movement of iron ore. il Ry Age 130:40-1 F 5 '51

Brazil

Brazilian iron ore resources. R. G. Walker. Blast F & Steel Pl 39:337-8 Mr '51

United States geological survey appraises Brazilian iron and manganese deposits. Eng & Min J 152:93 My '51

California

Iron ore mystery looms in central California; claims by backers of new Yolo steel & metal co. unsupported by federal, state, mining experts. R. T. Reinhardt. Iron Age 167:113 Mr 8 '51

England

Sintering of Northamptonshire iron ore; a production-plant study of factors affecting sinter quality. D. W. Gillings and others. il diags Iron & Steel Inst J 167:400-39 Ap '51

France

French iron and steel; location and metal content of ores. Chem Age (Lond) 64:853 Je 2 '51

Lake Superior region

Lake Superior iron ores, production, shipments; tabulations. Iron Age 167:313 Ja 4 '51

Minnesota

Aeromagnetic iron ore discoveries in Minnesota. Econ Geol 46:84-5 Ja '51

Iron ore reserves of Minnesota; tabulation. Iron Age 167:322 Ja 4 '51

Republic and Armco acquire vast taconite deposit in Saint Louis county, Minn. Blast F & Steel Pl 38:1195 O '50

IRON ores—*Continued*

New York (state)

Use of magnetic ores from New York state. K. G. Le Visuer. Blast F & Steel Pl 39:200-2+ F '51

Pennsylvania

Airomagnetic survey helps find new Pennsylvania iron orebody. H. Jensen. il Eng & Min J 152:56-9 Ag '51

Bethlehem finds ore in its own backyard. Bsns W p25 Mr 24 '51

Bethlehem's new iron orebody is a geophysical find. Eng & Min J 152:125 Ap '51

Venezuela

Republic, Hanna seek Venezulean ore. Iron Age 167:84 Ja 11 '51

Washington (state)

Blewett iron-nickel deposit, Chelan county, Washington. C. A. Lamey. bibliog map U S Geol S Bul 969-D:87-103, pl 17-19; pa 65c Supt. of doc. '50

IRON oxides

Application of the mass law to adsorption of divalent ions on hydrous ferric oxide. M. H. Kurbatov and others. J Chem Phys 19:258-9 F '51

Automatic magnetic balance for the study of ferromagnetic materials. R. F. S. Robertson and P. W. Selwood. bibliog diags R Sci Instr 22:146-52 Mr '51

Composition of $CaO\text{-}FeO\text{-}Fe_2O_3$ and $MnO\text{-}FeO\text{-}Fe_2O_3$ melts at several oxygen pressures in the vicinity of 1600°. R. W. Gurry and L. S. Darken. bibliog Am Chem Soc J 72:3906-10 S '50

Effect of oxygen content on iron casting properties. F. S. Kleeman. bibliog il Foundry 79:100-3+ Ja '51

Electrical properties of αFe_2O_3 and αFe_2O_3 containing titanium. F. J. Morin. diag Phys R 83:1005-10 S 1 '51

Ferrite materials permit improved designs of magnetic devices. E. Both. il Materials & Methods 34:76-9 Jl '51

Ferromagnetic materials and ferrites. M. J. O. Strutt. bibliog il diags Wireless Eng 27:277-84 D '50

Ferromagnetic resonance in nickel ferrite. W. A. Yager and others. bibliog diags Phys R 80:744-8 N 15 '50

Ferromagnetism at very high frequencies; two mechanisms of dispersion in a ferrite. G. T. Rado and others. bibliog Phys R 80:273-80 O 15 '50

Hiding power by Hunter reflectometer of synthetic iron oxides, by the Toronto club. il diag Paint Oil & Chem R 113:70-3 N 23 '50

High-temperature heat contents of ferrous oxide, magnetite and ferric oxide. J. P. Coughlin, E. G. King and K. R. Bonnickson. bibliog Am Chem Soc J 73:3891-3 Ag '51

Kinetics and mechanism of solid phase reactions in oxide films on pure iron. E. A. Gulbransen and R. Ruka. bibliog il diags Ind & Eng Chem 43:697-703 Mr '51

Kinetics of solid phase reactions in oxide films on iron; the reversible transformation at or near 570°C. E. A. Gulbransen and R. Ruka. bibliog il J Metals 188:Trans 1500-8 D '50

Kinetics of the reduction of iron oxide above 1400°C. T. E. Dancy. bibliog il diags Iron & Steel Inst J 169:17-24 S '51

Low temperature heat capacities and entropies at 298.16° K. of ferrous oxide, manganous oxide and vanadium monoxide. S. S. Todd and K. R. Bonnickson. bibliog Am Chem Soc J 73:3894-5 Ag '51

Magnetic susceptibilities of $Cr_2O_3\text{-}Al_2O_3$ and of $Fe_2O_3\text{-}Al_2O_3$ solid solutions. P. W. Selwood, L. Lyon and M. Ellis. Am Chem Soc J 73:2310-11 My '51

Magnetization process in ferrites. J. J. Went and H. P. J. Wijn. bibliog Phys R 82:269-70 Ap 15 '51

Magnetization processes in a ferrite. G. T. Rado and A. Terris. Phys R 83:177 Jl 1 '51

Mixed ferrites for recording heads. R. Herr. il diag Electronics 24:124-5 Ap '51

New mechanism for measuring high temperature oxidation of iron. M. G. Fontana. il Ind & Eng Chem 43:sup71A-2A+ Ap '51

Passivity of metals; the mechanism of direct dissolution of ferric oxide. M. J. Pryor and U. R. Evans. pl Chem Soc J p3330-6 D '49

Reductive dissolution of ferric oxide in acid. M. J. Pryor and U. R. Evans. diags Chem Soc J p 1259-76 My '50

Stability of gaseous diatomic oxides. L. Brewer and D. F. Mastick. bibliog J Chem Phys 19:834-43 Jl '51

Structure and properties of ferrites. F. G. Brockman. bibliog Elec Eng 70:489-94 Je '51

Surface area of porous adsorbents. Ying Fu and F. E. Bartell. bibliog J Phys & Colloid Chem 55:662-75 My '51

Technique for the study of solid-gas surface reactions; the decomposition of nitrous oxide on iron oxide-zinc oxide catalysts. L. P. Bupp and A. B. Scott. diag Am Chem Soc J 73:4422-6 S '51

Theory of basicity and oxidation applicable to steelmaking. W. L. Kerlie. bibliog Iron & Steel Inst J 167:9-26 Ja '51

Thermodynamics of iron-silicate slags; slags saturated with gamma iron. R. Schuhmann, jr. and P. J. Ensio. bibliog diags J Metals 3:Trans 401-11 My '51

Thermomagnetic investigations of promoted and unpromoted iron oxide and iron catalysts. L. R. Maxwell and others. bibliog diag J Chem Phys 19:303-9 Mr '51

See also

Hematite

Magnetite

IRON powder. See Iron, Powdered

IRON research

Change of electrical resistance during the strain ageing of iron. A. H. Cottrell and A. T. Churchman. bibliog Iron & Steel Inst J 162:271-6 Jl '49; Discussion. 166:322-4 D '50

Production of high-purity iron and iron alloys on a 25-lb. scale. B. E. Hopkins and others. bibliog diags Iron & Steel Inst J 168:377-83 Ag '51

Pure iron; reports of activities at National physical laboratory (Teddington, England). Metal Prog 59:405-6 Mr '51

Research on cast iron; British cast iron research association. Engineering 170:469 D 8 '50

Self-diffusion in alpha and gamma iron. C. E. Birchenall and R. F. Mehl. bibliog J Metals 188:Trans 144-9 Ja '50; Discussion 188:Trans 1374-5 N '50

IRON silicate

Polymerization recipes for 41°F. sugar-free redox systems. V. C. Neklutin, C. B. Westerhoff and L. H. Howland. bibliog Ind & Eng Chem 43:1246-52 My '51

IRON sulfates

Autoxidation pans out; low-strength SO_2 into sulphates or acid by catalytic air oxidation; Inflo process. il diag Chem Eng 58:224 S '51

Electrochemical behavior of aluminum in solutions of iron sulfate. J. V. Petrocelli. Electrochem Soc J 98:183-6 My '51

Hydrolysis of ferric iron in sulphate solution. T. V. Arden. Chem Soc J p350-63 F '51

Jones reductor; a model for the kinetics of chromatography. K. Knox and H. C. Thomas. J Chem Phys 19:224-7 F '51

Pickle liquor disposal can pay off. F. D. Jones. il Iron Age 167:88-91 Mr 8 '51

Radiation chemistry of ferrous sulfate solutions. E. J. Hart. Am Chem Soc J 73:1891-2 Ap '51

Reactions of organic peroxides; reaction of ferrous sulphate with methyl*cyclo*pentyl and methyl*cyclo*hexyl hydroperoxides. E. G. E. Hawkins and D. P. Young. Chem Soc J p2804-8 O '50

Specific gravities of ferrous sulfate solutions. H. Holtzman and L. May. Am Chem Soc J 73:852 F '51

IRON sulfides

High-temperature heat contents of manganous sulfide, ferrous sulfide and pyrite. J. P. Coughlin. bibliog Am Chem Soc J 72:5445-7 D '50

Origin of magnetism in iron sulfides with various sulfur contents. T. Hirone and N. Tsuya. bibliog diags Phys R 83:1063-4 S 1 '51

IRON sulfides—*Continued*

Polymerization recipes for 41°F. sugar-free redox systems. V. C. Neklutin, C. B. Westerhoff and L. H. Howland. bibliog Ind & Eng Chem 43:1246-52 My '51

See also

Bornite

IRON thiocyanate

Ferric thiocyanate; molecular weight in organic solvents. K. M. Mitchell and J. Y. MacDonald. Chem Soc J p 1310-13 My '51

Ferric thiocyanate; the distribution of ferric thiocyanate between ether and water. J. Y. Macdonald, K. M. Mitchell and A. T. S. Mitchell. Chem Soc J p 1574-80 Je '51

IRON workers

Occupational outlook handbook; iron and steel manufacturing occupations. il U S Bur Labor Statistics Bul 998:243-58 '51

See also

Foundries—Employees

Europe

Labour statistics in the European iron and steel industry. Int Labour R 62:157-62 Ag '50

IRON works

Hammersmith, America's first successful iron works. E. L. Bartholomew, jr. il Metal Prog 58:874-6 D '50

New England rebuilds its first industry; Saugus ironworks. il Bsns W p78-80+ O 6 '51

Republic-Armco push taconite program; will revamp old Mesabi iron co. plant at Babbitt, Minn. B. Lloyd. Iron Age 166:107-8 N 9 '50

Supply and distribution of water to iron and steel works. J. L. Daniel. plans diag Iron & Steel Inst J 165:437-53 Ag '50; Discussion. 168:77-80 My '51

See also

Foundries

Equipment

British iron and steel industry in 1950. il Engineer 191:16-19, pl 3 Ja 5 '51

Developments at Consett iron works. il plan Engineering 171:13, 16 Ja 5 '51

Plant reorganisation at the works of the Consett iron company limited. il Metallurgia 43:20-4 Ja '51

Heating and ventilation

Heating and ventilation in the iron and steel industry. F. R. L. White. bibliog il Iron & Steel Inst J 165:221-6 Je '50; Discussion. 167:447-50 Ap '51

Lighting

Lighting in iron and steel works. G. W. Levey. Iron & Steel Inst J 165:91-6 My '50; Discussion. 168:73-7 My '51

IRONING machines

Ironing shirts by assembly-line method. A. M. Hoffmann. flow chart il Comp Air Mag 56:68-9 Mr '51

IRONING machines, Electric

Rating

Electric ironers. il Consumers Res Bul 27:5-9 F '51

IRRADIATION

Chemical actions of ionising radiations on aqueous solutions; introductory remarks and description of irradiation arrangements. F. T. Farmer, G. Stein and J. Weiss. diags Chem Soc J p3241-5 D '49

Direct production of carrierless organic radiohalides. E. Glueckauf, R. B. Jacobi and G. P. Kitt. diag Chem Soc J supp no 2: S330-5 '49

Extraction of carrier-free ^{131}I from pile-irradiated tellurium. A. W. Kenny and W. T. Spragg. Chem Soc J supp no 2:S323-6 '49

Influence of irradiation on the low frequency electrodeless discharge in chlorine. W. L. Harries and A. von Engel. bibliog J Chem Phys 19:514 Ap '51

Preparation of carrier-free ^{32}P from pile-irradiated sulphur; adsorption of ^{32}P on ferric hydroxide and dialysed iron. A. W. Kenny and W. T. Spragg. Chem Soc J supp no 2: S326-30 '49

Preparation of radioactive vitamin B$_{12}$ by direct neutron irradiation. R. C. Anderson and Y. Delabarre. Am Chem Soc J 73:4051-2 Ag '51

Separation of ^{82}Br from neutron-irradiated sodium bromate. E. Berne. Chem Soc J supp no 2:S338-40 '49

Study of effect of impingement-particle velocity in radiolysis of some aromatic hydrocarbons. T. J. Sworski and M. Burton. bibliog Am Chem Soc J 73:3790-2 Ag '51

IRRIGATION

Design of irrigation systems. W. H. Nalder. il maps Am Soc C E Proc 77 [no 57]:1-12 F '51

International irrigation developments along Rio Grande started. C. M. Ainsworth. il Civil Eng 21:268-71 My '51

Operation and maintenance of irrigation systems; with cost data. R. A. Hill. Am Soc C E Proc 76[no 47]:1-10 D '50

Problems of irrigation. E. Hayward. Chem & Ind p825-6 D 23 '50

Sprinkler irrigation increases yield 50 per cent. F. Karrer. il Elec World 136:160 S 10 '51

Taming the Rio Grande. il map Bsns W p122+ Je 23 '51

See also

Irrigation canals

Sewage irrigation

Cost

Irrigation pipelines, Central Valley project; unit prices. Eng N 146:70 F 1 '51

North Poudre canal, tunnel in Colorado; unit prices. Eng N 146:88 My 24 '51

Pumping plant, Central Valley project, Calif.; unit prices. Eng N 147:74 Jl 12 '51

Finance

Human aspects of Mexican irrigation. A. R. Langoné. il Am Soc C E Proc 76 [no 46]:1-12 D '50

Arizona

CAP; the Nation's most fantastic project? Central Arizona project. B. P. Griffith. Pub Util 47:536-44 Ap 26 '51; Reply. H. Smith. 48:164-5 Ag 2 '51

California

Pumping plant is mechanical brain; unattended plant built by the Lindsay-Strathmore irrigation district in California. A. C. Bardin. il diags Eng N 147:37-9 S 20 '51

Use of water by irrigated crops in California. H. F. Blaney. bibliog Am Water Works Assn J 43:189-200 Mr '51

See also

Central Valley project, California

Ceylon

Ceylon restores its ancient irrigation works. P. von der Lippe. il map diags Civil Eng 21:521-4 S '51

Hawaiian Islands

Resistance measurement tells when to irrigate Hawaiian sugar plantations. il Elec West 105:73 D '50

India

Bhakra-Nangal project in the Punjab. maps plan diags Engineer 192:170-2 Ag 10 '51

Dam higher than Hoover dam proposed for Kosi river in India. Eng N 146:34 Ja 4 '51

First dams for India's great barren plateau. W. G. Bowman. il map diag Eng N 146: 35-8 Je 7 '51

India's TVA; Damodar Valley project. W. G. Bowman. il map Eng N 146:33-6 My 24 '51

Iraq

Iraq has big plans for five-year development. Eng N 146:55 Je 14 '51

Mexico

Falcon dam stimulates irrigation in Mexico. J. C. Bustamante. il map Civil Eng 21:272-3 My '51

Human aspects of Mexican irrigation. A. R. Langoné. il Am Soc C E Proc 76 [no 46]: 1-12 D '50

Mexico completes Morelos dam. il map Eng N 145:45-6 N 30 '50

IRRIGATION—*Continued*

Netherlands

Drawing water from a dune area. P. C. Lindenbergh. diags Am Water Works Assn J 43:713-24 S '51

Oregon

Comprehensive plan for the Columbia basin. W. Whipple, jr. il maps Am Soc C E Proc 76 [no 45]:1-23 N '50

United States

Reclamation plans total $275 million. Eng N 147:23-4 Ag 16 '51

Washington (state)

Comprehensive plan for the Columbia basin. W. Whipple, jr. il maps Am Soc C E Proc 76 [no 45]:1-23 N '50

Isolated-phase bus serves Coulee pumps. R. G. Lockett. il diag Elec West 106:68-9 Ap '51

65,000-hp Grand Coulee pumps begin operation. il Power Eng 55:66-7 S '51

65,000-hp Grand Coulee pumps put into operation. il Power 95:96-9 My '51

World's largest motors drive world's largest pumps for irrigation in the Columbia Basin project. S. E. Hutton. il maps Gen Elec R 54:39-44 My '51

World's largest pumps go into operation; Grand Coulee pumping plant. il Elec West 106:78-9 My '51

Western states

Not authorities, but the man on the land; program for river basin development proposed by the National reclamation assn. Elec West 106:59-61 Mr '51

IRRIGATION canals

Biological control of weeds in compacted soil cultures. V. P. Sokoloff. bibliog Science 114:271-4 S 14 '51

Ceylon restores its ancient irrigation works. P. von der Lippe. il map diags Civil Eng 21:521-4 S '51

Curved wall at dam keeps sand out of irrigational canal. il Eng N 146:32-3 Ap 12 '51

Dikes and basins protect Coachella canal against flash floods. W. R. Slater and others. il maps diag Civil Eng 20:719-23 N '50

Huge canal rigs circumnavigate obstructions. il Constr Methods 33:52-3 Ap '51

Sink inside-out condenser in canal; pumping plant for irrigation. B. S. Nelson. il diags Power 94:119 N '50

IRRIGATION water

Pollution of irrigation waters. C. T. Wright. bibliog map Sewage & Ind Wastes 22:1403-12 N '50

Salmonella in irrigation water. S. G. Dunlop and others. bibliog Sewage & Ind Wastes 23:1118-22 S '51

Use of water by irrigated crops in California. H. F. Blaney. bibliog Am Water Works Assn J 43:189-200 Mr '51

Water for irrigation use; symposium revealing progress of past half century. il diags Chem & Eng N 29:990-3 Mr 12 '51

ISAAC, Clancy

Portrait. Sales Management 66:40 Je 15 '51

ISATIDINE

Senecio alkaloids; the structure of retrorsine and isatidine; the ester groupings. E. C. Leisegang and F. L. Warren. Chem Soc J p702-3 F '50

ISLAND Creek coal company

Security I like best. F. H. Rosenstiel. Comm & Fin Chr 173:1746+ Ap 26 '51

ISLANDS of the Pacific

See also
Ryukyu Islands

Trusteeship

Profits primer; U.S. navy teaches natives ABC's of business. Bsns W p 126-7 Ja 20 '51

ISOALLOXAZINE

Series of 9-dialkylaminoalkyl*iso*alloxazines. R. B. Barlow and H. R. Ing. Chem Soc J p713-17 F '50

Studies on carcinolytic compounds; 6,7-dichloro-9-(1′-D-sorbityl)-isoalloxazine. F. W. Holly and others. bibliog Am Chem Soc J 72:5416-18 D '50

Synthesis of 6,7-diethyl-9-(D-1^1-ribityl)-isoalloxazine. J. P. Lambooy. bibliog Am Chem Soc J 72:5225-8 N '50

ISOAMYRENONOL

Triterpene resinols and related acids; *iso*-α-amyrenonol-II. J. McLean, S. U. Ruff and F. S. Spring. Chem Soc J p 1093-6 Ap '51

ISOANDROSTERONE

Partial synthesis of estrone-16 and of isoandrosterone-16 (Heard's oxyketone). M. N. Huffman and M. H. Lott. Am Chem Soc J 73:878 F '51

ISOBARS

Isobaric and isothermal studies in the system soap-water. W. O. Milligan, G. L. Bushey and A. L. Draper. bibliog il J Phys & Colloid Chem 55:44-53 Ja '51

ISOBORNEOL

Oxidation of isoborneol with chromic acid. W. A. Mosher and E. O. Langerak. Am Chem Soc J 73:1302-4 Mr '51

ISOBUTANE

Butane isomerization. flow diag Oil & Gas J 49:196-7 Mr 29 '51

Calculation of diffusion coefficients from sorption data. S. Prager. J Chem Phys 19:537-41 My '51

H_2SO_4 alkylation; pictured flow sheet. Chem Eng 58:212-15 S '51

Isomerization process. flow diag Oil & Gas J 49:192-3 Mr 29 '51

Liquid-phase isomerization. flow diag Oil & Gas J 49:196-7 Mr 29 '51

Mercury ($^3P_1$) sensitized decomposition of normal and iso-butane at high temperatures. S. Bywater and E. W. R. Steacie. bibliog J Chem Phys 19:172-5 F '51

Vapor-liquid equilibrium of C_4 hydrocarbon-furfural-water mixtures; experimental and theoretical methods for three- and four-component systems. D. Jordan and others. bibliog Chem Eng Prog 46:601-13 D '50

ISOBUTENE

Evidence that 1-isopropyl;-3-*t*-butylbenzene from aluminum chloride alkylation of benzene with isobutene is really 1,3-di-*t*-butylbenzene. F. E. Condon and E. E. Burgoyne. Am Chem Soc J 73:4021-2 Ag '51

Hydrogen transfer over silica-alumina catalysts. R. W. Blue and C. J. Engle. bibliog Ind & Eng Chem 43:494-501 F '51

Low-temperature polymerisation of *iso*-butene. P. H. Plesch. Chem Soc J p543-56 F '50

Polymerization of *iso*butene by boron trifluoride. A. G. Evans. bibliog J Ap Chem 1:240-2 Je '51

Rates and temperature coefficients in the hydration of gaseous isobutene by dilute aqueous nitric acid. J. B. Levy and others. diag Am Chem Soc J 73:3792-6 Ag '51

Use of equilibrium constants to calculate thermodynamic quantities, equilibria in the system *tert.*-butyl chloride, *iso*-butene, hydrogen chloride. K. E. Howlett. diag Chem Soc J p 1409-12 Je '51

ISOBUTYLENE

Dielectric constant of solutions of polystyrenes and polyisobutylenes in toluene. A. Voet and L. R. Suriani. J Phys & Colloid Chem 54:1070-2 O '50

Diffusion of hydrocarbons in polyisobutylene. S. Prager and F. A. Long. bibliog diag Am Chem Soc J 73:4072-5 S '51

Effect of rate of shear on the viscosity of dilute solutions of polyisobutylene. T. G. Fox, jr., J. C. Fox and P. J. Flory. diag Am Chem Soc J 73:1901-4 My '51

Further studies on the melt viscosity of polyisobutylene. T. G. Fox, jr. and P. J. Flory. bibliog J Phys & Colloid Chem 55:221-34 F '51

Intrinsic viscosity-temperature relationships for polyisobutylene in various solvents. T. G. Fox, jr. and P. J. Flory. bibliog Am Chem Soc J 73:1909-15 My '51

Mechanical properties of substances of high molecular weight; non-Newtonian flow and stress relaxation in concentrated polyisobutylene and polystyrene solutions. F. W. Schremp and others. bibliog diag J Ap Phys 22:711-17 Je '51

ISOBUTYLENE—*Continued*

Mechanical properties of substances of high molecular weight; the relaxation distribution function in polyisobutylene and its solutions. J. D. Ferry and others. bibliog J Ap Phys 22:717-22 Je '51

Mechanism of the low temperature chlorination of isobutylene. W. Reeve and D. H. Chambers. Am Chem Soc J 73:4499 S '51

Pyrolysis of isobutylene. F. O. Rice and L. A. Wall. bibliog Am Chem Soc J 72:3967-8 S '50

ISOBUTYRIC acid

Plant growth-regulating activity in certain aryloxyalkylcarboxylic acids. D. J. Osborne and R. L. Wain. bibliog Science 114:92-3 Jl 27 '51

ISOBUTYROPHENONE

Geometric isomers of isobutyrophenone oxime. H. M. Kissman and J. Williams. bibliog Am Chem Soc J 72:5323-4 N '50

Substituted isobutyrophenones. R. A. Barnes and L. Gordon. Am Chem Soc J 72:5308-9 N '50

ISOCARBAZOLE

Course and kinetics of the acid-base-catalyzed rearrangements of 11-hydroxytetrahydrocarbazolenine. B. Witkop and J. B. Patrick. bibliog Am Chem Soc J 73:2188-95 My '51

Mechanism of oxidation; a new type of peroxide rearrangement catalyzed by acid. B. Witkop and J. B. Patrick. bibliog Am Chem Soc J 73:2196-200 My '51

ISOCHLOROGENIC acid

Isochlorogenic acid; isolation from coffee and structure studies. H. M. Barnes, J. R. Feldman and W. V. White. bibliog Am Chem Soc J 72:4178-82 S '50

ISOCITRIC acid

Analysis

Determination of citric and *d*-isocitric acids. C. A. Hargreaves, 2d, M. D. Abrahams and H. B. Vickery. bibliog Anal Chem 23:467-70 Mr '51

ISOCLAVACIN

Infra-red spectroscopy and structural chemistry; *iso*clavacin and patulin. J. F. Grove. Chem Soc J p883-5 Ap '51

ISOCOUMARIN

Hydroxy-carbonyl compounds; the syntheses of some *iso*coumarins. A. Kamal, A. Robertson and E. Tittensor. Chem Soc J p3375-80 D '50

ISOCYANATES

Isocyanates of 9-methyl- and 9,10-dimethyl-1,2-benzanthracene. W. M. Smith, jr., E. F. Pratt and H. J. Creech. Am Chem Soc J 73:319-22 Ja '51

Methylene diisocyanate. R. Roesch and M. H. Gold. Am Chem Soc J 73:2959 Je '51

Manufacture

Pace setter in isocyanates; Monsanto. diag Chem Eng 58:188+ Jl '51

ISOCYANIC acid

Dipole moment and electric quadrupole effects in HNCO and HNCS. J. N. Schoolery and others. J Chem Phys 19:250-1 F '51

Rotation-vibration spectra of diatomic and simple polyatomic molecules with long absorbing paths; the spectrum of isocyanic acid. C. Reid. il J Chem Phys 18:1544-50 D '50

ISODURYLIC acid

Fractionation of the carbon isotopes in decarboxylation reactions; the relative rates of decomposition of carboxyl-C^{12} and -C^{13} mesitoic acids. A. A. Bothner-By and J. Bigeleisen. bibliog diags J Chem Phys 19:755-9 Je '51

ISOELECTRIC points

Some azoproteins and their isoelectric points. R. L. McGeachin and B. D. Ashley. Am Chem Soc J 73:1366-7 Mr '51

ISOEQUILENIN

Synthesis of isoequilenin via the Diels-Alder reaction; the configuration of the C/D ring juncture of the estrogenic hormones. W. E. Bachmann and J. Controulis. Am Chem Soc J 73:2636-41 Je '51

ISOLEUCINE

Resolution of amino acids; isoleucine, alloisoleucine, leucine and norleucine. W. A. H. Huffman and A. W. Ingersoll. bibliog Am Chem Soc J 73:3366-9 Jl '51

ISOMALTOSE

Degradation of glycogen to isomaltose. M. L. Wolfrom, E. N. Lassettre and A. N. O'Neill. bibliog Am Chem Soc J 73:595-9 F '51

4-α-Isomaltopyranosyl-D-glucose. M. L. Wolfrom, A. Thompson and T. T. Galkowski. bibliog Am Chem Soc J 73:4093-5 S '51

ISOMERISM

Effect of *cis* and *trans* olefinic groups on the properties of polyurethans and polyesters. C. S. Marvel and C. H. Young. Am Chem Soc J 73:1066-9 Mr '51

Formation of stereoisomers of beta-carotene in alfalfa. C. R. Thompson, E. M. Bickoff and W. D. Maclay. bibliog Ind & Eng Chem 43:126-9 Ja '51

Geometrical isomerism of 2,4-dibenzylidene-3-phenyl-5-oxazolidones; their rearrangement to 1,4-diphenyl-2-benzylidene-3,5-pyrrolidiones. S. Larsen and J. Bernstein. Am Chem Soc J 72:4447-52 O '50

Geometrical isomerism of propylene acetals. H. J. Lucas and M. S. Guthrie. bibliog Am Chem Soc J 72:5490-1 D '50

Geometrical isomerism of the dioxides of diphenylpiperazine. G. M. Bennett and E. Glynn. Chem Soc J p211-14 Ja '50

Indications of geometrical isomerism with 2 : 2′-azopyridine. R. J. W. Le Fèvre and C. V. Worth. Chem Soc J p 1814-17 Jl '51

Internal rotation; a dilute solution method for the spectroscopic determination of the energy difference between rotational isomers. J. Powling and H. J. Bernstein. bibliog diags Am Chem Soc J 73:1815-20 Ap '51

Investigation of bremsstrahlung by means of the nuclear isomerism of indium. E. J. Schillinger, jr. and others. bibliog diag Phys R 83:320-3 Jl 15 '51

Isomerism of Kr^{83} and Xe^{133}. I. Bergström. bibliog Phys R 81:638-9 F 15 '51

Isomerism of the oximes; the acid hydrolysis of acetyl-α-aldoximes. O. L. Brady and J. Miller. Chem Soc J p 1234-42 My '50

Isomerism of the oximes; the action of alkali on α- and β-*o*-iodobenzaldoximes. O. L. Brady and S. G. Jarrett. Chem Soc J p 1232-3 My '50

Isomerism of the oximes; the hydrolysis of acyl derivatives. M. Benger and O. L. Brady. Chem Soc J p 1221-7 My '50

Isomerism of the oximes; the hydrolysis of acyl halogenobenzaldoximes by alkalis. O. L. Brady and S. G. Jarrett. Chem Soc J p 1227-32 My '50

Isomerism of the oximes; the kinetics of the pyrolysis of acyl derivatives. D. Ambrose and O. L. Brady. Chem Soc J p 1243-9 My '50

Preparation of the two stereoisomeric forms of 7 : 7′-diacenaphthenyl. J. I. Jones. Chem Soc J p3113-16 D '49

Relation between the absorption spectra and the chemical constitution of dyes; *cis-trans* isomerism in thioindigo dyes. G. M. Wyman and W. R. Brode. bibliog Am Chem Soc J 73:1487-93 Ap '51

Rotational isomerism and the vibrational spectrum of 1,2-dibromoethane. J. T. Neu and W. D. Gwinn. bibliog diag J Chem Phys 18:1642-52 D '50

Rotational isomerism and thermodynamic functions of 2-methylbutane and 2,3-dimethylbutane; vapor heat capacity and heat of vaporization of 2-methylbutane. D. W. Scott and others. bibliog Am Chem Soc J 73:1707-12 Ap '51

Rotational isomerism in 2-methyl butane and 2:3-dimethyl butane. J. K. Brown and N. Sheppard. bibliog J Chem Phys 19:976-7 Jl '51

Rotational isomerism in nitrous acid and alkyl nitrites. L. D'Or and P. Tarte. J Chem Phys 19:1064-5 Ag '51

Rotational isomerism in oxalyl chloride (ClOC-COCl). B. D. Saksena and R. E. Kagarise. bibliog il J Chem Phys 19:987-93 Ag '51

Spectroscopic study of *cis*- and *trans*-dibenzoylethylenes and related compounds. L. P. Kuhn, R. E. Lutz and C. R. Bauer. bibliog diags Am Chem Soc J 72:5058-63 N '50

Spectroscopic study of N-H isomerism in porphyrin free bases. G. D. Dorough and K. T. Shen. bibliog diag Am Chem Soc J 72:3939-44 S '50

ISOMERISM—*Continued*

$3X10^{-9}$ sec. isomeric state in $_{63}Eu^{158}$. F. K. McGowan. Phys R 80:482-3 N 1 '50

Triad prototropic systems; the mobility of the azomethine system during decarboxylation. F. G. Baddar. Chem Soc J p 136-9 Ja '50

ISOMERIZATION

Absorption spectra and photo-isomerization of arylated dienes. Y. Hirshberg, E. Bergmann and F. Bergmann. bibliog Am Chem Soc J 72:5120-3 N '50

Allyl alcohol; isomerization of propylene oxide over a chromic oxide catalyst. L. G. Lundsted and others. bibliog Ind & Eng Chem 43:728-30 Mr '51

Aluminum bromide isomerization of 2,2,4-trimethylpentane alone and in the presence of naphthenes; mechanism of the inhibition by naphthenes of side reactions during paraffin isomerization. F. E. Condon. bibliog Am Chem Soc J 73:3938-47 Ag '51

Catalytic isomerization of 1-hexene. E. A. Naragon. bibliog diag Ind & Eng Chem 42:2490-3 D '50

Catalytic isomerization of isomeric hexanes. B. L. Evering and R. C. Waugh. bibliog Ind & Eng Chem 43:1820-3 Ag '51

Catalyzed reactions of unsaturated hydrocarbons with hydrogen and deuterium. T. I. Taylor and V. H. Dibeler. bibliog diag J Phys & Colloid Chem 55:1036-65; Discussion. 1065-6 Je '51

Conidendrin; its isomerization and demethylation. W. M. Hearon, H. B. Lackey and W. W. Moyer. bibliog Am Chem Soc J 73:4005-7 Ag '51

Dehydration and isomerization of dimethylethynylcarbinol. E. D. Bergmann. bibliog Am Chem Soc J 73:1218-20 Mr '51

Epimerization of glucose-1-C^{14}. A. A. Bothner-By and M. Gibbs. bibliog Am Chem Soc J 72:4805 O '50

Euphorbia resins; the epimerisation and dehydration of euphol. R. N. E. Bennett and F. L. Warren. Chem Soc J p697-9 F '50

Hydrogen chloride-aluminum chloride as an agent of isomerisation. G. Baddeley. Chem Soc J p994-7 Mr '50

Isomerization accompanying alkylation; reaction of benzene with 2- and 3-pentanol. H. Pines, W. D. Huntsman and V. N. Ipatieff. Am Chem Soc J 73:4483 S '51

Isomerization accompanying alkylation; reaction of benzene with methylcyclopropane, ethylcyclopropane and with dimethylcyclopropanes. H. Pines. W. D. Huntsman and V. N. Ipatieff. bibliog Am Chem Soc J 73:4343-7 S '51

Isomerization and hydrogenation reactions in a rectification column. L. Berg, P. R. Hippely and W. S. Reveal. bibliog Chem Eng Prog 47:283-6 Je '51

Isomerization of berberine and contarnine bases in presence of alkali. B. Skinner. Chem Soc J p823-7 Mr '50

Isomerisation of diallyl sulphilimines. A. S. F. Ash, F. Challenger and D. Greenwood. Chem Soc J p 1877-82 Jl '51

Isomerisation of labile diphenyl-4 : 4′-bisdiazocyanide in solution. D. D. Brown, R. J. W. Le Fèvre and R. N. Whittem. Chem Soc J p 185-8 Ja '50

Isomerization of saturated hydrocarbons; the effect of light upon the isomerization of methylcyclopentane in the presence of aluminum bromide-hydrogen bromide. H. Pines, E. Aristoff and V. N. Ipatieff. Am Chem Soc J 72:4055-6 S '50

Isomerization of saturated hydrocarbons; the effect of oxygen and light upon the isomerization of methylcyclopentane in the presence of aluminum bromide. H. Pines, E. Aristoff and V. N. Ipatieff. Am Chem Soc J 72:4304 S '50

Isomerisation reactions. R. R. Aitken, G. M. Badger and J. W. Cook. Chem Soc J p331-5 Ja '50

Isomers of conjugated fatty acids; alkali-isomerized linoleic acid. P. L. Nichols, jr., S. F. Herb and R. W. Riemenschneider. bibliog il Am Chem Soc J 73:247-52 Ja '51

Partial asymmetric synthesis in a Reformatsky reaction. J. A. Reid and E. E. Turner. Chem Soc J p3365-8 D '49

Photochemical reactions between bromine and 1,2-dichloroethylene; the relation between addition and isomerization. J. A. A. Ketelaar and others. bibliog diag J Phys & Colloid Chem 55:987-1012 Je '51

Quantitative inversion of *cis*- and *trans*-alkene isomers; a new synthesis of normal *cis*-alkenes. M. C. Hoff, K. C. Greenlee and C. E. Boord. bibliog Am Chem Soc J 73:3329-36 Jl '51

Quinamine; *epi*quinamine and *epi*cinchonamine. C. C. J. Culvenor and others. Chem Soc J p 1485-93 Je '50

Raman spectroscopic investigation of the isomerization of *n*-hexane. S. Mizushima, H. Ohno and T. Sakura. Am Chem Soc J 72:4820 O '50

Rates of the thermal isomerization of α-pinene and β-pinene in the liquid phase. H. G. Hunt and J. E. Hawkins. bibliog Am Chem Soc J 72:5618-20 D '50

Reactions of nitroparaffins; the reaction of primary nitroparaffins with acetic anhydride. T. Urbański. Chem Soc J p3374-6 D '49

Rearrangement of benzyl ethers to carbinols by potassium amide; mechanism of isomerization of carbanions involving 1,2-shifts. C. R. Hauser and S. W. Kantor. bibliog Am Chem Soc J 73:1437-41 Ap '51

Studies in the terpene series; isomerization accompanying cycloalkylation of benzene. V. N. Ipatieff, H. R. Appell and H. Pines. bibliog Am Chem Soc J 72:4260-2 S '50

Study in the terpene series; isomerization accompanying hydrogenolysis of alcohols. V. N. Ipatieff, W. W. Thompson and H. Pines. bibliog Am Chem Soc J 73:553-5 F '51

Substituted stilbenes; thermal isomerization. M. Calvin and H. W. Alter. J Chem Phys 19:768-70 Je '51

ISOMERIZATION, Heat of

Heats of combustion, formation, and isomerization of ten C_4 hydrocarbons. E. J. Prosen and others. bibliog J Res Nat Bur Stand 46:106-12 F '51

ISOMERS

Absence of cross-over transitions in tellurium isomers. R. D. Hill. Phys R 81:470-1 F 1 '51

Alicyclic diamines; the geometric isomers of bis-(4-aminocyclohexyl)-methane. A. E. Barkdoll, H. W. Gray and W. Kirk, jr. bibliog Am Chem Soc J 73:741-6 F '51

Analysis of the isomeric composition of bromodihydromyrcene. L. Bateman, J. I. Cunneen and H. P. Koch. Chem Soc J p3045-51 N '50

Classification of nuclear isomers. M. Goldhaber and A. W. Sunyar. bibliog Phys R 83:906-18 S 1 '51

Cyclopropanes; the configuration and reduction of the stereoisomers of cyclopropyl 3-phenyl-2-nitro-1-cyclopropyl ketone. L. I. Smith and E. R. Rogier. Am Chem Soc J 73:3837-40 Ag '51

Decay of 10.7-min Co^{60m}. M. Deutsch and G. Scharff-Goldhaber. bibliog Phys R 83:1059 S 1 '51

$8x10^{-10}$ -sec isomeric state in $_{76}Os^{186}$. F. K. McGowan. Phys R 81:1066-7 Mr 15 '51

Enzyme-inhibitor dissociation constants of α-chymotrypsin and three enantiomorphic pairs of competitive inhibitors. H. T. Huang and C. Niemann. bibliog Am Chem Soc J 73:3223-7 Jl '51

Existence of different capture levels in the formation of nuclear isomers by slow neutron irradiation. P. C. Capron and A. J. Verhoeve-Stokkink. bibliog Phys R 81:336-9 F 1 '51

Geometric isomers of 1-phenyl-1,3-butadiene. O. Grummitt and F. J. Christoph. bibliog Am Chem Soc J 73:3479-84 Jl '51

Interpretation of isomeric transitions. S. A. Moszkowski. Phys R 83:1071-2 S 1 '51

Measurement of isomeric transition energies with a scintillation spectrometer. E. der Mateosian and M. Goldhaber. bibliog il Phys R 82:115-16 Ap 1 '51

Measurements of short-lived isomers. W. J. MacIntyre. bibliog diags Phys R 80:1018-23 D 15 '50

Nuclear isomers of Ba^{133} and Ba^{135}. R. D. Hill and F. R. Metzger. Phys R 83:455 Jl 15 '51

ISOMERS—*Continued*

Position isomers of substituted aryltrimethylsilanes. H. A. Clark and others. bibliog Am Chem Soc J 73:3798-803 Ag '51

Preparation of the diastereoisomers of cystathionine and homolanthionine. S. Weiss and J. A. Stekol. bibliog Am Chem Soc J 73:2497-9 Je '51

Probable existence of geometrically isomeric diazocarboxyamides. H. C. Freeman, R. J. W. Fèvre and I. R. Wilson. Chem Soc J p 1977-80 Ag '51

Reduction of 1,4-di-(2-hydroxy-3,4,6-trimethylphenyl)-butane-1,4-dione; the two stereoisomeric diols. L. I. Smith and R. R. Holmes. Am Chem Soc J 73:3851-3 Ag '51

Resolution into optical isomers of some amino acids by paper chromatography. M. Kotake and others. Am Chem Soc J 73:2973-4 Je '51

Rotational isomers of 1,2-dihalogenoethanes. S. Mizushima and Y. Morino. bibliog J Chem Phys 18:1516 N '50

Some effects of temperature, phase and nature of chemical species on halogen atom reactions initiated by radiative neutron capture and by isomeric transition. S. Goldhaber, R. S. H. Chiang and J. E. Willard. bibliog Am Chem Soc J 73:2271-5 My '51

Syntheses of structural isomers of the terpenes. G. R. Clemo and B. K. Davison. Chem Soc J p447-50 F '51

Two-step isomeric transition in Hf^{179m}. E. der Mateosian and M. Goldhaber. bibliog il Phys R 83:843 Ag 15 '51

ISOMETRIC drawings

Isometric sketching. P. Swain. Power 95:140 O '51

ISOÖCTANE

Solubility of perfluoro-*n*-heptane with benzene, carbon tetrachloride, chloroform, *n*-heptane and 2,2,4-trimethylpentane. J. H. Hildebrand, B. B. Fisher and H. A. Benesi. bibliog Am Chem Soc J 72:4348-51 O '50

2,2,4-Trimethylpentane (iso-octane); vapor pressure, critical constants, and saturated vapor and liquid densities. W. B. Kay and F. M. Warzel. bibliog Ind & Eng Chem 43:1150-2 My '51

ISOÖCTYL alcohol

Iso-octyl branches out. il Chem W 69:41 Jl 14 '51

ISOÖKANIN

Chemistry of extractives from hardwoods; okanin and *iso*okanin, the isomeric 2 : 3 : 4 : 3′ : 4′-pentahydroxychalkones. F. E. King and T. J. King. Chem Soc J p569-71 F '51

ISOÖSAJIN

Osage orange pigments; synthesis of dihydro-iso-osajin and of dihydro-isopomiferin. M. L. Wolfrom and B. S. Wildi. bibliog il Am Chem Soc J 73:235-41 Ja '51

ISOÖXAZOLIDONE

*Iso*Oxazolones; *iso*oxazolidones. G. Shaw. Chem Soc J p 1017-19 Ap '51

ISOÖXAZOLONE

Hydrogenation of some *iso*oxazolones. G. Shaw. Chem Soc J p 720-3 F '50

*Iso*Oxazolones; *iso*oxazolidones. G. Shaw. Chem Soc J p 1017-19 Ap '51

ISOPENTANE

Liquid-phase isomerization. flow diag Oil & Gas J 49:196-7 Mr 29 '51

Thermochemistry for the petrochemical industry; some miscellaneous hydrocarbons. K. A. Kobe and R. E. Pennington. bibliog Pet Refiner 29:93-6 D '50

ISOPENTENE

Addition of hydrogen sulphide to *iso*pentene with aluminium chloride as catalyst. A. J. van Riemsdijk and others. diag Inst Pet J 37:265-9 My '51

ISOPHORONE

Alkaline cleavage of isophorone. H. Finch, K. E. Furman and S. A. Ballard. Am Chem Soc J 73:4299-301 S '51

ISOPHOSPHORYLASE

Enzymic synthesis and degradation of starch; isophosphorylase. J. M. Bailey and W. J. Whelan. Chem Soc J p3573-9 D '50

ISOPOMIFERIN

Osage orange pigments; synthesis of dihydro-iso-osajin and of dihydro-isopomiferin. M. L. Wolfrom and B. S. Wildi. bibliog il Am Chem Soc J 73:235-41 Ja '51

ISOPRENE

Apparatus for determining freezing points at saturation pressure from time-temperature freezing and melting experiments. A. R. Glasgow, jr., N. C. Krouskop and F. D. Rossini. diags Anal Chem 22:1521-4 D '50

Chicle; *cis*- and *trans*-polyisoprenes from a single plant species. W. Schlesinger and H. M. Leeper. bibliog il Ind & Eng Chem 43:398-403 F '51

Chlorination of natural and synthetic polyisoprenes. G. Kraus and W. B. Reynolds. bibliog diag Am Chem Soc J 72:5621-6 D '50

1-Cyano-1,3-butadienes; Diels-Alder reactions with dienes. H. R. Snyder and G. I. Poos. bibliog Am Chem Soc J 72:4096-103 S '50

Radical mechanisms in saturated and olefinic systems; disubstitutive carbon-carbon cross-linking by *tert.*-alkoxy-radicals in isoprenic olefins and rubber. E. H. Farmer and C. G. Moore. Chem Soc J p 142-8 Ja '51

Reaction of isoprene with *t*-butyl hypochlorite in hydroxylic solvents. W. Oroshnik and R. A. Mallory. bibliog Am Chem Soc J 72:4608-13 O '50

Thermal dissociation of methyldihydrothiophene-1-dioxides. O. Grummitt, A. E. Ardis and J. Fick. bibliog Am Chem Soc J 72:5167-70 N '50

ISOPROPENYL acetate

Acetylate with ease. Chem W 69:30 Ag 18 '51

ISOPROPENYL acetylene

Reaction of nickel carbonyl with ethynyldimethylcarbinol and isopropenylacetylene. E. D. Bergmann and E. Zimkin. Chem Soc J p3455-7 D '50

ISOPROPENYL cresol

Condensation products of phenols and ketones; proof of the flavan structure of the dimeride of 4-*iso*propenyl-*m*-cresol. W. Baker, R. F. Curtis and J. F. W. McOmie. Chem Soc J p76-83 Ja '51

ISOPROPYL acetate

Catalytic esterification of olefins with organic acids. R. D. Morin and A. E. Bearse. bibliog Ind & Eng Chem 43:1596-600 Jl '51

ISOPROPYL alcohol

Catalytic hydrogenation of 3 : 4-epoxido-4-methyl-2-pentanone. E. D. Bergmann. bibliog J Ap Chem 1:380-2 S '51

Continuous stripper for adsorption column effluent streams. R. L. Hopkins. diags Ind & Eng Chem 43:1456-8 Je '51

Heat transfer data for kettles with jackets and coils. G. H. Cummings and A. S. West. bibliog diag Ind & Eng Chem 42:2303-13 N '50

Hydrolysis of propylene-sulfuric acid solutions to isopropyl alcohol. R. W. Schrage and E. H. Amick, jr. bibliog Ind & Eng Chem 42:2550-3 D '50

Ionization constants of β-alanine in water and isopropyl alcohol-water mixtures. M. May and W. A. Felsing. Am Chem Soc J 73:406-9 Ja '51

Mechanism of the chromic acid oxidation of isopropyl alcohol; the chromic acid ester. F. Holloway, M. Cohen and F. H. Westheimer. bibliog Am Chem Soc J 73:65-8 Ja '51

Thermochemistry for the petrochemical industry; some C_3 oxygenated hydrocarbons. K. A. Kobe and others. bibliog Pet Refiner 30:119-22 Ag '51

ISOPROPYLAMINE

Heat capacities of several organic liquids. E. W. Hough, D. M. Mason and B. H. Sage. Am Chem Soc J 72:5775-7 D '50

Synthesis of some fluorine substituted adrenergic blocking agents. A. F. Lindenstruth and C. A. VanderWerf. Am Chem Soc J 73:4209-11 S '51

ISOPROPYL benzene. See Cumene

ISOPROPYL bromide

Pyrolysis of *iso*-propyl bromide. A. Maccoll and P. T. Thomas. J Chem Phys 19:977 Jl '51

Restricted rotation in aryl amines; isopropyl derivatives of dibenzenesulfonamidomesitylene. R. Adams and N. K. Nelson. Am Chem Soc J 72:5077-9 N '50

ISOPROPYL ether
Vapor-liquid equilibria in binary systems; systems involving *cis-* or *trans*-dichloroethylene and an acetal or ether. D. G. Flom, N. Alpert and P. J. Elving. diag Ind & Eng Chem 43:1178-81 My '51

ISOPROPYLIDENE
Dithiols; syntheses with the *iso*propylidene and benzylidene derivatives of 2 : 3-dimercaptopropanol. L. W. C. Miles and L. N. Owen. Chem Soc J p2938-43 N '50
Isopropylidene derivatives of D-altrose and 1 : 6-anhydro-β-D-altrose. F. H. Newth and L. F. Wiggins. Chem Soc J p 1734-7 Jl '50
4 : 5-*iso*Propylidene 1 : 2-3 : 6-dianhydromannitol. A. B. Foster and W. G. Overend. Chem Soc J p 1132-6 Ap '51
Practical synthesis of D-glucuronic acid through the catalytic oxidation of 1,2-isopropylidene-D-glucose. C. L. Mehltretter and others. bibliog Am Chem Soc J 73:2424-7 Je '51

ISOPROPYLIDENE dianhydromannitol
Anhydrides of polyhydric alcohols; observations on the ring scission of 1 : 2-5 : 6-diepoxyhexane and 3 : 4-*iso*propylidene 1 : 2-5 : 6-dianhydromannitol. L. F. Wiggins and D. J. C. Wood. Chem Soc J p 1566-75 Je '50

ISOQUINOLINE
Amidines; a new synthesis of 1-alkyl- and 1-aryl-3 : 4-dihydro*iso*quinolines. C. I. Brodrick and W. F. Short. Chem Soc J p 1343-5 My '51
Contributions to the chemistry of *iso*quinolines; the synthesis of chloro-amino-phenyl-*iso*quinolines in a search for new trypanocides. A. McCoubrey. Chem Soc J p 1833-6 Jl '50
ω-Halogenomethyl-pyridines, -quinolines, and -*iso*quinolines. B. R. Brown and others. Chem Soc J p 1145-50 My '51
New route to the phthalide-isoquinoline bases, and a synthesis of (-)-hydrastine. R. D. Haworth and A. R. Pinder. Chem Soc J p 1776-80 Jl '50
Preparation of some homologs of papaverine. E. R. Shepard and J. F. Noth. bibliog Am Chem Soc J 72:4364-8 O '50
1-Pyridyl*iso*quinolines. D. H. Hey and J. M. Williams. Chem Soc J p 1527-32 Je '51
Sulfur analogs of isoquinolines. W. Herz. Am Chem Soc J 73:351-2 Ja '51
Synthesis of piperidine derivatives; decahydro*iso*quinolines. G. M. Badger, J. W. Cook and G. M. S. Donald. Chem Soc J p 1392-7 Je '51
Synthesis of possible antimalarials; compounds with the isoquinoline ring attached to the quinuclidine system. G. R. Clemo and S. P. Popli. Chem Soc J p 1406-9 Je '51
Synthesis of some isoquinoline derivatives related to podophyllotoxin. W. Reeve and W. M. Eareckson, 3d. bibliog Am Chem Soc J 72:5195-7 N '50

ISOSTASY
Lewis Evans' early American notice of isostacy. G. W. White. bibliog Science 114: 302-3 S 21 '51

ISOTHIOCYANIC acid
Dipole moment and electric quadrupole effects in HNCO and HNCS. J. N. Shoolery and others. J Chem Phys 19:250-1 F '51
Infra-red absorption spectrum of isothiocyanic acid (HNCS). C. Reid. J Chem Phys 18: 1512-13 N '50
Structure and dipole moment of isothiocyanic acid. C. I. Beard and B. P. Dailey. bibliog J Chem Phys 18:1437-41 N '50; Correction. 19:975 Jl '51

ISOTHIOSEMICARBAZONE
Antituberculous compounds; 2-sulphanilamido-5-alkyl-1 : 3 : 4-oxadiazoles and -thiadiazoles and related *iso*thiosemicarbazones *iso*thioureas. J. D. Brooks and others. Chem Soc J p452-9 F '50

ISOTHIOUREA
Antituberculous compounds; 2-sulphanilamido-5-alkyl-1 : 3 : 4-oxadiazoles and -thiadiazoles and related *iso*thiosemicarbazones and *iso*thioureas. J. D. Brooks and others. Chem Soc J p452-9 F '50
Rearrangements of some benzoylvinylisothiourea and of metathiazine derivatives. D. J. Cavallito, C. M. Martini and F. C. Nachod. Am Chem Soc J 73:2544-7 Je '51

ISOTHIOUREIDOPROPIONIC acid
Reaction of nickel(II) and beta-isothioureidopropionic acid. L. J. Uhlig and H. Freiser. Anal Chem 23:1014-16 Jl '51

ISOTOPES
Absolute standardization of radioisotopes by 4π counting. H. H. Seliger and L. Cavallo. bibliog il J Res Nat Bur Stand 47:41-4 Jl '51
Activation cross sections measured with antimony-beryllium photoneutrons. V. Hummel and B. Hamermesh. diags Phys R 82: 67-8 Ap 1 '51
Atomic byproducts for sale; just call AEC. il Bsns W p50-2 Ap 21 '51
Courses in radioisotopes at the Oak Ridge Institute of nuclear studies. R. T. Overman. il J Eng Educ 28:2-4 Ja '51
Current status of radioisotope utilization. E. A. Wiggin. bibliog il J Chem Educ 27: 632-7 N '50
α-Decay systematics. G. Wilkinson. Chem Soc J supp no 2:S364-5 '49
Determination of isotope ratios, e.g., in tracer work, by an infrared absorption method. J. M. W. Milatz and others. bibliog J Chem Phys 19:887-8 Jl '51
Effect of isotopic substitution on mass spectra of molecules. O. A. Schaeffer. J Chem Phys 18:1501-5 N '50
Effect of mass discrimination on isotope abundance measurements; relative abundances of krypton isotopes. O. A. Schaeffer. J Chem Phys 18:1681-2 D '50
Effect of turbulence in thermal diffusion columns. J. Donaldson and W. W. Watson. bibliog Phys R 82:909-13 Je 15 '51
Establishing an industrial radioisotope program. J. R. Carlin and W. C. Nusbaum. bibliog il Chem Ind 67:886-9 D '50
Further search for nuclear transitions with lifetimes between 3x10^{-9} sec and 10^{-7} sec. W. E. Wright and M. Deutsch. Phys R 82: 277 Ap 15 '51
Growth in peacetime uses of atomic energy. P. C. Aebersold. maps Ind Med 20:157-68 Ap '51
Influence of the atomic shell on nuclear angular correlation. H. Frauenfelder. bibliog Phys R 82:549-50 My 15 '51
Intramolecular isotopic fractionation, the example of nitrous oxide. J. M. McCrea. bibliog J Chem Phys 19:48-9 Ja '51
Introduction to radioisotopes; data sheet of National safety council. M. Eisenbud. Nat Safety N 63:40+ Je '51
Isotope effect in hydrocarbon flame spectra. G. M. Murphy and L. Schoen. il J Chem Phys 19:380-1 Mr '51
Isotope effect in superconductivity. Franklin Inst J 250:358-60 O '50
Isotope effect on dissociation probabilities in the mass spectra of chloroform and chloroform-*d*. V. H. Dibeler and R. B. Bernstein. bibliog J Chem Phys 19:404-6 Ap '51
Isotopes being used in many ways to broaden knowledge about steel. Blast F & Steel Pl 39:sup89 Ap '51
Isotopic exchange between metal ions of difference valency. J. Weiss. J Chem Phys 19:1066-7 Ag '51
Isotopic exchange rates as criteria of surface heterogeneity. R. P. Eischens. J Chem Phys 19:377 Mr '51
Lithium and beryllium nuclei ejected from heavy nuclei by high energy particles. L. Marquez and I. Perlman. bibliog Phys R 81:953-7 Mr 15 '51
Mass assignments of alpha-active isotopes in the rare-earth region. J. O. Rasmussen and others. Phys R 80:475-6 N 1 '50
Mass spectra of some simple isotopic molecules. V. H. Dibeler and others. bibliog J Res Nat Bur Stand 45:288-91 O '50
Masses of Al, Si, P, and S isotopes. H. T. Motz. diag Phys R 81:1061-2 Mr 15 '51
Mathematical basis of the interpretation of tracer experiments in closed steady-state systems. C. W. Sheppard and A. S. Householder. bibliog diags J Ap Phys 22:510-20 Ap '51
Micromanipulation of radioactive gases; abstract. W. J. Arrol. Chem Age (Lond) 64: 381 Mr 10 '51
Microwave study of Ge, Si, and S masses. S. Geschwind and R. Gunther-Mohr. bibliog Phys R 81:882-3 Mr 1 '51

ISOTOPES—*Continued*

New element berkelium (atomic number 97). S. G. Thompson and others. bibliog il Phys R 80:781-9 D 1 '50

New element californium (atomic number 98). S. G. Thompson and others. Phys R 80:790-6 D 1 '50

Nuclear magnetic moments of several stable isotopes. W. G. Proctor and F. C. Yu. bibliog Phys R 81:20-30 Ja 1 '51

Planning a small radioisotope program. G. W. Reid and O. M. Bizzell. bibliog il plan diag Ind Med 19:549-53 D '50

Production by the cyclotron of some useful radio-nuclides. J. W. Irvine, jr. Chem Soc J supp no 2:S356-60 '49

Radioactivity of Am^{242}. G. D. O'Kelley and others. Phys R 80:293-4 O 15 '50

Radioisotope use grows in pharmaceutical research. Chem & Eng N 29:556 F 12 '51

Radioisotopes. L. B. Emlet. flow sheet diags Chem Eng Prog 46:591-4 N '50

Radioisotopes in industry and research. diags Product Eng 22:170-1 My '51

Radioisotopes in the petroleum industry. P. H. Emmett. bibliog diags Oil & Gas J 50:82+ S 27 '51

Radioisotopes may sterilize food, power flashlights; symposium. Chem & Eng N 29:464+ F 5 '51

Radioisotopes; widespread uses in industry and scientific research reviewed at symposium by New York section of A.C.S. Oil & Gas J 49:172 Ja 25 '51

Reactions of high-energy particles with nuclei. G. Wilkinson. Chem Soc J supp no 2:S366-9 '49

Separation of gas mixtures by mass diffusion. M. Benedict and A. Boas. diags Chem Eng Prog 47:51-62, 111-22 F-Mr '51

Some new atomic mass measurements and remarks on the mass evidence for magic numbers. H. E. Duckworth and R. S. Preston. bibliog Phys R 82:468-70 My 15 '51

Stable isotope dilution method for nicotinic acid determination. N. R. Trenner and others. bibliog Anal Chem 23:487-90 Mr '51

Studies of neutron-deficient radioactive isotopes. G. Wilkinson. Chem Soc J supp no 2:S360-3 '49

Superconductivity and nuclear mass. Chem Age (Lond) 63:679 N 11 '50

Sweep diffusion gas separation process. M. T. Cichelli, W. D. Weatherford, jr. and J. R. Bowman. bibliog il diags Chem Eng Prog 47:63-74, 122-33 F-Mr '51

Table of *ft* values in beta-decay. A. M. Feingold. Rs Mod Phys 23:10-20 bibliog (239 ref p 18-20) Ja '51

Theory of the separation of isotopes by thermal diffusion. S. D. Majumdar. bibliog Phys R 81:844-8 Mr 1 '51

Undisturbed soil density found with radioisotopes. Eng N 146:67-8 Ap 12 '51

Unusual isotope effect. H. Gilman, G. E. Dunn and G. S. Hammond. Am Chem Soc J 73:4499-500 S '51

Use of double dilution for the simultaneous determination of yield and activity of radioactive compounds. R. H. Mayor and C. J. Collins. Am Chem Soc J 73:471-2 Ja '51

See also

Radioactivity

also subdivision Isotopes under names of elements, e.g.

Beryllium—Isotopes
Carbon—Isotopes
Cobalt—Isotopes
Helium—Isotopes
Oxygen—Isotopes
Potassium—Isotopes
Rare earth metals—Isotopes
Sulfur—Isotopes
Uranium—Isotopes

Analysis

Isotopic determination of nitrogen and carbon by means of a microwave spectrograph. A. L. Southern and others. bibliog diag Anal Chem 23:1000-4 Jl '51

Industrial applications

Application of isotopes in chemical industry. H. Seligman. il Chem & Ind p724-7 S 1 '51

Applications of radioactive isotopes in the electrical industry; abstract. A. M. Morgan. Electrician 146:1617 My 11 '51

Applying anti-static tooling. J. Starr. diags Tool Eng 26:33 My '51

Cobalt aids metals study; Armour researchers convert abandoned garage into radiographic laboratory. il Steel 128:94+ Mr 26 '51

Industry is finding radioisotopes handy things to have around. E. C. Kreutzberg. Steel 129:52 Ag 13 '51

Progress report on industrial atoms. Mod Ind 21:81-2 My '51

Radioactive isotopes in industry; F.B.I. conference, May 1. Chem Age (Lond) 64:735-7 My 12 '51

Radioactive tires used in tests. Rubber Age 69:737 S '51

Radioactive tracers in industry; abstract. J. L. Putnam. Electrician 146:1617 My 11 '51

Radioisotopes in industry. G. D. Calkins. bibliog il Chem & Eng N 29:2456-9 Je 18 '51

Some industrial applications of radioactive isotopes; abstract. J. E. Johnston. Chem & Ind p48-9 Ja 20 '51

Standards

Radiation standards for science and industry. il Chem & Eng N 29:1230-1 Mr 26 '51

ISOTROPY

Decay of isotropic temperature fluctuations in an isotropic turbulence. S. Corrsin. bibliog J Aeronautical Sci 18:417-23 Je '51

ISOVALERIC acid

Cyclization of β-(6-tetralyl)-isovaleric acid, and of 6-senecioyltetralin. L. I. Smith and P. N. Gordon. Am Chem Soc J 73:3747-9 Ag '51

ISRAEL

Israel banks on its new immigrants. W. G. Bowman. il map Eng N 146:26-30 Mr 22 '51

Israel versus Syria. map Economist 160:1094 My 12 '51

See also

Airlines—Israel
Automobile industry and trade—Israel
Electricity supply—Israel
Finance—Israel
Motor bus lines—Israel
Tobacco industry and trade—Israel

Economic conditions

Israel; what chance for solvency? A. W. May. Comm & Fin Chr 174:505, 593+, 689+ Ag 9, 16, 23 '51

News by countries. For Comm W 41:15 O 23 '50; 42:14 Ja 15; 21-2 F 19; 43:14 Ap 2; 15-16 Ap 30; 13-14 My 28; 44:14-15 Jl 16; 10-11 Ag 13; 12-13 S 10 '51

Economic policy

Government announces new economic program, moves against black market. For Comm W 41:14 N 13 '50

Industries and resources

Israel opens U.S. drive for $1-billion. il Bsns W p 148-51 Ap 28 '51

Politics and government

Israel rounds a corner. Economist 159:686+ N 4 '50

Israel's political direction; is she going socialist? A. W. May. Comm & Fin Chr 174:689+ Ag 23 '51

Israel's second elections. Economist 161:222 Jl 28 '51

ITACONIC acid

Itaconic acid; production by aspergillus terreus from unrefined cane sugar. G. C. A. van der Westhuizen, C. J. P. Spruit and H. H. Sephton. bibliog J Ap Chem 1:356-60 Ag '51

Itaconic acid; the condensation of itaconic anhydride with some conjugated olefins. D. E. A. Rivett. bibliog J Ap Chem 1:377-80 S '51

Promising vinyl plasticizers derived from itaconic acid; abstract. P. E. Bruins and C. J. Knuth. Chem & Eng N 29:1308 Ap 2 '51

Analysis

Determination of aconitic and itaconic acids. K. Lauer and S. M. Makar. Anal Chem 23:587-9 Ap '51

ITACONIC anhydride

Itaconic acid; the condensation of itaconic anhydride with some conjugated olefins. D. E. A. Rivett. bibliog J Ap Chem 1:377-80 S '51

ITALIAN Somaliland. See Somaliland, Italian

ITALY
See also
Land tenure—Italy
Sulfur industry and trade—Italy

Economic conditions

Economic problems and reconstruction in Italy. A. Capanna. Int Labour R 63:607-32; 64:24-60 Je-Jl '51
News by countries. For Comm W 40:17-18 Ag 21; 41:17 O 16 '50; 42:22 F 19 '51
Prospects are much improved in Italy. il Steel 127:75 D 4 '50
Recent economic developments. L. L. Schmitter. il For Comm W 44:3-4+ Ap 27 '51

Foreign relations
United States

De Gasperi gets promises with reservations. il Bsns W p 173-4 O 6 '51

Industries and resources

Design with a point; Italy's Olivetti. il Fortune 43:112-17 Je '51
Italian imports spurred by Macy fair. il Bsns W p 169-70 S 15 '51

Politics and government

Communism hard and soft. Economist 159:753-4 N 11 '50
Italy's fading visions. Economist 159:1148 D 23 '50
Prospects for Signor De Gasperi. Economist 161:458 Ag 25 '51
Recognising Italy; political skill of Signor De Gasperi. Economist 160:413-15 F 24 '51
Right-wing parties. Economist 161:161 Jl 21 '51
Signor de Gasperi surmounts another crisis. Economist 160:866-7 Ap 14 '51
Signor De Gasperi's hard task. Economist 160:144, 188 Ja 20-27 '51
Signor De Gasperi's seventh innings. Economist 161:292 Ag 4 '51
Storms around De Gasperi. Economist 160:548-9 Mr 10 '51

IVY
How does the ivy grow? S. Zacks. Science 114:332 S 28 '51

IWO JIMA, Battle of, 1945
Iwo Jima, acme of amphibious assault. J. A. Isely. il map U S Naval Inst Proc 77:1-13 Ja '51

J

JACK, William S.
Baited ad; Bill Jack of Jack & Heintz fame hopes to lure former associates. por Bsns W p 114-15 Ja 20 '51

JACK and Heintz, inc.
Profits without fanfare. il Bsns W p52+ Jl 21 '51
Security I like best. B. Williams. Comm & Fin Chr 173:2550+ Je 21 '51

JACK and Heintz precision industries, inc.
J&H production moving steadily. Aviation W 54:23 Ja 29 '51

JACKS
Air-driven jacks raise highway bridge 17 ft. il Eng N 147:40-1 Ag 23 '51
Savannah River bridge being raised 17 feet with air jacks. il Constr Methods 33:44-8 Ag '51

JACKS, Hydraulic. See Hydraulic jacks

JACKSON, Albert, 1905-
Sketch. por Iron & Steel Inst J 167:front Mr '51

JACKSON, John Day, 1868-
Union honors Jackson with working card. Ed & Pub 84:56 Je 2 '51

JACKSONVILLE, Florida

Bridges

Jacksonville awards contract for substructure of 3,667 bridge. il Eng N 146:26 My 10 '51

Public works

Letter from Jacksonville. Eng N 146:144 My 24 '51

JACKSONVILLE Beach, Florida

Water supply

Softening plant has sea-water regeneration and automatic control, for processing. il diag Eng N 146:46-8 F 1 '51

JACOB, William F.
W. F. Jacob honored. Special Lib 42:221 Jl-Ag '51

JACOBY, Raymond W.
Olney medal award. por Oil Paint & Drug Rep 160:7+ S 17 '51

JACQUARD weaving
Jacquard engineering. C. T. Dracup. Textile Inst J 42:P97-101; Discussion. P101-3 Mr '51

JACQUET process. See Foundry practice

JADEITE
Change of free energy with pressure of the reaction, nepheline + albite = 2 jadeite. H. S. Yoder and C. E. Weir. bibliog Am J Sci 249:683-94 S '51

JAHN, Herbert F.
Iron age salutes. por Iron Age 167:71 Je 21 '51

JAHNCKE service, inc.
75 years in business. il Rock Prod 54:90-4 Ap '51

JAM. See Jelly, jam, etc.

JANAS, Sigmund, 1899-
Janas quits as Colonial president. por Aviation W 55:51-2 Jl 2 '51
U.S. attorney files action against Janas. Aviation W 55:73-4 Jl 16 '51

JAPAN
Britain and the Japanese peace treaty. Economist 160:750 Mr 31 '51
Japan welcomes Mr Dulles. Economist 160:203 Ja 27 '51
Japanese peace treaty; Mr Dulles' painstaking efforts will bolster U.S. security. F. Mayer. Barron's 31:7-8 Ap 9 '51
Outlook in Japan. Economist 161:568 S 8 '51
Peace treaty for Japan. Economist 161:145, 175 Jl 21 '51
Peace with Japan. Economist 160:1416-18 Je 16 '51
Return of the purged. Economist 161:163 Jl 21 '51
That Japanese peace treaty. Economist 159:1192 D 30 '50
Towards a Japanese peace treaty. Economist 160:410-11 F 24 '51
See also
Chemical industries—Japan
Debts, Public—Japan
Finance—Japan
Insurance, Life—Japan
Investments, Foreign (in Japan)
Labor and laboring classes—Japan
Miners—Japan
Mines and mineral resources—Japan
Petroleum industry and trade—Japan
Ryukyu Islands
Standards—Japan
Tea industry and trade—Japan
Textile industry—Japan

American occupation

Japan asks, after MacArthur, what? Bsns W p 153-4 Ap 21 '51
Japan under Ridgway. map Economist 160:1218-19 My 26 '51

Commerce

Export bank established: will supplement private financing. For Comm W 42:15 Ja 29 '51
Feud down under; Australian-Japanese trade impasse. Bsns W p 119 Je 30 '51
Japan makes bid for prewar markets; Seattle trade fair. il Bsns W p 148-9 Jl 7 '51
United States-Japanese commercial relations; with tables and graphs of imports and exports. A. V. Espenshade. il For Comm W 44:3-4+ S 10 '51

Commercial policy

Commodities granted automatic import approval; with list. For Comm W 42:16-17 Mr 5 '51
Japan will be factory for free Asia; U.S. wants peace treaty to drop curbs on Japan's trade. il Bsns W p 133-4 N 11 '50
Tariffs and trade controls. For Comm W 42:16 Ja 29; 43:16 Ap 30; 44:20-1 S 3 '51

Defenses

America signs up with Japan; American-Japanese defence pact. map Economist 161:616-17 S 15 '51

JAPAN—*Continued*

Economic conditions

Can Japan pay her own way? il Fortune 43:72-4 My '51

Japan; 1950, a year of record progress. R. W. Adams. il For Comm W 43:3-5+ Ap 30 '51

Japan's economy up. il Steel 128:59 My 28 '51

News by countries. For Comm W 41:16-17 N 20; 12-13 D 11 '50; 42:14-15 Ja 29; 43:14-16 My 21; 14-15 Je 11; 44:11-12 Jl 23; 16-17 S 24 '51

Rising sun of Japan. W. H. Draper, jr. Comm & Fin Chr 172:1787+ N 9 '50

Economic policy

Japan may scrap business reform laws. Bsns W p 145-6 Ag 11 '51

Foreign relations

Australia's fears of Japan. Economist 160:146 Ja 20 '51

China and Japan. Economist 161:268-70 Ag 4 '51

Making peace with Japan. V. L. Horoth. Mag of Wall St 88:603-4+ S 8 '51

United States

Can the U.S. count on Japan? il Bsns W p 133-4 Mr 3 '51

Japan's still under our wing. Bsns W p23 S 15 '51

Industries and resources

British mills and Japanese competition. P. Einzig. Comm & Fin Chr 174:335 Jl 26 '51

Investments involving technological assistance desired; list by industries. For Comm W 43:15-16 My 21 '51; Correction. 44:11 Ag 13 '51

Japan will be factory for free Asia; U.S. wants peace treaty to drop curbs. il Bsns W p 133-4 N 11 '50

Japanese recovery creates tempting market for foreign capital. J. Bosse. Barron's 31:5 Ag 13 '51

National Diet library

National Diet library in Japan. T. Ichikawa. J Doc 7:113-18 Je '51

JAPANESE journalists. See Journalists, Japanese

JAPANESE peace treaty conference, San Francisco

Labor-ing day in San Francisco and all's peaceful. C. Watson. Ed & Pub 84:14+ S 8 '51

JARS, Glass. See Glass jars

JEEPS. See Automobiles, Military; Motor vehicles

JEFFERSON, Thomas, 1743-1826

Portrait. Fortune 43:71 F '51

JEFFERSON memorial, St Louis

Structural study. F. N. Severud. il diags Arch Rec 110:151-3 Jl '51

JEFFERSON standard life insurance company

Reach agreement in Jefferson Standard factional dispute. Nat Underw (Life ed) 54:7 D 22 '50

JEFFREY manufacturing company

$20-million upset; Sunnyhill sues Jeffrey. Bsns W p98 Je 9 '51

JELLY, jam, etc.

Jams. W. Birch. Chem & Ind p364-6 My 12 '51

Jams and some other spreads as food; historical introduction. L. E. Campbell. Chem & Ind p300-1 Ap 21 '51

Mechanized apple butter and jelly lines; Knouse foods cooperative, inc.; picture flow sheet. Food Ind 23:138-41 Mr '51

Single bright idea sells 11,000,000 packages of Tobyjell; sold with Brown 'N Serve bakery rolls. E. Gidlow. il Sales Management 67:37-9 S 15 '51

Wine-Certo test pays off; may ease seasonal slump for General Foods; Wine institute and C.&H. sugar refining corporation cooperate. il Sales Management 66:40-2 F 15 '51

Manufacture

Mechanized continuous process pays six extra benefits; precise Reich method for jam, jelly, marmalade and preserve production. I. C. Miller. flow sheet(p 134-7) il diags Food Eng 23:103-6 S '51

Perking up process performance. J. V. Ziemba. il Food Eng 23:70-2+ Ag '51

JENOLITE process. See Steel—Protection

JENTZSCH ignition tester. See Internal combustion engines

JEROME, Frank Jay, 1890-

Portrait. Fortune 43:29 Ap '51

JERSEY journal

Court delays dissolution sale. Ed & Pub 84:60 Jl 28 '51

JERVINE

Structure of jervine; degradation to perhydrobenzfluorene derivatives. J. Fried and others. Am Chem Soc J 73:2970-1 Je '51

JET piercing. See Drilling and boring (earth and rocks)

JET propulsion

Burners for supersonic ram-jets; instability in a two-inch ram-jet burner. J. B. Fenn, H. B. Forney and R. C. Garmon. bibliog il diags Ind & Eng Chem 43:1663-72 Jl '51

Interaction of flow pulsations and flame propagation. G. H. Markstein. bibliog J Aeronautical Sci 18:428-9 Je '51

Thrust-measuring capsule for jet engines. diag Engineering 170:573 D 29 '50

See also

Helicopters—Jet propulsion

Bibliography

Bibliography of books and published reports on gas turbines, jet propulsion, and rocket power plants. E. F. Fiock and C. Halpern. U S Nat Bur Stand Circ 509:1-64; pa 20c Supt. of doc. '51

JET propulsion of aircraft. See Airplanes, Jet propelled

JETS

Fluctuations in a spray formed by two impinging jets; abstract. M. F. Heidmann and J. C. Humphrey. Aviation W 55:28 S 3 '51

Properties of freshly formed surfaces. C. C. Addison and T. A. Elliott. diag Chem Soc J p3090-109 N '50

JETTIES

British oil dock incorporates unusual fenders, foundations. il Eng N 146:42 My 24 '51

Persian Gulf port berthing arrangements; jetty equipped with a gravity pattern fender. il diags Engineer 191:189 F 9 '51

JEWELERS' block insurance. See Insurance, Jewelers' block

JEWELRY stores

Lighting

Lighting a jewel box. il Elec West 105:75 N '50

Lighting a jewelry store. J. Lough. il Illum Eng 46:283-4 Je '51

JEWELRY trade

Jewelry booms. Bsns W p21 Ap 7 '51

Jewelry sparkles; industry completing record season. Bsns W p21 N 18 '50

Shine on jewelry sales. Steel 21:65 S 17 '51

See also

Rings (jewelery)

JEWS

See also

Israel

JEWS in Iraq

Exodus from Iraq. Economist 160:928+ Ap 21 '51

JIGS

Air actuation cuts time in manipulating drilling jig. R. Mawson. diags Steel 129:77 Jl 2 '51

Assembly jig; fast and cheap; Republic's optical tooling. il Bsns W p34-5 D 23 '50

Drill jig and micrometer provide jig-boring accuracy. B. Goodwin. diags Am Mach 95:156 O 15 '51

Drill jig with equalizers designed to handle an irregular casting. R. W. Newton. plan diags Mach 57:198-9 F '51

Glass-fiber laminates simplify jig-making. C. D. Birmingham. il Am Mach 95:131-3 Je 11 '51

Hexagonal drill jig for producing six holes in a pump piston. R. W. Newton. diag Mach 57:194-5 My '51

Jig designed to drill sub-assemblies. R. W. Newton. diags Mach 57:215-16 Jl '51

Jig making simplified. A. F. Hird. diags Tool Eng 26:54 Je '51

Jigs and fixtures from standard components. il Engineering 172:267-8 Ag 31 '51

JIGS—*Continued*

Low-cost jigs for the small shop. F. Biechele. diags Am Mach 95:130-1 Jl 23 '51

Multiple drill jig with indexing V-blocks. R. Mawson. diags Mach 58:189-90 S '51

New clamping device for jigs and fixtures. P. Grodzinski. il diags Tool Eng 27:40-2 Ag '51

Template-located jig speeds drilling and counterboring. R. Mery. diags Mach 58: 191-2 S '51

Welded construction simplifies jig for drilling irregular-shaped casting. R. Mawson. diag Mach 57:190-1 N '50

JOB analysis

Defining the requirements of the executive's job; critical incident technique; pilot studies of army officers and research workers. J. C. Flanagan. Personnel 28:28-35 Jl '51

Evaluating engineers to recognize talent and reward achievement. R. W. Chaffee. il Machine Design 23:141-72 Je '51; Discussion. 23:192+ S; 202-4+ N '51

Fit the pay to the job; analysis of ABA program for smaller banks. Banking 43: 52-4+ O '50

How a salary plan operates; Security bank & trust company of Madison, S.D. W. M. Willy. Banking 43:56 D '50

How is your salary determined? S. P. Farwell. Chem Eng Prog 47:219-22 My '51

How to rank and price management jobs. R. C. Smyth. Factory Management 108:116-17 N '50

Job evaluation, a good way to fix fair wage scales. N. J. Goodfellow. Eng & Min J 152:86-8 Ap '51

Job evaluation discussion. L. Langstroth. Personnel J 29:180-2 O '50

Job evaluation in department stores. W. R. Spriegel and E. Lanham. J Retailing 27: 79-85 Summer '51

Joint union-management evaluation; a trade unionist's views; abstract. W. Gomberg. Management R 40:474-5 Ag '51

Keeping wages in line; administration policy, Alexander Smith, inc. il Mod Ind 21:50-2+ Je '51

Making the salary fit the job; Western Pacific develops logical and equitable salary structure for supervisors and executives. G. H. Kneiss. Ry Age 129:28-31 N 25 '50

Program including complete job analyses and descriptions is good insurance. W. von Pechmann. Ind & Eng Chem 43:sup75A-6A Ja '51

Retrospect on job evaluation practices. P. A. Scheuble, jr. N A C A Bul 32:403-7 D '50

Steel blazed a trail in wage administration. A. A. Schweighauser. N A C A Bul 33:38-47 S '51

Work-factor analysis saves money, time, complaints at Sylvania radio and television division, Buffalo. P. J. Brady. il Factory Management 109:110-12 Je '51

JOB tickets

Job tickets, properly made out, should be easily accessible in each plant department. Inland Ptr 127:53 Ag '51

JOB work

See also

Printing, Practical—
Job work

Accounting

Job cost procedure; a manufacturer of forgings. E. R. McDowell. N A C A Bul 32: 601-6 Ja '51

Job cost procedure; an electronic signal company. S. W. Overly. N A C A Bul 32:606-10 Ja '51

Job cost procedure; small tool shop. E. J. Cossett, jr. N A C A Bul 32:593-601 Ja '51

Price estimating; survival factor in job shops. F. S. Howell. N A C A Bul 32:1465-71 Ag '51

JOBBER helps

Chart shows details of training program; SKF industries. il Ptr Ink 233:37 D 1 '50

14 practical ways to help your distributors now. L. H. Brendel. Sales Management 67: 88+ Ag 15 '51

How to sell in today's buyers'-sellers' market. H. E. Green. il Ptr Ink 235:29-31 Ap 20 '51

How we pass our story along to wholesalers' salesmen; visual presentation with carefully devised follow-through. E. L. Wight. il Ptr Ink 233:37-8 O 27 '50

Newspaper mats help jobbers tell own story. il Nat Pet N 43:56-7 Ap 25 '51

Tested methods of getting jobber cooperation. N. Kelne. Ptr Ink 235:27-9 My 4 '51

JOBBER relations

How to get distributors on the new product band wagon; Mulins Jet-Tower dishwasher. M. Adams. il Ptr Ink 235:27-9 Je 8 '51

How to please distributors; Thompson company's distributor's advisory council. Bsns W p 116+ S 8 '51

How to say we can't take your order now; Wolverine does it with monthly gadget mailings. il Sales Management 67:92+ S 1 '51

Industrial distributor is an aid to plant operations. E. E. Holrod. Mill & Factory 47:126-7 D '50

Story told of how jobber-Deep Rock conferences produced new contract. L. Castle. Nat Pet N 42:37 O 25 '50

Ten ways distributors rate your pricing policies. L. H. Brendel. Sales Management 67: 136+ O 15 '51

Ten ways to keep distributors working in a semi-war. W. A. Marsteller. il Ind Marketing 36:38-9+ Ap '51

What distributors want to know before they'll take on your line. L. H. Brendel. Sales Management 67:76+ O 1 '51

What the distributor does to your promotion will make or break it. R. H. Bolin. il Ptr Ink 235:32-3 My 18 '51

When goods are in short supply you always can sell service; Disston steel products. W. H. Gebhart. il Sales Management 66: 70+ My 1 '51

JOBBERS

How industrial distributors can help you increase production under the rearmament program. il map Mill & Factory 48:171-86 Je '51

Industry's middleman booms; take Syracuse supply co. Bsns W p90-1 Ap 28 '51

Recent developments in procedures and techniques of modern wholesalers. R. D. Henderson. J Retailing 27:94-9 Summer '51

When you're tempted to cut out distributors. L. H. Brendel. Sales Management 67:68+ S 1 '51

Where to find and how to choose your industrial distributors. L. H. Brendel. Sales Management 67:128-30+ S 15 '51

Wholesaler teaches a lesson in distribution; Temple of distribution of Zion cooperative mercantile institution. il Mod Ind 22:113 Ag '51

See also

Jobber relations
Salesmen, Jobbers'

Service

New stock control deal; wholesaler operates as store buyer. M. Beuick. il Ptr Ink 234: 48+ Mr 2 '51

JOHN Fritz medal. See Fritz, John, medal

JOHN HANCOCK mutual life insurance company

Annual meeting of policyholders. East Underw 52:1+, 3-4 F 16 '51

JOHNS HOPKINS ruling engine. See Ruling machines

JOHNS HOPKINS university

Applied physics laboratory

Selected reading list; a means of improving the use of periodical literature. S. Herner. Special Lib 41:324-6+ N '50

JOHNS-MANVILLE corporation

Credit agreement extended. Comm & Fin Chr 173:566 F 5 '51

Hopes to give stockholders bigger share of earnings; with financial data, 1941-1950. C. A. Clark, jr. Barron's 31:15-16 Mr 19 '51

Investment audit. P. Dobbs. Mag of Wall St 88:86-8 Ap 21 '51

JOHNSON, Charles Morris

Iron age salutes. por Iron Age 166:41 O 26 '50

JOHNSON, Henry Clay

Sketch. por East Underw 52:25 Je 29 '51

JOHNSON, John Burlin, 1890-
Thurman H. Bane award for 1951. por Aeronautical Eng R 10:5 Ag '51

JOHNSON, John H. 1918-
Publisher of three successful Negro magazines, got start with $500 loan. por Ptr Ink 233:100 O 27 '50

JOHNSON, Lyndon Baines, 1908-
Portrait. Bsns W p25 Ja 6 '51
Watchdog Johnson follows Truman path; heads preparedness subcommittee. Bsns W p 24-5 O 21 '50

JOHNSON, Roy W.
Portrait. Bsns W p25 F 3 '51

JOHNSON, Samuel, 1709-1784
Pains of Sam Johnson. Sci Am 184:38 Je '51

JOHNSON, Stanley Bryce, 1892-
Coal-company president and employee magazine honored for contribution to cause of freedom. por Coal Age 56:121 Ap '51

JOHNSTON, Eric Allen, 1895-
Portrait. Bsns W p 120 Mr 3; p20 O 6 '51

JOHNSTOWN, Pennsylvania
Crichton honored by leaders. Coal Age 55:130 N '50

JOINT maritime commission. See International labor organization—Joint maritime commission

JOINT tenancy
Joint deposit box, but no survivorship; Illinois decision. F. C. Flechter, jr. Burroughs Clearing House 35:75-6+ Ag '51

JOINTS
Connections for welded continuous portal frames. A. A. Topractsoglou and others. bibliog il diags Welding J 30:sup359-84, 397-405 Jl-Ag '51
Toothed rings strengthen nailed joints. E. G. Stern and P. W. Stoneburner. il Eng N 147:39-40 S 27 '51
See also
Aluminum—Joining to steel, etc.
Brazing
Electric cables—Joints
Gaskets
Glass—Joining to metal
Glue
Packing
Pipe joints
Plastic materials—Joining
Rail joints
Riveted joints
Solder and soldering
Welding

Testing

Bolted joints found better under fatigue. T. R. Higgins. il diag Eng N 147:35-6 Ag 2 '51

JOINTS (physiology)
See also
Cartilage

JOINTS, Universal
Universal joints needed in extension stems for valves. G. W. Hauck. diags Heating-Piping 23:124-5 Ja '51
Wide variety of universal joints on the production line. J. Geschelin. il Automotive Ind 105:42-4+ Jl 1 '51

JOISTS
Shear resistance of tile-concrete floor joists. J. N. Thompson and P. M. Ferguson. bibliog il diags Am Concrete Inst J 22:229-36 N '50

JOISTS, Concrete
Light precast joists lower school costs. J. A. Murlin. il plans diags Arch Rec 110:174-6 S '51
Straight line joist production. J. W. Shaver. il Concrete 59:8-10+ Je '51

JONES, Alexander Francis, 1891-
New president of American society of newspaper editors. L. J. O'Toole. Ed & Pub 84:16+ Ap 28 '51

JONES, Arthur Taber, 1876-1951
Sketch. N. M. Mohler. por Acoustical Soc Am J 23:371-2 My '51

JONES, Welton Paul, 1901-
Portrait. Bsns W p68 N 25 '50

JONES and Laughlin steel corporation
Bonds placed privately. Comm & Fin Chr 173:104-5 Ja 8 '51
Five high yield stocks that should do well in a defense economy; with comparative balance sheet items. Mag of Wall St 87:452 Ja 27 '51
Jones & Laughlin has largest construction program in its history. Blast F & Steel Pl 39:571 My '51
McGraw files counter claim against J.&L. Steel. Eng N 147:28 Jl 26 '51
Stock offered. Comm & Fin Chr 173:1377 Ap 2 '51

JONES reductor. See Reductors

JOSTEN manufacturing company
Smoothing out class ring sales. il Bsns W p88-91 My 12 '51

JOULE. See Heat units

JOURNAL of the Franklin institute. See Franklin institute journal

JOURNAL of the society of motion picture and television engineers. See Society of motion picture and television engineers journal

JOURNALISM
See also
College and school journalism
Freedom of the press
House organs
Libel and slander
Newspapers
Periodicals
Photography, Journalistic
Reporting
Women as journalists

Periodicals

See also
News workshop (periodical)

Study and teaching

Columbia students use Pulitzer prize entries. D. Bentel. Ed & Pub 84:24 S 29 '51
Press Institute plans six seminars. Ed & Pub 84:24 S 8 '51
Students given works in junior journalism at Washington university. D. Bentel. Ed & Pub 84:40 Mr 24 '51
See also
Journalism education
Nieman foundation
Photography, Journalistic—Study and teaching

Textbooks

Novels, not textbooks, misrepresent press. R. E. Wolseley. Ed & Pub 84:44 Ap 7 '51

Great Britain

Novices bound five years in British training plan. D. Willens. Ed & Pub 84:30 F 24 '51

JOURNALISM awards
11 Pulitzer prizes won on war or crime theme. R. Erwin. Ed & Pub 84:7+, 9+ My 12 '51
Five Missouri honor awards are presented. Ed & Pub 84:11 My 5 '51
Headliner awards for 1950 announced. Ed & Pub 84:26 Ap 28 '51
Kind of newspaper students would make. Ed & Pub 84:26 My 5 '51
Sigma delta chi service awards announced for 1950. Ed & Pub 84:12+ Ap 14 '51

JOURNALISM education
Classified considered in journalism courses. H. W. Tushingham. Ed & Pub 83:38 D 2 '50
Editors want recruits to know shorthand. D. Bentel. Ed & Pub 83:28 D 9 '50
Employers rate grads better than average. D. Bentel. Ed & Pub 84:36 F 17 '51
Five are named Reid fellows to study abroad. Ed & Pub 83:63 N 25 '50
Here's why teachers shy at appraisals. D. Bentel. Ed & Pub 84:40 Ag 18 '51
Housewife dishes out journalism recipes; Gwendolyn Roach teaching students art of reporting. F. A. Martin. Ed & Pub 84:34 Ap 21 '51
Integration major aim to Nebraska J-school. W. F. Swindler. Ed & Pub 83:58 N 18 '50
J-schools should offer college-wide courses. D. Bentel. Ed & Pub 84:61 Ja 13 '51
No journalism-schools, Kemsley press runs own course for staffs of 33 Kemsley newspapers in England, Wales and Scotland. D. Bentel. Ed & Pub 84:36 My 12 '51
Scholarship will make summer job alluring. Ed & Pub 84:43 Mr 31 '51
Schools teach world U.S. news methods. D. Bentel. Ed & Pub 83:28 D 2 '50
28 Germans to study at three U.S. journalism schools. D. Bentel. Ed & Pub 84:59 Je 9 '51
University of California moves into field of graduate training. D. Bentel. Ed & Pub 84:38 Mr 10 '51
See also
Association for education in journalism
Reporting—Study and teaching

JOURNALISM ethics
Oregon code for journalism in short form. Ed & Pub 84:40 Jl 14 '51
See also
Newspaper ethics

JOURNALISM schools
Bad spellers present schools with problem. D. Bentel. Ed & Pub 84:26 Ja 6 '51
Boston university accredited, bringing total to 40. D. Bentel. Ed & Pub 84:42 Jl 7 '51
Building boom improves bad housing situation. D. Bentel. Ed & Pub 84:40 Ag 25 '51
Faculty cut is small for reduced enrollment. D. Bentel. Ed & Pub 84:32 Jl 21 '51
Higher education reports six per cent drop, J-schools twenty per cent. D. Bentel. Ed & Pub 83:52 D 16 '50
Licensing accusation not merited by ACEJ. D. Bentel. Ed & Pub 84:61 Mr 3 '51
National policy group studies accreditation. D. Bentel. Ed & Pub 84:30 Ap 14 '51
135 participate in visitations to 47 schools. N. N. Luxon. Ed & Pub 84:24 Ja 20 '51
Schools doing big job of research for press. D. Bentel. Ed & Pub 84:116 Ap 21 '51
Schools must extend press relationship. D. Bentel. Ed & Pub 83:28 N 25 '50
Schools must review campus guild policies. D. Bentel. Ed & Pub 83:50 O 28 '50
39 journalism-schools placed on ACEJ accredited list. Ed & Pub 84:44 Ap 28 '51
See also
Missouri university—School of journalism

JOURNALISM teachers
Ph.D. emphasis hard on journalism-school teachers. D. Bentel. Ed & Pub 84:42 My 26 '51
Teachers pound beats for summer practice. D. Bentel. Ed & Pub 84:28 Je 23 '51

JOURNALISTS
June grads find jobs on favorable market. D. Bentel. Ed & Pub 84:60 Je 16 '51
See also
Sigma delta chi
Women as journalists

JOURNALISTS, Japanese
Eleven Japanese journalists at API seminar. Ed & Pub 84:72 Ap 28 '51

JOY manufacturing company
Prospects are bright. Barron's 31:12 F 12 '51

JUDGMENTS, Declaratory. See Declaratory judgments

JUDSON, Julia
Meet Julia Judson. por(cover) Elec World 136:3 Jl 30 '51

JUGLONE
Naturally occurring quinones; a new synthesis of plumbagin and a note on the structure of β-hydroplumbagin. R. H. Thomson. Chem Soc J p 1237-9 My '51

JUGOSLAVIA. See Yugoslavia

JULOLIDINE
Structure and properties of certain polycylic indolo- and quinolino-derivatives; derivatives of 1-ketojulolidine. F. G. Mann and B. B. Smith. Chem Soc J p 1898-905 Jl '51

JULOLINE
5-Keto-7-methyljuloline and certain derivatives. D. J. Cook, D. Dock and R. Shrontz. Am Chem Soc J 72:4989-91 N '50

JUNIOR achievement movement
C&EN presents award to Chicago Junior Achievement firm. Chem & Eng N 29:1002+ Mr 12 '51
Junior achievement banks triple in year. il Trusts & Estates 90:405 Je '51
Junior achievement; important key to an important age group. A. B. Marvin. il Gas Age 107:37-9+ My 24 '51; Abstract. Pub Util 48:185-6 Ag 2 '51
Teen-agers given awards by stock exchange. Comm & Fin Chr 172:2109 N 30 '50

JUNIOR board of directors. See Corporations—Directors, Junior

JUNK. See Scrap material

JURISDICTION
Check with your lawyer before going to court in other states. Credit & Fin Management 53:28 F '51
U.S. Supreme court rules in St Louis case; holds states have right to decide on trying railroad workers' suits on injuries sustained in other states. East Underw 51:37 N 17 '50

JURY
See also
Grand jury

JUSTICE, Administration of
Supreme court as protector of civil rights; criminal justice. O. K. Fraenkel. bibliog Ann Am Acad 275:86-100 My '51

JUSTIGRAPH
New cold type device. Inland Ptr 127:55 Jl '51

JUSTOWRITER. See Typewriters (composing machines)

JUTE
Constituents of the seeds of corchorus olitorius, L; corchorin and its identity with strophanthidin. G. Soliman and W. Saleh. Chem Soc J p2198-200 Ag '50
Effect of urea-formaldehyde treatment on the photochemical discolouration of bleached jute. H. J. Callow. bibliog Textile Inst J Trans 41:T404-6 O '50
Frictional properties of jute and some other long vegetable fibers; general study of characters. S. B. Bandyopadhyay. bibliog diags Textile Res J 21:659-70 S '51
Jute products. Tappi 34:sup56A+ Je '51
Jute snarl continues despite big harvest. Barron's 30:21-2 D 4 '50
Kashmir dispute dims hope for more burlap. Barron's 31:17 Jl 23 '51
Liability to spontaneous combustion of oils on jute. A. N. Saha. bibliog Textile Inst J Trans 42:T207-10 My '51
Progressive delignification of jute fibre with chlorine dioxide. A. B. Sen Gupta and H. J. Callow. bibliog Textile Inst J Trans 42:T375-84 S '51
X-ray study of the soda-cellulose of jute treated with caustic soda at room temperature. R. R. Mukherjee and H. J. Woods. bibliog il Textile Inst J Trans 41:T422-8 N '50
X-ray study of the transition from water-cellulose to cellulose II in ramie, jute and sisal. R. R. Mukherjee and H. J. Woods. Textile Inst J Trans 42:T309-13 Jl-Ag '51
See also
Bleaching—Jute

Analysis

Method for the quantitative estimation of copper with particular reference to proofed jute fabrics. W. G. Macmillan and P. C. Das. J Ap Chem 1:132-5 Mr '51

Testing

Detection and estimation of damage in jute fibre; assessment of fungal damage. S. N. Basu and S. N. Ghose. Textile Inst J Trans 42:T 1-5 Ja '51
Multiple culture technique for testing rot-resistance, particularly suited to jute materials. S. N. Basu and others. bibliog il diags Textile Inst J Trans 41:T466-80 D '50

JUTE, Substitutes for
Can kenaf do it? Bsns W p89-90 O 13 '51; Correction. A. L. Guterma. p76-7 O 27 '51

JUTE industries, limited
Statement by the chairman. W. G. N. Walker. Economist 160:661-2 Mr 17 '51

JUVENILE courts
Role of legal services in family stability. C. Ogburn. Ann Am Acad 272:127-33 N '50

K

KAESONG conference
No reporters allowed. R. Eunson. Ed & Pub 84:10 Jl 7 '51
Press catches blame for stalling peace. Ed & Pub 84:14-15 Jl 14 '51
Press restrained on roaming around Kaesong. Ed & Pub 84:16 Jl 21 '51

KAHLER, William V. 1898-
Kahler elected president of Illinois Bell. por Midwest Eng 3:15 D '50

KAISER, Edgar Fosburg, 1908-

Kaiser deal spurs new drive on C-123. B. S. Lee. por Aviation W 54:13-14 My 21 '51

Kaiser-Frazer; the roughest thing we ever tackled. pors Fortune 44:74-7+ Jl '51

Portrait. Bsns W cover D 9 '50

KAISER, Henry John, 1882-

Arrival of Henry Kaiser. pors Fortune 44: 68-73+ Jl '51

Kaiser's offsprings settle down. por(cover) Bsns W p31-4+ D 9 '50

Portrait. Fortune 44:126 S '51

KAISER aluminum and chemical corporation

Kaiser Aluminum gets private financing. Bsns W p 120-1 F 24 '51

New financing program. Bsns W p79 F 3 '51

Newcomers on the New York stock exchange. G. W. Mathis. Mag of Wall St 88: 360-1 Je 30 '51

Plans $115,000,000 financing program. Comm & Fin Chr 173:476-7 Ja 29 '51

KAISER-FRAZER corporation

Judge Clancy rules against Otis & co. in Kaiser-Frazer suit. Comm & Fin Chr 174: 165 Jl 12 '51

K-F, Otis in court. Bsns W p 125-6 Mr 24 '51

Kaiser-Frazer; the roughest thing we ever tackled. Fortune 44:74-7+ Jl '51

Kaiser's motor sputters; 1950 report shows deficit. Bsns W p 122-4 My 5 '51

KAISER steel corporation

Kaiser refinances; pays off government loan on Fontana in full. Steel 127:57 N 6 '50; Excerpt. Comm & Fin Chr 172:1733 N 6 '50

Offering oversubscribed. Comm & Fin Chr 172:1634 O 30 '50

Raising capital, retail style. il Mod Ind 21: 62-3 Ja '51

KALMBACH, Leland J. 1901-

Sketch. por East Underw 51:3 N 10 '50

KAMALA oil

Threat to tung. Chem W 69:26 O 13 '51

KAMUNING (Perak) rubber and tin company, limited

Statement by the chairman at annual general meeting. J. Hay. Economist 159:1056 D 9 '50

KANE, Thomas L.

Insurance chief of Department of defense. Nat Underw 54:2+ N 16 '50; East Underw 51:37 N 17 '50

KANSAS CITY, Missouri

See also Floods—Kansas City

Industries

Digging out business. il Bsns W p25-6 Ag 4 '51

Gas problem solved, Kansas City gets Ford. Bsns W p26 D 16 '50

Streets

Kansas City works with housing officials. J. E. Maring. Roads & Sts 93:94-5 N '50

Theaters

City goes into show business; Starlight theatre. il Bsns W p60+ Je 9 '51

Water supply

Kansas City just missed a water famine. J. R. Carr. map Eng N 147:29 Ag 2 '51

KANSAS CITY power and light company

Public utility securities. O. Ely. Comm & Fin Chr 173:731 F 15 '51

KANSAS gas and electric company

Preferred and common stocks offered. Comm & Fin Chr 172:2024-5 N 27 '50

Public utility securities. O. Ely. Comm & Fin Chr 172:1903 N 16 '50

KANSAS-NEBRASKA natural gas company

Preferred stock offered. Comm & Fin Chr 173:861 F 26 '51

KANSAS power and light company

Stock oversubscribed. Comm & Fin Chr 173: 2497 Je 18 '51

KARAKUL sheep

Aging of karakul and seal fur skins. E. T. Steiner and E. R. Hosterman. diag J Res Nat Bur Stand 45:317-22 O '50

KARAYA gum

Structure of sterculia setigera gum; an investigation by the method of paper partition chromatography of the products of hydrolysis of the gum. E. L. Hirst, L. Hough and J. K. N. Jones. Chem Soc J p3145-51 D '49

Structure of sterculia setigera gum; an investigation by the method of paper partition chromatography of the products of hydrolysis of the methylated gum. L. Hough and J. K. N. Jones. Chem Soc J p 1199-203 Ap '50

KARL Fischer reagent. See Fischer reagent

KARMAN-TSIEN pressure volume law

Compressible supersonic flow in jets under the Kármán-Tsien pressure-volume relation. N. Coburn. bibliog diags J Ap Phys 22:124-30 F '51

KARSH, Yousuf

Faces, by Karsh, peddle publicity photographs of Atlas Steel's workers. por Bsns W p44-5 O 21 '50; Ind Marketing 36: 50 Ja '51

KARTVELI, A. Alexander, 1896-

Kartveli of Republic Aviation. F. Hamlin. por Aero Digest 61:46+ D '50

KATZ, Joseph

Portrait. Sales Management 65:40 D 15 '50

KATZ, Milton, 1907-

Portrait. Bsns W p57 Jl 7 '51

KAW river

Greatest flood was in super class. map Eng N 147:23-5 Jl 19 '51

Pick raises Kaw flood damage estimate to $990 million. il Eng N 147:25-7 Ag 2 '51

KAWAIN

Researches on acetylenic compounds; synthesis of (±)-kawain. E. M. F. Fowler and H. B. Henbest. Chem Soc J p3642-5 D '50

KAWNEER company

1951 net may gain from subcontracting work. Barron's 31:19 F 5 '51

KAYSER, Paul

Portrait. Bsns W p25 Jl 7 '51

KEDZIE, William Knowlton, 1851-1880

Men of the Priestley centennial; William K. Kedzie from Kansas. Sister M. G. Waring. bibliog por J Chem Educ 28:216-20 Ap '51

KEENAN, Joseph Daniel, 1896-

Portrait. Bsns W p 124 N 11 '50; p 120 Ja 27 '51

KEFAUVER committee crime hearings. See Government investigations

KEHOE, Joseph W. 1912-

Sketch. por Welding J 29:1028 N '50

KEKULÉ structure. See Molecules

KEL-F. See Chlorotrifluoroethylene

KELLER, Kaufman Thuma, 1885-

Heads new Office of guided missiles. por Bsns W p20 N 4 '50

Iron age salutes. por Iron Age 167:69 Mr 8 '51

Portrait. Bsns W p68 S 15 '51

KELLEY ISLAND lime and transport company

New sources for limestone; Kelley Island reopens and expands. map Bsns W p46-8 Mr 17 '51

KELLIN

Chemistry and physiological action of khellin and related products. C. P. Huttrer and E. Dale. Chem R 48:543-79 bibliog(105 ref, p575-8) Je '51

Chemistry of khellin; abstract. P. N. Craig. Oil Paint & Drug Rep 158:60-1 D 11 '50

Chromones; a total synthesis of khellin. T. A. Geissman and T. G. Halsall. bibliog Am Chem Soc J 73:1280-4 Mr '51

Khellin from visnagin. A. Schönberg and N. Badran. Am Chem Soc J 73:2960-1 Je '51

KELLOGG, Mark

Little Big Horn scoop writer to be honored. A. L. Clark. Ed & Pub 84:24 Je 23 '51

KELLOGG, M. W., company

Commemorative section to mark fiftieth anniversary. il Pet Eng 23:C23+ Jl '51

KELLOL

Chromones; the conversion of khellol into visnagin; derivatives of khellol and visnagin. T. A. Geissman. bibliog Am Chem Soc J 73:3355-7 Jl '51

KELLY, Edward Joseph, 1876-1950

Sketch. por Midwest Eng 3:9 N '50

KEMSLEY newspapers limited

Statement of the chairman. Viscount Kemsley. Economist 160:1208 My 19 '51

KENAF

Can kenaf do it? Bsns W p89-90 O 13 '51; Correction. A. L. Guterma. p76-7 O 27 '51

KENDALL, Charles

Portrait. Bsns W p57 Jl 7 '51

KENDALL, Edward Calvin, 1886-
Nobel award reaffirms kinship of chemistry and medicine. por(cover) Chem & Eng N 28:4169-70 N 27 '50

KENNEDY, William Parker
Working on the railroads. por Fortune 42:50 D '50

KENT-JONES, Douglas William, 1891-
Portrait. Chem & Ind p503 Je 30 '51

KENTUCKY

Industries and resources

Grass roots renaissance. L. Block. il Manuf Rec 120:32-4 Jl '51

Sanitary affairs

Sanitation districts in Kentucky. H. A. Seaman. Sewage & Ind Wastes 22:1532-5 D '50

KENTUCKY utilities company
Stock offering underwritten. Comm & Fin Chr 173:2390 Je 11 '51

KENYA
Kenya's future. map Economist 160:1362 Je 9 '51

KERATOCONJUNCTIVITIS. See Conjunctivitis

KERITE company
Operations outstrip 1950 rate. Barron's 31:28 Jl 30 '51

KEROGEN
Further investigation of the chemical constitution of the kerogen of oil shales. T. E. Dancy and V. Giedroyc. bibliog Inst Pet J 36:607-23 O '50

KEROSENE
Blending scarcely improves flash point. W. L. Nelson. Oil & Gas J 50:108 Je 14 '51
Floating fines with kerosene. L. E. Schiffman and E. D. White. flow sheets il Coal Age 56:78-82 Mr '51
Kerosine flotation of bituminous coal fines. L. E. Schiffman. flow sheet diags Min Eng 187:Trans 1047-56 O '50; Discussion. 187: Trans 1159-60 N '50
Ternary system nicotine-water-kerosene. C. O. Badgett. diag Ind & Eng Chem 43:2370-2 O '51

Manufacture

Separation of sulfur and aromatics from petroleum with boron fluoride and hydrogen fluoride. E. C. Hughes and others. bibliog Ind & Eng Chem 43:750-3 Mr '51

KERR-ADDISON gold mines, limited
Complete technological description. flow sheet il maps plans diags Can Min J 72:64-170 Ap '51
Homestake vs. Kerr Addison; analysis of North America's top gold producers. W. F. Boericke. Barron's 31:9-10 My 21 '51

KERR-MCGEE oil industries
Security I like best. C. Stolle. Comm & Fin Chr 174:526 Ag 9 '51

KERR cell
Transmission line Kerr cell. J. W. Beams and H. S. Morton, jr. diag J Ap Phys 22:523 Ap '51; Discussion. W. R. Smythe. 22:1087 Ag '51

KERR cell camera. See Cameras

KERR effect
Observation of magnetic domains by the Kerr effect. H. J. Williams and others. il Phys R 82:119-20 Ap 1 '51

KERST, Donald William, 1911-
Presentation of the Wetherill medal. por Franklin Inst J 250:565-6 D '50

KESSLER, Hortense Fuld
Lady commissioner looks at regulation; interview with the Honorable Hortense Fuld Kessler. Pub Util 48:465-76 O 11 '51

KETALS. See Acetals

KETENE
Absorption spectrum of keten in the far ultra-violet. W. C. Price, J. P. Teegan and A. D. Walsh. Chem Soc J p920-6 Ap '51
Addition of ketene to cyclic conjugated dienes. A. T. Blomquist and J. Kwiatek. bibliog Am Chem Soc J 73:2098-100 My '51
Ketene acetals; dealcoholation of orthoesters with aluminum *t*-butoxide. S. M. McElvain and W. R. Davie. Am Chem Soc J 73:1400-2 Ap '51
Ketene acetals; diphenylketene dimethylacetal. S. M. McElvain, S. B. Mirviss and C. L. Stevens. bibliog Am Chem Soc J 73: 3807-11 Ag '51
Structure of ethylketene dimer. R. L. Wear. Am Chem Soc J 73:2390-1 My '51

KETIMINES. See Imines

KETOBEMIDON
Synthetic analgesics; the synthesis of ketobemidone. A. W. D. Avison and A. L. Morrison. Chem Soc J p 1469-71 Je '50

KETOLS
Synthesis of unsymmetrical α-ketols by the mixed acyloin reaction. J. W. Lynn and J. English, jr. bibliog Am Chem Soc J 73:4284-6 S '51

KETONES
Acid-catalyzed rearrangement of some aromatic ketones. W. A. Mosher and M. L. Huber. bibliog Am Chem Soc J 73:795-8 F '51
Action of elementary fluorine upon organic compounds; fluorine and cobaltic fluoride as fluorinating agents for ketones. F. F. Holub and L. A. Bigelow. bibliog diags Am Chem Soc J 72:4879-84 N '50
Action of pyridine and iodine upon two *o*-phenolic-1,4-diketones; 4,6,7-trimethylcoumarandione and its 5-hydroxy derivative. L. I. Smith and R. R. Holmes. bibliog Am Chem Soc J 73:4294-7 S '51
Alkenylation by use of lithium alkenyls; the condensation of *cyclo*hexenyl-lithium with aldehydes and ketones, and some reactions of the resulting carbinols; studies in molecular rearrangement. E. A. Braude and J. A. Coles. Chem Soc J p2014-19 Ag '50
Alkenylation by use of lithium alkenyls; the synthesis of unsaturated ketones from *iso*butenyl-lithium. E. A. Braude and J. A. Coles. Chem Soc J p2012-14 Ag '50
Aromatization and rearrangement of cyclic ketones; 3-phenyl-5,5-dimethylcyclohexenone. M. Beringer and I. Kuntz. bibliog Am Chem Soc J 73:364-6 Ja '51
Asymmetric reductions; the action of (+)-2-methylbutylmagnesium chloride on methyl *t*-butyl ketone. H. S. Mosher and E. La Combe. bibliog Am Chem Soc J 72:3994-9 S '50
Asymmetric reductions; the action of (+)-3-methylpentylmagnesium chloride on methyl *t*-butyl ketone. H. S. Mosher and E. La Combe. bibliog Am Chem Soc J 72:4991-4 N '50
Behavior of organic compounds in 100 per cent sulfuric acid. M. S. Newman and N. C. Deno. bibliog Am Chem Soc J 73:3651-3 Ag '51
C^{14} tracer studies in the rearrangement of unsymmetrical α-diketones; the alkaline rearrangement of benzylideneacetophenone oxide. C. J. Collins and O. K. Neville. Am Chem Soc J 73:2471-3 Je '51
Catalysed reactions of simple aromatic compounds with ethylenic systems; αβ-unsaturated ketones. J. F. J. Dippy and A. L. L. Palluel. Chem Soc J p 1415-20 Je '51
Chemistry of some ketones derived from hexestrol. N. P. Buu-Hoï, N. Hoán and N. D. Xuong. bibliog Am Chem Soc J 72:3992-4 S '50
Claisen acylation of methyl ketones with branched chain aliphatic esters. E. H. Man, F. W. Swamer and C. R. Hauser. bibliog Am Chem Soc J 73:901-3 Mr '51
Concerted displacement reactions; the mechanism of acid-base catalysis in water solution. C. G. Swain. bibliog Am Chem Soc J 72:4578-83 O '50
Condensation of aliphatic diketones with hex-1-yne. J. Cymerman and P. Rowe-Smith. Chem Soc J p3368-70 D '49
Condensation of ketones with acylpyridinium salts. W. V. Doering and W. E. McEwen. bibliog Am Chem Soc J 73:2104-9 My '51
Condensation of nitroparaffins with α,β-unsaturated ketones using calcium hydride. N. Fishman and S. Zuffanti. Am Chem Soc J 73:4466 S '51
Condensation of thiophene and homologs with ketones. J. W. Schick and D. J. Crowley. Am Chem Soc J 73:1377 Mr '51
Condensation products of phenols and ketones. W. Baker and others. Chem Soc J p76-87 Ja '51
Condensations effected by the alkali amides; studies in the acylation of methyl 2-thienyl ketone. J. K. Sneed and R. Levine. bibliog Am Chem Soc J 72:5219-20 N '50

KETONES—*Continued*

Cyclopropanes; cyclopropyl nitrocyclopropyl ketones, and their behavior toward alkaline reagents. L. I. Smith and E. R. Rogier. bibliog Am Chem Soc J 73:3831-7 Ag '51
Cyclopropanes; methyl cyclopropyl ketone. L. I. Smith and E. R. Rogier. Am Chem Soc J 73:4049-50 Ag '51
Cyclopropanes; the configuration and reduction of the stereoisomers of cyclopropyl 3-phenyl-2-nitro-1-cyclopropyl ketone. L. I. Smith and E. R. Rogier. Am Chem Soc J 73:3837-40 Ag '51
Decarbonylation of diphenyl triketone. J. D. Roberts, D. R. Smith and C. C. Lee. Am Chem Soc J 73:618-25 F '51
Degradation of α-amino-acids to aldehydes and ketones by interaction with carbonyl compounds. R. Moubasher. Chem Soc J p 1928 Jl '51
Dipole moments of some α-phenyl ketones. E. L. Alpen and W. D. Kumler. Am Chem Soc J 72:5745-7 D '50
Effect of bromine substitution upon the ultraviolet absorption spectra of α,β-unsaturated ketones. A. L. Nussbaum and others. bibliog Am Chem Soc J 73:3263-6 Jl '51
Effect of side chain on the chromatographic adsorption of some ketones. E. D. Smith and A. L. LeRosen. bibliog Anal Chem 23:732-5 My '51
Endocyclic α,β-unsaturated ketones; dehydration-rearrangement of 1,4-dihydronaphthalene-1-ols to naphthalenes. N. H. Cromwell, H. H. Eby and D. B. Capps. Am Chem Soc J 73:1224-6 Mr '51
Endocyclic α,β-unsaturated ketones; reaction of 2-bromo-4,4-dimethyl-1-keto-1,4-dihydronaphthalene with amines. N. H. Cromwell, H. H. Eby and D. B. Capps. Am Chem Soc J 73:1230-2 Mr '51
Endocyclic α,β-unsaturated ketones; reactions of 8-bromoperinaphthenone-7 with amines. N. H. Cromwell, D. B. Capps and S. E. Palmer. Am Chem Soc J 73:1226-9 Mr '51
Ethylene imine ketones; stereochemical configurations, absorption spectra and reactions with phenylhydrazine. N. H. Cromwell and others. bibliog Am Chem Soc J 73:1044-51 Mr '51
Ethylene imine ketones; stereochemical configurations and reactions with organometallic compounds. N. H. Cromwell and others. Am Chem Soc J 73:2803-6 Je '51
Experiments on the synthesis of carbonyl compounds; a general synthesis of saturated ketones, $R\cdot CO\cdot CH_2R'$. R. E. Bowman. Chem Soc J p325-9 Ja '50
Formation of methylketene in the photolysis of diethyl ketone. W. S. Haynes and P. D. Gardner. bibliog Am Chem Soc J 73:3065-7 Jl '51
Furanization and cleavage of 1,4-diketones by use of polyphosphoric acid. G. Nowlin. bibliog Am Chem Soc J 72:5754-6 D '50
α-Halo ketones; solid-liquid equilibrium in the system 2-chloro-3-heptanone and 4-chloro-3-heptanone. J. D. Newkirk and J. G. Aston. Am Chem Soc J 73:3898-900 Ag '51
α-Halo ketones; the isomeric α-chloroketones derived from 3-heptanone. J. G. Aston and J. D. Newkirk. Am Chem Soc J 73:3900-2 Ag '51
α-Halo ketones; the preparation, metathesis and rearrangement of certain α-bromoketones. A. A. Sacks and J. G. Aston. bibliog Am Chem Soc J 73:3902-6 Ag '51
Hydrogenation of some *iso*oxazolones. G. Shaw. Chem Soc J p720-3 F '50
α-Hydroxy-β-amino ketones and derivatives. N. H. Cromwell and N. G. Barker. Am Chem Soc J 72:4110-12 S '50
β-Hydroxy esters from ketones and esters. C. R. Hauser and W. H. Puterbaugh. Am Chem Soc J 73:2972 Je '51
Improved Wolff rearrangement in homogeneous medium. M. S. Newman and P. F. Beal, 3d. Am Chem Soc J 72:5163-5 N '50
Influence of steric configuration on the ultraviolet absorption of 1,2-diketones. N. J. Leonard and P. M. Mader. bibliog il diag Am Chem Soc J 72:5388-97 D '50
Intensities of some characteristic infrared bands of ketones and esters. S. A. Francis. J Chem Phys 19:942-8 Jl '51
Iodoform reaction. K. J. Morgan, J. Bardwell and C. F. Cullis. Chem Soc J p3190-5 N '50
Isolation of an epoxyether from the reaction of an α-haloketone with base. C. L. Stevens, W. Malik and R. Pratt. bibliog Am Chem Soc J 72:4758-60 O '50
Ketimines; diaryl type. P. L. Pickard and D. J. Vaughan. Am Chem Soc J 72:5017-19 N '50
Ketones from acyl chlorides and alkyl aluminum chlorides; a selective keto-ester synthesis. H. Adkins and C. Scanley. bibliog Am Chem Soc J 73:2854-6 Je '51
Ketonic products of the oxidation of the *cis*- and *trans*-forms of ricinoleic acid. G. W. Ellis. Chem Soc J p9-12 Ja '50
Kinetics of the oxidation of organic compounds by ceric sulphate; the reactivities of aliphatic ketones and acetaldehyde. J. Shorter. Chem Soc J p3425-31 D '50
Lanosterol; reduction of ketones in the lanosterol series. J. F. Cavalla and J. F. McGhie. Chem Soc J p834-7 Mr '51
Loss of carbon monoxide from 1,2-diketones. P. H. Gore and G. K. Hughes. bibliog Am Chem Soc J 72:5770 D '50
Mechanism of addition of Grignard reagents to ketones. C. G. Swain and H. B. Boyles. Am Chem Soc J 73:870-2 F '51
Mechanism of the hydrolytic cleavage of carbon-carbon bonds; alkaline hydrolysis of β-diketones. R. G. Pearson and E. A. Mayerle. bibliog Am Chem Soc J 73:926-30 Mr '51
Mercuration of ketones and some other compounds with mercuric nitrate. A. A. Morton and H. P. Penner. bibliog Am Chem Soc J 73:3300-4 Jl '51
Methyl *n*-propyl ketone and its conversion to *n*-propylpyridine. R. P. Mariella and R. Stansfield. Am Chem Soc J 73:1368 Mr '51
α-Methylenic reactivity in olefinic systems; the structure of the dimeride formed by the stannic chloride-catalysed polymerisation of trimethylethylene; synthesis and characterisation of isomeric methyl hexyl ketones. J. W. Baker. Chem Soc J p 1302-9 My '50
Muscular relaxant drugs; some substituted pyridyl ketones. V. Boekelheide and J. H. Mason. Am Chem Soc J 73:2356-7 My '51
New ketone synthesis. R. E. Bowman and W. D. Fordham. Chem & Ind p742 S 1 '51
New reagent for the oxidation of acyloins to diketones. W. Rigby. Chem Soc J p793-5 Mr '51
New route to hydrophenanthrene ketones; the synthesis of the C_{18} ketone derived from dehydroabietic acid. G. Stork and A. Burgstahler. Am Chem Soc J 73:3544-6 Jl '51
New synthesis of α-alkoxy ketones. M. S. Newman and P. F. Beal, 3d. bibliog Am Chem Soc J 72:5161-3 N '50
Peracetic acid cleavage of unsymmetrical ketones. W. V. Doering and L. Speers. bibliog Am Chem Soc J 72:5515-18 D '50
Photochemical reactions; photopolymerisation of coumarins and related substances; photo-addition and -reduction processes of aromatic ketones. A. Schönberg and others. Chem Soc J p374-9 Ja '50
Preparation of ethynylcarbinols from the bisulphite compounds of aldehydes and ketones. J. Cymerman and K. J. Wilks. Chem Soc J p 1208-9 Ap '50
Preparation of pyrazinoyldiazomethane and ω-chloromethylpyrazinoyl ketone. M. D. Glantz and P. E. Spoerri. Am Chem Soc J 72:4282 S '50
Preparation of some 2-picolyl ketones using phenyllithium. R. P. Zelinski and M. Benilda. bibliog Am Chem Soc J 73:696-7 F '51
Pteridines; the synthesis of some α-(5-nitro-4-pyrimidylamino)-ketones and their conversion in 7 : 8-dihydropteridines and pteridines. W. R. Boon and W. G. M. Jones. Chem Soc J p591-6 F '51
Pyrazine derivatives; synthesis of 2-aminopyrazine 1-oxides by the condensation of α-amino-nitriles with oximinomethyl ketones. W. Sharp and F. S. Spring. Chem Soc J p932-4 Ap '51
Quinazolines; the synthesis of methyl 2,4-dimethyl-6-quinazolyl ketone. J. Siegle and B. E. Christensen. Am Chem Soc J 72:4186-7 S '50
Rate of oximation and extent of enolization of alkyl aryl ketones. M. J. Craft and others. Am Chem Soc J 73:4462-3 S '51

KETONES—*Continued*

Rate of oxime formation of isomeric ketones from *p*-cymene. M. J. Craft and C. T. Lester. Am Chem Soc J 73:1127-8 Mr '51

Reaction between aromatic compounds and derivatives of tertiary acids; the simultaneous formation of open-chain and cyclic ketones from some alkylated phenylpropionyl chlorides. E. Rothstein. Chem Soc J p 1459-61 Je '51

Reaction of benzyl methyl ketone with *o*-aminophenol, *o*-aminobenzenethiol and 1,8-naphthalenediamine. F. J. Kreysa and others. bibliog Am Chem Soc J 73:1155-6 Mr '51

Reaction of ketones with iodine and selenourea. L. C. King and R. J. Hlavacek. Am Chem Soc J 73:1864-5 Ap '51

Reaction of *o*-phenylenediamines with carbonyl compounds; aliphatic ketones. R. C. Elderfield and J. R. McCarthy. bibliog diag Am Chem Soc J 73:975-84 Mr '51

Reactions in sunlight of certain diketones with ethylenes and aromatic aldehydes; photopolymerisation of 9-anthraldehyde. A. Mustafa. Chem Soc J p 1034-7 Ap '51

Reactions of aldehydes and ketones with alkyl borates. H. G. Kuivila, S. C. Slack and P. K. Siiteri. Am Chem Soc J 73:123-4 Ja '51

Reactions of diazoketones; kinetics of the decomposition of some *p*-substituted-α-diazoacetophenones in acetic acid. J. F. Lane and R. L. Feller. bibliog Am Chem Soc J 73:4230-4 S '51

Reactions of epoxy ketones and alcohols with amines; mechanism studies. N. G. Barker and N. H. Cromwell. Am Chem Soc J 73:1051-3 Mr '51

Reactions of peracids; the reaction of cyclohexylphenyl ketone with perbenzoic acid. S. L. Friess and N. Farnham. bibliog Am Chem Soc J 72:5518-21 D '50

Reactions of $\alpha\beta$-unsaturated cyclic aldehydes and ketones; alcohols derived from (—)-piperitone. C. S. Barnes, L. M. Jackman and A. K. Macbeth. Chem Soc J p 1848-51 Jl '51

Rearrangement of α-aminoketones during Clemmensen reduction; the rearrangement of 3-ketoquinolizidine. N. J. Leonard and S. H. Pines. bibliog Am Chem Soc J 72:4931-4 N '50

1,4-Reduction of an α,β-unsaturated ketone by lithium aluminum hydride. R. E. Lutz and D. F. Hinkley. Am Chem Soc J 72:4091-2 S '50

Reduction of α-haloketones to halohydrins by lithium aluminum hydride. R. E. Lutz, R. L. Wayland, jr. and H. G. France. Am Chem Soc J 72:5511-12 D '50

Reduction of ketones in the lanosterol series. J. F. McGhie and J. F. Cavalla. bibliog Chem & Ind p744-5 N 18 '50

Search for new analgesics; variations in the basic side-chain of amidone. P. Ofner and E. Walton. Chem Soc J p2158-66 Ag '50

Some five-membered ring α-aminoketones. N. J. Leonard and others. Am Chem Soc J 73:2371-3 My '51

Stability of complexes of uranyl nitrate with ketones and ethers. A. R. Mathieson. diag Chem Soc J supp no 2:S294-8 '49

Stereochemistry of catalytic hydrogenation; confirmatory evidence of the configurations of the perhydrodiphenic acids. S. B. Davis and R. P. Linstead. Chem Soc J p 1425-7 Je '50

Stereochemistry of catalytic hydrogenation; pyrolysis of the six perhydrodiphenic acids; limitations of the Blanc rule. S. B. Davis and others. Chem Soc J p 1423-5 Je '50

Stereochemistry of catalytic hydrogenation; the hydrogenation of *trans-as*-octahydrophenanthrene derivatives; a new form of the perhydrophenanthrene ring and a model for the inversion of the 6-keto-steroids. R. P. Linstead and R. R. Whetstone. Chem Soc J p 1428-32 Je '50

Steroids; a steroidal cyclopropyl ketone. A. Sandoval, G. Rosenkranz and C. Djerassi. Am Chem Soc J 73:2383-5 My '51

Steroids; contribution to the bromination of Δ^4-3-ketosteroids and a new partial synthesis of the natural estrogens. C. Djerassi and others. bibliog Am Chem Soc J 72:4534-40 O '50

Steroids; α-iodoketones; a method for the conversion of *allo*steroids into Δ^4-3-ketosteroids. G. Rosenkranz and others. bibliog Am Chem Soc J 72:4077-80 S '50

Steroids; reaction of α,β-unsaturated steroid ketones with benzylmercaptan; thioenol ether formation and 1,4-addition. J. Romo and others. bibliog Am Chem Soc J 73:1528-33 Ap '51

Steroids; the Wohl-Ziegler bromination of steroidal 1,4-dien-3-ones; partial synthesis of Δ^6-dehydroestrone and equilenin. S. Kaufmann and others. bibliog Am Chem Soc J 72:4531-4 O '50

Structure of 1-acetyl-2-methylcyclohexene; spectral characteristics of *s-cis*-α,β-unsaturated ketones. R. B. Turner and D. M. Voitle. bibliog diags Am Chem Soc J 73:1403-10 Ap '51

Studies in the anthracene series; reduction of highly hindered ketones with lithium aluminum hydride. E. L. May and E. Mosettig. Am Chem Soc J 73:1301-2 Mr '51

Studies of trifluoroacetic acid; the use of trifluoroacetic anhydride in the synthesis of aromatic ketones and sulphones. E. J. Bourne and others. Chem Soc J p718-20 Mr '51

Sulfur compounds as antioxidants; beta-alkylmercaptoketones. R. B. Thompson. bibliog Ind & Eng Chem 43:1638-41 Jl '51

Synthesis and reactions of α-acetoxy and α-benzoxy-β-amino ketones. N. H. Cromwell, and F. W. Starks. bibliog Am Chem Soc J 72:4108-10 S '50

Synthesis of heterocyclic nitrogen-containing ketones; ketones derived from 2-picoline. N. N. Goldberg, L. B. Barkley and R. Levine. bibliog Am Chem Soc J 73:4301-3 S '51

Synthesis of new β-diketones. R. Levine and J. K. Sneed. Am Chem Soc J 73:4478 S '51

Synthesis, stereochemistry, and infrared and ultraviolet spectra of several tricyclic ketones homologous with ketoöctahydrophenanthrene. C. D. Gutsche. bibliog Am Chem Soc J 73:786-92 F '51

Triterpenoids; *cyclo*artenone, a triterpenoid ketone. D. H. R. Barton. Chem Soc J p 1444-51 Je '51

Ultrasonic velocity in a series of alkyl phenyl ketones and a series of alkyl *p*-xylyl ketones. R. T. Lagemann and others. bibliog Am Chem Soc J 73:3213-14 Jl '51

See also

Reformatsky reaction

KETONURIA. See Urine

KETOSTEROIDS. See Steroids

KETOXIMES. See Oximes

KETTLES

Heat transfer data for kettles with jackets and coils. G. H. Cummings and A. S. West. bibliog diag Ind & Eng Chem 42:2303-13 N '50

KETTLES, Electric

Modern kettle production. il Elec R (Lond) 148:413-14 F 23 '51

KEYNES, John Maynard, 1883-1946

He changed the shape of your world. pors Bsns W p52-4 Mr 24 '51

How Keynes made his money. R. F. Harrod. por Fortune 42:113-14+ D '50

Keynes in America. R. F. Harrod. Fortune 43:89-91+ Ja '51

Life of John Maynard Keynes, by R. F. Harrod; review. Economist 160:182-4 Ja 27 '51

Russian view of Keynes. Economist 160:84-5 Ja 13 '51

Schumpeter and Keynes. A. Smithies. R Econ & Stat 33:163-9 My '51

KEYS. See Locks and keys

KEYS and keyways (machinery)

Designing taper involute splines. il diags Machine Design 23:117-21 Ja '51

Emergency key design. diag Power Eng 55:89-90 My '51

Splines cut faster, more accurately. D. Thatcher. il diags Am Mach 95:96-7 Ag 20 '51

Ten different types of splined connections; drawings with text. W. Heath, jr. Product Eng 22:146-7 Mr '51

KEYS and keyways (machinery)—*Continued*
Two milling attachments produce blind keyways. G. Roseline. diags Am Mach 95:160 F 5 '51

KEYSERLING, Leon Hirsch, 1908-
New targets for new dealers; Keyserling's speech. por Bsns W p 19-20 Je 2 '51

KEYSTONE mutual casualty company
Resurrection debated. Nat Underw 55:25+ Jl 12 '51
Start new fight to salvage Keystone. Nat Underw 55:18 Ja 11 '51

KHAKI
Development and practice of khaki dyeing; abstract. S. V. Bhende and S. R. Ramchandran. Am Dyestuff Rep 39:921-2 D 25 '50

KHELLIN. See Kellin

KHELLOL. See Kellol

KIBBEE, Wallace, 1888-
Kibbee of Frisco, head man of printing clan. por Inland Ptr 127:46-7 Ap '51

KIEFER, Paul Walter
Presentation of the Henderson medal. por Franklin Inst J 250:564-5 D '50

KIESLER, Frederick John, 1892-
Endless house; Frederick Kiesler's egg-shaped house makes hit at New York art show. il plans Arch Forum 93:124-6 N '50

KILGORE, Texas
Kingdoms of oil. J. P. Ellis. il World Oil 132: 201-4 F '51

KILIANI reaction
Quantitative application of the Kiliani reaction. V. L. Frampton and others. bibliog diag Anal Chem 23:1244-7 S '51

KILNS
Catalytic effect of kiln atmosphere on adsorption and moisture expansion of fired whiteware bodies. F. Sandford. Am Cer Soc J 34:179-83 Je 1 '51
Duct system for recirculating hot brick kiln gases. il Sheet Metal Worker 42:80+ Mr '51
Essential factors for adequate curing. W. J. Shore. Rock Prod 54:154-5+ F '51
Expanding perlite in rotary kiln at New Orleans plant. il diag Rock Prod 54:74-6 Jl '51
Huge tunnel kiln cuts production costs; Kankakee clay products co. il Brick & Clay Rec 118:41-3 Ap '51
Kiln designed around lift trucks; West brothers brick co. il Brick & Clay Rec 118: 29 My '51
Manufacture of concrete masonry units; construction of kilns. W. Grant. diags Concrete 59:28+ Jl '51
Modern kiln construction reduces brick production costs. J. D. McCullough. il diags Brick & Clay Rec 118:52-4+ F '51
New modified SiC makes improved kiln furniture possible. C. G. Rose. il Cer Ind 56: 90 Mr '51
New package unit for curing block. il Concrete 59:20+ Jl '51
One-screen high-pressure hot-water kiln, Huber system; abstract. G. Bärlehner. Food Eng 23:173-4 Ag '51
Papers on tunnel kilns hold interest at structural clay products sessions at A.C.S convention, Chicago, April 22-26; abstracts. Brick & Clay Rec 118:41, 68+ Je '51
Slab kiln for structural hollow tile. H. B. Grace. flow plan diags Am Cer Soc Bul 30:283-4 S 15 '51
Sliding panel kiln fires clay tile in 12 hours. L. R. Whitaker. il diags Brick & Clay Rec 118:40-1+ My '51
Small continuous high-temperature kiln. K. Langrod. diags Am Cer Soc Bul 30:227-9 Jl 15 '51
Smidth agglomerating kiln for the treatment of fine ores and flue dust. W. E. Simons. il plan diag Iron & Steel Inst J 167:1-8 Ja '51
Staggered kilns featured by winner in Rust design contest. plan Brick & Clay Rec 118: 25 My '51
Tennessee Lightweight Aggregate plant. W. B. Lenhart. il diag Rock Prod 54:103-5 Je '51
Time for passage of material through rotary kilns. R. W. Pickering, F. Feakes and M. L. Fitzgerald. diags J Ap Chem 1:13-19 Ja '51
Twin, straight-line tunnel kiln plant design wins first prize. il plan Brick & Clay Rec 118:44 Je '51
Valentine adds kiln, expands to meet semi-silica demand. il Brick & Clay Rec 119: 57 S '51
See also
Cement kilns
Lime kilns

Efficiency

Evaluation and development of kiln efficiencies. V. J. Azbe. diags Rock Prod 54:113-16+ Ap; 73-5+ My; 113-15+ Je; 65-8 Jl; 161-4+ Ag; 71-4 S '51
How to boost rotary kiln fuel efficiency. W. G. Bauer. diags Brick & Clay Rec 118:32-4 F '51
Preheater's role in kiln efficiency. Rock Prod 54:117-18+ Ap '51

Electric heating

Pottery firing; twin-tunnel combined biscuit and glost kiln. il Elec R (Lond) 147:823-4 N 24 '50
Pottery kiln developments. il diag Elec R (Lond) 148:542-4 Mr 16 '51
Pottery kilns; advantages of the electric tunnel types. W. L. German. Elec R (Lond) 148:599-601 Mr 23 '51

Firing

Conversion of periodics to oil firing can be profitable. S. E. Shepard. il diags Brick & Clay Rec 119:30-1+ Jl '51
Conversion to gas provides storage space as well as economical operation. R. G. Hartman. il Brick & Clay Rec 119:33 Ag '51
Converted kilns give even color, fewer kiln marks. il Brick & Clay Rec 117:53 N '50
Firing periodic sewer pipe kilns with oil as stand-by fuel. M. P. Hall. Am Cer Soc Bul 29:407-9 N 15 '50
For more accurate clay products use shrinkage system to guide firing. il Brick & Clay Rec 118:29, 32 Je '51
Recuperative system recovers heat for kiln use. diag Brick & Clay Rec 118:36 My '51
Sanford Brick and Tile saves $36 a day by switching fuel oils. il Brick & Clay Rec 118:65+ Mr '51

KIMBERLY-CLARK corporation
Stock offering oversubscribed. Comm & Fin Chr 173:1072 Mr 12 '51

KIMBLE, Evan E.
E. E. Kimble, pioneer in American glassware, honored. Chem & Eng N 29:1738+ Ap 30 '51

KINDELBERGER, James Howard, 1895-
War plane solo pays for North American. por(cover) Bsns W p32+ N 25 '50

KINDERGARTENS
See also
Nursery schools

KINEMATICS

Study and teaching

New aid in teaching kinematics. M. H. LaJoy and O. M. Larsen. il diags J Eng Educ 41: 542-3 My '51

KINEMATICS of machinery. See Machinery, Kinematics of

KINETIC theory of gases. See Gases, Kinetic theory of

KING, Charles Glen, 1896-
Portrait. Chem & Eng N 29:1826 My 7 '51

KING, Rudolph F.
King gets '51 Beecroft award. por S A E J 59:63 Jl '51

KINGS river
Kings River controversy; integration of the Kings River district with the Central Valley project. C. L. Kaupke. Pub Util 48:207-15 Ag 16 '51

KINGSBURY, Albert, 1863-1943
Development of the Kingsbury thrust bearing. A. Kingsbury. por Mech Eng 72:957-61 D '50

KINGWOOD oil company
Security I like best. H. E. Greene. Comm & Fin Chr 174:502+ Ag 9 '51

KIPPERS. See Herring

KIPPING, Frederic Stanley, 1863-1949
Sketch. F. Challenger. por(pl) Chem Soc J p849-62 Mr '51

KIRBY, Nona
First lady, general sales manager of a radio station. H. Woodward. por Sales Management 67:41 O 15 '51

KITCHEN cabinets
More kitchen cabinets in less time; Lyon metal products inc. il Steel 127:104 D 4 '50
Ready-made cabinets in custom-designed home at Minneapolis. il plan Am Bld 73:118-19 Jl '51

KITCHEN sinks. See Sinks

KITCHEN utensils
See also
Cooking ware
Enameled ware
Fryers

Standards

Experiment in standards; cafeteria saves with modular pans. E. R. Kingsbury. il diags Standardization 21:290-1+ N '50

KITCHENS
Commercial kitchen designer is new tool for gas sales. C. C. Hanthorn. Gas Age 107:38+ Ja 18 '51
House design competition; kitchen planning prize winners. plans diags Arch Forum 94:156-62 Mr '51
Kitchen and National home week; some modern kitchen plans. il diags Am Bld 73:94-107, 114-19, 122 Jl '51
Kitchen planning made easy; Providence gas co. il Am Gas Assn Mo 33:10+ S '51
Kitchens; better detail plate. K. R. O'Neal. il plan diags Am Bld 73:136-7 Jl '51
Kitchens with planned conveniences. il plans Am Bld 73:158-9 Ja '51
Personalized selling boosts model kitchen acceptance. N. H. Barnes. il Elec World 136:140 Jl 16 '51
Suggestions for the merchant builder; open kitchen; folding kitchen. il Arch Forum 94:120-1 Ja '51
This idea sells complete kitchens! Zien plumbing and heating company uses three-dimensional color film slides. il Dom Eng 176:101+ N '50
Your customers will ask, which dishwasher should I buy? kitchen determines choice. il plans Dom Eng 177:102-3+ My '51

Equipment

All the way into the kitchen; American-Standard buys Acme line of kitchen cabinets. Bsns W p76-7 S 15 '51
Diminutive kitchen units. il Arch Rec 110:178 Jl '51
Kitchen remodeling; Los Angeles concern specializes in installation of cabinets. il plans Am Bld 73:106-7 Jl '51
New builder profits from kitchen modernization. E. R. Taylor. il Am Bld 73:114-15 Jl '51

Lighting

National restaurant association joins I.E.S. to study food service areas. il Illum Eng 45:725 N '50
New kitchen lighting recipes aid builder. E. W. Commery. il diags Am Bld 73:104-5 Jl '51
Soffit lighting of a kitchen. S. M. Fetzer. plan diags Illum Eng 46:129-30 Mr '51

KJELDAHL reaction
Kinetics of the Kjeldahl reaction. G.-M. Schwab and E. Schwab-Agallidis. diag Am Chem Soc J 73:803-9 F '51

KLINE, C. Mahlon
Receives Procter medal. por Oil Paint & Drug Rep 159:7+ F 5 '51

KLYSTRON
Five-kw klystron uhf television transmitter. H. M. Crosby. il diags Electronics 24:108-12 Je '51
High-power uhf-tv klystron. il diags Electronics 24:117-19 O '51
Microwave sweep generator; permits oscilloscope indication of match between wide-band traveling-wave tubes and transmission lines. L. C. Eisaman. il diags Electronics 23:101-3 N '50
Multiplexing klystrons. W. L. Firestone. bibliog diags Electronics 24:112-16 S '51
New centimetre-wave discriminator and its application to a frequency-stabilized oscillator. K. C. Johnson. diags Inst E E Proc 98 pt 3:77-80 Mr '51

KNIGHT, Clifford
C. Knight has time all day for many jobs. R. Dove. pors Ed & Pub 84:16 Ag 11 '51

KNIGHT, Frank Hyneman, 1885-
Economists. J. McDonald. por Fortune 42:108-13+ D '50

KNIGHT, Fred S. 1887-1950
Sketch and editorial tribute. por Weekly Underw 163:1292+, 1333 D 9 '50

KNIGHT university
University of Akron Knight laboratory dedication. India Rubber World 123:582 F '51

KNIT goods
Inlaid filling yarns increase knit-fabric versatility. H. Wignall. il Textile World 100:114-15 O '50
This mill doesn't stretch its tubular-knit fabrics. E. D. White. il Textile World 101:128-9 My '51
See also
Hosiery
Rayon—Knit goods

Shrinkage

Effect of construction on the laundering shrinkage of knitted woolens. H. Bogaty and others. bibliog Textile Res J 21:102-9 F '51
Effect of laundering on dimensions and elastic properties of certain plain and rib knit cotton fabrics. H. M. Fletcher and W. D. Graham. bibliog Am Dyestuff Rep 39:759-64 N 13 '50
Knitting techniques fix fabric shrinkage. L. I. Weiner. Textile World 101:151+ Mr '51
Method of setting tricot fabrics. L. L. Walmsley. Am Dyestuff Rep 39:913-15 D 25 '50
Tentative textile specification no. 22, 1951; standard method for determining the shrinkage of knitted fabrics and garments containing wool. diag Textile Inst J 42:S2-5 Ap '51

KNITTING
Inlaid filling yarns increase knit-fabric versatility. H. Wignall. il Textile World 100:114-15 O '50
Knitted glove designs are made by simple repeats. A. M. Young, jr. diags Textile World 101:108-9 Ja '51
Knitting techniques fix fabric shrinkage. L. I. Weiner. Textile World 101:151+ Mr '51
See also
Hosiery—Manufacture
Knit goods

KNITTING (handicraft)
Yarn kept under control; plastics containers of styrene, vinyl, and acetate aid knitters. il Mod Plastics 28:66 D '50

KNITTING arts exhibition
Knitting arts exhibition, 40th, Atlantic City, April 30-May 4. il plan diags Rayon 32:59-66+ Ap; 36+ Je; 45-7+ S '51; Am Dyestuff Rep 40:241-6 Ap 16 '51; Textile World 101:161+ Ap; 120-34 Je '51

KNITTING machines
New Premier knitter. il Rayon 32:84 Jl '51
Recording device checks tricot feeding. M. Uno. diags Textile World 101:184 S '51
Refinements added to Aveco tricot knitter. il Textile World 100:184 N '50
Supreme rib-cloth machine has new design features. il Textile World 101:162 Mr '51
What's new in knitting machines? G. A. Urlaub. il Rayon 32:34-5+ Ap '51
See also
Hosiery machines

Cleaning

Proper oiling and cleaning required for outerwear knitting. L. Levy. il Textile World 101:94-5+ Ap '51

Exhibitions

Knitting arts exhibition, 40th, Atlantic City, April 30-May 4. il plan diags Rayon 32:59-66+ Ap; 36+ Je; 45-7+ S '51; Am Dyestuff Rep 40:241-6 Ap 16 '51; Textile World 101:161+ Ap; 120-34 Je '51
Latest German knitting machines shown at Leipzig. il Textile World 101:154 Je '51
Many knitting developments unveiled at Leicester show. il Textile World 100:116-19+ D '50

KNITTING machines—*Continued*

Lubrication

Proper oiling and cleaning required for outerwear knitting. L. Levy. il Textile World 101:94-5+ Ap '51

Maintenance and repair

11 extras that help knitting quality. E. D. White. il Textile World 101:102-3 Jl '51

Knitting-machine care sparks quality program at Utica knitting co., Anniston, Ala. E. D. White. il Textile World 101:127 Ja '51

1951 annual knitting section; featuring maintenance for maximum production. il Textile World 101:92-104+ Ap '51

Manufacture

U.K. likes R.I.; Bentley sets up firm in Providence to make knitting machinery. Bsns W p 141-2 N 18 '50

Needles

How we train our knitters to straighten needles. H. B. Le Feaux. diags Textile World 101:122-3 My '51

KNITTING mills

Lot production method gives more even dye shades; Utica knitting co. E. D. White. il Textile World 101:135+ Ag '51

See also

Hosiery mills

Air conditioning

Air-washing system improves knitting quality. E. D. White. il Textile World 101:124-5 O '51

See also

Hosiery mills—Air conditioning

Electric equipment

Knitting machinery exhibition; growing use of electric control. Elec R (Lond) 147:600 O 20 '50

Employees

F-F knitter training program is a long-term investment; abstract. C. G. Newton. Textile World 100:143+ D '50

Equipment

Kinks for knitters; illustrations with text. E. D. White. Textile World 101:161 O '51

Small sewing units ease production planning; E-Z mills. E. D. White. il Textile World 101:147+ Mr '51

This mill doesn't stretch its tubular-knit fabrics. E. D. White. il Textile World 101:128-9 My '51

Layout

Efficient plant layout pays off for small knitting mill; Lawrence knitting mills. L. Levy. il Textile World 101:149+ S '51

Management

Tricot quality is a habit at Native Laces. il Textile World 101:109-10+ Jl '51

KNITTING needles

See also

Knitting machines—Needles

KNIVES

Rating

Carving knives. il Consumers Res Bul 27:10-12 F '51

Sharpening

From zinc to acetate; molded plastic housing for Cory knife sharpener. il Mod Plastics 28:90 N '50

KNOEVENAGEL reaction

Cation exchange resins as catalysts for the Knoevenagel reaction. il Chem & Eng N 29:1628 Ap 23 '51

Reaction rates by distillation; the effect of changes in structure on the rate of the Knoevenagel reaction. E. F. Pratt and E. Werble. bibliog Am Chem Soc J 72:4638-41 O '50

KNOLLS atomic power laboratory

Concentration of radioactive liquid waste by evaporation. G. E. McCullough. flow diag il Ind & Eng Chem 43:1505-9 Jl '51

KNOTS and splices

Detecting and repairing defective splices. J. Lummis. il Elec West 106:76-7 My '51

How to tie the right knot in a jiffy; drawings with text. H. B. McDermid. Power 95:146 Je '51

Mine cable splicing. diags Min Cong J 36:48-51 N '50

KNOWLEDGE, Theory of

Kennetic inquiry. A. F. Bentley. bibliog Science 112:775-83 D 29 '50

See also

Perception

KNUDSEN'S base. See Bases (chemistry)

KNUDSON, James Kaiser, 1906-

Meet Mr DTA himself. por Bus Transportation 30:27 Ap '51

KOEPFLI, Joseph Blake, 1904-

Science adviser for Department of state. Franklin Inst J 251:413-14 Mr '51

KOHLHAAS, Herman T. 1882-1951

Sketch. por Elec Com 28:157 Je '51

KOJIC acid

Hydroxymethylation of kojic acid. L. L. Woods. Am Chem Soc J 72:4322 S '50

KOLBE reaction

Anodic syntheses; new syntheses of stearic, myristic, and other acids. W. S. Greaves and others. Chem Soc J p3326-30 N '50

Anodic syntheses; retention of optical activity during the Kolbe reaction. R. P. Lindstead, J. C. Lunt and B. C. L. Weedon. Chem Soc J p3333-5 N '50

Anodic syntheses; synthesis of (±)-tuberculostearic acid. R. P. Linstead, J. C. Lunt and B. C. L. Weedon. Chem Soc J p3331-3 N '50

KOLDWELD process. See Welding—Cold welding

KOLLERMILL. See Paper making machinery

KOLLSMAN instrument division. See Square D company—Kollsman instrument division

KOLMOGOROV-SMIRNOV test

Kolmogorov-Smirnov test for goodness of fit. F. J. Massey, jr. bibliog Am Stat Assn J 46:68-78 Mr '51

KOMPPA, Gustav, 1867-1949

Sketch. J. Palmén and J. L. Simonsen. Chem Soc J p2912-13 O '50

KOPPERS company, inc.

Koppers geared to high production levels as 1951 opens. Blast F & Steel Pl 39:68 Ja '51

KOREA

Lessons from Korea. T. H. D. Mahoney. Ann Am Acad 276:43-7 Jl '51

Show case of Asia; U.S. has chance to profit by past mistakes. Barron's 30:1 O 23 '50

See also

Electricity supply—Korea

Railroads—Korea

Antiquities

East Asiatic glass. D. Blair. il Glass Ind 32:402-4+ Ag '51

KOREAN war

After MacArthur. Economist 160:843-4 Ap 14 '51

After V-K day, what? Factory Management 108:64a-64d N '50

Army fighting in Korea with World war II vehicles. R. Schakne. il Automotive Ind 104:34-6+ Ap 1 '51

Cominform on MacArthur. Economist 160:927 Ap 21 '51

'Copters in Korea. G. W. Fey. il Aero Digest 61:21+ N '50

Defeat in Asia threatens U.S. map Bsns W p 133-4+ D 16 '50

Diesels behind Korea; Funabashi transmitting station in Japan. D. LaCoste. il Power Eng 55:84 Je '51

Economic implications of Korean crisis. S. H. Slichter. Comm & Fin Chr 172:2179+ D 7 '50

Editors polled on peace policies; some resent it. Ed & Pub 83:16 D 16 '50

Eighth army; its future is Nation's first concern. Barron's 31:1 Ap 16 '51

Evacuation of Hungnam. W. McCollam, jr. il plan Civil Eng 21:319-22 Je '51

Evaluation; bombs over Korea. il Aviation W 54:16 Ja 1 '51

Field service report on C-119; first Korean combat paradrops. Aviation W 53:15 N 27 '50

KOREAN war—*Continued*
Fighting for a draw. Economist 160:963-5 Ap 28 '51
Hams aid Korean war effort. il Q S T 35: 40-1+ Mr '51
If peace breaks out. M. Palyi. Comm & Fin Chr 173:2243+ My 31 '51
If this be peace; cease-fire affair. Barron's 31:1 Jl 2 '51
Jet planes in Korea. J. T. Rettaliata. Midwest Eng 3:24 N '50
Jet planes spell trouble for aviation engineers building Korean airfields. R. W. Lockridge. il Civil Eng 21:398-9 Jl '51
Korea airlift one year old. Aviation W 55:58 Jl 9 '51
Korea; back to the facts of life. J. D. Hittle. il U S Naval Inst Proc 76:1288-97 D '50
Korea yields a sample of Russian arms. il Bsns W p22-3 N 18 '50
Korean diplomacy; it stands in need of searching re-examination. A. Sachs. Barron's 31:5 Mr 26 '51
Korean reconstruction. Economist 159:642-3 O 28 '50
Korean stalemate. Economist 160:297-8 F 10 '51
Let Chiang Kai-shek open second front in Asia. J. W. Martin, jr. Comm & Fin Chr 173:809+ F 22 '51
Letter to the U.N. Security council from presidium of the Academy of sciences of the USSR. Science 112:475-6 O 20 '50; Discussion. 113:365-7 Mr 30 '51
Limits of cold war; Chinese intervention in Korea. Economist 159:724 N 11 '50
Malik proposes Korean truce; Truman replies. Comm & Fin Chr 173:2674 Je 28 '51
Men versus material in war. Economist 159: 1088-9 D 16 '50
Mr Malik's crumb; proposal for cease-fire. Economist 160:1541-2 Je 30 '51
Now; more mobilization. il Bsns W p 19-20 D 9 '50
On trial; big men and big issues; MacArthur or Truman? Bsns W p25-6 My 12 '51
Pacific airlift builds up again. F. L. Moore. Aviation W 53:61-2 D 18 '50
Patience for peace. Economist 161:67-8 Jl 14 '51
Policy for Korea. Economist 160:721-2 Mr 31 '51
Private Kim and Corporal Lee. Economist 159:814-15 N 18 '50
Record on Korea. Economist 160:526-7 Mr 10 '51
Red reserve; reports of International brigade. F. Morley. Barron's 31:5 Jl 2 '51
Seabee pontoons had new test at Inchon. Eng N 145:25 O 26 '50
Seabees engineer amphibious landing at Inchon, Korea. J. F. Jelley. il Civil Eng 21: 323-5 Je '51
Shaking down in the UN army. Economist 159:889-90 N 25 '50
Stalemate in Korea. Economist 159:796 N 18 '50
There is no peaceful solution to Russia's aggression. M. Palyi. Comm & Fin Chr 172: 2275+ D 14 '50
Truman and MacArthur; their meeting may mean a change for the better. F. Morley. Barron's 30:3 O 16 '50
Truman's plan for Asian fighting. map Bsns W p21-3 Ap 21 '51
U.N. bogs down over China. Bsns W p97-8 F 3 '51
What if Stalin means it? proposal for a Korea cease-fire. Bsns W p21-2 Je 30 '51
What Korea taught us on weapons. il Bsns W p25-6 O 28 '50
What shall we do in Asia? W. H. Judd. Credit & Fin Management 53:7-9+ Je '51
What Vandenberg told senators. Aviation W 54:17-18+ Je 11 '51
Will arm to fight aggression; address at San Francisco; text. H. S. Truman. Comm & Fin Chr 172:1497+ O 19 '50
Withdrawal in Korea. map Economist 159: 987 D 9 '50
Year of Korea; positive American foreign policy in Asia. F. Morley. Barron's 31:3 Je 25 '51
See also
Kaesong conference

Casualties

Army tells how casualty report is speeded up. Ed & Pub 83:22 D 2 '50

Petroleum supply

How U.N. armies get oil when they need it; illustrations with text. Nat Pet N 43:40-1 F 21 '51

KRAFT foods company
How Kraft cut distribution costs 25 per cent; Zonor system. il Bsns W p40-2 O 28 '50
KRAFT pulp. See Paper making—Sulfate process
KRAMERS' theorem
Kramers' theorem and nuclear effects in paramagnetic absorption. C. Kikuchi. Phys R 81:155-6 Ja 1 '51
KRASBERG, Bruce
Portrait. Fortune 43:32 Mr '51
KREBS, William
Portrait. Bsns W p57 Jl 7 '51
KRICK, Irving Parkhurst, 1906-
Who'll get the rainmaker? por Bsns W p58-9 D 9 '50
KROLL, Jack, 1885-
Portrait. Bsns W p 124 N 11 '50
KRUPP-RENN process. See Iron metallurgy
KRUPP works, Essen
Krupp is back in business. il Bsns W p 156-8 My 5 '51
KRYPTOGENIN
See also
Pseudokryptogenin
KRYPTON
Anesthetic properties of xenon in animals and human beings, with additional observations on krypton. S. C. Cullen and E. G. Gross. bibliog Science 113:580-2 My 18 '51
Isomerism of Kr^{83} and Xe^{133}. I. Bergström. bibliog Phys R 81:638-9 F 15 '51
New surface measurement tool for mineral engineers; krypton adsorption method. F. W. Bloecher, jr. bibliog diag Min Eng 3:Trans 255-8 Mr '51
Structure of molecular compounds; the compound of krypton and quinol. H. M. Powell. Chem Soc J p300-1 Ja '50
Study of the short duration, high intensity, electric arc as a source of visible light. G. D. Hoyt and W. W. McCormick. Opt Soc Am J 40:658-63 O '50

Isotopes

β-Recoil experiments with Kr^{89}. O. Kofoed-Hansen and P. Kristensen. Phys R 82:96 Ap 1 '51
β-Spectrometer investigations on electromagnetically separated Xe^{135} and Kr^{79}. I. Bergström. bibliog Phys R 82:112-13 Ap 1 '51
Effect of mass discrimination on isotope abundance measurements; relative abundances of krypton isotopes. O. A. Schaeffer. J Chem Phys 18:1681-2 D '50
Isotopes of xenon and krypton in pitchblende and the spontaneous fission of U^{238}. J. Macnamara and H. G. Thode. bibliog Phys R 80:471-2 N 1 '50
Mercury and krypton isotope electric discharge lamps; their applications to interferometry. N. L. Harris. il Engineer 190: 409-11 N 3 '50
Relative neutron capture cross sections of the isotopes of krypton and xenon. J. Macnamara and H. G. Thode. Phys R 80:296-7 O 15 '50
Short-lived krypton isotopes and their daughter substances. O. Kofoed-Hansen and K. O. Nielsen. Phys R 82:96-7 Ap 1 '51
KUNZ, Eric C. 1884-
Taught manufacturers to make products smell sweet. por(cover) Chem & Eng N 28: 4450 D 18 '50
KUSAKA, Jinichi
Rise and ruin of Rabaul. J. C. Shaw. il U S Naval Inst Proc 77:624-9 Je '51
KUWAIT
See also
Petroleum industry
and trade—Kuwait

Economic conditions

News by countries. For Comm W 42:16-17 Mr 19 '51
KUZNETS, Simon Smith, 1901-
Economists. J. McDonald. por Fortune 42: 108-13+ D '50

KYANITE

Heat capacities at low temperatures and entropies at 298.16°K. of andalusite, kyanite, and sillimanite. S. S. Todd. bibliog Am Chem Soc J 72:4742-3 O '50

Indian kyanite exports high; with table of exports for 1949 and first half of 1950. For Comm W 41:21 O 23 '50

Kyanite pseudomorphs after andalusite from Delaware county, Pa. Am J Sci 249:457-8 Je '51

KYMOGRAPH

Photographic reproduction of laboratory records directly on printing paper. J. L. Nickerson and V. V. Glaviano. il Science 113:334 Mr 23 '51

KYTOONS. See Balloons

L

L.C.L. freight. See Freight car service—Car load

LABELING

Magic slate; Labelon tape. il Chem Ind W 68:24-5 F 3 '51

LABELING machines

Convertible tube bander; cigar-banding machine adapted to handle both glass and acetate tooth-brush tubes. il Mod Packaging 24:151 Ap '51

High speed machine blows labels on bottles. il diags Product Eng 22:158-61 O '51

New tube labeler has simple drive linkages. il diag Product Eng 22:136-7 S '51

LABELS

Adventures in shopping. Sales Management 66:48+ Mr 1 '51

Business approach to consumer standards. T. C. Blaisdell, jr. il Standardization 21:304-9 D '50

Copper for copper; Cameo's new cleanser label; metallic tone on foil helps identify product use. il Mod Packaging 24:136-7 Ap '51

Hanging packages; labels, seals and tags are selling tools. il Mod Packaging 24:79 Mr '51

Label maker is creating consumer demand for products in its wrapper. il Ptr Ink 236:37 Jl 6 '51

Label redesign; don't ignore the labeler. E. K. Graves. il diag Food Ind 23:78+ Ja '51

More "windows" for Dulany; frozen-food label technique extended to canned foods. il Mod Packaging 24:104-5 D '50

Sales curve turns up when Petri repackages premium wines. il Sales Management 67:42-4 Jl 1 '51

Short stopper; new R&H labels adapt simple monogram to distinctive trademark. il Mod Packaging 24:83 N '50

Snow Crop goes horizontal; packer changes label. il Mod Packaging 24:71 Ag '51

Stand-out labels for Canada Dry flavored sodas. il Mod Packaging 24:84-5 Jl '51

To make or not to make private labels? E. B. Weiss. il Ptr Ink 233:36-8+ D 8 '50

Unified labels spark sell-the-line merchandising plan for Pabco. il Sales Management 67:44-6+ S 15 '51

Watch that label; high-quality labeling helps sell products. E. K. Graves. Mod Packaging 24:100-2 Mr '51

Yellow wins again in Illinois meat co.'s shopper poll on new labels. il Mod Packaging 24:118-20 My '51

Law

Jail sentence delivered for false oil labeling; M. Stillman, president of Atlantic coast oil co. Nat Pet N 43:24 Jl 4 '51

LABELS, Plastic

Better battery label; acetate-surfaced heat-seal label. il Mod Packaging 24:119 Ap '51

LABOR, Casual

See also

Migration of workers

LABOR, Compulsory

U.N. to probe slave labor in Soviet. map Bsns W p 112-13 Mr 31 '51

LABOR, Department of. See United States—Labor, Department of

LABOR and laboring classes

American federation of labor 69th annual convention, Houston, Sept. 17-23. Mo Labor R 71:553-6 N '50

Co-operative movement and the welfare of the worker. J. Orizet. Int Labour R 64:1-23 Jl '51

See also

Absenteeism (labor)
Accidents, Industrial
Aluminum works—Employees
Apprentices
Arbitration, Industrial
Bonus system
Building trades—Labor conditions
Chemical workers
Coal miners
Cotton mills—Employees
Disabled—Rehabilitation
Diseases, Industrial
Employees
Employees' representation in management
Employment management
Employment systems
Farm labor
Foundries—Employees
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Industrial relations
Insurance, Health
Insurance, Industrial
Insurance, Unemployment
Insurance, Workmen's compensation
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Labor disputes
Labor laws and legislation
Labor supply
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Machinery in industry
Metal workers
Miners
Motor bus drivers
Municipal employees
Occupations
Office workers
Old age pensions
Open and closed shop
Peasantry
Pensions, Industrial
Petroleum workers
Plantation workers
Printers
Professional workers
Profit sharing
Radio workers
Railroads—Employees
Research workers
Retail workers
Safety devices and measures
Seamen
Standard of living
Steel workers
Strikes
Textile workers
Time study
Trade agreements
Trade unions
Unemployment
Wages
Woman—Employment
Workmen's compensation

Bibliography

Bibliography. Published in monthly numbers of International labour review

Publications of labor interest. Published in Monthly labor review

International aspects

See also

International labor conference

Statistics

Changes in the distribution of manufacturing wage earners by straight-time hourly earnings, 1941-48. F. Meyers. R Econ & Stat 32:352-5 N '50

Current labor statistics. Published in Monthly labor review

Measurement of work-life expectancy; tables of working life for men. S. L. Wolfbein; H. Wool. Mo Labor R 71:193-5, 323-31, 438-42 Ag-O '50

Tables of working life; length of working life for men. U S Bur Labor Statistics Bul 1001: 1-74; pa 40c Supt. of doc. '50

Argentina

See also

Trade unions—Argentina

Australia

Australia's labor problems and policies, 1951. A. S. Ritter. Mo Labor R 73:26-30 Jl '51

Belgium

Welfare in Belgian industry. Int Labour R 63:412-26 Ap '51

Canada

How Canada controls apprentices. G. Rousseau. Am Mach 95:144-6 F 19 '51

LABOR and laboring classes—*Continued*

China

Labor policy and factory management in Communist China. W. Ayers. bibliog Ann Am Acad 277:124-34 S '51

Czechoslovakia

Spurring on the Czech worker. Economist 161:574 S 8 '51

Finland

Labor situation in Finland, 1949 to 1951. A.-S. Ericson. Mo Labor R 73:144-7 Ag '51

Labour unrest in Finland. Economist 159:1092 D 16 '50

France

Recreation of North African workers employed in France. Int Labour R 63:192-202 F '51

Results of vocational guidance in France. Int Labour R 64:85-9 Jl '51

See also

Trade unions—France

Germany

Headed for a Ruhr showdown; workers want equal voice with management. Bsns W p 122+ Ja 20 '51

Great Britain

British efforts to increase productivity. J. A. Flexner. Mo Labor R 71:704-6 D '50

Development of British industrial relations. G. Ince. Mo Labor R 72:27-9 Ja '51

Engineering outlook; manpower situation. Engineering 171:36-8 Ja 12 '51

Impressions of Britain; a personnel point of view. H. Baker. Personnel J 29:407-11 Ap '51

Labour in 1950. G. Williams. Engineer 191:5-7, 69-70 Ja 5-12 '51

Labour relations in the British chemical industry. W. H. Garrett. Chem & Ind p712-15 Ag 25 '51

Status of domestic work in the United Kingdom; with special reference to the National institute of houseworkers. D. M. Elliott. Int Labour R 63:125-48 F '51

Hawaiian Islands

Peace at Hapco. Bsns W p32 S 22 '51

Pineapple trouble; Bridges' local at Hawaiian Pine wants more pay. Bsns W p38 Ap 7 '51

Indo-China, French

See also

Trade unions—Indo-China, French

Iran

Outline of the social and economic structure of Iran. M. A. Djamalzadeh. Int Labour R 63:178-91 F '51

Italy

Economic problems and reconstruction in Italy. A. Capanna. Int Labour R 64:24-60 Jl '51

Japan

Japanese labor in 1950. R. T. Amis. Mo Labor R 71:445-9 O '50

Near East

See also

Petroleum workers—Near East

Philippine Islands

Bell mission recommendations. Mo Labor R 72:52 Ja '51

Puerto Rico

Rehabilitation of workers with hand injuries, Puerto Rico. Mo Labor R 73:182-3 Ag '51

Russia

U.N. to probe slave labor in Soviet. map Bsns W p 112-13 Mr 31 '51

See also

Labor laws and legislation—Russia

Scandinavia

Labor-management relations in Scandinavia. J. A. Flexner. Mo Labor R 72:528-32 My '51

Switzerland

Home work in Switzerland. A. Zimmermann Int Labour R 62:242-63 S-O '50

United States

Brief history of the American labor movement. J. M. Brumm and T. W. Reedy. bibliog U S Bur Labor Statistics Bul 1000:1-66; pa 25c Supt. of doc. '51

Chronology of recent labor events. Published in Monthly labor review

Employment and labor conditions in 1950. Survey of Cur Bsns 31:29-31 F '51

Labor force. E. Clague. il Sci Am 185:36-41 S '51

Labor in the American economy. G. S. Watkins, ed. bibliog Ann Am Acad 274:1-205 Mr '51

Language of labor. D. Bell. il Fortune 44:86-8+ S '51

Quick appraisal of the labor market balance sheet. Bsns W p 128-9 N 18 '50; 132-3 F 24; 32-3 My 26; 38-9 Ag 25 '51

Review of American labor in 1950. W. Bowden. Mo Labor R 72:127-35 F '51

U.S. labor movement. il Fortune 43:90-3+ F '51

See also

Coal miners—United States

Venezuela

See also

Trade unions—Venezuela

LABOR banks. See Banks and banking, Trade union

LABOR boards, State

How far can NLRB move in on states? New York city taxi drivers' dispute. Bsns W p30-1 Je 23 '51

LABOR contracts

Permanent employment agreement rule stated. A. W. Gray. Ed & Pub 84:34 My 12 '51

LABOR cost

Hidden payroll on the rise. G. C. Smith. Mill & Factory 47:124-5 D '50

How nonwage costs add up; survey of 690 companies hidden and fringe payments. Bsns W p 122-3 N 11 '50

Labor bite; labor cost ratios and investment. I. U. Cobleigh. Comm & Fin Chr 173:1531+ Ap 12 '51

Process labor requirements; chart to help predict operating costs for proposed new plant. C. H. Chilton. Chem Eng 58:151 F '51

Social costs of private enterprise; impairment of physical and mental health of workers; abstract. K. W. Kapp. Management R 40:7-8 Ja '51

Accounting

Accounting for supplementary costs of labor. R. B. Knott. Paper Tr J 133:22+ Jl 20 '51

Cost control is good business. Dom Eng 178:98-9+ S '51

Fringe labor costs in the packing industry. C. P. Elsen. N A C A Bul 32:1457-64 Ag '51

How to forecast income and expense; how employee time costs are computed. I. W. Rubel. Adv Agency 44:54-5+ O '51

Labor cost controls for a macaroni plant. J. W. Sheetz. flow chart N A C A Bul 32:185-94 O '50

Standard labor costs for rayon finishers. E. Nadziejka. N A C A Bul 32:1335-43 Jl '51

Task of the time and production reporting staff; Caterpillar tractor co. F. O. Call. N A C A Bul 32:946-55 Ap '51

LABOR departments

State labor department, partner or policeman? M. E. Martin. Nat Safety N 62:18-19+ D '50

LABOR disputes

Can states blame? Massachusetts law aimed at fixing blame for labor disputes headed for court test. Bsns W p 138-9 Mr 24 '51

Can workers bypass union? right of GE employees to present grievances as individuals. Bsns W p34 Je 9 '51

Dispute settlement and wage stabilization in World war II; condensed from Bulletin 1009. W. E. Chalmers and others. Mo Labor R 72:136-40 F '51

LABOR disputes—*Continued*

Hudson stalemate in dispute over assembly line crews. Bsns W p34+ Jl 14 '51

Jolt to Taft-Hartley; unions contend law is bar to quick settlement of mobilization disputes. il Bsns W p84-6 F 3 '51

Problems and policies of dispute settlement and wage stabilization during World war II. U S Bur Labor Statistics Bul 1009:1-380; pa 75c Supt. of doc. '50

Recent arbitration awards; sign posts in labor relations. L. Stessin. Mill & Factory 49:75-80 S '51

Work stoppages during 1950. A. J. Herlihy and others. Mo Labor R 72:514-22 My '51

See also

Arbitration, Industrial

Strikes

LABOR laws and legislation

Recent decisions of interest to labor. Published in Monthly labor review

State labor legislation in 1950. B. McConnell. Mo Labor R 71:571-4 N '50

See also

Child labor laws

Discrimination in employment

Employers' liability

Hours of labor

Injunctions

Insurance, Unemployment

Insurance, Workmen's compensation

Labor contracts

Lockouts

National conference on labor legislation

Strikes—Law

Trade unions—Law

Wages—Law

Workmen's compensation

Colombia

Labor code implemented. For Comm W 45:14 O 1 '51

Germany

Industrial hygiene in the western zone of Germany. I. R. Tabershaw. A M A Archives Ind Hygiene & Occup Med 3:298-315 Mr '51

Labor legislation in western Germany during the occupation. O. Weigert. Mo Labor R 71:668-72 D '50

Great Britain

New disputes order. Economist 161:323-4 Ag 11 '51

Protecting the colonial worker. Economist 161:573-4 S 8 '51

Stabilisation of dockworkers' earnings. A. A. P. Dawson. bibliog Int Labour R 63:252-65 Mr '51

Massachusetts

Can states blame? Massachusetts law aimed at fixing blame for labor disputes headed for court test. Bsns W p 138-9 Mr 24 '51

Russia

Elements of Soviet labor law. V. Gsovski. bibliog Mo Labor R 72:257-62, 385-90 Mr-Ap '51

Switzerland

Home work in Switzerland. A. Zimmermann. Int Labour R 62:242-63 S-O '50

United States

All government purchases of agstone may come under Public contracts act. N. C. Rockwood. Rock Prod 54:51+ My '51

Any incompetent worker can be discharged legally. A. W. Gray. Inland Ptr 126:61-2 O '50

Civil rights in labor-management relations; a management viewpoint, by P. B. Willauer; labor viewpoint, by A. J. Goldberg. Ann Am Acad 75:140-54 My '51

Do we need more labor laws? J. H. Ballew. Manuf Rec 120:30+ Ag '51

Legal restrictions on night work by women. Mo Labor R 72:414-16 Ap '51

National labor policy. G. W. Taylor. Ann Am Acad 274:185-94 Mr '51

New labor laws coming up. Bsns W p38+ S 15 '51

No strikebreaking; what an employer can, or can't, require supervisory and plant-protection to do. Bsns W p48+ Ag 11 '51

Our national labor policy, an assessment. E. Ahern. Personnel J 29:272-3 D '50

Taft and future labor laws. J. Gambatese. Eng N 145:112 N 23 '50

See also

Strikes—Law

Taft-Hartley law

Amending the Taft-Hartley law. Bsns W p32-3 Ag 11 '51

Can workers bypass union? right of GE employees to present grievances as individuals. Bsns W p34 Je 9 '51

Closed shop in hiding. Fortune 44:62+ S '51

General Counsel George Bott ruling. Fortune 43:54+ My '51

Is it legal to help oust left? Stewart-Warner case. Bsns W p 133-4 F '51

Is your union shop a legal booby trap? Mod Ind 22:81 Ag '51

Jolt to Taft-Hartley; unions contend law is bar to quick settlement of mobilization disputes. il Bsns W p84-6 F 3 '51

Labor can't change T-H now. Bsns W p 122-3 N 18 '50

Taft-Hartley act; a favorable view, by R. A. Taft; critical view, by W. Green. Ann Am Acad 274:195-205 Mr '51

Taft-Hartley non-red oath test; Thomas case. Bsns W p90-1 Ja 13 '51

Too much help from employer; NLRB rules in Stewart-Warner case. Bsns W p41-2 My 26 '51

What are the prerogatives of professional employees under the Taft-Hartley act? Civil Eng 21:474 Ag '51

Why some unions don't like T.-H. act. N. C. Rockwood. Rock Prod 54:59+ Mr '51

Wisconsin utility anti-strike law violates T-H act, high court rules. Elec World News ed 135:6 Mr 5 '51

LABOR leaders. See Trade unions—Officials

LABOR legislation, National conference on. See National conference on labor legislation

LABOR-management committees. See Employees' representation in management

LABOR mobility. See Migration of workers

LABOR officials. See Trade unions—Officials

LABOR party (Great Britain)

Deadlock of policy. Economist 159:717-18 N 11 '50

Domestic planning by the British labor party. M. E. Murphy. J Bsns 24:165-80 Jl '51

Duty made easy; Labour party's new policy statement. Economist 161:485-6 S 1 '51

Labour and socialism. Economist 159:570-1 O 7 '50

LABOR policy committee, United. See United labor policy committee

LABOR productivity

British efforts to increase productivity. J. A. Flexner. Mo Labor R 71:704-6 D '50

Facts about hours of work vs output; interview with Max D. Kossoris. Factory Management 109:68-73 F '51

Joint responsibility for productivity. W. Clark. Mech Eng 73:5-6+ Ja '51

Living standards and productivity. J. Burkhead. R Econ & Stat 33:241-7 Ag '51

Measurement of productivity; abstract. T. E. Easterfield. Engineering 171:568; Discussion. 569-70 My 11 '51

Productivity; Lever brothers & Unilever limited. G. Heyworth. Advanced Management 16:14-18 Mr '51

Productivity of labor in steelmaking. Metal Prog 59:244 F '51

Slower machine, higher output? yes, if its rate of speed synchronizes with the rhythm of operator. Mod Ind 22:97 Jl '51

What ails productivity; interview with Solomon Fabricant. Bsns W p64+ My 5 '51

What makes America's industry strong; analysis based on reports of British teams' observations. H. L. Waddell. Factory Management 109:80-3 F '51

Whopping gain in '50, holding in '51; summary of BLS study of 26 industries. Bsns W p 19-20 Ag 25 '51; Correction. p 122-3 O 13 '51

See also

Slowdowns

Speed-up

LABOR recruiting

Advantages of utility employment. M. Hammett. Pub Util 48:223-8 Ag 16 '51

LABOR recruiting—*Continued*

Brush up, manpower training, recruiting techniques. A. M. Fisher. Steel 128:61-2 Mr 12 '51

Drying wetbacks; U.S., Mexico to discuss flow of labor into Southwest. Bsns W p 127 Jl 21 '51

How to get workers in a hurry; case history of a harvest that was saved by men-wanted ad campaign. L. F. Thomann. il Ptr Ink 234:30 F 16 '51

Labor pirating; signs of trouble. Bsns W p21 S 8 '51

Man power, the industry's no. 1 problem. C. Furcolowe. Pub Util 48:32-7 Jl 5 '51

Puerto Rican workers for labor-short areas in U.S. Bsns W p 150 Jl 7 '51

Ready for manpower shortage? have a recruiting and training program set when the labor pinch begins to hurt. Steel 128:35-6 F 19 '51

Ring up the curtain; Italian miners in British coal pits. Economist 159:868-9 N 25 '50

Skilled labor; how to get and hold it. Steel 129:48-9 Ag 20 '51

LABOR relations boards. See Labor boards, State

LABOR requirements for production

Man-hours expended per car, railroad freight cars, 1939-48. T. D. Moss. (Special ser. no. 3) 23p U.S. Bur of labor statistics, Washington '50

Process labor requirements; chart to help predict operating costs for proposed new plant. C. H. Chilton. Chem Eng 58:151 F '51

Trends in man-hours expended per pair; footwear, 1947 to 1948. (U.S. Bur. of labor statistics, Special ser. no. 1) 25p pa 20c Supt. of doc. '50

Trends in man-hours expended per unit; selected types of machine tools. H. J. Greenspan. (Special ser. no. 4) 19p U.S. Bur. of labor statistics, Washington '51

LABOR saving devices

See also

Calculating machines

Machinery, Automatic

Mechanical handling

LABOR standards

Who is to decide a fair day's work? union claims American Steel & Wire cannot unilaterally set standards. J. Delaney. Iron Age 167:112-13 My 24 '51

LABOR supply

Migration and economic development; preliminary migration conference, Geneva, April-May 1950. Int Labour R 62:91-115 Ag '50

See also

Employment

Labor recruiting

Woman—Employment

Working life, Length of

Great Britain

Cost of labour turnover. Economist 161:40-2 Jl 7 '51

Labor shortage in Britain. P. Einzig. Comm & Fin Chr 174:962 S 13 '51

Puerto Rico

Puerto Rico to train workers for U.S. jobs. Bsns W p 132 N 4 '50

United States

DP's; manpower pool. Mod Ind 21:80 Ap '51

First national bank of Boston reveals impact of defense program on manpower. Comm & Fin Chr 173:99 Ja 4 '51

Getting set for labor shortages. Mod Ind 22:85-6 S '51

Labor force. E. Clague. il Sci Am 185:36-41 S '51

Labor market developments. Fed Res Bul 37:613-23 Je '51

Labor pirating; signs of trouble. Bsns W p21 S 8 '51

Labor shortage. Fortune 43:22+ My '51

Labor-supply aspects of mobilization. M. J. Tobin. Mo Labor R 71:564-7 N '50

Manpower arithmetic. il Fortune 42:45-6 N '50

Manpower controls next? Fortune 43:78-9+ Mr '51

Manpower policy; draft 'em; industry must count on men over 25. Bsns W p23 F 17 '51

Manpower situation. E. L. Keenan. Comm & Fin Chr 173:254-5+ Ja 18 '51

Manpower situation under defense mobilization. E. Clague. Comm & Fin Chr 174:857+ S 6 '51

Manpower supply crisis looms. Aviation W 53:14 D 18 '50

Mobilization. A. S. Flemming. il map Sci Am 185:89-94+ S '51

Mobilization speedup begins; manpower. Bsns W p28+ Ja 6 '51

More craftsmen around, more needed. Bsns W p 19-20 Ap 28 '51

Planners look on aged as vast reservoir of defense manpower. Bsns W p 128+ F 24 '51

Planning now for man-power shortages. E. W. Fair. Pub Util 47:152-5 F 1 '51

Planning to meet manpower needs. R. C. Goodwin. Comm & Fin Chr 172:1991+ N 23 '50

Prepare today for tomorrow's manpower problems. R. C. Goodwin. Mill & Factory 48:75-9 Ja '51

Scraping bottom. Bsns W p 128 N 11 '50

Search for skills; management needs technical and skilled men. il Mod Ind 20:54-6 N '50

Shortage and surplus. Sci Am 185:49-50 S '51

Stretching the labor supply. Bsns W p28 Jl 14 '51

Tables of working life; length of working life for men. U S Bur Labor Statistics Bul 1001:1-74; pa 40c Supt. of doc. '50

Tight labor situation; longer work week not needed. M. J. Tobin. Comm & Fin Chr 172:2198 D 7 '50

Universal training at age 18; Truman's solution for manpower problem. il Bsns W p 19-20 Ja 20 '51

What to do about manpower; experts at Society for advancement of management meeting tackle problems. Bsns W p31-2+ N 11 '50

Who'll mobilize manpower; unions want policy-making jobs. Bsns W p 128+ F 10 '51

See also

Military service—Labor problems

LABOR turnover

Cost of labour turnover. Economist 161:40-2 Jl 7 '51

Labor turn-over in manufacturing and in selected groups and industries. Published in Monthly labor review

Labor turn-over rates in manufacturing industries, 1939-1950; tabulation. Iron Age 167:362 Ja 4 '51

Let's reduce labor turnover; management data sheet. Factory Management 108:136, 138 N '50

LABOR unions. See Trade unions

LABORATORIES

Brick research laboratory, London brick co. il Engineer 192:60-1 Jl 13 '51; Engineering 172:55 Jl 13 '51

British titan products, ltd.; new laboratories at Billingham. il Chem & Ind p788-90 S 22 '51

British workshops in 1950. il Engineer 191:74-5 Ja 12 '51

Expansion project adds new campus, nineteen buildings to Du Pont experimental station. il Chem & Eng N 29:2040+ My 21 '51

Fifteen floors cantilevered from concrete core; research and development building of S. C. Johnson and son, inc. il diag Concrete 59:32 Ja '51

Function plus beauty; Heliolab designed by F. L. Wright for Johnson & son. C. Fish. il diag Nat Safety N 63:18-19+ F '51

Helio-laboratory for Johnson wax co., Racine Wis.; designed by F. L. Wright. il plans diags Arch Forum 94:75-81 Ja '51

Johnson dedicates wax research laboratory tower. il Soap & San Chem 26:141+ D '50

Laboratory for radiographic research and inspection. il Engineer 190:508 N 24 '50

New laboratory; United Gas' Shreveport facilities in operation. J. A. Kornfeld. il Oil & Gas J 49:57 D 7 '50

Protective coatings tests by NBS in new durability laboratory. Heat & Ven 48:114-16 Mr '51

Swinden House research laboratories, Rotherham. Engineering 171:128 F 2 '51

LABORATORIES—*Continued*

This is a laboratory; Stotesbury's Whitemarsh Hall is research laboratory of Pennsylvania salt manufacturing co. il Fortune 44:89-92 O '51

Vinyl and acrylic in fabulous lab; S. C. Johnson & son, inc. il Mod Plastics 28:76-7 My '51

Wright introduces novel laboratory design. il diag Chem & Eng N 28:4274-5 D 4 '50

Wright's core-supported tower unveiled in photographs; research and development tower for S. C. Johnson & son. il diag Arch Rec 108:11a-11b D '50

See also

Aeronautic laboratories
Automobile laboratories
Bell telephone laboratories
Chemical engineering laboratories
Chemical laboratories
Concrete laboratories
Electric laboratories
Engineering laboratories
Entomological laboratories
Foundry laboratories
Hydraulic laboratories
Medical laboratories
Metallurgical laboratories
Packaging laboratories
Paper laboratories
Petroleum laboratories
Pharmaceutical laboratories
Power plants—Laboratories
Public health laboratories
Radio laboratories
Testing laboratories
Textile laboratories
Underwriters' laboratories

also American gas association—Appliance testing laboratory; Brookhaven national laboratory; Great Britain—National physical laboratory, Teddington; Knolls atomic power laboratory; Oak Ridge national laboratory; Rutgers university—Lipman Hall soil laboratories

Air conditioning

Air conditioning hot lab at Brookhaven atomic pile. J. D. Wolcott. il Heating-Piping 23:69-72 Je '51

Keeping cool at Johnson's wax works; research tower designed by Frank Lloyd Wright incorporates air supply duct in central core. il Refrig Eng 58:1180-1 D '50

New laboratory fume hoods cut air conditioning load. J. F. Turner. il diags Heating-Piping 23:113-16 Ja '51

Performance study of a two-way split system for heating and cooling; research laboratory of S. C. Johnson and son. il plan diags Dom Eng 177:132-3+ Mr '51

Directories

Industrial research laboratories of the United States including consulting research laboratories. M. J. Rand and others, comps. 9th ed Nat Res Council Bul 120:1-444 '50 ($5)

Equipment

Baird & Tatlock (London) ltd. il Chem & Ind p432-3 Je 9 '51

Plastics in the construction of experimental apparatus. Chem Age (Lond) 64:655-7 Ap 28 '51

Production at N.P.L. of alumina and other ware for research involving high temperatures. V. H. Stott. il diags Metallurgia 44:157-62+ S '51

Production of sintered alumina ware. T. G. Carruthers. il diags Metallurgia 44:103-7 Ag '51

Storage cabinet for radio assay preparations. O. Kantorowicz. diags J Sci Instr 28:189 Je '51

Heating and ventilation

Ventilation of an atomic energy laboratory. R. E. Holmes. il plan diags Refrig Eng 59:755-9+ Ag '51

Lighting

Illumination of a laboratory table for inspection of blood samples from bovine animals. L. C. Larson. il diags Illum Eng 46:338-9 Jl '51

Safety measures

Electrical safety in experimental laboratories. C. F. Dalziel. il diag Nat Safety N 63:27-9+ Ap '51

Symposium on industrial health and safety; laboratory safety. H. H. Fawcett. bibliog il Chem & Eng N 29:1302-5 Ap 2 '51

Waste

See also

Chemical laboratories—Waste

LABORATORIES, Electric. See Electric laboratories

LABORATORIES, Textile. See Textile laboratories

LABORATORIES, Traveling

Mobile laboratory for water pollution control. il Pub Works 82:48-9 Jl '51

Mobile laboratory survey of the Miami river. B. M. McDill. il maps Sewage & Ind Wastes 22:1464-74 N '50

Mobile materials lab for airfield work. il Roads & Sts 94:96 Je '51

Mobile materials testing laboratory for the army. il Eng N 146:70 My 17 '51

Operation of a field laboratory unit in water pollution surveys. W. W. Sanderson. il Sewage & Ind Wastes 22:1475-81 N '50

Rolling control of quality; Coca-Cola's mobile labs. A. V. Gemmill. il map Food Eng 23:63-5+ My '51

Science laboratory on wheels; equipped to prospect for uranium and to identify and measure radioactivity. il Nat Safety N 62:52 N '50; Safety Maint & Prod 100:32 D '50

LABORATORY workers

Occupational outlook handbook; medical laboratory technicians. U S Bur Labor Statistics Bul 998:61-2 '51

Research and development personnel in industrial laboratories. M. J. Rand. maps Chem & Eng N 29:3604-8 S 3 '51

LABRADOR

See also

Climate—Labrador
Iron mines and mining—Labrador
Railroads—Labrador

LACQUER and lacquering

Evaporation rates of lacquer solvents; abstract. E. V. Elven and H. W. Rudd. Paint Oil & Chem R 114:38 Mr 29 '51

Hot lacquer spraying problems solved. J. A. Bede. diag Automotive Ind 104:48+ Ja 15 '51

Hot spraying of lacquer feasible for aircraft. E. D. Mitchell and O. J. Winkles. il Automotive Ind 105:42-3+ S 1 '51

Kaiser-Frazer hot spray lacquer. il Automotive Ind 105:48 Ag 1 '51

Lacquers; hot-spray climb. il Chem W 69:29-30 Ag 11 '51

Silica flattener. Chem Ind W 68:27 Ja 27 '51

Synthetic lacquer linings; process that can be applied on site. Chem Age (Lond) 64:819 My 26 '51

Testing

Evaluation of alkyd resins for stoving finishes, by the Birmingham (England) club. Paint Oil & Chem R 113:63-4+ N 23 '50

LACTAMS

Apparent ionization exponents of 4-hydroxyquinoline, 4-methoxyquinoline and N-methyl-4-quinolone; evaluation of lactam-lactim tautomerism. G. F. Tucker, jr. and J. L. Irvin. bibliog Am Chem Soc J 73:1923-9 My '51

β-Lactam with a methylmercapto substituent. A. D. Holley and R. W. Holley. Am Chem Soc J 73:3172-4 Jl '51

New synthesis of β-lactams. J. C. Sheehan and A. K. Bose. Am Chem Soc J 72:5158-61 N '50

Synthesis and reactions of some substituted β-lactams. J. C. Sheehan and A. K. Bose. bibliog Am Chem Soc J 73:1761-5 Ap '51

Synthesis of substituted penicillins and simpler structural analogs. J. C. Sheehan and others. bibliog Am Chem Soc J 73:4367-80 S '51

Synthesis of substituted penicillins and simpler structural analogs; alpha amino monocyclic β-lactams. J. C. Sheehan and J. J. Ryan. Am Chem Soc J 73:1204-6 Mr '51

LACTIC acid

Acid-catalyzed esterification of lactic acid with β-methallyl alcohol. N. G. Gaylord. bibliog Am Chem Soc J 72:5316-17 N '50

LACTIC acid—*Continued*

Diesters of lactic acid; adipates of various lactates. C. E. Rehberg and M. B. Dixon. bibliog Am Chem Soc J 72:5757-9 D '50

Extraction of lactic acid from water solution by amine-solvent mixtures. W. P. Ratchford and others. bibliog Ind & Eng Chem 43:778-81 Mr '51

Isolation and characterization of two metabolic products of myanesin (3-(*o*-toloxy)-1,2-propanediol). R. F. Riley. bibliog Am Chem Soc J 72:5712-14 D '50

Mechanism of the chemical formation of lactic acid from glucose studied with C^{14} labeled glucose. M. Gibbs. bibliog Am Chem Soc J 72:3964-5 S '50

Plasticizers from lactic acid; *n*-alkyl carbonates of various esters of lactic acid. C. E. Rehberg and others. bibliog Ind & Eng Chem 42:2374-5 N '50

Viscosity and density of aqueous lactic acid solutions. R. A. Troupe, W. L. Aspy and P. R. Schrodt. bibliog Ind & Eng Chem 43:1143-6 My '51

LACTIC acid bacteria

Crystalline α-lipoic acid, a catalytic agent associated with pyruvate dehydrogenase. L. J. Reed and others. bibliog Science 114:93-4 Jl 27 '51

Medium for assay of vitamins with lactic acid bacteria. L. M. Flynn and others. bibliog Anal Chem 23:180-5 Ja '51

Replacement of vitamin B_{12} by desoxynucleotides in promoting growth of certain lactobacilli. W. Shive, M. E. Sibley and L. L. Rogers. Am Chem Soc J 73:867-8 F '51

LACTIC dehydrogenases

Lactic dehydrogenase and DPN-ase activity of blood. S. G. A. Alivisatos and O. F. Denstedt. bibliog Science 114:281-3 S 14 '51

LACTOBACILLUS bulgaricus

Chemical nature and synthesis of the lactobacillus bulgaricus factor. E. E. Snell and others. Am Chem Soc J 72:5349-50 N '50

LACTOGLOBULIN. See Globulins

LACTONES

Action of formaldehyde on *m*-hydroxybenzoic acid; stepwise degradation of the lactone of 6-hydroxymethyl-1,3-benzodioxan-5-carboxylic acid. C. A. Buehler and others. Am Chem Soc J 73:2347-9 My '51

α-Carboxethyllactones and related barbituric acid derivatives. G. S. Skinner and R. D. Huber. Am Chem Soc J 73:3321-4 Jl '51

Chemistry of 2,2-diphenyl-4-pentenoic and 2,2-diphenyl-4-methyl-4-pentenoic acids. P. N. Craig and I. H. Witt. Am Chem Soc J 72:4925-8 N '50

Constituents of natural phenolic resins; reduction of some lactonic lignans with lithium aluminium hydride. R. D. Haworth and L. Wilson. Chem Soc J p71-2 Ja '50

Curariform activity and chemical structure; lactones derived from quinolizidine. V. Boekelheide and E. J. Agnello. bibliog Am Chem Soc J 72:5005-9 N '50

Dialkylaminoethyl esters and aminolactones derived from 2,2-diphenyl-4-pentenoic and 2,2-diphenyl-4-methyl-4-pentenoic acids. P. N. Craig and others. Am Chem Soc J 73:1339-41 Mr '51

Dyeing cellulose acetate and/or vinyl fabrics; padding with lactones; patent. Am Dyestuff Rep 40:340+ My 28 '51

5-Hydroxy-4,4-dimethyl-3-(6-hydroxynaphthyl-2)-pentanoic acid lactone. J. Ashmore and M. N. Huffman. bibliog Am Chem Soc J 73:1784-6 Ap '51

Lactones prepared from dehydroisoandrosterone. C. von Seemann and G. A. Grant. bibliog Am Chem Soc J 72:4073-7 S '50

Pharmacologic action and acute toxicity of glucuronic acid lactone. W. B. Deichmann and B. Hopfenspirger. bibliog Ind Med 20:417-22 S '51

Researches on acetylenic compounds; the reaction between nickel carbonyl and monosubstituted acetylenic compounds. E. R. H. Jones, T. Y. Shen and M. C. Whiting. Chem Soc J p230-6 Ja '50

Sodium borohydride as a reducing agent for sugar lactones. M. L. Wolfrom and H. B. Wood. bibliog Am Chem Soc J 73:2933-4 Je '51

Some substituted crotonolactones and oxazolones. W. T. Smith, jr. and C. Hanna. Am Chem Soc J 73:2387-8 My '51

Studies on compounds related to auxin-a and auxin-b; preparation of analogues of auxin-b lactone. H. B. Henbest and E. R. H. Jones. Chem Soc J p3628-33 D '50

Studies on compounds related to auxin-a and auxin-b; the preparation and properties of the *cyclo*pentenyl analogue of auxin-b lactone. J. B. Brown, H. B. Henbest and E. R. H. Jones. Chem Soc J p3634-41 D '50

Synthesis of a lactone related to auxin b. E. B. Reid and W. R. Ruby. bibliog Am Chem Soc J 73:1054-61 Mr '51

Synthesis of some δ-lactones of α,β,δ-trihydroxy acids. J. English, jr. J. D. Gregory and J. R. Trowbridge, 2d. bibliog Am Chem Soc J 73:615-18 F '51

Third isomeric (*cis-trans-*)muconic acid. J. A. Elvidge and others. Chem Soc J p2235-41 Ag '50

Unsaturated lactones and related substances; dihydro-β-ketomuconic acid and carboxylactones of the protoanemonin type. U. Eisner, J. A. Elvidge and R. P. Linstead. Chem Soc J p 1501-12 Je '51

Unsaturated lactones and related substances; α-ketoadipic acid and γ-carboxymethylenebutanolide. U. Eisner, J. A. Elvidge and R. P. Linstead. Chem Soc J p2223-8 Ag '50

Unsaturated lactones and related substances; lactonic products derived from muconic acid. J. A. Elvidge and others. Chem Soc J p2228-35 Ag '50

Unsaturated lactones and related substances; the synthesis of aldehydo-acids by the Rosenmund reaction. W. S. Johnson, R. P. Linstead and R. R. Whetstone. Chem Soc J p2219-22 Ag '50

Unsaturated lactones and related substances; unsaturated γ-lactones from keto-acids; the position of the double bond. F. A. Kuehl, jr., R. P. Linstead and B. A. Orkin. Chem Soc J p2213-18 Ag '50

Unsaturated lactones; phenolic butenolides related to hexœstrol and stilbœstrol. N. R. Campbell and J. H. Hunt. Chem Soc J p956-9 Ap '51

Unsaturated lactones; symmetrical aromatic dibutenolides. N. R. Campbell and J. H. Hunt. Chem Soc J p960-2 Ap '51

Unsaturated lactones; the relationship between chemical constitution and absorption spectra in a group of crotonolactones. F. W. Schueler and C. Hanna. Am Chem Soc J 73:3528-30 Jl '51

Walden inversion in the formation of β-lactones; the configurations of the bromoacids of Kohler and Jansen. P. D. Bartlett and P. N. Rylander. bibliog Am Chem Soc J 73:4275-80 S '51

See also

Butyrolactone

LACTOSE

Esters of glucose and lactose. J. H. Schwartz and E. A. Talley. Am Chem Soc J 73:4490 S '51

Analysis

Determination of alpha- and beta-lactose in dry products of milk from rates of crystallization. R. P. Choi, C. W. Tatter and C. M. O'Malley. bibliog Anal Chem 23:888-90 Je '51

Determination of lactose in biological materials. M. G. Horowitz and others. bibliog Anal Chem 23:375-7 F '51

Quantitative determination of sugars on filter paper chromatograms by direct photometry. E. F. McFarren, K. Brand and H. R. Rutkowski. bibliog Anal Chem 23:1146-9 Ag '51

LADDERS

Manufacture

Big drill press steps up ladder output. il Comp Air Mag 56:189 Jl '51

Safety measures

Facts and fancies about ladders. L. J. Markwardt and A. D. Freas. il Nat Safety N 62:26-7+ D '50

It's safe to maintain ladders. il Safety Maint & Prod 100:16-17+ D '50

Portable ladders. bibliog il Nat Safety N 63:23+ Mr '51

LADIES' garment workers union, International. See International ladies' garment workers union

LADLE cars
Hot metal cars and mixers; how to extend life of refractory linings. R. P. Heuer and C. E. Grigsby. il Steel 128:93-4+ Ap 2; 129: 82+ Jl 16; 90+ Ag 6; 78+ Ag 20 '51

LADLES, Foundry. See Foundry ladles

LAFAYETTE college
Lafayette college buys St Louis car co. Rv Age 130:105+ Je 25 '51

LAGRANGE equation
Thermochemistry for the petrochemical industry; five-pointed Lagrangian interpolation coefficients for transforming thermochemical values on the Kelvin to other thermometric scales. K. A. Kobe and R. E. Pennington. Pet Refiner 30:143-4 Je '51

LAKE states yeast corporation
Purchase of stock announced by Rhinelander paper co. Paper Ind 32:1065 Ja '51

LAKE Superior district power company
Bonds offered. Comm & Fin Chr 173:1173 Mr 19 '51

LAKES
Developing Mesabi orebodies under lake beds. J. R. Stuart. map diags Min Eng 3:Trans 777-9 S '51
How to predict lake cooling action. R. F. Throne. diags Power 95:86-9+ S '51
Intensive frost action along lake shores. S. Taber. diags Am J Sci 248:784-93, pl 1 N '50
See also
Valencia, Lake

Wyoming

Investigation of sodium sulfate deposits in Bull lake, Carbon county, Wyo. W. A. Young. 6pls U S Bur Mines Rep of Invest 4816:1-9 '51

LAKES, Glacial. See Glacial lakes

LAMB, Arthur Becket, 1880-
Dayton section honors former editor of ACS journal. por Chem & Eng N 29:2044+ My 21 '51

LAMINARIN
Constitution of laminarin; an investigation on laminarin isolated from laminaria cloustoni. J. J. Connell, E. L. Hirst and E. G. V. Percival. Chem Soc J p3494-500 D '50
Constitution of laminarin; the soluble laminarin of laminaria digitata. E. G. V. Percival and A. G. Ross. Chem Soc J p720-6 Mr '51

LAMINARINASE
Enzymic hydrolysis of 1:3-linked polyglucosans. T. Dillon and P. O'Colla. bibliog Chem & Ind p 111 F 10 '51

LAMINATED construction
Aluminium structural panel. il Engineer 191: 359 Mr 16 '51; Engineering 171:315 Mr 16 '51
Analysis of the elastic and plastic stability of sandwich plates by the method of split rigidities. P. P. Bijlaard. bibliog diags J Aeronautical Sci 18:339-49, 790-6+ My, D '51
Bending of thick sandwich plates. G. Gerard. diag J Aeronautical Sci 18:424-6+ Je '51
Buckling of sandwich cylinders under axial compression. F. K. Teichmann and others. il diag J Aeronautical Sci 18:398-406 Je '51
Buckling strength of rectangular sandwich panels; reference book sheet. N. J. Hoff. diag Product Eng 22:183+ Je '51
Chrysler paper-wall plant with bonded aluminum-paper panels. Bsns W p91 N 11 '50
Cleveland transit system shelter is of new design. il Bus Transportation 30:56 My '51
Laminated freight cars; Unicel uses phenolic- and resorcinol-bonded wood and phenolic-impregnated paper. il diag Mod Plastics 28:64-5+ D '50
New refrigerator-freight car incorporates revolutionary design. il Refrig Eng 58:1161-2+ D '50
Newest methods of fabricating honeycomb aircraft components. T. F. Freeman. il Automotive Ind 104:42-5+ Je 15 '51
Sandwich roofing for festival restaurant. il Metallurgia 43:111 Mr '51
Sandwich walls precast for pulp mill. S. B. Roberts. il diags Eng N 146:32-4 F 22 '51

LAMINATED paper. See Paper, Laminated

LAMINATED products
Honeycomb comes of age; sandwich material strong for its weight and economical of materials. il Mod Plastics 28:84-7 Jl '51
Laminated shims reduce production and maintenance costs. R. Seipt. il diags Mach 57:177-82 Je '51
Problems in lamination low-cost tooling. J. Starr. il diags Tool Eng 27:45-6 S '51

LAMINATED wood. See Wood, Laminated

LAMM, Geraldine
A.F.A. contest winner visits BBD&O. pors Adv Agency 44:73 Ag '51

LAMME, Benjamin G., medals
Donald Ivan Bohn, Lamme medalist for 1950; presentation addresses by A. H. Kehoe and T. D. Jolly; response by D. I. Bohn. il Elec Eng 70:663-6 Ag '51

LAMP shades
Heat sealed lamp shades. il Mod Plastics 28: 87-9 Ag '51

LAMPBLACK
Functions and behavior of the components of expanders for the negative plates of lead-acid storage batteries. A. C. Zachlin. bibliog il Electrochem Soc J 98:325-33 Ag '51

LAMPREYS
Operation lamprey. W. J. Leach. Science 113:215 F 23 '51

LAMPS
Hospital bed lamp. il Arch Rec 109:216 Je '51

LAMPS, Acetylene. See Acetylene lamps

LANCASHIRE, England
Lancashire's future. map Economist 161:440-1 Ag 25 '51

LANCEOL
Constitution of lanceol. A. J. Birch and A. R. Murray. Chem Soc J p 1888-90 Jl '51

LAND
See also
Agriculture
Drainage
Eminent domain
Farms
Irrigation
Land tenure
Mineral lands
National parks and reserves
Oil lands
Real estate business
Reclamation of land
Rent

Classification

See Land utilization

Subdivision

Land use; sites should be selected more shrewdly and streets and sidewalks sized more sensibly. Arch Forum 94:123 F '51

Great Britain

Food versus homes? encroachment of urban development upon agricultural land. Economist 161:70-2 Jl 14 '51
Land board's report. Economist 161:441 Ag 25 '51

LAND drainage. See Drainage

LAND reclamation. See Reclamation of land

LAND tenure
Methods and objectives of scientific agrarian policy. C. von Dietze. Land Econ 26:354-67 N '50
Wisconsin conference on world land tenure problems; background and setting. P. M. Raup. bibliog Land Econ 27:205-12 Ag '51

Asia

Ally in Asia, land reform, alternative to communism. Fortune 42:74-6 N '50
Our economic policy in Asia. R. W. Miller 4pls Harvard Bsns R 29:52-70 Jl '51

China

Current agrarian reform policies in Communist China. Chao Kuo-chün. bibliog Ann Am Acad 277:113-23 S '51
Land problem of China. F. L. Ho. Ann Am Acad 276:6-11 Jl '51
Land reform in China. map Economist 160: 1514, 1570+ Je 23-30 '51

Great Britain

Effects of the British town and country planning act, 1947. P. F. Wendt. Land Econ 26:397-400 N '50

Italy

Italian land reform. A. Corrigan. Barron's 31:7-8 Je 18 '51
Progress of Italian land reform. Economist 160:1382 Je 9 '51

LAND tenure—*Continued*

Wisconsin

Buying farms with hundred-percent loans; an analysis of the Farm security administration loan experience in Wisconsin. W. K. Burkett and K. H. Parsons. Land Econ 27:151-68 My '51

LAND titles

What trustees should know about real estate titles. M. B. Ogden. Trusts & Estates 89:775-7 N '50

LAND utilization

Good land-use practices cut turbidity in river water. il map Eng N 146:40-1+ F 8 '51

Possibilities for utilizing airphoto interpretation in the Cornell economic land classification system. R. B. Costello. Land Econ 27:24-30 F '51

See also

Reclamation of land

Zoning

Laws and regulations

Effects of the British town and country planning act, 1947. P. F. Wendt. Land Econ 26:397-400 N '50

LAND values

Beef raisers; rising land prices may yet pinch breeders. P. C. Raborg. Barron's 31:7+ Jl 2 '51

Court excludes evidence re possible profits in estimating value of land expropriated for road. Roads & Eng Constr 89:92 Mr '51

Fallacies of right-of-way valuation theory. G. L. Schmutz. Elec West 107:73-5 Ag '51

Farm land prices. map Banking 43:58+ F; 67+ My '51

Farm land prices up 17 per cent over last year; with tables and graphs showing trends by states. map Banking 44:78-81 S '51

I like the wide open spaces; ownership of acreage through purchase of land-bearing shares of various companies. I. U. Cobleigh. Comm & Fin Chr 173:2144 My 24 '51

Land values in relation to planning and housing in the United States; reprinted from Feb. '41 issue. R. Unwin. Land Econ 27:280-6 Ag '51

Reasons for buying land. R. W. Babson. Comm & Fin Chr 173:2677 Je 28 '51

LANDING craft

Australian-built landing craft. C. S. Steele. il Engineer 191:450 Ap 6 '51

LANDING gear. See Airplanes—Landing gear

LANDING mats, Plastic. See Aviation landing stations—Portable landing mats

LANDING operations, Military

Fort Fisher campaigns, 1864-1865. J. E. King. bibliog il maps diags U S Naval Inst Proc 77:842-55 Ag '51

LANDLORD and tenant

Recovery of premises; appealing against a possession order. F. E. Sugden. Elec R (Lond) 148:116 Ja 19 '51

Recovery of premises; position of a business tenant. F. E. Sugden. Elec R (Lond) 147:698 N 3 '50

Showroom premises; the Leasehold property (temporary provisions) act 1951. Electrician 147:261 Jl 27 '51

See also

Leases

LANDSLIDES

Saturated stratum floated clay away; Swedish landslide. il Eng N 145:31 D 21 '50

Stabilization of some rockslides in Grainger county, Tenn. R. A. Laurence. il maps plan diag Econ Geol 46:329-36 My '51

Bibliography

Landslides. J. M. Tompkin and S. H. Britt, comps. (Bibliog. no. 10) 53p Highway research board, National research council, 2101 Constitution av, Washington 25, D.C. '51

LANE-WELLS company

Security I like best. E. B. Morgan. Comm & Fin Chr 173:1842 My 3 '51

LANG, Chester Henry, 1893-

Contact man for GE's publics. por Bsns W p58 Je 30 '51

Portrait. Fortune 44:20 Ag '51; Sales Management 67:41 Jl 15 '51

LANGMUIR, Irving, 1881-

Receives John J. Carty gold medal. Elec Eng 70:90 Ja '51

LANGMUIR'S adsorption isotherm. See Adsorption

LANGUAGE

Description of language design. M. Joos. Acoustical Soc Am J 22:701-8 N '50

Language engineering. G. A. Miller. Acoustical Soc Am J 22:720-5 N '50

Speech and language. J. Lotz. diags Acoustical Soc Am J 22:712-17 N '50

See also

English language

Speech

LANGUAGES, Modern

Study and teaching

Teaching foreign languages to research students. E. Hocking. J Chem Educ 28:544-6 O '51

LANGUAGES, Universal

See also

Esperanto

LANOSTEROL

Lanosterol; ketodihydrolanosterol. M. J. Birchenough and others. Chem Soc J p 1249-52 My '50; p744-7 Mr '51

Lanosterol; reduction of ketones in the lanosterol series. J. F. Cavalla and J. F. McGhie. Chem Soc J p834-7 Mr '51

Reduction of ketones in the lanosterol series. J. F. McGhie and J. F. Cavalla. bibliog Chem & Ind p744-5 N 18 '50

LANSING, Michigan

Sanitary affairs

Lansing rents garbage cans. R. J. Cooke. il Pub Works 81:40 N '50

LANTERN slides

Filing lantern slides. R. Wolf and others. Science 114:308 S 21 '51

Put new life in your slide presentations. W. E. McWhorter. il Ptr Ink 236:62, 67-8 S 7 '51

Shoppers become buyers; Pan American color slide program for travel agents. il Sales Management 66:48 My 20 '51

Use of lantern slides in undergraduate organic chemistry. N. Kharasch. J Chem Educ 28:280-1 My '51

LANTHANUM

Heat of reaction of americium metal with 1.5 *M* hydrochloric acid and a note on the heats of formation of La^{+3}(aq.) and Pr^{+3}(aq.). H. R. Lohr and B. B. Cunningham. bibliog diag Am Chem Soc J 73:2025-8 My '51

Polynuclear complexes of lanthanon sulphates. R. C. Vickery. Chem Soc J p 1101-4 Ap '50

Isotopes

Gamma-radiation from lanthanum 140. J. M. Cork and others. diag Phys R 83:856-7 Ag 15 '51

Neutron deficient isotopes of lanthanum. M. M. Gransden and W. S. Boyle. Phys R 82:447 My 1 '51

LANTHANUM chloride

Differential diffusion coefficient of lanthanum chloride in dilute aqueous solution at 25°. H. S. Harned and C. A. Blake, jr. bibliog Am Chem Soc J 73:4255-7 S '51

LANTHANUM ferricyanide

Electrolytic dissociation of lanthanum ferricyanide in mixed solvents. J. C. James. Chem Soc J p 1094-8 Ap '50

LANTHIONINE. See Thiodialanine

LANTZ, Louis Amédée

Portrait. Soc Dyers & Col J 67:236B Je '51

LAPLACE transformation

Determination of eigenvalues using a generalized Laplace transform. M. D. Friedman. J Ap Phys 21:1333-7 D '50

Impedance and the Laplace tranform. E. E. Ward. diags Wireless Eng 28:192-4 Je '51

Solution of boundary value problems by multiple Laplace transformations. T. A. Estrin and T. J. Higgins. bibliog Franklin Inst J 252:153-67 Ag '51

LAPLACE'S equation

Conical flow methods applied to uniformly loaded wings in subsonic flow. S. Lampert. bibliog diags J Aeronautical Sci 18:107-14+ F '51

LAPLACE'S equation—*Continued*

Cylindrical and rotational coordinate systems. P. Moon and D. E. Spencer. bibliog diags Franklin Inst J 252:327-44 O '51

LAPPING

Attachment that adapts a drilling machine for lapping. G. Wenke. diags Mach 57:185-6 Ag '51

Converted filer laps jet blades at Wright. R. Le Grand. il diags Am Mach 95:136-7 My 14 '51

Duz doesn't lap; but washer drive does. L. Gross. il Am Mach 94:137 D 11 '50

Grinder used for lapping gear bores. il Iron Age 166:75 N 30 '50

How flat can you get? mechanized versions of old process of lapping. il Fortune 42:115-18+ D '50

Lapping method on lathe trues jaws on scroll chuck. C. B. Winch. diags Am Mach 95:164 My 14 '51

Machine lapping with continuously fed free abrasives. F. L. White. il diags Am Mach 95:161-3 Je 11 '51

Mass production lapping techniques; abstract. C. R. Moore. S A E J 59:70-1 My '51

LAPPING machines

Attachments for lapping machines. il Automotive Ind 104:249-50 Mr 15 '51; Am Mach 95:152 Ap 2 '51

How flat can you get? mechanized versions of old process of lapping. il Fortune 42:115-18+ D '50

Lapping 12 Powerglide cases simultaneously. il Automotive Ind 103:48 D 1 '50

1951 production preview. il Am Mach 95: 198-208 Ja 22 '51

Norton Hydrolap vertical lapping machine equipped for continuous finishing of small flat parts. il Mach 57:217-18 Ja '51

LARD

Bland, odorless lard; patent. Food Eng 23: 134 Jl '51

Lard output increase paced by big hog supply. Barron's 31:27-8 My 28 '51

Superior animal shortening turned out by new four-stage process. I. C. Miller. flow sheet(p 136-9) il diag Food Eng 23:88-91+ Ag '51

Analysis

Butylated hydroxyanisole in lard and shortening. J. H. Mahon and R. A. Chapman. bibliog Anal Chem 23:1120-3 Ag '51

Estimation of antioxidants in lard and shortening. J. H. Mahon and R. A. Chapman. bibliog Anal Chem 23:1116-20 Ag '51

LARREA divaricata. See Creosote bush

LARSON, Jess, 1904-

Strategic stockpile gets one boss. Bsns W p 134 Ag 11 '51

LARSON, Orville

Why a copper strike? por Fortune 44:59-60 O '51

LARVAE

Temporary immobilization of salamander larvae by means of electric shock. N. E. Kemp and A. Gamero-Reyes. diag Science 113:722-3 Je 22 '51

LARYNX

Opening time and opening-quotient of the vocal cords during phonation. T. H. Tarnóczy. bibliog il Acoustical Soc Am J 23: 42-4 Ja '51

LATEX. See Rubber latex

LATHES

Adjustable headstock center shifts for threading work. M. Poprick. diags Am Mach 95: 122 Ja 8 '51

Air-gage tracer for Monarch lathes. il Mach 57:210-12 Mr '51

Balancing work and fixtures. G. J. Whitley. diags Tool Eng 26:50 Ja '51

Chucking lathe uses T-formation to handle thin-walled work. il Am Mach 94:186 D 11 '50

Copying and tool room lathes. il Engineer 191:294-5 Mr 2 '51

Copying lathes; French machine tools. il Automobile Eng 41:32-6 Ja '51

Driving dog for lathe has large chucking range. W. J. Constandse. diags Am Mach 95:162 S 17 '51

Edgwick stub lathe. il Automobile Eng 41:29 Ja '51

Engine lathe grows sea legs; gimbals and spring legs enable installation on naval vessels. R. P. Sharer. il Am Mach 95:154-5 Je 11 '51

German sectionalized T-lathes to turn or face. il diags Am Mach 95:182-4 S 17 '51

Herbert stub lathe for large-diameter work. il Engineering 170:532 D 22 '50; Engineer 190:509-10 N 24 '50

How to choose and use automatic lathes. M. J. Rowan. il diags Am Mach 95:147-62 F 19 '51

How to get the most from your lathes. J. E. Hyler. il Iron Age 168:97-101 Ag 16; 69-73 Ag 23; 120-5 S 20 '51

Hydraulic brake and clutch put in Warner & Swasey turret lathes. il Am Mach 95:192 Jl 9 '51; Mach 57:228-9 Jl '51

Hydraulic copying lathe. il Engineer 190: 624-5 D 22 '50; Engineering 171:284-5 Mr 9 '51

Lathe fixture for grooving square work. R. Mawson. diags Mach 57:195-6 D '50

Machinability measurements on constant-pressure lathes. F. W. Boulger. bibliog il diags Tool Eng 27:25-30 Jl '51

Murad capstan lathe. il Automobile Eng 41: 299 Ag '51; Engineer 192:161-2 Ag 3 '51

Murad lathe. il Automobile Eng 41:29-30 Ja '51

New lathe has T-shaped bed. il Iron Age 166:104 D 14 '50

New lathes bore and rough turn at record rates; two lathes developed in Germany. C. W. Heppenstall. il Iron Age 166:85-7 N 9 '50

Niles heavy-duty engine lathes feature rigid construction. il Am Mach 95:180 F 5 '51

1951 production preview. il Am Mach 95:166-72 Ja 22 '51

Plate dog for lathe prevents axial shift of work. T. Brown. diags Am Mach 95:168 F 19 '51

Retracting facing tool eliminates second lathe operation. F. E. Riley. diag Steel 129:77-8 O 1 '51

Right angle chucking lathe; Lodge & Shipley co., Cincinnati. il Automotive Ind 104:52 Ja 1 '51; Mach 57:206-7 F '51

Rivett double-duty tool-room lathe. il Mach 57:197 N '50

Rivett precision turret lathe. il Mach 57: 201-2 Je '51

Sidney lathe equipped with Fluid Tracer. il Mach 57:224 Jl '51

16 in. axle lathe. il Engineer 192:99 Jl 20 '51

Small commutator lathe. il Engineer 190:510 N 24 '50; Engineering 170:466 D 8 '50; Elec R (Lond) 147:718 N 3 '50

Snyder vertical hydraulic lathe. il Automobile Eng 41:299 Ag '51

South Bend lathe adapted for winding solder into rolls of uniform weight. il Mach 57: 191 D '50; Steel 127:106 D 4 '50

Special lathe handles flame machining. C. Shank. il Am Mach 95:172 O 1 '51

Trepanning lathe, saves time and metal. il Steel 128:87-8 Mr 12 '51

Turret attachment on engine lathe faces off large work. A. Clarke. diag Am Mach 94: 121 O 30 '50

Two new lathes by the Heppenstall co. il Iron & Steel Eng 28:118-19 Mr '51

Use of a precision lathe in the preparation of biological thin sections. Z. M. Arnold. Science 114:242-3 Ag 31 '51

Welded steel components make lathes shock resistant. il Welding J 30:744-5 Ag '51; Iron Age 168:71 Ag 9 '51; Product Eng 22:164-5 O '51

Why and how of automatic turret lathes for chucking work. M. J. Rowan. il diags Am Mach 95:113-28 Je 25 '51

Work-holding fixtures for special lathe operations. D. M. Brandel. il diag Mach 57:192-3 Je '51

See also

Turning

Control

Application of automatics to small lot production; abstract. M. S. Curtis. il Machine Design 23:206-7+ Ap '51

Manufacture

Flame-hardening as a versatile production tool. G. H. Silver. il Mach 57:187-9 F '51

LATHES—*Continued*

Tailstocks

Lathe tailstock adapter for turning spherical surfaces. J. Homewood. diags Mach 57: 197 Mr '51

LATIN AMERICA

Oil man in Latin America. W. H. Sargent. Pet Eng 23:B73-4 Ap '51

See also

Credit—Latin America

Electricity supply—Latin America

Petroleum industry and trade—Latin America

Bibliography

Handbook of Latin American studies: 1947; prepared by the Hispanic foundation of the Library of Congress. 239p $8.50 Harvard univ. press, Cambridge, Mass. '51

Biography

Diccionario biográfico español e hispanoamericano. v 1, A-F 1014p $10 Instituto español de estudios biográficos, Palma de Mallorca, Spain; American agent Stechert-Hafner, 31 E. 10th st, New York 3 '50

Commerce

Latin American market; prospects for expansion of British exports. Economist 161: 410-12 Ag 18 '51

Latin-American trade with Canada shows gain. J. Montagnes. Barron's 31:17 Ja 15 '51

U.S. trade with Latin America, first half of 1951. E. M. Parrish. For Comm W 44:5+ S 10 '51

U.S. trade with Latin America, 1950; with charts and tables showing comparisons with other years. E. M. Parrish. For Comm W 43:3-5+ My 7 '51

U.S. trade with Latin American republics, Jan.-Sept. 1950; with tabulations and charts. E. M. Parrish. il For Comm W 42:3-4+ Ja 1 '51

Economic conditions

Uno looks at Latin America. Economist 160: 496-8 Mr 3 '51

Economic relations

United States

How can the western hemisphere help our defense effort? V. L. Horoth. il Mag of Wall St 87:377-9+ Ja 13 '51

Progress of the Institute of inter-American affairs; Point IV in action. K. R. Iverson. il For Comm W 43:3-5+ Ap 9 '51

U.S. drives for hemisphere mobilization for greater materials output. il map Bsns W p 125-6+ Ja 27 '51

Industries and resources

How can the western hemisphere help our defense effort? V. L. Horoth. Mag of Wall St 87:377-9+ Ja 13 '51

Latin America and the sinews of war. map Economist 160:83 Ja 13 '51

U.S. drives for hemisphere mobilization for greater materials output. il map Bsns W p 125-6+ Ja 27 '51

LAUCK, C. Harold

Topflight craftsmen. por Inland Ptr 126:81 O '50

LAUNCHING

Launch of the S.S. United States. il Engineer 192:221 Ag 17 '51

Launching a tunnel. il Welding J 30:363-4 Ap '51

Launching a tunnel at Gulf yard. J. F. Christensen. il Marine Eng 56:64-6 F '51

205 newsmen cover superliner's party. R. Erwin. Ed & Pub 84:58 Je 30 '51

LAUNDRIES

Compact, quick-steaming honey of a plant to run; Union Pacific railroad's new laundry. il plan diag Power 95:103-5 S '51

Diesel steam for a laundry; Union Pacific railroad laundry. il plan Power Eng 55:72-3 S '51

Seven steam generators serve railroad laundry. J. E. LaRocque. il plan Heating-Piping 23:90-1 Je '51

Steam requirements for commercial laundries. A. E. Hunter. il diags Heat & Ven 48:67-70 Je '51

Ventilating, cooling a laundry. Heating-Piping 23:107-8 S '51

See also

Linen supply service

Advertising

Kohnstamm fetes centennial with new sales film to sell women on laundry service. C. Downes. il Ind Marketing 36:38-9 F '51

Safety measures

Safety in the laundry and dry cleaning plant. B. P. Frank and L. M. Merritt. il Safety Maint & Prod 101:28-30 Ja '51

Waste

Laboratory studies on removal of plutonium from laundry wastes. J. F. Newell and others. bibliog flow diag Ind & Eng Chem 43:1516-19 Jl '51

LAUNDRIES (rooms)

Refresher course on laundry layout. il plans Dom Eng 178:98-9+ Jl '51

LAUNDRY

Effect of construction on the laundering shrinkage of knitted woolens. H. Bogaty and others. bibliog Textile Res J 21:102-9 F '51

Effect of laundering on dimensions and elastic properties of certain plain and rib knit cotton fabrics. H. M. Fletcher and W. D. Graham. bibliog Am Dyestuff Rep 39:759-64 N 13 '50

Launderability. F. R. Hill. bibliog Textile Inst J 42:P847-52; Discussion. 852-6 Ag '51

Progress in laundering, 1851-1951. F. C. Harwood. bibliog il Textile Inst J 42:P827-46 Ag '51

Soil removal from nylon; a study of the effect of various washing conditions. B. N. McKee and E. D. Roseberry. Rayon 32:62-4 My; 54-6 Je '51

What's new in home laundering. H. W. Kendall. Gas Age 107:28-9+ Mr 1 '51

See also

Laundries

LAUNDRY equipment

Progress in laundering, 1851-1951. F. C. Harwood. bibliog il Textile Inst J 42:P827-46 Ag '51

See also

Clothes dryers

Manufacture

Unit mechanizes steel lubricating; Maytag co. il Cer Ind 56:66-7 Mr '51

LAUNDRY machinery

Automatic sheet folding. Elec R (Lond) 148: 1179 Je 8 '51

Automatic sheet-folding machine. R. C. Walker. il Electronics 24:138 Ag '51

See also

Ironing machines, Electric

LAUNDRY marking pen. See Pens, Marking

LAUNDRY wastes. See Laundries—Waste

LAURENT, Auguste, 1807-1853

Auguste Laurent; guide and inspiration of Gerhardt. C. deMilt. bibliog por J Chem Educ 28:198-204 Ap '51

LAURIE, Arthur Pillans, 1861-1949

Sketch. F. I. G. Rawlins. Chem Soc J p429-30 Ja '50

LAUROYL peroxide

Decomposition of lauroyl peroxide in benzene and diethyl ether. W. E. Cass. Am Chem Soc J 72:4915-17 N '50

Decomposition of lauroyl peroxide in benzene and diethyl ether; abstract. W. E. Cass. Science 112:425-6 O 13 '50

LAVA

Differentiation in lavas of the Keweenawan series and the origin of the copper deposits of Michigan. H. R. Cornwall. bibliog fold maps(pl 1, 4) diags Geol Soc Bul 62:159-201, pl 2-3 F '51

Ilmenite, magnetite, hematite, and copper in lavas of the Keweenawan series. H. R. Cornwall. bibliog il Econ Geol 46:51-67 Ja '51

Mold of a rhinoceros in basalt, lower Grand Coulee, Wash. W. M. Chappell and others. bibliog map diags Geol Soc Bul 62:907-18, pl 1-2 Ag '51

LAVATORIES
Washrooms and lockers. il Nat Safety N 63:49+ Mr '51
See also
Bathroom fixtures

LAVELLE, Thomas
Lavelle of Lavelle aircraft corporation. por Aero Digest 63:34+ Ag '51

LAW
Know the law! recent decisions that will affect chemical industry and business. L. T. Parker. Chem Ind 67:899-901 D '50
See also
Advertising—Laws and regulations
Aeronautics—Laws and regulations
Banking law
Building laws and regulations
Commercial law
Corporation law
Damages
Debtor and creditor
Estates (law)
Expert evidence
Food laws and legislation
Gifts (law)
Government regulation of industry
Immunity (law)
Income tax
Insecticides—Law
Insurance law
Labor laws and legislation
Lawyers
Legal service
Legislation
Liability
Libel and slander
Liens
Limitation of actions
Mechanics' liens
Mortgages
Motor bus lines—Laws and regulations
Negotiable instruments
Partnership
Patent laws and legislation
Petroleum laws and regulations
Probate law
Public health laws
Railroad law
Sales
Securities—Law
State laws
Taxation
Trusts, Industrial—Law
Trusts and trustees
United States—Supreme court
Wages—Law
Wills
Workmen's compensation

Bibliography

Index to legal periodicals, August 1950 to July 1951. J. M. Maguire and I. V. Azian, eds. v44 307p H. W. Wilson co, New York 52 '51

Philosophy

Holmes was wrong; his philosophy needs reversing. Fortune 43:85-6 Je '51

LAW, Unauthorized practice of. See Legal service

LAW libraries
Law libraries in the U.S.A. K. H. Drake. Aslib Proc 3:98-101 My '51

LAW practice. See Legal service

LAWN mowers
Lawn mower makers cut wide sales swath. Steel 129:41-2 Ag 20 '51

Rating

Power lawn mowers. il Consumers Res Bul 28:17-20 Ag '51

LAWRENCE, Newbold T.
Portrait. Fortune 44:132 S '51

LAWRENCE college

Institute of paper chemistry

Annual executives' conference, 15th, Appleton, Wis. May 14-15. Chem & Eng N 29: 2140 My 28 '51; Paper Ind 33:270-1 Je '51

LAWYERS
Interrelationship between law and accountancy; a symposium. J Account 92: 62-71 Jl '51
See also
American bar association
Insurance, Life—Lawyers' cooperation
Legal education
Legal service
Trust companies—Lawyers' cooperation

Insurance requirements

See also
Insurance, Lawyers' liability

LAWYERS' liability insurance. See Insurance, Lawyers' liability

LAWYERS title insurance company
Security I like best. B. Williams. Comm & Fin Chr 174:786-7 Ag 30 '51

LAYOFF systems
Handling layoffs; a survey; abstract. Management R 40:344 Je '51

LAYOUT. See Automobile factories—Layout; Electric plants (central stations)—Layout; Factories—Layout; Knitting mills—Layout; Machine shops—Layout; Offices—Layout

LAYOUT models. See Models, Layout

LEACHING
Extraction of uranium. F. W. McQuiston, jr. Chem Age (Lond) 64:214-15 F 3 '51
Reverse leaching of zinc calcine. L. P. Davidson and others. flow sheet J Metals 191: Trans 134-6 F '51
Steady-state transfer problems; graphical solutions. E. B. Fitch. bibliog diags Chem Eng Prog 47:83-90 F '51
Utah's new uranium mill. J. A. Butler. flow sheets il Eng & Min J 152:56-62 Mr '51
See also
Hydrometallurgy

LEAD
Angular distribution of photons in showers in lead. J. W. Rose. diag Phys R 82:747-8 Je 1 '51
Anodic corrosion of lead in H_2SO_4 solutions. J. J. Lander. bibliog diag Electrochem Soc J 98:213-19 Je '51; Discussion. 98:522-3 D '51
Anomalous heat flow in superconductors. K. Mendelssohn and J. L. Olsen. bibliog Phys R 80:859-62 D 1 '50
Carrier-free radioisotopes from cyclotron targets; preparation and isolation of $Bi^{204,206}$ from lead. J. D. Gile and others. J Chem Phys 19:256 F '51
Cloud-chamber study of nuclear interactions in lead and aluminum. B. P. Gregory and J. H. Tinlot. bibliog il diags Phys R 81: 667-82 Mr 1 '51
Construction materials in the paper industry; acid pulping. K. H. Roll. il Chem Eng 57:224+ D '50
Data in chart form presents temperatures and concentrations for the corrosion of lead by sulfuric acid. M. G. Fontana. Ind & Eng Chem 43:sup 105A-6A S '51
Determination of the number of neutrons associated with the stoppage of negative μ-mesons in lead. G. Groetzinger and others. bibliog diags Phys R 81:969-72 Mr 15 '51
Distribution of impurities in alkali halides. E. Burstein and others. bibliog Phys R 81:459-60 F 1 '51
Inelastic scattering of 15-Mev neutrons by lead, iron, and aluminum. P. H. Stelson and C. Goodman. bibliog diag Phys R 82: 69-71 Ap 1 '51
Long-lived Bi^{207} and energy levels of Pb^{207}. H. M. Neumann and I. Perlman. bibliog Phys R 81:958-62 Mr 15 '51
Mean free path of penetrating shower producers. W. D. Walker and others. Phys R 80:546-8 N 15 '50
Photoproton reactions in lead. A. G. W. Cameron and others. bibliog Phys R 83:1264-5 S 15 '51
Plastic deformation of pure single crystals of lead and copper. P. W. Neurath and J. S. Koehler. diags J Ap Phys 22:621-6 My '51
Potential-pH diagram of lead and its applications to the study of lead corrosion and to the lead storage battery. P. Delahay and others. bibliog Electrochem Soc J 98:57-64 F '51
Range and straggling of protons between 35 and 120 Mev. N. Bloembergen and P. J. van Heerden. bibliog diags Phys R 83:561-6 Ag 1 '51
Raw materials for electric cable-making. A. King and D. McAllister. il Electrician 147: 399-408 Ag 10 '51
Role of peroxides in the corrosion of lead by lubricating oils. B. S. Wilson and F. H. Garner. bibliog pl Inst Pet J 37:225-38 My '51
Secondary emission of electrons from liquid metal surfaces. J. J. Brophy. diag Phys R 83:534-6 Ag 1 '51
Secondary nucleons in lead. E. Schopper and others. Phys R 82:445 My 1 '51
Separation of iridium from lead on a micro scale; gravimetric determination of iridium. R. R. Barefoot, W. J. McDonnell and F. E. Beamish. bibliog Anal Chem 23:514-16 Mr '51
Solubility of lead in zinc sulphate solutions. C. W. Barker, J. Powell and R. S. Young. Soc Chem Ind J 69:362-3 D '50

LEAD—*Continued*

Some optical properties of lead-activated sodium chloride phosphors. J. H. Schulman and others. bibliog il Opt Soc Am J 40: 854-62 D '50

Some preliminary studies of positive grid corrosion in the lead-acid cell. J. J. Lander. bibliog Electrochem Soc J 98:220-4 Je '51

Studies in the theory of the polarographic diffusion current; the effect of drop weight on the relationship between the diffusion current constant of lead and the drop time. L. Meites. Am Chem Soc J 73:3724-7 Ag '51

Surface conditions and the creep of extruded high-purity lead. R. C. Gifkins. Metallurgia 44:122 S '51

Surface effect on extruded lead and its alloys. R. C. Gifkins and H. C. Coe. il Metallurgia 43:47-8 Ja '51

Thermoelectromotive force of a superconductor versus the same metal in the nonsuperconductive state. M. C. Steele. bibliog diag Phys R 81:262-7 Ja 15 '51

Transition effect in Pb of the star-producing radiation in the stratosphere. M. M. Shapiro and others. il diag Phys R 83: 455-7 Jl 15 '51

Transition effects of star-producing cosmic radiation in lead. E. Schopper and others. bibliog diag Phys R 82:444-5 My 1 '51

Use of lead in the pulp and paper industry. V. P. Edwardes. il Paper Tr J 131:18-19+ O 26 '50

See also

Glass—Lead content

Lead metallurgy

Steel—Lead content

Analysis

Determination of copper by dithio-oxamide in lead and lead alloys. P. W. Wright. Soc Chem Ind J 69(sup no 2):S69-70 '50

Determination of lead as basic lead chromate and its application to the separation of lead from silver. F. C. Guthrie and J. T. Nance. bibliog J Ap Chem 1:109-11 Mr '51

Determination of lead as chloride; separation from bismuth and other elements. S. Kallman. Anal Chem 23:1291-3 S '51

Determination of the age of igneous rocks. S. Miholić. Chem Soc J p3402-5 D '50

Geochemical techniques as applied in recent investigations in the Tintic district, Utah. H. Almond and H. T. Morris. bibliog maps diags Econ Geol 46:608-25 S '51

Manual polarograph for rapid determinations of lead and cadmium in zinc. L. C. Copeland and F. S. Griffith. bibliog il diag Anal Chem 22:1269-71 O '50

New procedure developed for ore analysis. Chem & Eng N 29:4091-2 O 1 '51

Isotopes

Gamma-radiation from Pb^{206}. D. E. Alburger and G. Friedlander. bibliog Phys R 81:523-6 F 15 '51

Modification of the isotopic lead method for determination of geological ages. C. B. Collins and others. bibliog Phys R 82:966-7 Je 15 '51

Neutron capture γ-rays from lead and bismuth. B. B. Kinsey and others. bibliog Phys R 82:380-8 My 1 '51

Polonium isotopes produced with high energy particles. D. G. Karraker and D. H. Templeton. bibliog Phys R 81:510-16 F 15 '51

Radio-autographic determination of lead in stainless. L. R. Standifer and M. G. Fontana. il diag Metal Prog 60:65-9 Jl '51

Prices

Lead price, common grade, 1929-1950: tabulation. Iron Age 167:305 Ja 4 '51

Nonferrous prices; tabulation. Steel 128:129 Ja 1 '51

LEAD, Molten

Solubility of hydrogen in molten lead. W. R. Opie and N. J. Grant. J Metals 3:Trans 244-5 Mr '51

LEAD, Powdered

Leaded lubricants for heavy duty service. K. H. Roll. il Mill & Factory 48:85-7 Ap '51

Shipments of lead powder, 1943-1950; tabulation. Iron Age 167:342 Ja 4 '51

Special leaded lubricants meet severe service demands; grease containing finely powdered metallic lead. K. H. Roll. Steel 127:98-9 N 13 '50

LEAD acetates

Preparation of 3-acetoxy-2 : 4-pentandione, and some by-products in acetoxylations with lead tetraacetate. W. Cocker and J. C. P. Schwarz. Chem & Ind p390 My 19 '51

LEAD alloys

Aging effects in copper-lead alloy plating solutions of the cyanide-tartrate type. N. W. Hovey and others. Electrochem Soc J 98:155-9 Ap '51

Electrodeposition of copper-lead alloys. A. L. Ferguson and N. W. Hovey. bibliog il Electrochem Soc J 98:146-54 Ap '51

Investigation of creep, fracture, and bending of arsenical lead alloys for cable sheathing, series 1949. C. W. Dollins. bibliog Ill U Eng Exp Sta Bul 394:1-60 '50 (pa 90c)

Lead-alloy sheaths for underground power cable. H. Halperin and C. E. Betzer. bibliog Elec Eng 70:415-20 My '51

Lead alloy sheaths stand greater bending stresses. C. E. Betzer. Elec World 135:86 Je 4 '51

Solidification of lead-tin alloy droplets. J. H. Hollomon and D. Turnbull. bibliog il J Metals 3:Trans 803-5 S '51

Surface effect on extruded lead and its alloys. R. C. Gifkins and H. C. Coe. il Metallurgia 43:47-8 Ja '51

Analysis

Determination of copper by dithio-oxamide in lead and lead alloys. P. W. Wright. Soc Chem Ind J 69(sup no 2):S69-70 '50

LEAD bromide

Ceramic coatings prevent exhaust gas corrosion. Steel 128:98+ Je 18 '51; Same. Automotive Ind 105:36-7+ Ag 1 '51; Same. Cer Ind 57:51-2 Ag '51; Same. Franklin Inst J 252:347-8 O '51; Same abr. Product Eng 22: 165-7 Jl '51; Same cond. Iron Age 168:118 S 6 '51; Same cond. Materials & Methods 34: 142+ Jl '51

Melting point of lead bromide. L. M. Knowles. bibliog Am Chem Soc J 72:4817 O '50

Melting point, oxidation and vapor pressure of lead bromide. J. L. Hyde. Am Chem Soc J 73:1860-1 Ap '51

LEAD burning

Hints on how to weld sheet lead. diags Power Eng 54:82-3 N '50; Same. Welding J 30: 173-4 F '51; Same cond. il Oil & Gas J 49:111-12 F 15 '51

Making lead pipe joints. L. S. Bowser. il diags Welding J 30:362-3 Ap '51; Same. Paper Ind 33:435 Jl '51

LEAD carbonate

Influence of certain inorganic salts on the flotation of lead carbonate. M. Rey and others. Min Eng 187:Trans 1126 N '50

LEAD chloride

Determination of lead as chloride; separation from bismuth and other elements. S. Kallman. Anal Chem 23:1291-3 S '51

LEAD chlorofluoride

Amperometric titration of fluoride with lead. H. G. Petrow and L. K. Nash. bibliog Anal Chem 22:1274-7 O '50

LEAD chromate

Determination of lead as basic lead chromate and its application to the separation of lead from silver. F. C. Guthrie and J. T. Nance. bibliog J Ap Chem 1:109-11 Mr '51

LEAD compounds

Lead alunite. H. Bassett. Chem Soc J p 1460-1 Je '50

Organo-lead compounds; a new method for preparing diethyl-lead salts; derivatives of mixed plumbanes. R. Heap, B. C. Saunders and G. J. Stacey. Chem Soc J p658-64 Mr '51

Organolead compounds containing an azo linkage. H. Gilman and C. G. Stuckwisch. bibliog Am Chem Soc J 72:4553-5 O '50

Organo-lead compounds; *N*-trialkylplumbisulphonamides. B. C. Saunders. Chem Soc J p684-7 F '50

Polarographic studies of metal complexes; the lead(II) tartrates and oxalates. T. Meites and L. Meites. bibliog Am Chem Soc J 73:1161-4 Mr '51

LEAD compounds—*Continued*
Salts of perrhenic acid; the group II cations, copper(II) and lead(II). W. T. Smith, jr. and G. E. Maxwell. bibliog Am Chem Soc J 73:658-60 F '51

LEAD dithizonate
Spectrophotometric studies of dithizone and some dithizonates; molecular extinction coefficient of dithizone in carbon tetrachloride. S. S. Cooper and Sister M. L. Sullivan. bibliog Anal Chem 23:613-18 Ap '51

LEAD fluochloride
Standard X-ray diffraction patterns. H. E. Swanson and E. Tatge. bibliog J Res Nat Bur Stand 46:318-27 Ap '51

LEAD industry and trade
Lead in 1950. G. M. Wiles. il Min Cong J 37:51-2 F '51
Lead rationed by NPA as freeze cuts supply. Barron's 31:35 Ap 9 '51
Lead shortage ending as battery glut looms. Barron's 31:35 Jl 30 '51
Lead shortage likely to prove exaggerated. Barron's 31:27 My 28 '51
NPA orders allocation of soft pig lead supply. Oil Paint & Drug Rep 160:3 Jl 30 '51
Nonferrous metals, annual review. S. D. Strauss. Min Eng 190:110-12 F '51

Statistics

Lead, 1950. R. L. Ziegfeld. Eng & Min J 152:82-4 F '51
Recovery of secondary lead in the U.S.; 1943-1949; tabulation. Iron Age 167:308 Ja 4 '51
U.S. lead, refiners' stocks, production, shipments; lead die castings, consumption of lead in U.S. 1950; tabulations. Steel 128:131 Ja 1 '51

LEAD lining
New developments expand use of lead construction. K. H. Roll. il diags Materials & Methods 33:69-73 My '51

LEAD metallurgy
Experimental treatment of oxidized lead-silver ore from Eureka, Nev. A. L. Engel. flow sheets U S Bur Mines Rep of Invest 4762:1-9 '51
Influence of certain inorganic salts on the flotation of lead carbonate. M. Rey and others. Min Eng 187:Trans 1126 N '50
New Reeves-MacDonald mill. J. B. Huttl. flow sheet il Eng & Min J 152:84-5 Ja '51
Vacuum treatment of Parkes' process crusts on a pilot-plant scale. A. W. Schlechten and R. F. Doelling. diags J Metals 3:Trans 327-30 Ap '51

LEAD mines and mining
Mine gob from old stopes; how Day mines, inc. recovers lead-zinc ore. R. Farmin. il diag Min Cong J 37:38-9 Mr '51

Germany

Promising lead-zinc district awaits development. H. Fritzsche. flow sheet il plan diags Eng & Min J 152:96-101 Je '51

Idaho

Pine Creek; where small mines are becoming major producers. J. C. Kieffer. il map Eng & Min J 152:90-3 Je '51

Illinois

Exploration for lead and zinc; procedures used in the Illinois-Wisconsin district. H. B. Ewoldt and R. R. Reynolds. il diag Min Eng 3:230-1 Mr '51

Kansas-Oklahoma-Missouri district

Aspects of structure and mineralization used as guides in the development of the Picher field. J. P. Lyden. bibliog maps diags Min Eng 187:Trans 1251-9 D '50
Graphic statistical history of the Joplin or Tri-state lead-zinc district. J. S. Brown. map Min Eng 3:Trans 785-90 S '51

Missouri

Investigation of Canyon Diggings zinc-lead deposit, Newton county, Mo. L. C. Brichta and S. A. Allen. bibliog 3pls U S Bur Mines Rep of Invest 4745:1-115 '51

Morocco

Private Point four in Morocco. H. Solow. il map Fortune 44:107-11+ S '51

Nevada

Investigation of Copper Canyon lead-zinc deposit, Lander county, Nev. R. R. Trengove. 6pls U S Bur Mines Rep of Invest 4774:1-61 '51

Pennsylvania

Investigation of the Almedia lead-zinc deposit, Columbia county, Pa. K. M. Earl. 3pls U S Bur Mines Rep of Invest 4743:1-9 '50

Wisconsin

Exploration for lead and zinc; procedures used in the Illinois-Wisconsin district. H. B. Ewoldt and R. R. Reynolds. il diag Min Eng 3:230-1 Mr '51

LEAD ores
Geology of the Broken Hill ore deposit, Broken Hill, N.S.W., Australia. J. K. Gustafson and others. maps diags Geol Soc Bul 61:1369-437, pl 1-8 bibliog(p 1436-7) D '50
Temperatures of mineral formation in bottom-run lead-zinc deposits of the upper Mississippi valley, as indicated by liquid inclusions. S. W. Bailey and E. N. Cameron. map diags Econ Geol 46:626-51 bibliog(p650-1) S '51
See also
Galena

LEAD oxides
Red lead rises. Chem Ind W 68:14 Ja 27 '51
Rust formation and the action of red lead. M. Ragg. Paint Oil & Chem R 113:21-2+ O 26 '50
Selective oxidations with red lead. L. Vargha and M. Reményi. Chem Soc J p 1068-9 Ap '51

LEAD poisoning
Appraisal of a urinary porphyrin test in detection of lead absorption. A. L. Brooks. Ind Med 20:390-2 S '51
Critical appraisal of current practices in the clinical diagnosis of lead intoxication. R. A. Kehoe. bibliog Ind Med 20:253-9 Je '51
Shot; one way or another; lead poisoning of water fowl. Consumers Res Bul 27:20 Ap '51
Treatment of lead poisoning with sodium citrate. H. L. Hardy and others. bibliog A M A Archives Ind Hygiene & Occup Med 3:267-78 Mr '51

LEAD silicates
Quenching vitreous body adds strength. F. A. Hummel and H. E. Lowery. bibliog Cer Ind 56:93-4 Je '51

LEAD sulfide
See also
Galena

LEAD tetraacetate
Lead tetraacetate oxidation of pregnenolone benzoate. O. Mancera. Am Chem Soc J 72:5752-3 D '50
Quantitative recovery of carbon dioxide in lead tetraacetate oxidations of sugars and sugar derivatives. S. Abraham. bibliog diag Am Chem Soc J 72:4050-3 S '50

LEAD titanate
Anomalous specific heat of lead titanate. G. Shirane and E. Sawaguchi. bibliog Phys R 81:458-9 F 1 '51
X-ray study of the phase transition in lead titanate. G. Shirane and others. Phys R 80:1105-6 D 15 '50

LEAD welding. See Lead burning

LEAD work
New developments expand use of lead construction. K. H. Roll. il diags Materials & Methods 33:69-73 My '51

LEAD zirconate
Antiferroelectric structure of lead zirconate. E. Sawaguchi and others. bibilog diag Phys R 83:1078 S 1 '51
Phase transition in lead zirconate. G. Shirane and others. Phys R 80:485 N 1 '50
Piezoelectric effect in lead zirconate. S. Roberts. Phys R 83:1078 S 1 '51

LEADERS (merchandizing)
See also
Advertising—Leaders

LEADERSHIP
Are you training tomorrow's leaders? F. H. Reed. Am Mach 95:164-5 S 3 '51
Dynamic leadership needs a sound base. S. E. Bryan. Advanced Management 16:4-7 S '51

LEADERSHIP—*Continued*

Education for business leadership. C. L. Jamison. Advanced Management 16:4-7 My '51

How good a leader are you? A. Uris. Factory Management 109:68-70 Jl '51

How good a leader are you at communicating with employees? A. Uris. Factory Management 109:104-6 S '51

How good a leader are you at shaping attitudes? with test. A. Uris. Factory Management 109:104-6 Ag '51

Importance of fundamental knowledge in developing leaders in mutual support of education and industry becomes requisite. A. P. Sloan, jr. il Tech R 53:469-72+ Jl '51

Leadership; a new slant. A. Uris. Food Eng 23:69-70+ S '51

Leadership aspects of administrative behavior. C. L. Shartle. Advanced Management 15:12-15 N '50

Management and the community. R. H. Rich. Advanced Management 16:5-6 F '51

People in groups; three aspects of the problem; communication, leadership and interaction. D. B. Hertz and S. L. Lesser. il Sci Am 184:26-8 F '51

Role-playing in leadership training; union education. A. A. Liveright. Personnel J 29:412-16 Ap '51

Significant research on leadership. C. E. Goode. bibliog Personnel 27:342-50 Mr '51

Skits in leadership training. A. A. Liveright. Personnel J 30:64-6 Je '51

What makes a leader? Chem Eng 58:252+ My '51

LEADSCREWS

Stationary leadscrew gages facing jobs. T. Gray. Am Mach 95:134 Mr 5 '51

LEAFHOPPERS

Insect transmission of western X-disease of peaches. H. R. Wolfe and others. bibliog Science 113:558-9 My 11 '51

LEAK detectors

Air-vacuum test machines. il Comp Air Mag 55:283 D '50

Handy kink for detecting gas leakage. W. F. Schaphorst. diag Marine Eng 56:60 O '51

Instrument detects leaks in vacuum systems. il Product Eng 22:222 My '51; R Sci Instr 22:348 My '51

Leak detection on sub-aqueous raw water intake line; Wyandotte, Mich. G. Hazey. il diag Water & Sewage Works 98:382-4 S '51

Leak location by radioactive gases in buried pipes. A. Gemant and others. bibliog diags J Ap Phys 22:460-4 Ap '51

Locate transformer gas leaks with halogen detector. R. S. Pindar. il Elec World 135:76 Ja 15 '51

Location of buried pipe and hidden leaks. H. Bernard. diags Water & Sewage Works 98:440-1 O '51

New method for the rapid detection and location of microscopic leaks in cans; abstract. P. H. Lefebvre. Food Ind 23:171 Mr '51

Sensitive leak control. M. H. Mueller and R. B. Bilinski. diag R Sci Instr 22:704 S '51

LEAR, William Powell, 1902-

Winner of the Collier trophy for 1950. Elec Eng 70:174-5 F '51

LEARNING, Psychology of

Learning and the associative pathways of the human cerebral cortex. K. U. Smith. bibliog diags Science 114:117-20 Ag 3 '51

Spinal cats walk. P. S. Shurrager. il Sci Am 183:20-2 N '50

LEASES

For rent; a built-to-order plant or office. il Am Bsns 20:18-19+ O '50

ICC hits leasing. Bsns W p 118+ F 24 '51

Lose with profit; sell and lease-back. Bsns W p83-5 My 5 '51

Recent developments in lease financing. A. Bornemann. bibliog Land Econ 27:225-34 Ag '51

Sale and lease-back agreements for utilities. C. H. Ross. Pub Util 48:424-8 S 27 '51

Sale-leasebacks are getting popular. J Account 91:875-6+ Je '51

Signing a lease? here are 13 points the contractor can use to protect himself. Dom Eng 176:91+ D '50; 177:106+ Ja '51

LEAST squares

New formulation of the least-squares calculation of atomic constants. J. A. Bearden and H. M. Watts. bibliog Phys R 81:160-1 Ja 1 '51

Nonindependent observational equations in the theory of least squares. E. R. Cohen. bibliog Phys R 81:162 Ja 1 '51

Re-evaluation of the fundamental atomic constants. J. A. Bearden and H. M. Watts. bibliog Phys R 81:73-81 Ja 1 '51; Correction. 83:457 Jl 15 '51

LEAST work, Principle of

Analysis of redundant systems by means of the conception of conservation of energy. T. M. Charlton. bibliog Franklin Inst J 250:543-51 D '50

LEATHER

Factors affecting the service life of leather in wool processing. R. M. Koppenhoefer. il Am Dyestuff Rep 40:469-72 Jl 23 '51

How leather serves industry; illustrations with text. Mill & Factory 48:109-12 My '51

International union of leather chemists societies conference, London; abstracts of papers. Chem Age (Lond) 65:349-50 S 15 '51

Bibliography

List of resources on leather. J. D. Eppler and others. J Retailing 26:180-3 Winter '50

Manufacture

Leather production stepped up with infrared. L. Albertson. il Elec World 135:140 F 12 '51

History

Leather making. H. G. Turley. bibliog il Ind & Eng Chem 43:305-7 F '51

Protection

New fungicides for leather. Chem Age (Lond) 63:875-6 D 23 '50

Rot research. il Chem Ind W 68:15-16 F 3 '51

Shrinkage

High-pressure apparatus for compressibility studies and its application to measurements on leather and collagen. C. E. Weir. bibliog diags J Res Nat Bur Stand 45:468-76 D '50

Testing

Sampling of upper leather for shoes. Franklin Inst J 251:387-9 Mr '51

Statistical solution of a problem arising in the sampling of leather. J. Mandel and C. W. Mann. bibliog diag J Res Nat Bur Stand 46:99-105 F '51

LEATHER, Substitutes for

Rival for leather; Goodyear's Neolite synthetic. il Bsns W p 108-10 F 24 '51

LEATHER chemists' societies, International union of. See International union of leather chemists' societies

LEATHER industry and trade

Leather chemists optimistic in face of low tannin supplies. Chem & Eng N 29:2630-1 Je 25 '51

Military orders cut into leather supply. Barron's 31:35 Ja 8 '51

Belgium

Imports and exports of hides, skins, and leather, Jan.-Sept. 1950; tabulation. For Comm W 42:18 F 26 '51

Norway

Norway's production and trade. For Comm W 43:25 Ap 30 '51

LEATHER research

Preventing mould on leather. Chem Age (Lond) 64:204 F 3 '51

LEAVER, E. Mard

Kellogg company's sales manager. por Sales Management 67:40 O 1 '51

LEAVES

Pushing up leaves in Princeton. I. R. Riker. il Pub Works 82:38 F '51

Volumetric determination of calcium and magnesium in leaf tissue. A. E. Willson. bibliog Anal Chem 22:1571-2 D '50

LEBANON

Economic conditions

News by countries. For Comm W 43:16 Je 4; 44:13 S 10 '51

LEBANON—*Continued*

Politics and government

Lebanon at the polls. map Economist 160:989-90 Ap 28 '51

LEBLANC, Dudley Joseph, 1894-
Hadacol sold? por Bsns W p26 S 1 '51
If it breathes, it's a salesman; LeBlanc promotes patent medicine; Hadacol. por Bsns W p72+ Ja 6 '51
What happened to Hadacol? Bsns W p24-5 O 13 '51

LEBLOND, Richard E. 1900-
Iron age salutes. por Iron Age 166:85 D 14 '50

LEBOW, Victor
To compete today, accept change; interview. pors Bsns W p53-6+ Mr 3 '51

LECITHINASE
Inhibition of the lecithinase of clostridium perfringens by some reducing agents. L. D. Smith and M. V. Gardner. bibliog Franklin Inst J 250:465-71 N '50

LEDERER, Edgar, 1908-
Lederer earns Fritzsche award for polyterpene research. por(cover) Chem & Eng N 29:1650 Ap 23 '51

LEE, Everett Samuel, 1891-
E. S. Lee to edit General electric review. Elec World News ed 135:22 F 5 '51

LEE, John C.
Portrait. Fortune 44:22 Jl '51

LEE, Thomas S., enterprises, inc.
General Tire pension trust buys radio network. Bsns W p 112+ N 4 '50

LEEDS, Morris Evans, 1869-
Iron age salutes. por Iron Age 166:103 D 7 '50

LEEDS, England

Libraries

Resources of the Leeds public libraries for the study of commerce, science and technology. E. Hargreaves. Aslib Proc 3:123-30 My '51

LEEDS university

Library

Facilities for the study of technology. B. S. Page. Aslib Proc 3:131-6 My '51

LEG
Leg ulcers; practicable methods of treatment. J. A. Sanfilippo. bibliog Ind Med 20:245-6 My '51

LEGAL education
Law school course in practical estate planning. A. Harsch. Trusts & Estates 90:292-4 My '51; Discussion. 90:436-42 Jl '51
What lawyers are doing to further continuing professional education. J. E. Mulder. J Account 91:444-6 Mr '51

LEGAL forms. See Forms (law)

LEGAL service
Illegal practice of law. G. Brunk. Nat Underw (Life ed) 55:3 Ag 31 '51
Life insurance agent and the practice of law. J. Barker, jr. East Underw 52:26-7+ pt 2 O 5 '51; Excerpts. Nat Underw (Life ed) 55:8 My 25 '51
Text of opinion in Conway case; Minnesota Supreme court upholds conviction of tax expert for unauthorized practice of law. J Account 92:331-7; Editorial comment. 289-90 S '51
Unauthorized practice of law; objection to use of simple trust agreement form. J. Barker. East Underw 51:12 O 27 '50
See also
Tax consultants

LEGENDRE'S functions
Associated Legendre polynomial approximations. R. Landauer. bibliog J Ap Phys 22:87-9 Ja '51
Axially symmetric systems for generating and measuring magnetic fields. M. W. Garrett. bibliog diags J Ap Phys 22:1091-107 S '51

LEGGE, Robert Thomas, 1872-
Who's who in industrial medicine. por Ind Med 20:236-40 My '51

LEGH-JONES, Sir George, 1890-
Petroleum profile. por Pet Eng 22:A58 N '50

LEGIBILITY
What's wrong with tv typography today? J. M. Secrest. il Ptr Ink 236:26-7 Ag 31 '51

LEGISLATION

History

Bibliography

Union list of legislative histories. 78p pa $1 Law librarians' society of Washington, M. C. Vance, 616 Continental bldg, Washington 5, D.C. '50

LEGS, Artificial. See Artificial limbs

LEGUMES
Effect of germination on the carotene content of pulses and cereals. H. Chattopadhyay and S. Banerjee. bibliog Science 113:600-1 My 25 '51

LE HAVRE. See Havre, France

LEHIGH portland cement company
Companies which should maintain their dividends in 1951; with comparative balance sheet items. Mag of Wall St 87:385 Ja 13 '51

LEHIGH Valley railroad
Hopes pinned on rate case. Barron's 31:20 My 28 '51
Lehigh Valley's new look. H. F. Atwater. Comm & Fin Chr 174:160-1 Jl 12 '51

LEHMAN brothers
Celebrate centenary. Comm & Fin Chr 172:2539 D 28 '50

LEHRS. See Glass furnaces

LEICESTER, Thomas William Edward Coke, 5th earl of
Experiences at the Earl of Leicester's library at Holkham. W. O. Hassall. Aslib Proc 2:245-8 N '50

LEIPZIG fair
Leipzig technical fair. il plan diags Engineer 191:406-8, 451-3 Mr 30-Ap 6 '51

LEISURE
See also
Retirement

LEMON trees
Grapefruit and lemon gums; the ratio of sugars present in the gums and the structure of the aldobionic acid(4-D-glucuronosido-D-galactose) isolated by graded hydrolysis of the polysaccharides. J. J. Connell and others. Chem Soc J p1696-700 Jl '50

LEMP, Hermann, 1862-
Henderson medal awarded to H. Lemp. Ry Age 131:61+ Ag 20 '51

LENGTH measurement
Optical projection method for measuring fiber length. T. Fyfe. bibliog il Tappi 34:306-10 Jl '51
Wave-lengths of mercury 198. W. F. Meggers and K. G. Kessler. bibliog Opt Soc Am J 40:737-41 N '50

LENGTH of life. See Longevity

LENNARD-JONES and Devonshire equation
Lennard-Jones and Devonshire equation of state of compressed gases and liquids. R. H. Wentorf, jr. and others. bibliog J Chem Phys 18:1484-500 N '50

LENNARD-JONES equation
Discrete energy levels associated with the Lennard-Jones potential. J. E. Kilpatrick and M. F. Kilpatrick. J Chem Phys 19:930-3 Jl '51

LENS cleaners
Visible success; eyeglasses cleaner and defogger. Chem Ind 67:553 O '50; [cont as] Chem Ind W 68:44-5 Ja 27 '51

Rating

Lens cleaners; Sight Savers and Siliconize. Consumers Res Bul 26:24 D '50

LENSES
Algebraic prism formula applicable to lenses. F. Mooney. diag Opt Soc Am J 41:644-5 S '51
Extension of a system for differential correction of lens systems to include second-order terms. N. J. Rumsey. bibliog Opt Soc Am J 41:229-34 Ap '51
Five-inch molded silver chloride correctors for a Kellner-Schmidt system. J. C. Evans and T. A. King. il diag Opt Soc Am J 41:510-12 Ag '51
Path-length microwave lens. D. G. Kiely. diags Wireless Eng 28:248-50 Ag '51
Ray tracing using the IBM card programmed electronic calculator. W. A. Allen and R. H. Stark. diags Opt Soc Am J 41:636-40 S '51

LENSES—*Continued*

Advertising

We sold the doctors first; now to consumers with new name and guarantee; Univis lens co. R. O. Barber. il Ptr Ink 235:34-5 Ap 6 '51

Testing

Adjustable lens holder. E. J. Tappere. diags J Sci Instr 28:209-10 Jl '51

LENSES, Photographic

Differential correction of an optical system. A. E. Glancy. diags Opt Soc Am J 41:389-96 Je '51

Jap lenses superior, Korea photog finds. J. L. Collings. Ed & Pub 84:36 Jl 14 '51

New form of *f*/0·71 lens for 35 mm cineradiography. C. G. Wynne. diag J Sci Instr 28:172-3 Je '51

Quality of photographic lenses. Consumers Res Bul 28:10 Jl '51

Spurious resolution of photographic lenses. R. N. Hotchkiss and others. il Opt Soc Am J 41:600-3 S '51

Underwater photography. A. Ivanoff. il diags Opt Soc Am J 41:645-6 S '51

Wide-angle, underwater camera lens. E. M. Thorndike. il diag Opt Soc Am J 40:823-4 D '50

Testing

Diffuse and collimated T-numbers. A. E. Murray. bibliog il diags Soc Motion Picture & Tv Eng J 56:79-85 Ja '51

New resolving power test chart. F. E. Washer and F. W. Rosberry. il Opt Soc Am J 41:597-600 S '51

LEONTIEF, Wassily W. 1905-

Economists. J. McDonald. por Fortune 42:108-13+ D '50

LEPIDINE

Arylamino-(dialkylaminoalkylamino)-derivatives of quinaldine and lepidine. A. Adams and D. H. Hey. Chem Soc J p3185-9 D '49

New therapeutic agents of the quinoline series; 2-, 3-, and 4-pyridylquinolines, 4-pyridylquinaldines, and 2-pyridyl-lepidines. D. H. Hey and J. M. Williams. Chem Soc J p 1678-83 Jl '50

LEPIDOLITE

Quantitative spectrochemical analysis of rubidium in lepidolite. L. H. Ahrens and L. G. Gorfinkle. Am J Sci 249:451-6 Je '51

LEPIDOPTERA

International commission on zoological nomenclature and the name of the monarch butterfly. R. F. Ferreira d'Almeida and J. Oiticica, F. Science 113:728-9 Je 22 '51

Monarch butterfly. N. D. Riley. Science 114:75-6 Jl 20 '51

Recent proposal to correct an error committed by the International commission on zoological nomenclature at the Paris 1948 meeting. W. D. Field and others. Science 113:68-70 Ja 19 '51

LEPTOSPIROSIS

Occupational diseases transmitted via contact with animals and animal products. H. K. Abrams and P. Warr. bibliog Ind Med 20:341-51 Ag '51

LERNER, Abba Ptachya

Economists. J. McDonald. por Fortune 42:108-13+ D '50

LESS-than carload freight. See Freight car service—Car load

LETHANE

Further studies on aerosol formulations with lethane and other toxicants. F. B. Maughan and others. Soap & San Chem 27:125+ F '51

LE TOURNEAU, R. G., inc.

Rising profits paving way for dividend. Barron's 31:11-12 S 3 '51

LETTERHEADS

Here are letterheads that keep pace with modern trends. Am Bsns 21:20, 22-3 F '51

Offset-lith or rubber stereos. E. St John. il Inland Ptr 127:49-50 My '51

Winners of the Inland Printer letterhead contest. Inland Ptr 126:59-60 F '51

LETTERS, Business. See Commercial correspondence

LETTERS of credit

To avoid unnecessary risks in foreign trade insist on letters of credit for exports. A. J. Kelley. Credit & Fin Management 53:14-15 Mr '51

LETTERS of recommendation. See Recommendation, Letters of

LETTUCE

Contamination of vegetables grown in polluted soil. W. Rudolfs and others. bibliog Sewage & Ind Wastes 23:478-85, 656-60 Ap-My '51

LEUCINE

Preparation of pure N-acetyl-L-leucine and L-leucine. H. D. DeWitt and A. W. Ingersoll. Am Chem Soc J 73:3359-60 Jl '51

Resolution of amino acids; isoleucine, alloisoleucine, leucine and norleucine. W. A. H. Huffman and A. W. Ingersoll. bibliog Am Chem Soc J 73:3366-9 Jl '51

LEUCKART reaction

Conversion of aromatic aldehydes into primary amines by a simple adaptation of the Leuckart reaction. K. G. Lewis. Chem Soc J p2249-50 Ag '50

LEUCOCYTES

Growth of human leukemic leucocytes in vitro and in vivo as measured by uptake of P^{32} in desoxyribose nucleic acid. E. E. Osgood and others. bibliog Science 114:95-8 Jl 27 '51

Influence of ascorbic acid pretreatment on the leukocyte response of rats exposed to sudden stress. H. Bacchus and C. A. Toompas. bibliog Science 113:269-70 Mr 9 '51

Pulmonary circulation as a source of leucocytes and platelets in man. H. R. Bierman and others. bibliog Science 114:276-7 S 14 '51

See also

Eosinophils

LEUCYLPROLINE anhydride

Isolation of L-leucyl-L-proline anhydride from microbiological fermentations. J. L. Johnson, W. G. Jackson and T. E. Eble. Am Chem Soc J 73:2947-8 Je '51

LEVEES

Easy-to install drain wells placed behind leaking levee. W. R. Jones. il diag Eng N 146:37 My 17 '51

Puddled-clay cutoff walls stop sea-water infiltration; subsidence basin of the Wilmington and Long Beach, Calif., harbor areas. A. D. Rhodes. il Civil Eng 21:71-3 F '51

LEVELING

Land leveling procedure utilizes heavy equipment. W. L. Meikle. il Civil Eng 20:715-18 N '50

LEVELLAND, Texas

Levelland stands out among prosperous towns of Texas' South plains. il Manuf Rec 119:39 N '50

LEVER brothers and Unilever, limited

Statement by the chairman at annual general meeting. G. Heyworth. Economist 161:122-5 Jl 14 '51

Unilever universe; with consolidated profits analysis and balance sheet, 1949-1950. Economist 160:1517-19 Je 23 '51

LEVERAGE. See Stocks—Leverage

LEVERHULME, William Hesketh Lever, 1st viscount, 1851-1925

Man of vision. por Chem Age (Lond) 65:397-8 S 22 '51

LEVIEN, J. W. J.

Dinner given in honor. C. Axman. pors East Underw 52:21-2 O 12 '51

LEVINSON, Horace Clifford

Operations research. H. Solow. por Fortune 43:105-7+ Ap '51

LEVULINIC acid

Polycyclic compounds; reactions of the Mannich base of levulinic acid. R. M. Dodson and P. Sollman. bibliog Am Chem Soc J 73:4197-9 S '51

Analysis

Levulinic acid from wood cellulose. T. R. Frost and E. F. Kurth. diags Tappi 34:80-6 F '51

LEVULOSANS. See Fructosans

LEVY, Walter James, 1911-

Portrait. Bsns W p 135 Jl 28 '51

Top economic oil expert. por Fortune 44:126 S '51

LEWIS, E. St Elmo, 1872-1948

Two added to advertising Hall of fame. por Ed & Pub 84:9 Je 16 '51

LEWIS, Essington, 1881-

Greatest Australian. por Fortune 42:84 N '50

LEWIS, John Llewellyn, 1880-

In the new Washington he is very much to the fore. F. Morley. Barron's 31:3 F 12 '51

Lewis joins war on Reuther. Bsns W p32 Je 30 '51

LEWIS, Samuel R. 1878-

Samuel R. Lewis to receive F. Paul Anderson medal. por Heating-Piping 23:129 F '51

LEWIS, William Bennett, 1904-

Kenyon & Eckhardt's new president. H. Woodward. por Sales Management 67:40 O 15 '51

LEWISOHN, Sam A. 1884-1951

Sketch. Management R 40:178 Ap '51

LIABILITY

Absolute liability of defendant made rule in Connecticut blasting cases whether cause is vibration or hurling of debris. Weekly Underw 164:1236 My 12 '51

Corporations are liable to exact terms of appliance sales contracts. L. T. Parker. Am Gas J 174:31-2+ Je '51

How to avoid liability when ejecting passengers. L. T. Parker. Bus Transportation 30:55-7 F '51

Legal liability for damage caused by the origin or spread of fire. E. J. O'Brien. Weekly Underw 164:323-5 F 3 '51

Liability of fiduciaries in operating business enterprises. D. F. McClatchey. Trusts & Estates 90:528-9 Ag '51

Overhead wires and the legal limits of liability. A. W. Gray. Power Eng 55:84-5 F '51

Public liability considerations involved in utility-contractor relationship. M. Springer. bibliog Am Gas J 174:19-21 Mr '51

Who is liable in fuel delivery for faulty equipment. J. R. Baylor. Nat Underw 55:20 S 27 '51

See also

Bailment
Bank liability
Damages
Employers' liability
Insurance, Liability
Manufacturers' liability
Negligence
Personal injuries
Workmen's compensation

LIABILITY insurance. See Insurance, Liability

LIBEL and slander

Court holds "black market" is libelous. A. W. Gray. Ed & Pub 84:34 S 8 '51

Double meaning story puts libel up to jury. A. W. Gray. Ed & Pub 84:110 Ap 28 '51

Illinois court holds Negro not libelous. A. W. Gray. bibliog Ed & Pub 84:51 Ag 11 '51

Individual can't collect on criticism of class. A. W. Gray. Ed & Pub 84:34 Mr 24 '51

Libel must be specific, courts generally hold. A. W. Gray. Ed & Pub 83:54 N 18 '50

Paper is vindicated in lawsuit comment; Tri-City herald. Ed & Pub 84:64 Ap 28 '51

Plea of justification must sustain sting. A. W. Gray. Ed & Pub 84:37 Jl 21 '51

Rousset case. Economist 160:141 Ja 20 '51

LIBERAL education

Chemistry as a liberal art. S. Buchanan. J Chem Educ 28:318-21 Je '51

LIBERAL party (Great Britain)

Liberal voters; Liberals in Parliament. Economist 159:727 N 11 '50

Liberals and liberty. Economist 159:546-7 S 30 '50

LIBERIA

Point four agreement for Liberia. Chem & Eng N 29:130 Ja 8 '51

Point-four program agreement signed. For Comm W 42:15-16 F 5 '51

See also

Iron ores—Liberia
Public health—Liberia

LIBERTY

American proposition; permanent revolution in affairs of men. Fortune 43:68-71 F '51

Bread, freedom, and businessmen. S. Hook. Fortune 44:117+; Editorial comment. 85 S '51

Education for freedom. J. H. Keenan. Tech R 53:195+ F '51

Key to peace. C. Manion. Edison Elec Inst Bul 19:243-4 Jl '51; Excerpts. Elec World 135:112 Je 18 '51

Utilities and freedom. H. E. Stassen. Am Gas Assn Proc 1950:13-15

See also

Academic freedom
Civil rights
Free speech
Freedom of information
Freedom of the press
Religious liberty

LIBRARIANS, Special

Librarians equal to janitors? comment on Evaluating engineers. M. D. Quint. Machine Design 23:194; Reply. R. W. Chaffee. 194-5 S '51

Who's who among the speakers. Special Lib 42:187-96 My-Je '51

LIBRARIES

Forum on the Public library inquiry; the conference at the University of Chicago, Graduate library school, Aug. 8-13, 1949. L. Asheim, ed. 281p $3.75 Columbia univ. press, 2960 Broadway, New York 27 '50

Why American libraries want international standards. J. Doe. Standardization 22:280 S '51

See also

Botanical libraries
Chemical libraries
College libraries
Library buildings and other headings beginning Library
Museum libraries

also names of libraries e.g.

Midwest inter-library center, Chicago

Business service

Business library within a public library. R. L. Vormelker. Special Lib 42:128-32+ Ap '51

Directories

American library directory; a classified list of 11,920 libraries with names of librarians and statistical data compiled triennially. 19th ed 769p R. R. Bowker co, 62 W. 45th st, New York 19 '51

Layout

Planning a library plant. J. B. Reed. flow diags plans Aslib Proc 3:63-8 My '51

Periodical collections

Focal point; a composite record for the control of periodicals using a visible signalling device. R. M. Jacobs. il J Doc 6:213-28 D '50

Magnetic indicator board for smaller libraries. J. E. L. Farradane. il Aslib Proc 3:155-8 Ag '51

Why is a magazine? B. B. Lane. Special Lib 42:186+ My-Je '51

Reorganization

See Library administration

Denmark

Co-operation between the research libraries of Copenhagen. K. Larsen. J Doc 7:83-91 Je '51

England

Library resources of Bristol and the Southwest. F. L. Kent. Aslib Proc 2:187-94 N '50

Germany

Subject cataloguing in German libraries. K. Garside. bibliog J Doc 6:188-205 D '50

Great Britain

Handlist of psychology periodicals in the learned libraries of Great Britain. J. W. Scott and F. V. Smith, comps. J Doc 6:152-66 S '50

Japan

See also

Japan—National Diet library

LIBRARIES, Agricultural. See Agricultural libraries

LIBRARIES, Botanical. See Botanical libraries

LIBRARIES, Military. See Military libraries

LIBRARIES, Museum. See Museum libraries

LIBRARIES, National

National Diet library in Japan. T. Ichikawa. J Doc 7:113-18 Je '51

LIBRARIES, Pharmaceutical. See Pharmaceutical libraries

LIBRARIES, Private

Experiences at the Earl of Leicester's library at Holkham. W. O. Hassall. Aslib Proc 2:245-8 N '50

LIBRARIES, Rental and subscription
Facts about fiction. Economist 160:359-60 F 17 '51

LIBRARIES, Special
Abridged methods for the special library. L. Taylor. Aslib Proc 3:159-64 Ag '51
How to choose a classification for your special library. A. J. Wells. Aslib Proc 3:107-20; Discussion. 120-2 My '51
Information service from first principles. G. A. Shires. Aslib Proc 3:151-4 Ag '51
Special library of the future. W. J. Hand and others. Special Lib 42:13-18+ Ja '51

See also
Agricultural libraries
Art libraries
Business libraries
Chemical libraries
Law libraries
Medical libraries
Oil companies—Libraries
Pharmaceutical libraries
Publishers' libraries
Scientific libraries
Technical libraries

Bibliography

Brief bibliography of material on special libraries. Special Lib 42:223+ Jl-Ag '51
Literature of special librarianship; with classified list of 300 titles. E. M. R. Ditmas. Aslib Proc 2:217-42; Discussion. 242-3 N '50

Directories

Special libraries association directory of members as of March 10, 1951. 289p pa $4 Special libraries assn, 31 E. 10th st, New York 3 '51

Finance

Industrial taxation and the special library. G. W. Gibson. Special Lib 42:23+ Ja '51

Layout

Physical planning of special libraries. S. Herner. bibliog plans Special Lib 42:5-12 Ja '51
Replanning of libraries. M. Exley. Aslib Proc 2:195-200 N '50

Picture collections

Credit where credit is due; sources of portraits for "Women are here to stay". A. Rogers. Special Lib 42:56-7+ F '51

Service

Library university; Anheuser-Busch research library sponsors language and chemistry classes. V. H. Jacoby. Special Lib 42:96+ Mr '51
Services in petroleum libraries. A. B. Johnson. bibliog Special Lib 41:312-17+ N '50

Near East

Special libraries in the Near East. M. D. Carter. Special Lib 42:245-8+ S '51

Western states

Re-tooling is the byword in western libraries. M. Yearin. Special Lib 42:142-7 Ap '51

LIBRARIES, Technical. See Technical libraries

LIBRARY administration
Reorganization of libraries. W. Ashworth. Aslib Proc 2:201-12 bibliog(49 titles, p211-12); Discussion. 212-15 N '50

LIBRARY architecture
University library buildings; university library planning. W. Bonser. il plan Aslib Proc 3:59-62 My '51

LIBRARY associations, Council of national. See Council of national library associations

LIBRARY buildings
Downtown oasis; Youth library, Fitchburg, Mass. il plans diags Arch Forum 95:134-9 Jl '51
Medical research council library at the National institute for medical research, Mill Hill. M. Ayrton. Aslib Proc 3:71-5 My '51
New library to serve medical research; Medical research council library. M. Harvey. Aslib Proc 3:69-71 My '51
Planning a library plant. J. B. Reed. flow diags plans Aslib Proc 3:63-8 My '51
Uncle Remus branch library, Atlanta. il plans Arch Forum 95:140-1 Jl '51

Fires and fire protection

Dehumidification saves water-soaked books after big library fire. il Heating-Piping 23:77 My '51; Abstract. Sheet Metal Worker 42:58 Je '51

Lighting

Daylight is free. H. C. Bauer. Special Lib 42:218+ Jl-Ag '51
Library lighting; Battersea Polytechnic installation. il Elec R (Lond) 148:1224 Je 8 '51; Electrician 146:1759 My 25 '51
Public libraries. H. West. il Elec R (Lond) 147:1052-4 D 22 '50
Two techniques in school libraries. il Illum Eng 45:604-5 O '50

LIBRARY cooperation
Co-operation between the research libraries of Copenhagen. K. Larsen. J Doc 7:83-91 Je '51
Pharmaceutical libraries; service and cooperation. W. A. Southern. Special Lib 41:350-1+ D '50

See also
Midwest inter-library center, Chicago

LIBRARY fittings and supplies
Physical planning of special libraries. S. Herner. bibliog plans Special Lib 42:5-12 Ja '51
Special library of the future. W. J. Hand and others. Special Lib 42:13-18+ Ja '51

LIBRARY lighting. See Library buildings—Lighting

LIBRARY planning. See Libraries, Special—Layout

LIBRARY publicity
Library publicity and service. C. A. Elliott. 151p 15s Grafton & co, Coptic house, 51 Great Russell st, London, W.C.1 '51

LIBRARY purchasing
Library purchasing practices. M. Wilkerson. Special Lib 42:19-22+ Ja '51

LIBRARY records
Abridged methods for the special library. L. Taylor. Aslib Proc 3:159-64 Ag '51
Magnetic indicator board for smaller libraries. J. E. L. Farradane. il Aslib Proc 3:155-8 Ag '51

LIBRARY science

Bibliography

Library literature, 1950; an annotated index to current books, pamphlets and periodical literature relating to the library profession. D. E. Cole, ed. 243p H. W. Wilson co, New York '51

LIBRARY service
Books in industry. J. French. Aslib Proc 3:8-14 F '51
Integration of library service with teaching and research, in engineering school libraries. J. E. Allerding. J Eng Educ 41:245-8 D '50

LIBYA
New powers for Libya. map Economist 159:954+ D 2 '50

Commercial policy

Tariffs and trade controls. For Comm W 44:13-14 S 17 '51

LICKLIDER, Joseph Carl Robnett, 1915-
Receives biennial award for outstanding contributions to acoustics at State College meeting. por Acoustical Soc Am J 22:882-3 N '50

LIE detector
Lie-detector tests on workers; to locate source of thefts. il Bsns W p24 Ap 28 '51
Oh, my employees are all honest; C. H. Fletcher advocates use of lie detector. M. French. il Am Bsns 21:18-19+ Ag '51

LIEBIG, Justus von, 1803-1873
European chemical developments in the nineteenth century. H. M. Leicester. J Chem Educ 28:352-4 Jl '51

LIENARD equation
Amplitude bounds for certain relaxation oscillations. N. Wax. J Ap Phys 22:278-81 Mr '51

LIENS
Attack on value of oil lien law disregards special case farmer. L. E. Castle. Nat Pet N 43:34 Mr 14 '51
Jobbers careful to avoid making farmers target of lien law bill. L. E. Castle. Nat Pet N 43:33 Ja 31 '51
State statute is necessary for lien to secure payment for gas. L. T. Parker. Am Gas J 174:19-20+ F '51

See also
Mechanics' liens

LIFE
See also
Conduct of life

LIFE (biology)
Basis of life. O. Lyle. Chem & Ind p 164-7 Mr 3 '51

LIFE advertisers association. See Life insurance advertisers association

LIFE expectancy. See Longevity

LIFE insurance. See Insurance, Life

LIFE insurance advertisers association
Annual meeting, Atlantic City, Oct. 23-25. East Underw 51:1, 3-4+ O 27 '50; Nat Underw (Life ed) 54:1+ O 27 '50; Weekly Underw 163:988 O 28 '50
Eastern round table meeting, New York, March 19-20. East Underw 52:3, 6 Mr 23 '51; Nat Underw (Life ed) 55:1+ Mr 23 '51; Weekly Underw 164:788+ Mr 24 '51
North Central round table meeting, Excelsior Springs, Mo. Nat Underw (Life ed) 55:3+ My 4 '51
Southern round table meeting, Atlanta. Nat Underw (Life ed) 55:7+ My 18 '51

LIFE insurance agency management association
Annual A.&H. spring conference, 2d, Chicago, April 9-10. East Underw 52:16, 38-9 Ap 13 '51; Nat Underw 55:24 Ap 12 '51; Nat Underw (Life ed) 55:1+, 4 Ap 13 '51; Weekly Underw 164:941+ Ap 14 '51
Annual convention, Chicago, Nov. 13-17. East Underw 51:1+, 6-7, 10-11+ N 17 '50; Nat Underw (Life ed) 54:1+ N 17 '50; Spectator (Life ed) 158:14-16+ D '50; Weekly Underw 163:1121+ N 18 '50
Atlantic alumni association annual meeting, Rye, N.Y. Nat Underw (Life ed) 54:2+ N 3 '50
Combination companies conference, White Sulphur Springs, W.Va. Nat Underw (Life ed) 55:2 Je 29 '51
Committee chairmen named. Nat Underw (Life ed) 55:6 Ja 19 '51
1950 annual report. D. E. Lynch. Spectator (Life ed) 158:34-5 Ja '51
Small companies' conference, Chicago, March 19-21. East Underw 52:17 Mr 23 '51; Nat Underw (Life ed) 55:2+, 4 Mr 23 '51; Weekly Underw 164:788+ Mr 24 '51
30 years old. D. E. Lynch. East Underw 52:3+ My 4 '51
Zimmerman named managing director. Nat Underw (Life ed) 55:2+ Je 1 '51; East Underw 52:11 Je 1 '51

LIFE insurance association of America
Activities in 1950. B. E. Shepherd. Weekly Underw 164:94+ Ja 6 '51
Annual meeting, 44th, New York, Dec. 6-7. East Underw 51:4 D 8; 36-7+ D 15 '50; Nat Underw (Life ed) 54:1 D 8; 1-3+ D 15 '50; Weekly Underw 163:1319+ D 9 '50
Heads of 1951 committees. Nat Underw (Life ed) 55:2 F 23 '51
How LIAA has developed since 1944. B. E. Shepherd. East Underw 51:6+ D 8 '50; Same. Spectator (Life ed) 158:14-17 Ja '51
Joint committees of ALC and LIAA. Nat Underw (Life ed) 55:4 F 2 '51
Spring meeting, Virginia Beach, May 24-25 East Underw 52:5 Je 1 '51

Library

LIA clipping service. J. Layton. Nat Underw (Life ed) 55:3+ Ag 24 '51

LIFE insurance medical directors of America, Association of. See Association of life insurance medical directors of America

LIFE insurance medical research fund. See Insurance, Life—Medical research

LIFE insurers conference
Annual meeting, 42d, White Sulphur Springs W.Va. June 14-16. East Underw 52:1+ Je 15 '51; Nat Underw (Life ed) 55:1+ Je 22 '51; Weekly Underw 164:1528 Je 16 '51

LIFE office management association
Annual conference, 28th, Chicago, Sept. 24-26. East Underw 52:12-13 S 28 '51; Nat Underw (Life ed) 55:3+ S 28 '51; Weekly Underw 165:782 S 29 '51
LOMA graduates hold seventh annual seminar in New York. East Underw 52:5 My 18 '51; Nat Underw (Life ed) 55:1+ My 18 '51
Spring conference, Washington, D.C. Nat Underw (Life ed) 55:1+ My 25 '51

LIFE preservers
Pan Am's new life vest. Aviation W 53:39 N 6 '50

LIFE rafts
New plastic developed with improved flotation qualities. Elec Eng 70:617 Jl '51

LIFE saving
Am I my brother's keeper? how six men answered. Coal Age 56:122+ F '51
CAA employees awarded medals for bravery. CAA J 12:25 Mr 20 '51
Soldiers of public service; heroism of utility employees; Carnegie medal awards. H. F. Unger. Pub Util 48:477-85 O 11 '51

LIFE underwriter education and training, Advisory council on. See Advisory council on life underwriter education and training

LIFE underwriter training council
Annual meeting, 3d, New York, Feb. 12. East Underw 52:6 F 23 '51; Nat Underw (Life ed) 55:6 F 23 '51
Enrollments at all-time high. L. G. Zalinski. East Underw 52:6 F 2 '51; Same cond. Nat Underw (Life ed) 55:3 Ja 26 '51
Program catches on everywhere; record year in prospect. Nat Underw (Life ed) 55:3+ Je 29 '51

LIFE underwriters association of the city of New York
Annual meeting, New York, June 14. East Underw 52:3 Je 15 '51
Annual sales congress of Brooklyn branch, New York, Jan. 12. East Underw 52:8 Ja 19 '51; Nat Underw (Life ed) 55:20 Ja 19 '51
Annual sales congress, 31st, New York. East Underw 52:5-7 Mr 16 '51; Nat Underw (Life ed) 55:19 Mr 16 '51

LIFE zones
Correction to North American fauna no.35. H. Campbell. Science 113:697-8 Je 15 '51

LIFEBOATS
Douglas developing collapsible lifeboat. Aviation W 54:45 Ap 30 '51
Lifeboats for liner United States undergo U.S. coast guard test. il Marine Eng 56:39 Ag '51
Radio to save lives; air force's lifeboat, dropped by parachute in air-sea rescue operations, will have radio control. il Electronics 24:136+ Ag '51
Welin delivers new aluminum lifeboats to New York pilot boat. il Marine Eng 56:120+ Je '51

LIFT trucks. See Motor trucks, Industrial

LIFTING
Medical examinations and instructions for lifting without strain. V. R. Croswell. il Ind & Eng Chem 43:sup 129A-30A+ S '51

LIGHT
Gravitational self-energy of light. S. B. Nilsson and K. V. Laurikainen. Phys R 80:291-2 O 15 '50
Impact flash at high speed water entry. J. H. McMillen and others. il J Ap Phys 22:360-1 Mr '51
See also
Brightness
Color
Daylight
Daylight, Artificial
Diffraction
Dyes, Effect of light on
Dyes, Fastness of
Electric spark
Eye
Fluorescence
Glare
Interference (light)
Light signals
Lighting
Luminescence
Luminosity
Meat, Effect of light on
Opalescence
Optics
Photochemistry
Photoelasticity
Photoelectric cells
Photoelectric effect
Photography
Photometry
Plants, Effect of light on
Polarization (light)
Radiation
Radioactivity
Reflection (optics)
Refractive index
Shadows
Sky
Spectrum
Ultraviolet rays
X rays

Physiological effect

Light and agriculture. J. P. Ditchman. bibliog il diags Illum Eng 46:276-82 Je '51
Revival by light; resuscitates microorganisms apparently killed by ultraviolet. A. Kelner. il Sci Am 184:22-5 My '51

Velocity

Determination of the speed of light by the resonant cavity method. K. Bol. Phys R 80:298 O 15 '50

LIGHT—Velocity—*Continued*
New accuracy in speed-of-light measurements. il Electronics 24:200+ Ja '51
New figure set for the speed of light by Stanford University physicists. il Elec Eng 70:88-9 Ja '51
Velocity of light. Engineering 170:442 D 1 '50
Velocity of light. G. W. O. Howe. Wireless Eng 28:99-100 Ap '51

LIGHT, Colored
Electronic advertising display. W. Finke. il diags Radio & Tv N 45:60-1 Je '51
Fluorescent floodlighting; colour displays at the Festival gardens. R. W. Shaw and W. J. Vine. il diags Elec R (Lond) 149:57-62 Jl 13 '51
Fluorescent lighting; demonstration of colour control by dimmers. Electrician 145:1013 N 17 '50

LIGHT, Scattering of
Absolute intensity of light scattering from pure liquids and solutions. C. I. Carr, jr. and B. H. Zimm. bibliog diags J Chem Phys 18:1616-26 D '50
Automatically-recording photometer for the measurement of scattered light. E. P. Clancy and J. T. Fitzgerald. R Sci Instr 22:213-14 Mr '51
Comparison of molecular weights of polystyrene by the light-scattering and osmometric methods. Q. A. Trementozzi. bibliog J Phys & Colloid Chem 54:1227-39 N '50
Correction for light absorption in fluorescence and light scattering measurements. J. L. Lauer. diag Opt Soc Am J 41:482-3 Jl '51
Effect of gegen ions on the light scattering by solutions of colloidal electrolytes. T. M. Doscher and K. J. Mysels. J Chem Phys 19:254-5 F '51
Effect of small refractive index differences between solution and solvent on light scattering. P. Debye and W. M. Cashin. J Chem Phys 19:510 Ap '51
Investigations on the passage of light through suspensions. A. H. M. Andreasen and others. il diags Soc Chem Ind J 69:312-17 O '50
Light-scattering; abstract. P. Debye. Chem & Eng N 29:1309 Ap 2 '51
Light scattering as a means of following the rate of polymerization. D. Cleverdon. bibliog Chem & Ind p559 Je 30 '51
Light scattering by concentrated polymer solutions. P. Debye and A. M. Bueche. J Chem Phys 18:1423-5 N '50
Light scattering in solutions of serum albumin; effects of charge and ionic strength. J. T. Edsall and others. bibliog Am Chem Soc J 72:4641-56 O '50
Light-scattering investigations of carefully filtered sodium silicate solutions. R. V. Nauman and P. Debye. bibliog J Phys & Colloid Chem 55:1-9 Ja '51
Light scattering studies of a polystyrene latex. W. B. Dandliker. bibliog Am Chem Soc J 72:5110-16 N '50
Light scattering studies on coiling polyelectrolytes. F. T. Wall and others. bibliog J Chem Phys 19:585-8 My '51
Light scattering studies on fibrinogen; preliminary remarks. R. F. Steiner and K. Laki. Am Chem Soc J 73:882-3 F '51
Micelle shape from dissymmetry measurements. P. Debye and E. W. Anacker. J Phys & Colloid Chem 55:644-55 My '51
Molecular weight of lactoglobulin, ovalbumin, lysozyme and serum albumin by light scattering. M. Halwer, G. C. Nutting and B. A. Brice. bibliog Am Chem Soc J 73:2786-90 Je '51
Polarization of Rayleigh scattering as an aid to determine molecular configuration in liquids. D. H. Rank. J Chem Phys 19:511 Ap '51
Scattering of light by light. R. Karplus and M. Neuman. bibliog Phys R 83:776-84 Ag 15 '51
Small angle diffraction of light by a glass cube. A. T. Forrester and L. Mittenthal. il diags Phys R 81:268-71 Ja 15 '51
Some geometrical factors in light-scattering apparatus. J. J. Hermans and S. Levinson. bibliog diags Opt Soc Am J 41:460-5 Jl '51
Study of the optical properties of shellac solutions; depolarization of scattered light. S. Basu. bibliog J Phys & Colloid Chem 54:1358-66 D '50
Treatment of osmotic and light scattering data for dilute solutions. T. G. Fox, jr., P. J. Flory and A. M. Bueche. bibliog Am Chem Soc J 73:285-9 Ja '51

LIGHT filters
Electrical color filters. V. A. Babits and H. F. Hicks, jr. bibliog diags Electronics 23:112-15 N '50
Flame tests in the presence of sodium. R. B. Hahn. J Chem Educ 27:597 N '50
Illuminant-converting filter for use with the automatic tristimulus integrator. H. R. Davidson and others. Opt Soc Am J 40:817-18 D '50
Metal grid interference filter. E. A. Lewis and J. P. Casey. Opt Soc Am J 41:360 My '51
New cement for gelatine light filters; Piccolyte WW 100. J. W. Nicholas and F. F. Pollak. J Sci Instr 28:23-4 Ja '51
Photographic filters. Consumers Res Bul 28:25-6 S '51
Photography of high altitude aerial objects from the ground. C. N. Nelson and D. H. Hamsher. Opt Soc Am J 40:863-77 D '50
Semiautomatic color analyzer. L. E. Varden. bibliog il diag Soc Motion Picture & Tv Eng J 56:197-204 F '51

LIGHT measurement. See Photometry

LIGHT projection
Bank tower floodlighting. il Illum Eng 46:76 F '51
Festival floodlighting. il Electrician 146:1613-14 My 11 '51
Floodlighting a quarter-mile auto race track; Brewerton speedway, Brewerton, N.Y. R. H. Goodman. il plan Illum Eng 46:420-1 Ag '51
Fluorescent floodlighting; colour displays at the Festival gardens. R. W. Shaw and W. J. Vine. il diags Elec R (Lond) 149:57-62 Jl 13 '51
Hospital theatre lighting. il Elec R (Lond) 147:716 N 3 '50
I.E.S. guide for the photometric testing of floodlights of 10 to 160 degrees total beam spread. bibliog Illum Eng 46:163-8 Mr '51
Industrial protective lighting can do double duty. A. H. Clarke. il plans diags Elec World 136:65-8 Jl 2 '51
Lighting a billboard. G. T. Anderson. il Illum Eng 46:352 Jl '51
Night skiing on floodlighted slopes; Drumlins golf and sports center, Syracuse. D. R. Brown. il diag Illum Eng 46:418-19 Ag '51
Reflectorized lamps in protective lighting. R. T. Dorsey. il Illum Eng 46:264-5 My '51
See also
Athletic fields—
Lighting

LIGHT ships. See Lightships

LIGHT signals
Alarm systems cut costs. il Diesel Power 29:56-7 Mr '51
Application of electric discharge lamps to daylight signalling. H. K. Bourne and E. J. G. Beeson. il diags Inst E E Proc 97 pt 2:587-94 O '50; Abstract. Engineering 169:453-4 Ap 21 '50; Discussion. Inst E E Proc 97 pt 2:594-6 O '50
Colored lights guide boiler loading. A. Featham and B. J. McCausey. il diag Power 95:92-4 Ag '51
Signal light keeps tabs on coal scale. W. M. Montgomery. diags Power 95:133 Je '51

LIGHT traps. See Insect traps

LIGHTHOUSES
Concrete-block lighthouse 125 ft. high prestressed with vertical cables. il Eng N 146:47 My 31 '51
Lead kindly light. K. A. Andersen. il U S Naval Inst Proc 77:404-9 Ap '51
Lights and fog signals in Sweden; abstract. S. Oberg. Engineering 170:477 D 8 '50
Radio controlled lighthouse lamp at the South Bank exhibition. il Engineer 192:3-4 Jl 6 '51
Swedish lighthouses on submarine sites. R. V. Frost. il diags Engineering 170:513-15, pl 44-5 D 15 '50
See also
Lightships

LIGHTING
Acrylic plastic for light control. O. L. Pierson. il Illum Eng 45:615-16 O '50

LIGHTING—*Continued*

Better light-better sight bureau offers new lighting educational program; Living with light. il Edison Elec Inst Bul 18:446 D '50

Characteristics of downlighting. S. McCandless. il diags Arch Rec 109:142-5+ F '51

Commercial premises. W. H. Seward. col il Elec R (Lond) 147:1041-4 D 22 '50

Downlighting. S. R. McCandless. diags Illum Eng 46:46-51 Ja '51

Electroluminescence, a new method of producing light. E. C. Payne and others. il diags Illum Eng 45:688-92; Discussion. 692-3 N '50

Flexible corrugated ceiling. il Mod Plastics 29:83 S '51

How to design your luminous ceilings. P. Moon and D. E. Spencer. il Illum Eng 46:295-8 Je '51

Illumination for sight testing. H. W. Hofstetter. Illum Eng 46:116-18 Mr '51

Lighting a Masonic assembly room. il diag Illus Eng 46:86 F '51

Lighting of buildings; abstract. W. A. Allen and R. G. Hopkinson. Electrician 146:887-8 Mr 16 '51

Lighting projection screen surroundings. J. R. Cravath. bibliog diags Illum Eng 46:361-4 Jl '51

Luminous ceiling control room. A. A. Brainerd. il Illum Eng 46:39-40 Ja '51

Luminous ceiling lighting for a machine shop. D. E. Spencer and others. bibliog il diag Illum Eng 46:26-8 Ja '51

Luminous ceiling new in lighting; Saks Fifth Avenue fabric shop in Beverly Hills. il Elec West 106:83 Ap '51

Mirror lighting applications. M. Taepke. il diags Illum Eng 45:771-2 D '50

Modeling with light. P. Moon and D. E. Spencer. bibliog il Franklin Inst J 251:453-66 Ap '51

Parade of lighting progress; report of I.E.S. committee on progress, 1949-1950. il diags Illum Eng 46:1-20 Ja '51

Uniform field and the 3:1 criterion. H. L. Logan. Illum Eng 46:sup 10A+ Ja '51

What hinders shadow and diffusion from playing an adequate role in the planning of illumination? K. Norden. il Illum Eng 45:683-7 N '50

See also

Brightness
Car lighting
Daylight
Daylight, Artificial
Electric lamps
Electric lighting
Glare
House lighting
Light projection
Lighting fixtures
Mine lighting
Office lighting
Reflectors
Stage lighting
Street lighting
Tunnel lighting
Windows

also subdivision Lighting under special subjects, e.g.

Airport buildings
Airports
Athletic fields
Auditoriums
Ballrooms
Bank buildings
Bridges
Dental clinics
Factories
Jewelry stores
Library buildings
Printing offices
School buildings
Ships
Show windows
Steel works
Telephone exchanges
Television studios
Textile mills

also International commission on illumination

Bibliography

Publications of the Illuminating engineering society. Illum Eng 46:sup 17A-18A F '51

Control

Low-voltage master control; Panorama supermarket. il Elec West 105:80 D '50

Remote-control wiring system. H. H. Watson. il diags Gen Elec R 54:38-42 S '51

Heating aspects

Estimating heat gain from lights; reference data. Heat & Ven 47:126a-126b N '50

Standards

Industrial lighting practice revised. il diag Illum Eng 46:225-43 My '51

Variation in the horizontal distribution of light from candlepower standards. W. E. K. Middleton and E. G. Mayo. diags Opt Soc Am J 41:513-16 Ag '51

Tables, calculations, etc.

How to compute illumination distribution. il diags Eng N 146:42-4 My 3 '51

Illumination at a point from an industrial fluorescent luminaire. R. D. Burnham. diags Illum Eng 45:753-7 D '50

Integral-equation solution of the daylighting problem. D. E. Spencer and V. J. Stakutis. bibliog diag Franklin Inst J 252:225-37 S '51

Interflectance calculations for various luminaires. P. Moon and D. E. Spencer. bibliog diags Franklin Inst J 252:11-31 Jl '51

Interflection tables for rooms with floors of high reflectance. J. S. Y. Lee. Franklin Inst J 250:409-17 N '50

More precise method of computing zonal lumens. D. A. Toenjes. diag Illum Eng 46:335-7 Jl '51

Simplified interflection calculations. P. Moon and D. E. Spencer. bibliog Franklin Inst J 251:215-30 F '51

Slide rule for lighting calculations. P. Moon and D. E. Spencer. bibliog diags Opt Soc Am J 41:98-103 F '51

Testing

Flexible test room facilitates investigation of lighting systems. il Elec Eng 70:650 Jl '51

LIGHTING, Architectural

Architectural ensemble. W. T. Souter. il Elec R (Lond) 147:1057-60 D 22 '50

Lighting integrated into architecture; New Haven, Conn. bank, the First federal savings and loan association. F. M. Hill. il Elec World 134:126 N 6 '50

Wall lighting. il diags Illum Eng 45:637-46 O '50

LIGHTING, Decorative

Decorative features in the home. L. E. A. Phillips. col il Elec R (Lond) 147:1031-4 D 22 '50

Decorative lighting. H. C. B. Woodcock. col il Elec R (Lond) 147:1039-41 D 22 '50

Decorative lighting effects; lighting a flower box and an interior picture window. S. M. Fetzer and others. il diags Illum Eng 45:741-2 D '50

Decorative lighting; some recent installations of interest. il Electrician 146:2229 Je 29 '51

Fluorescent floodlighting; colour displays at the Festival gardens. R. W. Shaw and W. J. Vine. il diags Elec R (Lond) 149:57-62 Jl 13 '51

Lighting for decorative accent. il diags Illum Eng 45:708-18 N '50

LIGHTING, Industrial

High level lighting for seed inspection. E. A. Lindsay. il Illum Eng 46:171 Ap '51

Industrial lighting practice revised. il diag Illum Eng 46:225-43 My '51

Lab tests for strenuous visual work disclose significant results; abstract. A. Simonson. Nat Safety N 62:48 N '50

Lighting center illustrates essential facts of vision and industrial lighting. il Elec Eng 70:697 Ag '51

Lighting; the way to better handling. il Mod Ind 20:48-51 N '50

Muscle action potentials as a measure of visual performance cost. R. C. Travis and others. bibliog il Illum Eng 46:182-7 Ap '51

Muscle action potentials, as related to visual tasks in industry. W. Allphin. il Illum Eng 46:188-92; Discussion. 192-6 Ap '51

Quality, our next step in industrial lighting. G. J. Taylor. il Illum Eng 46:256-61 My '51

Serves the needs of industry and of business; illustrations with text. Elec West 107:88-9 S '51

Special inspection lights increase production. H. E. Vogel. il Elec World 136:122 S 24 '51

Why we should analyze the industrial lighting problem. L. C. Butler. Illum Eng 46:403-4 Ag '51

See also

Drafting rooms—Lighting
Factories—Lighting
Factories—Yards—Lighting
Mine lighting
Textile mills—Lighting

Portable equipment

Illuminator for loading platforms. il diags Ry Age 131:60 Jl 2 '51

LIGHTING, Industrial—*Continued*

Safety aspects

Explosion-proof lighting. E. H. Church. il Illum Eng 46:269-70 My '51

LIGHTING engineers
See also
Illuminating engineering society

LIGHTING fixtures
Acrylic plastic for light control. O. L. Pierson. il Illum Eng 45:615-16 O '50
Electrical light fittings association annual luncheon, London, March 21. Electrician 146:1038-9 Mr 30 '51
How can I stop our lamp vibration? diags Power 95:135-6+ Ag '51
Knightsbridge lighting centre. il Electrician 146:795 Mr 9 '51
Lighting adapter campaign builds over $12,000 revenue. H. A. Mullin. il Elec World 135:77-9 F 26 '51
Lighting from ceiling fixtures and wall brackets. il Illum Eng 45:647-51 O '50
New glass developments in the field of illumination. W. W. Shaver. bibliog il Illum Eng 45:631-6 O '50; Discussion. 45:759-60 D '50
Parade of lighting progress; report of I.E.S. committee on progress, 1949-1950. il diags Illum Eng 46:1-20 Ja '51
Pendants, some modern styles. col il Elec R (Lond) 147:1045 D 22 '50
Protective lighting fixture hangers cut maintenance costs. il Elec World 135:146 Je 18 '51
Troffer beams support integrated ceiling-lighting system. il Steel 129:30 Jl 16 '51

Cleaning

Get your money's worth out of your lights. Safety Maint & Prod 101:17+ F '51
How often should lights be cleaned? J. C. Forbes. il Power 94:110 N '50

LIGHTING research
Comfortable brightness relationships for critical and casual seeing. S. K. Guth. il Illum Eng 46:65-72; Discussion. 72-5 F '51
Effect of task-to-surround brightness ratios on visual performance. R. L. Biesele, jr. Illum Eng 45:733-7; Discussion. 738-40 D '50
Establishing comfortable brightness relationships. S. K. Guth. bibliog il Gen Elec R 54:29-34 Ag '51
I.E.S. research for defense. A. F. Wakefield. Illum Eng 46:373-4 Jl '51
Psychological aspects of color and illumination. R. M. Evans. Illum Eng 46:176-81 Ap '51
Research gives the answers; progress report of the I.E.S. Research fund. il diags Illum Eng 46:383-8 Ag '51
Testing design; study of natural ventilation and lighting of buildings at Texas engineering experiment station. il diags Arch Forum 94:170-8 My '51

LIGHTNING
Flight of thunderbolts, by B. F. J. Schonland; review. J. R. Newman. Sci Am 184:71-3 Je '51
Lightning phenomena. E. L. Harder and J. M. Clayton. bibliog il map diags Westinghouse Eng 11:106-11 Jl '51
See also
Atmospheric electricity
Lightning protection

LIGHTNING arresters
New self-supporting lightning arrester. il Westinghouse Eng 11:135-6 Jl '51
Overvoltage during power-system faults; lightning-arrester application. R. W. Ferguson. diags Westinghouse Eng 11:92-3 My '51
Some effects of lightning-arrester protective characteristics and location upon station apparatus protection. J. W. Kalb. bibliog il diags Elec Eng 70:524-8 Je '51
Surge goes 'round and 'round and out. O. Ackermann and E. J. DeVal. il diags Westinghouse Eng 11:130-1 Jl '51

Testing

Control of lightning arrester quality. T. L. Dyer and E. Beck. il Westinghouse Eng 11:100-1 My '51
Power interruption testing of lightning arresters. O. Ackermann. bibliog il diag Elec Eng 70:443-7 My '51

LIGHTNING protection
Conductor shielding and added impulse insulation for lightning protection; engineering reference sheet. Elec World 135:126 F 12 '51
Design of power transformers to withstand surges due to lightning with special reference to a new type of winding. A. T. Chadwick and others. bibliog il diags Inst E E Proc 97 pt 2:737-44; Discussion. 744:50 D '50
Design, specification and performance of high-voltage surge diverters. H. F. Jones and C. J. O. Garrard. il diags Inst E E Proc 97 pt 2:365-79 Je '50; Discussion. 97 pt 2:379-88; 98 pt 2:261-70 Je '50, Ap '51
Good grounding thwarts lightning at base radio stations. Elec World 135:53 Ja 15 '51
Grounding practice at Inland Steel. V. E. Schlossberg. Iron & Steel Eng 28:77-9; Discussion. diags 79-80 Je '51
How to prepare metal roofs before attaching grounding. Sheet Metal Worker 42:31 F '51
Lightning phenomena. E. L. Harder and J. M. Clayton. bibliog il map diags Westinghouse Eng 11:106-11 Jl '51
Static electricity; its elimination by bonding and grounding. G. M. Kintz. bibliog il Nat Safety N 63:24-5+ F '51
See also
Lightning arresters

LIGHTSHIPS
Canadian lightship protects navigation. il Marine Eng 56:47-8 O '51

LIGHTWEIGHT aggregate equipment company
Besser and Marietta Concrete form firm to produce lightweight aggregate plants. Concrete 59:5 My '51

LIGNANS
Constituents of natural phenolic resins; reduction of some lactonic lignans with lithium aluminium hydride. R. D. Haworth and L. Wilson. Chem Soc J p71-2 Ja '50

LIGNIN
Chemistry of the sulphite pulping process and the evaporation of its waste liquor. E. Hägglund. il Tappi 33:520-7 O '50
Delignification of redwood cooling tower. M. Brooke. Pet Eng 23:C38-9 Ap '51
Effect of coprecipitation conditions on filtration and properties of lignin reinforced GR-S. J. J. Keilen and others. diag India Rubber World 124:178-81 My '51
Functions and behavior of the components of expanders for the negative plates of lead-acid storage batteries. A. C. Zachlin. bibliog il Electrochem Soc J 98:325-33 Ag '51
Glycol extracts lignin in new pulping process. diag Chem Eng 58:202-3 Je '51
Hydrogenaton of Douglas-fir lignin. I. T. Clark and others. bibliog Tappi 34:6-11 Ja '51
Lignin; chemical raw material. Paper Ind 33:141 My '51
Lignin progress. il Chem Ind W 68:11-12 Mr 24 '51
Lignin recovery from soda black liquor; abstract. D. R. Dhingra and others. Pulp & Pa of Can 52:156 Je '51
Mechano-chemical process; rate of delignification. S. I. Aronovsky and G. H. Nelson. il Tappi 34:216-22 My '51
Methoxyl-containing lignin-like component of the mold trametes pini. W. J. Schubert and F. F. Nord. bibliog Am Chem Soc J 72:5337-8 N '50
Non-degradative oxidation of lignin sulfonates. D. M. Ritter. bibliog Am Chem Soc J 73:2550-3 Je '51
Pine wood lignin as a ceramic deflocculant. L. R. Lawson, jr. and J. J. Keilen. Am Cer Soc Bul 30:143-7 Ap 15 '51
Plant cell-wall constituents; International congress of pure and applied chemistry section meeting. Chem & Eng N 29:3975-6 S 24 '51
Progressive delignification of jute fibre with chlorine dioxide. A. B. Sen Gupta and H. J. Callow. bibliog Textile Inst J Trans 42:T375-84 S '51
Rapid micromethod for alkaline nitrobenzene oxidation of lignin and determination of aldehydes. J. E. Stone and M. J. Blundell. bibliog il diag Anal Chem 23:771-4 My '51

LIGNIN *—Continued*

Reaction products of lignin and sodium chlorite in acid solution. J. S. Barton. bibliog flow sheets Tappi 33:496-503 O '50

Solubility effects in lignin alcoholysis reactions. C. Schuerch, jr. Am Chem Soc J 73:2385-6 My '51

Structural aspects of the color reaction of lignin with phenols. J. C. Pew. bibliog Am Chem Soc J 73:1678-85 Ap '51

Studies on lignin and related products; oxidation of basic calcium lignosulphonate with silver oxide and alkali. I. A. Pearl and D. L. Beyer. bibliog Tappi 33:508-12 O '50

Studies on lignin and related products; the oxidation of fermented sulphite spent liquor with cupric oxide under pressure. I. A. Pearl and D. L. Beyer. bibliog Tappi 33:544-8 N '50

Studies on lignin by means of catalytic hydrogenation of aspen wood and wheat straw. J. M. Pepper, C. J. Brounstein and D. A. Shearer. Am Chem Soc J 73:3316-19 Jl '51

Analysis

Experiments on the fractionation of isolated wood lignins. C. Schuerch, jr. bibliog Am Chem Soc J 72:3838-42 S '50

Investigations on lignin and lignification; lignin of cork. R. M. DeBaun and F. F. Nord. bibliog Am Chem Soc J 73:1358-9 Mr '51

Investigations on lignin and lignification; studies on hardwood lignin. S. F. Kudzin and F. F. Nord. bibliog Am Chem Soc J 73:690-3 F '51

Investigations on lignin and lignification; the characterization of enzymatically liberated lignin. W. J. Schubert and F. F. Nord. bibliog Am Chem Soc J 72:3835-8 S '50

Quantitative phloroglucinol-HCL test in the evaluation of lignin preparations. R. M. De Baun and F. F. Nord. bibliog Tappi 34:71-3 F '51

Studies on lignin and related products; separation of syringaldehyde and vanillin by chromatography. I. A. Pearl and E. E. Dickey. Am Chem Soc J 73:863-4 F '51

Ultraviolet absorption spectra of chromatographic fractions of lignins. A. Bailey. bibliog Am Chem Soc J 73:2325-6 My '51

LIGNITE

Alcoa's lignite. Bsns W p80+ Ag 4 '51

American lignites; geological occurrence, petrographic composition, and extractable waxes. W. A. Selvig and others. il maps diags U S Bur Mines Bul 482:1-63; pa 35c Supt. of doc. '50; Abstract. Am Assn Pet Geologists Bul 34:2347-51 D '50

Lignite-fired plant to be built, run by Texas power & light co. for Alcoa smelter. Elec World News ed 136:11 Ag 6 '51

Lignite gas. Mech Eng 72:906 N '50

Lignite in Greece. A. L. Toenges and others. il maps plans U S Bur Mines Bul 502:1-57; pa 45c Supt. of doc. '51

Lignite process hits the mark; turns out crude tars and a char fuel. il diag Chem Eng 58:219+ S '51

Lignite research; Bureau of mines lignite research laboratory. Mech Eng 73:141 F '51

New aluminum plant to use lignite fuel. Light Metal Age 9:26 Ag '51; Same cond. Mill & Factory 49:244+ O '51

Petrography of American lignites. B. C. Parks. il map diag Econ Geol 46:23-50 Ja '51

Pulverized lignite burned successfully in Minnesota power plant. Elec World 135:94-5 Mr 12 '51

Tar and char, power too; low temperature carbonization of lignite. Chem W 69:25-6 Ag 18 '51

Undecomposed steam in lignite gasification. M. H. Chetrick. bibliog 4pls U S Bur Mines Rep of Invest 4738:1-11 '50

Western lignite upgraded to power aluminum smelter. il Coal Age 56:127 S '51

LIGNOCELLULOSE

Thermophilic fermentation of cellulosic and lignocellulosic materials. G. J. Hajny, C. H. Gardner and G. J. Ritter. bibliog Ind & Eng Chem 43:1384-9 Je '51

LIGNOSULFONATES

See also

Calcium lignosulfonate

LIGNOSULFONIC acids

Chemistry of the sulphite pulping process and the evaporation of its waste liquor. E. Hägglund. il Tappi 33:520-7 O '50

Molecular weight of lignosulfonic acids; abstracts. B. Ivarsson. diag Paper Ind 33:206 My '51; Pulp & Pa of Can 52:98 My '51

Analysis

Ionophoretic analyses in agar gels. Q. P. Peniston, H. D. Agar and J. L. McCarthy. bibliog diags Anal Chem 23:994-9 Jl '51

LILLY, Eli, award

Buchanan wins Eli Lilly award for purine research. Chem & Eng N 29:1312 Ap 2 '51

LILLY, Richard C. 1884-

Sketch. por Bankers Mo 68:55-6 Mr '51

LILY-TULIP corporation

Dixie Cup vs. Lily-Tulip Cup; a comparative study. H. S. Coffin. il Mag of Wall St 87:231-3+ D 2 '50

Stock offering. Comm & Fin Chr 174:189 Jl 16 '51

LIMA beans

New shear-press predicts quality of canned limas. A. Kramer and others. bibliog il diag Food Eng 23:112-13+ Ap '51

LIMA beans, Frozen

Process line revamping pays off in plus-performance for frozen lima packer. W. J. Hart. flow sheet il Food Ind 22:2082-4 D '50

LIMBS, Artificial. See Artificial limbs

LIME

Acid chemical wastes made harmless by automatic lime slurry neutralization; Sylvania electric products inc. plant. diags Eng N 146:47-8 Ja 25 '51

Desulphurization of pig iron with pulverized lime. B. Kalling and others. bibliog il diag J Metals 3:Trans 732-8 S '51

Effects of chemical additions on the hydration rate of fired quicklime (CaO). H. P. Cahoon and P. D. Johnson. il Am Cer Soc J 34:230-5 Ag 1 '51

High-lime refractory resistant to phosphate melts; studies in the system CaO-TiO_2. H. G. Fisk. bibliog il Am Cer Soc J 34:9-13 Ja 1 '51

Kalling-Domnarfvet process at Surahammar works. S. Fornander. il diags J Metals 3: Trans 739-41 S '51

Lime reclamation at the Miami softening plant; abstract. A. P. Black and others. Munic Util 89:24 My '51

Neutralization of acid wastes. H. L. Jacobs. Sewage & Ind Wastes 23:900-5 Jl '51

Oxides of uranium; the binary system UO_2-CaO. K. B. Alberman, R. C. Blakey and J. S. Anderson. diag Chem Soc J p 1352-6 My '51

Pilot plant built to study the application of lime for neutralizing of waste pickle liquor; abstract. W. E. Wing. Steel 128:75-6 Ap 9 '51

Thermodynamic study of the reaction $CaS+H_2O \rightleftarrows CaO+H_2S$ and the desulphurization of liquid metals with lime. T. Rosenqvist. bibliog diags J Metals 3:Trans 535-40 Jl '51; Discussion. 3:Trans 1047-8 N '51

Manufacture

Effect of time and temperature of burning on quicklime properties. J. A. Murray and others. bibliog il diags Paper Tr J 132: 22-4+ Je 1 '51

Fundamentals of lime burning. W. A. Cunningham. diags Ind & Eng Chem 43:635-8 Mr '51

Specific heat and heat of calcination; determination of kiln efficiency and proper design. V. J. Azbe. Rock Prod 54:122-3 Ja '51

Thermodynamics of lime manufacture. R. Gibbs. il map diag Rock Prod 53:118-21+ F; 122-4 Je; 110-12 O '50; 54:108-11+ F '51

Value of hot combustion air. I. Warner. Rock Prod 53:82+ N '50

See also

Lime kilns

LIME as fertilizer

Agricultural limestone institute 6th annual meeting, Cincinnati, Feb. 7-9; with abstracts of papers. Rock Prod 54:100-5 Mr '51

All government purchases of agstone may come under Public contracts act. N. C. Rockwood. Rock Prod 54:51+ My '51

LIME as fertilizer—*Continued*

Needs for lime; animal and vegetable. F. E. Bear. Rock Prod 54:98-9+ Ap '51

New agstone specifications. Rock Prod 54:51 Jl '51

Scientific use of liming materials; Pennsylvania stone producers association Agricultural limestone division annual meeting, Harrisburg, March 22. Rock Prod 54:86-7 My '51

Spreading and handling wet or dry agstone. H. J. Topp. il Rock Prod 54:103-5 Ap '51

Why of liming. J. B. Peterson. il Rock Prod 54:122-3+ Je '51

See also Agricultural limestone institute; National agricultural limestone association

Advertising

Merchandising with a punch; radio and sound slides put the story of agstone over for Oklahoma producer. H. C. Persons. il Rock Prod 54:96-7 Ap '51

Proving to farmers that liming pays. il Rock Prod 54:100-1 Ap '51

LIME dust

New lime hydrator avoids dust nuisance. il diags Chem Eng 58:178-9 My '51

LIME industry and trade

Lime producers discuss market development at 49th annual meeting, Hot Springs, Va. Rock Prod 54:77-81+ Jl '51

LIME kilns

Evaluation and development of kiln efficiencies. V. J. Azbe. diags Rock Prod 54:113-16+ Ap; 73-5+ My; 113-15+ Je; 65-8 Jl; 161-4+ Ag; 71-4 S '51

How to determine the economical length of the rotary kiln. R. E. Gibbs. Paper Ind 32:1084-5 Ja '51

Is your lime kiln stealing profits? R. Gibbs. Paper Ind 32:1180-1 F '51

Kiln preheaters; panel discussion; abstract. Rock Prod 53:79-81 N '50

Lime kiln operating costs. J. O. Kamm. il Rock Prod 53:86 N '50

Operation and maintenance of lime sludge kilns. W. H. Tock. Paper Tr J 133:93-6 Jl 13 '51; Same cond. Paper Ind 33:551-2+ Ag '51

Operation of sludge recovery kilns. R. S. Walker. Tappi 34:366-9 Ag '51

Specific heat and heat of calcination; determination of kiln efficiency and proper design. V. J. Azbe. Rock Prod 54:122-3 Ja '51

Study of lime refractories; abstract. R. W. McAllister. Rock Prod 53:78-9 N '50

Thermodynamics of lime manufacture. R. Gibbs. il map diag Rock Prod 53:122-4 Je; 110-12 O '50; 54:108-11+ F '51

Value of hot combustion air. I. Warner. Rock Prod 53:82+ N '50

LIME plants

Equipment

Lime plant mechanizes stone handling; Moores lime co. C. R. Atherton. il Rock Prod 54:84-5 S '51

National Gypsum's lime plant operations. il Rock Prod 53:108-11 D '50

LIMESTONE

Capillary properties of some limestone cores. R. L. Whiting and E. T. Guerrero. bibliog diags Oil & Gas J 50:272-3+ Jl 26 '51

Examination of components of limestone porosity by Chalkley method. W. S. Chin and W. Rose. Am Assn Pet Geologists Bul 35:615-18 Mr '51

Introduction to the study of organic limestones. J. H. Johnson. rev ed bibliog il diags Colorado School of Mines [Golden] Quarterly 46 no 2:1-185 '51 (pa $2)

Limestone lore. Chem W 69:11 S 29 '51

Middle Devonian Columbus limestone near Ingersoll, Ontario, Canada. G. M. Ehlers and E. C. Stumm. bibliog il map Am Assn Pet Geologists Bul 35:1879-88 Ag '51

Mining Missouri limestone near Kansas City. F. Castellani. il Explosives Eng 29:86-8 My '51

National Gypsum's quarrying and mining practices. il diags Rock Prod 53:112-15 D '50

Need high-calcium limestone? plenty along our line, says the B.E.O. diag Ry Age 131:61-2 S 3 '51

New sources for limestone; Kelley Island reopens and expands. map Bsns W p46-8 Mr 17 '51

Petrology of Fredonia oölite in southern Illinois. D. L. Graf and J. E. Lamar. bibliog il map Am Assn Pet Geologists Bul 34:2318-36 D '50

Physical and chemical characteristics of limestones and dolomites. N. C. Rockwood. Rock Prod 54:102 Ap '51

Reef limestones of Hermosa formation, San Juan canyon, Utah. S. A. Wengerd. bibliog il maps diags Am Assn Pet Geologists Bul 35:1038-51 My '51

Ste Genevieve-Chester contact in Illinois-Kentucky fluorspar district. A. H. Sutton. bibliog il maps Am Assn Pet Geologists Bul 35:1661-8 Jl '51

Stope mining of limestone. H. A. Corre. il diags Rock Prod 54:128-30 Ja '51

Stripping and quarrying limestone in Poland township, Ohio. R. S. Siegrist. il diag Explosives Eng 29:45-6+ Mr '51

Stripping the ten-cu. yd. dragline. il Rock Prod 54:78-9 My '51

Twenty thousand tons of stone daily! Inland lime and stone co. il plans Rock Prod 54:64-70 My '51

World's deepest limestone mine; Baberton, Ohio. il Chem Age (Lond) 63:642-3 N 4 '50

LIMITATION of actions

How taxpayer can lose protection of statute of limitations; a trap in the law. H. W. Wolfram. J Account 91:580-5 Ap '51

LIMONENE

l-Carvone from *d*-limonene. C. Bordenca, R. K. Allison and P. H. Dirstine. bibliog Ind & Eng Chem 43:1196-8 My '51

Mechanism of disproportionation of *d*-limonene. H. E. Eschinazi and E. D. Bergmann. bibliog Am Chem Soc J 72:5651-4 D '50

LIMONIN

Studies on the chemistry of limonin. R. S. Rosenfeld and K. Hofmann. bibliog Am Chem Soc J 73:2491-3 Je '51

LINCOLN service corporation

Preferred stock offered. Comm & Fin Chr 173:202 Ja 15 '51

Stock offering. Comm & Fin Chr 173:382 Ja 22 '51

LINDANE. See Hexachlorocyclohexane

LINDERSTRØM-LANG, Kaj Ulrik, 1896-

Denmark's Linderstrom-Lang to lecture at world congress. por(cover) Chem & Eng N 29:3536 Ag 27 '51

LINEMEN'S equipment

Aluminum trailer tops for tool transport. A. F. Wetsch. il Elec World 136:106+ S 24 '51

Grip tool removes pins from racks. R. L. Boccuti. diag Elec World 135:138 Mr 26 '51

LINEN

Phenolic-impregnated fire helmet. il Mod Plastics 28:91 N '50

See also

Bleaching—Linen

LINEN supply service

Don't wash, rent. il Bsns W p 109-11 Ap 7 '51

LINING fabrics

Warp streaks; better loom reed care will improve twill linings. S. W. Brainard. il Rayon 32:31+ Jl '51

LINKS and link motion

Analysis of quadric-chain mechanisms; method of calculating velocities and accelerations. H. Miller. diags Product Eng 22:109-13 F '51

Mechanical linkage varies compression in radial engine. il diags Product Eng 22:114-15 Ja '51

Starting friction in mechanical linkages. C. Thumim. il diags Product Eng 22:151-5 O '51

Straight-line motion produced by simple mechanisms. P. Grodzinski. diags Machine Design 23:125-7 Je '51

LINOLEIC acid

Copolymerization of 2-chloroallyl linoleate with styrene. E. Dyer and W. C. Meisenhelder. bibliog Am Chem Soc J 73:1434-7 Ap '51

Isomers of conjugated fatty acids; alkali-isomerized linoleic acid. P. L. Nichols, jr., S. F. Herb and R. W. Riemenschneider. bibliog il Am Chem Soc J 73:247-52 Ja '51

LINOLEIC acid—*Continued*

Synthesis of long-chain aliphatic acids from acetylenic compounds; the synthesis of linoleic acid. R. A. Raphael and F. Sondheimer. Chem Soc J p2100-3 Ag '50

Total synthesis of linoleic acid. H. M. Walborsky, R. H. Davis and D. R. Howton. bibliog Am Chem Soc J 73:2590-4 Je '51

LINOLEUM

Four steps (or less) for the care of linoleum floors. W. Sawyer. il Safety Maint & Prod 102:20-2 Ag '51

Advertising

New national advertiser, after 140 years in business; Sloan-Blabon introduces new products. E. J. Dever, jr. il Ptr Ink 233: 34-5 D 1 '50

LINSEED oil

Physiological effect

Effect of heated linseed oil on reproduction and lactation in the rat. F. A. Farmer and others. Science 113:408-10 Ap 13 '51

LINT

Suggested specifications for electrical equipment enclosures for use in linty atmospheres. il Textile World 101:178 S '51

LINTELS

Tile and pre-stressed wire form pre-fab units in Stahlton system; floors and lintels. il Brick & Clay Rec 119:44-6 Ag '51

LION oil company

Common stock offering oversubscribed. Comm & Fin Chr 174:1298 O 8 '51

Five companies expanding into new fields; with comparative balance sheet items. Mag of Wall St 88:503 Ag 11 '51

Security I like best. N. S. Hill. Comm & Fin Chr 173:2242 My 31 '51

LIPASE

Lipase from molds grown on oil seeds. C. V. Ramakrishnan and B. N. Banerjee. Science 113:125 F 2 '51

LIPIDES

Chylomicrons as carriers for carcinogenic hydrocarbons. K. Setälä and P. Ermala. Science 114:151-2 Ag 10 '51

Incorporation of glycine carbon into yeast lipides. S. Weinhouse, R. H. Millington and M. Strassman. bibliog Am Chem Soc J 73: 1421-3 Ap '51

Ultracentrifugal characterization and isolation of human blood lipids and lipoproteins with applications to the study of atherosclerosis. F. T. Lindgren, H. A. Elliott and J. W. Gofman. bibliog il diags J Phys & Colloid Chem 55:80-93 Ja '51

Analysis

Displacement analysis of lipids; carrier displacement separation of saturated fatty acids. R. T. Holman. bibliog Am Chem Soc J 73:1261-3 Mr '51

Displacement analysis of lipids; separation of substances analogous to fatty acids. R. T. Holman. bibliog Am Chem Soc J 73:3337-40 Jl '51

LIPOIC acid

Crystalline α-lipoic acid; a catalytic agent associated with pyruvate dehydrogenase. L. J. Reed and others. bibliog Science 114: 93-4 Jl 27 '51

LIPOPROTEINS

Physical properties of elinin, a lipoprotein from human erythrocytes. W. B. Dandliker and others. bibliog Am Chem Soc J 72: 5587-92 D '50

Ultracentrifugal characterization and isolation of human blood lipids and lipoproteins with applications to the study of atherosclerosis. F. T. Lindgren, H. A. Elliott and J. W. Gofman. bibliog il diags J Phys & Colloid Chem 55:80-93 Ja '51

LIPSCOMB, Charles T. jr.

Most likely to succeed. H. Woodward. por Sales Management 66:40 Je 1 '51

LIPSTICKS

Woman chemist hits lipstick jackpot; Hazel Bishop. il Bsns W p42+ Mr 17 '51

Analysis

Rapid test for castor oil in soaps and lipsticks. Sister M. C. Mangold. J Chem Educ 28:266 My '51

LIQUEFIED petroleum gas

All that vaporizes is not gas; analysis of law and the nature of liquefied petroleum gas with respect to its status as a utility. A. C. Kreutzer. Pub Util 47:69-77 Ja 18 '51

Availability of LPG for direct motor fuel use. R. C. Alden. map Pet Processing 5:1180-6 N '50

Comparative operating data of tractors using gasoline or L.P.G. fuel; abstracts. M. J. Samuelson. Oil & Gas J 49:76-7 F 8 '51; Automotive Ind 104:36+ F 1 '51; S A E J 59:18-20 S '51

Creating demand in strategic area key to success in LP-gas selling. L. Castle. Nat Pet N 43:35 Je 13 '51

18 answers to your questions on liquefied-petroleum fuel gases. diags Power 95:116-17 Mr '51

Engine and carburetion-equipment requirements for L.P.G. fuel; abstracts. A. J. St George. flow diag Oil & Gas J 49:77-8 F 8 '51; S A E J 59:66-8 Ag '51

FBI and military seeking answer to why LP-gas plant caught fire. il Nat Pet N 43:22-3 Jl 11 '51

Fuel and appliance market in rural America; electric and bottled-gas interests. D. O. Cunnion. il Adv Agency 44:70-1+ Ja '51

How the metalworking industry uses LP gas. O. Johnson. Iron Age 167:96-8 Je 14 '51

Latest news of liquefied petroleum gas. A. J. St George. S A E J 59:89-90 My '51

Liquefied petroleum gas as a fuel for automotive vehicles. L. Raymond. diags S A E J 59:66-71 Je '51; il Diesel Power 29:34-9 Jl; 62-6+ Ag '51

LP-gas as a motor fuel. L. Castle. il Nat Pet N 43:56-60+ F 14 '51

LPG conversion system for Reo gold comet engine. il Automotive Ind 104:45+ My 15 '51

L.P. gas for motor fuel. R. C. Alden and F. E. Selim. flow diag Oil & Gas J 49:78-80+ F 8 '51

LPG for standby or peak shaving. il Am Gas Assn Mo 33:9+ Ap '51

LPG is plentiful and cheap. F. E. Selim and R. C. Alden. map S A E J 59:22-5 Jl '51

L.P.G. motor fuel; special session of midyear meeting of American petroleum institute's Division of refining. Oil & Gas J 50:69 My 17 '51

L.P.G. production now exceeds million barrels daily! R. C. Alden and others. bibliog Am Pet Inst Proc 31 M(3):223-9 '51; Same. Oil & Gas J 50:122+ Ag 23 '51; Excerpts. Nat Pet N 43:59-60 My 23 '51; Automotive Ind 105:49+ Jl 1 '51; Discussion. Am Pet Inst Proc 31 M(3):230-1 '51

LP-gas promotion in high gear; advertising, publicity, and employee training program. Gas Age 107:41+ Mr 15 '51

L.P.G. recognition; Society of automotive engineers symposium; L.P. gas as tractor and automotive fuel. Oil & Gas J 49:51-2 Ja 11 '51

LP-gas; rural sales are booming despite spread of electric lines. il Sales Management 66:105-6 Ap 15 '51

LP-gas sales and markets forge ahead. K. W. Rugh and G. R. Benz. Nat Pet N 43: 14-16+ Ja 10 '51; Same. il Gas Age 107:31-4+ Ja 18 '51; Same. World Oil 132:182+ F 15 '51; Same cond. il Pet Refiner 30:69-70 Ja '51; Excerpts. Oil & Gas J 49:28-9 Ja 4 '51

LP-gas utilization in farm equipment. E. Fannin. Am Pet Inst Proc 31 M(3):247-51 '51; Excerpts. Nat Pet N 43:32-3 My 9 '51; Automotive Ind 105:98+ Jl 1 '51

L.P.G.'s future. J. C. Winger. Oil & Gas J 49:63 F 15 '51

L.P.G.'s growth, percentagewise, exceeds all other divisions of the industry. il Oil & Gas J 50:supp 395-6 My 31 '51

Liquefied petroleum gases in the ceramic industry. L. L. Luxon. Am Cer Soc Bul 29:422-3 D 15 '50

Observations and problems in recovery and retention of light hydrocarbons. A. M. L. Kube. flow sheet diags Oil & Gas J 49:98-100+ F 15 '51; Same. Pet Processing 6:138-43 F '51

Piping failure probable cause of fire at Warren LP-gas plant, NFPA says. Nat Pet N 43:60 Ag 8 '51

Pros and cons of LP-gas as a motor fuel. L. Castle. Nat Pet N 43:56-8 F 28 '51

LIQUEFIED petroleum gas—*Continued*

Refinery waste moves into the big time. A. H. Allen. il Steel 128:57-9 F 5 '51

Reforming, LPG recovery units installed in Trieste refinery. il Pet Processing 5:1187 N '50

Relative economics of LPG, gasoline, and Diesel fuel in trucks and buses. E. S. Corner and E. H. Berg. bibliog Am Pet Inst Proc 31 M(3):262-70 '51; Excerpts. Automotive Ind 105:48-9 Jl 1 '51; Nat Pet N 43:31-2 My 9 '51; Discussion. Am Pet Inst Proc 31 M(3):270-2 '51

System of process calculations for light hydrocarbons. A. J. L. Hutchinson. il diags Pet Refiner 29:83-9 O; 117-22 N; 97-103 D '50; 30:145-8 Ja; 107-12 F; 107-14 Mr; 119-22 Ap '51

Tractor conversion to LP-gas off to fast start. L. Castle. il map Nat Pet N 43:53-6 F 21 '51

Trend in refinery use of natural gas liquids. Pet Processing 5:1264 D '50

Utilization of LPG, propane and butane and mixtures in the fields of tractor, truck, and farm-and-home applications; abstract. O. L. Garretson and A. J. Turner. Pet Eng 23: C40 Ja '51

What will be future supply and price of LP-gas? F. T. Carpenter. Gas Age 107:35-7+ My 10 '51

See also

Butane

Propane

Advertising

LP-gas boosts advertising to fight new attacks by electric industry. L. Castle. Nat Pet N 43:35 My 16 '51

Safety measures

How to unload and store LP-gas with the maximum safety. J. L. Turnan. il diag Gas Age 108:40-3+ Ag 16 '51

Richfield's Cuyama Valley L.P.G. loading racks. M. L. Arnold. flow plan il diags Oil & Gas J 49:151-3+ Ap 19 '51

Statistics

Total sales of LP-gas rose by 22.8 per cent in 1950. A. T. Coumbe and I. F. Avery. Gas Age 108:82-6 O 11 '51

Storage

Fire wrecks terminal of Warren petroleum corp. at Newark. Oil & Gas J 50:61 Jl 12 '51

Gasoline plant's storage holds over 140 days' LPG production. il Pet Processing 5:1307 D '50

How to unload and store LP-gas with the maximum safety. J. L. Turnan. il diag Gas Age 108:40-3+ Ag 16 '51

Texas natural gasoline corp. obtains over 90 per cent propane recovery from 50,000-bbl. salt reservoir. J. C. Reidel. il diags Oil & Gas J 49:167-8+ Ap 19 '51

Underground storage for liquefied petroleum gases. F. Matheny. map diag Pet Eng (Ref annual) 23:C49-52 Jl 15 '51

Underground storage tanks; salt dissolved from underground beds give storage for liquefied petroleum gases. W. F. Matheny and G. H. Billue. diag Chem Eng 57:115 D '50

Transportation

LP-gas distribution. H. E. Felt. il plan Am Pet Inst Proc 31 M(3):232-43 '51; Excerpts. Nat Pet N 43:60-1 My 23 '51; Discussion. map Am Pet Inst Proc 31 M(3):243-6 '51

Pipe line movement of LPG. D. A. Roach. il diag Pet Eng (Ref annual) 23:D11-14 Jl 15 '51

LIQUEFIED petroleum gas association

Annual meeting, Chicago. Nat Pet N 43:38-9 My 16 '51

LIQUID air

Air condensation in hypersonic flow. P. Wegener and others. bibliog il diag J Ap Phys 22:1077-83 Ag '51

Constant-level device for liquid air. G. F. H. Box and M. S. Walker. diags J Sci Instr 27:314-15 N '50

Liquid air level indicator and alarm. H. G. Hereward. diag J Sci Instr 28:252 Ag '51

LIQUID argon. See Argon, Liquid

LIQUID assets. See Assets, Liquid

LIQUID fuel

Boost for synthetics; Interior department apparently going all-out to set up synthetic-fuels industry. B. F. Linz. Oil & Gas J 50:95-6 Ag 16 '51

Chapman ignores PAD, NPC advisors in demand for synthetic fuel plants. Nat Pet N 43:27 Ag 15 '51

Chemical progress during the 75 years of the American chemical society; gas and fuel chemistry. A. C. Fieldner, A. W. Gauger and G. R. Yohe. bibliog il Ind & Eng Chem 43:1039-48 My '51

Defense act gives no clear authority for Chapman's synthetic fuels plan. H. A. Yocom. Nat Pet N 43:13 S 5 '51

Design, construction, and operation of a distillation laboratory for the synthetic liquid fuels program. J. Feldman and others. 14pls U S Bur Mines Rep of Invest 4764:1-4 '51

Fischer-Tropsch oil circulation processes. J. H. Crowell and others. bibliog il diag Ind & Eng Chem 42:2376-84 N '50

Fischer-Tropsch synthesis in slurry phase. M. D. Schlesinger and others. bibliog flow diag diag Ind & Eng Chem 43:1474-9 Je '51

Fluid bed and liquid phase slurry process. Chem Age (Lond) 64:773-5 My 19 '51

How important is Fischer-Tropsch synthesis? Storch, Golumbic and Anderson book. Chem Eng 58:265-7 Je '51

India eyes synthetics. Oil & Gas J 50:50 Jl 5 '51

Liquid fuels from oil shale. W. Q. Hull, B. Guthrie and E. M. Sipprelle. bibliog flow diags il diags Ind & Eng Chem 43:2-15 Ja '51

Now is time for synthetics. O. L. Chapman. Nat Pet N 43:29 My 16 '51

Oil-shale research and process development; Petroleum and oil-shale experiment station, Laramie, Wyo. K. E. Stanfield and H. M. Thorne. bibliog il Ind & Eng Chem 43:16-20 Ja '51

Petrochemical engineer looks at rocket fuels. M. Sittig. Pet Refiner 30:114-16 My '51

Preparation characteristics of some coals available for the synthetic liquid fuels industry. T. Fraser and others. U S Bur Mines Bul 495:1-132; pa 50c Supt. of doc. '50

Private industry willing to initiate synthetic liquid fuel industry with limited government support. R. G. Gibbs. Chem & Eng N 29:3928 S 24 '51

Role of oxygen in the production of synthetic liquid fuels from coal. H. R. Batchelder and others. bibliog 3pls U S Bur Mines Rep of Invest 4775:1-15 '51

Shale oil refining. J. D. Lankford and C. F. Ellis. il diags Ind & Eng Chem 43:27-32 Ja '51

Synthetic fuels plant in shakedown stage. A. L. Foster. il Pet Eng 23:C29-30 F '51

Synthetic fuels urged. O. L. Chapman. Oil & Gas J 49:57 Mr 8 '51

Synthetic liquid fuel, a coming industry. J. Boyd. Comm & Fin Chr 172:2284+ D 14 '50

Synthetic liquid fuel; British and American research; abstract and discussion. C. C. Hall. Chem Age (Lond) 64:385-6 Mr 10 '51

Synthetic liquid fuels; annual report of the Secretary of the interior for 1950. bibliog 151pls U S Bur Mines Rep of Invest 4770:1-74; 4771:1-88; 4772:1-12; 4773:1-16 '51

Synthetic-liquid-fuels industry. O. L. Chapman. Mech Eng 73:419-21 My '51

Synthetics in defense. J. Boyd. bibliog flow diags il Am Pet Inst Proc 30(3):6-19 '50; Same. Pet Refiner 29:77-85 D '50; Abstract. Oil & Gas J 49:184 N 16 '50

Synthetics support; DPA asks for elaboration of Interior department scheme. Oil & Gas J 50:87 S 13 '51

Techniques for gasifying coal in place may fill future fuel requirements. C. O. Brown. Ind & Eng Chem 43:sup59A-60A+ Ap '51

See also

Acetylene

Airplane engines—Fuel

Automobile engines—Fuel

Automotive fuel

Benzol (commercial benzene)

Coal liquefaction

Diesel engines—Fuel

Fischer-Tropsch process

Gasoline

Internal combustion engines—Fuel

LIQUID fuel—See also—*Continued*
Kerosene
Liquefied petroleum gas
Oil burners
Oil fuel

Bibliography

Accumulative index, synthetic liquid fuels abstracts; v. 3, 1950, abs. 1-878; author, subject and patent indexes. J. L. Wiley and H. C. Anderson, comps. 77p Office of synthetic liquid fuels, Bur. of mines, Central experiment station, 4800 Forbes st, Pittsburgh 13 '51

Bibliography of pressure hydrogenation; review and compilation of the literature on pressure hydrogenation of liquid and solid carbonaceous materials. J. L. Wiley and H. C. Anderson. U S Bur Mines Bul:485:1-306; pa $1.25 Supt. of doc. '50

Synthetic liquid fuels abstracts. J. L. Wiley and H. C. Anderson, comps. (v 4, no 1) 77p Office of synthetic liquid fuels, Bur. of mines, Central experiment station, 4800 Forbes st, Pittsburgh 13 Ja '51 [cont bimonthly]

Testing

Spark ignition study results in rules to predict fuel properties. Chem & Eng N 29:1623 Ap 23 '51

LIQUID helium. See Helium, Liquid

LIQUID level control

Ball float type liquid level controllers. E. W. Horvick. il Paper Tr J 131:33-4+ N 9 '50

Constant-level control for liquid nitrogen. M. Lounsbury. diag R Sci Instr 22:533 Jl '51

Constant-level device for liquid air. G. F. H. Box and M. S. Walker. diags J Sci Instr 27:314-15 N '50

Electrodes cut liquid level control costs. F. E. Reeves. diags Elec World 135:130-1 My 7 '51

Electronics for the power engineer; liquid-level and pump controls. R. A. Annett. diags Power 95:124+ Mr '51

Periodic level controller for liquid nitrogen. B. Zweig. diags R Sci Instr 22:431 Je '51

Throttle control regulates condenser hotwell level. P. Nardone. il diag Power 95:120-1 Mr '51

LIQUID level indicators

Bubbler liquid level gage; patent. diag Pet Processing 6:1013 S '51

Development of wide range radiation type level control for the Houdriflow catalytic cracking process. E. J. Grace and O. W. Graham. il Instruments 23:1074-6 O '50

Locating fluidized solids bed level in a reactor; hot wire method. G. L. Osberg. diags Ind & Eng Chem 43:1871-3 Ag '51

Magnetic indicator shows oil level in transformer. V. A. Veit. il Elec World 134:112+ D 18 '50

New compensated-float method of liquid-level gaging for aircraft. R. G. Ballard. il diags Instruments 23:1006-7 O '50

Position indicator. Electronics 24:178+ Jl '51

Refinery instruments; what makes them tick? liquid level measurement. C. E. Shannahan. il diags Pet Processing 6:983-6 S '51

X-ray liquid-level gage. J. E. Jacobs and R. F. Wilson. il diags Electronics 24:172+ O '51

LIQUID metals. See Metals, Liquid; Metals, Molten

LIQUID sugar. See Sugar, Liquid

LIQUIDATION

New law allows more liberal election to taxpayer who undergoes involuntary liquidation where LIFO is used. J Account 90:511 D '50

LIQUIDITY (economics)

See also

Assets, Liquid

LIQUIDS

Absolute intensity of light scattering from pure liquids and solutions. C. I. Carr, jr. and B. H. Zimm. bibliog diags J Chem Phys 18:1616-26 D '50

Allowable pipe velocities for liquids; chart; data sheet. J. D. Constance. Power 95:103 O '51

Contribution to the theory of Bose-Einstein liquids. C. V. Heer and J. G. Daunt. bibliog Phys R 81:447-54 F 1 '51

Determination of intermolecular energy constants from common physicochemical properties of liquids. E. A. Moelwyn-Hughes. bibliog J Phys & Colloid Chem 55:1246-54 O '51

Dielectric relaxation in liquids and solids. C. P. Smyth. Elec Eng 69:975-80 bibliog(76 titles, p979-80) N '50

Distribution function in phase space, with application to the statistical theory of liquids. E. Ikenberry. bibliog J Chem Phys 19:467-70 Ap '51

Electron diffraction by transmission through thin liquid films. C. W. Lufcy and others. bibliog il J Chem Phys 19:217-19 F '51

Entropies of vaporization, and internal order in liquids. L. A. K. Staveley and W. I. Tupman. Chem Soc J p3597-606 D '50

Equation of state for liquids. F. Maslan and E. Aberth. J Chem Phys 19:658-9 My '51

Fluorescence of solutions bombarded with high energy radiation (energy transport in liquids). H. Kallmann and M. Furst. bibliog il diag Phys R 79:857-70; 81:853-64 S 1 '50, Mr 1 '51

Free volume for rigid sphere molecules. R. J. Buehler and others. il diags J Chem Phys 19:61-71 Ja '51

Gas evolution in liquids and cavitation. P. H. Schweitzer and V. G. Szebehely. diags J Ap Phys 21:1218-24 D '50

Medium effects in the liquid phase. M. Kilpatrick and others. bibliog J Phys & Colloid Chem 55:812-93 Je '51

Polarization of Rayleigh scattering as an aid to determine molecular configuration in liquids. D. H. Rank. J Chem Phys 19:511 Ap '51

Properties of freshly formed surfaces. C. C. Addison and T. A. Elliott. diag Chem Soc J p3090-109 N '50

Relation between gas evolution and physical properties of liquids. V. G. Szebehely. J Ap Phys 22:627-8 My '51

Shock-wave phenomena; waterlike substances. R. J. Seeger and H. Polachek. bibliog diags J Ap Phys 22:640-54 My '51

Structure of liquid aluminum chloride. R. L. Harris, R. E. Wood and H. L. Ritter. bibliog diag Am Chem Soc J 73:3151-5 Jl '51

Tensile strength of benzene. J. J. Donoghue and others. bibliog diags J Chem Phys 19:55-61 Ja '51

Theories of viscosity applied to ionic liquids. B. S. Harrap and E. Heymann. bibliog Chem R 48:45-67 F '51

Ultrasonic absorption in binary mixtures of unassociated liquids. D. Sette. J Chem Phys 18:1592-4 D '50

Ultrasonic absorption in liquids. C. J. Moen. bibliog il diag Acoustical Soc Am J 23:62-70 Ja '51

Ultrasonic investigation of liquids; acetylene derivatives. A. Weissler and V. A. Del Grosso. Am Chem Soc J 72:4209-10 S '50

See also

Boiling points
Cavitation
Dew points
Drops
Emulsions
Equation of state
Evaporation
Films
Fluids
Helium, Liquid
Hydraulics
Hydrodynamics
Inflammable liquids
Liquid fuel
Nitrogen, Liquid
Solution (chemistry)
Solvents
Surface tension
Viscosity
Water
Wetting

LIQUOR problem

See also

Alcoholism

LIQUOR traffic

Illegal alcohol. Chem Ind W 68:30 Mr 24 '51

See also

Beer
Bootlegging
Distilling industries
Rum
Whisky
Wine

Advertising

Canada plugs liquor, but not in ads. il Bsns W p 176-7 Je 16 '51

See also

Whisky—Advertising

LIQUORS

U.S. taste buds want it bland. Bsns W p 102-3 Jl 14 '51

See also

Beer
Rum
Whisky
Wine

Transportation

National distillers means business about loss and damages; firm holds meeting for everybody concerned in transportation. diag Ry Age 131:60-1 Ag 6 '51

LISTER, R. A., and company, limited

Statement of the chairman. R. A. Lister. Economist 160:462 F 24 '51

LITERATURE

Dictionaries

Handbook of literary terms. H. L. Yelland, S. C. Jones and K. S. W. Easton, comps. 224p bibliog(p223-4) $3.75 Philosophical library, 15 E. 40th st, New York 16 '51

LITHCOTE process. See Metal protection

LITHIUM

Abundance of lithium, beryllium, boron, and other light nuclei in the primary cosmic radiation and the problem of cosmic-ray origin. H. L. Bradt and B. Peters. bibliog il Phys R 80:943-53 D 15 '50

$B^{10}(\eta,\alpha)$ reaction and the low excited state of Li^7. D. R. Inglis. Phys R 81:914-19 Mr 15 '51

Carrier-free radioisotopes from cyclotron targets; preparation and isolation of Be^7 from lithium. H. R. Haymond and others. J Chem Phys 18:1685 D '50

Cohesive energy of metallic lithium. R. A. Silverman and W. Kohn. bibliog Phys R 80:912-13 D 1 '50; Correction. 82:283 Ap 15 '51

Correlation energy and the heat of sublimation of lithium. C. Herring. bibliog Phys R 82:282-3 Ap 15 '51

Cross section ratio $\sigma[B^{10}(n, \alpha)Li^7]/\sigma[B^{10}(n, \alpha)Li^{7*}]$ as a function of energy. H. Bichsel and others. Phys R 81:456-7 F 1 '51

Excitation energy difference in Li^7—Be^7. E. Feenberg. bibliog Phys R 81:644 F 15 '51

Geology, mining, and uses of strategic pegmatites. R. H. Jahns. bibliog il diags Min Eng 190:Trans 47-8 Ja '51

Investigation of the existence of a sodium lithium molecule. B. B. Phillips and others. Phys R 81:898-9 Mr 1 '51

Lithium and the hydrogen bomb. J. De Ment. Eng & Min J 152:83 Ja '51

Lithium in modern ceramics; lithium in glass, glazes, and enamels; abstract. J. D. Clark and J. W. Donahey. Am Cer Soc J 34 (Cer A):82 My 1 '51

Lithium, lightest light metal; progress and review. S. Hoffman. Light Metal Age 9:19-20 Ap '51

Low states of Li^7 in intermediate coupling. H. H. Hummel and D. R. Inglis. Phys R 81:910-14 Mr 15 '51

Metallographic study of the martensite transformation in lithium. J. S. Bowles. il diag J Metals 191:Trans 44-6 Ja '51

Neutron yields from photo-disintegration by gamma-rays from lithium. B. D. McDaniel and others. diags Phys R 80:807-12 D 1 '50

Nuclear resonance shift in metallic lithium. W. Kohn and N. Bloembergen. bibliog Phys R 80:913 D 1 '50

Oxidation of lithium and the alkaline earth metals in liquid ammonia. J. K. Thompson and J. Kleinberg. Am Chem Soc J 73:1243-5 Mr '51

Penetrating showers from lithium. W. B. Fretter. Phys R 80:921-2 D 1 '50

Photo-disintegration of the deuteron by lithium and fluorine γ-rays. P. V. C. Hough. bibliog diags Phys R 80:1069-75 D 15 '50

Precise determination of the $Li^7(p, \alpha)He^4$ and $Be^9(d, \alpha)Li^7$ Q-values. W. Whaling and C. W. Li. bibliog Phys R 81:150-1 Ja 1 '51

Rotating lithium target. E. Lampi. diag R Sci Instr 22:429 Je '51

Stainless on copper halts lithium attack. Iron Age 168:114 Ag 16 '51

Wave function of ionized lithium. P. J. Luke and others. Phys R 83:847 Ag 15 '51

Analysis

Analytical chemistry of the less common alkali metals; lithium. bibliog(64 ref) Chem Age (Lond) 65:17-23 Jl 7 '51

Determination of lithium in rocks; fluorometric method. C. E. White, M. H. Fletcher and J. Parks. bibliog Anal Chem 23:478-81 Mr '51

Determination of sodium and potassium in lithium metal by flame photometer. W. R. Inman, R. A. Rogers and J. A. Fournier. bibliog Anal Chem 23:482-3 Mr '51

Isotopes

Angular distribution of $Li^7(p,\alpha)\alpha$. F. L. Talbott and others. bibliog diag Phys R 82:1-4 Ap 1 '51

Angular distribution of protons from $Li^6(d,p)Li^{7*}$, Li^7. D. N. F. Dunbar and F. Hirst. bibliog Phys R 83:164-5 Jl 1 '51

Angular distributions of the two gamma-rays from $Li^7(p,\gamma)Be^8$ reaction. M. B. Stearns and B. D. McDaniel. bibliog Phys R 82:450-1 My 1 '51

Angular yield of both proton groups from $Li^6(d,p)Li^7$. R. W. Krone and others. bibliog diags Phys R 80:603-7 N 15 '50

Beta-alpha-correlation in the disintegration of Li^8. J. W. Gardner. bibliog Phys R 82:283-4 Ap 15 '51

Comparison of several nuclear absolute voltage determinations. W. J. Sturm and V. Johnson. bibliog diags Phys R 83:542-7 Ag 1 '51

Electric quadrupole moment of Li^6. N. A. Schuster and G. E. Pake. Phys R 81:157-8 Ja 1 '51

Energy and angular distribution of the gamma-rays from the reaction $Li^7(p,\gamma)Be^8$. H. Nabholz and others. bibliog Phys R 82:963-4 Je 15 '51

Energy levels in Li^7. H. E. Gove and J. A. Harvey. bibliog Phys R 82:658-63 Je 1 '51

Excited states of the mirror nuclei, Li^7 and Be^7. A. B. Brown and others. bibliog Phys R 82:159-81 Ap 15 '51

First excited state of Be^7 from the $Li^7(p, n)Be^7$ reaction. H. B. Willard and W. M. Preston. bibliog Phys R 81:480-1 F 1 '51

Half-life of Li^8. W. Rall and K. G. McNeill. bibliog Phys R 83:1244 S 15 '51

Improvements in the Li^6 technique. G. R. Keepin, jr. il R Sci Instr 21:933 N '50

Lithium and beryllium nuclei ejected from heavy nuclei by high energy particles. L. Marquez and I. Perlman. bibliog Phys R 81:953-7 Mr 15 '51

Li^9; new delayed neutron emitter. W. L. Gardner and others. Phys R 83:1054 S 1 '51

$Li^6(n, \alpha)H^3$ reaction spectrum. U. Facchini and others. bibliog Phys R 81:475-6 F 1 '51

Low excited states in Li^6 and Be^9. C. P. Browne and others. Phys R 83:179-80 Jl 1 '51

Low states of He^5 and Li^5. R. K. Adair. bibliog Phys R 82:750-1 Je 1 '51

Mirror levels in Li^7 and Be^7. B. R. Mottelson. Phys R 82:287 Ap 15 '51

Neutron yield for the $Li+T$ reactions. R. W. Crews. Phys R 82:100-1 Ap 1 '51

New state in Li^7 at low bombarding energy. R. W. Gelinas and others. Phys R 83:1260-1 S 15 '51

Search for Be^7 states using the Li^6 technique. G. R. Keepin, jr. Phys R 80:768 N 15 '50

Spin-orbit coupling in Li^7 and Be^7. D. R. Inglis. bibliog Phys R 82:181-9 Ap 15 '51

Total yield of alphas from $Li^6(d,\alpha)\alpha$. R. Resnick. Phys R 82:447 My 1 '51

LITHIUM alloys

Aging characteristics of magnesium-lithium base alloys. P. D. Frost and others. il J Metals 188:Trans 1277-82 O '50; Discussion. 3:Trans 560-1 Jl '51

Effect of sodium contamination on magnesium-lithium base alloys. P. D. Frost and others. J Metals 188:Trans 1171-2 S '50; Discussion. 3:Trans 557-8 Jl '51

Magnesium-lithium alloys. Engineer 190:496 N 24 '50

Transformation characteristics of a lithium-magnesium alloy. C. S. Barrett and D. F. Clifton. J Metals 188:Trans 1329-32 N '50

LITHIUM aluminum hydride

α- and β-dihydroequilenin; configuration at C_{17}. C. W. Shoppee. bibliog Chem & Ind p810 D 16 '50

LITHIUM aluminum hydride—*Continued*

Behaviors of several compounds as indicators in lithium aluminum hydride titration of functional groups. T. Higuchi and D. A. Zuck. bibliog Am Chem Soc J 73:2676-9 Je '51

Constituents of natural phenolic resins; reduction of some lactonic lignans with lithium aluminium hydride. R. D. Haworth and L. Wilson. Chem Soc J p71-2 Ja '50

Exchange reaction between hydrogen and lithium hydride; the preparation of lithium hydride-*t* and lithium aluminum hydride-*t*. K. E. Wilzbach and L. Kaplan. Am Chem Soc J 72:5795-6 D '50

Explosion of perfluorosuccinamide and lithium aluminum hydride. Chem & Eng N 29:3042 Jl 23 '51

Lithium aluminum hydride reduction of pyridine carboxylic esters; synthesis of vitamin B_6. R. G. Jones and E. C. Kornfeld. bibliog Am Chem Soc J 73:107-9 Ja '51

Lithium aluminum hydride test for aromatic nitro and nitroso groups. H. Gilman and T. N. Goreau. Am Chem Soc J 73:2939-40 Je '51

Non-reduction of the acetal group by lithium aluminum hydride. C. S. Marvel and H. W. Hill, jr. Am Chem Soc J 73:481 Ja '51

Partial reduction of the double bond in 2-hexenoic acid by lithium aluminum hydride. R. W. Freedman and E. I. Becker. bibliog Am Chem Soc J 73:2366-7 My '51

Podophyllotoxin and picropodophyllin; their reduction by lithium aluminum hydride. N. L. Drake and E. H. Price. bibliog Am Chem Soc J 73:201-5 Ja '51

Preparation of unsaturated long-chain alcohols by means of lithium aluminium hydride; some typical members of the series. S. P. Ligthelm, E. von Rudloff and D. A. Sutton. Chem Soc J p3187-90 N '50

Reaction of aromatic hydrocarbons with lithium aluminium hydride, and a new technique for the use of the reagent. I. Goodman. Chem Soc J p2209-11 Ag '51

Reduction of acetylated glycopyranosyl bromides to 1,5-anhydroglycitols with lithium aluminum hydride; 1,5-anhydro-L-rhamnitol. R. K. Ness, H. G. Fletcher, jr. and C. S. Hudson. bibliog Am Chem Soc J 72:4547-9 O '50

Reduction of amides with lithium aluminium hydride. A. L. Morrison, R. F. Long and M. Königstein. Chem Soc J p952-5 Ap '51

1,4-Reduction of an α,β-unsaturated ketone by lithium aluminum hydride. R. E. Lutz and D. F. Hinkley. Am Chem Soc J 72:4091-2 S '50

Reduction of aromatic hydrocarbons with lithium aluminium hydride. I. Goodman. Chem Soc J p846-7 Mr '51

Reduction of α-haloketones to halohydrins by lithium aluminum hydride. R. E. Lutz, R. L. Wayland, jr. and H. G. France. Am Chem Soc J 72:5511-12 D '50

Reduction of nitriles to primary amines with lithium aluminum hydride. L. H. Amundsen and L. S. Nelson. Am Chem Soc J 73:242-4 Ja '51

Reduction of organic hydroperoxides with lithium aluminium hydride. D. A. Sutton. bibliog Chem & Ind p272 Ap 7 '51

Reduction of *o*-quinones with lithium aluminium hydride. J. Booth, E. Boyland and E. E. Turner. Chem Soc J p 1188-90 Ap '50

Reduction of *p*-quinones with lithium aluminium hydride. E. Boyland and D. Manson. Chem Soc J p 1837-40 Jl '51

Reverse addition of lithium aluminum hydride to nitro olefins. R. T. Gilsdorf and F. F. Nord. Am Chem Soc J 72:4327-8 S '50

Solanum alkaloids; fission of the oxide ring of solasodine with lithium aluminium hydride. L. H. Briggs and R. H. Locker. Chem Soc J p3020-1 N '50

Some reactions of phenylsilane. W. H. Nebergall. Am Chem Soc J 72:4702-4 O '50

Steric effects and stereochemistry of lithium aluminum hydride reduction. D. S. Noyce and D. B. Denney. bibliog Am Chem Soc J 72:5743-5 D '50

Steroids and the Walden inversion; reduction of cholest-5-en-3-one with lithium aluminium hydride. C. W. Shoppee and G. H. R. Summers. Chem Soc J p687-9 F '50

Studies in the anthracene series; reduction of highly hindered ketones with lithium aluminum hydride. E. L. May and E. Mosettig. Am Chem Soc J 73:1301-2 Mr '51

LITHIUM aluminum silicates

Hydrothermal chemistry of silicates; synthetic lithium aluminosilicates. R. M. Barrer and E. A. D. White. Chem Soc J p 1267-78, pl 1-9 My '51

Thermal expansion properties of some synthetic lithia minerals. F. A. Hummel. Am Cer Soc J 34:235-9 Ag 1 '51

LITHIUM ammonium tartrate

Lithium ammonium tartrate monohydrate, a new ferroelectric crystal. W. J. Merz. Phys R 82:562-3 My 15 '51

New ferroelectric tartrates. B. T. Matthias and J. K. Hulm. bibliog Phys R 82:108-9 Ap 1 '51

LITHIUM borohydride

Kinetics of the reaction of lithium borohydride in aqueous acid solution. M. Kilpatrick and C. D. McKinney, jr. bibliog diag Am Chem Soc J 72:5474-6 D '50

LITHIUM bromide

Racemization of the dimethyl ester of *l*-bromosuccinic acid by lithium bromide in acetone. A. R. Olson, L. D. Frashier and F. J. Spieth. bibliog J Phys & Colloid Chem 55:860-73 Je '51

LITHIUM chloride

Anhydrides of polyhydric alcohols; the reactions of sodium iodide and lithium chloride with dimethanesulphonyl and ditoluene-*p*-sulphonyl derivatives of the 1:4-3:6-dianhydrides of D-mannitol, D-sorbitol, and L-iditol. L. F. Wiggins and D. J. G. Wood. Chem Soc J p 1180-4 My '51

Differential diffusion coefficients of lithium and sodium chlorides in dilute aqueous solution at 25°. H. S. Harned and C. L. Hildreth, jr. Am Chem Soc J 73:650-2 F '51

Lithium chloride solutions in air dehumidification. diag Chem & Eng N 29:813 F 26 '51

Thermodynamic properties of aqueous lithium chloride solutions; evaluation of the gas current method for the determination of the thermodynamic properties of aqueous salt solutions. E. F. Johnson, jr. and M. C. Molstad. bibliog il diags J Phys & Colloid Chem 55:257-81 F '51

Vapor pressure of water above saturated lithium chloride solution. N. A. Gokcen. Am Chem Soc J 73:3789-90 Ag '51

LITHIUM compounds

Action of organolithium compounds on 2,5-dimethylpyrazine. B. Klein and P. E. Spoerri. Am Chem Soc J 73:2949-51 Je '51

Alkenylation by use of lithium alkenyls. E. A. Braude, C. J. Timmons and J. A. Coles. diag Chem Soc J p2000-19 Ag '50

Alkenylation employing lithium alkenyls; the formation and some reactions of *cis*-propenyl-lithium. E. A. Braude and J. A. Coles. Chem Soc J p2078-84 Ag '51

Application of lithium alkynyls in the synthesis of long-chain dialkylacetylenes. B. B. Elsner and P. F. M. Paul. diag Chem Soc J p893-7 Ap '51

Formation of optically active 1-methylheptyllithium. R. L. Letsinger. Am Chem Soc J 72:4842 O '50

Metalation of diaryl sulfones. W. E. Truce and M. F. Amos. bibliog Am Chem Soc J 73:3013-17 Jl '51

Preparation of some 2-picolyl ketones using phenyllithium. R. P. Zelinski and M. Benilda. bibliog Am Chem Soc J 73:696-7 F '51

Preparation of stereoisomeric alkenyl lithium compounds. D. Y. Curtin and E. E. Harris. Am Chem Soc J 73:2716-17 Je '51

Reaction of trimethylene oxide with Grignard reagents and organolithium compounds. S. Searles. bibliog Am Chem Soc J 73:124-5 Ja '51

Reactions of organometallic compounds; the rates of reaction of phenyllithium and of methyllithium with *n*- and *t*-butyl chlorides. S. J. Cristol, J. W. Ragsdale and J. S. Meek. bibliog Am Chem Soc J 73:810-13 F '51

Reactions of organometallic compounds; the reactions of phenyllithium and of *n*-butyllithium with α- and γ-methylallyl chlorides. S. J. Cristol, W. C. Overhults and J. S. Meek. bibliog Am Chem Soc J 73:813-15 F '51

LITHIUM compounds—*Continued*

Reactions of organometallic compounds; the reactions of phenyllithium with some epoxides. S. J. Cristol, J. R. Douglass and J. S. Meek. bibliog Am Chem Soc J 73:816-18 F '51

Reactions of some triarylsilanes with methyllithium and phenylisopropylpotassium. R. A. Benkeser and F. J. Riel. Am Chem Soc J 73:3472-4 Jl '51

Some reactions of triphenylgermane. O. H. Johnson and D. M. Harris. Am Chem Soc J 72:5566-8 D '50

Sulfination of aryllithium compounds; the preparation of sodium *o*-, *m*- and *p*-*n*-dodecylbenzenesulfonates. W. E. Truce and J. F. Lyons. bibliog Am Chem Soc J 73:126-8 Ja '51

Thermal expansion properties of some synthetic lithia minerals. F. A. Hummel. Am Cer Soc J 34:235-9 Ag 1 '51

Unusual twofold Wagner-Meerwein rearrangement. B. Witkop and J. B. Patrick. bibliog Am Chem Soc J 73:1558-64 Ap '51

LITHIUM fluoride

Decays of luminescent KBr and LiF. A. H. Morrish and A. J. Dekker. Phys R 80:1030-4 D 15 '50

Nuclear audiofrequency spectroscopy by resonant heating of the nuclear spin system. N. F. Ramsey and R. V. Pound. Phys R 81:278-9 Ja 15 '51

Nuclear spin relaxation times in single crystals of LiF. R. V. Pound. bibliog Phys R 81:156 Ja 1 '51

Nuclear spin system at negative temperature. E. M. Purcell and R. V. Pound. il Phys R 81:279-80 Ja 15 '51

Refractive indices of lithium fluoride. D. S. L. Durie. diag Opt Soc Am J 40:878-9 D '50

Refractivity of lithium fluoride with application to the calibration of infrared spectrometers. L. W. Tilton and E. K. Plyler. bibliog J Res Nat Bur Stand 47:25-30 Jl '51

LITHIUM hydride

Exchange reaction between hydrogen and lithium hydride; the preparation of lithium hydride-*t* and lithium aluminum hydride-*t*. K. E. Wilzbach and L. Kaplan. Am Chem Soc J 72:5795-6 D '50

Formation of metallic hydrides and nitrides and their significance in the synthesis of ammonia. A. Soliman. bibliog J Ap Chem 1:98-104 Mr '51

LITHIUM hydroxide

Low temperature heat capacities of inorganic solids; heat capacities and entropies of lithium hydroxide and of lithium hydroxide monohydrate from 15 to 300° K; third law check on the entropies through the reaction $LiOH + H_2O$ (gas) $= LiOH{\cdot}H_2O$. T. W. Bauer, H. L. Johnston and E. C. Kerr. bibliog Am Chem Soc J 72:5174-6 N '50

LITHIUM methanesulfonate

Conductivity of concentrated electrolyte systems as a function of temperature and concentration. L. R. Dawson, G. R. Leader and H. K. Zimmerman, jr. J Phys & Colloid Chem 55:447-55 Mr '51

LITHIUM nitrate

System ammonium nitrate-lithium nitrate. E. O. Holmes, jr., E. O'Connell and F. Hankard. Am Chem Soc J 73:2885-6 Je '51

LITHIUM nitride

Formation of metallic hydrides and nitrides and their significance in the synthesis of ammonia. A. Soliman. bibliog J Ap Chem 1:98-104 Mr '51

LITHIUM ores

See also

Lepidolite

LITHIUM oxide

Bombardment of Li_2O and C by alpha-particles and deuterons. I. B. Berlman. bibliog Phys R 80:775-81 D 1 '50

Ceramic compositions having negative linear thermal expansion; lithia-alumina-silica. E. J. Smoke. bibliog Am Cer Soc J 34:87-90 Mr 1 '51

Effect of lithium oxide upon the surface tension of several silicate melts. R. M. Williams and H. E. Simpson. bibliog diag Am Cer Soc J 34:280-3 S 1 '51

Low temperature heat capacities of inorganic solids; heat capacity and thermodynamic functions of Li_2O; thermodynamics of the Li_2O-H_2O system. H. L. Johnston and T. W. Bauer. bibliog Am Chem Soc J 73:1119-22 Mr '51

LITHIUM perchlorate

Racemization of the dimethyl ester of *l*-bromosuccinic acid by lithium bromide in acetone. A. R. Olson, L. D. Frashier and F. J. Spieth. bibliog J Phys & Colloid Chem 55:860-73 Je '51

LITHIUM sulfamate

Conductivity of concentrated electrolyte systems as a function of temperature and concentration. L. R. Dawson, G. R. Leader and H. K. Zimmerman, jr. J Phys & Colloid Chem 55:447-55 Mr '51

LITHIUM sulfates

Diffusion coefficients of lithium and sodium sulfates in dilute aqueous solution at 25°. H. S. Harned and C. A. Blake, jr. bibliog Am Chem Soc J 73:2448-50 Je '51

LITHIUM tungstate

Lithium tungsten bronzes. M. E. Straumanis and S. S. Hsu. bibliog Am Chem Soc J 72:4027-30 S '50

System sodium tungsten bronze-lithium tungsten bronze-tungsten (VI) oxide. M. E. Straumanis and G. F. Doctor. bibliog Am Chem Soc J 73:3492-6 Jl '51

LITHIUM tungsten bronzes. See Lithium tungstate

LITHOCHOLIC acid

11-Ketolithocholic acid and 11-ketocholestanol from the $\Delta^{7,9(11)}$-dienes. L. F. Fieser, J. E. Herz and W. Huang. Am Chem Soc J 73:2397 My '51

Oxidation of steroids; methyl $\Delta^{9[11]}$-lithocholenate and methyl 9α,11α-oxidolithocholanate. L. F. Fieser and S. Rajagopalan. bibliog Am Chem Soc J 73:118-22 Ja '51

LITHOGRAPHERS national association

Annual convention, 45th, Chicago, Sept. 7-9. Inland Ptr 126:49-50 O '50

Elects E. W. Jackson, Austin, Texas, president. Inland Ptr 127:90 Ag '51

First offset lithography awards exhibit covers diversified uses. Inland Ptr 126:45 Mr '51

LITHOGRAPHIC industry, Technical association of the. See Technical association of the lithographic industry

LITHOGRAPHY

What agencies should know about lithography. H. C. Latimer. diags Adv Agency 43:68+ N; 72+ D '50; 44:76-7+ Ja '50

LITHOLOGY. See Rocks

LITHOMAT machines. See Phototypesetting machines

LITHOTYPE composers. See Typewriters (composing machines)

LITTLE, Arthur D., inc.

Industry's problem solvers. D. Hartwell. il Am Bsns 21:8-9+ S '51

LITTLE FALLS, New Jersey

Water supply

Adjustment of water treatment to pollution loading. F. J. De Hooge. Am Water Works Assn J 43:44-5 Je '51

LITTROW spectrograph. See Spectrograph

LIVE stock. See Livestock

LIVER

Adaptive increase of the tryptophan peroxidase-oxidase system of liver. W. E. Knox and A. H. Mehler. bibliog Science 113:237-8 Mr 2 '51

Competitive action of 2-thiouracil and uracil in AAF-induced cancer of the liver. K. E. Paschkis and others. bibliog Science 114:264-5 S 7 '51

Desoxyribonucleic acid content of rat liver nuclei influenced by diet. J. O. Ely and M. H. Ross. bibliog il Science 114:70-3 Jl 20 '51

Hemolytic and antihemolytic activities of various centrifugally separated fractions of adult and fetal liver cells. D. B. Tyler. bibliog Science 112:456-9 O 20 '50

Incorporation of isotopic phosphate in the mononucleotides of liver nucleic acids. E. Volkin and C. E. Carter. Am Chem Soc J 73:1519-20 Ap '51

Proteins of liver and hepatoma mitochondria. G. H. Hogeboom and W. C. Schneider. bibliog il Science 113:355-8 Mr 30 '51

LIVER—*Continued*

Stimulation by the adenylic acid system of amino acid incorporation into protein of liver granules. E. A. Peterson, T. Winnick and D. M. Greenberg. Am Chem Soc J 73:503-4 Ja '51

Diseases

Inhibitory effect of cortisone on dietary necrotic liver degeneration in the rat. K. Schwartz. bibliog Science 113:485-6 Ap 27 '51

Liver cirrhosis with ascites, induced in dogs by chronic massive hepatic irradiation with radioactive colloidal gold. P. F. Hahn and others. bibliog Science 114:303-5 S 21 '51

LIVER extracts

Comparison of citrovorum factor and a synthetic compound with leuconostoc citrovorum growth activity. M. Silverman and J. C. Keresztesy. Am Chem Soc J 73:1897 Ap '51

LIVESTOCK

See also

Cattle breeding
Cattle industry and trade
Goats
Meat industry and trade
Railroads—Rates—Livestock
Ranches
Swine

Diseases and pests

See also

Foot-and-mouth disease

Marketing

Chicago stockyards primp to pep up waning business. il Bsns W p80-2+ N 25 '50

Statistics

More meat in 1951; livestock, feed price ratios. Survey of Cur Bsns 31:8+ Je '51

Transportation

Union Pacific presses campaign to reduce livestock loss and damage. il Ry Age 131:41-2 Jl 30 '51

North Carolina

Financing livestock in the South. Burroughs Clearing House 35:14-15 D '50

LLOYD'S, London

Lloyds becoming more selective on U.S. business. Nat Underw 55:7 Ag 23 '51

Notes from Britain; figures relating to business transacted by underwriting members during 1950. Spectator (Property ed) 17:40+ S '51

Underwriting results present some intriguing figures. D. King-Page. Weekly Underw 165:296+ Ag 11 '51

LLOYDS bank, limited

Statement by the chairman. Lord Balfour of Burleigh. Economist 160:231-5 Ja 27 '51

LOAD (mechanics)

Allowable loads on an unsupported casing column under action of horizontal wave forces and vertical well-head loading. J. A. Reed, 2d and H. H. Meredith, jr. diag Oil & Gas J 49:80-2 O 19 '50; Same. World Oil 132:137-9 Ja '51; Same. Pet Eng (Ref annual) 23:B32+ Jl 15 '51

Designing tubes for bending loads; data sheet. G. E. Allison and A. S. Niles. Machine Design 22:163-5 N '50

Determination of critical loads by energy methods. M. D. Brisby. diags Engineer 191:82-4 Ja 19 '51

Dynamic loading of chain drives. W. K. Stamets, jr. bibliog il diags A S M E Trans 73:655-62; Discussion. 662-5 Jl '51

Effects of lateral loads on arches. J. P. Michalos. diags Am Concrete Inst J 22:377-87 Ja '51

Efficiency of load transfer devices. H. Peterson. diags Concrete 59:18-20 Ag '51

Lateral buckling of eccentrically loaded I-section columns. H. N. Hill and J. W. Clark. bibliog il diag Am Soc C E Proc 76 [no 34]:1-13 S '50; Discussion. 77 [no D-34]:1-5 S '51

Laterally loaded plane structures and structures curved in space. F. Baron and J. P. Michalos. bibliog diags Am Soc C E Proc 77 [no 51]:1-33 Ja '51

Loading machine provides for adjustment of photoelastic specimens. W. B. Stiles and A. White, jr. il Civil Eng 21:217 Ap '51

Measures rolling mill load continuously. il Iron Age 167:74 Mr 22 '51

Numerical computation of buckling loads by finite differences. M. G. Salvadori. bibliog diags Am Soc C E Proc 75:1441-75 D '49; Discussion. 77 [no D-XXV]:1-12 F '51

Pressure-filled breaking piece for load limitation. W. H. Bailey. il diags Engineer 191:213-14 F 16 '51

Rate of sintering of copper under a dead load. F. N. Rhines and H. S. Cannon. il J Metals 3:Trans 529-30 Jl '51

Stresses around a spot weld under static and cyclic loads. G. Welter. il diags Welding J 29:sup565-76 N '50

Theoretical investigation of hydrodynamic impact loads on scalloped-bottom seaplanes and comparisons with experiment. B. Milwitzky. bibliog il diags U S Nat Advisory Com for Aeronautics 1947:109-24 '50

To double floor loading capacity, build a bridge. il Bsns W p56-7 S 15 '51

Variation of mean floor loads with area. M. R. Horne. Engineering 171:179-82 F 16 '51

See also

Airplanes—Load
Bridges—Load

LOADING and unloading

Control system speeds unloading; can uncaser made by the Bruce engineering corp. il Product Eng 21:102-3 D '50

Developments in the design of coal and ore bridges. B. A. Rose. il diags Iron & Steel Eng 27:60-4; Discussion. 64-5 O '50

Iron-Hand press unloaders have jaw to fit the job. il diags Am Mach 95:142 Ap 30 '51

New fingers for Iron Hands. il Bsns W p98 My 12 '51

Nimble fingers for Iron Hands. il Steel 129:84 Jl 9 '51

Packaged timber handling. T. S. Veazey, jr. il Min Cong J 36:40-3 D '50

Self-contained hydraulic system simplifies design of case unpacker. il diags Product Eng 22:106-9 Ap '51

Two cranes, conveyor belt and 60 trucks handle 300 tons of rock salt per hour at Toronto. il Roads & Eng Constr 88:48+ D '50

See also

Coal loading machines

Airplanes

Cargo handler is air transportable. Aviation W 55:45+ Ag 6 '51

Design of aircraft loading ramps. G. H. Ikola. il diags Machine Design 23:100-5 Jl '51

Devices load planes faster. Steel 129:120+ Ag 6 '51

Barges

Barge unloader lowers handling costs. E. M. Hays. il diag Power 95:83-5 Je '51

Trolley cable solves barge handling problem at Philip Sporn plant. P. T. Schneider. diag Elec World 135:70 Ja 1 '51

Cars

Bonded-block paper-tied loads cut damage for American home foods. C. B. Roeder. il Ry Age 131:52-5 Jl 2 '51

Car wheel unloader chute. il Ry Mech & Elec Eng 124:727 D '50

Case of the up-ended melons. il Ry Age 130:55 Ap 2 '51

Elevated shuttle conveyor loads 26 cars without spotting. il Coal Age 56:104 Jl '51

How palletized load prevents damage. W. L. Eubank. il Ry Age 130:33 My 7 '51

How to beat the freight-car shortage. il Mod Ind 21:52-5 My '51

Machine speeds car unloading. diags Machine Design 23:134-5 F '51

Mechanical handling of bulk storage mail. il Ry Age 129:40-3 D 16 '50

New car design speeds tie distribution. il Ry Age 130:42-3 My 28 '51

New move-and-load method cuts man-hours by 44 per cent; moving steel car panels from press to railroad cars. C. G. Gruendling. il Factory Management 109:100-1 My '51

New rail car cuts shipping losses of damageable products. il Cer Ind 56:77+ F '51

LOADING and unloading—Cars—*Continued*

Permanent anchorage for strap loading; Unistrap system developed in connection with Pressed Steel Unicel car. il Ry Age 130:23 Ja 8 '51

Unloader-sweeper speeds materials handling. il diag Food Ind 22:1921-2 N '50

Unloading copra on the Southern. il Ry Age 130:46-7 Mr 5 '51

Motor trucks

Crusher-conveyor loads subgrade material. il Constr Methods 32:50 D '50

Distilled water company loads more bottles faster, safer, by palletizing neck-out stacks, rigging with aluminum. J. Joseph. il Food Ind 23:84 Ja '51

Gravity does the unloading; truck-trailer units are tilted, at Illinois elevator, to dump bulk materials onto conveyor. il Food Ind 22:2085-6+ D '50

How Kraft cut distribution costs 25 per cent; Zonor system. il Bsns W p40-2 O 28 '50

Level your loads and cut costs. E. L. Cady. il diags Mill & Factory 49:79-83 Ag '51

Platform heights made to order; hydraulically-operated tilting platforms, ground ramps, and vertical lifts. il Food Ind 22:1901-2+ N '50

30 ways to load a truck; illustrations with text. Mill & Factory 48:93-7 Ap '51

Tilting ramps put trucks and platforms on the level. il Comp Air Mag 56:212-13 Ag '51

Truck loader has many uses. G. Manz. il Pub Works 82:45 Je '51

When the load goes up, the cost comes down! Garfield plumbing and heating co. equipped their trucks with hydraulic lift gates. il Dom Eng 177:92-3 F '51

Safety measures

Loading trucks the safe way; illustrations with text. Safety Maint & Prod 100:29-31 D '50

Ships

B&O dedicates new pier at Baltimore. S. A. Lauver. il Manuf Rec 120:55 Je '51

B.&O. invests $5 million in ore import pier at Baltimore. C. E. Sloan. il Ry Age 131:36-41 Jl 2 '51

Handling imported ore. G. H. Atwood. il Iron & Steel Eng 28:120+ Je '51

Locomotive unloading gantry. il diags Engineer 190:597-8 D 15 '50

Ore unloader built on East coast. W. B. MacLean. il diags Iron & Steel Eng 27:122-4 D '50; Same cond. Elec World 135:118 F 26 '51; Abstract. Eng & Min J 152:79 Mr '51

Ore-unloading dock at Baltimore. il Marine Eng 56:52-5 Jl '51

Tank barges

Unloading oil barges speeded by heating on river. il Nat Pet N 43:26 My 23 '51

Tank ships

Magnolia relocates loading lines. H. T. Fort. il Oil & Gas J 50:216+ Je 21 '51

Mena al Ahmadi, Kuwait oil company's port. il World Oil 132:212-13 Ja '51

Tanker facilities; station at Piney Point, Maryland. C. Stempf. il plan Pet Eng 23:D26+ Ap '51

Union Oil loads 105,000-bbl. tanker in 5¾ hours with twin pipe lines. il Oil & Gas J 49:85+ Mr 8 '51

Tank trucks

Complete remote control of truck rack; Esso standard oil co.'s new Lake Charles, La. river terminal. il Nat Pet N 43:60-2+ Je 13 '51

Richfield's Cuyama Valley L.P.G. loading racks. M. L. Arnold. flow plan il diags Oil & Gas J 49:151-3+ Ap 19 '51

LOADING machines

Machine cuts heat treat furnace loading costs. W. G. Patton. il diags Iron Age 168:68-70 Ag 9 '51

LOANS

Adventure in American finance; voluntary credit restraint plan. L. Stafford. Banking 43:33-5+ Je '51

Applying for a loan is like selling a job; adequate presentation will get results. Dom Eng 176:91+ D '50; 177:106+ Ja '51

Curb on expansion loans urged by National voluntary credit restraint committee. Bsns W p20 Ap 28 '51

Met's loan program drags. Bsns W p 102-4 Mr 10 '51

New loan rise tests credit restraint; with graph. Bsns W p 148+ S 22 '51

Program for voluntary credit restraint. Credit & Fin Management 53:13-14+ Je '51; Same abr. Fed Res Bul 37:263-6 Mr '51

Regulation of real estate credit on nonresidential construction; with text of amended Regulation X and supplement; effective Feb. 15, 1951. Fed Res Bul 37:132-3, 149-62 F '51

Voluntary credit restraint. N. P. Gregory. Burroughs Clearing House 35:38+ Ap '51

Voluntary credit restraint committees. Fed Res Bul 37:378-84 Ap '51; Same abr. Banking 43:38-9+ Je '51; Excerpt. Comm & Fin Chr 173:1236 Mr 22 '51

Voluntary credit restraint program. Nat City Bank p42-3, 54-5, 67-71 Ap-Je '51

Voluntary credit restraint releases. Fed Res Bul 37:495-500 My '51

Voluntary loan program to combat inflation. N. P. Gregory. Burroughs Clearing House 35:39+ Mr '51

See also

Credit
Credit, Bank
Government loans and grants
Insurance, Life—Policy loans
Interest
Mortgages
Reconstruction finance corporation
Veterans—Loans

LOANS, Bank

A.B.A. annual national instalment credit conference, 5th, Chicago, March 12-14; with abstracts of papers. Banking 43:90-2 Ap '51; Burroughs Clearing House 35:11-12 Ap '51

Bank credit and inflation. Nat City Bank p31-2 Mr '51

Bank leadership in real estate lending; Bay Area mortgage market, 1945-50. P. Wendt. Banking 44:72+ Jl '51

Bank lending in defense economy. R. L. Reierson. Comm & Fin Chr 173:815+ F 22 '51

Bank loans and inflationary trends; excerpts from annual report of Comptroller of the currency. P. Delano. Comm & Fin Chr 174:517 Ag 9 '51

Bankers do a job; Voluntary credit restraint committee. Fortune 44:93-4+ O '51

Banking quarterbacks expansion; industrial equipment firm moves to Beaumont, Tex. C. R. Walker. Manuf Rec 119:33-4 N '50

Banks, inflation and defense. O. S. Powell. Comm & Fin Chr 173:633+ F 8 '51

Banks must finance defense without inflation. W. R. Burgess. Comm & Fin Chr 173:1754+ Ap 26 '51

Business loans will be harder to get. Bsns W p 19-20 Mr 17 '51

Church financing; survey questionnaire of Florida bankers association. Burroughs Clearing House 35:24 S '51

Commercial banking problems today. W. G. F. Price. Comm & Fin Chr 173:1235+ Mr 22 '51

Current credit picture. C. R. Davis. Comm & Fin Chr 172:2537+ D 28 '50

Here are sixteen points bankers want accountants to cover in clients' loan applications. J. F. Willett. J Account 91:839 Je '51

Inflation and banking. A. L. M. Wiggins. Comm & Fin Chr 173:1534+ Ap 12 '51

Inflation and the banking system. T. B. McCabe. Comm & Fin Chr 172:2436+ D 21 '50

Is bank credit too cheap? Banking 43:40+ Ap '51

Loan restraint at work. Burroughs Clearing House 35:3-4 Je '51

Mainly, the Wilson report; voluntary credit restraint program. L. Stafford. Banking 44:34-5+ Jl '51

New Jersey fuel oil distributors get banker's slant on financing. N. Brassler. Nat Pet N 43:35-6 My 16 '51

New loan criteria for bankers; management engineer looks at loan policies. J. A. Patton. Bankers Mo 68:7-8+ Je '51

New loan rise tests credit restraint; with graph. Bsns W p 148+ S 22 '51

LOANS, Bank—*Continued*
New York area, for example; program for voluntary credit restraint is working smoothly. Banking 43:36-7+ Je '51
No further credit controls needed. R. L. Reierson. Comm & Fin Chr 173:2568+ Je 21 '51
Oil, gas, and the banker. F. F. Florence. Am Pet Inst Proc 30(4):51-4 '50; Same cond. Oil & Gas J 49:348-9+ N 16 '50
Should banks make church loans? C. N. Millican. il Bankers Mo 68:7-8+ Ag '51
Survey of credit conditions; findings of A.B.A. Credit policy commission. Banking 43:132-3 F '51
Text of letter to all member banks of the Federal reserve system, Nov. 17. T. B. McCabe. Fed Res Bul 36:1582-3 D '50
They'll slow down, or else; bank loans to business. Bsns W p26 D 30 '50
Tighter credit control? R. L. Reierson. Burroughs Clearing House 35:4+ Mr '51
Voluntary credit restraint plan progresses. N. P. Gregory. Burroughs Clearing House 35:41-2 My '51
What's ahead for bank credit? C. R. Davis. Banking 44:34-5+ S '51
See also
Agricultural credit
Banks and banking—Automobile purchase financing
Veterans—Loans

Collateral

Loans on aircraft; Dawson vs. General discount corporation. C. R. Rosenberg, jr. Burroughs Clearing House 35:65-6 Ja '51

Defense loans

Bureau stymies defense loans; General accounting office ruling on set-offs. Bsns W p24 F 3 '51
Defense loans come easier; amendment to Assignment of claims act. Bsns W p 132-3 My 26 '51
Here's how to get defense loans. Aviation W 53:14 D 11 '50
How to pick sales opportunities under new defense set-up; five-year amortization; revived V-loans; priorities. Sales Management 65:42-4 N 1 '50
Impact of defense spending on bank lending; comments by voluntary credit restraint committee chairmen. Banking 44:41-3+ Jl; 102-3+ Ag '51
Loan guarantees for defense production; amendment to form of guarantee agreement; with text. Fed Res Bul 37:20, 149 Ja-F '51
Loan guarantees for defense production; amendment to Regulation A; national bank loan limitations. Fed Res Bul 37:391-2 Ap '51
New problems in V-loans; panel discussion at A.B.A. credit conference. Burroughs Clearing House 35:30-1 Ja '51
Program of loan guarantees for defense production; Regulation V, effective Sept. 27, 1950; with text. Fed Res Bul 36:1283-4. 1306-8 O '50
Specialized department for war loans; Security-first of Los Angeles. il Burroughs Clearing House 53:3-4 Mr '51
V loan exposure; how does it affect your profit? J. F. Morris. Bankers Mo 68:18 Je '51
V-loans return. Bsns W p 140+ Ap 7 '51
V-loans will come easier. Bsns W p 138+ My 19 '51
What about Regulation V? Burroughs Clearing House 35:3 N '50

Instalment payment

Determining bank instalment credit costs. G. S. Blue. Banking 44:36-7+ S '51
Maintaining installment loan volume. T. Volckhausen. Bankers Mo 68:50+ S '51
Stressing diversification in installment lending; Iowa-Des Moines national bank. G. O. Nelson. il Burroughs Clearing House 35:36-8+ Ag '51

Small loans

Community service loan fund; Gardner (Massachusetts) trust co. il Banking 43:14+ Mr '51
Why bank's losses average one-third of one per cent; Industrial national bank, of Detroit. D. G. Baird. il Am Bsns 21:16-17+ F '51

LOANS, Foreign
Adventures of a U.S. loan to Chile. il Mod Ind 22:74-5 Jl '51
Foreign aid by the U.S. government in calendar year 1950; with tabulations by program and by country, July 1, 1945-December 31, 1950. C. E. Shepler. Survey of Cur Bsns 31:12-18 Mr '51
Foreign loans mobilized, too; world bank and Ex-Im lending policies to speed defense. Bsns W p 141-2 F 10 '51
Foreign transactions of the U.S. government in fiscal 1950. Survey of Cur Bsns 30:14-20 N '50
Point-four program. T. Hibben. il For Comm W 41:3-4+ N 27 '50
To return securities; British-owned American securities deposited as collateral for war loans. Weekly Underw 165:235+ Ag 4 '51
To what extent should foreign economic aid, including loans, be made on a political as against a business basis? H. E. Gaston; K. S. Wherry. Banking 43:14-15 Je '51
See also
Export-import bank of Washington

LOANS, Small
See also
Credit unions
Loans, Bank—Small loans

LOBBYING
Do corporation lobbyists swarm over Capitol hill? results of congressional inquiry, what corporation spent. J. Shoenfeld. Sales Management 66:50+ F 1 '51
Washington responsibilities and trends; political pressure and lobbying. E. M. Thore. East Underw 52:3+ Je 22 '51; Same cond. Nat Underw (Life ed) 55:1+ Je 15 '51

LOBSTERS
Trucks deliver them alive; lobsters hauled from Portland, Me., to New York city. il Food Ind 23:118-19 F '51

LOCAL government
Local government dilemmas. Economist 161:141-2 Jl 21 '51
State and local governments, 1909 to 1948; a study of employment and payrolls. C. P. Brainerd. Mo Labor R 73:20-5 Jl '51

China

Peasant organization in rural China. G. W. Skinner. bibliog Ann Am Acad 277:89-100 S '51

LOCATING (machine work)
Center-distance jig spaces holes. I. J. Peacock. diag Am Mach 95:172 S 3 '51
Chucks and adapters for machining unsymmetrical work. R. W. Newton. diag Mach 57:197-8 D '50
Drill jig locates casting by gripping boss on head. W. M. Halliday. diags Am Mach 94:118 D 25 '50
Electric eye accurately locates work in riveting operations. H. L. Hubbard. il Mach 57:192-5 Jl '51
Electric positioning device ends manual machine settings. il Am Mach 94:164 N 27 '50
Electromagnetic measuring system used in Pratt & Whitney jig borer. il diags Am Mach 95:178 F 5 '51; Automotive Ind 104:58 F 1 '51; Mach 57:212-13 F '51; Machine Design 23:113 Mr '51
Prelocation simplifies turbine blade location. G. Elwers. il Iron Age 167:90-2 My 24 '51
Redesign to simplify tooling; locating parts without jigs. A. F. Murray. il Machine Design 23:153-4 S '51
Template-located jig speeds drilling and counterboring. R. Mery. diags Mach 58:191-2 S '51
Universal locator sets up aircraft fixtures. L. E. Laux. il diags Am Mach 94:125-7 N 27 '50

LOCATION in industry
See also
Factories—Location
Office buildings, Industrial—Location
Retail trade—Store location

LOCKER plants, Cold storage. See Cold storage locker plants

LOCKHEED aircraft corporation
Lockheed backlog passes $1 billion. Aviation W 55:15 S 17 '51
Lockheed tools up for the jet age. il Bsns W p55-6+ F 3 '51

LOCKING devices
Device for locking index-plate in any desired position. F. L. Keller. diags Mach 57:191 Ag '51
Increased safety for safes; electronic mechanism for controlling a combination lock. E. H. Forbes. il diag Electronics 24:138+ Je '51
Splined positive lock. T. Barish. il diag Machine Design 23:115-16 Ja '51

LOCKOUTS
Lockouts are legal. Bsns W p42+ Ag 11 '51

LOCKS (hydraulic engineering)
Causeway recommended for Canso Strait crossing instead of low-level bridge; with cost data. D. S. Ellis and others. il maps diags Roads & Eng Constr 89:65-8+ Jl '51
Design characteristics of lock systems in the United States; symposium. bibliog map plans diags Am Soc C E Proc 76:4-62 Ja '50; Discussion. 76 [no D-XXVII]:1-2 D '50
Heavy industrial development dictates tough construction site for Monongahela locks number two. W. Bauknight. il diags Civil Eng 21:516-20 S '51
Is a causeway the solution for the Strait of Canso problem? editorial. Roads & Eng Constr 89:33+ S '51
Money-saving methods at Woodruff dam. F. S. Merritt. il Eng N 146:33-5 Je 14 '51
New lock and dam provide for expanding river traffic. R. B. Jackson. il plan Civil Eng 20:759-60 D '50
New locks begin handling Monongahela River traffic. Eng N 146:27 Je 21 '51
New Mississippi port for Minneapolis. il map diag Eng N 147:37-9 S 13 '51
Prestressed cross-bracing stiffens lock gates. C. L. Shermer. il Civil Eng 21:345 Je '51
Winter concreting, intrusion method combined on barge canal lock repair. il Eng N 146:32-3 Mr 22 '51

LOCKS, Automobile. See Automobile locks

LOCKS and keys
Hardware; lock functions and dimensions; with time-saver standards. S. Howard. diags Arch Rec 109:143+ Ja; 159+ Mr '51

Manufacture

Key fits for lockmakers. Steel 129:48-9 Ag 13 '51

LOCOMOTIVE boilers
Advantages of steam space spray boiler checks; Master boilermakers' association report. Ry Mech & Elec Eng 124:668 N '50
Boiler performance of a Mallet locomotive. E. C. Poultney. il diag Engineering 171:645-8 Je 1 '51
Coating the interior of boilers and tenders; report of Master boilermakers' association. Ry Mech & Elec Eng 124:666-7 N '50
Preparation of locomotives for storage and removal from storage; report of Master boilermakers' association. Ry Mech & Elec Eng 124:665-6 N '50
Steam locomotive boilers. G. M. Davies. Published in monthly numbers of Railway mechanical and electrical engineer

See also
Feed water purification
Locomotive fireboxes
Master boilermakers' association

Firing

Collection and burning of locomotive cinders. E. J. Boer and others. diag A S M E Trans 73:543-50; Discussion. 550-1 Jl '51

See also
Locomotive boilers—Wood firing
Locomotives—Smoke problem

Wood firing

Wood-burning 4-8-2 locomotives for Portuguese West Africa. il Engineering 171:482 Ap 20 '51

LOCOMOTIVE cab signals. See Railroads—Signals

LOCOMOTIVE cinders. See Cinders

LOCOMOTIVE engineers
Education of steam engine crews. A. H. Glass. Ry Mech & Elec Eng 124:687 N '50

LOCOMOTIVE fireboxes
Procedure for seal welding staybolts. Ry Mech & Elec Eng 124:669-70 N '50
Proper brick setting for oil and coal burning locomotive fireboxes; Master boilermakers' association report. Ry Mech & Elec Eng 124:668-9 N '50

LOCOMOTIVE firemen
Education of steam engine crews. A. H. Glass. Ry Mech & Elec Eng 124:686-7 N '50

LOCOMOTIVE headlights
Sealed beam headlighting. H. H. Helmbright. il diags Ry Mech & Elec Eng 124:732-5 D '50

LOCOMOTIVE industry
House group hears of lost N.P.A. files; question of who got preference in locomotive steel allocations. Ry Age 130:62+ Je 4 '51

LOCOMOTIVE maintenance officers' association
Annual meeting, Chicago, Sept. 18-20. Ry Mech & Elec Eng 124:688-96 N '50
Annual meeting, Chicago, Sept. 17-19. Ry Age 131:56-8 S 24 '51; Ry Mech & Elec Eng 125:59-62+ O '51

LOCOMOTIVE shops
Employee morale; how can it be made an active factor in the Diesel shop? E. S. Lowe; H. C. Taylor. Ry Mech & Elec Eng 125:79-80 My; 83 Je '51
Maintenance shop for Diesel locomotives; Chicago and north western system. il plan Arch Rec 110:148-50 Jl '51
Southern's Diesel electrical repair shop. R. H. Herman. il plans Ry Mech & Elec Eng 125:73-8 My; 76-80 Je; 68-9 Jl '51

See also
Locomotive terminals

Electric equipment

Power supply, lighting and distribution systems for the combination Diesel and steam locomotive shop, New Orleans Union passenger terminal. R. H. Herman and C. P. Trueax. Ry Mech & Elec Eng 124:619-20 N '50
Shop operation of cooling fans on Diesel locomotives to ventilate engine room. R. H. Herman. diags Ry Mech & Elec Eng 124:620-2 N '50

Equipment

Contour grinder for axle gears. il Ry Mech & Elec Eng 125:82-3 S '51
Derrick for use inside locomotive. il Ry Mech & Elec Eng 125:71 Je '51
Facilities for Diesel repairs. R. H. Herman. il plan diag Ry Mech & Elec Eng 125:60-3 Mr; 54-7 Ap; 56-8 My '51
How the Lehigh Valley keeps Diesel wheels in trim. il Ry Mech & Elec Eng 125:47-9 S '51
New Whiting drop table. il Ry Age 130:41 Ap 16 '51; Same. diag Ry Mech & Elec Eng 125:84-5 Mr '51
Shop equipment and facilities for repairing motors, generators, etc., on Diesel and electric locomotives; A.A.R. Electrical sections committee report. flow sheet Ry Mech & Elec Eng 124:624-8; Discussion. 628-9 N '50
Shop tools for locomotive work; report of Locomotive maintenance officers' association. il Ry Mech & Elec Eng 124:692-5 N '50
Small Diesel shop has all essentials. il plans Ry Age 130:18-20 Ap 23 '51
They've been mechanizing on the railroad; flue-reconditioning for locomotive boilers. W. Rudolph. il Am Mach 95:110-11 Je 25 '51

Layout

Locomotive maintenance and cornfield layouts; adapting existing railroad facilities to needs of Diesel-electric locomotive maintenance. N. L. Walsh. il Ry Age 131:41-3 O 8 '51

LOCOMOTIVE tenders
Coating the interior of boilers and tenders; report of Master boilermakers' association. Ry Mech & Elec Eng 124:666-7 N '50

LOCOMOTIVE terminals
Terminal facilities for Diesel power; report of Locomotive maintenance officers' association. il Ry Mech & Elec Eng 124:695-6 N '50

See also
Locomotive shops

LOCOMOTIVE whistles

Adrian Stephens, inventor of the steam whistle. C. E. Lee. Engineering 171:299 Mr 9 '51

Air horns for Diesel locomotives. il diags Diesel Power 29:116-17 Ap '51

Leslie-Supertyfon locomotive horn. il diag Ry Age 131:79-80 S 17 '51; Same. Ry Mech & Elec Eng 125:100+ O '51

LOCOMOTIVES

Characteristics of the first standard locomotive for British railways. E. C. Poultney. diags Engineer 191:652-5 My 18 '51

Chicago & North Western steam power passes fourth year without shopping. il Ry Age 129:28-9 D 30 '50; Same. Ry Mech & Elec Eng 125:64-5 Ja '51

Education of steam engine crews. A. H. Glass. Ry Mech & Elec Eng 124:686-7 N '50

Engineering in the Festival of Britain. il Engineering 171:730-2, pl 57-9 Je 15 '51

First new British standard locomotive. E. C. Poultney. il Ry Age 130:85-8 Mr 12 '51

4-6-4 locomotives for the Victorian railways. il diag Engineer 192:249-50 Ag 24 '51; Engineering 172:237 Ag 24 '51

Locomotive construction; committee report, A.A.R. Mechanical division. Ry Mech & Elec Eng 125:51-4 Ag '51; Same cond. Ry Age 131:83-4 Jl 9 '51

Locomotive department developments on the Milwaukee. il Ry Age 129:66-7 N 11 '50

Mixed-traffic 2-6-4 tank locomotives, British railways. il diags Engineering 172:138-9 Ag 3 '51; Engineer 192:148 Ag 3 '51

Progress in railway mechanical engineering, 1949-1950. il diags Mech Eng 73:293-305 Ap '51

Revolution in railroad motive power. A. H. Candee. il Midwest Eng 3:16-23, 28 F '51; Excerpts. Machine Design 23:206+ Mr '51

Some work on British railways in 1950. il Engineer 191:32-3 Ja 5 '51

South Bank exhibition; rail transport. il Engineer 191:562-5, pl 1-2 My 4 '51

Standard British mixed traffic locomotive no. 70,000. il pl Engineer 191:164, 199-201, F 2-9 '51

Standard class 4 mixed-traffic locomotives. il Engineer 191:825-6 Je 22 '51; Engineering 171:752-3 Je 22 '51

Standard 4-6-0 mixed traffic locomotive. il diag Engineer 191:576-7 My 4 '51; Engineering 171:528-9 My 4 '51

Standard 4-6-2 mixed-traffic locomotive, British railways. il diag Engineering 171:126-7, pl 5 F 2 '51

Standard locomotives for British railways. Engineering 170:326 N 3 '50

2-6-2 tank locomotive for Tanganyika. il diags Engineering 171:220-1, pl 9 F 23 '51; Abstract. Engineer 190:593 D 15 '50

Wood-burning 4-8-2 locomotives for Portuguese West Africa. il Engineering 171:482 Ap 20 '51

See also

Electric locomotives

Locomotive boilers

Design

British standard locomotives. E. S. Cox. diags Engineering 171:341-3, pl 15, 17-18 Mr 23 '51

High-powered Mallet freight locomotives. E. C. Poultney. il diag Engineer 191:210-12, 242-4 F 16-23 '51

Improving steam locomotive performance. il diags Ry Age 129:23-6 N 25; 64-9 D 2 '50

Progress in locomotive design; illustrations with text. Product Eng 22:110-11 My '51

Equipment

Locomotive instrument lighting. F. H. Catlin. il Ry Mech & Elec Eng 125:43-4 Ja '51

What's new in devices for cars and locomotives. il diag Ry Age 130:71-8 Je 25 '51

Failure

Bureau of locomotive inspection annual report. Ry Age 130:51-3 F 5 '51; Same, with additional tables. Ry Mech & Elec Eng 125:64-8 Mr '51

Front ends

Improving steam locomotive performance. il diags Ry Age 129:64-9 D 2 '50

Fuel

Coal characteristics and performance of road locomotives. E. D. Benton. Ry Mech & Elec Eng 124:683-5 N '50

In an emergency what about Diesel fuels? T. L. Apjohn. il Ry Age 130:46-9 My 7 '51

Locomotive fuel oil. G. E. Anderson. Ry Mech & Elec Eng 124:687 N '50

History

Buddicom locomotive. il Engineer 191:103 Ja 19 '51

Locomotives of 1900. E. C. Poultney. il Engineer 190:647-9 D 29 '50

Motive power, 1900-1950. il Ry Age 129:154-5 O 28 '50

What a century did to Erie locomotives and cars. il Ry Age 130:70-5 My 14 '51

Lighting

Locomotive instrument lighting. F. H. Catlin. il Ry Mech & Elec Eng 125:43-4 Ja '51

Performance

Boiler performance of a Mallet locomotive. E. C. Poultney. il diag Engineering 171:645-8 Je 1 '51

Britannia class locomotives on test. O. S. Nock. il Engineer 191:691-3 My 25 '51

Present-day locomotive working in Great Britain. O. S. Nock. il Engineer 191:501-3, 535-9 Ap 20-27 '51

Prices

Equipment prices reports in 1950. Ry Age 130:226 Ja 15 '51

Repair

Rail boom puts steamers back to work; illustrations with text. Bsns W p22-3 Mr 31 '51

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Rods

I.C.C. would prohibit face babbitt on main rod ends; investigation of accident on Pennsylvania-Reading seashore lines near Delair, N.J. July 20. Ry Age 131:74 S 17 '51

Sand supply

Now, an automatic sanding plant; Diesel-servicing facility built by the Bessemer & Lake Erie at Albion, Pa. il Ry Age 131:38-40 O 8 '51

Smoke problem

Changing aspects of air pollution. il Ry Age 131:47-9 Ag 27 '51

Co-ordination in control of railroad smoke. H. C. Ballman. Ry Mech & Elec Eng 124:681-3 N '50

Statistics

Locomotives ordered in U.S., 1929-1950; tabulation. Iron Age 167:326 Ja 4 '51

Motive power in 1950. F. C. Miles and H. C. Wilcox. il Ry Age 130:216-25 Ja 15 '51

Tenders

See Locomotive tenders

Testing

Application of motive power to railroad service. C. D. Neithamer and T. J. March. il Ry Age 130:59-62 Ap 2 '51

Improving steam locomotive performance. il diags Ry Age 129:23-6 N 25; 64-9 D 2 '50

Instruments in rail transportation testing; testing car. D. E. Clifton. il Instruments 23:1307-9 D '50

Mobile and stationary tests of locomotives. il diags Engineering 171:631-3 My 25 '51

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Dynamometer cars

Transportation

Locomotive unloading gantry. il diags Engineer 190:597-8 D 15 '50

Wheels

Locomotive wheel centres. il Engineer 191:843 Je 22 '51; diags Engineering 171:803 Je 29 '51

LOCOMOTIVES, Diesel

British railways build 2,000-hp. Diesel-mechanical locomotive. E. C. Poultney. il diag Ry Age 131:51-4 S 10 '51

LOCOMOTIVES, Diesel—*Continued*

Crankcase explosions and how to limit the damage; abstracted from papers by A. C. Cavileer and G. W. Ferguson. il Ry Mech & Elec Eng 125:50-3 S '51; Same abr. Ry Age 131:45-8 Ag 13 '51

Diesel industrial locomotives with Voith hydraulic transmission. il Engineer 192:95 Jl 20 '51; Engineering 172:95 Jl 20 '51

Diesel locomotives for steelworks. il Engineering 170:467 D 8 '50; Engineer 190:625 D 22 '50

Diesel-mechanical locomotive for steel works. il Engineering 171:70 Ja 19 '51

Diesel-mechanical locomotive no. 10,100. il plan diags Engineer 191:725-8 Je 1 '51; Engineering 171:655-7, pl 51 Je 1 '51

Diesel mine locomotive. il Diesel Power 29:61 S '51

Diesel shunting locomotive. il Engineer 190:443 N 10 '50; Diesel Power 28:57 N '50

Diesels continue gains as rails' prime power. A. Jansen. Barron's 31:6 My 7 '51

Diesels down in Dixie; Seaboard air line builds up large fleet. il map Ry Age 131:50-1 O 8 '51

Effect of Diesels on obsolescence. J. B. Akers. il Ry Age 130:45-9 Ap 9 '51

Heavy-duty Diesel oils. W. Lasky and others. il Ry Mech & Elec Eng 125:47-52 F '51; Ry Age 130:28-32 Ja 29 '51

Hibberd Diesel shunting locomotive. il Engineer 190:637 D 22 '50

How the Southern systematizes Diesel fleet maintenance at a central point. il map Ry Age 130:57-9 Je 4 '51

How to eliminate oil changes on railroad freight Diesel engines; based on papers by W. Lasky and others. il diags S A E J 59:34-8 Mr '51

Mine locomotive with hydraulic transmission. il Engineer 191:730 Je 1 '51

Mine locomotives. M. Elliott. Diesel Power 29:47-8 Ag '51

Non-chromate corrosion inhibitor for the cooling systems of Diesel locomotives. Ry Age 130:28-9 My 28 '51

100-h.p. mine locomotive with Voith hydraulic transmission. il diags Engineering 171:720-1 Je 15 '51

Practice and trend in development of Diesel engines, with particular reference to traction. G. Jendrassik. Engineering 171:765-6, 797-9 Je 22-29 '51

75-b.h.p. oil-engined mining locomotive. il diags Engineering 171:396-8, pl 24-5 Ap 6 '51

South African Diesel mine locomotives. Engineer 191:395 Mr 23 '51

Underground Diesel locomotive. il Engineer 191:230-1 F 16 '51

Uniline transport system. il diag Engineer 191:507-8 Ap 20 '51

Equipment

Air horns for Diesel locomotives. il diags Diesel Power 29:116-17 Ap '51

Fuel

What are the trends in Diesel locomotive fuels? Pacific railway club symposium. il Ry Age 131:75-8 S 17 '51

Gearing

Gearbox for 500-h.p. Diesel locomotive. il Engineering 171:41 Ja 12 '51

Manufacture

Productivity in the Diesel-locomotive industry; report of the team which visited the United States from Jan. 10 to Feb. 23. Engineering 170:479-80 D 8 '50; Abstracts. Electrician 145:1458 D 15 '50; Engineer 190:603 D 15 '50

Repair

Reclamation of Diesel locomotive parts. L. Grover and R. L. Rex. il diag Welding J 29:973-80 N '50; Same. Ry Mech & Elec Eng 125:56-9 S; 72-5 O '51

Simplifying Diesel work; illustrations with text. Ry Mech & Elec Eng 125:53 F '51

Steam equipment

Steam coil fabrication combines latest forming, welding methods. D. Reebel. il Steel 128:76-8 F 5 '51

Transportation heating and air conditioning systems and controls. N. O. Kirkby. il diags Heating-Piping 23:151-2 Ap '51; Same. Ry Mech Eng 125:52-3 Mr '51

Wheels

Diesel tire turning on car wheel boring mill. il Ry Mech & Elec 125:57 Mr '51

How the Lehigh Valley keeps Diesel wheels in trim. il Ry Mech & Elec Eng 125:47-9 S '51

LOCOMOTIVES, Diesel-electric

Abuse of Diesel locomotives. Ry Mech & Elec Eng 124:679-80 N '50

Alco-G.E. dual purpose Diesel. J. P. Delaney and J. H. Gauss. il diags Ry Mech & Elec Eng 124:739-41 D '50

Alco-GE locomotive development. il Diesel Power 29:62 F '51

All-Diesel operation exceeds G.M.&O.'s expectations. il Ry Age 130:25-7 Ap 30 '51

Automotive and electric rolling stock; A.A.R. Electrical sections committee report. Ry Mech & Elec Eng 124:637-9 N '50

Canadian Pacific Dieselization program. H. G. Jarman. il Diesel Power 29:74-5 Ja '51

Carbon brushes must carry peak loads. C. P. Turner. il Ry Mech & Elec Eng 125:78-9 Ag '51

Changing from steam to Diesel traction; report of papers, International railway congress. Engineering 171:249, 293-4 Mr 2-9 '51

Diesel-electric locomotive batteries; questions and answers. K. A. Vaughan; S. K. Lessey. il diags Ry Mech & Elec Eng 125:77-8 F; 79 Ap; 80-1 My; 83-4 Je; 75-6 Jl; 86-7 Ag; 84 S; 90-1 O '51

Diesel-electric locomotive for branch line and local train services. il Elec R (Lond) 147:797 N 17 '50; Electrician 145:1032 N 17 '50

Diesel-electric locomotive for the Steel company of Wales. il plan diag Engineering 171:158-9 F 9 '51; Engineer 191:198-9 F 9 '51

Diesel-electric locomotive units in railway service; list. Ry Age 130:129-30 My 14 '51; Same. Ry Mech & Elec Eng 125:59-60 My '51

Diesel-electric locomotives, committee report. A.A.R. Mechanical division. Ry Age 131:84-6 Jl 9 '51; Same. Ry Mech & Elec Eng 125:54-7 Ag '51

Diesel-electric locomotives for the Netherlands state railways. il Engineering 171:230-1 F 23 '51

Diesel electric locomotives serve the steel industry. R. J. Schroer. il Blast F & Steel Pl 39:452-3+ Ap '51

Diesel-electric shunter. il Elec R (Lond) 147:910 D 1 '50

Diesel-electric shunting locomotives for Ceylon. il Engineer 192:221-2 Ag 17 '51; Engineering 172:172-3 Ag 10 '51

Diesel-electric traction. il Elec R (Lond) 148:1187-8 Je 8 '51; Electrician 146:1931-2 Je 8 '51

Diesel-electric trains; ten sets for Egyptian state railways. il Elec R (Lond) 147:981-2 D 15 '50; Electrician 145:1427-9 D 15 '50

Diesel-electric yard operation. M. G. Stewart. Ry Mech & Elec Eng 124:675-6 N '50

Diesel-electrics; how to keep 'em rolling. H. R. Hill and others. il diags Ry Mech & Elec Eng 125:70-4 Jl; 82-5 Ag; 78-81+ S; 87-90 O '51

Diesel engines for use in Diesel-electric locomotives; specifications tabulated. Automotive Ind 104:170 Mr 15 '51

Diesel engines or gas turbines for locomotives; abstracts. N. C. Dezendorf. Ry Mech & Elec Eng 125:66-8 Ja '51; Diesel Power 29:78-81 Ap '51

Diesel haulage at the Ruth open pit. P. Hett. il Min Cong J 36:45-7 N '50

Diesel locomotives for Australia. il Electrician 145:1025 N 17 '50

Diesels in the steel industry. G. W. Grupp. il Diesel Power 29:28-9+ Jl '51

Economic factors which influence Dieselization and electrification. C. Kerr, jr. Elec Eng 70:867-9 O '51; Abstract and discussion. Ry Age 131:44-5 Jl 16 '51

1,800-hp. Diesels for the Argentine. W. R. Mitchell. il plan diag Ry Age 129:37-40 N 25 '50

LOCOMOTIVES, Diesel-electric—*Continued*

Elimination of moisture from brake systems of Diesel road locomotives; report of Air brake association. diags Ry Mech & Elec Eng 124:647-50 N '50

Esquimalt and Nanaimo railway. E. H. Livesay. il plan diags Engineer 190:554-6 D 8 '50

Franco-Ethiopian railroad goes to Diesel-electric locomotives. R. J. Bender. il Diesel Power 29:38-40 Mr '51

Handling freight trains with Diesel locomotives. Ry Mech & Elec Eng 124:676-8 N '50

High-balls for Diesels; railroads step up drive to replace steam locomotives. A. Glenn. Barron's 30:7-8 O 23 '50

How future plans should be made for Diesel-electric facilities. F. K. Mitchell. il Ry Age 131:38-41 S 24 '51; Same. Ry Mech & Elec Eng 125:63-5 O '51

How the Santa Fe got results with Diesels. J. P. Morris. il Ry Age 131:37-40 Jl 30 '51

How the Western Maryland cleans air filters. il Ry Mech & Elec Eng 125:53-5+ My '51

How to get maximum economies from Diesel locomotives. N. C. Dezendorf. il Ry Age 130:58-61 Je 25 '51; Same abr. Diesel Power 29:51-4 Jl '51

Instructing crews in Diesel locomotive operation. W. H. Fortney. Ry Mech & Elec Eng 124:674-5 N '50

Loading resistors for Diesel-electric locomotive. il Ry Age 130:29 My 28 '51

Main line Diesel-electric locomotives for the Southern region. il diags Engineer 191:184-6 F 9 '51; Abstract. plan Electrician 146:459 F 9 '51

Mixed traffic Diesel-electric locomotive, no. 10,800. il Engineer 190:490-2 N 24 '50; Engineering 170:403-5 N 24 '50

Motive power in 1950. F. C. Miles and H. C. Wilcox. il Ry Age 130:216-25 Ja 15 '51

Moving transcontinental trains with Diesel power. J. W. Corbett. il Ry Age 130:51-3 Mr 5 '51

960 h.p. Diesel-electric locomotives for Siam. il Engineer 191:395 Mr 23 '51; Engineering 171:285 Mr 9 '51

Questions and answers; Diesel-electric locomotives. Ry Mech & Elec Eng 124:752-3 D '50; 125:75-6 Ja; 79-80 F; 71 Mr; 80 Ap; 82 My; 72 Je; 63-4 Jl; 66-7 S; 78-9 O '51

Rail traction Diesel-electric unit. il diags Engineer 191:765-6 Je 8 '51

Revolution in railroad motive power. A. H. Candee. Midwest Eng 3:18-19 F '51

Rock Island buys Davenport 1,000-hp. switching and transfer locomotives. il Ry Age 131:41-3 Jl 16 '51

Service wrack of locomotive electrical machinery. A. H. Candee. il diags Ry Age 130:26-9 Ap 23; 33-5 Ap 30 '51

Six motor road switcher. il Ry Mech & Elec Eng 125:46-8 Jl '51

Steelworks locomotives for service in Australia. il Elec R (Lond) 148:100 Ja 12 '51

Teaching teachers at Electro-Motive; Diesel locomotive training center prepares railroad instructors to teach classes on individual lines. il Ry Age 130:41-4 Ap 9 '51

Terminal facilities for Diesel power; report of Locomotive maintenance officers' association. il Ry Mech & Elec Eng 124:695-6 N '50

Training Diesel supervisors; report of Locomotive maintenance officers' association. Ry Mech & Elec Eng 124:689-90 N '50

230-h.p. Diesel-electric industrial locomotive. il diags Engineering 171:777-9, pl 64 Je 29 '51

230 h.p. Diesel-electric locomotive for steel works of Steel Peech and Tozer, ltd. il Engineer 191:220-1 F 16 '51; Electrician 146:457-8 F 9 '51; Elec R (Lond) 148:303 F 9 '51

U.S. army switchers. A. A. Fry. Diesel Power 29:47 Ag '51

Watchdog of the Diesel-electric locomotive; protection against damage from grounds and flashovers. G. R. McDonald. diags Ry Mech & Elec Eng 125:69-75 S '51

Cost of operation

Diesel road-switchers trim short line's costs; Live Oak, Perry & Gulf and the associated South Georgia. il map Ry Age 130:50-1 Ap 9 '51

Lubrication

Diesel-electrics; how to keep 'em rolling; lubrication of roller bearings and gears. J. W. Teker and J. H. Kathman. il diags Ry Mech & Elec Eng 125:78-81+ S '51

Manufacture

Precision builds power on wheels; American locomotive co. and General electric co. are building Diesel-electric locomotives; special report in picture-caption form. E. J. Tangerman and C. Emerson. Am Mach 95:129-60 S 3 '51

Repair

Diesel shop drop table. il diag Ry Mech & Elec Eng 125:84-5 Mr '51

Facilities for Diesel repairs. R. H. Herman. il plan diag Ry Mech & Elec Eng 125:60-3 Mr; 54-7 Ap; 56-8 My '51

Helical thread inserts help speed up motor repairs. il Ry Mech & Elec Eng 125:43-5 Jl '51

High quality workmanship aim of Atlantic Coast Line Diesel parts reclamation. il Ry Age 130:25-6 My 28 '51

How laboratory controls aid Diesel maintenance. il Ry Age 130:33-6 Ap 16 '51

Locomotive maintenance and cornfield layouts; adapting existing railroad facilities to needs of Diesel-electric locomotive maintenance. N. L. Walsh. il Ry Age 131:41-3 O 8 '51

Mechanical maintenance on Diesel locomotives; report of Locomotive maintenance officers' association. Ry Mech & Elec Eng 124:690-2 N '50

Our first Diesel. D. Andrews. Ry Mech & Elec Eng 125:52-3 Ap '51

Package controls for Diesel-electric locomotives. M. D. Henshaw. il Ry Age 131:50-4 Ag 20 '51

Railroads increase emphasis on heavy engine overhaul. W. L. Huebner. il Diesel Power 28:38-42 D '50

Shop equipment and facilities for repairing motors, generators, etc., on Diesel and electric locomotives; A.A.R. Electrical sections committee report. flow sheet Ry Mech & Elec Eng 124:624-8; Discussion. 628-9 N '50

Shop operation of cooling fans on Diesel locomotives to ventilate engine room. R. H. Herman. diags Ry Mech & Elec Eng 124:620-2 N '50

Shop tools for locomotive work; report of Locomotive maintenance officers' association. il Ry Mech & Elec Eng 124:692-5 N '50

Southern's Diesel electrical repair shop. R. H. Herman. il plans Ry Mech & Elec Eng 125:73-8 My; 76-80 Je; 68-9 Jl '51

Testing

Altitude performance of electro-motive model 567 engine. H. W. Barth and others. il Ry Mech & Elec Eng 125:61-3+ Ja '51; Abstract. S A E J 59:78 F '51

Winter operation

Dynamic grill for Diesel locomotive. il diags Ry Age 131:81-3 S 17 '51; Same. Ry Mech & Elec Eng 125:94-6 O '51

LOCOMOTIVES, Electric. See Electric locomotives

LOCOMOTIVES, Gas turbine

Coal bids for fuel dominance with coal-burning gas turbine. Iron Age 166:84-5 O 26 '50

Coal burning gas turbine. Can Min J 72:53 Ja '51

Coal-burning gas-turbine moves ahead. J. I. Yellott and others. il diags Ry Age 130:39-43 Je 18 '51

Coal-burning gas turbine steps ahead fast in 1950 and 1951. J. I. Yellott. il diags Power Eng 55:60-3 Jl '51

Diesel engines or gas turbines for locomotives? abstract. N. C. Dezendorf. Ry Age 129:70+ N 18 '50

Diesel engines or gas turbines for locomotives; abstracts. N. C. Dezendorf. Ry Mech & Elec Eng 125:66-8 Ja '51; Diesel Power 29:78-81 Ap '51

Tests of coal-burning gas turbine under way; abstracts. J. I. Yellott and others. il diags Ry Mech & Elec Eng 125:49-54 Jl '51; Power 95:104-7 Je; 90-1 Ag '51

Western region gas turbine locomotive in service. O. S. Nock. il Engineer 192:40-1 Jl 13 '51

LOCOMOTIVES, Gas turbine-electric
4,500-hp. gas-turbine operation report. Ry Mech & Elec Eng 125:80+ Ja '51
Gas turbine electric locomotive. R. A. Williamson. il plan diag Diesel Power 29:46-7 My '51
Gas turbine electric locomotive has handled 363,816 m.g.t.m. Ry Mech & Elec Eng 125: 90+ Je '51
Gas-turbine-electric lcomotives. R. A. Williamson. Ry Mech & Elec Eng 124:673 N '50
Gas-turbine locomotives. A. E. Stoddard. Mech Eng 73:139-40 F '51
Résumé of the gas turbine-electric locomotive. A. H. Morey. il diag Gen Elec R 54: 23-5 Mr '51
Revolution in railroad motive power. A. H. Candee. Midwest Eng 3:19-23 F '51
Union Pacific orders ten gas turbine-electric locomotives. il Ry Mech & Elec Eng 125:72 Ja '51

LOCOMOTIVES, Industrial
Diesel-electric locomotive for the Steel company of Wales. il plan diag Engineering 171:158-9 F 9 '51; Engineer 191:198-9 F 9 '51
Diesel electric locomotives serve the steel industry. R. J. Schroer. il Blast F & Steel Pl 39:452-3+ Ap '51
Diesel-electric shunter. il Elec R (Lond) 147:910 D 1 '50
Diesel locomotives for steelworks. il Engineering 170:467 D 8 '50; Engineer 190:625 D 22 '50
Diesel-mechanical locomotive for steel works. il Engineering 171:70 Ja 19 '51
Diesel shunting locomotive. il Engineer 190:443 N 10 '50; Diesel Power 28:57 N '50
Hibberd Diesel shunting locomotive. il Engineer 190:637 D 22 '50
Spare supply-yard locomotive built from salvaged parts. il diag Coal Age 56:118 My '51
Steam shunting locomotives for steel works. il Engineer 191:519 Ap 20 '51
Steelworks locomotives for service in Australia. il Elec R (Lond) 148:100 Ja 12 '51
230-h.p. Diesel-electric industrial locomotive. il diags Engineering 171:777-9, pl 64 Je 29 '51
230 h.p. Diesel-electric locomotive for steel works of Steel Peech and Tozer, ltd. il Engineer 191:220-1 F 16 '51; Electrician 146:457-8 F 9 '51; Elec R (Lond) 148:303 F 9 '51
See also
Electric locomotives, Industrial
Locomotives, Mine

LOCOMOTIVES, Mine
Diesel haulage at the Ruth open pit. P. Hett. il Min Cong J 36:45-7 N '50
Diesel mine locomotive. il Diesel Power 29: 61 S '51
Mine locomotive with hydraulic transmission. il Engineer 191:730 Je 1 '51
Mine locomotives. M. Elliott. Diesel Power 29:47-8 Ag '51
100-h.p. mine locomotive with Voith hydraulic transmission. il diags Engineering 171:720-1 Je 15 '51
75-b.h.p. oil-engined mining locomotive. il diags Engineering 171:396-8, pl 24-5 Ap 6 '51
South African Diesel mine locomotives. Engineer 191:395 Mr 23 '51
Underground Diesel locomotive. il Engineer 191:230-1 F 16 '51

LOCOMOTIVES, Steam turbine
Revolution in railroad motive power. A. H. Candee. il Midwest Eng 3:17-18 F '51

LOCUST bean gum
Effects of natural beater additives on papermaking fibers. J. W. Swanson. bibliog il Tappi 33:451-62 S '50; Same. Pulp & Pa of Can 51:99-108+ S '50

LODGE, Joseph Norman, 1898-
Grassroots journalism calls the Old Sarge. J. L. Collings. por Ed & Pub 83:30 N 11 '50

LODGES (architecture)
Week-end lodge, Jackson, Miss. R. K. Overstreet. il plan Arch Forum 94:171 Je '51

LOENING, Grover
1950 Wright trophy winner. por Aeronautical Eng R 9:7 D '50

LOEW'S, inc.
Its executives aren't bearish on the movie industry; with financial data, 1940-1950. T. A. Wise. Barron's 31:9-10 Mr 26 '51

LOEWY, Erwin
Iron age salutes. por Iron Age 167:41 Ja 25 '51

LOGAN, Kirk H. 1879-
NACE awards. por Electrochem Soc J 98: sup67C My '51

LOGARITHMIC normal distribution. See Frequency distribution

LOGGING. See Lumbering

LOGGING roads. See Forest roads

LOGIC, Symbolic and mathematical
Symbolic logic. J. E. Pfeiffer. Sci Am 183: 22-4 D '50

LOGISTICS, Naval
What is this thing, logistics? K. C. McIntosh. il U S Naval Inst Proc 77:20-7 Ja '51

LOGS of wells. See Petroleum—Well logging

LOGWOOD
Logwood and its application; abstract. O. Newsome. Am Dyestuff Rep 40:358 My 28 '51

LOLIUM perenne. See Grasses

LONDON
See also
Housing—London

Industries

General Electric and other industries. il Chem & Ind p518-41 Je 30 '51

National central library

National central library. R. J. Bates. Aslib Proc 3:51-3 F '51

Rapid transit

Fiftieth anniversary of first electric tramway. il Engineer 191:380-1 Mr 23 '51

Science museum

Extension of the Science museum. il diag Engineer 191:410-11 Mr 30 '51
Science museum; past and future. F. S. Taylor. Chem & Ind p369 My 12 '51

Streets

Red asphalt used for resurfacing London's famous Mall. il Roads & Eng Constr 88:88 O '50

Water supply

London's water supply. E. S. Boniface. Water & Sewage Works 97:446 N '50
Metropolitan water board. il Chem & Ind p508-9 Je 30 '51
Metropolitan water board; works in progress and constructed in 1950. il Engineer 191: 150-2 F 2 '51

LONDON stock exchange
London is doing all right. Bsns W p 128-9 Ag 25 '51
London treads lightly. Bsns W p 132-3 Ap 14 '51

LONE star steel company
Lone Star spreads out; company's expansion will give east Texas its first integrated plant. il Steel 127:77 N 13 '50
Rights offered. Comm & Fin Chr 173:1584-5 Ap 16 '51

LONG, John B.
CNPA service bolsters Long's faith in press. C. Watson. Ed & Pub 83:24 N 18 '50

LONG, Leonard D.
Housing is his meat. por Eng N 146:132 F 15 '51

LONG, William Edgar, 1873-
What one man's ideas did for the bread industry. W. Norris. por Am Bsns 20:12-13+ O '50

LONG BEACH, California

Harbor

Dangerous sand subsidence at California port to require heroic concrete structural work. M. E. Sylvester. il Concrete 59:38+ Je '51

LONG ISLAND, New York

Sanitary affairs

City and county attack pollution on southern shore. il Eng N 146:32-3 My 3 '51

LONG ISLAND lighting company
Ceases as holding company. Comm & Fin Chr 174:719 Ag 27 '51

LONG ISLAND lighting company—*Continued*
Expansion continuing. Barron's 31:17-18 Mr 5 '51
Operations in 1950 reviewed. Comm & Fin Chr 173:567 F 5 '51
Public utility securities. O. Ely. Comm & Fin Chr 172:2457; 174:1382 D 21 '50, O 11 '51
Security I like best. J. W. Leason. Comm & Fin Chr 173:150+ Ja 11 '51
Stockholders offered additional common shares. Comm & Fin Chr 173:1890 My 7 '51

LONG ISLAND railroad
Franklin defends P.R.R.'s relations with Long Island. Ry Age 130:42-3 F 26 '51
L.I.R.R. commission presents legislation. Ry Age 130:125 F 12 '51
Long Island transit authority organized. Ry Age 131:35-6 Jl 16 '51
L.I.'s pre-1939 debt to state can't be altered. Ry Age 130:178-80 My 21 '51
Public authority recommended. Ry Age 130: 36-7 Ja 29 '51
Solvency; long haul for a short line; with table of gross revenues and net income, 1929-1951. Bsns W p 152-4 S 15 '51
Wreck starts shakeup. il Bsns W p93-4+ D 2 '50

LONGEVITY
Baby born today may expect to live to age of 68 years; Institute report. Nat Underw (Life ed) 55:8 Jl 20 '51
Longevity of railroad annuitants. Mo Labor R 72:420 Ap '51
Pattern of working life for men in 1940. H. Wool. Mo Labor R 71:323-31, 438-42 S-O '50
See also
Old age
Working life, Length of

LONGILOBINE
Identity of α-longilobine and seneciphylline. R. Adams and J. H. Looker. bibliog Am Chem Soc J 73:134-6 Ja '51

LONGSHOREMEN
Deadlock on New Zealand's waterfront. Economist 160:935 Ap 21 '51
Dock security check; ILWU yields. il Bsns W p 112-13 Ja 20 '51
Hot war on Europe's docks; Communist strength is on wane among dockworkers. il Bsns W p 148-9 Mr 17 '51
Last of the business rackets; New York waterfront. D. Bell. il Fortune 43:88-91+ Je '51
San Francisco waterfront battleground; AFL gangs up on Bridges. il Bsns W p32+ O 6 '51
Stabilization of dockworkers' earnings. A. A. P. Dawson. bibliog Int Labour R 63:241-65, 364-89 Mr-Ap '51
Wage chronology number ten; Pacific longshore industry; supplement number one. Mo Labor R 72:561-2 My '51

LONGSHOREMEN'S and harbor workers' compensation insurance. See Insurance, Longshoremen's and harbor workers' compensation

LONGSHOREMEN'S and warehousemen's union, International. See International longshoremen's and warehousemen's union

LONGVIEW, Texas

Industries

Longview attracts big industry. Manuf Rec 120:48 Ag '51

LOOMS
Case for flywheel loom motors. R. J. Demartini. il Textile World 101:125+ Ap '51
Electromagnetic dobby speeds sample design variations; illustrations with text. G. Zellnik. Textile World 101:89-91 Ap '51
Future for loom designers. E. Cotterill. Textile Inst J 42:P605-12; Discussion. P613-14 Ag '51
How Erwin mills uses loom gauges; illustrations and drawings with text. J. K. Bruton. Textile World 101:127-9 S '51
Laminated wood for use in the textile industry; Hy-du-lignum for loom accessories. D. R. P. Booth. Textile Inst J 42:P867-72 S '51
Multiple-cylinder dobby attachment produces jacquard effects. il Textile World 101:144 Ag '51
New loom attachment weaves extra-tight, waterproof cotton fabrics; Southern regional research laboratory. il diags Textile World 101:143 Ag '51; Rayon 32:146 S '51
Stop loom stops in warp preparation. E. P. Schremp. il Textile World 101:102-3 Ja '51
To weave duck on plain looms. W. C. Westbrook. il Textile World 101:117+ O '51
Uniform loom settings are a must for 18-oz. serge. E. P. Schremp. il Textile World 101: 104-5+ Je '51
Weaving turbine produces four fabrics at 576-ppm. total. il Textile World 101:164 F '51
See also
Shuttles

Maintenance and repair

Automatic machine cleans reeds and heddles. il Textile World 101:151 Je '51
Keep your looms in top condition; illustrations with text. F. E. Cantrell. Textile World 101:114-15 Je '51

LORAIN Journal case. See Newspapers—Law

LORAN system
Design of a loran transmitter. R. H. Myers. il diags Elec Com 28:31-45 Mr '51

LORENTZ polarization term
Effect of the Lorentz polarization term on the vertical incidence absorption in a deviating ionosphere layer. J. M. Kelso. bibliog Inst Radio Eng Proc 39:412-19 Ap '51

LORILLARD, P., company
Debentures and stock offered. Comm & Fin Chr 173:1276 Mr 26 '51

LOS ANGELES
Los Angeles freeway road system. il maps Engineering 172:196-9 Ag 17 '51
Los Angeles our fastest growing area. il Eng N 146:56+ May 24 '51
See also
Grocery trade—Los Angeles
Motor bus lines—Los Angeles

Galleries and museums

See also
Southwest museum library, Los Angeles

Harbor

Harbor safety group reports findings after inspection. East Underw 51:24 D 1 '50
Los Angeles harbor is protected by radar-radiotelephone system. Marine Eng 56:48 O '51
Ready mix in Los Angeles terminal. M. E. Sylvester. il Concrete 58:12-13 D '50

Hotels, restaurants, etc.

Statler Center, Los Angeles. il plans diags Arch Rec 109:89-104, 147-8 Mr '51

Industries

Building load with a bunch of cards; Los Angeles Department of water and power's information service on available factory space. J. H. Collins. Pub Util 46:817-26 D 7 '50

Rapid transit

Going off the American plan in car fares; new zone system. J. H. Collins. Pub Util 48:399-406 S 27 '51
Los Angeles transit authority set up, suspended overhead transportation seen. Bus Transportation 30:101 S '51

Sanitary affairs

L.A. kills smog with kindness. il Bsns W p60+ F 24 '51
Smog-reduction plan hits incinerators in 350,000 L.A. County back yards; plan for rubbish-collection and disposal system. Eng N 145:43 D 14 '50

LOS ANGELES airways
LAA readies passenger copter service. il maps Aviation W 55:55-6 Jl 23 '51

LOS ANGELES stock exchange
Exchange merger? Bsns W p61 D 30 '50

LOSS executives association
Annual conference, Rye, N.Y. Nat Underw 55:5 Je 21 '51

LOSS-leader selling. See Price cutting

LOSSEN rearrangement. See Molecular rearrangements

LOST customers. See Sales letters—Lost customers

LOST wax process

Beryllium copper parts designed for investment casting. J. T. Richards. il Product Eng 22:114-17 F '51

Designing beryllium copper investment castings. J. T. Richards. il diags Machine Design 23:121-5 My '51

Designing parts for high level production by precision investment casting. il diags Product Eng 22:136-8 Ag '51

Designing pattern dies for investment casting. R. L. Wood and D. Von Ludwig. il Tool Eng 27:25-8 Ag; 42-4 S '51

Duplicator parts precision cast to cut costs. il Iron Age 166:102 N 9 '50

Fields of utility of investment castings. R. L. Wood and D. Von Ludwig. il Mech Eng 73:191-7 Mr '51; Excerpts. Machine Design 23:154+ Ja '51

Glass solves delicate coring problems; production of radar tube-feed antenna units by investment casting. D. D. Malcomb. il diags Iron Age 167:107-9 Ap 12 '51

How to machine investment castings. R. L. Wood and D. Von Ludwig. il Am Mach 95:103-10 My 28 '51

How to select nonferrous alloys for investment castings. R. L. Wood and D. Von Ludwig. il Materials & Methods 33:78-82 Ja '51

How to set up a precision casting foundry. W. F. Davenport and A. Strott. il Iron Age 167:90-4 Ap 19 '51

Induction heating gives accurately controlled temperatures. L. Albertson. il Elec World 135:146-7 Ap 23 '51

Investment casting conserves critical materials. R. L. Wood and D. Von Ludwig. il Steel 128:80-2 My 14 '51

Investment casting of nozzle guide vanes; abstract. H. E. Gresham and A. Dunlop. Metal Prog 59:874+ Je '51

Investment castings coming up. Product Eng 22:126 My '51

Investment castings; their design and limitations. D. F. B. Tedds. diags Engineer 191:292-4 Mr 2 '51

Large sculpture group cast in aluminum; group, Venus and Manhattan decorates the face of Parke-Bernet Galleries building, New York. J. Morris. il Foundry 78:102-5+ N '50

Microwave components; precision casting vs electroforming. A. A. Feldmann. il Materials & Methods 34:70-2 Jl '51

Plastic patterns cut investment-casting cost. il Materials & Methods 32:136 N '50

Plus and minus of steel precision investment castings. A. C. Williams. il diag Materials & Methods 33:88-90 My '51

Precision investment nonferrous casting alloys; tabulation; engineering file facts. Materials & Methods 32:97, 99 N '50

LOTTERIES

Copy and the law; contests vs. lotteries. M. J. Simon. Adv Agency 44:57+ Ap '51

LOUD speaking apparatus

Audio shore-to-ship, ship-to-shore. G. M. Marr. il Marine Eng 55:69-70 D '50

Degenerative tone control. C. P. Boegli. diags Radio & Tv N 45:58-9+ Je '51

Explosion-proof loudspeaker. S. J. White. il diag Tele-Tech 10:46-7+ My '51

Growth of subharmonic oscillations. W. J. Cunningham. bibliog diag Acoustical Soc Am J 23:418-22 Jl '51

How loudspeakers expedite yard operation on the Wabash at Moberly. il plan Ry Age 131:42-5 Ag 13 '51

Improving loudspeaker response with motional feedback. R. L. Tanner. diags Electronics 24:142+ Mr '51

Loudness and power in audio systems. J. A. Mitchell. Radio & Tv N 45:52-3+ F '51

Loudspeakers and radio hasten cars to consignees. il Ry Age 129:58-60 N 4 '50

Models for the dynamic properties of paper. R. E. Hurley. diags Tappi 34:390-5 S '51

Novel horn-loaded speaker. W. E. Johnson. il diags Radio & Tv N 46:63+ S '51

Preamp with tone control. G. Southworth. il diag Radio & Tv N 45:58-60 Ja '51

Self-equalizing preamp. J. C. Hoadley. il diag Radio & Tv N 44:48-9+ N '50

Servicing the 16mm. sound projector. D. D. Emerson. il diags Radio & Tv N 45:36-8+ Ja '51

Sound-amplifying and interpreters' equipment at Church House. Engineering 170:562 D 29 '50

Sound on wheels. L. J. Epstein. il diags Radio & Tv N 44:74-8+ N '50

Three-channel unitary loudspeaker. D. J. Plach and P. B. Williams. il diag Radio & Tv N 44:66-7+ N '50

Unusual public address system. G. Southworth. il diag Radio & Tv N 44:71-3 N '50

Cabinets

Cabinets for high-quality direct radiator loudspeakers. H. F. Olson. il plan diags Radio & Tv N 45:53-6+ My '51

Rating

Loud-speakers for home radio and phonograph systems. Consumers Res Bul 27:17-20 Ap '51

Repair

Repair that speaker. W. E. LaFarra. il Radio & Tv N 46:38-9 S '51

Testing

Audio modulation tests. G. Southworth. il diag Radio & Tv N 45:52-3+ Je '51

Automatic nonlinear distortion analyzer. H. F. Olson and D. F. Pennie. il diags RCA R 12:35-44 Mr '51

LOUDNESS. See Hearing; Sound—Measurement

LOUISIANA

See also

Petroleum industry and trade—Louisiana

LOUISIANA power and light company

Bonds offered. Comm & Fin Chr 172:1929 N 20 '50

LOUISVILLE, Kentucky

Expressways and railroads integrated in city plan. C. E. De Leuw. il plan Civil Eng 21:390-1 Jl '51

Louisville bares traffic, sewage plans; abstracts of ASCE papers. Eng N 146:25 Je 21 '51

Sewerage

Louisville storm-water pumping station designed for surges. R. L. Irwin. map Civil Eng 21:392-3 Jl '51

LOUISVILLE and Nashville railroad

Dieselization rapidly is restoring its investment status; with financial data, 1941-50. P. Bretey. map Barron's 31:9-10+ S 3 '51

Stocks that should do well in war or peace; with comparative balance sheet items. Mag of Wall St 87:329 D 30 '50

LOUISVILLE gas and electric company

Stock offered. Comm & Fin Chr 172:1437 O 16 '50

LOVE, George Hutchinson

Portrait. Bsns W p80 Mr 24 '51

LOVESTONE, Jay

Portrait. Bsns W p34 Je 2 '51

LOVETT, Robert Abercrombie, 1895-

Scrawny, ill-fed eagle takes over the Pentagon. pors Bsns W p 158-9 S 22 '51

LOW temperature. See Temperature, Low

LOWELL, Ralph, 1890-

Portrait. Fortune 43:30 Mr '51

LOWENSTEIN, M., and sons, inc.

Prospects favorable this year. Barron's 31:24 Ja 29 '51

LOYALTY tests

California oath. J. Peek and others. Science 114:1-4 Jl 6 '51

Do antisubversive efforts threaten academic freedom? E. C. Kirkland. Ann Am Acad 275:132-9 My '51

Does the loyalty program threaten civil rights? E. Bontecou. Ann Am Acad 275:117-23 My '51

Statement on Atomic energy commission fellowship. B. J. Bachmann. Science 112:364-5 S 29 '50; Discussion. 113:247-8 Mr 2 '51

Bibliography

Loyality, security, and freedom. bibliog (Public affairs abstracts v. 2, no. 4) pa 30c Library of Congress, Card division, Washington 25, D.C. '51

LUBRICATING greases

Adding sand to oils makes better greases. Product Eng 22:175 Ag '51

LUBRICATING greases—*Continued*

Aircraft lubricating grease needs met with synthetic products. R. R. Matthews. bibliog Pet Processing 6:161+ F '51

Flow characteristics of organopolysiloxane fluids and greases. C. C. Currie and B. F. Smith. bibliog Ind & Eng Chem 42:2457-62 D '50

Fundamentals of lubricating greases. diags Oil & Gas J 49:85 D 28 '50; 71 Ja 4; 101 Ja 11; 85 Ja 18; 363 Ja 25; 79 F 1; 113 F 8; 121 F 15; 205 F 22; 87 Mr 1; 109 Mr 8; 105 Mr 15; 127 Mr 22; 109 Ap 5; 111 Ap 12; 247 Ap 19; 199 Ap 26; 50:135 My 3; 149 My 10; 143 My 17; 147 My 24 '51

Leaded lubricants for heavy duty service. K. H. Roll. il Mill & Factory 48:85-7 Ap '51

Materials advances announced at du Pont laboratory dedication; GS-199S silica in making grease. Materials & Methods 33:10 Je '51

Molykote lubricants. Chem Eng 58:199 My '51

Multipurpose greases, object of military-industry attention. Chem & Eng N 28:3976-7 N 13 '50

New horizons of grease research. G. S. Bright. il Pet Eng 23:C38-40+ F '51

Properties of five types of greases. Pet Eng 23:C48 S '51

Sand in the gears; greases thickened with GS-199S. Bsns W p 100 My 12 '51

Special leaded lubricants meet severe service demands; grease containing finely powdered metallic lead. K. H. Roll. Steel 127:98-9 N 13 '50

Manufacture

New process makes grease continuously; Esso Baltimore refinery. flow chart il Chem Eng 57:285-6 N '50

Testing

Grease consistometer is modified to operate at constant shear rates, higher viscosities. il Pet Processing 6:285+ Mr '51; Pet Eng 23:C47 Ag '51

Improved miniature penetrometer cones for determination of lubricating grease consistency. B. W. Hotten and G. M. Kibler. il diags Anal Chem 22:1574-5 D '50

Laboratory screening of multi-purpose greases. E. M. Kipp and C. A. Zeiler. bibliog il Iron & Steel Eng 28:107-11; Discussion. 111-13 S '51

McKee worker-consistometer with constant-speed drives. S. A. McKee and H. S. White. il diags J Res Nat Bur Stand 46:18-29 Ja '51

Standardization committee; work and programme of sub-committee number 12; greases. E. G. Ellis. Inst Pet J 37:358-63 Jl '51

LUBRICATING oil industry

How consignees operate. F. C. Sturtevant. il Nat Pet N 43:29-31+ My 23 '51

Lube-oil outlook. G. Weber. Oil & Gas J 50:59-60 Jl 12 '51

Many marketers switch or plan shift from cans for marketing motor oil. il Nat Pet N 43:25-6 S 5 '51

Motor oil triplets are born to give customer type of lubricant he wants. F. Breese. Nat Pet N 43:30 Ja 17 '51

Outlook for lubes. G. Weber. Oil & Gas J 49:33-4 N 2 '50

Reclaimed oil must be so labeled, FTC holds in provisional order. Nat Pet N 42:31 N 1 '50

Advertising

Demonstration selling and stunts won initial distribution; national advertising and local tie-ins will spread consumer acceptance; Wynn lubricating oil additive. L. F. Thomann. il Ptr Ink 234:38-9 F 23 '51

Washday oil advertising. Nat Pet N 43:53 Jl 25 '51

Winter oil drain ad campaign aimed at between-changeover sales slump. H. Ridder. il Nat Pet N 43:51-3 F 28 '51

Statistics

Lube refining capacity 177,000; survey of National petroleum association. il Pet Eng 23:C9-10 Ag '51

Great Britain

Lubricants from Coryton. Economist 161:645 S 15 '51

LUBRICATING oils

Additives adapt lube for more jobs. il diags Power 94:87-9 N '50

API lube group votes not to change nomenclature for crankcase oils. Nat Pet N 42:58-9 N 22 '50

API to take vote on new designations for automobile and truck motor oils. H. Ridder. Nat Pet N 43:47-8 Je 6 '51

Cities Service opens house at $4 million packaging plant in Cicero, Ill. il Chem & Eng N 28:3884 N 6 '50

Commerce reports on difficulties in reclaiming mixed crankcase oils. H. Ridder. Nat Pet N 43:59-60 Ap 4 '51

Compressor lubricants, and how to select the right ones. K. L. Hollister. Pet Processing 6:272-4 Mr '51

Diesel engine lubricating oils; factors to be considered in selection and maintenance. E. B. Rawlins. Pet Eng 23:D31-6 Mr '51

Effect of fuels and lubricants in utility fleet operations. W. A. Howe. Gas Age 108:39-43+ Jl 19; 24-6 Ag 2 '51

Gas evolution in liquids and cavitation. P. H. Schweitzer and V. G. Szebehely. diags J Ap Phys 21:1218-24 D '50

Generalized correlation of process variables; multicomponent solvent extraction; furfural extraction of SAE 40 dewaxed lubricating oil distillate. C. Berg, M. Manders and R. Switzer. bibliog flow diags il diag Chem Eng Prog 47:11-18 Ja '51

Heavy-duty Diesel oils. W. Lasky and others. il Ry Mech & Elec Eng 125:47-52 F '51; Ry Age 130:28-32 Ja 29 '51

Heavy-duty-engine lubricating oils; past, present, and future. W. C. Latrobe. Am Pet Inst Proc 30(2):36-9 '50; Abstract. Oil & Gas J 49:185 N 16 '50

How to eliminate oil changes on railroad freight Diesel engines; based on papers by W. Lasky and others. il diags S A E J 59:34-8 Mr '51

Jail sentence delivered for false oil labeling; M. Stillman, president of Atlantic coast oil co. Nat Pet N 43:24 Jl 4 '51

Know your oil if you want good equipment performance. R. Anderson. Constr Methods 33:112+ Jl '51

Lube men see no magic in non-petroleum oil. H. Ridder. Nat Pet N 43:63-5 Ap 11 '51

Lube-oil protection. F. L. Resen. il Oil & Gas J 50:154 Je 21 '51

Mode of action of phenothiazine-type antioxidants. C. M. Murphy, H. Ravner and N. L. Smith. bibliog Ind & Eng Chem 42:2479-89 D '50

Motor-oil additives. J. C. Geniesse and W. Schreiber. il Oil & Gas J 49:302-5+ Mr 29 '51

Non-petroleum motor oil sells at $1 per quart in limited marketing test. H. Ridder. Nat Pet N 43:35-7 F 21 '51

Oil consumption in passenger car engines. P. S. Lane. il diags S A E J 58:18-22 N '50

Oil qualities and aims. E. R. Grassmuck. S A E J 59:109-10 Je '51

Oil selection chart; reference book sheet. H. W. Hamm. Product Eng 22:213 My '51

Opinions vary on effect of heavy duty oils on engine. Nat Pet N 43:39 Mr 14 '51

Photometric determination of phenols; application to blending of new lubricating oils. R. E. Snyder and R. O. Clark. bibliog Anal Chem 22:1428-31 N '50

Pioneering Diesel lube alloys. C. G. A. Rosen. maps diags S A E J 58:44-8 N '50

Pipe line compressor lubrication and maintenance. O. H. Moore. diags Gas Age 106:23-7+ D 21 '50; Same. flow diags Pet Eng 23:D5-8+ S '51

Present and future trends in additives for heavy duty lubricating oils; panel discussion. Nat Pet N 43:74-7 My 2 '51

Proper application of lubricating oils. B. M. Dunham. il Product Eng 21:136-7 D '50

Refrigeration oils suit high operating temperatures. Product Eng 22:211-12 Ap '51

Relation between gas evolution and physical properties of liquids. V. G. Szebehely. J Ap Phys 22:627-8 My '51

Re-refiner takes exception to data on difficulties in reclaiming lubes. A. O'Blasny. Nat Pet N 43:52 My 30 '51

Revised SAE oil grades score three-way advance. S A E J 58:86 N '50; Pet Refiner 29:168 N '50

LUBRICATING oils—*Continued*

Role of peroxides in the corrosion of lead by lubricating oils. B. S. Wilson and F. H. Garner. bibliog pl Inst Pet J 37:225-38 My '51
Selenonophosphates as lubricant additives. R. E. Heiks and F. C. Croxton. Ind & Eng Chem 43:876-84 Ap '51
Series two oils pay their way. W. G. Brown and others. il S A E J 59:63-5 Je '51
Shortages, allocations seen result of GM heavy-duty oil preference. H. Ridder. Nat Pet N 42:29-30 D 13 '50
Sohio HQD motor oil. Bus Transportation 30:253 S '51
Some factors governing the performance of crankcase lubricating oils. A. Towle. bibliog diags Inst Mech Eng Proc (Auto div pt2):88-98, pl 1-4; Discussion. il 98-111 '49-50
Synthetic lubricating oils symposium. bibliog il diags Ind & Eng Chem 42:2414-68 D '50
Test tube to test fleet. il Chem Ind W 68:28-9 Ap 28 '51
Viscosity index improvers for lubricating oils; polyvinyl esters of long-chain fatty acids. W. S. Port and others. bibliog Ind & Eng Chem 43:2105-7 S '51
Water drained automatically from lube oil reservoir. J. C. Albright. il Pet Eng 23:B84+ S '51
What the fleet operator should know about fuels and lubricants. G. A. Round and W. S. Mount. S A E J 59:29-31 Je '51

Analysis

Determination of small amounts of silver in lubricating oils by amperometric and gravimetric methods. T. D. Parks and L. Lykken. Anal Chem 22:1505-7 D '50
Flame photometer techniques; determining typical additives in petroleum oils. A. L. Conrad and W. C. Johnson. bibliog Anal Chem 22:1530-3 D '50
Spectrographic determination of phosphorus in lubricating oil by solution excitation. J. P. Pagliassotti and F. W. Porsche. bibliog diag Anal Chem 23:198-200 Ja '51

Manufacture

Duo-Sol extraction. flow diag Oil & Gas J 49:210-11 Mr 29 '51
Furfural refining. flow diag Oil & Gas J 49:206-7 Mr 29 '51
Lubricants for Italy. il Chem Eng 58:214 Je '51
Lubricants produced by reactions in glow discharge; production of lubricating oil addition agents by voltolization. R. S. Whiteley and others. bibliog diags Ind & Eng Chem 42:2471-9 D '50
Making lubricating oils of extra high viscosity index; patent. Pet Processing 6:405-6 Ap '51
New lube plant dedicated in Chicago; Cities Service terminal and compound plant. il Nat Pet N 42:52 N 8 '50; Pet Eng 22:C50 N '50
New oil blending plant one of largest in country. il Pet Refiner 29:123-4 N '50
Newest solvent lube plant. G. L. Lupfer. il Pet Processing 6:34-8, cover Ja '51
Noncatalytic polymerization of olefins to lubricating oils. F. M. Seger, H. G. Doherty and A. N. Sachanen. bibliog Ind & Eng Chem 42:2446-52 D '50
Phenol treating. flow diag Oil & Gas J 49:210-11 Mr 29 '51
Propane deasphalting. flow diag Oil & Gas J 49:208-9 Mr 29 '51
Propane dewaxing. flow diag Oil & Gas J 49:208-9 Mr 29 '51
Review of German synthetic lubricants. W. A. Horne. bibliog diags Ind & Eng Chem 42:2428-36 D '50
Solvent dewaxing. flow diag Oil & Gas J 49:214-15 Mr 29 '51
Solvent refining of lube oils. J. C. Albright. il diag Pet Eng 23:C31-2+ F '51
Supply and distribution of utilities at Cit-Con's lubricating-oil plant. A. Sherman. il Oil & Gas J 49:250+ Mr 29 '51
Wax and lube-oil manufacture at Sinclair's East Chicago plant. flow diags il Oil & Gas J 49:50-3 Ja 18 '51

Rating

Crankcase oil additives; Wynn's friction proofing oil and Bardahl. Consumers Res Bul 28:16-19 S '51
Motor oils. Consumers Res Bul 28:22-4 O '51

Specifications

Where is our research going? A. B. Boehm. Nat Pet N 42:56 N 15 '50

Testing

Determination of moisture in refrigeration oils; adaptation of the Karl Fischer method. J. D. Bopp. diags Refrig Eng 59:891-3 S '51
Effect of oil viscosity on the power-transmitting capacity of spur gears. V. N. Borsoff and others. bibliog il diag A S M E Trans 73:687-94; Discussion. 694-6 Jl '51
Engine oil pressure. P. A. Binda. il diags Ry Mech & Elec Eng 125:49-52 My; 61-7 Je '51; Same abr. Diesel Power 29:58-64 Mr '51
How laboratory controls aid Diesel maintenance. il Ry Age 130:33-6 Ap 16 '51
Interim report of the I.P. oxidation panel of standardization sub-committee no. 6. diags Inst Pet J 36:336-44, 669-71 Je, O '50
Lubrication at extreme pressures with mineral oil films. O. H. Clark and others. bibliog il diags J Ap Phys 22:474-83 Ap '51
On-the-spot lube oil evaluation. il diags Diesel Power 28:48-9 D '50
Polyalkylene glycol synthetic lubricants. W. H. Millett. bibliog il Ind & Eng Chem 42:2436-41 D '50
Small engines and dynamometers for pilot testing; abstract. W. F. Ford and O. L. Spilman. S A E J 59:79+ F '51
Stability test of motor lubricants. D. J. W. Kreulen. bibliog 2pls diag Inst Pet J 37:316-23 Je '51
Statistical analysis aids quality control. P. C. White and W. B. Traver. Oil & Gas J 50:262+ Jl 26 '51
Tests for lubricating oils. K. G. Mackenzie. Refrig Eng 59:375-7 Ap '51
Viscosity and density of lubricating oils from 0 to 150,000 psig and 32 to 425 F. D. Bradbury and others. il diags A S M E Trans 73:667-72; Discussion. 672-6 Jl '51

LUBRICATION and lubricants

Air lubricated bearings. P. M. Mueller. diags Product Eng 22:112-15 Ag '51
Applied lubrication in industry; abstract. D. P. Morrell. Machine Design 23:256+ Ap '51
Association of iron and steel engineers plain bearing recommended practice. bibliog il diags Iron & Steel Eng 28:sup PB3-37 Jl '51
Bearing design vs unusual lubrication systems. diags Product Eng 22:187 My '51
Card-room lubrication scheduled for best results; with schedule chart. E. H. Helliwell. Textile World 101:149+ O '51
Chemicals and textiles; abstract. T. R. Witt. Chem Eng 58:252-3 Mr '51
Cold extrusion of steel. H. Hauttmann. diags Iron Age 167:99-104 Mr 15 '51
Colloidal graphite lubricates diecasting machines. W. E. Lang. il Iron Age 167:83-4 F 22 '51
Designing with modern materials; survey of latest developments in engineering materials. Machine Design 23:352 O '51
Extreme pressure lubricants. J. H. Lewis. Iron & Steel Eng 28:114-17; Discussion. 117-18 S '51
For best forming results, use the right lubricant; lubricants used in drawing, forging and extruding. E. L. H. Bastian. il diag Steel 128:116-19+ My 7 '51
Fuels and lubricants trends for army equipment. B. S. Mesick. Am Pet Inst Proc 30(2):27-31 '50; Same. Pet Refiner 29:88-92 D '50; Same cond. Oil & Gas J 49:283+ N 16 '50; Excerpts. Nat Pet N 42:25-6 N 15 '50
Functional selection of synthetic lubricants. R. G. Larsen and A. Bondi. bibliog Ind & Eng Chem 42:2421-7 D '50
Graphite as a lubricant. E. S. Glauch. Iron & Steel Eng 28:58-60; Discussion. 60-2 Ag '51
High temperature lubricants. Chem Eng 58:184 F '51

LUBRICATION and lubricants—*Continued*

Hints for good lubrication. D. E. Hollingsworth. Safety Maint & Prod 101:18-19+ My '51; Excerpt. Chem Eng 58:255-7 Mr '51

How planned lubrication pays off. C. L. Pope. il Power 95:108-11 Ja '51

How to assure an adequate lubrication program. il diags Mill & Factory 48:115-18 Ja '51

How to reduce gear failures. A. F. Brewer and P. J. Keating. il Steel 128:79-82 Mr 26 '51

Hydrocarbon adsorption by stopcock lubricants. M. H. Polley. bibliog Anal Chem 23: 545-6 Mr '51

Integrated phosphatizing system brings economies in cold drawing, stamping, cold heading, etc. il Steel 129:71-2 Jl 23 '51

Lubricant made of metal; Liqui-Moly. Steel 127:80 N 27 '50

Lubricant speeds, eases cold-working of steel, Pennsalt Foscoat. Bsns W p90+ Jl 14 '51

Lubricated plug valves for drilling and wellhead services. E. E. Hedene. il Pet Eng 22: B59 D '50

Lubricating effect of colloidal graphite. E. A. Smith. pl Inst Pet J 37:255-8 My '51

Lubrication. Nat Safety N 63:144-5 Mr '51

Lubrication at extreme pressures with mineral oil films. O. H. Clark and others. bibliog il diags J Ap Phys 22:474-83 Ap '51

Lubrication experts answer key questions on today's problems. Factory Management 109:232+ My '51

Lubrication in soap plants. Soap & San Chem 27:71+ Ap '51

Lubrication of centrifugal pump bearings. I. J. Karassik and R. Carter. diags Paper Ind 32:972-3 D '50

Lubrication of refinery equipment. C. M. Larson. il diags Pet Eng 23:C5-12 Ja; C19-20+ F '51

Lubrication, paper industry; abstract. L. W. Miller. Chem Eng 58:276+ F '51

Molybdenum lubricant proves itself in tough tests. A. Sonntag. il diag Iron Age 167:91-3 F 8 '51

New cold-working lubricant; Foscoat. il Factory Management 109:232 Ag '51

New metal treating process speeds cold working, cold extrusion of steel; Pennsylvania salt manufacturing co. il Materials & Methods 34:68-9 Ag '51; Same. Product Eng 22: 172-3 Ag '51

1950 operators' forum; lubrication of equipment. Sewage & Ind Wastes 23:546-52 Ap '51

Oil mist solves lubrication problem. il Iron Age 168:101 Ag 16 '51

Packaging committee makes progress toward oil drum, pail, can standards; Petroleum committee of the Packaging institute. Nat Pet N 42:35 N 1 '50

Performance of oil-film bearings with abrasive-containing lubricant. A. E. Roach. bibliog il diags A S M E Trans 73:677-85; Discussion. 685-6 Jl '51

Phosphate coat speeds cold working of steel. il Am Mach 95:174-5 Jl 23 '51

Phosphate lubricant aids cold extrusion of steel. il Iron Age 168:76-7 Jl 26 '51

Power handbook; lubrication. J. J. O'Connor, comp. diags Power 95:106 Jl '51

Properties and performance of silicone lubricants. G. Grant, 3d. and C. C. Currie. bibliog Mech Eng 73:311-16 Ap '51

Rolling solutions for specialty steels. M. L. Bible. il Iron & Steel Eng 28:91-3; Discussion. 93-4 Je '51

75 years of lubrication service; Brooks oil co. il Iron & Steel Eng 28:116-17 Jl '51

Some industrial experiences with synthetic lubricants. C. H. Sweatt and T. W. Langer. bibliog il Mech Eng 73:469-76 Je '51; Abstract. Product Eng 22:257-8+ O '51

Study of the effect of lubricants on the adherence of molten glass to heated metals. W. C. Dowling and others. diags Am Cer Soc J 33:269-73 S 1 '50; Abstract. Glass Ind 31:584-5 N '50

Technical forum on progress in metalworking; lubrication. Steel 128:275-6 Ja 1 '51

Wetting characteristics of lubricating aerosols. D. G. Faust. il diag Product Eng 22:131-4 Jl '51

See also

Bearings
Butyl stearate
Friction
Graphite
Lubricating greases
Lubricating oils
Lubricators
Oil reclamation
Oil seals

also subdivision Lubrication under special subjects, e.g.

Airplane engines
Automobile engines
Cranes, derricks, etc.
Steam turbines, Marine
Textile machinery

Standards

A.S.T.M. standards on petroleum products and lubricants (with related information); methods of testing, specifications, definitions, charts and tables. 764p $6.15; pa $5.50 Am. soc. for testing materials, 1916 Race st, Philadelphia 3 '50 [issued annually]

Testing

Boundary lubricating characteristics of organopolysiloxanes. C. C. Currie and M. C. Hommel. bibliog diag Ind & Eng Chem 42: 2452-6 D '50

Special lubricants tests. il Mech Eng 73:657-9 Ag '51; Same cond. Steel 128:102-3 My 28 '51; Same cond. Iron Age 167:80 My 31 '51; Same cond. Product Eng 22:119 Je '51; Same cond. Mill & Factory 48:314+ Je '51

Static friction tests with various metal combinations and special lubricants. H. S. White and D. Zei. il J Res Nat Bur Stand 46:292-8 Ap '51

LUBRICATION and lubricants (cutting and grinding)

Action of cutting fluids in machinery. M. E. Merchant. il diags Iron & Steel Eng 27:101-7; Discussion. 107-8 N '50

Application of cutting fluids to machining operations. R. B. Niebusch and E. H. Strieder. il diags Mech Eng 73:203-7 Mr '51; Same cond. Steel 128:78-80+ Ja 22 '51

Coolant flood improves carbide performance. W. Iwascheff. il Iron Age 168:112-14 Jl 19 '51

Cupped nut distributes coolant in wheel. R. G. Vare. diag Am Mach 94:118 D 25 '50

Cutting-oil dermatoses. H. Shapiro. il Safety Maint & Prod 102:55+ Jl '51

Cutting oils improve tool life 100 per cent. Steel 127:109 D 18 '50

Delivering the coolant. G. Hubbard. Steel 128: 81 My 28 '51

Effect of fluids on tool tip temperatures. J. D. Pigott and L. P. Richardson. diags Tool Eng 26:35-7 Ja '51

Effect of the cutting fluid upon chip-tool interface temperature. M. C. Shaw and others. bibliog il diags A S M E Trans 73:45-52; Discussion. 52-6 Ja '51

Grinding fluids, characteristics and applications. H. W. Wagner. il diag Mech Eng 73: 128-32 F '51

Internally cooled wheels cut surface grinding costs. il diags Mach 57:151-3 My '51

Machine-tool oil cooler. il diag Mech Eng 73: 580-1 Jl '51

Plastic piping guides coolant. N. Palmer. Am Mach 95:172 Ap 16 '51

70 million gallons a year. il Steel 129:56 S 17 '51

Slicker, cooler cutting. il Chem Ind W 68: 31 My 19 '51

Study of heat developed in cylindrical grinding. R. E. McKee and others. il A S M E Trans 73:21-33; Discussion. 33-4 Ja '51

Transparent cutting oils offer important advantages. J. C. Van Gundy. il Mach 57:177-81 Ag '51

Testing

Grinding fluids; a method of measuring the metallic-wheel-loading characteristics. L. H. Sudholz and others. il Mech Eng 72:963-5+ D '50

LUBRICATION and lubricants (metal drawing)

Coordinate cleaner, drawing compound for best enameling results. G. A. Cairns. Cer Ind 56:47+ F '51

Metal drawing lubricants for wire, tubing and sheet steel. W. A. Smigel and H. G. Verner. il Iron & Steel Eng 28:97-102; Discussion. 102-6 Ap '51

LUBRICATION and lubricants (metal drawing)—*Continued*

Sulphide precoats facilitate metal forming. J. A. Henricks. il Steel 128:76 F 26 '51

Unit mechanizes steel lubricating; Maytag co. il Cer Ind 56:66-7 Mr '51

Wax emulsions effective as drawing lubricants. il Steel 129:67 Jl 30 '51

LUBRICATION research

A.A.R. lubrication tests progressing. il Ry Age 130:26-7 Ja 22 '51

Friction and lubrication; conference. Engineering 171:587-9 My 18 '51

New horizons of grease research. G. S. Bright. il Pet Eng 23:C38-40+ F '51

Nonsteady-state load-supporting capacity of fluid wedge-shaped films; abstract. E. K. Gatcombe. Machine Design 23:211-12 Ag '51

Thermal and oxidation stability of polymethylphenylsiloxanes. C. M. Murphy, C. E. Saunders and D. C. Smith. bibliog Ind & Eng Chem 42:2462-8 D '50

LUBRICATORS

Air-powered oil dispenser for aircraft. il Comp Air Mag 55:283 D '50

Atomized oil; latest lubrication wrinkle; Stewart Warner's Oil Mist; illustrations with text. Factory Management 108:140-1 N '50

Automatic lubrication; abstract. L. C. Rotter and B. S. Davis. diag Mech Eng 73:324-5 Ap '51

Automatic metered lubrication system. diags Engineering 171:71 Ja 19 '51

Automatic oilers lubricate shaft guides on shift. il Eng & Min J 152:106 Je '51

Centralized lubrication on cranes pays for itself in one year; U.S. Pipe & Foundry's plant, Burlington, N.J. il Factory Management 108:91 N '50

Demonstrator cuts two-hour sales story to ten minutes; Alemite's Oil-Mist lubrication system. E. R. Harris. il Sales Management 66:102+ Je 1 '51

Lubrication equipment will be big business this year for its makers. Steel 129:69 S 24 '51

Mechanical grease lubricator. diag Engineering 170:316 O 27 '50

Mist lubricator has no moving parts. il diags Product Eng 22:134-5 S '51

Oil-air vapor system developed for all kinds of machine bearings. il Chem Eng 57:172 N '50

Oil mist cools, automatically lubricates; Alemite lubricating system. il diags Am Mach 94:138 O 30 '50; Steel 127:88-9 N 6 '50; Food Ind 22:2097 D '50

Spray valve for open bearing surfaces. diag Automotive Ind 104:62 Ja 15 '51

Manufacture

Versatile finishing system speeds manufacture of lubrication equipment. R. Schirmer. il Steel 129:74-5 Ag 20 '51

LUCAS, Anthony Francis, 1855-1921

Captain Lucas, titan of spindletop. por World Oil 132:254 Ja '51

LUCITE

Creep properties of lucite and plexiglas for tension, compression, bending, and torsion. J. Marin and others. bibliog il diags A S M E Trans 73:705-18; Discussion. 718-19 Jl '51

Patterned lucite easily made, may have wide usage. Chem & Eng N 29:2386-7 Je 11 '51

LUCKY stores, inc.

Common shares offered. Comm & Fin Chr 172:2381 D 18 '50

LUCOFLEX. See Plastic materials

LUGGAGE

Fabricated reinforced-plastic boxes. il Mod Plastics 28:74-5 Mr '51

Samson finds gold in golden rule; Shwayders' luggage-folding furniture business. L. M. Hughes. Sales Management 67:37-9+ S 1 '51

Rating

Traveling light, a study of airplane luggage. il Consumers Res Bul 26:14-16 N '50

LUKENS steel company

May earn $9 a share this fiscal year. Barron's 31:13-14 Mr 26 '51

LUMBER

Construction lumber; resources; types and grades; moisture and lumber; house framing. il map diags Am Bld 72:109-32 D '50

LUMBER handling

Big derrick boosts small yard's storage capacity. il diag Factory Management 108:100-1 D '50

Bundle skidding at Marathon. P. V. Lemay. il Pulp & Pa of Can (Convention no) 52:256+ [F] '51

Design of logging winch controls. P. L. Brainard. il diags Machine Design 23:193-4 Ap '51

New precutting versatility and speed with patterns and power tools. il Am Bld 73:100-3 My '51

Packaged timber handling. T. S. Veazey, jr. il Min Cong J 36:40-3 D '50

Paul Bunyan's nephews; layman's look at three West Coast logging operations. B. Andrews. il Nat Safety N 64:88-9+ O '51

Test of American chain company grip-trip bundling chain in pulpwood logging. L. W. Hooker. il Pulp & Pa of Can 52:146+ S '51

Water bulldozer for herding logs; new type of boom-boat. A. Arnst. il Safety Maint & Prod 102:32+ S '51

See also

Wood handling

LUMBER trade

No lumber pinch. Bsns W p68 Je 2 '51

No trouble with timber. il Eng N 145:148 D 7 '50

See also

Lumber yards

Accounting

Audit program designed to eliminate year-end peaks by expanding interim examination; timber and logging client. C. E. Rawlinson. J Account 91:272-5 F '51

Advertising

Local radio show builds prestige for dealers. R. Latimer. Ptr Ink 235:36-7 Ap 27 '51

This ad program, started to kill a rumor, is now for keeps; West Coast lumbermen. L. F. Thomann. il Ptr Ink 234:38-9 Mr 9 '51

Terminology

Standard lumber abbreviations and terms. il Am Bld 72:115 D '50

Georgia

Enter Georgia-Pacific; number one producer of Douglas-fir plywood. il Fortune 43:99-101+ My '51

Great Britain

Plentiful timber; British agreements for imports. Economist 161:242 Jl 28 '51

Mississippi

Forest products; an important industry. il Manuf Rec 120:79-81 Je '51

Norway

Norwegian trade school for woodsworkers. F. Bergestad. il diag Pulp & Pa of Can 52:136+ Ag '51

United States

Whose timber? industry sees government holding out on lumber for defense. R. H. Syring. Barron's 31:15 My 28 '51

LUMBER workers

Impact of mechanized logging on industrial-relations. F. A. Harrison. Pulp & Pa of Can 52:88-90 My '51

Norwegian trade school for woodsworkers. F. Bergestad. il diag Pulp & Pa of Can 52:136+ Ag '51

Training of forest personnel in simple conservation measures. T. A. Cowan. Pulp & Pa of Can 52:132+ My '51

Training of woods supervisory personnel; symposium. A. M. Stewart and others. Pulp & Pa of Can 52:166+ Je '51

Woods labour and forest management. A. Koroleff. Pulp & Pa of Can 52:134+ Ap '51

LUMBER yards

Buying made easy with self-order service; Forest City material co., Cleveland. il diag Am Bld 73:118-19 Mr '51

Promotion ideas boost sales for dealer; Hixon-Peterson lumber co., Toledo, Ohio. il Am Bld 73:156-7 Ja '51

Stage a home demonstration in your lumber yard during National home week. il Am Bld 73:95+ Je '51

LUMBER yards—*Continued*

Well-planned system of lumber treating pays off for dealer; Sires lumber co., Charleston, S.C. il Am Bld 73:156+ Mr '51

LUMBERING

Brief summary of pulpwood production in the Northeast. D. B. Demeritt. Paper Tr J 131: 108-9 N 30 '50

Bundle skidding at Marathon. P. V. Lemay. il Pulp & Pa of Can (Convention no) 52: 256+ [F] '51

Columbia Cellulose woods operations. R. L. Johnson. il map Pulp & Pa of Can 52:160-5 Je '51

Developments in mechanical logging during 1951. B. J. McColl. il Pulp & Pa of Can 52:142+ My '51

Diesels in the lumber industry. G. W. Grupp. il Diesel Power 29:36-9 Ja '51

Farm tractor haul. R. H. Montgomery. Pulp & Pa of Can 52:109-10 Ja '51

Farm tractor sloop hauling. J. A. McNally. Pulp & Pa of Can 52:110 Ja '51

Hauling four-foot wood with self-loading sloop. D. C. Horncastle. Pulp & Pa of Can 51:128+ D '50

Multiple Diesel use in Hungry Horse Dam site construction. il Diesel Power 29:52-3 My '51

Planning a public information program; Weyerhaeuser timber co. A. Arnst. il Paper Tr J 132:19-20+ F 9 '51

Power vs hand falling and bucking in logging operations of the West. E. P. Stamm. Pulp & Pa of Can 52:114+ Mr '51

Problems in mechanical hauling from the stump. B. J. McColl. diag Pulp & Pa of Can 52:99+ Ja '51

Sale of Crown timber in British Columbia. E. W. Bassett. Pulp & Pa of Can (Convention no) 52:274-6+ [F] '51

Sloop hauling in relation to forest management. B. Thompson. Pulp & Pa of Can 52: 96+ Ja '51

Woodlands meeting on sloop hauling, Heron Bay, Oct. 12-13. Pulp & Pa of Can 51:148+ N '50

Yarding of four-foot sap peeled pulpwood with Ford wheeled tractor with bombardier track conversion. C. C. Atkinson. Pulp & Pa of Can 52:111 Ja '51

Accidents

What I consider an ideal woods accident prevention program. E. R. Goulet. Pulp & Pa of Can 52:108-10+ Mr '51

Safety measures

Bottled safety; Weyerhaeuser timber company's Vail-McDonald tree farm uses aluminum saw-oil bottles. il Nat Safety N 63:62 Ap '51

Paul Bunyan's nephews; layman's look at three West Coast logging operations. B. Andrews. il Nat Safety N 64:88-9+ O '51

Safety's little teachers; stickmen of pipe cleaners and wooden beads, with simple backgrounds, provide effective safety dioramas. H. E. Hedges. il Nat Safety N 63:34-5 My '51

Water bulldozer for herding logs; new type of boom-boat. A. Arnst. il Safety Maint & Prod 102:32+ S '51

What I consider an ideal woods accident prevention program. E. R. Goulet. Pulp & Pa of Can 52:108-10+ Mr '51

Study and teaching

Norwegian trade school for woodsworkers. F. Bergestad. il diag Pulp & Pa of Can 52: 136+ Ag '51

LUMINESCENCE

Absolute theory of solid-state luminescense. F. E. Williams. bibliog J Chem Phys 19: 457-66 Ap '51; Abstract. Science 112:428 O 13 '50

Absorption spectrum of thallium-activated potassium chloride phosphor at low temperatures. P. D. Johnson and F. J. Studer. diag Phys R 82:976 Je 15 '51

Adhesion of phosphors on cathode-ray screens. W. Stericker and F. Hazel. bibliog il J Phys & Colloid Chem 54:1045-53 O '50

Area light source; Panelite. il Arch Rec 110: 180 Ag '51

Arsenic-activated zinc sulfide phosphor. J. S. Prener. Electrochem Soc J 98:406-8 O '51

Calcium phosphate phosphor activated with cerium and manganese. H. C. Froelich and J. M. Margolis. bibliog Electrochem Soc J 98:400-5 O '51

Cathode luminescence of crystalline quartz. D. D. Saksena and L. M. Pant. bibliog diag J Chem Phys 19:134-5 Ja '51

Cathodoluminescence characteristics of some barium-zinc-silicate phosphors with manganese activator. S. Larach. Electrochem Soc J 98:369-70 S '51

Cathodoluminescence of zinc orthosilicate with manganese activator. S. Larach and R. E. Shrader. bibliog J Ap Phys 22:362 Mr '51

Chemiluminescence of the sodium or sodium halide catalyzed oxidation of carbon monoxide by nitrous oxide. C. P. Fenimore and J. R. Kelso. il Am Chem Soc J 72:5045-8 N '50

Comparative study of photoconductivity and luminescence. R. H. Bube. bibliog Phys R 83:393-6 Jl 15 '51

Copper-activated aluminosilicate phosphors. E. W. Claffy and J. H. Schulman. bibliog Electrochem Soc J 98:409-13 O '51

Dark-chamber titrimeter for chemiluminescent indicator titrations in colored solutions. F. Kenny and R. B. Kurtz. diag Anal Chem 23:382-3 F '51

Decays of luminescent KBr and LiF. A. H. Morrish and A. J. Dekker. Phys R 80:1030-4 D 15 '50

Dependence of luminescence efficiency on activator concentration; abstract. P. D. Johnson. Science 112:427-8 O 13 '50

Effect of infra-red on emission and trapping in ZnS:Cu phosphors. R. H. Bube. Phys R 80:764-5 N 15 '50

Effect of temperature on emission of fluorescent lamp phosphors. C. W. Jerome. bibliog diags Electrochem Soc J 98:376-83 S '51

Electroluminescence, a new method of producing light. E. C. Payne and others. il diags Illum Eng 45:688-92; Discussion. 692-3 N '50

Electro-luminescence, new light source, sandwich of light. il diags Power Eng 55:68-70+ S '51

Electroluminescence; new word in lighting. il diag Aviation W 55:65+ Ag 13 '51

Electroluminescent light. il diag Mech Eng 73:744 S '51

Electron mobility and luminescence efficiency in cadmium sulfide. L. Gildart and A. W. Ewald. bibliog diags Phys R 83:359-63 Jl 15 '51

Electron penetration and scattering in phosphors. L. R. Koller and E. D. Alden. il Phys R 83:684-5 Ag 1 '51

Energy loss of electrons in passing through a phosphor; abstract. L. R. Koller and E. D. Alden. Science 112:449 O 20 '50

Energy storage and light stimulated phosphorescence in activated NaCl crystals induced by gamma-rays. H. Kallmann and M. Furst. Phys R 83:674-5 Ag 1 '51

Ideal phosphor. R. Ward. Electrochem Soc J 98:sup75C-7C Je '51

Inorganic luminescence; abstract. C. G. A. Hill. Chem Age (Lond) 64:604 Ap 21 '51

Interpretation of the dependence of luminescent efficiency on activator concentration. P. D. Johnson and F. E. Williams. J Chem Phys 18:1477-83 N '50

Luminescence and trapping in zinc sulfide phosphors with and without copper activator. R. H. Bube. bibliog Phys R 80:655-66 N 15 '50

Luminescence dates rocks; measures gamma-ray exposure. Chem & Eng N 29:1632-3 Ap 23 '51

Luminescence of K_4MnCl_6 and KCl (Pb + Mn). R. J. Ginther. bibliog diag Electrochem Soc J 98:74-81 F '51

Luminescence of three forms of zinc orthophosphate:Mn. A. L. Smith. bibliog Electrochem Soc J 98:363-8 S '51

Luminescent barium and magnesium halophosphates. J. T. Anderson and R. S. Wells. Electrochem Soc J 98:414-16 O '51

Luminescent efficiency of organic solutions and crystals. P. D. Johnson and F. E. Williams. Phys R 81:146 Ja 1 '51

LUMINESCENCE—*Continued*

Luminescent packaging tape developed by Century coating co. il Mod Plastics 28:188 Je '51

Luminol as a chemiluminescent indicator in acid-base titrations with a dark-chamber titrimeter. F. Kenny and R. B. Kurtz. bibliog Anal Chem 23:339-41 F '51

Measurements of solar extreme ultraviolet and X-rays from rockets by means of a $CaSO_4$:Mn phosphor. R. Tousey and others. bibliog Phys R 83:792-7 Ag 15 '51

Mechanism of nonlinear luminescence in sulfide phosphors; abstract. S. Roberts. Science 112:427 O 13 '50

New light by the square foot; electroluminescence; Sylvania's Panelite. Arch Forum 95:186-7 Jl '51

Origin of multiple bands in luminophors activated by divalent manganese. F. A. Kroeger and P. Zalm. bibliog Electrochem Soc J 98:177-82 My '51; Discussion. bibliog 98: 519-21 D '51

Phosphorescent effects with high energy radiation. M. Furst and H. Kallmann. Phys R 82:964 Je 15 '51

Photo-luminescence efficiency of ZnS:Cu phosphors as a function of temperature. R. H. Bube. bibliog Phys R 81:633-4 F 15 '51

Properties of a $CaSO_4$:Mn phosphor under vacuum ultraviolet excitation. K. Watanabe. il Phys R 83:785-91 Ag 15 '51

Recent developments in fluorescent materials. S. T. Henderson and J. W. Strange. bibliog Chem & Ind p224-6 Mr 24 '51

Relations between dye phosphors and hydrogen bonds of rigid media or surface of adsorbents. D. Yamamoto and R. Iwaki. J Chem Phys 19:662 My '51

Review of articles on luminescence for 1950. G. R. Fonda. bibliog Electrochem Soc J 98:sup35C-8C Mr '51

Role of chlorine in the luminescence of ZnS: Cu phosphors. R. H. Bube. J Chem Phys 19:985 Jl '51

Scintillating advance; Tracerlab, new phosphorescent plastic. il Chem Ind W 68:19 F 24 '51

Scintillation pulse sizes of solid noncrystalline-type phosphors. M. G. Schorr and E. C. Farmer. Phys R 81:891 Mr 1 '51

Silver as an activator of halophosphate phosphors. P. W. Ranby. Electrochem Soc J 98:299-300 Jl '51

Solid non-crystalline scintillation phosphors. M. G. Schorr and F. L. Torney. bibliog Phys R 80:474 N 1 '50

Some optical properties of lead-activated sodium chloride phosphors. J. H. Schulman and others. bibliog il Opt Soc Am J 40: 854-62 D '50

Some rare earth activated phosphors. H. G. Jenkins and A. H. McKeag. bibliog il Electrochem Soc J 97:415-18 D '50

Source of the glow in crystals; caused by escaping electrons. Chem Age (Lond) 65: 429-30 S 29 '51

Temperature coefficient of scintillation phosphors. W. L. Minarik and H. G. Drickamer. R Sci Instr 22:704-5 S '51

Thermoluminescence characteristics of silicate phosphors activated by manganese and arsenic. C. Bull and G. F. J. Garlick. bibliog Electrochem Soc J 98:371-5 S '51

Thermoluminescence of zinc silicate phosphors activated with manganese and arsenic. J. R. Nelson and J. H. Berbert. diag Opt Soc Am J 41:644 S '51

Transparent luminescent films. F. J. Studer and others. diag Opt Soc Am J 41:559 Ag '51

LUMINOL

Luminol as a chemiluminescent indicator in acid-base titrations with a dark-chamber titrimeter. F. Kenny and R. B. Kurtz. bibliog Anal Chem 23:339-41 F '51

LUMINOSITY

Luminous fronts in pulsed gas discharges. R. G. Fowler and others. il Phys R 82:879-82 Je 15 '51

Luminous reaction of pentaborane and oxygen at and below the first pressure limit of explosion. F. P. Price. bibliog diag Am Chem Soc J 73:2141-4 My '51

Some consequences of the additivity of luminosities. R. H. Sinden. bibliog Opt Soc Am J 40:647-52 O '50

LUMSDEN, John Scott, 1867-1950

Sketch. A. McKenzie. Chem Soc J p3697 D '50

LUNCHES, Employees'

Coffee comes, employees stay put at Mutual Life of New York. il Bsns W p54-5 Je 2 '51

Coffee treat; more plants serve free coffee to employees. Bsns W p 128 D 16 '50

Coffeeman's on the job; industrial coffee service. il Bsns W p 104-6+ F 10 '51

Energy restored; plant facilities for meals and in-between snacks. il Nat Safety N 64:36-7 Jl '51

Food; hot lunches and how. il Mod Ind 21: 48-51 Ap '51

Food service. il Nat Safety N 63:55 Mr '51

In-plant feeding; report to textile-mill management. R. C. Scott. il Textile World 101: 103-8 Ag '51

Lunchbox goes automatic; vending machines for in-plant feeding. A. E. Yohalem. il Mill & Factory 48:113-14 F '51

Robot cafeterias. C. Menuez. Personnel J 29: 266-8 D '50

Your in-plant feeding; how good? il Factory Management 109:120-5 My '51

LUNCHROOMS and cafeterias

Equipment

Experiment in standards; cafeteria saves with modular pans. E. R. Kingsbury. il diags Standardization 21:290-1+ N '50

LUNCHROOMS and cafeterias, Employees'

Camera tour through a modern textile-mill cafeteria; Mount Hope finishing co. Textile World 101:109-12 Ag '51

Good food leads to understanding. M. B. Andrews. Textile World 100:191 N '50

In business for their health; operating a plant cafeteria. il Nat Safety N 63:34-5 F '51

Managing your company cafeteria. J. B. Hart. Personnel 27:455-60 My '51

Robot restaurants as aids to morale. C. H. Brinkmann. il Advanced Management 16:9-10 Ag '51

Acounting

Industrial cafeteria can carry its costs. G. C. Snyder, jr. NACA Bul 32:1064-70 My '51

LUNDBERG, Harry, 1901-

Portrait. Bsns W p32 O 6 '51

LUNGS

Oxygenation of blood by isolated lung. G. R. Gerst and others. bibliog Science 114:258-9 S 7 '51

Pulmonary circulation as a source of leucocytes and platelets in man. H. R. Bierman and others. bibliog Science 114:276-7 S 14 '51

Retention of air-borne particulates in the human lung. H. D. Landahl and others. diags AMA Archives Ind Hygiene & Occup Med 3:359-66 Ap '51

Diseases

Acute pulmonary complications following inhalation of chromic acid mist. J. B. Meyers. bibliog A M A Archives Ind Hygiene & Occup Med 2:742-7 D '50

Environmental lung cancer. W. C. Hueper. il Ind Med 20:49-62 F '51

Etiologic factors in bronchiogenic carcinoma with special reference to industrial exposures; report of eight hundred fifty-seven proved cases. E. L. Wynder and E. A. Graham. bibliog A M A Archives Ind Hygiene & Occup Med 4:221-35 S '51

Evaluation and significance of physical fitness for moderate work; a study of patients with cardiovascular or pulmonary diseases. R. A. Bruce and others. bibliog diag A M A Archives Ind Hygiene & Occup Med 4:236-50 S '51

Occupational cancer and other health hazards in a chromate plant; lung cancers in chromate workers. T. F. Mancuso and W. C. Hueper. bibliog il Ind Med 20:358-63, 393-6 Ag-S '51; Abstract. Nat Safety N 65:58 Ja '52

Occupational cancer in a chromate plant; environmental appraisal. H. G. Bourne, jr. and H. T. Yee. bibliog Ind Med 19:563-7 D '50

Pulmonary carcinoma in chromate workers. A. M. Baetjer. bibliog A M A Archives Ind Hygiene & Occup Med 2:487-516 N '50

LUNGS—Diseases—*Continued*

Pulmonary edema and hemorrhage induced by hypothalamic lesions in rats. J. E. Gamble and H. D. Patton. bibliog Science 113:626-8 Je 1 '51

Significance of the exercise tolerance test. W. F. Renner. il A M A Archives Ind Hygiene & Occup Med 3:129-34 F '51

Symposium on the dynamics of industrial medicine; unidentified occupational case history. R. J. Hasterlik. A M A Archives Ind Hygiene & Occup Med 3:147-9 F '51

Symposium on the treatment of chronic beryllium poisoning with ACTH and cortisone. bibliog il A M A Archives Ind Hygiene & Occup Med 3:543-630 Je '51

Dust diseases

Coal workers' pneumoconiosis. A. G. Heppleston. bibliog il A M A Archives Ind Hygiene & Occup Med 4:270-88 S '51

Effect of bituminous coal dust and smoke on the lungs; animal experiments; effects on susceptibility to pneumonia. F. J. Vintinner and A. M. Baetjer. A M A Archives Ind Hygiene & Occup Med 4:206-16 S '51

Effect of paper dust. W. Schweisheimer. Pulp & Pa of Can 52:165+ Mr '51

Health hazards in the production and handling of vanadium pentoxide. S. G. Sjöberg. bibliog diag A M A Archives Ind Hygiene & Occup Med 3:631-46 Je '51

Health of ferrous foundry workers. H. Heimann. Pub Health Rep 66:223-39 bibliog(66 titles, p237-9) F 23 '51

Industry urged to control dust. K. M. Lynch. Safety Maint & Prod 101:64 Ap '51

Persistence of beryllium oxide in lungs after inhalation of dust. F. R. Dutra and others. il diag A M A Archives Ind Hygiene & Occup Med 4:65-73 Jl '51

Pulmonary fibrosis among Illinois ferrous foundrymen. Mo Labor R 72:653-5 Je '51

See also

Asbestosis

Silicosis

LUPEOL

Chemistry of the pentacyclic triterpenes; the formation of 18-*iso*-β-amyranol and germanicol from lupeol. T. R. Ames and others. Chem & Ind p741 S 1 '51

Chemistry of the triterpenes; an inter-relationship between the lupeol and the β-amyrin series; elucidation of the structure of lupeol. T. R. Ames, T. G. Halsall and E. R. H. Jones. Chem Soc J p450-7 F '51

LUPINES

Biosynthesis of radioactive asparagine from $C^{14}O_2$. D. G. Wilson and others. Science 113:695-6 Je 15 '51

LUPININE

Study of some quinolizone derivatives. V. Boekelheide and J. P. Lodge, jr. bibliog Am Chem Soc J 73:3681-4 Ag '51

LUPULONE

Hydrogenation of lupulone and humulone. J. F. Carson. Am Chem Soc J 73:1850-1 Ap '51

LUPUS erythematosus

Modification of the Schleicher technique for detecting the erythrocyte aggregation factor in serum. A. Fjelde. Science 113:750 Je 29 '51

LURGI process. See Gas manufacture—Complete gasification processes

LUSTER

Improvement of luster of cotton; measurement of reflectance characteristics related to luster. L. Fourt and A. M. Sookne. bibliog diags Textile Res J 21:469-79 Jl '51

LUSTRON corporation

Auctioneer knocks down remnants of dream. il Bsns W p23 Jl 21 '51

Close call for Fruehauf; special trailers built for Lustron are converted and resold. il Bsns W p72+ Ap 7 '51

LUTECIUM. See Lutetium

LUTETIUM

Purification of lutecium by fractionation of hexa-antipyrinelutecium iodide. J. K. Marsh. Chem Soc J p577-8 F '50

Isotopes

Radioactive isotopes of lutetium and hafnium. G. Wilkinson and H. G. Hicks. Phys R 81:540-3 F 15 '51

LUTIDINE

Heterocyclic perfluoro-compound. R. N. Haszeldine. Chem Soc J p 1638 Je '50

Purification of 2,6-lutidine. J. A. Cathcart and D. D. Reynolds. Am Chem Soc J 73:3504 Jl '51

LUXEMBURG

Economic conditions

News by countries. For Comm W 41:8 N 6 '50; 42:9 Ja 29; 10 F 12; 43:9 Ap 30; 9-10 My 21; 8-9 Je 25 '51

LYNCH, Charles Ivers

Bridge named for editor who crusaded. Ed & Pub 83:53 D 16 '50

LYNCH, Thomas J. 1899-

Portrait. Bsns W p57 Jl 7 '51

LYNCHBURG, Virginia

Industries

Lynchburg turns a page; public opinion survey by Central Virginia industries. G. B. Arthur. il Dun's R 59:30-1+ F '51

LYONS, J., and company

Statement by the chairman at 57th annual general meeting. M. Gluckstein. Economist 161:132 Jl 14 '51

LYOPHILE apparatus

Modified laboratory lyophil apparatus. H. K. Pratt and M. Yamaguchi. diag Science 112:560-1 N 10 '50

LYSINE

Optical rotation of peptides; lysine dipeptides. B. F. Erlanger and E. Brand. Am Chem Soc J 73:4025-7 Ag '51

Optical rotation of peptides; lysine tripeptides. E. Brand and others. Am Chem Soc J 73:4027-8 Ag '51

Preparation and microbiological activity of an homolog of lysine. A. D. McLaren and C. A. Knight. bibliog Am Chem Soc J 73:4478-9 S '51

Reaction of unsymmetrical cycloalkanones and hydrazoic acid; synthesis of *d,l*-lysine. H. Schechter and J. C. Kirk. bibliog Am Chem Soc J 73:3087-91 Jl '51

Studies on the synthesis of lysine. E. F. Degering and L. G. Boatright. Am Chem Soc J 72:5137-9 N '50

Synthesis of ethyl acetamidocyanoacetate, DL-lysine, DL-ornithine and DL-tyrosine labeled with isotopic carbon. M. Fields, D. E. Walz and S. Rothchild. bibliog Am Chem Soc J 73:1000-2 Mr '51

Trypsin hydrolysis of lysine ethyl ester. H. Werbin and A. Palm. Am Chem Soc J 73:1382 Mr '51

LYSOZYME

Molecular weight of lactoglobulin, ovalbumin, lysozyme and serum albumin by light scattering. M. Halwer, G. C. Nutting and B. A. Brice. bibliog Am Chem Soc J 73:2786-90 Je '51

Molecular weight of lysozyme after reduction and alkylation of the disulfide bonds. H. Fraenkel-Conrat and others. Am Chem Soc J 73:625-7 F '51

Studies on lysozyme. H. H. Tallan and W. H. Stein. Am Chem Soc J 73:2976-7 Je '51

Terminal amino acid residue of lysozyme as determined with 2,4-dinitrofluorobenzene. F. C. Green and W. A. Schroeder. Am Chem Soc J 73:1385 Mr '51

LYXOFLAVIN

Synthesis of lyxoflavin. D. Heyl and others. Am Chem Soc J 73:3826-7 Ag '51

Tests with lyxoflavin for vitamin activity. G. A. Emerson and K. Folkers. Am Chem Soc J 73:2398-9 My '51

LYXONIC acid

Synthesis of L-lyxonic acid. T. S. Gardner and E. Wenis. bibliog Am Chem Soc J 73:1855 Ap '51

LYXOSE

Improvements in the preparation of D-arabinose from calcium D-gluconate and of D-lyxose from calcium D-galactonate. H. G. Fletcher, jr., H. W. Diehl and C. S. Hudson. Am Chem Soc J 72:4546 O '50

Reaction of tribenzoyl-α-D-lyxopyranosyl bromide with methanol. H. G. Fletcher, jr., R. K. Ness and C. S. Hudson. Am Chem Soc J 73:3698-9 Ag '51

M

MACABE, Thomas Bayard, 1893-
Portrait. Bsns W p 19 Mr 17 '51
MACADAM roads. See Roads, Macadam
MACADAMIA nuts
Seed fat of macadamia ternifolia. R. E. Bridge and T. P. Hilditch. Chem Soc J p2396-9 S '50
MCAFEE, William Keith, 1893-1950
W. K. McAfee laboratory dedicated. por Am Cer Soc Bul 29:349-50 O 15 '50
MCANDLESS, Alva John, 1890-
Sketch. C. Axman. por East Underw 52: 3+ S 7 '51
MACANDREWS and Forbes company
Earnings are steady. Barron's 30:14 D 4 '50
MACARONI

Manufacture

Engineered non-stop output at La Rosa's macaroni plant. J. V. Ziemba. il Food Eng 23:66-71 My '51
Labor cost controls for a macaroni plant. J. W. Sheetz. flow chart N A C A Bul 32: 185-94 O '50
MACARTHUR, Douglas, 1880-
At 71, General MacArthur makes jet-age news. E. Hoberecht. Ed & Pub 84:13 Ja 27 '51
Beech sees better deal for newsmen. G. A. Brandenburg. Ed & Pub 84:100 Ap 21 '51
MacArthur and national purpose. Fortune 43:71-2 My '51
MacArthur starts a retail sales boom. pors Bsns W p22-3 My 5 '51
On trial; big men and big issues; MacArthur or Truman? por Bsns W p25-6 My 12 '51
MCBRIDE, Pierre B.
Director of Federal reserve bank. por Am Cer Soc Bul 30:61 F 15 '51
MCCABE, Gibson
News at Newsweek. por Sales Management 67:40 Ag 15 '51
MCCABE-THIELE diagram
Algebraic solution. M. R. Beychok. bibliog Chem Eng Prog 47:265-9 My '51
MCCAFFREY, John Lawrence, 1892-
Portrait. Fortune 44:24 Jl '51
MCCAHILL, Charles Francis
New president, American newspaper publishers association. J. L. Collings. pors Ed & Pub 84:12-13 Ap 28 '51
MCCALL'S magazine (periodical)
Symposium on indexing. F. Simon and M. Rynn. Special Lib 42:63-4 F '51
MCCANCE, Pressly H.
New AEIC president. por(cover) Elec World News ed 134:21 O 30 '50
MCCORMACK, Thomas H. 1897-
Man of the month. por Chem Eng 58:234+ Ag '51
MCCORMICK, Edward Theodore
Portrait. Fortune 43:29 Ap '51
Selling curb exchange to business. por Bsns W p94-5 Mr 31 '51
MCCORMICK, Robert Rutherford, 1880-
Takes over at Times-herald. Ed & Pub 84: 10 Ap 7 '51
MCCULLOCH, Robert P.
Young men from Milwaukee. pors Fortune 43:102-4+ Ap '51
MCCULLOCH motors corporation
Young men from Milwaukee. il Fortune 43: 102-4+ Ap '51
MCCURDY, Fred H.
Iron age salutes. por Iron Age 166:57 D 21 '50
MCCUTCHEON, John T., 1870-1949
Two McCutcheon sons in newspaper posts. G. A. Brandenburg. por Ed & Pub 83:54 D 16 '50
MCDONALD, Gerald B.
Gerry and Ralph plug the hometown mil-look. J. L. Collings. por Ed & Pub 84:32 Ja 27 '51
MCDONNELL aircraft corporation
Change in accounting aids net. Barron's 31: 17-18 O 8 '51
MACFARLANE, Robert Stetson, 1899-
Northern Pacific; Denney to Macfarlane. por Ry Age 129:25-7 D 30 '50
Portrait. Fortune 43:15 Ja '51
MCFETRIDGE, William L.
Day in the life of a labor leader. pors Bsns W p42-6+ Ag 18 '51
MACGOWAN, Thomas G.
Portrait. Bsns W p63 Ja 6 '51
MCGRAW, F. H., and company
McGraw files counter claim against J.&L. Steel. Eng N 147:28 Jl 26 '51
McGraw's Strike; Hartford builder received largest government construction contract ever awarded. Fortune 43:100-1+ Ap '51
MCGRAW award
McGraw award given to Frank Thornton, jr. Elec World News ed 134:6 N 27 '50
MACH number. See Aerodynamics
MACH-ZEHNDER interferometer. See Interferometers
MACHINA docilis. See Automatons
MACHINABILITY. See Metal cutting; Steel cutting
MACHINE guns
Sale I never forgot; selling Lewis machine gun to Canada. A. C. Barker. Ptr Ink 235:54+ My 4 '51

Cartridge belts

Ordinance experiments unveiled; belt links for machine gun. Steel 128:90 My 28 '51

Manufacture

Gun barrel rifling broached faster. F. Bohle. diags Steel 128:88+ Ap 16 '51
MACHINE parts
Alloyed metal powders replace machine casting. D. W. Hoyt. il diag Iron Age 168:63-5 Ag 23 '51
Centrifugal casting for critical components. H. Cooper. il Machine Design 22:131-2 N '50
Furnace brazing of machine parts. H. M. Webber. bibliog il diags Mech Eng 72:863-9, 969-76 N-D '50
Highlights on selected mechanical parts. il diags Product Eng 22:188-91 My '51
How to bring worn parts back to life. E. A. Shevey. il Welding J 30:180 F '51
Ideas for designing machinery parts. il Welding J 30:269-70 Mr '51
Laminates unlimited. il Mod Plastics 29:87-91 S '51
Metal surfacing for original parts. il diags Product Eng 22:122-4 Jl '51
Photoelastic stress analysis useful in design of metal parts. M. M. Leven. il diags Materials & Methods 33:70-3 Mr; 89-92 Ap '51
Powder-metal parts. G. H. Logan. il diags Machine Design 23:133-6 O '51
Powder metallurgy can help conserve critical metals. A. J. Langhammer. il Materials & Methods 33:134+ F '51
Reducing costs of machine parts. G. F. Clipsham. il diags Machine Design 23:147-9 My '51
Safeguarding parts during shipment and storage. il Diesel Power 28:43 D '50
Section thickness in meehanite castings. C. R. Austin. il Machine Design 23:130-1 F '51
Shell molded parts are machined 30 per cent faster. il Steel 129:82 Jl 9 '51
Some design aspects of metal-powder parts. D. C. Bradley. il diags Mech Eng 73:123-7 F '51; Excerpts. Machine Design 23:167+ Mr '51
Specifying standard parts. T. C. Lloyd. diags Machine Design 23:106-12 My '51
Tractor parts redesigned for economy. il Machine Design 23:135-7 Jl '51
Why machine parts fail. C. Lipson. bibliog il diags Machine Design 22:95-100 My; 111-16 Je; 141-5 Jl; 157-60 Ag; 147-50 S; 97-100 O; 158-62 N; 151-6 D '50
See also
Bearings
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Repair parts
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MACHINE shop management
Average costs mean potential losses to machine shops. B. A. Margo. Mach 57:174-7 F '51
Cutting metal-cutting costs. il plan Mod Ind 20:38-43 N '50
How to control production elements. G. P. Muir and others. il diags Tool Eng 25:17-20+ O; 38-40 N '50
In department 200, machines run 88 per cent of the day; Crompton & Knowles loom works. O. V. Payne. il Am Mach 94:93-5 N 27 '50

MACHINE shop management—*Continued*

One-man conveyor dispatches work to 165 machine operators; Cushman motor works, Lincoln, Neb. E. L. Emens. il diag Factory Management 108:72-3 D '50

Small shops must adopt good methods. W. T. Nary. il diag Am Mach 95:134-7 Je 11 '51

Some practical aspects of the time standards problem. H. K. Keever. Tool Eng 26:38-40 Je '51

Statistical aids for tool engineering. L. E. Doyle. bibliog diags Tool Eng 25:17-20 D '50; 26:38-41 Ja; 46-8 F; 55-9 Mr; 42-4 Ap; 46-8 My '51

Time study as a basic tool. E. Laitala. Tool Eng 25:29-30 O; 32-3 N; 39-40 D '50

Upsetting the setup bugaboo. D. P. Sweetser. il Advanced Management 16:19-22 Ap '51

Watch seven obvious ways to increase your output. N. M. Perris and H. K. Keever. diags Am Mach 95:129-32 S 17 '51

See also

Assembling methods
Inspection
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Tool rooms

MACHINE shop practice

Abstracts of foreign technical literature. M. Kronenberg. Tool Eng 25:64-5 O; 78-9 N; 78-9 D '50; 26:98-9 Ja; 86-7 F; 128-30 Mr; 82-3 Ap; 102-3 My; 104-5 Je; 27:94-5 Jl; 88-9 Ag; 98-100 S '51

Accuracy in machining, its standardization and cost. T. H. Vogel. diags Tool Eng 25:17-19 N; 28-31 D '50

Advanced methods for machining jet engine parts; Pratt & Whitney aircraft division. il Automotive Ind 105:38-40+ Ag 15 '51

Designing and machining high-speed mixed-flow compressor impellers. H. Woodhouse. il diags Mach 57:152-60 F '51

Double-coated adhesives; fixtures from a roll. C. O. T. Bolling. il Am Mach 95:143 Ap 16 '51

Duplicator with centerless attachment machines extra-large curves. A. B. Harvest. il diags Am Mach 95:158 F 5 '51

Flexibility, key to efficient gear production; 200 types of current production gears by the Caterpillar tractor co. J. Elwood. il diag Iron Age 166:83-6 N 16 '50

Four new methods speed production at Watervliet arsenal. F. J. Clas. il diags Am Mach 95:94-5 Ag 20 '51

Height adjustment added to standard V-block. W. M. Halliday. diags Am Mach 94:166 D 11 '50

How Chevrolet boosted Powerglide production. C. H. Wick. il diag Mach 57:147-55 Ap '51

Making cams for automatic cigar and cigarette machinery. R. F. V. Stanton. il diags Mach 57:141-7 D '50

Manufacturing recoilless rifles for greater infantry fire power. C. H. Wick. il Mach 57:141-8 Je '51

Many close-tolerance operations in machining Ford-Mercury automatic transmissions. J. Geschelin. il Automotive Ind 105:46-50+ Jl 15 '51

Precision machining of Studebaker automatic transmission parts. il diags Mach 57:149-56+ Je '51

Precision machining operations on automatic transmissions at Ford's Cincinnati plant. T. MacNew. il Automotive Ind 105:42-6+ Ag 1 '51

Revolutionary machines and tooling are devised to finish jet engine components; Pratt & Whitney aircraft. il Steel 129:76-9+ Ag 6 '51

Shop shots; illustrations with text (cont). Am Mach 94:146 D 11 '50; 95:94-5 Ja 8; 104-5 Mr 5; 117 Ap 2; 132-3 My 14; 170-1 Jl 9; 133 S 17; 128-9 O 15 '51

Simplified tooling yields lower unit costs. il diags Steel 128:84 Ap 9 '51

Special setups aid accurate machining; producing record changer spindles. F. C. Schwietert. il diag Iron Age 167:93-5 Mr 29 '51

Special tooling pays off on short runs; Automatic transportation co. E. L. Meschler. il Iron Age 166:87-90 N 16 '50

Talented tooling. il Am Mach 95:162-3 Mr 19; 104-5 Je 25; 170-1 S 3 '51

Tank rebuilding speeded by fixtures; illustrations with text. R. Le Grand. Am Mach 94:108-14 O 30 '50

These gear teeth are characters; toothed print wheel for IBM alphabetical accounting machine; illustrations and drawings with text. E. J. Tangerman. Am Mach 95:131-3 Mr 19 '51

Tooling designed for turning railway car axles. E. A. Watson. il Mach 57:168-71 D '50

Tooling tricks at Watertown arsenal. E. L. Pearson. il diags Am Mach 95:89-91 Ap 30 '51

Transfer machining; the production of cylinder blocks for Consul and Zephyr engines. il Automobile Eng 41:255-64 Jl '51

See also

Airplane engines—Manufacture
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Diesel engines—Manufacture
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Railroads—Shops
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Rolling (metal work)
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Sheet metal work
Tapping
Tolerance
Welding

Bibliography

How to make armament; bibliography of American Machinist articles since 1938. Am Mach 94:99-107 O 30 '50

Machinery's data sheet index, Feb. 1948 to Dec. 1950, inclusive. Mach 57:247 Ja '51

MACHINE shops

Small shops are important to the defense effort. C. A. Simmons. Mach 57:180 Ja '51

See also

Airlines—Shops
Airplane factories
Automobile factories
Locomotive shops
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Machine shop practice
Machine tools
Motor bus lines—Shops
Railroads—Shops
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Accidents

What causes safety? B. A. Hall. Am Mach 95:131-3 Jl 9 '51

Accounting

Basic property records for machine tools and motors. T. E. Eagan. N A C A Bul 32:200-5 O '50

Costs

Average costs mean potential losses to machine shops. B. A. Margo. Mach 57:174-7 F '51

Employees

See also

Toolmakers

Equipment

38th annual review number. il diags Am Mach 95:165-312 Ja 22 '51

See also

Holding devices
Machine tools

Heating and ventilation

Recirculation of cleaned air from cast iron machining. R. H. Avery. il Heat & Ven 48:69-72 O '51

Warm air wins over steam; Ueber tool & manufacturing co. il Sheet Metal Worker 42:82 S '51

Layout

Plant layout and facilities for precision manufacturing; Sperry gyroscope company's Lake Success plant. G. A. Richroath. il plans diag Tool Eng 26:32-5 Ap '51

Lighting

Get your lighting up to date. E. A. Linsday. il Am Mach 95:96-9 My 28 '51

MACHINE shops—Lighting—*Continued*

Luminous ceiling lighting for a machine shop. D. E. Spencer and others. bibliog il diag Illum Eng 46:26-8 Ja '51

Records

How to control production elements; mechanizing production records. G. P. Muir. Tool Eng 25:39-40 N '50

Safety measures

Inspection and maintenance of power presses; data sheet. diag Nat Safety N 63:39-40+ Ap '51

MACHINE tool industry

American interest swings to overseas tools. F. Sanderson. Iron Age 167:113 Je 21 '51

Dilatory defense; abstract. M. A. Hollengreen. Mach 57:163-4 Je '51

Give us the tools and we'll finish the job. Barron's 31:1 Ag 13 '51

Incentives for tool builders. Steel 129:47 Ag 13 '51

Liberal NPA allotments hard to fill. G. Elwers. Iron Age 168:103 S 20 '51

Machine tool high spots. W. A. Lloyd. Iron Age 166:29 O 26 '50 [cont weekly]

Machine-tool orders high; with graph of new orders and shipments, 1949-1951. Survey of Cur Bsns 31:4-5 Jl '51

Machine tool snag. Bsns W p22-3 Jl 21 '51

Machine tools mobilized. Bsns W p30+ Ja 27 '51

NPA announces pool contracts for general purpose machine tools. Am Mach 95:178 Mr 19 '51

OPS lifts machine tool lid. Bsns W p 130 Ag 25 '51

Tool invasion from Germany ruffles Cleveland. Bsns W p26 S 15 '51

Trouble in machine tools. Bsns W p23 My 5 '51

Advertising

Home made movies sell machine tools. S. A. Brandenburg. il Iron Age 168:72-4 Ag 30 '51

Unique joint advertising bolsters machine tool exports; Amertool services, inc. il Ind Marketing 35:46+ D '50

Rental plan

Machine tools for rent; Rentco, inc., of Philadelphia. Bsns W p92+ O 28 '50

Securities

New boom in machine tools; with data on leading machinery and machine tool stocks. G. W. Mathis. il Mag of Wall St 88:667-9+ S 22 '51

New boom in machinery and machine tools; with position of leading stocks. H. S. Coffin. Mag of Wall St 87:671-3+ Mr 24 '51

Statistics

Machine tool exports, by types, 1934-1950; by country of destination, 1927-1950; tabulations. Iron Age 167:350 Ja 4 '51

Machine tool labor, 1947-1950; tabulation. Iron Age 167:349 Ja 4 '51

Machine tool orders and shipments, machine tool production by types; tabulations. Iron Age 167:346-7 Ja 4 '51

Surplus tools

Gold rush; AF defense firms find badly needed machines at storage depots. Aviation W 55:203-4 S 24 '51

Rummage sale at Marietta, Ga. Bsns W p86 S 22 '51

Used machines

See Machine tools, Used

Germany

German heavy machine tool builders recover from total dismantlement. J. J. Christie. il Am Mach 95:324 Ja 22 '51

Great Britain

Engineering outlook. Engineering 171:64-6 Ja 19 '51

Machine tools for the defence programme. G. R. Strauss. Engineer 191:613 My 11 '51

Machine tools from home. Economist 160:1117 My 12 '51

Productivity in British industry; contribution of the machine tool industry. J. B. S. Gabriel. il diags Engineer 190:373-7 O 20 '50

Tools for the job. Economist 160:627-8 Mr 17 '51

MACHINE tools

Defense production; machines move in for new jobs; illustrations with text. Mod Ind 22:40-1 S '51

French machine tools. G. Hubbard. Steel 129:70 Jl 23 '51

Getting the most out of machines and tools. il diag Steel 128:80-3+ Mr 12 '51

Greater output with novel control gages. C. W. Heppenstall. il Steel 128:85-6 My 28 '51

Hypro vertical boring and turning machines of improved design. il diags Mach 57:203-4 Je '51

Jet plane production spurs unique machines and methods. N. Lynn. il Steel 129:98-100 S 24 '51

New machine-tool types make axial-flow jets in quantity. A. A. Merry. il Am Mach 95:99-104 Ag 6 '51

New machines solve new jet problems. il Bsns W p58+ Ag 11 '51

1951 production preview. il Am Mach 95:166-212 Ja 22 '51

Saga of nickel in machine tools. G. R. Brophy and W. S. Mounce. il Am Mach 95:156-9 Je 11 '51

Steel-spring-type vibration mountings for machine tools. D. H. Vance. bibliog il diags Tool Eng 27:31-3 Jl; 47-9 Ag; 55-7 S '51

Stockpiled tools speed defense work. Aviation W 54:24+ Mr 26 '51

Tool flexibility raises jet engine output; Pratt & Whitney aircraft. il Aviation W 55:21-2+ Ag 13 '51

Tool reserve speeds mobilization. il Aviation W 54:45+ My 21 '51

Tool stockpile; NPA program provides pool of metal-working machine orders. Aviation W 54:17 Mr 19 '51

Tools for high production. S. K. Rudorf. il Metal Prog 59:81-5 Ja '51

Tools to save time and money. Aviation W 55:207-8 S 24 '51

Traveling head machines. G. Hubbard. Steel 128:81 My 28 '51

Using weldment for surface plate increases strength 50 per cent. il Mach 57:201 Ap '51

Versatile machine; single-spindle tool for drilling, milling and horizontal boring. il Aviation W 55:40 Jl 2 '51

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Punching machinery
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Screw machines
Shears (machines)
Threading machines
Tool engineering
Tool steel

Control

Curvilineal machining now in bailiwick of planers, shapers; application of hydraulic tracer controlled tooling. G. Hubbard. il Steel 127:94-7 N 13 '50

Dc synchros control feeds on huge boring mill. R. A. Gerg. il diag Steel 129:88-9 S 17 '51

Home-made torque control cuts tool breakage. J. R. Wescott, jr. il diag Iron Age 168:107-8 Jl 19 '51

Machine tools self-controlled by air-electric gage system. G. Hubbard. il diag Steel 129:80+ Ag 27 '51

Design

Designing a modern machine; jig grinder. F. C. Victory. il diags Machine Design 22:104-11+ N '50

Duplex machine combines milling and handling; machining automotive clutch housings. J. Loviner. il diag Steel 127:84-6 N 6 '50

European machine design. P. Grodzinski. il Machine Design 23:146-7 F '51

MACHINE tools—Design—*Continued*

Styling the machine tool. F. Burgess and H. Sizer. il diag Mech Eng 72:783-6 O '50; Same cond. Machine Design 22:177+ D '50; Discussion. il diags Mech Eng 73:244-6 Mr '51

Electric driving

Development and design of electrical controlgear for machine tools. A. R. H. Thorne. bibliog(37 titles) il diags Inst E E Proc 97 pt 2:417-30 Ag '50; Discussion. 97 pt 2:430-5; 98 pt 2:271-87 Ag '50; Ap '51

Machine tool electrification forum, 15th, Pittsburgh, April 10-11. Mach 57:191-2 My '51

Transfer press positions work at high speed. J. M. Delfs. il diags Iron Age 167:99-102 Ap 26 '51

Exhibitions

European machine tool exhibition, Paris, Sept. 1-10. il Am Mach 95:188-9 O 1 '51

Fixtures

Air can clamp small parts, too; illustrations and drawings with text. C. Sanvenero. Am Mach 95:113-16 Ap 2 '51

Angle setup block works on grinder table. C. Ashley and J. R. Lucas. il diags Am Mach 94:128 N 27 '50

Automatic depth control built into disk-drilling fixture. W. M. Halliday. diags Am Mach 94:120 O 30 '50

Boring-mill fixture grips large cylinders. M. Polak. diags Am Mach 95:165 S 17 '51

Designing fixtures for band saw applications. H. J. Chamberland. il Tool Eng 25:26-7 D '50

Fixture for holding small parts in series. J. E. Hyler. diag Mach 57:198-9 Ap '51

Fixture for turning awkward-shaped piece. I. Mansfield. diag Mach 57:196-7 D '50

Fixture inventions. G. Hubbard. Steel 127:97 D 18 '50

Geared boring toolholder has rigidity and accuracy. J. P. Ramirez. diags Am Mach 94:118 O 30 '50

Get quicker action with attachments; illustrations with text. Am Mach 95:102 Ag 20 '51

Good fixtures a must for interchangeable machined parts. R. Mawson. il diag Steel 128:71-2 F 19 '51

Grinding fixture and method produces accurate radius tools. J. R. Nick. diags Am Mach 95:159 F 5 '51

Jigs and fixtures from standard components. il Engineering 172:267-8 Ag 31 '51

New clamping device for jigs and fixtures. P. Grodzinski. il diags Tool Eng 27:40-2 Ag '51

1951 production preview. il Am Mach 95:215-34 Ja 22 '51

Quick-acting fixture for holding small bushings. I. Mansfield. diags Mach 57:190 N '50

Registering fixture clamps in two directions. R. Mery. diag Am Mach 95:123 Ap 2 '51

Rocking fixture simplifies drilling operation. il Iron Age 166:93 N 16 '50

Rotary fixtures speed machining of small castings. C. S. Treber. il Iron Age 168:156-8 S 13 '51

Simple clamp for accurately locating fixtures on a machine table. W. M. Halliday. diags Mach 57:198-9 D '50

Special fixtures aid diecasting machining. H. Chase. il Iron Age 167:111-13 Mr 15 '51

Special fixtures hold part on automatic machine. il Iron Age 167:112 Ap 5 '51

Standardized fixtures; Purefoy range of units. il Automobile Eng 41:351-2 S '51

Vertical-feeding fixture controls touchy job. W. M. Halliday. diags Am Mach 95:172 Je 11 '51

Work-holding fixtures for special lathe operations. D. M. Brandel. il diag Mach 57:192-3 Je '51

See also
Jigs
Milling machines—
  Fixtures

Manufacture

Trends in man-hours expended per unit; selected types of machine tools. H. J. Greenspan. (Special ser. no. 4) 19p U.S. Bur. of labor statistics, Washington '51

Pooling

Select tools cafeteria style. il Am Mach 95:149 Ag 6 '51; Aviation W 55:38-9 Jl 30 '51

Tool loans; air force opens tool reserves to all defense contractors. Bsns W p 153-4 O 13 '51

Reconstruction

Respectability on the way for rebuilt machine tools. il Bsns W p48-52+ S 8 '51

Renting

See Machine tool industry—Rental plan

Standards

American standard dimensions of guidepost bushings for punch-press die sets; data sheet. Mach 57:239 Ag '51

Testing

How Ford checks machine tools at the builder's plant. R. Le Grand. il Am Mach 95:99-101 Mr 5 '51

Machine tools get pre-delivery check by Ford engineers. il Bsns W p98 Mr 17 '51

Used tools

See Machine tools, Used

MACHINE tools, Portable

Taking machines to the work; Versa-Mil, portable machine tool. G. H. DeGroat. il Mach 58:149-51 S '51

MACHINE tools, Used

Need rebuilding for reserve machine tools. T. Metaxas. Iron Age 167:90-1 F 22 '51

Respectability on the way for rebuilt machine tools. il Bsns W p48-52+ S 8 '51

Used machinery sales up. Steel 128:46 F 19 '51

MACHINE work

Experience growing in forming, machining titanium alloys. J. McElgin. il Steel 129:68-9+ O 1 '51

Friction, what is it? Am Mach 94:99 N 27 '50

Good fixtures a must for interchangeable machined parts. R. Mawson. il diag Steel 128:71-2 F 19 '51

Increasing productivity in production machining; abstract. M. Field and N. Zlatin. Steel 128:80 F 5 '51

Machining studies aid aero production; salient features of the air force study. diag Aviation W 53:22+ D 18 '50

Multiple machining for interchangeability; steering knuckles; Studebaker corp. R. Mawson. il diag Steel 128:85 Ap 2 '51

Production techniques as defence reserves. D. F. Galloway. il Engineer 191:639-44 My 18 '51

Technical forum on progress in metalworking; machining. Steel 128:211+ Ja 1 '51

Three-dimensional machining of Allison jet-engine inducers. J. C. Cunningham. il Mach 57:202-5 Jl '51

Unusual set-ups for machining Thunderjet parts. H. Albert. il Mach 57:186-91 Jl '51

See also
Broaching
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Copying processes

Copying lathe made from standard toolroom machine. C. D. Mackinnon. diags Am Mach 95:174 S 3 '51

Copying lathes; French machine tools. il Automobile Eng 41:32-6 Ja '51

Duplicating machining simplified with optical follower. il Steel 128:88 Ap 2 '51

Duplicator converts lathe. il Steel 129:122+ S 10 '51

MACHINE work—Copying processes—*Cont.*

Form grinding by mechanical and optical methods. E. A. Cooke. diags Inst Mech Eng Proc 163 (W.E.P. no 61):265-78, pl 1-2 '50; Same abr. Engineer 190:443-6, 476-8 N 10-17 '50; Discussion. Inst Mech Eng Proc 163 (W.E.P. no 61):278-80 '50; Engineer 190: 431-2 N 10 '50

French copying lathe fully utilizes carbide tools. il Am Mach 95:178 O 15 '51

Hydraulic copying lathe. il Engineer 190:624-5 D 22 '50; Engineering 171:284-5 Mr 9 '51

Hydraulic duplicating attachments speed contour turning and facing. il Mach 57:160-2 F '51

Hydraulic tracer for boring mills operates from central control panel. il Am Mach 95: 188 F 19 '51

Tracer-controlled milling machines employed for repetitive work. il Mach 57:170-4 N '50

Tracing devices in shape flame cutting. R. O. Fish. il diags Welding J 29:1059-64 D '50

MACHINE works

Activities of the Creusot works of Messrs Schneider. il plans Engineer 191:310-13 Mr 9 '51

Flexible production setup at Pesco's new plant. J. Geschelin. il diags Automotive Ind 104:32-3+ Ja 1 '51

Huge Caterpillar Diesel engine plant. H. G. Jarman. il Diesel Power 28:53 N '50

Service building for machine tools; Motch and Merryweather machinery co. il plans Arch Rec 110:142-3 Jl '51

Special workrooms aid precision production; Monarch machine tool co. il Iron Age 166: 57 O 26 '50

West Country engineering works; E. V. Twose, ltd. il Engineer 191:828 Je 22 '51

You can't be half-hearted about modernization; Saco-Lowell shops, Biddeford, Me. E. J. Tangerman. il diags Am Mach 95:147-66 Ap 16 '51

Employees

Machinery manufacture; earnings Jan. 1951. C. Rubenstein. Mo Labor R 73:43-6 Jl '51

Metalworking machinery; employment and earnings, 1947-1950; tabulation. Iron Age 167:363 Ja 4 '51

Equipment

Advanced equipment for mass producing farm tractors. J. Geschelin. il Automotive Ind 104:48-50+ Je 15 '51

Fast-moving supply line paces tractor production; Caterpillar tractor co. il Steel 127: 62-4+ O 30 '50

Heavy equipment for making large road building machines; Caterpillar Tractor co., the steel fabrication factory. il Automotive Ind 105:34-5 Jl 15 '51

How Britain builds tanks. il Mach 57:143-51 Mr '51

How instrumentation facilitates industrial waste treatment for Cooper-Bessemer corp. W. E. Oesterling. il diag Water & Sewage Works 98:60-2 F '51

Planned handling licks building handicaps; Saco-Lowell shops. il Am Mach 95:98-101 Ag 20 '51

Reconstructed oil engine factory; British polar engines, ltd. il Engineer 191:217-20 F 16 '51; Engineering 171:98-9, 102 Ja 26 '51

Speeding production with modern transfer equipment at Indianapolis truck engine works of International harvester co. J. Olender. il Advanced Management 15:8-10 O '50

Management

In department 200, machines run 88 per cent of the day; Crompton & Knowles loom works. O. V. Payne. il Am Mach 94:93-5 N 27 '50

Master schedule guides production planning at Saco-Lowell. W. B. Lund. il Am Mach 95:108-12 Ag 6 '51

Modern production-control methods; Dayton pump and manufacturing co. L. Wozar and C. Rike. il Am Mach 95:129-31 My 14 '51

Power

Oakley colony power house; central power house serves seven industrial plants with steam, d-c power and other services. H. B. McDermid. il diag Power Eng 54:74-5 N '50

MACHINERY

Power handbook; mechanics and mechanisms. P. Swain and W. Arrott. diags Power 95:82-3 Mr '51

See also

Agricultural machinery
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Trenching machinery
Turbines
Valves
Washers (machinery)
Washing machines
Wire forming machines
Woodworking machinery
Woolen and worsted machinery

Bedplates

Centrifugal pumps; couplings and bedplates. I. J. Karassik and R. Carter. il diags Paper Ind 32:1282-4 Mr '51

Cleaning

Electrochemical process derusts complete machines without disassembly. Materials & Methods 34:11 S '51

Control

Mechanical systems for controlling speed and tension. J. H. Gepfert. il diags Product Eng 21:85-9 D '50

Design

Accurate spring counterbalancing. W. S. Rouverol. diags A S M E Trans 73:141-4; Discussion. 144-5 F '51

MACHINERY—Design—*Continued*
All welded support for multiple platen press; comparison with riveted design; with cost data. O. E. Hermanns. il diags Rubber Age 69:707-12 S '51
Analytical investigation of certain types of machine frames cut from steel plate, and experimental verification of some of the results by photo-elasticity. N. Sag. diags Inst Mech Eng Proc 163 (W.E.P. no 62): 311-16, pl 3-6; Discussion. 316-27 '50
Analyzing stress and deflection for plates of three types; data sheet. H. D. Conway. diags Machine Design 23:163-7 S '51
Are the Russians ahead in mechanism analysis? A. E. R. de Jonge. diags Machine Design 23:127+ S '51; Correction. 23:196+ D '51
Calculating cam profiles. L. S. Linderoth, jr. bibliog diags Machine Design 23:115-19 Jl '51
Calculating deflection in circular plates. W. A. Nash. il diags Machine Design 23:145-8 Jl '51
Cam dynamics; is there a definitive criterion for profile design? A. S. Gutman. diag Machine Design 23:149-51+ Mr '51
Cam follower dynamics. D. B. Mitchell. il Machine Design 22:151-4 Je '50; Same. Mech Eng 72:467-71 Je '50; Discussion. diag 72: 1009-11 D '50
Cast weld construction. J. O. Felt. il Welding J 30:415-23 My '51
Cast-weld design. il Machine Design 23:137-40 O '51
Critical speeds of overhung shafts. H. C. Hesse. il diags Product Eng 21:90-3 D '50
Design by measurement; abstracts. W. T. Bean, jr. Machine Design 22:168-9 N '50; S A E J 59:73-4 Ja '51
Design details for stamped parts. D. A. Rogers. diags Machine Design 22:157-60 D '50
Design factors for stress concentration; with charts; data sheet. R. E. Peterson. bibliog diags Machine Design 23:169-73 F; 161-5 Mr; 159-63 My; 173-7 Je; 155-9 Jl '51
Design for economy demands consideration of quantities. W. T. Minech. il diags Machine Design 23:139-41 Mr '51
Design for safety. S. K. Rudorf. il diags Machine Design 22:112-18 D '50
Design modification or new machine? C. F. Keas. il diags Machine Design 23:106-10 Mr '51
Design of machine parts subjected to fluctuating combined bending and torsion. N. Sag. bibliog diags Engineer 192:172-6 Ag 10 '51
Design trends in key industries. il diags Product Eng 22:106-17 My '51; Abstract. Bsns W p64-6 My 26 '51
Designers' formulae. W. A. Tuplin. diags Engineer 192:145-7 Ag 3 '51; Excerpt. Product Eng 22:254+ O '51
Designing a new machine. J. M. Wallace. il Machine Design 23:102-5 Ag '51
Designing beryllium copper investment castings. J. T. Richards. il diags Machine Design 23:121-5 My '51
Designing for shock resistance. C. E. Crede and M. C. Junger. il diags Machine Design 22:161-7 D '50; 23:131-6+ Ja '51
Designing noncircular surfaces for pure rolling contact. F. W. Hannula. il diags Machine Design 23:111-14+ Jl '51
Designing to meet sanitary needs. F. Mittelberger. il diags Product Eng 21:144-9 D '50
Designing tubes for bending loads; data sheet. G. E. Allison and A. S. Niles. Machine Design 22:163-5 N '50
Efficiency in industry and elsewhere. E. G. Phillips. Inst Mech Eng Proc 162 no 4:465-7 '50
Engineering for producibility. R. W. Bolz. bibliog il diags Machine Design 23:133-56 Ag '51
Fields of utility of investment castings. R. L. Wood and D. Von Ludwig. il Mech Eng 73: 191-7 Mr '51
Graphical analysis of axially end-loaded beams. H. D. Conway. Machine Design 23:137-40+ Ja '51
Hardfacing, a design tool. J. J. Barry. il diags Machine Design 23:114-19 Mr '51
Heat treatments, their selection and specification in design. N. N. Brown. il Machine Design 22:88-93 O; 115-19 N; 137-42 D '50
High-speed motion pictures detect defects in design. L. G. Waller. il Machine Design 22:143-5 D '50
How redesign improves appearance, reduces cost. C. W. Sundberg and M. Ferar. il Machine Design 23:152-6 Mr '51
Industrial design and its relation to machine design; abstracts. H. G. Conway. Engineer 191:190-1 F 9 '51; Machine Design 23:220+ Je '51; Discussion. Engineer 191:196-7, 227-8 F 9-16 '51
Laboratory demonstration experiment; a link between fundamentals and applications; stress analysis of punch press frame. D. Rosenthal and H. Baer. il diags J Eng Educ 41:171-5 N '50
Machine design as a career. J. F. D. Smith. Mech Eng 72:966-8+ D '50; Excerpt. Machine Design 23:212+ My '51; Discussion. Mech Eng 73:432-4 My '51
Machine design corrected for operators; abstract. Chem Eng 58:246+ Mr '51
Mechanism design; analytical solution and punched-card calculating machines offer fast method of constructing numerical tables of displacement, velocity and acceleration. E. N. Kemler and R. J. Howe. diag Machine Design 23:148-52 S '51
Milestones in design. J. Kremer. il diags Machine Design 22:154-7 N '50; 23:154-7 F '51
Production processes; their influence on design; heat treating. R. W. Bolz. il Machine Design 23:98-107 O '51
Profits and good will through product development; abstract. A. S. Breithaupt. Steel 128:96 Ja 22 '51
Radial disk cam design charts for maximum pressure angle; reference book sheet. A. Lengyel and A. H. Church. diag Product Eng 22:155, 157, 159 Mr '51
Redesign for more economical manufacture. J. Williams. il diags Machine Design 22: 133-5 N '50
Redesign to simplify tooling. A. F. Murray. il Machine Design 23:153-4 S '51
Reducing costs of machine parts. G. F. Clipsham. il diags Machine Design 23:147-9 My '51
Section thickness in meehanite castings. C. R. Austin. il Machine Design 23:130-1 F '51
Selection of materials must be guided by more than conventional tests and data. H. W. Gillett. bibliog Machine Design 23:154-8 My '51
Simple method of presenting the combined variable-load equations. R. T. Hinkle. diags J Eng Educ 41:409-11 Mr '51
Specifying standard parts. T. C. Lloyd. diags Machine Design 23:106-12 My '51
State of the art in design. R. J. S. Pigott. il Product Eng 22:102-5 My '51
Steel castings and welding can be combined successfully. P. O'Keefe. il Materials & Methods 34:73-5 Jl '51
Strain gages in design. S. G. Guins. il diags Machine Design 23:145-8+ Ja '51
Styling trends favor honesty and simplicity in shapes. D. Painter. il Machine Design 22:146-8 N '50
Systematic design of mechanisms. H. Ziebolz. il diags Machine Design 22:126-36 D '50
Tensile forces in tightened bolts. A. H. Stang. bibliog il diag Product Eng 22:118-20 F '51
Tubular sections in frame design of hydraulic benders. E. J. DeWitt and others. il Welding J 30:139-43 F '51
Use of statistical techniques for investigational purposes; abstract. C. V. Garrett. Machine Design 23:208+ Ag '51
Welding sews up a cost problem; Baltimore broom machine co. C. G. Herbruck. il Am Mach 95:142 My 14 '51
Why a special machine and how. F. J. Fink. Machine Design 23:202+ Jl '51

MACHINERY—Design—*Continued*

Why machine parts fail. C. Lipson. bibliog il diags Machine Design 22:95-100 My; 111-16 Je; 141-5 Jl; 157-60 Ag; 147-50 S; 97-100 O; 158-62 N; 151-6 D '50

See also

Dashpots
Keys and keyways (machinery)
Machine tools—Design
Machinery, Kinematics of

Exhibitions

British industries fair, Birmingham. il Metallurgia 43:169-84+ Ap '51

British industries fair, Birmingham and London, April 30-May 11. il diags Engineer 191:530-2, 567-71, 603-7, 659-62, 680-3 Ap 27-My 25 '51; Engineering 171:485-90, 517-24, 549-54, 581-4, pl 33-4, 37-8, 41-2, 45-6 Ap 27-My 18 '51

Conflicting views on engineering exhibitions. Metallurgia 43:118 Mr '51

Engineering in the Festival of Britain. il Engineering 171:695-9; 172:84-6 Je 8, Jl 20 '51

Engineering, marine and welding exhibition, London, Aug. 30-Sept. 13. il diags Engineer 192:258-61, supp 1-16, 290-5, 322-6, 358-62, 403-4 Ag 31-S 28 '51; Engineering 172:257-65, 289-97, 304, 321-9, 359-64, 400, 404-7, pl 18-25 Ag 31-S 28 '51; Metallurgia 44:73-86 Ag '51

Exhibition of industrial power at Kelvin hall. il Engineer 191:797-8 Je 15 '51

Hanover technical fair, April 29-May 8. plan diags Engineer 191:655-7, 693-4, 731-2, 754-6 Je 8-My 18 '51

Leipzig technical fair. il plan diags Engineer 191:406-8, 451-3 Mr 30-Ap 6 '51

Machine-tool exhibits feature largest postwar Hanover fair. il Am Mach 95:189 Jl 9 '51

Process engineers find good news in feeding equipment; 19th national power show, New York, Nov. 26-Dec. 2. il Chem & Eng N 28:4348-9 D 11 '50

South Bank exhibition; Power and production pavilion. il map Engineer 191:706-11, 742-5 Je 1-8 '51

Failures

Why machine parts fail. C. Lipson. bibliog il diags Machine Design 22:95-100 My; 111-16 Je; 141-5 Jl; 157-60 Ag; 147-50 S; 97-100 O; 158-62 N; 151-6 D '50

Foundations

Installation of pumping units; an outline of foundation construction problems and standards. K. N. Mills. il diags Pet Eng 23: B14+ F '51

Principles of foundation design for engines and compressors. W. K. Newcomb. bibliog diags A S M E Trans 73:307-12; Discussion. 313-18 Ap '51

Two methods of conditioning soil for engine foundations. il Oil & Gas J 49:A95+ N 9 '50

Water tank makes engine foundation. G. M. Wilson. il World Oil 133:124 Jl '51

Length of service

Point-rating for reliable service life estimates. W. F. Bennett. N A C A Bul 32: 1216-23 Je '51

Maintenance and repair

Composite metal fabrication by arc welding. H. E. Cable. il Welding J 30:258-62 Mr '51

Fatigue loss and gain by electroplating. J. O. Almen. bibliog il diag Product Eng 22: 109-16 Je '51

Get the most out of power machines. il Dom Eng 178:108 Jl '51

Hard-facing increases part life. P. J. McGonagle. diags Welding J 30:451 My '51

Metal spraying; an ideal maintenance tool. G. C. Close. il Mill & Factory 49:86-8 S '51

See also

Textile machinery—Maintenance and repair

Manufacture

How to cast a heavy table. P. Dwyer. diags Foundry 79:120-1+ F '51

How to estimate special machine costs. C. P. Eisenhauer. Steel 128:82 Je 18 '51

Special workrooms aid precision production; Monarch machine tool co. il Iron Age 166: 57 O 26 '50

Moving

How to move a factory without cutting output; Lincoln electric co. il Bsns W p82-4+ S 15 '51

How to move machines fast and like it; Pratt & Whitney Aircraft. J. W. Colody. il Factory Management 109:94-6 Ag '51

Making machinery mobile adds flexibility, cuts vibration. il Iron Age 167:67 My 31 '51

Noise

Reduction of vibration and sound transmission with rubber mountings. A. Pfenninger, jr. il Tool Eng 26:41-4 Mr '51

60 per cent cut in machine noise; wire braiding machines, Western electric co. W. D. Boynton. il Factory Management 109:113-15 Je '51

Painting

Good lighting and color stimulate high industrial production. C. E. Egeler. il Elec World 135:84-6+ F 26 '51

Patents

Noteworthy patents. diags Published in monthly numbers of Machine design

Safety devices

Ball mill is effectively guarded. il Nat Safety N 62:30 D '50

Design for safety. S. K. Rudorf. il diags Machine Design 22:112-18 D '50

Electrical control of dangerous machinery and processes; electrically interlocked guards on machines. W. F. Cooper. il diags Inst E E Proc 98 pt 2:349-57 Je '51; Same cond. Engineering 171:171-3 F 9 '51; Discussion. Inst E E Proc 98 pt 2:358-61 Je '51; Electrician 146:315-16 Ja 26 '51

Growth of guarding. W. I. Martin. il diags Safety Maint & Prod 101:66-7+ Je '51

Guarding the machine. il Nat Safety N 63: 149+ Mr '51

Hazards versus cost; panel discussion. Nat Safety N 64:24-5+ Ag '51

Hooded machines run toxic and radioactive jobs. S. S. Gold. il diags Am Mach 95:133-5 F 19 '51

See also

Presses—Safety devices
Woodworking machinery—Safety devices

Standards

Proposed standards for pivoted shoe thrust bearings. H. A. S. Howarth. il diags Machine Design 23:150-3 My '51

See also

Hydraulic machinery—Standards
Machine tools—Standards
Paper making machinery—Standards
Pneumatic machinery—Standards

Transportation

Getting to location sometimes is as expensive as drilling the well. il map Oil & Gas J 50:210+ S 20 '51

Moving a 50-ton compressor 91 miles. il Oil & Gas J 49:148 F 22 '51

100-ton heavy-duty trailer. il Engineering 170:457-8, pl 38-9 D 8 '50

Shartle's export packing commended. il Paper Ind 33:160+ My '51

Too big for the bridges; how to move too heavy cargoes by use of load distributing devices. C. M. Allen and T. H. Mullen. il Eng N 147:43 Jl 19 '51

Vibration

Anti-vibration clips and mountings. il Engineer 191:751 Je 8 '51

Design of Lanchester damper for elimination of metal-cutting chatter. R. S. Hahn. il diags A S M E Trans 73:331-5 Ap '51

Isolating machinery vibration. K. Kern. il Diesel Power 29:54-5 S '51

Keep vibration out of your plant. L. J. Murphy. il diags Mill & Factory 49:112-14 Jl '51

Natural frequency and efficiency of vibration mounts; reference book sheet. C. E. Crede. Product Eng 21:167 D '50

MACHINERY—Vibration—*Continued*
Production jitters; vibration of production tools. L. S. Metcalfe. il Safety Maint & Prod 102:16+ S '51
Reduction of vibration and sound transmission with rubber mountings. A. Pfenninger, jr. il Tool Eng 26:41-4 Mr '51
Resistance network analogue for solving vibration problems. W. W. Soroka. diags Product Eng 22:103-5 Ap '51
Steel-spring-type vibration mountings for machine tools. D. H. Vance. bibliog il diags Tool Eng 27:31-3 Jl; 47-9 Ag; 55-7 S '51
Types of mounts for vibration isolation; drawings with text. T. R. Finn. Product Eng 21:130-1 D '50
Vibration control for plant, for product, and for profit. il Mod Ind 22:60-3 Jl '51
Vibration control mountings in production. W. Rudolph. il Automotive Ind 104:52-3 F 1 '50
Vibration isolation improves machinery efficiency. F. A. Westbrook. il diags Foundry 79:226+ Jl '51
See also
Balancing of machinery
Steam turbines—Vibration

MACHINERY, Automatic
Acme-Gridley six-spindle automatic bar machines. il Automobile Eng 41:151-2 Ap '51; Engineer 191:331-2 Mr 9 '51; Engineering 171:442 Ap 13 '51
Application of automatics to small lot production; abstract. M. S. Curtis. il Machine Design 23:206-7+ Ap '51
Automatic machines; important developments by A. C. Wickman ltd. il Automobile Eng 40:377-8 N '50
Automatics machine diecastings 150 per cent faster. H. Chase. il Iron Age 167:61-3 Ja 25 '51
B.S.A. tools ltd. single-spindle automatic machine. il Automobile Eng 41:224-5 Je '51
Elements of automatic stock feeds. A. E. Rylander. il diags Tool Eng 26:51-8 Ja '51
Gear hardener loads and unloads automatically. P. Good. il diags Iron Age 167:72-4 Mr 22 '51
How a robot factory would work; Harvard Business School study. il Bsns W p56-60 Jl 21 '51
How to choose and use automatic lathes. M. J. Rowan. il diags Am Mach 95:147-62 F 19 '51
Interchangeable parts, key to cigar maker. il diags Product Eng 21:94-7 D '50
Longitudinal operations performed on automatic transfer machine. il Mach 57:173-5 Ap '51
Making cams for automatic cigar and cigarette machinery. R. F. V. Stanton. il diags Mach 57:141-7 D '50
New Buick crankcase line shows many improvements. S. White. il Am Mach 94:112-13 D 25 '50
Nimble fingers for Iron Hands. il Steel 129:84 Jl 9 '51
Shape recording with ratio-modulated tape. R. R. Perron. il diags Electronics 23:104-8 N '50
Single-spindle automatics. il Engineer 191:736 Je 1 '51
Snyder transfer machine for operations on cylinder blocks. il Mach 57:206 Ap '51
Solenoid air valves in automatic machines. R. C. May. diags Product Eng 22:193-5 O '51
Timing machine operations with small thyratrons. S. C. Rockafellow. il diags Product Eng 21:85-90 N '50
Tool feed rate changed while cutting on Cleveland automatic. il Am Mach 95:193 Jl 9 '51
Why and how of automatic turret lathes for chucking work. M. J. Rowan. il diags Am Mach 95:113-28 Je 25 '51
See also
Screw machines

MACHINERY, Kinematics of
Acceleration characteristics of tandem cold reduction mills. W. R. Harris and R. W. Moore. bibliog il diags Iron & Steel Eng 28:63-72; Discussion. 72-3 Jl '51
Analysis of quadric-chain mechanisms; method of calculating velocities and accelerations. H. Miller. diags Product Eng 22:109-13 F '51
Are the Russians ahead in mechanism analysis? A. E. R. de Jonge. diags Machine Design 23:127+ S '51; Correction. 23:196+ D '51
Mechanism design; analytical solution and punched-card calculating machines offer fast method of constructing numerical tables of displacement, velocity and acceleration. E. N. Kemler and R. J. Howe. diag Machine Design 23:148-52 S '51
See also
Cams
Mechanical movements

MACHINERY, Replacement of
Annual capital return on new machine is 150 per cent. H. E. Hallenberg. Am Mach 95:160-1 My 14 '51
Economics of machine replacement. E. M. Hicks. diags Tool Eng 27:37-41 S '51
Economy studies in replacement decisions. T. W. Leland. N A C A Bul 32:930-9 Ap '51
How manufacturers of metal products keep shop equipment up to date. E. Oberg. Mach 57:156-62 Ap '51
How the plant engineer can save tax money; tax-saving hints for sales and trade-ins. J. K. Lasser. Factory Management 109:111 Mr '51
How to figure when to replace plant equipment. R. Everett. Factory Management 108:89-90 N '50
How to set up a successful equipment replacement program; Worcester pressed steel co. C. C. Higgins. Steel 128:68-70 F 19 '51
My best maintenance idea; survey shows need for purchase of new air compressor; with cost data. Factory Management 109:86-7 Mr '51
Need for water works reequipment. W. V. Weir. Am Water Works Assn J 43:1-5 Ja '51
Some errors in the cost analysis of change; abstract. A. D. Emerzian. Management R 39:724-5 D '50
You can't be half-hearted about modernization; Saco-Lowell shops, Biddeford, Me. E. J. Tangerman. il diags Am Mach 95:147-66 Ap 16 '51
See also
Machinery—Length of service
Obsolescence

MACHINERY in industry
Impact of mechanized logging on industrial-relations. F. A. Harrison. Pulp & Pa of Can 52:88-90 My '51
See also
Machinery, Replacement of

MACHINERY industry
Machinery manufacturers face enforced vacations; can't get steel needed. Eng N 147:106+ S 27 '51
Price order for machines. Bsns W p 144 My 5 '51
See also
Agricultural machinery industry
Textile machinery industry

Advertising
If they sell machinery, why do they advertise milk? Ex-Cell-O machines make paper milk containers. D. G. Baird. il Sales Management 66:76+ Ap 15 '51

Directories
38th annual review number. il diags Am Mach 95:165-312 Ja 22 '51

Finance
Financial data on machinery manufacturers, 1930-1950; tabulation. Iron Age 167:347 Ja 4 '51

Securities
New boom in machine tools; with data on leading machinery and machine tool stocks. G. W. Mathis. il Mag of Wall St 88:667-9+ S 22 '51
New boom in machinery and machine tools; with position of leading stocks. H. S. Coffin. Mag of Wall St 87:671-3+ Mr 24 '51

Statistics
Machinery and equipment; tabulations. Steel 128:134-5 Ja 1 '51

MACHINERY industry—Statistics—*Continued*
Metalworking climbing toward World war II levels in 1951. Am Mach 95:131-48 Ja 22 '51

Chicago

Tool maker. il Bankers Mo 68:22-3 S '51

Great Britain

1851-1951; a century of British engineering. W. T. O'Dea. Engineering 171:301-2 Mr 9 '51
Engineering outlook. Engineering 171:8-10, 36-8, 64-6, 91-3, 122-5, 153-6, 182-5, 213-15, 246-9, 278-81, 309-11, 337-40, 364-6 Ja 5-Mr 30 '51

MACHINISTS
See also
Toolmakers

MACHINISTS, International association of. See International association of machinists

MCINTOSH, Douglas Alexander, 1875-
Sketch. A. F. G. Cadenhead. Can Chem & Process Ind 34:901-2 N '50
S.C.I. (Canada) medal awarded. por Chem & Ind p755-6 N 25 '50

MACK, Walter Staunton, 1895-
Mack's plans. por Bsns W p 155 Je 16 '51

MCKEE, Arthur G., company
World is McKee's province. il Bsns W p 160-2 My 26 '51

MCKEE, C. W.
Portrait. Fortune 44:85 Jl '51

MCKEE worker. See Consistometers

MCKEEN, John Elmer
Boss of Chas. Pfizer & co., inc. por Fortune 43:12-13 Ja '51

MCKENNA, Norbert Augustine, 1902-
U.S. money for oil in Brazil? por Fortune 44:128 O '51

MACKENZIE, DeWitt T.
First AP columnist, retires. R. Erwin. por Ed & Pub 84:74 Je 9 '51

MCKENZIE, Harold J. 1904-
McKenzie succeeds Green on Cotton Belt. por Ry Age 131:63-4 Jl 2 '51

MACKENZIE, James Tucker, 1891-
Metallurgical pioneer wins 1951 Herty medal. por(cover) Chem & Eng N 29:2051 My 21 '51

MACKENZIE mountains
Tectonics of east side of Cordillera in western Canada. A. J. Goodman. bibliog il map diags Am Assn Pet Geologists Bul 35:783-96 Ap '51

MACKINNON, Albert Preston
Mackinnon explains why Times ticks. G. A. Brandenburg. por Ed & Pub 84:22 Ag 18 '51

MCLAUGHLIN, Ralph B.
Petroleum profile. por Pet Eng 22:A52 D '50

MCLEAN, Robert Stuart
Why Bob, who'd think you had complexes! J. L. Collings. por Ed & Pub 84:20 Je 2 '51

MCLEOD gage. See Pressure gages

MACLURA pomifera. See Osage orange

MCMANUS, Clifford Braswell, 1895-
McManus, Georgia Power head, to take over as DPA administrator. por Elec World 135:40 Ja 1 '51

MCMILLAN, Fred Orville, 1890-
McMillan is nominated for AIEE presidency. por(cover) Elec World News ed 135:22+ Mr 19 '51

MACMILLAN company
Stock offered. Comm & Fin Chr 173:382 Ja 22 '51

MCNAIR, Malcolm Perrine, 1894-
Portrait. Bsns W p63 Ja 6 '51

MCNAMEE, Philip L.
Meet a pioneer builder of vocational programs. G. Eaton. por Inland Ptr 126:36 Ja '51

MCNEIL machine and engineering company
Stock sold. Comm & Fin Chr 174:1405 O 15 '51

MACROZAMIN
Nature of a cyclitol isolated from macrozamia riedlei. N. V. Riggs. Chem Soc J p3199-200 D '49

MCWILLIAMS, John R.
Portrait. Fortune 44:128 S '51

MACY, R. H., and company
Macy ads sell Macy's. il Bsns W p96+ Mr 3 '51
Macy's; the advertised brand's number one outlet. E. B. Weiss. Ptr Ink 235:42 Je 29 '51
Preferred stock issued in exchange for interim notes. Comm & Fin Chr 172:2481 D 25 '50

MADAGASCAR

Commerce

Foreign trade, 1950. For Comm W 44:17 Jl 30 '51

MADISON, James, 1751-1836
Portrait. Fortune 43:73 F '51

MADISON, Wisconsin

Water supply

New standpipe. L. A. Smith. il Water & Sewage Works 98:371-5 S '51

MADRAS
See also
Electric industries—Madras

MAGADI lake
Magadi soda lake. il Chem Age (Lond) 65:230 Ag 18 '51

MAGAZINES. See Periodicals

MAGENTA E. See Bromophthalein magenta E

MAGIC squares
Benjamin Franklin's Magical square of 16. A. Chandler. Franklin Inst J 251:415-22 Ap '51

MAGNEL, Gustave Paul Robert, 1889-
Franklin institute honors Magnel. Concrete 58:24 N '50; Same cond. por Roads & Eng Constr 88:58+ N '50

MAGNESIA
Absolute spectral diffuse reflectance of magnesium oxide. W. E. K. Middleton and C. L. Sanders. bibliog diags Opt Soc Am J 41:419-24 Je '51
Better magnesia insulation by new process. S. A. Abrahams. flow sheet il Chem Eng 58:140-2 S '51
Calcination studies of magnesium oxides. W. R. Eubank. bibliog il diags Am Cer Soc J 34:225-9 Ag 1 '51
High temperature bodies in the system MgO-TiN-NiO; abstract. L. D. Hower. Metal Prog 59:566+ Ap '51
Phase equilibrium relationships in a portion of the system $MgO-Al_2O_3-2CaO-SiO_2$. A. T. Prince. bibliog Am Cer Soc J 34:44-51 F 1 '51
Pipe and boiler insulation techniques. il diags Dom Eng 177:132-3+ My '51
Sintering reactions in MgO-TiC mixtures. H. F. G. Ueltz. bibliog diag Am Cer Soc J 33:340-4 N 1 '50
System $K_2O-MgO-SiO_2$. E. W. Roedder. Am J Sci 249:81-130, 224-48 bibliog(p244-8) F-Mr '51
See also
Periclase

Analysis

Determination of metal oxide content in metallic stearates; magnesium and zinc soaps. P. N. Cheremisinoff. Paint Oil & Chem R 114:14+ F 15 '51

MAGNESITE
Heavy-media separation. flow sheet il diag Am Cer Soc Bul 30:63-6 Mr 15 '51
Magnesium-mineral resources of the Currant Creek district, Nevada. C. J. Vitaliano. bibliog il maps plan U S Geol S Bul 978-A:1-25, pl 1-8 [in pocket]; pa 70c Supt. of doc. '51

MAGNESITE brick
Burned magnesite brick, prices, 1939-1950; tabulation. Iron Age 167:321 Ja 4 '51
Chemically bonded magnesite brick, prices, 1939-1950; tabulation. Iron Age 167:321 Ja 4 '51

MAGNESIUM
Angular distribution of the $Al^{27}(d,\alpha)Mg^{25}$ reaction and energy levels in Mg^{25}. A. D. Schelberg and others. bibliog diags Phys R 80:574-9 N 15 '50
Crystallographic angles for magnesium, zinc and cadmium. E. I. Salkovitz. J Metals 191:Trans 64 Ja '51
Designing with modern materials; survey of latest developments in engineering materials. il Machine Design 23:312-13 O '51
Direct extrusion applied to light metal scrap. M. Stern. il diag Iron Age 167:71-3 Je 28 '51
Dissolution of magnesium in hydrochloric acid. B. Roald and W. Beck. bibliog il Electrochem Soc J 98:277-90 Jl '51

MAGNESIUM—*Continued*

Excitation functions for proton reactions with sodium and magnesium. J. W. Meadows and R. B. Holt. diags Phys R 83:47-9 Jl 1 '51

High energy γ-ray line in the spectrum of Mg^{24}. L. E. Beghian and others. Phys R 83:186-7 Jl 1 '51

How to stretch-form magnesium. il Aviation W 54:21-2 Mr 19 '51

Increasing endurance of magnesium castings by surface work. G. H. Found. il Metal Prog 60:51-4 Ag '51

Kinetic study of organic inhibitors of the reaction between magnesium and acids. R. Hurst and M. A. Jermyn. Chem Soc J p 158-62 Ja '50

Light metals and their alloys codified. R. B. Smith. bibliog Iron Age 167:65-70 Ja 25 '51

Low temperature resistance minimum in magnesium measured by a mutual inductance method. H. E. Rorschach and M. A. Herlin. Phys R 81:467 F 1 '51

Maggy climbs. il Chem Ind W 68:14+ F 24 '51

Magline dockboards; hand trucks; die tongs. il Automotive Ind 104:80 My 15 '51

Magnesium and magnesium alloys, 1929-1950. F. A. Fox. il Metallurgia 42:325-8, 333 N '50

Magnesium anodes for hot spot protection. M. E. Parker. Oil & Gas J 50:136 My 17: 144 My 24; 119 My 31 '51

Mg content of various nucleic acid compounds. G. Jungner. bibliog Science 113: 378-9 Ap 6 '51

Magnesium dockboard employs extruded, cast, and wrought parts. G. Beaudet. il Iron Age 167:107-9 F 1 '51

Magnesium impact extruded. T. L. Patton. il diag Iron Age 168:81-5 S 27 '51

Magnesium nomenclature changed. Materials & Methods 33:142 Ja '51

Magnesium supply. B. Ravits. Barron's 30:13 O 30 '50

Materials casebook; magnesium confined to military applications. Product Eng 22:140-1 O '51

Materials of military motorized equipment; abstract. B. S. Mesick. S A E J 59:100+ My '51

Neutron capture γ-rays from fluorine, sodium, magnesium, aluminum, and silicon. B. B. Kinsey and others. bibliog diag Phys R 83:519-34 Ag 1 '51

New rolling mill for magnesium; Brooks and Perkins, inc. Avaition W 55:30 S 10 '51

Oxidation of magnesium; high temperature tests in U.S.S.R. Chem Age (Lond) 65:294 S 1 '51

Oxide cathode base metal studies; influence of magnesium in cathode nickel on the thermionic performance. R. Forman and G. F. Rouse. bibliog il diags J Res Nat Bur Stand 46:30-7 Ja '51

Performance of magnesium anodes under actual service conditions. T. H. Gilbert. Gas Age 106:40-1+ N 23 '50

Photoprotons from magnesium. M. E. Toms and W. E. Stephens. diags Phys R 82:709-14 Je 1 '51

Reactions of bis-(halomethyl)-dimethylsilanes with metals. J. D. Roberts and S. Dev. Am Chem Soc J 73:1879-80 Ap '51

Saving weight with magnesium housings. R G. Gillespie. il Materials & Methods 33:78-80 Je '51

Some excitation functions for protons on magnesium. J. W. Meadows and R. B. Holt. Phys R 83:1257 S 15 '51

Total neutron cross sections of magnesium and silicon. R. E. Fields and M. Walt. Phys R 83:479 Jl 15 '51

Use of magnesium ribbon for cathodic protection. T. W. O'Brien. il diag Am Gas Assn Proc 1950:819-22

See also
Magnesite
Plants—Magnesium content

Analysis

Determination of magnesium in plant tissue with thiazole yellow. H. Y. Young and R. F. Gill. bibliog Anal Chem 23:751-4 My '51

Determination of microgram amounts of calcium and magnesium in vanadium metal. J. Rynasiewicz and others. bibliog Anal Chem 23:668-9 Ap '51

High frequency titrations of calcium and magnesium ions in aqueous solution. F. W. Jensen, G. M. Watson and L. G. Vela. bibliog diag Anal Chem 23:1327-9 S '51

Rapid 8-quinolinol procedures for determination of magnesium. A. E. Willson. Anal Chem 23:754-7 My '51

Residual metal in discharged magnesium batteries. B. J. Sturm. Anal Chem 23:1333 S '51

Spectrochemical determination of iron, magnesium, and manganese in titanium metal. M. J. Peterson. bibliog Anal Chem 22: 1398-400 N '50

Test pinpoints magnesium content. Steel 129: 94 Ag 13 '51

Volumetric determination of calcium and magnesium in leaf tissue. A. E. Willson. bibliog Anal Chem 22:1571-2 D '50

Fire hazards

Ignition temperatures of magnesium and magnesium alloys. W. M. Fassell, jr. and others. bibliog diags J Metals 3:Trans 522-8 Jl '51; Discussion. 3:Trans 1075-6 N '51

Sparking magnesium. A. S. Russell. il Metal Prog 59:228-31 F '51

Isotopes

Magnetic moments of Mg^{25}, Re^{185}, Re^{187}, and Be^{9}. F. Alder and F. C. Yu. bibliog Phys R 82:105 Ap 1 '51

Protection

Coating for magnesium. il Chem Eng 58:168-9 Ag '51

Finishing magnesium alloys. diags Steel 129: 90-2+ S 17 '51

Finishing of light alloys. J. L. Bleiweis. il Metal Finishing 49:49-55 F '51

HAE coating for magnesium. Light Metal Age 9:25 Ag '51

Magnesium alloy surface treatment; importance of chemical buffering. L. F. Le Brocq and H. G. Cole. il Metallurgia 43: 53-61 F '51

New coating for magnesium. Chem Eng 58: 164 Je '51; Materials & Methods 33:154+ Je '51; il Chem W 68:15 Je 16 '51

Welding

Inert-gas-shielded metal-arc welding of magnesium. P. Klain. bibliog il Welding J 30: 887-93 O '51

Welding electrodes and rods for ferrous and nonferrous metal; filler metals for aluminum and magnesium. H. R. Clauser. Materials & Methods 32:80 D '50

MAGNESIUM, Molten

Solubility of iron in liquid magnesium-aluminium alloys. W. A. Baker and M. D. Eborall. Metallurgia 44:145-6 S '51

MAGNESIUM alloys

Aging characteristics of magnesium-lithium base alloys. P. D. Frost and others. il J Metals 188:Trans 1277-82 O '50; Discussion. 3:Trans 560-1 Jl '51

Aging of sand-cast Mg-Al-Zn alloys. T. E. Leontis and C. E. Nelson. bibliog il J Metals 191:Trans 120-4 F '51

Aluminum-magnesium filler metals for welding high-strength aluminum alloys. D. C. Martin and R. D. Williams. Welding J 30: sup55-8 Ja '51

Creep of a nominally isotropic magnesium alloy at normal and elevated temperatures under complex stress systems. A. E. Johnson. bibliog diags Metallurgia 42:249-62 O '50

Deformation and corrosion; recent Russian work on the corrosion of metals. E. M. Zaretskii. bibliog diag Chem Age (Lond) 65:153-5, 158 Ag 4 '51

Designing with modern materials; survey of latest developments in engineering materials. il Machine Design 23:312-15 O '51

Dow metal nomenclature changed. W. L. Nelson. Oil & Gas J 50:91 Ag 2 '51

Effect of sodium contamination on magnesium-lithium base alloys. P. D. Frost and others. J Metals 188:Trans 1171-2 S '50; Discussion. 3:Trans 557-8 Jl '51

Effect of sonic and ultrasonic vibrations on the structure of magnesium-aluminum alloys with 4 to 12 per cent Al; abstract. C. Siebers and W. Bulian. Metal Prog 59:560 Ap '51

MAGNESIUM alloys—*Continued*

Effect of surface finish on the stress-corrosion properties of aluminium; seven per cent magnesium alloy. S. E. Hadden and E. C. W. Perryman. bibliog il Metallurgia 42:392-6 D '50

Effects of alkaline detergents on a magnesium die casting alloy. J. F. Hazel and W. Stericker. bibliog Electrochem Soc J 98: 273-6 Jl '51

Equilibrium relations in magnesium-aluminum-manganese alloys. B. J. Nelson. bibliog il diag J Metals 3:Trans 797-9 S '51

Fighter wing redesigned for magnesium. D. H. Black. il diag Iron Age 167:90-2 Mr 29 '51

Finishing magnesium alloys. diags Steel 129: 90-2+ S 17 '51

High stress fatigue of aluminum and magnesium alloys; charts; reference book sheet. Product Eng 22:159, 161, 163 F '51

Ignition temperatures of magnesium and magnesium alloys. W. M. Fassell, jr. and others. bibliog diags J Metals 3:Trans 522-8 Jl '51; Discussion. 3:Trans 1075-6 N '51

Improving Bendix airplane landing wheels by burnishing. W. H. DuBois. il diags Metal Prog 60:55-9 S '51

Influence of surface contamination on the corrosion of magnesium manganese sheet. L. Rakowski. il Metallurgia 42:362-6 D '50

Lattice parameters of magnesium alloys. R. S. Busk. bibliog J Metals 188:Trans 1460-4 D '50

Light metals and their alloys codified. R. B. Smith. bibliog Iron Age 167:65-70 Ja 25 '51

Magnesium alloy dust collector. il Engineer 192:194 Ag 10 '51; Metallurgia 44:152 S '51

Magnesium alloy surface treatment; importance of chemical buffering. L. F. Le Brocq and H. G. Cole. il Metallurgia 43:53-61 F '51

Magnesium alloys. F. A. Fox. il Engineer 191:148-50, 180-2 F 2-9 '51

Magnesium alloys can be machined efficiently. E. A. Parent. il diag Steel 129:91-2 S 3 '51

Magnesium alloys containing zirconium. G. W. Orton. bibliog Foundry 78:95+ D '50

Magnesium and magnesium alloys, 1929-1950. F. A. Fox. il Metallurgia 42:325-8, 333 N '50

Magnesium-lithium alloys. Engineer 190:496 N 24 '50

Magnesium rare earth alloys. L. W. Eastwood. il Product Eng 22:158-61 S '51

Magnesium sheet hot formed at less cost at Douglas Aircraft. G. C. Close. il Steel 127: 56-8 N 27 '50

Stress corrosion of wrought magnesium base alloys. H. L. Logan and H. Hessing. il J Res Nat Bur Stand 44:233-43 Mr '50; Abstracts. Light Metal Age 8:12-13 O '50; Metal Prog 59:408 Mr '51; Automotive Ind 103:82+ O 15 '50; Product Eng 21:144 N '50; Iron Age 166:82 N 16 '50

Transformation characteristics of a lithium-magnesium alloy. C. S. Barrett and D. F. Clifton. J Metals 188:Trans 1329-32 N '50

Testing

X-ray inspection of light alloys. J. G. Schneeman. il Light Metal Age 9:11-14, 16 Ag '51

MAGNESIUM aluminate

See also

Spinels

MAGNESIUM association

Annual meeting, 6th, New York, Nov. 9-10. Foundry 79:131 Ja '51; Light Metal Age 8: 10 D '50

MAGNESIUM bromide

Reaction of benzyl chloride with *n*-heptylmagnesium bromide. R. W. Schiessler, R. M. Speck and J. A. Dixon. Am Chem Soc J 73:3524-6 Jl '51

MAGNESIUM carbonate

Pill inflates toys and mystifies customers; Clarvan corp.'s valveless plastic toys. il Bsns W p 138-40 S 15 '51

MAGNESIUM chloride

Asymmetric reductions; the action of (+)-2-methylbutylmagnesium chloride on methyl *t*-butyl ketone. H. S. Mosher and E. La Combe. bibliog Am Chem Soc J 72:3994-9 S '50

Rearrangements involving 2-thenylmagnesium chloride. R. Gaertner. bibliog Am Chem Soc J 72:4326-7 S '50

Rearrangements involving 2-thenylmagnesium chloride. R. Gaertner. bibliog Am Chem Soc J 73:3934-7 Ag '51

MAGNESIUM compounds

Chemical reaction equilibria in calcium and magnesium-base sulphite recovery systems. R. P. Whitney and others. bibliog Tappi 34:396-400 S '51

Monomagnesium derivatives of dibromotoluenes. A. S. Hussey and J. R. Dyer. Am Chem Soc J 73:603-4 F '51

Rearrangements of halomagnesium derivatives of halohydrins. T. A. Geissman and R. I. Akawie. bibliog Am Chem Soc J 73:1993-8 My '51

MAGNESIUM fluorophosphate

Luminescent barium and magnesium halophosphates. J. T. Anderson and R. S. Wells. Electrochem Soc J 98:414-16 O '51

MAGNESIUM founding

Aluminum and magnesium sessions, A.F.S. annual meeting. Foundry 79:158+ Je '51

Diecast magnesium replaces wood chair parts. A. J. Herek. il Iron Age 166:96-7 N 2 '50

Magnesium alloys containing zirconium. G. W. Orton. bibliog Foundry 78:95+ D '50

Magnesium bomber wheels cast to close tolerances. il Steel 128:85 Ja 22 '51

Magnesium castings, orders, 1947-1950; tabulation. Iron Age 167:341 Ja 4 '51

Melting practices for magnesium alloys. K. S. Sealander. il Foundry 79:94-5+ My '51

Northrup scientists explore feasibility of cast aircraft wings. Light Metal Age 8:7 O '50

MAGNESIUM germanate

Fluorescence of magnesium germanate activated by manganese. F. A. Kroeger and J. van den Boomgaard. bibliog Electrochem Soc J 97:377-82 N '50

MAGNESIUM industry and trade

Magnesium capacity to jump 400 per cent. Steel 127:71 N 20 '50

Magnesium industry, war growth as usual. T. Metaxas. Iron Age 167:123-4 Je 7 '51

Magnesium, 1950. R. J. Lund. Eng & Min J 152:94 F '51

Magnesium wrought products, magnesium and magnesium-base alloy castings; 1946-1950; tabulations. Steel 128:132 Ja 1 '51

Production, consumption, prices, use and recovery; tabulations. Iron Age 167:306-7 Ja 4 '51

MAGNESIUM metallurgy

Magnesium production; the sea water magnesia process. il Elec R (Lond) 148:967-73 My 11 '51

Non-ferrous metal industry in Germany during the period 1939-1945 (light metal portion); abstract. Metal Prog 59:426+ Mr '51

Refining of magnesium by vaporization at extremely low pressure. R. R. Rogers and G. E. Viens. bibliog diag Electrochem Soc J 97:419-24 D '50; Discussion. 98:257-8 Je '51

MAGNESIUM molybdate

Quaternary system $MgMoO_4$-Na_2SO_4-H_2O at 25° and its related ternary systems. J. E. Ricci and W. F. Linke. Am Chem Soc J 73:3607-12 Ag '51

System magnesium molybdate-water and the 25° isotherm of the system $MgMoO_4$-$MgCl_2$-H_2O. J. E. Ricci and W. F. Linke. Am Chem Soc J 73:3603-7 Ag '51

MAGNESIUM ores

See also

Magnesite

MAGNESIUM oxide. See Magnesia

MAGNESIUM perchlorates

Activity coefficients of the alkaline earth and magnesium perchlorates from freezing point data. D. E. Nicholson and W. A. Felsing. Am Chem Soc J 73:3520-1 Jl '51

Determination of the activity coefficients of the alkaline earth and magnesium perchlorates from freezing point data. D. E. Nicholson and W. A. Felsing. Am Chem Soc J 72:4469-71 O '50

MAGNESIUM silicates

High-temperature X-ray diffraction study of the polymorphism of $MgSiO_3$. W. R. Foster. bibliog Am Cer Soc J 34:255-9 S 1 '51

MAGNESIUM silicates—*Continued*
Standard X-ray diffraction patterns. H. E. Swanson and E. Tatge. bibliog J Res Nat Bur Stand 46:318-27 Ap '51

MAGNESIUM sulfate
Effect of agitation on rate of growth of single crystals. A. W. Hixson and K. L. Knox. bibliog diag Ind & Eng Chem 43:2144-51 S '51
Effect of magnesium sulfate on acid inactivation of renal and intestinal alkaline phosphatase. V. M. Emmel. bibliog Science 113:267-8 Mr 9 '51
Systems Ag_2SO_4-$BeSO_4$-H_2O and Ag_2SO_4-$MgSO_4$-H_2O at 35°. C. A. Orlick and E. L. Simons. Am Chem Soc J 73:4325 S '51
Ultrasonic absorption measurements in aqueous solutions of magnesium sulfate. M. C. Smith and others. bibliog diags Acoustical Soc Am J 23:71-4 Ja '51

MAGNESIUM sulfite
Fermentation to ethanol of concentrated calcium, magnesium, and ammonium sulphite waste liquors. H. D. Agar and J. L. McCarthy. bibiog diag Tappi 34:126-31 Mr '51

MAGNESIUM tungstate
Standard X-ray diffraction patterns. H. E. Swanson and E. Tatge. bibliog J Res Nat Bur Stand 46:318-27 Ap '51

MAGNETIC amplifiers. See Amplifiers

MAGNETIC anisotropy. See Magnetic properties

MAGNETIC base stations. See Prospecting—Geophysical methods

MAGNETIC chucks. See Chucks, Magnetic

MAGNETIC control
Magnetic-drive control. F. A. Annett. diags Power 94:123-4+ N; 123-4+ D '50
Magnetically controlled quartz fiber microbalance. F. C. Edwards and R. R. Baldwin. bibliog diags Anal Chem 23:357-61 F '51
Static magnetic regulators in the power generation field. W. A. Hunter. il diags Power Eng 54:66-71 D '50

MAGNETIC field
Axially symmetric systems for generating and measuring magnetic fields. M. W. Garrett. bibliog diags J Ap Phys 22:1091-107 S '51
Changes in *g*-values, in a spectrum, for different magnetic fields. M. A. Catalán and R. Velasco. diag Opt Soc Am J 40:653-5 O '50
Corbino effect and the change of resistance in a magnetic field. K. M. Koch. diags Phys R 82:460 My 1 '51
Cosmic radiation and cosmic magnetic fields; origin and propagation of cosmic rays in our galaxy. A. Unsöld. bibliog Phys R 82:857-63 Je 15 '51
Cosmic radiation and cosmic magnetic fields; origin of cosmic magnetic fields. L. Biermann and A. Schlüter. bibliog Phys R 82:863-8 Je 15 '51
Dependence of magnetic shielding of nuclei upon molecular orientation. N. F. Ramsey. Phys R 83:540-1 Ag 1 '51
Deuteron quadrupole moment and the radiofrequency spectra of H_2 and D_2 in low magnetic fields. H. G. Kolsky and others. bibliog Phys R 81:1061 Mr 15 '51
Device for determining the direction of flux lines in the time varying magnetic field of a particle accelerator. R. E. Richardson and D. C. Sewell. diag R Sci Instr 22:697 S '51
Double focusing with wedge-shaped magnetic fields. M. Camac. bibliog diags R Sci Instr 22:197-204 Mr '51
Effect of magnetic field on the breakdown of gases at microwave frequencies. B. Lax and others. bibliog diag J Ap Phys 21:1297-304 D '50
Electrolysis of aluminum solutions in a magnetic field. C. E. Wood and C. W. Tittle. J Chem Phys 18:1683 D '50
Field measurements on model betatron and synchrotron magnets. E. A. Finlay and others. bibliog diags J Sci Instr 27:264-70 O '50
Improvements in visual depiction of magnetic lines of force by means of a gas discharge. F. Blaha and J. A. Schedling. il diags J Ap Phys 22:11-13 Ja '51
Influence of a transverse magnetic field on the conductivity of thin metallic films. E. H. Sondheimer. bibliog Phys R 80:401-6 N 1 '50
Iron-silicon alloys heat treated in a magnetic field. M. Goertz. J Ap Phys 22:964-5 Jl '51
Magnetic field measurements with peaking strips. J. M. Kelly. diags R Sci Instr 22:256-8 Ap '51
Magnetic field of a plane circular loop. C. L. Bartberger. J Ap Phys 21:1108-14 N '50
Magnetic fields associated with igneous pipes in the central Ozarks. C. R. Holmes. maps Min Eng 187:Trans 1143-6 N '50
Magnetic shielding of the proton resonance in H_2, H_2O, and mineral oil. H. S. Gutowsky and R. E. McClure. bibliog il diag Phys R 81:276-7 Ja 15 '51
Mathematical data for electron drain on positive ion sources. S. E. Rauch. bibliog diags J Ap Phys 22:1128-32 S '51
Measurement of Faraday effect and Cotton-Mouton effect using transient magnetic fields and a photo-multiplier-type compensator. M. J. Walker and R. C. Raymond. il diags Opt Soc Am J 40:766-8 N '50
Microwave magnetic resonance spectrum of oxygen. R. Beringer and J. G. Castle, jr. bibliog Phys R 81:82-8 Ja 1 '51
Nuclear audiofrequency spectroscopy by resonant heating of the nuclear spin system. N. F. Ramsey and R. V. Pound. Phys R 81:278-9 Ja 15 '51
Nuclear spin system at negative temperature. E. M. Purcell and R. V. Pound. il Phys R 81:279-80 Ja 15 '51
Plasma oscillations in a static magnetic field. E. P. Gross. bibliog Phys R 82:232-42 Ap 15 '51
Pulsed air core series disk generator for production of high magnetic fields. R. I. Strough and E. F. Shrader. il diags R Sci Instr 22:578-82 Ag '51
Radiofrequency spectrum of D_2 in a magnetic field. H. G. Kolsky and others. Phys R 80:483 N 1 '50
Representation of the electric and magnetic fields produced by currents and discontinuities in wave guides. N. Marcuvitz and J. Schwinger. diags J Ap Phys 22:806-19 Je '51
Simple means of measuring large magnetic fields; electrical resistance of bismuth. G. K. T. Conn and B. Donovan. bibliog J Sci Instr 28:7-9 Ja '51
Spin echoes. E. L. Hahn. bibliog il diags Phys R 80:580-94 N 15 '50
Stability of magneto-hydrostatic fields. S. Lundquist. diags Phys R 83:307-11 Jl 15 '51
Strength of interstellar magnetic fields. L. Davis, jr. bibliog Phys R 81:890-1 Mr 1 '51
Time average magnetic field at the nucleus in nuclear magnetic resonance experiments. W. C. Dickinson. bibliog il diag Phys R 81:717-31 Mr 1 '51
See also
Betatron
Cyclotron
Electric field
Magnets
Sound—Recording and reproducing—Magnetic recording

MAGNETIC fluids
Developing seals for abrasive-fluid mixtures. J. Rabinow. il diags Machine Design 23:128-31 Je '51
Improved magnetic fluid clutch. il diags Product Eng 22:114-16 Ap '51
Magnetic fluid and electromagnetic clutches. diags Product Eng 22:172 My '51
Magnetic fluid clutch. il diags Mech Eng 73:328-30 Ap '51
Magnetic fluid clutch. S. F. Blunden. il diag Engineer 191:244-6 F 23 '51
Magnetic fluid dynamometer; abstract. D. B. Brede. Steel 129:96 S 3 '51

MAGNETIC induction
Electromagnetic induction. G. I. Cohn. Elec Eng 68:1018-19 N '49; Discussion. diags 68:1113-14; 69:1138-40 D '49, D '50

MAGNETIC instruments
Apparatus for production control of the permeability of magnetic circuits; abstract. M. Andrieux. Elec R (Lond) 148:1218 Je 8 '51
Automatic magnetic balance for the study of ferromagnetic materials. R. F. S. Robertson and P. W. Selwood. bibliog diags R Sci Instr 22:146-52 Mr '51

MAGNETIC instruments—*Continued*

Double focusing with wedge-shaped magnetic fields. M. Camac. bibliog diags R Sci Instr 22:197-204 Mr '51

Electromagnetic induction method of measuring oscillating fluid flow. A. J. Morris and J. H. Chadwick. Elec Eng 70:529 Je '51

Magnetic float method for determining the densities of solutions. D. A. MacInnes and others. il diag R Sci Instr 22:642-6 Ag '51

Magnetic tape recorder for very low frequency phenomena. P. E. Green, jr. diags R Sci Instr 21:893-5 N '50

See also

Fluxmeters
Magnetic measurements
Magnetometers
Permeameters

MAGNETIC materials

Ferrite materials permit improved designs of magnetic devices. E. Both. il Materials & Methods 34:76-9 Jl '51

Ferromagnetic ceramics. H. A. Goldsmith. il Product Eng 22:97-102 Ap '51

Ferromagnetic materials and ferrites. M. J. O. Strutt. bibliog il diags Wireless Eng 27:277-84 D '50

Ferromagnetic spinels for radio frequencies. R. L. Harvey and others. bibliog il diags RCA R 11:321-63 S '50

H.f. magnetization of ferromagnetic laminae. O. I. Butler and H. R. Chablani. bibliog diag Wireless Eng 28:92-7 Mr '51

High-permeability magnetic alloys. G. A. V. Sowter. Inst E E Proc 98 pt 2:5-8 F '51; Abstract. Elec R (Lond) 147:586 O 20 '50

High saturation magnetic alloy with rectangular hysteresis loop. J. F. Libsch and E. Both. Elec Eng 70:420-1 My '51

Internal friction of ferromagnetic materials. A. Ferro and G. Montalenti. bibliog J Ap Phys 22:565-8 My '51

Magnetic delay-line storage. A. Wang. il diags Inst Radio Eng Proc 39:401-7 Ap '51

Measurement of interlaminar resistance of varnish-insulated silicon-steel sheet for large electrical machines. E. D. Taylor. diags Inst E E Proc 98 pt 2:377-85; Discussion. 385-8 Je '51

Microwave resonance absorption of $NiOFe_2O_3$. T. Okamura and others. bibliog Phys R 80:910-11 D 1 '50

Mixed ferrites for recording heads. R. Herr. il diag Electronics 24:124-5 Ap '51

Precision rolling thin-gage magnetic alloys; Sendzimir cold strip mill. il Steel 128:114 Je 25 '51

Relaxation methods applied to the problem of a.c. magnetization of ferromagnetic laminae. O. I. Butler and M. R. Sarma. bibliog Inst E E Proc 98 pt 2:389-97; Discussion. 397-8 Je '51

Structure and properties of ferrites. F. G. Brockman. bibliog Elec Eng 70:489-94 Je '51

Study of nuclear and electronic magnetic resonance. K. K. Darrow. Elec Eng 70:401-4 My '51

See also

Alnico
Iron
Iron alloys
Magnets
Manganese alloys
Steel alloys

Testing

Some properties and tests of magnetic powders and powder cores. C. E. Richards and others. bibliog diags Inst E E Proc 97 pt 2:236-45 Ap '50; Same. Elec Com 28:55-69 Mr '51; Discussion. Inst E E Proc 97 pt 2:267-74 Ap '50

MAGNETIC measurements

Bar-magnet velocity meter. T. A. Perls and E. Buchmann. bibliog il diags R Sci Instr 22:475-81 Jl '51

Electric and magnetic forces between sphere and wire. W. R. Smythe. diag J Ap Phys 22:521-2 Ap '51

Magnet current stabilizer. H. S. Sommers and others. diags R Sci Instr 22:612-18 Ag '51

Magnetic anisotropy of α—$NiSO_4\cdot 6H_2O$ between 13 and 295°K; a torsion balance for magnetic anisotropy measurements. J. W. Stout and M. Griffel. bibliog diag J Chem Phys 18:1449-54 N '50

Magnetic field measurements with peaking strips. J. M. Kelly. diags R Sci Instr 22:256-8 Ap '51

Magnetic field of a plane circular loop. C. L. Bartberger. J Ap Phys 21:1108-14 N '50

Method for measuring paramagnetic absorption on small samples. R. P. Lacroix and others. Phys R 80:763 N 15 '50

New method for precision measurement of the Hall and magneto-resistive coefficients. J. J. Donoghue and W. P. Eatherly. diags R Sci Instr 22:513-16 Jl '51

Nuclear gyromagnetic ratios. R. E. Sheriff and D. Williams. bibliog diag Phys R 82:651-5 Je 1 '51

Precise mechanical measurement of the gyromagnetic ratio of iron. G. G. Scott. bibliog diags Phys R 82:542-7 My 15 '51

Reaction energies of light nuclei from magnetic analysis. E. N. Strait and others. bibliog Phys R 81:747-60 Mr 1 '51

Simple means of measuring large magnetic fields; electrical resistance of bismuth. G. K. T. Conn and B. Donovan. bibliog J Sci Instr 28:7-9 Ja '51

Underground magnetic logging device. il Pet Eng 23:B87+ Je '51

Use of an electrostatic wattmeter for magnetic loss measurements; discussion. Electrician 146:977-8 Mr 23 '51

See also

Fluxmeters
Magnetic testing
Magnetometers
Permeameters

MAGNETIC moment

Calculation of nuclear magnetic moments. M. Mizushima and M. Umezawa. bibliog Phys R 83:463 Jl 15 '51

Chemical effects on nuclear induction signals from organic comopunds. J. T. Arnold and others. il J Chem Phys 19:507 Ap '51

Contribution of the Pauli moment to π-meson production by photons. M. F. Kaplon. bibliog Phys R 83:712-15 Ag 15 '51

Determination of the ratio of the $gJ(^2S_{1/2})$ values for potassium and hydrogen; the gyromagnetic ratio of the electron. W. B. Pohlman and others. bibliog Phys R 83:475 Jl 15 '51

Deviations of nuclear magnetic moments from the Schmidt limits. L. L. Foldy and F. J. Milford. bibliog Phys R 80:751-3 N 15 '50

Direct determination of the magnetic moment of the proton in nuclear magnetons. F. Bloch and C. D. Jeffries. il diag Phys R 80:305-6 O 15 '50

Direct determination of the magnetic moment of the protons in units of the nuclear magneton. C. D. Jeffries. bibliog il diags Phys R 81:1040-55 Mr 15 '51

Exchange magnetic moments. G. J. Kynch. Phys R 81:1060-1 Mr 15 '51

Interaction of the Dirac magnetic monopole with matter. W. V. R. Malkus. diag Phys R 83:899-905 S 1 '51

Isotope shift in the spectrum of Os I and the magnetic moment of Os^{189}. S. Suwa. Phys R 83:1258-9 S 15 '51

Magnet current stabilizer. H. S. Sommers and others. diags R Sci Instr 22:612-18 Ag '51

Magnetic moment of S^{33}. S. S. Dharmatti and H. E. Weaver, jr. bibliog Phys R 83:845 Ag 15 '51

Magnetic moment of the deuteron. B. Smaller and others. bibliog Phys R 81:896-7 Mr 1 '51

Magnetic moments and eddy currents in spheres of superconducting tin. J. J. Fritz and others. bibliog diag Phys R 80:894-9 D 1 '50

Magnetic moments of even-odd nuclei. F. Bloch. bibliog Phys R 83:839-40 Ag 15 '51

Magnetic moments of Mg^{25}, Re^{185}, Re^{187}, and Be^9. F. Alder and F. C. Yu. bibliog Phys R 82:105 Ap 1 '51

Magnetic moments of odd-odd nuclei. I. Talmi. Phys R 83:1248 S 15 '51

Magnetic moments of the proton and neutron. R. K. Wangsness. Phys R 80:769 N 15 '50

Measurement of the F^{19} magnetic moment. T. Kanda and others. diag Phys R 83:1066 S 1 '51

Measurement of the magnetic moment of the proton in Bohr magnetons. J. H. Gardner. bibliog il diags Phys R 83:996-1004 S 1 '51

Nuclear gyromagnetic ratios. R. E. Sheriff and D. Williams. bibliog diag Phys R 82:651-5 Je 1 '51

Nuclear magnetic moment of I^{129}. H. Walchli and others. bibliog Phys R 82:97 Ap 1 '51

MAGNETIC moment—*Continued*

Nuclear magnetic moment of Na^{23}. R. A. Logan and P. Kusch. Phys R 81:280 Ja 15 '51

Nuclear magnetic moment of praseodymium. D. Williams. Phys R 83:858-9 Ag 15 '51

Nuclear magnetic moment of Rb^{85}, Rb^{87}, and I^{127}. E. Yasaitis and B. Smaller. Phys R 82:750 Je 1 '51

Nuclear magnetic moment of S^{33}. J. R. Eshbach and others. bibliog Phys R 80:1106-7 D 15 '50

Nuclear magnetic moments and atomic hyperfine structure. A. Bohr. bibliog Phys R 81:331-5 F 1 '51

Nuclear magnetic moments and similarity between neutron and proton states in the nucleus. A. L. Schawlow and C. H. Townes. Phys R 82:268-9 Ap 15 '51

Nuclear magnetic moments of several stable isotopes. W. G. Proctor and F. C. Yu. bibliog Phys R 81:20-30 Ja 1 '51

Nuclear magnetic resonance measurements on Be^9, Al^{27}, and Si^{29} in beryl. J. Hatton and others. bibliog Phys R 83:672-3 Ag 1 '51

Nuclear moment discrepancies in gallium and indium. H. M. Foley. bibliog Phys R 80:288-9 O 15 '50

Nuclear spin relaxation studies in dilute sodium-liquid ammonia solutions. R. Newman and R. A. Ogg, jr. bibliog J Chem Phys 19:214-17 F '51

Precise determination of the magnetic moment of the deuteron. B. Smaller. bibliog diags Phys R 83:812-20 Ag 15 '51

Precise mechanical measurement of the gyromagnetic ratio of iron. G. G. Scott. bibliog diags Phys R 82:542-7 My 15 '51

Quantization of angular momenta in heavy nuclei. A. Bohr. bibliog Phys R 81:134-8 Ja 1 '51

Ratio of the nuclear magnetic and electric quadrupole interactions for atomic Cl^{35} and Cl^{37}. V. Jaccarino and J. G. King. Phys R 83:471-2 Jl 15 '51

Ratio of the quadrupole moments of Cl^{35} and Cl^{37}. S. Geschwind and others. Phys R 81:288-9 Ja 15 '51

Rotational magnetic moments in polyatomic molecules. C. K. Jen. bibliog Phys R 81:197-203 Ja 15 '51

Space exchange magnetic moments of light nuclei. L. Spruch. bibliog Phys R 80:372-5 N 1 '50

Spectroscopic value of the magnetic moment of ${}_{83}Bi^{209}$. F. M. Kelly and others. bibliog Phys R 80:295-6 O 15 '50

Spin and magnetic moment of O^{17}. F. Adler and F. C. Yu. Phys R 81:1067-8 Mr 15 '51

Tritium hfs and the anomalous magnetic moment of the triton. E. N. Adams, 2d. bibliog Phys R 81:1-7 Ja 1 '51

MAGNETIC permeability

Electric and magnetic constants of metallic delay media containing obstacles of arbitrary shape and thickness. S. B. Cohn. bibliog diags J Ap Phys 22:628-34 My '51

See also

Permeameters

MAGNETIC properties

Crystal structure transitions in antiferromagnetic compounds at the Curie temperature. J. S. Smart and S. Greenwald. bibliog diags Phys R 82:113-14 Ap 1 '51

Crystalline magnetic anisotropy in zinc manganese ferrite. J. K. Galt and others. bibliog Phys R 81:470 F 1 '51

Diamagnetic anisotropy of polyethylene, polystyrene and poly-2,5-dichlorostyrene. E. M. Weir and P. W. Selwood. Am Chem Soc J 73:3484-7 Jl '51

Domain wall relaxation in nickel. W. P. Mason. Phys R 83:683-4 Ag 1 '51

Effect of magnetic transformation at the Curie temperatures on oxidation rates of chromium-iron alloys. H. H. Uhlig and A. D. Brasunas. bibliog Electrochem Soc J 97:448-52 D '50; Discussion. 98:259-61 Je '51

Effects of anisotropy in a three-dimensional array of conducting disks. G. Estrin. diags Inst Radio Eng Proc 39:821-6 Jl '51

Ferromagnetic resonance absorption in $MnOFe_2O_3$ at low temperature. T. Okamura and Y. Torizuka. Phys R 83:847-8 Ag 15 '51

Ferromagnetic resonance in nickel ferrite. W. A. Yager and others. bibliog diags Phys R 80:744-8 N 15 '50

Ferromagnetic resonance in various ferrites. W. A. Yager and others. bibliog Phys R 81:477-8 F 1 '51

Ferromagnetism at very high frequencies; two mechanisms of dispersion in a ferrite. G. T. Rado and others. bibliog Phys R 80:273-80 O 15 '50

Ground state in antiferromagnetics. J. M. Luttinger. bibliog Phys R 81:1015-18 Mr 15 '51

Hall effect in ferromagnetics. N. Rostoker and E. M. Pugh. Phys R 82:125-6 Ap '51

Hartree computation of the internal diamagnetic field for atoms. W. C. Dickinson. Phys R 80:563-6 N 15 '50

Inertia and damping constant of ferro-magnetic domain boundaries. C. Kittel. bibliog Phys R 80:918 D 1 '50

Interaction between the *d* shells in the transition metals. C. Zener. diags Phys R 81:440-4 F 1 '51

Interaction betwen the *d*-shells in the transition metals; calculation of the Weiss factors in Fe, Co, and Ni. C. Zener. Phys R 83:299-301 Jl 15 '51

Interaction between the *d*-shells in the transition metals; ferromagnetic compounds of manganese with perovskite structure. C. Zener. diag Phys R 82:403-5 My 1 '51

Inter-ionic distances and line widths in paramagnetic resonance absorption. H. Kumagai and others. Phys R 83:1077 S 1 '51

Intermediate spin-orbit coupling for large rotational quantum number. W. A. Nierenberg. bibliog diags Phys R 82:932-5 Je 15 '51

Kramers' theorem and nuclear effects in paramagnetic absorption. C. Kikuchi. Phys R 81:155-6 Ja 1 '51

Limits on the energy of the antiferromagnetic ground state. P. W. Anderson. Phys R 83:1260 S 15 '51

Magnetic analysis of iron-carbon alloys; the tempering of martensite and retained austenite. J. Crangle and W. Sucksmith. bibliog Iron & Steel Inst J 168:141-51 Je '51

Magnetic anisotropy of manganous fluoride between 12 and 295°K. M. Griffel and J. W. Stout. bibliog J Chem Phys 18:1455-8 N '50

Magnetic anisotropy of α—$NiSO_4{\cdot}6H_2O$ between 13 and 295°K; a torsion balance for magnetic anisotropy measurements. J. W. Stout and M. Griffel. bibliog diag J Chem Phys 18:1449-54 N '50

Magnetic neutron diffraction from exchange-coupled lattices at high temperatures. M. Slotnick. bibliog Phys R 83:1226-30 S 15 '51

Magnetic resonance absorption in antiferromagnetic materials. T. Okamura and others. bibliog Phys R 82:285-6 Ap 15 '51

Magnetic structure of magnetite and its use in studying the neutron magnetic interaction. C. G. Shull and others. bibliog Phys R 81:483-4 F 1 '51

Magnetochemistry of the heaviest elements; the halides of ter- and quadri-valent uranium. J. K. Dawson. Chem Soc J p429-31 F '51

Magneto-resistance effect in oriented single crystals of germanium. G. L. Pearson and H. Suhl. bibliog il diag Phys R 83:768-76 Ag 15 '51

Magnetoresistance of bismuth at 3000 megacycles. C. W. Heaps. bibliog Phys R 80:892-3 D 1 '50

Microwave resonance absorption in manganese sulfates. H. Kumagai and others. Phys R 82:954-5 Je 15 '51

Microwave resonance absorption in paramagnetic salts. Yu Ting and D. Williams. bibliog diag Phys R 82:507-10 My 15 '51

Neutron diffraction by paramagnetic and antiferromagnetic substances. C. G. Shull and others. bibliog Phys R 83:333-45 Jl 15 '51

Neutron refraction in ferromagnets. M. Lax. Phys R 80:299 O 15 '50

New magnetic transition of Mn ferrite. T. Okamura and J. Simoizaka. Phys R 83:664-5 Ag 1 '51

Nuclear magnetic resonance absorption in $NaSbF_6$. E. R. Andrew. bibliog Phys R 82:443-4 My 1 '51

MAGNETIC properties—*Continued*

Nuclear magnetic resonance fine structure in liquids. H. S. Gutowsky and D. W. McCall. Phys R 82:748-9 Je 1 '51

Nuclear magnetic resonance in metals; temperature effects for Na^{23}. H. S. Gutowsky. bibliog Phys R 83:1073-4 S 1 '51

Nuclear magnetic resonance in methane. J. T. Thomas and others. bibliog J Chem Phys 18:1511 N '50

Nuclear magnetic resonance study of transitions in polymers. L. V. Holroyd and others. bibliog il diag J Ap Phys 22:696-705 Je '51

Nuclear relaxation in gases by surface catalysis. F. Bloch. Phys R 83:1062-3 S 1 '51

Nuclear relaxation times in metallic Na^{23}. R. E. Norberg and C. P. Slichter. bibliog Phys R 83:1074-5 S 1 '51

Ordering effect of antiferromagnetism. Y. Li. bibliog diag Phys R 80:457-60 N 1 '50

Paramagnetic resonance absorption crystals containing color centers. M. Tinkham and A. F. Kip. Phys R 83:657-8 Ag 1 '51

Paramagnetic resonance absorption in potassium dissolved in liquid ammonia. C. A. Hutchison, jr. and R. C. Pastor. bibliog Phys R 81:282 Ja 15 '51

Paramagnetic resonance absorption in three chlorides of copper. J. Itoh and others. Phys R 83:852-3 Ag 15 '51

Paramagnetic resonance at very low fields. M. A. Garstens. Phys R 81:645 F 15 '51

Paramagnetic resonance in alkali metal solutions at low fields. E. C. Levinthal and others. Phys R 83:182-3 Jl 1 '51

Paramagnetic resonance in metal ammonia solutions at very low fields. M. A. Garstens and A. H. Ryan. Phys R 81:888 Mr 1 '51

Reflection of neutrons from magnetized mirrors. D. J. Hughes and M. T. Burgy. bibliog diags Phys R 81:498-506 F 15 '51

Some properties and tests of magnetic powders and powder cores. C. E. Richards and others. bibliog diags Inst E E Proc 97 pt 2: 236-45 Ap '50; Same. Elec Com 28:55-69 Mr '51; Discussion. Inst E E Proc 97 pt 2: 267-74 Ap '50

Spin relaxation time of chromium alum. E. Ishiguro and others. bibliog Phys R 82: 680-3 Je 1 '51

Spin-spin interaction within paramagnetic ions. M. H. L. Pryce. Phys R 80:1107-8 D 15 '50

Studies of the propagation velocity of a ferromagnetic domain boundary. H. J. Williams and others. bibliog diags Phys R 80:1090-4 D 15 '50

Susceptibility and magnetic anisotropy of indium single crystals. J. Verhaeghe and others. bibliog Phys R 80:758 N 15 '50

Theory of antiferromagnetic resonance. C. Kittel. Phys R 82:565 My 15 '51

Theory of magnetic anisotropy in Alnico V. J. E. Goldman and R. Smoluchowski. bibliog Phys R 80:302-3 O 15 '50

Theory of magnetic properties of anisotropic permanent magnet alloys. K. Hoselitz and M. McCaig. Phys R 80:757-8 N 15 '50

Thin ferromagnetic films. M. J. Klein and R. S. Smith. bibliog Phys R 81:378-80 F 1 '51

See also

Diamagnetism

Magnetic testing

MAGNETIC recording. See Sound—Recording and reproducing—Magnetic recording

MAGNETIC separators

Here's how a special promotion is doing double duty; brochure sells government agency on present need for critical material; follow-up to trade. Ptr Ink 236:36 Jl 6 '51

Magnetic separators protect equipment by removing tramp iron. G. Richardson. il diags Paper Ind 33:49 Ap '51

Magnetic sheet separator improves production. il Iron Age 167:103-4 Ap 26 '51

Protection from sparking; magnetic separators remove tramp iron from production equipment. R. Hoff. il Safety Maint & Prod 102:27+ Ag '51

With magnetic separators, no tramp iron in your process; illustrations with text. Factory Management 109:130-1 S '51

MAGNETIC storms

Aurora and magnetic storms; their effect on radio communication. R. K. Moore. il map Q S T 35:14-19+ Je '51

MAGNETIC surveying

Aerial exploration; airborne magnetometer extends mineral reserves. H. Jensen. il diag Min Cong J 37:106-7 F '51

Airomagnetic survey helps find new Pennsylvania iron orebody. H. Jensen. il Eng & Min J 152:56-9 Ag '51

Alberta flying magnetometer survey completed. T. M. O'Malley. il World Oil 132: 235-7 My '51

Evaluation of magnetics in the Delaware basin. H. W. Hoylman. il maps diags World Oil 133:91-4+ Ag '51

Flying magnetometer survey near Gulf of Venezuela. il Pet Eng 23:B70+ My '51

Magnetic exploration for chromite. H. E. Hawkes. maps U S Geol S Bul 973-A:1-21 bibliog(p 18-19): pa 15c Supt. of doc. '51

Two-level aeromagnetic profile across western Texas. H. W. Hoylman. World Oil 132: 62-4 F '51

MAGNETIC susceptibility

Initial susceptibility of nickel under tension. H. J. Peppiatt and B. N. Brockhouse. bibliog J Ap Phys 22:985-6 Jl '51

Magnetic study of some hydrates of boron compounds. M. Prasad and others. bibliog J Chem Phys 19:686-9 Je '51

Magnetic study of some organo-metallic compounds of arsenic. M. Prasad and L. N. Mulay. bibliog J Chem Phys 19:1051-6 Ag '51; Correction. 20:201 Ja '52

Magnetic susceptibilities of Cr_2O_3-Al_2O_3 and of Fe_2O_3-Al_2O_3 solid solutions. P. W. Selwood, L. Lyon and M. Ellis. Am Chem Soc J 73:2310-11 My '51

Magnetic susceptibilities of praseodymium oxides. S. W. Rabideau. bibliog diag J Chem Phys 19:874-6 Jl '51

Magnetic susceptibilities of some methyl derivatives of methane and ethylene. J. R. Lacher and others. bibliog Am Chem Soc J 73:2838-40 Je '51

Magnetic susceptibilities of urania-thoria solid solutions. W. Trzebiatowski and P. W. Selwood. bibliog Am Chem Soc J 72: 4504-6 O '50

Magnetic susceptibility of certain organic compounds; the contribution of the nitro-group to the magnetic susceptibility of aliphatic and aromatic nitro-compounds. F. G. Baddar and S. Sugden. Chem Soc J p308-11 Ja '50

Magnetic susceptibility of Co^{+++}aq. H. L. Friedman and others. bibliog Am Chem Soc J 73:4028-30 Ag '51

Magnetic susceptibility of iodine dioxide. W. K. Wilmarth and S. S. Dharmatti. Am Chem Soc J 72:5789-90 D '50

Magnetic susceptibility of uranium tetrachloride. R. Stoenner and N. Elliott. J Chem Phys 19:950-1 Jl '51

Magnetic susceptibility of vitamin B_{12}. H. Diehl, R. W. Vander Haar and R. R. Sealock. bibliog Am Chem Soc J 72:5312-13 N '50

Magnetic susceptibility of vitamin B_{12} and B_{12b}. J. C. Wallmann and others. Science 113:55-6 Ja 19 '51

Magnetochemistry of the heaviest elements; a sensitive magnetic susceptibility balance for small samples. J. K. Dawson and M. W. Lister. diags Chem Soc J p2177-81 Ag '50

Magnetochemistry of the heaviest elements; plutonium trifluoride and trichloride. J. K. Dawson, C. J. Mandleberg and D. Davies. Chem Soc J p2047-50 Ag '51

Magnetochemistry of the heaviest elements; the oxides of uranium. J. K. Dawson and M. W. Lister. Chem Soc J p2181-7 Ag '50

Proposed dynamic method for magnetic measurements in small fields. Y. L. Yousef and others. diag R Sci Instr 22:342-3 My '51

Relation between lattice vibration and London theories of superconductivity. J. Bardeen. bibliog Phys R 81:829-34 Mr 1 '51

Sexadentate metal complexes; magnetic studies. F. P. Dwyer, F. Lions and D. P. Mellor. bibliog Am Chem Soc J 72:5037-9 N '50

MAGNETIC susceptibility—*Continued*

Some physical properties associated with aromatic electrons; the pseudo-metallic properties of potassium-graphite and graphite-bromine. F. R. M. McDonnell, R. C. Pink and A. R. Ubbelohde. diags Chem Soc J p 191-7 Ja '51

Susceptibility and magnetic anisotropy of indium single crystals. J. Verhaeghe and others. bibliog Phys R 80:758 N 15 '50

MAGNETIC tape

Shape recording with ratio-modulated tape. R. R. Perron. il diags Electronics 23:104-8 N '50

Synchronous ¼-in. magnetic tape for motion picture production. G. Lewin. il Soc Motion Picture & Tv Eng J 56:664-71 Je '51

MAGNETIC tape recording. See Sound—Recording and reproducing—Magnetic recording

MAGNETIC testing

Crawler detects gun-barrel cracks. R. D. Kodis and R. Shaw. il diags Electronics 24:92-5 S '51

Instruments unsnarl metal mixups. A. Doschek. diags Iron Age 167:92-6 Je 21 '51

Magnaflux inspection of welded storage tanks. F. A. Upson. Welding J 29:27-30 Ja '50; Discussion. 30:233-4 Mr '51

Methods for sorting mixed metals. A. Doschek. diags Instruments 24:522-7+ My '51

New magnetic particle testing technique speeds inspection of ferrous parts; Duovec technique. S. G. Kelley, jr. il Materials & Methods 33:66-8 Je '51

Nondestructive test for corrosion-fatigue cracks in drill pipe; Magnaglo dry fluorescent magnetic powder and technique. S. A. Wenk and H. M. Banta. il Oil & Gas J 50:90-2+ My 17 '51

Nondestructive testing of engineering materials and parts. R. C. McMaster and S. A. Wenk. il diag Materials & Methods 33:90-5 F '51

MAGNETIC units

Electrical and magnetic magnitudes and units to have international standards. Elec Eng 70:557-8 Je '51

Systems of units and nomenclature; tr. from Revue générale de l'électricité, June 1950. G. Giorgi. Wireless Eng 28:126-7 Ap '51

MAGNETIC-Vertical-Coriolis theory. See Birds—Flight

MAGNETISM

Dipolar broadening in antiferromagnetic substances. N. Tsuya and Y. Ichikawa. bibliog Phys R 83:1065-6 S 1 '51

Ferromagnetism in the manganese-indium system. W. V. Goeddel and D. M. Yost. Phys R 82:555 My 15 '51

Hall effect in ferromagnetics. E. M. Pugh and others. bibliog diag Phys R 80:688-92 N 15 '50

Inertia of oscillating ferromagnetic domain walls. G. T. Rado. diags Phys R 83:821-6 Ag 15 '51

Origin of magnetism in iron sulfides with various sulfur contents. T. Hirone and N. Tsuya. bibliog diags Phys R 83:1063-4 S 1 '51

Recent ideas and experiments in magnetism. L. F. Bates. bibliog il diags Inst E E Proc 97 pt 1:340-50 N '50

Theory of spin waves in ferromagnetic media. C. Herring and C. Kittel. bibliog diags Phys R 81:869-80 Mr 1 '51

See also

Curie point
Demagnetization
Diamagnetism
Electricity
Electromagnetism
Magnetic measurements and other headings beginning Magnetic
Magnetization
Magnets

MAGNETISM, Terrestrial

Evidence for ionosphere currents from rocket experiments near the geomagnetic equator. E. Maple and others. Phys R 82:957-8 Je 15 '51

Preliminary study of a physical basis of bird navigation; (experiments VI through XI). H. L. Yeagley. diags J Ap Phys 22:746-60 Je '51

Use of three long rectangular coils for neutralization of the earth's magnetic field in a lens-type beta-ray spectrometer. S. K. Haynes and J. W. Wedding. diags R Sci Instr 22:97-101 F '51

See also

Auroras

MAGNETITE

Diamond-drill exploration of the Dillsburg magnetite deposits, York county, Pennsylvania. P. E. Hotz. bibliog U S Geol S Bul 969-A:1-27, pl 1-10[in pocket]; pa 70c Supt. of doc. '50

Ferroelectrics and ferromagnetics. Tech R 53: 343 My '51

Formation of late magmatic oxide ores. A. M. Bateman. il diags Econ Geol 46:404-26 Je '51

High-temperature heat contents of ferrous oxide, magnetite and ferric oxide. J. P. Coughlin, E. G. King and K. R. Bonnickson. bibliog Am Chem Soc J 73:3891-3 Ag '51

Ilmenite, magnetite, hematite, and copper in lavas of the Keweenawan series. H. R. Cornwall. bibliog il Econ Geol 46:51-67 Ja '51

Magnetic structure of magnetite and its use in studying the neutron magnetic interaction. C. G. Shull and others. bibliog Phys R 81:483-4 F 1 '51

Analysis

Magnetic and chemical analyses of ores and mill products containing magnetite and ilmenite. E. Laurila and others. il diags Min Eng 3:Trans 797-802 S '51

MAGNETIZATION

Adiabatic magnetization of a superconductor. R. L. Dolecek. bibliog Phys R 82:102 Ap 1 '51

Determination of the energy of a ferromagnetic domain boundary. H. Kaplan. diags Phys R 81:885-6 Mr 1 '51

Dislocations, cavities, and the approach to magnetic saturation. W. F. Brown, jr. Phys R 82:94 Ap 1 '51

H.f. magnetization of ferromagnetic laminae. O. I. Butler and H. R. Chablani. bibliog diag Wireless Eng 28:92-7 Mr '51

Influence of magnetization on ultrasonic attenuation in a single crystal of nickel or iron-silicon. S. Levy and R. Truell. il Phys R 83:668-9 Ag 1 '51

Inrush of magnetizing current in single-phase transformers; abstract. L. A. Finzi and W. H. Mutschler, jr. Elec Eng 70:879 O '51

Magnetization process in ferrites. J. J. Went and H. P. J. Wijn. bibliog Phys R 82: 269-70 Ap 15 '51

Magnetization processes in a ferrite. G. T. Rado and A. Terris. Phys R 83:177 Jl 1 '51

Magnetostrictive vibration of prolate spheroids; preliminary measurements. J. S. Kouvelites and L. W. McKeehan. bibliog diags R Sci Instr 22:108-11 F '51

Motor magnetizer. O. E. Carlson. il diag Electronics 23:107 D '50

Relaxation methods applied to the problem of a.c. magnetization of ferromagnetic laminae. O. I. Butler and M. R. Sarma. bibliog Inst E E Proc 98 pt 2:389-97; Discussion. 397-8 Je '51

Theory of spin waves in ferromagnetic media. C. Herring and C. Kittel. bibliog diags Phys R 81:869-80 Mr 1 '51

Wave form distortion in test apparatus. T. A. Ledward. Electrician 147:29-33 Jl 6 '51

MAGNETOCHEMISTRY

Laboratory experiments in magnetochemistry. R. H. Schuler. bibliog il J Chem Educ 27: 591-4 N '50

MAGNETOMETERS

Oscillation type magnetometer. J. H. E. Griffiths and J. R. MacDonald. J Sci Instr 28:56-8 F '51

See also

Magnetic surveying

MAGNETONS

Direct determination of the magnetic moment of the proton in nuclear magnetons. F. Bloch and C. D. Jeffries. il diag Phys R 80:305-6 O 15 '50

Direct determination of the magnetic moment of the protons in units of the nuclear magneton. C. D. Jeffries. bibliog il diags Phys R 81:1040-55 Mr 15 '51

MAGNETONS—*Continued*

Measurement of the magnetic moment of the proton in Bohr magnetons. J. H. Gardner. bibliog il diags Phys R 83:996-1004 S 1 '51

MAGNETO-OPTICS

Electrical color filters. V. A. Babits and H. F. Hicks, jr. bibliog diags Electronics 23: 112-15 N '50

Magneto-optic transducers. A. W. Friend. bibliog il diags RCA R 11:482-507 D '50

Magneto-optics of an electron gas for guided microwaves; propagation in rectangular wave guide. L. Goldstein and others. diag Phys R 83:1255 S 15 '51; Same. Elec Com 28:322 D '51

Magneto-optics of an electron gas with guided microwaves. L. Goldstein and others. Phys R 82:956-7 Je 15 '51; Same. Elec Com 28:233-4 S '51

See also

Faraday effect

Kerr effect

MAGNETOS

Phenolic in aircraft magnetos. il Mod Plastics 28:165 Ag '51

Some problems in aircraft magneto development. R. T. Coe and D. F. Welch. bibliog il diags Inst E E Proc 97 pt 2:485-500 Ag '50; Discussion. diags 97 pt 2:500-6; 98 pt 2: 46 Ag '50, F '51

MAGNETOSTRICTION

Magnetostriction of single crystals of iron-silicon alloys. W. J. Carr, jr. and R. Smoluchowski. bibliog il Phys R 83:1236-43 S 15 '51

Magnetostrictive delay line. E. M. Bradburd. il diags Elec Com 28:46-53 Mr '51

Magnetostrictive vibration of prolate spheroids; preliminary measurements. J. S. Kouvelites and L. W. McKeehan. bibliog diags R Sci Instr 22:108-11 F '51

Phenomenological derivation of the first- and second-order magnetostriction and morphic effects for a nickel crystal. W. P. Mason. Phys R 82:715-23 Je 1 '51

Single crystal magnetostriction constants of an iron-cobalt alloy. J. E. Goldman. bibliog Phys R 80:301-2 O 15 '50

MAGNETRON

Analysis of synchronous conditions in the cylindrical magnetron space charge. H. W. Welch, jr. and W. G. Dow. bibliog diag J Ap Phys 22:433-8 Ap '51

Effects of space charge on frequency characteristics of magnetrons. H. W. Welch, jr. diags Inst Radio Eng Proc 38:1434-49 D '50

Electron optical exploration of space charge in a cut-off magnetron. D. L. Reverdin. bibliog il diags J Ap Phys 22:257-62 Mr '51

Enhanced emission from magnetron cathodes. R. L. Jepsen and M. W. Muller. bibliog diags J Ap Phys 22:1196-207 S '51

Experimental investigation of the electron orbits in a magnetron. R. Svensson. il diag Inst Radio Eng Proc 39:838 Jl '51

High power attenuating tuner for a high *Q* ten-cm cavity. R. R. Perron. diags R Sci Instr 22:116-17 F '51

Low-voltage tunable X-band magnetron development. G. A. Espersen and B. Arfin. bibliog il diags Tele-Tech 10:50-1+ Je; 30-1 Jl '51

Some aspects of split-anode magnetron operation. H. J. Reich and others. il diags Inst Radio Eng Proc 38:1428-33 D '50

Tv tube developments. P. B. Lewis. il Tv Eng 1:20 D '50

Tubes for dielectric heating at 915 megacycles. R. B. Nelson. il diags Elec Eng 70:627-33 Jl '51

Wide band voltage tuning of magnetrons; abstract. D. A. Wilbur and P. H. Peters, jr. Science 112:419 O 13 '50

MAGNETS

Bar-magnet velocity meter. T. A. Perls and E. Buchmann. bibliog il diags R Sci Instr 22:475-81 Jl '51

Design of permanent magnets for cloud-chamber work. R. P. Shutt and W. L. Whittemore. diags R Sci Instr 22:73-6 F '51

Dispatcher's board uses Alnico magnets. il diag Elec West 106:59 Ja '51

Double focusing with wedge-shaped magnetic fields. M. Camac. bibliog diags R Sci Instr 22:197-204 Mr '51

Field measurements on model betatron and synchrotron magnets. E. A. Finlay and others. bibliog diags J Sci Instr 27:264-7 O '50

Magnetic rollers support sheet on shear. il diag Machine Design 22:147 D '50

Michael Faraday and the spinning bar magnet. G. W. O. Howe. diags Wireless Eng 27:275-7 D '50

New magnetic alloy developed by G-E scientists. Materials & Methods 34:144+ Ag '51; Same cond. il Gen Elec R 54:29 Je '51; Same cond. Chem & Eng N 29:3016 Jl 23 '51

Permanent-magnet electron microscope. J. H. Reisner and S. M. Zollers. bibliog il diags Electronics 24:86-91 Ja '51

P-m focus devices for picture tubes. K. James and R. T. Capodanno. il diags Electronics 24:94-7 Mr '51

Permanent magnet lenses. J. H. Reisner. il diags J Ap Phys 22:561-5 My '51

Permanent magnets control braking of spool in fishing reel. il diag Product Eng 22:138-9 S '51

Plastics plus magnets; illustrations with text. Mod Plastics 28:77 N '50

See also

Electromagnets

Solenoids

Testing

Testing permanent magnets by Faraday disk method. M. McCaig. diag J Sci Instr 28:124 Ap '51

MAGNICON. See Electric generators, Alternating current

MAGNIFICATION

Photographic granularity and graininess; a variable-magnification instrument for measuring graininess. L. A. Jones and G. C. Higgins. il diags Opt Soc Am J 41: 41-52, 64-75 Ja-F '51

MAGNUS, Finn H.

Annual Horatio Alger award. H. Woodward. por Sales Management 66:41 Je 1 '51

MAHER, Al

Courage mounteth with occasion. W. G. Winslow. U S Naval Inst Proc 77:818-19 Ag '51

MAHONEY, David Joseph, 1923-

Mahoney's the latest agency wonder boy. J. L. Collings. por Ed & Pub 83:11 N 11 '50

MAIL advertising. See Advertising, Mail

MAIL banking. See Banks and banking—Mail service

MAIL handling

Electromechanical distributor for sorting mail. S. Scheuer and others. il diags Elec Com 28:163-170 S '51

Trucks take kinks out of the mail for Meredith publishing co.; post office's short haul truck project. il Bsns W p88+ Jl 21 '51

See also

Air mail service

Railway mail service

MAIL order business

Catalogs caught by voluntary price freeze. Bsns W p21 Ja 20 '51

Club plan of selling; what it is, how it operates. E. A. Malloy. Sales Management 66: 76+ My 1 '51

Here's a mail-order check list to help you avoid costly errors. Ptr Ink 233:90-1 N 10 '50

How to sell through the mail order chains. J. C. Cummings. il Sales Management 65:56-7 S 15; 80-2 O 1; 84+ O 15; 65+ N 1; 76+ N 10; 58+ N 20 '50

Retail distribution follows mail-order success; Toolzon polisher attachment for electric kitchen mixer. L. F. Thomann. il Ptr Ink 235:41-2 Ap 6 '51

See also

Chain stores—Mail order stores

Sears, Roebuck and company

Advertising

Controlled brand in soft and hard goods. E. B. Weiss. il Ptr Ink 233:44-6+ N 17 '50

How to get action by mail; International gift of the month club. W. J. Granberg. il Ptr Ink 236:41-2 S 7 '51

How to key mail-order ads. J. Shrager. Ptr Ink 236:56 S 14 '51

Mail-order ads power new product into big seller; community rat kills prove product's worth. il Ptr Ink 235:40 Je 29 '51

MAIL order business—Advertising—*Continued*

Mail order advertising; what it is, and how to make it pay. il Ptr Ink 233:53-91 N 10 '50

Medicine men are back, on tv and radio. E. B. Weiss. Ptr Ink 235:35 Ap 27 '51

New mail-order advertiser ready to go into national media; shoe bronzing service. il Ptr Ink 234:38 Ja 26 '51

Testimonial copy and hard-hitting follow-up build new mail-order success; Charles Gilbert's formula sells hydroponic plant culture. il Ptr Ink 234:40-1 Ja 19 '51

Triple result from mail-order ads; new customers by mail, repeat business by mail, more customers in stores; Innes shoe co. L. F. Thomann. il Ptr Ink 235:33 Je 8 '51

What makes a mail-order success? Myers live lobster business. N. Keine. il Ptr Ink 236:41-2 S 21 '51

Will sales costs drop when you cut inquiry cost? study of mail-order results, Washington school of art. R. Y. Giles. Ptr Ink 236:51-2 S 21 '51

Records

New mail-order record sheet. il Ptr Ink 236:86 S 7 '51

Selling to dealers

This mail-order advertiser chose the byways; John Plain catalog for dealer's counter. il Ptr Ink 234:29-31 Mr 2 '51

MAIL orders

Product demonstration; how it pulls direct orders for tv advertisers; dozen case histories. T. Armstrong. il Sales Management 65:70+ D 1 '50

MAIL surveys. See Questionnaires

MAILING lists

And the poor mailman takes the rap! H. Byer. Ptr Ink 233:50 D 15 '50

Put your publicity list on cards. F. I. Jewell. Ptr Ink 235:38-9 My 18 '51

Seven ways to houseclean today's mailing lists. W. M. Fox. Ind Marketing 36:33+ Ag '51

Western Union phone survey finds an elusive market; materials handling periodical builds circulation list of purchasing agents. N. L. Cahners. Ind Marketing 35:44+ N '50

MAINE

See also

Paleobotany—Maine

Taxation—Maine

Industries and resources

See also

Maine development credit corporation

MAINE development credit corporation

Credit corporation provides risk loans and equity capital. Burroughs Clearing House 35:4+ Ja '51

Maine helps eight firms. Bsns W p70 N 18 '50

MAINE water utilities association

Annual meeting, Waterville, Oct. 11. Water & Sewage Works 97:495 D '50

MAINTENANCE departments

Don't let your maintenance department become a rat's nest; illustrations with text. W. Rudolph. Mill & Factory 49:109-11 Ag '51

Preventive maintenance keeps down-time down to a minimum; National automotive fibres, inc., Detroit. D. G. Baird. il Mill & Factory 49:117-20 S '51

See also

Factories—Maintenance and repair

MAINTENANCE of membership, Trade union. See Trade unions—Maintenance of membership

MAJOR, Randolph Thomas, 1901-

R. T. Major gets IRI award for work at Merck. por(cover) Chem & Eng N 29:2144 My 28 '51

Receives 1951 medal of Industrial research institute. por Oil Paint & Drug Rep 159:7 Ja 1 '51

MAKEREADY. See Printing, Practical—Presswork

MALARIA

Attempts to find new antimalarials; the synthesis of derivatives of quinolino(4′ : 3′-2 : 3)quinoline. W. O. Kermack and N. E. Storey. Chem Soc J p 1389-92 Je '51

Attempts to find new antimalarials; the synthesis of various derivatives of 2 : 3-benz-γ-carboline. W. O. Kermack and N. E. Storey. Chem Soc J p607-12 F '50

Contributions to the chemistry of synthetic antimalarials; some pyrimidine derivatives. J. S. Moffatt. Chem Soc J p 1603-6 Je '50

2,4-Diaminopyrimidines as antimalarials. E. A. Falco and others. bibliog Am Chem Soc J 73:3753-70 Ag '51

Double drug debut; new antimalarials. il Chem W 69:19-20 Ag 11 '51

Insecticides in industry and public health. H. Pirie. Chem & Ind p 100-4 F 10 '51

Naphthoquinone antimalarials; naphthoquinones with oxygen in the side chain. M. Paulshock and C. M. Moser. bibliog Am Chem Soc J 72:5073-7 N '50

Naphthoquinone antimalarials; thioether naphthoquinones. C. M. Moser and M. Paulshock. bibliog Am Chem Soc J 72:5419-23 D '50

Primaquine proof. Chem W 69:28 S 8 '51

Recent work on anti-malarials; abstract. F. L. Rose. Chem & Ind p736 S 1 '51

Some physico-chemical properties of acridine antimalarials, with reference to their biological action; basic dissociation constants and reduction potentials. D. L. Hammick and S. F. Mason. Chem Soc J p345-8 Ja '50

Some physico-chemical properties of acridine antimalarials, with reference to their biological action; lipoid partition coefficients, surface activities, and protein affinities. D. L. Hammick and S. F. Mason. Chem Soc J p348-50 Ja '50

Some physico-chemical properties of acridine antimalarials, with reference to their biological action; the correlation of physicochemical properties with biological action. S. F. Mason. Chem Soc J p351-4 Ja '50

Structure and antimalarial activity; benziminazoles and mercaptodihydroglyoxalines. A. T. James and E. E. Turner. Chem Soc J p 1515-19 Je '50

Synthesis of possible antimalarials; compounds with the *iso*quinoline ring attached to the quinuclidine system. G. R. Clemo and S. P. Popli. Chem Soc J p 1406-9 Je '51

Synthetic antimalarials; N^1-3 : 4-dihalogenophenyl-N^5-alkyl- and -N^5N^5-dialkyl-diguanides. A. F. Crowther and others. Chem Soc J p 1774-80 Jl '51

Synthetic antimalarials; some 4-dialkylaminoalkylaminoquinoline derivatives. J. K. Landquist. Chem Soc J p 1038-48 Ap '51

Synthetic antimalarials; the action of halogens on N^1-aryldiguanides. A. F. Crowther, F. H. S. Curd and F. L. Rose. Chem Soc J p 1780-5 Jl '51

MALAYAN Union

British Malaya; recent developments in economy and trade. For Comm W 44:9 Ag 20 '51

Raw deal in Malaya. Economist 161:379-80 Ag 18 '51

Struggle in Malaya. Economist 160:4-5 Ja 6 '51

See also

Electricity supply—Malayan Union

Rubber industry and trade—Malayan Union

Tin mines and mining—Malayan Union

Commerce

Foreign trade reaches all-time high. For Comm W 41:14 N 6 '50

Economic conditions

News by countries; Malaya. For Comm W 42:12-13 Ja 8; 43:16 Je 25; 44:13-14 S 10; 45:13 O 8 '51

Politics and government

Malaya's divided loyalties. Economist 160:1381-2 Je 9 '51

MALCOMIZING process. See Case hardening—Nitriding process

MALEIC acid

Osmium tetroxide catalyzed oxidation of fumaric and maleic acids. M. Zelikoff and H. A. Taylor. Am Chem Soc J 72:5039-42 N '50

Synthesis of tartaric acid by hydroxylation of maleic acid. J. M. Church and R. Blumberg. bibliog flow sheet diag Ind & Eng Chem 43:1780-6 Ag '51

MALEIC anhydride

Bigger role for maleic. il Chem Ind W 68: 11-12 Ap 14 '51

Electrolytic transference properties of polymeric acids. F. T. Wall, G. S. Stent and J. J. Ondrejcin. bibliog diag J Phys & Colloid Chem 54:979-90 O '50

Maleic anhydride adduct of N-phenyl-3,5-diethyl-2-propyl-1,4-dihydropyridine. D. Craig, A. K. Kuder and J. Efroymson. Am Chem Soc J 72:5236-8 N '50

Steric hindrance in dienometry; abstract. J. D. Von Mikusch. Paint Oil & Chem R 114: 42+ Ap 12 '51

Theoretical treatment of the Diels-Alder reaction; polyenes, arylpolyenes, and related molecules. R. D. Brown. Chem Soc J p2730-5 O '50

MALEIC hydrazide. See Dihydropyridazinedione

MALEOPIMARIC acid

Naval stores bonus. il Chem Ind W 68:33 My 26 '51

MALLALIEU, Wilbur E. 1874-

Honored at testimonial banquet in New York. por East Underw 51:20+ D 8 '50; Nat Underw 54:1 D 7 '50; Weekly Underw 163: 1295 D 9 '50

Sketch. East Underw 51:19+ O 20 '50; Excerpts. Safety Maint & Prod 100:34 D '50

MALLEABLE founders' society

Annual meeting, Hot Springs, June 22-23; with abstracts of papers. Foundry 79:172+ Ag '51

Semiannual meeting, Cleveland, Jan. 19. Foundry 79:149+ Mr '51

MALLET, John William, 1832-1912

American chemical society president in 1882. O. Eisenschiml. por Chem & Eng N 29: 110-11 Ja 8 '51

MALLORY, P. R., and company

Security I like best. T. J. Moynahan. Comm & Fin Chr 173:522 F 1 '51

MALLORY-SHARON titanium corporation

Mallory, Sharon Steel form titanium subsidiary. Bsns W p21 Ap 7 '51

MALONAMIC acid

Kinetics of the decomposition of malonamic acid in aqueous solutions. G. A. Hall, jr. Am Chem Soc J 72:4709-11 O '50

MALONATES

Further observations on the alcoholysis of diethyl diiminomalonate monohydrochloride; some new pyrimidines. S. M. McElvain and B. E. Tate. Am Chem Soc J 73:2760-4 Je '51

MALONIC acid

C^{14} tracer studies in the synthesis of malonic acid-2-C^{14} and diethyl malonate-2-C^{14}. G. A. Ropp. bibliog Am Chem Soc J 72:4459-61 O '50

Determination of an isotope effect in the decarboxylation of malonic-1-C^{14} acid. A. Roe and M. Hellmann. bibliog J Chem Phys 19:660 My '51

Experiments on the synthesis of carbonyl compounds; the acidolysis of acylmalonic esters. R. E. Bowman. Chem Soc J p322-5 Ja '50

Improved synthesis of C^{14}-labeled malonic acid and malononitrile. E. M. Gal and A. T. Shulgin. Am Chem Soc J 73:2938-9 Je '51

Preparation of α-substituted glutaric acids. M. F. Ansell and D. H. Hey. Chem Soc J p 1683-6 Jl '50

Reactions of 2-arylcyclohexanones; Michael addition of malonic ester to 2-phenyl-Δ^2-cyclohexenone. W. E. Bachmann and E. J. Fornefeld. Am Chem Soc J 72:5529-30 D '50

Reactions of naphthoquinones with malonic ester and its analogs; reactions with malonic ester. E. F. Pratt and W. E. Boehme. bibliog Am Chem Soc J 73:444-8 Ja '51

Syntheses of neurotropic and musculotropic stimulators and inhibitors; derivatives of unsaturated ω-betaines. F. Bergel, A. Cohen and N. C. Hindley. Chem Soc J p 1439-43 Je '50

Vicinal tricarbonyl compounds; condensation of ethyl 3-phenyl-2,3-dioxopropanoate with malonic acid. D. B. Sharp and G. V. Hudson. Am Chem Soc J 73:3085-6 Jl '51

MALONONITRILE

Growth retarding effect of substituted malononitriles on transplant tumors in mice. E. M. Gal and D. M. Greenberg. Am Chem Soc J 73:502-3 Ja '51

Improved synthesis of C^{14}-labeled malonic acid and malononitrile. E. M. Gal and A. T. Shulgin. Am Chem Soc J 73:2938-9 Je '51

MALT

High capacity kilning; abstract. H. Leberle. Food Ind 22:2139 D '50

MALTOSE

Determination of glucose in presence of maltose; rapid and convenient semimicromethod. L. L. Phillips and M. L. Caldwell. Anal Chem 23:1172-4 Ag '51

Isolation of a crystalline trisaccharide from the unfermentable carbohydrate produced enzymically from maltose. S. C. Pan, L. W. Nicholson and P. Kolachov. bibliog il Am Chem Soc J 73:2547-50 Je '51

Refractive indices of maltose solutions. E. J. McDonald. J Res Nat Bur Stand 46:165-7 Mr '51

MAMMALS, Fossil

Early cretaceous mammals from northern Texas. B. Patterson. bibliog diags Am J Sci 249:31-46 Ja '51

MAMMARY glands

Autoxidation in lactating mammary gland tissue. R. O. Moore and W. L. Nelson. bibliog Science 114:62-3 Jl 20 '51

Technique for whole mount autoradiographs of rabbit mammary glands. W. S. Lundahl and others. il Science 112:599-600 N 17 '50

MAN

Is man here to stay? L. C. Eiseley. Sci Am 183:52-5 N '50

MAN, Prehistoric

Antiquity of man in America demonstrated by the fluorine test. T. D. Stewart. Science 113:391-2 Ap 6 '51

MANAGEMENT

Control problem at the management level. H. Hodge. N A C A Bul 32:1079-81 My '51

Influence of military management. J. R. Beishline. Advanced Management 16:11-13 Ag '51

Integration of organization and management. R. T. Livingston and D. B. Hertz. bibliog A S M E Trans 73:997-1003; Discussion. 1003-4 O '51

Management accounting in the United States; excerpt from productivity report by Anglo-American council on productivity. N A C A Bul 32:643-57, 763-81 F-Mr '51

Management and the community. R. H. Rich. Advanced Management 16:5-6 F '51

Management profession. P. Garrett. Pub Util 48:382-3 S 13 '51

Obligation of management to be competent; abstract. T. H. Nelson. Management R 39: 583-5 O '50

Operations research. P. M. Morse. il Tech R 53:191-4+ F '51

Organization and management. J. Eccles. Inst E E Proc 98 pt 1:14-15 Ja '51

Social science; friend of management. S. Chase. Personnel 27:246-58 Ja '51

See also

Business management

Committees in management

Employment management

Executives

Factory management

Foundry management

Industrial management

Machine shop management

Mine management

Retail trade—Store management

also subdivision Management under special subjects, e.g. Airplane factories—Management; Newspapers—Management; Railroads—Management

Bibliography

Management books of the year. Advanced Management 16:8-9 Ja '51

Philosophy

Dynamic leadership needs a sound base. S. E. Bryan. Advanced Management 16:4-7 S '51

Study and teaching

Management education; forum. bibliog Advanced Management 16:2-26 My '51

Terminology

What do you mean by that remark? A. Brown. Advanced Management 16:6-8 Ag '51

MANAGEMENT, Society for the advancement of. See Society for the advancement of management

MANAGEMENT consultants
Management consultant; what he can do for you. il Mod Ind 20:54-5 D '50
Management consulting firms can supply new ideas and devise new approaches to problems. W. von Pechmann. Ind & Eng Chem 43:sup77A-8A+ Ap '51
Worcester story; Management consulting services of the Worchester Mass. Chamber of commerce. J. P. Cleaver. il Advanced Management 16:2-5 Ag '51
See also
Business consultants

MANDELIC acid
Isolation of mandelic acid from cedar tar. C. L. Key and R. T. Clark, jr. Am Chem Soc J 72:5774 D '50
Relative configuration of (*levo*)-mandelic acid. K. Mislow. bibliog Am Chem Soc J 73:3954-6 Ag '51
Selective absorption of optical antipodes by proteins. W. Bradley and G. C. Easty. Chem Soc J p499-503 F '51

MANDRELS. See Arbors and mandrels

MANGANATES
Exchange reaction between manganate and permanganate ions. N. A. Bonner and H. A. Potratz. Am Chem Soc J 73:1845-7 Ap '51

MANGANESE
Austria's sources of manganese. For Comm W 41:19 O 30 '50
Calcium phosphate phosphor activated with cerium and manganese. H. C. Froelich and J. M. Margolis. bibliog Electrochem Soc J 98:400-5 O '51
Cathodoluminescence characteristics of some barium-zinc-silicate phosphors with manganese activator. S. Larach. Electrochem Soc J 98:369-70 S '51
Cathodoluminescence of zinc orthosilicate with manganese activator. S. Larach and R. E. Shrader. bibliog J Ap Phys 22:362 Mr '51
Configuration interaction in Mn II. R. E. Trees. Phys R 83:756-60 Ag 15 '51
Effect of manganese segregations on machinability; an application of microradiography. K. J. B. Wolfe and I. R. Robinson. il Metallurgia 43:3-7 Ja '51
Effects of manganese and its oxide on desulphurization by blast-furnace type slags. N. J. Grant and others. bibliog diag J Metals 3:Trans 666-71 Ag '51; Discussion. 3:Trans 1048-9 N '51
Efficiency of the primary photochemical process for halogens in water; the photochemical reaction of Mn(II) and Br_2. A. C. Rutenberg and H. Taube. Am Chem Soc J 73:4426-31 S '51
Efficiency of the primary photochemical process for halogens in water; the photochemical reaction of Mn(II) and Cl_2. A. C. Rutenberg and H. Taube. Am Chem Soc J 72:5561-4 D '50
Fine structure in the emission spectrum of manganese activated zinc silicate. C. C. Vlam. bibliog Opt Soc Am J 41:558 Ag '51
Fluorescence of magnesium germanate activated by manganese. F. A. Kroeger and J. van den Boomgaard. bibliog Electrochem Soc J 97:377-82 N '50
Freezing point diagram of the germanium-manganese system. J. H. Downing and D. Cubicciotti. Am Chem Soc J 73:4025 Ag '51
Indian manganese output and exports. For Comm W 41:20-1 O 23 '50
Kinetics of the manganous-permanganate reaction. A. W. Adamson. bibliog J Phys & Colloid Chem 55:293-303 F '51
Luminescence of three forms of zinc orthophosphate:Mn. A. L. Smith. bibliog Electrochem Soc J 98:363-8 S '51
Manganese and its effect on iron. Foundry 79:175 Jl '51
$Mn^{55}(p,n)Fe^{55}$ neutron spectrum. P. H. Stelson and W. M. Preston. bibliog diag Phys R 82:655-7 Je 1 '51
Manganese, 1946-1950; tabulation. Steel 128:133 Ja 1 '51
Manganese, 1950. N. B. Melcher. Eng & Min J 152:95-6 F '51
Manganese, tough nut to expanding steel. B. Hatschek. il Iron Age 167:89-90 F 22 '51
Measurements of solar extreme ultraviolet and X-rays from rockets by means of a $CaSO_4$:Mn phosphor. R. Tousey and others. bibliog Phys R 83:792-7 Ag 17 '51
Metal-ceramic sealing with manganese. H. J. Nolte and R. F. Spurck. il Tv Eng 1:14-16+ N '50
Neutron cross section of Mn below 5000 ev. S. P. Harris and others. bibliog diag Phys R 80:1014-17 D 15 '50
Origin of multiple bands in luminophors activated by divalent manganese. F. A. Kroeger and P. Zalm. bibliog Electrochem Soc J 98:177-82 My '51; Discussion. bibliog 98:519-21 D '51
Properties of a $CaSO_4$:Mn phosphor under vacuum ultraviolet excitation. K. Watanabe. il Phys R 83:785-91 Ag 15 '51
Scintillation spectroscopy of the gamma-rays from slow neutron capture in manganese. R. W. Pringle and G. Isford. bibliog il Phys R 83:467-8 Jl 15 '51
Segregation of iron and manganese in some aluminium casting alloys. W. H. Glaisher. diag Metallurgia 43:127-31 Mr '51
Small blast furnace seeks to recover manganese. Blast F & Steel Pl 39:700-1 Je '51
Solubility of oxygen in liquid iron containing silicon and manganese. D. C. Hilty and W. Crafts. bibliog il J Metals 188:Trans 425-36 F '50; Discussion. 188:Trans 1346-7 N '50
Spectrophotometric study of tripositive manganese in hydrochloric acid solution. J. A. Ibers and N. Davidson. bibliog Am Chem Soc J 72:4744-8 O '50
Steel companies aid Bureau of mines in manganese research. il Blast F & Steel Pl 39:1100 S '51
Thermoluminescence characteristics of silicate phosphors activated by manganese and arsenic. C. Bull and G. F. J. Garlick. bibliog Electrochem Soc J 98:371-5 S '51
Thermoluminescence of zinc silicate phosphors activated with manganese and arsenic. J. R. Nelson and J. H. Berbert. diag Opt Soc Am J 41:644 S '51
Zirconium for manganese in cupola iron. W. C. Jeffery. Metal Prog 60:65-6 Ag '51

Analysis

Determination of trivalent and tetravalent manganese. W. S. Fyfe. Anal Chem 23:174-5 Ja '51
Further examination of reproducibility in chemical analysis. J. O. Lay. Iron & Steel Inst J 167:42-3 Ja '51
Precision colorimetry; application to determination of manganese. I. G. Young and C. F. Hiskey. bibliog Anal Chem 23:506-8 Mr '51
Spectrochemical determination of iron, magnesium, and manganese in titanium metal. M. J. Peterson. bibliog Anal Chem 22:1398-400 N '50

Isotopes

Carrier-free radioisotopes from cyclotron targets; preparations and isolation of Mn^{52} from chromium. H. R. Haymond and others. bibliog J Chem Phys 19:382-3 Mr '51
Preparation of carrier-free manganese 52. J. T. Byrne. J Chem Phys 19:504 Ap '51

MANGANESE alloys
Equilibrium relations in magnesium-aluminum-manganese alloys. B. J. Nelson. bibliog il diag J Metals 3:Trans 797-9 S '51
Ferromagnetism in the manganese-indium system. W. V. Goeddel and D. M. Yost. Phys R 82:555 My 15 '51
X-ray detection of long-range order in Ni_3Mn. B. L. Averbach. J Ap Phys 22:1088-9 Ag '51
See also
Iron alloys—Manganese alloys
Manganese bronze

MANGANESE bronze
Nickel-alloyed manganese bronze. J. S. Vanick. bibliog il Foundry 79:122-5+ Je '51

MANGANESE bronze and brass company, limited
Statement by the chairman. J. C. Colquhoun. Economist 160:1207 My 19 '51

MANGANESE compounds

Equilibrium between the complexes of tervalent manganese with 2,4-pentanedione. G. H. Cartledge. bibliog Am Chem Soc J 73:4416-19 S '51

Fluorination of compounds of vanadium, chromium, and manganese by bromine trifluoride. A. G. Sharpe and A. A. Woolf. Chem Soc J p798-801 Mr '51

Interaction between the *d*-shells in the transition metals; ferromagnetic compounds of manganese with perovskite structure. C. Zener. diag Phys R 82:403-5 My 1 '51

Reaction of fluorine with the oxides and oxy-compounds of manganese and rhenium. E. E. Aynsley, R. D. Peacock and P. L. Robinson. diag Chem Soc J p 1622-4 Je '50

MANGANESE ferrates

Ferromagnetic resonance absorption in $MnOFe_2O_3$ at low temperature. T. Okamura and Y. Torizuka. Phys R 83:847-8 Ag 15 '51

MANGANESE fluoride

Magnetic anisotropy of manganous fluoride between 12 and 295°K. M. Griffel and J. W. Stout. bibliog J Chem Phys 18:1455-8 N '50

Preparation of single crystals of manganous fluoride; the crystal structure from X-ray diffraction; the melting point and density. M. Griffel and J. W. Stout. bibliog Am Chem Soc J 72:4351-3 O '50

MANGANESE halides

Manganohalides of pyridine. W. S. Fyfe. Chem Soc J p790-3 Mr '50

MANGANESE metallurgy

Concentration of oxide and silicate manganese ores from the vicinity of Golconda, Nev. B. K. Shibler and R. R. Wells. U S Bur Mines Rep of Invest 4754:1-16 '51

Dwindling stocks spur manganese recovery from slag. R. C. Buehl. il Steel 127:108+ N 13 '50

Manganese concentration from low grade domestic ore; Nossen nitric acid cycle. E. S. Nossen. bibliog flow diag il Ind & Eng Chem 43:1695-700 Jl '51

Manganese from slag; S. W. Richardson wants to finance the Mines bureau project. Steel 129:44-5 Ag 27 '51

More manganese from American ores and slags. E. C. Wright. Metal Prog 59:347-53 Mr '51

New process gives U.S. 100-year supply of manganese; abstract. E. S. Nossen. Chem & Eng N 29:287 Ja 22 '51

Electrometallurgy

Semi-pilot-plant investigations on electrowinning manganese from chloride electrolytes. J. H. Jacobs and others. bibliog pl U S Bur Mines Rep of Invest 4817:1-13 '51

MANGANESE mines and mining

Brazil

Manganese ores of Brazil. C. F. Park, jr. and others. bibliog maps diags Econ Geol 46:1-22 Ja '51

Montana

Concentration of carbonate and oxide manganese ores from Silver Bow, Jefferson and Park counties, Mont. K. C. Dean and J. V. Batty. U S Bur Mines Rep of Invest 4767: 1-22 '51

Investigation of manganese deposits in the Philipsburg mining district, Granite county, Mont. S. H. Lorain. 7pls U S Bur Mines Rep of Invest 4723:1-57 '50

Investigation of the Norwich manganese deposit, Silver Bow county, Mont. J. W. Cole. 6pls U S Bur Mines Rep of Invest 4784:1-14 '51

Nevada

Concentration of oxide and silicate manganese ores from the vicinity of Golconda, Nev. B. K. Shibler and R. R. Wells. U S Bur Mines Rep of Invest 4754:1-16 '51

Concentration of oxide manganese ores from Lander county, Nev. T. F. Mitchell and others. U S Bur Mines Rep of Invest 4780: 1-16 '51

Philippine Islands

Philippine manganese resources limited. S. J. McCarroll. il Eng & Min J 151:88-9 D '50

MANGANESE molybdenum steel

Transformation of austenite in a manganese-molybdenum steel deposited as weld metal. O. O. Miller and others. bibliog il Welding J 29:sup450-8 S '50; Discussion. H. C. Campbell. 30:sup253-4 My '51

MANGANESE ores

Concentration of carbonate and oxide manganese ores from Silver Bow, Jefferson and Park counties, Mont. K. C. Dean and J. V. Batty. U S Bur Mines Rep of Invest 4767: 1-22 '51

Concentration of oxide manganese ores from Lander county, Nev. T. F. Mitchell and others. U S Bur Mines Rep of Invest 4780: 1-16 '51

Lots of manganese, at a price. Bsns W p57-8 F 24 '51

Manganese on Punta Concepcion, Baja California, Mexico. J. A. Noble. maps Econ Geol 45:771-85 D '50

Manganese ore; world production, U.S. imports, U.S. production; tabulations. Iron Age 167:319 Ja 4 '51

Manganese ores of Brazil. C. F. Park, jr. and others. bibliog maps diags Econ Geol 46:1-22 Ja '51

United States geological survey appraises Brazilian iron and manganese deposits. Eng & Min J 152:93 My '51

What about our loss of Russian manganese? L. M. Herman. Comm & Fin Chr 173:1540+ Ap 12 '51

See also

Pyrolusite

MANGANESE oxides

Catalytic decomposition of hydrogen peroxide over supported oxides of manganese. J. Moor and P. W. Selwood. Am Chem Soc J 72:4333-4 S '50

Effects of manganese and its oxide on desulphurization by blast-furnace type slags. N. J. Grant and others. bibliog diag J Metals 3:Trans 666-71 Ag '51; Discussion. 3:Trans 1048-9 N '51

Low temperature heat capacities and entropies at 298.16°K. of ferrous oxide, manganous oxide and vanadium monoxide. S. S. Todd and K. R. Bonnickson. bibliog Am Chem Soc J 73:3894-5 Ag '51

Oxidation of sulphurous acid. H. Bassett and W. G. Parker. Chem Soc J p 1540-60 Je '51

Proposed mechanism for the discharge of the manganese dioxide electrode. D. T. Ferrell, jr. and W. C. Vosburgh. bibliog diag Electrochem Soc J 98:334-41 Ag '51

Stability of gaseous diatomic oxides. L. Brewer and D. F. Mastick. bibliog J Chem Phys 19:834-43 Jl '51

Systems zinc oxide-phosphoric oxide-water and manganous oxide-phosphoric oxide-water at temperatures between 25° and 100°. J. E. Salmon and H. Terrey. Chem Soc J p2813-24 O '50

MANGANESE sulfates

Microwave resonance absorption in manganese sulfates. H. Kumagai and others. Phys R 82:954-5 Je 15 '51

Oxidation of manganous sulphate by chromic acid in sulphuric acid solution. M. Bobtelsky and A. Glasner. Chem Soc J p3085-9 D '49

MANGANESE sulfide

High-temperature heat contents of manganous sulfide, ferrous sulfide and pyrite. J. P. Coughlin. bibliog Am Chem Soc J 72:5445-7 D '50

MANHOLE covers

Remove manhole covers with bar and hook lifter. R. L. Spencer. il diag Elec World 134:136 D 4 '50

MANHOLES

Oxygen depletion in a sewer manhole. G. J. Raschka and W. J. Uber. Sewage & Ind Wastes 23:802-7 Je '51

Precast manhole roofs do away with traffic delays. A. L. Hisler. il diags Elec World 135:121-2 Ap 23 '51

MANHOLES, Concrete

Catch-basin construction in Edmonton, Alta. E. W. Nielsen. diags Munic Util 88:35-6+ O '50

MANICURING

See also

Nail polish

MANILA hemp
Mechanics of elastic performance of textile materials; mechanical properties of hard fibers with reference to their use in cordage structures. E. R. Kaswell and M. M. Platt. bibliog Textile Res J 21:263-76 My '51

MANILA rope. See Rope

MANIPULATORS
Stereo-television in remote control; electric manipulators at the Argonne national laboratory. H. R. Johnston and others. il diags Elec Eng 69:1058-62 D '50; Same cond. Electronics 24:120+ Ja '51; Excerpts. Soc Motion Picture & Tv Eng J 56:75-6 Ja '51

MANIPULATORS, Welding
Manipulator carries automatic welding head. H. E. Hodges. il Iron Age 167:93-4 My 24 '51

MANITOBA
See also
Mines and mineral resources—Manitoba
Petroleum—Manitoba

MANN, Kenneth D.
Iron age salutes. por Iron Age 167:51 Je 28 '51

MANNAN
Crystalline hemicelluloses; crystalline mannan. A. P. Yundt. Tappi 34:94-5 F '51
Structure of the mannan present in porphyra umbilicalis. J. K. N. Jones. Chem Soc J p3292-5 N '50

MANNICH bases
Alkylation of nitroparaffins with amines and their derivatives. H. R. Snyder and W. E. Hamlin. bibliog Am Chem Soc J 72:5082-5 N '50
Mannich bases derived from a Hantzsch pyridine synthesis product. A. P. Phillips. Am Chem Soc J 73:3522-3 Jl '51
Polycyclic compounds; reactions of the Mannich base of levulinic acid. R. M. Dodson and P. Sollman. bibliog Am Chem Soc J 73:4197-9 S '51
Structure of the guaiacol Mannich bases. E. L. Eliel. bibliog Am Chem Soc J 73:43-5 Ja '51
Synthetic analgesics; tertiary carbinols and derivatives from Mannich bases. A. L. Morrison and H. Rinderknecht. Chem Soc J p 1510-13 Je '50

MANNICH reaction
Mannich reaction with *o*-phenylphenol. J. H. Burckhalter. Am Chem Soc J 72:5309-10 N '50
3-(4-Morpholinylmethyl)-2,5-diphenyl-furan and 3-(hydroxymethyl)-4-(4-morpholinylmethyl)-2,5-diphenylfuran from Mannich reactions with 1,2-dibenzoylethane in benzene medium. P. S. Bailey, G. Nowlin and H. W. Bost. Am Chem Soc J 73:4078-80 S '51
Structure of some diamines prepared by the Mannich reaction. H. M. E. Cardwell. Chem Soc J p 1056-9 Ap '50
Synthesis of 2,2-dimethyl-3-(4-morpholinyl)-1-propanol and analogous amino alcohols by the Mannich and crossed Cannizzaro reactions. L. C. Cheney. bibliog Am Chem Soc J 73:685-6 F '51
Synthesis of fluoranthenes; utilization of the Mannich reaction. H. W. D. Stubbs and S. H. Tucker. Chem Soc J p3288-92 N '50
Synthetic analgesics; further attempts to prepare 3-phenylpiperidine derivatives. A. W. D. Avison and A. L. Morrison. Chem Soc J p 1474-7 Je '50
Use of C^{14}-labeled formaldehyde in the Mannich reaction. A. V. Logan, J. L. Huston and D. L. Dorward. Am Chem Soc J 73:2952-3 Je '51

MANNING, Maxwell and Moore, inc.
Stock offered. Comm & Fin Chr 173:2390 Je 11 '51

MANNING formula. See Hydraulics—Tables, calculations, etc.

MANNITOL
Anhydrides of polyhydric alcohols; the amino-derivatives of 1 : 4-3 : 6-dianhydro-mannitol, -sorbitol, and -L-iditol, and their behaviour towards nitrous acid. V. G. Bashford and L. F. Wiggins. pl Chem Soc J p371-4 Ja '50
Anhydrides of polyhydric alcohols; the reactions of sodium iodide and lithium chloride with dimethanesulphonyl and ditoluene-*p*-sulphonyl derivatives of the 1 : 4-3 : 6-dianhydrides of D-mannitol, D-sorbitol, and L-iditol. L. F. Wiggins and D. J. C. Wood. Chem Soc J p 1180-4 My '51
Conversion of mannitol and sorbitol into dulcitol. P. Bladon and others. Chem Soc J p3000-5 N '50
*cyclo*Hexylidene derivatives of mannitol. E. J. Bourne, W. M. Corbett and D. Erilinne. Chem Soc J p786-90 Mr '50
1 : 2-5 : 6-Di*iso*propylidene 3 : 4-anhydro-D-talitol. P. Bladon and L. N. Owen. Chem Soc J p604-7 F '50
Direct proof of the equivalence of carbon atoms 1 and 6 in D-mannitol and a new method of correlating certain higher-carbon sugars and alcohols. N. K. Richtmyer and C. S. Hudson. bibliog Am Chem Soc J 72:3880-2 S '50
Dithiols; ethers of 2 : 3-dimercaptopropanol with mannitol and sorbitol. P. Bladon and L. N. Owen. Chem Soc J p591-7 F '50
4 : 5-*iso*Propylidene 1 : 2-3 : 6-dianhydromannitol. A. B. Foster and W. G. Overend. Chem Soc J p 1132-6 Ap '51
D-Mannitol-1,2,3,5,6-pentanitrate. L. D. Hayward. bibliog Am Chem Soc J 73:1974-5 My '51
Manufacture of algal chemicals; laboratory-scale isolation of mannitol from brown marine algae. W. A. P. Black, E. T. Dewar and F. N. Woodward. bibliog J Ap Chem 1:414-24 S '51

MANNITOLEEN
Dithiols; 5 : 6-sorbitoleen and 1 : 2-mannitoleen as intermediates for the preparation of dithiols. P. Bladon and L. N. Owen. Chem Soc J p598-603 F '50

MANNOBIOSE
Crystalline mannobiose from the enzymatic hydrolysis of guaran. R. L. Whistler and J. Z. Stein. Am Chem Soc J 73:4187-8 S '51

MANNOHEPTULOSE
L-Mannoheptulose (L-manno-L-tagato-heptose). M. L. Wolfrom and H. B. Wood. bibliog Am Chem Soc J 73:730-3 F '51

MANNOPYRANOSE
Isolation and characterization of two crystalline disaccharides from partial acid hydrolysis of guaran. R. L. Whistler and D. F. Durso. bibliog Am Chem Soc J 73:4189-90 S '51

MANNOSAN
Cuprammonium-glycoside complexes; the D-mannosan complex. R. E. Reeves. Am Chem Soc J 73:957-9 Mr '51

MANNOSIDOSTREPTOMYCIN

Analysis

Streptomycin and mannosidostreptomycin in fermentation broths; ion exchange resin separation and spectrophotometric determination. C. V. St John, D. E. Flick and J. B. Tepe. bibliog Anal Chem 23:1289-91 S '51

MANOMETERS
Correction factors for the balancing effect of a gas in one leg of a manometer. H. S. Bean and F. C. Morey. diag Instruments 24:528-9 My '51; Same. Oil & Gas J 50:107-8+ Jl 19 '51
Diaphragm-type micromanometer for use on a mass spectrometer. V. H. Dibeler and F. Cordero. bibliog il diag J Res Nat Bur Stand 46:1-4 Ja '51
Diaphragm-type micromanometer with electronic pick-up. Franklin Inst J 251:189-91 Ja '51; Same. il diags Instruments 23:1136+ N '50; Same. Pet Processing 5:1329-30 D '50; Same. Pet Eng 23:A68+ Ap '51; Same cond. Mach 57:169 Mr '51
Electronic circuit for measuring the displacement of pressure-sensitive diaphragms. M. L. Greenough and W. E. Williams. il diags J Res Nat Bur Stand 46:5-10 Ja '51
Electronic manometer measures minute pressures. Machine Design 23:119 Ag '51
High-pressure differential manometer. M. B. Biles. diags Instruments 24:159+ F '51
Hypodermic pressure manometer utilizing the bonded wire resistance strain gauge. H. R. Bierman and R. Jenkins. il diag R Sci Instr 22:268-9 Ap '51

MANOMETERS—*Continued*

Industrial applications of manometers. C. Meriam. diags Instruments 24:231-2 F '51

Kent universal manometer. il Engineer 191: 232 F 16 '51

Membrane manometer with secondary air transmission. C. P. Luck. bibliog diags J Sci Instr 28:173-6 Je '51

Micromanometer. il R Sci Instr 21:941-2 N '50

Modern differential pressure transmitters; advantages over recording mercury manometers. R. H. Munch. il diag Ind & Eng Chem 43:sup63A-4A+ My '51

Null method mercury cistern manometer. K. R. Honick. il J Sci Instr 28:140-2 My '51

Null-reading absolute manometer. D. Alpert and others. diags R Sci Instr 22:370-1 Je '51

Recording manometer. il diags Engineer 190: 304 S 22 '50; Engineering 170:456 D 1 '50; Metallurgia 42:274 O '50

Recording Warburg apparatus. W. Arnold and others. diags Science 114:364-7 O 5 '51

Simple manometer for use in measuring low air velocities. D. B. Spalding. diags J Sci Instr 27:310-12 N '50

Simple pressure recorder. J. Tadayon. il diags R Sci Instr 22:534-5 Jl '51

Variable area manometer utilizes magnetic coupling. il diag Product Eng 22:178 Mr '51

MANOSTATS. See Pressure regulators

MANPOWER. See Labor supply

MANPOWER managers. See Employment managers

MANSFIELD tire and rubber company

Dividend increase likely. Barron's 31:15 Ap 30 '51

MANUFACTURERS

FTC list 1000 manufacturers in order of total assets. Chem & Eng N 29:4089 O 1 '51

Directories

National union of manufacturers, 1949-50. 834p National union of manufacturers, 6 Holborn viaduct, London, E.C.1 '50 (20s)

Bibliography

Corporation and manufacturers' directories. B. Marshall, comp. (Financial div. bul. Special lib. assn. v. 13 no. 4 sup) 12p Jo Ann Aufdenkamp, ed. Federal reserve bank of Chicago, box 834, Chicago 90 '51

MANUFACTURERS' agents

Agents are O.K.; five percenter has lost his stigma. Bsns W p49-50 N 18 '50

Can manufacturers' agents outsell your own salesmen? W. A. Marsteller. Ind Marketing 36:33+ F '51

Five-percenter o.k.'d; tax court allows hiring of agent to get government contract. Bsns W p48 O 28 '50

MANUFACTURERS' liability

Product liability of the soap manufacturer. A. W. Gray. Soap & San Chem 26:37-9+ N '50

Shampoo damage award reversed on appeal; suit against Watkins co. Soap & San Chem 27:31-2+ Ja '51

MANUFACTURERS' liability insurance. See Insurance, Manufacturers' liability

MANUFACTURERS' literature. See Advertising literature

MANUFACTURERS' retail stores. See Retail stores, Manufacturers'

MANUFACTURES

See also

Brickmaking
Catalogs
Chemistry, Technical
Coke manufacture
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Cotton manufacture
Factories
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Gas manufacture
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Industry
Inspection
Labor and laboring classes
Machine shops
Machinery
Metal work
Metals
Paper making
Patents
Production
Products, New
Rayon manufacture
Standardization
Textile fabrics
Trade marks

Statistics

Census data expose fallacy of cheap power. J. A. Whitlow. Elec World 134:84-5 N 6 '50

Fourteen important ratios in 36 industrial lines; with tabulation. R. Sanzo. Dun's R 58:24-6+ N '50

Major American markets. W. Alderson and L. Kent. map Ptr Ink 235:31-5 My 25 '51

Making things is primarily metropolitan. map Ptr Ink 235:57-60 My 25 '51

Manufactures, 1947; for metropolitan areas and for 19 specific fields. Ptr Ink 235:242-6+ My 25 '51

Revision of manufacturers' sales, orders and inventories; with tabulations giving yearly totals, 1939-1949 and monthly totals, Jan. 1946-Dec. 1949. Survey of Cur Bsns 30:16-23 O '50

Canada

New manufacturing firms established in Canada. Can Chem & Process Ind 34:1009 D '50

MANUFACTURING chemists' association

Annual meeting, 79th, White Sulphur Springs, June 14-16. Oil Paint & Drug Rep 159:4+ Je 18 '51; Chem & Eng N 29:2628-30 Je 25 '51

MCA keeps pace with industry's growth. Chem W 68:11-12 Je 16 '51

New officers, Board of directors report; excerpt. Comm & Fin Chr 173:2562, 2564 Je 21 '51

MANUFACTURING plants. See Factories

MANUSCRIPTS

Catalogs

Catalogues of the British museum; manuscripts. T. C. Skeat. J Doc 7:18-60 Mr '51

MANUSCRIPTS, Cataloging of. See Cataloging —Manuscripts

MANZER, Harold V.

Hard-working H. Manzer leaves East to become Portland Oregonian ad manager. por Ptr Ink 235:84 My 11 '51

MAO TZE TUNG

Sun in the East. S. B. Griffith, 2d. por U S Naval Inst Proc 77:614-23 Je '51

MAP racks

Map rack facilitates planning. F. M. Seguin. il diag Pub Works 82:48-9+ Je '51

MAPLESVILLE, Alabama

Yankee orders boycott; Alabama stores on spot. Bsns W p25 F 3 '51

MAPPING

Surveying and mapping requirements for modern city planning. C. A. Blessing. bibliog Am Soc C E Proc 77 [no 60]:1-11 F '51

Triangulation parties conquer Arctic to map Alaska. K. B. Jeffers. il map Civil Eng 21:84-7 F '51

See also

Topographical maps

MAPPING, Aerial

New aerial camera permits speedy mapping of large areas. il diag Civil Eng 21:236 Ap '51

Possibilities for utilizing airphoto interpretation in the Cornell economic land classification system. R. B. Costello. Land Econ 27:24-30 F '51

MAPS

See also

Cartography
Gas, Natural—Pipe lines—Maps
Geological maps
Globes
Insurance, Fire—Maps
Oil lands—Maps
Street maps
Topographical maps

MAPS, Military

Army map-making truck has controlled temperatures. il Refrig Eng 59:682 Jl '51; Heat & Ven 48:103 O '51

MAPS, Topographical. See Topographical maps

MARASCHINO cherries. See Cherries

MARATHON corporation

Prospects are bright. Barron's 31:20 F 5 '51

Security I like best. H. A. Franke. Comm & Fin Chr 173:948 Mr 1 '51

MARBLE

Conservation of ancient marble monuments. A. J. Sofianopoulos. J Chem Educ 28:79-81 F '51

Deformation of Yule marble. D. Griggs and others. bibliog 6pls diags Geol Soc Bul 62: 853-905 Ag '51

MARBLE—*Continued*

Directional concentration of optic axes in Yule marble; a comparison of the results of petrofabric analysis and linear thermal expansion. J. L. Rosenholtz and D. T. Smith. bibliog diag Am J Sci 249:377-84 My '51

See also

Concrete blocks—Marble facing

MARBURY, R. E.

Personalities in engineering. por Westinghouse Eng 11:81 My '51

MARFORM process. See Sheet metal work

MARGARINE. See Oleomargarine

MARGULES equations

Vapor-liquid equilibrium of C_4 hydrocarbon-furfural-water mixtures, experimental and theoretical methods for three- and four-component systems. D. Jordan and others. bibliog Chem Eng Prog 46:601-13 D '50

MARINE and shipbuilding workers of America, Industrial union of. See Industrial union of marine and shipbuilding workers of America

MARINE biology

Eelgrass catastrophe. L. J. Milne and M. J. Milne. map diag Sci Am 184:52-5 Ja '51

See also

Algae
Fishes
Fouling organisms
Oysters
Plankton

MARINE borers

More basic research vital in fight against costly marine borers. J. F. Jelley. il Civil Eng 21:200-1 Ap '51

Subversives of the sea. E. J. Long. il U S Naval Inst Proc 77:170-3 F '51

MARINE engineering

Engineering note books. F. G. Corneau. Marine Eng 55:66-7 N '50

Exhibition of industrial power at Kelvin hall. il Engineer 192:42-4 Jl 13 '51

Marine reduction-gearing; presidential address. S. F. Dorey. diag Engineer 190:supp5-6, 426-7 N 3-10 '50

Mechanical engineering in the mercantile marine; past, present and future; abstracts. T. A. Crowe. Engineer 191:761 Je 8 '51; Engineering 171:686; Discussion. 686-7 Je 8 '51

Pametrada progress report for 1950. Engineer 191:806-7 Je 15 '51

Shipbuilding and marine engineering in 1950. il Engineer 191:10-13, 52-5, 104-5, pl 5, 9 Ja 5-19 '51

See also

Boilers, Marine
Diesel engines, Marine
Gas turbines, Marine
Motor ships
Naval architecture
Propellers
Ship propulsion
Ship propulsion, Electric
Ship resistance
Shipbuilding
Steam turbines, Marine
Steamboats
Warships

also International conference of naval architects and marine engineers; Society of naval architects and marine engineers

MARINE engines

Modernization of tugboat power plants. A. Levine. il diags Marine Eng 56:57-61 My '51

Putting marine engines in moth balls. Marine Eng 56:51 Ja '51

South Bank exhibition; Sea and ships pavilion. il Engineer 191:634-6 My 18 '51

See also

Boilers, Marine
Diesel engines, Marine
Gas turbines, Marine
Internal combustion engines, Marine
Motor boat engines, Outboard
Motor ships
Steam turbines, Marine

Testing

Testing of motor power machinery. T. W. F. Brown. diags Engineering 171:107, 137-8, 201-3, 265-8 Ja 26-F 2, 16, Mr 2 '51; Same cond. il Engineer 191:152-4, 182-4, 233-5 F 2-16 '51

MARINE fauna

Military biological oceanography. W. V. Kielhorn. il U S Naval Inst Proc 77:946-53 S '51

See also

Barnacles
Corals
Fouling organisms
Plankton
Starfishes

MARINE gas turbines. See Gas turbines, Marine

MARINE insurance. See Insurance, Marine

MARINE insurance union, International. See International marine insurance union

MARINE midland corporation

Preferred stock offered. Comm & Fin Chr 174:1197 O 1 '51

MARINE sediments. See Ocean bottom

MARINE structures

Here's a new type foundation for marine structures; Aquapad. il plan diag Eng N 147:41-3 Ag 30 '51

See also

Breakwaters
Bulkheads
Concrete construction, Subaqueous
Docks
Dry docks
Jetties
Lighthouses
Paint, Anti-fouling
Piers
Piles and pile driving
Wharves, Concrete

MARINE surveying. See Hydrographic surveying

MARINE terminals. See Terminals

MARINE workers

Health and welfare of seafarers; an international problem. K. Evang. Int Labour R 63:1-23 Ja '51

Injuries to crewmen on inland waterways; an analysis of hazards and injury rates. U S Bur Labor Statistics Special Ser 5:1-25; pa 20c Supt. of doc. '51

Joint maritime commission and the maritime work of the I.L.O. Int Labour R 62:337-63 N '50

See also

Longshoremen
Seamen

MARION, Indiana

Sewerage

Sewage and garbage disposal. Pub Works 81:76-7 D '50

MARITIME law

See also

Average (maritime law)
Salvage

MARITIME water works association

Annual meeting, St John, Oct. 30-31; joins Canadian section, A.W.W.A. Munic Util 88:15-21+ N '50

MARITIME workers. See Marine workers

MARKEL, Samuel A. 1885-

Sketch. East Underw 52:27+ Ja 12 '51

MARKET, Military. See Military market

MARKET areas

Changes in rural and urban America; the new urbanized areas. V. D. Reed. map Adv Agency 44:58-9+ Je '51

Cream of your market; new standard metropolitan areas. V. D. Reed. map Adv Agency 44:54-5+ My '51

Dealer maps urged to define market. Nat Pet N 43:54 Jl 25 '51

E&P guide to feature maps, data on state economic area. R. B. McIntyre. Ed & Pub 84:37-40 Jl 14 '51

Fastest-growing markets in the U.S. V. D. Reed. il map Adv Agency 44:54-7+ Ag '51

High spot cities. Sales Management 66:94-101 Ja 1 '51 [cont monthly]

Metropolitan America; how it's changed since '39. Sales Management 65:136+ N 10 '50

New aid to marketing men; state economic areas. V. D. Reed. map Adv Agency 44:54-6+ Ap '51

See also

Shopping areas

MARKET research

Are mail surveys a reliable marketing tool? P. L. Erdos; R. O. Eastman. Ptr Ink 236:34-5 Ag 24 '51

Doubling sales through marketing research. K. L. Gretz. J Marketing 16:79-80 Jl '51

MARKET research—*Continued*

Du Pont study shows problems in changing consumer habits, need for more advertising; self-service pre-packaged meat. Ptr Ink 234:37 F 9 '51

Experts pick best test markets by regions and five population groups. Sales Management 65:99-100+ N 10 '50

How psychiatric methods can be applied to market research. J. M. Vicary. Ptr Ink 235:39-40+ My 11 '51

How to save money in research. E. R. Smith. il Adv Agency 44:69+ Ja '51

How we live on 69 hours a day; or (the outlook for research was never so rosy). L. M. Hughes. Sales Management 65:88-92 D 15 '50

Industry leaders tell how they use market research. C. E. Smith and others. Ind Marketing 36:42-3 S '51

Information please; symposium. M. H. Baker and others. maps Ind & Eng Chem 43:831-59 Ap '51 (reprints 50c)

Is it true what they say about market research? R. E. Jaqua. Ptr Ink 234:37 F 16 '51

It's easy to dig up vital market data with the right tools. A. H. Dix. Ptr Ink 234:29-31+ Mr 9 '51

Mail surveys are valid and inexpensive. P. L. Erdos. Adv Agency 44:68-9+ Je '51

Market research and the future; abstract. S. D. Kirkpatrick. Chem Eng 57:295-7 N '50

Market research for banks. J. O. Chappell, jr. Burroughs Clearing House 35:32-4+ Jl '51

Market research in 1951. Ptr Ink 233:26 D 29 '50

Market research now, with nothing to sell? C. W. Garber, jr. Ind Marketing 36:58 S '51

Market research; the coming must in industrial selling; Rockwell Manufacturing special department. T. Armstrong. Sales Management 65:65-6+ N 10 '50

Marketing research for the small company. D. F. Mulvihill. J Marketing 16:179-83 O '51

Media research; census figures will chart growth of markets in 1951. il Ptr Ink 233:34 D 29 '50

Method for pre-evaluating merchandise offerings. E. L. Quenon. J Marketing 16:158-71 O '51

Occupational outlook handbook; market research analysts. U S Bur Labor Statistics Bul 998:119-21 '51

Relationship of buyer and seller of research. F. B. Satterthwaite. J Marketing 15:353-6 Ja '51

Sale I never forgot; suggesting better questionnaire to market research customer; never underestimate the principles of your customer. A. J. Morgan. Ptr Ink 237:76 O 12 '51

Seven ways sales analysis pays off in added profits for Daystrom. H. A. Simpson. Sales Management 66:42-5 My 1 '51

Snowball interview; new tool for market research; group interview played back to agency personnel. P. C. Nahl. Ptr Ink 234:35-6 Mr 23 '51

So the research manager said. W. M. Fox. Ptr Ink 234:100 F 9 '51

Some pitfalls of sales tests. C. H. Henrickson, jr. Sales Management 65:124+ N 10 '50

Status of marketing research. D. R. Longman. J Marketing 16:197-201 O '51; Discussion. L. O. Brown. 16:342-3 Ja '52

Studying customer behavior in retail stores. W. Applebaum. J Marketing 16:172-8 O '51

Ten rules for testing. L. J. Hubbard. Sales Management 65:130+ N 10 '50

This company spread itself too thin; Tatham-Laird, inc. R. D. Crisp. Ptr Ink 233:40-1 N 3 '50

Values of marketing research. V. D. Reed. Can Chem & Process Ind 35:227-31 Mr '51

What brands lead field in America's small towns? Sales Management 66:91 Ja 1 '51

What women like and dislike about packages today; new survey on grocery store products. A. R. Hahn. il Sales Management 67:50-2+ Jl 15; 66-8+ Ag 1; 48-50+ Ag 15 '51

Why we audit our sales policies; Interstate tractor and equipment co. C. Johnson. Sales Management 67:60+ Jl 1 '51

See also

Chemical market research association
Consumer panels
Dealer panels
Interviewing
Products, New—Testing
Questionnaires
Sales research

Bibliography

Preview of 1951 media promotion; a listing of major research projects for 1951. Ptr Ink 233:52+ D 29 '50

Research in marketing. O. E. Burley, ed. J Marketing 15:365-73 Ja '51 [cont quarterly]

Standards

Three associations recommend standards for media market data; A.A.A.A., A.N.A., and A.M.A. collaborate in sponsoring uniform population breakdowns. W. C. Barber. Ptr Ink 234:25-6 Ja 12 '51

MARKET research, Newspaper

Few brand-name products have national distribution; Scripps-Howard study. Ptr Ink 234:38-9 F 2 '51

14-market study shows position and use of advertised brands in 1950; analysis and highlights of new study by Milwaukee journal and cooperating newspapers. H. E. Green. Ptr Ink 233:57-9 D 15 '50

Herald tribune merits thanks for NYC data. T. S. Irvin. Ed & Pub 83:46 D 23 '50

How does your product acceptance vary in these 15 markets? Sales Management 66:76+ Je 1 '51

What they're buying in 15 markets; standardized surveys show new brand position of 100 basic products. H. E. Green. Ptr Ink 235:29-31 My 11 '51

W-T & S mail survey draws 10,989 replies. Ed & Pub 84:28 Mr 17 '51

MARKET research, Retail

Small-town merchants capitalize on marketing research. H. W. Johnson. J Retailing 27:12-18 Spring '51

MARKET research departments

Can you afford a market research department? W. A. Marsteller. Ind Marketing 36:36-7+ Mr '51

Putting the marketing research department on the executive level. W. A. Marsteller. J Marketing 16:56-60 Jl '51

MARKET statistics

Annual market data and directory number. Ind Marketing 36:5-456 Je 25 '51

Arkansas story; markets. Manuf Rec 120:101-3 F '51

Census data for 22 new standard metropolitan areas. Ptr Ink 234:29 F 9 '51

Concentration of American market in metropolitan areas. W. Alderson. Ptr Ink 233:27-31+ O 27 '50

Concentration of the American wholesale and retail markets in metropolitan areas. W. Alderson and L. Kent. Ptr Ink 235:29-32+ Ap 13 '51

E&P guide to feature maps, data on state economic area. R. B. McIntyre. Ed & Pub 84:37-40 Jl 14 '51

Evaluation of census tracts. R. M. Cunningham. J Marketing 15:463-70 Ap '51

Future sales ratings. Sales Management 66:105 Ja 15 '51

How dead is the 1948 census of business? metropolitan area sales, 1950 vs. 1948. Sales Management 67:54-6+ S 1 '51

It pays to study the census. L. Stafford. il Banking 43:14+ O '50

Keep an eye on your competition; condensed from How to use market research for profit. W. M. Fox. Ind Marketing 35:42-3+ N '50

Major American markets; official census figures for each of the new 168 metropolitan areas. il maps Ptr Ink 235:25-314 My 25 '51

Metropolitan America; how it's changed since '39. Sales Management 65:136+ N 10 '50

New aid to marketing men; interpreting the census. V. D. Reed. il maps Adv Agency 44:54-6+ Ap; 54-5+ My; 58-9+ Je; 52-5+ Jl; 54-7+ Ag '51

1951 market data book number. maps Ind Marketing 35:5-474 S 15 '50

Population shifts in metropolitan areas, 1940-1950. Sales Management 66:70+ Ja 1 '51

MARKET statistics—*Continued*
Rearmament upsets government marketing data. Bsns W p65 N 11 '50
Sales rating board forecast; possible decline; need of promotion. Sales Management 67:108-9 Jl 1 '51
Summary of 1950 market data for all incorporated cities; SM estimates for cities of 2,500 persons and over. Sales Management 67:156 O 15 '51
Trend in food sales; analysis of 424 counties of the U.S. from 1929 to 1950. R. B. Prescott. Ptr Ink 233:35-6+ D 22 '50
See also
Consumption (economics)— Statistics
Farm income
Income—Statistics

MARKET stores
Cooling equipment installed in giant supermarket. il Heat & Ven 48:86 F '51
Forced marriage; drugs and foods; Rexall drugstore and a super market. il Sales Management 65:83 D 1 '50
German retailers visit U.S. food markets. il Bsns W p148-9 Je 16 '51
Refrigeration is key to modernization of grocery chain; Safeway stores, inc. L. A. Warren. il Refrig Eng 59:63-4 Ja '51
Safeway boards up windows, to sell more food; illustrations with text. Bsns W p88 Je 30 '51
Supers stymied; emergency calls halt to plans. Bsns W p50+ D 16 '50
Take a closer look at supers. E. B. Weiss. Ptr Ink 236:45 S 21 '51
See also
Great Atlantic and Pacific tea company
Safety stores, inc.
Schwegmann brothers, inc.

MARKET stores, Wholesale
How retailer shops in new wholesale super market. il Ptr Ink 236:41 Ag 3 '51

MARKET surveys
Consumer market development; Diamond alkali co., Houston, caustic soda-chlorine plant. G. F. Rugar. il Ind & Eng Chem 43:1751-3 Ag '51
How to evaluate a market survey. R. E. Wick. Adv Agency 44:74+ Mr '51
Market surveying for electricity supply. Engineering 171:104 Ja 26 '51
Pitfall in cluster samples. F. J. Chokel and S. L. Payne. J Marketing 15:329-31 Ja '51
See also
Questionnaires

MARKETING
Ads pegged to hot tv news help establish the Raytheon brand. W. L. Dunn. il Sales Management 66:44-6 Ja 1 '51
Can marketing be a science? R. Bartels. J Marketing 15:319-28 Ja '51
Cinderella product thrives in new retail setting; Setwell hangers sold in men's clothing stores. il Ptr Ink 233:39 N 3 '50
Contactual function in marketing. E. D. McGarry. bibliog J Bsns 24:96-113 Ap '51
Credit; fundamental function of marketing. E. V. W. Read. Credit & Fin Management 52:14-15+ N '50
Distribution in jig time; the story of terramycin. T. Armstrong. il Sales Management 66:74+ Mr 1 '51
GF's new system cuts distribution knots; transit warehouses reship to wholesalers. A. C. Schier. il Food Ind 22:2053-5+ D '50
Good product, but too hard to sell; General Chef combination range and refrigerator. J. B. Devitt. Sales Management 67:81-2 S 1 '51
Heinz mobilizes for mass markets. L. M. Hughes. il Sales Management 65:37-9+ D 1 '50
How to sell in today's buyers'-sellers' market. H. E. Green. il Ptr Ink 235:29-31 Ap 20 '51
Industrial selling during mobilization; abstract. Management R 40:555-6 S '51
Informing management on product development; Pennsylvania salt manufacturing co. E. M. Ott. Ind & Eng Chem 43:841-3 Ap '51
Management must accept marketing as a science. D. F. Austin. Ind Marketing 36:50+ Je '51
Marketing pattern. Bsns W p82 N 18 '50
Marketing prepares for time when production must be king. il Ptr Ink 233:18-19 D 29 '50
Mobilization factors affecting marketing. N. A. Miller. J Marketing 16:68-73 Jl '51
New distribution plan skyrockets Polyken sales. G. D. Crain, jr. Ind Marketing 36:33+ Ap '51
New packaged goods success rung up by bulk food processor; Swanson brothers packaged poultry. H. E. Green. il Ptr Ink 234:25-7 Mr 2 '51
New product introduction; field interviews. C. P. Neidig. Ind & Eng Chem 43:843-5 Ap '51
Pfizer put an old name on a new drug label; terramycin. il Bsns W p 130-1+ O 13 '51
Prizes, premiums and parties build a 70-million-dollar bonanza; Stanley home products. M. Beuick. il Ptr Ink 234:40-2 Mr 9 '51
Rate-yourself distribution quiz. E. B. Caldwell. Sales Management 66:105-6 F 15 '51
Retail distribution follows mail-order success; Toolzon polisher attachment for electric kitchen mixer. L. F. Thomann. il Ptr Ink 235:41-2 Ap 6 '51
Some problems in distribution. Lord Hollenden. Textile Inst J 41:P701-6 S '50
To compete today, accept change; interview with Victor Lebow. Bsns W p53-6+ Mr 3 '51
Transferring a new product from research to sales; General Mills research laboratories. G. E. Nadler. maps Ind & Eng Chem 43:834-7 Ap '51
Trumbull remodels its management to meet the age of crisis. A. R. Hahn. Sales Management 66:37-9+ F 15 '51
What economists should know about marketing. G. H. Brown. J Marketing 16:60-6 Jl '51
What will CMP mean to advertising? R. Y. Giles. Ptr Ink 235:34-5 Je 22 '51
What worries marketing men. Bsns W p43-4 N 4 '50
See also
Advertising
Air freight service
Auctions
Brokers
Chain stores
Containers
Dealer helps
Dealer relations
Display of merchandize
Distribution (economics)
Exclusive agencies
Exhibits
Export trade—Marketing
Farm market
Food brokers
Industrial market
Jobbers
Mail order business
Manufacturers' agents
Market stores
Merchandizing
Military market
Post exchanges
Price policies
Private brands
Products, New
Retail trade
Sales management
Sales policies—Selective selling
Salesmanship
Salesmen
Salesmen, Retail
Securities—Marketing
Traveling stores
Vending machines

Accounting

Art and the science of distribution costing. J. A. Beckett. N A C A Bul 32:893-906 Ap '51
Distribution cost control, and beyond. E. W. Kelley. N A C A Bul 32:907-22 Ap '51

Bibliography

Comprehensive classified marketing bibliography; pt 2, government publications, university research monographs, and articles in professional journals, published through 1949. D. A. Revzan, comp. 408p $3.50 Univ. of California press, Berkeley 4 '51
Industrial marketing in wartime; a bibliography of articles on war-time advertising published by Industrial marketing from 1939-45. M. C. Lucas. Ind Marketing 35:118+ O '50
Research in marketing. J. H. Lorie, ed. J Marketing 16:207-13 O '51

Chain store outlets

Chain lightning; 70 per cent of New York area food chains handling Arny floor polish. Chem Ind W 68:46+ Ja 20 '51
How to sell through the mail order chains. J. C. Cummings. il Sales Management 65:56-7 S 15; 80-2 O 1; 84+ O 15; 65+ N 1; 76+ N 10; 58+ N 20 '50

MARKETING—Chain store outlets—*Continued*

Sale I never forgot; out of the mouth of babes, a new business; dolls' hot water bottle. T. W. Smith, jr. Ptr Ink 234:50+ Mr 16 '51

Want to sell to the five-and-tens? informal survey. M. Beuick. il Ptr Ink 236:33-5 Ag 10 '51

Cost

Bases for allocating distribution costs. R. H. Watson. J Marketing 16:29-42 Jl '51

Distribution cost analysis points the way to more profitable business. A. H. Smith. Management R 39:675-7 N '50

Distribution; target for cost reduction. H. W. Morrow. Advanced Management 16:14-17 F '51

How Kraft cut distribution costs 25 per cent; Zonor system. il Bsns W p40-2 O 28 '50

Marketing costs have not increased in forty years! P. D. Converse. il Ptr Ink 236:29-31 Ag 3 '51

Outline of distribution costs; prepared by a sub-committee of the Distribution cost committee. J Marketing 16:51-5 Jl '51

Productivity standards; warehousing; distribution study committee, Shell oil co. S. S. Tomlin. Advanced Management 16:19-22 Mr '51

Department store outlets

Quality vs. quantity in department store display. W. J. Caddelle. il Ptr Ink 234:27-9 F 9 '51

Direct selling

Regional manufacturer goes national; sells direct to retailers, advertises direct to public; Flex-Let corp. J. R. Storti. il Ptr Ink 233:27-9 N 3 '50

When you're tempted to cut out distributors. L. H. Brendel. Sales Management 67:68+ S 1 '51

Five- and ten-cent store outlets

What products win five and ten cent awards? Sales Management 66:57 Mr 15 '51

History

Influences on the development of marketing thought, 1900-1923. R. Bartels. J Marketing 16:1-17 Jl '51

Law

Legislative and judicial developments in marketing. W. F. Brown, ed. J Marketing 15:493-501 Ap '51 [cont quarterly]

Selected outlets

See Sales policies—Selective selling

Study and teaching

Influences on the development of marketing thought, 1900-1923. R. Bartels. J Marketing 16:1-17 Jl '51

Teaching statistics to marketing students. R. Ferber. J Marketing 15:340-3 Ja '51

Directories

Directory of advertising, marketing, and public relations education in the United States. D. W. Davis, comp. 68p pa $3.50 Advertising federation of America, Bur. of research and education, 330 W. 42d st, New York 18 '51

MARKETING, Cooperative

Contract plan of New York printers group builds income from waste paper. R. Savery. Inland Ptr 126:33-4 N '50

See also

California fruit growers' exchange

Florida citrus exchange

MARKETING, Theory of

Product differentiation and demand for marketing services. G. Black. J Marketing 16:73-9 Jl '51

Theory in marketing. R. Cox and W. Alderson. 340p $4.50 Richard D. Irwin, 3201 S. Michigan av. Chicago 16 '50

MARKETS, New

Guaranteed profits for retailers! Pepsi-Cola grocery trade campaign. il Ptr Ink 235:26 My 4 '51

Industrial finds a consumer market on its doorstep; Tinnerman Products' Tinker Kit. il Sales Management 67:144+ S 15 '51

It takes new ideas to sell anything, especially an old product; Hercules cellulose acetate campaign. G. H. Daly. il Ptr Ink 234:40+ Mr 2 '51

Now that these loose items are packaged, sales are on the way up; Sargent hardware enters consumer market. J. B. Duff. il Ptr Ink 236:38-9 Jl 27 '51

Retail sales zero; new market, record sales; service to laundries. T. H. Beck. Ptr Ink 235:56+ Ap 6 '51

Skilsaw integrates advertising with displays for retail pay-off; industrial marketer adds home shop tools. il Sales Management 66:88+ Ja 15 '51

What creative selling has done for a lackluster product; Andre flower boxes; multiple use gift boxes. N. Andre. il Sales Management 67:37-9+ Jl 1 '51

See also

Advertising copy—Use appeal

MARKING

Mechanized marking of parts costs less. J. M. Phillips. il Iron Age 166:94-5 N 16 '50

See also

Steel alloys—Marking

MARKING machines

Noble & Westbrook general-purpose marking machines. il Mach 57:213-14 Ja '51

Rotary printer speeds sheet and strip stenciling. C. A. Banze. il Steel 128:92+ Ja 22 '51

MARKING pens. See Pens, Marking

MARKS, Laurence Mandeville, 1892-

New IBA head. por Bsns W p84 D 9 '50

Portrait. Fortune 43:15 Ja '51

MARKS, Students'

Significance of college grades. J Account 91:762-4 My '51

MARKS and Spencer, limited

Statement by the chairman. S. Marks. Economist 160:1475-6 Je 16 '51

MARKUPS. See Price policies

MARMOTS

Effect of hibernation upon survival time following whole-body irradiation in the marmot (marmota monax). F. Smith and M. M. Grenan. bibliog Science 113:686-8 Je 15 '51

MARQUENCHING. See Steel, Quenching of

MARRIAGE

Church problems in marriage education. L. F. Wood. Ann Am Acad 272:171-8 N '50

Contemporary status of marriage counseling. E. H. Mudd and M. G. Preston. Ann Am Acad 272:102-9 N '50

See also

Community property

Statistics

Statistical perspective on marriage and divorce. K. Davis. Ann Am Acad 272:9-21 N '50

MARS (planet)

Canals of Mars. J. R. Randolph. il Comp Air Mag 56:72-3 Mr '51

Structure and chemical composition of Mars. H. C. Urey. bibliog Phys R 80:295 O 15 '50

MARSH buggy. See Motor trucks, Amphibious

MARSHALL, Leonard Lyon

Len claims good ads make good papers. J. L. Collings. por Ed & Pub 83:18 D 2 '50

MARSHALL, Roy Kenneth, 1907-

Astronomy professor may devote full time to delivering commercials on television. por Ptr Ink 234:74 Mr 2 '51

MARSHALL plan. See Economic cooperation administration; European recovery program; Reconstruction (World war, 1939-1945)—Marshall plan

MARSHES

Concrete-coated pipe for swampy terrain. A. Gibbon. il World Oil 131:247-8+ N '50

How marshy can a pipe-line route get? P. Reed. il Oil & Gas J 50:76-7 Je 14 '51

Laying pipe in delta swampland. il Pet Eng 23:D40+ S '51

Stakes help chain over marsh for bridge location. il Roads & Sts 94:64 Ja '51

MARSHMALLOW cream

They picked a bonus process; continuous marshmallow production; Robert A. Johnston co., Milwaukee. W. J. Lancaster and others. flow sheet il Food Eng 23:53-5+ Jl '51

MARSHMALLOW cream—*Continued*

You can double output by modernizing; Durkee-Mower's Marshmallow Fluff. J. V. Ziemba. il Food Ind 23:47-9+ Ja '51

MARTENSITE

Burst phenomenon in the martensitic transformation. E. S. Machlin and M. Cohen. bibliog il J Metals 3:Trans 746-54 S '51

Effect of ferrite grain structure upon impact properties of 0.80 per cent carbon spheroidite. M. Baeyertz and others. bibliog il J Metals 188:Trans 1465-71 D '50

Embrittlement of tempered martensite better defined. P. Payson. bibliog Iron Age 168: 86-9 S 27 '51

Isothermal formation of martensite at subzero temperatures in a high chromium steel. S. C. Das Gupta and B. S. Lement. bibliog il diags J Metals 3:Trans 727-31 S '51

Magnetic analysis of iron-carbon alloys; the tempering of martensite and retained austenite. J. Crangle and W. Sucksmith. bibliog Iron & Steel Inst J 168:141-51 Je '51

Martensitic transformation at temperatures approaching absolute zero. S. A. Kulin and M. Cohen. bibliog il J Metals 188:Trans 1139-43 S '50; Discussion. 3:Trans 551-3 Jl '51

Metallographic study of the martensite transformation in lithium. J. S. Bowles. il diag J Metals 191:Trans 44-6 Ja '51

Structural transformations in the tempering of high-carbon martensitic steels. K. H. Jack. bibliog 2pls diags Iron & Steel Inst J 169:26-36 S '51

Structure of martensite separated electrolytically from quenched steel; abstract. M. P. Arbuzov. Metal Prog 60:136 S '51

MARTIN, Fowler W.

His business commodity is people. B. Osborn. por Bankers Mo 68:38+ Je '51

MARTIN, George Justis

Toast of New Orleans, Gus is done in oil. por Ed & Pub 83:66 D 9 '50

MARTIN, Glenn L., company

Sharp improvement in Martin position. Aviation W 54:15 Ap 30 '51

MARTIN, William McChesney, 1906-

Calm in FRB; Martin new chairman. por Bsns W p26 Mr 24 '51

Head of the Fed. por Banking 44:46-9+ S '51

Portrait. Bsns W p 101 S 22 '51

Young Turk in an old job; Federal reserve board head. pors Bsns W p56+, cover Je 2 '51

MARTINS bank, limited

Statement by the chairman. A. H. Bibby. Economist 160:108-9 Ja 13 '51

MARYLAND

See also

Gas, Natural—Maryland

Roads—Maryland

MASH welding. See Electric welding

MASKING (sound). See Hearing

MASKS, Rubber

Unique conveyor drying system improves mass production of latex rubber novelties. il Rubber Age 69:189-90 My '51

MASON, Edward Sagendorph, 1899-

Economists. J. McDonald. por Fortune 42: 108-13+ D '50

MASON, Martin Wesley

Mason of MATS. por Aero Digest 62:34+ Je '51

MASONITE

How to use Presdwood for exterior siding. il plan Am Bld 73:290+ Ap '51

MASONRY

Clear water repellent for masonry finish. il Concrete 59:30+ F '51

Comparative masonry costs for walls constructed of brick, block and clay tile; with cost data. C. C. McGinnis. Brick & Clay Rec 117:49+ D '50

How you use clay products makes the difference; poor workmanship, cause of leaky masonry walls. diags Am Bld 73:119 My '51

Structural clay masonry wall types, uses. il diags Am Bld 73:115-18 My '51

See also

Brick construction

Concrete blocks

Painting

Like a duck's back; water-repellent finishes for masonry. il Chem W 69:35 S 29 '51

Standards

Modular coordination; prepared with the cooperation of Structural clay products institute; with time-saver standards. diags Arch Rec 108:167+ N; 159+ D '50

Study and teaching

Brick masonry design course instituted at N.C. state college. Brick & Clay Rec 119: 62 Ag '51

MASS (chemistry)

Atomic masses of H^1, C^{12}, and S^{32}. A. O. Nier. bibliog Phys R 81:624 F 15 '51

Atomic masses of H^1, D^2, and C^{12}. A. H. Wapstra. bibliog Phys R 82:756-7 Je 1 '51

Determination of atomic mass doublets by means of a mass spectrometer. A. O. Nier and T. R. Roberts. bibliog diag Phys R 81: 507-10 F 15 '51

H_2—D mass difference and the determination of secondary atomic mass standards. T. R. Roberts. bibliog Phys R 81:624-5 F 15 '51

Mass-differences $C^{12}(H^1)_4$-O^{16},$C^{12}(H^1)_2$-N^{14}, and $C^{12}(H^1)_3$-N^{15}. K. Ogata and H. Matsuda. bibliog Phys R 83:180-1 Jl 1 '51

Mass of Cl^{39}. D. H. Wilkinson and J. H. Carver. bibliog Phys R 83:466-7 Jl 15 '51

Mass of S^{32}. H. E. Duckworth and others. Phys R 81:286 Ja 15 '51

Masses of light nuclei from nuclear disintegration energies. C. W. Li and others. Phys R 83:512-18 Ag 1 '51

Masses of the negative and positive electrons. J. W. M. DuMond. bibliog Phys R 81:468-9 F 1 '51

Microwave study of Ge, Si, and S masses. S. Geschwind and R. Gunther-Mohr. bibliog Phys R 81:882-3 Mr 1 '51

Some new atomic mass measurements and remarks on the mass evidence for magic numbers. H. E. Duckworth and R. S. Preston. bibliog Phys R 82:468-70 My 15 '51

Some new values of atomic masses, principally in the region of 82 neutrons. H. E. Duckworth and others. bibliog Phys R 83: 1114-17 S 15 '51

MASS, Standards of. See Standards of mass

MASS action, Law of

Cation-exchange resins; the applicability of the mass-action law to the exchange of univalent ions. J. D. Cosgrove and J. D. H. Strickland. Chem Soc J p 1845-53 Jl '50

MASS spectra

Effect of isotopic substitution on mass spectra of molecules. O. A. Schaeffer. J Chem Phys 18:1501-5 N '50

Infrared and mass spectra of some deuterium-containing derivatives of propane. F. E. Condon and others. bibliog J Chem Phys 19:1010-13 Ag '51

Isotope effect on dissociation probabilities in the mass spectra of chloroform and chloroform-*d*. V. H. Dibeler and R. B. Bernstein. bibliog J Chem Phys 19:404-6 Ap '51

Mass spectra of C_1-C_4 monodeutero paraffins. D. P. Stevenson and C. D. Wagner. J Chem Phys 19:11-16 Ja '51

Mass spectra of propanes and butanes containing C^{13}. D. P. Stevenson. bibliog J Chem Phys 19:17-21 Ja '51

Mass spectra of some simple isotopic molecules. V. H. Dibeler and others. bibliog J Res Nat Bur Stand 45:288-91 O '50

Mass spectra of the deuteromethanes. V. H. Dibeler and F. L. Mohler. bibliog J Res Nat Bur Stand 45:441-4 D '50

Some new atomic mass measurements and remarks on the mass evidence for magic numbers. H. E. Duckworth and R. S. Preston. bibliog Phys R 82:468-70 My 15 '51

Temperature variation of mass spectra of hydrocarbons. R. M. Reese and others. bibliog J Res Nat Bur Stand 46:79-84 F '51

Total ionization of hydrocarbons from mass spectral data. F. L. Mohler and others. J Res Nat Bur Stand 45:235-8 S '50

MASS spectrographs

Mass-differences $C^{12}(H^1)_4$-O^{16},$C^{12}(H^1)_2$-N^{14}, and $C^{12}(H^1)_3$-N^{15}. K. Ogata and H. Matsuda. bibliog Phys R 83:180-1 Jl 1 '51

MASS spectrographs—*Continued*

Mathematical data for electron drain on positive ion sources. S. E. Rauch. bibliog diags J Ap Phys 22:1128-32 S '51

MASS spectrometers

Determination of atomic mass doublets by means of a mass spectrometer. A. O. Nier and T. R. Roberts. bibliog diag Phys R 81: 507-10 F 15 '51

Diaphragm-type micromanometer for use on a mass spectrometer. V. H. Dibeler and F. Cordero. bibliog il diag J Res Nat Bur Stand 46:1-4 Ja '51

Electron current regulator for mass spectrometer ion sources. V. J. Caldecourt. diag R Sci Instr 22:58-9 Ja '51

Gas flow through the mass spectrometer viscous leak. R. E. Halsted and A. O. Nier. bibliog diag R Sci Instr 21:1019-21 D '50

Introduction of liquid samples into the mass spectrometer. K. M. Purdy and R. J. Harris. diags Anal Chem 22:1337-8 O '50

Kinetics of the photolysis of acetaldehyde; the determination of ethane and hydrogen in the reaction products by the use of a mass spectrometer. C. J. Danby, A. S. Buchanan and I. H. S. Henderson. Chem Soc J p 1426-30 Je '51

Mass spectrometer and its applications; abstract. V. W. Rowlands. Chem & Ind p 10 Ja 6 '51

Mass spectrometer for monitoring continuous processes. C. F. Robinson and others. il diags Instruments 24:25-9 F '51

Mass spectrometer leads swing to instrumentation in analysis; conference on analytical chemistry and applied spectroscopy, Pittsburgh. Chem & Eng N 29:1102+ Mr 19 '51

Mass spectrometer resolution of ion pairs of similar *m/e*. D. V. Kniebes and others. J Chem Phys 19:654-5 My '51

Measurement of low vapor pressures by means of a mass spectrometer. A. W. Tickner and F. P. Lossing. bibliog diag J Phys & Colloid Chem 55:733-40 My '51

New magnetic period mass spectrometer. L. G. Smith. diag R Sci Instr 22:115-16 F '51

New mass spectrometers developed for continuous monitoring of process streams. R. H. Munch. diags Ind & Eng Chem 42: sup93A-4A N '50

New $2,000 mass spectrometer may find wider lab use. Chem & Eng N 29:552+ F 12 '51

Radiofrequency mass spectrometer. P. Schissel. diag J Ap Phys 22:680 My '51

R-f mass spectrometer tube. il R Sci Instr 21:888 O '50

Universal range selector for strip chart recorders. E. A. Bunt. il diags R Sci Instr 22:57-8 Ja '51

MASS spectrometric analysis

Analysis of solids with the mass spectrometer. J. G. Gorman, E. J. Jones and J. A. Hipple. bibliog Anal Chem 23:438-40 Mr '51

Application of mass spectrometer analysis to the study of respiratory metabolism. A. W. Pratt and others. bibliog diag R Sci Instr 22:694-6 S '51

Compound types in gasoline by mass spectrometer analysis. R. A. Brown. bibliog Anal Chem 23:430-7 Mr '51

Determination of heavy water by mass spectrometer. B. W. Thomas. bibliog Anal Chem 22:1476-8 D '50

Determination of impurity traces; mass spectrometric method. R. E. Honig. bibliog Anal Chem 22:1474-6 D '50

Evaporation products of barium oxide from various base metals and of strontium oxide from platinum. L. T. Aldrich. bibliog diag J Ap Phys 22:1168-74 S '51

Mass-spectrographic identification of Cm^{243} and Cm^{244}. F. L. Reynolds and others. il Phys R 80:467 N 1 '50

Mass spectrometer analyses more accurate with sensitive electronic micromanometer. il diags Pet Processing 5:1329-30 D '50

Mass spectrometer analysis of some oxygenated compounds; the sorption problem. H. M. Kelley. bibliog Anal Chem 23:1081-5 Ag '51

Mass spectrometric analysis of low-molecular weight monodeutero-paraffins. D. P. Stevenson and C. D. Wagner. bibliog Am Chem Soc J 72:5612-17 D '50

Mass spectrometry of heavy hydrocarbons. M. J. O'Neal, jr. and T. P. Wier, jr. bibliog diag Anal Chem 23:830-43 Je '51

Qualitative analysis from mass spectra. S. M. Rock. bibliog Anal Chem 23:261-8 F '51

Re-examination of the infrared spectra of the monodeutero toluenes; a method of analysis. G. V. Tiers. J Chem Phys 19:1072 Ag '51

Reference standard for mass spectrometric analysis of nitrogen. S. Soloway. Anal Chem 23:386 F '51

MASSACHUSETTS

See also

Labor laws and legislation—Massachusetts

MASSACHUSETTS institute of technology

Annual report. J. R. Killian, jr. Tech R 53: 96-8+ D '50

Commencement and alumni day, 1951. il Tech R 53:483-90+ Jl '51

Four year program favored. Eng N 145:38 D 7 '50

Graduate inorganic chemistry. W. C. Schumb. bibliog J Chem Educ 28:297-9 Je '51

M.I.T. educational survey. Tech R 53:30-3+ N '50

Sailing at M.I.T. W. C. Wood. il Tech R 53: 300-2+ Ap '51

Teaching radiochemistry. C. D. Coryell and J. W. Irvine, jr. bibliog J Chem Educ 28:14-20 Ja '51

Hydrodynamics laboratory

New Hydrodynamics laboratory. A. T. Ippen. il Tech R 53:399-403+ Je '51

Ship model towing tank part of new Hydrodynamics laboratory. M. A. Abkowitz. il Tech R 53:404-6 Je '51

School of industrial management

School of industrial management. Tech R 53: 153 Ja '51

MASSACHUSETTS mutual life insurance company

Centennial convention, New York, May 18-22. East Underw 52:3-11+ My 25 '51; Nat Underw (Life ed) 55:2+ My 25 '51

Century of service. J. M. McCarthy. il Spectator (Life ed) 158:10-12 Je '51

MASSIE, W. M. 1873-

Sketch. R. Sass. pors Bankers Mo 67:14+ D '50

MASTER boiler makers' association

Annual meeting, 33d, Chicago, Sept. 18-20. Ry Mech & Elec Eng 124:662-70 N '50

Annual meeting, Chicago, Sept. 17-19. Ry Mech & Elec Eng 125:59-62+ O '51; Ry Age 131:56-8 S 24 '51

MASTICS (asphalt composition, etc.)

Tile mastic saves one-fifth of installation costs, permits tile use on dry-built walls. il Arch Forum 93:150 N '50

MASTOIDS, Artificial

Strain-gauge type artificial mastoid for testing bone conduction receivers. R. W. Carlisle and H. A. Pearson. bibliog il diags Acoustical Soc Am J 23:300-2 My '51

MASTS and rigging

Aircomatic process used in welding aluminum masts for navy. il Marine Eng 56:58-60 S '51

MATCH books

Damp strike; book matches feature water-resistant striking strip. il Chem Ind 67:877 D '50

MATCH plates. See Pattern making

MATCHES

Manufacture

Chemical-type air drying system pays for itself in two years; Ohio match co. J. M. Neath. il Factory Management 109:80-1 Ap '51

MATERIA medica

See also

Analgesics
Anesthetics
Anticonvulsants
Drugs
Medicine
Pharmaceutical research

MATERIAL control

Material control in a chemical company. K. Schweller. flow sheet N A C A Bul 32: 296-308 N '50

Materials control practices. J. L. Stackpole. World Oil 133:61-2+ Jl '51

MATERIAL control—*Continued*

Properly engineered material and inventory control saves money; Allis-Chalmers' system. M. W. Schaefer. Mill & Factory 47: 93-6 N '50

Want to save money? check your materials control system. G. H. Silver. il Mill & Factory 48:124-6 F '51

See also

Inventories

Stores systems

MATERIAL handling

Better way to handle dry bulk materials; moving abrasive grain from processing to wheelmaking plant at Norton co.; illustrations with text. A. F. Hardy, jr. Factory Management 108:102-3 N '50

Characteristics of scrap in relation to bulk handling. E. L. Diamond. diags Iron & Steel Inst J 164:452-62 Ap '50; Same cond. Iron Age 166:95-9 S 21 '50; Discussion. Iron & Steel Inst J 167:364-6 Ap '51

Cutting the cost of materials handling; abstract. B. Hanson. Management R 40:549-50 S '51

Designing to expedite handling of body units. E. R. Frost. map diags Automotive Ind 104: 47+ My 1 '51; Same abr. Steel 127:101-2 D 4 '50

Flow-line production. F. G. Woollard. Engineering 170:334, 421-2 N 3, 24 '50

Handling is no problem at Ball bros. El Monte, Calif. plant. il diag Cer Ind 55: 64-5+ N '50

Handling practices for liquid caustic soda. R. A. Springer. diag Tappi 34:sup 125A-8A; Discussion. sup 128A-9A S '51

Handling system reduces production costs of rubber parts. il Rubber Age 69:315 Je '51

Ideas for textile mills from materials-handling show; illustrations with text. Textile World 101:104-8 Jl '51

Improved materials handling procedures. T. W. Rodes. il Ind & Eng Chem 43:sup 149A-50A+ O '51

Incentive handling system ups production 25 per cent; Thew shovel co. W. J. Allaback. il Steel 128:82-4 Je 11 '51

Job analysis saves time, money. il Chem W 69:31-2 S 15 '51

Let's work on positioning in cutting handling costs. H. L. Werner. il diags Textile World 101:136-7+ F '51

Load lifters to ease threatened manpower shortage. J. V. Sherman. Barron's 31:19 Ja 8 '51

Materials handling case book. L. K. Urquhart and C. W. Boyce, eds. 440p $8 McGraw-Hill book co, 330 W. 42d st, New York 18 '51

Materials handling; cost reduction. R. Belt. Tappi 34:sup 106A-8A My '51

Materials handling in the chemical industry. il Can Chem Process 35:497-9+ Je '51

Mechanism of material handling. C. Whiteford. il diags Iron & Steel Eng 27:95-9 D '50

New salt plant overcomes handling headaches; Morton's Grand Saline, Texas, plant. G. R. Pyle. il Factory Management 108: 120-3 D '50

Put parts where they're needed; Northrop aircraft, inc.'s F-89 Scorpion production line. il Aviation W 54:33 Mr 12 '51

Receiving and shipping on wheels; Douglas aircraft co.; illustrations with text. G. C. Close. Mill & Factory 48:109-11 Mr '51

16 ways to handle yard and bulk materials; illustrations with text. Mill & Factory 48: 114-16 Ap '51

Speeding production through modern materials handling; abstract. L. J. Pantas. Management R 40:81-2 F '51

Storage and handling of pulverized materials. F. Silver. bibliog Mech Eng 73:730-4 S '51

Straight-flow materials handling simplifies integrated operation; Alemite division of Stewart-Warner corp. D. Reebel. il plan Steel 128:75-6 F 12 '51

Technique for transferring cold liquids. D. S. Goalwin. diag Refrig Eng 59:251-5 Mr '51

Vertical cure of costly clog jumps storage capacity 75 per cent; Morton salt co. H. S. Squibbs. il Food Eng 23:143 Ag '51

Wheel handling using elevated runway. il Ry Mech & Elec Eng 125:59-60 Ja '51

When planning a new layout, check your materials handling needs. R. W. Mallick and A. T. Gaudreau. il plan Mill & Factory 48:80-3 Ja '51

See also

Coal handling

Conveying machinery

Electric trucks, Industrial

Factory transportation

Freight handling

Loading and unloading

Lumber handling

Mechanical handling

Motor trucks, Industrial

Ore handling

Pallets

Salt handling

Steel handling

Wood handling

Storage

Exhibitions

Materials handling exposition, 4th, Chicago, April 30-May 4; program and list of exhibitors. Steel 128:73-6 Ap 23 '51

Mill men can benefit from materials-handling show; survey questions and answers. Textile World 101:127+ Ap '51

New equipment at National materials handling exposition, Chicago, April 30-May 4. il Am Mach 95:177 My 14 '51

What's new at the materials handling show. il diags Automotive Ind 104:48-53+ My 1 '51

Safety measures

Planned for handling materials. A. T. Gaudreau. il plans diags Nat Safety N 64:22-5+ Jl '51

Safety kinks for the safety-minded: illustrations with text. R. R. Howard. Mill & Factory 48:112-14 Je '51

See also

Lifting

MATERIALISM

Affirmation of materialism; Chief Justice Vinson's conclusion in upholding conviction of Communist leaders. F. Morley. Barron's 31:3 Je 18 '51

MATERIALS

Chemical engineering materials of construction; fifth annual review; with 3d tabular data compilation, p2283-94. bibliog il Ind & Eng Chem 43:2193-294 O '51 (reprints 75 cents)

Designing with modern materials; survey of latest developments in engineering materials. il Machine Design 23:297-352 O '51

Directory of materials for chemical manufacture. Chem Eng 57:143-54 N '50

Effects of radiation on materials. J. C. Slater. J Ap Phys 22:237-56 Mr '51

Engineering materials in ordnance equipment. B. S. Mesick. il Materials & Methods 33: 59-63 My '51

Engineering materials manuals. T. C. DuMond, ed. 386p $4.50 Reinhold publishing corp, 330 W. 42d st, New York 18 '51

How to overcome materials shortages in product design and manufacture. H. R. Clauser. il diags Materials & Methods 34: 89-112H Jl '51

Materials buying manual. H. A. Knight. 340p $4.50 Conover-Mast publications, 205 East 42d st, New York 17 '51

Materials casebook; briefs on various materials. Product Eng 22:145-6 O '51

Materials; forecasts. W. R. Brode. Franklin Inst J 251:81-92 Ja '51

Materials handbook; an encyclopedia for purchasing agents, engineers, executives, and foremen. G. S. Brady. 7th ed 913p $8.50 McGraw-Hill book co, 330 W. 42d st, New York 18 '51

Materials of construction. L. T. Work. bibliog il Ind & Eng Chem 43:300-1 F '51

New type of course in engineering materials. J. Marin and J. A. Sauer. bibliog J Eng Educ 41:81-6 O '50

Nomenclature used for designating properties of materials. R. A. Webster. Welding J 30:25 Ja '51

Now is the time to introduce new materials. E. B. Weiss. Ptr Ink 235:33 My 11 '51

Progress in industry awaits many developments in engineering materials. T. C. Du Mond. il Materials & Methods 33:57-61 Ja '51

MATERIALS—*Continued*

Review of materials engineering developments in 1950. T. C. Du Mond. il Materials & Methods 33:85-96 Ja '51

See also

Airplanes—Materials
Automobiles—Materials
Building materials
Ceramic materials
Electric industries—Materials
Insulating materials
Mechanical handling
Packaging materials
Paint materials
Paper making materials
Plastic materials
Raw materials
Refractory materials
Road materials
Silicones
Soap materials
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Textile fibers

MATERIALS, Ministry of. See Great Britain—Materials, Ministry of

MATERIALS, Strategic. See Strategic materials

MATERNAL mortality. See Mortality—Statistics

MATHEMATICAL biology. See Biomathematics

MATHEMATICAL economics. See Economics, Mathematical

MATHEMATICAL instruments

See also

Calculating machines
Differential analyzers
Integrators

MATHEMATICAL physics

Cluster integrals and the Thiele semi-invariants. S. Ono. J Chem Phys 19:504-5 Ap '51

Constraints in covariant field theories. J. L. Anderson and P. G. Bergmann. bibliog Phys R 83:1018-25 S 1 '51

Cylindrical and rotational coordinate systems. P. Moon and D. E. Spencer. bibliog diags Franklin Inst J 252:327-44 O '51

Determination of eigenvalues using a generalized Laplace transform. M. D. Friedman. J Ap Phys 21:1333-7 D '50

Distribution function in phase space, with application to the statistical theory of liquids. E. Ikenberry. bibliog J Chem Phys 19:467-70 Ap '51

Effect of a grounded slab on the radiation from a line source. C. T. Tai. bibliog diags J Ap Phys 22:405-14 Ap '51

Epitomization of the basic theory of the generalized Schwarz-Christoffel transformations as used in applied physics. T. J. Higgins. bibliog J Ap Phys 22:365-6 Mr '51

Forced oscillations in nonlinear systems. M. L. Cartwright. J Res Nat Bur Stand 45:514-18 D '50

Iteration method for the solution of the eigenvalue problem of linear differential and integral operators. C. Lanczos. bibliog diag J Res Nat Bur Stand 45:255-82 O '50

Mean duration of random walks. W. Wasow. bibliog J Res Nat Bur Stand 46:462-71 Je '51

Nonlinear spinor fields. R. Finkelstein and others. bibliog diags Phys R 83:326-32 Jl 15 '51

Numerical determination of fundamental modes. D. A. Flanders and G. Shortley. J Ap Phys 21:1326-32 D '50

Stability of linear varying-parameter systems. L. A. Zadeh. diag J Ap Phys 22:402-5 Ap '51

Transformations to speed the convergence of series. J. B. Rosser. bibliog J Res Nat Bur Stand 46:56-64 Ja '51

See also

Aerodynamics
Approximate computation
Boundary value problems
Brouwer theorem
Differential equations
Dirac's equation
Elasticity
Electric engineering
Fermi-Thomas-Dirac equation
Gases
Green's function
Helmholtz equation
Hydrodynamics
Light, Scattering of
Magnetism
Optics
Sound
Thermodynamics

MATHEMATICAL statistics

See also

Frequency distribution (statistics)
Statistical methods

MATHEMATICAL theory of communication. See Communication, Theory of

MATHEMATICIANS, International congress of. See International congress of mathematicians

MATHEMATICS

Power handbook; practical mathematics. P. Swain and W. Arrott. diags Power 95:76-81 Mr '51

Real roots of real Dirichlet L-series. J. B. Rosser. bibliog J Res Nat Bur Stand 45:505-14 D '50

Role of mathematical methods in physical theories. E. P. Wigner. Franklin Inst J 250:477-9 D '50

Trends in analysis. M. Morse. bibliog Franklin Inst J 251:33-43 Ja '51

Using mathematics for design, research and production; use of computing machines; interview with J. H. Curtiss. il Product Eng 22:156-9 Je '51

See also

Calculus
Chance
Convergence
Coordinates
Differential equations
Extrapolation
Fourier's series
Functions
Insurance, Life—Mathematics
Integral equations
Integrals
Laplace transformation
Legendre's functions
Magic squares
Mathematical physics
Matrices
Mechanics
Probabilities
Statistical methods
Transformations (mathematics)
Trigonometry

Bibliography

French bibliographical digest, no. 6; mathematics, astronomy. 109p Cultural division of the French embassy, 934 Fifth av, New York 21 '50

Study and teaching

Mathematics for engineers. M. E. Shanks. J Eng Educ 41:308-10 Ja '51

Mathematics in electrical graduate education. E. W. Anderson. Elec Eng 70:507-10 Je '51

Retention of mathematics in mechanics. J. W. Cell. J Eng Educ 42:47-51 S '51

Teaching advanced mathematics to electrical engineering students. C. Froehlich. J Eng Educ 41:222-6 D '50

Russia

Progress of mathematics in the USSR during the present five-year plan. R. J. Howerton and P. W. Howerton. Science 113:307-8 Mr 23 '51

MATRICES

Bounds for characteristics roots of matrices. O. Taussky. J Res Nat Bur Stand 46:124-5 F '51

Iteration method for the solution of the eigenvalue problem of linear differential and integral operators. C. Lanczos. bibliog diag J Res Nat Bur Stand 45:255-82 O '50

Method of gradients for the calculation of the characteristic roots and vectors of a real symmetric matrix. M. R. Hestenes and W. Karush. J Res Nat Bur Stand 47:45-61 Jl '51

MATSON navigation company

Matson line still has troubles. il Bsns W p68-9 Ag 4 '51

MATTER

Structure of matter. J. Cockcroft. Engineering 171:544-5 My 4 '51; Abstracts. Elec R (Lond) 148:949 My 4 '51; Electrician 146:1541-2 My 4 '51

See also

Adsorption
Atoms
Chemistry
Colloids
Compressibility
Diffusion
Dynamics
Elasticity
Electrons
Gases
Ions
Molecules
Physics
Quantum theory
Radioactivity
Solids
Solution (chemistry)
Specific gravity
Transmutation (chemistry)
Viscosity
Wave mechanics

MATTERHORN

Mike on Matterhorn; unique broadcast by Swiss broadcasting corporation. K. J. Henderson. il Radio & Tv N 44:106 N '50

MATTILL, Henry Albright, 1883-

Iowa award winner urges stimulative teaching. pors Chem & Eng N 28:4548+, cover D 25 '50

MATTRESSES

Advertising

How to advertise successfully in small town markets. A. E. Pacini. il Adv Agency 44:52-3+ Ag '51

Trains big guns on one product, and develops new market for the line; negative consumer copy, professional and trade advertising make highest-priced product fastest seller; Firm-O-Rest mattress. H. E. Green. il Ptr Ink 234:29-31 Ja 19 '51

MATZOTH

Weigher-stacker speeds matzoth line. il diags Food Eng 23:94-5+ Je '51

MAUNA LOA

1949 summit eruption of Mauna Loa, Hawaii. G. A. Macdonald and J. B. Orr. bibliog il maps U S Geol S Bul 974-A:1-33; pa 20c Supt. of doc. '50

MAURITIUS

Britain's island colonies; Mauritius and the Seychelles. map Economist 161:164-5 Jl 21 '51

MAXWELL, William Donald, 1900-

Maxwell, managing editor, is Hoosier newsmaster. G. A. Brandenburg. por Ed & Pub 84:63 S 22 '51

MAXWELL'S demon. See Thermodynamics

MAY, Herbert C.

H. C. May of Houston views changes in printing. por Inland Ptr 126:64 Mr '51

MAY department stores company

Security I like best. D. W. McKnight. Comm & Fin Chr 173:2342+ Je 7 '51

MAYBECK, Bernard R.

Maybeck, medallist. J. M. Bangs. Arch Forum 94:160-2 My '51

MAYER, Rene, 1895-

Portrait. Bsns W p 144 Ag 25 '51

MAYO clinic

New building at Mayo clinic completely air conditioned. W. Sturm. il plan Heating-Piping 23:97-102 Ap '51

MAZER, Joseph M.

Paper mill for Israel. Fortune 44:128 S '51

MEANY, George, 1894-

Let George do it. por Fortune 43:50 My '51

MEASUREMENT

Coordinate design and measurement; Hamilton watch co. D. Hawks, jr. il diags Tool Eng 26:25-8 Ja '51

Design by measurement; abstracts. W. T. Bean, jr. Machine Design 22:168-9 N '50; S A E J 59:73-4 Ja '51

General Electric opens measurements lab. il Product Eng 21:153 D '50

Let's rationalize the inch. H. G. Conway. il diags Machine Design 23:123-6 S '51

Measurement and control of bulk density. W. T. Rawles. Gen Elec R 53:48-9 N '50

Measurements and standardization. E. S. Lee. Standardization 22:46+ F '51

See also

Calorimeters and calorimetry
Color measurement
Colorimeters and colorimetry
Distances—Measurement
Electric measurements
Flow meters
Frequency meters
Gages
Gas flow
Gearing—Measurement
Length measurement
Magnetic measurements
Measuring instruments
Metric system
Micrometers
Optical measurements
Physical measurements
Pressure measurement
Pyrometers and pyrometry
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Radioactivity—Measurement
Screw threads—Measurement
Sound—Measurement
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Tanks—Measurement
Temperature—Measurement
Thermometers and thermometry
Thickness measurement
Vacuum tubes—Measurement uses
Vibration—Measurement
Viscosity—Measurement
Volume
Water flow
Water measurement
Weights and measures

MEASUREMENTS, Magnetic. See Magnetic measurements

MEASUREMENTS, Physical. See Physical measurements

MEASURING instruments

Gauge and tool exhibition, 3d, London, May 15-25. il diag Engineer 191:648-9, 697-9 My 18-25 '51; Engineering 171:571-2, 633-5 My 11, 25 '51

Instrument for measuring the slope of graphs. J. F. Waters. diag J Sci Instr 28:116 Ap '51

Instruments are made to be used. C. F. King. Inland Ptr 126:79-82 O '50

Know your measuring tools. H. E. Linsley. diags Am Mach 95:101-12 Ap 2 '51

New laboratory instruments. il Chem Age (Lond) 64:646-53 Ap 28 '51

1951 production preview. il Am Mach 95:265-75 Ja 22 '51

See also

Dilatometers
Gages
Gear testing machines
Micrometers
Pressure gages
Protractors
Verniers

Testing

Gaging lab pays off. il Steel 128:95+ Ap 16 '51

MEASURING instruments, Electric

Electronic circuit for measuring the displacement of pressure-sensitive diaphragms. M. L. Greenough and W. E. Williams. il diags J Res Nat Bur Stand 46:5-10 Ja '51

Multi-channel measurement of physical effects by confluent pulse technique, with particular reference to the analysis of strain. J. G. Yates and others. bibliog il diags Inst E E Proc 98 pt 2:109-21; Discussion. 121-4 Ap '51

See also

Gages, Electric

MEASURING instruments, Optical

Accurate gaging facilitated on optical comparators by use of screens having microgage bridges. il Machine Design 22:114 N '50

Assembly jig; fast and cheap; Republic's optical tooling. il Bsns W p34-5 D 23 '50

Gaging method will speed aircraft output; optical system for building large fixtures and jigs. G. F. Elwers. Iron Age 166:83 N 23 '50

Hauser measuring machine. il Mach 57:214 Mr '51

Industry views, approves optical tooling. T. M. Self. il Aviation W 55:21-2+ Jl 16 '51

Inspection by optical projection methods. E. C. Polidor. il diags Tool Eng 27:43-6 Ag; 52-4 S '51

Low cost contour projector. il Automotive Ind 104:58 Ap 15 '51

Newton profile projector. il Automobile Eng 41:149-51 Ap '51

Optical airframe tooling, a new assembly technique. A. Kastelowitz. il diags Automotive Ind 104:38-41+ Ap 15 '51

Optical system developed for building large jigs and fixtures; Republic aircraft corporation. G. P. Muir. il diags Tool Eng 25:24-5 D '50

Optical tooling eases airframe building. il diag Aviation W 53:23+ D 11 '50

Optical tooling faces its biggest test. I. Stone. il diags Aviation W 54:27-32+ Je 18 '51

Optical tooling, faster more accurate. G. Elwers. il Iron Age 166:119-22 D 7 '50

Optical tooling gets under way at Republic. Bsns W p86+ Jl 28 '51

Optical tooling insures aircraft accuracy. B. K. Bucey. il diag Mach 58:137-43 S '51

Optical versine gauge for railway curves. il Engineering 171:367 Mr 30 '51

Time to inspect bore alignment cut 98 per cent. W. Jacoby. il diag Am Mach 95:142-3 Mr 19 '51

Tool-room boring machine with optical measuring system. il Engineering 170:312 O 20 '50

Tooling up by telescope. il diags Fortune 44:120-3 O '51

See also

Interferometers

MEASURING tape

Woven fabric measuring tapes. il Consumers Res Bul 26:24-5 N '50

See also

Surveyors' tape

MEAT

Factors in distribution of meat affecting quality and nutrition; abstract and discussion. E. H. Callow. Chem & Ind p789-90 D 9 '50

Meat industry dedicates new research labs at University of Chicago. Food Ind 22:1963-4 N '50

See also

Fish as food

Pork

Poultry as food

Sausage

Color

How light discolors meat; what to do about it. J. M. Ramsbottom and others. il Food Ind 23:120-4+ F '51

Prepackaging

Armour's prefab meats tap new market. il Food Eng 23:80-2 S '51

Cryovac goes retail; vacuumized shrink-wrap process adopted in pre-packaging of meats. il Mod Packaging 24:110-11 N '50

Du Pont study shows problems in changing consumer habits, need for more advertising; self-service pre-packaged meat. Ptr Ink 234:37 F 9 '51

Five shoppers' whims that stumped meat marketeers, temporarily. D. G. Brauer. il Sales Management 65:70+ N 10 '50

How light discolors meat; what to do about it. J. M. Ramsbottom and others. il Food Ind 23:120-4+ F '51

Preservation

Self-service merchandising of meats. N. Allen. il Refrig Eng 58:1191-3+ D '50; Discussion. 59:51+ Ja '51

See also

Canned meat

Meat, Frozen

Rationing

Eight pennyworth of planning; British meat ration falls. Economist 160:243-4 F 3 '51

Storage

Discoloration of stored meat. Refrig Eng 58:1189 D '50

Transportation

Australian beef takes to the air; flying carcasses from inland slaughterhouse to coast. il Food Ind 23:110 F '51

Marine transport of meat; abstract and discussion. E. H. Callow and R. Gane. Chem & Ind p291 Ap 14 '51

MEAT, Canned. See Canned meat

MEAT, Effect of light on

How light discolors meat; what to do about it. J. M. Ramsbottom and others. il Food Ind 23:120-4+ F '51

MEAT, Frozen

Armour's prefab meats tap new market. il Food Eng 23:80-2 S '51

Flavor factors in frozen-food wraps; study on frozen ground beef. J. D. Winter and A. Hustrulid. bibliog diag Mod Packaging 24:133-7+ My '51

Frozen meat; abstract and discussion. E. H. Callow. Chem & Ind p756-7 N 25 '50

Mechanizing clinches quality of fresh-frozen chicken; J. D. Jewell, inc. A. V. Gemmill. il plan Food Eng 23:120-2+ Ap '51

Survival of microorganisms in frozen meat. W. L. Sulzbacher. Refrig Eng 58:1078 N '50

Advertising

New national advertiser sprouting in Midwest; Grand duchess steaks, inc. il Ptr Ink 234:26 F 9 '51

MEAT, Smoked

'Couples raise efficiency, slash costs; new method of measuring internal temperature of meats reduces smoking time. J. Meyer. il Food Ind 23:75-6 Ja '51

Electric heated smoke house for meat curing; Vans packing co., Boise, Idaho; data sheet. H. E. Haroldsen. diag Elec West 107:70 Jl '51

Improved meat smoking reported with propane. P. Melchert. il diags Food Ind 22:2087 D '50

Smoked meat product made without casing; patent. Food Ind 23:130 Ja '51

MEAT cutters and butcher workmen of North America, Amalgamated. See Amalgamated meat cutters and butcher workmen of North America

MEAT extracts

Kippers coming; British invade U.S. with smoked herring and Bovril; Hambro plan. il Bsns W p 129-30 O 21 '50

MEAT industry and trade

Anglo-Argentine agreement; bad bargain in beef. Economist 160:1000-4 Ap 28 '51

Beef is still rolling in. il Bsns W p24 Je 2 '51

Controls are trying to check this rise; meat prices. Bsns W p26 F 24 '51

Meat shutdown. Bsns W p28 Je 9 '51

Meat supply bright on livestock reports. Barron's 31:19-20 Mr 26 '51

Meat's going up. Bsns W p26 O 28 '50

Revision of grades pushes meat higher. Barron's 31:27-8 F 19 '51

Seasonal meat slaughter reflects supply gains. Barron's 30:37 N 13 '50

Self-service meat retailing in 1950. S. Teitelman. maps J Marketing 15:307-18 Ja '51

Who put the heat on meat? il Bsns W p22 S 29 '51

World food problems and the Anglo-Argentine meat agreement. P. Einzig. Comm & Fin Chr 173:2068 My 17 '51

See also

Canned meat

Meat—Prepackaging

Packing houses

Packing industry

Regulation

Meat controls test DiSalle. Bsns W p21 My 5 '51

Meat; the battle over prices. il Bsns W p 19-20 My 12 '51

OPS wins meat showdown. il Bsns W p21 Je 23 '51

Rows in meat; Safeway and Jepson cases. Bsns W p 148-9 S 15 '51

Ireland

Ireland's exports of meat to the United States in 1950. For Comm W 43:23 Ap 9 '51

New Zealand

Slaughter and meat production down, New Zealand. For Comm W 45:19 O 8 '51

MEAT institute, American. See American meat institute

MEAT slicers

Design extras that clinch sales. il Mod Ind 21:89 Ja '51

Eight parts, five plastics materials; new Toledo slicer. il Mod Plastics 28:101 Je '51

MECHANICAL analogies. See Electric circuits—Mechanical analogies; Structural engineering—Mechanical analogies

MECHANICAL drawing

See also

Drafting room practice

Engineering drawing

MECHANICAL engineering

ASME technical digest; substance in brief of papers presented at ASME meetings. Published in monthly numbers of Mechanical engineering

Efficiency in industry and elsewhere. E. G. Phillips. Inst Mech Eng Proc 162 no 4: 465-7 '50

Mechanical engineer in the construction industry. J. A. Warren, jr. Mech Eng 73: 289-92 Ap '51

Mechanical engineering at collieries. J. M. Reynolds. Inst Mech Eng Proc 162 no 4: 429-32, pl 1-2 '50

Mechanical engineering in the iron and steel industry; abstract and discussion. W. F. Cartwright. Engineering 172:234-5 Ag 24 '51

Mechanical engineering research; first report on progress. Metallurgia 44:139-40 S '51

Mechanical engineering research laboratory, East Kilbride. G. A. Hankins. il Engineering 171:80-1, 111-12 Ja 19-26 '51

Take a broad view of the scope of your profession; overlapping fields of mechanical and electrical engineering. A. P. Adamson. Mech Eng 73:649-50 Ag '51; Discussion. 73: 1021-2 D '51

See also

Aeronautic engineering

Automobile engineering

MECHANICAL engineering—See also—*Cont.*

Balancing of machinery
Boilers
Chemical engineering
Electric engineering
Hydraulic machinery
Locomotives
Lubrication and lubricants
Machine shop practice
Machine tools
Machinery
Marine engineering
Mechanical models
Mechanical movements
Mechanics
Motor trucks
Power transmission
Pumping
Springs (mechanism)
Standardization
Steam engineering
Steam engines
Tolerance

Bibliography

Additions to the library. Inst Mech Eng J p24-7 Ja '51 [cont monthly]

Institution of mechanical engineers; brief subject and author index of papers in the Proceedings, 1847-1950. A. R. Stock, comp. 235p Institution of mechanical engineers, Storey's Gate, St James's park, London, S.W.1 '51

Publications developed by the technical committees, ASME, with prices. A S M E Trans 73:59-67 sec 2 Ja '51

Reviews of books and notes on books received in the Engineering societies library. Published in monthly numbers of Mechanical enginering

Handbooks

Mechanical engineers' handbook. L. S. Marks, ed. 5th ed 2236p $15 McGraw-Hill book co, 330 W. 42d st, New York 18 '51

Study and teaching

Clarification of equations for simple forced vibration. B. D. Mills, jr. diag J Eng Educ 41:227-30 D '50

Course in physical chemistry for mechanical engineers. M. Kerker. J Eng Educ 41:297-9 Ja '51

Metallurgy in the mechanical engineering curriculum. R. F. Eisenberg. J Eng Educ 41:387-8 Mr '51

Practical training of mechanical and electrical engineers; abstract and discussion. A. Fleming. Engineering 172:201-2 Ag 17 '51

Safety integration procedures. S. S. Steinberg. J Eng Educ 41:462-3 Ap '51

Training engineers for chemical industry; short course to illustrate working principles; abstracts. W. F. Carey. Chem Age (Lond) 64:387 Mr 10 '51; Engineer 191:324; Discussion. 324-6 Mr 9 '51

See also

Instruments—Study and teaching
Kinematics—Study and teaching

Tables, calculations, etc.

Calculating deflection in circular plates. W. A. Nash. il diags Machine Design 23:145-8 Jl '51

Determination of critical loads by energy methods. M. D. Brisby. diags Engineer 191:82-4 Ja 19 '51

Mechanism design; analytical solution and punched-card calculating machines offer fast method of constructing numerical tables of displacement, velocity and acceleration. E. N. Kemler and R. J. Howe. diag Machine Design 23:148-52 S '51

Nondimensional study of proportional-plus-reset control of a single-capacity system. J. A. Hrones and J. B. Reswick. bibliog diags A S M E Trans 73:511-16; Discussion. 516-17 Jl '51

MECHANICAL engineers

How is your P.D.? a method for self-appraisal; professional development. C. M. Stanley. Mech Eng 72:1033-4 D '50

Machine design as a career. J. F. D. Smith. Mech Eng 72:966-8+ D '50; Excerpt. Machine Design 23:212+ My '51; Discussion. Mech Eng 73:432-4 My '51

Survey of first positions accepted by mechanical engineering graduates of New England colleges. W. T. Alexander. J Eng Educ 41:288-96 Ja '51

MECHANICAL equipment of buildings

See also

Air conditioning
Electric wiring
Elevators
Heating
Hot water supply
Houses—Mechanical equipment
Lighting
Plumbing

MECHANICAL handling

Advanced production methods in self-contained axle plant. J. Geschelin. il Automotive Ind 104:38-40+ Je 15 '51

Better handling; best way to save manpower, speed production. Factory Management 109:81-5 My '51

Better methods that save manpower; camera tour of Philip Morris & co. Factory Management 109:94-7 Je '51

Carriage moves, stores pulverizer assembly. K. Young. il Elec World 135:128 My 7 '51

Carriers plan expanded mechanization program for stations and storehouses. J. W. Milliken. il Ry Age 130:186-7 Ja 15 '51

Cases in methods improvement; Burroughs adding machine co.; illustrations with text. Factory Management 109:66-9 Ap '51

Chemical engineering unit operations; sixth annual review; materials handling. R. E. Wright. bibliog(31 ref) il Ind & Eng Chem 43:108-11 Ja '51

Crane-mounted lift doubles available storage area; Stak-Rak. il Factory Management 109:132-3 F '51

Custom handling fits the job; Republic supply co. il Steel 127:76 O 30 '50

Defense production; handling parts and materials; illustrations with text. Mod Ind 22:42-3 S '51

Double duty technique cuts aircraft handling costs. E. R. Petoskey. il Automotive Ind 104:44-6+ My 1 '51

Efficient materials handling vital to automotive production. J. Geschelin. il Automotive Ind 104:34-6+ My 1 '51

Electrical machinery for the movement of materials; abstract. H. S. Carnegie. Electrician 146:221-2 Ja 19 '51

Fast-moving supply line paces tractor production; Caterpillar tractor co. il Steel 127:62-4+ O 30 '50

Flexible storage system doubles space. Steel 127:106 D 18 '50

Foundry modernization expands gray iron casting capacity; National supply co.'s Engine division plant. il Steel 128:60-2 Ap 30 '51

Furnace loading time slashed; Fafnir bearing co. Steel 129:128+ S 10 '51

Gravity operated lowering machine. il Engineer 192:220 Ag 17 '51

Handling is no problem at Ball bros. El Monte, Calif. plant. il diag Cer Ind 55:64-5+ N '50

Handling prefabricated freight-car sides. il Ry Mech & Elec Eng 125:63-4 My '51

Handling scrap quickly? il Steel 129:45 Ag 27 '51

Heat treating equipment integrated in single unit. il Steel 129:110 S 24 '51

How good materials handling helps Armco. G. F. Sullivan. il plan Iron Age 167:75-8 Mr 22 '51

How ten companies used better handling; tabular summary. Factory Management 109:86-7 My '51

How we handle bigger inventories; Bigelow-Sanford carpet co. A. O. Huck. il Factory Management 109:92-3 My '51

Improved handling methods facilitate chain production. il Steel 128:59 Ap 30 '51

Improved handling methods in new GM Vauxhall plant. W. F. Bradley. il diag Automotive Ind 104:38-9 My 1 '51

Improved transfer method in manufacture of Formica sheets. J. Schinner. il Mill & Factory 48:102-3 My '51

Lift truck or octopus? il Mod Ind 22:56-9 Ag '51

Machine empties cement sacks at C. J. Strike hydroelectric development. il Constr Methods 33:59+ S '51

Machines save time in erecting skyscrapers; Sinclair Oil building. il plans Eng N 145:20-3 D 28 '50

Materials handling; present and future use of equipment; tabulation. Iron Age 167:353 Ja 4 '51

Materials handling units multiply worker productivity. il plan diags Eng & Min J 152:150-5 Jl '51

Mechanical charging of Hydrapulpers. L. L. Fitzpatrick. diags Pulp & Pa of Can 52:95-9 Ag '51

MECHANICAL handling—*Continued*

Mechanical handling in the United States. A. Roebuck and others. il diags Inst Mech Eng Proc 164 no 1:113-20 '51; Abstract. Inst E E Proc 98 pt 1:298-300 S '51; Discussion. Inst Mech Eng Proc 164 no1:120-7 '51; Electrician 146:139-40 Ja 12 '51

Mechanical handling of riprap; Big rock stone and material co. flow diag il Rock Prod 54:174-6 Ag '51

Mechanical hands carry bars for 33 per cent less. B. C. Brosheer. il diags Am Mach 95:133-5 Ap 16 '51

Mechanized handling increases and decreases space; Philadelphia refinery of Gulf oil corp. il Safety Maint & Prod 101:16-17+ Mr '51

Mechanizing halves their handling costs; Beardsley's Newark plant. G. N. Collins. il Food Ind 22:1879-82+ N '50

Modern materials handling; special Food Industries report. F. W. McCarthy. il Food Ind 23:107-18 Mr '51

Move it mechanically; illustrations with text. Mill & Factory 48:89-120 Ap '51

Move your materials faster, cheaper. il Steel 128:68-73 Ap 23 '51

New developments in scrap handling for the open hearth. L. R. Rissler. il diags Iron & Steel Eng 28:108-13; Discussion. 113-15 Ag '51

New plant at the Vauxhall works. il Engineer 191:622 My 11 '51; Engineering 171:621 My 25 '51

1951 production preview; plant service equipment. il Am Mach 95:279-92 Ja 22 '51

No waste air space; special equipment to handle barrel-loads of fittings at Republic supply co., Los Angeles. il Mill & Factory 48:104 F '51

Open hearth charging time cut 55 per cent. L. R. Rissler. il diags Steel 127:114+ D 18 '50

Our aging plants; mechanized materials handling can overcome many hazards and bottlenecks. L. J. Pantas. il diag Nat Safety N 63:18-20+ Ja '51; Same. Franklin Inst J 251:491-8 My '51

Outstanding material handling practices in the pulp and paper industry on the West coast. F. D. Helversen. il plans Tappi 33: sup 14A+ N '50

Palletizing batteries. F. Breese. il Nat Pet N 43:58-9+ S 5 '51

Planned handling licks building handicaps; Saco-Lowell shops. il Am Mach 95:98-101 Ag 20 '51

Production jumps with mechanization; Taylor iron foundry, Brooklyn. D. List. il Mill & Factory 48:120-2 F '51

Review of new plant equipment; materials handling. il diags Power 95:158-9 Mid-Je '51

Revolution in the warehouse; new approach to handling methods; Lazarus department store, Columbus, Ohio. il diags Arch Forum 93:108-13 D '50

Safety and efficiency through materials handling. il Rayon 32:66-8 Ag '51

Systematic investigation leads to economies through mechanization. il Can Chem Process 35:736-8 S '51

Technical forum on progress in metalworking; materials handling. Steel 128:247-8+ Ja 1 '51

Three handling problems solved by new mobile equipment; Sturtevant division, Westinghouse electric corp., illustrations with text. L. J. MacDonald. Factory Management 109:110-11 Jl '51

Two-way radio speeds materials handling at Johnson & Johnson shipping center. il Am Bsns 20:30-1 D '50

What's new in equipment; materials handling. il Factory Management 109:144-6+ My '51

When planning a new layout, check your materials handling needs. R. W. Mallick and A. T. Gaudreau. il plan Mill & Factory 48:80-3 Ja '51

Why new defense plants must be different; mechanized materials handling. il Arch Forum 94:86 F '51

See also

Assembling methods
Brick handling
Cableways
Cargo handling
Coal handling
Coal loading machines
Conveying machinery
Cranes, derricks, etc.
Dumping appliances
Electric trucks, Industrial
Elevators
Freight handling
Hoisting machinery
Loading and unloading
Lumber handling
Manipulators
Milk handling
Mine haulage
Monorail conveyors
Motor trucks, Industrial
Ore handling
Packaging machinery
Paper handling
Pneumatic conveying
Positioning equipment
Scrapers
Steel handling
Trucks
Wood handling

Exhibitions

Blimps, babes, and ballyhoo pull buyers at handling show. B. Aitchison. il Ind Marketing 36:44+ Je '51

New ways to tote anything; National materials handling exposition, Chicago. il Bsns W p 110 Je 2 '51

Safety measures

Materials-handling equipment in action. J. R. Clemens. il Nat Safety N 63:24-6 Ap '51

Set of parts for the remote handling of radioactive substances. A. B. Ritchie and W. T. Spragg. bibliog il J Sci Instr 28:214-16 Jl '51

MECHANICAL models

Now designer can see his ideas in action. il diags Product Eng 22:214 My '51

Scale-model testing of a small rocket motor. il Machine Design 22:113 N '50

See also

Railroads—Models

MECHANICAL movements

Cam follower dynamics. D. B. Mitchell. il Machine Design 22:151-4 Je '50; Same. Mech Eng 72:467-71 Je '50; Discussion. diag 72:1009-11 D '50

Complex motion for selector mechanism obtained with only three moving parts. E. W. Kuhn. il diag Machine Design 23:133-4 Jl '51

Designing noncircular surfaces for pure rolling contact. F. W. Hannula. il diags Machine Design 23:111-14+ Jl '51

Mechanism that produces variable speed from constant rotary motion; wire fabricating machine. L. Kasper. diags Mach 57:187-8 N '50

Mechanisms for producing specific types of motions; drawings with text. S. Rappaport. Product Eng 22:130-1 Ja '51

Overload release mechanism has adjustable torque resistance. W. M. Halliday. diags Am Mach 95:173 O 1 '51

Parallel and rectilinear spring movements. R. V. Jones. diags J Sci Instr 28:38-41 F '51

See also

Cams
Escapement mechanism
Feed mechanism
Gearing
Geneva stop
Links and link motion
Machinery, Kinematics of

MECHANICS

How forces balance. P. Swain. diags Power 95:144 Ap; 144 My; 148 Je; 144 Ag; 140 S '51

Mechanical properties of metals. H. W. Gillett. bibliog diags Machine Design 23:143-8+ Mr '51

Power handbook; mechanics and mechanisms. P. Swain and W. Arrott. diags Power 95: 82-3 Mr '51

See also

Aerodynamics
Aeronautics
Balancing of machinery
Deformation (mechanics)
Disks, Rotating
Dynamics
Elasticity
Fluids
Force and energy
Friction
Gases
Hydraulics
Hydrodynamics
Liquids
Load (mechanics)
Machinery
Mechanical engineering
Mechanical movements
Moments of inertia
Photoelasticity
Physics
Power transmission
Springs (mechanism)
Steam engines
Strains and stresses
Thermodynamics
Torsion
Vibration
Viscosity
Wave mechanics

MECHANICS—*Continued*

Electric analogies

Analogue techniques for turbojet thrust instrumentation. E. S. Van Valkenburg and N. W. Matthews. diag Elec Eng 69:1004 N '50

Minimum energy solution and an electrical analogy for the stress distribution in stiffened shells. L. A. Goran. bibliog diags J Aeronautical Sci 18:407-16 Je '51

Pumping-problem study; electronic analyzer seen as valuable aid. E. N. Kemler. Oil & Gas J 50:49-50 S 27 '51

Resistance network analogue for solving vibration problems. W. W. Soroka. diags Product Eng 22:103-5 Ap '51

Study and teaching

Cam motion indicator; a new teaching aid. J. Scheinman. il J Eng Educ 41:111-14 O '50

Development of a graduate program in engineering mechanics. D. H. Young. J Eng Educ 41:528-32 My '51

New type of course in engineering materials. J. Marin and J. A. Sauer. bibliog J Eng Educ 41:81-6 O '50

Retention of mathematics in mechanics. J. W. Cell. J Eng Educ 42:47-51 S '51

MECHANICS, Applied

Applied mechanics from Aristotle to Rankine. J. Ormondroyd. Mech Eng 73:723-6 S '51

MECHANICS, Statistical. See Statistical mechanics

MECHANICS, Wave. See Wave mechanics

MECHANICS' liens

For building material suppliers; lien law is a parachute. V. S. Tjossem. Credit & Fin Management 53:16-17+ Mr '51

Mechanics' lien law facts. E. H. Cushman. Weekly Underw 164:836 Mr 31 '51; Same. East Underw 52:44 Mr 30 '51

Method the contractor can use to make sure he gets paid. Dom Eng 176:90+ D '50

MEDALS

A.P.I. award; Teagle will be fifth recipient of Gold medal. Oil & Gas J 49:30 N 2 '50

Avery wins Lincoln gold medal. Welding J 29:1026+ N '50

Eleven EEI resuscitation medals awarded to valorous electric company personnel. Edison Elec Inst Bul 19:301-6 S '51

Franklin institute honors Freyssinet and Magnel. Concrete 58:24 N '50

Gaylord Penney and Clifford Foust to receive Franklin Institute medals. Elec World 136:74 S 24 '51

George H. Tomlinson receives the TAPPI medal; presentation by J. N. Stephenson, response by G. H. Tomlinson. il Tappi 34: sup65A+ Mr '51; Pulp & Pa of Can 52:74+ Mr '51

Howard Coonley medal. Standardization 22: 13 Ja '51

Irving Langmuir receives John J. Carty gold medal. Elec Eng 70:90 Ja '51

Sculptor finishes models for palladium medal. il Electrochem Soc J 98:sup95C Jl '51

SMPTE establishes new award; David Sarnoff gold medal for outstanding contribution to television. Electronics 24:132 F '51

Soldiers of public service; heroism of utility employees; Carnegie medal awards. H. F. Unger. Pub Util 48:477-85 O 11 '51

See also

Fritz, John, medal

Guggenheim, Daniel, medal

Harriman memorial medals for safety

Lamme, B. G., medals

MEDICAL advertising

BBB booklet guides admen on home health cures. L. Farrant. Ed & Pub 84:14 Ja 13 '51

County groups sponsor ads in medicine. Ed & Pub 83:57 D 2 '50

Six-year-old wrote the best card. il Ptr Ink 235:37 Je 29 '51

See also

Drug trade—Advertising

Medicines, Proprietary—Advertising

Nutrilite

MEDICAL botany. See Botany, Medical

MEDICAL buildings

Designing a structural frame for economy; Mayo clinic Diagnostic building. E. L. Gardner. il plan Eng N 147:34-6 S 6 '51

Medical arts building, Honolulu. il plan Arch Rec 108:116-17 N '50

Medical office buildings; building types study. il plans Arch Rec 108:118-45 D '50

See also

Physicians' offices

Air conditioning

New building at Mayo clinic completely air conditioned. W. Sturm. il plan Heating-Piping 23:97-102 Ap '51

MEDICAL colleges

Achievement examination in the subject of cancer for medical school students. H. R. Bierman and J. N. McClelland. Pub Health Rep 66:769-78 Je 15 '51

Cancer program in medical schools; a review. R. F. Kaiser. bibliog Pub Health Rep 65: 1397-402 O 27 '50

Doctors; medical manpower situation. A. Gregg. il Sci Am 185:79-84 S '51

See also

Medical education

MEDICAL education

Professional education in the service of health. R. B. Allen. Ann Am Acad 273:11-18 Ja '51

Training and certification of industrial physicians. A. G. Kammer. il Ind Med 20:299-304 Jl '51

See also

Medical colleges

Television in medical education

MEDICAL expense insurance. See Insurance, Medical expense

MEDICAL instruments and apparatus

Electrical instrumentation in medical research. J. M. Benjamin, jr. and others. il Elec Eng 70:105 F '51

Microfluorometric scanner for the differential detection of cells; application to exfoliative cytology. R. C. Mellors and R. Silver. bibliog il diags Science 114:356-60 O 5 '51

Satisfactory apparatus for study of analgesia in mice. J. Y. P. Chen and H. Beckman. il Science 113:631 Je 1 '51

Ultraviolet probe. C. E. Atkins. il diags Radio & Tv N 45:36-7+ Mr '51

See also

Catheters

Electrotherapeutics—Apparatus and instruments

Radiotherapy—Apparatus

Surgical instruments and apparatus

MEDICAL jurisprudence

How medical jurisprudence enters into claim work. E. J. Bohne. East Underw 51:53+ D 15 '50

Industrial and forensic applications of electroencephalography. J. L. Fetterman and V. M. Victoroff. bibliog A M A Archives Ind Hygiene & Occup Med 4:10-24 Jl '51

See also

Physicians as witnesses

MEDICAL laboratories

Clinical pathologist defined by Association. Chem & Eng N 28:4450 D 18 '50

Occupational outlook handbook; medical laboratory technicians. U S Bur Labor Statistics Bul 998:61-2 '51

See also

Pharmaceutical laboratories

Public health laboratories

MEDICAL libraries

Library of the New York academy of medicine. G. Rosen. Special Lib 42:86-9 Mr '51

Life in a medical library; State university of New York College of medicine, Brooklyn. M. Henderson. Special Lib 42:90-2+ Mr '51

Medical research council library at the National institute for medical research, Mill Hill. M. Ayrton. Aslib Proc 3:71-5 My '51

New library to serve medical research; Medical research council library. M. Harvey. Aslib Proc 3:69-71 My '51

See also

Pharmaceutical libraries

MEDICAL news. See Newspapers—Medical news

MEDICAL research

Current research problems concerning pulmonary granulomatosis in beryllium workers. F. Klemperer. bibliog A M A Archives Ind Hygiene & Occup Med 3:625-8 Je '51

MEDICAL research—*Continued*

Electrical instrumentation in medical research. J. M. Benjamin, jr. and others. il Elec Eng 70:105 F '51

Public Health grants $1,416,760 for cancer research. Chem & Eng N 29:3720-1 S 10 '51

Research in the service of health. T. D. Jones. bibliog Ann Am Acad 273:3-10 Ja '51

See also

Cancer

Insurance, Life—Medical research

MEDICAL schools. See Medical colleges

MEDICAL sciences information exchange. See National research council—Medical sciences information exchange

MEDICAL service

Doctors; medical manpower situation. A. Gregg. il Sci Am 185:79-84 S '51

Economic aspects of hospital care. H. E. Klarman. bibliog J Bsns 24:1-24 Ja '51

Insurance teachers stage lively debate on medical care. Nat Underw 55:21+ Ja 4 '51; Same. Nat Underw (Life ed) 55:1+ Ja 5 '51

Medical care. Pub Health Rep 65:1691-700 D 15 '50

Medical care for Americans. F. Goldmann and H. R. Leavell, eds. bibliog Ann Am Acad 273:1-200 Ja '51

Medical care for public assistance recipients. W. P. Dearing. Pub Health Rep 66:89-97 Ja 26 '51

Medical services and the Social security act amendments of 1950. S. J. Mushkin. bibliog Pub Health Rep 66:98-114 Ja 26 '51

Résumé of public health service grant-in-aid programs providing medical services. E. F. Warner and E. Flook. Pub Health Rep 66: 167-82 F 9 '51

Senate medical-care report, a summary; with charts and tables. I. Davis. Spectator (Life ed) 159:18-26 Ag '51; Same. Spectator (Property ed) 17:8-10+, 48 S '51

See also

Social work, Medical

Cost

Plan for tax credit on all medical cost loses. Nat Underw 55:29 O 4 '51; Nat Underw (Life ed) 55:1 O 5 '51

Study of the cost of medical care; note on survey methodology. I. Altman and R. Wadman. Pub Health Rep 66:1019-31 Ag 10 '51

Group and prepayment plans

Consumers' cooperatives in 1949; operations and developments; cooperative medical care. U S Bur Labor Statistics Bul 1013: 31-3 '51

Extend Wisconsin plan to cover higher income group. Nat Underw 55:22 O 11 '51

Rural health cooperatives. H. L. Johnston. bibliog Pub Health Rep 65:1383-97 O 27 '50

Socialization

Medical care for the needy and medically needy. M. Terris. Ann Am Acad 273:84-92 Ja '51

Public medical care; the over-all picture. D. W. Roberts. Ann Am Acad 273:69-75 Ja '51

Public policy in organizing medical care. F. Goldmann. Ann Am Acad 273:62-8 Ja '51

MEDICAL service, Industrial

Acceptance of industrial medical care. Safety Maint & Prod 101:68 Ap '51

Analysis of existing types of small-plant health services in northeastern United States. R. B. O'Connor. A M A Archives Ind Hygiene & Occup Med 3:73-80 Ja '51

Auditing industry's medical services. C. R. Walmer. Nat Safety N 63:64+ F '51

Behind the glass door; first-aid rooms have hazards common to hospitals. il Nat Safety N 63:37-8 F '51

Big-plant medical treatment for workers at small-plant cost. W. R. Bond. plans Factory Management 109:122-5 S '51

Diary of an industrial physician. H. P. Dastur. Nat Safety N 63:28-9+ F '51; Same. Ind Med 20:89-91 F '51

Good health leads to good morale. M. B. Andrews. Textile World 100:175+ D '50

Health on the route of the Great White fleet; work of medical department of United fruit co. E. I. Salisbury. il map Nat Safety N 64:92-3+ O '51

Indiana physician reports on five years of experience with employee health service; abstract. L. W. Spolyar. Nat Safety N 64:120 O '51

Industrial and forensic applications of electroencephalography. J. L. Fetterman and V. M. Victoroff. bibliog A M A Archives Ind Hygiene & Occup Med 4:10-24 Jl '51

Inspections at regular intervals. C. R. Walmer. Ind & Eng Chem 43:sup95A-6A+ Ap '51

Medical aspects of the industrial hygiene program. J. H. Sterner. Chem & Eng N 29:1399-401 Ap 9 '51

Medical care in industry. W. A. Sawyer. Ann Am Acad 273:151-9 Ja '51

Medical department. bibliog il Nat Safety N 63:181+ Mr '51

New developments in industrial surgery. H. E. Mock, jr. Ind Med 20:385-9 S '51

Pilot program for cancer detection in industry. B. N. Berg. A M A Archives Ind Hygiene & Occup Med 3:279-86 Mr '51

Safety-health team. C. F. Shook. il Nat Safety N 63:36-7+ Ap '51

Seminars in industrial psychiatry. W. D. Ross and D. J. Lauer. Ind Med 20:119-20 Mr '51

Symposium on how industrial medicine can meet the needs of the American worker. H. S. Hall and others. A M A Archives Ind Hygiene & Occup Med 3:173-97 F '51

Symposium on the dynamics of industrial medicine; medical control. R. A. Kehoe. A M A Archives Ind Hygiene & Occup Med 3:165-8 F '51

Task of medicine in an industrial society. R. A. Kehoe. Ind Med 20:352-7 Ag '51

Training and certification of industrial physicians. A. G. Kammer. il Ind Med 20:299-304 Jl '51

Value and operation of an industrial medical program. M. N. Howard and A. E. Hoag. A M A Archives Ind Hygiene & Occup Med 3:375-85 Ap '51

We owe it to our people. W. B. Given, jr. Nat Safety N 63:18-19+ My '51

Who's who in industrial medicine; Robert Thomas Legge. il Ind Med 20:236-40 My '51

Wider application of preventive medical work to industry urged. E. L. Henderson. Weekly Underw 164:589 Mr 3 '51

World medicine and industry. R. C. Page. bibliog Ind Med 20:411-16 S '51

Your ally, the doctor. C. S. McKinley. Nat Safety N 63:78-9+ Ja '51

See also

Dental service, Industrial

Diseases, Industrial

Eye—Examination

First aid in illness and injury

Hygiene, Industrial

Nurses and nursing, Industrial

Physical examinations

Psychiatry, Industrial

Trade agreements—Safety and health provisions

Trade unions—Health service

France

Impressions of industrial medicine and social legislation. L. J. Goldwater. Ind Med 20:369-73 Ag '51

Great Britain

Health services in British industries; abstract. H. Tracey. Nat Safety N 64:74 S '51

Impressions of industrial medicine and social legislation in England, France, and Holland. L. J. Goldwater. Ind Med 20:316-22 Jl '51

Netherlands

Impressions of industrial medicine and social legislation. L. J. Goldwater. Ind Med 20:373-5 Ag '51

MEDICAL service, Rural

Rural health cooperatives. H. L. Johnston. bibliog Pub Health Rep 65:1383-97 O 27 '50

Rural programs of medical care. M. I. Roemer. Ann Am Acad 273:160-8 Ja '51

MEDICAL statistics

See also

Mortality—Statistics

MEDICAL testimony. See Physicians as witnesses

MEDICAL thermometers. See Thermometers, Clinical

MEDICAL women's international association
Congress, 6th, Philadelphia, Sept. 10-16. Science 112:551-2 N 3 '50

MEDICAL workers
Medical care team. F. G. Dickinson. bibliog Ann Am Acad 273:25-33 Ja '51

MEDICINAL chemistry. See Chemistry, Medical and pharmaceutical

MEDICINAL plants. See Botany, Medical

MEDICINE
Decisive influence of chemical industry on medicine. E. C. Dodds. Chem & Ind p620-3 Jl 21 '51

See also
Anesthetics, Local
Antiseptics
Bacteriology
Chemotherapy
Diagnosis
Diseases
Drugs
Electrotherapeutics
First aid in illness and injury
Hospitals
Hygiene, Industrial
Infectious diseases
Medical service
Medical service, Industrial
Nurses and nursing
Physicians
Poisons
Psychotherapy
Public health
Surgery
Television—Medical applications
Trypanocides

Bibliography

Army medical library author catalog; supplement to the Library of Congress author catalog, 1950. 724p $17.50 Card division, Library of Congress, Washington '51
Great medical bibliographers; a study in humanism. J. F. Fulton. 107p $4 Univ. of Pennsylvania press, 3436 Walnut st, Philadelphia 4 '51
Quarterly cumulative index medicus. v 47, January-June, 1950. 1580p American medical assn, 535 N. Dearborn st, Chicago 10 '51

Group practice

Annotated bibliography of group practice, 1927-1950. (Bul. 85) 72p American medical assn, 535 N. Dearborn st, Chicago 10 '51
Group practice. D. A. Clark and C. Hapney. Ann Am Acad 273:43-52 Ja '51

History

History of medicine, by H. E. Sigerist; review. I. B. Cohen. Sci Am 184:66-8 F '51

MEDICINE, Military
Atomic warfare medicine. E. P. Cronkite. il U S Naval Inst Proc 77:932-41 S '51

MEDICINE, Preventive
Sickness disability insurance and preventive medicine. L. J. Goldwater. A M A Archives Ind Hygiene & Occup Med 2:682-9; Discussion. 689-97 D '50

MEDICINES, Proprietary
Hadacol sold? Bsns W p26 S 1 '51
If it breathes, it's a salesman; LeBlanc promotes patent medicine; Hadacol. il Bsns W p72+ Ja 6 '51
Savings on proprietaries in Great Britain. Economist 159:732 N 11 '50
What happened to Hadacol? Bsns W p24-5 O 13 '51

See also
Nutrilite
Proprietary association of America

Advertising

Carter's pill name revised by FTC; new, stricter policy against unwarranted therapeutic claims for medicines. Oil Paint & Drug Rep 159:5+ Ap 9 '51
Liver removed; Carter must drop word from pill ads. Bsns W p 108 Ap 14 '51
Trustee named to work out plan to reorganize Hadacol. B. Tolk. il Ptr Ink 237:40+ O 12 '51

MEDITERRANEAN region
Mediterranean geopolitics. L. B. Blair. il U S Naval Inst Proc 77:134-9 F '51

MEDITERRANEAN sea
Whose Mediterranean? map Economist 160: 965-7 Ap 28 '51

MEEDER, Frederick H.
Portrait. Fortune 44:20 Ag '51

MEEHANITE
Engineering properties of iron castings can be improved by heat treatment. C. E. Herington. il diags Materials & Methods 32:50-3 D '50
Matched molds for reinforced plastics. A. J. Wiltshire. il diags Mod Plastics 28:85-6+ My '51
Meehanite castings find wide use in steel plants. C. E. Herington. il Steel 128:81-2 Ap 9 '51
Section thickness in meehanite castings. C. R. Austin. il Machine Design 23:130-1 F '51
Selection of gear materials; studies of gear tooth surface stresses based on investigations of meehanite metal. C. R. Austin. il diags Machine Design 23:157-60 Mr '51

MEEKER, Frank H.
Meeker says pressure on reps is terrific. J. L. Collings. por Ed & Pub 84:28 Ja 6 '51

MEERWEIN-PONNDORF reduction. See Reduction, Chemical

MEETINGS. See Conventions

MEGUSCHAR, Hilda
Clothespins are holding up nicely; Miss Meguschar's Spencer wood products co. Bsns W p89-90 N 4 '50

MELAMINE
Cyanuric chloride derivatives; dissociation constants of substituted melamines and related triazines. J. R. Dudley. Am Chem Soc J 73:3007-8 Jl '51
Cyanuric chloride derivatives; substituted melamines. D. W. Kaiser and others. bibliog Am Chem Soc J 73:2984-6 Jl '51
Industrial uses of oxygen; developments in the manufacture of melamine. Chem Age (Lond) 65:9-10 Jl 7 '51
Nitration of melamine and of triacetylmelamine. E. R. Atkinson. Am Chem Soc J 73: 4443-4 S '51

MELAMINE resins
Melamine dishware for QM. R. L. Van Boskirk. Mod Plastics 28:170+ Mr '51
Molding the specialized plastics; mineral-filled melamine. W. A. Ward. il Mod Plastics 28:86+ D '50
Resin bonding of hardwood fibers in offset papers. B. W. Scribner and others. bibliog J Res Nat Bur Stand 45:208-17 S '50
Shrinkproofing and mothproofing; alkylated methylolmelamines plus melamine fluosilicate; patent. Am Dyestuff Rep 40:64 Ja 22 '51
Water repellent fabrics; methylolmelamines, reacted with higher amides and transformed into quaternary compounds; patent. Am Dyestuff Rep 39:726 O 30 '50

Analysis

Application of the specific gravity gradient column to the quantitative determination of additives in a base material; concentration of melamine resin, applied to wool. C. R. Stock and E. R. Scofield. il Textile Res J 21:521-6 Jl '51
Effect of melamine resin on chemical tests of paper. W. K. Wilson and others. bibliog Tappi 34:410-15 S '51

MELANINS
Chemistry of the melanins; the synthesis of hydroxyindoles from *p*-benzoquinones. R. J. S. Beer and others. Chem Soc J p2029-32 Ag '51
Formation of tyrosine melanin. G. R. Clemo and F. K. Duxbury. Chem Soc J p 1795-800 Jl '50
Melanin and its precursors; model experiments on the reactions between quinones and indoles, and consideration of a possible structure for the melanin polymer. J. D. Bu'Lock and J. Harley-Mason. Chem Soc J p703-12 Mr '51

MELANOPHORES. See Chromatophores

MELICOPE
Chemistry of New Zealand melicope species; a synthesis of 6-hydroxy-3 : 5 : 7-trimethoxy-3′ : 4′-methylenedioxyflavone, melisimplexin, and melisimplin. L. H. Briggs and R. H. Locker. Chem Soc J p2379-81 S '50
Chemistry of New Zealand melicope species; constituents of the bark of melicope simplex. L. H. Briggs and R. H. Locker. Chem Soc J p2376-9 S '50

MELICOPE ternata

Flavonols from the bark of melicope ternata; a synthesis of quercetin 3 : 3′-dimethyl ether, quercetin 3 : 7 : 3′-trimethyl ether, quercetin 3 : 5 : 7 : 3′-tetramethyl ether, ternatin, and related benzyl ethers. L. H. Briggs and R. H. Locker. Chem Soc J p864-7 Mr '50

MELLON institute of industrial research. See Pittsburgh university. Mellon institute of industrial research

MELTING

Melting and glassy state transitions in cellulose esters and their mixtures with diluents. L. Mandelkern and P. J. Flory. bibliog Am Chem Soc J 73:3206-12 Jl '51

MELTING points

Application of microscopic fusion methods to inorganic compounds. D. G. Grabar and W. C. McCrone. bibliog il diags J Chem Educ 27:649-53 D '50

Effect of pressure on the melting of several methyl siloxanes. P. W. Bridgman. diag J Chem Phys 19:203-7 F '51

Formaldehyde condensations with phenol and its homologues; the mixed melting points of mixtures of the isomeric dihydroxydiphenylmethanes. S. R. Finn, G. J. Lewis and N. J. L. Megson. bibliog Soc Chem Ind J 69(sup no 2):S51-3 '50

Improved melting point apparatus. J. E. Nickels. diag J Chem Educ 28:303 Je '51

Linear expansion coefficient and melting point of metals. G. Bonfiglioli and G. Montalenti. bibliog J Ap Phys 22:1089-90 Ag '51

Melting point and the density of neptunium metal; a micro melting point apparatus for metals. E. F. Westrum, jr. and L. Eyring. diag Am Chem Soc J 73:3399-400 Jl '51

Melting-point and X-ray data for 2 : 4-dinitrophenylhydrazones of *n*-aliphatic aldehydes. T. Malkin and T. C. Tranter. pl Chem Soc J p 1178-9 My '51

Objective method for determining melting point. F. Kardos. il Anal Chem 22:1569-70 D '50

Rapid method for routine checking of melting points. V. E. Hughes. diags J Chem Educ 28:479 S '51

Refractory cermets. L. J. Cronin. bibliog diags Am Cer Soc Bul 30:234-8 Jl 15 '51

Thermal expansion coefficient and the melting point of cubic elements. M. E. Straumanis. J Ap Phys 21:936 S '50; Discussion. D. van der Reyden. 22:363 Mr '51

See also

Softening points

MELVIN, Crandall, 1889-

Boss banker who plays easy to get. pors Bsns W p 118-20+ Mr 17 '51

MEMBRANES

Curing concrete pavements with membranes. C. C. Rhodes. bibliog il Am Concrete Inst J 22:277-95 D '50

Electrochemical properties of mineral membranes; membrane characteristics of clay pastes. S. K. Mukherjee and C. E. Marshall. J Phys & Colloid Chem 55:61-8 Ja '51

Engineering aspects of separation of gases; fractional permeation through membranes. S. Weller and W. A. Steiner. bibliog flow diags Chem Eng Prog 46:585-90 N '50

Membrane filter in sanitary bacteriology. H. F. Clark and others. bibliog il diag Pub Health Rep 66:951-77 Jl 27 '51

Membrane permeability; investigation by three methods. Rideal. Chem Age (Lond) 63:571 O 21 '50

MEMORIALS

See also

War memorials

MEMPHIS, Tennessee

Economic conditions

Family spending, 1949. M. C. Ruark and G. H. Mulcahy. Mo Labor R 72:655-60 Je '51

MENGEL company

Mengel may duplicate last year's earnings. Barron's 31:19-20 My 28 '51

MENHADEN

Menhaden's fame. il Chem Ind W 68:13 F 10 '51

MEN'S furnishing goods

Paying bills is big problem for soft goods dealer. Credit & Fin Management 53:23 Jl '51

Selling methods and merchandise knowledge of men's wear and shoe salespeople. N. H. Comish. J Retailing 27:40-8 Spring '51

See also

Neckties

Underwear

Advertising

See also

Shirts—Advertising

Statistics

Men's wear market gains above retail average 1939-1948. Sales Management 65:82+ N 20 '50

MEN'S suiting fabrics

Viracle tropical suit; blend of Dacron and wool. Rayon 32:34 Jl '51

MEN'S suits

New plant with straight-line work flow modernizes suit making; Eagle's Brooklyn plant; illustrations wtih text. Bsns W p84-90 Jl 14 '51

Rating

Men's summer suits of synthetic fibers. il Consumers Res Bul 28:11-16 Jl '51

MENSHIKOV, M. A.

Portrait. Fortune 44:69 Ag '51

MENSTRUATION

Theory and rationale in the treatment of premenstrual tension and dysmenorrhea. M. Vainder. bibliog Ind Med 20:199-201 Ap '51

MENSURATION

Calculation of areas, volumes, surfaces reduced to simple terms. diags Water & Sewage Works 98:R178-80 Ap '51

Design of a two-variable metrology chart. K. L. Jackson. diags Engineering 171:714-15 Je 15 '51

See also

Standards of mass

MENTAL diseases

Forecasts vitamin cures for mental ills; abstract. R. J. Williams. Comm & Fin Chr 174:1063 S 20 '51

MENTAL hygiene

Cultivating community relationships in a mental health program. H. L. Rooney. Pub Health Rep 66:637-43 My 18 '51

Mental hygiene service at a United States air force base. O. B. Schreuder and others. Ind Med 20:218-20 My '51

Your personality can kill you. D. A. Laird. Banking 43:68+ D '50

See also

Worry

MENTAL hygiene, Industrial

One hundred problem people; study of accident frequency, medical complaints, absenteeism, and disciplinary penalties in a manufacturing industry. G. A. Eadie. Ind Med 20:215-17 My '51

Preventive industrial mental hygiene. A. O. England. Personnel J 29:417-20 Ap '51

See also

Psychiatry, Industrial

MENTAL telepathy. See Telepathy

MENTHA piperita. See Peppermint

MENTHOFURAN

Isolation of menthofuran from American peppermint oil. R. H. Eastman. Am Chem Soc J 72:5313-14 N '50

MENTHOL

Japan's camphor and menthol trade. For Comm W 43:23 Ap 30 '51

MENTHYL benzoic acid

Kinetics of the base-catalyzed methanolysis of ortho, meta and para substituted *l*-menthyl benzoates. R. W. Taft, jr., M. S. Newman and F. H. Verhoek. bibliog Am Chem Soc J 72:4511-19 O '50

MENTHYL bromoacetate

Partial asymmetric synthesis in a Reformatsky reaction. J. A. Reid and E. E. Turner. Chem Soc J p3365-8 D '49

MENZEL, Carl A.

Menzel wins CRSI award for development of A305 bar. por Am Concrete Inst J 22:sup 14 My '51; Excerpt. Concrete 59:8 My '51

MEPACRINE. See Atebrin

MERCAPSOL process. See Gasoline—Manufacture

MERCAPTANS

Addition of thiols to 2-arylmethylideneindane-1 : 3-diones. A. Mustafa. Chem Soc J p 1370-1 My '51

Catalytic synthesis of thiols. M. W. Farlow, W. A. Lazier and F. K. Signaigo. bibliog Ind & Eng Chem 42:2547-9 D '50

Chemistry of inhibitor sweetening. R. H. Rosenwald. bibliog diag Pet Processing 6: 969-73 S '51

Cyanoalkylation; structural effects in the reaction of mercaptans with α-alkylacrylonitriles. R. M. Ross and others. Am Chem Soc J 73:540-2 F '51

Cyanoalkylation; the addition of mercaptans to 1-cyano-1-cyclohexene. R. M. Ross and F. W. Raths. Am Chem Soc J 73:129-30 Ja '51

Dithiols; the reaction of toluene-*p*-sulphonates and methanesulphonates with potassium thiolacetate; a new method for the preparation of thiols. J. H. Chapman and L. N. Owen. Chem Soc J p579-85 F '50

Extraction of mercaptans by means of adsorption. W. E. Voreck, jr. and others. bibliog diag Pet Refiner 30:126-9 Mr '51

Mercaptans and disulphides; picture flow sheet. Chem Eng 58:176-9 Mr '51

New caustic regeneration process improves mercaptan sulfur removal. O. J. Zandona and C. W. Rippie. flow diag il Pet Processing 6:136-7 F '51

Olefinic acids; the addition of thiols to propiolic and acetylenedicarboxylic acid. L. N. Owen and M. U. S. Sultanbawa. Chem Soc J p3109-13 D '49

Polyalkylene sulfides; the rate of formation in emulsion. C. S. Marvel and A. H. Markhart, jr. Am Chem Soc J 73:1064-5 Mr '51

Polythiolesters. C. S. Marvel and A. Kotch. bibliog Am Chem Soc J 73:1100-2 Mr '51

Reactions of mercurial diuretics with mono- and dithiols. J. F. Lehman and others. bibliog Science 113:410-12 Ap 13 '51

Sodium plumbite treating methods and equipment. L. S. Daniels. flow diag il diags Pet Refiner 30:138-42 Ja '51

Some new choline type thiols. J. Weijlard and M. Tishler. Am Chem Soc J 73:1497-500 Ap '51

Sulfur compounds as antioxidants; beta-alkylmercaptoketones. R. B. Thompson. bibliog Ind & Eng Chem 43:1638-41 Jl '51

MERCAPTOACETIC acid

Addition of thiolacetic acid to unsaturated compounds. R. Brown, W. E. Jones and A. R. Pinder. Chem Soc J p2123-5 Ag '51

Anhydro-compounds from nitrogen-containing derivatives thioglycollic acid; pyridine and quinoline compounds. G. F. Duffin and J. D. Kendall. Chem Soc J p734-9 Mr '51

MERCAPTO acids

Anhydrocarboxy-derivatives of hydroxy- and mercapto-acids. W. H. Davies. Chem Soc J p 1357-9 My '51

MERCAPTOBENZIMIDAZOLE

Relation of peroxide decomposition to rubber degradation. C. E. Kendall. bibliog Ind & Eng Chem 43:452-5 F '51

Volumetric oxygen-absorption test for rubber aging. J. R. Shelton and W. L. Cox. bibliog Ind & Eng Chem 43:456-63 F '51

MERCAPTOBENZOTHIAZOLE

Separation of iridium from lead on a microscale; gravimetric determination of iridium. R. R. Barefoot, W. J. McDonnell and F. E. Beamish. bibliog Anal Chem 23: 514-16 Mr '51

MERCAPTO compounds

β-Lactam with a methylmercapto substituent. A. D. Holley and R. W. Holley. Am Chem Soc J 73:3172-4 Jl '51

o-Mercapto-azo-compounds; the coupling of tetrazotised 2 : 2′-diaminodiphenyl disulphide with β-naphthol. A. Burawoy and C. Turner. Chem Soc J p469-77 F '50

Preparation of substituted mercaptopyrylium salts. L. C. King, F. J. Ozog and J. Moffat. bibliog Am Chem Soc J 73:300-2 Ja '51

Products of the cleavage of triarylbismuth derivatives by -SH-containing compounds. H. Gilman and H. L. Yale. Am Chem Soc J 73:2880-1 Je '51

Studies in the azole series; syntheses of peptides of substituted cysteines. A. H. Cook and J. R. A. Pollock. Chem Soc J p 1898-902 Jl '50

Studies in the azole series; the interaction of amines and 2-mercapto-4-alkylidene- or -arylidene-5-thiazolinones. A. H. Cook, G. D. Hunter and J. R. A. Pollock. Chem Soc J p 1892-8 Jl '50

MERCAPTOETHANOL

Aryl-2-halogenoalkylamines; reactions with certain organic sulphur compounds. W. C. J. Ross. Chem Soc J p815-18 Mr '50

MERCAPTO group

Pteridines; replacement reactions of amino, hydroxyl and mercapto groups in the pteridine series. E. C. Taylor, jr. and C. K. Cain. Am Chem Soc J 73:4384-7 S '51

MERCAPTOIMIDAZOLE

Structure and antimalarial activity; benziminazoles and mercaptodihydroglyoxalines. A. T. James and E. E. Turner. Chem Soc J p 1515-19 Je '50

MERCAPTOLS

Cleavage of dimercaptols of acetonylacetone by mercuric chloride. R. A. Dinerstein. Am Chem Soc J 73:1357-8 Mr '51

MERCAPTOTHIAZOLE

4-(3′-Thianaphthyl)-2-mercaptothiazole. W. S. Emerson. Am Chem Soc J 73:1854-5 Ap '51

MERCAST process. See Foundry practice—Mercast process

MERCER county, New Jersey

Industries

Planned parenthood for plants. il Bsns W p 102+ Ap 21 '51

MERCERIZING

Mercerization of piece goods; cotton fabrics containing acetate rayon; abstract. A. J. Hall. Am Dyestuff Rep 39:922 D 25 '50

MERCHANDIZE cards

Sale I never forgot; out of the mouth of babes, a new business; dolls' hot water bottle. T. W. Smith, jr. Ptr Ink 234:50+ Mr 16 '51

MERCHANDIZING

Adventures in shopping. Sales Management 67:46+ Ag 1 '51

Customers say yum yum to apple-wine-cheese tie-in sale. il Sales Management 65: 50+ N 1 '50

Fashion merchandising. A. H. Daniels. Harvard Bsns R 29:51-60 My '51

How store detailing helps the agency. D. L. Harrington. il Adv Agency 44:52-3+ F '51

Material shortage or buyer shortage? T. A. Crawford. Dom Eng 177:95+ My '51

New sales collateral you can find in teamwork promotions. il Sales Management 67: 37-9+ Ag 1 '51

People-building pays for Grand Union. L. M. Hughes. il Sales Management 66:37-9+ Ja 15 '51

Schoonmaker scorns the rule book, and wine sales double. F. Schoonmaker. il Sales Management 66:42-6 Mr 1 '51

Soap merchandising. F. Schneller. Soap & San Chem 27:40-1 Ap '51

Why Personna is cutting its price in half; doubled ad budget will help capture the broad, low-priced market. M. Beuick. il Ptr Ink 234:31-3 Ja 26 '51

Why thousands of Canadians wear Van Heusen shirts. J. C. Cumming. il Sales Management 67:86+ O 1 '51

Will we have salesmen? C. B. Boulet. Edison Elec Inst Bul 19:110-12 Ap '51

See also

Advertising
Buying habits
Catalogs
Chain stores
Clubs, Merchandizing
Coupons
Delivery of goods
Department stores—Management
Display of merchandize
Electric apparatus and appliances—Merchandizing
Exhibits
Gas industry—Merchandizing
Gasoline service stations—Automobile accessories
Jobbers
Labels
Mail order business
Marketing
Package goods
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MERCHANDIZING—See also—*Continued*
Returned goods
Sales management
Sales promotion
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Showrooms
Telegift, inc.
Trade-in policies
Traveling stores

Study and teaching

See also
Retail trade—Study and teaching

MERCHANDIZING clubs. See Clubs, Merchandizing

MERCHANT marine
Big cargo fleet not big enough. Bsns W p98+ My 5 '51
Foreign ship gains big since 1945, table by American merchant marine institute shows. Weekly Underw 164:211 Ja 20 '51
Transformation in shipping; shortage of merchant tonnage. Economist 159:1158-60 D 23 '50

Great Britain

British merchant tonnage. Economist 160: 344+ F 10 '51

United States

Apathy, ignorance, and economics; reply to National strategy and merchant marine, by G. Synon. H. H. Holly. il U S Naval Inst Proc 77:174-8 F '51
Maintenance of sufficient tonnage vital defense need. J. L. Luckenbach. Weekly Underw 164:384+, 442+ F 10-17 '51
Merchant marine blues; American ship owners see storm clouds ahead. J. C. Perham. Barron's 31:3 Jl 23 '51
Rebuild merchant marine; abstract. T. Brent. Marine Eng 56:65-6 Ap '51
Role of the mariner; merchant fleet of fast, new vessels required for national security and international trade. E. L. Cochrane. il Tech R 53:407-9+ Je '51
Shipping a vital defense resource. E. C. Johnson. Marine Eng 55:45 N '50
U.S. mothball fleet weighs anchor. il Bsns W p 130 Jl 28 '51
Year-end survey. F. J. Taylor. Weekly Underw 163:1468 D 30 '50
See also
Shipping—United States

MERCHANT mills. See Rolling mills

MERCK and company, inc.
Plans preferred stock financing and common stock split. Comm & Fin Chr 174: 366 Jl 30 '51
Preferred stock offered. Comm & Fin Chr 174: 1101-2 S 24 '51

MERCUPURIN
Reactions of mercurial diuretics with mono- and dithiols. J. F. Lehman and others. bibliog Science 113:410-12 Ap 13 '51

MERCURATION
Mechanism of aromatic mercuration; orientation effects. W. J. Klapproth and F. H. Westheimer. bibliog Am Chem Soc J 72: 4461-5 O '50
Mechanism of aromatic mercuration; reaction kinetics. R. M. Schramm, W. Klapproth and F. H. Westheimer. bibliog J Phys & Colloid Chem 55:843-57; Discussion. 858-60 Je '51
Mercuration of ketones and some other compounds with mercuric nitrate. A. A. Morton and H. P. Penner. bibliog Am Chem Soc J 73:3300-4 Jl '51

MERCURY
Atomic distribution function. R. H. Kerr and L. H. Lund. bibliog diag J Chem Phys 19:50-4 Ja '51
Automatic mercury vacuum still. W. A. Cannon. diags J Chem Educ 28:272-4 My '51
Band spectrum of HgIn. R. I. Purbrick. il Phys R 81:89-94 Ja 1 '51
Behavior of the resistance ignitor in mercury. W. W. Rigrod. bibliog diag J Ap Phys 22:787-96 Je '51
Design of variable resonant frequency crystal transducers. W. L. Hall and W. J. Fry. diags R Sci Instr 22:155-61 Mr '51
Determination of pore volume and area distributions in porous substances; comparison between nitrogen isotherm and mercury porosimeter methods. L. G. Joyner, E. P. Barrett and R. Skold. Am Chem Soc J 73:3155-8 Jl '51
Eight liquid phases in stable equilibrium. S. L. Kittsley and H. A. Goeden. il Am Chem Soc J 72:4841-2 O '50
Electrokinetics of hydrogen evolution; deuterium overvoltage on mercury. B. Post and C. F. Hiskey. Am Chem Soc J 73: 161-4 Ja '51
Electrokinetics of hydrogen evolution; hydrogen overvoltage on mercury. B. Post and C. F. Hiskey. bibliog diag Am Chem Soc J 72:4203-8 S '50
Electron removal in mercury afterglows. P. Dandurand and R. B. Holt. bibliog diags Phys R 82:868-73 Je 15 '51
Electron temperature vs noise temperature in low pressure mercury-argon discharges. M. A. Easley and W. W. Mumford. J Ap Phys 22:846-7 Je '51
Ferric chloride solutions as demercurisators. S. F. Yavorovskaya. Chem Age (Lond) 64:231-2 F 10 '51
Gas temperatures and elastic losses in low pressure mercury-argon discharges. C. Kenty and others. bibliog diag J Ap Phys 22:1006-11 Ag '51
Heat capacity of liquid mercury between 0° and 450° C; calculation of certain thermodynamic properties of the saturated liquid and vapor. T. B. Douglas and others. bibliog J Res Nat Bur Stand 46:334-48 Ap '51
History of the mercury flask. D. K. Myers. il J Chem Educ 28:127 Mr '51
Isothermal rate of solidification of mercury droplets; abstract. D. Turnbull. Science 112: 448 O 20 '50
Magnetic mercury cathode. E. J. Center, R. C. Overbeck and D. L. Chase. bibliog il diags Anal Chem 23:1134-8 Ag '51
Mercury, 1950. H. M. Meyer. Eng & Min J 152:92 F '51
Mercury photo-sensitized decomposition of methyl chloride. C. R. Masson and E. W. R. Steacie. bibliog J Chem Phys 19:183-9 F '51
Mercury ($^3P_1$) photo-sensitized decomposition of propane at high temperatures. S. Bywater and E. W. R. Steacie. bibliog J Chem Phys 19:319-25 Mr '51
Mercury ($^3P_1$) photo-sensitized reaction of ethane at high temperatures. S. Bywater and E. W. R. Steacie. J Chem Phys 19:326-9 Mr '51
Mercury ($^3P_1$) sensitized decomposition of normal and iso-butane at high temperatures. S. Bywater and E. W. R. Steacie. bibliog J Chem Phys 19:172-5 F '51
Mutual solubility of mercury and gallium. W. M. Spicer and H. W. Bartholomay. Am Chem Soc J 73:868-9 F '51
Oxide film formation on the surface of metals in aqueous solutions and the evaluation of their standard potentials. S. E. S. El Wakkad and T. M. Salem. bibliog diags J Phys & Colloid Chem 54:1371-83 D '50
Probe technique for the measurement of electron temperature. M. A. Easley. J Ap Phys 22:590-3 My '51
Production of 2537 radiation and the role of metastable atoms in an argon-mercury discharge. C. Kenty. bibliog J Ap Phys 21: 1309-18 D '50
Pseudo-metallic bonding of hydrides. A. R. Ubbelohde. diag Chem Soc J p 1143-6 Ap '50
Quenching of mercury resonance radiation; the effective cross sections of paraffin hydrocarbons. B. D. Darwent. diags J Chem Phys 18:1532-7 D '50
Reaction of methylcyclopentane with Hg $6(^3P_1)$ atoms. M. Schlochauer and H. E. Gunning. bibliog J Chem Phys 19:474-81 Ap '51
Role of a positive column in the reduction of current due to external light in an electrodeless discharge. V. V. Agashe. bibliog il diag J Chem Phys 19:1002-6 Ag '51
Role of the cation in the electrical double layer. D. C. Grahame. bibliog Electrochem Soc J 98:343-50 S '51
Scattering of thermal neutrons by mercury. C. T. Hibdon and others. bibliog Phys R 82:560-1 My 15 '51
Secondary emission of electrons from liquid metal surfaces. J. J. Brophy. diag Phys R 83:534-6 Ag 1 '51

MERCURY—*Continued*

Self-diffusion of silver and mercury in Ag_2HgI_4. K. E. Zimen, G. Johansson and M. Hillert. Chem Soc J supp no 2:S392-4 '49

Solubility of mercury in liquid phosphorus. G. J. Rotariu and others. il Am Chem Soc J 73:2527-8 Je '51

Solution of the Schrödinger equation for an approximate atomic field. E. H. Kerner. bibliog Phys R 83:71-5 Jl 1 '51

Ultraviolet absorption spectra of mercury in solution. M. K. Phibbs. bibliog J Chem Phys 18:1679 D '50

Vapor pressure of mercury from 40°C to 240°C; (5 microns to 6 cm) measured by the streaming method. T. M. Dauphinee. J Chem Phys 19:389-90 Mr '51

World production of mercury, since 1942; tabulation. Iron Age 167:308 Ja 4 '51

See also

Amalgams

Mercuration

Analysis

Alkalimetric determination of metals with the aid of acid-base indicators. J. F. Coetzee. Chem Soc J p2098-102 Ag '51

Amperometric titrations of Sn^{IV} and Hg^{II} with tetraphenylarsonium chloride. I. M. Kolthoff and R. A. Johnson. Electrochem Soc J 98:231-3 Je '51

Analysis of mercuric ion-anion mixtures. J. B. Fernandez, L. T. Snider and E. G. Rietz. bibliog Anal Chem 23:899-900 Je '51

Determination of mercury and bromides with 1,10-phenanthroline ferrous sulfate. M. E. Hall and G. M. Smith. bibliog Anal Chem 23:1181-3 Ag '51

Determination of traces of mercury in copper alloys; titration with dithizone. W. L. Miller and L. E. Wachter. bibliog diag Anal Chem 22:1312-14 O '50

Protection of mercury power plants; detection of mercury vapor. R. M. Ilfeld. il Power Eng 54:76-7 N '50

Sensitized paper for estimation of mercury vapor. F. Stitt and Y. Tomimatsu. Anal Chem 23:1098-101 Ag '51

Isotopes

Atomic standards of length now available. Franklin Inst J 252:68-9 Jl '51; il Comp Air Mag 56:216 Ag '51; Chem Ind W 68:23 Ap 14 '51; Product Eng 22:197 My '51; Mech Eng 73:578-9 Jl '51; Gen Elec R 54:12-13 N '51

Mass dependence of the superconducting transition temperature of mercury. B. Serin and others. bibliog Phys R 80:761 N 15 '50

Mercury and krypton isotope electric discharge lamps; their applications to interferometry. N. L. Harris. il Engineer 190:409-11 N 3 '50

Radioactive Hg^{203} and Hg^{205}. W. S. Lyon. bibliog Phys R 82:276 Ap 15 '51

Wave-lengths of mercury 198. W. F. Meggers and K. G. Kessler. bibliog Opt Soc Am J 40:737-41 N '50

MERCURY acetate

Determination of rotenone by the use of mercuric acetate. I. Hornstein. bibliog Anal Chem 23:1329-30 S '51

Hydrolysis of mercuric acetate. E. G. Long and K. A. Kobe. Ind & Eng Chem 43:2366-9 O '51

MERCURY boilers. See Boilers, Mercury

MERCURY chlorates

Ultra-violet absorption spectra of mercurous perchlorate solutions. W. C. E. Higginson. Chem Soc J p 1438-43 Je '51

MERCURY chloride

Cleavage of dimercaptols of acetonylacetone by mercuric chloride. R. A. Dinerstein. Am Chem Soc J 73:1357-8 Mr '51

Hydrogen-calomel cell. G. J. Hills and D. J. G. Ives. diags Chem Soc J p305-23 F '51

Standard X-ray diffraction patterns. H. E. Swanson and E. Tatge. bibliog J Res Nat Bur Stand 46:318-27 Ap '51

MERCURY compounds

Addition compounds of olefins with mercuric salts. J. Chatt. Chem R 48:7-43 bibliog(73 ref, p42-3) F '51

Dimer of human serum albumin with a bifunctional mercury compound. R. Straessle. Am Chem Soc J 73:504-5 Ja '51

Mechanism of action of organic mercury compounds on cytochrome oxidase. M. A. Seibert and others. bibliog Science 112:649-51 D 1 '50

Mercurial diuretics; mercuration of allylacetic acid and related compounds. R. L. Rowland, W. L. Perry and H. L. Friedman. Am Chem Soc J 73:1040-1 Mr '51

Mercurial diuretics; methoxymercuration of N-allyl amides. R. L. Rowland, W. L. Perry and S. Gerstein. Am Chem Soc J 73:91-3 Ja '51

Mercurial diuretics; methoxymercuration of substituted allylureas. R. L. Rowland, W. L. Perry and S. Gerstein. Am Chem Soc J 73:3691-3 Ag '51

New mercurials from 2,2-diphenylpentene-4-ol-1 and norbornylene. R. L. Rowland. Am Chem Soc J 73:2381 My '51

Polarographic studies of organic mercury compounds. R. Benesch and R. E. Benesch. bibliog Am Chem Soc J 73:3391-6 Jl '51

Reactions of mercurial diuretics with mono- and dithiols. J. F. Lehman and others. bibliog Science 113:410-12 Ap 13 '51

Reactions of the perfluoroalkyl radicals. J. Banus, H. J. Emeléus and R. N. Haszeldine. Chem Soc J p3041-5 N '50

Some aspects of reactions between ammonia and mercury(I) compounds. S. D. Arora, W. N. Lipscomb and M. C. Sneed. Am Chem Soc J 73:1015-18 Mr '51

Analysis

Phenyl mercuric or ethyl mercuric compounds; direct determination of several compounds in dilute aqueous solution. V. L. Miller, D. Polley and C. J. Gould. bibliog Anal Chem 23:1286-8 S '51

MERCURY dimethyl

Rate constant of ethane formation from methyl radicals. R. Gomer and G. B. Kistiakowsky. bibliog J Chem Phys 19:85-91 Ja '51

Recombination of methyl radicals. D. M. Miller and E. W. R. Steacie. bibliog diag J Chem Phys 19:73-7 Ja '51

MERCURY dithizonate

Spectrophotometric studies of dithizone and some dithizonates; molecular extinction coefficient of dithizone in carbon tetrachloride. S. S. Cooper and Sister M. L. Sullivan. bibliog Anal Chem 23:613-18 Ap '51

MERCURY electrodes. See Polarographic analysis; Polarography

MERCURY formate

Kinetics of the decomposition of solid mercurous formate. G. A. Miller and G. W. Murphy. Am Chem Soc J 73:1871-2 Ap '51

MERCURY halides

Measurements of the vapour pressures of some alkylmercury halides; the latent heats of sublimation of methyl- and ethylmercury halides. T. Charnley and H. A. Skinner. Chem Soc J p 1921-4 Jl '51

Some complexes formed from diaryl selenoxides and mercury(II) halides. E. S. Gould and J. D. McCullough. Am Chem Soc J 73:3196-7 Jl '51

MERCURY industry and trade

Guaranteed price will revive domestic quicksilver mining. C. N. Schuette. Eng & Min J 152:116-19 Ap '51

Mercury manipulation shoves prices higher. Barron's 31:31 Ja 29 '51

Mercury prices soar as users' spirits slump. Bsns W p 112 F 17 '51

Statistics

Mercury consumption continued up in 1950. Oil Paint & Drug Rep 159:5 Ap 2 '51

MERCURY mines and mining

Quicksilver's valley of the shadow. W. Bradley. il Min Cong J 37:86-7+ Ap '51

Alaska

Investigation of mercury deposits, Cinnabar Creek area, Georgetown and Akiak districts, Kuskokwim region, southwestern Alaska. F. A. Rutledge. 7pls U S Bur Mines Rep of Invest 4719:1-9 '50

MERCURY mines and mining—*Continued*

Arkansas

Investigation of southwestern Arkansas mercury district, Howard, Pike, and Clark counties, Ark. L. T. McElvenny and others. bibliog 9pls U S Bur Mines Rep of Invest 4737:1-25 '50

Oregon

Quicksilver deposits of the Bonanza-Nonpareil district, Douglas county, Oregon. R. E. Brown and A. C. Waters. maps U S Geol S Bul 955-F:225-51, pl 1-10[in pocket] '51

Quicksilver deposits of the Horse Heaven mining district, Oregon. A. C. Waters and others. bibliog map plan U S Geol S Bul 969-E:1-149, pl 20-37 '51

MERCURY nitrate

Determination of chloride in water; preparation and effect of mercuric nitrate reagent. F. E. Clarke. Anal Chem 22:1458 N '50

High frequency titrations; mercurimetric determination of chloride. W. J. Blaedel and H. V. Malmstadt. Anal Chem 22:1410-12 N '50

MERCURY ores

Physical chemistry of quicksilver transportation in vein fluids. K. B. Krauskopf. Econ Geol 46:498-523 bibliog(44 titles, p522-3) Ag '51

Quicksilver deposits of Chile. J. F. McAllister and others. maps plan U S Geol S Bul 964-E:361-400, pl 20-30[in pocket]; pa 75c Supt. of doc. '50

MERCURY poisoning

How poisonous is mercury? J. B. Lawrence. bibliog il Chem & Eng N 29:3529-31 Ag 27 '51

Possibilities of mercury poisoning in instrument shops. R. F. Angell. Pet Eng 23:C18 F '51

MERCURY-steam plants. See Steam plants—Binary vapor systems

MERCURY sulfide

Free energy of formation and solubility product constant of mercuric sulfide. J. R. Goates, A. G. Cole and E. L. Gray. bibliog Am Chem Soc J 73:3596-7 Ag '51

Physical chemistry of quicksilver transportation in vein fluids. K. B. Krauskopf. Econ Geol 46:498-523 bibliog(44 titles, p522-3) Ag '51

MERCURY turbines

Data on six mercury power plants; tabulation; engineering reference sheet. Elec World 134:126 D 4 '50

MERCURY vapor electric lamps. See Electric lamps, Mercury vapor

MERCUZANTHIN. See Mercupurin

MERGENTHALER linotype company

Newcomers on the New York stock exchange. G. W. Mathis. Mag of Wall St 88:360 Je 30 '51

MERGERS. See Business consolidations

MERISTEMS. See Plant cells and tissues

MERIT rating. See Employees—Rating

MERRILL, Albert A.

Cal Tech honors pioneer. por Aeronautical Eng R 9:6-8 D '50

MERRILL Lynch, Pierce, Fenner and Beane

Profits in 1950 at record high level. Comm & Fin Chr 173:617+ F 8 '51

Wall Street's golden year; Merrill Lynch's 1950 report. Bsns W p 124-5 F 17 '51

MERRY-go-rounds

Free rides bring profits; Camden ice cream distributor uses merry-go-rounds on premium basis to boost sales. il Bsns W p38-9 D 9 '50

Manufacture

Carousel king hops on defense merry-go-round. il Bsns W p88-90 Ag 4 '51

MESCALINE

Cactus alkaloids; trichocereus terscheckii (Parmentier) Britton and Rose. L. Reti and J. A. Castrillón. bibliog Am Chem Soc J 73:1767-9 Ap '51

Improved synthesis of mescaline. F. Benington and R. D. Morin. Am Chem Soc J 73:1353 Mr '51

MESITOIC acid. See Isodurylic acid

MESITOL

Formaldehyde condensations with phenol and its homologues; condensation of 2:4:6-trimethylphenol with formaldehyde. S. R. Finn and J. W. G. Musty. bibliog Soc Chem Ind J 69(sup no 1):S3-7 '50

Oxidation of phenols with the free hydroxyl radical. S. L. Cosgrove and W. A. Waters. Chem Soc J p 1726-30 Jl '51

MESITYLACETYLENE. See Ethynyl mesitylene

MESITYLENE

Aromatic fluorine compounds; the fluoromesitylenes and derivatives. G. C. Finger and others. bibliog Am Chem Soc J 73:149-51 Ja '51

Infrared spectra of mesitylene complexes. G. C. Pimentel and others. bibliog J Chem Phys 19:513-14 Ap '51

Restricted rotation in aryl amines; isopropyl derivatives of dibenzenesulfonamidomesitylene. R. Adams and N. K. Nelson. Am Chem Soc J 72:5077-9 N '50

Studies in photochemistry and radiation chemistry of toluene, mesitylene and ethylbenzene. R. R. Hentz and M. Burton. bibliog Am Chem Soc J 73:532-6 F '51

2,4,6-Tris-(trifluoromethyl)-styrene. E. T. McBee and R. A. Sanford. bibliog Am Chem Soc J 72:5574-5 D '50

MESO compounds

Solution of the problem of internal compensation in meso compounds as afforded by studies on analogous coordination complexes. R. W. Hakala. Science 113:15 Ja 5 '51

MESOMERISM

Connection between the size of an atom and the magnitude of its mesomeric and electromeric effects. G. Baddeley. Chem Soc J p663-6 F '50

MESOTRONS

Absorption of π^--mesons in deuterium. S. Tamor and R. E. Marshak. Phys R 80:766 N 15 '50

Absorption of π^--mesons in hydrogen. R. E. Marshak and others. Phys R 80:765-6 N 15 '50

Absorption of slow π^- mesons in deuterium. S. Tamor. bibliog Phys R 82:38-43 Ap 1 '51

Analysis of charged meson production by protons. S. Passman and others. bibliog Phys R 83:167-8 Jl 1 '51

Analysis of π-meson production in nucleon-nucleon collisions. K. M. Watson and K. A. Brueckner. Phys R 83:1-9 Jl 1 '51

Angular distribution of the π^+ mesons from 341-Mev protons on protons. M. N. Whitehead and C. Richman. bibliog Phys R 83:855-6 Ag 15 '51

Angular distribution of the pions produced in high energy nuclear collisions. E. Fermi. diag Phys R 81:683-7 Mr 1 '51

Are mesons complex particles? M. el Nadi. Phys R 80:754 N 15 '50

Artificial and natural mesons; cosmic rays; abstracts of papers at American physical society meeting. Phys R 81:313-15 Ja 15 '51

Attempt to detect μ-meson pairs from 322-Mev bremsstrahlung. J. W. Mather and others. diags Phys R 82:973-5 Je 15 '51

Beta-decay and meson decay. E. R. Caianiello. bibliog Phys R 81:625 F 15 '51

Branching ratio of the π^+ meson. F. M. Smith. Phys R 81:897-8 Mr 1 '51

Capture and decay of mesons in photographic emulsions. W. F. Fry. bibliog il Phys R 83:594-7 Ag 1 '51

Capture of π-mesons in deuterium. K. Brueckner and others. bibliog Phys R 81:575-8 F 15 '51

Capture of μ-mesons in heavy elements. F. B. Harrison and others. bibliog diags Phys R 83:680-1 Ag 1 '51

Charge exchange scattering of π-mesons in deuterium. B. Segall. Phys R 83:1247-8 S 15 '51

Cloud-chamber study of nuclear interactions in lead and aluminum. B. P. Gregory and J. H. Tinlot. bibliog il diags Phys R 81:675-82 Mr 1 '51

Collimated and wide-angle meson groups in a hard-shower star. M. M. Shapiro and H. Yagoda. bibliog diag Phys R 80:283-4 O 15 '50

Contribution of the Pauli moment to π-meson production by photons. M. F. Kaplon. bibliog Phys R 83:712-15 Ag 15 '51

MESOTRONS—*Continued*

Cross section for photomeson production. G. Araki. bibliog Phys R 82:959-60 Je 15 '51

Cross section for production of charged π-mesons in C and H at 90° to a 381-Mev proton beam. M. M. Block and others. Phys R 83:167 Jl 1 '51

Cross section for the reaction $\pi^+ + d \rightarrow p + p$, and the spin of the π^+ meson. D. L. Clark and others. bibliog Phys R 83:649 Ag 1 '51

Darling's theory and the mass of the π-meson. P. R. Zilsel. Phys R 82:557 My 15 '51

Decay of μ-mesons. V. Votruba and Č. Muzikář. Phys R 82:99-100 Ap 1 '51

Decay of the π^- meson. L. Lederman and others. il Phys R 81:281-2 Ja 15 '51

Detection of positive π-mesons by π^+ decay. M. Jakobson and others. bibliog diag Phys R 81:894-5 Mr 1 '51

Determination of the number of neutrons associated with the stoppage of negative μ-mesons in lead. G. Groetzinger and others. bibliog diags Phys R 81:969-72 Mr 15 '51

Differential multiplicity in meson production. K. Sitte. bibliog Phys R 81:484-5 F 1 '51

Differential range spectrum of cosmic-ray mesons. L. Germain. bibliog diags Phys R 80:616-19 N 15 '50

Effect of Bohr orbit binding on negative μ-meson β-decay. C. E. Porter and H. Primakoff. bibliog Phys R 83:849-50 Ag 15 '51

Electromagnetic interactions of μ-mesons. W. D. Walker and others. bibliog diag Phys R 83:655-6 Ag 1 '51

Energy spectrum of the electrons from μ^+ meson decay. R. Sagane and others. bibliog diag Phys R 82:557-8 My 15 '51

Equivalence theorem in meson theory. K. V. Roberts. bibliog Phys R 83:188-9 Jl 1 '51

Evidence concerning the reaction $p + p \rightarrow \pi + d$. F. S. Crawford, jr. and others. diag Phys R 82:97-8 Ap 1 '51

Evidence for the multiple production of mesons in a single nucleon-nucleon collision. J. J. Lord and others. bibliog diags Phys R 80:970-3 D 15 '50

Experiment on the anomalous scattering of μ-mesons by nucleons. E. Amaldi and G. Fidecaro. diag Phys R 81:339-41 F 1 '51

Experimental search for the beta-decay of the π^+ meson. H. L. Friedman and J. Rainwater. Phys R 81:644-5 F 15 '51

Field corrections to neutron-proton scattering in a new mixed meson theory. D. B. Beard and H. A. Bethe. diags Phys R 83:1106-14 S 15 '51

Gamma-ray spectrum from the absorption of π^--mesons in deuterium. L. Aamodt and others. Phys R 80:282-3 O 15 '50

Gamma-ray spectrum resulting from capture of negative π-mesons in hydrogen and deuterium. W. K. H. Panofsky and others. bibliog diags Phys R 81:565-74 F 15 '51

γ-Ray spectrum resulting from the absorption of π-mesons in deuterium. K. M. Watson and R. N. Stuart. bibliog Phys R 82:738-44 Je 1 '51

High energy cosmic-ray showers in nuclear emulsions. L. S. Osborne. bibliog Phys R 81:239-44 Ja 15 '51

Inelastic scattering of π-mesons. M. H. Johnson. Phys R 83:510-12 Ag 1 '51

Integral multiplicity of meson production. K. Sitte. bibliog Phys R 81:628-9 F 15 '51

Interaction of mesons with nuclei. S. Hayakawa. bibliog Phys R 82:836-9 Je 15 '51

Interaction of pi-mesons with carbon and aluminum nuclei. M. Camac and others. il diag Phys R 82:745-6 Je 1 '51

Ionization loss of μ-mesons at relativistic energies in anthracene. T. Bowen and F. X. Roser. bibliog diag Phys R 83:689-90 Ag 1 '51

Large angle scattering of π^--mesons. H. Bradner and B. Rankin. Phys R 80:916 D 1 '50

Lifetime of the negative pi-meson. L. M. Lederman and others. bibliog Phys R 83:685-6 Ag 1 '51

Low energy electron resulting from a stopped μ-meson. G. Groetzinger and others. Phys R 81:626 F 15 '51

Low energy photomeson production in hydrogen. S. D. Drell. bibliog Phys R 83:555-60 Ag 1 '51

Measurement of the positive π-meson lifetime. C. E. Wiegand. bibliog il diags Phys R 83:1085-90 S 15 '51

Meson as a composite particle. H. M. Moseley and N. Rosen. bibliog Phys R 80:177-81 O 15 '50

Meson production accompanying uranium fission. H. Bradner and J. K. Bowker. il Phys R 82:265-6 Ap 15 '51

Meson reactions in hydrogen and deuterium. R. E. Marshak. Rs Mod Phys 23:137-46 Ap '51

Meson scattering. H. A. Bethe and R. R. Wilson. bibliog Phys R 83:690-2 Ag 1 '51

Meson to proton mass ratios. W. H. Barkas and others. Phys R 82:102-3 Ap 1 '51

Neutral mesons produced in the capture of π^- mesons in hydrogen. A. Sachs and J. Steinberger. diag Phys R 82:973 Je 15 '51

Neutral photomeson production and nucleon isobars. K. A. Brueckner and K. M. Case. Phys R 83:1141-7 S 15 '51

Nuclear absorption of negative pi-mesons at different energies. G. Bernardini and others. bibliog il Phys R 83:1075-6 S 1 '51

Nuclear interaction of π^--mesons. G. Bernardini and others. Phys R 80:924-5 D 1 '50

Nuclear interaction of π^- mesons in nuclear emulsions. G. Bernardini and others. Phys R 82:105-6 Ap 1 '51

Nuclear scattering of negative pi-mesons. G. Bernardini and others. bibliog il diag Phys R 83:1277-9 S 15 '51

Photographic study of the $\pi^+ \rightarrow \mu^+ \rightarrow \beta^+$ decay process and the energy spectrum of the β^+. H. Bramson and W. W. Havens, jr. bibliog il Phys R 83:861-2 Ag 15 '51

Photo-mesons from carbon. J. M. Peterson and others. diags Phys R 81:1003-11 Mr 15 '51

Photo-production of neutral mesons in nuclear electric fields and the mean life of the neutral meson. H. Primakoff. bibliog Phys R 81:899 Mr 1 '51

π^- Absorption in D_2 and the n—n force. A. L. Aamodt and others. Phys R 83:1057-8 S 1 '51

π-Meson absorption and emission mechanisms in nuclei. P. Cüer. bibliog Phys R 80:906-7 D 1 '50

π^+ Meson mass determination. W. F. Cartwright. bibliog Phys R 82:460-1 My 1 '51

π^--Meson reactions in tritium. A. M. L. Messiah and others. bibliog Phys R 83:652 Ag 1 '51

Problem of using scintillation crystals as proportional counters for high energy particles. F. X. Roser and T. Bowen. Phys R 82:284-5 Ap 15 '51

Production of a π^+ meson beam using the deflected proton beam of the 184-inch synchro-cyclotron. C. Richman and others. diag Phys R 80:900 D 1 '50

Production of μ-mesons by gamma-rays. P. A. Wolff. Phys R 81:1056 Mr 15 '51

Production of mesons by photons on nuclei. M. Lax and H. Feshbach. Phys R 81:189-96 Ja 15 '51

Production of mesons by primary cosmic rays. H. D. Rathgeber. bibliog diag Phys R 81:544-51 F 15 '51

Production of mesons by protons on deuterons. H. P. Noyes. Phys R 81:924-9 Mr 15 '51

Production of π^+-mesons by X-rays as a function of atomic number. R. F. Mozley. Phys R 80:493-4 N 1 '50

Production of π^+ mesons in carbon. E. M. Henley and R. H. Huddlestone. Phys R 82:754 Je 1 '51

Production of π-mesons in nucleon-nucleon collisions. K. Brueckner. bibliog diag Phys R 82:598-606 Je 1 '51

Production of π^- mesons in proton-proton collisions. J. C. Gunn and others. bibliog Phys R 81:277-8 Ja 15 '51

Production of neutral mesons by γ-rays incident on hydrogen. A. Silverman and M. Stearns. diag Phys R 83:853-4 Ag 15 '51

Production of photomesons. R. M. Littauer and D. Walker. Phys R 82:746-7 Je 1 '51

Production of positive mesons by photons on hydrogen. A. S. Bishop and others. Phys R 80:291 O 15 '50

Production ratio of photomesons from beryllium. H. A. Medicus. bibliog Phys R 83:662-3 Ag 1 '51

MESOTRONS—*Continued*

Ratio of electrons to mesons 1100 feet underground. C. A. Randall and W. E. Hazen. Phys R 81:144-5 Ja 1 '51

Ratio of negative to positive π-mesons in the stratosphere. W. F. Fry. bibliog Phys R 82:747 Je 1 '51

Reactions $\pi^+ + d \rightleftarrows p + p$. W. B. Cheston. Phys R 83:1118-22 S 15 '51

Relative energy and angle distribution of low energy π^- mesons from 390-Mev alpha-particles on carbon; μ^- meson endings. S. B. Jones and R. S. White. bibliog diag Phys R 82:374-7 My 1 '51

Renormalization of neutral mesons in three-field problems. P. T. Matthews. Phys R 81:936-9 Mr 15 '51

S-matrix in meson theory. N. Hu. Phys R 80:1109-10 D 15 '50

Scattering and absorption of scalar and pseudoscalar mesons by nucleons. M. Peshkin. Phys R 81:425-9 F 1 '51

Scattering of π-mesons by deuterium. S. Fernbach and others. Phys R 82:980 Je 15 '51

Scattering of mesons by nuclear particles. Vachaspati. bibliog Phys R 80:973-6 D 15 '50

Scattering of pi-mesons by the deuteron. J. S. Blair. Phys R 83:1246-7 S 15 '51

Short μ-meson tracks from π-meson decays. W. F. Fry. il Phys R 83:1268 S 15 '51

Spin of the μ-meson. E. R. Caianiello. bibliog Phys R 83:735-40 Ag 15 '51

Spin of the pion via the reaction $\pi^+ + d \rightleftarrows p + p$. R. Durbin and others. diags Phys R 83:646-8 Ag 1 '51

Spinless mesons and nucleons in the electromagnetic field. P. T. Matthews. bibliog Phys R 80:292-3 O 15 '50

Spinless mesons in the electromagnetic field. P. T. Matthews. bibliog Phys R 80:292 O 15 '50

Total cross sections of π-mesons on protons and several other nuclei. C. Chedester and others. bibliog diag Phys R 82:958-9 Je 15 '51

Zenith angle and momentum spectrum of μ-mesons at sea level. J. L. Zar. diags Phys R 83:761-7 Ag 15 '51

MESQUITE

Beating brush with 2,4,5-T. il Chem Ind W 68:25-6 Ap 7 '51

Mesquite tree and the Southwest. C. C. Wright. Tech R 53:351-2+ My '51

MESQUITE gum

Improvements in the preparation of L-arabinose from mesquite gum. C. S. Hudson. Am Chem Soc J 73:4038-9 Ag '51

MESTA machine company

Companies to benefit from industrial expansion; with comparative balance sheet items. Mag of Wall St 87:279 D 16 '50

METABOLISM

Application of mass spectrometer analysis to the study of respiratory metabolism. A. W. Pratt and others. bibliog diag R Sci Instr 22:694-6 S '51

Application of radioactive indicators in biochemistry; application of ^{14}C in the study of metabolic depressors and accelerators. G. C. Hevesy. Chem Soc J p 1637-9 Je '51

Assimilation of carbon dioxide in oxalate and citrate by aspergillus niger. K. F. Lewis and S. Weinhouse. bibliog Am Chem Soc J 73:2906-9 Je '51

Effect of ACTH and some adrenocortical steroids on the metabolism of tyrosine and phenylalanine in premature infants. S. Z. Levine and others. bibliog Science 113:311-12 Mr 23 '51

Effect of sensitization and X-radiation on the metabolism of I^{131} labeled proteins. F. J. Dixon and others. bibliog Science 113:274-6 Mr 9 '51

Imitative drugs. R. O. Roblin, jr. Sci Am 184:60-3 Ap '51

Metabolic study of a case of chronic beryllium poisoning treated with ACTH. H. L. Hardy and others. A M A Archives Ind Hygiene & Occup Med 3:579-82 Je '51

Nature of the phosphorus compounds present in cells of bact. lactis aerogenes. P. C. Caldwell. Chem Soc J p 166-72 Ja '51

Observations on purine metabolism. M. Gordon. bibliog Science 114:110 Jl 27 '51

Phosphorus metabolism of bact. lactis aerogenes. P. C. Caldwell and C. Hinshelwood. Chem Soc J p 158-66 Ja '51

Stereochemistry of metabolic diols from naphthalene and anthracene. J. W. Cook, J. D. Loudon and W. F. Williamson. Chem Soc J p911-14 Mr '50

Studies in steroid metabolism; the effects of stereochemical configuration at positions three and five on the infrared spectra of 3-acetoxy steroids. R. N. Jones and others. bibliog Am Chem Soc J 73:3215-20 Jl '51

Utilization of guanine by the rat. M. E. Balis, D. H. Marrian and G. B. Brown. bibliog Am Chem Soc J 73:3319-20 Jl '51

Volumetric microrespirometer for studies of tissue metabolism. R. Wennesland. bibliog diags Science 114:100-3 Jl 27 '51

METACHROME dyeing. See Dyes and dyeing—Metachrome process

METAL ceramics. See Cermets

METAL chairs. See Chairs, Metal

METAL cleaning

Abrasive drum cleaning machines. il Automotive Ind 104:60+ My 1 '51

Acid cleaning; power-plant maintenance tool. S. T. Powell. il Power 95:89-91+ Ja '51

Better, faster, cheaper; ultrasonic cleaning; Schick machine. C. F. Meyer, jr. il Factory Management 109:119 S '51

Blast cleaning of forgings reduces stream pollution. J. Geschelin. il Automotive Ind 103:48-9+ N 15 '50

Brass strip annealed and cleaned continuously; American brass co.'s new sheet and strip mill. il diag Steel 128:76-7 Mr 26 '51

Chemical descaling simplifies block rebuilding. R. K. Brunke. il Diesel Power 28:56-60 D '50

Detection of soil removal in metal cleaning by the radioactive tracer technique. J. C. Harris and others. bibliog Electrochem Soc J 97:430-2 D '50; Discussion. 98:258-9 Je '51

Development of metal cleaners using radioisotopic evaluation methods. J. C. Harris and R. E. Kamp. il Metal Finishing 48:75-8 N '50

Electrochemical process derusts complete machines without disassembly. Materials & Methods 34:11 S '51

Electrochemical society fall meeting, Buffalo; abstracts of symposium on electrodeposition and metal cleaning. Metal Finishing 48:73-5 D '50

Emulsion helps in tough cleaning job. G. W. Green. Cer Ind 57:52 Ag '51

How Buick cuts forging cleaning cost; new conveyor-fed blasting system. H. Chase. il Steel 128:60-1 Ja 8 '51

How to alleviate the shortage of alkali cleaners. L. De Waltoff. Metal Finishing 48:76 D '50

pH and buffering; values for various acids and bases commonly used in metal cleaning and plating operations; engineering data sheet. Metal Finishing 49:80 Je '51

If it's dirty you can blast it clean. L. J. Wieschhaus. il diags Mill & Factory 47:88-91 D '50

Ingenious blast cleaning adapted to mass production. W. I. Gladfelter. il diags Iron Age 167:100-4 My 3 '51

Keep it clean with latest techniques; degreasers, blast cleaners, washing machines. il Mod Ind 21:52-4 Mr '51

Metal cleaning. D. W. Vance. il Metal Finishing 49:55-7+ Ja '51

Metal cleaning, finishing and testing; departments operated by U.S. metalworking plants employing 21 or more plant workers; tabulations. Iron Age 167:356 Ja 4 '51

Metal grit for sand-blasting; advantages of Si:Mn steel over quartz. Chem Age (Lond) 63:777 D 2 '50

Method for estimating soil, using ultraviolet light techniques. L. F. Hoyt. il diag Steel 128:103-4 Ja 15 '51

Mold cleaning by the vapor blast process; abstract. E. J. Gooding. Glass Ind 32:83+ F '51

New vacuum-blasting tools aid welding, drum cleaning. D. H. Stormont. il Oil & Gas J 49:78+ Ja 11 '51

Phosphating cleaner cuts finishing costs. il Iron Age 167:108 Ap 5 '51

METAL cleaning—*Continued*

Pressure blasting; tool for production and maintenance work. il Diesel Power 29:52-3 Ag '51
Radioactive tracers detect soil on cleaned surfaces. R. E. Kamp and others. il Steel 128:102-3 Ja 15 '51
Removal of stearic acid from surfaces by alkaline detergents. F. Hazel and W. Stericker. bibliog il Ind & Eng Chem 43:919-25 Ap '51
Rinsability and buffering action of alkaline cleaners. Metal Finishing 49:62-3 Je '51

See also

Aluminum—Cleaning
Castings—Cleaning
Polishing materials
Steel—Cleaning

Bibliography

1950 supplement to the metal cleaning bibliographical abstracts. J. C. Harris, comp. (Special tech. pub. no. 90-A) 27p Am. soc. for testing materials, 1916 Race st, Philadelphia 3 '50

METAL coating

Corrosion resistance of metallized steel studied. Materials & Methods 34:13+ S '51
High vacuum metallizing of metals and plastics. A. H. Hartman and M. Schneider. flow diag il diags Metal Finishing 49:64-70 S '51
Maintaining compressor equipment; metalizing a valuable process. F. H. Love. il Pet Eng 23:D19-20+ Jl '51
Master mechanic explains secret of good metallizing. il Eng & Min J 152:84-5 Mr '51
Metal evaporator uses high-frequency heating. R. G. Picard and J. E. Joy. il diags Electronics 24:126-8 Ap '51
Metal spraying; an ideal maintenance tool. G. C. Close. il Mill & Factory 49:86-8 S '51
Metal surfacing for original parts. il diags Product Eng 22:122-4 Jl '51
Metalizing improves compressor station operation. il Gas Age 107:38+ F 1 '51
Metallic and nonmetallic coatings for gray iron. C. O. Burgess. bibliog il Foundry 78:76-9+ D '50; 79:96-9+ Ja '51; Same cond. Product Eng 21:108-13 D '50
Metallizing on glass and plastics; abstract. Metal Finishing 49:70 Ap '51
Metallizing, to prolong life of refinery equipment. J. E. Young, jr. il Pet Refiner 30:118-20 Jl '51
Metallizing uses grow. Steel 129:98 S 3 '51
Protection of structural steel against atmospheric corrosion. J. C. Hudson; W. A. Johnson. bibliog il pl diags Iron & Steel Inst J 168:165-80 Je '51
Surface preparation for metallizing shafts and similar objects. P. G. Dennison. il Welding J 30:835-6 S '51
Thin, attractive metal coatings produced by vacuum method. K. Rose. il Materials & Methods 33:71-3 Je '51
Vacuum metallizing. P. Rosenblatt. il diag Machine Design 23:141-4+ O '51
Vapor deposition of metals on ceramic particles. J. E. Cline and J. Wulff. bibliog il diag Electrochem Soc J 98:385-7 O '51
Your product can still shine; new coatings pass critical materials. il Mod Ind 22:89 Jl '51

See also

Aluminum coating
Electroplating
Galvanizing

Stripping

Metal stripper; dissolves nickel, lead, tin and chromium from copper base alloys. Chem Ind 67:581 O '50

METAL coloring

See also

Patina
Steel—Blackening

METAL congress, National. See National metal congress

METAL corrosion. See Corrosion and anticorrosives

METAL cutting

Acid pickle doubles tool life on CI. J. Datsko. il Am Mach 95:140-1 Je 11 '51
Air force, Curtiss-Wright report; machinability data for high-temperature alloys. R. Le Grand. il Am Mach 94:99-106 D 25 '50
Band saws can cut blank costs. H. J. Chamberland. il Am Mach 95:108-9 Ja 8 '51
Basic factors in hot-machining of metals. E. J. Krabacher and M. E. Merchant. bibliog il diag A S M E Trans 73:761-9; Discussion. 769-76 Ag '51
Countersinking adapters cut rivet holes. P. Van der Steen. diags Am Mach 94:168 D 11 '50
Cutting metal-cutting costs. il plan Mod Ind 20:38-43 N '50
Cutting temperatures and metal-cutting phenomena. B. T. Chao and K. J. Trigger. bibliog il diags A S M E Trans 73:777-87; Discussion. 787-93 Ag '51
Designing and machining high-speed mixed-flow compressor impellers. H. Woodhouse. il diags Mach 57:152-60 F '51
Electro-mechanical Method X machines carbides, hard alloys. M. F. Judkins and D. F. Dickey. il Iron Age 168:65-7 Jl 26 '51
Europe studies machinability and high speeds too. I. C. Toby. diags Am Mach 95:202+ My 14 '51
Experience with machinability repeat-ability. E. J. R. Hudec. diags A S M E Trans 73:17-19; Discussion. 19-20 Ja '51
Gas-oxygen cutting torch. J. A. Browning. il Mech Eng 73:414-15 My '51
Getting the most out of machines and tools. il diag Steel 128:80-3+ Mr 12 '51
Hard, brittle materials machined using ultrasonic vibrations; new process, known as Cavitron. S. G. Kelley, jr. il Materials & Methods 34:92-4 S '51
Hot machining of many metals improved by arc heating. E. T. Armstrong and A. S. Cosler. il Materials & Methods 33:69-73 Ja '51
Hot metal machining. S. Tour. Metal Prog 59:793-4 Je '51
How to machine investment castings. R. L. Wood and D. Von Ludwig. il Am Mach 95:103-10 My 28 '51
Increasing productivity in production machining. M. Field and N. Zlatin. S A E J 59:38-43 Ap '51
Integrally-stiffened skin revolutionizes aircraft construction; machined sections. P. E. Sandorff and G. W. Papen. il Iron Age 167:91-4 F 15 '51
Machinability depends on microstructure. R. Le Grand. il diags Am Mach 94:109-24 N 27 '50
Machinability measurements on constant-pressure lathes. F. W. Boulger. bibliog il diag Tool Eng 27:25-30 Jl '51
Machinability of titanium 150A; reference book sheet. Am Mach 95:179 O 1 '51
Machinability ratings of metals and processes; tables. R. W. Bolz. Machine Design 23:142-3 Ag '51
Machinability research program reported; book is published by Curtiss-Wright corp. il diags Iron Age 166:99-102 N 9 '50
Machining gas turbine alloys; reference book sheet. K. J. B. Wolfe and P. Spear. diags Am Mach 95:125, 127, 129 Ap 30 '51
Machining of heated metals. E. T. Armstrong and others. il A S M E Trans 73:35-43 Ja '51
Magnesium alloys can be machined efficiently. E. A. Parent. il diag Steel 129:91-2 S 3 '51
Metal cutting; a new unit operation; Cimmac reactor. il diag Chem Eng 58:192 Mr '51
Method X machines carbides by atom expulsion; described as the shaping of metallic parts in a dielectric fluid by a spark discharge. il Am Mach 95:194-5 S 3 '51
New process for producing holes in hard metal; Cavitron process. A. Kuris. il Mach 57:175-6 Je '51
Residual stresses in machined or ground surfaces. Engineer 192:118 Jl 27 '51
Residual stresses in machined surfaces. E. K. Henriksen. bibliog il diags A S M E Trans 73:69-76 Ja '51
Shop tests develop efficient machining. G. W. Halston. il Am Mach 95:121-4 F 5 '51
Straight forming licks tough nitralloy job. diags Am Mach 95:133 O 15 '51
Stress distribution in the continuous chip, a solution of the paradox of chip curl. E. K. Henriksen. diags A S M E Trans 73:461-5; Discussion. 465-6 My '51
Technical forum on progress in metalworking; machining. Steel 128:211+ Ja 1 '51

METAL cutting—*Continued*

Way to cut metal; machinability tied to microstructure. il Bsns W p64+ Ja 13 '51

See also

Broaching
Cutting tools
Drilling and boring (metal working, etc.)
Electric cutting
Gear cutting
Grooving
Lubrication and lubricants (cutting and grinding)
Machine tools
Machine work
Milling
Milling cutters
Oxyacetylene cutting
Pipe cutting
Saws, Metal working
Screw machines
Shears (machines)
Steel cutting
Thread cutting
Threading machines
Tool steel
Trepanning

Tables, calculations, etc.

Analytical evaluation of metal-cutting temperatures. K. J. Trigger and B. T. Chao. bibliog il diags A S M E Trans 73:57-66; Discussion. 66-8 Ja '51

Calculation of small punches; reference book sheet. F. Strasser. diags Am Mach 94:177 D 11 '50

Designing for efficiency; simplifying trigonometric calculations. F. N. LaMartine. Tool Eng 25:35 D '50

Form-tool table compensates for clearance. R. G. Vare. diags Am Mach 94:121 D 25 '50

How to cut large mixed-flow impeller vanes. A. Hammer. il diags Am Mach 95:92-8 Ap 30 '51

METAL detection. See Metals—Detection

METAL drawing

Advantages of cold-drawn pinions. E. H. Rathbone. diags Product Eng 21:114-16 D '50

Bumper guards deep drawn 220 per hour; illustrations with text. Steel 128:88 My 14 '51

Cold-drawn pinions and small gears. E. J. Tangerman. diags Am Mach 95:113 Ag 20 '51

Continuous bull block operation speeds output of copper tubing. il Steel 127:106 N 13 '50; Iron Age 166:114 D 14 '50; Blast F & Steel Pl 39:132 Ja '51; Iron & Steel Eng 27:136+ N '50

Deep-drawing aluminum parts with low-cost dies; Sperry gyroscope co. E. Andreola. il diags Mach 57:173-9 Mr '51

Expanding rubber forms parts. T. L. Self. il Aviation W 55:32+ Jl 23 '51

Flexible dies to improve deep drawing techniques. il Product Eng 22:131 My '51

How to calculate drawing pressures. F. Strasser. il Am Mach 94:94 O 30 '50

How to evaluate deep drawing quality steel. S. Epstein and J. W. Frame. il diags Iron Age 166:88-92 N 9 '50

Literature survey provides data on deep drawing of nonferrous metals. Materials & Methods 32:9+ N '50

Manufacture of deep drawing steel. R. W. Evans. il diags Engineer 191:306-9, 338-40 Mr 9-16 '51

Mechanical methods of reducing residual stress. Engineer 191:865 Je 29 '51

New drawing process announced; Hidraw process. il Iron Age 167:97 My 24 '51; Automotive Ind 105:40 Ag 1 '51

One draw reduces 40-in. diameter blank 66 per cent; manufacture of liquefied petroleum gas cylinders. G. Elwers. il diags Iron Age 167:55-8 Ja 18 '51

Press forming aluminum alloys; reference book sheet. E. V. Sharpnack. Am Mach 94:171, 173 N 13 '50

Theory of hollow sinking of thin-walled tubes. S. Y. Chung. diags Metallurgia 43:215-18 My '51

See also

Lublication and lubricants (metal drawing)
Wire drawing

METAL electric processing company

Executive innovation; vice-president for customer; officer talks for man-who-pays. B. Olson. Iron Age 167:105 Je 14 '51

METAL finishing

Abrasive metals; strength, polish in metalworking. il Steel 129:68 S 24 '51

Abrasive tumbling, a precision finishing method. il diag Steel 128:81-4+ F 5 '51

Advances in production methods in metal finishing. A. Bregman. il Metal Prog 59:77-80+ Ja '51

Chromate finishes in war and peace. H. C. Irvin. il Metal Finishing 49:109-13 Jl '51

Conveyorized finishing system utilizes penthouse ovens. il Steel 128:80 Ap 9 '51

Dentist's burr adapted for deburring inside holes. T. Brown. diags Am Mach 95:132 Mr 5 '51

Die castings; methods of production, materials, design principles, finishing, uses, etc. T. C. Du Mond. il Materials & Methods 34:95-7 Ag '51

Electrolytic and chemical finishes; with chart analysis of all types of organic, inorganic, and specialty finishes for metals, including properties, limitations, specification, surface preparation, and uses. il Product Eng 22:141-8, insert F '51

Establishing finishing operation rates with elemental time standards; Sargent & co. J. S. Kelly. il Metal Finishing 49:71-4 Mr '51

Fast abrasive belt finishing lops off costs. il Steel 127:88-90 D 11; 100-2 D 18 '50

Fatigue weakness of surfaces. J. O. Almen. il diags Product Eng 21:117-40 bibliog(p 140) N '50

Finishing army ordnance materiel. G. T. Viglione. il Metal Finishing 49:89-91+ Jl '51

Finishing magnesium alloys. diags Steel 129:90-2+ S 17 '51

German plating and finishing described. Iron Age 166:98 N 2 '50

High production requires ingenious methods of deburring aircraft sheets; illustrations with text. H. E. Linsley. Am Mach 95:99-101 Je 25 '51

How Chevrolet deburrs Powerglide parts. H. Chase. il Am Mach 95:138-9 Ap 16 '51

Improved finishing machines for zinc base die castings. il Automotive Ind 104:58 My 1 '51

Increasing endurance of magnesium castings by surface work. G. H. Found. il Metal Prog 60:51-4 Ag '51

Liquid blasting trims die polishing time ten per cent. il Steel 128:77 Ja 22 '51; Automotive Ind 104:46+ Ja 15 '51

Manufacturing applications of liquid impact blasting. B. H. Marks. diags Tool Eng 26:45-7 Mr '51

Mechanical finishing of metals. J. B. Campbell. il Materials & Methods 32:81-96 N '50

Mechanical finishing of zinc base diecastings prior to plating; abstract. M. R. Caldwell. Steel 129:110+ S 10 '51

Metal cleaning, finishing and testing; departments operated by U.S. metalworking plants employing 21 or more plant workers; tabulations. Iron Age 167:356 Ja 4 '51

Metal finishing forges ahead. A. Bregman. bibliog il Iron Age 167:78-82 F 22 '51

Metal finishing of household equipment at Servel's plant. A. Bregman. il Metal Prog 59:646-9 My '51

Metal finishing progress in 1950. W. A. Raymond. il Metal Finishing 49:48-54 bibliog and patent list(110 ref, p53-4) Ja '51

Metal window finishing plant. il Metallurgia 43:132 Mr '51

Metallic and nonmetallic coatings for gray iron. C. O. Burgess. bibliog il Foundry 78:76-9+ D '50; 79:96-9+ Ja; 108-11+ F '51

More productive finishing by barrelling; abstract. A. Whittaker. Product Eng 22:282-3 My '51

1951 production preview. il Am Mach 95:276-8 Ja 22 '51

Practical barrel finishing. P. L. Veit. bibliog il diags Metal Finishing 49:71-7+ S; 70-3 O; 65-73+ N '51

Preparing zinc-base and aluminum-base die castings for finishing. D. F. Seymour. il Materials & Methods 33:68-9 Mr '51

Product engineering's chart of organic finishes for metal products. Product Eng 22:insert Ap '51

Progress in metal finishing since 1929. S. Wernick. Metallurgia 42:339-44 N '50

Refined honing method levels hills and valleys; Superfinishing process. il Steel 129:73 Jl 23 '51

Review of materials engineering developments in 1950. T. C. Du Mond. il Materials & Methods 33:94-5 Ja '51

METAL finishing—*Continued*

Small parts coated in automatic machine; Tinnerman products, inc. il Iron Age 167:70 F 22 '51

Surface finish and manufacturing economy. A. E. Rylander. il diags Tool Eng 26:35-8 F '51

Surface finish (microinches, rms); chart. R. W. Bolz. Machine Design 23:150 Ag '51

Technical forum on progress in metalworking; surface treatment. Steel 128:233-4+ Ja 1 '51

Textured organic coatings. L. Back. il Product Eng 22:129-36 Ap '51

Tumble finishing technique. H. M. Goldman. il Tool Eng 26:37-40 My '51

Uniform high quality finish obtained with diamond powder abrasives. S. G. Kelley, jr. il Materials & Methods 33:65-7 F '51

Visual and optical evaluation of metal surfaces. H. Thielsch. bibliog il diags Metal Finishing 49:54-61 My '51

Wet tumbling lowers deburring costs. R. H. Anderson. il Iron Age 166:69-71 N 30 '50

See also

Grinding
Honing
Lacquer and lacquering
Lapping machines
Pickling (metals)
Polishing
Polishing, Electrolytic
Shot blasting
Shot peening
Steel—Finishing
Tumbling barrels

Patents

Patents. Published in monthly numbers of Metal finishing

Standards

Surface finish standards. T. E. Cassey and J. W. Sawyer. diags Machine Design 23:137-40 My '51

METAL foils

Emulsion studies of cosmic-ray stars produced in metal foils. I. Barbour. Phys R 82:280-1 Ap 15 '51

Plastics-foil collapsible tubes. il Mod Plastics 28:70-1 Mr '51

See also

Aluminum foil
Copper foil

METAL powder association

Annual meeting, 7th, Cleveland, April 25-26. Am Mach 95:174F My 14 '51; Chem & Eng N 29:1836+ My 7 '51

METAL powders

Alloyed metal powders replace machine casting. D. W. Hoyt. il diag Iron Age 168:63-5 Ag 23 '51

British wire gear maker adds powder shop. J. Rigby. il Iron Age 167:90-1 Je 21 '51

Considerations in designing tools for powder metallurgy. I. J. Donahue. diags Mech Eng 72:886-9 N '50

Density of powder metal parts controlled accurately by means of hydraulic presses having fine degree of adjustment. A. H. Allen. il Steel 129:84-5 S 17 '51

Designing with modern materials; survey of latest developments in engineering materials. il Machine Design 23:325-7 O '51

Determination of tin in ferro-tungsten and tungsten metal. Iron & Steel Inst J 168:51-6 My '51

Electrodeposition of metal powders. G. Wranglen. bibliog il Electrochem Soc J 97:353-60 N '50; Discussion. 98:255-6 Je '51

Frictional, wear properties evaluated for powder metallurgy bronzes; abstract. J. H. Dedrick. Materials & Methods 33:9 F '51

Hydraulic metal-powder press repeats to tolerance of 0.002 in. il diag Am Mach 95:140-1 Ap 2 '51

Infiltrated metal powder jet blades. il Am Mach 95:326 Ja 22 '51

Infiltrated or impregnated alloys. H. W. Greenwood. Engineer 190:384-5 O 20 '50

Jet blades made of powder. il Bsns W p42, 44-6 Ja 6 '51

Joining porous metal parts to other metals. H. W. Greenwood. Metallurgia 44:141-3 S '51

Magnetic domain patterns on nickel crystals. M. Yamamoto and T. Iwata. il diags Phys R 81:887-8 Mr 1 '51

Materials casebook; what about metal-powder parts? il Product Eng 22:142 O '51

Metal powder part plants; tabulation. Iron Age 167:342 Ja 4 '51

Method for annealing metal powders without sintering. F. W. Von Batchelder and H. E. Stauss. il R Sci Instr 22:396-7 Je '51

Microthrowing power studied; study of plated metal-powder compacts. C. E. Reinhard. Iron Age 166:132 D 7 '50

Oil-pocket metal powder bearings improve self-lubricating qualities. J. Haller. il Materials & Methods 33:80-1 My '51

Powder metal boosts jet blade output. il Aviation W 55:30+ S 17 '51

Powder metal gears. C. G. Levin. il Machine Design 23:117-19 Ag '51

Powder-metal gears. D. W. Lynch and others. il Am Mach 95:104-10 Ag 20 '51; Excerpts. Automotive Ind 105:50-2 Jl 1 '51; Machine Design 23:146+ O '51

Powder-metal parts. G. H. Logan. il diags Machine Design 23:133-6 O '51

Powder metallurgy can help conserve critical metals. A. J. Langhammer. il Materials & Methods 33:134+ F '51

Powder metallurgy in defense, theme of metal powder show, Cleveland, April 25-26. Materials & Methods 33:11+ Je '51

Powder metallurgy may offset metals cuts. W. Patton. Iron Age 167:107-8 F 8 '51

Powdered metals; may answer high temperature problem. il Product Eng 22:123 My '51

Preliminary investigation of the zirconium-beryllium system by powder metallurgy methods. H. H. Hausner and H. S. Kalish. bibliog il J Metals 188:Trans 59-66 Ja '50; Discussion. 188:Trans 1369-71 N '50

Preparation of metals in a finely divided state for use as catalysts. W. J. C. de Kok and H. I. Waterman. J Ap Chem 1:196-8 My '51

Role of gases in the production of high density powder compacts. D. Warren and J. F. Libsch. bibliog il J Metals 3:Trans 774-81 S '51

Some design aspects of metal-powder parts. D. C. Bradley. il diags Mech Eng 73:123-7 F '51; Excerpts. Machine Design 23:167+ Mr '51; Discussion. R. P. Seelig. Mech Eng 73:938-9 N '51

Some new methods of powder metallurgy; abstract. G. Wassermann. Metal Prog 59:550+ Ap '51

Some properties and tests of magnetic powders and powder cores. C. E. Richards and others. bibliog diags Inst E E Proc 97 pt 2:236-45 Ap '50; Same. Elec Com 28:55-69 Mr '51; Discussion. Inst E E Proc 97 pt 2:267-74 Ap '50

Some relations of powder characteristics to the elastic modulus and shrinkage of sintered ferrous compacts. G. D. McAdam. bibliog pl diags Iron & Steel Inst J 168:346-58 Ag '51

Twenty-one years of powder metallurgy. H. W. Greenwood. bibliog Metallurgia 42:336-8 N '50

Use of finely divided metals in explosives. D. Hart and W. R. Tomlinson, jr. il Metal Prog 59:788-92 Je '51

See also

Aluminum, Powdered
Beryllium, Powdered
Cermets
Copper, Powdered
Iron, Powdered
Thorium, Powdered
Uranium, Powdered
Zinc, Powdered
Zirconium, Powdered

METAL protection

Cathodic protection at Imperial dam. J. P. Collopy and W. D. Freeman. il Eng N 146:43-4 Ja 4 '51

Cathodic protection of condensers and heat exchangers. M. E. Parker. Oil & Gas J 49:244 Ap 19 '51

Chromate finishes in war and peace. H. C. Irvin. il Metal Finishing 49:109-13 Jl '51

Chromate treatments; abstract. C. W. Ostrander. Steel 129:114 S 10 '51

Composite metal fabrication by arc welding. H. E. Cable. il Welding J 30:258-62 Mr '51

Corrosion protection by cold phosphating; Russians claim to have improved process. V. S. Lapatukin. bibliog Chem Age (Lond) 65:295-6+ S 1 '51

Corrosion situation; past, present and future. U. R. Evans. il Chem & Ind p706-11 Ag 25 '51

METAL protection—*Continued*

Corrosive material is no problem; use of porcelain enamel in synthetic rubber processing. Steel 129:96 Ag 27 '51; Rubber Age 69:595 Ag '51

Cylinder bores; a new treatment to cover the running-in process. Automobile Eng 41:158 Ap '51

Electrolytic and chemical finishes; with chart analysis of all types of organic, inorganic, and specialty finishes for metals, including properties, limitations, specification, surface preparation, and uses. il Product Eng 22:141-8, insert F '51

G-E coating intermediate combines unusual properties. Steel 127:109+ D 18 '50

Heat resistant ceramic coatings permit substitutes for critical materials. D. G. Bennett. il Materials & Mehods 33:65-7 Mr '51

Importance of metal pre-treatment; Jenolizing process. Chem Age (Lond) 63:872 D 23 '50

Industry's rust loss bill can be reduced. G. A. Daubert. Steel 129:81+ O 1 '51

Liquid flux technique reduces dross formation; coating surface of work in transit between pickling and galvanizing departments with zinc ammonium chloride. W. G. Imhoff. il Steel 127:62+ D 25 '50

Metallic and nonmetallic coatings for gray iron. C. O. Burgess. bibliog il Foundry 78: 76-9+ D '50; 79:96-9+ Ja; 108-11+ F '51

New way to make soft steel hard; Chromalloy process. il Bsns W p53-4+ Ag 18 '51

Packaging turbojet engine parts. A. F. Hinett. il Aero Digest 62:26-8+ Ap '51

Plastics for protective coatings and linings of chemical plant. E. E. Halls. Metallurgia 42:376-81 D '50

Plating in the re-armament program. S. Senderoff. il Metal Finishing 49:86-8+ Jl '51

Protecting machined parts from corrosion. Product Eng 22:243-4+ Je '51

Putting marine engines in moth balls. Marine Eng 56:51 Ja '51; Same. Sewage & Ind Wastes 23:109-10 Ja '51

Reactivated warships prove that mothballing worked. C. H. Sigel. bibliog il Iron Age 167:85-9 My 24 '51

Simple protection stops deterioration of idle engines. Constr Methods 32:68+ N '50

Studies on galvanic couples; polarization and cathodic protection. H. D. Holler. diags Electrochem Soc J 97:453-61 D '50

Surface protection of high-melting metals to increase their resistance to scaling at high temperatures; abstract. H. Bueckle. Metal Prog 59:288+ F '51

Synthetic lacquer linings; process that can be applied on site. Chem Age (Lond) 64: 819 My 26 '51

Watch packaging specs in figuring military contracts. E. Karpick. il Steel 129:70-3 Jl 16 '51

See also

Alloys, Hard facing
Aluminum—Protection
Aluminum coating
Bonderizing
Chromium plating
Chromizing
Corrosion and anticorrosives
Electroplating
Enamel and enameling
Galvanizing
Magnesium—Protection
Metal coating
Paint, Protective
Pipe coating
Pipe lines—Protection
Steel—Protection
Zinc—Protection

METAL spinning

Automatic spinning of stainless steel in production. L. W. Court. il Materials & Methods 33:86-7 My '51

How to spin metals. J. W. Lengbridge. il diags Am Mach 95:145-60 Mr 19 '51

Magnesium tubing spun and brazed to produce critical part. D. C. Law. il Materials & Methods 32:65-7 N '50

Metal spinning looks ahead; abstract. L. Burnham. Steel 128:82 Ja 22 '51

Metal spinning, now a mass-production tool. D. Reebel. il diags Steel 128:88-91+ Je 4 '51

Power spinning eliminates annealing and descaling; stainless steel bowls for cream separators. L. W. Court. il diags Am Mach 94:114-15 D 25 '50

Spinning flanged and dished wrought iron heads. E. B. Story. Metal Prog 59:375 Mr '51

Spinning head sends head cost spinning. C. J. Sabo. il diags Am Mach 95:108-9 Je 25 '51

Spun neutral shapes facilitate drop hammer forming; Douglas aircraft co. G. C. Close. il Steel 128:72-4 Ja 22 '51

Why not spin it? L. F. Spencer. bibliog il Iron Age 167:105-9 Mr 1 '51

METAL spraying. See Metal coating

METAL stitching. See Sheet metal work

METAL stripper. See Metal coating—Stripping

METAL trade

How to deal with defense agencies. Eng & Min J 151:72-4 N '50

Important facts about our supplies of nonferrous metals. C. D. Dallas. Automotive Ind 103:52+ N 15 '50; Same abr. Metal Prog 58:839-41 D '50

Metal allocation. L. E. Hill, jr. Paper Tr J 133:68+ Jl 13 '51

Metal supply to ease by '54. Bsns W p 110-11 Jl 21 '51

Metals get tighter and tighter. Bsns W p 140-1 Ap 14 '51

Metals in review. il Eng & Min J 152:74-105, 107 F '51

Metals; monthly analysis of the metals market. W. F. Boericke. Automotive Ind 104: 43+ Ap 1 '51 [cont monthly]

Mobilization today and tomorrow; pinch is in metals. Elec World 135:137-9 My 21 '51

No letup in metals. Bsns W p 124 Jl 14 '51

U.S. scrambles for metals ECA gives Europe. K. Rannells. Iron Age 167:112 F 15 '51

See also

Aluminum industry and trade
Copper industry and trade
Iron industry and trade
Lead industry and trade
Metal workers
Metals, Non-ferrous
Mineral industries
Scrap metal industry
Sheet metal trade
Steel industry and trade
Tin industry and trade
Tin plate
Zinc industry and trade

Advertising

Metals advertisers miss the boat, hit the jackpot. il Ind Marketing 35:75-6+ O; 73-4+ N '50

Directories

Directory of materials; metals and alloys for chemical manufacture. Chem Eng 57:143-9 N '50

Regulation

Metal controls tighten. il Chem Ind W 68: 28-9 F 24 '51

Securities

Non-ferrous metals; with data on leading stocks. R. Colston. il Mag of Wall St 87: 668-70+; 88:670-1+ Mr 24, S 22 '51

Statistics

Metal industry facts. Iron Age 167:279-374 Ja 4 '51

British Columbia

British Columbia reports. map Steel 129:38 O 1 '51

Great Britain

British alloy metal supplies; with tabulation of imports, Jan. 1949-Oct. 1950. Economist 159:965-6 D 2 '50

Industrial economics of metallurgy. A. J. Murphy. Engineer 191:343-5 Mr 16 '51; Same abr. Engineering 171:359-60 Mr 23 '51

Metal controls. Electrician 146:53-4 Ja 5 '51

Non-ferrous metals industry; vital role in Britain's national economy. Chem Age (Lond) 64:353-5 Mr 3 '51

METAL waste

Colorimetric determination of metals in sewage and industrial wastes. P. G. Butts and others. Sewage & Ind Wastes 22:1543-62 D '50; Same. Metal Finishing 49:50-60+ Ap '51

Metal chips make chemicals; CIMMAC reactor. il Bsns W p52-3 Mr 31 '51

Strategic metals from wastes. Chem Eng 58: 255-6+ Je '51

Venturi blowers handle crushed chips rapidly; Chicago screw co. F. W. Creager. il diag Am Mach 94:96-8 O 30 '50

METAL waste—*Continued*

Wise use of waste materials results in significant savings. J. D. Coleman. il Materials & Methods 32:55-7 N '50

See also

Aluminum waste
Metal working plants —Waste
Scrap metal
Slag
Tailings

METAL work

American society of mechanical engineers annual meeting, New York; abstracts of papers of special interest to the materials engineer. Materials & Methods 33:7-8+ Ja '51

Application of photoplasticity to modeling the processes of working metals by pressure. S. J. Gubkin and S. I. Dobrovol'skii. Metal Prog 60:146 Jl '51

Can you make it? Iron Age service to bring prime contractors and subcontractors together on military orders. il diags Iron Age 167:93 Mr 22; 111 Mr 29; 123 Ap 5; 125 Ap 12; 107 Ap 19; 115 Ap 26 '51

How can hardness values be used in metal design? J. B. Campbell. bibliog il Materials & Methods 32:43-7 D '50

How to avoid galvanic corrosion. bibliog il diags Steel 128:82-3+ My 21 '51

How to overcome materials shortages in product design and manufacture. H. R. Clauser. il diags Materials & Methods 34:89-112H Jl '51

How to work titanium and its alloys. A. Ashburn. il Am Mach 95:145-53 Je 11 '51

Metalworking research reaches all-time high. S. L. Case and others. il Iron Age 166:166-9 O 12; 95-8 N 9; 68-70 N 23; 124-6 D 7; 74-7 D 21 '50

Photoelastic stress analysis useful in design of metal parts. M. M. Leven. il diags Materials & Methods 33:70-3 Mr; 89-92 Ap '51

Processes save metal; eight processes that will help save materials. M. H. Davis. Steel 128:48-9 Je 25 '51

Silicones can mean more production, less maintenance. il Steel 128:87-90 Mr 5 '51

Technical forum on progress in metalworking. Steel 128:157-276 Ja 1 '51

Technical progress; the horizon broadens. il diag Iron Age 167:272-5 Ja 4 '51

Ultrasonics, metalworking tool? C. Emerson and J. Starr. il diags Am Mach 95:85-8 Ap 30 '51

See also

Aluminum work
Brass founding
Brass work
Dies
Electroplating
Extrusion process
Forging
Foundry practice
Heat treatment
Machine shop practice
Machine tools
Metal cutting
Metal drawing
Metal spinning
Pickling (metals)
Plating
Polishing
Punching
Rolling (metal work)
Sheet metal work
Shells (metal work)
Shot peening
Solder and soldering
Stamping
Steel work
Tin plate
Turning
Welding

Bibliography

How to make armament; bibliography of American Machinist articles since 1938. Am Mach 94:99-107 O 30 '50

Machinery's data sheet index, Feb. 1948 to Dec. 1950, inclusive. Mach 57:247 Ja '51

METAL work, Architectural

See also

Sheet metal work, Architectural

METAL workers

Defense strikes; first test; Board's handling of American Smelting dispute. Bsns W p32 Ag 4 '51

Employment, hours, earnings, and finishing; tabulation. Iron Age 167:308 Ja 4 '51

Employment in the metalworking industry; tabulation. Iron Age 167:360 Ja 4 '51

Metal product earnings, 1947-1950; tabulation. Iron Age 167:358 Ja 4 '51

Metalworking, wages and hours, employment; tabulations. Steel 128:143 Ja 1 '51

Pressed metal earnings, 1947-1950; tabulation. Iron Age 167:341 Ja 4 '51

Shift operations in metalworking plants, Jan. 1951. Mo Labor R 72:533-4 My '51

See also

Foundries—Employees
Steel workers

METAL working industries

Defense spending helps push economy sky-high; midyear review and forecast. Steel 129:45-8 Jl 2 '51

How the metalworking industry uses LP gas. O. Johnson. Iron Age 167:96-8 Je 14 '51

How to push metal around for profit; research programs sparked by military agencies and industry. il diag Mod Ind 21:40-5 Je '51

Metalworking companies granted necessity certificates for industrial expansion for defense purposes; list. Steel 128:40 F 19 '51

Metalworking guide to defense business. Am Mach 95:150-64 Ja 22 '51

Metalworking meetings scheduled for 1951. Iron Age 167:114+ Ja 4 '51

NPA asks some questions of metal fabricators. Bsns W p21 N 25 '50

$120 billion metalworking market ahead! Steel 128:85-100 Ja 1 '51

Rubber goods; what metal working needs and will get. O. L. Johnson. Iron Age 166:57-9 D 28 '50

Technical forum on progress in metalworking. Steel 128:157-276 Ja 1 '51

What happened in 1950; chronology of important industrial events. Steel 128:279-80+ Ja 1 '51

See also

Sheet metal trade

Regulation

Metalworking production controls. Am Mach 95:156-8 Ja 22 '51

Statistics

Facts and figures on metalworking. Steel 128:120-48 Ja 1 '51

Metal industry facts. Iron Age 167:279-374 Ja 4 '51

Metalworking climbing toward World war II levels in 1951. Am Mach 95:131-48 Ja 22 '51

Steel used by the metalworking industry, 1948 by states; tabulation. Iron Age 167:289 Ja 4 '51

Europe

Europe studies machinability and high speeds too. I. C. Toby. diags Am Mach 95:202+ My 14 '51

Germany

German plating and finishing described. Iron Age 166:98 N 2 '50

Non-ferrous metal industry in Germany during the period 1939-1945 (light metal portion); abstract. Metal Prog 59:426+ Mr '51

Great Britain

Economic survey for 1951. Electrician 146:1122 Ap 6 '51

Production techniques as defence reserves. D. F. Galloway. il Engineer 191:639-44 My 18 '51

METAL working machinery

Complicated part produced on a multi-slide machine; speed clamp for hose attachments. J. Spofford. il diags Mach 57:160-3 D '50

Contour forming speeds bus body fabrication. il Steel 127:94-5 D 18 '50; Light Metal Age 8:11 D '50

Machine hot-forms tubing into complex parts. J. Kolb. il Iron Age 167:78-80 Je 28 '51

Producing storage battery parts with special equipment. G. E. Stringfellow. il Mach 57:172-8 D '50

Unusual multislide machine shown at Festival of Britain. il Iron Age 167:70 Je 28 '51

Upside-down stitcher saves critical steel; manufacture of automotive seat assemblies. il Steel 129:86 S 17 '51

Wire rope parting machine. il Engineer 190:354 O 6 '50; Can Min J 72:65-6 Ja '51

See also

Forging machinery
Foundry machinery
Lathes
Machine tools
Molding machines
Presses
Punching machinery
Sheet metal working machinery
Stretching machines
Wire forming machines

METAL working plants

Disaster control; handbook for metalworking. bibliog plans diags Am Mach 94:127-66 N 13 '50

Fit your tools to the defense pattern. G. Hubbard. il Steel 128:72-3 F 26 '51

Small operator stars in redesign problems; John Volkert metal stampings. il Bsns W p48+ D 9 '50

Thompson products, inc.; engineering is their business. G. P. Muir. il Tool Eng 26:55-63 Je '51

See also

Aluminum works

Brass works

Foundries

Machine works

Rolling mills

Sheet metal shops

Steel works

Electric equipment

Cycle components; factory of Walton and Brown, ltd. il Elec R (Lond) 148:1069-74 My 25 '51

Employees

See Metal workers

Equipment

Accessory manufacture; works of Wilmot Breeden ltd. il Automobile Eng 41:171-81 My '51

Advanced production methods in self-contained axle plant. J. Geschelin. il Automotive Ind 104:38-40+ Je 15 '51

Integrated processing boosts conduit output; Mahoning Valley steel co. D. Reebel. il plan diag Steel 127:94-8 D 11 '50

Latest equipment in King-Seeley's new plant. J. Geschelin. il Automotive Ind 103:40-1+ D 1 '50

Manual handling eliminated in ferroalloy plant. L. C. Hopper. il Iron Age 167:96-7 Ap 26 '51

Manufacturers' literature. Materials & Methods 33:159-63 Ja '51 [cont monthly]

Mechanical rubber goods; use by the metalworking industry in 1950; tabulation. Iron Age 167:352 Ja 4 '51

Mechanised production of railway laminated springs. il plan Engineering 171:149-52, pl 6-7 F 9 '51

Nut manufacture; Simmonds aerocessories ltd. il diags Automobile Eng 41:215-23 Je '51

One-man bull-block developed for cold draw. il Iron & Steel Eng 27:136+ N '50

Product index and company addresses. Metal Prog 59:123-4+ Ja '51

Production-line methods employed in building elevators. W. G. Nutzel. il diags Mach 57:148-54 D '50

Sheet metal to plate steel under one roof; Puget Sound sheet metal works. W. J. Granberg. il plans Sheet Metal Worker 42:77-80 Ja '51

Show in print; products to be exhibited at the World metallurgical congress, Detroit, Oct. 14-19. il Am Mach 95:194-6+ O 1 '51

Silicones can mean more production, less maintenance. il Steel 128:87-90 Mr 5 '51

Special devices up welding efficiency; National tank co. W. Rudolph. il Iron Age 167:70-1 Mr 22 '51

Speedier stamping of axle housings with greater safety; axle plant of the Oldsmobile division. R. E. Hansen. il Iron Age 167:74-5 Je 28 '51

Steel used by metal working equipment makers, 1947-1950; tabulation. Iron Age 167:346 Ja 4 '51

Technical forum on progress in metal-working; processing equipment. Steel 128:257+ Ja 1 '51

38th annual review number. il diags Am Mach 95:165-312 Ja 22 '51

See also

Machine tools

Metal working machinery

Management

Establishing finishing operation rates with elemental time standards; Sargent & co. J. S. Kelly. il Metal Finishing 49:71-4 Mr '51

Getting your materials; more method than magic; Z & W machine products inc. il Steel 128:34-5 Ap 30 '51

How metallurgical control solves shop problems. T. A. Frischman. il Am Mach 95:145-60 O 1 '51

How to set up a successful equipment replacement program; Worcester pressed steel co. C. C. Higgins. Steel 128:68-70 F 19 '51

Straight-flow materials handling simplifies integrated operation; Alemite division of Stewart-Warner corp. D. Reebel. il plan Steel 128:75-6 F 12 '51

Safety measures

Growth of guarding. W. I. Martin. il diags Safety Maint & Prod 101:66-7+ Je '51

New plant features safety and maintenance for production; Fisher Body division of General Motors. il Safety Maint & Prod 101:22-4+ Ap '51

Waste

Effect of metal wastes on sewage treatment plant design at Waterbury, Conn. R. D. Mitchell and others. bibliog maps Sewage & Ind Wastes 23:1001-11 Ag '51

Evaluation of industrial wastes in metal processing industries. D. Milne. bibliog(30 titles) il Metal Finishing 48:52-5+ D '50; 49:65-9+ Ja '51

Integrated waste treatment; New departure division, General motors corp.; abstract. H. D. Unwin. Steel 128:95+ Ap 9 '51

Treating soluble oil mixtures; abstract. D. J. Walker. diags Steel 128:76-7+ Ap 9 '51

See also

Metal waste

METAL working saws. See Saws, Metal working

METALATION

Metalation of diaryl sulfones. W. E. Truce and M. F. Amos. bibliog Am Chem Soc J 73:3013-17 Jl '51

Metalation of 2-ethoxyquinoline. H. Gilman and J. A. Beel. bibliog Am Chem Soc J 73:32 Ja '51

METALINE mining and leasing company

Stock offered. Comm & Fin Chr 174:1298 O 8 '51

METALLIC soap. See Soap, Metallic

METALLIZING. See Metal coating

METALLOGRAPHIC specimens

Metallographic techniques for high purity aluminum. I. S. Servi and N. J. Grant. il J Metals 3:Trans 473 Je '51

Metallography of zirconium. H. P. Roth. il Metal Prog 58:709-11 N '50

Preparation of samples for metallographic examination; data sheet. G. W. Graves. Foundry 78:163-4 D '50

METALLOGRAPHY

Apparatus for cutting metals strain-free. R. Maddin and W. R. Asher. il diags R Sci Instr 21:881-3 O '50

Atomic relationships in the cubic twinned state. W. C. Ellis and R. G. Treuting. bibliog diags J Metals 191:Trans 53-5 Ja '51

Constitution and precipitation-hardening properties of copper-rich copper-tin-beryllium alloys. R. A. Cresswell and J. W. Cuthbertson. bibliog il J Metals 3:Trans 782-91 S '51

Constitution of iron-chromium-molybdenum alloys at 1200° F. S. R. Bean and P. Duwez. bibliog il J Metals 3:Trans 331-5 Ap '51

Crystal structures and transformations in indium-thallium solid solutions. L. Guttman. bibliog il J Metals 188:Trans 1472-7 D '50

Crystallography of cubic-tetragonal transformation in the indium-thallium system. J. S. Bowles and others. bibliog il diags J Metals 188:Trans 1478-85 D '50

Dendritic crystallization of alloys. B. H. Alexander and F. N. Rhines. bibliog il diags J Metals 188:Trans 1267-73 O '50; Discussion. 3:Trans 561-3 Jl '51

Differentiation of grain size and phases in titanium. C. B. Craver. il Metal Prog 59:371-3 Mr '51

Effect of rate of cooling on the alpha-beta transformation in titanium and titanium-molybdenum alloys. P. Duwez. bibliog il J Metals 3:Trans 765-71 S '51

Effect of rate of freezing on degree of segregation in alloys. W. T. Olsen, jr. and R. Hultgren. J Metals 188:Trans 1323 N '50

Effect of ternary additions on the age-hardening of a copper-silver alloy. H. Margolin and W. R. Hibbard, jr. bibliog il J Metals 191:Trans 174-80 F '51

METALLOGRAPHY—*Continued*

Electrolytic polishing of zirconium and its application to a study of the effects of abrasion upon the structure of the metal. P. A. Jacquet. il Metallurgia 42:268-70 O '50

Faults in the structure of copper-silicon alloys. C. S. Barrett. bibliog il J Metals 188:Trans 123-35 Ja '50; Discussion. 188: Trans 1358-60 N '50

Formation of annealing twins. J. E. Burke. bibliog il diags J Metals 188:Trans 1324-8 N '50

Fractographic pattern for 475°C embrittlement in stainless steel. C. A. Zapffe. il J Metals 3:Trans 247-8 Mr '51

Heat treatment and structure of commercial titanium. J. Maltz and V. DePierre. il Metal Prog 58:862-6 D '50

Increasing productivity in production machining. M. Field and N. Zlatin. S A E J 59:38-43 Ap '51

Interface and marker movements in diffusion in solid solutions of metals. L. C. Correa da Silva and R. F. Mehl. bibliog il diags J Metals 191:Trans 155-73 F '51

Isothermal transformation of a eutectoid beryllium bronze. R. H. Fillnow and D. J. Mack. bibliog il J Metals 188:Trans 1229-36 O '50; Discussion. 3:Trans 533-6 Jl '51

Kinetics of precipitation in supercooled solid solutions. G. Borelius. il diags J Metals 3:Trans 477-84 Je '51

Long-range order in beta-brass and Cu_3Au. D. T. Keating and B. E. Warren. bibliog J Ap Phys 22:286-90 Mr '51

Machinability depends on microstructure. R. Le Grand. il diags Am Mach 94:109-24 N 27 '50

Measurement of relative interface energies in twin related crystals. C. G. Dunn and others. bibliog il diags J Metals 188:Trans 368-77 F '50; Discussion. 188:Trans 1361-2 N '50

Metallograph features adjustable carbon arc. il diag Machine Design 22:149-50 D '50

Metallograph features simplicity of operation. il Product Eng 22:166 Ja '51

Metallographic study of diffusion interfaces. G. C. Kuczynski and B. H. Alexander. il J Ap Phys 22:344-9 Mr '51

Metallographic study of the martensite transformation in lithium. J. S. Bowles. il diag J Metals 191:Trans 44-6 Ja '51

Metallography of carbon in silicon-iron alloys containing four per cent silicon. E. D. Harry. bibliog flow diag 4pls Iron & Steel Inst J 167:241-6 Mr '51

Metallography of electro-tinplate. J. E. Davies and W. E. Hoare. bibliog 4pls diags Iron & Steel Inst J 168:134-40 Je '51

Microscopical studies on the iron-nickel-aluminium system. A. J. Bradley. bibliog 4pls Iron & Steel Inst J 163:19-30 S '49; Discussion. 166:200-12 N '50

Microscopical studies on the iron-nickel-aluminum system; breakdown of the body-centred cubic lattice. A. J. Bradley. bibliog 4pls Iron & Steel Inst J 168:233-44 Jl '51

Microstructures of metals; reference book sheet. M. Field and others. il Am Mach 95:315+ Ja 22; 165+ F 5 '51

Natural width of a grain boundary in a metal. J. L. Snoek. bibliog J Ap Phys 22: 109 Ja '51

Origin of the cube texture in face-centered cubic metals. P. A. Beck. bibliog J Metals 3:Trans 474-5 Je '51

Phase-contrast metallography. E. C. W. Perryman and M. Lack. il diags Metallurgia 44:97-102+ Ag '51

Phase contrast metallography; new technique for microscopic observation. R. L. Seidenberg and J. R. Benford. bibliog il diag Metal Prog 58:725-8 N '50

Precipitation and diffuse scattering in an Fe-Mo-Co alloy. A. H. Geisler and F. E. Steigert. J Metals 3:Trans 259-60 Mr '51

Precipitation and the domain structure of Alnico 5. A. H. Geisler. bibliog il diag Phys R 81:478-9 F 1 '51

Preliminary investigation of the zirconium-beryllium system by powder metallurgy methods. H. H. Hausner and H. S. Kalish. bibliog il J Metals 188:Trans 59-66 Ja '50; Discussion. 188:Trans 1369-71 N '50

Preparation of replicas for electron metallography. W. J. Craig. il Metal Prog 60:68-71 Ag '51

Relation of antiferromagnetic structure to the binding energies of some b.c.c. transition metals. Y. Hsu. bibliog Phys R 83:975-9 S 1 '51

Relations between initial and final orientations in rolling and annealing of silicon ferrite. B. F. Decker and D. Harker. il diags J Ap Phys 22:900-4 Jl '51

Sigma-phase in the Co-Cr and Fe-Cr systems. G. J. Dickins and others. bibliog Iron & Steel Inst J 167:27 Ja '51

Solidification of lead-tin alloy droplets. J. H. Hollomon and T. Turnbull. bibliog il J Metals 3:Trans 803-5 S '51

Structure of metal deposits obtained by electrochemical displacement upon zinc. M. E. Straumanis and C. C. Fang. bibliog il diag Electrochem Soc J 98:9-13 Ja '51

Tearline patterns in ferrochromium. C. A. Zapffe and F. K. Landgraf. il J Ap Phys 21:1197-8 N '50

Theory of annealing textures. P. A. Beck. bibliog J Metals 3:Trans 475-6 Je '51

Theory of grain boundary migration rates. D. Turnbull. bibliog J Metals 3:Trans 661-5 Ag '51

Theory of grain boundary motion. R. Smoluchowski. bibliog Phys R 83:69-70 Jl 1 '51

Transformation characteristics of a lithium-magnesium alloy. C. S. Barrett and D. F. Clifton. J Metals 188:Trans 1329-32 N '50

Transitions in chromium. M. E. Fine and others. bibliog J Metals 191:Trans 56-8 Ja '51; Discussion. 3:Trans 1066-7 N '51

Twenty-five more years of metallography. J. R. Vilella. bibliog il diag J Metals 3:Trans 605-19 Ag '51

Way to cut metal; machinability tied to microstructure. il Bsns W p64+ Ja 13 '51

Widened lattice interval and its essential role in the behavior of crystalline metal. D. P. Smith. bibliog Science 113:348-52 Mr 30 '51

See also

Aluminum—Metallography
Copper—Metallography
Etching (metals)
Iron—Metallography
Metallographic specimens
Steel—Metallography

METALLOPORPHINS. See Porphins

METALLURGICAL advisory board

Metallurgical advisory board is organized. Welding J 30:382+ Ap '51

METALLURGICAL analysis

Accuracy of analysis of metals and alloys. E. Scheuer and F. H. Smith. Chem & Ind p50-1 Ja 20 '51

Acid colorimetric test for metals. P. Reboul. Chem Age (Lond) 64:19 Ja 6 '51

Analysis of ore residues for ionium and protactinium. L. I. Katzin, Q. Van Winkle and J. Sedlet. bibliog Am Chem Soc J 72: 4815-17 O '50

Magnetic and chemical analyses of ores and mill products containing magnetite and ilmenite. E. Laurila and others. il diags Min Eng 3:Trans 797-802 S '51

Metals present in nature; improved methods of colorimetric analysis. Y. Murakami. Chem Age (Lond) 64:356-7 Mr 3 '51

1950 book of A.S.T.M. methods for chemical analysis of metals (a part of the book of A.S.T.M. standards). 476p $6.50 Am. soc. for testing materials, 1916 Race st, Philadelphia 3 '50

Rapid analysis cuts furnace holding time. L. Silverman and others. bibliog Iron Age 167:70-2 Ja 18 '51

Separation methods in metallurgical analysis. T. S. West. bibliog Metallurgia 43:41-6 Ja '51

Solution methods of spectrographic analysis. diags Metallurgia 44:45-9 Jl '51

Spectrographic study of platinum and palladium in common sulphides and arsenides of the Sudbury district, Ontario. J. E. Hawley and others. bibliog il Econ Geol 46: 149-62 Mr '51

Third annual review of analytical chemistry; ferrous metallurgy. H. F. Beeghly. bibliog(90 ref) Anal Chem 23:228-31 F '51

METALLURGICAL analysis—*Continued*

Variables encountered in tracer experiments in metallurgy. C. D. Starr and others. bibliog il diag Metal Prog 59:673-80 My '51

See also

Assaying

Electrographic analysis

also subdivision Analysis under names of metals, e.g.

Aluminum

Boron

Copper

Gold

Iron

Lead

Magnesium

Metals

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METALLURGICAL apparatus

See also

Classifiers

Converters

Furnaces, Metallurgical

Magnetic separators

Metallurgical plants—Equipment

Tube mills

METALLURGICAL laboratories

Developments in laboratory methods and apparatus. H. J. Axon and K. M. Entwistle. Metallurgia 42:349-52 N '50

New laboratories for United steel companies' research and development department. il Metallurgia 43:83-4 F '51

Steel research laboratories at Rotherham. il Engineer 191:223 F 16 '51

Tin research institute laboratories. il Engineer 191:757 Je 8 '51; Engineering 171:698-9 Je 8 '51; Chem Age (Lond) 64:881-3 Je 9 '51; Chem & Ind p434 Je 9 '51; Metallurgia 43:297-8 Je '51

See also

Foundry laboratories

METALLURGICAL literature

Library use of new indexing system; Division of metallurgical research of Kaiser aluminum and chemical corp. D. L. Edelman. il Metal Prog 59:526-8 Ap '51

See also

Metallurgy—Periodicals

METALLURGICAL plants

New wrinkles on an old process are at work in Colorado plant of Climax uranium co.; illustrations with text. Eng & Min J 152:93-4 Ag '51

90-ton pedestal piles for iron-titanium plant. T. E. Smith. il diags Eng N 146:35-7 Ja 4 '51

See also

Aluminum works

Blast furnaces

Iron works

Smelting works

Steel works

Costs

Effect of mill speeds on grinding costs. H. Hardinge and R. C. Ferguson. Min Eng 187:Trans 1127-30; Discussion. 1149-50 N '50

Electric equipment

Integrated copper; electric copper refinery, built by the Utah copper division of Kennecott copper corp. il Elec West 105:76 O '50

Employees

How women can help in mills; illustrations with text. Eng & Min J 152:63 Ja '51

What mining officials think about women workers. Eng & Min J 152:66-8 Ja '51

Equipment

Accurate density meter; how it works, how it is used. C. M. Marquardt. il diags Eng & Min J 152:78-82 Ja '51

Advances in mineral dressing. S. R. B. Cooke. il Min Cong J 37:47-9 F '51

Beneficiation in 1950; annual review. G. J. Holt. il Min Eng 190:122-5 F '51

Check these equipment ideas for greater mill production. flow sheet il Eng & Min J 152:122-5 Jl '51

Creighton number seven shaft and concentrator; International nickel co. il Can Min J 72:90-2 S '51

El Paso refinery of Phelps Dodge refining corp. B. B. Kunkle. flow sheet J Metals 3:Trans 229-34 Mr '51

Golden Cycle's modern mill. M. W. Bowen. il plan Min Cong J 36:30-3+ N '50

How Granby increased mill capacity by more than 78 per cent. J. Huttl. flow sheets il Eng & Min J 152:84-6 My '51

How U.S.V's Pine Creek mine will increase tungsten output. H. L. McKinley and others. flow sheet il diags Eng & Min J 152:79-83 My '51

Improved plant design marks new Utah refinery. S. Hughes. il plan diags Eng & Min J 152:72-9 Je '51

Instrumentation for metallurgy. R. B. Webster. il Metal Prog 59:86-92 Ja '51

Materials handling units multiply worker productivity. il plan diags Eng & Min J 152:150-5 Jl '51

Metallurgical applications of the DorrClone. F. T. Weems. bibliog diags Min Eng 3: Trans 681-90 Ag '51

Milling and refining; Kerr-Addison mine. flow sheet il diag Can Min J 72:121-34 Ap '51

Milling in review. il Eng & Min J 152:116-21 F '51

New Reeves-MacDonald mill. J. B. Huttl. flow sheet il Eng & Min J 152:84-5 Ja '51

Product index and company addresses. Metal Prog 59:123-4+ Ja '51

Rebuilding Lepanto, the Far East's largest copper producer. G. Murray and H. H. Bein. flow sheet il Eng & Min J 152:110-13 Ap '51

Sorting plant cuts milling cost 15 per cent. A. A. Smith and D. N. Ferguson. flow sheet il Eng & Min J 152:76-7 Ag '51

Utah's new uranium mill. J. A. Butler. flow sheets il Eng & Min J 152:56-62 Mr '51

See also

Concentrators

Quality control

How to use quality control to improve mill production. A. C. Dorenfeld and M. H. Dorenfeld. bibliog Eng & Min J 152:126-9 Jl '51

Safety measures

Industrial hygiene at American smelting and refining co. J. N. Abersold and K. W. Nelson. il J Metals 191:Trans 33-6 Ja '51

Waste

Canada's sulphur supplies; plans for by-product sulphur. W. M. Bonham. il Can Min J 72:47-50 Ja '51

See also

Smelter fumes

METALLURGICAL research

British non-ferrous metals research association activities. W. L. Hall. bibliog il Metallurgia 44:129-32 S '51

B.T.H. research activities in 1950. il Metallurgia 43:103-4 F '51

Chemistry research; report of the Chemistry research board. Engineering 171:79 Ja 19 '51

Fifty years of the N.P.L. V. S. Swaminathan. il Metallurgia 44:69-72 Ag '51

Gradient methods in research. A. Portevin. Metal Prog 60:64-5 Ag '51

Metallurgy behind the decimal point. E. E. Schumacher. il diags J Metals 188:Trans 1097-110 S '50; Abstract. Metal Prog 59: 280+ F '50

Metalworking research reaches all-time high. S. L. Case and others. il Iron Age 166:166-9 O 12; 95-8 N 9; 68-70 N 23; 124-6 D 7; 74-7 D 21 '50

Review of tracer techniques in metallurgy. G. H. Guest. il Metal Prog 59:366-70 Mr '51

Variables encountered in tracer experiments in metallurgy. C. D. Starr and others. bibliog il diag Metal Prog 59:673-80 My '51

See also

Corrosion research

Iron research

Steel research

also British iron and steel research association

METALLURGISTS

Future demand for metallurgists. Chem Age (Lond) 64:531-2 Ap 7 '51

METALLURGY

Beneficiation in 1950; annual review. G. J. Holt. il Min Eng 190:122-5 F '51

Chemistry in metal extraction. F. D. Richardson. Metallurgia 44:87-8 Ag '51; Same. Chem Age (Lond) 65:214-16 Ag 18 '51; Same. Chem & Ind p737 S 1 '51

METALLURGY—*Continued*

Contributions to the data on theoretical metallurgy; entropies of inorganic substances; revision (1948) of data and methods of calculation. K. K. Kelley. U S Bur Mines Bul 477:1-47 bibliog(517 titles, p120-41); pa 30c Supt. of doc. '50

First exploratory effort in world metallurgy; World metallurgical congress, Detroit, Oct. 15-19. A. H. Allen. Steel 128:76-7+ Je 11 '51

FluoSolids roasting of sulphides. T. B. Counselman. il Min Cong J 37:30-4+ Mr '51

In metallurgy, the accent is on new metals, new methods. A. W. Schlechten and H. R. Hanley. il Eng & Min J 152:122-5+ F '51

Industrial economics of metallurgy. A. J. Murphy. Metallurgia 43:133-4 Mr '51

Metallurgical developments in 1950. Engineer 191:119-21 Ja 26 '51

Metallurgical reactions of fluorides. H. H. Kellogg. bibliog J Metals 191:Trans 137-41 F '51

Metallurgy geared for all-out production; C&EN annual review. D. C. Minton, jr. il Chem & Eng N 29:33-4 Ja 1 '51

Pure metals by amalgam process. diags Chem Age (Lond) 64:21-5 Ja 6 '51

Revived processes challenge flotation's thirty-year rule. R. H. Ramsey. il Eng & Min J 152:116-18 F '51

Technical forum on progress in metalworking; metallurgy. Steel 128:158-61, 168+ Ja 1 '51

Technical progress; the horizon broadens. il diag Iron Age 167:272-5 Ja 4 '51

See also

Aluminum metallurgy
Assaying
Blast furnaces
Cobalt metallurgy
Copper metallurgy
Cyanide process
Gold metallurgy
Hydrometallurgy
Electrodeposition of metals
Flotation process
Furnaces, Metallurgical
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Lead metallurgy
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Metallography
Metallurgical analysis
Metallurgical laboratories
Metallurgical plants
Metallurgical research
Metals
Open hearth process
Ore treatment
Pickling (metals)
Silver metallurgy
Sintering
Slag
Smelter fumes
Smelting
Steel metallurgy
Tin metallurgy
Zinc metallurgy

History

Metallurgy in the nineteenth century. H. K. Work. J Chem Educ 28:364-8 Jl '51

Periodicals

Iron curtain in metallurgical literature. H. Brutcher. Metal Prog 58:331-3+ S '50; Discussion. N. H. Polakowski. 58:866-7 D '50

Study and teaching

Metallurgy for the welding student. J. D. Paterson. il Welding J 30:809-11 S '51

Metallurgy in the mechanical engineering curriculum. R. F. Eisenberg. J Eng Educ 41:387-8 Mr '51

Textbooks

Current Russian metallurgical texts. C. A. Zapffe. Metal Prog 60:78-80+ Ag '51

METALS

Activity series of the metals. W. F. Kieffer. bibliog J Chem Educ 27:659-64 D '50

Advances in metals. il Product Eng 22:158-61 My '51

American society of mechanical engineers annual meeting, New York; abstracts of papers of special interest to the materials engineer. Materials & Methods 33:7-8+ Ja '51

Bonding of metals. C. J. Moss. bibliog il Metallurgia 43:267-72 Je '51; Abstract. Metal Prog 60:128+ S '51

Bound metal in ethyl cellulose effect on dilute solution properties. E. F. Evans and H. M. Spurlin. bibliog Am Chem Soc J 72:4750-6 O '50

Calculations of surface energy for a free-electron metal. H. B. Huntington. Phys R 81:1035-9 Mr 15 '51

Catalytic activation of hydrogen by metals. A. Farkas. bibliog J Phys & Colloid Chem 55:1013-17 Je '51

Chemical engineering materials of construction; less common metals. D. B. Broughton. bibliog(51 ref) il Ind & Eng Chem 43:2280-2 O '51

Contact potential differences. I. F. Patai and M. A. Pomerantz. diags Franklin Inst J 252:239-60 bibliog(p257-60) S '51

Designing with modern materials; survey of latest developments in engineering materials. il Machine Design 23:298-327 O '51

Do you know pump metals and why each is used? J. J. Coffey. diags Power 95:112-13 S '51

Dynamic method for measuring the specific heat of metals. A. M. Nathan. diag J Ap Phys 22:234-5 F '51

Electrical conductivity method for measuring self-diffusion of metals. J. H. Dedrick and G. C. Kuczynski. diags J Ap Phys 21:1224-5 D '50

Electrical conductivity of metals and alloys; table; engineering data sheet. Metal Finishing 49:75 Ag '51

Epitaxy of alkali chlorides on metals. G. W. Johnson. bibliog il J Ap Phys 22:797-805 Je '51

Experimental evidence for the vacancy mechanism in diffusion in metals and alloys. F. C. Nix and F. E. Jaumot, jr. bibliog Phys R 83:1275-6 S 15 '51

Fredrickson-Eyring theory of the mechanical behavior of metals. J. Fleeman and G. J. Dienes. J Ap Phys 21:1193-4 N '50

Frequency factor and activation energy for the volume diffusion of metals. G. J. Dienes. bibliog J Ap Phys 21:1189-92 N '50

Heat conduction in simple metals. M. L. Storm. bibliog J Ap Phys 22:940-51 Jl '51

Heterogeneous catalysis; hydrogenation by binary alloys. P. W. Reynolds. Chem Soc J p265-71 Ja '50

Heterogeneous catalysis; theoretical basis. D. A. Dowden. diags Chem Soc J p242-65 Ja '50

How critical metals problems are licked. Aviation W 54:36+ My 28 '51

How to tackle materials substitution. il Product Eng 22:123-46 O '51

Interaction between the *d* shells in the transition metals. C. Zener. diags Phys R 81:440-4; 83:299-301 F 1, Jl 15 '51

Interconversion of atomic per cent and weight per cent; chart; data sheet. R. J. Raudebaugh. Metal Prog 59:248B F '51

Inventory limit on war-essential metals. Bsns W p94 N 25 '50

Isotopic exchange between metal ions of different valency. J. Weiss. J Chem Phys 19:1066-7 Ag '51

Less familiar metals of commercial importance. O. Kay and R. A. Lubker. il Product Eng 22:106-9 Ja '51

Linear expansion coefficient and melting point of metals. G. Bonfiglioli and G. Montalenti. bibliog J Ap Phys 22:1089-90 Ag '51

Masses of carriers in conductors. D. L. Webster and C. M. Newton. Phys R 82:808-9 Je 15 '51

Mechanism of exchange between radioactive ions in solution and metal surfaces. M. T. Simnad and R. C. Ruder. bibliog il diag Electrochem Soc J 98:301-6 Ag '51

Metal recovery from former wastes. Mech Eng 73:331 Ap '51

Metallurgical developments in 1950. Engineer 191:119-21 Ja 26 '51

Metallurgy behind the decimal point. E. E. Schumacher. il diags J Metals 188:Trans 1097-110 S '50; Abstract. Metal Prog 59:280+ F '50

Metals and alloys; abstracts of papers read before British association for the advancement of science. Engineering 172:277-8 Ag 31 '51; Engineer 192:264-5; Discussion. 265-6 Ag 31 '51

Metals for high-pressure hydrogenation plants. G. A. Nelson. bibliog il A S M E Trans 73:205-11 F '51; Same. Pet Refiner 29:104-10 S '50; Discussion. A S M E Trans 73:211-13 F '51

Metals for the high-speed age. J. D. Sullivan. Eng & Min J 152:82-4 S '51

Metals shortages create many production problems. J. Geschelin. Automotive Ind 104:46-7+ Ap 15 '51

METALS—*Continued*

Molecular hydrogen and metallic surfaces. D. D. Eley. J Phys & Colloid Chem 55:1017-33 bibliog(90 ref, p 1032-3); Discussion. 1034-6 Je '51

National production authority rules on metal uses for 1951. Metal Finishing 49:65-8 F; 70+ Mr; 72-3 Ap '51

New segregation phenomena in metals. M. T. Stewart and others. il Phys R 83:657 Ag 1 '51

Orienting unit crystals; I. M. Diller has patents pending. Steel 128:93 Je 25 '51

Overlap forces and elastic constants of body-centered cubic metals. I. Isenberg. Phys R 83:637-40 Ag 1 '51

Plasticity of metals; mathematical theory and structural applications. D. C. Drucker. bibliog Am Soc C E Proc 76[no 27]:1-14 Ag '50; Discussion. 77[no D-27-D]:1-10 My '51

Producing single crystals of metal. M. A. Steinberg. il diag J Metals 3:387-8 My '51

Production. il Fortune 43:19+ Mr '51

Production and detection of a non-equilibrium number of vacancies in a metal. A. S. Nowick. Phys R 82:551-2 My 15 '51

Recent metals and alloys. A. C. Quarrell. Chem Age (Lond) 65:292-4 S 1 '51; Same. Chem & Ind p738-9 S 1 '51; Same. Metallurgia 44:89-90 Ag '51

Reduction by dissolving metals; the reactivity of mesomeric anions in relation to the reduction of benzene rings. A. J. Birch. Chem Soc J p 1551-6 Je '50

Reinterpretation of experiments on intermetallic diffusion. A. S. Nowick. bibliog J Ap Phys 22:1182-6 S '51

Relation of antiferromagnetic structure to the binding energies of some b.c.c. transition metals. Y. Hsu. bibliog Phys R 83:975-9 S 1 '51

Relative strength and stiffness of structural metals subjected to bending; tabulation; data sheet. E. V. Sharpnack, comp. Mach 57:239 D '50

Salts of perrhenic acid; univalent heavy metals. W. T. Smith, jr. bibliog Am Chem Soc J 73:77-9 Ja '51

Screening of electronic interactions in a metal. D. Bohm and D. Pines. Phys R 80:903-4 D 1 '50

Selection of materials must be guided by more than conventional tests and data. H. W. Gillett. bibliog Machine Design 23:154-8 My '51

Strength of metals. A. H. Cottrell. Metallurgia 44:88-9 Ag '51; Same. Chem & Ind p738 S 1 '51; Same. Chem Age (Lond) 65:291-2 S 1 '51; Same. Engineering 172:332-3 S 14 '51

Subject; substitutions; editorial. E. E. Thum. Metal Prog 59:51-3 Ja '51

Substitution of metals; German war research. Chem Age (Lond) 65:156-8 Ag 4 '51

Technical progress; the horizon broadens. il diag Iron Age 167:272-5 Ja 4 '51

Theory of D_0 for atomic diffusion in metals. C. Zener. bibliog J Ap Phys 22:372-5 Ap '51

Thermal conductivity of various materials vs. temperatures; chart; engineering file facts. Materials & Methods 33:107 Je '51

Ultrasonics in the determination of elastic constants of metals; abstracts. B. Lockspeiser. Engineer 191:318 Mr 9 '51; Engineering 171:264 Mr 2 '51

U.S. needs more and more foreign metal; with chart showing domestic production and imports, 1940 and 1950. Bsns W p22-3 Mr 10 '51

See also

Alloys
Assaying
Babbitt metal
Bearing metals
Cast iron
Corrosion and anti-corrosives
Creep of metals
Deformation (mechanics)
Electrodeposition of metals
Fatigue in metals
Films, Metallic
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Geology
Glass—Joining to metal
Heat treatment
Indium
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Metallography
Metallurgy
Mines and mineral resources
Ore deposits
Passivity
Pickling (metals)
Rare earth metals
Scrap metal
Sheet metal
Slag
Solder and soldering
Solutions, Solid
Steel
Strength of materials
Tellurium
Thallium
Welding

Aging

Age hardening. L. F. Mondolfo. J Metals 191:95 F '51

Aging characteristics of magnesium-lithium base alloys. P. D. Frost and others. il J Metals 188:Trans 1277-82 O '50; Discussion. 3:Trans 560-1 Jl '51

Aging of sand-cast Mg-Al-Zn alloys. T. E. Leontis and C. E. Nelson. bibliog il J Metals 191:Trans 120-4 F '51

Change of electrical resistance during the strain ageing of iron. A. H. Cottrell and A. T. Churchman. bibliog Iron & Steel Inst J 162:271-6 Jl '49; Discussion. 166:322-4 D '50

Effect of ternary additions on the age-hardening of a copper-silver alloy. H. Margolin and W. R. Hibbard, jr. bibliog il J Metals 191:Trans 174-80 F '51

Analysis

Alkalimetric determination of metals with the aid of acid-base indicators. J. F. Coetzee. Chem Soc J p997-1004, 2098-102 Ap, Ag '51

Colorimetric determination of metals in sewage and industrial wastes. P. G. Butts and others. Sewage & Ind Wastes 22:1543-62 D '50; Same. Metal Finishing 49:50-60+ Ap '51

Determination of silicon, copper and iron in silicon bronze hardeners. G. Norwitz and I. Norwitz. Metallurgia 42:405 D '50

Improved dithizone field test for heavy metals in water. H. V. Warren and others. bibliog map Geol Soc Bul 62:609-17 Je '51

Inorganic chromatography on cellulose; the separation and detection of metals and acid radicals on strips of absorbent paper. F. H. Burstall and others. 2pls diags Chem Soc J p516-28 F '50

Instruments unsnarl metal mixups. A. Doschek. diags Iron Age 167:92-6 Je 21 '51

Methods for sorting mixed metals. A. Doschek. diags Instruments 24:522-7+ My '51

Modified vacuum fusion apparatus for determination of oxygen, hydrogen, and nitrogen in certain metals. A. F. Torrisi and J. L. Kernahan. diag Anal Chem 23:928-9 Je '51

Polarographic determination of metals in industrial wastes. P. G. Butts and M. G. Mellon. Sewage & Ind Wastes 23:59-63 Ja '51

Sensitive field test for detecting heavy metals in soil or sediment. L. C. Huff. bibliog diags Econ Geol 46:524-40 Ag '51

Trace metals in biology; polarographic methods of analysis. bibliog Chem Age (Lond) 65:227-9+, 247-9 Ag 18-25 '51

Bibliography

Manufacturers' literature. Materials & Methods 33:159-63 Ja '51 [cont monthly]

Cleaning

See Metal cleaning

Corrosion

See Corrosion and anti-corrosives

Detection

Choosing industrial metal detectors. C. R. Schafer. bibliog il diags Electronics 24:84-7 Je '51

Detecting tramp metal in logs and iron ore. C. W. Clapp. bibliog il diags Electronics 24:88-93 Mr '51

Electronic metal detector protects calender rolls. il Rubber Age 69:316 Je '51

RCA Guardsman metal detectors. Rubber Age 69:584 Ag '51

Failure

Metal failures in aircraft. W. B. F. Mackay and R. L. Dowdell. il Metal Prog 59:518-22 Ap '51

METALS—Failure—*Continued*

Some quantitative data bearing on the scabbing of metals under explosive attack. J. S. Rinehart. il diags J Ap Phys 22:555-60 My '51

Gas content

Effect of oxygen content on iron casting properties. F. S. Kleeman. bibliog il Foundry 79:100-3+ Ja '51

Gas evolution from molds and cores. W. H. Moore. il diag Foundry 79:80-7 Jl '51

Role of gases in the production of high density powder compacts. D. Warren and J. F. Libsch. bibliog il J Metals 3:Trans 774-81 S '51

Hydrogen content

Polymerization induced by hydrogen in metals. G. Parravano. diag Am Chem Soc J 73:628-30 F '51

Widened lattice interval and its essential role in the behavior of crystalline metal. D. P. Smith. bibliog Science 113:348-52 Mr 30 '51

Prices

E & M J metal prices, 1897-1950; chart and tabulation. Eng & Min J 152:86a-86b, 87 F '51

E & M J weekly average metal prices, 1950; tabulation. Eng & Min J 152:87 F '51

Scaling

Scale removal survey. Iron Age 167:354-5 Ja 4 '51

Surface protection of high-melting metals to increase their resistance to scaling at high temperatures; abstract. H. Bueckle. Metal Prog 59:288+ F '51

Shrinkage

See Shrinkage of metals

Temperature effect

Aircraft metallic materials under low temperature conditions. P. L. Teed. bibliog il diags Roy Aeronautical Soc J 55:61-81 F '51; Abstract. Engineering 170:357-8 N 10 '50; Discussion. Roy Aeronautical Soc J 55: 81-6 F '51

Choosing metals for low temperature use. J. R. Watt. bibliog Refrig Eng 59:751-4 Ag '51

Choosing the right low-temperature metals. J. R. Watt. bibliog Machine Design 23:117-21 O '51

Comparative growth of gray iron vs. nodular iron when cyclically heated to 1650° F. T. E. Eagan. il Foundry 78:96-9+ D '50

Creep of a nominally isotropic magnesium alloy at normal and elevated temperatures under complex stress systems. A. E. Johnson. bibliog diags Metallurgia 42:249-62 O '50

Ductility of metals at low temperatures. bibliog Engineer 191:254-5 F 23 '51

Effect of alloying elements on the elevated temperature plastic properties of alpha solid solutions of aluminum. O. D. Sherby and others. bibliog J Metals 3:Trans 643-52 Ag '51

Effect of low temperatures on aircraft metals. J. B. Johnson and D. A. Shinn. bibliog il Product Eng 22:187-92 O '51

High-temperature problems in aircraft jet engines and turbo-superchargers. R. B. Johnson. il Metal Prog 59:503-10 Ap '51

Hot corrosion spotlighted. Steel 129:92+ Ag 20 '51; Same. Materials & Methods 34:10 S '51

Influence of low temperatures on the mechanical properties of metals; symposium abstracts. Metal Prog 60:79-80+ Jl '51; Materials & Methods 34:146+ Ag '51; Welding J 30:sup572-5 N '51

Machining of heated metals. E. T. Armstrong and others. il A S M E Trans 73: 35-43 Ja '51

Mechanical and physical properties of pure aluminum and some aluminum alloys at the temperature of liquid oxygen; abstract. H. Maeder. Refrig Eng 59:257+ Mr '51

Plastic behavior of high-purity aluminum single crystals at various temperatures. F. D. Rosi and C. H. Mathewson. bibliog il diags J Metals 188:Trans 1159-67 S '50; Discussion. 3:Trans 545-7 Jl '51

Safety margins and stress levels in high-temperature equipment. E. L. Robinson. bibliog A S M E Trans 73:89-95; Discussion. 95-9 Ja '51

Strength of pure molybdenum at 1800 to 2400°F. R. A. Long and others. il diags Metal Prog 60:81-8 S '51

Tensile properties of ingot iron at low temperatures. G. W. Geil and N. L. Carwile. bibliog il J Res Nat Bur Stand 45:129-47 Ag '50

White-to-grey tin formation in refrigeration equipment. H. S. Kalish. il Materials & Methods 34:136+ Ag '51

Young's modulus at high temperatures. bibliog Engineer 190:325 S 29 '50; Abstract. Product Eng 22:241-3 Je '51

See also
Creep of metals

Testing

Cobalt aids metals study; Armour researchers convert abandoned garage into radiographic laboratory. il Steel 128:94+ Mr 26 '51

Dye penetrant quickly reveals surface flaws. A. Gilbert. il Iron Age 166:91-2 N 16 '50

Endurance limit of a round bar with longitudinal grooves. H. Ōkubo. il diags J Ap Phys 21:1105-8 N '50

Explosive forces widen metallurgical studies. diags Steel 127:98-9 N 20 '50

Flaw detection simplified; Dy-Chek. il Diesel Power 29:41 F '51

Flaws go scarlet and inspector's job grows easy; using a red dye and photo-type developer solutions. il Mill & Factory 48:127 Mr '51

Is it a dangerous flaw or harmless scratch? how the new dye penetrant system works. J. Joseph. il Bus Transportation 29:44-5 D '50

Mechanical properties of metals. H. W. Gillett. bibliog diags Machine Design 23:143-8+ Mr '51

Metal cleaning, finishing and testing; departments operated by U.S. metalworking plants employing 21 or more plant workers; tabulations. Iron Age 167:356 Ja 4 '51

Metal wall thickness measurement from one side by the ultrasonic method. N. G. Branson. il diags Elec Eng 70:619-23 Jl '51

Metallurgical activities at Aberdeen proving ground. il diag Metal Prog 59:499-502 Ap '51

Microhardness tester for metals at elevated temperatures. A. Brenner. bibliog il diag J Res Nat Bur Stand 46:126-31 F '51; Abstract. Metal Finishing 49:78-9+ S '51

Penetrant detects flaws in subsurface metals; dye penetrant method. il Elec World 135: 171-2 My 21 '51

Plastic flow of platinum wires. R. P. Carreker, jr. bibliog diags J Ap Phys 21: 1289-96 D '50

Standard laboratory corrosion test for metals in phosphoric-acid service. H. F. Ebling and M. A. Scheil. il A S M E Trans 73: 975-87 O '51

Symposium on ultrasonic testing. (Special tech. pub. no. 101) 133p bibliog(Hastings and Carter, 342 titles) pa $2 Am. soc. for testing materials, 1916 Race st, Philadelphia 3 '51

Technical forum on progress in metalworking; inspection and testing. Steel 128:267-8+ Ja 1 '51

Test metals by impact loading. Steel 127:112 D 18 '50

Ultrasonics, metalworking tool? C. Emerson and J. Starr. il diags Am Mach 95:85-8 Ap 30 '51

Textile uses

See also
Aluminum—Textile uses

Wear

Properties influencing wear of metals. T. L. Oberle. bibliog(59 ref) diags J Metals 3: 438-439G Je '51

Radioactive tracers reveal friction and wear of metals. J. T. Burwell and C. O. Strang. il diag Metal Prog 60:69-74 S '51

Steel trunnion wheels soft-surfaced at 60 per cent saving. J. F. Gulley. il Steel 128:76-7 Ja 22 '51

METALS—*Continued*

X ray inspection

Further X-ray study of the equilibrium diagram of the iron-nickel system. E. A. Owen and Y. H. Liu. bibliog pl Iron & Steel Inst J 163:132-7 O '49; Discussion. 166:200-12 N '50

Gamma radiography in shipbuilding and engineering. J. D. Hislop. il Engineering 171: 327-30 Mr 16 '51

Microradiography applied to leaded copper-base alloys. J. G. Kura and others. bibliog il Foundry 79:90-1+ S '51

Northrop checks all castings by fluoroscopy. T. E. Piper and J. G. Schneeman. il diags Mach 57:172-7 Jl '51

Surface effect on extruded lead and its alloys. R. C. Gifkins and H. C. Coe. il Metallurgia 43:47-8 Ja '51

X-ray inspection of light alloys. J. G. Schneeman. il Light Metal Age 9:11-14, 16 Ag '51

See also

Welding—X ray inspection

METALS, Clad

Clad metal properties are tailor made; abstract. W. L. Keene. Steel 128:102+ Je 4 '51

Sandwich metal stands up to heat; Rosslyn metal. G. L. Christian. il Aviation W 55: 34+ S 17 '51

See also

Alclad

Steel, Clad

Steel, Nickel clad

Steel, Stainless clad

METALS, Cold working of

Advantages of cold-drawn pinions. E. H. Rathbone. diags Product Eng 21:114-16 D '50

Beryllium powder compacts reduced nine per cent by cold rolling. H. Hausner and N. Pinto. Steel 127:93 D 11 '50

Cold working of non-ferrous metals; symposium at annual general meeting of the Institute of metals, London. Metallurgia 43:190-2 Ap '51; Engineering 171:340-1 Mr 23 '51; Discussion. Metallurgia 43:192-6 Ap '51; Engineering 171:395, 473-4 Ap 6, 20 '51; Engineer 191:419-21 Mr 30 '51

Conductivity of cold-worked metals. R. Landauer. bibliog Phys R 82:520-1 My 15 '51

Effect of prestraining temperatures on the recovery of cold worked aluminum. T. E. Tietz and others. bibliog J Metals 1:Trans 921-6 D '49; Discussion. 188:Trans 1364-5 N '50

Internal friction of cold-worked single crystals of copper. R. R. Hasiguti and T. Hirai. bibliog J Ap Phys 22:1084-5 Ag '51

More production and better quality by cold extrusion. il Product Eng 22:118-19 My '51

Progress in the cold working of metals, 1929-1950. W. C. F. Hessenberg. Metallurgia 42:334-6 N '50

Some observations on the recovery of cold worked aluminum. T. V. Cherian and others. bibliog il J Metals 1:Trans 948-56 D '49; Discussion. 188:Trans 1363-4 N '50

Tungsten carbide rolls for cold rolling metals. R. T. Beeghly. il diags Iron & Steel Eng 28:74-8; Discussion. 79 Ap '51

See also

Steel, Cold working of

METALS, Effect of radioactivity on

Effect of nuclear radiation on metal. D. S. Billington and S. Siegel. diag Metal Prog 58:847-52 D '50

METALS, Heat resisting. See Alloys, Heat resisting

METALS, Laminated

Corrosion resistance of typical laminated metals; chart; reference book sheet. Product Eng 22:211 My '51

Testing

Improvements in the design of ultrasonic lamination detection equipment. H. R. Clayton and R. S. Young. diags J Sci Instr 28: 129-32 My '51

METALS, Liquid

Liquid metal heat-transfer coefficients. R. N. Lyon. bibliog il Chem Eng Prog 47:75-9 F '51

METALS, Molten

Comparison of methods for measuring temperature of molten metals. J. W. Percy. diags Instruments 24:766-8 Jl '51

Entropies of melting of metals. R. A. Oriani. bibliog diag J Chem Phys 19:93-7 Ja '51

Microscopic observation of the solidification of Cu-Ni alloy droplets. R. E. Cech and D. Turnbull. bibliog il J Metals 3:Trans 242-3 Mr '51

Physical properties of some liquid metals; tabulation. R. R. Miller, comp. Metal Prog 59:80B Ja '51

Resistance to attack by liquid metals; chart; data sheet. L. R. Kelman and others, comps. Metal Prog 58:868B D '50

Surface tension of liquid metals. N. R. Mukherjee. J Ap Phys 22:1215-16 S '51

Thermocouple system for molten-metal temperature measurement. L. H. Veiock. il diags Instruments 24:769-70+ Jl '51

Thermodynamic study of liquid metallic solutions; the systems bismuth-gold and thallium-gold. O. J. Kleppa. diags Am Chem Soc J 73:385-90 Ja '51

METALS, Non-ferrous

British non-ferrous metals research association activities. W. L. Hall. bibliog il Metallurgia 44:129-32 S '51

Changes in the non-ferrous metals industry. W. H. Henman. il Metallurgia 42:297-9 N '50

Cold working of non-ferrous metals; symposium at annual general meeting of the Institute of metals, London. Metallurgia 43:190-2 Ap '51; Engineering 171:340-1 Mr 23 '51; Discussion. Metallurgia 43:192-6 Ap '51; Engineering 171:395, 473-4 Ap 6, 20 '51; Engineer 191:419-21 Mr 30 '51

Creep and fatigue properties of non-ferrous metals at elevated temperatures; recommended scope of research programmes. Metallurgia 44:38-9 Jl '51; Same abr. Engineer 191:869-70 Je 29 '51

Designing with modern materials; survey of latest developments in engineering materials. il Machine Design 23:311-25 O '51

Flash welding nonferrous materials. F. L. Brandt. il Welding J 29:718-22 S '50; Discussion. 29:1087-8 D '50

Foundry practice for nonferrous casting alloys; data sheet. Foundry 79:143-4 F '51

How to select nonferrous alloys for investment castings. R. L. Wood and D. V. Ludwig. il Materials & Methods 33:78-82 Ja '51

Important facts about our supplies of nonferrous metals. C. D. Dallas. Automotive Ind 103:52+ N 15 '50; Same abr. Metal Prog 58:839-41 D '50

In metallurgy, the accent is on new metals, new methods. A. W. Schlechten and H. R. Hanley. il Eng & Min J 152:122-5+ F '51

Literature survey provides data on deep drawing of nonferrous metals. Materials & Methods 32:9+ N '50

Metal industry facts; nonferrous metals production, prices, markets; tabulations. Iron Age 167:299-308 Ja 4 '51

Molding sands for nonferrous alloys. Foundry 79:151-2 S '51

Non-ferrous base metal deposits in Ontario. J. E. Thomson. Can Min J 71:152-4 N '50

Nonferrous castings made at the U.S. naval gun factory. H. J. Roast. il Metal Prog 60:61-4 Jl '51

Nonferrous metals, annual review. S. D. Strauss. Min Eng 190:110-12 F '51

Non-ferrous metals industry; vital role in Britain's national economy. Chem Age (Lond) 64:353-5 Mr 3 '51

Non-ferrous metals; with data on leading stocks. R. Colston. Mag of Wall St 87:668-70+; 88:670-1+ Mr 24, S 22 '51

Nonferrous strip capacity expanded; Riverside metal co. W. Bomboy. il diag Steel 128:72+ Ja 8 '51

Precision investment nonferrous casting alloys; tabulation; engineering file facts. Materials & Methods 32:97, 99 N '50

Pyrometry in the nonferrous foundry. R. A. Colton. il Foundry 79:98-100+ F; 88-9+ Mr '51

Rapid analysis cuts furnace holding time. L. Silverman and others. bibliog Iron Age 167:70-2 Ja 18 '51

Research on non-ferrous metals. Engineering 171:495 Ap 27 '51

Review of materials engineering developments in 1950. T. C. Du Mond. il Materials & Methods 33:89-90 Ja '51

METALS, Non-ferrous—*Continued*

Sigma welding of nonferrous metals and alloy steels. H. T. Herbst. il diags Welding J 30:618-31 Jl '51

Sintering nonferrous metals. A. A. Nilsen and W. J. Urban. il J Metals 3:311-12 Ap '51

Where do we stand on nonferrous strategic materials? R. J. Lund. S A E J 59:18+ Je '51

See also

Brass
Bronze

also names of non-ferrous metals, e.g. Aluminum; Copper; Lead; Magnesium; Tin; Zinc

Prices

Ever rising metal prices; with tabulation of non-ferrous metals and scrap prices, 1949, 1950 and Jan. 1951. Economist 160:285-6 F 3 '51

Nonferrous prices; tabulations. Steel 128:129 Ja 1 '51

METALS, Powdered. See Metal powders

METALS, Tarnishing of. See Tarnishing of metals

METAMORPHISM

Hydrothermal-differential pressure equipment for experimental studies in low-grade rock metamorphism. H. W. Fairbairn. flow sheet diag Geol Soc Bul 62:39-43, pl 1 Ja '51

Metamorphic and igneous rocks of the Merrimac area, Plumas national forest, Calif. A. Hietanen. bibliog maps diags Geol Soc Bul 62:565-607, pl 1-5 Je '51

Metamorphism and associated mineralization in the Philipsburg region, Montana. maps diags Geol Soc Bul 61:1053-90, pl 1-14 bibliog(p 1089-90) O '50

Metamorphism of coal. A. Lahiri. bibliog Econ Geol 46:252-66 My '51

METAPHOSPHATES

Condensed phosphoric acids and their salts; dissociation constants of some tetrametaphosphates. H. W. Jones and C. B. Monk. Chem Soc J p3475-8 D '50

METASEQUOIA

Probable chromosome number of fossil sequoia and metasequoia found in Japan. S. Miki and S. Hikita. bibliog il Science 113:3-4 Ja 5 '51

METASTABILITY

Critical limits of metastability in binary systems. H. Reiss and L. Friedman. bibliog J Chem Phys 19:253-4 F '51

Ionization by the collision of pairs of metastable atoms. M. A. Biondi. bibliog Phys R 82:453-4 My 1 '51

Production of 2537 radiation and the role of metastable atoms in an argon-mercury discharge. C. Kenty. bibliog diag J Ap Phys 21:1309-18 D '50

METASTABLE atoms

Form of transient currents in Townsend discharges with metastables. J. P. Molnar. Phys R 83:933-40 S 1 '51

Studies of γ-processes of electron emission employing pulsed Townsend discharges on a millisecond time scale. J. P. Molnar. il diags Phys R 83:940-52 S 1 '51

METEORITE craters

Canadian meteor crater. V. B. Meen. il map diag Sci Am 184:64-9 My '51

METEORITES

Condensation globules at meteor crater. H. H. Nininger. il Science 113:755-6 Je 29 '51

Fall of the Girgenti meteorite and the known specimens of this fall. M. H. Hey. bibliog Am J Sci 249:249-53 Mr '51

High temperature stage in the evolution of the terrestrial planets; abstract. H. C. Urey. Science 112:451-2 O 20 '50

Petrologic-cosmogonic dilemma; abstract. N. L. Bowen. Science 112:453-4 O 20 '50

METEOROLOGICAL balloons. See Balloons, Meteorological

METEOROLOGICAL instruments

Electrical meteorological instruments; symposium abstracts. Engineering 171:146-7, 203 F 2, 16 '51; Engineer 191:164-5 F 2 '51; Elec R (Lond) 148:287-8 F 9 '51; Electrician 146:389-90 F 2 '51

See also

Anemometers
Barometers
Hygrometers
Radio meteorographs
Thermometers and thermometry

METEOROLOGICAL optics

See also

Mirages

METEOROLOGICAL research

See also

Radio meteorographs

METEOROLOGY

Meteorological data in ecology. A. M. Woodbury. Science 114:216-17 Ag 24 '51

Meteorological technics in air pollution surveys. M. Eisenbud and W. B. Harris. il A M A Archives Ind Hygiene & Occup Med 3:90-7 Ja '51

Some adverse influences of meteorological factors on marine navigational radar. J. A. Saxton and H. G. Hopkins. bibliog Inst E E Proc 98 pt 3:26-36 Ja '51

See also

Atmospheric electricity
Auroras
Climate
Floods
Fog
Hurricanes
Lightning
Radar—Meteorological use
Rain and rainfall
Rain making
Snow
Solar radiation
Sunspots
Weather forecasting

METEOROLOGY, Aeronautic

Anyone can fly a pressure pattern. D. G. Williams. diags Aero Digest 62:30-1+ Je '51

Clear air turbulence over Europe. G. S. Hislop. bibliog map diags Roy Aeronautical Soc J 55:185-211; Discussion. 211-25 Ap '51

High weather; science discovers that the apparent calm at great altitudes is a myth. P. M. Gormley. diags Aero Digest 61:30-1+ N '50

Some meteorological problems indicated for jet transport operation at 40,000 ft. H. T. Harrison. bibliog il maps diags Aeronautical Eng R 10:52-61 Ap '51

METEORS

Deceleration and ionizing efficiency of radar meteors. D. W. R. McKinley. bibliog il J Ap Phys 22:202-13 F '51

Meteors can now be perceived by radio echo. F. G. Watson. il diag Sci Am 184:22-8 Je '51

Trailing meteors. Tech R 53:468 Jl '51

METER reading

Meter reading and commercial department operation. K. K. King. Am Water Works Assn J 43:705-12 S '51

METERS

How to test meters on tank trucks, determine proper spare parts list. R. T. Gould. Nat Pet N 43:72-3 My 16 '51

Review of new plant equipment; meters and instruments. il Power 95:162-4 Mid-Je '51

See also

Automobile parking—Meters
Dynamometers
Electric meters
Flow meters
Frequency meters
Friction meters
Gages
Gas meters
Meter reading
Orifice meters
Tachometers
Venturi meters
Viscosimeters
Voltmeters
Water meters

METHACRYLAMIDES

Study of the polymerisation of methacrylamide in wool. N. K. Boardman and M. Lipson. bibliog Soc Dyers & Col J 67:271-4 Jl '51

METHACRYLATES

Copolymerization. H. W. Melville, E. P. Bonsall and H. Valentine. J Ap Chem 1:249-53 Je '51

Initiation of vinyl polymerization by means of high-energy electrons; tetraethyleneglycol dimethylacrylate (TEGMA). J. V. Schmitz and E. J. Lawton. bibliog Science 113:718-19 Je 22 '51; Abstract. Mech Eng 73:745-6 S '51

Plastics, in war and peace; changes in building codes permit use of acrylic plastics in signs. F. J. Rarig. il Standardization 22:141-3 My '51

Polymerization induced by catalytic decomposition of hydrazine at palladium surfaces. G. Parravano. bibliog Am Chem Soc J 72:3856-60 S '50

Structure of methyl acetylacrylate. S. Raymond. bibliog Am Chem Soc J 72:4304-6 S '50

METHACRYLIC acid

2-Nitratoethyl esters of acrylic, crotonic and methacrylic acids. N. S. Marans and R. P. Zelinski. Am Chem Soc J 72:5330-1 N '50

METHACRYLIC acid—*Continued*

Surface activity of polymeric acids in aqueous solutions. A. Katchalsky and I. Miller. bibliog J Phys & Colloid Chem 55:1182-94 O '51

METHALLYL alcohol. See Methyl propenol

METHANE

Adsorption of methane on Fuller's earth. W. T. Granquist. bibliog diags Ind & Eng Chem 42:2572-5 D '50

Bis-(substituted phenoxy)-methanes. S. Miron and A. Lowy. Am Chem Soc J 73:1872-3 Ap '51

Carbon disulfide from natural gas and sulfur; reaction of methane and sulfur over a silica gel catalyst. H. O. Folkins, E. Miller and H. Hennig. bibliog flow diag Ind & Eng Chem 42:2202-7 N '50

Di-2-picolylmethane. N. J. Leonard and J. H. Boyer. Am Chem Soc J 72:4818-19 O '50

Equilibria in the systems Fe_2C-Fe-CH_4-H_3 and Fe_3C-Fe-CH_4-H_2. L. C. Browning, T. W. DeWitt and P. H. Emmett. bibliog diag Am Chem Soc J 72:4211-17 S '50

Equilibrium measurements in the system C-CH_4-H_2. L. C. Browning and P. H. Emmett. bibliog Am Chem Soc J 73:581-3 F '51

Equilibrium relations of two methane-aromatic binary systems at 150° F. M. Elbishlawi and J. R. Spencer. bibliog Ind & Eng Chem 43:1811-15 Ag '51

High purity sulfur from smelter gases; reduction with natural gas. E. P. Fleming and T. C. Fitt. bibliog flow diag il diags Ind & Eng Chem 42:2249-53 N '50

Influence of foreign gases at high pressures on the infrared adsorption band of methane at 3.3μ. H. L. Welsh and others. bibliog diag J Chem Phys 19:340-4 Mr '51

Infrared spectra of eighteen halogen-substituted methanes. E. K. Plyler and W. S. Benedict. J Res Nat Bur Stand 47:202-20 S '51

Kinetics of catalytic sulfurization of methane. R. C. Forney and J. M. Smith. bibliog diag Ind & Eng Chem 43:1841-8 Ag '51

Low temperature separation of ethane from methane and air. R. L. Slobod. bibliog diag Anal Chem 23:361-3 F '51

Magnetic susceptibilities of some methyl derivatives of methane and ethylene. J. R. Lacher and others. bibliog Am Chem Soc J 73:2838-40 Je '51

Mass spectra of the deuteromethanes. V. H. Dibeler and F. L. Mohler. bibliog J Res Nat Bur Stand 45:441-4 D '50

Mercury ($^3P_1$) photo-sensitized decomposition of propane at high temperatures. S. Bywater and E. W. R. Steacie. bibliog J Chem Phys 19:319-25 Mr '51

Methane chlorination using hydrogen chloride and oxygen. H. P. Meissner and E. F. Thode. bibliog Ind & Eng Chem 43:129-33 Ja '51

Methane gas in water well. L. W. Fisher and W. H. Sawyer, jr. il map Science 113:7-8 Ja 5 '51

Methane, proportional counting method for the assay of tritium. C. V. Robinson. bibliog diags R Sci Instr 22:353-5 Je '51

Mixed hydrocarbon solvents for fatty acids and their triglycerides. R. Bogash and A. N. Hixson. bibliog il Chem Eng Prog 47:347-53 Jl '51

Near ultraviolet absorption spectra of some fluorinated derivatives of methane and ethylene. J. R. Lacher and others. bibliog Am Chem Soc J 72:5486-9 D '50

Neutron diffraction by the gases N_2, CF_4, and CH_4. N. Z. Alcock and D. G. Hurst. bibliog Phys R 83:1100-5 S 15 '51

Nuclear magnetic resonance in methane. J. T. Thomas and others. bibliog J Chem Phys 18:1511 N '50

Phase equilibria in hydrocarbon systems; volumetric and phase behavior of the methane-*n*-butane-decane system. H. H. Reamer, B. H. Sage and W. N. Lacey. bibliog Ind & Eng Chem 43:1436-44 Je '51

Phase equilibria in hydrocarbon systems; volumetric and phase behavior of the methane-hydrogen sulfide system. H. H. Reamer, B. H. Sage and W. N. Lacey. bibliog Ind & Eng Chem 43:976-81 Ap '51

Photochlorination; the photochlorination of methane. M. Ritchie and W. I. H. Winning. Chem Soc J p3583-9 D '50

Some applications of deuterium in the study of decomposition mechanisms of organic compounds. L. A. Wall and W. J. Moore. bibliog J Phys & Colloid Chem 55:965-74 Je '51

Substituted methanes; force constants and calculated thermodynamic properties for some trifluoromethanes. C. E. Decker and others. bibliog J Chem Phys 19:784-8 Je '51

Substituted methanes; infrared spectra and calculated thermodynamic properties for some trichloromethanes. J. R. Madigan and F. F. Cleveland. J Chem Phys 19:119-23 Ja '51

Synthesis of methane from carbon dioxide and hydrogen. G. G. Binder and R. R. White. bibliog flow sheet Chem Eng Prog 46:563-74 N '50

Use of C^{14} in mechanism studies of methane fermentation; propionic acid. A. M. Buswell and others. bibliog Am Chem Soc J 73:1809-11 Ap '51

Water gas from methane. P. W. Sherwood. bibliog flow sheet il diags Pet Processing 5:1308-11 D '50

See also

Chlorofluoromethanes

Analysis

Determination of impurity traces; mass spectrometric method. R. E. Honig. bibliog Anal Chem 22:1474-6 D '50

Infrared determination of methyl deuteride; application to analysis of deuterium oxide. T. L. Brown and R. B. Bernstein. Anal Chem 23:673-4 Ap '51

METHANE, Liquid

Liquid methane as a motor fuel. M. Pearce. bibliog il diags Inst Mech Eng Proc (Auto div pt 3):155-63; Discussion. 164-6 '49-50

METHANESULFONATE

Dithiols; the reaction of toluene-*p*-sulphonates and methanesulphonates with potassium thiolacetate; a new method for the preparation of thiols. J. H. Chapman and L. N. Owen. Chem Soc J p579-85 F '50

METHANESULFONYL compounds

Deoxy-sugars; some methanesulphonyl and toluene-*p*-sulphonyl derivatives of α-ethyl-2 : 3-dideoxy-D-glucoside. S. Laland, W. G. Overend and M. Stacey. Chem Soc J p738-43 F '50

Preparation and reactivity of some 2-methanesulphonylbenzazoles. E. Hoggarth. Chem Soc J p3311-15 D '49

METHANESULFONYL esters

Alicyclic glycols; toluene-*p*-sulphonyl and methanesulphonyl derivatives of *cyclo*hexane-1 : 3-diol. M. F. Clarke and L. N. Owen. Chem Soc J p2103-8 Ag '50

METHANETHIOL

Microwave spectrum and dipole moment of methyl mercaptan. T. M. Shaw and J. J. Windle. J Chem Phys 19:1063-4 Ag '51

Microwave spectrum of methyl mercaptan. F. K. Hurd and W. D. Hershberger. Phys R 82:95-6 Ap 1 '51

Analysis

Colorimetric determination of hydrogen sulphide and methyl mercaptan in sulphate pulp mill effluents and of sodium sulphide in black liquor. R. H. Wright and others. bibliog il Tappi 34:289-94 Jl '51

METHANOL

Adsorption equilibria of liquid mixtures of benzene and methanol with charcoal. H. H. Rowley, R. B. Olney and W. B. Innes. Am Chem Soc J 72:5180-2 N '50

Algebraic representation of vapor-liquid equilibria. W. H. Prahl. bibliog Ind & Eng Chem 43:1767-70 Ag '51

Apparent reduction of halogens by zinc halides in methanol solution. F. J. Shell and H. K. Zimmerman, jr. Am Chem Soc J 73:490-1 Ja '51

Bolaform electrolytes; conductance of 1,3-, 1,4- and 1,5-di-(trimethylammonium)-polymethylene halides in water and in methanol. R. M. Fuoss and V. F. H. Chu. bibliog Am Chem Soc J 73:949-52 Mr '51

Commodity survey. diags Chem Eng 58:285-7 Je '51

METHANOL—*Continued*

Conductance of methanol, acetone, ethyl acetate and acetic anhydride complexes of aluminum bromide in nitrobenzene at 25°. R. E. Van Dyke. Am Chem Soc J 73:398-402 Ja '51

Conductances of potassium iodide, silver nitrate and some alkaline earth halides in methanol at 20° and 0°. L. R. Dawson and W. M. Keely. Am Chem Soc J 73:3783-5 Ag '51

Conductivities of solutions of the zinc halides in methanol from -50 to 20°. L. R. Dawson and others. bibliog Am Chem Soc J 73:4327-30 S '51

Conductivity studies in methanol. E. C. Evers and A. G. Knox. bibliog Am Chem Soc J 73:1739-44 Ap '51

Densities and viscosities of solutions of the zinc halides in methanol from -50 to 20°. L. R. Dawson and others. bibliog Am Chem Soc J 73:4326-7 S '51

Enthalpy-concentration chart for methanol-water solutions. L. S. Ansell and others. Chem Eng 58:133-4 Ap '51

Equivalent and ionic conductances for sodium and potassium chlorides in anhydrous methanol at 25°C. J. P. Butler and others. bibliog J Chem Phys 19:752-4 Je '51

Ethanol from methanol. I. Wender and others. Science 113:206-7 F 23 '51

Fractional extraction process for recovery of pure tar acids. M. B. Neuworth, V. Hofmann and T. E. Kelly. bibliog diag Ind & Eng Chem 43:1689-94 Jl '51

Frequency of the third harmonic O-H band of methanol in various solvents, and the hydrogen bonding of methanol with aromatic hydrocarbons. L. H. Jones and R. M. Badger. bibliog Am Chem Soc J 73:3132-4 Jl '51

Heat capacities of several organic liquids. E. W. Hough, D. M. Mason and B. H. Sage. Am Chem Soc J 72:5775-7 D '50

Low-temperature conductance and viscosity of concentrated solutions of ammonium formate and ammonium acetate in some mixed solvents. L. R. Dawson and others. J Phys & Colloid Chem 55:422-8 Mr '51

Making water gas by cracking methanol. W. K. Viertel. diag J Chem Educ 28:220 Ap '51

Mechanism of the reaction of N-nitrosoacetanilide with methanol. D. F. DeTar. bibliog Am Chem Soc J 73:1446-9 Ap '51

Methanol muddle. il Chem Ind 67:873-4 D '50

Methanol precipitation of influenza virus. A. W. Moyer and others. Science 112:459-60 O 20 '50

Methyl alcohol; the entropy, heat capacity and polymerization equilibria in the vapor, and potential barrier to internal rotation. W. Weltner, jr. and K. S. Pitzer. bibliog Am Chem Soc J 73:2606-10 Je '51

New tribenzoyl-D-ribopyranosyl halides and their reactions with methanol. R. K. Ness, H. G. Fletcher, jr. and C. S. Hudson. Am Chem Soc J 73:959-63 Mr '51

Physical properties of methanol-water system. C. Carr and J. A. Riddick. bibliog Ind & Eng Chem 43:692-6 Mr '51

Preparation of dehydro-L-ascorbic acid and its methanol complex; some reactions of dehydro-L-ascorbic acid. B. Pecherer. bibliog Am Chem Soc J 73:3827-30 Ag '51

Reaction between methanol and hydrogen chloride at 0° C in the degradation of cellulose. R. E. Reeves and others. Textile Res J 21:81-2 F '51

Reaction of tribenzoyl-β-D-arabinopyranosyl bromide and tribenzoyl-α-D-xylopyranosyl bromide with methanol. H. G. Fletcher, jr. and C. S. Hudson. bibliog Am Chem Soc J 72:4173-7 S '50

Reaction of tribenzoyl-α-D-lyxopyranosyl bromide with methanol. H. G. Fletcher, jr., R. K. Ness and C. S. Hudson. Am Chem Soc J 73:3698-9 Ag '51

Reaction of tribenzoyl-α-L-rhamnopyranosyl bromide with methanol; various benzoylated derivatives of L-rhamnose. R. K. Ness, H. G. Fletcher, jr. and C. S. Hudson. bibliog Am Chem Soc J 73:296-300 Ja '51

Solubility of quaternary ammonium salts in methanol-benzene mixtures; the anomalous behavior of tetraethylammonium iodide. G. M. Goldberg and A. A. Vernon. Am Chem Soc J 73:2845-6 Je '51

Syntheses with isotopic tracer elements; the preparation of methanol and sodium acetate labelled with carbon isotopes. J. D. Cox, H. S. Turner and R. J. Warne. diags Chem Soc J p3167-76 N '50

Transference numbers for sodium and potassium chlorides in anhydrous methanol at 25°C. J. A. Davies and others. bibliog J Chem Phys 19:749-51 Je '51

Vapor-liquid equilibria in binary systems; systems involving *cis*- or *trans*-dichloroethylene and an alcohol. N. Alpert and P. J. Elving. Ind & Eng Chem 43:1174-7 My '51

Viscosity of mixed vapours. R. B. Silgardo and J. A. Storrow. bibliog(48 ref) diags Soc Chem Ind J 69:261-6 S '50

METHANOLYSIS

Glycosidic methoxyl groups in methanolyzed cellulose. R. E. Reeves and others. Textile Res J 21:78-81 F '51; Discussion (Nature of the methoxyl groups in methanolyzed celluloses). E. Pacsu. bibliog 21:289-92 My '51

Heterogeneous methanolysis of native and mercerized cotton cellulose. R. E. Reeves, L. W. Mazzeno, jr. and C. L. Hoffpauir. bibliog Am Chem Soc J 72:4773-7 O '50

Kinetics of the base-catalyzed methanolysis of ortho, meta and para substituted *l*-menthyl benzoates. R. W. Taft, jr., M. S. Newman and F. H. Verhoek. bibliog Am Chem Soc J 72:4511-19 O '50

Methanolysis of carbonyl-activated aryl bromides. R. C. Fuson and W. C. Hammann. Am Chem Soc J 73:1851-2 Ap '51

Studies of modified cellulose; alkali stability of oxidized, hydrolyzed, and methanolized celluloses. A. Meller. bibliog(52 titles) Tappi 34:171-9 Ap '51

METHAZONIC acid

Reactions of methazonic acid; the preparation of 3-nitrolepidines and 3-nitro-4-arylquinolines. K. Schofield and R. S. Theobald. Chem Soc J p395-402 Ja '50

METHIODIDES

Gramine methiodide. C. H. Schramm. Am Chem Soc J 73:2961-2 Je '51

New technique for the reduction of certain heterocyclic methiodides. J. A. Barltrop and D. A. H. Taylor. Chem Soc J p 108-10 Ja '51

METHIONINE

Dimethylsulphoximine. H. R. Bentley and J. K. Whitehead. Chem Soc J p2081-2 Ag '50

Sulphonium derivatives of DL-methionine and 5-(2-methylthioethyl)hydantoin. R. O. Atkinson and F. Poppelsdorf. Chem Soc J p 1378 My '51

Toxic factor from agenized proteins; infrared measurements. L. N. Short and H. W. Thompson. Chem Soc J p 1746-9 Jl '51

METHODOLOGY

Method is the bond. A. Gilmore. J Eng Educ 41:518-22 My '51

METHONIUM halides

Methonium halides in high blood pressure. F. H. Smirk. bibliog Science 114:4-5 Jl 6 '51

METHOXYAMINOQUINOLINE

Further study of the rearrangement occurring during the alkylation of 6-methoxy-8-aminoquinoline with 1-diethylamino-3-chloropentane. R. C. Elderfield and C. Ressler. bibliog Am Chem Soc J 72:4059-68 S '50

METHOXY benzene. See Anisole

METHOXYBIPHENYL

Studies in the biphenyl series; bromination of 4-methoxybiphenyl. J. L. Abernethy and H. Pollock. Am Chem Soc J 73:1351 Mr '51

METHOXYCHLOR

Structural and insecticidal relationships in rotenone, methoxychlor, and DDT. R. W. Hummer and E. E. Kenaga. bibliog il Science 113:653-5 Je 8 '51

METHOXY compounds

Dithiols; polymethoxy-dithiols. L. W. C. Miles and L. N. Owen. Chem Soc J p2934-8 N '50

METHOXYCOUMARIN
Fluorescent reagents; acyl chlorides and acyl hydrazides. W. Baker, C. N. Haksar and J. F. W. McOmie. Chem Soc J p 170-3 Ja '50

METHOXYCROTONIC acid
Olefinic acids; γ-methoxycrotonic acid. L. N. Owen and M. U. S. Sultanbawa. Chem Soc J p3098-105 D '49

METHOXYDICHLOROPHOSPHINE
Fluorination of methoxydichlorophosphine. D. R. Martin and P. J. Pizzolato. bibliog Am Chem Soc J 72:4584-6 O '50

METHOXY group
Glycosidic methoxyl groups in methanolyzed cellulose. R. E. Reeves and others. Textile Res J 21:78-81 F '51; Discussion (Nature of the methoxyl groups in methanolyzed celluloses). E. Pacsu. bibliog 21:289-92 My '51
Influence of the methoxyl group in aromatic substitution. P. B. D. de la Mare and C. A. Vernon. Chem Soc J p 1764-7 Jl '51

METHOXYMETHYL carboline. See Harmine

METHOXYPHENYLCYCLOHEXANE
1,3-Bis-(*p*-methoxyphenyl)-cyclohexane. G. P. Mueller and C. B. Honaker. Am Chem Soc J 73:2377-9 My '51

METHOXYPHENYLCYCLOPENTENE
1,2-Bis-(*p*-methoxyphenyl)-cyclopentene. G. P. Mueller, J. G. Fleckenstein and W. H. Tallent. Am Chem Soc J 73:2651-3 Je '51

METHOXYPHENYL hexanone
3-(*p*-Methoxyphenyl)-4-phenyl-2-hexanone and derivatives. D. R. Satriana, A. Loter and M. M. Baizer. Am Chem Soc J 73:866-7 F '51

METHOXYPHENYL propene
1,1-Bis-(*p*-methoxyphenyl)-1-propene. K. Rorig. Am Chem Soc J 73:865 F '51

METHOXYPHENYLPROPIONIC acid
Experiments relating to œstrogenic indenes. D. S. Morris. Chem Soc J p 1913-17 Jl '50

METHOXYPROPIONIC acid
β-Propiolactone; mechanisms involved in the reaction of β-propiolactone with acids and bases. P. D. Bartlett and P. N. Rylander. Am Chem Soc J 73:4273-4 S '51

METHOXYQUINOLINE
Apparent ionization exponents of 4-hydroxyquinoline, 4-methoxyquinoline and N-methyl-4-quinolone; evaluation of lactam-lactim tautomerism. G. F. Tucker, jr. and J. L. Irvin. bibliog Am Chem Soc J 73:1923-9 My '51
Synthesis of 8-(5-hydroxyamylamino)-6-methoxyquinoline; a new method of preparation of pentaquin and its analogs. M. B. Green. bibliog Am Chem Soc J 73:986-90 Mr '51

METHOXYSTYRENE
Synthesis of 3- and 4-methoxystyrenes. M. Sulzbacher. bibliog J Ap Chem 1:95-7 Mr '51

METHOXYTRYPTOPHAN
Synthesis of 5- and 7-methoxytryptophan, and of some derivatives. R. H. Marchant and D. G. Harvey. Chem Soc J p 1808-11 Jl '51

METHYL
Kinetics of the recombination of methyl radicals and iodine atoms. R. A. Marcus and O. K. Rice. bibliog J Phys & Colloid Chem 55:894-908 Je '51
Methyl radical induced polymerization of gaseous butadiene. D. H. Volman. bibliog J Chem Phys 19:668-70 Je '51
Reactions of methyl radicals. A. F. Trotman-Dickenson and E. W. R. Steacie. bibliog J Phys & Colloid Chem 55:908-22; Discussion. 922-4 Je '51
Recombination of methyl radicals. D. M. Miller and E. W. R. Steacie. bibliog diag J Chem Phys 19:73-7 Ja '51

METHYL acetate
Electron diffraction investigation of methyl formate, methyl acetate and methyl chloroformate. J. M. O'Gorman, W. Shand, jr. and V. Schomaker. bibliog Am Chem Soc J 72:4222-8 S '50
Purification of methyl acetate and ethyl acetate. C. D. Hurd and J. S. Strong. bibliog Anal Chem 23:542 Mr '51
Vapor-liquid equilibria in binary systems; systems involving *cis*- or *trans*-dichloroethylene and a ketone or ester. N. Alpert and P. J. Elving. bibliog Ind & Eng Chem 43:1182-6 My '51

METHYL acetoacetic acid
cis-trans Enolic β-D-glycosides of methyl acetoacetate. C. E. Ballou and K. P. Link. bibliog Am Chem Soc J 73:1134-40 Mr '51

METHYL acetylene. See Propyne

METHYL acrylate
1-Cyano-1,3-butadienes; the Diels-Alder adducts of 1-cyano-1,3-butadiene with ethyl and methyl acrylate. H. R. Snyder and G. I. Poos. bibliog Am Chem Soc J 72:4104-7 S '50
Polymerization of *p*-chlorostyrene in the presence of polymethylacrylate. R. B. Carlin and D. L. Hufford. Am Chem Soc J 72:4200-3 S '50

METHYL allyl bromides
Solvolysis and rearrangement reactions accompanying the formation of methallyl bromide. P. Teuscher. Am Chem Soc J 72:4316-18 S '50

METHYL allyl chlorides
Reactions of organometallic compounds; the reactions of phenyllithium and of *n*-butyllithium with α- and γ-methylallyl chlorides. S. J. Cristol, W. C. Overhults and J. S. Meek. bibliog Am Chem Soc J 73:813-15 F '51
Reactions of organometallic compounds; the reactions of phenylsodium with α- and γ-methylallyl chlorides. S. J. Cristol and W. C. Overhults. bibliog Am Chem Soc J 73:2932-3 Je '51

METHYLAMINE
Chemistry of indanthrone; the formation of dianthraquinonyl-*N*-methylamines. W. Bradley and E. Leete. Chem Soc J p2147-58 Ag '51
Effect of temperature on the photolysis of methylamine. C. I. Johnson and H. A. Taylor. J Chem Phys 19:613-17 My '51
Reaction of methylamine with nitroaminoguanidine. R. A. Henry and G. B. L. Smith. Am Chem Soc J 73:1858-9 Ap '51
Reactions of nitrous acid; the reaction of nitrous acid with methylamine. J. H. Dusenbury and R. E. Powell. Am Chem Soc J 73:3269-70 Jl '51
Syntheses with isotopic tracer elements; the preparation of methylamine and diazomethane labelled with carbon isotopes. J. D. Cox and R. J. Warne. diag Chem Soc J p 1896-7 Jl '51
Tris-(hydroxymethyl)-aminomethane derivatives; alkylation products. J. S. Pierce and J. Wotiz. Am Chem Soc J 73:2594 Je '51
Tris-(hydroxymethyl)-aminomethane derivatives; oxamides, ureas, oxazolidines and 1-aza-3,7-dioxabicyclo(3.3.0)octanes. J. S. Pierce and others. Am Chem Soc J 73:2595-6 Je '51
Tris-(hydroxymethyl)-aminomethane derivatives; substituted 4-hydroxymethyloxazolidines; ester and amide interchange. J. S. Pierce and C. D. Lunsford. Am Chem Soc J 73:2596-8 Je '51

Analysis

Separation and determination of ammonia in methylamine mixtures. J. L. Gove, H. Baum and E. L. Stanley. bibliog Anal Chem 23:721-4 My '51

METHYL anhydroalloside
Action of Grignard reagents on anhydrosugars of ethylene oxide type; the behaviour of derivatives of α-methyl-2 : 3-anhydroalloside towards methylmagnesium iodide. F. H. Newth, G. N. Richards and L. F. Wiggins. Chem Soc J p2356-64 S '50

METHYL aniline
Reactions of ethylene oxides; the reaction of epichlorohydrin with some aromatic amines. W. Davies and W. E. Savige. Chem Soc J p890-4 Mr '50

METHYL barbituric acid
Enzymatic formation of barbituric acid from uracil and of 5-methylbarbituric acid from thymine. O. Hayaishi and A. Kornberg. Am Chem Soc J 73:2975-6 Je '51

METHYL benzanthracene
Isocyanates of 9-methyl- and 9,10-dimethyl-1,2-benzanthracene. W. M. Smith, jr. E. F. Pratt and H. J. Creech. Am Chem Soc J 73:319-22 Ja '51

METHYL benzazulene
Cyclic conjugated polyenes; attempted synthesis of 6-methyl-4 : 5-benzazulene. J. R. Nunn. Chem Soc J p 1352-3 My '50

METHYL benzene. See Toluene

METHYL benzofluorene
Synthesis of 6-, 7- and 8-methyl-1,2-benzfluorenes. M. E. Gross and H. P. Lankelma. bibliog Am Chem Soc J 73:3439-42 Jl '51

METHYL benzofuran
Equilibrium between the *o*-allenylphenoxide and 2-benzofurylmethyl anions. R. Gaertner. bibliog Am Chem Soc J 73:4400-4 S '51

METHYL benzoic acid. See Toluic acid

METHYL benzophenone
Deuterium tracers in the Elbs reaction. C. D. Hurd and J. Azorlosa. bibliog Am Chem Soc J 73:37-41 Ja '51

METHYL benzoylbutyric acid
Stobbe condensation with methyl γ-benzoylbutyrate. D. L. Turner. bibliog Am Chem Soc J 73:3017-21 Jl '51

METHYL bromide
Effect of halogenation on the C—Br bond dissociation energy in halogenated bromomethanes. M. Szwarc and A. H. Sehon. bibliog diag J Chem Phys 19:656-7 My '51
Solubility of methyl bromide in water and in some fruit juices. G. P. Haight, jr. diag Ind & Eng Chem 43:1827-8 Ag '51
Some chemical problems in the use, as a fumigant, of methyl bromide labelled with ^{82}Br. F. P. W. Winteringham. diags Chem Soc J supp no 2:S416-20 '49
Structure of methyl bromide from microwave spectra. J. W. Simmons and W. O. Swan. Phys R 80:289-90 O 15 '50

METHYL bromide poisoning
Methyl bromide fumigation and control in the date-packing industry. F. R. Ingram. A M A Archives Ind Hygiene & Occup Med 4:193-8 S '51

METHYL butane
Rotational isomerism and thermodynamic functions of 2-methylbutane and 2,3-dimethylbutane; vapor heat capacity and heat of vaporization of 2-methylbutane. D. W. Scott and others. bibliog Am Chem Soc J 73:1707-12 Ap '51
Rotational isomerism in 2-methyl butane and 2:3-dimethyl butane. J. K. Brown and N. Sheppard. bibliog J Chem Phys 19:976-7 Jl '51

METHYL butene
Barbiturates containing the 3-methyl-2-butenyl group. H. Walton, J. Doczi and J. A. King. bibliog Am Chem Soc J 72:4319-20 S '50
α-Methylenic reactivity in olefinic systems; the structure of the dimeride formed by the stannic chloride-catalysed polymerisation of trimethylethylene; synthesis and characterisation of isomeric methyl hexyl ketones. J. W. Baker. Chem Soc J p 1302-9 My '50
Vapor pressure of *cis*-2-pentene, *trans*-2-pentene and 3-methyl-1-butene. D. W. Scott and G. Waddington. Am Chem Soc J 72:4310-11 S '50

METHYL butenyne
Investigations in the acetylene series; the reactions of 3-methyl-1-butyne-3-ol with phosphorus trichloride and of 3-methyl-3-buten-1-yne with hydrochloric acid. E. D. Bergmann and D. Herrman. Am Chem Soc J 73:4013-15 Ag '51

METHYL butynol
Investigations in the acetylene series; the reactions of 3-methyl-1-butyne-3-ol with phosphorus trichloride and of 3-methyl-3-buten-1-yne with hydrochloric acid. E. D. Bergmann and D. Herrman. Am Chem Soc J 73:4013-15 Ag '51

METHYL caprylic acid
Synthesis and configuration of (+)-6-methyloctanoic acid, a degradation product of the polymyxins. L. Crombie and S. H. Harper. Chem Soc J p2685-9 O '50

METHYL cellulose
Cellulose studies; the heterogeneous hydrolysis of trimethyl cellulose. R. Steele and E. Pacsu. bibliog il Textile Res J 19:771-83 D '49; Discussion. 21:168-9; Reply. 169 Mr '51

METHYL chloride
Apparent dipole moments of the chlorinated methanes in the liquid, dissolved, and gaseous states. G. A. Barclay and R. J. W. Le Fèvre. Chem Soc J p556-62 F '50
Intermolecular forces in methyl chloride. V. Myers and R. Peters. bibliog J Chem Phys 19:804-5 Je '51
Mercury photo-sensitized decomposition of methyl chloride. C. R. Masson and E. W. R. Steacie. bibliog J Chem Phys 19:183-9 F '51

METHYL chloroanilinoacrylate
Methyl β-(*m*-chloroanilino)-acrylate. F. W. Gray and others. Am Chem Soc J 73:3577-8 Ag '51

METHYL chloroform. See Trichloroethane

METHYL chloroformate
Electron diffraction investigation of methyl formate, methyl acetate and methyl chloroformate. J. M. O'Gorman, W. Shand, jr. and V. Schomaker. bibliog Am Chem Soc J 72:4222-8 S '50

METHYL chlorosilane
Bromination of methylchlorosilanes. J. L. Speier. Am Chem Soc J 73:826-7 F '51
Distillation of methylchlorosilanes. W. F. Gilliam and others. bibliog diags Am Chem Soc J 73:4252-5 S '51
Study of the chlorination of methylchlorosilanes. J. L. Speier. Am Chem Soc J 73:824-6 F '51

METHYL compounds
Binary systems of water with dodecylammonium chloride and its N-methyl derivatives. F. K. Broome, C. W. Hoerr and H. J. Harwood. Am Chem Soc J 73:3350-2 Jl '51
Thiohydantoins; the *N*- and *S*-methyl derivatives of 5 : 5-disubstituted hydantoins and their mono- and di-thio-analogues. H. C. Carrington and W. S. Waring. Chem Soc J p354-66 Ja '50
Trimethylgallium; the relative stabilities of its coordination compounds with the methyl derivatives of groups VB and VIB, and the thermal decomposition of some trimethylgallium-amine complexes. G. E. Coates. diag Chem Soc J p2003-13 Ag '51
See also
Methyl group

METHYL crotonaldehyde
β-Methylcrotonaldehyde. N. L. Wendler and H. L. Slates. Am Chem Soc J 72:5341 N '50

METHYL cyanide. See Acetonitrile

METHYL cyclohexane
Chromyl chloride oxidation of methylcyclohexane. A. Tillotson and B. Houston. bibliog Am Chem Soc J 73:221-2 Ja '51
Distillation in 2, 4 and 5.75 inch diameter packed columns. A. C. Heinlein and others. Chem Eng Prog 47:344-6 Jl '51
Reactions of organic peroxides; oxidation of methyl*cyclo*pentane and methyl*cyclo*hexane. E. J. Gasson and others. Chem Soc J p2798-801 O '50
Reactions of organic peroxides; reactions of methyl*cyclo*pentyl and methyl*cyclo*hexyl hydroperoxides. E. G. E. Hawkins. Chem Soc J p2801-4 O '50

METHYL cyclohexanone
Condensation of 2-dimethylaminomethyl-*cyclo*hexan-1-one with acetylenic compounds. R. A. Raphael and F. Sondheimer. Chem Soc J p3185-7 N '50

METHYL cyclohexene
Hydrogen transfer; reaction of *m*-cymene and *o*-cymene with methylcyclohexene in the presence of hydrogen fluoride. H. Pines, D. R. Strehlau and V. N. Ipatieff. bibliog Am Chem Soc J 72:5521-3 D '50
Rearrangement of 4-methylcyclohexene during sulfuric acid-catalyzed reaction with benzene. J. Linsk. Am Chem Soc J 72:4257-60 S '50
Structure of 1-acetyl-2-methylcyclohexene; spectral characteristics of *s-cis*-α,β-unsaturated ketones. R. B. Turner and D. M. Voitle. bibliog diags Am Chem Soc J 73:1403-10 Ap '51

METHYL cyclohexenone
New methods of preparation of 2-methyl-2-cyclohexen-1-one. W. W. Rinne and others. Am Chem Soc J 72:5759-60 D '50

METHYL cyclopentane

Dehydrogenation of methylcyclopentane over chromia-alumina catalysts. H. Heinemann. bibliog Ind & Eng Chem 43:2098-101 S '51

Isobaric heat capacities at bubble point; *n*-hexane, methylcyclopentane, and *n*-octane. T. J. Connolly, B. H. Sage and W. N. Lacey. bibliog Ind & Eng Chem 43:946-50 Ap '51

Isomerization of saturated hydrocarbons; the effect of light upon the isomerization of methylcyclopentane in the presence of aluminum bromide-hydrogen bromide. H. Pines, E. Aristoff and V. N. Ipatieff. Am Chem Soc J 72:4055-6 S '50

Isomerization of saturated hydrocarbons; the effect of oxygen and light upon the isomerization of methylcyclopentane in the presence of aluminum bromide. H. Pines, E. Aristoff and V. N. Ipatieff. Am Chem Soc J 72:4304 S '50

Reaction of methylcyclopentane with Hg 6($^3P_1$) atoms. M. Schlochauer and H. E. Gunning. bibliog J Chem Phys 19:474-81 Ap '51

Reactions of organic peroxides; oxidation of methyl*cyclo*pentane and methyl*cyclo*hexane. E. J. Gasson and others. Chem Soc J p2798-801 O '50

Reactions of organic peroxides; reactions of methyl*cyclo*pentyl and methyl*cyclo*hexyl hydroperoxides. E. G. E. Hawkins. Chem Soc J p2801-4 O '50

Vapour-phase oxidation of methyl*cyclo*pentane. J. H. Burgoyne and J. A. Silk. Chem Soc J p572-84 F '51

METHYL cyclopropane

Isomerization accompanying alkylation; reaction of benzene with methylcyclopropane, ethylcyclopropane and with dimethylcyclopropanes. H. Pines, W. D. Huntsman and V. N. Ipatieff. bibliog Am Chem Soc J 73:4343-7 S '51

METHYL cytosine

Isolation and identification of desoxy-5-methylcytidylic acid from thymus nucleic acid. W. E. Cohn. bibliog Am Chem Soc J 73:1539-41 Ap '51

Synthesis of nucleosides of cytosine and 5-methylcytosine. J. J. Fox and I. Goodman. bibliog Am Chem Soc J 73:3256-8 Jl '51

METHYL diacetyl threuronic acid

Decarboxylation of methyl diacetyl-L-threuronate. M. Ikawa and K. P. Link. Am Chem Soc J 72:4287-8 S '50

METHYL diethanolamine

Selective absorption of hydrogen sulfide from gas streams. H. D. Frazier and A. L. Kohl. bibliog flow diag il diag Ind & Eng Chem 42:2288-92 N '50

METHYL diphenylarsine

Studies in co-ordination chemistry; the structure of the blue and the brown cuprous-cupric complexes of methyldiphenylarsine. R. S. Nyholm. Chem Soc J p 1767-74 Jl '51

METHYL ether

Synthesis of racemic β-Δ^6-dihydrodesoxycodeine methyl ether. M. Gates and G. Tschudi. Am Chem Soc J 72:4839-40 O '50

METHYL ethyl ketone. See Butanone

METHYL ethyl pyridine

Carbide & Carbon pyridine-base plant to meet new vitamin needs. Chem & Eng N 29:3539 Ag 27 '51

METHYL ethyl sulfide

Thermodynamic properties and rotational isomerism of 2-thiabutane. D. W. Scott and others. bibliog Am Chem Soc J 73:261-5 Ja '51

METHYL fluoroacetate

Analysis

Determination of fluorine in monofluorinated organic compounds in air and water. J. M. Salsbury and others. bibliog il diag Anal Chem 23:603-8 Ap '51

METHYL fluoroform. See Trifluoromethane

METHYL formate

Electron diffraction investigation of methyl formate, methyl acetate and methyl chloroformate. J. M. O'Gorman, W. Shand, jr. and V. Schomaker. bibliog Am Chem Soc J 72:4222-8 S '50

METHYL furoate

Organic-vapor transmission test; General Foods methyl furoate method. T. J. Muldoon and others. diag Mod Packaging 24:123-6 Ja '51

METHYL glucopyranoside

Studies of trifluoroacetic acid; the use of 4 : 6-benzylidene trifluoroacetyl methyl-α-D-glucopyranoside in the synthesis of 2- and 3-substituted glucoses. E. J. Bourne and others. Chem Soc J p826-33 Mr '51

METHYL glutaconic acid

Synthesis of 4-carboxyvitamin-A acid. V. Petrow and O. Stephenson. Chem Soc J p 1310-15 My '50

METHYL group

Carbon-sulphur fission in thio-ethers; the retarding influence of α-methyl groups and of the length of the acid chain on the alkaline hydrolysis of (2-ketoalkylthio)- and (*p*-nitrotriphenylmethylthio)-acetic acids. Y. Iskander and R. Tewfik. Chem Soc J p2050-3 Ag '51

Carbon-sulphur fission in thio-ethers; the retarding influence of α-methyl groups and of the length of the acid chain on the alkaline hydrolysis of (nitrobenzylthio) acetic acids. Y. Iskander and Y. Riad. Chem Soc J p2054-8 Ag '51

Chloromycetin (chloramphenicol); the synthesis of 3-methyl and 3-*p*-nitrophenyl substituted compounds. M. C. Rebstock. Am Chem Soc J 73:3671-4 Ag '51

Effect of α-methyl substituents on the anhydridization of aliphatic dibasic acids. R. Adams and J. L. Anderson. bibliog Am Chem Soc J 73:136-41 Ja '51

One-carbon compounds in the biosynthesis of the biologically labile methyl group. V. du Vigneaud and others. bibliog Am Chem Soc J 73:2782-5 Je '51

Oxidation of free methyl radicals. J. H. Raley and others. bibliog Am Chem Soc J 73:15-17 Ja '51

Photolysis of acetone; diffusion of methyl radicals from the light beam and the activation energy of hydrogen abstraction. A. J. C. Nicholson. bibliog Am Chem Soc J 73:3981-6 Ag '51

Reaction of methyl radicals with olefins; the reaction with tetrafluoroethylene and vinyl fluoride. F. A. Raal and C. J. Danby. Chem Soc J p 1596-9 Je '50

Reactions of methyl radicals; abstraction of hydrogen atoms from olefins. A. F. Trotman-Dickenson and E. W. R. Steacie. bibliog J Chem Phys 19:169-71 F '51

Reactions of methyl radicals; abstraction of hydrogen atoms from paraffins. A. F. Trotman-Dickenson and others. J Chem Phys 19:163-8 F '51

Reactions of methyl radicals; the abstraction of hydrogen atoms from cyclic hydrocarbons, butynes, amines, alcohols, ethers, and ammonia. A. F. Trotman-Dickenson and E. W. R. Steacie. bibliog J Chem Phys 19:329-36 Mr '51

Studies in the cyanine dye series; reactivity of the methyl group in quaternary salts of 3-methylisoquinoline. L. G. S. Brooker and F. L. White. Am Chem Soc J 73:1094-7 Mr '51

METHYL halides

Microwave determination of centrifugal distortion constants of CH_3Cl, CH_3Br, CH_3I, BrCN, and ICN. J. W. Simmons and W. E. Anderson. bibliog Phys R 80:338-42 N 1 '50

METHYL hendecadienoate

Methyl 8,10-hendecadienoate. L. Haskelberg. Am Chem Soc J 73:4035-6 Ag '51

METHYL hydracrylate

β-Propiolactone; mechanisms involved in the reaction of β-propiolactone with acids and bases. P. D. Bartlett and P. N. Rylander. Am Chem Soc J 73:4273-4 S '51

METHYL hydrazine

Heat capacity, heats of fusion and vaporization, vapor pressures, entropy and thermodynamic functions of methylhydrazine. J. G. Ashton and others. bibliog diags Am Chem Soc J 73:1939-43 My '51

Infrared and Raman spectra of methylhydrazine and symmetrical dimethylhydrazine. D. W. E. Axford and others. J Chem Phys 19:704-7 Je '51

METHYL indanol

Studies on the mechanism of Chugaev and acetate thermal decompositions; *cis* and *trans*-2-methyl-1-indanol. E. R. Alexander and A. Mudrak. bibliog diags Am Chem Soc J 73:59-62 Ja '51

METHYL indanone

Thiophene isostere of 2-methyl-1-indanone. J. H. Burckhalter and J. Sam. Am Chem Soc J 73:4460 S '51

METHYL iodide

Half-life of I^{129} and the age of the elements. S. Katcoff and others. bibliog Phys R 82: 688-90 Je 1 '51

Hot radical reactions in the photolysis of methyl and ethyl iodides in the liquid phase. W. H. Hamill and R. H. Schuler. bibliog Am Chem Soc J 73:3466-70 Jl '51

Kinetics of the recombination of methyl radicals and iodine atoms. R. A. Marcus and O. K. Rice. bibliog J Phys & Colloid Chem 55:894-908 Je '51

Reactions of radicals produced by the action of sodium on alkyl iodides. A. A. Comstock and G. K. Rollefson. bibliog diags J Chem Phys 19:441-6 Ap '51

METHYL isobutyl ketone

Composition of vapors from boiling solutions; systems containing acetone, chloroform, and methyl isobutyl ketone. A. E. Karr and others. bibliog Ind & Eng Chem 43:961-8 Ap '51

Separation of chromium and vanadium salts by liquid-liquid extraction. A. E. Weinhardt and A. N. Hixson. bibliog Ind & Eng Chem 43:1676-84 Jl '51

Analysis

Analysis of binary and ternary mixtures; system acetone-chloroform-methyl isobutyl ketone. A. E. Karr, W. M. Bowes and E. G. Scheibel. bibliog diag Anal Chem 23: 459-63 Mr '51

METHYL isopropylphenanthrene

Syntheses in the phenanthrene series; 1-methyl-8-*iso*propylphenanthrene. W. F. Short and H. Wang. Chem Soc J p991-4 Mr '50

METHYL isoquinoline

Color and constitution; absorption of cyanines derived from 3-methylisoquinoline; a rule relating basicity and absorption in symmetrical cyanines. L. G. S. Brooker, F. L. White and R. H. Sprague. Am Chem Soc J 73:1087-93 Mr '51

Studies in the cyanine dye series; reactivity of the methyl group in quaternary salts of 3-methylisoquinoline. L. G. S. Brooker and F. L. White. Am Chem Soc J 73: 1094-7 Mr '51

METHYL juloline

5-Keto-7-methyljuloline and certain derivatives. D. J. Cook, D. Dock and R. Shrontz. bibliog Am Chem Soc J 72:4989-91 N '50

METHYL ketene

Formation of methylketene in the photolysis of diethyl ketone. W. S. Haynes and P. D. Gardner. bibliog Am Chem Soc J 73:3065-7 Jl '51

METHYL linoleate

Reactions of tertiary butyl hypochlorite with vegetable oils and their derivatives; conversion of alkyl oleates and methyl linoleate to derivatives of ketostearic acids. H. M. Teeter and others. bibliog Am Chem Soc J 73:2302-3 My '51

METHYL lyxopyranoside

Reaction of tribenzoyl-α-D-lyxopyranosyl bromide with methanol. H. G. Fletcher, jr., R. K. Ness and C. S. Hudson. Am Chem Soc J 73:3698-9 Ag '51

METHYL magnesium iodide

Action of Grignard reagents on anhydrosugars of ethylene oxide type; the behaviour of derivatives of α-methyl-2 : 3-anhydroalloside towards methylmagnesium iodide. F. H. Newth, G. N. Richards and L. F. Wiggins. Chem Soc J p2356-64 S '50

Action of methylmagnesium iodide on substituted pyrrolines and related substances. P. M. Maginnity and J. B. Cloke. bibliog Am Chem Soc J 73:49-51 Ja '51

METHYL mercaptan. See Methanethiol

METHYL methacrylate. See Methacrylates

METHYL naphthol

Action of methylsuccinic anhydride on certain xylenols, and synthesis of some trimethylnaphthols. W. Cocker, A. K. Fateen and C. Lipman. Chem Soc J p926-9 Ap '51

METHYL nitrate

Inflammation of methyl and ethyl nitrate vapours; characteristics of the explosion process and intermediate reactions involving nitrogen dioxide. P. Gray and A. D. Yoffe. diag Chem Soc J p3180-5 N '50

METHYL octadecanoic acid. See Tuberculostearic acid

METHYL octalindione

Δ^4-9-Methyloctalin-3,8-dione. N. L. Wendler, H. L. Slates and M. Tishler. Am Chem Soc J 73:3816-18 Ag '51

METHYL oleate

Analysis of fat acid oxidation products by countercurrent distribution methods; methyl oleate. J. Fugger and others. bibliog Am Chem Soc J 73:2861-4 Je '51

Chemistry of epoxy compounds; cooxidation of aldehydes and oleic acid, methyl oleate or oleyl alcohol. D. Swern and T. W. Findley. bibliog Am Chem Soc J 72:4315-16 S '50

Mechanism of autoxidation of monoethenoid fatty acids and their derivatives. J. H. Skellon and A. Gordon. bibliog Chem & Ind p629-32 Jl 21 '51

METHYL orange

Colorimetric determination of alkaloids in tissues by means of methyl orange. A. O. Gettler and I. Sunshine. bibliog Anal Chem 23:779-81 My '51

Competition in the binding of long chain fatty acids and methyl orange to bovine serum albumin. G. E. Cogin and B. D. Davis. bibliog Am Chem Soc J 73:3135-8 Jl '51

METHYL oxalate

Condensation of acetylenes with esters; 3-dialkylamino-1-propynes with alkyl carbonates and alkyl benzoates and phenylacetylene with methyl oxalate. W. J. Croxall, J. O. Van Hook and H. J. Schneider. Am Chem Soc J 73:2713-16 Je '51

METHYL penaldic acid

Homologs of penicillin degradation products; α-methylpenaldic acid derivatives. H. E. Stavely and M. Berestecki. Am Chem Soc J 73:3448-50 Jl '51

METHYL pentane

Raman spectra of hydrocarbons; *n*-hexane, *n*-heptane, 2-methylpentane, 3-methylpentane, 2,4-dimethylpentane, and 2,3-dimethylbutane. F. F. Cleveland and P. Porcelli. bibliog J Chem Phys 18:1459-61 N '50

METHYL pentanediol

3,6-Dihydro-2,4,6-trimethyl-2H-pyran, a product of the dehydration of 2-methyl-2,4-pentanediol. S. A. Ballard, R. T. Holm and P. H. Williams. bibliog Am Chem Soc J 72:5734-8 D '50

Synthesis of substituted pyrans. P. H. Williams, G. G. Ecke and S. A. Ballard. bibliog Am Chem Soc J 72:5738-43 D '50

METHYL pentanone

Catalytic hydrogenation of 3 : 4-epoxido-4-methyl-2-pentanone. E. D. Bergmann. bibliog J Ap Chem 1:380-2 S '51

METHYL phenylindan

Studies on the structure and oxidation products of 1-methyl-3-phenylindane, a dimer of styrene. P. E. Spoerri and M. J. Rosen. bibliog Am Chem Soc J 72:4918-20 N '50

Sulfonation of 1-methyl-3-phenylindane, a dimer of styrene. M. J. Rosen and P. E. Spoerri. bibliog Am Chem Soc J 73:2095-8 My '51

METHYL phenylpiperidone

Piperidine derivatives; 1-methyl-4-phenyl-3-piperidone and related products. S. M. McElvain and P. M. Laughton. Am Chem Soc J 73:448-52 Ja '51

METHYL phenylsiloxanes. See Siloxanes

METHYL phthalate

Pyrolysis of methyl phthalate. R. P. Zelinski, J. T. Siedlecki and A. L. Andersen, jr. bibliog Am Chem Soc J 72:5503-5 D '50

METHYL phthalic anhydride

Behavior of 3-methylphthalic anhydride in Friedel-Crafts and Grignard condensations. M. S. Newman and C. W. Muth. Am Chem Soc J 72:5191-3 N '50

METHYL propanol

Kinetics of anionotropic rearrangement; the effects of polycyclic aromatic substituents on reactivity; a comparison of the electronic properties of the phenyl, 1-naphthyl, 2-naphthyl, 9-anthryl, and 9-phenanthryl groups. E. A. Braude and J. S. Fawcett. Chem Soc J p800-8 Mr '50

METHYL propenol

Acid-catalyzed esterification of lactic acid with β-methallyl alcohol. N. G. Gaylord. bibliog Am Chem Soc J 72:5316-17 N '50

Studies in molecular rearrangements; oxotropic rearrangements in the polycyclic aromatic series. E. A. Braude, J. S. Fawcett and D. D. E. Newman. Chem Soc J p793-9 Mr '50

METHYL pyrazine

Vinylpyrazine. L. J. Kitchen and E. S. Hanson. Am Chem Soc J 73:1838-9 Ap '51

METHYL pyridine

Neopyrithiamine; the synthesis of 2-methyl-3-(β-hydroxyethyl)-pyridine. A. N. Wilson and S. A. Harris. Am Chem Soc J 73:2388-90 My '51

Partition studies; partition coefficients and ionization constants of methyl-substituted pyridines and quinolines. C. Golumbic and M. Orchin. bibliog Am Chem Soc J 72:4145-7 S '50

METHYL pyrimidine

Investigation of the reactions of phenyllithium with some methylpyrimidines. T. D. Heyes and J. C. Roberts. Chem Soc J p328-31 F '51

METHYL pyrrole

Isolation and identification of pyrrole and 2-methylpyrrole from shale oil. A. G. Janssen and others. Am Chem Soc J 73:4040-1 Ag '51

METHYL quinoline

Partition studies; partition coefficients and ionization constants of methyl-substituted pyridines and quinolines. C. Golumbic and M. Orchin. bibliog Am Chem Soc J 72:4145-7 S '50

METHYL quinolone

Apparent ionization exponents of 4-hydroxyquinoline, 4-methoxyquinoline and N-methyl-4-quinolone; evaluation of lactam-lactim tautomerism. G. F. Tucker, jr. and J. L. Irvin. bibliog Am Chem Soc J 73:1923-9 My '51

METHYL safranal

Studies of compounds related to natural perfumes; the Diels-Alder reaction with acetylenic aldehydes; the synthesis of 4-methylsafranal. J. C. Lunt and F. Sondheimer. Chem Soc J p3361-7 D '50

METHYL silane

Microwave spectroscopic evidence for internal rotation in methyl silane. D. R. Lide and D. K. Coles. Phys R 80:911 D 1 '50

METHYL siloxanes. See Siloxanes

METHYL stearate

Analysis of fat acid oxidation product by countercurrent distribution methods; model compounds. K. T. Zilch and H. J. Dutton. bibliog Anal Chem 23:775-8 My '51

METHYL styrene

Heat of polymerization of alpha-methylstyrene from heats of combustion of monomer and four polymer fractions. D. E. Roberts and R. S. Jessup. bibliog J Res Nat Bur Stand 46:11-17 Ja '51

Reactions of organic peroxides; reactions of αα-dimethylbenzyl hydroperoxide (*iso*-propylbenzene hydroperoxide). E. G. E. Hawkins. Chem Soc J p2169-73 Ag '50

Some disubstituted α-methylstyrenes and their polymerization characteristics and a comparative study of the refractive indexes of substituted styrenes and α-methylstyrenes. G. H. Stempel, jr. and others. bibliog Am Chem Soc J 73:455-6 Ja '51

METHYL styrene oxide

Friedel-Crafts reaction with disubstituted ethylene oxides; α-methylstyrene oxide. W. T. Somerville and P. E. Spoerri. bibliog Am Chem Soc J 73:697-9 F '51

METHYL succinic anhydride

Action of methylsuccinic anhydride on certain xylenols, and synthesis of some trimethylnaphthols. W. Cocker, A. K. Fateen and C. Lipman. Chem Soc J p926-9 Ap '51

METHYL sulfamylbenzoic acid

Methods of resolution; *N*-(—)-methyl-*p*-sulphamylbenzoic acid. B. A. Everard and J. A. Mills. Chem Soc J p3386-9 D '50

METHYL thiophene

Nitration of 5-methyl-2-thenoic acid. E. Campaigne and H. G. Grose. Am Chem Soc J 73:3812-14 Ag '51

Some derivatives of 2- and 3-methylthiophene. T. W. Campbell and W. W. Kaeding. Am Chem Soc J 73:4018-19 Ag '51

METHYL tropolone

Purpurogallin; nitration and nitrosation of β-methyltropolone. R. D. Haworth and P. R. Jefferies. Chem Soc J p2067-71 Ag '51

METHYLAL

Vapor-liquid equilibria in binary systems; systems involving *cis*- or *trans*-dichloroethylene and an acetal or ether. D. G. Flom, N. Alpert and P. J. Elving. diag Ind & Eng Chem 43:1178-81 My '51

METHYLATION

Arylmethylation of benzene derivations. C. M. Welch and H. A. Smith. bibliog Am Chem Soc J 73:4391-3 S '51

Cherry gum; an examination of the products of hydrolysis of methylated degraded cherry gum, using the method of paper partition chromatography. J. K. N. Jones. Chem Soc J p3141-5 D '49

Constitution of guar gum. C. M. Rafique and F. Smith. bibliog Am Chem Soc J 72:4634-7 O '50

Cyclic sulfones; methylation of 2,5-diphenyl-3,4-dihydroxythiophene-1-dioxide with methyl sulfate and diazomethane. C. G. Overberger and J. M. Hoyt. bibliog Am Chem Soc J 73:3305-8 Jl '51

3 : 4-Dimethyl L-fucose and 2 : 3-dimethyl L-rhamnose. E. E. Percival and E. G. V. Percival. Chem Soc J p690-1 F '50

Effect of varying the cation in some organic reactions requiring an alkaline medium. O. L. Brady and J. Jakobovits. Chem Soc J p767-77 Mr '50

Enzymic synthesis and degradation of starch; methylation and end-group assay of some synthetic polysaccharides. S. A. Barker, E. J. Bourne and I. A. Wilkinson. pl Chem Soc J p3027-30 N '50

Fucoidin; the hydrolysis of a methylated fucoidin prepared from fucus vesiculosus. J. Conchie and E. G. V. Percival. Chem Soc J p827-32 Mr '50

Methylation and ethylation of corn starch, amylose and amylopectin in liquid ammonia. J. E. Hodge, S. A. Karjala and G. E. Hilbert. bibliog Am Chem Soc J 73:3312-16 Jl '51

Methylation of 5-phenyltetrazole. R. A. Henry. Am Chem Soc J 73:4470 S '51

Preparation of demerol-N-methyl-C^{14} by reductive methylation. W. Tarpey and others. diag Am Chem Soc J 72:5126-7 N '50

Quantitative analysis of mixtures of sugars by the method of partition chromatography; improved methods for the separation and detection of the sugars and their methylated derivatives on the paper chromatogram. L. Hough, J. K. N. Jones and W. H. Wadman. Chem Soc J p 1702-6 Jl '50

Reductive methylation of amines. D. E. Pearson and J. D. Bruton. Am Chem Soc J 73:864 F '51

Structure of sterculia setigera gum; an investigation by the method of paper partition chromatography of the products of hydrolysis of the methylated gum. L. Hough and J. K. N. Jones. Chem Soc J p 1199-203 Ap '50

N-Substituted amino-acids; a new method of preparation of dimethylamino-acids. R. E. Bowman and H. H. Stroud. Chem Soc J p 1342-5 My '50

Synthesis of a cyclopropane derivative through exhaustive methylation. H. Rinderknecht and C. Niemann. Am Chem Soc J 73:4259-60 S '51

Synthesis of amidinium salts. C. G. Raison. Chem Soc J p3319-26 D '49

METHYLENE

Antituberculous compounds; *p*-(ω-alkoxyalkoxy)-*N*-arylbenzamidines and analogues. F. C. Cooper and M. W. Partridge. Chem Soc J p459-64 F '50

METHYLENE—*Continued*

Calculation of the latent heat of sublimation of carbon and the first C—H dissociation energy in methylene from electron impact data. F. H. Field. bibliog J Chem Phys 19:793 Je '51

Interpretation of the CH_2 vibrational frequencies of *n*-paraffins. G. B. Barrow. bibliog J Chem Phys 19:345-6 Mr '51

METHYLENE chloride

Apparent dipole moments of the chlorinated methanes in the liquid, dissolved, and gaseous states. G. A. Barclay and R. J. W. Le Fèvre. Chem Soc J p556-62 F '50

METHYLENE compounds

β-Propiolactone; reactions with compounds containing active methylenic hydrogen. T. L. Gresham and others. Am Chem Soc J 73:2345-7 My '51

Study of the alkylation of active methylene compounds using 2-(β-dimethylaminoethyl)-quinoline. V. Boekelheide and G. Marinetti. Am Chem Soc J 73:4015-16 Ag '51

METHYLENE group

Deoxy-sugars; experiments with the *O*- and *N*-glycosides of some deoxy-sugars. K. Butler and others. Chem Soc J p 1433-9 Je '50

Hyperconjugative effect of methylene groups in 5-indanylphenylchloromethane and 5,6,7,8-tetrahydro-2-naphthylphenylchloromethane. R. T. Arnold, K. Murai and R. M. Dodson. bibliog Am Chem Soc J 72:4193-5 S '50

Stereochemical studies of olefinic compounds; ring scission of 2-1′-halogenoalkyltetrahydrofurans and 3-halogeno-2-alkyltetrahydropyrans as a route to alk-4-en-1-ols of known configuration and as a method of chain extension by five methylene groups. L. Crombie and S. H. Harper. Chem Soc J p 1707-14 Jl '50

Stereochemical studies of olefinic compounds; ring-scission of 3-halogeno-2-alkyltetrahydrofurans as a route to alk-3-en-1-ols of known configuration and as a method of chain extension by four methylene groups. L. Crombie and S. H. Harper. Chem Soc J p 1714-22 Jl '50

METHYLENIMINE

Action of hydrogen sulphide on certain methyleneimines. E. R. Braithwaite and J. Graymore. Chem Soc J p208-10 Ja '50

Action of methylmagnesium iodide on substituted pyrrolines and related substances. P. M. Maginnity and J. B. Cloke. bibliog Am Chem Soc J 73:49-51 Ja '51

Azomethine dyes; color and constitution of pyrazolone azomethine dyes. G. H. Brown and others. bibliog Am Chem Soc J 73:919-26 Mr '51

Formation of azomethine dyes from 4-anisylidene- and 4,4′-anisylidene-bispyrazolones. G. W. Sawdey, M. K. Ruoff and P. W. Vittum. bibliog Am Chem Soc J 72:4947-9 N '50

Triad prototropic systems; the mobility of the azomethine system during decarboxylation. F. G. Baddar. Chem Soc J p 136-9 Ja '50

METHYLOL compounds

Analysis

Simple methylol determination. R. W. Martin. bibliog Anal Chem 23:883-4 Je '51

METHYLOLAMINES

3,4-Dihydro-1,3,2H-benzoxazines; reaction of polyhydroxybenzenes with N-methylolamines. W. J. Burke and C. Weatherbee. Am Chem Soc J 72:4691-4 O '50

METLBOND. See Adhesives

METOPON

Structure of morphine and its derivative metopon. L. J. Sargent and L. F. Small. Science 112:473 O 20 '50

METRIC system

Freedom to measure yards or metres? H. S. Rowell. Engineering 171:744-6 Je 22 '51

Weights and measures; case for gradual transition to metric system. Economist 160:1149 My 19 '51

METROLOGY. See Mensuration

METROPOLITAN districts

Census data for 22 new standard metropolitan areas. Ptr Ink 234:29 F 9 '51

Changes in rural and urban America; the new urbanized areas. V. D. Reed. map Adv Agency 44:58-9+ Je '51

Concentration of American market in metropolitan areas. W. Alderson. Ptr Ink 233:27-31+ O 27 '50

Concentration of the American wholesale and retail markets in metropolitan areas. W. Alderson and L. Kent. Ptr Ink 235:29-32+ Ap 13 '51

Cream of your market; new standard metropolitan areas. V. D. Reed. map Adv Agency 44:54-5+ My '51

First detailed census analysis will give retail data by areas, districts; Philadelphia study. E. J. Dever, jr. Ptr Ink 236:40 S 14 '51

Housing and population in metropolitan areas. M. F. Carney. Mo Labor R 72:22-3 Ja '51

How dead is the 1948 census of business? metropolitan area sales, 1950 vs. 1948. Sales Management 67:54-6+ S 1 '51

Major American markets; official census figures for each of the new 168 metropolitan areas. il maps Ptr Ink 235:25-314 My 25 '51

Metropolitan America; how its changed since '39. Sales Management 65:136+ N 10 '50

New home financing in nine large city areas. D. K. Newman. Mo Labor R 71:673-5 D '50

New housing in metropolitan areas; structural characteristics of new one-family houses started July-December 1949. D. K. Newman. Mo Labor R 71:429-32 O '50

Population shifts in metropolitan areas, 1940-1950. Sales Management 66:70+ Ja 1 '51

See also

Shopping areas

METROPOLITAN Edison company

Bonds offered. Comm & Fin Chr 172:2381 D 18 '50

METROPOLITAN life insurance company

Metropolitan payments in 1950 exceeded $837 million. East Underw 52:1+ Mr 2 '51

Policyholders' service bureau

Free bonus; business advice; Metropolitan Life helps solve management problems for its corporate group-insurance policyholders. il Bsns W p72+ D 16 '50

METROPOLITAN news company

Half-century old. R. Erwin. Ed & Pub 83:52 D 23 '50

MEXICANS in the United States

Drying wetbacks; U.S., Mexico to discuss flow of labor into Southwest. Bsns W p 127 Jl 21 '51

MEXICO

See also

Antimony mines and mining—Mexico
Architecture, Domestic—Mexico
Ceramic industries—Mexico
Cotton trade—Mexico
Guadalajara, Mexico
Immigration and emigration—Mexico
Irrigation—Mexico
Paper mills—Mexico
Petroleum industry and trade—Mexico
Puerto Peñasco, Mexico

Antiquities

Radiocarbon age measurements and fossil man in Mexico. H. de Terra. Science 113:124-5 F 2 '51

Commercial policy

Tariffs and trade controls. For Comm W 41:14-15 D 18 '50; 42:13 Ja 8; 15-16 Ja 15; 18-19 Mr 26; 43:13-14 Ap 23; 16-17 Ap 30; 16-17 My 14; 15 My 28; 44:21-2 S 3; 45:12-13 O 15 '51

Economic conditions

Aleman's Mexico rides high. Bsns W p 117-18 O 28 '50

Mexico makes favorable progress in 1950. L. B. Clark. il For Comm W 42:3-5+ Mr 19 '51

Mexico's booming economy. V. L. Horoth. map Mag of Wall St 87:271-3 D 16 '50

News by countries. For Comm W 40:17-18 S 11; 41:16-17 O 9; 14-15 N 6 '50; 42:16-17 Ja 1; 15-16 Ja 15; 17 Mr 12; 43:17-18 Ap 16; 14-15 My 28; 44:16-17 Jl 9; 12-13 Jl 23; 14 S 10; 17-18 S 24 '51

Economic policy

Executive branch granted extensive powers to regulate national economy. For Comm W 42:16 F 5 '51

National price commission established. For Comm W 42:23 F 19 '51

MEXICO—*Continued*

Economic relations

United States

Aleman's Mexico rides high. Bsns W p 117-18 O 28 '50

Industries and resources

See also

Syntex, S.A., Mexico city

MEXICO (city)

Water supply

Water for thirsty Mexico city. il Bsns W p 176 O 6 '51

MEYER, Kurt Heinrich, 1883-

Kurt H. Meyer. R. E. Oesper. por J Chem Educ 27:665 D '50

MEZCALINE. See Mescaline

MIAMI, Florida

Miami suffers slight structural damage in severe hurricane. E. A. Anderson and H. S. Saffir. il Civil Eng 20:774-6 D '50

See also

Building—Miami

Streets

No longer such thing as secondary street. R. A. Williams. Roads & Sts 93:92-4 N '50

Water supply

Miami's Hialeah treatment plant, 1951. C. R. Henry. bibliog flow plan il Water & Sewage Works 98:143-8 Ap '51

MIAMI BEACH, Florida

Hotels, restaurants, etc.

Golden Strand hotel. il plans Arch Rec 109:132-5 My '51

MIAMI river

Mobile laboratory survey. B. M. McDill. il maps Sewage & Ind Wastes 22:1464-74 N '50

MICA

Colorado pegmatite deposit yields beryl and mica. C. A. Wemlinger. il Eng & Min J 151:92-4 N '50

Crystal chemistry in ceramics; the clays and mica. W. E. Hauth, jr. diags Am Cer Soc Bul 30:140-2 Ap 15 '51

Geology, mining, and uses of strategic pegmatites. R. H. Jahns. bibliog il map Min Eng 190:Trans 49-51 Ja '51

Indian mica exports increasing. For Comm W 41:19 O 30 '50

Inorganic paper from glass fibers and from mica. il Chem Ind W 68:20+ Mr 31 '51

Mica and beryl pegmatites in Idaho and Montana. W. C. Stoll. maps plans diags U S Geol S Professional Pa 229:1-64, pl 1-9 pa $1.50 Supt. of doc. '50

Mica deposits in Minas Gerais, Brazil. W. T. Pecora and others. il map plans diags U S Geol S Bul 964-C:205-305, pl 14-17[in pocket] bibliog(p295-7); pa 60c Supt. of doc. '50

New method for recovery of flake mica. R. Adair and others. flow sheets Min Eng 3:Trans 252-4 Mr '51

Pegmatites of the Van Horn mountains, Texas. P. T. Flawn. bibliog il pl map diags Econ Geol 46:163-92 Mr '51

Spectroscopy in infrared by reflection and its use for highly absorbing substances. I. Simon. bibliog il diags Opt Soc Am J 41:336-45 My '51

Stability of mica standards of capacitance. G. H. Rayner and L. H. Ford. J Sci Instr 28:168-71 Je '51

Westinghouse reports high durability for mica based paint system. J. G. Ford and A. J. Kuti. il Paint Oil & Chem R 113:12+ D 21 '50; Same cond. Materials & Methods 32:58-61 N '50; Same cond. Steel 127:56-8 O 30 '50; Same cond. Westinghouse Eng 11:42-5 Mr '51

See also

Lepidolite

MICA, Substitutes for

Improved terratex. A. P. Haase and E. B. Fehr. Electronics 24:196+ Jl '51

MICARTA

Decorative Micarta for the fireproof superliner United States. il Westinghouse Eng 11:102 My '51

Making Micarta spinning buckets; illustrations with text. L. E. Caldwell. Rayon 31:41 O '50

MICE

Average body temperature in mice. J. S. Hart. bibliog Science 113:325-6 Mr 23 '51

Mouth-swabbing technique for the laboratory mouse. C. A. Ostrom and F. C. Hauth. diags Science 112:721-2 D 15 '50

MICELLES

Conductometric studies of solubility and micelle formation. D. N. Eggenberger and H. J. Harwood. Am Chem Soc J 73:3353-5 Jl '51

Determination and significance of polarographic critical micelle concentrations. E. L. Colichman. bibliog Am Chem Soc J 72:4036-42 S '50

Effect of salts on the critical concentration, size, and stability of soap micelles. M. E. Hobbs. bibliog J Phys & Colloid Chem 55:675-83 My '51

Extensibility and minimum number of polypeptide chains in the collagen micelle. P. O. Mustacchi. bibliog il Science 113:405-7 Ap 13 '51

Micelle shape from dissymmetry measurements. P. Debye and E. W. Anacker. J Phys & Colloid Chem 55:644-55 My '51

Solutions of metal soaps in organic solvents; peptisation and micelle size in solutions of some zinc soaps in toluene. V. D. Tughan and R. C. Pink. Chem Soc J p 1804-8 Jl '51

Structure of monolayers and multilayers of polar hydrocarbon molecules on solid substrates. H. T. Epstein. bibliog il diags J Phys & Colloid Chem 54:1053-69 O '50

MICHAEL reaction

Chemistry of aliphatic dinitro compounds; the Michael reaction. L. Herzog, M. H. Gold and R. D. Geckler. Am Chem Soc J 73:749-51 F '51

Preliminary syntheses in the morphine series; Michael condensations with 2-aryl*cyclo*hex-2-enones and cyclisation of the products to octahydrophenanthrene derivatives. D. Ginsburg and R. Pappo. Chem Soc J p938-45 Ap '51

Reactions of 2-arylcyclohexanones; Michael addition of malonic ester to 2-phenyl-Δ^2-cyclohexenone. W. E. Bachmann and E. J. Fornefeld. Am Chem Soc J 72:5529-30 D '50

MICHIGAN

See also

Copper mines and mining—Michigan

Politics and government

State cleans up; Michigan streamlines use and storage of government papers. Bsns W p90+ Je 2 '51

Sanitary affairs

Michigan's industrial wastes control program. L. N. Rydland. Sewage & Ind Wastes 22:1591-5 D '50

MICHIGAN, Lake

Stages of Lake Chicago; their causes and correlations. J. H. Bretz. bibliog map Am J Sci 249:401-29 Je '51

MICHIGAN consolidated gas company

Bonds offered. Comm & Fin Chr 172:1929; 174:545-6 N 20 '50, Ag 13 '51

MICHIGAN university

Institute of industrial health

New Institute of industrial health at Ann Arbor. Ind Med 20:11 Ja '51

MICRANTHINE

Alkaloids of daphnandra species; micranthine. I. R. C. Bick and A. R. Todd. Chem Soc J p 1606-12 Je '50

MICROANALYSIS

Coulometric determination of acid. W. N. Carson, jr. and R. Ko. bibliog Anal Chem 23:1019-22 Jl '51

Determination of microgram amounts of calcium and magnesium in vanadium metal. J. Rynasiewicz and others. bibliog Anal Chem 23:668-9 Ap '51

Determination of small amounts of vanadium in steel by photometric titration. R. F. Goddu and D. N. Hume. bibliog il diag Anal Chem 22:1314-17 O '50

MICROANALYSIS—*Continued*

Determining phosphorus in organic substances; micro-Lorenz method. Y. Tsuzuki, M. Miwa and E. Kobayashi. Anal Chem 23:1179-80 Ag '51

Estimation of amino acids and amines on paper chromatograms. R. J. Block. bibliog il Anal Chem 22:1327-32 O '50

Estimation of gold in biological materials. S. Natelson and J. L. Zuckerman. bibliog Anal Chem 23:653-5 Ap '51

Hypodermic needles put analytical method on mass basis. il Chem & Eng N 29:2282-4 Je 4 '51

Improved procedure for Karl Fischer microtitrations. J. S. Wiberley. bibliog diags Anal Chem 23:656-9 Ap '51

Inorganic microchemistry; review of 1950. P. W. West. Anal Chem 23:51-9 bibliog (297 ref, p55-9) Ja '51

Ionophoretic analyses in agar gels. Q. P. Peniston, H. D. Agar and J. L. McCarthy. bibliog diags Anal Chem 23:994-9 Jl '51

Isotopic determination of nitrogen and carbon by means of a microwave spectrograph. A. L. Southern and others. bibliog diag Anal Chem 23:1000-4 Jl '51

Kjeldahl microdigestions in sealed tubes at 470° C. L. M. White and M. C. Long. bibliog Anal Chem 23:363-5 F '51

Microchemical applications of catalytic and induced reactions. P. W. West. Anal Chem 23:176-80 bibliog(145 ref, p 178-80) Ja '51

Microdetermination of arsenic and its application to biological material. G. R. Kingsley and R. R. Schaffert. bibliog diag Anal Chem 23:914-19 Je '51

Microdetermination of carbon and hydrogen; a statistical study of factors. C. L. Ogg and others. Anal Chem 23:911-14 Je '51

Microdetermination of fluorine in solid halocarbons. R. R. Rickard, F. L. Ball and W. W. Harris. bibliog diag Anal Chem 23:919-21 Je '51

Microdetermination of free formaldehyde. M. Tanenbaum and C. E. Bricker. bibliog Anal Chem 23:354-7 F '51

Micro-determination of nitrogen as ammonia by the diffusion technique. H. Naylor. diags Textile Inst J Trans 42:T300-8 Jl-Ag '51

Microdetermination of sulfur by the Grote method; photometric detection of the titrimetric end point. R. N. Walter. bibliog diag Anal Chem 22:1332-4 O '50

Organic microanalysis. G. Ingram. Chem Age (Lond) 64:125-7 Ja 20 '51

Organic microchemistry; review of 1950. C. L. Ogg and C. O. Willits. Anal Chem 23:47-51 bibliog(135 ref, p50-1) Ja '51

Photographic emulsions used to identify alpha isotopes; abstract. H. Yagoda. Chem & Eng N 29:1005 Mr 12 '51

Potentiometric, amperometric, and polarographic methods for microanalysis. T. D. Parks and L. Lykken. bibliog diags Anal Chem 22:1444-6 N '50

Potentiometric method for microdetermination of iron; extension of use of silver reducer. I. C. Wells. bibliog Anal Chem 23:511-14 Mr '51

Power of microanalysis. A. J. Haagen-Smit. bibliog J Chem Educ 28:496-9 S '51

Quantitative microdetermination of amino acids after paper chromatography. A. Pereira and J. A. Serra. bibliog Science 113:387-8 Ap 6 '51

Radiochemistry on the micro scale; techniques in micro-analysis; summary of papers by J. K. Dawson and others. Chem Age (Lond) 64:381-2 Mr 10 '51

Rapid micromethod for alkaline nitrobenzene oxidation of lignin and determination of aldehydes. J. E. Stone and M. J. Blundell. bibliog il diag Anal Chem 23:771-4 My '51

Separation of iridium from lead on a micro scale; gravimetric determination of iridium. R. R. Barefoot, W. J. McDonnell and F. E. Beamish. bibliog Anal Chem 23:514-16 Mr '51

Some industrial applications of microanalysis. bibliog Chem Age (Lond) 64:841-3 Je 2 '51

Spot test detection of antimony by means of gossypol. P. W. West and L. J. Conrad. bibliog Anal Chem 22:1336-7 O '50

Substituted benzidines and related compounds as reagents in analytical chemistry; new indicators for the microvolumetric determination of gold. B. Belcher and A. J. Nutten. Chem Soc J p550-1 F '51

Technique of inorganic microanalysis. T. S. West. Chem Age (Lond) 64:477-9 Mr 31 '51

Test for microdetection of parathion in orange and lemon oils. F. A. Gunther and R. C. Blinn. Anal Chem 22:1450 N '50

Variability in the Beckman spectrophotometer. W. O. Caster. bibliog diag Anal Chem 23:1229-36 S '51

MICROBIOLOGICAL assay. See Biological assay

MICROBIOLOGY

Microbiological institute awards research grants. Chem & Eng N 29:3718 S 10 '51

MICROBIOLOGY, International congress of. See International congress of microbiology

MICROCARDS

Microcards for the chemistry library. Sister A. A. Green. il J Chem Educ 28:549-52 O '51

MICROCHEMISTRY

Micro syntheses with tracer elements; the synthesis of hexestrol labeled with tritium. D. L. Williams and A. R. Ronzio. diag Am Chem Soc J 72:5787-9 D '50

Micro syntheses with tracer elements; the synthesis of thiourea labeled with C^{14} and of thiourea labeled with S^{35}. C. W. Bills and A. R. Ronzio. Am Chem Soc J 72:5510-11 D '50

Microsynthesis of some ^{14}C-labelled organic compounds. W. J. Arrol and R. Glascock. diags Chem Soc J supp no 2:S335-8 '49

Apparatus

Magnetochemistry of the heaviest elements; a sensitive magnetic susceptibility balance for small samples. J. K. Dawson and M. W. Lister. diags Chem Soc J p2177-81 Ag '50

Melting point and the density of neptunium metal; a micro melting point apparatus for metals. E. F. Westrum, jr. and L. Eyring. diag Am Chem Soc J 73:3399-400 Jl '51

Progress in microchemical apparatus. Chem Age (Lond) 64:673-7 Ap 28 '51

Recommended specifications for microchemical apparatus; micro-Kjeldahl nitrogen. il diags Anal Chem 23:523-8 Mr '51

Tabulation of apparatus used for the micro-Dumas determination. Anal Chem 23:537-8 Mr '51

MICROCLIMATOLOGY

Community and climate; history shows how to plan a settlement; microclimatology diagrams the method. maps diags Arch Forum 94:192-4 Mr '51

MICROEFFUSIOMETERS. See Effusiometers

MICROFILM reading machines

Microfilm reader. il J Sci Instr 28:157 My '51

Microfilm readers. il Engineering 170:364 N 10 '50

MICROFILM records

Aftermath of a holdup; microfilm saves day for Chicago savings bank. D. S. Savier. il Bankers Mo 68:42-3+ S '51; Correction. 68:38 N '51

Allen-Bradley company films invoices and saves 98 per cent of storage space. A. F. North. Am Bsns 21:40+ Ja '51

Bankers discuss microfilming of insurance policies. Nat Underw 54:7 N 2 '50

Film 800,000 GE drawings. Am Bsns 21:52 My '51

How to decide whether to microfilm business records, and how to go about it. I. Zitmore. J Account 91:276-81 F '51

Microfilm safeguards vital records; Ford motor co. Nat Safety N 63:85-6 Ap '51

Microfilm statutes; bank record admissible only as secondary evidence even though state enacted photographic evidence statute. Banking 43:90+ My '51

Microfilming bank records; with list by states of photographic evidence statutes. J. R. Vincens. Banking 43:49-50+ Ja '51

Microfilming engineering drawings at Ford saves $20,000 in floor space. D. G. Baird. il Am Bsns 21:14-15+ Ap '51

Microfilms may not be evidence. R. R. Neuhoff. N A C A Bul 32:451-3 D '50

Microfilms preserve engineering drawings at Ford plant. Mach 57:161 Ag '51

MICROFILM records—*Continued*

New microfilm recorder controlled electrically. il Elec Eng 70:196 Mr '51

No old look in new home of Colonial Life; microfilming program. A. J. Hastaba. il Spectator (Life ed) 158:17-19 D '50

Protect your vital records. il Am Gas Assn Mo 33:16+ Mr '51

Wabash cuts waybill abstracting expense. W. R. Eastman. il Ry Age 129:27 N 25 '50

We post everything at one run and return deposit slips with checks; use of microfilm. J. F. White. Bankers Mo 67:20+ N '50

MICROFILMS

American practice in documentation; microfilm, offset lithography, punched cards. H. Coblans. J Doc 6:206-12 D '50

Bibliography

Union list of microfilms (Philadephia bibliographical center and Union library catalogue). rev & enl ed 1961p $17.50 J. W. Edwards, Ann Arbor, Mich. '51

MICROFLUOROMETRIC scanner. See Medical instruments and apparatus

MICROLOG. See Petroleum—Well logging

MICROMANIPULATORS

Improved micromanipulator for cellular micrurgy. M. J. Kopac. bibliog il Science 113: 232-4 Mr 2 '51

Low-power micromanipulator and microdissector. R. Barer and A. E. Saunders Singer. il diag J Sci Instr 28:65-8 Mr '51

Micromanipulator for use with high power magnification. il diag J Sci Instr 28:94-5 Mr '51

Science's invisible tools, reprinted from the Reader's digest, May, 1951. il Comp Air Mag 56:217-18 Ag '51

MICROMANOMETERS. See Manometers

MICROMETERS

Drill jig and micrometer provide jig-boring accuracy. B. Goodwin. diags Am Mach 95: 156 O 15 '51

Extension for inside micrometer. C. G. Spicer. diags Tool Eng 25:43 D '50

Geometric micrometers gage partial curves. O. F. Lambert. diags Am Mach 95:157 Jl 23 '51

How to read a micrometer. H. E. Linsley. diags Am Mach 95:112 Ap 2 '51

Lightweight diaphragm controls sensitivity of air micrometer. il diag Product Eng 22: 138-9 S '51

Micro-inch micrometer of one-tenth inch range. E. B. Baker. il diags R Sci Instr 22: 373-5 Je '51

Micrometer crosshead helps in checking long bores. C. D. MacKinnon. diag Am Mach 95:174 O 1 '51

Testing

Autographic method of checking micrometer screws. F. H. Rolt. diags Engineer 191: 117-19 Ja 26 '51; Same. Engineering 171: 300 Mr 9 '51

MICROORGANISMS

Complete elimination of microorganisms from an intestinal parasite (ascaris lumbricoides). D. Fairbairn and M. R. Reesal. Science 112:792-3 D 29 '50

Development of microorganisms during sugar manufacture; significance relative to sucrose losses. W. L. Owen. bibliog il Ind & Eng Chem 43:606-9 Mr '51

Ecology of significant organisms in surface water supplies. C. M. Tarzwell and C. M. Palmer. Am Water Works Assn J 43:568-78 Jl '51

Influence of weathering and of microorganisms on the aqueous-extract pH of cotton fiber. P. B. Marsh and others. bibliog il Textile Res J 21:565-79 Ag '51

Literature review on the occurrence and survival of enteric, pathogenic, and related organisms in soil, water, sewage, and sludges, and on vegetation. W. Rudolfs and others. Sewage & Ind Wastes 22:1261-81, 1417-27 bibliog(179 titles, p 1277-81, 1424-7) O-N '50

Pink slime in paper mills; control and identification of certain causative organisms. J. W. Appling and others. bibliog Tappi 34: 347-52 Ag '51

Recent aids to the study of microbiology; abstract. A. Fleming. Chem & Ind p27 Ja 13 '51

Survival of microorganisms in frozen meat. W. L. Sulzbacher. Refrig Eng 58:1078 N '50

See also

Bacteria
Fermentation
Microscope and microscopy
Plankton
Protozoa
Soil microorganisms
Viruses

MICROPHONES

Effects of reflected signals and electric pickup at an ultrasonic microphone. A. O. Williams, jr. and W. Keck. il diags Acoustical Soc Am J 23:173-5 Mr '51

Hand-or-stand mike. A. Trauffer. il diag Radio & Tv N 45:72 Mr '51

Testing

Condenser microphone sensitivity measurement by reactance tube null method. H. E. Von Gierke and W. W. Von Wittern. diags Inst Radio Eng Proc 39:633-5 Je '51

MICROPHOTOGRAPHY

See also

Microfilm records
Microfilms

MICROPHOTOMETER. See Photometers

MICRORADIOGRAPHY. See Radiography

MICRORADIOGRAPHY (term)

Nomenclature in electron microradiography of electrodeposited metals. G. M. Corney. bibliog J Ap Phys 22:682 My '51

MICROSCOPE, X ray. See X ray microscope

MICROSCOPE and microscopy

Application of microscopic fusion methods to inorganic compounds. D. G. Grabar and W. C. McCrone. bibliog il diags J Chem Educ 27:649-53 D '50

Comparison microscope; a tool with unique possibility. J. D. McLean, jr. il Am Assn Pet Geologists Bul 35:96-101 Ja '51

Comparison of light microscope and electron microscope images of identical surface areas; abstract. E. Fullam. Science 112: 447-8 O 20 '50

Computed aberrations of spherical Schwarzschild reflecting microscope objectives. D. S. Grey. diag Opt Soc Am J 41:183-92 Mr '51

Crystallization in unstretched rubber; microscopic study in polarized light. H. N. Campbell and M. D. Allen. bibliog il Ind & Eng Chem 43:413-15 F '51

Edge effect in phase contrast. L. I. Epstein. il diags Opt Soc Am J 41:134-8 F '51

Equipment for the microscopic examination of metals and crystals in polarized light at temperatures from -130 to +35° C. J. C. Monier and R. J. Hocart. diag J Sci Instr 27:302 N '50

How to identify stones in glass. H. E. Taylor. il Cer Ind 55:62-4+ D '50

Identification of particles in Los Angeles smog by optical and electron microscopy. R. D. Cadle and others. bibliog il diag A M A Archives Ind Hygiene & Occup Med 2:698-715 D '50

Improvised ultramicroscope. C. C. Kiplinger. il diag J Chem Educ 28:42-3 Ja '51

Low-temperature microscope stage. R. G. Rhodes. il diags J Sci Instr 27:333-4 D '50

Micro-indentation hardness tester for attachment to the Vickers projection microscope. S. J. Lloyd and D. J. Norris. bibliog il diags J Sci Instr 28:81-4 Mr '51

Microscopic appearance of polymorphic forms of one-acid triglycerides. O. T. Quimby. bibliog 2pls Am Chem Soc J 72:5064-8 N '50

Microscopic fusion analysis of sterols. V. Gilpin. bibliog il Anal Chem 23:365-74 F '51

Microscopic identification of paper fillers. H. C. Koch and others. il Tappi 34:265-9 Je '51

Microscopic observation of the solidification of Cu-Ni alloy droplets. R. E. Cech and D. Turnbull. bibliog il J Metals 3:Trans 242-3 Mr '51

Microscopic study of oiled textile fibres immersed in aqueous media. D. G. Stevenson. bibliog il diags Textile Inst J Trans 42: T194-206 My '51

Microscopical examination of creep specimens. E. A. Jenkinson. il Engineer 191: 469-72 Ap 13 '51

MICROSCOPE and microscopy—*Continued*

Microscopy and identification of synthetic fibers. F. D. Houghton. il Tappi 34:353-6 Ag '51

Phase-contrast metallography. E. C. W. Perryman and M. Lack. il diags Metallurgia 44:97-102+ Ag '51

Phase contrast microscopy; abstract. D. A. Tanfield and W. H. Hughes. Chem & Ind p28 Ja 13 '51

Polarization figures and rotation properties in reflected light and their application to the identification of ore minerals. E. N. Cameron and L. H. Green. diags Econ Geol 45:719-54 D '50

Protein and nucleic acid conference, New Hampton, N.H. Aug. 28-Sept. 1. Science 112:639-43 D 1 '50

Range and power of light microscope extended by tv. Elec Eng 70:371 Ap '51

Reflecting microscope as applied to some ceramic products. C. Schouten. bibliog il diag Am Cer Soc Bul 30:130-6 Ap 15 '51

Reflecting microscopes with spherical mirrors. K. P. Norris and others. bibliog il diags Opt Soc Am J 41:111-19 F '51

Strength and weakness of cotton fibers. H. Wakeham and N. Spicer. bibliog il Textile Res J 21:187-94 Ap '51

Televised microscopy. Franklin Inst J 251: 411-13 Mr '51; Same cond. Tv Eng 2:8 Ja '51

Tentative textile specification no. 20, 1950; determination of wool fibre fineness by the projection microscope. il diags Textile Inst J 41:S 11-15 O '50

Weight factors for fiber microscopy. J. d'A. Clark. bibliog Tappi 34:317-18 Jl '51

See also

Electron microscope
Metallography
Micromanipulators
Photomicrography
X ray microscope

Light sources

Metallograph features adjustable carbon arc. il diag Machine Design 22:149-50 D '50

Technique

Critical evaluation of quantitative histo- and cytochemical microscopic techniques. D. Glick and others. bibliog Science 114:253-8 S 7 '51

Method for embedding undecalcified bone for histologic sectioning, and its application to radioautography. J. S. Arnold. bibliog il diag Science 114:178-80 Ag 17 '51

Method for the rapid preparation of histological sections. J. A. Tornaben and E. J. de Beer. Science 114:182 Ag 17 '51

Microscope cell for low-temperature work. L. E. Hutchings. diags J Chem Educ 28: 214-15 Ap '51

Phase contrast metallography; new technique for microscopic observation. R. L. Seidenberg and J. R. Benford. bibliog il diag Metal Prog 58:725-8 N '50

Sectioning of tissue for electron microscopy. J. Hillier and M. E. Gettner. il Science 112:520-3 N 3 '50

Use of a microscopic technique in studying the filtration characteristics of wool and cotton fibers. C. A. Rodman and A. W. Pansey. il Textile Res J 20:873-9 D '50

Use of a precision lathe in the preparation of biological thin sections. Z. M. Arnold. Science 114:242-3 Ag 31 '51

See also

Microtomes

MICROSPECTROPHOTOMETRY. See Spectrophotometry

MICROTOMES

Sharpening of microtome knives for ultrathin sectioning. J. Hillier. il R Sci Instr 22:185-8 Mr '51

MICROWAVE spectrum. See Spectrum, Microwave

MID-CONTINENT airlines

Debentures offered. Comm & Fin Chr 173: 2091 My 21 '51

MCA goes to public for expansion. S. Altschul. Aviation W 54:52 Je 11 '51

MIDDLE EAST. See Near East

MIDDLE SOUTH utilities, inc.

Public utility securities. O. Ely. Comm & Fin Chr 173:1257 Mr 22 '51

Stock offered. Comm & Fin Chr 173:1276-7 Mr 26 '51

MIDDLE WEST

Enterprise and diplomacy; impressions of a French journalist. B. deJouvenel. Barron's 31:3 Ja 29 '51

MIDDLEBOROUGH, Massachusetts

See also

Housing—Middleborough, Massachusetts

MIDDLETON-SMITH, Cades Alfred, 1879-1951

Sketch. por Engineer 192:185-6 Ag 10 '51

MIDLAND, Texas

Kingdoms of oil. J. C. Watson. il World Oil 133:316+ S '51

MIDLAND bank, limited

Statement by the chairman. Lord Linlithgow. Economist 160:227-31 Ja 27 '51

MIDSOUTH gas company

Stock offering oversubscribed. Comm & Fin Chr 174:190 Jl 16 '51

MID-WEST airlines

CAB looks into MWA stock buy. Aviation W 55:16 Ag 13 '51

MIDWEST insurance company

Mid-West is company without a state. Nat Underw 55:33 Ap 12 '51

MIDWEST inter-library center, Chicago

Midwest inter-library center. R. T. Esterquest. Special Lib 41:348-9+ D '50

MIDWEST power conference

Conference, Chicago; abstracts of some papers on heating and cooling. Heating-Piping 23: 86-7 My '51

Conference, Chicago, April 4-6. Elec World News ed 135:11 Ap 16 '51; Power Eng 55: 94+ My '51

Midwest power conference, Chicago, April 4-6; technical program. Mech Eng 73:262-3 Mr '51; Power Eng 55:96+ Mr '51

MIDWEST research institute

Metalworking research reaches all-time high. C. N. Kimball. il Iron Age 166:68-70 N 23 '50

MIDWEST stock exchange

First year of Midwest stock exchange successful. H. P. Hargrave. Comm & Fin Chr 172:2197 D 7 '50

Midwest Exchange grows. Burroughs Clearing House 35:7-8 D '50

Midwest stock exchange. W. J. Brons. il Bankers Mo 68:36-8+ S '51

Standing committees appointed. Comm & Fin Chr 173:2599 Je 21 '51

MIDWESTERN independent statistical service

Annual meeting, Chicago. Nat Underw 55: 17+ My 24 '51

MIERS, Henry, 1858-1942

Sketch. H. Hartley. Chem Soc J p430-4 Ja '50

MIGRANT workers. See Migration of workers

MIGRATION of workers

Migration and economic development; preliminary migration conference, Geneva, April-May 1950. Int Labour R 62:91-115 Ag '50

Migratory labor in American agriculture. Mo Labor R 72:691-3 Je '51

Perspective on housing migratory agricultural laborers. P. S. Taylor. Land Econ 27: 193-204 bibliog(p203-4) Ag '51

President's commission on migratory labor in American agriculture. E. J. Long. Land Econ 27:249-51 Ag '51

MILDEW

Mildew products. M. A. Lesser. bibliog(53 ref) il Soap & San Chem 26:110-13+ O '50

Money in mildew; Resco. Chem Ind W 68:29-30 F 17 '51

Multiple culture technique for testing rot-resistance, particularly suited to jute materials. S. N. Basu and others. bibliog il diags Textile Inst J Trans 41:T466-80 D '50

MILES shoes, inc.

Security I like best. C. E. Unterberg. Comm & Fin Chr 173:2142+ My 24 '51

MILITARY administration

Influence of military management. J. R. Beishline. Advanced Management 16:11-13 Ag '51

MILITARY air transport service. See United States—Military air transport service

MILITARY airplanes. See Airplanes, Military

MILITARY airports. See Airports, Military

MILITARY amateur radio system
MARS' Pentagon headquarters. il Radio & Tv N 46:57 S '51
MARS station of the month. Published in monthly numbers of Radio and television news

MILITARY and naval service insurance. See Insurance, Military and naval service

MILITARY art and science
Military uses of ice dams. H. A. Pax. Refrig Eng 58:1072 N '50
See also
Aeronauics, Military
Atomic bombs
Radio communication, Military
Strategy
War

Amphibious warfare

Amphibious warfare; two concepts. R. H. Williams. il U S Naval Inst Proc 77:466-71 My '51
Command relations in amphibious warfare. W. H. P. Blandy. il U S Naval Inst Proc 77:569-81 Je '51
Iwo Jima, acme of amphibious assault. J. A. Isely. il map U S Naval Inst Proc 77:1-13 Ja '51
Seabees engineer amphibious landing at Inchon, Korea. J. F. Jelley. il Civil Eng 21:323-5 Je '51
See also
Landing operations, Military

Dictionaries

New military and naval dictionary. F. Gaynor, ed. 295p bibliog(p291-5) $6 Philosophical library, 15 E. 40th st, New York 16 '51

MILITARY automobiles. See Automobiles, Military

MILITARY bridges
County makes resourceful use of war surplus bridges. J. G. Cooney. il Roads & Sts 94:47-50 My '51

MILITARY buildings
Army finance center, Fort Benjamin Harrison, Indianapolis. il Arch Rec 110:118 S '51
Lounge and locker building, Pearl Harbor; public works office, navy yard. il plans Arch Rec 108:122-3 N '50
Military installations in Alaska. il plans diag Arch Rec 110:119-21 S '51
Outlook for military construction. F. Gutheim. il Arch Rec 110:107-9 S '51
See also
Barracks
Naval training stations

MILITARY communication. See Communication, Military

MILITARY education
See also
Air war college, Maxwell Field, Alabama
Moving pictures in military education

MILITARY engineering
Earthmoving industry and the Corps of engineers in war and peace. D. C. Hammond. S A E J 59:82-3 Je '51
Equipment modified for air transportation. il Product Eng 22:152-3 F '51
New airborne construction equipment being groomed by military engineers. il Roads & Sts 94:92+ Je '51
Sixty second genius; Project Typhoon, electronic analogue computer is designed to evaluate the performance of guided missiles, ships, airplanes, submarines and aid in the air protection of American cities. il Aero Digest 62:61 Ja '51
You can't buy national defense. J. F. Jelley. Civil Eng 20:708-9 N '50
See also
Military evacuation
Radio apparatus—Military use
United States—Navy—Construction battalions
Water supply for armies

MILITARY evacuation
Evacuation of Hungnam. W. McCollam, jr. il plan Civil Eng 21:319-22 Je '51

MILITARY fabrics
Army discovers the fibers. Rayon 32:33+ Ap '51
Army underwear; modern designs and basic changes. T. J. Seery. il Rayon 32:34-5 My '51
Quartermaster and his defense orders. Rayon 32:34-5+ Mr '51
Wool vs. synthetics. Chem W 69:11-12 Jl 21 '51

Testing

Investigation of fabric structure and its relation to certain physical properties; combination fabrics. G. H. Hotte. bibliog Textile Res J 20:811-28 D '50

MILITARY fireworks
Modern pyrotechnics go to war in Korea. M. Wharton. il Explosives Eng 29:89-93 My '51

MILITARY history
Combined ops, 1655-1798. R. Hargreaves. il U S Naval Inst Proc 76:1196-203 N '50

MILITARY hospitals. See Hospitals, Military

MILITARY landing operations. See Landing operations, Military

MILITARY leave. See Military service—Labor problems

MILITARY libraries
Planning of libraries for military research establishments. S. Herner and M. K. Heatwole. plan Science 114:57-9 Jl 20 '51

MILITARY maps. See Maps, Military

MILITARY market
Military are the target of this special campaign to convert emergency fliers to steady travelers by air. M. F. Redfern. il Ptr Ink 234:30-1 F 9 '51
Neglected military market. C. S. Wiggins. Adv Agency 44:69 Ap '51
Your market's in the army now! L. M. Hughes. il Sales Management 66:37-40+ Mr 15; 88+ Ap 1 '51
See also
Post exchanges
Veterans canteen service

MILITARY medicine. See Medicine, Military

MILITARY occupation
See also
Germany—Allied military government
Japan—American occupation

MILITARY pipe lines
Pumps for army pipe lines. il Pet Eng 22:D13 D '50
Tests show invasion pipe suitable for field operations. Iron Age 168:110 Jl 5 '51

MILITARY research
Defense department plans for basic research. H. A. Zahl and others. il Electronics 24:82-7 Ag '51
Military research and development. P. B. Taylor. Aeronautical Eng R 10:49-51 Ap '51
Operations research. H. C. Levinson and A. A. Brown. diags Sci Am 184:15-17 Mr '51
Operations research. P. M. Morse. il Tech R 53:191-4+ F '51
Universities and research for national defense. E. A. Walker. J Eng Educ 41:505-7 My '51
See also
United States—Army—Research

MILITARY roads. See Roads, Military

MILITARY sea transportation service. See United States—Military sea transportation service

MILITARY service
ACS recommends plans for effective use of scientific manpower. Chem & Eng N 28:4426-30+ D 18 '50
Citizen soldier. E. S. Hoag. Air Affairs 3:500-8 D '50
College students may expect some draft deferment. Eng N 146:55 Ja 25 '51
College students may obtain deferments. R. Gibbs. Chem & Eng N 29:1386 Ap 9 '51
Deferment of superior students urged by draft advisory board. Civil Eng 21:47 Ja '51
Deferments for students with above-average educational aptitude and scholastic record recommended. Chem & Eng N 29:6 Ja 1 '51
Disagreement looms on drafting engineers. il Product Eng 21:150-1 D '50
Draft deferment policy for college students. R. C. Hutchinson. J Eng Educ 41:569-70 Je '51
EJC manpower commission recommends separate registration by selective service. Civil Eng 21:40 Ja '51

MILITARY service—*Continued*

How draft test was made. il Bsns W p70+ Jl 7 '51

Mobilzation of scientific, engineering, and medical manpower; an interim report. C. V. Kidd. bibliog Science 113:737-41 Je 29 '51

New draft law. R. Gibbs. Chem & Eng N 29:2450 Je 18 '51

New selective service policy allows limited deferments to college graduates. R. G. Gibbs. Chem & Eng N 29:846-7 Mr 5 '51

New universal military service plan. R. Gibbs. Chem & Eng N 28:4524-5 D 25 '50

Physical status of men examined through selective service in World war II. M. S. Goldstein. map Pub Health Rep 66:587-609 bibliog(p608-9) My 11 '51

Plans for the development and use of scientific manpower. Chem & Eng N 29:456-60 F 5 '51

Present draft policies called threat to scientific progress; administration of research for defense. W. J. Murphy. Chem & Eng N 28:4172-3 N 27 '50

Problems of military preparedness; accounting manpower in mobilization. J Account 90:461-3 D '50

Program for strategic use of scientific manpower in all-out mobilization. Pet Processing 6:262-3 Mr '51

Sanitary engineers and selective service. Sewage & Ind Wastes 22:1542 D '50

Science students considered as resources for stockpiling; ACS-AIChE Southwest regional student meeting. Chem & Eng N 29:1004-5 Mr 12 '51

Scientific manpower advisers present plan to Senate group. Chem & Eng N 29:462-3 F 5 '51

Selective service; problem of technicians and engineers. il Aero Digest 61:17-19+ N '50

Students and the draft. Sci Am 185:48 S '51

Students, scientists, and selective service; report of Scientific advisory committees. Science 112:479-83 O 20 '50

Thomas to head NSRB advisers on scientific manpower. Chem & Eng N 28:4440-1 D 18 '50

What to do about the draft; experts answer national junior committee questions. Mech Eng 73:275-6 Mr '51

Insurance aspects

Benefits for reservists exceed those provided regular army, air force. Nat Underw (Life ed) 55:2 F 9 '51

GIs entitled to protection against weak insurers; statements by Day and Gaffney. Nat Underw (Life ed) 55:4 Ag 10 '51

Military camp sales insurance under fire. East Underw 52:16 Je 8 '51

Mutual Life letter explains serviceman's insurance rights. Nat Underw (Life ed) 55:12 F 23 '51; Weekly Underw 164:346 F 3 '51

Problems faced in military business. G. B. Butler. Nat Underw (Life ed) 55:9 O 5 '51

See also
Insurance, Military and naval service

Labor problems

Employees in uniform. il Chem W 69:9-10 Ag 4 '51

Employer should report on essentiality of reservists. Nat Pet N 43:30 F 28 '51

Employers' military-leave policies; effect on benefit plans, fall 1950. Mo Labor R 72: 411-13 Ap '51

Hands for the job. Economist 159:580 O 7 '50

How companies handle military leaves; Dartnell survey. Am Bsns 21:53-4 Mr '51

How military leave policies affect employee benefit plans; survey by National industrial conference board. Bankers Mo 68:30-1 Je '51

Man power, the industry's no. 1 problem. C. Furcolowe. Pub Util 48:32-7 Jl 5 '51

National industrial conference board surveys effect of military leave on employe benefits. Nat Underw (Life ed) 55:6 Ja 12 '51

No set rule for draft deferment of vital worker. Steel 128:37 F 19 '51

Oil should plan now how to replace manpower losses to armed forces. L. Castle. Nat Pet N 42:25 D 27 '50

PAD willing to help oil companies seeking deferment for key employes. Nat Pet N 43:22 Ag 8 '51

Plan your personnel requirements. R. F. Welch. Oil & Gas J 50:77+ Je 28 '51

Procedure important in draft-deferment cases. il Coal Age 56:176+ My '51

Program for vets; UAW demands rights for drafted workers. Bsns W p 127-8 N 11 '50

Top-level government manpower board recommended by EJC commission. Mech Eng 73:441-2 My '51

What about draftees' pensions? Bsns W p 124-5 O 7 '50; Discussion. p92+ N 4 '50

What are you doing for the man who goes to war? surveys in Cleveland and New York areas. Factory Management 108:81-3 N '50

You can do something about manpower. S. W. Wood. Eng & Min J 152:94-5 Je '51

Protective legislation

GI loans and the Soldiers and sailors civil relief act. T. J. Sweeney. Bankers Mo 68: 18+ Ja '51

MILITARY service, Compulsory

Coming of conscription. F. Morley. Barron's 31:3 Mr 12 '51

Patriotism on campus? Yale's reaction to threat of military service. Barron's 31:6 My 14 '51

MILITARY strategy. See Strategy

MILITARY supplies

Armed forces adopt new waterproof packaging. il Iron Age 168:96-7 Jl 12 '51

Can you make it? Iron Age service to bring prime contractors and subcontractors together on military orders. il diags Iron Age 167:93 Mr 22; 111 Mr 29; 123 Ap 5; 125 Ap 12; 107 Ap 19; 115 Ap 26 '51

Defense machine tools up for plastics. il Mod Plastics 28:87-93+ Je '51

Electroforming of precision military components. S. G. Bart. il Metal Finishing 49: 96-7+ Jl '51

Impact of defense requirements in the paper and twine industry. C. K. Royce. Paper Tr J 132:37-8 Je 29 '51

Military applications of electroforming. M. H. Orbaugh. il Metal Finishing 49:98-9+ Jl '51

Military packaging is big business. H. H. Loeffler. Standardization 22:214-15+ Jl '51

Military production; report on the defense mobilization program of the United States. C. E. Wilson. Mech Eng 73:735-7 S '51

Military purchasing offices; military supplies and who buys them. map Product Eng 22: 100a-100b Ja '51

National inventors council; seeking solutions to technical problems affecting national defense. C. F. Kettering. Mech Eng 73: 500-1 Je '51

Pouches, joint army and navy packaging. L. M. Burgess. Tappi 34:sup 109A-11A Ap '51

Room for much improvement in military inspection. Steel 128:108+ Mr 5 '51

Watch packaging specs in figuring military contracts. E. Karpick. il Steel 129:70-3 Jl 16 '51

What the war taught us about military procurement. F. M. Folsom. il Dun's R 59: 22-3+ Ja '51

Standards

Military index of specifications and standards used by the services for procurement. Standardization 22:213 Jl '51

Standards agency for the armed forces; Munitions board. A. E. Mickelsen. il Standardization 22:211-13+ Jl '51

MILITARY tanks. See Tanks, Military

MILITARY telephone

Engineering the integrated communications system. E. R. Petzing. il Radio & Tv N 44: 38-9+ D '50

Planning integrated signal communications; Signal corps achievement. W. T. Guest. il Radio & Tv N 44:36-7+ D '50

Telephone that's tough; molded nylon housing. il Mod Plastics 29:95 S '51

MILITARY training

Evil of universal military training. W. A. Robertson. Comm & Fin Chr 173:1436 Ap 5 '51

Reemployment rights under Universal military training act. Mo Labor R 73:183-4 Ag '51

MILITARY training—*Continued*

Universal military training. K. T. Compton. Tech R 53:17-19 N '50

Universal training at age 18; Truman's solution for manpower problem. il Bsns W p 19-20 Ja 20 '51

MILITARY training camps

Army school; Signal corps school and model barracks, Ft Monmouth, N.J. il plan Arch Forum 95:170-1+ S '51

Five contractors take over defense jobs; rehabilitating an army camp. il Dom Eng 177:82-3+ Mr '51

MILK

Action of mineral ion exchange resins on milk constituents. C. W. Gehrke and E. F. Almy. bibliog Ind & Eng Chem 42:2344-7 N '50

Composition of milk; a compilation of the comparative composition and properties of human, cow, and goat milk, colostrum, and transitional milk. I. G. Macy and others. Nat Res Council Bul 119:1-64 bibliog(264 titles, p6-16) '50

Good mixer; compressed air eases dairyman's job of agitating milk. R. E. Stork. il diags Comp Air Mag 56:184-6 Jl '51

Present day knowledge concerning milk and milk products; abstract. N. R. Knowles. Chem & Ind p48 Ja 20 '51

Q fever studies in southern California; aureomycin treatment of dairy cattle naturally infected with coxiella burnetii. L. Luoto and others. bibliog Pub Health Rep 66:199-204 F 16 '51

See also

Casein

Milk supply

Analysis

Chemical analysis of milk; three new British standards. Chem Age (Lond) 64:994 Je 30 '51

Improved procedure for extraction of DDT in milk. H. D. Mann and R. H. Carter. Anal Chem 23:929-30 Je '51

Rapid method of testing for quaternary ammonium compounds in milk; abstract. D. D. Miller and P. R. Elliker. Food Eng 23:172 S '51

Pasteurization

Test units nip costly shutdowns. W. O. Whitney. il Food Eng 23:75+ Je '51

Preservation

Canned fresh milk now a reality. R. Bloomberg and F. E. Hessey. il diag Food Eng 23:71-4 Je '51

Preserved-milk goal seen nearer. Food Ind 22:2069 D '50

Testing

Expansion of the cream volume of fluid milk by the addition of superheated condensed milk and its detection; abstract. A. C. Smith and F. J. Doan. Food Eng 23:178-9 Jl '51

Transportation

First mechanically refrigerated milk car. Ry Age 130:100 My 14 '51

MILK, Concentrated

Boston samples concentrated milk; will it revolutionize marketing? il Sales Management 66:58+ Ap 1 '51

Concentrated milk; sales potentials and packaging requirements. il Mod Packaging 24:88-9+ Mr '51

Cow concentrate; National Dairy test marketing in Wilmington. Bsns W p86 D 2 '50

Economy of Lo-Temp evaporation; abstract. J. A. Cross. diag Refrig Eng 59:866-7 S '51

It's here, frozen concentrated milk; citrus industry evaporating technics used. il Food Eng 23:35+ Jl '51

Milk price problem; should milk concentrate be priced as fluid or milk product? Bsns W p86-7 Mr 31 '51

Safeway's concentrate upsets milk market. Bsns W p 120+ Jl 7 '51

Testing new milk and fruit juice concentrates. il Ptr Ink 235:81 Ap 13 '51

MILK, Dried

Dry milk; problem child; low-cost protective packaging. il Mod Packaging 24:70-5+ Jl '51

Flavor and keeping quality of dried milk influenced by preheat temperature; abstract. L. J. Christensen and others. Food Eng 23:169 Ag '51

How and why of Danish's grade A milk powder. E. C. Ritchie and G. Smith. il diags Food Eng 23:110-11 Ap '51

Analysis

Determination of alpha- and beta-lactose in dry products of milk from rates of crystallization. R. P. Choi, C. W. Tatter and C. M. O'Malley. bibliog Anal Chem 23:888-90 Je '51

Testing

New flavor evaluation method. D. R. Peryam and others. il diags Food Eng 23:83-6+ Ag '51

MILK, Frozen

Cow concentrate; National Dairy test marketing in Wilmington. Bsns W p86 D 2 '50

Heating as a means of preventing an oxidized flavor in milk during frozen storage; abstract. R. W. Bell and T. J. Mucha. Food Eng 23:171-2 S '51

It's here, frozen concentrated milk; citrus industry evaporating technics used. il Food Eng 23:35+ Jl '51

MILK bottles

Amber bottle for Borden's fortified milk. il Mod Packaging 24:102 F '51

Louisville milk move; entire market changes over to universal square bottle with single-operation 38-mm. closure il diag Mod Packaging 24:98-102 F '51

MILK containers

Concentrated milk; sales potentials and packaging requirements. il Mod Packaging 24:88-9+ Mr '51

If they sell machinery, why do they advertise milk? Ex-Cell-O machines make paper milk containers. D. G. Baird. il Sales Management 66:76+ Ap 15 '51

Sale I never forgot followed 18 months of study; paper milk containers. D. G. Mitchell. Ptr Ink 233:46 D 8 '50

Twin-Pak lifts milk sales for Bell-Brook dairies. il Sales Management 67:86-7 Ag 1 '51

Manufacture

American can company opens container plant near Baltimore. il Manuf Rec 119:44 N '50

Processing innovation; Bowman Dairy and Sealright perfect special carton forming and filling machine. L. E. Slater. il Food Eng 23:82-5 My '51

MILK cooling

New milk cooler reduces farmer's liniment bills. Westinghouse Eng 11:69 Mr '51

MILK delivery

Pushbutton truck door steps up milk deliveries. il Food Eng 23:115+ Jl '51

MILK handling

They call it the world's most modern dairy; Philadelphia plant of Supplee-Wills-Jones milk co. A. V. Gemmill. il map plan diag Food Eng 23:60-71 Jl '51

MILK houses

Heating and ventilation

Unit heaters move to the farm. il diag Dom Eng 177:141+ Ja '51

MILK plants

Equipment

Processing innovation; Bowman Dairy and Sealright perfect special carton forming and filling machine. L. E. Slater. il Food Eng 23:82-5 My '51

Revolutionary advance in dairy engineering; permanent welded pipelines. C. R. Havighorst. il plan diags Food Eng 23:74-9 S '51

Sanitation

Milkstone; it's double-trouble if not nipped fast. P. E. Piper. il Food Ind 22:1914-15+ N '50

MILK powder. See Milk, Dried

MILK products

Utilization of total solids in dairy milk. H. R. Murdock. Ind & Eng Chem 43:sup99A-100A+ Jl '51

MILK research
Dairy research gets big boost; National dairy research laboratories, Oakdale, Long Island. A. V. Gemmill. il Food Ind 23:61-4 Ja '51

MILK supply
Communities awarded milk sanitation ratings of 90 percent or more during 1949 and 1950. Pub Health Rep 66:239-43 F 23 '51
Communities awarded milk sanitation ratings of 90 per cent or more, July 1949-June 1951. Pub Health Rep 66:1086-90 Ag 24 '51

Laws and regulations

Recent court decisions on municipal milk inspection. M. Stein and I. L. Sonenshein. bibliog Pub Health Rep 66:898-902 Jl 13 '51
Sanitary milk and ice cream legislation in the United States. A. C. Dahlberg and H. S. Adams, comps. map tables Nat Res Council Bul 121:1-59 '50

MILK trade
Milk output is down but may rise next year. Barron's 31:35 Mr 19 '51
Salesmen like gimmicks if they work; these do; Morning milk co. L. F. Thomann. il Ptr Ink 233:35-6 N 3 '50
See also
Milk, Concentrated

California

Milk hike rumpus; Safeway calls California price increase unnecessary. Bsns W p52+ Ja 13 '51
Safeway's concentrate upsets milk market. Bsns W p 120+ Jl 7 '51

MILK waste. See Dairy waste

MILKY way
Cosmic radiation and cosmic magnetic fields; origin and propagation of cosmic rays in our galaxy. A. Unsöld. bibliog Phys R 82: 857-63 Je 15 '51
Cosmic radiation and cosmic magnetic fields; origin of cosmic magnetic fields. L. Biermann and A. Schlüter. bibliog Phys R 82: 863-8 Je 15 '51

MILLER act
Payment bonds do not guarantee an account; decisions involving the Miller act. J. A. Nickerson. Credit & Fin Management 53:8-10+ S '51

MILLER brewing company
High life for Miller's beer. il Bsns W p68+ S 8 '51

MILLICOULOMETER. See Volumetric analysis —Apparatus

MILLIKAN, Robert Andrews, 1868-
Portrait. Opt Soc Am J 41:63 F '51

MILLING
Converted chucker mills five surfaces on segment. B. P. Fortin. diags Am Mach 95:106-7 Je 25 '51
Criteria for selection of production milling methods. R. A. Winblad. il Tool Eng 26: 45-7 Je '51
Gorton pantograph machine for milling around cylinders. il Am Mach 95:156 Ag 6 '51
High-speed milling of irregular-shaped parts from square or rectangular stock. il Mach 57:190 My '51
How Chrysler builds quality into the fire-power engine; spherical combustion chamber called for new milling method. R. Le Grand. il diags Am Mach 95:154-5 S 17 '51
How to mill die blocks with carbides. A. O. Schmidt. il Am Mach 95:111-13 Ap 30 '51
Milling process; ramifications and special applications. A. E. Rylander. il diags Tool Eng 27:63-70 S '51
Reverse-image attachment for die milling halves masters needed. il Am Mach 95:143 My 28 '51
Special vise jaws for milling three angular surfaces. R. Mery. diags Mach 57:195 D '50
Tooling for turbine production. H. Woodhouse. il diags Tool Eng 26:29-32 F '51
Vise adapter for milling slots in two parts at one set-up. A. C. Eagle. diags Mach 57: 189-90 N '50

MILLING cutters
Cast cutters for machine tools. il Electrician 146:909 Mr 16 '51
Cast milling cutters. Engineer 191:358-9 Mr 16 '51
Cast milling cutters; B.S.A. development for greater efficiency and lower costs. il Automobile Eng 41:132-4 Ap '51
Gage for setting inserted blades of milling cutters to proper depth. I. Mansfield. diag Mach 57:193 N '50
How to mill profitably with HSS cutters. A. W. Meyer. il Am Mach 95:121-4 Jl 23 '51
Redesign boosts production with high speed steel cutters. G. Hubbard. il diags Steel 128:76-7 My 28 '51
Tooling for turbine production. H. Woodhouse. il diags Tool Eng 26:29-32 F '51

MILLING machines
Brown & Sharpe Omniversal milling machine. il Mach 57:198-9 N '50
Connecting rod balance milling machine. il Automotive Ind 104:76+ Je 15 '51
Duplex machine combines milling and handling; machining automotive clutch housings. J. Loviner. il diag Steel 127:84-6 N 6 '50
Ekstrom, Carlson improved Vertimil. il Mach 57:196-7 Ag '51
Ex-Cell-O machine for milling jet compressor blades. il Mach 57:233 Jl '51
Giddings & Lewis three-dimension milling machine. il Aero Digest 63:60 Jl '51; Am Mach 95:152-3 Je 25 '51; Automotive Ind 104:64+ Je 15 '51; Aviation W 55:40 Jl 9 '51; Tool Eng 27:87 Jl '51
Horizontal boring and milling machine. il Ry Mech & Elec Eng 125:79 Jl '51
Horizontal boring mill versatilized for multiple operations. K. F. Gallimore. il Steel 128:86+ Ja 22 '51
Huge Hypro combination planer and miller with three planing and two milling heads. il Mach 57:205-6 Mr '51
Huge mill heads for Italy. Steel 128:154+ My 7 '51
Knee swivel gives miller versatility. il diag Machine Design 23:124-5 Mr '51
Making plane sections in one piece. il Bsns W p48 Je 16 '51
Motch & Merryweather milling machine for automatically balancing connecting-rods. il Mach 57:209 Je '51
New crankshaft notching machine doubles production at Pontiac. W. G. Patton. il diag Iron Age 168:95-6 Jl 5 '51
New milling machine planned for aircraft makers. R. F. Jones. diags Iron Age 167: 98-9 My 17 '51
1951 production preview. il Am Mach 95:193-7 Ja 22 '51
Reverse image attachment for Cincinnati Hydro-Tel milling machines. il diag Mach 57:204-5 Je '51
Shielded milling machine for cyclotron targets. M. S. Livingston. il R Sci Instr 22:428-9 Je '51
Steep-taper arbors and collet shanks for milling and boring machines; tentative standard; reference book sheet. diags Am Mach 94:135 N 27 '50
Super milling machine; Onsrud spar mill. il Light Metal Age 8:21 O '50; Mach 57:208-9 N '50; Product Eng 21:161 N '50
Unique features of huge G&L aircraft skin milling machine. J. Daugherty and J. M. Delfs. il diags Mach 58:178-84 S '51
Universal copy milling machine developed for dies up to 1100 lb. il Am Mach 94:141 O 30 '50
Universal vertical milling machine. il Mach 57:212 Ja '51
Vertical miller uses eccentric motion to produce square holes. il Am Mach 95:187 F 19 '51

Control

Adjustable-speed motor aids milling. il Elec World 135:176 My 21 '51
Electric eye milling machine translates drawing to finished part. il Steel 128:86 My 28 '51
Electronic controls for feeds feature vertical millers. il Am Mach 95:142 Ap 2 '51
Tracer-controlled milling machines employed for repetitive work. il Mach 57:170-4 N '50

Fixtures

Bolt-holding fixture allows milling shanks. I. J. Peacock. diags Am Mach 95:132 Je 25 '51
Duplex milling fixture with unusual clamping means. R. Mery. diags Mach 57:192 Je '51

MILLING machines—Fixtures—*Continued*

Fixture for controlled-depth milling of gasket slots. R. W. Newton. diags Mach 57:191-2 Je '51

Fixture for milling four surfaces on a long slender part. R. Mawson. diags Mach 57:216-18 Jl '51

Milling fixture adjustable for castings of different shapes and sizes. R. Mawson. diags Mach 57:195-7 My '51

Milling fixture for rounding corners of square shafts. I. Mansfield. diags Mach 57:198 Ja '51

Milling fixture with adjustable holding feature. R. Mawson. diags Mach 57:194 Mr '51

Milling fixture with automatic ejector fingers. C. Bossmann. diag Mach 57:197 Ap '51

Quick-acting milling fixture. I. Mansfield. diag Mach 57:185 Ag '51

Rotary-feed mill fixture. M. Yamaguchi. diags Am Mach 95:136 Je 25 '51

Simple milling fixture for profiling and slotting cam blanks. R. Mawson. diags Mach 57:199-200 F '51

Tilting-base mill fixture sets up contour jobs. A. Clarke. diags Am Mach 95:173 S 3 '51

Two-station milling fixture with equalized clamping pressure. A. C. Eagle. diags Mach 57:199 D '50

MILLIONAIRES

Millionaires are made, not born; abstract. D. C. Coyle. Management R 40:520-2 S '51

MILLS, Ball. See Ball mills

MILLSOP, Thomas E.

Iron age salutes. por Iron Age 167:69 Je 14 '51

MILWAUKEE

Harbor

Milwaukee installs heavy-lift crane. il Marine Eng 55:68+ D '50

Industries

Made in Milwaukee. il Fortune 42:97-112 N '50

Rapid transit

Metropolitan transit authority changed in Wisconsin. Bus Transportation 30:101 S '51

Sewerage

Milwaukee sewer finding; neglect charge unfounded. Eng N 146:29 Ap 5 '51

MILWAUKEE gas light company

Securities offered. Comm & Fin Chr 172:1734 N 6 '50

MIMEOGRAPH

Infrared spectrometry in graphic arts; development and production of inks, stencils, coated papers, and accessories of the mimeograph process. T. U. Marron and T. S. Chambers. Anal Chem 23:548-50 Ap '51

MIMOSA. See Wattle

MINARD, Donald C.

Head of the class; new president of Trane co. Bsns W p64 S 1 '51

MIND and body

See also

Mental hygiene

Psychology, Physiological

MINE accidents

Accident facts. A. D. Campbell. Can Min J 72:75 Ag '51

Am I my brother's keeper? how six men answered. Coal Age 56:122+ F '51

Mine safety makes progress. S. H. Ash. Min Eng 190:133-5 F '51

See also

Coal mines and mining—Accidents and explosions

Coal mines and mining—Safety measures

Mining engineering—Safety measures

MINE accounting

General office and accounting; Kerr-Addison mine. il Can Min J 72:156-62 Ap '51

See also

Depletion

MINE air

Carbon dioxide content of mine-fire atmospheres as an aid when fighting metal-mine fires. S. H. Ash. 7pls U S Bur Mines Information Circ 7590:1-25 bibliog(p23-5) '50

MINE buildings

Canadian mine surface plants; Madsen Red Lake gold mine, Madsen, Ontario. plan Can Min J 71:57-9 D '50

Change house can build morale. L. Weaver. il plans Eng & Min J 151:98-100 D '50

Easily-erected steel buildings serve many purposes. il Coal Age 55:108 N '50

Mechanical and surface plant; Kerr-Addison mine. il plan Can Min J 72:144-50 Ap '51

MINE cages

Necessity dictates design. il Can Min J 71:72 N '50

MINE cars

Modernizing Gay haulage. il Coal Age 55:98-100 D '50

Retractable lugs automatically empty endgate cars at dump. il Coal Age 55:108 D '50

See also

Mine haulage

MINE construction

Method of driving flat raises. T. Hewitt. diags Can Min J 72:51-2 Ja '51

Opening the Pyne mine of the Woodward iron co. J. V. Beall. il diags Min Eng 187:1230-5 D '50

Porter tunnel will open up ten million tons of coal for Philadelphia & Reading. E. F. Young. il diag Min Eng 3:223-5 Mr '51

See also

Concrete construction in mines

Mine roofs

Mine shafts

MINE drainage

Aluminum pipe in low coal. il Coal Age 56:81 Je '51

Dewatering flooded mine; Packer colliery, Duryea anthracite co. il plan diag Coal Age 55:98-100 N '50

Leadville drainage tunnel. il Comp Air Mag 56:241-2 S '51

Probe for flooded mine workings; Leadville drainage tunnel. Min Cong J 37:72-3 My '51

Shop-made pump cradle simplifies vertical-shaft dewatering. diag Coal Age 56:120 F '51

See also

Mine pumping

MINE dust

Controlling dust in drilling operations for roof bolts; abstract. C. W. Owings. Coal Age 56:196+ F '51

Dust control and ventilation at Dome mines. C. L. Huggins. diag Can Min J 72:93-5 S '51

How air-borne dust is reduced by pillar-soaking at Kenilworth. il plan Coal Age 56:100-2 Ag '51

Size of cuttings produced by pneumatic drilling with different kinds of detachable bits. C. E. Brown. bibliog diags A M A Archives Ind Hygiene & Occup Med 4:103-18 Ag '51

MINE equipment

Control of tailings from washing plants. W. B. Lenhart. il plans diags Rock Prod 53:72-80 Jl; 93-4+ S; 120-6 O '50; 54:112-13+ F '51

Crushing, hoisting and conveying; Kerr-Addison mine. il Can Min J 72:119-20 Ap '51

Diesels in the mining industry. G. W. Grupp. il Diesel Power 29:34-7 Mr '51

Equipment tested at the Bureau's oil-shale mine. F. D. Wright and others. bibliog 17pls U S Bur Mines Rep of Invest 4810:1-13 '51

Gypsum winning. il Elec R (Lond) 148:1173-9 Je 8 '51

Locking type mining ropes. R. Saxton. diags Can Min J 72:66-8 Mr '51

Materials handling units multiply worker productivity. il plan diags Eng & Min J 152:150-5 Jl '51

Mechanical and surface plant; Kerr-Addison mine. il plan Can Min J 72:144-50 Ap '51

Mechanization at Fredericktown. S. A. White and J. A. Rood. il Min Cong J 37:34-6 S '51

Metal mining practice. V. H. Clarke. il Min Cong J 37:40-2 F '51

Recent operating improvements at Kennecott's Utah copper mine. L. F. Pett. Min Eng 3:Trans 592-6 Jl '51

Survey of mining practice. A. H. Hubbell. il Eng & Min J 152:108-15 F; 80-3 Mr '51

MINE equipment—*Continued*
Trackless mining succeeds in heavy, abrasive iron ore. il plans Eng & Min J 152:58-62 Ja '51
See also
Coal mines and mining—Equipment
Electricity in mining
Fans, Mine
Mine cages
Mine cars
Mine hoisting
Mining machinery
Rock drills

MINE filling
Sand-fill method at Dayrock resulted in 12 benefits. R. Farmin and C. E. Sparks. plans Eng & Min J 152:92-7 S '51

MINE fires
Carbon dioxide content of mine-fire atmospheres as an aid when fighting metal-mine fires. S. H. Ash. 7pls U S Bur Mines Information Circ 7590:1-25 bibliog(p23-5) '50
Mine safety and fire prevention; Kerr-Addison mine. il Can Min J 72:167-9 Ap '51
See also
Coal mines and mining—Fires and fire protection

MINE foremen
Foreman's role in labor relations. A. J. Bartlett. Coal Age 56:98+ Ja '51
Foremanship and citizenship. il Coal Age 55:102+ D '50
Sage advice to mine foremen. J. J. Rutledge. il Explosives Eng 29:118-19 Jl '51
Think! it's part of every job. Coal Age 56:120-1 Je '51

MINE haulage
Advances in underground transportation. P. R. Paulick. il Min Cong J 37:71-3 F '51
Analysis of haulage fatalities in bituminous-coal mines in 1950. M. J. Ankeny and D. S. Kingery. U S Bur Mines Information Circ 7604:1-28 '51
Diesel truck haulage through inclined adit. V. C. Allen. diag Min Eng 3:Trans 505-6 Je '51
Diesels in the mining industry. G. W. Grupp. il Diesel Power 29:34-7 Mr '51
Loading and hauling progress. il Eng & Min J 152:113-15 Jl '51
Modern machines and methods assure efficient trackless mining. J. H. Edwards. il plans diags Coal Age 56:80-5 My '51
Modern underground transportation. G. M. Rigg. il plans Min Cong J 36:27-9+ N '50
Practical design considerations for high tension belt conveyor installations. J. W. Snavely. diags Min Eng 3:Trans 237-51 Mr '51
Underground-haulage trends at bituminous mines. W. H. Young and R. L. Anderson. Coal Age 56:96-7 Je '51
See also
Coal mining machinery—Conveyors
Electric locomotives, Mine
Locomotives, Mine
Mine cars
Mine transportation
Motor trucks in mining

Safety measures

Automatic traffic controls permit faster, safer haulage. il plan Eng & Min J 152:94-5 My '51

MINE hoisting
Hydraulic hoisting; abstracts. P. S. Gardner, jr. Min Cong J 36:68 O '50; Steel 128:82 Ja 8 '51
Locking type mining ropes. R. Saxton. diags Can Min J 72:66-8 Mr '51
Wire ropes in mines; conference. Engineering 170:515-17 D 15 '50

Safety measures

Double hoist-rope on man-trip increases safety 100 per cent. il Coal Age 56:114 My '51

MINE hoisting, Electric
Barnborough colliery; supply arrangements for large winder. il Elec R (Lond) 148:1121-3 Je 1 '51
Dynamic braking and motor control system for a.c. winders. diag Engineer 191:228-9 F 16 '51; Elec R (Lond) 148:399-401 F 23 '51; Electrician 146:647-9 F 23 '51
Dynamic braking of alternating-current motors. D. Harrison. diag Engineering 170:528-9 D 22 '50
Large clutch drum winder at Barnburgh colliery. il diags Engineer 192:8-11 Jl 6 '51
Mechanical and surface plant; Kerr-Addison mine. il Can Min J 72:145-7 Ap '51
Modern hoisting trends. il Eng & Min J 152:119 Jl '51
Transients in electric mine-winders and the effects on rope stresses; discussion. Electrician 146:979-80 Mr 23 '51

MINE inspection
Inspection branch, Ontario Department of mines. W. O. Tower. Can Min J 71:73-5 N '50

MINE inspectors' institute of America
Annual meeting, 41st, Lexington, Ky. June 4-6. Coal Age 56:140-1+ Jl '51

MINE lighting
Better illumination needed. M. H. Forester. il Min Cong J 36:35 O '50
Better light at the mine face. G. F. Prideaux. il Nat Safety N 62:24-5+ N '50
Studies in acetylene flames; dangers associated with carbon monoxide produced from acetylene lamps in coal mines. A. P. C. Cumming and J. A. Horn. bibliog J Ap Chem 1:198-202 My '51
Technology of illumination. G. F. Prideaux. il Min Cong J 36:34-5 O '50

MINE locomotives. See Electric locomotives, Mine; Locomotives, Mine

MINE management
Better mining through better management; Hollinger consolidated gold mines. il Eng & Min J 152:71-102 Ap '51
General office and accounting; Kerr-Addison mine. il Can Min J 72:156-62 Ap '51
How to operate a small mine in Sonora, Mexico. H. H. Fields. il map Min Eng 187:1110-13 N '50
How to plan cycles for higher mine output; for flat deposits, and for steep veins. R. W. Jenkins; L. Bishop. diag Eng & Min J 152:108-9 Jl '51
Incentive wage systems increase labor efficiency. J. G. Hall. il Min Cong J 37:42-4 Je '51
Recent operating improvements at Kennecott's Utah copper mine. L. F. Pett. Min Eng 3:Trans 592-6 Jl '51
Successful small-mine incentive plan; Callahan zinc-lead co. J. E. Dunn. diags Eng & Min J 152:85-7 Je '51
See also
Coal mines and mining—Management
Mine foremen
Mining methods

MINE, mill and smelter workers, International union of. See International union of mine, mill and smelter workers

MINE models
It pays to use scale models, for skip pocket installation; for sink-float plant installation. F. N. Bull, jr.; H. R. Banks. il Eng & Min J 152:90-1 S '51

MINE pumping
Pointers in pumping. il Eng & Min J 152:118 Jl '51

MINE pumping, Electric
Dewatering flooded mine; Packer colliery, Duryea anthracite co. il plan diag Coal Age 55:98-100 N '50
Turbine-pump installation slashes mine-drainage costs; New River co. il map diag Coal Age 56:84-8 Ag '51

MINE pumps
Automatic control of small centrifugal pumps. W. H. Lesser. il diags Coal Age 56:94-7 My '51
Deepwell-turbine pumping. R. D. Norton. il diag Coal Age 56:83-5 Jl '51
Pump parts last longer with silicon carbide. J. J. Burns. il Eng & Min J 151:94-5 D '50

MINE reports
You can streamline mine reporting; Hollinger consolidated gold mines. H. J. Murray. Eng & Min J 152:81-2 Ap '51

MINE rescue work
Am I my brother's keeper? how six men answered. Coal Age 56:122+ F '51

MINE roofs
Air losses cut and roof and ribs protected by sealing with plastic film. O. C. Prickett. il Coal Age 56:98-100 Mr '51
Controlling dust in drilling operations for roof bolts; abstract. C. W. Owings. Coal Age 56:196+ F '51
Drill ram makes roof-bolting fast and sure. il Coal Age 55:106 D '50
Economy of roof bolting; comparing costs of timbering and roof bolting. G. N. McLellan. il Min Cong J 37:37-9 S '51

MINE roofs—*Continued*

Falls of roof; the number one killer in bituminous-coal mines. J. J. Forbes and others. U S Bur Mines Information Circ 7605:1-11 '51; il Excerpt. Coal Age 56:100+ Jl '51; Abstract. Mo Labor R 73:180-2 Ag '51

Greater coal production at Gorgas mine by roof bolting and continuous miner. M. H. Fies. flow sheet il plans Min Eng 187:1238-43 D '50

How conventional timbers and suspension supports help control beam action in mine roof. il Coal Age 55:102+ N '50

Overhead roof support; application of roof bolting. A. T. Cross and P. H. Price. il diags Min Cong J 37:90-2 F '51

Roof-bolting benefits ventilation; with cost data. W. D. Meakin. il diags Min Cong J 37:41-3 Ja '51

Roof bolting eliminates timber at Telluride. diag Eng & Min J 151:110 D '50

Roof bolting in West Virginia. E. H. Brown and J. Bierer. il plans diags Min Cong J 37:31-5 My '51

Roof bolting; modern ground support methods. diags Eng & Min J 152:112 Jl '51

Roof bolts up efficiency 50 per cent. il Coal Age 56:86-8 S '51

Roof support; American mining congress Coal division annual meeting, Cleveland, May 14-17; abstracts of papers. Min Cong J 37:69-71 Je '51

Sealing roof and stoppings; plastic film applied with spray gun. F. R. Zachar. il Coal Age 56:90-2 Ap '51

Specifications for roof bolting materials. il diags Min Cong J 37:60-1 Mr '51

Wet rotary drilling improves roof-bolting results. J. K. Berry. il Coal Age 56:74-6 My '51

MINE shafts

Automatic oilers lubricate shaft guides on shift. il Eng & Min J 152:106 Je '51

Combination jumbo and slusher speeds incline shaft project. L. Larssen and E. Welle-Strand. diag Eng & Min J 151:87 D '50

Creighton number seven shaft and concentrator; International nickel co. il Can Min J 72:90-2 S '51

Double deck slope serves Pleasant View; West Kentucky coal co. D. Read. il diag Min Cong J 36:42-4 N '50

Shaft guide anchors permit easy alignment. diags Eng & Min J 152:93 Ja '51

Shaft safety increased by three shop-made cage attachments. il Coal Age 56:108 Ap '51

Shop-made pump cradle simplifies vertical-shaft dewatering. diag Coal Age 56:120 F '51

See also
Mine hoisting
Shaft sinking

MINE shops

Controlled maintenance; Providence repair shops of the Hudson coal co. H. Davis. il Coal Age 56:78-83 Ag '51

How to hold full production through low-cost maintenance. E. T. Turner. Eng & Min J 152:149+ Jl '51

Modern underground shop; Old Ben number nine mine. il plan Coal Age 56:92-5 Jl '51

MINE signals, Electric

Dual battery automatic equipment for colliery shaft signalling. il diag Engineer 191:588 My 4 '51

Fan stoppage gives warning in main shop. il Coal Age 55:106 N '50

MINE skip wheels

Rubber-tired wheels result in smoother skip travel. diags Eng & Min J 151:112 D '50

MINE surveying

Blast hole spotting aid. diags Can Min J 71:68 D '50

New survey method. J. G. Kelley. diag Eng & Min J 151:101-2 D '50

Underground survey connection is right on the nose. plan diag Eng & Min J 152:132 Ja '51

MINE taxation

Administration's proposal to reduce oil, gas, and mineral percentage depletion allowance. R. Gibbs. Chem & Eng N 29:1282-3 Ap 2 '51

Depletion in federal income taxation of mines. K. S. Benson. Min Eng 3:Trans 612-16 Jl '51

Income tax program for mineral producers. G. S. Borden. Min Eng 3:503-4 Je '51

Tax tips for small mines. L. J. Randall. Eng & Min J 152:69-71, 130 Ja '51

Taxes and a war for freedom. L. Ware. Min Eng 3:580-1 Jl '51

MINE telephone

Safe communication in inflammable gas or vapour hazards. R. C. Woods. Inst E E Proc 98 pt 1:12-13 Ja '51; Abstract. Elec R (Lond) 147:594 O 20 '50

See also
Radio telephone in mines

MINE temperature

How Magma's new cooling plant combats the mine heat problem. G. L. Augustadt. il diags Eng & Min J 152:72-9 S '51

MINE timber

How Glen Alden coal co. employs a wood-preserving plant to get longer life from timber. E. M. Griffith. il diag Coal Age 56:74-6 Ja '51

Packaged timber handling. T. S. Veazey, jr. il Min Cong J 36:40-3 D '50

Treatment of timber. F. S. Crawford and J. H. Bird. 9pls U S Bur Mines Information Circ 7597:1-4 '51

MINE timbering

Economy of roof bolting; comparing costs of timbering and roof bolting. G. N. McLellan. il Min Cong J 37:37-9 S '51

How conventional timbers and suspension supports help control beam action in mine roof. il Coal Age 55:102+ N '50

Method of driving flat raises. T. Hewitt. diags Can Min J 72:51-2 Ja '51

See also
Mine roofs

MINE tracks

Modern underground transportation. G. M. Rigg. il plans Min Cong J 36:27-9+ N '50

Rail joint welding for coal mine tracks. A. E. Belton and others. il diags Min Cong J 37:49-52 Je '51

MINE transportation

Belt conveyors for low-cost continuous transport. il Eng & Min J 152:105-7 Jl '51

New self-propelled rubber-tired conveyor train provides continuous transportation. C. H. Snyder. il Coal Age 56:77-9 My '51

Truck and conveyor transport presses locomotive haulage hard. il Eng & Min J 152:101-4 Jl '51

See also
Motor trucks in mining

MINE ventilation

Dust control and ventilation at Dome mines. C. L. Huggins. diag Can Min J 72:93-5 S '51

Roof-bolting benefits ventilation; with cost data. W. D. Meakin. il diags Min Cong J 37:41-3 Ja '51

Simplified barometric surveying. M. H. Hall. diag Coal Age 56:78-9 Jl '51

Ventilation and dust control; Kerr-Addison mine. il plans Can Min J 72:135-40 Ap '51

See also
Fans, Mine

MINE water

Acid drainage from coal mines. S. A. Braley. Min Eng 3:Trans 703-7 Ag '51

Buried valley of the Susquehanna river; anthracite region of Pennsylvania. S. H. Ash. bibliog maps diags 35 fold pls [pl 7-35 in box] U S Bur Mines Bul 494:1-27 '50

Medium for the study of the bacterial oxidation of ferrous iron. W. W. Leathen and others. Science 114:280-1 S 14 '51

New precipitation plant at Butte; Anaconda recovers copper from mine water. A. C. Bigley and others. il diag Min Cong J 37:48-53 Mr '51

See also
Mine drainage
Mine pumping, Electric

MINER, Carl Shelley, 1878-

Business world changes attitude toward science; American institute of chemists, award banquet. por Chem & Eng N 28:3773 O 30 '50

MINERAL engineering

Study and teaching

Directory of mineral engineering schools in the United States and Canada. Min Eng 3:676-8 Ag '51

Enrollment study shows decrease in future engineers. W. B. Plank and H. J. Petrie. il map Min Eng 3:674-6 Ag '51

MINERAL industries

A.I.M.E. Industrial minerals division regional meeting, Norman, Okla. Oct. 17-20. Rock Prod 53:139-40+ D '50

Industrial minerals; annual review. R. M. Foose. il Min Eng 190:129-32 F '51

Industrial minerals, 1950. J. L. Gillson. il Min Cong J 37:64-6 F '51

It pays a company to keep looking; Foote mineral co. il Bsns W p82+ Mr 24 '51

Mineral industry futures can be predicted. S. G. Lasky. Eng & Min J 152:60-4 Ag '51

Non-metallics, 1950. il Eng & Min J 152:98-105, 107 F '51

See also

Aggregates
Coal trade
Feldspar
Limestone
Metal trade
Metallurgy
Mines and mineral resources
Mining industry and finance
Petroleum industry and trade
Phosphates
Quarries and quarrying
Rock products industry
Salt
Stone, Crushed
Sulfur industry and trade

Canada

Mineral production; substantial gain in 1949. H. MacLeod. Can Min J 72:56-65 F '51

United States

How to deal with defense agencies. Eng & Min J 151:72-4 N '50

Job for 1951; produce and prepare. Eng & Min J 152:71-3 F '51

MINERAL lands

Minerals production and the public domain; abstract. C. G. Davidson. Min Cong J 36:79 O '50

See also

Mines and mineral resources
Oil lands

MINERAL wool

Keeping in the heat; mineral wool insulating cement. il diags Mill & Factory 48:90-2 My '51

Mineral wool forms blanket; insulation of turbines. Steel 129:114+ Ag 13 '51

Mineral wool on burner lines cuts annoying gas shriek. il Gas Age 108:43 Ag 16 '51

National Gypsum's mineral wool plants. il Rock Prod 53:111 D '50

Pipe and boiler insulation techniques. il diags Dom Eng 177:146+ Je '51

Wire-spotting technique for insulation; application of mineral wool blanket insulation by spot-welding galvanized wires. R. L. Davis. il diag Pet Eng 22:C21-2 N '50

MINERALOGICAL analysis

Fluorometric determination of zirconium in minerals. W. C. Alford, L. Shapiro and C. E. White. bibliog Anal Chem 23:1149-52 Ag '51

Infrared absorption spectra of minerals and other inorganic compounds. J. M. Hunt, M. P. Wisherd and L. C. Bonham. bibliog Anal Chem 22:1478-97 D '50

MINERALOGISTS

See also

Miers, Henry

MINERALOGY

Clay mineralogy and the petroleum industry. R. E. Grim. bibliog il World Oil 132:61-2+ Mr '51

Johann Nepomuk Fuchs. W. Prandtl. il J Chem Educ 28:136-42 Mr '51

See also

Abrasives
Crystallography
Feldspar
Geology
Metals
Mica
Minerals
Mines and mineral resources
Ore deposits
Rocks
Talc

Nomenclature

Nomenclature of epidote rocks. P. T. Flawn. bibliog Am J Sci 249:769-77 O '51

Terminology

Classification and definitions of textures and mineral structures in ores. G. M. Schwartz. bibliog Econ Geol 46:578-91, pl 1-5 S '51

MINERALOGY, Determinative

Influence of the immersion medium on the rotation properties of anisotropic minerals in reflected light. E. N. Cameron. Econ Geol 46:68-75 Ja '51

Kentron microhardness tester; quantitative tool in opaque mineral identification. F. Robertson and W. J. Van Meter. il diags Econ Geol 46:541-50 Ag '51

Polarization figures and rotation properties in reflected light and their application to the identification of ore minerals. E. N. Cameron and L. H. Green. diags Econ Geol 45:719-54; 46:337-40 D '50, My '51

MINERALS

Abrasion of nine minerals of sand size in ball mills. H. L. Alling. bibliog Am J Sci 249:569-90 Ag '51

Atomic structure models for clay minerals. A. T. Perkins. bibliog il J Chem Educ 28:388-9 Jl '51

Bedrock source of tills in southwestern Ontario. C. P. Gravenor. bibliog map Am J Sci 249:66-71 Ja '51

Behavior of mineral particles in electrostatic separation. S. Sun and others. bibliog diag Min Eng 187:Trans 369-73 Mr '50; Discussion. 187:Trans 1152-3 N '50

Boyd speeds up minerals program; head of Defense minerals administration. Chem & Eng N 29:555 F 12 '51

Electrochemical properties of mineral membranes; membrane characteristics of clay pastes. S. K. Mukherjee and C. E. Marshall. J Phys & Colloid Chem 55:61-8 Ja '51

Industrial minerals; annual review. R. M. Foose. il Min Eng 190:129-32 F '51

Industrial minerals in Ontario. D. F. Hewitt. il maps Can Min J 71:155-65 N '50

Industrial minerals, 1950. J. L. Gillson. il Min Cong J 37:64-6 F '51

Influence of the immersion medium on the rotation properties of anisotropic minerals in reflected light. E. N. Cameron. Econ Geol 46:68-75 Ja '51

Mineral from pumiceous tuff in Japan. T. Sudo. Science 113:266-7 Mr 9 '51

Minerals are required despite defense slump. Eng & Min J 152:72-5 My '51

Minerals from the sea. C. M. Shigley. bibliog flow sheets il J Metals 191:25-9 Ja '51

Minerals; imports needed; Defense materials procurement agency to jack up expansion. Bsns W p24 S 1 '51

New surface measurement tool for mineral engineers; krypton adsorption method. F. W. Bloecher, jr. bibliog diag Min Eng 3:Trans 255-8 Mr '51; Discussion. 3:Trans 981-3 N '51

Non-metallics, 1950. il Eng & Min J 152:98-105, 107 F '51

Northwest industrial minerals. A. O. Bartell and R. S. Mason. il Min Eng 3:315-19 Ap '51

Southwestern industrial minerals. H. B. Foxhall. il Min Eng 3:412-14 My '51

Structure and petrology of the Peach Bottom slate, Pennsylvania and Maryland, and its environment. S. L. Agron. diags Geol Soc Bul 61:1265-306, pl 1-11 bibliog (p 1305-6) N '50

See also

Aggregates
Allanite
Apatite
Asbestos
Chromite
Clay
Coal
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Sulfur
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Vermiculite
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MINERALS—*Continued*

Stockpiling

Attention, miners! higher premium prices for scarce materials. Bsns W p46 O 21 '50

Stockpiling; positive American approach to the problem of too little and too late. J. D. Morgan, jr. Min Eng 3:232-3 Mr '51

MINERS

All metal mining, employment and earnings, 1947-1950; tabulation. Iron Age 167:358 Ja 4 '51

Employee training reduces costs, increases labor efficiency at Utah Copper. H. B. Gundersen. il Min Eng 3:768-71 S '51

Incentive wage systems increase labor efficiency. J. G. Hall. il Min Cong J 37:42-4 Je '51

Manpower trends in the mining industries. E. Weinberg. Mo Labor R 73:133-40 Ag '51

Miners with broken backs; rehabilitation of injured miners. W. Schweisheimer. Can Min J 72:71-2 Mr '51

St John ambulance blood grouping at mines in the Porcupine camp. J. R. Newman. il diags Can Min J 72:70-3 Jl '51

Struggle for control between mine labor unions catches operators and vital productions in line of fire. J. M. Gambatese. Eng & Min J 152:101-2 S '51

You can do something about manpower. S. W. Wood. Eng & Min J 152:94-5 Je '51

See also

Coal miners
Copper miners
Gold miners
Mine foremen
United mine workers of America

Diseases and hygiene

Report on a country-wide study of silicosis in the metal mines of Japan. M. Yamamoto. A M A Archives Ind Hygiene & Occup Med 3:339-49 Ap '51

Japan

Report on a country-wide study of silicosis in the metal mines of Japan. M. Yamamoto. A M A Archives Ind Hygiene & Occup Med 3:339-49 Ap '51

MINERS' lamps. See Safety lamps, Electric

MINES and mineral resources

Domestic supplies of strategic minerals. D. D. Baker. il Min Cong J 37:69-70+ F '51

Geology is still the key to mineral supplies; annual review. R. H. McConnel. il Min Eng 190:113-17 F '51

Mining geology and exploration. F. S. Turneaure. bibliog(34 titles) il map Min Cong J 37:93-5 F '51

Northwestern observes centennial; conference on science, technology, and world resources, Evanston, Ill. February 28-March 2. Chem & Eng N 29:1111-12 Mr 19 '51

Principal mineral strategic problems in a conflict between East and West. E. Just. maps Eng & Min J 152:80-4 Je '51

Sodalite and apatite in Canada. D. S. M. Field. il Can Min J 72:82-3 S '51

See also

Bauxite
Coal
Coal mines and mining
Copper mines and mining
Geology
Iron mines and mining
Lead mines and mining
Lignite
Magnesite
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Quarries and quarrying
Salt domes
Salt mines and mining
Shale
Sulfur mines and mining
Uranium mines and mining
Zinc mines and mining

Abandoned mines

How tough can a tunnel get? old coal mine turns B&O railroad's number one into nightmare. H. W. Richardson. il diags Constr Methods 33:60-4+ S '51

Swedes store oil underground in disused mine and save money. il Eng N 146:56-7 Ap 19 '51; Comp Air Mag 56:218 Ag '51

Underground mushroom farm. T. Slager. il diags Comp Air Mag 56:119-22 My '51

Bibliography

List of publications of the Bureau of mines, July 1, 1910-January 1, 1949. H. J. Stratton and M. E. Winslow, comps. 460p pa $2 Supt. of doc, Washington '50

Supplement to list of publications, Bureau of mines, Jan. 1 to Dec. 31, 1949; with subject and author index. 57p U.S. Bur. of mines, Washington '50

Alaska

Garnet deposits near Wrangell southeastern Alaska. C. T. Bressler. map U S Geol S Bul 963-C:81-93; pl 7 pa $1 Supt. of doc. '50

See also

Copper mines and mining—Alaska

Alberta

1950 mineral development in Alberta. C. W. Jackman. il Can Min J 72:73-5 F '51

Arizona

San Manuel's ore proves caveable. il Eng & Min J 152:118 Ja '51

Arkansas

Arkansas story; minerals. il Manuf Rec 120:73-7 F '51

Mining aluminum ore; Arkansas bauxite. E. W. Buskett. il Min Cong J 37:36-8 Je '51

Brazil

Mica deposits in Minas Gerais, Brazil. W. T. Pecora and others. il map plans diags U S Geol S Bul 964-C:205-305, pl 14-17[in pocket] bibliog(p295-7); pa 60c Supt. of doc. '50

See also

Manganese mines and mining—Brazil

British Columbia

British Columbia mining review, 1950. G. C. Cross. il Can Min J 72:68-72 F '51

Uranium mineralization in British Columbia. J. S. Stevenson. il map Econ Geol 46:353-66 Je '51

California

Chromite deposits; Sweetwater, Castro, Trinidad, New London, and Hilltop mines, San Luis Obispo county, Calif. M. C. Smith and S. Ricker. 9pls U S Bur Mines Rep of Invest 4783:1-7 '51

Industrial salts; production at Searles lake. J. E. Ryan. bibliog il Min Eng 3:Trans 447-52 My '51

Canada

Canada's contribution in strategic raw materials. map Economist 160:377-8 F 17 '51

Canada's metals and minerals; developments in 1948 reviewed. Chem Age (Lond) 64:11-12 Ja 6 '51

Canadian technology advance in 1950. H. R. Rice. il Can Min J 72:97-100 F '51

Gem varieties of Canadian feldspar. D. S. M. Field. il Can Min J 72:73-4 Ag '51

Light weight drill combination used in Canadian mines. J. C. Heaslip and T. N. Dawson. il Min Cong J 37:40-4 S '51

Magnitude of Canadian asbestos industry. P. M. Malouf. il Can Min J 72:84-6 S '51

Metals shift; Canada swings production emphasis away from gold. J. Montagnes. Barron's 31:11-12 Ap 23 '51

Mineral hunters invade Far North this summer. J. Montagnes. Barron's 31:20 Je 25 '51

Mineral production; substantial gain in 1949. H. MacLeod. Can Min J 72:56-65 F '51

Prospecting gets government aid. G. C. Cross. Can Min J 72:82 Je '51

Ruby and sapphire in Canada. D. S. M. Field. il diag Can Min J 72:75-7 Jl '51

Carribean region

First Caribbean bauxite development; Reynolds Jamaica mines, ltd. O. C. Schmedeman. il maps Eng & Min J 151:98-100 N '50

MINES and mineral resources—*Continued*

Chile

Quicksilver deposits of Chile. J. F. McAllister and others. maps plan U S Geol S Bul 964-E:361-400, pl 20-30[in pocket]; pa 75c Supt. of doc. '50

Colorado

Colorado pegmatite deposit yields beryl and mica. C. A. Wemlinger. il Eng & Min J 151:92-4 N '50

Colorado's Leadville tunnel. il Min Eng 3: 416 My '51

Geology and ore deposits of the Front Range, Colorado. T. S. Lovering and E. N. Goddard. il maps plans U S Geol S Professional Pa 223:1-319, pl 1-30 '50

Leadville drainage tunnel. il Comp Air Mag 56:241-2 S '51

Probe for flooded mine workings; Leadville drainage tunnel. Min Cong J 37:72-3 My '51

Dominican Republic

Geology and mineral resources of the Maimón-Hatillo district, Dominican Republic. A. H. Koschmann and M. Gordon, jr. bibliog U S Geol S Bul 964-D:307-59, pl 18-19[in pocket]; pa 75c Supt. of doc. '50

Germany

Graphite of the Passau area, Bavaria. R. G. Wayland. bibliog il map diags Min Eng 190:Trans 166-72 F '51

Greece

Mines classical Greece reopen; historic Laurium mines. R. Butler. il Can Min J 72:83-4 Je '51

Idaho

Atlas project to probe for deep ore in Idaho's silver belt. H. W. Ingalls. map Eng & Min J 152:108 Je '51

Mica and beryl pegmatites in Idaho and Montana. W. C. Stoll. maps plans diags U S Geol S Professional Pa 229:1-64, pl 1-9; pa $1.50 Supt. of doc. '50

Vulcan exploration project encounters favorable ore. diag Eng & Min J 152:124 Ap '51

World's deepest lead mine; Morning silver-lead-zinc mine at Mullan. H. W. Ingalls. il Comp Air Mag 56:133 My '51

India

Genesis of asbestos and barite, Cuddapah district, Rayalaseema, south India. P. B. Murthy. Econ Geol 45:681-96 bibliog(52 titles, p695-6) N '50

Indian mineral developments; bauxite, beryllium and gypsum. Chem Age (Lond) 63:786 D 2 '50

Japan

Japanese mining and petroleum industries; programs under the occupation. R. Y. Grant. Science 112:577-88 N 17 '50

Manitoba

Mining in Manitoba in 1950. J. P. deWet. il Can Min J 72:77-81 F '51

See also

Hudson Bay mining and smelting company

Mexico

How to operate a small mine in Sonora, Mexico. H. H. Fields. il map Min Eng 187: 1110-13 N '50

See also

Antimony mines and mining—Mexico

Tin mines and mining—Mexico

Mississippi

Mississippi's mineral resources play important part in economy. il Manuf Rec 120:82-3 Je '51

Missouri

Concentration of the complex copper-lead-cobalt-nickel ores of southeast Missouri. M. M. Fine and others. il Min Eng 3:Trans 602-4 Jl '51

Mining Missouri limestone near Kansas City. F. Castellani. il Explosives Eng 29:86-8 My '51

Montana

Corundum deposits of Gallatin and Madison counties, Montana. S. E. Clabaugh and F. C. Armstrong. U S Geol S Bul 969-B:29-53, pl 11-15[in pocket]; pa 75c Supt. of doc. '50

Fluorspar prospects of Montana. C. P. Ross. maps diag U S Geol S Bul 955-E:173-224, pl 18-28; pa $1 Supt. of doc. '50

Mica and beryl pegmatites in Idaho and Montana. W. C. Stoll. maps plans diags U S Geol S Professional Pa 229:1-64, pl 1-9; pa $1.50 Supt. of doc. '50

Mines and mineral deposits (except fuels) Broadwater county, Mont. G. C. Reed. bibliog 19pls U S Bur Mines Information Circ 7592:1-62 '51

Mines and mineral deposits (except fuels) Cascade county, Mont. A. F. Robertson. 11pls U S Bur Mines Information Circ 7589: 1-81 bibliog(p75-6) '51

Mines and mineral deposits (except fuels) Gallatin county, Mont. G. C. Reed. bibliog 4pls U S Bur Mines Information Circ 7607:1-14 '51

Mines and mineral deposits (except fuels) Judith Basin county, Mont. A. F. Robertson and R. N. Roby. 7pls U S Bur Mines Information Circ 7602:1-51 bibliog(p46-8) '51

Mining vermiculite ore for national distribution; Libby, Mont. il Rock Prod 54:64-6 S '51

Morocco

Mineral resources research and exploitation laws; French zone. For Comm W 44:14-15 Ag 6 '51

Private Point four in Morocco. H. Solow. il map Fortune 44:107-11+ S '51

Nevada

Magnesium-mineral resources of the Currant Creek district, Nevada. C. J. Vitaliano. bibliog il maps plan U S Geol S Bul 978-A:1-25, pl 1-8[in pocket]; pa 70c Supt. of doc. '51

See also

Gold mines and mining—Nevada

New Brunswick

Mining industry of New Brunswick, 1950. R. J. Gill. il Can Min J 72:94-5 F '51

New South Wales

Geology of the Broken Hill ore deposit, Broken Hill, N.S.W., Australia. J. K. Gustafson and others. maps diags Geol Soc Bul 61:1369-437, pl 1-8 bibliog(p 1436-7) D '50

New York (state)

Adirondack mining; illustrations with text. Eng & Min J 151:75-7 N '50

Mining and quarry industries of New York state, 1937 to 1948. C. A. Hartnagel and J. G. Broughton. (New York state museum bul. 343) 130p Univ. of the state of New York, Albany '51

Occurrence of chrysoberyl at Greenfield, N.Y. R. A. Navias and J. H. Ostrom. map Am J Sci 249:308-11 Ap '51

Wollastonite, a new industrial mineral; Willsboro mining co. R. B. Ladoo. flow sheet il Eng & Min J 151:95-7 N '50

Northwest Territories, Canada

Northwest Territories in 1950. W. M. Bonham. Can Min J 72:66-7 F '51

Northwestern part of Canada's pre-Cambrian shield. H. C. Giegerich. Can Min J 71:62-3 D '50

Northwestern states

Northwest industrial minerals. A. O. Bartell and R. S. Mason. il Min Eng 3:315-19 Ap '51

Northwest industrial minerals conference, Portland, Ore. Chem & Eng N 29:2052 My 21 '51

Nova Scotia

Mining industry of Nova Scotia, 1950. A. H. McKinnon. Can Min J 72:95-6 F '51

Ontario

Canadian mine surface plants; Madsen Red Lake gold mine, Madsen, Ontario. plan Can Min J 71:57-9 D '50

MINES and mineral resources—Ontario—*Cont.*

Department of mines. H. C. Rickaby. Can Min J 71:65-72 N '50

Fuels of Ontario. A. R. Crozier. il Can Min J 71:166-8 N '50

General geology and structure in Kirkland Lake area. W. S. Savage. il map Can Min J 71:107-9 N '50

Importance of Ontario in Canadian mining. V. C. Wansbrough. Can Min J 71:93-5 N '50

Industrial minerals in Ontario. D. F. Hewitt. il maps Can Min J 71:155-65 N '50

New Calumet mines. W. M. Goodwin. il map diag Comp Air Mag 56:155-8 Je '51

Non-ferrous base metal deposits in Ontario. J. E. Thomson. Can Min J 71:152-4 N '50

Ontario annual review, 1950. J. C. Browning. il Can Min J 72:81-7 F '51

Prospecting in Ontario; historical sketch. C. W. Knight. il map Can Min J 71:76-87 N '50

Report of Royal commission. E. A. Collins. Can Min J 72:62-5 Jl '51

Spectrographic study of platinum and palladium in common sulphides and arsenides of the Sudbury district, Ontario. J. E. Hawley and others. bibliog il Econ Geol 46:149-62 Mr '51

See also

Ontario mining association

Oregon

See also

Mercury mines and mining—Oregon

Pennsylvania

Diamond-drill exploration of the Dillsburg magnetite deposits, York county, Pennsylvania. P. E. Hotz. bibliog diags U S Geol S Bul 969-A:1-27, pl 1-10[in pocket]; pa 70c Supt. of doc. '50

Philippine Islands

How Philippine mines are meeting the future. J. B. Huttl. flow sheet il Eng & Min J 152:85-9 S '51

Why Philippine mining hasn't come back. J. B. Huttl. il Eng & Min J 152:80-3 Ag '51

Portugal

Portuguese mining developments. For Comm W 43:19 My 21 '51

Quebec (province)

Canadian mine surface plants; Quemont-mining corporation, Noranda, Que. plan Can Min J 72:68-9 Je '51

Geology and mineral occurrances. R. B. Graham. il maps plan diags Can Min J 72:65-71 S '51

Quebec annual review, 1950. J. C. Browning. il Can Min J 72:88-93 F '51

Russia

Russian mineral resources believed to be adequate. T. S. Lovering. Pet Eng 23:C36 Ap '51

Russia's mineral potential. P. M. Tyler. il Min Eng 3:494-7 Je '51

Russia's mineral potential called tremendous. Chem & Eng N 29:902 Mr 5 '51

Saskatchewan

Beaverlodge-Athabaska geology search for new pitchblende fields. W. J. Bichan. il map Can Min J 72:79-82 Je '51

Saskatchewan mineral industry, 1950. J. T. Cawley. Can Min J 72:75-6 F '51

Uraninitic pegmatites, northern Saskatchewan. J. B. Mawdsley. maps Can Min J 72:66-7 Ja '51

South Africa

Chromite investigations in South Africa; utilisation of Transvaal ores. I. M. Kahn and A. M. Schady. Chem Age (Lond) 64:851-2 Je 2 '51

Southwestern states

Southwestern industrial minerals. H. B. Foxhall. il Min Eng 3:412-14 My '51

Sweden

Opening pyrite deposit in Sweden. Can Min J 72:85 Je '51

United States

AEC raw materials program. il maps Min Cong J 37:86-9 F '51

Utah

Geochemical prospecting in the Park City district. R. E. Gilbert. Min Cong J 37:58-61 S '51

Geochemical techniques as applied in recent investigations in the Tintic district, Utah. H. Almond and H. T. Morris. bibliog maps diags Econ Geol 46:608-25 S '51

Structure of East tintic district modified. T. S. Lovering. Min Cong J 37:61+ S '51

Washington (state)

See also

Iron ores—Washington (state)

Western states

Search for new mining districts. T. B. Nolan. bibliog Econ Geol 45:601-8 N '50

Wyoming

Investigation of sodium sulfate deposits in Bull lake, Carbon county, Wyo. W. A. Young. 6pls U S Bur Mines Rep of Invest 4816:1-9 '51

Yukon

Mining in Yukon, 1950. C. G. Cross. il Can Min J 72:65-6 F '51

MINIMUM wage

Chemical wages for government contract work set at 85c-$1.40. Oil Paint & Drug Rep 159:4+ Ja 1 '51

Higher wage floors go with defense work; check Walsh-Healey rules. Bsns W p 100-2+ Ja 6 '51

Men's dress shirts and nightwear; effect of minimum wage. J. F. Walker. Mo Labor R 73:166-70 Ag '51

Minimum wages in Latin America. J. Méndez. bibliog Int Labour R 62:116-40 Ag '50

Premature wails at southern sawmills. Bsns W p 112 O 28 '50

75-cent minimum wage; effects on fertilizer industry. L. E. Lewis. Mo Labor R 72:33-7 Ja '51

State minimum-wage laws and orders, July 1, 1942-July 1, 1950; revised supplement to bulletin 191. U S Women's Bur Bul 227, rev:1-65; pa 20c Supt. of doc. '50

State minimum wages; legislative changes, 1949-50. A. Angus and L. Sullivan. Mo Labor R 71:460-4 O '50

Threat of the Walsh-Healey act. G. D. Reilly and others. Harvard Bsns R 29:86-98 Ja '51

Walsh-Healey act; Tobin's secret weapon for higher minimum wages. Mod Ind 19:38-40 My '50; Reply. M. J. Tobin. 20:64-5+ N '50

MINING camps

Contract in Peru. Mrs H. T. Heard. il Min Eng 3:576-7 Jl '51

Labrador community built and supplied by air lift. il Heat & Ven 48:116 O '51

MINING costs

Economy of roof bolting; comparing costs of timbering and roof bolting. G. N. McLellan. il Min Cong J 37:37-9 S '51

MINING engineering

Canadian technology advance in 1950. H. R. Rice. il Can Min J 72:97-100 F '51

Controlling underground curves with offset line plugs. D. C. Shewmon. Coal Age 56:116+ F '51

Mine engineering; Kerr-Addison mine. il diags Can Min J 72:99-107 Ap '51

Opening the Pyne mine of the Woodward iron co. J. V. Beall. il diags Min Eng 187:1230-5 D '50

See also

Blasting
Coal mines and mining
Drilling and boring (earth and rocks)
Electricity in mining
Mine construction
Mine drainage
Mine haulage
Mine hoisting
Mine management
Mine pumping
Mine shafts
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MINING engineering—*Continued*

Bibliography

List of publications of the Bureau of mines, July 1, 1910-January 1, 1949. H. J. Stratton and M. E. Winslow, comps. 460p pa $2 Supt. of doc, Washington '50
Supplement to list of publications, Bureau of mines, Jan. 1 to Dec. 31, 1949; with subject and author index. 57p U.S. Bur. of mines, Washington '50

Safety measures

Don't be half safe! Coal Age 55:104 D '50
Igniter cord for lighting safety fuse. diag Eng & Min J 152:119 Ap '51
Management's viewpoint on safety. W. S. Row. Can Min J 72:75-6 Je '51
Mine safety and fire prevention; Kerr-Addison mine. il plan Can Min J 72:163-9 Ap '51
Mine safety makes progress. S. H. Ash. Min Eng 190:133-5 F '51
National safety competition of 1950; list of winners, 1925-1950; awards of certificates. F. T. Moyer. il Explosives Eng 29:71-85+ My '51
Safe production, not just safety is the target; Hollinger consolidated gold mines. J. Cooke. Eng & Min J 152:99 Ap '51
Safety at Sullivan. L. Beliveau. Can Min J 72:76-7 Ag '51
Safety supervision Upper Canada mines. E. A. Cheeseman. Can Min J 72:77-9 Jl '51
Safety then and now. J. T. Ryan, jr. il Safety Maint & Prod 101:28-9+ Je '51
Use of visual aids in the Morenci branch safety program, Phelps Dodge corp., Morenci, Ariz. M. L. Williams and A. D. Look. 6pls U S Bur Mines Information Circ 7598:1-6 '51
Wire ropes in mines; conference. Engineering 170:515-17 D 15 '50
Worker productivity in underground mining goes up with worker comfort. il diags Eng & Min J 152:116-17 Jl '51
See also
Coal mines and mining—Safety measures
Mine haulage—Safety measures

Study and teaching

Directory of mineral engineering schools in the United States and Canada. Min Eng 3:676-8 Ag '51
Enrollment study shows decrease in future engineers. W. B. Plank and H. J. Petrie. il map Min Eng 3:674-6 Ag '51
Experimental mine and quarries, Missouri School of mines and metallurgy. J. D. Forrester. il maps Min Cong J 37:45-7+ Jl '51
Research and educational facilities at the University of Alabama. J. R. Cudworth. il Min Eng 187:1250C-1250D D '50

MINING engineers
Oliver's training program. W. E. Cotter, jr. and F. Roleff. il Eng & Min J 151:74-81 D '50
Trained young engineers, your soundest investment; Hollinger consolidated gold mines. S. G. Ireland. Eng & Min J 152:94-5 Ap '51

MINING geologists, Japan, Society of. See Society of mining geologists, Japan

MINING geology (term)
Geological department; Kerr-Addison mine. il plans diag Can Min J 72:109-17 Ap '51

MINING industry and finance
Establishing the value of mineral properties. B. L. Wheeler. Min Eng 3:578-9 Jl '51
Geophysics pays off. S. F. Kelly. il Min Eng 3:498-500 Je '51
Minerals are required despite defense slump. Eng & Min J 152:72-5 My '51
Mining program to defend civilization. Eng & Min J 151:66-70 S '50; Discussion (Readers, like voters, think for themselves). 151:72-3+ D '50
Tariff needs of the mining industry; abstract. P. B. Jessup. Min Cong J 36:69-70 O '50
See also
Gold mines and mining—Finance
Gold mines and mining—Securities
Mine accounting
Mine taxation
Mineral industries
Mines and mineral resources
Mining costs

Securities

Golden autumn. I. U. Cobleigh. Comm & Fin Chr 174:1348 O 11 '51

Australia

See also
Broken Hill proprietary company

British Columbia

B.C. mineral production. Can Min J 72:81 S '51

MINING law
Proposals for changes in the mining laws; abstract. D. A. Callahan. Min Cong J 36:79-80 O '50
Proposals to revise mining laws; abstract. C. J. Parkinson. Min Cong J 36:80-1 O '50
Proposed changes in public land laws; abstract. C. F. Willis. Min Cong J 36:80 O '50
See also
Mine taxation

MINING machinery
Combination jumbo and slusher speeds incline shaft project. L. Larssen and E. Welle-Strand. diag Eng & Min J 151:87 D '50
Factors influencing the choice of a loading machine. D. W. Mitchell. bibliog Min Eng 3:Trans 426-30 My '51
Some innovations in equipment for scaling high roofs and mine walls. B. C. Brown and others. 11pls U S Bur Mines Rep of Invest 4739:1-11 bibliog(p9-11) '50
See also
Coal mining machinery
Rock drills

Exhibitions

South Bank exhibition; minerals of the Island. il diag Engineer 191:778-80 Je 15 '51

Maintenance and repair

How to hold full production through low-cost maintenance. E. T. Turner. Eng & Min J 152:149+ Jl '51

Testing

Mine tool maker digs its own mine; Joy mfg. co. proving ground. Bsns W p52 Ap 28 '51

MINING methods
Blasting aids to boost production. il diags Eng & Min J 152:111 Jl '51
Caving and drawing at Climax; theory of block caving. F. S. McNicholas. Min Eng 187:1116-18 N '50
Classification of block caving and draw methods. F. S. McNicholas. diags Min Eng 190: Trans 33-8 Ja '51
Climax slushing practices. W. K. McGlothlin and R. Henderson. il plan diags Min Cong J 37:26-9+ Jl; 24-7 Ag '51
Diamond-drill mining of a surface pillar. H. R. Rice. il diags Can Min J 71:55-6 D '50
Granby offsets rising costs by improving mining method. J. B. Huttl. il plan diags Eng & Min J 152-72-5 Ja '51
Grizzlies and chutes vs. mucking-machine drawpoints. diag Eng & Min J 152:102 My '51
How systematic study of methods will cut costs; Hollinger consolidated gold mines. M. R. Davey. Eng & Min J 152:76-7 Ap '51
Light weight drill combination used in Canadian mines. J. C. Heaslip and T. N. Dawson. il Min Cong J 37:40-4 S '51
Liquid fuels from oil shale. W. Q. Hull, B. Guthrie and E. M. Sipprelle. bibliog flow diags il diags Ind & Eng Chem 43:2-15 Ja '51
Long hole percussion drilling at Senator-Rouyn. H. R. Rice. il diags Can Min J 72:63-6 My '51
Mechanization at Fredericktown. S. A. White and J. A. Rood. il Min Cong J 37:34-6 S '51
Metal mining; annual review. il Min Eng 190:118-21 F '51
Metal mining practice. V. H. Clarke. il Min Cong J 37:40-2 F '51
Mining aluminum ore; Arkansas bauxite. E. W. Buskett. il Min Cong J 37:36-8 Je '51
Mining practice, Kerr-Addison mine. il plans diags Can Min J 72:76-98 Ap '51
Modified drift round at Beattie. R. F. Fry. diags Can Min J 72:72 Ag '51

MINING methods—*Continued*

National Gypsum's quarrying and mining practices. il diags Rock Prod 53:112-15 D '50

New mining methods tested by Menominee Range iron ore producers. P. D. Pearson and W. W. Jamar. il diags Min Eng 3: Trans 337-46 Ap '51

Pillar mining at Teck-Hughes. Eng & Min J 151:104 D '50

Some innovations in equipment for scaling high roofs and mine walls. B. C. Brown and others. 11pls U S Bur Mines Rep of Invest 4739:1-11 bibliog(p9-11) '50

Stope mining of limestone. H. A. Corre. il diags Rock Prod 54:128-30 Ja '51

Survey of mining practice. A. H. Hubbell. il Eng & Min J 152:108-15 F; 80-3 Mr '51

Trackless mining succeeds in heavy, abrasive iron ore. il plans Eng & Min J 152:58-62 Ja '51

World's deepest limestone mine; Baberton, Ohio. il Chem Age (Lond) 63:642-3 N 4 '50

See also

Blasting

Coal mines and mining—Methods

Mine management

Mining engineering

Oil shales—Mining methods

Quarries and quarrying

Shaft sinking

Sulfur mines and mining

Stripping operations

Diesel haulage at the Ruth open pit. P. Hett. il Min Cong J 36:45-7 N '50

Mining vermiculite ore for national distribution; Libby, Mont. il Rock Prod 54:64-6 S '51

Modern equipment cuts costs at Bagdad. E. R. Dickie. il Min Eng 3:767 S '51

Modern equipment revives old Tri-State area. D. Sims. il Eng & Min J 152:76-7 Ja '51

Open-pit drilling and blasting must serve the shovel. il Eng & Min J 152:99-100 Jl '51

Open-pit forum; annual review. H. N. Underhill. il Min Eng 3:226-7 Mr '51

Open pit mining favors high production efficiency. il Eng & Min J 152:94-8 Jl '51

Rotary air-blast drilling now ready for pit jobs. il Eng & Min J 152:74-5 Ag '51

Scraper assembly cuts costs at open-pit barite mine. H. J. Tillia. il map Eng & Min J 152:78-9 Ag '51

Truck haulage at the National lead co. open-cut ilmenite-magnetite mine, Tahawus, N.Y. R. S. Sanford. bibliog 9pls U S Bur Mines Information Circ 7584:1-14 '50

Two-way radio speeds open-pit work. H. L. Burr. il Eng & Min J 152:90-1 My '51

See also

Coal mines and mining—Stripping operations

MINING research

British research seeks better methods. il Coal Age 56:128 Ag '51

Experimental mine and quarries, Missouri School of mines and metallurgy. J. D. Forrester. il maps Min Cong J 37:45-7+ Jl '51

Is neglected research costing you money? creating file of technical literature. R. F. V. Read. flow sheet Eng & Min J 152:64-6 Ja '51

Mining needs research. E. P. Pfleider. bibliog il Min Eng 3:572-5 Jl '51

Mining research at Mt Weather, Va. J. W. Feiss. bibliog il Min Cong J 37:49-53 My '51

Physical properties of mine rock. S. L. Windes. bibliog 17pls U S Bur Mines Rep of Invest 4459:1-79 '49; 4727:1-37 '50

MINING schools and education

Provincial institute of mining, Haileybury, Ontario. C. W. McNulty. il Can Min J 72: 59-61 Ja '51

Training school at Sylvanite gold mines. J. F. R. Akehurst. Can Min J 72:77-8 Je '51

MINING society of Nova Scotia

Annual meeting, 64th, Sydney, July 12-13; with abstracts of papers. Coal Age 56:130-1+ S '51

MINNEAPOLIS

Galleries and museums

Museums and art galleries in the Twin Cities. H. M. Nebelthau. Special Lib 42:170-2+ My-Je '51

Harbor

New Mississippi port. il map diag Eng N 147:37-9 S 13 '51

MINNEAPOLIS gas company

Offering underwritten. Comm & Fin Chr 173: 1794 Ap 30 '51

MINNEAPOLIS-HONEYWELL regulator company

Diversification in controls industry to soften effect of home building cuts. J. A. McWethy. Barron's 30:18 N 27 '50

Preference stock offered. Comm & Fin Chr 174:7 Jl 2 '51

MINNEAPOLIS Moline company

It's sold when it's sold; Minneapolis-Moline deferred sales system. il Bsns W p 119-21 Ag 18 '51

Security I like best. W. G. H. Brehmer. Comm & Fin Chr 173:430 Ja 25 '51

Security I like best. G. S. Colby. Comm & Fin Chr 173:1530 Ap 12 '51

MINNEAPOLIS, St Paul and Sault Ste Marie railway

Soo line 1951 net may set postwar high. Barron's 31:17 Je 11 '51

MINNESOTA

Industries and resources

Quantity down, quality up, in Plains states; farmer population in Minnesota-to-Montana area. A. G. Mezerik. il Sales Management 65:44-6 N 20 '50

MINNESOTA mining and manufacturing company

Happy mergers; Carborundum-Minnesota Mining & Manufacturing deal. Bsns W p83-4 D 9 '50

How 3M rallied to fight blast disaster. il Bsns W p22-3 F 24 '51

MINNESOTA power and light company

Bonds offered. Comm & Fin Chr 174:190 Jl 16 '51

Common stock offered. Comm & Fin Chr 172: 2221 D 11 '50

Public utility securities. O. Ely. Comm & Fin Chr 174:170 Jl 12 '51

MINORITIES

National and minority policies in China. J. De Francis. bibliog Ann Am Acad 277:146-55 S '51

MINORS. See Children—Law

MINTS

See also

United States—Mint

MIRAGES

Recurrent mirages at Puerto Peñasco, Sonora. R. L. Ives. bibliog il map diags Franklin Inst J 252:285-95 O '51

MIRRORS

Doing it with mirrors; Du Pont's short-cuts to efficient operation; illustrations with text. il Factory Management 109:130 Mr '51

Interference mirrors for arc projectors. G. J. Koch. diag Soc Motion Picture & Tv Eng J 55:439-42 O '50

Mirror lighting applications. M. Taepke. il diags Illum Eng 45:771-2 D '50

Preparation of pinhole-free silver mirrors. E. Bovey and P. Unger. J Sci Instr 28:68-70 Mr '51

MIRRORS, Searchlight. See Searchlights

MIRRORS, Telescope. See Telescope—Mirrors

MISBRANDING

Labeled furs. Bsns W p 120+ Ag 11 '51

See also

Castile soap

MISSING persons

Problems involved in disappearance cases. R. S. Rust. East Underw 51:9 O 20 '50

MISSION corporation

Petroleum holding company eventually may dissolve. Barron's 31:30 Jl 30 '51

MISSISSIPPI

Mississippi story; government, finance. il Manuf Rec 120:93-5 Je '51

Industries and resources

Mississippi story. il Manuf Rec 120:65-104 Je '51

MISSISSIPPI power company

Bonds offered. Comm & Fin Chr 174:366 Jl 30 '51

MISSISSIPPI river

Mississippi River valley geology relation to river regime. H. N. Fisk. il maps diags Am Soc C E Proc 77[no 80]:1-16 Jl '51

Old Man River has a fine young boom. il Bsns W p69-70+ O 21 '50

Paradoxes of the Mississippi. G. H. Matthes. il map diags Sci Am 184:18-23 Ap '51

Flood control projects

Atchafalaya diversion and its effect on the Mississippi river. L. M. Odom. maps Am Soc C E Proc 76 [no 9]:1-24 Mr '50; Discussion. 76 [no D-9]:1-21 D '50

Floods

Protective devices contain Miss. flood. Eng N 146:27 My 10 '51

Stage predictions for flood control operations. R. E. King. Am Soc C E Proc 77[no 79]:1-9 Jl '51

MISSOURI

See also

Geology—Missouri

Industries and resources

How Missouri does it; industrial development program. Bsns W p92-4 O 21 '50

MISSOURI, U.S.S. See Warships—United States

MISSOURI-Illinois bi-state development agency

Seek wider scope for Mo.-Ill. agency. Eng N 146:27 Je 7 '51

MISSOURI-KANSAS-TEXAS railroad

Railroad securities. Comm & Fin Chr 173:1149; 174:609 Mr 15, Ag 16 '51

MISSOURI Pacific railroad

Directors approve management plan for reorganization under Mahaffie act. Comm & Fin Chr 172:2382 D 18 '50

Embattled Young; fights reorganization. Bsns W p82 D 9 '50

Equipment trust certificates offered. Comm & Fin Chr 173:202 Ja 15 '51

Last ditch plea; Young addresses open letter to insurance companies. Nat Underw (Life ed) 55:1 Ja 12 '51

MoPac celebrates 100 years. il Manuf Rec 120:50 Ag '51

Missouri Pacific reorganization. Comm & Fin Chr 173:2260 My 31 '51

Railroad securities. Comm & Fin Chr 172:2203; 174:1074 D 7 '50, S 20 '51

Reorganization battle of Missouri Pacific. R. Carleson. Mag of Wall St 87:386-8+ Ja 13 '51

Young challenges poll on reorganizing MOP. Bsns W p 136 My 26 '51

MISSOURI power and light company

Bonds offered. Comm & Fin Chr 173:2611 Je 25 '51

MISSOURI research laboratories, inc.

Stock offered. Comm & Fin Chr 174:637 Ag 20 '51

MISSOURI river

Claim Missouri flow OK for Pick-Sloan plan. Eng N 146:31 Ap 26 '51

MISSOURI state life insurance company

New complication in final accounting. Nat Underw (Life ed) 55:12 S 28 '51

Testimony on final accounting in Missouri State case. Weekly Underw 165:272 Ag 4 '51

MISSOURI university

School of journalism

Dean Mott to retire, Dr English is named. Ed & Pub 84:20 Mr 17 '51

MISTS, Acid

Acute pulmonary complications following inhalation of chromic acid mist. J. B. Meyers. bibliog A M A Archives Ind Hygiene & Occup Med 2:742-7 D '50

Toxicity of sulfuric acid mist. J. F. Treon and others. bibliog il diag A M A Archives Ind Hygiene & Occup Med 2:716-34 D '50

MISTS, Oil

Oil mist solves lubrication problem. il Iron Age 168:101 Ag 16 '51

Scrapbook of exhaust hood design; control of oil mist from machines. J. M. Kane. il Heat & Ven 47:79-80 D '50

MITCHELLS and Butlers limited

Statement by the chairman. R. H. Butler. Economist 160:49 Ja 6 '51

MITOCHONDRIA

Proteins of liver and hepatoma mitochondria. G. H. Hogeboom and W. C. Schneider. bibliog il Science 113:355-8 Mr 30 '51

MITRAGYNA

Chemistry of the mitragyna genus. G. M. Badger, J. W. Cook and P. A. Ongley. Chem Soc J p867-73 Mr '50

MITRAGYNINE

Chemistry of the mitragyna genus; synthesis of 7-methoxy-2-methyl- and 7-methoxy-1:2-dimethyl-β-carboline. J. W. Cook, J. D. Loudon and P. McCloskey. Chem Soc J p 1203-7 My '51

MIXED crystals. See Solutions, Solid

MIXERS

Auto differential serves as slow-speed mixer drive. R. L. Miller. diag Chem Eng 58:139-40 Ag '51

Fixer mixer, six stories high, mixes carload of chemicals a day. diag Can Chem & Process Ind 35:418 My '51

Scrapbook of exhaust hood design; control of fine dust resulting from mixers. J. M. Kane. il Heat & Ven 48:96-8 Ap '51

Special mixing unit converts scarp to slip in a minimum of time. H. F. Kleinfeldt. diag Cer Ind 56:93+ Mr '51

Torquemeter for measuring power to plant mixers. V. W. Uhl. diags Paint Oil & Chem R 113:95-8 N 23 '50

Use of pilot plant mixing data. J. H. Rushton. bibliog il diags Chem Eng Prog 47:485-8 S '51

See also

Concrete mixers

MIXERS, Dough. See Dough mixers

MIXERS, Electric. See Electric mixers

MIXES, Cake. See Cake mixes

MIXING

Chemical engineering unit operations; sixth annual review. J. H. Rushton. bibliog(39 ref) il Ind & Eng Chem 43:111-14 Ja '51

Continuous flow stirred tank reactor systems: agitation requirements. R. W. MacDonald and E. L. Piret. bibliog il diags Chem Eng Prog 47:363-9 Jl '51

General graphical analysis of continuous reactions in series of agitated vessels. R. W. Jones. diag Chem Eng Prog 47:46-8 Ja '51

Longitudinal mixing measured by radioactive tracers. H. A. Thomas, jr. and R. S. Archibald. Am Soc C E Proc 77[no 84]:1-12 Ag '51

Opalescence of a two-component liquid system near the critical mixing point. B. H. Zimm. bibliog J Phys & Colloid Chem 54:1306-17 D '50

Practical mixing techniques for viscous materials. H. L. Bullock. il Chem Eng Prog 47:397-400 Ag '51

Stepwise attack to solve mixing problems. il Chem Eng 58:190+ Ag '51

Use of pilot plant mixing data. J. H. Rushton. bibliog il diags Chem Eng Prog 47:485-8 S '51

Water-jet eductors perform mixing function in addition to conveying solids in suspension. T. W. Rodes. diags Ind & Eng Chem 43:sup97A-8A My '51

See also

Homogenization

Mixers

MIXING, Heat of

Solid solutions of the alkali halides; theoretical calculation of lattice constants, heats of mixing, and distributions between solid and aqueous phases. G. S. Durham and J. A. Hawkins. bibliog J Chem Phys 19:149-56 F '51

MIXTURES

Adsorption equilibria of liquid mixtures of benzene and methanol with charcoal. H. H. Rowley, R. B. Olney and W. B. Innes. Am Chem Soc J 72:5180-2 N '50

Analysis of binary and ternary mixtures; system acetone-chloroform-methyl isobutyl ketone. A. E. Karr, W. M. Bowes and E. G. Scheibel. bibliog diag Anal Chem 23:459-63 Mr '51

Analysis of homogeneous ternary systems; the system benzene, *n*-butyl bromide and nitrobenzene. R. Ginell and H. Silverman. Am Chem Soc J 73:1596-7 Ap '51

MIXTURES—*Continued*

Analysis of quaternary mixtures; application of a graphical solution of four simultaneous linear equations. J. Tadayon. Anal Chem 23:1184-6 Ag '51

Analysis of three-component liquid mixtures by refractive index alone. W. M. Spicer and L. H. Meyer. bibliog Anal Chem 23:663-4 Ap '51

Chemical and physical properties of ethanol-water mixtures. M. Bobtelsky. Chem Soc J p3615-17 D '50

Compressibility of ethane-propylene vapor mixtures. H. W. Prengle, jr. and H. Marchman. bibliog Ind & Eng Chem 42:2371-4 N '50

Critical behavior and liquid-vapor equilibrium in mixtures of fluids. C. A. Boyd. bibliog il diag J Phys & Colloid Chem 54:1347-57 D '50

Estimation of surface tensions; ternary liquid mixtures. A. S. Michaels, R. S. Alexander and C. L. Becker. bibliog Ind & Eng Chem 42:2332-6 N '50

Heat of solution of halides, sulphuric acid, oxalic acid, sodium hydroxide, and urea in ethyl alcohol-water mixtures. M. Bobtelsky and R. D. Larisch. diag Chem Soc J p3612-15 D '50

Liquid-liquid extraction analysis. C. Golumbic. bibliog(73 ref) il Anal Chem 23:1210-17 S '51

Separation of mixtures by continuous extraction processes; the continuous stepwise extraction of a fixed quantity of a mixture of solutes. J. D. A. Johnson. Chem Soc J p 1743-53 Jl '50

Separation of mixtures of solutes by distribution between solvents; the separation of the components of a fixed quantity of a mixture by a continuous counter-current extraction process. J. D. A. Johnson and A. Talbot. diags Chem Soc J p 1068-88 Ap '50

Transformation of water from covalent to electrovalent combination in formic acid-water mixtures. T. Yang. J Chem Phys 19:647-8 My '51

MOBILIZATION, Industrial. See Industrial mobilization

MODEL houses. See Houses, Model

MODELS

Clay replaces blueprints; Royal restyles with clay models. il Bsns W p46+ D 9 '50

Industrial models at work; they pay off for Allis-Chalmers. il Sales Management 66:42-3 Ja 1 '51

Use of models in developing railway rolling stock. il Engineering 171:770 Je 22 '51

Use scale models to analyze pole-top hazards. A. L. Dowden. il Elec World 135:72 Ja 15 '51

See also

Airplane models
Airplanes—Model testing
Bridges—Model testing
Hydraulic models
Mechanical models
Mine models
Ship models
Ships—Model testing

also subdivision Models under special subjects, e.g. Atoms; Electric lines; Power plants; Railroads; Solar systems

MODELS, Layout

Layout to blueprint, no draftsmen; converting Willow Run (Mich.) plant to defense production. il Factory Management 109:88-9 Je '51

Locomotive maintenance and cornfield layouts; adapting existing railroad facilities to needs of Diesel-electric locomotive maintenance. N. L. Walsh. il Ry Age 131:41-3 O 8 '51

Models aid factory layout planning. il Steel 128:86-7 My 14 '51

Plant models provide continuing production aid; units of Oldsmobile's expansion program laid out in miniature. W. G. Patton. il Iron Age 166:72-3 N 23 '50

Scale models; how Kaiser-Frazer saves time in production planning. D. G. Baird. il Am Bsns 21:16-17 Ag '51

Toy plant speeds Kaiser layout for C-119. il Aviation W 54:21-2 My 14 '51; Bsns W p94-5 My 12 '51

We use a plastic model to help solve big-plant problems. H. M. Catlin. il Textile World 101:103 Je '51

MODELS, Miniature

Baby cars help Chevvie dealers show all models and colors. il Sales Management 67:110 O 15 '51

Bell model; light-weight, durable mock-ups with resin-cloth technique. il Mod Plastics 28:130 D '50

Build-your-own models boom Fruehauf truck body sales. N. A. Rowe. il Ind Marketing 36:36-7 My '51

Precision in miniatures; Product miniature co. il Mod Plastics 28:70-3 My '51

MODELS, Plastic

Plastic die models; abstract. R. L. Logue. Automotive Ind 103:53+ D 1 '50

Plastic that provides internal vision for engineers. Mach 57:168 N '50; Elec Eng 69:1135 D '50

Plexiglas engine built. Steel 128:112+ Je 11 '51; il Materials & Methods 33:10 Je '51; Mod Plastics 28:91 Ag '51

Precision in miniatures; Product miniature co. il Mod Plastics 28:70-3 My '51

See-through chassis; Plymouth motor corp. acrylic full-scale model. il Mod Plastics 28:90 Ag '51

Three-dimensional photoelasticity; new creeping method. A. J. Durelli and R. L. Lake. il diags Machine Design 22:122-5 D '50

MODERN industry (periodical)

Behind the scenes with MI; tenth birthday. il Mod Ind 21:4+ F '51

MODERNISTIC architecture. See Architecture, Modernistic

MODULAR design. See Building—Standards

MOGENSEN, Walter A.

Portrait. Fortune 43:75 Ja '51

MOHAIR

Goats mean gold in Texas. il Bsns W p 117-18+ O 13 '51

MOHAMMED Reza Pahlevi, shah of Iran, 1920-

Setback in Iran; Anglo-Iranian oil co. por Fortune 43:80-1+ Mr '51

MOHAWK business machines corporation

Stock offered. Comm & Fin Chr 173:382 Ja 22 '51

MOHAWK carpet mills, inc.

New earnings record set in 1950; outlook good for first half. R. Hunter. Barron's 31:26 F 19 '51

MOISTURE

Capillary and imbibed water in assemblies of moist fibres. J. M. Preston and others. bibliog diag Textile Inst J Trans 42:T79-90 F '51

Determination of moisture by distillation. W. R. Fetzer. bibliog il diags Anal Chem 23:1062-9 Ag '51

Determination of moisture in gases by automatic dew point equipment. R. M. Ilfeld. bibliog il diags Anal Chem 23:1086-9 Ag '51

Improved apparatus for determining moisture in rubber by distillation with toluene. M. Tryon. bibliog diag J Res Nat Bur Stand 45:362-6 N '50; Abstracts. Rubber Age 69:54 Ap '51; Franklin Inst J 252:169-70 Ag '51

Karl Fischer reagent titration. J. Mitchell, jr. bibliog diag Anal Chem 23:1069-75 Ag '51

Methods for determination of moisture; oven drying. C. O. Willits. bibliog Anal Chem 23:1058-62 Ag '51

Methods of estimating moisture. A. H. Ward. Chem Age (Lond) 63:803-8 D 9 '50

Moisture relationships of cellulose; the heats of wetting of partially saturated viscose rayon and standard cellulose in water. M. Wahba. bibliog diags J Phys & Colloid Chem 54:1148-60 N '50

New moisture test gives faster results; water contents of purees and concentrated fruit products are accurately gaged by use of Drierite. E. F. Potter. il Food Ind 23:85+ Ja '51

See also

Coal—Moisture content
Coke—Moisture content
Dampness in buildings
Evaporation
Humidity
Hygrometers
Refrigeration and refrigerating machinery—Moisture problem
Soil moisture
Textile fabrics—Moisture content
Textile fibers—Moisture content
Water vapor
Wool—Moisture content

MOLASSES

Molasses production, consumption, and exports, Dominican Republic. For Comm W 44:17 S 10 '51

Restyling byproducts will add new income; greater utilization of bagasse and blackstrap by newly developed method. il diags Food Eng 23:144-5 Ag '51

Analysis

Chromatographic fractionation of cane blackstrap molasses and of its fermentation residue. W. W. Binkley and M. L. Wolfrom. bibliog Am Chem Soc J 72:4778-82 O '50

Determination of aconitic and itaconic acids. K. Lauer and S. M. Makar. Anal Chem 23:587-9 Ap '51

MOLDED products

Aerial control; cellulose acetate remote-control box. il Mod Plastics 28:134 D '50

Black light display; utility tray and advertising sign for Miller High Life beer. il Mod Plastics 28:80 Ag '51

Card shufflers and tray for canasta. il Mod Plastics 28:136 D '50

Case histories of alkyd molding; Plaskon. H. W. De Vore and H. C. Murray. il Mod Plastics 28:88-90 Ap '51

Complex phenolic case easily molded; Port-A-View 35 mm slide projector. il diag Product Eng 22:127 Je '51

Compression molded plastic parts. K. Rose. il Materials & Methods 33:91-8 My '51

Compression molded reinforced plastics now finding industrial applications. T. C. Du Mond. il Materials & Methods 33:60-1 F '51

Eight phonograph records per cycle; injection molding challenges compression in speed and cost. C. F. Galehouse and H. W. Moss. il diags Mod Plastics 28:84+ F '51

Expendable plastic weatherman; ethyl cellulose housing for radiosonde. il Mod Plastics 28:62 Ja '51

From zinc to acetate; molded plastic housing for Cory knife sharpener. il Mod Plastics 28:90 N '50

Initial letters for personalizing plastics products. il Mod Plastics 28:156 F '51

Large plastic moldings find practical applications in many fields. J. Delmonte. il Materials & Methods 32:68-71 N '50

Masking problems in manual and automatic spray painting of molded plastic parts. H. E. MacArthur. il India Rubber World 124:451-3 Jl '51

Mixer container; Dormeyer Blender. il Mod Plastics 28:151 F '51

Molded plastic eliminates insert; pawl of a telephone dial. il Machine Design 23:143-4 Ja '51

Molded plastic gears. F. R. Zumstein. il diag Am Mach 95:114-18 Ag 20 '51

Molded signs sell a name; Blatz brewing co. il Mod Plastics 28:109 Je '51

Multi-function molded camera cases for Revere's movie cameras. il Mod Plastics 28:70-1 F '51

Operation plastic boat; 12-ft. wherries produced at Puget Sound naval shipyard. il Mod Plastics 28:102-3 Je '51

Phenolic-impregnated fire helmet. il Mod Plastics 28:91 N '50

Phenolic in aircraft magnetos. il Mod Plastics 28:165 Ag '51

Portable slide viewer. il Mod Plastics 28:74-5 My '51

Seven-pin miniature tube sockets molded of tetrafluorethylene resin. il Mod Plastics 28:158 Ag '51

Specialization, large size are trends in plastics. il Product Eng 22:154-7 My '51

Styrene parts in stereo viewer developed by Busch camera corp., Chicago. il Mod Plastics 28:89 Jl '51

Styrene's march of triumph; molding material. il Mod Plastics 28:78-81+ N '50

Two-part phenolic housing from single die for cabinet type fan. il Mod Plastics 28:76-7 D '50

Vinyl and acrylic in fabulous lab; S. C. Johnson & son, inc. il Mod Plastics 28:76-7 My '51

Work horse sets new records; phenolic molding materials. il Mod Plastics 28:55-60 F '51

See also

Molds (for plastics)

Plastic materials

Resinous products

Decoration

Added beauty for molded plastics; new and improved techniques of decoration. bibliog il Mod Plastics 28:71-6+ N '50

Manufacture

After-treatment of molded polystyrene parts. C. J. Snyder. il India Rubber World 124:703-5 S '51

Big injection machines; what are they doing? il Mod Plastics 28:71-7 Jl '51

Dimensional tolerance system for molded hard rubber parts. W. L. Harnevious. diags Product Eng 22:124-5 Ap '51

Direct forming of rubber and plastic products from dispersions. K. Rose. il Materials & Methods 34:64-7 Ag '51

Low-pressure molded glass fiber parts economical in small runs; polyester styrene impregnated glass fiber moldings. C. D. Birmingham. il Materials & Methods 34:78-80 S '51

Molded plastic and fiberglass conserve metals in washing machines; Apex electrical mfg co. il Steel 128:120+ My 7 '51

Plastic tools for light metals; Northrop aircraft, inc. G. C. Close. il Light Metal Age 9:8-10 Je '51

Plastisol molding. C. W. Patton. il India Rubber World 124:577-8 Ag '51

Testing

Effect of absorbed water on physical properties of molded phenolics. H. M. Quackenbos, jr. Mod Plastics 28:107-8+ Jl '51

How to interpret property values of plastics. W. Schack. bibliog il diag Materials & Methods 33:66-9 Ap '51

MOLDED products, Mechanical

Eight parts, five plastics materials; new Toledo slicer. il Mod Plastics 28:101 Je '51

Holes molded to close tolerances; bakelite control panel for IBM electric accounting machine. W. M. Hoyt, jr. and F. R. Estabrook, jr. il Mod Plastics 28:66 F '51

Laminated-molded plastics; covers and end bells on propulsion gears for naval vessels. H. J. Stark and J. W. Sawyer. il Machine Design 23:120-2 Jl '51

Laminates unlimited. il Mod Plastics 29:87-91 S '51

More phenolic in record changer. il Mod Plastics 28:130 Mr '51

More plastics in tape recorder. il Mod Plastics 28:80 Ap '51

New techniques in reinforced plastic; fiberglas-polyester molded housings for photoelectric engraving machines. il Mod Plastics 28:89+ D '50

Phenolic and polyester in aerial camera. il Mod Plastics 28:96-7 Ap '51

Plastics count metal out; Denominator to keep count of the frequency of any occurrence. il Mod Plastics 28:108 Je '51

Pump housings molded of urea. il Mod Plastics 28:79 Ap '51

Rubber-phenolic materials for greater impact strength. W. Goss. il Product Eng 22:137-41 Ja '51

Washer impeller; Hotpoint, inc. il Mod Plastics 28:169 Ap '51

See also

Gearing, Plastic

MOLDING

Casting tools for molding nonmetallic materials. T. A. Dickinson. il Foundry 79:190-2 Mr '51

Compression molding thermoplastics. D. L. Stanley. il Mod Plastics 28:107+ N '50

Eight phonograph records per cycle; injection molding challenges compression in speed and cost. C. F. Galehouse and H. W. Moss. il diags Mod Plastics 28:84+ F '51

Engineering progress in 1950. flow sheet il diags Mod Plastics 28:81-2+ Ja '51

Mass production line for molding large plastic parts. il Mach 57:161 Ag '51

MOLDING—*Continued*

Molding and extrusion of Teflon. D. D. James. diags India Rubber World 124:68-70 Ap '51

Molding the specialized plastics. il Mod Plastics 28:83-6+ D '50

New techniques in reinforced plastic; fiberglas-polyester molded housings for photoelectric engraving machines. il Mod Plastics 28:89+ D '50

Organic cold molding compound; specialized electrical applications for Rosite 2000. il Mod Plastics 28:84 Ag '51

Photographic study of the polymer cycle in injection molding. G. D. Gilmore and R. S. Spencer. il Mod Plastics 28:117-18+ Ap '51

Residual strains in injection molded polystyrene. R. S. Spencer and G. D. Gilmore. bibliog il Mod Plastics 28:97-8+ D '50

Rubber-phenolic molding materials. W. Goss. il Mod Plastics 28:100+ Mr '51

See also

Extrusion process (plastics)

Nylon—Molding

MOLDING machines

Control

Automatic control for molding machines. H. T. Bailey. diags Power Eng 55:104 F '51

MOLDING machines (for plastics)

Automatic loader speeds plastic press. il diag Machine Design 23:132-3 Je '51

Babies are busy; injection machines of two-oz. and less. il Mod Plastics 28:95-100 Je '51

Big injection machines; what are they doing? il Mod Plastics 28:71-7 Jl '51

Biggest injection production line. il Mod Plastics 28:160 My '51

Injection machines in Germany. I. Thomas. il diag Mod Plastics 28:94 F '51

Injection press aims at larger moldings. Steel 128:123+ Je 18 '51

Lester-Phoenix improved injection molding machine. il Mach 57:213-14 Je '51

Machines for plastics in 1950. Mod Plastics 28:94-5 Ja '51

New machine produces largest injection molded pieces. il Materials & Methods 34:140+ Ag '51

1951 production preview. il Am Mach 95:252-3 Ja 22 '51

Preplasticization in the machine. il diags Mod Plastics 28:99+ Jl '51

Process timer. diag Engineer 190:476 N 17 '50

Reed-Prentice injection molding machines. il Mach 58:207-8 S '51; Mod Plastics 29:152 S '51

300-ounce parts by injection molding; Watson-Stillman's giant machine. il Factory Management 109:248 S '51

World's largest injection machine; made by Watson-Stillman co., Roselle, N.J. il Mod Plastics 28:124+ Ja '51

MOLDS (botany)

Effect of copper-bearing concrete on molds. R. F. Robinson and C. R. Austin. il Ind & Eng Chem 43:2077-82 S '51

Effect of humidity on mould growth on constructional materials; abstract and discussion. J. B. M. Coppock and E. D. Cookson. Chem & Ind p72-3 Ja 27 '51

Lipase from molds grown on oil seeds. C. V. Ramakrishnan and B. N. Banerjee. Science 113:125 F 2 '51

Methoxyl-containing lignin-like component of the mold trametes pini. W. J. Schubert and F. F. Nord. bibliog Am Chem Soc J 72:5337-8 N '50

Mold metabolites; the synthesis of tropolone. J. D. Knight and D. J. Cram. bibliog Am Chem Soc J 73:4136-8 S '51

See also

Aspergillus

Fungi

Mildew

Penicillium

Rhizopus

MOLDS (for casting)

Choke control in finger gating. W. H. Johnson and others. il diags Foundry 79:116-21+ Ap '51

Drying of foundry moulds and cores. G. T. Hampton and W. H. Taylor. Engineering 171:125, 174 F 2-9 '51

Gas evolution from molds and cores. W. H. Moore. il diag Foundry 79:80-7 Jl '51

Iced mercury aids precision casting. Cer Ind 56:73 F '51

Machines make shell molds automatically. W. Czygan. diags Iron Age 167:81-5 Ap 19 '51

Methods of gating sand molds. P. Dwyer. diags Foundry 79:124+ Ja; 180+ F '51

Phenolic-sand molds cut costs. il Mod Plastics 28:123 Je '51

Principles of risering. C. F. Walton. Foundry 79:154+ Ap '51

Resin-sand molds held promising. Comp Air Mag 55:279 D '50

Sand-resin process, for foundry molds. Chem Eng 57:260-2 D '50

Seek suitable mold coating. Steel 127:114 D 4 '50

Shell casting shows progress; illustrations with text. il Mod Ind 21:92 Je '52

Shell molding produces precise big castings. Am Mach 95:126 O 15 '51

Some recent developments in centrifugal casting. M. L. Samuels and A. E. Schuh. il Foundry 79:78-9+ Jl '51

Study of metal flow in sand molds. G. Di Sylvestro. il diags Foundry 79:104-9+ O '51

Symposium on gating; A.F.S. annual meeting. Foundry 79:157-8 Je '51

Theoretical basis for the design of gates. M. J. Berger and C. Locke. diags Foundry 79:112-17+ F '51

See also

Cores

Steel ingots—Molds

Permanent molds

Centrifugal casting in permanent molds. W. F. Wilson. il diags Product Eng 21:112-16 N '50

500-pound aluminum casting produced in permanent mold. il Steel 128:92 Mr 19 '51; Mech Eng 73:415-16 My '51; Materials & Methods 33:146+ Ap '51; Mach 57:172 Je '51; Comp Air Mag 56:164 Je '51

500-pound casting made in permanent mold. il Foundry 79:152 S '51

Permanent mold casting of aluminum engine blocks. il diag Foundry 78:84-5+ D '50

Plaster molds

Plaster casting. il Product Eng 22:127 My '51

Plaster molds give close tolerances. E. Bremer. il Foundry 79:76-9+ Ja '51

MOLDS (for glass)

Glass mold cleaning by liquid honing. G. E. Spring. Am Cer Soc Bul 30:264 Ag 15 '51; Same. Cer Ind 57:61 Ag '51

Heat problems in the design of glassworking molds. W. Giegerich. bibliog diags Glass Ind 32:71-6+ F '51

Mold cleaning by the vapor blast process; abstract. E. J. Gooding. Glass Ind 32:83+ F '51

Mold-smoking speeds glass bottle output. il Cer Ind 55:76 N '50

Sodium hydride process and its application to the cleaning of molds for the glass industry; abstract. N. L. Evans. Glass Ind 31:584 N '50

Study of the effect of lubricants on the adherence of molten glass to heated metals. W. C. Dowling and others. diags Am Cer Soc J 33:269-73 S 1 '50; Abstract. Glass Ind 31:584-5 N '50

Vented neck mold; patent. diag Glass Ind 32:299-300 Je '51

MOLDS (for plastics)

Casting tools for molding nonmetallic materials. T. A. Dickinson. il Foundry 79:190-2 Mr '51

Cellulose acetate butyrate melt casting. C. J. Malm, O. W. Kaul and G. D. Hiatt. bibliog il Ind & Eng Chem 43:1094-8 My '51

Electroformed tooling. M. H. Orbaugh. il Automotive Ind 105:32-3+ Ag 1 '51

Electroforming for plastics; spray masks and specialized molds. il diags Mod Plastics 28:81-4+ Mr '51

Electroforming speeds the production of aircraft parts and tools. G. B. Lewis and L. Frost. il diags Mach 57:178-85 Jl '51

Flow test of hubbing steel. F. Halward. il diags Metal Prog 59:356-8 Mr '51

Gate breaker. C. Bossmann. diags Mod Plastics 28:92-3 Mr '51

MOLDS (for plastics)—*Continued*

Liquid impact blasting; time-saver in mold finishing work proves useful in maintenance operations. B. H. Marks. il diag Mod Plastics 28:115-16+ Je '51

Matched molds for reinforced plastics. A. J. Wiltshire. il diags Mod Plastics 28:85-6+ My '51

Plastic mold steels, their selection and treatment. L. F. Spencer. il Tool Eng 25:20-3 N '50; Abstract. Metal Prog 59:402+ Mr '51

Styrene cores for Scotch tape; self-shearing 20-cavity molds speed production. il Mod Plastics 28:68-9 Mr '51

Two steels make our plastic molds. R. W. Brown. il Am Mach 95:112-13 Ja 8 '51

What's new in mold making. J. L. Morrison. il India Rubber World 123:191-2 N '50

MOLDS (for rubber)

Machining steel molds for curing rubber tires. A. Felton. il Mach 57:144-50 Ag '51

Molds; types, design, and molding procedures; abstract. F. Pennock. Rubber Age 69:66 Ap '51

MOLECULAR association

Associating effect of the hydrogen atom; the structure of diacylamines and related substances. L. Hunter and N. G. Reynolds. Chem Soc J p2857-64 O '50

Dependence of optical rotatory power on chemical constitution. M. P. Balfe. Chem Soc J p 1871-3 Jl '50

Determination of association of several organophosphorus acids. G. M. Kosolapoff and J. S. Powell. Chem Soc J p3535-8 D '50

Infrared studies of association in eleven alcohols. F. A. Smith and E. C. Creitz. bibliog diag J Res Nat Bur Stand 46:145-64 F '51

MOLECULAR beams

Deuteron quadrupole moment and the radiofrequency spectra of H_2 and D_2 in low magnetic fields. H. G. Kolsky and others. bibliog Phys R 81:1061 Mr 15 '51

High intensity source for the molecular beam; theoretical, by A. Kantrowitz and J. Grey; experimental, by G. B. Kistiakowsky and W. P. Slichter. il diags R Sci Instr 22:328-37 My '51

Intermediate cosine coupling in molecular beams. W. A. Nierenberg. bibliog Phys R 80:1102 D 15 '50

New way to study altitude flow; superaerodynamic windtunnel; device uses a molecular beam. il Aviation W 55:50+ Jl 16 '51

MOLECULAR compounds

Binary systems between phenyl benzoate derivatives; the formation of molecular compounds. G. Cilento. J Phys & Colloid Chem 55:716-18 My '51

Infra-red spectroscopic studies of the structure of molecular complexes. W. R. Burton and R. E. Richards. Chem Soc J p 1316-19 My '50

Molecular compound of anthraquinone and dianthron-9-yl. V. M. Ingram. Chem Soc J p2211-13 Ag '50

Molecular compounds of aminoazo dyes and bile acids. G. Cilento. bibliog Am Chem Soc J 73:1355-7 Mr '51

Structure of molecular compounds; a compound of xenon and quinol. H. M. Powell. Chem Soc J p468-9 F '50

Structure of molecular compounds; compounds formed by the inert gases. H. M. Powell. pl Chem Soc J p298-300 Ja '50

Structure of molecular compounds; the compound of krypton and quinol. H. M. Powell. Chem Soc J p300-1 Ja '50

MOLECULAR dynamics

Determination of intermolecular energy constants from common physicochemical properties of liquids. E. A. Moelwyn-Hughes. bibliog J Phys & Colloid Chem 55:1246-54 O '51

Intermolecular forces in benzene and ammonia. V. Myers. bibliog J Chem Phys 18:1442-4 N '50

MOLECULAR orbitals

Bonding of trihalide and bifluoride ions by the molecular orbital method. G. C. Pimentel. bibliog J Chem Phys 19:446-8 Ap '51

Colour and constitution; basic dyes. M. J. S. Dewar. Chem Soc J p2329-34 S '50

LCAO molecular orbital schemes and theoretical resonance energies. R. G. Parr. J Chem Phys 19:799-800 Je '51

LCAO self-consistent field calculation of the ground state of carbon dioxide. J. F. Mulligan. bibliog J Chem Phys 19:347-62 Mr '51

LCAO self-consistent field calculation of the twisting frequency and π-electron energy levels of allene. R. G. Parr and G. R. Taylor. bibliog J Chem Phys 19:497-501 Ap '51

Molecular orbital calculations for H_3. J. M. Walsh and F. A. Matsen. bibliog J Chem Phys 19:526-8 My '51

Molecular orbital calculations of the lower excited electronic levels of benzene, configuration interaction included. R. G. Parr and others. bibliog J Chem Phys 18:1561-3 D '50

Molecular orbital theory and spectra of monosubstituted benzenes. F. A. Matsen, W. W. Robertson and J. F. Music. bibliog il Am Chem Soc J 72:5243-63 N '50

Molecular-orbital treatment of organic compounds containing oxygen. J. G. M. Bremner and W. C. G. Bremner. Chem Soc J p2335-40 S '50

New developments in molecular orbital theory. C. C. J. Roothaan. diags Rs Mod Phys 23:69-89 Ap '51

Orthonormal sets of *LCAO* molecular orbitals for second-row homopolar diatomic molecules. R. S. Mulliken. J Chem Phys 19:912-22 Jl '51

Overlap average and central field approximations. C. R. Mueller and H. Eyring. J Chem Phys 19:934-8 Jl '51

MOLECULAR pumps. See Vacuum pumps

MOLECULAR rearrangements

Acid-catalyzed rearrangement of some aromatic ketones. W. A. Mosher and M. L. Huber. bibliog Am Chem Soc J 73:795-8 F '51

Alkenylation by use of lithium alkenyls; the condensation of *cyclo*hexenyl-lithium with aldehydes and ketones, and some reactions of the resulting carbinols; studies in molecular rearrangement. E. A. Braude and J. A. Coles. Chem Soc J p2014-19 Ag '50

Alkenylation by use of lithium alkenyls; the condensation of *iso*butenyl-lithium with acraldehyde and crotonaldehyde, and the oxotropic rearrangement of the resulting carbinols; studies in molecular rearrangement. E. A. Braude and C. J. Timmons. Chem Soc J p2007-11 Ag '50

Alkenylation by use of lithuim alkenyls; the condensation of *iso*butenyl-lithium with benzaldehyde and acetophenone, and the oxotropic rearrangement of the resulting carbinols; studies in molecular rearrangement. E. A. Braude and C. J. Timmons. diag Chem Soc J p2000-6 Ag '50

Allylic rearrangements; relative tendencies of nucleophilic substitution in organic halides. I. D. Webb and W. G. Young. bibliog Am Chem Soc J 73:777-9 F '51

Allylic rearrangements; the formation and rearrangement of α,α-dialkylallyl acetates. W. G. Young and I. D. Webb. bibliog Am Chem Soc J 73:780-2 F '51

Allylic rearrangements; the reaction of butenyl chlorides with diethylamine and triethylamine. W. G. Young, I. D. Webb and H. L. Goering. bibliog Am Chem Soc J 73:1076-83 Mr '51

Allylic rearrangements; the solvolysis and intramolecular rearrangement of α,α-dimethylallyl chloride. W. G. Young, S. Winstein and H. L. Goering. bibliog Am Chem Soc J 73:1958-63 My '51

Beckmann rearrangement of O-picrylbenzophenone oxime. B. B. Lampert and F. G. Bordwell. Am Chem Soc J 73:2369-70 My '51

Benzidine rearrangement; kinetics of the rearrangements of hydrazobenzene. R. B. Carlin, R. G. Nelb and R. C. Odioso. bibliog Am Chem Soc J 73:1002-7 Mr '51

C^{14} tracer studies in the rearrangement of unsymmetrical α-diketones; the alkaline rearrangement of benzylideneacetophenone oxide. C. J. Collins and O. K. Neville. Am Chem Soc J 73:2471-3 Je '51

Catalytic reactions of aromatic amines; rearrangement of alkyl groups. A. G. Hill and A. J. Hill. Ind & Eng Chem 43:1583-5 Jl '51

Claison rearrangement of allyl 3-(trifluoromethyl)-phenyl ether. E. T. McBee and E. Rapkin. bibliog Am Chem Soc J 73:2375-6 My '51

MOLECULAR rearrangements—*Continued*

Cleavage and rearrangement of ethers with bases. D. Y. Curtin and S. Leskowitz. bibliog Am Chem Soc J 73:2630-6 Je '51

Course and kinetics of the acid-base-catalyzed rearrangements of 11-hydroxytetrahydrocarbazolenine. B. Witkop and J. B. Patrick. bibliog Am Chem Soc J 73:2188-95 My '51

Cyanuric chloride derivatives; rearrangement reactions of 2,4-dialkoxy-6-amino-*s*-triazines. F. C. Schaefer, J. R. Dudley and J. T. Thurston. Am Chem Soc J 73:2996-9 Jl '51

Cyclic polyolefins; allylic rearrangement in the reactions of *cis*- and *trans*-3,5-dibromocyclopentenes with dimethylamine. A. C. Cope and others. bibliog Am Chem Soc J 73:1199-204 Mr '51

Dienone-phenol rearrangement. A. Sandoval and others. Am Chem Soc J 73:990-1 Mr '51

Effect of changes in the allyl group on the rearrangement of allyl ethers of salicylic acids. W. R. Nummy and D. S. Tarbell. bibliog Am Chem Soc J 73:1500-4 Ap '51

Endocyclic α,β-unsaturated ketones; dehydration-rearrangement of 1,4-dihydronaphthalene-1-ols to naphthalenes. N. H. Cromwell, H. H. Ely and D. B. Capps. Am Chem Soc J 73:1224-6 Mr '51

Fries rearrangement of 2,3,5-trimethylphenyl succinate. L. I. Smith and R. R. Holmes. bibliog Am Chem Soc J 73:3847-50 Ag '51

Further study of the rearrangement occurring during the alkylation of 6-methoxy-8-aminoquinoline with 1-diethylamino-3-chloropentane. R. C. Elderfield and C. Ressler. bibliog Am Chem Soc J 72:4059-68 S '50

α-Halo ketones; the preparation, metathesis and rearrangement of certain α-bromoketones. A. A. Sacks and J. G. Aston. bibliog Am Chem Soc J 73:3902-6 Ag '51

Improved Wolff rearrangement in homogeneous medium. M. S. Newman and P. F. Beal, 3d. Am Chem Soc J 72:5163-5 N '50

Kinetics and mechanism of aromatic nitration; the rearrangement of aromatic *N*-nitroamines. E. D. Hughes and G. T. Jones. Chem Soc J p2678-84 O '50

Kinetics of the rearrangement of ethyl isopropenyl allylmalonate. G. R. Aldridge and G. W. Murphy. Am Chem Soc J 73:1158-60 Mr '51

Mechanism of oxidation; a new type of peroxide rearrangement catalyzed by acid. B. Witkop and J. B. Patrick. bibliog Am Chem Soc J 73:2196-200 My '51

Mechanism of the molecular rearrangement produced by the action of alkali on chloralquinaldine [2-(3 : 3 : 3-trichloro-2-hydroxypropyl)-quinoline]. B. R. Brown, D. L. Hammick and R. Robinson. Chem Soc J p780-3 Mr '50

ortho-Hydroxylation of phenols; a new case of the Smiles rearrangement. J. D. Loudon and others. Chem Soc J p55-8 Ja '50

Pinacol-pinacolone type rearrangement of 4, 4-bis-dimethylaminohydrobenzoin. M. J. Allen. Am Chem Soc J 73:1841 Ap '51

Pinacolic rearrangements of epimeric aminocyclanols. G. E. McCasland. bibliog Am Chem Soc J 73:2293-5 My '51

Polypeptides formed by the Lossen rearrangement. C. D. Hurd and L. Bauer. bibliog Am Chem Soc J 73:4387-91 S '51

Propargylic rearrangement; allenic acids from secondary and tertiary propargylic bromides. J. H. Wotiz and R. J. Palchak. Am Chem Soc J 73:1971-2 My '51

Propargylic rearrangement; the dehalogenation of propargylic bromides. J. H. Wotiz. bibliog Am Chem Soc J 73:693-6 F '51

Quantum mechanics of chemical kinetics of homogeneous gas-phase reactions; a collision model approximation for intramolecular rearrangements. S. Golden and A. M. Peiser. bibliog J Phys & Colloid Chem 55: 789-808; Discussion. 808-11 Je '51

Rearrangement and reduction of hindered 2-hydroxy-3-alkyl-1,4-naphthoquinones. L. F. Fieser and A. R. Bader. bibliog Am Chem Soc J 73:681-4 F '51

Rearrangement in the Nenitzescu reaction of cycloheptene with acetyl chloride and aluminum chloride. S. L. Friess and R. Pinson, jr. bibliog Am Chem Soc J 73: 3512-14 Jl '51

Rearrangement in the reaction of 2,3,4-trimethyl-3-pentanol with hydrochloric acid; chlorination of 2,3,4-trimethylpentane. H. C. Brown and R. S. Fletcher. Am Chem Soc J 73:1317-20 Mr '51

Rearrangement of aminoacetohydroxamic acid. C. D. Hurd and J. Wang Fan. Am Chem Soc J 73:110 Ja '51

Rearrangement of α-aminoketones during Clemmensen reduction; the rearrangement of 3-ketoquinolizidine. N. J. Leonard and S. H. Pines. bibliog Am Chem Soc J 72: 4931-4 N '50

Rearrangement of N-diphenylmethyl-*o*-toluidine. H. A. Iddles and W. L. Hartop, jr. bibliog Am Chem Soc J 72:4589-91 O '50

Rearrangement of epinochrome. J. Austin, J. D. Chanley and H. Sobotka. Am Chem Soc J 73:2395-6 My '51

Rearrangement of oxime N-ethers. A. C. Cope and A. C. Haven, jr. bibliog Am Chem Soc J 72:4896-903 N '50

Rearrangements involving 1-pentyne, 2-pentyne and 1,2-pentadiene. T. L. Jacobs, R. Akawie and R. G. Cooper. bibliog Am Chem Soc J 73:1273-6 Mr '51

Rearrangements of benzyltrimethyl-ammonium ion and related quaternary ammonium ions by sodium amide involving migration into the ring. S. W. Kantor and C. R. Hauser. bibliog Am Chem Soc J 73:4122-31 S '51

Rearrangements of carbon atoms in *t*-butyl and *t*-amyl derivatives. J. D. Roberts, R. E. McMahon and J. S. Hine. bibliog Am Chem Soc J 72:4237-44 S '50

Rearrangements of halomagnesium derivatives of halohydrins. T. A. Geissman and R. I. Akawie. bibliog Am Chem Soc J 73: 1993-8 My '51

Rowe rearrangement. W. R. Vaughan, D. I. McCane and G. J. Sloan. bibliog Am Chem Soc J 73:2298-301 My '51

Stereospecificity in the rearrangement of aminoalcohols. D. Y. Curtin and P. I. Pollak. bibliog Am Chem Soc J 73:992-4 Mr '51

Stereospecificity in the rearrangement of amino alcohols; the configurations of "α"- and "β"-1-*p*-chlorophenyl-1,2-diphenyl-2-aminoethanol. D. Y. Curtin, E. E. Harris and P. I. Pollak. Am Chem Soc J 73:3453-4 Jl '51

Steroids; Beckmann rearrangement of 17-ketosteroid oximes. S. Kaufmann. bibliog Am Chem Soc J 73:1779-80 Ap '51

Steroids; the dienone-phenol rearrangement in the steroid series; synthesis of a new class of estrogens. C. Djerassi and others. bibliog Am Chem Soc J 72:4540-4 O '50

Studies in molecular rearrangement; oxotropic rearrangements in the polycyclic aromatic series. E. A. Braude, J. S. Fawcett and D. D. E. Newman. Chem Soc J p793-9 Mr '50

Studies in molecular rearrangement; syntheses and oxotropic rearrangements in the *cyclo*pentenyl series. E. A. Braude and W. F. Forbes. Chem Soc J p 1755-61 Jl '51

Studies in molecular rearrangement; the five-carbon oxotropic rearrangement of 1-phenylhexa-2 : 4-dien-1-ol. H. C. Barany, E. A. Braude and J. A. Coles. Chem Soc J p2093-7 Ag '51

Studies in molecular rearrangement; the oxotropic rearrangement of *cis*-propenylcarbinols; the stereochemical course of anionotropy. E. A. Braude and J. A. Coles. Chem Soc J p2085-92 Ag '51

Studies on the mechanism of the Claisen rearrangement; the ortho rearrangement of (—)α,γ-dimethylallyl phenyl ether and the para rearrangement of (—)α,γ-dimethylallyl 2,6-xylyl ether. E. R. Alexander and R. W. Kluiber. bibliog Am Chem Soc J 73:4304-6 S '51

Studies on the mechanism of the pinacol rearrangement; compounds related to *meso*- and *dl*-2,3-butanediol. E. R. Alexander and D. C. Dittmer. bibliog Am Chem Soc J 73: 1665-8 Ap '51

MOLECULAR rearrangements—*Continued*

Studies on the pinacol rearrangement. J. F. Lane, D. R. Walters and L. Spialter. bibliog Am Chem Soc J 73:4234-41, 4408-14 S '51

See also

Wagner-Meerwein rearrangement

MOLECULAR volume

Interpretation of intermolecular force parameters. S. D. Hamann. J Chem Phys 19: 655-6 My '51

Phase equilibria in hydrocarbon systems; volumetric and phase behavior of the methane-*n*-butane-decane system. H. H. Reamer, B. H. Sage and W. N. Lacey. bibliog Ind & Eng Chem 43:1436-44 Je '51

Phase equilibria in hydrocarbon systems; volumetric and phase behavior of the methane-hydrogen sulfide system. H. H. Reamer, B. H. Sage and W. N. Lacey. bibliog Ind & Eng Chem 43:976-81 Ap '51

Volumetric and phase behavior in the ethane-propene system. R. A. McKay and others. bibliog Ind & Eng Chem 43:2112-17 S '51

Volumetric and phase behavior of propene-propane system. H. H. Reamer and B. H. Sage. bibliog Ind & Eng Chem 43:1628-34 Jl '51

MOLECULAR weights

Adsorption system for the fractionation of nitrocellulose with respect to molecular weight. M. C. Brooks and R. M. Badger. bibliog Am Chem Soc J 72:4384-8 O '50

Apparatus for microdetermination of molecular weights by the vapor density method. J. J. Hawkins and P. Arthur. diag Anal Chem 23:533-4 Mr '51

Comparison of molecular weights of polystyrene by the light-scattering and osmometric methods. Q. A. Trementozzi. bibliog J Phys & Colloid Chem 54:1227-39 N '50

Determination of carbonyl groups by reaction with radioactive cyanide, and a simple means for estimation of molecular weight in polysaccharides. H. S. Isbell. Science 113:532-3 My 4 '51

Determination of molecular weight of lignosulphonic acids by diffusion; abstract. B. Ivarsson. Pulp & Pa of Can 52:98 My '51

Effect of molecular weight of entrained fluid on the performance of steam-jet ejectors. W. C. Holton. il A S M E Trans 73:905-7; Discussion. 907-10 O '51

Effect of small refractive index differences between the solution and the solvent on light-scattering molecular weight. R. Rivest and M. Rinfret. J Chem Phys 18:1513-14 N '50

Ferric thiocyanate; molecular weight in organic solvents. K. M. Mitchell and J. Y. MacDonald. Chem Soc J p 1310-13 My '51

Fractionation of starch; the determination of the molecular weights of the triacetates of amyloses and amylose fractions by osmotic pressure measurements. R. S. Higginbotham. bibliog diags Textile Inst J Trans 42:T235-48 Je '51

Influence of molecular weight on the properties of polystyrene. E. H. Merz, L. E. Nielsen and R. Buchdahl. bibliog Ind & Eng Chem 43:1396-401 Je '51

Light scattering by concentrated polymer solutions. P. Debye and A. M. Bueche. J Chem Phys 18:1423-5 N '50

Light scattering in solutions of serum albumin; effects of charge and ionic strength. J. T. Edsall and others. bibliog Am Chem Soc J 72:4641-56 O '50

Macromolecular weights determined by direct particle counting; the weight of the tobacco mosaic virus particle. R. C. Williams, R. C. Backus and R. L. Steere. bibliog Am Chem Soc J 73:2062-6 My '51

Measurement of molecular weight in organic solvents; thermoelectric method. C. B. Taylor and M. B. Hall. diags Anal Chem 23:947-9 Jl '51

Mechanical properties of substances of high molecular weight; non-Newtonian flow and stress relaxation in concentrated polyisobutylene and polystyrene solutions. F. W. Schremp and others. bibliog diag J Ap Phys 22:711-17 Je '51

Mechanical properties of substances of high molecular weight; rigidities of polyvinyl acetate solutions in various solvents. W. M. Sawyer and J. D. Ferry. Am Chem Soc J 72:5030-4 N '50

Mechanical properties of substances of high molecular weight; the relaxation distribution function in polyisobutylene and its solutions. J. D. Ferry and others. bibliog J Ap Phys 22:717-22 Je '51

Molecular magnitude of amylopectin. R. W. Kerr, F. C. Cleveland and W. J. Katzbeck. bibliog Am Chem Soc J 73:111-17 Ja '51

Molecular weight determination of polypeptides. A. R. Battersby and L. C. Craig. Am Chem Soc J 73:1887-8 Ap '51

Molecular weight of a protein; a student determination of osmotic pressure. S. Peterson. J Chem Educ 28:486-7 S '51

Molecular weight of lactoglobulin, ovalbumin, lysozyme and serum albumin by light scattering. M. Halwer, G. C. Nutting and B. A. Brice. bibliog Am Chem Soc J 73:2786-90 Je '51

Osmometry of high polymers. D. Cleverdon and D. Laker. bibliog J Ap Chem 1:2-13 Ja '51

Osmotic pressure and molecular weight. D. I. Hitchcock. bibliog J Chem Educ 28:478-9 S '51

Photoelectric light-scattering photometer for determining high molecular weights. B. A. Brice and others. bibliog il diags Opt Soc Am J 40:768-78 N '50

Practice of osmometry; its contribution to the characterization of a high polymer. D. Cleverdon. bibliog il diags J Ap Chem 1: 272-80 Je '51

Properties and molecular weights of some silicone polymers. E. G. Rochow and T. G. Rochow. il J Phys & Colloid Chem 55:9-16 Ja '51

Sedimentation equilibria of polydisperse non-ideal solutes; number-average molecular weight and molecular-weight distribution functions. M. Wales, F. T. Adler and K. E. Van Holde. bibliog J Phys & Colloid Chem 55:145-61 Ja '51

MOLECULES

Absorption spectra of molecules in the vacuum ultra-violet. W. C. Price. Inst Pet J 37:106-9; Discussion. 3pls diags 135-46 Mr '51

Anomalous intensity distribution of rotation lines in fundamental vibration bands in triatomic molecules. H. H. Nielsen. Phys R 83:838-9 Ag 15 '51

Application of a modified quantum-mechanical cellular method to the hydrogen molecule. V. A. Lewinson and G. E. Kimball. diag J Chem Phys 19:690-3 Je '51

Asymmetry of inner electron distributions in homonuclear diatomic molecules. H. Reiss and H. Saltsburg. bibliog J Chem Phys 18:1461-5 N '50

Benzenoid hydrocarbon with no Kekulé structure described; abstract. E. Clar and D. G. Stewart. Chem & Eng N 29:3968 S 24 '51

Binding energy and dipole moment of alkali halide molecules. E. S. Rittner. bibliog J Chem Phys 19:1030-5 Ag '51

Binding regions in diatomic molecules. T. Berlin. J Chem Phys 19:208-13 F '51

Brownian motion in a gas of noninteracting molecules. M. S. Green. bibliog diag J Chem Phys 19:1036-46 Ag '51

Central force model for additive molecular properties. H. J. Bernstein. J Chem Phys 19:140-1 Ja '51

Concentration dependence of the rates of diffusion of macromolecules in solution; an investigation of fractions of polystyrene. A. F. Schick and S. J. Singer. bibliog J Phys & Colloid Chem 54:1028-44 O '50

Concentration dependence of the viscosity of solutions of macromolecules. J. Riseman and R. Ullman. bibliog J Chem Phys 19: 578-84 My '51

Dependence of magnetic shielding of nuclei upon molecular orientation. N. F. Ramsey. Phys R 83:540-1 Ag 1 '51

Determination of molecular shape by osmotic measurement. A. Isihara. J Chem Phys 18: 1446-9 N '50

MOLECULES—*Continued*

Determination of the structures of complex molecules and ions from X-ray diffraction by their solutions; the structures of the groups $PtBr_6^{--}$, $PtCl_6^{--}$, $Nb_6Cl_{12}^{++}$, $Ta_6Br_{12}^{++}$, and $Ta_6Cl_{12}^{++}$. P. A. Vaughan, J. H. Sturdivant and L. Pauling. bibliog Am Chem Soc J 72:5477-86 D '50

Dielectric and molecular behavior of 1,3-dipalmitin, 1,3-distearin, tripalmitin, tristearin and tetradecyl palmitate. R. W. Crowe and C. P. Smyth. bibliog Am Chem Soc J 72:5281-7 N '50

Dipole moments and molecular structure. H. R. Davidson. bibliog diags J Chem Educ 27:598-603 N '50; Correction. 28:164 Mr '51

Excited triplet states of some polyatomic molecules. D. S. McClure. bibliog il diags J Chem Phys 19:670-5 Je '51

Franck-Condon principle and the size of the excited benzene molecule. D. P. Craig. Chem Soc J p2146-51 Ag '50

Free radicals, activated molecules, and wall effects in photochemical systems. W. A. Noyes, jr. bibliog J Phys & Colloid Chem 55:925-39 Je '51

Free volume for rigid sphere molecules. R. J. Buehler and others. il diags J Chem Phys 19:61-71 Ja '51

Frequency factors of unimolecular dissociation processes. M. Szwarc. bibliog diag J Phys & Colloid Chem 55:939-47; Discussion. 947-9 Je '51

Fundamental research in molecular spectra. R. W. B. Pearse. bibliog Opt Soc Am J 41:148-52 Mr '51

Further evidence for a two quantum transition in molecular spectroscopy. L. Grabner and V. Hughes. Phys R 82:561 My 15 '51

Hyperfine structure of the rotational spectra of XYZ_3-type molecule, where nuclei Z have electric quadrupole moments. M. Mizushima and T. Ito. bibliog J Chem Phys 19:739-44 Je '51

Infra-red spectrum and molecular structure of HNCS. L. H. Jones and R. M. Badger. J Chem Phys 18:1511-12 N '50

Intermolecular and intramolecular crosslinking in concentrated polymer solutions. D. B. Fordyce and J. D. Ferry. Am Chem Soc J 73:62-5 Ja '51

Intermolecular potentials; carbon tetrafluoride and sulfur hexafluoride; carbon dioxide. K. E. MacCormack and W. G. Schneider. bibliog J Chem Phys 19:849-55 Jl '51

Interpretation of nuclear quadrupole couplings in molecules. W. Gordy. bibliog J Chem Phys 19:792-3 Je '51

Isoconjugate spectra and variconjugate sequences. J. R. Platt. bibliog diags J Chem Phys 19:101-18 Ja '51

Kinetic energy matrix elements for linear molecules. S. M. Ferigle and A. G. Meister. J Chem Phys 19:982-3 Jl '51

l-Type doubling in axially symmetric molecules, in particular with reference to molecules belonging to the symmetry groups C_4v and *Vd*. J. de Heer. diags Phys R 83:741-5 Ag 15 '51

Lewis acids and bases and molecular complexes. R. S. Mulliken. J Chem Phys 19:514-15 Ap '51

LCAO self-consistent field calculation of the twisting frequency and π-electron energy levels of allene. R. G. Parr and G. R. Taylor. bibliog J Chem Phys 19:497-501 Ap '51

Magnetic shielding constant of H_2. G. F. Newell. bibliog Phys R 80:476-7 N 1 '50

Markoff chains and chain molecules. K. Suzuki. J Chem Phys 19:385 Mr '51

Mass spectra of some simple isotopic molecules. V. H. Dibeler and others. bibliog J Res Nat Bur Stand 45:288-91 O '50

Mechanical-electrical unit for calculating structure amplitudes. F. J. Llewellyn. il diags J Sci Instr 28:229-30 Ag '51

Microwave spectra and molecular structures of trifluorosilane derivatives. J. Sheridan and W. Gordy. bibliog J Chem Phys 19:965-70 Jl '51

Molecular constants of $Cs^{133}Cl^{35}$. R. G. Luce and J. W. Trischka. Phys R 83:851-2 Ag 15 '51

Molecular structure and deviations from the Brønsted relation. R. P. Bell. bibliog J Phys & Colloid Chem 55:885-91; Discussion. H. C. Brown. 892-3 Je '51

Molecular structure and spectroscopy; symposium, Columbus, Ohio, June 11-15. Anal Chem 23:1043-51 Jl '51

Molecular structure of gelsemine. M. S. Gibson and R. Robinson. bibliog Chem & Ind p93 F 3 '51

Numerical integration as a labor-saving device in the compilation of thermodynamic properties of polyatomic molecules. R. E. Pennington and K. A. Kobe. J Chem Phys 19:510-11 Ap '51

Orthogonal atomic orbitals. J. C. Slater. J Chem Phys 19:220-3 F '51

Perturbations in the ultraviolet band spectrum of the phosphorus molecule. P_2. S. M. Naudé and H. Verleger. bibliog Phys R 80:432-5 N 1 '50

Polarization of Rayleigh scattering as an aid to determine molecular configuration in liquids. D. H. Rank. J Chem Phys 19:511 Ap '51

Recent progress in the chemistry of phenolic resins. S. R. Finn and others. bibliog Chem & Ind sup S849-53 D 30 '50

Role of hybridization and resonance in molecular structure. J. Duchesne. bibliog J Chem Phys 19:246-7 F '51

Rotation-vibration spectra of diatomic and simple polyatomic molecules with long absorbing paths; the spectrum of isocyanic acid. C. Reid. il J Chem Phys 18:1544-50 D '50

Rotation-vibration spectra of diatomic and simple polyatomic molecules with long absorbing paths; the spectrum of methyl fluoroform (CH_3CF_3) from 19μ to 0.7μ. R. D. Cowan and others. bibliog J Chem Phys 18:1538-44 D '50

Rotation-vibration spectra of diatomic and simple polyatomic molecules with long absorbing paths; the spectrum of nitrous oxide (N_2O) below 1.2μ. G. Herzberg and L. Herzberg. bibliog il J Chem Phys 18:1551-61 D '50

Rotational structure of the ultraviolet band system of the P_2 molecule. E. J. Marais and H. Verleger. bibliog Phys R 80:429-31 N 1 '50

Some considerations on the strengths of hybrid bonds in excited states of the hydrogen molecule-ion. H. O. Pritchard and H. A. Skinner. Chem Soc J p945-52 Ap '51

Stochastic processes and dispersion of configurations of linked events. C. Tchen. bibliog J Res Nat Bur Stand 46:480-8 Je '51

Structure of monolayers and multilayers of polar hydrocarbon molecules on solid substrates. H. T. Epstein. bibliog il diags J Phys & Colloid Chem 54:1053-69 O '50

Structure of para-di-chloro-benzene. B. D. Saksena. bibliog il J Chem Phys 18:1653-6 D '50

Studies in light absorption; the relation between absorption intensities and molecular dimensions, and its application to the electronic spectra of polyenes and polycyclic benzenoid hydrocarbons. E. A. Braude. diags Chem Soc J p379-84 Ja '50

Studies on birefringence of macromolecular solutions. C. Sadron. bibliog il diags J Ap Chem 1:290-8 Jl '51

Symposium on molecular structure and spectroscopy, Columbus, June 11-15. Chem & Eng N 29:2748 Jl 2 '51

Ultrasonic investigation of liquids; acetylene derivatives. A. Weissler and V. A. Del Grosso. Am Chem Soc J 72:4209-10 S '50

Unimerism. J. K. Senior. J Chem Phys 19:865-73 Jl '51

Use of punched cards in molecular structure determinations; approximations to the temperature factor. M. E. Jones and V. Schomaker. J Chem Phys 19:511-12 Ap '51

Vibrational spectra and structure of inorganic molecules; the infra-red spectra of nitrosyl chloride and nitrosyl bromide from 2.0 to 25μ. W. G. Burns and H. J. Bernstein. bibliog J Chem Phys 18:1669-73 D '50

See also

Atoms
Chemical bonds
Isomerism
Molecular rearrangements
Molecular weights
Polymers
Stereochemistry

Models

Molecular models of silicates for lecture demonstration. W. K. Noyce. bibliog il J Chem Educ 28:29-31 Ja '51

MOLECULES—*Continued*

Rotation

Centrifugal distortion in asymmetric molecules; HDS. R. E. Hillger and M. W. P. Strandberg. Phys R 83:575-81 Ag 1 '51

Centrifugal distortion in asymmetric top molecules; ordinary formaldehyde, $H_2C^{12}O$. R. B. Lawrance and M. W. P. Strandberg. bibliog Phys R 83:363-9 Jl 15 '51

Heat capacities, dielectric constants and molecular rotational freedom in solid trichloroethanes and disubstituted propanes. R. W. Crowe and C. P. Smyth. bibliog Am Chem Soc J 72:4009-15 S '50

Methyl alcohol; the entropy, heat capacity and polymerization equilibria in the vapor, and potential barrier to internal rotation. W. Weltner, jr. and K. S. Pitzer. bibliog Am Chem Soc J 73:2606-10 Je '51

Microwave spectroscopic evidence for internal rotation in methyl silane. D. R. Lide and D. K. Coles. Phys R 80:911 D 1 '50

Molecular rotation and proton transfer in the solid forms of 1-monopalmitin and 1-monostearin. R. W. Crowe and C. P. Smyth. bibliog Am Chem Soc J 72:4427-32 O '50

Rotational isomers of 1,2-dihalogenoethanes S. Mizushima and Y. Morino. bibliog J Chem Phys 18:1516 N '50

Rotational magnetic moments in polyatomic molecules. C. K. Jen. bibliog Phys R 81: 197-203 Ja 15 '51

Visco-elastic properties of solutions of rod-like macromolecules. J. G. Kirkwood and P. L. Auer. bibliog J Chem Phys 19:281-3 Mr '51

Size

Atom polarisation; relationships between molecular dimensions and boiling points for branched-chain paraffins. A. Audsley and F. R. Goss. Chem Soc J p 120-6 Ja '51

Calculation of the molecular diameters from Sutherland's constant. M. el Nadi. J Chem Phys 19:503-4 Ap '51

Studies on the Schardinger dextrins; the molecular size and structure of the γ-dextrin. D. French, D. W. Knapp and J. H. Pazur. bibliog Am Chem Soc J 72:5150-2 N '50

Vibration

Interpretation of relaxation time measurements in gas mixtures. R. A. Walker. J Chem Phys 19:494-7 Ap '51

Interpretation of the CH_2 vibrational frequencies of *n*-paraffins. G. M. Barrow. bibliog J Chem Phys 19:345-6 Mr '51

Variation of atomic polarizabilities in molecular vibrations. F. Matossi. bibliog J Chem Phys 19:1007-10 Ag '51

Vibration-rotation energies of molecules. H. H. Nielsen. bibliog Rs Mod Phys 23:90-136 Ap '51

MOLINE, Illinois

Water supply

Growing city electrifies water supply, replaces steam-powered pump plant. il Eng N 146:35 F 22 '51

MOLISCH reaction

Spectrophotometric study of the Molisch phase test of chlorophyll. B. Dunicz and others. diag Am Chem Soc J 73:3388-90 Jl '51

MOLLUSCACIDES

Effect on calves of prolonged oral administration of three potential molluscacides. J. R. Herdt and others. Pub Health Rep 66:1313-17 O 12 '51

Laboratory tests on the rapidity of molluscacidal action of copper sulfate in high concentration. M. O. Nolan. bibliog Pub Health Rep 65:1481-5 N 10 '50

See also
Copper pentachlorophenate

MOLLUSKS

See also
Oyster shells
Oysters
Squids

MOLLUSKS, Fossil

New belemnoid from the triassic of Nevada. A. G. Fischer. diags Am J Sci 249:385-93, pl 1-2 My '51

See also
Ammonoidea
Gasteropoda, Fossil

MOLTEN metals. See Metals, Molten

MOLTEN steel. See Steel, Molten

MOLYBDATES

Molybdate and tungstate as corrosion inhibitors and the mechanism of inhibition. W. D. Robertson. bibliog diag Electrochem Soc J 98:94-100 Mr '51; Discussion. 98:513-15 D '51

Molybdate-catalyzed hydrogen peroxide oxidation of β-naphthol. A. R. Bader. Am Chem Soc J 73:3731-2 Ag '51

MOLYBDENUM

Chemical spot tests for nickel and molybdenum. E. H. Snyder and A. H. Klein. Metal Prog 60:78-9 S '51

Climax Molybdenum; can it develop into a growth situation? S. Devlin. il Mag of Wall St 88:249-51+ Je 2 '51

Curtailed tungsten supply brightens horizon for this substitute. M. Gordon. Barron's 31:21 Ap 16 '51

Designing with modern materials; survey of latest developments in engineering materials. il Machine Design 23:319-22 O '51

Growth of molybdenum single crystals. N. K. Chen and others. il diags J Metals 3:Trans 461-4 Je '51

High temperature properties of molybdenum investigated. R. A. Lang and others. Materials & Methods 33:146+ My '51

High temperature structure and thermal expansion of some metals as determined by X-ray diffraction data; platinum, tantalum, niobium, and molybdenum. J. W. Edwards and others. bibliog J Ap Phys 22:424-8 Ap '51

Introduction to arc-cast molybdenum and its alloys. J. L. Ham. bibliog A S M E Trans 73:723-32 Ag '51; Same cond. Steel 128:106-8 Ja 15 '51

Lubricant made of metal; Liqui-Moly. Steel 127:80 N 27 '50

Molybdenum a new high-temperature metal. R. M. Parke. bibliog(81 titles) il Metal Prog 60:81-96 Jl '51

Molybdenum corrects temper embrittlement from phosphorus. J. J. Harwood. Steel 128: 78 Ap 23 '51

Molybdenum, 1950. R. W. Geehan. Eng & Min J 152:96-7 F '51

Molybdenum products, molybdenum concentrates, 1946-1950; tabulations. Steel 128:133 Ja 1 '51

Observations on cleavage and polygonization of molybdenum single crystals. N. K. Chen and R. Maddin. bibliog il diag J Metals 3:Trans 531-2 Jl '51

Pinch in alloy. Bsns W p 161-2 Je 16 '51

Properties of molybdenum; tables; data sheet. R. M. Parke, comp. Metal Prog 60: 80B Jl '51

Some properties of high-purity sintered wrought molybdenum metal at temperatures up to 2400 F; abstract. Product Eng 22:231-2 Ag '51

Strength of pure molybdenum at 1800 to 2400°F. R. A. Long and others. il diags Metal Prog 60:81-8 S '51

Substituted benzidines and related compounds as reagents in analytical chemistry; the precipitation of tungsten. R. Belcher and A. J. Nutten. Chem Soc J p 1516-19 Je '51

Tungsten and molybdenum world distribution program established. Oil Paint & Drug Rep 160:5 Jl 16 '51

World production of molybdenum, from 1941; U.S. molybdenum output; tabulations. Iron Age 167:308 Ja 4 '51

See also
Soils—Molybdenum content

Analysis

Colorimetric determination of molybdate with catechol. S. Seifter and B. Novic. Anal Chem 23:188-9 Ja '51

Colorimetric determination of molybdenum by means of nitric and perchloric acids. H. J. Evans, E. R. Purvis and F. E. Bear. bibliog Anal Chem 22:1568-9 D '50

MOLYBDENUM—Analysis—*Continued*
Determination of molybdenum in soils and rocks; geochemical semimicro field method. F. N. Ward. bibliog Anal Chem 23:788-91 My '51
Spectrophotometric determination of molybdenum with phenylhydrazine hydrochloride. G. H. Ayres and B. L. Tuffly. bibliog Anal Chem 23:304-8 F '51

Isotopes

Lower limit for the lifetime of the 0.8-Mev excited level of Mo^{96}. F. R. Metzger. Phys R 83:842 Ag 15 '51
Radiations from F^{18}, Mo^{93}, Cl^{34}. L. Ruby and J. R. Richardson. bibliog Phys R 83:698-700 Ag 15 '51
Radiations from Mo^{99} and $Tc^{99}m$. M. E. Bunker and R. Canada. bibliog Phys R 80:961-5 D 15 '50

Protection

Formation of molybdenum disilicide coatings on molybdenum. E. A. Beidler and others. bibliog il Electrochem Soc J 98:21-5 Ja '51; Discussion. 98:511 D '51
High-temperature ceramic coatings for molybdenum. Product Eng 22:105 Ja '51
Study of ceramic coatings for high-temperature protection of molybdenum; abstract. D. G. Moore and others. Metal Prog 59:872+ Je '51

Testing

Strain rate sensitivity of molybdenum at room temperature. R. Maddin and R. Pond. il Metal Prog 60:76-8 Jl '51

MOLYBDENUM alloys
Effect of rate of cooling on the alpha-beta transformation in titanium and titanium-molybdenum alloys. P. Duwez. bibliog il J Metals 3:Trans 765-71 S '51
Intermetallic compounds in the system molybdenum-beryllium. S. G. Gordon and others. bibliog il diag J Metals 3:Trans 637-8 Ag '51
Introduction to arc-cast molybdenum and its alloys. J. L. Ham. bibliog A S M E Trans 73:723-32 Ag '51; Same cond. Steel 128:106-8 Ja 15 '51

MOLYBDENUM coating
Vapor deposition of metals on ceramic particles. J. E. Cline and J. Wulff. bibliog il diag Electrochem Soc J 98:385-7 O '51

MOLYBDENUM fluoride
Raman effect and ultraviolet absorption spectra of molybdenum and tungsten hexafluorides. K. N. Tanner and A. B. F. Duncan. bibliog Am Chem Soc J 73:1164-7 Mr '51

MOLYBDENUM plating
Molybdenum plating by reduction of the pentachloride vapor; abstract. W. J. Childs and others. Materials & Methods 32:110+ D '50
Molybdenum plating; three types of coatings produced in research study. W. J. Childs and others. il diag Steel 128:62-4 Ja 8 '51

MOLYBDENUM silicide
Formation of molybdenum disilicide coatings on molybdenum. E. A. Beidler and others. bibliog il Electrochem Soc J 98:21-5 Ja '51
Metallic behavior of $MoSi_2$. F. W. Glaser. J Ap Phys 22:103 Ja '51

MOLYBDENUM steel
Arc welding of carbon-molybdenum steel pipe. F. J. Winsor. bibliog Welding J 30:817-27 S '51
Fracture under combined stress creep conditions of 0.5 per cent Mo steel. A. E. Johnson and N. E. Frost. Engineer 191:434-7 Ap 6 '51
High-temperature properties and characteristics of a ferritic steam-piping steel. A. W. Rankin and W. A. Reich. il A S M E Trans 73:891-8; Discussion. 898-904 O '51
Molybdenum can replace chromium in bearing steels. A. S. Jameson and others. il Iron Age 167:102-7 Ap 5 '51

MOLYBDENUM sulfide
Molybdenum lubricant proves itself in tough tests. A. Sonntag. il diag Iron Age 167:91-3 F 8 '51

MOMENTS of inertia
Airplane pitching moment of inertia. I. Bouton. J Aeronautical Sci 18:140-1 F '51
Properties of rectangular sections; reference book sheet. C. A. Kulmann. diags Product Eng 21:167 N '50

MONARCH life insurance company
50th anniversary convention, Hollywood, Fla. East Underw 52:3-6+ Ap 20 '51

MONARCH radio and television corporation
Stock offered. Comm & Fin Chr 172:1831 N 13 '50

MONCHOW, Helen Corbin, 1898-1950
Sketch. E. W. Morehouse. Land Econ 27:81-2 F '51

MONEL metal
Materials for fluorine control equipment. G. E. Zima and R. N. Doescher. il diags Metal Prog 59:660-3 My '51
Some pointers on soldering monel. diags Sheet Metal Worker 42:30-1 F '51
Uses broaden for cast monel. N. S. Mott. il Iron Age 167:63-7 Ja 11 '51
Victory over bromine; new monel drum. A. R. Jasuta. il diags Mod Packaging 24:117-21 Je '51

MONETARY unions
See also
European payments union

MONEY
Controversy over monetary policy. S. E. Harris and others. R Econ & Stat 33:179-200 Ag '51
Monetary aspects of the Schumpeterian system. A. W. Marget. R Econ & Stat 33:112-21 My '51
Price-level stabilization and full employment as objectives of monetary policy. D. A. Fergusson. J Bsns 24:220-31 Jl '51
Ratio of income to money supply; an international survey. E. M. Doblin. bibliog R Econ & Stat 33:201-13 Ag '51
Revival of monetary policy; review of Goldenweiser and Bach books and Douglas report. R. V. Rosa. R Econ & Stat 33:29-37 F '51
See also
Banks and banking
Capital
Counterfeit and counterfeiting
Credit
Finance
Foreign exchange
Gold as money
Inflation (finance)
Investments
Paper money
Prices
Silver as money

Devaluation

How to retard further dollar depreciation. W. E. Spahr. Comm & Fin Chr 172:2177+ D 7 '50

History

What did they use for money? A. Wilson. Comm & Fin Chr 174:64+ Jl 5 '51

International aspects

Arms and dollars. P. Einzig. Comm & Fin Chr 172:1687 N 2 '50
End of dollar famine? shifting dollar position in world trade. V. L. Horoth. il Mag of Wall St 87:119-21+ N 4 '50
Exchange policy and the pound. Economist 159:606+ O 14 '50
Is the dollar shortage over? with US balance of payments figures, April-June quarters, 1947-1950. Economist 159:1031+ D 9 '50
Lower dollar for Europe? V. L. Horoth. il map Mag of Wall St 88:394-5+ Jl 14 '51
Monetary policy in the international economy. M. S. Szymczak. Comm & Fin Chr 172:1589+ O 26 '50
Sterling's role as international currency; study by Federal reserve bank of New York. Comm & Fin Chr 174:600+ Ag 16 '51
See also
Bank for international settlements

Stabilization

One freedom, indivisible. H. E. Stassen. Franklin Inst J 251:571-80 Je '51

Canada

Canada's new dollar. K. Bloch. Barron's 30:7-8 O 16 '50
Canadian dollar freed; Free rates and the Fund. Economist 159:585 O 7 '50
Free market in Canadian dollars. Economist 159:631-2 O 21 '50

MONEY—*Continued*

Europe

Europe's inflation; can she export it? case for currency revolution. Bsns W p 157-8 Je 23 '51

Revaluation debate continued. Economist 160: 1462 Je 16 '51

Up-value European currencies? Nat City Bank p80-3 Jl '51

Great Britain

Chances of sterling revaluation. P. Einzig. Comm & Fin Chr 174:607 Ag 16 '51

Exchange policy and the pound. Economist 159:606+ O 14 '50

Higher pound? Economist 160:1273-4 Je 2 '51

Sterling rumours and rates. Economist 159: 585-6 O 7 '50

Will Britain free sterling from controls. P. Einzig. Comm & Fin Chr 172:1507 O 19 '50

Will Britain revalue sterling? P. Einzig. Comm & Fin Chr 173:2454, 2580 Je 14-21 '51

United States

America's uneasy money. Economist 159: 1043+ D 9 '50

Dollars and sense. F. Lilly. Comm & Fin Chr 173:1858 My 3 '51

Dollar's worth; table and graph showing purchasing power of the dollar in wholesale commodity markets, 1801-1950. Banking 43: 56-7 Je '51

How to retard further dollar depreciation. W. E. Spahr. Comm & Fin Chr 172:2177+ D 7 '50

Inherent dangers of debt-secured currency. F. Lilly. Comm & Fin Chr 174:69+ Jl 5 '51

Keep public informed on money supply. T. I. Parkinson. Comm & Fin Chr 173:1448 Ap 5 '51

Mr Snyder and the dollar. Fortune 43:60-1 Mr '51

Money and credit today. M. S. Szymczak. Comm & Fin Chr 172:1797+ N 9 '50

Money shortage; most important force in the economy today. R. M. Bleiberg. Barron's 31:3 Jl 2 '51

Our money system has an inflation bias. A. A. Smith. Comm & Fin Chr 174:1360-1+ O 11 '51

Rats leave the sinking dollar. M. Palyi. Comm & Fin Chr 173:1529+ Ap 12 '51

Recent monetary and credit developments. Fed Res Bul 37:739-47 Jl '51

Recommendations for a sound monetary system. W. E. Spahr. Comm & Fin Chr 173: 2044+ My 17 '51

Sound money is U.S. number one need. O. W. Adams. Comm & Fin Chr 174:430 Ag 2 '51

Suggested reorganization of monetary policy formation. D. A. Fergusson. bibliog J Bsns 24:25-42 Ja '51

Treasury, the Federal Reserve, and a stable currency. J. H. Frost. Comm & Fin Chr 173:2054+ My 17 '51

United States money in circulation, by denominations, yearly 1933-1948 and monthly Aug. 1949-Nov. 1950. Fed Res Bul 37:52 Ja '51 [cont monthly]

Urgent need for monetary statesmanship. W. E. Spahr. Comm & Fin Chr 173:55+ Ja 4 '51

What irredeemable currency means to bankers and public. W. E. Spahr. Comm & Fin Chr 174:1158+ S 27 '51

What is a dollar? R. L. Garis. Comm & Fin Chr 173:1430+ Ap 5 '51

See also

United States—Mint

MONEY, Counterfeit. See Counterfeits and counterfeiting

MONEY and securities insurance. See Insurance, Money and securities

MONEY market

Current money market and bank portfolios. C. S. Bartlett. Comm & Fin Chr 173:2144+ My 24 '51

Money market readjustment completed. M. Nadler. Comm & Fin Chr 174:60 Jl 5 '51

Money market steady. Bsns W p 120-2 Mr 24 '51

What tightening money portends for business. J. S. Williams. Mag of Wall St 88:180-2+ My 19 '51

See also

Interest

MONEY orders

Plan appeals to customer; National bank of commerce of Seattle, personal money order plan. Am Bsns 20:36-7 N '50

See also

Postal service—Money orders

MONEY orders, Postal. See Postal service—Money orders

MONEY raising campaigns

Agencyman's own life story helps fund; Omaha Community Chest drive. il Ptr Ink 233:82 D 8 '50

How advertising mobilizes for public service; Printers' ink covers an Advertising council, Red cross campaign. il Ptr Ink 234:34-6 Ja 26 '51

Please mail it to; charitable organizations' direct mail appeals pay off. Bsns W p85-6 D 16 '50

See also

Newspapers—Charities

Accounting

Audit control of fund drives. W. L. Hausman. N A C A Bul 32:290-5 N '50

MONEY rates. See Interest

MONKHOUSE, Allan C.

Portrait. Chem & Ind p502 Je 30 '51

MONNET plan. See France—Industries and resources

MONOCHROMATORS

Double-beam recording infra-red spectrometer. K. S. Tetlow and others. bibliog diags J Sci Instr 28:161-7 Je '51

Instrument for internal standard flame photometry; application to determination of calcium in rare earths. R. H. Heidel and V. A. Fassel. bibliog diags Anal Chem 23: 784-8 My '51

Monochromator for X-ray powder camera. F. M. Wrightson and I. Fankuchen. il diags R Sci Instr 22:212-13 Mr '51

Neutron crystal monochromators. R. J. Weiss and others. Phys R 83:863-4 Ag 15 '51

New constant-deviation prism arrangement. S. Makishima, Z. Koana and K. Oshima. diags Opt Soc Am J 41:249-52 Ap '51

Principle and adjustment of the Hilger-Müller double monochromator. C. Billington and D. A. Davies. diags Opt Soc Am J 41:329-31 My '51

Simple conversion of the Beckman IR-2 into a monochromator. R. Anthony. diag R Sci Instr 22:338-9 My '51

MONOCROTALIC acid

Isomer of dihydroanhydromonocrotalic acid. G. P. Mueller. bibliog Am Chem Soc J 72: 4092-5 S '50

MONOLAYERS. See Films

MONON. See Chicago, Indianapolis and Louisville railway

MONONGAHELA power company

Bonds offered. Comm & Fin Chr 173:1794 Ap 30 '51

MONONGAHELA river

New lock and dam provide for expanding river traffic. R. B. Jackson. il plan Civil Eng 20:759-60 D '50

New locks begin handling traffic. Eng N 146:27 Je 21 '51

MONOPOLIES

Atlas clipped by FTC examiner. Bsns W p 135-6 Je 23 '51

Concentration of power in the American economy; big-little business, big labor, big agriculture. C. Wilcox. Harvard Bsns R 28: 54-60 N '50

Defense economy should not sanction monopolistic tendencies. J. H. McGrath. Comm & Fin Chr 174:960 S 13 '51

Impact of recent monopoly theory on the Schumpeterian system. E. H. Chamberlin. R Econ & Stat 33:133-8 My '51

Michigan lawmakers refuse to hear Indiana Standard's monopoly reply. Nat Pet N 43: 21 S 12 '51

Monopoly under the microscope; Monopolies and restrictive practices commission report on supply of dental goods. Economist 159: 1156-8 D 23 '50

MONOPOLIES—*Continued*
Schumpeter on monopoly and the large firm. E. S. Mason. R Econ & Stat 33:139-44 My '51

MONORAIL conveyors
Conveyerized blasting unit provides economical cleaning; foundry of Crompton & Knowles loom works. V. E. Hillman. il Foundry 78:204+ N '50
Installs modern cupola charging equipment; Hajoca corp. il Foundry 79:136+ Mr '51
Lightweight yoke results from redesign; tramrail installation. il diag Product Eng 21:98-9 D '50
Monorail cuts unloading time 80 per cent at the Universal Glass plant. il diag Cer Ind 56:114-15 Ap '51
More production in the same space; monorail system of E. F. Hauserman co. G. H. Cahoon. il plan Factory Management 109: 94-5 My '51
Operator carried around the work in an unusual sand-blasting set-up. il plan diag Mach 58:167-9 S '51
Ware transfer device cuts labor; Norris stamping and manufacturing co. il Cer Ind 56:73 Mr '51

MONORAIL railroads. See Railroads, Suspended

MONOTYPE corporation, limited
Statement by the chairman. G. Ellis. Economist 160:663 Mr 17 '51

MONSANTO chemical company
Fiber, atom, new boss at Monsanto. il Bsns W p 112-14+ My 5 '51

MONSANTO chemicals, limited
Statement by the chairman. E. A. O'Neal. Economist 160:1476-7 Je 16 '51

MONTANA
See also
Geology—Montana
Manganese mines and mining—Montana

MONTANA-DAKOTA utilities company
Bonds offered. Comm & Fin Chr 173:1990; 174:7 My 14, Jl 2 '51
Common stock offered. Comm & Fin Chr 174: 366 Jl 30 '51
Offering to stockholders. Comm & Fin Chr 173:1794 Ap 30 '51

MONTANA power company
Plans natural gas expansion. Barron's 31: 16-17 Jl 9 '51
Security I like best. J. H. Young. Comm & Fin Chr 172:2274+ D 14 '50

MONTMORILLONITE
Resistance of a protein-montmorillonite complex to decomposition by soil microorganisms. L. A. Pinck and F. E. Allison. bibliog Science 114:130-1 Ag 3 '51

MONTREAL
Industry, building boom in Montreal. il Eng N 146:54 Ap 12 '51

Railroads

St Luc marshalling yard of the Canadian Pacific railway. il plan Engineering 170: 553-6, pl 49 D 29 '50

Subway

Montreal's subway plans are making progress. Eng N 147:61 S 6 '51

MONUMENTS
Conservation of ancient marble monuments. A. J. Sofianopoulos. J Chem Educ 28:79-81 F '51

MOON
Measuring moon radiation at 24,000 mc. J. H. Piddington and H. C. Minnett. diag Electronics 23:124+ N '50
Moon echoes and transmission through the ionosphere. F. J. Kerr and C. A. Shain. bibliog il diags Inst Radio Eng Proc 39:230-42 Mr '51

MOORING
Persian Gulf port berthing arrangements; jetty equipped with a gravity pattern fender. il diags Engineer 191:189 F 9 '51
Ship response to range action in harbor basins. B. W. Wilson. il plan diags Am Soc C E Proc 76 [no 41]:1-29 N '50

MORAINES
Minor moraines in South Dakota and Minnesota. C. S. Gwynne. bibliog maps diags Geol Soc Bul 62:233-49, pl 1-3 Mr '51

MORCOM, Clifford B. 1885-
Sketch and tributes. por East Underw 52:31 O 5 '51

MORELOS dam. See Dams, Concrete

MORENCY, Joseph N.
Morency emphasizes service and adequacy. G. A. Brandenburg. por Ed & Pub 84:92 Ap 21 '51

MORETON-BAY chestnut
Constituents of the wood of castanospermum australe Cunn. et Fras; the isolation of a new sapogenin, castanogenin. J. J. H. Simes. Chem Soc J p2868-70 O '50

MORGAN, Clyde B. 1889-
Portrait. Fortune 44:26 Ag '51

MORGAN, Frank A. 1898-
Sketch. por Explosives Eng 29:100-1 Jl '51

MORGAN, George Dillon, 1894-1950
Sketch. F. M. Bullard and H. P. Bybee. por Am Assn Pet Geologists Bul 35:770-4 Mr '51

MORGAN county, Ohio
$25-million boundary dispute. il map Bsns W p 128-9 S 15 '51

MORGENSTERN, Oskar, 1902-
Economists. J. McDonald. por Fortune 42: 108-13+ D '50

MORIN
Isolation and purification of morin on an ion-exchange resin. Q. L. Morris, T. B. Gage and S. H. Wender. Am Chem Soc J 73: 3340-1 Jl '51

MORISON, Hugh Graham, 1906-
Portrait. Bsns W p57 Jl 7 '51

MOROCCO
French in Morocco. Economist 160:988-9, 1045-6 Ap 28-My 5 '51
See also
Mines and mineral resources—Morocco
Petroleum industry and trade—Morocco

Commerce

Foreign trade increased in 1950. For Comm W 43:11-12 Je 11 '51

Foreign relations

United States

Moroccan treaty question referred to International court of justice. For Comm W 41: 11 N 13 '50
Watch Morocco. Fortune 44:95+ S '51

Industries and resources

Morocco thrives on U.S. cash. map Bsns W p 172-4 S 15 '51

Politics and government

Watch Morocco. Fortune 44:95+ S '51

MOROLIC acid. See Sapogenins

MORPHINE
Attempted synthesis of a morphine degradation product. M. S. Newman and W. L. Mosby. bibliog Am Chem Soc J 73:3738-40 Ag '51
Preliminary syntheses in the morphine series; Michael condensations with 2-aryl*cyclo*hex-2-enones and cyclisation of the products to octahydrophenanthrene derivatives. D. Ginsburg and R. Pappo. Chem Soc J p938-45 Ap '51
Preliminary syntheses in the morphine series; the synthesis of 2-aryl*cyclo*hex-2-enones. D. Ginsburg and R. Pappo. Chem Soc J p516-19 F '51
Structure of morphine and its derivative metopon. L. J. Sargent and L. F. Small. Science 112:473 O 20 '50
Use of morphine-scopolamine in surgery. R. Householder. Ind Med 20:115-18 Mr '51
Use of 2-phenylcyclohexenone in experiments on the synthesis of morphine. C. F. Koelsch. Am Chem Soc J 73:2951-2 Je '51

MORPHOLINE
Morpholinium salts. C. T. Bahner and others. Am Chem Soc J 73:4011-13 Ag '51
Reduction of amides with lithium aluminium hydride. A. L. Morrison, R. F. Long and M. Königstein. Chem Soc J p952-5 Ap '51
Some 2-substituted-4-methylmorpholines. H. Gilman and C. C. Wanser. Am Chem Soc J 73:4030-1 Ag '51
Synthesis and reaction with morpholine of *cis*-1,2-dibenzoyl-1-*p*-tolylethylene. P. S. Bailey, E. E. Kawas and L. L. Smith. bibliog Am Chem Soc J 73:4088-90 S '51

MORRIS, Edmund T. jr.

Portrait. Fortune 44:125 O '51

MORRIS, Phillip, and company

Annual report. Comm & Fin Chr 173:2192 My 28 '51

Scores heavier gains than rivals in cigarette production. R. Vogel. Barron's 31: 21-2 F 5 '51

MORRISON, Herbert Stanley, 1888-

Britain's little Cyclops. por Bsns W p 150-1 Mr 17 '51

MORROW rural electric cooperative

Co-ops raps business-or-pleasure bogey; Ohio group annual meeting, sponsors day at county fair. il Elec World News ed 136:4 S 17 '51

MORTALITY

Effect of heredity on mortality. F. M. Redington. East Underw 51:28 D 15 '50

Shift in mortality concepts changes actuary's viewpoint. C. A. Spoerl. Nat Underw (Life ed) 55:5 Ja 5 '51

See also

Longevity

Statistics

Death before age 65 claims about 50 per cent of Americans, Metropolitan Life reports. Nat Underw (Life ed) 55:11 S 7 '51

Death rates by industry, 1947-1949; occupational death rates, 1933-1949; tabulations. Iron Age 167:363 Ja 4 '51

Fatalities fewer in 1950. A. D. Eattey. map Nat Safety N 64:26-7+ Jl '51

Maternal mortality rate now phenomenally low. Nat Underw (Life ed) 55:15 Ag 24 '51

Negro mortality; urban and rural mortality from selected causes in the North and South. M. Y. Pennell and M. Gover. bibliog Pub Health Rep 66:295-305 Mr 9 '51

1950 death rate at record low level; Metropolitan Life study. Nat Underw (Life ed) 54:8 D 22 '50; Spectator (Life ed) 158:26-7 Ja '51; Weekly Underw 163:1440 D 23 '50

Recent mortality trends and differentials. I. M. Moriyama. Am Stat Assn J 46:213-19 Je '51

Statistical studies of heart disease; mortality from heart disease among Negroes as compared with white persons. M. Y. Pennell and J. L. Lehman. bibliog Pub Health Rep 66:57-80 Ja 19 '51

Statistical studies of heart disease; race and sex differences in the trend of mortality from the major cardiovascular-renal diseases. I. M. Moriyama and T. D. Woolsey. bibliog Pub Health Rep 66:355-68 Mr 23 '51

Trend of mortality by cause of death, 1930-1950; graph. Spectator (Life ed) 158:54 Ap '51

Tuberculosis mortality in the United States, 1949 (with provisional figures for the first 11 months of 1950). E. H. Halpin and O. D. Turner. bibliog Pub Health Rep 66:547-60 My 4 '51

Tuberculosis studies in Muscogee county, Ga.; tuberculosis mortality following a community-wide X-ray survey. G. W. Comstock and M. H. Burke. bibliog Pub Health Rep 66:695-711 Je 1 '51

See also

Children—Mortality
Infant mortality
Insurance, Life—Mathematics

MORTAR

Recommended practice for the application of mortar by pneumatic pressure (ACI 805-51). Am Concrete Inst J 22:709-19 My '51; Discussion. 23:720^1-720^8 pt 2 D '51

MORTGAGE association, Federal national. See Federal national mortgage association

MORTGAGE bankers association of America

Annual convention, 37th, Detroit. Burroughs Clearing House 35:9-11 N '50

MORTGAGE companies

Investors syndicate, four subsidiaries named in government suit; insurance purchases from mortgage lenders called Sherman law violation. Nat Underw 55:2 My 3 '51

Records

We save over $50,000 annually by substituting amortization schedules for pass books; Investors diversified services. N. B. Waag. il Bankers Mo 68:26-9 Jl '51

MORTGAGE redemption policies. See Insurance, Life—Mortgage redemption policies

MORTGAGES

Analysis of mortgage loans. J. Malzo. il Spectator (Life ed) 159:10-12 S '51

Bank leadership in real estate lending; Bay Area mortgage market, 1945-50. P. Wendt. Banking 44:72+ Jl '51

Building money; boost in bond rates means fewer mortgages at higher interest. il Arch Forum 94:13+ Ap '51

Building outlook and loanable funds. A. Ihlefeld. Comm & Fin Chr 172:1489+ O 19 '50

Bulletin number four of the voluntary credit restraint committee; loans on real estate. Fed Res Bul 37:752-3 Jl '51

Come-back for mortgages? Burroughs Clearing House 35:3 S '51

FHA's current operations and the home mortgage industry. F. D. Richards. Comm & Fin Chr 173:1433+ Ap 5 '51

Foresees increased mortgage financing during 1952. J. C. Downs, jr. Comm & Fin Chr 174:1357 O 11 '51

Impact of new monetary policy on mortgage market. W. A. Clarke. Comm & Fin Chr 173:1425+ Ap 5 '51

Lenders see tighter mortgage market. Eng N 146:75 My 17 '51

Little change in maximum mortgage amounts under broadened Regulation X. Eng N 146: 25 Ja 25 '51

Mortgage and building loans tighten up. Bsns W p 114+ Je 2 '51

Mortgage crisis; Washington talks of discount plans. Arch Forum 95:53+ Jl '51

Mortgage lenders analyze Regulation X repercussions. Burroughs Clearing House 35: 3-4+ D '50

Mortgage lending in changed government bond market. T. E. Lovejoy, jr. Comm & Fin Chr 173:2150 My 24 '51

Mortgage lending in defense program. W. T. Burns. Comm & Fin Chr 172:2541+ D 28 '50

Mortgage rates show strong uptrend. Bsns W p 135-6 My 12 '51

Mortgage terms for defense areas. Arch Forum 94:25+ Ap '51

Mortgages as trust investments. F. C. Ransom. Trusts & Estates 90:465-6 Jl '51

New home financing in nine large city areas. D. K. Newman. Mo Labor R 71:673-5 D '50

Pinch on mortgage funds raises hob with builders. Arch Forum 94:12 My '51

Politics now control mortgage field. M. L. Colean. Comm & Fin Chr 174:700 Ag 23 '51

Predicts decline in home financing. M. T. MacDonald. Comm & Fin Chr 174:707 Ag 23 '51

Real estate credit; amendment no. 6 to Regulation X; with text. Fed Res Bul 37:1131-3 S '51

Residential real estate credit; amendment to Regulation X; effective Nov. 14, 1950; with text. Fed Res Bul 36:1472-5 N '50

Residential real estate credit; interpretations of Regulation X. Fed Res Bul 36:1621-3 D '50

Residential real estate credit; Regulation X and supplement as amended effective Jan. 12, 1951; text. Fed Res Bul 37:22-33 Ja '51

Revised restrictions on real estate credit. Fed Res Bul 37:13-15 Ja '51

Round table report on mortgages. Arch Forum 94:102A-102P Je; 95:121-4+ Ag '51; Excerpts. Comm & Fin Chr 174:975 S 13 '51; Discussion. Arch Forum 95:86+ S '51

Round table report; worst mortgage crisis since 1932. Arch Forum 94:102A-102P Je '51

Savings and loans watch business rise, see no mortgage stew. Arch Forum 95:55 Ag '51

Shortage of mortgage money eases; permanent cure far away as ever. map Arch Forum 95:48-9 S '51

Trial and error in the field of mortgage financing. W. A. Marcus. Comm & Fin Chr 174:1070-1 S 20 '51

Use of open-end mortgages. L. A. Tobie. Banking 43:120+ F '51

MORTGAGES—*Continued*

Your customers can still finance eight-ways. Dom Eng 178:106-7 Jl '51

See also

Chattel mortgages

also Federal housing administration—Insured mortgage plan; Federal national mortgage association; Mortgage bankers association of America

MORTGAGES, Farm

Effect of defense economy on farm loans. Nat Underw (Life ed) 54:3 D 8 '50

Farm mortgage policy in the face of rising land prices; with tabulations. H. G. Diesslin. Burroughs Clearing House 35:25-7+ N '50

MORTICIANS' liability insurance. See Insurance, Morticians' liability

MORTON, Charles I.

Superintendent works long hours; a day in the life of C. Morton. J. W. Milliken. pors Ry Age 130:36-40 Je 4 '51

MOSAIC

See also

Terrazzo

MOSQUITOES

Taste of mosquitoes. Sci Am 185:36 Ag '51

Transmission of plasmodium relictum Grassi and Feletti by anopheles freeborni Aitken. F. F. Mok. Science 113:485 Ap 27 '51

Extermination

American mosquito control association annual convention, Chicago, March 5-8. Soap & San Chem 27:157 Ap '51

Control of Alaskan biting insects. C. S. Wilson. bibliog Pub Health Rep 66:917-22 Jl 20 '51

Large-scale DDT spraying reduces mosquito nuisance. il maps Eng N 145:30-2 N 30 '50

MOSSES

See also

Carrageen

Peat moss

Sphagnum moss

MOTELS. See Tourist camps, hostels, etc.

MOTHPROOFING preparations

Mothproofing; detergent combinations. H. C. Borghetty and others. Am Dyestuff Rep 40:119-21 F 19 '51

Shrinkproofing and mothproofing; alkylated methylolmelamines plus melamine fluosilicate; patent. Am Dyestuff Rep 40:64 Ja 22 '51

MOTION

See also

Dynamics

Machinery, Kinematics of

Mechanical movements

Mechanics

Relativity

Velocity

Vibration

Vortex motion

MOTION picture and television engineers, Society of. See Society of motion picture and television engineers

MOTION picture research council

Technical activities. W. F. Kelley and W. V. Wolfe. bibliog il diags Soc Motion Picture & Tv Eng J 56:178-96 F '51

MOTION study

Machine design; Wisconsin professor makes new breakdown of time, motion. il Bsns W p48-9 Ag 25 '51

Mirrors extend the scope of cameras. C. A. Anderson and G. L. Thuering. il diag Advanced Management 16:19-20 Ag '51

Universal motion analyzer applied to psychomotor performance. K. U. Smith and R. Wehrkamp. diags Science 113:242-4 Mr 2 '51

Work-factor analysis saves money, time, complaints at Sylvania radio and television division, Buffalo. P. J. Brady. il Factory Management 109:110-12 Je '51

Work psychology and time and motion study. J. J. Gillespie. bibliog Advanced Management 16:4-6 Ap '51

MOTOCYLINDERS. See Gearmotors

MOTOR boat engines, Outboard

Outboard sprint. Bsns W p54-5 Jl 28 '51

Advertising

Johnson motors plans for summer. il Am Bsns 21:28+ Je '51

Specifications

1951 U.S. outboard motors; tabulation. Automotive Ind 104:178-9 Mr 15 '51

MOTOR boat insurance. See Insurance, Motor boat

MOTOR boats

Aluminum survey launch. il Metallurgia 43: 68 F '51

Gas turbine driven launch. il diag Engineer 190:382-3 O 20 '50; Abstract. Engineering 170:308-9 O 20 '50

How fastest boat was designed and built. S. S. Sayres and others. S A E J 59:85+ Ap '51

Motor yacht Marcalbert. il Engineer 191:165+ F 2 '51

Survey launch Ain-Al-Bahr. il Engineer 191: 260-2 F 23 '51; Engineering 171:188-9 F 16 '51

Twin screw cruiser the Squire. il Engineer 190:659-60 D 29 '50

Water bulldozer for herding logs; new type of boom-boat. A. Arnst. il Safety Maint & Prod 102:32+ S '51

See also

Motor ships

Exhibitions

Annual National motor boat show, 41st, New York, Jan. 12-20. Automotive Ind 104:37 F 1 '51

Marine engines at the motor show. il Engineer 190:463-4 N 17 '50

MOTOR bus associations

Directories

1951 association index. Bus Transportation 30:68-9 F '51

MOTOR bus brakes. See Brakes, Motor bus

MOTOR bus drivers

Training

Worcester way to safety. R. B. Temple. il Bus Transportation 30:41-3 Jl '51

MOTOR bus engines

Commercial motor show, 15th, London. il Engineer 190:supp2-3 N 3 '50

Commercial vehicle show; outstanding designs. il Automobile Eng 40:303-19 S-O '50

More miles per gallon; how to save gasoline. A. E. Savage. il diags Bus Transportation 30:42-4 Je '51

More miles per gallon in Diesel operation; Louisville railway co. T. A. Smith. il Bus Transportation 30:39-41 Je '51

Fuel

Economics of propane as an engine fuel. A. T. Browne. Automotive Ind 104:42-5+ F 15 '51

Latest news of liquefied petroleum gas. A. J. St George. S A E J 59:89-90 My '51

Liquefied petroleum gas as a fuel for automotive vehicles. L. Raymond. diags S A E J 59:66-71 Je '51; il Diesel Power 29:34-9 Jl; 62-6+ Ag '51

Liquid methane as a motor fuel. M. Pearce. bibliog il diags Inst Mech Eng Proc (Auto div pt 8):155-63; Discussion. 164-6 '49-'50

Propane as an automotive fuel. D. C. Ferguson. Pulp & Pa of Can 52:72-3+ F '51

Propane buses invade Chicago. S. D. Forsythe. il Midwest Eng 3:10+ Mr '51

Propane story. R. S. Lee. il diag Am Pet Inst Proc 31 M(3):252-8; Discussion. 258-61 '51

Relative economics of LPG, gasoline, and Diesel fuel in trucks and buses. E. S. Corner and E. H. Berg. bibliog Am Pet Inst Proc 31 M(3):262-70 '51; Excerpts. Nat Pet N 43:31-2 My 9 '51; Discussion. Am Pet Inst Proc 31 M(3):270-2 '51

Short Way experiments with propane-powered buses. il Bus Transportation 29:30-1 D '50

Fuel feeding

How the propane fuel system operates. C. Abell. il diags Bus Transportation 30:77-9 Je '51

Lubrication

Sohio HQD motor oil. Bus Transportation 30:253 S '51

Repair

How to service engines equipped with sleeves. il Bus Transportation 30:46-8 Ag '51

MOTOR bus engines—*Continued*

Specifications

Engine tune-up specifications, 1951; table. Bus Transportation 30:71-6 Je '51

1951 motor bus engine specifications; tabulation. Bus Transportation 30:88-9 F '51

Testing

In making a scientific engine tune-up, the needle will tell the story. il Bus Transportation 30:42-5 Ag '51

MOTOR bus industry and trade

Statistics

Factory sales and their wholesale value, U.S. plants; 1900-1950; monthly motor vehicle factory sales by years, 1936-1950; chart and tables. Automotive Ind 104:82-3 Mr 15 '51

Factory sales to domestic and foreign markets, 1940-1950; tabulations. Automotive Ind 104:84 Mr 15 '51

4,668 common carrier buses built in 1950. E. F. Theisinger. Bus Transportation 30:34-7 F '51

Revenue motor bus factory sales, 1940-1950; factory sales by type of bus, 1946-1950; tabulations. Automotive Ind 104:86 Mr 15 '51

U.S. bus production, 1945-1950; tabulation. Steel 128:136 Ja 1 '51

MOTOR bus lines

Essentiality of the intercity bus industry. A. M. Hill. Bus Transportation 30:50-1 F '51

Small bus operator speaks up; interview with Clarence Geiger. Bus Transportation 30:38-41 Mr '51

See also

Trolley buses

Accidents

London transport recovery vehicles. il Engineer 190:495 N 24 '50; Engineering 170:454-5 D 1 '50

Relationship between maintenance and motor carrier accidents; abstract. H. H. Allen and L. Rezneck. S A E J 59:75 Ja '51

Advertising

Both transit and intercity industries use ads to win riders, explain fare boosts. Bus Transportation 30:46-7 Mr '51

Four transit lines attract new business and friends with ads, leaflets and quiz. il Bus Transportation 29:70-1 N '50

Good transit ads reflect upturn in use of applied public relations. Bus Transportation 30:52-4 Ap '51

How to get the most from your "take one" folders. il Bus Transportation 30:42-4 My '51

Public Service makes solid use of its own ad medium. il Bus Transportation 30:48 Jl '51

Transit advertising, why and what? F. W. McCluer. Bus Transportation 29:62-5 N '50

Transit gets a pat on back from ad men. Bus Transportation 30:53 Ja '51

Consolidation

Burlington, American merger okayed, transcontinental bus line created. Bus Transportation 30:54 Ag '51

Costs

Story of the M.E. award winners. Bus Transportation 29:39-58 N '50

Transit cost patterns in the postwar period. J. E. Heberle. Bus Transportation 30:70-1 S '51

What the common carrier bus industry spent in 1950; tabulation. Bus Transportation 30:42 F '51

Directories

Passenger transport year book, 1950. 138p 35s Passenger transport, Avenue Chambers, Southampton row, London, W.C.1 '50

Employees

Foremen are fired, seldom hired. Bus Transportation 30:60-1 Je '51

Intercity labor trends. F. W. Mills. Bus Transportation 30:56-7 S '51

Labor developments in the bus industry. P. B. Willauer. Published in monthly numbers of Bus transportation

Sell your employees on selling for you. il Bus Transportation 30:27-30 Ja '51

State seizure upheld by New Jersey high court, endorsed by Gov. Driscoll. Bus Transportation 29:76 N '50

Trained manpower is better manpower; Chicago transit authority's maintenance training program. il Bus Transportation 30:66-9 Je '51

Training executives for the future. E. L. Peterson. Bus Transportation 29:56-61 N; 27-9 D '50

Equipment and supplies

From bus to tow car. il Bus Transportation 30:55 Ja '51

London transport recovery vehicles. il Engineer 190:495 N 24 '50; Engineering 170:454-5 D 1 '50

1951 buyers' guide; bus parts, materials, accessories, shop equipment and tools. Bus Transportation 30:195-200+ Je '51

Fares

Express bus service puts Cleveland transit system back into the black. plan Bus Transportation 30:48-9 My '51

Liberalized fare regulation; the answer to rising labor costs in the industry. Bus Transportation 30:36-7 My '51

Operating ratio vs. return on investment as a base for rate-making. H. W. Arnold. Bus Transportation 30:54-5 S '51

Re-zoning ups revenue for Los Angeles transit. S. M. Lanham. il map Bus Transportation 30:30-3+ Mr '51

Three lines alter fare systems. Bus Transportation 30:47 Mr '51

Transit fares pushing for new tops. Bus Transportation 30:58-9 Ap '51

Fires and fire protection

Fire prevention in bus garages and shops. W. H. Rodda. Weekly Underw 164:567-9 Mr 3 '51

Free transportation

Free church bus gains popularity. Bus Transportation 29:47 D '50

Two cities carry shoppers on free buses. il Bus Transportation 29:48 D '50

Garages

Carbon monoxide control for garages. il Safety Maint & Prod 102:39-41 Ag '51; Same cond. Heat & Ven 48:99-100 O '51

Solving gas spillage problem. H. Feldman. il Bus Transportation 30:65 F '51

History

50 years of transit. G. J. MacMurray. Bus Transportation 30:46-9 F '51

Information service

Information, please; Port Authority bus terminal, New York, question and answer job. C. Day. il Bus Transportation 30:36-7 Jl '51

Laws and regulations

How interstate commerce laws affect bus companies. L. T. Parker. Bus Transportation 30:31-3 Ag '51

How to avoid liability when ejecting passengers. L. T. Parker. Bus Transportation 30:55-7 F '51

Law defines convenience and necessity. L. T. Parker. Bus Transportation 29:32-4 D '50

Operating ratio vs. return on investment as a base for rate-making. H. W. Arnold. Bus Transportation 30:54-5 S '51

Review of 1950 law suits. L. T. Parker. Bus Transportation 30:32-4 Ap '51

Maintenance and repair

Accessibility for maintenance. R. Whitfield. S A E J 59:72-5 Je '51

Bus Transportation maintenance mobilization issue. il plans diags Bus Transportation 30:39-79 Je '51

Four ideas for the body repair department. R. W. Creswell. diags Bus Transportation 30:98-100 S '51

Gear regrind fixture. il Bus Transportation 29:73 N '50

How modern shop equipment helps the Carolina coach co. keep costs in line. E. W. Guess. il Bus Transportation 30:38-40 Jl '51

MOTOR bus lines—Maintenance and repair—*Continued*

Howjadoits pay double dividends in Youngstown. il Bus Transportation 29:36-7 D '50
In making a scientific engine tune-up, the needle will tell the story. il Bus Transportation 30:42-5 Ag '51
Intercity bus maintenance. A. J. Poche. Bus Transportation 30:52-3 S '51
Maintenance economies; let's be sure they're economies. H. Feldman. Bus Transportation 30:74-5 S '51
Maintenance know-how depends on know-what-and-when. E. D. White. Bus Transportation 30:60-2 F '51
Maintenance savings accomplished through an integrated plan of precision testing and adjustment to manufacturers' standards. A. W. Neumann. S A E J 59:32-4 Je '51
Million invested in maintenance starts to pay dividends; British Columbia electric railway co. J. Macfarlane. il Bus Transportation 30:46-8 Ja '51
New tow truck from old bus. il Bus Transportation 30:100 S '51
1951 ME awards contest. Bus Transportation 30:44-5 Ja '51
Salvage pays off in a big way. il Bus Transportation 30:51 Jl '51
Story of the M.E. award winners. Bus Transportation 29:39-58 N '50
This new approach to a maintenance incentive program is getting results. E. G. Fischbach. il Bus Transportation 30:32-3 Jl '51
White Motor announces emergency service plan. R. B. Temple. il Bus Transportation 30:48-9 Mr '51

Management

Atomic workers at Hanford enjoy modern bus system. D. O. Carlson. il Bus Transportation 30:40-3 Ap '51
Higher standards of service, not higher fares; interview with R. G. Perry. Bus Transportation 30:50-1 S '51
Let's take a look in the mirror. W. R. Pollard. Bus Transportation 30:66-7 S '51
What can we do about manpower, materials, riding? A. M. Hill. Bus Transportation 30:42-4 S '51

Passenger ejection

How to avoid liability when ejecting passengers. L. T. Parker. Bus Transportation 30:55-7 F '51

Public relations

Cincinnati street railway co. was host (and carrier) when teachers toured Cincinnati plants. Bus Transportation 29:46-7 D '50
Public service can be your best public relations, too. il Bus Transportation 30:35-7 Ap '51

Radio communication

Transit's powder is dry! transit radio as aid in civilian defense. G. W. Keith. Pub Util 48:407-12 S 27 '51

Records

Business machines keep Los Angeles Transit's stock room coordinated. J. Joseph. il Bus Transportation 30:31-3 Ja '51
Maintenance know-how depends on know-what-and-when. E. D. White. Bus Transportation 30:60-2 F '51

Safety measures

Wanted, a good safety director. Bus Transportation 30:50-1 My '51
Worcester way to safety. R. B. Temple. il Bus Transportation 30:41-3 Jl '51

Service

Cincinnati puts Arrow Express in Christmas shopper service. il Bus Transportation 30:52 Ja '51
Customers well-posted on bus service; St Louis public service co. il Bus Transportation 30:49 Jl '51
Express bus service puts Cleveland transit system back into the black. plan Bus Transportation 30:48-9 My '51
How to get that extra revenue dollar. R. F. Thompson. Bus Transportation 30:45-7 S '51
How you can boost revenues with special operations. C. D. Smith. Bus Transportation 30:68-9 S '51
Los Angeles transit has sure winner; Hollywood Park shuttle bus. il Bus Transportation 30:45 Mr '51
Niagara Frontier Transit service aides add feminine touch and helping hand to riders. il Bus Transportation 30:51-2 Ja '51
Now buses sell papers in San Bernardino, Calif. il Bus Transportation 30:54 My '51
When the boy scouts took Valley Forge; services of the Schuylkill Valley lines. il Bus Transportation 29:42-3 D '50

Shelters

Cleveland transit system shelter is of new design. il Bus Transportation 30:56 My '51

Shops

Camberwell depot for London transport vehicles. il Engineering 171:204 F 16 '51
$11 million bus shop; New York City transit system. E. F. Theisinger. il plans Bus Transportation 30:52-9 Je '51
Increased shop revenue from outside sources; Orange & black bus lines. il Bus Transportation 30:42-4 Mr '51
Montreal's newest repair shop designed for today and tomorrow; illustrations and plan with text. Bus Transportation 30:28-31 Ap '51
New quarters for Bibb Transit in Macon. E. D. White. il Bus Transportation 30:38-40 My '51
Saving maintenance dollars with modern shop equipment; illustrations with text. Bus Transportation 30:62-5 Je '51
Shop time savers. il diag Bus Transportation 30:44-5 Ap '51
Ulster transport workshops. F. G. Marshall. il plan Elec R (Lond) 148:985-9 My 11 '51

Statistics

Census of common carrier bus service; tabulation. Bus Transportation 30:41 F '51
Intercity trends, 1948-1950; tabulation. Bus Transportation 30:32-3 F '51
Operating statistics of class one intercity bus companies; tabulations. Automotive Ind 104:148-9 Mr 15 '51
Transit bus data; tabulations. Automotive Ind 104:151 Mr 15 '51

Stops

Mid-block loading. E. D. White. il Bus Transportation 29:68-9 N '50

Stores systems

Business machines keep Los Angeles Transit's stock room coordinated. J. Joseph. il Bus Transportation 30:31-3 Ja '51
Streamlining the stockroom pays off. il Bus Transportation 29:35 D '50

Student tours

Why don't you want our business? school teacher charges bus industry with neglecting important phase of charter business; the student tour. H. Coryell. il Bus Transportation 30:29-31 My '51

Terminals

Block-size bus terminal alleviates traffic congestion in New York. J. M. Kyle. il diag Civil Eng 21:211-13 Ap '51
Boss of the world's biggest bus terminal, Lee Webb. R. B. Temple. il Bus Transportation 30:45-7 My '51
Close organization pays off on tough building schedule; New York City's bus terminal. D. C. Andrews. il Eng N 145:32-4 D 14 '50
11 miles of snow-melting pipe in bus ramps; New York City's Port Authority bus terminal. il Constr Methods 33:64-6 Ja '51; Heat & Ven 48:146+ F '51
Good terminal will attract better customers. il plan Bus Transportation 29:38-9 D '50
Greyhound stirs; fight for independence with Port Authority terminal. Bsns W p 100-1 F 10 '51
How the world's biggest moves 132,000 riders daily; Port of New York Authority's Union bus terminal. F. Kane. il Bus Transportation 30:52-4 F '51
Huge bus terminal called aid toward solution of metropolitan traffic problem at dedication. il Civil Eng 21:48 Ja '51
Information, please; Port Authority bus terminal, New York, question and answer job. C. Day. il Bus Transportation 30:36-7 Jl '51

MOTOR bus lines—Terminals—*Continued*

New York city's new bus terminal; illustrations with text. Bsns W p24-5 D 23 '50; Bus Transportation 30:34-7 Ja '51

Today's terminals designed for tomorrow; illustrations with text. Bus Transportation 30:32-5 My '51

Union terminal; modern business builder. L. C. Webb. Bus Transportation 30:48-9 S '51

Lighting

New York's bus terminal pioneers new electrical ideas. C. R. Johnson and W. Henschel. il diag Elec World 135:112-15 Mr 26 '51

Ticket agents

Good commission agent gets better; Ed Marth. Bus Transportation 30:96 S '51

Your commission agent. il Bus Transportation 30:63-4 F '51

Tickets

Streamline your interline tickets. il Bus Transportation 30:41 My '51

Traffic

How to get that extra revenue dollar. R. F. Thompson. Bus Transportation 30:45-7 S '51

Vandalism

Vandalarm. diag Bus Transportation 30:57 Ap '51

What price vandalism? F. Otwell. il Bus Transportation 30:27-9+ Mr '51

Cincinnati

Cincinnati street railway co. was host (and carrier) when teachers toured Cincinnati plants. Bus Transportation 29:46-7 D '50

Israel

Israel bus fleet cooperatives grow as new country develops. il Bus Transportation 30:58-9 F '51

Los Angeles

Re-zoning ups revenue for L.A. transit. S. M. Lanham. il map Bus Transportation 30:30-3+ Mr '51

New Jersey

State seizure upheld by N.J. high court, endorsed by Gov. Driscoll. Bus Transportation 29:76 N '50

New York (city)

Quill relented, New Yorkers rode; transit lines ask fare increases. Bus Transportation 30:58 Ja '51

Newark, Ohio

Ohio transit company celebrates 25 years of operation in Newark; illustrations with text. Bus Transportation 30:58-9 Ag '51

United States

1950, year of transition for the bus industry. D. W. Cray. il Bus Transportation 30:40-3 Ja '51

MOTOR bus lines, Cooperative

Israel bus fleet cooperatives grow as new country develops. il Bus Transportation 30:58-9 F '51

MOTOR bus lines, School

School bus census. Bus Transportation 30:40 F '51

MOTOR bus lines, Tourist

Carriers who cooperate can share tour profits. F. Otwell. il map Bus Transportation 30:43-5 F '51

MOTOR buses

Beck 5000 series Mainliner. il Bus Transportation 30:128-30 My '51

Commercial vehicle show; outstanding designs. il diags Automobile Eng 40:303-32, 351-62 S-O, N '50

Diesels in highway transportation. G. W. Grupp. il Diesel Power 29:36-7 F '51

New buses; abstract. M. M. Dean. S A E J 59:91-2 Ap '51

New range of London Transport single-deck passenger vehicles. il Engineering 171:673 Je 1 '51

1951 bus show in print; illustrations with text. Bus Transportation 30:76-92 S '51

Oil pipe-line transport vehicles. il Engineer 191:231 F 16 '51

Shades of the open trolley car; rubber-tired counterpart put into charter service by Southern Pennsylvania bus co. il Bus Transportation 30:49 Jl '51

SAE national transportation meeting, New York. S A E J 58:34-9 D '50

Twin Coach announces the Fageol-Liners. il Bus Transportation 30:127-8 My '51

See also

Gyrobus

Motor bus lines

Trolley buses

Air conditioning

Air conditioning; design of equipment for passenger vehicles. F. W. Duncombe. il diags Automobile Eng 41:305-9, 347-50 Ag-S '51

Axles

Commercial vehicle show; front axles and steering. il Automobile Eng 40:361-2 N '50

Commercial vehicle show; outstanding designs; rear axles. il Automobile Eng 40:325-8 S-O '50

Hydraulic axle tube puller simplifies axle removal. A. Paisolli. il diag Bus Transportation 30:57 My '51

1951 axle specifications; tabulation. Bus Transportation 30:90 F '51

Bearings

More miles from bearings; illustrations with text. diags Bus Transportation 30:50-1 Je '51

Bodies

Commercial vehicle show; bodywork. il Automobile Eng 40:351-4 N '50

Rivaloy all-metal body. il diags Automobile Eng 41:337-9 S '51

Chartering

Alumni football special; how to plan and sell alumni football charters. F. Kane. Bus Transportation 30:40-1 Ag '51

How you can boost revenues with special operations. C. D. Smith. Bus Transportation 30:68-9 S '51

See also

Motor bus lines—

Student tours

Clutches

Commercial vehicle show; outstanding designs; clutches. il Automobile Eng 40:319-20 S-O '50

Design

Accessibility for maintenance. R. Whitfield. S A E J 59:72-5 Je '51

Doors

Show them how to use the rear door. diags Bus Transportation 30:52 Ap '51

Electric equipment

Commercial vehicle show; electrical equipment. il diags Automobile Eng 40:356-60 N '50

Cooling the rectifier-alternator. il Bus Transportation 29:49 D '50

Exhibitions

Britain's commercial motor show. W. F. Bradley. il Automotive Ind 103:34-6+ N 1 '50

Commercial motor show, 15th, London. il diags Engineer 190:330-1, 360-1, supp2-4, 439-41 S 29, O 13, N 3-10 '50; Engineering 170:254-6, 283-5, 288, 342-4, pl 28-9 S 22, O 6, N 10 '50

Gearing

Gear regrind fixture. il Bus Transportation 29:73 N '50

Lighting

Vehicle lighting; application of the fluorescent lamp. J. J. French. il diags Elec R (Lond) 148:1041-5 My 18 '51

Maintenance and repair

See Motor bus lines—Maintenance and repair

MOTOR buses—*Continued*

Manufacture

Airframe forming technique applied to bus bodies. il Mill & Factory 48:84 F '51

Body production; methods employed by Park Royal vehicles ltd. il Automobile Eng 41: 25-8 Ja '51

Building a bus per hour; ACF-Brill motors co. T. Mac New. il plan Automotive Ind 105:34-5+ Ag 15 '51

Contour forming speeds bus body fabrication. il Steel 127:94-5 D 18 '50; Light Metal Age 8:11 D '50

Painting and finishing

Vent fan for painting. H. Menegus. diag Bus Transportation 30:55 Ja '51

Propeller shafts

Commercial vehicle show; outstanding designs; propeller shafts. il Automobile Eng 40:324 S-O '50

Radio equipment

They shall have music; two years of fm transit radio have proved that car card of the air is useful as well as profitable. F. Otwell. Bus Transportation 29:66-7 N '50

See also

Motor bus lines—Radio communication

Specifications

Front end specifications, 1951 motor and trolley bus; table. diags Bus Transportation 30:70 Je '51

1951 city and intercity buses; tabulation. Automotive Ind 104:142-3 Mr 15 '51

1951 motor bus component parts; specifications tabulated. Bus Transportation 30:84-5 F '51

1951 motor bus general characteristics; tabulation. Bus Transportation 30:86-7 F '51

Springs and suspension

Commercial vehicle show; outstanding designs; suspension. il Automobile Eng 40: 328-30 S-O '50

Transmission

Commercial motor show, 15th, London. il Engineer 190:supp3-4 N 3 '50

Commercial vehicle show; outstanding designs; gearboxes. il Automobile Eng 40: 320-4 S-O '50

Infinitely variable mechanical transmission; Beier gear. W. F. Bradley. il diags Automotive Ind 103:32-3 D 15 '50

Wheels

Still more miles per tire with balanced wheels. G. Heiber. il Bus Transportation 30:48-9 Je '51

MOTOR camps. See Tourist camps, hostels, etc.

MOTOR cars (railroad)

Adapting RDC to 924-mile run; Western Pacific uses Budd rail car. il diag Ry Age 130: 30-2 Ap 16 '51

Fast railcar services on the continent. Engineer 190:392-3 O 27 '50

New Budd Diesel railroad car RDC with torque converter transmission. B. Labaree; R. M. Schaefer; V. Schaefer, jr. il diags S A E J 59:18-22 F; 49-51 Mr; 65-9 Ap '51

One-car train puts Western Pacific desert run on paying basis. il Bsns W p64-6 Jl 7 '51

SAE national Diesel meeting. S A E J 58: 59-63 D '50

Torque converter ups efficiency of unit Diesel rail car. il diags Product Eng 22:120-3 Je '51

Diesel-electric

C.&N.W. Dieselizes gas-electric motor car. il Ry Mech & Elec Eng 125:69-70 Ja '51

Diesel electric trains for Egypt. il Engineer 190:592-3 D 15 '50

North Western builds Diesel rail motor car. il Ry Age 129:30-1 D 9 '50

Place of multiple unit Diesel cars. B. Labaree. il Ry Age 129:32-5 D 30 '50

MOTOR courts. See Tourist camps, hostels, etc.

MOTOR cycles

Manufacture

Lever dies make motorcycles safer; illustrations with text. R. P. Vahldieck. Am Mach 95:116-17 Ap 30 '51

Rapid riveting cuts costs in half; sprocket drive combinations for motor-cycles. il Automotive Ind 104:46+ Ja 15 '51

MOTOR ships

Cross-channel and coastwise cargo ships. G. W. Tripp. il Engineer 191:402-4 Mr 30 '51

La Crosse Socony joins river fleet. il Marine Eng 56:61-2 S '51

Danish-built motorship Chili. il Marine Eng 55:63-4 N '50

Danish M.V. Nicoline Mærsk. il Engineering 172:171 Ag 10 '51

Geared-Diesel repowering for Great Lakes vessels. C. R. Slawter and B. E. Ericson. plan Marine Eng 56:40-4 Je '51

Motor tanker Credo. il Engineering 171:483-4 Ap 20 '51

M. V. Shanklin for Isle of Wight service. G. W. Tripp. il Engineer 191:855-6 Je 29 '51

Motor vessel Norfolk Ferry. G. W. Tripp. il Engineer 192:155-7 Ag 3 '51

Motor vessels Orinoco and Apure. il Engineer 191:295 Mr 2 '51

New Diesels speed unique ship; combination carrier, the Michigan, specially suited to haul liquids. il Marine Eng 56:48-9 My '51

New vessel for the Harwich-Zeebrugge train-ferry service. il Engineering 172:139-41, pl 14 Ag 3 '51

Portuguese liner India. il Engineer 191:314-15 Mr 9 '51; Engineering 171:253 Mr 2 '51

Single-screw cargo vessel for Columbia, Ciudad de Medellin. il Engineering 172:127 Jl 27 '51

Three twin-screw Argentine motorships. il Marine Eng 55:60-3 D '50

See also

Ship propulsion, Electric

MOTOR truck contents insurance. See Insurance, Motor truck contents

MOTOR truck drivers

Case of the waffled truck; Philadelphia union-employer court cuts wrecks. il Bsns W p 108-10 N 25 '50

How to boost collections; southern seed processor's bonus scheme boosts driver-collected receipts. S. Covington. Am Bsns 21:24+ Je '51

Local city truck driving; union scales, July 1, 1950. J. P. Corkery. Mo Labor R 72:40-2 Ja '51

Ready mix safety pays $7 to $1; W. E. Anderson sons co., Columbus. J. W. Shaver. il Concrete 59:5-8 Ag '51

Relationship between accidents and vehicle operating costs. A. E. Neyhart. Am Gas Assn Proc 1950:290-4

Selecting, training drivers. H. Ridder. diags Nat Pet N 42:17-21 D 13 '50

Union wages and hours; motortruck drivers and helpers, July 1, 1950. U S Bur Labor Statistics Bul 1012:1-27; pa 20c Supt. of doc. '51

See also

Drivers as salesmen

also International brotherhood of teamsters, chauffeurs, warehousemen and helpers of America

Training

Choosing, training capable teacher for drivers is key to truck safety. H. Ridder. Nat Pet N 42:59-61 D 27 '50

Humble takes the highways to safety. A. Reese. il World Oil 132:55-7 Ap '51

Planned program for safe driving; C. E. Preslan and co.; accident prevention plan. il Safety Maint & Prod 102:37-9 Jl '51

Training fleet drivers. J. M. Shanaphy. Safety Maint & Prod 101:107 Je '51

Training truck drivers. T. J. Breslin. il Nat Pet N 43:42-4 Ja 17 '51

MOTOR truck engines

Bedford S type chassis. il diags Automobile Eng 41:203-8 Je '51

Commercial motor show, 15th, London. il Engineer 190:supp2-3 N 3 '50

Commercial vehicle show; outstanding designs. il Automobile Eng 40:303-19 S-O '50

MOTOR truck engines—*Continued*

Fundamental advantages of Diesel engines for trucks. F. G. Shoemaker. S A E J 58: 56-9 N '50

Gas turbine propulsion for ground vehicles. W. M. Brown. diags S A E J 58:52-4 N '50

Gas turbine truck. W. M. Brown. Machine Design 22:175-6 D '50

GM Series 71 engine improvements. il diags Diesel Power 29:46-7 S '51

Latest improvements in GM two-stroke Diesels. il Automotive Ind 105:46-8+ S 1 '51

New Leyland Comet 90 range. il Automobile Eng 41:227-8 Je '51

Oil fleet tests powered trailer. H. Ridder. il Nat Pet N 43:38-9 Jl 18 '51

Thornycroft Trident. il diags Automobile Eng 41:4-7 Ja '51

White's Mustang engine develops 150 hp. il Automotive Ind 104:37+ Ap 1 '51

Fuel

Economics of propane as an engine fuel. A. T. Browne. Automotive Ind 104:42-5+ F 15 '51

Effect of fuels and lubricants in utility fleet operations. W. A. Howe. Gas Age 108:39-43+ Jl 19 '51

Latest news of liquefied petroleum gas. A. J. St George. S A E J 59:89-90 My '51

Liquefied petroleum gas as a fuel for automotive vehicles. L. Raymond. diags S A E J 59:66-71 Je '51; il Diesel Power 29:34-9 Jl; 62-6+ Ag '51

LPG conversion system for Reo gold comet engine. il Automotive Ind 104:45+ My 15 '51

Propane as an automotive fuel. D. C. Ferguson. Pulp & Pa of Can 52:72-3+ F '51

Propane story. R. S. Lee. il diag Am Pet Inst Proc 31 M(3):252-8; Discussion. 258-61 '51

Pros and cons of LP-gas as a motor fuel. L. Castle. Nat Pet N 43:56-8 F 28 '51

Relative economics of LPG, gasoline, and Diesel fuel in trucks and buses. E. S. Corner and E. H. Berg. bibliog Am Pet Inst Proc 31 M(3):262-70 '51; Excerpts. Nat Pet N 43:31-2 My 9 '51; Discussion. Am Pet Inst Proc 31 M(3):270-2 '51

Road testing petroleum products. I. T. Rosenlund. il Pet Processing 6:510-16 My '51

Sludge gas as fuel for motor vehicles. Pub Works 82:97-8 Je '51

What the fleet operator should know about fuels and lubricants. G. A. Round and W. S. Mount. S A E J 59:28+ Je '51

Fuel consumption

Fuel economy depends on proper engine application. C. R. Boll. S A E J 58:48-9 D '50

Lubrication

Effect of fuels and lubricants in utility fleet operations. W. A. Howe. Gas Age 108:39-43+ Jl 19; 24-6 Ag 2 '51

What the fleet operator should know about fuels and lubricants. G. A. Round and W. S. Mount. S A E J 59:29-31 Je '51

Manufacture

Controlled atmosphere enclosure for assembly of Reo engines. J. Geschelin. il plan Automotive Ind 104:32-3+ Je 1 '51

Mufflers

Why not quiet those trucks? E. J. Abbott. diags S A E J 59:71-2 Ja '51

MOTOR truck industry

Few steel parts are holding back truck production, manufacturers say. H. Ridder. Nat Pet N 43:31-2 Jl 4 '51

Planning parts distribution; White Motor's program. il Bsns W p46+ F 3 '51

Shift into high. R. M. Bleiberg. Barron's 30:5 D 18 '50

Advertising

Build-your-own models boom Fruehauf truck body sales. N. A. Rowe. il Ind Marketing 36:36-7 My '51

One firm serves an industry; Mack Truck tells public about motor trucking. Ed & Pub 84:56 Mr 3 '51

Securities

Passenger car shares outstrip trucks; with table. Bsns W p 136 S 29 '51

Problems of the industry; with statistical position of automobile and truck manufacturers. G. L. Merton. il Mag of Wall St 88: 555-6+ Ag 25 '51

Statistics

Factory sales and their wholesale value, U.S. plants; 1900-1950; monthly motor vehicle factory sales by years, 1936-1950; chart and tables. Automotive Ind 104:82-3 Mr 15 '51

Factory sales to domestic and foreign markets, 1940-1950; tabulations. Automotive Ind 104:84 Mr 15 '51

Motor truck factory sales by gross vehicle weights, 1946-1950; chart and tables. Automotive Ind 104:85 Mr 15 '51

Motor vehicle production estimate by companies; 1946-1950; tabulation. Iron Age 167: 326 Ja 4 '51

New truck registrations by makes and G.V.W., 1948-1950; tabulation. Automotive Ind 104: 92 Mr 15 '51

New truck registrations by makes, by years, 1946-1950; tabulations. Automotive Ind 104: 90 Mr 15 '51

1950 new truck registrations by rank; tabulation. Automotive Ind 104:92 Mr 15 '51

Number and per cent of trucks in use, by age groups, 1947-1950; tabulation. Automotive Ind 104:97 Mr 15 '51

Truck and trailer production and shipments, 1946-1949; tabulation. Iron Age 167:329 Ja 4 '51

Trucks in use by makes, states and model year; tabulation. Automotive Ind 104:106-15 Mr 15 '51

U.S. export of new trucks and chassis by G.V.W., 1949-1950; tabulation. Automotive Ind 104:117 Mr 15 '51

MOTOR truck insurance. See Insurance, Motor truck

MOTOR truck robberies

How to halt hijacking. W. Norris. Am Bsns 21:12-13+ S '51

MOTOR truck service stations

Winning truck customers; Petroleum sales and service, inc. J. Barton. il Nat Pet N 43:48+ Ag 8 '51

MOTOR truck terminals

Central checking proves boon in big truck terminal. il Ry Age 129:58-9 N 18 '50

Emergent urban problems of intercity motor transportation. J. D. Fellmann. plans Land Econ 27:91-101 My '51

Terminal; truckers change their ways. il Bsns W p70-2 Ag 4 '51

MOTOR truck trailers. See Trailers

MOTOR trucks

Better ways of using motor trucks. il Pub Works 82:35-9+ F '51

Census lists 23,000 truck tank units operated by bulk plants, terminals. Nat Pet N 43: 32-3 Jl 4 '51

Chevrolet's 1951 cars and trucks. il Automotive Ind 103:37+ D 15 '50

Commercial vehicle show; outstanding designs. il diags Automobile Eng 40:303-32, 351-62 S-O, N '50

Diesels in highway transportation. G. W. Grupp. il Diesel Power 29:36-7 F '51

Dodge trucks improved for 1951. il Automotive Ind 104:46+ F 15 '51

Fageol super freighter. il Automotive Ind 103:37+ N 1 '50

15-ton British dumper demonstrated in Canada, then shipped to South Africa. il Roads & Eng Constr 89:44+ Ja '51

First Leyland Octopus in Canada sold to British Columbia firm. il Roads & Eng Constr 89:86 F '51

Ford 1951 truck improvements. il Automotive Ind 103:46+ D 15 '50

Gas turbine powered truck has power braking. W. M. Brown. diag Automotive Ind 103:43-5 D 15 '50

Gas turbine propulsion for ground vehicles. W. M. Brown. diags S A E J 58:52-4 N '50

GMC 1951 light duty trucks. J. Geschelin. il Automotive Ind 104:46+ Ja 1 '51

Improved commercial vehicle; Commer cars, ltd. il Engineer 192:31 Jl 6 '51; Engineering 172:124 Jl 27 '51

Motor vehicles of Russia and her satellites. D. Scott. il Automotive Ind 104:32-3+ Ap 15 '51

MOTOR trucks—*Continued*

New Leyland Comet 90 range. il Automobile Eng 41:227-9 Je '51; Engineering 171:578-9 My 11 '51

New line of trucks by International harvester co. il Roads & Eng Constr 88:74 D '50

Oil pipe-line transport vehicles. il Engineer 191:231 F 16 '51; Engineering 171:198-9 F 16 '51

Pushbutton truck door steps up milk deliveries. il Food Eng 23:115+ Jl '51

Relationship between accidents and vehicle operating costs. A. E. Neyhart. Am Gas Assn Proc 1950:290-4

SAE national transportation meeting, New York. S A E J 58:34-9 D '50

Special trucks for city traffic conditions; abstract. L. M. Hart, jr. Roads & Eng Constr 89:124 Ap '51

This truck's engine is tucked under; Fageol super freighter. il diags Food Ind 23:82-3+ Ja '51

Thornycroft Trident. il diags Automobile Eng 41:3-11 Ja '51

See also

Delivery of goods
Electric trucks
Loading and unloading—Motor trucks
Motor truck engines
Motor truck industry
Motor vehicles
Radio telephone on motor trucks
Refrigeration on cars, trucks, etc.
Tank trucks
Tractors
Trailers

Accidents

Adequate fleet program can reduce costs and improve public relations. H. Ridder. Nat Pet N 43:36-7 Ja 3 '51

Case of the waffled truck; Philadelphia union-employer court cuts wrecks. il Bsns W p 108-10 N 25 '50

Newspaper trucks score new low accident rate. Ed & Pub 84:23 Ap 28 '51

Owner or driver; which is liable in motor truck accidents? L. T. Parker. Paper Ind 32:1078-9 Ja '51

Relationship between maintenance and motor carrier accidents; abstract. H. H. Allen and L. Rezneck. S A E J 59:75 Ja '51

Truck safety; fleet accidents eat up operators' profits. H. Ridder. Nat Pet N 42:17-20 D 6 '50

Wrecks cool enthusiasm for toll roads. il map Bsns W p 108-10+ Ap 21 '51

Axles

Commercial vehicle show; front axles and steering. il Automobile Eng 40:361-2 N '50

Commercial vehicle show; outstanding designs; rear axles. il Automobile Eng 40:325-8 S-O '50

Heavy duty rear bogie. diag Automobile Eng 41:104-5 Mr '51

Rear axle designed for short wheelbase truck tractors. il diag Automotive Ind 104:41+ F 1 '51

Stresses imposed by processing; abstracts. O. J. Horger. Automotive Ind 104:33-4 F 1 '51; S A E J 59:38-40 My '51

Bodies

Body production; methods employed by Park Royal vehicles ltd. il Automobile Eng 41:25-8 Ja '51

Commercial vehicle show; bodywork. il Automobile Eng 40:354-5 N '50

Problems of change-over from steel to aluminum in fabricating truck bodies. il Light Metal Age 8:8-9 O '50

Chassis

Bedford S type chassis. il diags Automobile Eng 41:203-14 Je '51

Clutches

Commercial vehicle show; outstanding designs; clutches. il Automobile Eng 40:319-20 S-O '50

Cost of operation

Watchdog techniques for truck costs. W. Harrison. N A C A Bul 32:410-16 D '50

Design

Accessibility for maintenance; cars and trucks. H. O. Mathews. S A E J 59:58-60 Ja '51

Automotive transportation in Saudi Arabia. R. C. Kerr. il S A E J 59:42-6 Ja '51

Earthmoving equipment design from the user's point of view. H. E. Farnam. S A E J 59:64-5+ Ja '51

Electric equipment

Commercial vehicle show; electrical equipment. il diags Automobile Eng 40:356-60 N '50

Exhibitions

Britain's commercial motor show. W. F. Bradley. il Automotive Ind 103:34-6+ N 1 '50

Commercial motor show, 15th, London. il diags Engineer 190:330-1, 349-50, 360-1, supp 2-4, 439-41 S 29-O 13, N 3-10 '50; Engineering 170:254-6, 283-5, 288, 342-4, pl 28-9 S 22, O 6, N 10 '50

International motor show, Frankfurt, April 19-29. il diag Engineer 191:714-17 Je 1 '51

Gearing

Automotive differential. L. R. Buckendale and L. G. Boughner. il S A E J 59:52-4 My '51

Laws and regulations

How states have acted on oil legislation. Nat Pet N 43:56-8 My 23 '51

ICC asks Nation's truckers to comment on proposed changes to safety rules. Nat Pet N 43:56-8 Ja 24 '51

Legislatures enact penalties on size and weight violators. Concrete 59:26 Ag '51

New ICC rules ban motor vehicles trip leasing. Nat Pet N 43:51 My 30 '51

States urged to require placarding of trucks carrying dangerous cargo. Nat Pet N 43:49-50 Ja 10 '51

Trip-leasing of trucks banned by I.C.C. Ry Age 130:61 My 28 '51

Leasing

Leasor looks at leasing; abstract. H. J. Willett. S A E J 59:21 Ap '51

Length of service

Number and per cent of trucks in use, by age groups, 1947-1950; tabulation. Automotive Ind 104:97 Mr 15 '51

Trucks in use by makes, states and model year; tabulation. Automotive Ind 104:106-15 Mr 15 '51

Maintenance and repair

Accessibility for maintenance; cars and trucks. H. O. Mathews. S A E J 59:58-60 Ja '51

Ailing trucks repaired at home base. il Mill & Factory 49:115-16 Jl '51

Appearance maintenance; round table on polishing the paint. H. Jennings. S A E J 59:59 S '51

GMC devises new preventive maintenance system. Concrete 59:32+ Ag '51

Maintenance savings accomplished through an integrated plan of precision testing and adjustment to manufacturers' standards. A. W. Neumann. S A E J 59:32-4 Je '51

Pacific Intermountain Express maintenance and operational practices. il Diesel Power 29:56-60 S '51

Planning parts distribution; White Motor's program. il Bsns W p46+ F 3 '51

Profit loss, highway danger shown in truck cost and maintenance study. H. Ridder. Nat Pet N 43:41 Jl 18 '51

Proper maintenance of trucks cuts accidents, parts failures, costs. H. H. Allen and L. Rezneck. Nat Pet N 42:60-1 N 15 '50

Safe operation and maintenance of automotive fleets. W. O. Schmid. Gas Age 106:40-1+ D 7 '50

Service of truck transportation and the use of rebuilt major components; abstract. F. W. Smalley. S A E J 59:109-10 F '51

White Motor announces emergency service plan. R. B. Temple. il Bus Transportation 30:48-9 Mr '51

Management

College courses aid 5,661 fleet supervisors. Nat Pet N 43:50 My 30 '51

Manufacture

Chassis assembly at the Leyland works. il Engineer 191:94-5 Ja 19 '51; Engineering 171:42-3, 46 Ja 12 '51; Automobile Eng 41:65-8 F '51

MOTOR trucks—*Continued*

Propeller shafts

Commercial vehicle show; outstanding designs; propeller shafts. il Automobile Eng 40:324 S-O '50

Safety measures

ICC asks Nation's truckers to comment on proposed changes to safety rules. Nat Pet N 43:56-8 Ja 24 '51
Maintaining truck safety; Roanoke, Va. branch of Kroger co.; abstract. H. E. Martin. Management R 40:579-80 S '51
Manual teaches truck fleet safety. H. Ridder. Nat Pet N 43:39 Ag 15 '51
Survey shows incentive plans for safe driving. G. A. Brandenburg. Ed & Pub 84:42 Jl 28 '51
Truck safety. H. Ridder. diags Nat Pet N 42:17-20 D 6; 17-21 D 13; 59-61 D 27 '50; 43:36-7 Ja 3; 46-9 Ja 10 '51
Truck unions ask public for road safety suggestions. Nat Pet N 43:60 Ja 24 '51

Size

Severe penalties to halt truck size, weight violators mapped by eight states. H. Ridder. Nat Pet N 43:52 Mr 28 '51

Skidding

Traction and stability of front, rear, and four-wheel drive trucks. A. H. Easton. il diags S A E J 59:29-34+ Ja '51

Specifications

1951 truck specifications; tabulation. Automotive Ind 104:137-41 Mr 15 '51

Springs and suspension

Commercial vehicle show; outstanding designs; suspension. il Automobile Eng 40:328-30 S-O '50

Steering gear

Commercial vehicle show; front axles and steering. il Automobile Eng 40:361-2 N '50
Hydraulic booster for steering gear designed to retain feel of road. il diag Product Eng 22:112-13 Ja '51

Taxation

How New York state's new truck tax law will be applied. Ry Age 131:56 S 10 '51
State tax on interstate trucker ruled invalid. Ry Age 130:58 Ap 9 '51
States seek ways to boost tax take from trucks using Diesel fuel. R. E. Bjorkback. Nat Pet N 43:31-2 Ap 11 '51
Ton-mile tax law puts heavy load on protesting truckers in New York. R. E. Bjorkback. Nat Pet N 43:29 Ag 8 '51
Ton-mile taxes hurt trucks' defense effort. H. Ridder. map Nat Pet N 43:45-7 Mr 21 '51

Testing

Traction and stability of front, rear, and four-wheel drive trucks. A. H. Easton. il diags S A E J 59:29-34+ Ja '51

Transmission

Automatic honing finishes gear splines to close limits. H. C. Tuttle. il diag Steel 129:84+ Ag 27 '51
Commercial motor show, 15th, London. il Engineer 190:supp3-4 N 3 '50
Commercial vehicle show; outstanding designs; gearboxes. il Automobile Eng 40:320-4 S-O '50
Torque converters eliminate use of power divider; Euclid road machinery co. dump truck; illustrations with text. diags Product Eng 21:96-7 N '50
Torque converters in strip haulage units; abstract. D. M. Schaefer. il Min Cong J 37:73-4 Je '51
What the torque converter can do for open-pit truck haulage. H. E. Farnam, jr. il diag Eng & Min J 152:68-72 Ag '51

Weight

Extent of overloading of roads and bridges. T. H. MacDonald. il Roads & Eng Constr 89:81-2+ Jl '51
Lighter vehicles for more payload. Automotive Ind 105:72+ Ag 1 '51
Research project on weight loads permitted on highways. F. Burggraf. plan Roads & Eng Constr 89:90+ S '51
Severe penalties to halt truck size, weight violators mapped by eight states. H. Ridder. Nat Pet N 43:52 Mr 28 '51
Virginia's overload campaign is getting results. il Roads & Sts 94:58 My '51
Why 18,000 pounds? axle load effect on highway design and operation. H. S. Fairbank. Nat Pet N 42:55-7 N 8 '50

MOTOR trucks, Amphibious
New submersion proof ignition. il diags Product Eng 21:98-100 N '50
Swamp buggy in prospecting; illustrations with text. World Oil 132:71-2 Ja '51
What makes the Beaver waterproof; illustrations with text. Automotive Ind 104:45 F 1 '51

MOTOR trucks, Industrial
Brick carrier cuts handling costs. il Brick & Clay Rec 118:35 F '51
Buggies replace hoists on big building. W. J. Pouchot. il Constr Methods 33:48-50 Je '51
Catalytic exhaust for gas lift trucks. il Automotive Ind 104:56 Ja 1 '51
Cut out the idle mileage; Pratt and Whitney plant, East Hartford, Conn., uses industrial power truck fleet. il Safety Maint & Prod 101:16-17+ My '51
Fenced-in lift truck does big job; moving potatoes. I. C. Miller. il Food Eng 23:133+ My '51
15 truck handling attachments; illustrations with text. Mill & Factory 48:110 Ap '51
Fork lift truck. R. E. Wright. il Ind & Eng Chem 42:sup93A-4A D '50
Fork trucks speed shipping, tool handling; plant of American type founders. il Iron Age 168:125 S 20 '51
40-ton ram truck increases yield and production; Lackawanna, N.Y. plant of Bethlehem steel corp. il Iron Age 167:97 F 8 '51
Handling costs cut, pallets eliminated by fingerlift truck. il Iron Age 167:82 Ja 11 '51; Steel 128:105 Ja 15 '51
Handling Cupola charges; facilitated by power truck. H. G. Mouat. il Foundry 79:190+ F '51
Handling refractories with fork lift trucks. W. F. Mundy. Am Cer Soc Bul 30:8-10 Ja 15 '51
How to move a crate with a finger tip; A. O. Smith's lift assemblies work like giant metal hands. il Bsns W p42+ D 30 '50; Factory Management 109:98-9 F '51
Hydraulic motor-in-wheel drives truck. il diag Machine Design 23:141-2 Ap '51
Industrial truck system at Bendix Aviation plant. il Automotive Ind 105:44+ S 15 '51
Industrial trucks mechanize new sales warehouse of Black & Decker. il Steel 129:76 Jl 23 '51
Industrial trucks speed production, plant maintenance; plant of American Type Founders. il Steel 128:115 Je 25 '51
Kiln setting with fork truck reduces labor, speeds burning. il Brick & Clay Rec 119:34-6 Ag '51
Lift truck or octopus? il Mod Ind 22:56-9 Ag '51
Manual handling eliminated in ferroalloy plant. L. C. Hopper. il Iron Age 167:96-7 Ap 26 '51
Mechanized handling on the job. il Brick & Clay Rec 119:64+ S '51
Packaged timber handling. T. S. Veazey, jr. il Min Cong J 36:40-3 D '50
Power movers on parade; materials handling equipment exposition, Chicago. il Food Eng 23:90-2 Je '51
Power trucks cut warehouse handling time 75 per cent. il Textile World 101:292 O '51
Proper design improves defense materiel efficiency; Hough Payloader. J. O. Reinecke. il Steel 128:77 Ap 30 '51
Side-lifting truck stacks extra-long loads. il Iron Age 167:91 Ap 26 '51
Single fork-lift truck cuts handling costs. il Textile World 101:113-15 My '51
Special body handling saves storage space; Studebaker corp. il Automotive Ind 103:43+ D 1 '50
Trained truck drivers are no cowboys; Seattle Port of embarkation. H. E. Jackson. il Mill & Factory 49:118-20 Ag '51

MOTOR trucks, Industrial—*Continued*

Two-way radio cuts truck idle time. il Steel 128:117 Je 18 '51

Versatile materials handling setup at large tractor plant. J. Geschelin. il Automotive Ind 105:40-1+ Jl 15 '51

We keep production on the move; Bridgeport brass co. P. L. Clark. il Factory Management 109:110-12 My '51

Maintenance and repair

How to keep your shop trucks rolling. F. L. Dupuis. il Mill & Factory 47:95-7 D '50

How we keep our trucks running 22 hours a day; Kellogg co., Battle Creek, Mich. C. Uldricks. il Factory Management 108:98-9 D '50

Safety measures

First safety code for power trucks; new American standard. il Standardization 21: 288-9+ N '50; Same. Safety Maint & Prod 102:52-3 Ag '51

Industrial trucks and tractors. bibliog il Nat Safety N 63:133-4 Mr '51

Spark enclosed gasoline truck. il Automotive Ind 105:84+ S 1 '51

Take the poison out of engine exhausts; industrial trucks. il Safety Maint & Prod 101:28+ Ap '51

MOTOR trucks, Military

Army map-making truck has controlled temperatures. il Refrig Eng 59:682 Jl '51; Heating-Piping 23:105 S '51; Heat & Ven 48:103 O '51

General Motors develops a new version of the six by six military truck of World war II. H. C. Tuttle. il Steel 129:51 Jl 23 '51

New M-135 military truck has eight-speed Hydra-Matic. il Automotive Ind 105:41 Ag 1 '51; Product Eng 22:195 S '51

Ordnance tank-automotive vehicles. A. H. Allen. il Steel 128:72-5+ Ap 16 '51

Two new military trucks, the M-41 and M-51. il Automotive Ind 104:37+ Mr 1 '51

MOTOR trucks and bridges

Extent of overloading of roads and bridges. T. H. MacDonald. il Roads & Eng Constr 89:92-3 Jl '51

MOTOR trucks and roads

Better truck load limits advocated; abstract. A. B. Gorman. S A E J 59:90-1 Ap '51

Extent of overloading of roads and bridges. T. H. MacDonald. il Roads & Eng Constr 89:81-2+ Jl '51

First tests of axle loads on pavements are reported. il Civil Eng 20:804 D '50

Full-scale tests validate load limits. il Eng N 145:25 N 2 '50

Growing attacks on trucks can be dealt heavy blow with ammunition available. H. Ridder. il Nat Pet N 42:57-9 N 1 '50

Increase in truck traffic affecting roads in Ottawa area. J. L. Shearer. il Roads & Eng Constr 89:118+ Ap '51

Influence of heavy loads on pavement design trends. K. B. Woods. il Am Soc C E Proc 76 [no 23]:1-18 bibliog(96 titles, p 13-18) Je '50; Discussion. 77 [no D-23]:1-3 Mr '51

Maryland road test has limitations. Eng N 145:30 N 9 '50

Maryland test puts finger on heavy trucks. il Bsns W p40+ N 11 '50

Pavement for New Jersey turnpike designed for high axle loads. diags Eng N 145:35-8 N 23 '50

Research project on weight loads permitted on highways. F. Burggraf. plan Roads & Eng Constr 89:90+ S '51

Roads vs loads. E. Gohn; H. G. VanRiper. S A E J 59:88-90 Ap '51

Ruined roads; are highway builders or trucks to blame? A. B. Gorman. il Nat Pet N 42: 18-24 N 15 '50

Some current observations on highway transportation, East coast. A. B. Gorman. il Am Pet Inst Proc 30(5):86-95 '50

Test road report interests ready mix truckers. Concrete 59:9 F '51

Traffic trends on rural roads in 1949. T. B. Dimmick. Pub Roads 26:85-98 D '50; Same cond. Roads & Eng Constr 88:89-92+ D '50

Trucking industry's stake in road development. J. Veitch. Roads & Eng Constr 88: 114+ O '50

Virginia's overload campaign is getting results. il Roads & Sts 94:58 My '51

Why 18,000 pounds? axle load effect on highway design and operation. H. S. Fairbank. Nat Pet N 42:55-7 N 8 '50

MOTOR trucks in construction work

Brewster's big stone trucks; aggregates hauled for paving sections of New Jersey turnpike. il Roads & Sts 94:35-8 S '51

Euclid monsters to haul fill at Fort Randall dam. H. W. Richardson. il Constr Methods 33:104 Je '51

MOTOR trucks in freight service

Central checking proves boon in big truck terminal. il Ry Age 129:58-9 N 18 '50

Cheaper delivery; truck study for grocery wholesalers. Bsns W p 104 My 5 '51

Court passes on I.C.C. procedure in motor case. Ry Age 130:39 Ap 23 '51

Cross-country haul by relay; Pacific intermountain express co. il Bsns W p68 Jl 7 '51

Emergent urban problems of intercity motor transportation. J. D. Fellmann. plans Land Econ 27:91-101 My '51

Ever see a truck marked like this? il Ry Age 131:47 Jl 16 '51

Experiment in profit sharing; Gallagher transfer and storage co. Denver; abstract. R. E. Hallock. Management R 39:651-3 N '50

How sugar industry reduced transport cost; cane goes from field to mill in Tournahaulers. il Am Bsns 21:34 Mr '51

I.C.C. indicates concern about impact of long-haul trucking on the railroads. Ry Age 129:63-4 N 18 '50

Knudson gives views on barrier problem; highway officials also hear Fleming rap overloading. Ry Age 129:43 D 9 '50

Metalworking has stake in success of trucking. T. Metaxas. Iron Age 167:103-5 Je 14 '51

Moving highway trucks on trains. il Ry Age 129:50-3 N 4 '50

Private and for-hire trucking, 1936 and 1949; tabulation. Automotive Ind 104:171 Mr 15 '51

Recorder leads way in transit tests. P. W. Bush. il Cer Ind 56:50-1+ My '51

Road haulage and the Transport act. Economist 159:899-900, 960-2 N 25-D 2 '50

Some current observations on highway transportation, East coast. A. B. Gorman. il Am Pet Inst Proc 30(5):86-95 '50

Some current observations on highway transportation in the West. J. W. Sinclair. Am Pet Inst Proc 30(5):83-5 '50

Truckers; a decade of phenomenal growth bolsters their future. F. Henle. Barron's 31:13-14 My 21 '51

Truckers of farm products to have less regulation. Ry Age 130:41-2 Ap 30 '51

Trucks deliver them alive; lobsters hauled from Portland, Me., to New York city. il Food Ind 23:118-19 F '51

Western intercity trucking operations and equipment. J. L. S. Snead, jr. il Am Pet Inst Proc 30(5):21-9 '50; Same cond. Nat Pet N 42:54-6 N 22 '50

See also

Railroads—Motor vehicle auxiliaries

Railroads—Motor vehicle competition

Tank trucks

Accounting

Costs per mile for truck delivery expense. G. T. Ewell. N A C A Bul 32:1504-8 Ag '51

Study of 20 motor carriers shows how punch-card accounting equipment is installed and used. E. W. Goode. J Account 91:434-8 Mr '51

Advertising

Truckers use newspaper supplements to tell industry story to 670,000. il Nat Pet N 42: 44-5 D 20 '50

Pooling

Greek truck pools reorganized. For Comm W 44:25 S 24 '51

Rates

Truckers must lift rates on tobacco to rail level. Ry Age 131:70+ Jl 2 '51

MOTOR trucks in mining

Bigger, better trucks promise lower costs. il Eng & Min J 152:102-3 Jl '51

Cutting strip-haulage costs. il Coal Age 56:84-5 Ap '51

MOTOR trucks in mining—*Continued*

Diesel truck haulage through inclined adit. V. C. Allen. diag Min Eng 3:Trans 505-6 Je '51

Earthmoving equipment design from the user's point of view. H. E. Farnam. S A E J 59:64-5+ Ja '51

Earthmoving equipment on the Minnesota iron ranges. J. H. Hearding, jr. il S A E J 59:22-5 Ap '51

Forty-ton coal haulers at Harmattan mine; with cost data. L. E. Briscoe and A. S. McClimon. il Min Cong J 37:40-4 Mr '51

Power plants and torque converters; fit trucks for operation on Mesabi range. C. R. Burton. il Min Cong J 37:44-7 My '51

Truck haulage at the National lead co. open-cut ilmenite-magnetite mine, Tahawus, N.Y. R. S. Sanford. bibliog 9pls U S Bur Mines Information Circ 7584:1-14 '50

Truck haulage improved at Inspiration by attention to details. T. Bilson. Min Eng 3: 679 Ag '51

What the torque converter can do for open-pit truck haulage. H. E. Farnam, jr. il diag Eng & Min J 152:68-72 Ag '51

MOTOR trucks in postal service

Trucks take kinks out of the mail for Meredith publishing co.; post office's short haul truck project. il Bsns W p88+ Jl 21 '51

MOTOR trucks in repair service

Double-jointed A-frame takes little truck room. A. F. Wetsch. il Elec World 135:132 Ap 23 '51

Emergency sewer truck. G. J. Fisher. il Pub Works 82:39 F '51

Industrial monkey for the high-up jobs. il Roads & Eng Constr 89:66+ Mr '51

Multi-service truck expands area coverage 15 per cent. H. K. Williams. il Elec World 135:124 Ap 23 '51

New tow truck from old bus. il Bus Transportation 30:100 S '51

Sewer maintenance truck. L. A. Fletcher. il Pub Works 82:35-6 F '51

Truck equipped for water works service. F. G. Doggett. il Pub Works 82:37 F '51

Water department utility truck. B. R. Boyer. Pub Works 82:38 F '51

MOTOR trucks in selling

See also

Exhibits, Traveling

Traveling stores

MOTOR trucks in the petroleum industry

Automotive transportation in Saudi Arabia. R. C. Kerr. il S A E J 59:42-6 Ja '51

How Socony-Vacuum conducts transport in Venezuelan operations. G. F. Kendall. il plans Oil & Gas J 49:76-9+ D 14 '50

1948 census shows oil owns 8.8 per cent of retail trucks. Nat Pet N 43:45 S 19 '51

MOTOR vehicles

Engineering in the Festival of Britain; road transport. Engineering 171:750-2, pl 62-3 Je 22 '51

Road transport vehicles. J. Shearman and B. B. Winter. Automobile Eng 41:295-6 Ag '51; Abstract and discussion. Engineering 172: 69-70 Jl 20 '51

Versatile jeep pulls cable, digs trenches. il Elec World 135:124+ Mr 12 '51

See also

Automobiles

Diesel engines, Automotive

Highway transportation

Motor buses

Motor cars (railroad)

Motor trucks

Railroads—Motor vehicle auxiliaries

Taxicabs

Tractors

Trailers

Trolley buses

Lighting

Technical board approves CIM light; sealed lighting unit for construction and industrial machinery. diag S A E J 59:78 Je '51

Statistics

Estimated scrappage of motor vehicles, 1928-1950; ranking of the states according to total registrations; taxicab, motorcycle and trailer registrations, 1950-1949; tabulations. Automotive Ind 104:96 Mr 15 '51

Factory sales of special types of vehicles, 1947-1950; tabulation. Automotive Ind 104:84 Mr 15 '51

Motor-vehicle registrations, Canada. Roads & Eng Constr 89:126 Je '51

Motor-vehicle registrations jump 50 per cent in ten years in United States; truck haulage, 52 per cent. Roads & Eng Constr 88: 56 N '50

New car and truck registrations by years, 1929-1950. Automotive Ind 104:92 Mr 15 '51

New motor vehicle registrations, by states, 1948-1950. Automotive Ind 104:91 Mr 15 '51

U.S. exports of new motor vehicles, 1920-1950; tabulation. Automotive Ind 104:116 Mr 15 '51

U.S. imports of new passenger cars, motorcycle imports, 1948-1950; imports for consumption, 1939-1950; automotive exports, 1930-1950; tabulations. Automotive Ind 104: 118 Mr 15 '51

U.S. motor vehicle registrations, 1900-1950; tabulation. Automotive Ind 104:94 Mr 15 '51

Vehicle registrations will pass 48 million. M. Ainsworth. Automotive Ind 103:50+ N 15 '50

World motor vehicle production, 1949-1950; tabulation. Automotive Ind 104:88 Mr 15 '51

World registrations by continental divisions; total U.S. motor vehicle registrations by states, 1950-1949; tabulations. Automotive Ind 104:95 Mr 15 '51

Track layer type

Army Weasels help maintain snow-bound lines. il Elec World 134:106 N 6 '50

MOTOR vehicles, Military

Army cuts engine-rebuilding costs at former German plane plant. il Am Mach 95:139 Ag 20 '51

Army fighting in Korea with World war II vehicles. R. Schakne. il Automotive Ind 104:34-6+ Ap 1 '51

Coordinating research council activity swings back to military problems. S A E J 58:76-8 N '50

Dodge brings out improved military vehicles. il Automotive Ind 104:56+ My 15 '51

Materials of military motorized equipment; abstracts. B. S. Mesick. Automotive Ind 104:50+ Ap 1 '51; S A E J 59:100+ My '51

Military tactical wheeled vehicle body requirements; abstracts. J. L. Quinnelly. Automotive Ind 104:50 Ap 1 '51; S A E J 59:73 S '51

Military wheeled transport vehicle requirements; abstracts. W. A. Call. Automotive Ind 105:35-7 Jl 1 '51; Nat Pet N 43:29-30 Je 20 '51

See also

Automobiles, Military

Manufacture

Evolution of welded armored fighting vehicles; abstract. R. J. Fowler and L. F. Denaro. Metal Prog 59:848+ Je '51

MOTORS, Electric. See Electric motors

MOTT, Frank Luther, 1886-

Dean Mott to retire, Dr English is named. por Ed & Pub 84:20 Mr 17 '51

Mott says papers must give more hard news. D. Bentel. Ed & Pub 84:32 Ag 11 '51

MOULTON, Harold Glenn, 1883-

Portrait. Fortune 44:85 Jl '51

MOUNDS and mound builders

Climate and culture, new evidence. P. B. Sears. Science 114:46-7 Jl 13 '51

MOUNT HOPE finishing company

Celebrates 50th anniversary. il Rayon 32:33 Ag '51

MOUNTAIN roads

Extra lanes on grades provide cheaper mountain highways. il Eng N 146:47-8 Ap 19 '51

How Washington state road crews keep passes cleared. K. G. Miller. il Roads & Sts 94:46+ S '51

Precast beams used on Snoqualmie Pass snowsheds. il Concrete 59:34+ Ja '51

Reinforced concrete sheds to keep snow off highway; Snoqualmie Pass highway. il Eng N 146:42-3 Mr 15 '51

Simple adaptations lick hardrock highway job. il Constr Methods 33:86-7+ Mr '51

MOUNTAIN states power company

Stock offered. Comm & Fin Chr 173:1585 Ap 16 '51

MOUNTAINS

Geology and ore deposits of the Front Range, Colorado. T. S. Lovering and E. N. Goddard. il maps plans U S Geol S Professional Pa 223:1-319, pl 1-30 '50

Highland centers of former glacial outflow in northeastern North America. R. F. Flint. maps Geol Soc Bul 62:21-37, pl 1 bibliog (p36-7) Ja '51

Origin of compressional mountains and associated phenomena. J. L. Rich. diags Geol Soc Bul 62:1179-1222, pl 1 bibliog(p1219-22) O '51

Stratigraphy and structure of mountains north-east of Santa Barbara, Calif. B. M. Page and others. bibliog il maps diags Am Assn Pet Geologists Bul 35:1727-80 Ag '51

See also

Sierra Nevada

Washington, Mount

MOUNTAINS, Submarine

Submarine geology of the Gulf of Alaska. H. W. Menard and R. S. Dietz. bibliog maps diags Geol Soc Bul 62:1263-85, pl 1-5 O '51

MOVABLE dams. See Dams, Movable

MOVABLE partitions. See Partitions, Movable

MOVING

California moving day; easy, cheap; Bekins system. il Bsns W p92-4 My 5 '51

MOVING boundary, Theory of

Moving boundary systems formed by weak electrolytes; study of cadmium iodide complexes. R. A. Alberty and E. L. King. bibliog il Am Chem Soc J 73:517-23 F '51

Study of protein-ion interaction by the moving boundary method; the combination of bovine serum albumin with chloride ion. R. A. Alberty and H. H. Marvin, jr. bibliog Am Chem Soc J 73:3220-3 Jl '51

MOVING of structures

Big steel tank floated to new position under precise control. A. Di Giacinto. il Constr Methods 33:56-8 S '51

Longest house-moving job, 1,100 miles; four houses moved from Midway to Wake island. il Constr Methods 32:68-9 D '50

Moving the obelisk. B. Dibner. il Sci Am 184: 58-9 Je '51

MOVING picture cameras

Design of rotating prisms for high-speed cameras. J. H. Waddell. bibliog diag Soc Motion Picture Eng J 53:496-501 N '49; Discussion. J. Kudar. Soc Motion Picture & Tv Eng J 57:80-1; Reply. 82-3 Jl '51

Diffuse and collimated T-numbers. A. E. Murray. bibliog il diags Soc Motion Picture & Tv Eng J 56:79-85 Ja '51

Milestones in design; the motion picture. J. Kremer. il diags Machine Design 23:154-7 F '51

Multi-function molded camera cases for Revere's movie cameras. il Mod Plastics 28: 70-1 F '51

New video recording camera. F. N. Gillette and R. A. White. il diag Soc Motion Picture & Tv Eng J 56:672-9 Je '51

35-mm process camera. J. P. Kiel. il diags Soc Motion Picture & Tv Eng J 56:551-8 My '51

Standards

Mounting threads and flange focal distances for lenses on 16-millimeter and eight-millimeter motion picture cameras. diag Soc Motion Picture & Tv Eng J 56:688-9 Je '51

Zero point for focusing scales on 16-millimeter and 8-millimeter motion picture cameras. diag Soc Motion Picture & Tv Eng J 56: 687 Je '51

MOVING picture films

Continuous processing machine for wide film. H. E. Hewston and C. H. Elmer. flow diag il diag Soc Motion Picture & Tv Eng J 56:613-22 Je '51

Cooling and film drying system for a developing machine. J. E. Schechter and G. Marcus. diags Heat & Ven 48:72-3 S '51

High-temperature film processing; its effect on quality. R. Hodgson and J. Hammer. il Soc Motion Picture & Tv Eng J 56:261-3; Discussion. 275-9 Mr '51

Image gradation, graininess and sharpness in television and motion picture systems. O. H. Schade. bibliog il diags Soc Motion Picture & Tv Eng J 56:137-77 F '51

New all-purpose film leader. C. L. Townsend. il Soc Motion Picture & Tv Eng J 56: 562-7 My '51

New processing-machine film spool for use with either 35-mm or 16-mm film. F. L. Bray. diags Soc Motion Picture & Tv Eng J 57:33-7 Jl '51

16-mm film maintenance cost and analysis of damages. E. Tiemann and D. Rich. Soc Motion Picture & Tv Eng J 56:519-26 My '51

Some comparative factors of picture resolution in television and film industries. H. J. Schlafly. Inst Radio Eng Proc 39:6-10 Ja '51; Same. bibliog Soc Motion Picture & Tv Eng J 56:44-51 Ja '51

Television film recording and editing. A. Abramson. bibliog Soc Motion Picture & Tv Eng J 56:227-31 F '51

Television films adapt tv techniques. J. H. Battison. il diag Tele-Tech 10:38-9+ Je '51

Ultrarapid drying of motion picture film by means of turbulent air. L. Katz. il diags Soc Motion Picture & Tv Eng J 56:264-75 bibliog(48 titles, p273-5); Discussion. 275-9 Mr '51

Cooling

Cooling of film and slides in projectors. H. M. Ross. bibliog diags Soc Motion Picture & Tv Eng J 56:538-50 My '51

Reels

16-millimeter motion picture projection reels; proposed American standard. diags Soc Motion Picture & Tv Eng J 56:241-3 F '51

Standards

A and B windings of 16-mm raw-stock film with perforations along one edge; proposed American standard. diags Soc Motion Picture & Tv Eng J 56:113 Ja '51

Cutting and perforating dimensions for 32-millimeter on 35-millimeter motion picture negative raw stock. diag Soc Motion Picture & Tv Eng J 56:685-6 Je '51

Cutting and perforating dimensions for 32-millimeter sound motion picture negative and positive raw stock; American standard. diags Soc Motion Picture & Tv Eng J 56: 237-40 F '51

Dimensions and locations for sound records and scanning area of 35-millimeter sound motion picture prints; American standard. diags Soc Motion Picture & Tv Eng J 56: 114 Ja '51

Modified negative perforation proposed as a single standard for 35-mm negative and positive motion picture film. W. G. Hill. il diags Soc Motion Picture & Tv Eng J 57:108-23 Ag '51

Recent studies on standardizing the Dubray-Howell perforation for universal application. W. F. Kelley and W. V. Wolfe. il diags Soc Motion Picture & Tv Eng J 56:30-8 Ja '51

Standards; splices for 16-mm and 8-mm film. Soc Motion Picture & Tv Eng J 56:354-61 Mr '51

Testing

Photoelectronic method for evaluating steadiness of motion picture film images. R. W. Lavender. il diags Soc Motion Picture & Tv Eng J 57:124-30 Ag '51

MOVING picture industry

Box office dip laid to less exploitation. R. B. McIntyre. Ed & Pub 84:16 S 8 '51

Developments in various countries. Published in Foreign commerce weekly

Movies; new sick industry. Bsns W p26 N 25 '50

Outlook for television, radio and motion pictures. P. Raibourn. Comm & Fin Chr 173: 1126+ Mr 15 '51

Quality and service; an answer to the movie slump? il Bsns W p 116-18+ S 15 '51

Warners split; agrees to separate production and exhibition. Bsns W p92 Ja 6 '51

World survey of motion picture theater facilities; with tables. N. D. Golden and E. H. Young. For Comm W 44:3-4+ Jl 2 '51

See also

United artists corporation

Advertising

Movie adman for collective picture boost. Ed & Pub 83:28 N 11 '50

MOVING picture industry—Advertising—*Cont.*

Movie industry plans nationwide drive to get audience away from home. M. E. Reiners. il Ptr Ink 234:64+ Mr 2 '51

Movies plan fall drive; BBB raps scare ad copy. R. B. McIntyre. Ed & Pub 84:14 Mr 17 '51

Starch reports best-read advertisements. il Adv Agency 44:80 Ja '51

Directories

1951 Film daily year book of motion pictures. J. Alicoate, ed. 33d ed 1152p Film daily, 1501 Broadway, New York 18 '51

Employees

Movie pay cut; 20th Century-Fox asks executives to take voluntary slashes. Bsns W p 134+ My 26 '51

Finance

Loew's; its executives aren't bearish on the movie industry; with financial data, 1940-1950. T. A. Wise. Barron's 31:9-10 Mr 26 '51

Research

Technical activities of the Motion picture research council. W. F. Kelley and W. V. Wolfe. bibliog il diags Soc Motion Picture & Tv Eng J 56:178-96 F '51

Securities

Better times ahead for the movie industry; with data on leading companies. G. L. Merton. Mag of Wall St 89:30-1+ O 6 '51

What's ahead for the motion picture industry? with statistical summary of leading companies. G. L. Merton. il Mag of Wall St 88:200-1+ My 19 '51

Who'll get Hughes' stock? scramble for his holdings in RKO Theatres. Bsns W p 121-3 F 17 '51

Television competition

Brighter box-office; divorcement and tv no economic threat to movie theatres. D. C. Gillette. Barron's 31:7-8 Ag 13 '51

New movie era; threat of television may be exaggerated. D. C. Gillette. Barron's 31:9 Jl 2 '51

Will tv kill the movies? home movies coming back in New York. W. B. Laub. il Ptr Ink 235:36-7 Je 8 '51

Great Britain

Agreement on cinema duty. Economist 160:1586-7 Je 30 '51

Associated talking pictures, limited; statement by the chairman at annual general meeting. S. L. Courtauld. Economist 159:1226-7 D 30 '50

Film levy. Economist 159:563-4 S 30 '50

Film trade defends itself. Economist 159:665 O 28 '50

Films and the duty. Economist 160:1310-12 Je 2 '51

Films and the duty; with table of estimates of cinema admissions and takings, 1936-1950. Economist 161:589 S 8 '51

Freer dollar for films? Economist 161:176 Jl 21 '51

Is there a film crisis? Economist 160:216 Ja 27 '51

National film finance corporation; reports. Economist 160:946 Ap 21 '51

Rank organisation out of the red. Economist 161:582 S 8 '51

MOVING picture laboratories

New laboratory for processing monopack color film. K. Gopal. il diag Soc Motion Picture & Tv Eng J 55:639-46 D '50

Electric equipment

Film processing; new methods at the Associated British-Pathé laboratories. il Elec R (Lond) 149:215-19 Ag 3 '51

Equipment

New processing-machine film spool for use with either 35-mm or 16-mm film. F. L. Bray. diags Soc Motion Picture & Tv Eng J 57:33-7 Jl '51

MOVING picture machines

Cooling of film and slides in projectors. H. M. Ross. bibliog diags Soc Motion Picture & Tv Eng J 56:538-50 My '51

Heavy-duty 16-mm sound projector. E. C. Fritts. il diags Soc Motion Picture & Tv Eng J 55:425-38 O '50

Progress committee report. il Soc Motion Picture & Tv Eng J 56:568-83 bibliog(p581-3) My '51

Servicing the 16 mm. sound projector. D. D. Emerson. il diags Radio & Tv N 45:36-8+ Ja '51

Sound-film projection equipment. il Engineering 171:708 Je 8 '51

Trends of 16-mm projector equipment in the army. J. A. Moses. il Soc Motion Picture & Tv Eng J 55:525-35 N '50

Light sources

Carbon arc characteristics that determine motion picture screen light. M. T. Jones and F. T. Bowditch. Soc Motion Picture & Tv Eng J 56:310-16 Mr '51

Differential carbon-feed system for projection arc lamps. A. J. Hatch. il diags Soc Motion Picture & Tv Eng J 56:86-92 Ja '51

Dimensions for projection lamps medium prefocus ring double-contact base-up type for 16-mm and 8-mm motion picture projectors; proposed American standard. diags Soc Motion Picture & Tv Eng J 56:244-5 F '51

Direct-reading light flux meter; will measure total lumens output of the projector and light distribution over the screen. G. Gagliardi and A. T. Williams. il Soc Motion Picture & Tv Eng J 57:28-30; Discussion. 31-2 Jl '51

Interference mirrors for arc projectors. G. J. Koch. diag Soc Motion Picture & Tv Eng J 55:439-42 O '50

Physical principles, design and performance of the Ventarc high-intensity projection lamps. E. Gretener. il diags Soc Motion Picture & Tv Eng J 55:391-413 O '50

MOVING picture photography

Motion picture production for television. J. Fairbanks. il Soc Motion Picture & Tv Eng J 55:567-75 D '50

Progress committee report. il Soc Motion Picture & Tv Eng J 56:568-83 bibliog(p581-3) My '51

35-mm recording camera photographing the television picture tube. J. Kiehl. Tv Eng 2:8 Je '51

Video utilization, an introduction and definition of the art. R. L. Garman. Inst Radio Eng Proc 39:4-5 Ja '51

Bibliography

Current literature; list of articles dealing with subjects cognate to motion picture engineering. Soc Motion Picture & Tv Eng J 56:256-7, 695 F, Je '51

High speed

High-speed motion pictures detect defects in design. L. G. Waller. il Machine Design 22:143-5 D '50

High-speed photography of reflection-lighted objects in transonic wind tunnel testing. E. R. Hinz and others. il diags Soc Motion Picture & Tv Eng J 55:613-26 D '50

Practical application of high-speed photography in business machines. W. L. Hicks and R. L. Wright. il Soc Motion Picture & Tv Eng J 57:1-8 Jl '51

Rapid-action shutter with no moving parts. H. E. Edgerton and C. W. Wyckoff. bibliog il diags Soc Motion Picture & Tv Eng J 56:398-406 Ap '51

Simultaneous high-speed arc photography and data recording with a 16-mm Fastax camera. E. L. Perrine and N. W. Rodelius. il diag Soc Motion Picture & Tv Eng J 57:140-4 Ag '51

Slide rule for analyzing high-speed motion picture data. K. W. Maier. il diags Soc Motion Picture & Tv Eng J 56:623-34 Je '51

Time-motion study by methods of high-speed cinematography. H. W. Baer and others. il diags Soc Motion Picture & Tv Eng J 56:513-18 My '51

Bibliography

Bibliography on high-speed photography; including Schlieren and cathode-ray oscillography photography. Soc Motion Picture & Tv Eng J 56:93-111 Ja '51

MOVING picture photography—*Continued*

Industrial applications

Eleven-year time-study project provides basis for standard of fair day's work. il Mech Eng 73:353-4 Ap '51

High-speed motion pictures detect defects in design. L. G. Waller. il Machine Design 22:143-5 D '50

How to rate job performance; S.A.M. films of 24 simple jobs performed at different speeds aid time-study men. il Bsns W p65-6 Mr 3 '51

Mirrors extend the scope of cameras. C. A. Anderson and G. L. Thuering. il diag Advanced Management 16:19-20 Ag '51

Movies record blast furnace combustion turbulence; abstract. J. B. Austin. Steel 128:87 F 12 '51

Photographic study of the polymer cycle in injection molding. G. D. Gilmore and R. S. Spencer. il Mod Plastics 28:117-18+ Ap '51

Split-frame photography sells new technique. G. H. Gustat. il Mill & Factory 49:111 Jl '51

What is a fair day's work? time studies films of Society for advancement of management. Mill & Factory 48:88 Ap '51

See also

Moving pictures in industry

Lighting

Lighting requirements of a new professional color film for motion pictures. R. Blount. il Illum Eng 46:415-16 Ag '51

Motion picture studio lighting committee report. il plans Soc Motion Picture & Tv Eng J 56:205-13 F '51

Simplified index for color of illuminants. F. F. Crandell and others. il diag Soc Motion Picture & Tv Eng J 56:386-97 Ap '51

Scientific applications

High-speed stereoscopic Schlieren system. J. H. Hett. il diags Soc Motion Picture & Tv Eng J 56:214-18 F '51

Some research techniques for studying arcs in inert gases. R. H. Gillette and R. T. Breymeier. il diag Welding J 30:sup 149-52 Mr '51

MOVING picture photography, Submarine

U.S. naval underwater cinematography techniques. R. R. Conger. il Soc Motion Picture & Tv Eng J 55:627-34 D '50; Abstract. Mech Eng 72:994-5 D '50

MOVING picture projectors. See Moving picture machines

MOVING picture screens

Carbon arc characteristics that determine motion picture screen light. M. T. Jones and F. T. Bowditch. Soc Motion Picture & Tv Eng J 56:310-16 Mr '51

Direct-reading light flux meter; will measure total lumens output of the projector and light distribution over the screen. G. Gagliardi and A. T. Williams. il Soc Motion Picture & Tv Eng J 57:28-30; Discussion. 31-2 Jl '51

High-diffusion screens for process projection. H. M. Ross. diags Soc Motion Picture & Tv Eng J 56:429-32 Ap '51

Lighting projection screen surroundings. J. R. Cravath. bibliog diags Illum Eng 46:361-4 Jl '51

Practical solution to the screen light distribution problem. C. R. Underhill, jr. bibliog diag Soc Motion Picture & Tv Eng J 56:680-3 Je '51

Scientific basis for establishing brightness of motion picture screens. F. J. Kolb, jr. bibliog Soc Motion Picture & Tv Eng J 56:433-42 Ap '51

Standards

American standard for sound transmission of perforated projection screens. Soc Motion Picture & Tv Eng J 57:171 Ag '51

MOVING picture screens, Plastic

Vinyl movie screens. il Mod Plastics 28:63 Mr '51

MOVING picture sound recording

Electrical printing; production of sound prints by recording from a master sound print onto the composite release print. J. G. Frayne. bibliog il diags Soc Motion Picture & Tv Eng J 55:590-604 D '50

Improved Kodachrome sound quality with supersonic bias technique. J. A. Larsen. Soc Motion Picture & Tv Eng J 57:60-2 Jl '51

Progress committee report. il Soc Motion Picture & Tv Eng J 56:568-83 bibliog(p581-3) My '51

Sound track on Eastman color print film. C. H. Evans and J. F. Finkle. Soc Motion Picture & Tv Eng J 57:131-9 Ag '51

Magnetic recording

A-c magnetic erase heads. M. Rettinger. diags Soc Motion Picture & Tv Eng J 56:407-10 Ap '51

German magnetic sound recording system in motion pictures. M. Ulner. il diags Soc Motion Picture & Tv Eng J 56:411-22 Ap '51

Magnetic record-reproduce head. M. Rettinger. il diags Soc Motion Picture & Tv Eng J 55:377-90 O '50

Magnetic sound film developments in Great Britain. O. K. Kolb. il diags Soc Motion Picture & Tv Eng J 55:496-508 N '50

Motion picture studio use of magnetic recording. L. L. Ryder. il Soc Motion Picture & Tv Eng J 55:605-12 D '50

Professional magnetic-recording system for use with 35-, 17½- and 16-mm films. G. R. Crane and others. bibliog il diags Soc Motion Picture & Tv Eng J 56:295-309 Mr '51

Proposed American standard; dimensions for magnetic sound tracks on 35-mm and 17½-mm motion picture film; on 16-mm and on 8-mm film. diags Soc Motion Picture & Tv Eng J 57:72-4 Jl '51

Special techniques in magnetic recording for motion picture production. G. Lewin. il Soc Motion Picture & Tv Eng J 56:653-63 Je '51

Synchronous ¼-in. magnetic tape for motion picture production. G. Lewin. il Soc Motion Picture & Tv Eng J 56:664-71 Je '51

MOVING picture studios

Practical operation of a small motion picture studio. M. H. Read and E. N. Bunting. plan Soc Motion Picture & Tv Eng J 57:23-7 Jl '51

Electric equipment

Film studio supplies. il Elec R (Lond) 148:55-8, 107-11 Ja 12-19 '51

Equipment

Tentative recommendations for 16-mm review rooms and reproducing equipment. Soc Motion Picture & Tv Eng J 56:116-22 Ja '51

MOVING picture theaters

Movie theater acoustics in Scandinavia. U. Ingard. Soc Motion Picture & Tv Eng J 57:156-8; Discussion. 159-69 Ag '51

Pulse methods in the acoustic analysis of rooms. J. Moir. il diags Soc Motion Picture & Tv Eng J 57:147-55; Discussion. 159-69 Ag '51

Quality and service; new $1-million movie house in Robbinsdale, Minn. il Bsns W p 116-18+ S 15 '51

Telecinema; stereoscopic pictures and stereophonic sound. il Elec R (Lond) 148:1089-91 My 25 '51

World survey of motion picture theater facilities; with tables. N. D. Golden and E. H. Young. For Comm W 44:3-4+ Jl 2 '51

Electric equipment

New cinematograph regulations. Elec R (Lond) 148:266 F 9 '51

Heating and ventilation

Ventilating the small theater. J. J. Sefing. il plans diags Heat & Ven 47:57-61 N; 76-7 D '50

Sound equipment

New theater sound system. B. Passman and J. Ward. il diags Soc Motion Picture & Tv Eng J 56:527-37 My '51

MOVING picture theaters—*Continued*

Television

Bid for theater tv; movie companies press FCC for channel allocations. Bsns W p40+ F 10 '51

Comprehensive proposal for a closed-loop theater television system. R. L. Garman and R. W. Lee. bibliog diag Soc Motion Picture & Tv Eng J 56:473-83; Discussion. 483-6 My '51

Data on random-noise requirements for theater television. P. Mertz. bibliog diags Soc Motion Picture & Tv Eng J 57:89-107 Ag '51

Denver theaters tap tv network. Bsns W p99 S 1 '51

Effects of television on the motion picture theater. B. Schlanger and W. A. Hoffberg. bibliog Soc Motion Picture & Tv Eng J 56:39-42; Discussion. 42-3 Ja '51

Improvements in large-screen television projection. T. M. C. Lance. il diags Soc Motion Picture & Tv Eng J 55:509-24 N '50

Installation of theater television equipment. E. Stanko and C. Y. Keen. il diag Soc Motion Picture & Tv Eng J 56:343-53 Mr '51

Movie houses grasp at tv. il Bsns W p44+ My 12 '51

Projection kinescope 7NP4 for theater television. L. E. Swedlund and C. W. Thierfelder. bibliog il diags Soc Motion Picture & Tv Eng J 56:332-42 Mr '51

RCA PT-100 theater television equipment. R. V. Little, jr. il diags Soc Motion Picture & Tv Eng J 56:317-31 Mr '51; Excerpts. Tv Eng 1:15 D '50

Some commercial aspects of a new 16-mm intermediate film television system. R. L. Garman and B. Foulds. il diags Soc Motion Picture & Tv Eng J 56:219-26 F '51

Theater tv jitters. Bsns W p66 Ja 6 '51

Theatre tv; random noise. Tv Eng 2:7 My '51

MOVING picture theaters, Open air

Drive-in with a balcony; Lippert outdoor theater in San Francisco. il Bsns W p70 Je 30 '51

Inspection tips on outdoor theater screens. R. B. Sherman. Nat Underw 55:32 Ja 4 '51

MOVING pictures

Image gradation, graininess and sharpness in television and motion picture systems. O. H. Schade. bibliog il diags Soc Motion Picture & Tv Eng J 56:137-77 F '51

New visual idiom. N. Sobel. il diags Soc Motion Picture & Tv Eng J 56:642-52 Je '51

Techniques for the production of electronic motion pictures. E. A. Hungerford, jr. Soc Motion Picture & Tv Eng J 57:18-22 Jl '51

See also

Television broadcasting—Moving pictures

Catalogs

Directory of 16 mm. film sources. 63p pa 25c Radiant, 2627 West Roosevelt road, Chicago 8 '51

Filmed books and plays; a list of books and plays from which films have been made, 1928-1949. A. G. S. Enser. 218p £1 5s Grafton and co, Coptic House, 51 Great Russell st, London, W.C.1 '51

Foreign versions

Foreign versions; dubbing, subtitling and related production techniques. V. Volmar. il Soc Motion Picture & Tv Eng J 55:536-46 N '50

Government use

See also

Moving pictures in military education

Military use

See also

Moving pictures in military education

Moving pictures in naval education

Rating

Is the quality of motion pictures declining? Consumers Res Bul 26:16 N '50

Ratings of motion pictures. Consumers Res Bul 27:27-8 Ja '51 [cont monthly]

Scientific films

Rats in relationship to man's welfare. J. B. Calhoun. Science 114:214-15 Ag 24 '51

Setting and scenery

Nonphotographic aspects of motion picture production. H. Meyer. il Soc Motion Picture & Tv Eng J 57:38-59 Jl '51

Standards

Proposed American standard; dimensions for magnetic sound tracks on 35-mm and 17½-mm motion picture film; on 16-mm and on 8-mm film. diags Soc Motion Picture & Tv Eng J 57:72-4 Jl '51

Revision of PH22.15 and PH22.16. diags Soc Motion Picture & Tv Eng J 56:559-61 My '51

MOVING pictures, Colored

Current problems in the sensitometry of color materials and processes. F. C. Williams. il Soc Motion Picture & Tv Eng J 56:1-12 Ja '51

Direct-reading equivalent densitometer. A. F. Thiels. bibliog il diags Soc Motion Picture & Tv Eng J 56:13-22 Ja '51

Lighting requirements of a new professional color film for motion pictures. R. Blount. il Illum Eng 46:415-16 Ag '51

Motion pictures and television. V. K. Zworykin. Soc Motion Picture & Tv Eng J 55:562-6 D '50

New laboratory for processing monopack color film. K. Gopal. il diag Soc Motion Picture & Tv Eng J 55:639-46 D '50

Semiautomatic color analyzer. L. E. Varden. bibliog il diag Soc Motion Picture & Tv Eng J 56:197-204 F '51

Simplified index for color of illuminants. F. F. Crandell and others. il diag Soc Motion Picture & Tv Eng J 56:386-97 Ap '51

Sound track on Eastman color print film. C. H. Evans and J. F. Finkle. Soc Motion Picture & Tv Eng J 57:131-9 Ag '51

Synthetic color-forming binders for photographic emulsions. A. B. Jennings and others. bibliog il diag Soc Motion Picture & Tv Eng J 55:455-76 N '50

35-mm Ansco color theater prints from 16-mm Kodachrome. A. Mosser and L. Dunn. Soc Motion Picture & Tv Eng J 55:635-8 D '50

Versatile densitometer for color films. A. C. Lapsley and J. P. Weiss. il diags Soc Motion Picture & Tv Eng J 56:23-9 Ja '51

MOVING pictures, Industrial. See Moving picture photography—Industrial applications; Moving pictures in industry

MOVING pictures, Stereoscopic

Telecinema; stereoscopic pictures and stereophonic sound. il Elec R (Lond) 148:1089-91 My 25 '51

Three-dimensional motion picture applications. R. V. Bernier. bibliog il diags Soc Motion Picture & Tv Eng J 56:599-612 Je '51

MOVING pictures, Talking

Observer reaction to non-simultaneous presentation of pictures and associated sound. H. N. Christopher. Soc Motion Picture & Tv Eng J 56:369-77 Ap '51

See also

Moving picture theaters—Sound equipment

MOVING pictures in advertising

ABC's of display; General Electric full color movie appeals directly to dealer. il Sales Management 66:76 F 15 '51

Film produced by contractor shows power piping installation; Phillips, Getschow co. il Heating-Piping 23:73-6 S '51

Home made movies sell machine tools. S. A. Brandenburg. il Iron Age 168:72-4 Ag 30 '51

How Ayer handles commercial films. G. D. Gudebrod. il Adv Agency 44:74+ F '51

How to plan and distribute commercial films. W. A. Palmer. il Adv Agency 44:69+ Mr '51

Is the sales movie birth rate too high? J. C. Gibson. il Ind Marketing 35:34-5+ O '50

Kohnstamm fetes centennial with new sales film to sell women on laundry service. C. Downes. il Ind Marketing 36:38-9 F '51

MOVING pictures in advertising—*Continued*

New Ford movie shows why big business is good for America; partnership with suppliers is theme. R. G. Silbar. il Ptr Ink 234: 48-9 Ja 19 '51

Rock Island film promotes freight service. il Ry Age 131:70 Ag 6 '51

This promotion package is making company movie a hit; Dearborn motors corp. J. F. Pedder. il Ptr Ink 236:34-5 Jl 20 '51

See also

Television advertising

MOVING pictures in education

Aetna's secret service film shown abroad. East Underw 52:11 O 5 '51

Learning economics with no pain; animated cartoon shorts in color. Bsns W p41-2 D 16 '50

Motion picture teaches police reporter's job. D. Bentel. Ed & Pub 83:22 D 23 '50

New movie on fire policy; Introducing policyman, color cartoon. East Underw 52:22 O 5 '51

MOVING pictures in employee training. See Moving pictures in industry

MOVING pictures in industry

Films for management. Mod Ind 21:96 Ja '51 [cont monthly]

Films for management; survey queries; tallies. Mod Ind 21:114-17 Je '51

Films; the multiple audience may include the military. il Ptr Ink 233:48 D 29 '50

Getting results with industrial movies; abstract. A. I. Newman. Management R 39: 602-4 O '50

How to personalize a sales-training film. L. F. Thomann. il Ptr Ink 234:31 Ja 5 '51

In our hands; workers talk economics; Inland Steel and Borg-Warner have worked out a good way of teaching. il Mod Ind 22: 40-5 Jl '51

Industrial films. Published in monthly numbers of Factory management

Movies find drama in union-boss issue. il Bsns W p46-8 Ag 11 '51

Public relations, bold new concept pays off; Inland and Borg-Warner develop new program called In our hands. B. Packard. Iron Age 168:85 Ag 23 '51

Telling employes where the money goes; illustrations with text. Mill & Factory 49:110-11 S '51

Waiting audience; we, the people; Los Angeles gas management documentary film of big pipeline. J. H. Collins. Pub Util 47:86-91 Ja 18 '51

See also

Moving picture photography—Industrial applications

Catalogs

Films about industrial engineering; annotated list. Factory Management 108:226+ D '50; Same. Advanced Management 16:22-3 Ja '51

Report of the ceramic film committee, Missouri School of mines chapter of Keramos. Am Cer Soc Bul 30:175-6 My 15 '51

MOVING pictures in military education

Trends of 16-mm projector equipment in the army. J. A. Moses. il Soc Motion Picture & Tv Eng J 55:525-35 N '50

MOVING pictures in naval education

Experimental utilization of tv equipment in navy training film production. J. S. Leffen. Soc Motion Picture & Tv Eng J 57:15-17 Jl '51

U.S. naval underwater cinematography techniques. R. R. Conger. il Soc Motion Picture & Tv Eng J 55:627-34 D '50

MOVING pictures in safety education

Outstanding films win awards. il Nat Safety N 63:78-81 My '51

MOVING pictures in the home

Will tv kill the movies? home movies coming back in New York. W. B. Laub. il Ptr Ink 235:36-7 Je 8 '51

MOVING pictures in war

Civil defense film; Target, U.S.A., guide for industry planning and preparation in event of atomic attack. Safety Maint & Prod 102:35 S '51

MOVING stairways. See Escalators

MOWERY, Edward J.

Reporter sparks anti-dope drive. R. Erwin. por Ed & Pub 84:14+ F 3 '51

MUCILAGE

Constitution of the mucilage from the bark of ulmus fulva (slippery elm mucilage); the isolation of 3-monomethyl D-galactose from the products of hydrolysis. E. L. Hirst, L. Hough and J. K. N. Jones. Chem Soc J p323-5 F '51

Studies of seed mucilages; examination of a polysaccharide extracted from the seeds of plantago ovata Forsk by hot water. R. A. Laidlaw and E. G. V. Percival. Chem Soc J p528-34 F '50

MUCINS

Analysis

Frog-spawn mucin. B. F. Folkes, R. A. Grant and J. K. N. Jones. Chem Soc J p2136-40 Ag '50

MUCONIC acid

Diels-Alder reaction with α,β,γ,δ-unsaturated acids. N. C. Deno. Am Chem Soc J 72: 4057-9 S '50

Third isomeric *(cis-trans)*muconic acid. J. A. Elvidge and others. Chem Soc J p2228-35 Ag '50

Unsaturated lactones and related substances; dihydro-β-ketomuconic acid and carboxylactones of the protoanemonin type. U. Eisner, J. A. Elvidge and R. P. Linstead. Chem Soc J p 1501-12 Je '51

Unsaturated lactones and related substances; lactonic products derived from muconic acid. J. A. Elvidge and others. Chem Soc J p2235-41 Ag '50

MUCOPOLYSACCHARIDES. See Polysaccharides

MUD

See also

Petroleum—Mud fluids

MUD flows

Mudflow occurrence in Trinidad, B.W.I. T. H. Bower. diags Am Assn Pet Geologists Bul 35:908-12 Ap '51

MUD fluids. See Petroleum—Mud fluids

MUELLER, Theodore Edward, 1885-

All the way into the kitchen. pors Bsns W p76-7, cover S 15 '51

MUFFLERS, Automobile. See Automobile engines—Mufflers

MUIR, Jean, 1911-

What Mother Aldrich might have sold; opportunities lost General Foods, A.&P. and others. L. Galantière. por Fortune 42:76-7+ N '50

MULLIGAN, Ralph P.

Gerry and Ralph plug the hometown millook. J. L. Collings. por Ed & Pub 84:32 Ja 27 '51

MULLINS manufacturing corporation

New products bolster net. Barron's 30:15-16 N 27 '50

MULLITE

Improved refractory now produced in volume. Iron Age 166:60 O 26 '50

MULTIPLE management. See Corporations—Directors, Junior

MULTIPLE peril insurance rating organization

McCullough appointed manager. East Underw 52:18 Je 15 '51; Nat Underw 55:8 Je 14 '51

Rate organization formed. East Underw 52:20 Je 8 '51

MULTIPLE screening. See Physical examinations

MULTIPLE use buildings. See Buildings, Multiple use

MULTIPLEX system. See Radio broadcasting—Multiplex system; Radio telegraph—Multiplex system; Radio telephone—Multiplex system

MULTIVIBRATORS

Magnetic tape recorder for very low frequency phenomena. P. E. Green, jr. diags R Sci Instr 21:893-5 N '50

Transition of an Eccles-Jordan circuit. J. R. Tillman. diag Wireless Eng 28:101-10 Ap '51

Wide-range linear sweep. L. E. Garner, jr il diags Radio & Tv N 45:62-3 Ja '51

MUNICIPAL accounting
City audits can be good business; but more mutual understanding is needed between city officials and accountants; abstract. J. C. Crowley. J Account 92:223-4 Ag '51
Utility accounting to serve the citizens. E. Hardy. il Munic Util 89:25-7+ Ja '51

MUNICIPAL advertising
Ads deflate criticism of municipal railway, San Francisco. C. Watson. Ed & Pub 84: 18 My 19 '51

MUNICIPAL bonds
Advises broader advertising of municipal issues; abstract. D. M. Wood. Comm & Fin Chr 173:2242 My 31 '51
Assails Treasury proposal to tax municipals. A. J. Tobin. Comm & Fin Chr 173:728 F 15 '51
Corporate bonds vs. municipals. D. M. Ellinwood. Comm & Fin Chr 172:1684+ N 2 '50
Factors in evaluation of municipal bonds. R. E. Hengren. Comm & Fin Chr 173:2570+ Je 21 '51
Impact of flexible interest rate policy on bond prices. R. L. Reierson. Comm & Fin Chr 173:1758+ Ap 26 '51
Mid-year survey of municipal bond market by Halsey, Stuart & co. Comm & Fin Chr 174:175 Jl 12 '51
Municipal bonds as investments in present inflation. P. Barbour. Comm & Fin Chr 172: 8-9+ sec 2 O 19 '50
Municipal bonds in bank portfolios. R. E. Hengren. Comm & Fin Chr 174:952+ S 13 '51
Municipal financing of utilities. L. E. Caffall. Comm & Fin Chr 172:1598 O 26 '50
Municipal revenue bonds. J. E. Roddy. Comm & Fin Chr 174:1055+ S 20 '51
Municipal securities volume at record high; IBA committee report. Comm & Fin Chr 172:2301+ D 14 '50
Municipals bog down. Bsns W p 103 N 25 '50
New-type bonds promise more public housing. Eng N 146:67 Je 28 '51
State and city department bond proposals and negotiations. Published in weekly Monday numbers of Commercial and financial chronicle
Successful goldfish; quality ratings of municipal bonds in portfolio management. E. H. Davis. Bankers Mo 68:14+ Ap; 22+ My '51
Taking the crunch out of tax bite via municipal bonds. I. U. Cobleigh. Comm & Fin Chr 173:2341+ Je 7 '51
Tax exempt bonds. J. S. Williams. Mag of Wall St 88:310-11+ Je 16 '51
Tax increases and tax-exempt bonds; with graph. C. ter Kuile. Comm & Fin Chr 172: 1496 O 19 '50
Voters frown on bond issues. Bsns W p 118 N 18 '50

MUNICIPAL budget. See Budget, Municipal

MUNICIPAL buildings
Grand Junction, Colo. city hall is old school with top lopped off. T. E. Moore and R. A. Van Deusen. il plan Arch Forum 94:141 Je '51
See also
Municipal centers

MUNICIPAL centers
Detroit civic center begins to grow. il plans Arch Rec 109:100-7 Ja '51
First modern U.S. civic center; Memorial civic center, Richmond, Calif. il plans Arch Forum 95:138-42 Ag '51

MUNICIPAL contracts. See Contracts, Municipal

MUNICIPAL corporations
New transit idea; public transit corporations. S. H. Bingham. Pub Util 48:444-50 S 27 '51

MUNICIPAL employees
Municipal personnel problems. E. R. Colter. Munic Util 88:28+ N '50
Program cuts injuries to New York City employees. il Nat Safety N 63:40 F '51
See also
Pensions, Municipal
Police

MUNICIPAL engineering
Better ways of using motor trucks. il Pub Works 82:35-9+ F '51
How a big engineering firm handles a paving program. H. C. Suter. il Pub Works 82: 34-5+ My '51
How organization and equipment speed up city work; Winchester, Mass. J. D. Halwartz. il Pub Works 82:58-9 Je '51
New ideas in municipal engineering. il diags Pub Works 82:65 F '51
Public health in municipal engineering; abstracts. H. J. B. Manzoni. Engineering 172: 6 Jl 6 '51; Engineer 191:799 Je 15 '51; Discussion. Engineering 172:6-8 Jl 6 '51
Two-way radio found useful for city street work. H. F. Goodnow. Roads & Sts 93:39 N '50
Why municipal engineering records are essential. J. Lustig. Pub Works 82:49-50 Ja '51
See also
City planning
Municipal improvement
Pavements
Public works
Refuse collection
Refuse disposal
Sewage disposal
Sewerage
Snow removal
Streets
Water purification
Water supply engineering

MUNICIPAL finance
Postponement of state and local government borrowing; text of letter by Charles E. Wilson and statement of voluntary credit restraint committee. Fed Res Bul 37:497-9 My '51
Too much municipal borrowing; plea by Wilson that states and cities float no loans. Bsns W p 132+ My 12 '51
Voluntary credit restraint committee wants curb on municipal and state borrowing. Comm & Fin Chr 173:1971 My 10 '51
See also
Budget, Municipal
Municipal bonds
Municipal taxation
Waterworks—Finance

MUNICIPAL forests. See Forests, Municipal

MUNICIPAL government
Good government is good management. C. E. Ridley and J. C. Bollens. Advanced Management 16:15-18 Je '51
Municipal personnel problems. E. R. Colter. Munic Util 88:28+ N '50
Municipal year book, 1951. C. E. Ridley and O. F. Nolting, eds. 588p International city managers' association, 1313 E. 60th st, Chicago 37 '51
See also
Municipal finance

Study and teaching

Bank's way to better local government; Boston's First national bank sponsors municipal management classes at Northeastern university. K. Detzer. il Banking 43:33-5+ My '51

MUNICIPAL improvement
Cleveland rebuilds its rapid transit, spends millions on other projects. il Eng N 146: 50+ Mr 15 '51
Oakland pushes service expansion to keep up with industrial boom. il Eng N 146:55-6 Ja 11 '51
Portland, Ore. pushes solution of many municipal problems. il Eng N 145:56 N 2 '50
Wholesale street improvements make city look better, motorists feel better. C. Zwally. il diag Eng N 146:43-4 F 1 '51
See also
City planning
Special assessments

MUNICIPAL liability
Automobile insurance for municipalities; liability for employee torts. J. W. English. Weekly Underw 164:223-5 Ja 20 '51; Same cond. Nat Underw 54:7+ S 28 '50
When public works are being planned, the courts advise; get engineering advice first. P. J. Smith. Pub Works 82:66+ Je '51

MUNICIPAL officials

Directories

Municipal road officials in the incorporated cities, towns and villages of Canada. Roads & Eng Constr 89:142+ Je '51

MUNICIPAL ownership
See also
Electric plants, Municipal
Electric utilities—Municipal ownership
Rapid transit—Municipal ownership

MUNICIPAL pensions. See Pensions, Municipal

MUNICIPAL reports
Municipal reports, new style. Eng N 145:50-1 N 23 '50

MUNICIPAL taxation
Denver cuts taxes. Bsns W p 112+ Mr 3 '51
Local tax boosts. Bsns W p78-9 F 3 '51
That tax was there all the time. Bsns W p74 Mr 24 '51
See also
Special assessments

MUNITION factories
How they de-mothball the standby plants; Lake City arsenal. il Bsns W p84-5 S 22 '51
Royal ordnance factory, Blackburn; production of mechanical time fuses as fitted in anti-aircraft shells. Engineer 192:17 Jl 6 '51
Royal ordnance factory, Nottingham. il Engineer 191:793 Je 15 '51; Engineering 171:718-19 Je 15 '51
Royal ordnance factory, Radway Green. il Engineer 191:732-3 Je 1 '51

MUNITIONS
Designing for military requirements. il Product Eng 22:86-100 Ja '51
New order of power? Fortune 44:81-2 O '51
What Korea taught us on weapons. il Bsns W p25-6 O 28 '50
Where the West buys arms. il Bsns W p 136-8 Mr 3 '51
See also
Armaments
Automobile industry and trade—Munitions manufacture

Bibliography

Manufacturing information that helped to win World war II; list of articles published in Machinery during the war; information concerning manufacturing operations in the production of ordnance equipment and in the building of aircraft and ships. Mach 57:175-9 Ja '51

Manufacture

Plating in the re-armament program. S. Senderoff. il Metal Finishing 49:86-8+ Jl '51

MUNITIONS board. See United States—Munitions board

MUNITIONS industry

Great Britain

Tasks for the arsenals. Economist 160:1456+ Je 16 '51

MUNSELL color system. See Color

MUNSON, John Gephart, 1885-
Iron age salutes. por Iron Age 167:87 F 1 '51

MURAL painting and decoration
Auto's portrait album on insurance co.'s walls. il Bsns W p92-3 Jl 21 '51

MURPHY, Glenn, 1908-
George Westinghouse award, 1951. por J Eng Educ 42:27-8 S '51

MURRAY, John M. 1879-
Old timer speaks. por Inland Ptr 126:62 D '50

MURRAY, Philip, 1886-
Portrait. Bsns W p 104-5 N 25 '50
Who will boss CIO after 1952? por Bsns W p30+ S 15 '51

MURRAY, Thomas Edward, 1891-
Portrait. Bsns W p 103 Jl 28 '51

MUSCLE
Flagella; behave like tiny muscles. W. T. Astbury. il Sci Am 184:20-4 Ja '51
Heart muscle. il Sci Am 185:48-9 Ag '51
Infrared microspectrum of living muscle cells. D. L. Wood. bibliog Science 114:36-8 Jl 13 '51
Mammalian nerve, muscle preparation suitable for single-fiber experiments. V. B. Brooks. bibliog il Science 113:300 Mr 16 '51
Muscle action potentials as a measure of visual performance cost. R. C. Travis and others. bibliog il Illum Eng 46:182-7 Ap '51
Muscle action potentials, as related to visual tasks in industry. W. Allphin. il Illum Eng 46:188-92; Discussion. 192-6 Ap '51
Utilization of C^{14}-labeled glucose by cardiac muscle treated with a cardiac glycoside. A. Wollenberger. Science 113:64-5 Ja 19 '51

MUSCLES
3-(Alkoxyphenoxy)-1,2-propanediols. R. I. Meltzer and J. Doczi. bibliog Am Chem Soc J 72:4986-8 N '50
Muscular relaxant drugs; some substituted pyridyl ketones. V. Boekelheide and J. H. Mason. Am Chem Soc J 73:2356-7 My '51
Potentiation of muscular contraction by the nitrate-ion. A. J. Kahn and A. Sandow. bibliog il Science 112:647-9 D 1 '50
Synthesis of neurotropic and musculotropic stimulators and inhibitors; benzilic acid derivatives. A. L. Morrison, M. Königstein and A. Cohen. Chem Soc J p2887-90 O '50
See also
Paralysis

MUSEUM libraries
Flexible museum library; Boston society of natural history. M. C. Cobb. Special Lib 42:176-7+ My-Je '51
See also
Art libraries
Smithsonian institution—Library
Southwest museum library, Los Angeles

Service

Museum cheer to hospital patients. J. I. Smith. Special Lib 42:184+ My-Je '51

MUSEUM of science, Boston
Flexible museum library; Boston society of natural history. M. C. Cobb. Special Lib 42:176-7+ My-Je '51

MUSEUM of science and industry, Chicago
How to get an audience of five-million; industrial exhibits. il Bsns W p66-8+ Je 30 '51

MUSEUM of the city of New York
Museum cheer to hospital patients. J. I. Smith. Special Lib 42:184+ My-Je '51

MUSEUMS
See also
Industrial museums
Paris—Conservatoire national des arts et metiers

Lighting

Museum case lighting. H. R. Datz. il diags Illum Eng 46:175 Ap '51

MUSHROOMS
Mushroom composts and mushroom growth; abstract and discussion. R. L. Edwards. p558-9 Je 30 '51
Mushroom industry, Union of South Africa. For Comm W 44:18 Jl 2 '51
Underground mushroom farm. T. Slager. il diags Comp Air Mag 56:119-22 My '51

MUSIC
Music and engineers. K. Liepmann. J Eng Educ 41:106-10 O '50
See also
Singing
Tones

MUSIC trade
Making music sales go round and round; Bernie Simon of Buffalo. il Bsns W p 106+ O 6 '51
Music industry cashes in by blowing its own horn. il Bsns W p70-2+ S 22 '51

MUSICAL comedies, revues, etc.
R & H shows are pushing $8-million. il Bsns W p96-7+ Ag 11 '51

MUSICAL instrument trade. See Music trade

MUSICAL instruments
See also
Organ
Piano
Wind instruments

MUSICAL instruments, Electric
Electronic music for four; novel wobble organ. L. A. Meacham. il diags Electronics 24:76-9 F '51; Discussion. N. Langer. 24:152+; Reply. 294+ My '51
Miniature music maker. J. Kirk. il diag Radio & Tv N 46:57+ O '51
See also
Organ, Electric

MUSICAL tones. See Tones

MUSKEGON, Michigan

Water supply

More water for Muskegon. A. J. O'Connor. il Pub Works 82:52-3 Ag '51

MUSTARD gas
Action of ionizing radiations and of radiomimetic substances on deoxyribonucleic acid; the action of some compounds of the mustard type. J. A. V. Butler and K. A. Smith. Chem Soc J p3411-18 D '50

MUTAROTATION. See Optical rotation

MUTATION (biology)
Induced and other variations in bacterial cultures; reactions of bact. lactis aerogenes to ultraviolet light and other mutagenic agents. A. C. R. Dean and C. Hinshelwood. Chem Soc J p 1157-77 My '51
See also
Genetics

MUTUAL fire insurance companies, Federation of. See Federation of mutual fire insurance companies

MUTUAL insurance. See Insurance, Mutual

MUTUAL insurance companies, National association of. See National association of mutual insurance companies

MUTUAL life insurance company of New York
Mutual Life again in Texas; managers named. East Underw 52:4 Ja 19 '51
Mutual Life's field leaders conference, Houston. East Underw 52:26-35 S 21 '51

MUTUAL telephone company (Hawaii)
Offering to stockholders. Comm & Fin Chr 174:1299 O 8 '51

MYANESIN
Isolation and characterization of two metabolic products of myanesin (3-(*o*-toloxy)-1,2-propanediol). R. F. Riley. bibliog Am Chem Soc J 72:5712-14 D '50

MYCOLIC acids
Chemistry and biochemistry of mycobacteria; abstract. E. Lederer. Chem & Eng N 29:3292+ Ag 13 '51

MYCOLIPENIC acid
Constitution of mycolipenic acid-I. N. Polgar and R. Robinson. Chem & Ind p685-6 Ag 11 '51

MYERS, Guy C.
Portrait. Fortune 43:83 Ap '51

MYOPIA, Night. See Eye—Accommodation and refraction

MYRISTIC acid
Anodic syntheses; new syntheses of stearic, myristic, and other acids. W. S. Greaves and others. Chem Soc J p3326-30 N '50
Carbon skeleton of carpaine. H. Rapoport and H. D. Baldridge, jr. bibliog Am Chem Soc J 73:343-6 Ja '51
Synthetic long-chain aliphatic compounds; myristic, stearic, and tricosanoic acids. D. E. Ames, R. E. Bowman and R. G. Mason. Chem Soc J p 174-7 Ja '50

MYRISTIN
Saponification of α-monomyristin, α-monostearin and α-mono-olein. H. H. G. Jellinek and A. Gordon. bibliog J Ap Chem 1:185-8 Ap '51

N

NAGAI, Takashi, 1908-1951
Casualty. Sci Am 184:31 Je '51

NAGLE, Frank L. d. 1951
Tribute. H. G. Lord. por Textile World 101:97 Ag '51

NAHMA, Michigan
For sale, a town. il Bsns W p62-4+ Ap 28 '51

NAIL polish
Spillproof nail polish; polyethylene-plug valve in neck of Cutex bottle. il Mod Packaging 24:175 Ap '51; Mod Plastics 28:171 Ag '51

NAILING
Correct nailing in framing. il diags Am Bld 73:129-32 Ja '51

NAILING machines
Pneumatic press drives two nails at a time. il diag Comp Air Mag 56:159 Je '51

NAILS
Humble, ancient nail gets fancier. il Bsns W p46-8+ My 5 '51
Nail, an indispensable fastener; abstracts. E. G. Stern. il Power Eng 55:74-6 Jl '51; Mech Eng 73:430 My '51

Manufacture

Radical machine speeds nailmaking. Bsns W p59 O 13 '51

NAILS, Aluminum
Aluminum nails gain favor among users. R. L. Hatschek. Iron Age 166:106 N 2 '50

NALCITE HCR
Ion exchange in high temperature industrial applications. F. K. Lindsay, L. F. Wirth, jr. and A. M. Durinski. bibliog il Ind & Eng Chem 43:1062-5 My '51

NALCITE SAR
Operating characteristics of a strongly basic anion exchanger. F. K. Lindsay and J. S. D'Amico. Ind & Eng Chem 43:1085-7 My '51
Properties of strongly basic anion exchange resins. R. M. Wheaton and W. C. Bauman. Ind & Eng Chem 43:1088-93 My '51

NAME plates
Better ways of identifying your product. E. Drewitz. il Product Eng 21:117-24 D '50

NAME plates, Plastic
Plastic product-identification forms; name plates and dials. E. Drewitz. il diag Product Eng 22:132-5 Mr '51

NAMES
See also
Trade names

NAMES, Corporate. See Corporate names

NAMES, Personal

Bibliography

Personal names; an annotated bibliography (cont). E. C. Smith. N Y Pub Lib Bul 55:181-94, 241-9, 288-300, 351-5, 386-405, 433-60, 496-510, 535-53 Ap-N '51

NANKOWEAP group
Nankoweap group of the Grand Canyon Algonkian of Ariz. C. E. Van Gundy. bibliog maps Geol Soc Bul 62:953-9, pl 1-3 Ag '51

NAPALM
Modern pyrotechnics go to war in Korea. M. Wharton. il Explosives Eng 29:89-93 My '51
Napalm goes automatic. il Chem W 69:26-7 S 22 '51

Manufacture

Napalm-making is mechanized at Ferro chemical corp. il Bsns W p78-80+ S 22 '51

NAPHTHA
Gum formation in shale-oil naphtha. G. U. Dinneen and W. D. Bickel. Ind & Eng Chem 43:1604-7 Jl '51
Houdriforming, a continuous process for reforming petroleum naphthas. C. G. Kirkbride. flow chart il Pet Refiner 30:95-8 Je '51; Same. Pet Processing 6:603-6 Je '51; Same. Oil & Gas J 50:60-2+ Jl 5 '51; Same. Pet Eng (Ref annual) 23:C9-12 Jl 15 '51
New ethylene process uses naphtha pyrolysis. il Pet Refiner 30:122-3 Jl '51
New naphtha plant; problems for the chemical engineer. Chem Age (Lond) 64:754 My 12 '51

NAPHTHALENE
Alkylnaphthalenes; 1 : 3-dimethylnaphthalene. R. F. Evans and J. C. Smith. bibliog Inst Pet J 37:80-90 F '51
Anomalous reaction of 1-tetralone with *o*-tolylmagnesium bromide. M. Orchin, L. Reggel and R. A. Friedel. bibliog Am Chem Soc J 73:1449-54 Ap '51
Aromatizing cracking of hydrocarbon oils; polycyclic fractions. C. Weizmann and others. bibliog(65 ref) Ind & Eng Chem 43:2318-21 O '51
Complexes of naphthalene with iodine and bromine; on the origin of the spectra of complexes between halogens and aromatics. N. W. Blake, H. Winston and J. A. Patterson. Am Chem Soc J 73:4437-40 S '51
Determination of bond fixation in cyclic systems; naphthalene. I. M. Hunsberger. bibliog Am Chem Soc J 72:5626-35 D '50
Dinaphthylenes. F. Bell and W. H. Hunter. Chem Soc J p2904 O '50
Effect of bond structure on the transformation of *o*-aroyloxy-acetoarones into *o*-hydroxydiaroylmethanes; Baker-Venkataraman transformation. N. V. Nowlan, P. A. Slavin and T. S. Wheeler. Chem Soc J p340-4 Ja '50

NAPHTHALENE—*Continued*

Eight- and higher-membered ring compounds; di(naphthalene-2 : 7-dimethylene) and its conversion into coronene. W. Baker, F. Glockling and J. F. W. McOmie. Chem Soc J p 1118-21 Ap '51

Endocyclic α,β-unsaturated ketones; dehydration-rearrangement of 1,4-dihydronaphthalene-1-ols to naphthalenes. N. H. Cromwell, H. H. Eby and D. B. Capps. Am Chem Soc J 73:1224-6 Mr '51

Endocyclic α,β-unsaturated ketones; reaction of 2-bromo-4,4-dimethyl-1-keto-1,4-dihydronaphthalene with amines. N. H. Cromwell, H. H. Eby and D. B. Capps. Am Chem Soc J 73:1230-2 Mr '51

Fluorescence of solutions bombarded with high energy radiation (energy transport in liquids). H. Kallmann and M. Furst. il Phys R 81:853-64 Mr 1 '51

Nucleophilic displacement in the naphthalene series. E. Berliner, M. J. Quinn and P. J. Edgerton. bibliog Am Chem Soc J 72:5305-8 N '50

Preparation of 2-bromonaphthalene. W. C. Wolfe and H. M. Doukas. J Chem Educ 28:472-3 S '51

Preparation of α-naphthaleneacetic acid by the condensation of naphthalene with chloroacetic acid. Y. Ogata and J. Ishiguro. bibliog Am Chem Soc J 72:4302 S '50

Reduction by dissolving metals; some hydronaphthalene derivatives. A. J. Birch, A. R. Murray and H. Smith. Chem Soc J p 1945-50 Ag '51

Reduction of *o*-quinones with lithium aluminium hydride. J. Booth, E. Boyland and E. E. Turner. Chem Soc J p 1188-90 Ap '50

Scintillation detector for the localization of radioactive concentrations in vivo. W. B. Ittner, 3d and M. Ter-Pogossian. diags R Sci Instr 22:638-41 Ag '51

Seven-membered ring compounds; 7,8,9,10-tetrahydrocyclohepta[de]naphthalene. R. C. Gilmore, jr. and W. J. Horton. bibliog Am Chem Soc J 73:1411-14 Ap '51

Some 1 : 7- and 1 : 2 : 7-derivatives of naphthalene. H. H. Hodgson and R. E. Dean. Chem Soc J p818-20 Mr '50

Some diazoamino- and aminoazo-naphthalenes. H. H. Hodgson and J. Habeshaw. Chem Soc J p3436-7 D '49

Stereochemistry of metabolic diols from naphthalene and anthracene. J. W. Cook, J. D. Loudon and W. F. Williamson. Chem Soc J p911-14 Mr '50

Structure of β-hydrojuglone and related compounds; keto-enols of the naphthalene series. R. H. Thomson. Chem Soc J p 1737-42 Jl '50

Syntheses in the naphthalene series; 3-hydroxy-1 : 4-naphthaquinone-2-acetic acid and its homologues. G. Soliman and A. Latif. Chem Soc J p93-6 Ja '51

Synthesis of hydrocarbons of high molecular weight; monoalkylnaphthalenes. B. Bannister and B. B. Elsner. Chem Soc J p 1055-60 Ap '51

Synthesis of hydrocarbons of high molecular weight; some di- and tri-*n*-alkylnaphthalenes. B. Bannister and B. B. Elsner. Chem Soc J p 1061-8 Ap '51

Thermodynamic properties of naphthalene. G. M. Barrow and A. L. McClellan. bibliog Am Chem Soc J 73:573-5 F '51

See also
Vinyl naphthalene

Analysis

Determination of naphthalene in air. M. C. Robbins. bibliog A M A Archives Ind Hygiene & Occup Med 4:85-7 Jl '51

Determination of thionaphthen in naphthalene by infra-red absorption spectroscopy. W. E. Armstrong, A. B. Densham and G. Gough. Chem Soc J p3359-60 D '50

Modification of lamp method for sulfur in naphthalene. J. J. Tighe, J. S. McNulty and E. J. Center. il Anal Chem 23:669-70 Ap '51

NAPHTHALENE acetic acid

Preparation of α-naphthaleneacetic acid by the condensation of naphthalene with chloroacetic acid. Y. Ogata and J. Ishiguro. bibliog Am Chem Soc J 72:4302 S '50

NAPHTHALENE diamine

Reaction of benzyl methyl ketone with *o*-aminophenol, *o*-aminobenzenethiol and 1,8-naphthalenediamine. F. J. Kreysa and others. bibliog Am Chem Soc J 73:1155-6 Mr '51

Substitution reactions of the naphthylenediamines. J. S. Whitehurst. Chem Soc J p215-30 Ja '51

NAPHTHALENE glyoxylic acid

Preparation and properties of various naphthylglyoxylic acids. A. B. Neill and E. D. Amstutz. bibliog Am Chem Soc J 73:3687-91 Ag '51

NAPHTHALENETRIOL

Structure of β-hydrojuglone and related compounds; keto-enols of the naphthalene series. R. H. Thomson. Chem Soc J p 1737-42 Jl '50

NAPHTHANTHRONE

1 : 8 : 9-Naphthanthr-10-one. W. Bradley and F. K. Sutcliffe. Chem Soc J p2118-22 Ag '51

NAPHTHAZARIN

Beryllium complexes with naphthazarin and alkannin. A. L. Underwood, T. Y. Toribara and W. F. Neuman. bibliog Am Chem Soc J 72:5597-602 D '50

NAPHTHENES

Aluminum bromide isomerization of 2,2,4-trimethylpentane alone and in the presence of naphthenes; mechanism of the inhibition by naphthenes of side reactions during paraffin isomerization. F. E. Condon. bibliog Am Chem Soc J 73:3938-47 Ag '51

NAPHTHIDINE

Substituted benzidines and related compounds as reagents in analytical chemistry; naphthidine as indicator in the determination of zinc with ferrocyanide. R. Belcher and A. J. Nutten. Chem Soc J p548-9 F '51

NAPHTHIMIDAZOLE

Synthesis of some substituted naphth[1,2]imidazole derivatives. J. A. Stephens and C. S. Hamilton. bibliog Am Chem Soc J 73:4297-9 S '51

NAPHTHINDANETRIONE. See Benzonaphthenetrione

NAPHTHINDOLE. See Benzindole

NAPHTHOIC acid

Syntheses in the phenanthrene series; 1-methyl-8-*iso*propylphenanthrene. W. F. Short and H. Wang. Chem Soc J p991-4 Mr '50

Synthesis of ketomethyldihydronaphthoic acid derivatives as possible chromogenic substrates. G. Wolf and A. M. Seligman. bibliog Am Chem Soc J 73:2082-5 My '51

NAPHTHOL

Acid-catalyzed reaction of styrene oxide with phenol and with 2-naphthol. C. O. Guss, H. R. Williams and L. H. Jules. bibliog Am Chem Soc J 73:1257-60 Mr '51

o-Mercapto-azo-compounds; the coupling of tetrazotised 2 : 2′-diaminodiphenyl disulphide with β-naphthol. A. Burawoy and C. Turner. Chem Soc J p469-77 F '50

Molybdate-catalyzed hydrogen peroxide oxidation of β-naphthol. A. R. Bader. Am Chem Soc J 73:3731-2 Ag '51

Nuclear alkylation in the alkali-catalyzed reaction of styrene oxide with 2-naphthol. C. O. Guss and L. H. Jules. bibliog Am Chem Soc J 72:3878-80 S '50

Solar evaporation of salt brines. M. R. Bloch, L. Farkas and K. S. Spiegler. bibliog il Ind & Eng Chem 43:1544-53 Jl '51

Tighter for beta naphthol. il Chem W 69:51 S 15 '51

NAPHTHOLS

Action of formaldehyde on proteins. R. D. Haworth, R. MacGillivray and D. H. Peacock. Chem Soc J p 1493-8 Je '50

Constitution of Ψ-santonin; some dimethylethylnaphthols. W. Cocker and others. Chem Soc J p 1781-94 Jl '50

Constitution of ψ-santonin; synthesis of 6-ethyl-2 : 4-dimethyl-1-naphthol. W. Cocker, A. K. Fateen and C. Lipman. Chem Soc J p929-31 Ap '51

Polycyclic compounds; the Reimer-Tiemann reaction with 1-alkyl-2-naphthols. R. M. Dodson and W. P. Webb. Am Chem Soc J 73:2767-9 Je '51

NAPHTHOLS—*Continued*
Reactivity of β-naphthols and β-naphthylamines. F. Bell and W. H. Hunter. Chem Soc J p2903 O '50
Synthetic choleretics; naphthol derivatives. R. R. Burtner and J. M. Brown. Am Chem Soc J 73:897-900 Mr '51
Ultraviolet absorption spectra of some hydroxynaphthalenes. C. Daglish. bibliog Am Chem Soc J 72:4859-64 N '50

NAPHTHOQUINONE
Carbon-14 synthetic studies; 2-methyl-1,4-naphthoquinone-8-C^{14}. C. J. Collins. bibliog diag Am Chem Soc J 73:1038-9 Mr '51
Effect of fluorine substitution on medicinal agents; synthesis of 2-trifluoromethyl-1,4-naphthoquinone. A. F. Helin, A. Sveinbjornsson and C. A. Vander Werf. Am Chem Soc J 73:1189-90 Mr '51
Naphthoquinone antimalarials; naphthoquinones with oxygen in the side chain. M. Paulshock and C. M. Moser. bibliog Am Chem Soc J 72:5073-7 N '50
Naphthoquinone antimalarials; thioether naphthoquinones. C. M. Moser and M. Paulshock. bibliog Am Chem Soc J 72:5419-23 D '50
Quinone imides; 1,2- and 2,6-naphthoquinone disulfonimides. R. Adams and R. A. Wankel. Am Chem Soc J 73:2219-20 My '51
Reaction of 2,3-dichloro-1,4-naphthoquinone with salts of alkyl substituted and unsubstituted dithiocarbamic acids. N. K. Sundholm and A. E. Smith. bibliog Am Chem Soc J 73:3459-63 Jl '51
Reactions of naphthoquinones with malonic ester and its analogs; reactions with malonic ester. E. F. Pratt and W. E. Boehme. bibliog Am Chem Soc J 73:444-8 Ja '51
Rearrangement and reduction of hindered 2-hydroxy-3-alkyl-1,4-naphthoquinones. L. F. Fieser and A. R. Bader. bibliog Am Chem Soc J 73:681-4 F '51

NAPHTHYLAMINE
Reactivity of β-naphthols and β-naphthylamines. F. Bell and W. H. Hunter. Chem Soc J p2903 O '50

NAPHTHYL carbonate
Synthesis of naphthyl carbonate derivatives of amino acids as chromogenic substrates for carboxypeptidase. G. Wolf and A. M. Seligman. bibliog Am Chem Soc J 73:2080-2 My '51

NAPHTHYLGLYOXYLIC acid. See Naphthalene glyoxylic acid

NAPHTHYL isocyanate
Reaction of phenols with phenyl and 1-naphthyl *iso*cyanate. J. M. Lyons and R. H. Thomson. Chem Soc J p 1971-2 Jl '50

NAPHTHYL methyl group
Structure and pharmacological activity among 2-haloethylamine derivatives with a naphthylmethyl group; variation of the halogen. N. B. Chapman and others. Chem & Ind p633 Jl 21 '51

NAPHTHYLSILANE. See Silane

NAPHTHYLENE diamine. See Naphthalene diamine

NAPHTHYRIDINE
Naphthyridines. C. F. H. Allen. Chem R 47:275-305 bibliog(75 ref, p304-5) O '50

NAPOLEON, I, emperor of the French, 1769-1821
Napoleon knew accountancy, and used it extensively for control. J. Pelej. J Account 92:179 Ag '51

NAPPING of textiles
Finishing of face cloths, pile fabrics, etc. A. I. Read. Textile Inst J 42:P205-8 My '51
Napping quality depends on cloth and machine. E. D. White. il Textile World 101:121+ Ap '51

NARCOTICS
See also
Amidone
Demerol
Hypnotics
Morphine
Stimulants

NARROW fabrics. See Textile fabrics—Narrow fabrics

NARWHAL
Horn of the unicorn. J. T. Bonner. il Sci Am 184:42-3 Mr '51

NASHVILLE, Indiana
See also
Banks and banking—Nashville, Indiana

NASHVILLE, Chattanooga and St Louis railway
Equipment trust certificates offered. Comm & Fin Chr 173:662 F 12 '51
Security I like best. H. Morris. Comm & Fin Chr 174:786 Ag 30 '51

NATIONAL academy of sciences
Annual meeting, Washington, April 23-25. Chem & Eng N 29:1826+ My 7 '51
Annual meeting, Washington, D.C. April 23-25; abstracts of papers. Science 113:473-84 Ap 27 '51
Autumn meeting, Schenectady, Oct. 9-12; abstracts of papers. Science 112:419-29, 447-56 O 13-20 '50
Meeting, Schenectady, Oct. 9-12. Chem & Eng N 28:3770-1 O 30 '50

NATIONAL Acme company
Companies to benefit from industrial expansion; with comparative balance sheet items. Mag of Wall St 87:279 D 16 '50

NATIONAL advertisers, Association of. See Association of national advertisers

NATIONAL advisory committee for aeronautics. See United States—National advisory committee for aeronautics

NATIONAL advisory council on international monetary and financial problems
Report of activities during six months ending Sept. 30, 1950; abstract. Comm & Fin Chr 173:1041 Mr 8 '51

NATIONAL aeronautic association
Enyart quits NAA in split on policy. Aviation W 53:15 O 30 '50
Merger move seen for NAA, NAC. Aviation W 55:17 Ag 27 '51

NATIONAL agricultural chemicals association
Annual meeting, 18th, Spring Lake, N.J. Sept. 5-7. Oil Paint & Drug Rep 160:5+ S 10 '51; Chem & Eng N 29:4085-6 O 1 '51
Annual spring meeting, Miami Beach, April 4-6. Oil Paint & Drug Rep 159:7+ Ap 9 '51; Chem & Eng N 29:1646-7 Ap 23 '51

NATIONAL agricultural limestone association
Annual meeting, 6th, Washington, Jan. 16-18. Rock Prod 54:108-15 Mr '51
Mid-year meeting, Chicago, June 13-14. Rock Prod 54:186+ Ag '51

NATIONAL air council
Merger move seen for NAA, NAC. Aviation W 55:17 Ag 27 '51

NATIONAL airlines, inc.
Big plans, big feuds. map Bsns W p96+ S 15 '51
Havana-to-Balboa run asked by NAL. Aviation W 55:75 Ag 13 '51
National's operations approved by Board in recent decision. CAA J 12:46 Ap 20 '51
Spark advance saves at National; maintenance and other activities. G. L. Christian. il Aviation W 54:23-4 Mr 5 '51

NATIONAL association of bank auditors and comptrollers
Annual convention, 26th, Kansas City, Oct. 23-26. Burroughs Clearing House 35:30-1+ D '50; Bankers Mo 67:26+ D '50

NATIONAL association of building owners and managers
Annual convention, 44th, Houston. Arch Forum 94:31+ Je '51

NATIONAL association of casualty and surety agents
Joint meeting with International association of casualty and surety underwriters, White Sulphur Springs, W.Va. Sept. 23-26. East Underw 52:28-33 S 28; 30+ O 5 '51; Nat Underw 55:17 S 27; 30+ O 4 '51; Weekly Underw 165:752-3 S 29 '51

NATIONAL association of corrosion engineers
Annual meeting, 7th, New York. Chem & Eng N 29:1208-9 Mr 26 '51
Annual meeting, 7th, New York. Oil & Gas J 49:65-7 Mr 22 '51

NATIONAL association of cost accountants
Annual report, 32d. N A C A Bul 33:243-81 sec 3 O '51

NATIONAL association of credit men
Annual credit congress, 58th, Boston, May 13-17. Credit & Fin Management 53:29-39 Je '51
Experience or expediency? keynote speech at 55th annual congress. H. H. Heimann. Credit & Fin Management 53:6-10 My '51
National committees. Credit & Fin Management 53:34-8 Jl '51
1951 offers big opportunities to NACM. A. J. Sutherland. Credit & Fin Management 53:6-7 Ja '51

NATIONAL association of credit men—*Cont.*
President reports. A. J. Sutherland. Credit & Fin Management 53:21-2 Je '51
Some common interests of our two associations. C. E. Wolfinger. Credit & Fin Management 53:11-12 Jl '51
Statement of policy and resolutions, 55th annual credit congress, Boston, May 13-17. Credit & Fin Management 53:40-1 Je '51

NATIONAL association of electrical distributors
Meeting, San Francisco, Oct. 26-28. Elec West 105:108-9 D '50

NATIONAL association of home builders
Annual convention, 7th, Chicago. Arch Forum 94:26-7+ F '51; Eng N 146:24 F 1 '51; Arch Rec 109:11+ Mr '51

NATIONAL association of independent insurance adjusters
Annual meeting, Dallas. Nat Underw 55:1+ Je 14 '51
Annual meeting, 6th, Chicago, Nov. 2-3. East Underw 51:31+ N 10 '50; Nat Underw 54:25+ N 9 '50; Weekly Underw 163:1065+, 1072 N 11 '50

NATIONAL association of independent insurers
N.A.I.I. wins New York recognition. Nat Underw 55:6 O 4 '51
Regional meeting, Oklahoma City. Nat Underw 55:18 S 27 '51

NATIONAL association of insurance agents
Annual convention, 55th, Chicago, Sept. 10-13. East Underw 52:1+, 21-39 S 14; 39-41 S 21 '51; Nat Underw 55:25 S 13; 4+ S 20 '51; Weekly Underw 165:581, 598-607 S 15 '51; Spectator (Property ed) 17:20+ O '51
Danford named executive secretary. Nat Underw 55:1 Ag 16 '51
Eastern territorial conference, New York, April 16. East Underw 52:23-4+ Ap 20 '51; Nat Underw 55:1+ Ap 19 '51; Weekly Underw 164:1010 Ap 21 '51
Midwest territorial conference, Memphis, March 12. Nat Underw 55:1+ Mr 15 '51; Weekly Underw 164:685+ Mr 17 '51
National board of state directors midyear meeting, New York. Nat Underw 55:1+ Ap 19 '51
President's address at annual convention. M. J. Miller. East Underw 52:22-3 S 14 '51
Real character of N.A.I.A. as a federated trade body. C. I. Fisher. Nat Underw 55:14-15 My 17 '51
Research office for NAIA discussion topic. Weekly Underw 164:507+ F 24 '51
Southern agents conference, Palm Beach. Nat Underw 55:2+ Ap 12 '51
Weigh idea of N.A.I.A. giving market service. Nat Underw 55:1+ F 1 '51

NATIONAL association of insurance brokers
Activities in 1950. G. S. Middleton. Weekly Underw 164:36-8 Ja 6 '51
Annual meeting of directors, Boston, May 22-23. East Underw 52:26 Je 1 '51; Nat Underw 55:3 My 31 '51; Weekly Underw 164:1380+, 1443+, 1463 Je 2-9 '51

NATIONAL association of insurance commissioners
Annual convention, 82d, Swampscott, Mass. June 3-6. East Underw 52:1+ Je 8; 17, 26 Je 15 '51; Nat Underw 55:1+ Je 7; 1+ Je 14 '51; Nat Underw (Life ed) 55:1+ Je 8 '51; Spectator (Property ed) 17:8-10 Jl '51; Weekly Underw 164:1433+, 1444-9 Je 9; 1494+ Je 16 '51
Appointments to committees. Nat Underw 55:6+ Ag 9 '51; Nat Underw (Life ed) 55:6+ Ag 10 '51; East Underw 52:20 Ag 17 '51; Weekly Underw 165:286+ Ag 11 '51
Easing burden of NAIC activities. J. E. Day. Nat Underw 55:13 S 20 '51; Same Nat Underw (Life ed) 55:5 S 14 '51
Midyear meeting, Los Angeles, Dec. 10-15. East Underw 51:32, 54-5 D 15 '50; Nat Underw 54:1+, 32-3 D 14; 1-2+, 17+ D 21 '50; Nat Underw (Life ed) 54:1+ D 15; 1+ D 22 '50; Spectator (Life ed) 158:12-13+ Ja '51; Weekly Underw 163:1349+, 1360-3+ D 16 '50; Spectator (Property ed) 16:20-3 F '51
New committee members. Weekly Underw 164:550 Mr 3 '51
Zone three meeting, New Orleans. Nat Underw 55:9 Ap 12 '51
Zone three meeting, St Louis. Nat Underw 54:7+ O 19 '50
Zone two explores idea of uniform filing rules at Charleston meeting. Nat Underw 55:1+ O 4 '51
Zone two meeting, Southern Pines, N.Y. Nat Underw 54:1+ N 2 '50

NATIONAL association of insurance women
Annual meeting, Houston. Nat Underw 55:7 Je 28 '51

NATIONAL association of investors' brokers
Annual meeting of the governors, New York, Nov. 16. Comm & Fin Chr 172:2007 N 23 '50

NATIONAL association of life underwriters
Annual convention, 62d, Los Angeles, Sept. 17-21. East Underw 52:1+, 3-9 S 21 '51; Nat Underw (Life ed) 55:1+ S 21; 1+ S 28 '51; Nat Underw (Life ed) Daily ed 55:5+ S 19; 5+ S 20 '51; Spectator (Life ed) 159:10-11 O '51; Weekly Underw 165:706+ S 22 '51
Association makes advances in 1950. J. D. Moynahan. Weekly Underw 164:108+ Ja 6 '51
Chairmen of 1950-51 committees. Nat Underw (Life ed) 54:1 D 1 '50; Life Ins Courant 56:14 Ja '51
Committee chairmen named. Nat Underw (Life ed) 55:1 S 28 '51
Mid-year meeting, Minneapolis, April 3-7. East Underw 52:5+ Ap 6; 12-13 Ap 13 '51; Nat Underw (Life ed) 55:1-2+, 4+ Ap 6; 3+ Ap 13 '51; Weekly Underw 164:874+, 914-16 Ap 7 '51; Spectator (Life ed) 158:14-15 My '51
NALU's new president; Charles E. Cleeton. Nat Underw (Life ed) 55:2 O 5 '51
Woodson named executive vice-president. Nat Underw (Life ed) 55:1+ Je 15 '51

NATIONAL association of manufacturers
Ruffin is president. Bsns W p26 D 9 '50

NATIONAL association of mutual insurance agents
Annual meeting, New York, Oct. 16-18. East Underw 51:18 O 20 '50; Nat Underw 54:1+ O 19; 9+ O 26 '50; Weekly Underw 163:901+ O 21 '50
Midyear meeting, Swampscott, Mass. Weekly Underw 164:1377+ Je 2 '51

NATIONAL association of mutual insurance companies
Annual convention, Boston. Nat Underw 54:3+ N 9 '50
Annual meeting, Detroit. Nat Underw 55:1+ O 4; 7 O 11 '51

NATIONAL association of mutual savings banks
Annual conference, 31st, Atlantic City, May 7-9. Comm & Fin Chr 173:2049 My 17 '51

NATIONAL association of oil equipment jobbers
Oil marketing equipment jobbers form association. Nat Pet N 43:35-8 My 23 '51

NATIONAL association of photo-lithographers
Annual convention, 18th, Washington, Oct. 25-28. Inland Ptr 126:43-4 N '50

NATIONAL association of public insurance adjusters
Adjusters' code is set of rigid standards. Weekly Underw 165:536 S 8 '51; Same abr. East Underw 52:27 S 7 '51
Adjusters group has bright future. W. Goodman. Weekly Underw 165:233+ Ag 4 '51
Public adjusters form association. Nat Underw 55:2 Ag 9 '51

NATIONAL association of purchasing agents
Annual convention, 36th, New York, June 3-6. Oil Paint & Drug Rep 159:7+ Je 11 '51

NATIONAL association of radio and television broadcasters
Annual convention, 29th, Chicago. Ptr Ink 235:75+ Ap 20 '51

NATIONAL association of railroad and utilities commissioners
Annual convention, Phoenix, Nov. 13-16; excerpts and digests from reports and addresses. Pub Util 46:896-909 D 21 '50
Annual meeting, 62d, Pheonix, Nov. 13-16. Ry Age 129:45 N 25 '50; Elec World 134:93 D 4 '50

NATIONAL association of real estate boards
Annual convention, Miami. Arch Forum 93:14-16 D '50

NATIONAL association of securities dealers
NASD edict would mean no capital for small business through sale of securities; editorial. Comm & Fin Chr 173:1015+ Mr 8 '51

NATIONAL association of sheet metal distributors

Annual meeting, 40th, Atlantic City, Oct. 10. Sheet Metal Worker 42:48+ N '50

Spring meeting, Pittsburgh, May 10-11. Sheet Metal Worker 42:74+ Je '51

NATIONAL association of surety bond producers

Annual meeting, Houston, Texas, March 29-30. East Underw 52:37 Ap 6 '51; Nat Underw 55:27+ Ap 5 '51; Weekly Underw 164:897+ Ap 7 '51

NATIONAL automatic tool company

Fifty years pioneering in multiple-spindle drilling machines. il Mach 57:180-1 F '51

NATIONAL automobile underwriters association

Annual meeting, 21st, New York, May 23. Weekly Underw 164:1317+ My 26 '51

Examiners report; only mild criticism made of N.A.U.A. operations. Nat Underw 55:3+ Ap 19 '51

NATIONAL aviation corporation

Security I like best. E. A. Grimm. Comm & Fin Chr 174:950 S 13 '51

NATIONAL banks. See Banks and banking, National

NATIONAL board of fire underwriters

Annual meeting, 85th, New York, May 24. East Underw 52:1+ My 25; 24-5 Je 1 '51; Nat Underw 55:1-2+ My 31 '51; Weekly Underw 164:1317+, 1328-9+ My 26 '51; Spectator (Property ed) 17:12-13 Jl '51

Appointments to standing committees. East Underw 52:23+ Je 22 '51

Distribution of fire prevention week message a record. Nat Underw 55:1 O 11 '51

Eventful years reviewed. W. R. McCain. Weekly Underw 164:9+ Ja 6 '51

Opens Detroit field office. East Underw 52:22 Jl 27 '51; Nat Underw 55:1+ Jl 19 '51

NATIONAL brands. See Advertising, National

NATIONAL bureau of casualty underwriters

Annual meeting, New York. Nat Underw 55:35 My 17 '51

NATIONAL bureau of standards. See United States—Standards, National bureau of

NATIONAL business publications, inc.

Controlled-circulation business papers ready promotion campaign; step up NBP, CCA activities. D. Bruner. Ptr Ink 233:106 N 24 '50

NBP votes to admit ABC business papers, denies raid on ABP. T. M. Jones. Ptr Ink 235:81+ My 4 '51

NBP votes to admit paid publications as well as free. Ind Marketing 36:118+ My '51

Spring meeting, Hot Springs, Va. Ptr Ink 235:30 Je 8 '51; Ind Marketing 36:118+ Jl '51

NATIONAL canners association

Annual convention, 44th, Chicago, Feb. 14-23. Chem & Eng N 29:900+ Mr 5 '51

Annual convention, 44th, Chicago, Feb. 14-23. Mod Packaging 24:164 Mr '51

NATIONAL cash register company

Companies that should earn more in 1951; with comparative balance sheet items. Mag of Wall St 88:248 Je 2 '51

NATCO observes 50th anniversary. il Am Mach 95:135 Ja 8 '51

NATIONAL central library. See London—National central library

NATIONAL characteristics, American

American way of life. il Fortune 43:62-7+ F '51

NATIONAL cinder concrete products association

Annual meeting, 28th, Boston, Aug. 6-8. Rock Prod 54:132-4 S '51

NATIONAL coal association

Annual meeting, New York, April 20. Coal Age 56:166-7+ Je '51

NATIONAL committee on radiation protection

Organization and activities of subcommittee on waste disposal and decontamination. J. H. Jensen. Ind & Eng Chem 43:1500-1 Jl '51

NATIONAL concrete masonry association

Annual meeting, 31st, Cleveland, Jan. 22-25. Concrete 59:3-8 Mr; 5-9 Ap '51; Rock Prod 54:141-50+ Mr '51

Southeastern regional meeting, Tampa, Nov. 12-14. Rock Prod 54:187-90+ Ja '51; Concrete 58:3-6 D '50

NATIONAL concrete products association

Annual meeting, 2d, Hamilton, Ont. Jan. 29-30. Rock Prod 54:151+ Mr '51

NATIONAL conference of editorial writers

Annual meeting, 4th, Des Moines, Nov. 15-18. Ed & Pub 83:7+ N 25 '50

NATIONAL conference of growth companies

Tv makers get set for EPT; growth companies suggest amendment. Bsns W p30-2 N 18 '50

NATIONAL conference on labor legislation

Conference, 17th, Washington, Nov. 29-Dec. 31. Mo Labor R 72:45-9 Ja '51

NATIONAL congress of parents and teachers

Headquarters

PTA headquarters, Chicago. H. Weese. il plans diags Arch Forum 94:196-7 Je '51

NATIONAL congress of petroleum retailers

Annual meeting, Chicago, Aug. 21-24. Nat Pet N 43:17 Ag 29 '51

NATIONAL container corporation

Heading toward new sales record. Barron's 31:19 Mr 12 '51

Offering of debentures and preferred stock oversubscribed. Comm & Fin Chr 174:1102 S 24 '51

NATIONAL council of state boards of engineering examiners

Annual meeting, 29th, Chicago, Oct. 9-11. Mech Eng 72:1022 D '50

Reports of the 1949 and 1950 annual meetings. Am Cer Soc Bul 30:22-3 Ja 15 '51

NATIONAL council on compensation insurance

Report of the general manager. H. F. Richardson. East Underw 52:34+ Mr 9 '51; Abstract. Nat Underw 55:24+ Mr 8 '51

NATIONAL crushed stone association

Annual meeting, 34th, Cincinnati, Feb. 5-7; with abstracts of papers. Rock Prod 54:82-98+ Mr '51

Midsummer meeting, Hot Springs, Va. July 19. Rock Prod 54:173+ Ag '51

NATIONAL dairy products corporation

Debentures offered. Comm & Fin Chr 173:2190 My 28 '51

NATIONAL defense

Does the garrison state threaten civil rights? H. D. Lasswell. Ann Am Acad 275:111-16 My '51

NATIONAL defense transportation association

Annual meeting, 5th, San Francisco, Oct. 16-18. Aviation W 53:48-9 O 30 '50

NATIONAL department stores corporation

Five promising low priced stocks; with comparative balance sheet items. Mag of Wall St 87:554 F 24 '51

NATIONAL distillers products corporation

Companies that should maintain their dividends in 1951; with comparative balance sheet items. Mag of Wall St 88:356 Je 30 '51

National Distillers; bigger supply of aged whiskey brightens the outlook; with financial data, 1941-1950. T. D. Mann. Barron's 31:13-14 Ap 2 '51

Security I like best. H. G. King. Comm & Fin Chr 174:414 Ag 2 '51

Six stocks behind the market; ready to move. J. C. Clifford. Mag of Wall St 88:657 S 22 '51

Stock offering oversubscribed. Comm & Fin Chr 174:720 Ag 27 '51

NATIONAL district heating association

Annual meeting, 42d, Detroit, June 5-8. Heat & Ven 48:108+ Jl '51

Annual meeting, 42d, Detroit; with abstracts of papers. Heating-Piping 23:87-90 Jl; 86-8+ S '51

NATIONAL drug trade conference

Meeting, Washington, Dec. 1. Oil Paint & Drug Rep 158:4+ D 4 '50

NATIONAL editorial association

Annual convention, 66th, Seattle. Ed & Pub 84:80 Je 9 '51

Annual fall meeting, 12th, Chicago, Nov. 9. Ed & Pub 83:7 N 11; 8+ N 18 '50

NATIONAL electrical code

Let's sell the National electrical code; the American standard. E. A. Brand. Edison Elec Inst Bul 19:11-14 Ja '51

NATIONAL electrical contractors association

Annual meeting, 49th, Los Angeles, Oct. 16-20. Elec West 105:79-82 N '50

NATIONAL electrical manufacturers association

Annual meeting, Atlantic City, Nov. 13-16. Elec World News ed 134:4-6 N 27 '50

NATIONAL exposition of power and mechanical engineering
Exposition, New York, Nov. 27-Dec. 2; with floor plans, list of exhibitors. Mech Eng 72: sup87-90 N '50
Exposition, 19th, New York, Nov. 27-Dec. 2. Steel 127:102+ D 11 '50
Exposition, 19th, New York, Nov. 27-Dec. 2 will feature advanced power plant design standards; with list of exhibitors. il Power Eng 54:98+ N '50

NATIONAL farm chemurgic council
Annual meeting, 16th, Cincinnati, April 19; with abstracts of papers. Oil Paint & Drug Rep 159:7+ Ap 23 '51

NATIONAL farm electrification conference
Conference, 5th, St Louis, Oct. 18-20. Elec World News ed 134:12-13 O 30 '50

NATIONAL federation of financial analysts societies
To head financial analysts in 1951; portraits. Bsns W p 130 Ap 7 '51

NATIONAL federation of textiles
Annual meeting, New York. Rayon 32:50+ Je '51

NATIONAL fertilizer association
Annual meeting, 26th, White Sulphur Springs; with abstracts of papers. Oil Paint & Drug Rep 159:5+ Je 18 '51
Annual southern convention, 24th, Edgewater Park, Miss. Nov. 13-15. Oil Paint & Drug Rep 158:5+ N 20 '50
Meeting, White Sulfur Springs, W.Va. June 11-13. Chem & Eng N 29:2744-5 Jl 2 '51

NATIONAL fire protection association
Activities during 1950. P. Bugbee. Weekly Underw 164:16+ Ja 6 '51
Annual meeting, 55th, Detroit. East Underw 52:26 My 11 '51; Nat Underw 55:1+ My 10 '51; Weekly Underw 164:1200 My 12 '51
Fire protection engineers organize society. Mech Eng 73:84 Ja '51
Objectives of the society. J. J. Ahern. Safety Maint & Prod 102:32 Jl '51
Society of fire protection engineers to be new professional section of NFPA. East Underw 51:24 N 17 '50; Same. Nat Safety N 62:73-4 D '50

NATIONAL foreign trade council
Foreign trade council issues recommendations for the maintenance of private enterprise. Comm & Fin Chr 172:1781+ N 9 '50
Private enterprise and the defense of freedom; final declaration at 37th convention, New York, Nov. 1. Paper Tr J 132:14-15+ Ja 5 '51

NATIONAL forests. See Forest reserves

NATIONAL foundation for infantile paralysis
How fight on polio is conducted. B. O'Connor. East Underw 52:38 My 18 '51
Polio peace pipe; March of dimes and sellers of insurance get together. Bsns W p 136 My 26 '51

NATIONAL foundry association
Annual meeting, 52d, Chicago, Nov. 9-10. Foundry 79:174-6 Ja '51

NATIONAL fraternal congress of America
Annual convention, Chicago. Nat Underw (Life ed) 55:24+ S 28; 3 O 5 '51

NATIONAL gypsum company
Five promising low priced stocks; with comparative balance sheet items. Mag of Wall St 87:554 F 24 '51
In construction; National Gypsum. il plan Fortune 42:94-6+ D '50
National gypsum company story. B. Nordberg and others. il plan diags Rock Prod 53:83-127 D '50
Security I like best. N. de Planque. Comm & Fin Chr 173:54 Ja 4 '51

NATIONAL health council
Challenge to voluntary health agencies. Pub Health Rep 66:823-33 Je 29 '51

NATIONAL heating wholesalers association
Annual meeting, St Louis, Dec. 6-7. Sheet Metal Worker 42:77-9 F '51
Summer meeting, White Sulphur Springs, W.Va. May 27-29. Sheet Metal Worker 42: 48+ Jl '51

NATIONAL industrial advertisers association
Outlines 1951-52 program. J. F. Apsey, jr. Ind Marketing 36:119-20+ S '51
See also
Industrial advertising research foundation

NATIONAL industrial sand association
Annual meeting, 15th, Hot Springs, Va. May 16-18; with abstracts of papers. Rock Prod 54:60-4+ Jl '51
Semi-annual meeting, Colorado Springs, Oct. 10-12. Rock Prod 53:132-3+ D '50
Special meeting to discuss regulations and controls growing out of the mobilization program. Rock Prod 54:72+ My '51

NATIONAL industrial traffic league
Annual meeting, 43d, San Francisco, Nov. 16-17. Ry Age 129:32-4 N 25 '50

NATIONAL institutes of health, Bethesda, Maryland
Truman lays cornerstone of government clinical center. il Chem & Eng N 29:2832-3 Jl 9 '51

NATIONAL insurance buyers association
Annual meeting, New York. East Underw 52:18 Jl 6 '51
Big insurance buyers set up national group. Bsns W p86 Ja 13 '51
Buyers organize. Weekly Underw 163:1123 N 18 '50; East Underw 51:33 N 17 '50; Nat Underw 54:2 N 16 '50
Harry E. Goodell elected first president. East Underw 52:19 My 18 '51
Risk research institute becomes New York chapter of National insurance buyers association. Weekly Underw 164:508 F 24 '51; Same. East Underw 52:37 F 23 '51; Same abr. Nat Underw 55:1 F 22 '51
Why an insurance buyers association? P. A. Burke. Weekly Underw 165:760+ S 29 '51

NATIONAL insurance service and advisory organization
Form new advisory body for multiple location business. Nat Underw 55:1 Je 7 '51; East Underw 52:20 Je 8 '51
Perlet general manager. East Underw 52:16 Ag 24 '51

NATIONAL inventors council
Function in the defense program. Elec Eng 70:466 My '51
National inventors council; seeking solutions to technical problems affecting national defense. C. F. Kettering. Mech Eng 73:500-1 Je '51

NATIONAL labor relations board
Annual report, fiscal year 1950; summary. Mo Labor R 72:276-8 Mr '51
Building polls; plumbers win plea to NLRB. Bsns W p33-4 Ap 7 '51
Calmer reopening; NLRB permits contract reopening without interference from outside union. Bsns W p34 My 19 '51
How far can NLRB move in on states? New York city taxi drivers' dispute. Bsns W p30-1 Je 23 '51
NLRB clarifies effect on commerce, restricts joint board's influence. Eng N 145:26 N 9 '50
NLRB clarifies jurisdiction. Mod Ind 20:78+ N '50
NLRB standards for exercise of jurisdiction. Mo Labor R 71:574 N '50
New grounds for firing; NLRB's counsel upholds dropping of worker who signed Stockholm petition. Bsns W p31 Ap 14 '51
New hirings pose poll problem; Wagner iron case before NLRB. Bsns W p36 S 15 '51
On pre-1950 contracts, chaos. Bsns W p32 Jl 28 '51
Tighter review. Bsns W p 119-20 Mr 10 '51

NATIONAL lead company
National Lead expanding its stake in titanium. Barron's 31:13 Jl 23 '51

NATIONAL lime association
Annual convention, 49th, Hot Springs, Va. May 24-26; with abstracts of papers. Rock Prod 54:77-81+ Jl '51
Operating division annual meeting, State College, Pa. Sept. 18-20; with abstracts of papers. Rock Prod 53:76-81 N '50

NATIONAL lubricating grease institute
Annual meeting, 18th, Chicago, Oct. 30-Nov. 1. Nat Pet N 42:51-2 N 8 '50

NATIONAL machine tool builders' association
Annual meeting, 49th, Toronto, Oct. 11-13. Steel 127:72 O 16 '50; Automotive Ind 103: 54+ N 1 '50; Mach 57:166-8 N '50
Spring meeting, Chicago, May 3-4. Am Mach 95:174H, 175-6 My 14 '51; Mach 57:163-4 Je '51

NATIONAL malleable and steel castings company
To net over seven dollars a share this year. Barron's 30:17 N 27 '50

NATIONAL management council
NMC administers ECA program of technical assistance. Mech Eng 73:260 Mr '51

NATIONAL metal congress
Annual convention, 32d, Chicago. Iron Age 166:84-7 N 2 '50
Congress and exposition, Chicago. Steel 127: 29-30 O 30 '50
Congress, 32d, Chicago; with abstracts of papers. Automotive Ind 103:38-9+ N 15 '50

NATIONAL metal exposition
Exposition, 33d, Detroit, Oct. 13-19; list of exhibitors. Am Mach 95:192-3 O 1 '51
Metal show attracts 27,904 visitors. il Am Mach 94:176-7 N 13 '50

NATIONAL Negro insurance association
Annual meeting, Memphis. Nat Underw (Life ed) 55:3+ Jl 6 '51

NATIONAL newspaper promotion association
Annual meeting, 21st, Washington, April 30-May 3. Ed & Pub 84:9+ My 5 '51
Central regional meeting, Indianapolis. Ed & Pub 83:12 N 25 '50

NATIONAL oil jobbers council
Annual meeting, Chicago, Nov. 2-3. Nat Pet N 42:29-30 N 8 '50
Convention, Atlantic City, July 16-19. Nat Pet N 43:17-19 Jl 25 '51
Meeting, Houston, March 7-8. Nat Pet N 43: 21-2 Mr 14 '51
Washington jobber counsel gains 100 per cent support of state associations. Nat Pet N 42:30 D 13 '50

NATIONAL outdoor advertising bureau
This is the NOAB. Adv Agency 43:58+ D '50

NATIONAL paint, varnish and lacquer association
Annual convention, 62d, San Francisco, Nov. 15-18. Paint Oil & Chem R 113:20-5+ N 23 '50
Annual meeting, 62d, San Francisco, Nov. 15-18; abstracts of papers. Oil Paint & Drug Rep 158:87-90+ N 20 '50

NATIONAL paper trades association
Semi-annual convention, Chicago, Oct. 23-25; with abstracts of papers. Paper Tr J 131: 11-14 N 2 '50

NATIONAL parks and reserves
Do we need a national recreation policy? recreational benefits of multipurpose projects. J. J. Hassett. Pub Util 47:156-64 F 1 '51
Water vs. scenery; construction of reservoirs on national reserves. map Eng N 146:112 Mr 8 '51

NATIONAL pest control association
Annual convention, 18th, Cincinnati, Oct. 22-25. Soap & San Chem 26:129+ N '50

NATIONAL petroleum association
Annual meeting, 49th, Atlantic City, Sept. 12-14. Nat Pet N 43:30-1 S 19 '51; Oil & Gas J 50:163-4 S 20 '51
Semi-annual meeting, 48th, Cleveland, April 19. Nat Pet N 43:29-31+ Ap 25 '51; Oil & Gas J 49:68-9 Ap 26 '51

NATIONAL petroleum council
Committee report. B. F. Linz. Oil & Gas J 49:55-7 Mr 8 '51
Department of justice looking over Chapman shoulder as he plans NPC roster, war role. Nat Pet N 42:30-1 D 13 '50
More independents should be on NPC. O. Ellis. Nat Pet N 43:52 Ja 10 '51
NPC recommendation; group asks Council to take on duties of an industry advisory committee to Chapman. Oil & Gas J 49:54 D 7 '50

NATIONAL power and light company
Glamorous new life (instead of dissolution) for one utility holding company? O. Ely. Pub Util 47:860 Je 21 '51
Proposed consolidation rights to be issued; summary of terms of exchange in merger. Comm & Fin Chr 174:1299 O 8 '51

NATIONAL press photographers association
Britannica offers dollar aid for three NPPA courses. J. L. Collings. Ed & Pub 84:44 Je 30 '51

NATIONAL production authority
Building control; NPA to delegate licensing power for new building projects. Bsns W p 132 Je 9 '51
Building freeze; NBA bars commercial starts. Bsns W p32 Ja 20 '51
Building hit again; NPA tightens clamps. Bsns W p 128 Je 2 '51
Construction jeopardized by NPA order, says AGC. Eng N 145:23 N 2 '50
Controls agreement; PAD, NPA reach accord on authority over oil, gas. Oil & Gas J 49:163-4 Ja 25 '51
Controls roundup; digests of restrictions the government has made under the current defense program. Steel 128:59-61 Ap 2 '51
Directory of DPA-NPA officials. Steel 128:82-3 Je 25 '51
Effect of government regulations on commercial chemical development; NPA's chemical division. J. S. Bates. Chem & Eng N 29:1820-2 My 7 '51
Effect of government regulations on commercial chemical development; NPA's role in defense. F. R. Creedon. Chem & Eng N 29:1822-3 My 7 '51
Engine and turbine division, Industrial and agricultural equipment bureau; organization chart. Elec World 135:108 My 21 '51
Follow the rules; industrial advisory committees under NPA are granted immunity from anti-trust laws. W. R. Montgomery. Credit & Fin Management 53:10 F '51
Freight car program established by N.P.A. Ry Age 129:74 N 4 '50
Harrison of N.P.A. Barron's 30:3 N 6 '50
How NPA plans to allocate materials. A. McSurely. Aviation W 54:13-14 F 5 '51
Industry advisory committees. Foundry 79: 136+ My '51
Industry orders issued. Elec World News ed 135:14 F 19 '51
Local offices. Metal Finishing 49:93-5 F '51
Material savers; NPA names task forces. Bsns W p32 Mr 17 '51
NPA activities. Standardization 22:149 My '51
NPA adds rules for handling steel orders. Iron Age 166:103-4 N 2 '50
NPA asks some questions. Bsns W p21 N 25 '50
NPA criteria to limit new building. Eng N 147:72 Ag 30 '51
NPA field offices; directory. Steel 128:85-6 Je 25 '51
National production authority inventory control; Regulation one; text. Manuf Rec 119: 36-7 N '50
N.P.A., its job and plans. C. C. Concannon. Paint Oil & Chem R 113:39-40 N 23 '50
National production authority; its setup and how it operates. Sheet Metal Worker 42:49-50 F '51
NPA joins the attack on waste in building; editorial. Arch Forum 95:159+ S '51
NPA looks to industry for help and advice. W. H. Harrison. il Mill & Factory 47:75-9 D '50
NPA order M-68 is simple way of giving auto producers leeway in deciding how many cars they want to build. H. C. Tuttle. Steel 128:61-2 Je 11 '51
NPA restricts service station construction; bulk plant, terminal building can go ahead. Nat Pet N 43:17-18 Ja 17 '51
NPA revises order limiting construction. Concrete 58:10 D '50
National production authority rules on metal uses for 1951. Metal Finishing 49:65-8 F; 70+ Mr; 72-3 Ap '51
NPA rulings affecting the plating industry. Metal Finishing 49:74-5+ My '51
NPA set on CMP; ready or not, here it comes. B. Packard. Iron Age 167:87-8 F 22 '51
NPA slaps complete controls on all construction work. V. B. Smith. Eng N 146: 23-4 My 10 '51
NPA slashes use of copper, zinc, nickel, relaxes order on aluminum. Elec World (News ed) 134:27 D 11 '50
NPA taps industry talent. Chem Ind W 68: 29-30 F 10 '51
NPA up to date. Am Mach 95:172 F 5 '51
NPA will aid manufacturers to get materials for essential products. Elec World News ed 135:12-13 Mr 5 '51
New materials control plan readied. il Steel 128:45-6 F 12 '51
Paper industry's status in the rearmament program. L. T. Stevenson. Tappi 34: sup28A+ Mr '51
Personnel directory. Iron Age 168:insert Ag 30 '51
Plastics section of NPA. R. L. Van Boskirk. Mod Plastics 28:210 Je '51

NATIONAL production authority—*Continued*

Revolving door; NPA promises to rotate businessmen after six-month hitch. Bsns W p 155-6 My 12 '51
Still suffers growing pains. Chem & Eng N 29:754-6 F 26 '51
Summary of NPA regulations. E. G. Lagerloef. Paper Ind 32:1340-1 Mr '51
They'll guide you around in D.C.; Business inquiry center answers questions on production controls. il Mod Ind 22:117 S '51
Using NPA's DO-97 ratings for maintenance, repair, operation. Heating-Piping 23:118-20 Ap '51
What the Department of commerce is doing to aid small business on contracts: operating program of NPA. E. H. Lane. Credit & Fin Management 53:9-10 Mr '51
What's to build? NPA statement on commercial structures. Bsns W p34+ Mr 10 '51
Where to obtain information concerning the National production authority. Mach 57: 194 F '51
Who's who in NPA's Industrial and agricultural equipment bureau. Steel 129:73 S 10 '51

Civilian requirements, Office of

Looking out for civilians. Bsns W p21 Mr 17 '51

Controlled materials plan

ABC's of CMP; refresher course for management. Mod Ind 21:39-41 Ap '51
Again, a Controlled materials plan. A. B. May. Comm & Fin Chr 173:1436 Ap 5 '51
All construction put under federal control machinery. Eng N 147:23-6 Ag 9 '51
Answers to questions about CMP. Factory Management 109:sup W 1-4 Je '51
Clear decks for CMP. Bsns W p 132 Je 9 '51
Construction goes under CMP; questions and answers. Heating-Piping 23:206-7 S '51
Control records and the Controlled materials plan. A. N. Seares. Advanced Management 16:14-16 Ag '51
CMP becomes effective for construction industry. Eng N 146:23-4 Je 28 '51
CMP begins as one-package program to spread materials; interview with Walter C. Skuce. Eng N 147:23-4 Jl 26 '51
Controlled materials plan begins in July. Materials & Methods 33:9-10 My '51
CMP fears it gave too freely. Bsns W p 120 Jl 14 '51
CMP given its basic structure for operation. Iron Age 167:105 My 10 '51
CMP haze begins to clear. Bsns W p 148+ My 26 '51
CMP issues inventory, distribution orders. Iron Age 167:110 My 17 '51
CMP metals; steel, aluminum, and copper. Survey of Cur Bsns 31:4-6 My '51
C.M.P.; 1951 version. Arch Rec 109:224+ My '51
CMP ordered for all construction on Oct. 1. Arch Forum 95:37-8 Ag '51
CMP pie is ready for cutting; how much for plumbing and heating. Dom Eng 177:82-4 My '51
CMP quiz; construction questions and answers listed in simple form. Iron Age 168: 117-20 S 13 '51
CMP-rated chemical orders restricted to two US agencies. Oil Paint & Drug Rep 160:3 O 1 '51
CMP reaches construction; N.A.H.B. looks at CMP. Arch Rec 109:24-6 Je '51
CMP Regulations five and seven. Steel 129: 41-2 Jl 16 '51
CMP scales down allocations. Bsns W p 146+ Je 23 '51
CMP; what it is, what it does. Food Eng 23: 93+ Je '51
Controlled materials plan, what it is, what it does, how it operates. Mill & Factory 48:supp My '51
Controlled materials plan will start July 1; Skuce named head. Oil Paint & Drug Rep 159:4+ Ap 16 '51
Controllers polish regulation putting building under CMP. Eng N 146:23-4 Je 14 '51
Decision work for CMP. Bsns W p98-9 Mr 31 '51
Get your CMP form straight. Bsns W p 136 Jl 7 '51
Guide to CMP. Steel 128:57-86 Je 25 '51
Here's how you can mechanize for CMP; Caterpillar's inventory control procedures. C. W. Boyce. Factory Management 109: 70-1 Ap '51
Here's what you do to get vital materials under new CMP. Am Mach 95:174D-174E My 14 '51
Highlights of new CMP. Sheet Metal Worker 42:7-8 Je '51
How to appeal permit denials. E. Mickel. Arch Rec 109:246+ Je '51
How to get a CMP allotment and operate under the program's rules. Factory Management 109:W 1-14 My '51
How to operate under CMP. Food Eng 23: 49-50+ Jl '51
Life with CMP; keeping data straight at Eclipse-Pioneer. il Bsns W p 102-7 Je 2 '51
Men who worked out CMP. il Bsns W p50-2+ My 26 '51
Mistakes to avoid in living under CMP. Factory Management 109:W 3-4 Jl '51
NPA issues two preliminary CMP regulations on basic operations. Oil Paint & Drug Rep 159:4+ My 7 '51
New CMP rules bring help and headaches. Factory Management 109:sup W2 S '51
New interpretations of CMP rules published for construction industry. Eng N 147:26 S 27 '51
Open-end CMP on basic metals set for July 1. Iron Age 167:101+ Ap 19 '51; Steel 128: 43-4 Ap 16 '51; Metal Finishing 49:71-3 My '51
Overallotment; real or mirage? Bsns W p 146 S 8 '51
Plan to put freight cars in CMP framework. K. Rannells. Iron Age 167:126 Je 7 '51
Proper procedure under CMP important as metals tighten. S. Fish. Manuf Rec 120: 39+ Ag '51
Puzzle in controls; fourth quarter applications for CMP materials. Bsns W p 114+ S 1 '51
Questions and answers on the Controlled materials plan. T. C. Du Mond. Materials & Methods 33:69-70 Je '51
Rating symbols for use under Controlled materials plan. Steel 129:47 Jl 9 '51
Rules for CMP. Bsns W p 146 My 5 '51
Scrambled eggs; analysis of the Controlled materials plan. Barron's 31:1 My 7 '51
Spell out details of CMP for construction industry. Eng N 146:23-4 My 31 '51
Teaching businessmen how to live with CMP. il Bsns W p 144-7 My 26 '51
Tough deal for civilian producers. Bsns W p21 My 19 '51
Washington authority analyzes the CMP program and its likely affect on our industry. P. B. B. Andrews. Dom Eng 177:84+ My '51
What CMP will be like; interview with Manly Fleischmann. Bsns W p136+ Ap 21 '51
What could CMP mean to plastics? Mod Plastics 28:72a-72b Ag '51
What will CMP mean to advertising? R. Y. Giles. Ptr Ink 235:34-5 Je 22 '51
What's wrong with CMP? Bsns W p 132+ Ag 11 '51
Wrong road; C.M.P. should be eliminated, not extended. Barron's 31:1 Ag 6 '51
You must act fast to keep your priorities on maintenance, repair, operating supplies; how to live under CMP Regulation five. C. W. Boyce. Factory Management 109· sup W 1-4 Ag '51

Foreign facilities committee

Help for allies; foreign development projects get priority for scarce materials. Bsns W p 146-7 Ag 25 '51

Newspaper industry advisory committee

Nothing drastic seen in NPA control plan. Ed & Pub 84:68 Ap 28 '51

Rubber division

Organization. India Rubber World 124:340-1 Je '51

NATIONAL provincial bank, limited

Statement of the chairman. J. N. Ridley. Economist 160:174-5 Ja 20 '51

NATIONAL ready mixed concrete association
Annual meeting, 21st, New Orleans, Feb. 12-15; with abstracts of papers. Concrete 59:14+ Mr; 18-20+ Ap '51; Rock Prod 54:106-12+, 177-80 Ap '51
Directors semi-annual meeting, Sun Valley, Idaho, Sept. 25-26. Rock Prod 53:88+ N '50

NATIONAL reclamation association
Annual meeting, 19th, Seattle. Pub Util 46:911-12 D 21 '50

NATIONAL research council

Building research advisory board

B.R.A.B. and conservation. Arch Rec 110:20+ S '51
BRAB forms liaison unit. E. Mickel. Arch Rec 109:248+ Je '51
Record reports. E. Mickel. Arch Rec 108:22 N '50

Food protection committee

Effect of chemicals on foods is project for new NRC committee under St John. Chem & Eng N 28:3779 O 30 '50

Medical sciences information exchange

Medical sciences information exchange. S. L. Deignan. Science 113:584-5 My 18 '51

NATIONAL research council of Canada
N.R.C.'s research progress. Can Chem & Process Ind 35:215-16+ Mr '51

NATIONAL research development corporation. See Great Britain—National research development corporation

NATIONAL restaurant association
National restaurant association joins I.E.S. to study food service areas. il Illum Eng 45:725 N '50

NATIONAL retail credit association
Some common interests of our two associations. C. E. Wolfinger. Credit & Fin Management 53:11-12 Jl '51

NATIONAL rural electric cooperative association
NRECA asks that REA allocate scarce materials to co-op systems. Elec World 135:91-2 F 12 '51

NATIONAL safety council
Council announces new scale of membership dues. Nat Safety N 63:239 Mr '51
Help for small business; accident prevention program. Nat Safety N 64:26-7+ Ag '51
National safety congress, cement and quarry section meeting, Chicago, Oct. 18-19. Rock Prod 53:134+ D '50
National safety congress, Chicago. Nat Underw 55:21 O 11 '51
National safety congress, 38th, Chicago. Nat Safety N 62:18-19+ N; 21-3, 46+ D '50
National safety congress, 38th, Chicago; with abstracts of papers. Safety Maint & Prod 100:13+ D '50
Officers, 1950-51; portraits. Nat Safety N 62:20 D '50
Safety program for fertilizer industry; newly organized fertilizer section. Safety Maint & Prod 102:30-1 Ag '51

NATIONAL sales executives
Annual convention, 16th, New York, May 31-June 2. Sales Management 66:62+ Je 15 '51

NATIONAL sand and gravel association
Annual meeting, 35th, New Orleans, Feb. 12-15; with abstracts of papers. Rock Prod 54:106-12+, 177-80 Ap '51
Directors meeting, Sun Valley, Idaho, Sept. 26. Rock Prod 53:65+ N '50

NATIONAL sanitary supply association
Annual meeting, 28th, Cleveland, June 3-6. Soap & San Chem 27:130-3 Je; 117-19+ Jl '51

NATIONAL science foundation
Account balanced. Science 114:216 Ag 24 '51
Foundation undercut. Chem W 69:15 S 8 '51
Fundless foundation. Sci Am 185:32 O '51
Name board for Science foundation. Eng N 145:29 N 16 '50; Chem & Eng N 28:4012 N 13 '50; Science 112:607 N 17 '50; Mech Eng 72:1021 D '50; Sci Am 183:26 D '50; Product Eng 22:157 Ja '51
Program. A. T. Waterman. Science 114:251-2 Ag 31 '51

NATIONAL security resources board
Appointments made to manpower advisory committee. Civil Eng 21:108 F '51
Thomas to head NSRB advisers on scientific manpower. Chem & Eng N 28:4440-1 D 18 '50

NATIONAL security traders association
Annual convention, Virginia Beach, Sept. 26-30. Comm & Fin Chr 172:3-78 sec 2 O 19 '50

NATIONAL service life insurance. See Insurance, Military and naval service

NATIONAL slag association
Annual meeting, 33d, Washington, Nov. 29-30. Rock Prod 54:146+ Ja '51

NATIONAL society of professional engineers
Annual meeting, 17th, Minneapolis, June 14-16. Eng N 146:26 Je 28 '51

NATIONAL steel corporation
National Steel; in a feast or famine industry it has never gone hungry; with financial data, 1940-1950. F. D. Chutter. Barron's 31:23-4 Ap 9 '51
Ten potential market leaders for 1951; with comparative balance sheet items. Mag of Wall St 87:506 F 10 '51

NATIONAL supply company
Rising drilling activity benefits National Supply. Barron's 31:22 Ja 15 '51

NATIONAL tea company
Preference shares sold. Comm & Fin Chr 173:2612 Je 25 '51

NATIONAL tool and die manufacturers association
Annual meeting, 5th, Cleveland, Oct. 29-Nov. 1. Mach 57:188 D '50

NATIONAL war labor board
Is industry prepared for a new War labor board? D. Scheinman. Personnel 27:165-9 N '50

NATIONAL warm air heating and air conditioning association
Annual meeting, St Louis, Dec. 5-6. Sheet Metal Worker 42:126-8 Ja '51
1950 outstanding for service to its members and to the industry. Sheet Metal Worker 42:44 D '50

NATIONAL weather improvement association
Weather improvers. Sci Am 184:29 Mr '51

NATIVE races
First session of I.L.O. committee of experts on indigenous labour. Int Labour R 64:61-84 Jl '51

NATURAL gas. See Gas, Natural

NATURAL gas and oil corporation
Stock offered. Comm & Fin Chr 174:1198 O 1 '51

NATURAL gas association of America, Independent. See Independent natural gas association of America

NATURAL gasoline association of America
Annual meeting, 30th, Tulsa. Oil & Gas J 49:59-60 My 3 '51; Pet Eng 23:C123 Jl '51
Meeting, Amarillo, Texas, Dec. 8; with abstracts of papers. Pet Eng 23:C40-1 Ja '51

NATURAL history
Origin of life on the Galapagos Islands. K. W. Vinton. maps Am J Sci 249:356-76, pl 1-2 bibliog(p375-6) My '51

NATURAL history museums
See also
Museum of science, Boston

NATURAL law
American proposition; permanent revolution in affairs of men. Fortune 43:68-71 F '51

NATURAL philosophy. See Science—Philosophy

NATURAL resources
Inter-agency body cites need for resources study. Elec World News ed 135:13 F 5 '51
Natural resources and geological surveys. M. M. Leighton. bibliog Econ Geol 46:563-77 S '51
Raw material availability; Southwest chemical industries. A. L. Burwell. bibliog maps Ind & Eng Chem 43:1727-34 Ag '51
See also
Coal
Conservation of resources
Fisheries
Forests and forestry
Fuel
Gas, Natural
Minerals
Mines and mineral resources
Oil lands
Oil shales
Ore deposits
Peat
Petroleum
Raw materials
Reclamation of land
Soil conservation
Water supply

Bibliography

Administration of natural resources. 16p Technical lib, Tennessee Valley authority, Knoxville '51

NATURAL steam. See Steam, Natural

NATURALISTS

Directories

See Scientists—Directories

NAUTICAL instruments

Navy has new automatic marine pilot system. il Marine Eng 56:66 O '51

NAVAL architects and marine engineers, Society of. See Society of naval architects and marine engineers

NAVAL architecture

Design and construction of Great Lakes bulk freighter Wilfred Sykes. E. B. Williams and others. il plans diags Marine Eng 55:40-73 Je '50; Excerpts. Midwest Eng 3:6-8+ N '50

Electronics in naval architecture; some applications to research problems; abstracts. L. C. Burrill and A. G. Boggis. Engineer 191:295 Mr 2 '51; diag Electrician 146:388 F 2 '51

Practical use of theoretical studies in wave resistance. G. P. Weinblum. bibliog diags Marine Eng 56:49-52 O '51

Preliminary investigation of the discrepancies between the calculated and measured wavemaking of hull forms; abstract. J. R. Shearer. Engineer 190:603 D 15 '50

Resistance and propulsion. A. L. Ayre. diag Engineering 171:767, 800-2 Je 22-29 '51

Ship's structures; a century of progress. R. B. Shepheard. diags Engineering 172:25-8, 192 Jl 6, Ag 10 '51; Discussion. 172:11-12 Jl 6 '51; Engineer 192:23-4 Jl 6 '51

See also

Barges
Bulkheads (naval architecture)
Dredges
Ferryboats
Freight ships
Hatch covers
Marine engineering
Motor ships
Power plants, Floating
Propellers
Ship propulsion
Ship resistance
Shipbuilding
Ships
Steamboats
Tank ships
Towboats
Train ferries
Warships

also International conference of naval architects and marine engineers

Designs and plans

Cargo ship Schuyler Otis Bland goes into 'round-the-world service. C. R. Schaeffner. il plans diags Marine Eng 56:34-48 S '51

Staten Island express ferryboat. il plans diags Marine Eng 56:44-54 Ap '51

S.S. Independence; hull construction. il plans diags Marine Eng 56:62-74 Mr '51

NAVAL art and science

Military biological oceanography. W. V. Kielhorn. il U S Naval Inst Proc 77:946-53 S '51

See also

Drake, Sir Francis
Submarine warfare
Torpedoes

Dictionaries

Illustrated ships dictionary. T. Fruchtman. $2 Reporter publications, 350 5th av, New York 11 '51

NAVAL battles

See also

World war, 1939-1945—Naval operations

NAVAL communication. See Communication, Military

NAVAL education

Command, the ultimate specialty. P. W. Rairden, jr. il U S Naval Inst Proc 77:472-4 My '51

See also

Moving pictures in naval education
United States—Navy—Education

NAVAL engineering experiment station. See United States—Naval engineering experiment station

NAVAL gun factory. See United States—Naval gun factory

NAVAL guns

Manufacture

Breeding ground for navy's firepower; naval gun factory. il Steel 128:79-81 Je 11 '51

Plating's role in naval ordnance. il Metal Finishing 49:92-5+ Jl '51

NAVAL hospitals. See Hospitals, Naval and marine

NAVAL institute, United States. See United States naval institute

NAVAL logistics. See Logistics, Naval

NAVAL lyceum. See United States—Navy—Education

NAVAL oil reserves. See Oil reserves (United States navy)

NAVAL photography. See Photography, Naval

NAVAL reserve. See United States—Naval reserve

NAVAL stations. See Navy yards and naval stations

NAVAL stores

Naval stores conservation program for '51 announced. Oil Paint & Drug Rep 158:3+ O 16 '50

Naval stores conservation program for 1952 reported. Oil Paint & Drug Rep 160:80 S 17 '51

Naval stores export regulations continued. Oil Paint & Drug Rep 160:5+ Jl 2 '51

Naval stores outlook. J. C. Nash; E. E. Holdman. Paint Oil & Chem R 113:49-50 N 23 '50

Naval stores prices tossed on heavy seas. Bsns W p20 O 21 '50

Naval stores seek OPS aid. il Chem Ind W 68:39 My 19 '51

Naval stores tight; toxaphene, user of turpentine. Bsns W p 122+ Je 16 '51

They're still called naval stores. il Fortune 43:108-13 Ap '51

See also

Rosin
Turpentine

NAVAL training stations

Three naval reserve training centers in Texas. il plan Arch Rec 110:110-12 S '51

NAVAL warfare

See also

Submarine warfare

NAVIES

See also

Airplane carriers
Naval architecture and other headings beginning Naval
Sea power
Submarine boats
Warships

NAVIGATION

Blow me down! W. B. Hayler. plan U S Naval Inst Proc 77:856-9 Ag '51

Submarine navigation; abstract. P. G. Satow. Engineer 191:159 F 2 '51

See also

Air navigation
Harbors
International hydrographic bureau
Lighthouses
Loran system
Radar aids to navigation
Radio aids to navigation
Shipping
Sounding
Steamboats
Waterways

NAVY yards and naval stations

Lounge and locker building, Pearl Harbor; public works office, navy yard. il plans Arch Rec 108:122-3 N '50

New York naval shipyard; pictorial. U S Naval Inst Proc 77:754-62 Jl '51

NEAL, Alfred Clarence, 1912-

Portrait. Bsns W p63 Ja 6 '51

NEALE, John A.

Sketch. por East Underw 51:70+ D 15 '50

NEALE and Carr, inc. (formerly Almy water tube boiler company)

Old business couldn't die. il Bsns W p 106-8+ Jl 7 '51

NEAR EAST

Bases and treaties in the Middle East. map Economist 160:491-2 Mr 3 '51

Center of Soviet aspirations; an informal briefing on the American interest in the Middle East; with Harrison maps. Fortune 44:93-8 Ag '51

European strategy re-evaluated. E. J. McNulty. il U S Naval Inst Proc 77:630-6 Je '51

Middle East and Turkey in world affairs. N. Eren. Ann Am Acad 276:72-80 Jl '51

Middle Eastern quandary; the western powers need a policy. Economist 161:266-8 Ag 4 '51

Middle eastern vacuum. map Economist 159:984-5 D 9 '50

New target for the West. map Bsns W p 117-18 Ag 4 '51

Social tensions in the Middle East. E. Lengyel. Ann Am Acad 276:28-34 Jl '51

NEAR EAST—*Continued*
South of the Soviets. Economist 160:1413-14 Je 16 '51
See also
Petroleum industry and trade—Near East
Woman—Near East

NEBRASKA
See also
Petroleum industry and trade—Nebraska

NEBULAE
New clusters in space charted by sky survey. Franklin Inst J 252:279 S '51

NEBULIZERS. See Atomizers

NECKTIES
New colors, new patterns put bloom on tie sales. il Bsns W p90-1 Je 23 '51

NEG'ATOR spring. See Springs (mechanism)

NEGLIGENCE
Comparative negligence theory gets California backing. Nat Underw 55:14 Ag 30 '51
Railroad wins injury case in Supreme court; estate of L. L. Moore, jr. vs. Chesapeake & Ohio. Ry Age 130:93 Mr 12 '51
See also
Damages
Employers' liability
Manufacturers' liability
Personal injuries

NEGLIGENCE, Contributory
Contributory negligence of caddy held to prevent any recovery in Washington golf ball case. Weekly Underw 165:926 O 13 '51

NEGOTIABLE instruments
Appeal from judgment on note; Schmelzle vs. Transportation investment corp. C. R. Rosenberg, jr. Burroughs Clearing House 35:67-8 Mr '51
See also
Postal service—Money orders

NEGRO insurance association, National. See National Negro insurance association

NEGRO newspapers
Leader tells role of Negro press in U.S. D. Davis. Ed & Pub 84:59 Ja 20 '51

NEGRO periodicals
Publisher of three successful Negro magazines got start with $500 loan. Ptr Ink 233:100 O 27 '50

NEGROES
Negro leader looks at tv race problem. W. White. Ptr Ink 236:31 Ag 24 '51
Political obstacles to civil rights legislation. J. B. Shannon. Ann Am Acad 275:53-60 My '51
Tv bumps into the Negro problem; sociologist looks at Amos 'n' Andy controversy. A. M. Rose. il Ptr Ink 236:36-7+ Jl 20 '51

Bibliography

Selected bibliography on the Negro. 4th ed 124p pa 50c National urban league, Department of research, 1133 Broadway, New York 10 '51

Biography

Who's who in colored America. G. J. Fleming and C. E. Burckel, eds. 7th ed 647p Christian E. Burckel and associates, Yonkers-on-Hudson, New York '50 ($10)

Employment

Discrimination; a dead-end street; abstract. J. J. Morrow. Management R 40:127-8 Mr '51
How Negro workers feel about their jobs. A. W. Rose. Personnel J 29:292-6 Ja '51
It's good business; Illinois Chamber of commerce educational drive against job bias. il Bsns W p38-40 Mr 31 '51

Health and hygiene

Medical care for minority groups. W. M. Cobb. bibliog Ann Am Acad 273:169-75 Ja '51
See also
Negroes—Mortality

Housing

Memphis plan for private slum clearance; Carver homes project is guidepost for Dixie. Arch Forum 94:32 Ap '51

Insurance discrimination

Illinois may ask for pledge against race or color selection. J. E. Day. Nat Underw 55: 1+ My 17 '51
Refusal to solicit Negroes not discriminatory in Michigan. Nat Underw (Life ed) 55:13 My 18 '51

Mortality

Negro mortality; urban and rural mortality from selected causes in the North and South. M. Y. Pennell and M. Gover. bibliog Pub Health Rep 66:295-305 Mr 9 '51
Statistical studies of heart disease; mortality from heart disease among Negroes as compared with white persons. M. Y. Pennell and J. L. Lehman. bibliog Pub Health Rep 66:57-80 Ja 19 '51

Segregation

Case against army segregation. E. W. Kenworthy. Ann Am Acad 275:27-33 My '51
See also
Negroes—Housing
Railroads—Negro passengers

NEISSERIA perflava
Structure of the starch-type polysaccharide synthesised from sucrose by neisseria perflava. S. A. Barker, E. J. Bourne and M. Stacey. Chem Soc J p2884-7 O '50

NELSON, Fred M.
Portrait. Fortune 44:25 Ag '51

NEMATODES
Anguillula in water supply. J. M. Caird. Water & Sewage Works 98:266 Je '51
Fungicidal and nematicidal properties of dibromobutene. W. A. Kreutzer and others. Science 113:657-8 Je 8 '51
See also
Ascaris

NEODYMIUM
Observations on the rare earths; reaction between neodymium and ethylenediaminetetraacetate ions in aqueous solution. T. Moeller and J. C. Brantley. bibliog Am Chem Soc J 72:5447-51 D '50

Analysis

Rare earths; separative extraction of certain rare earth elements as 5,7-dichloro-8-quinolinol chelates. T. Moeller and D. E. Jackson. bibliog Anal Chem 22:1393-7 N '50

Isotopes

Disintegration of Nd^{147}. W. S. Emmerich and J. D. Kurbatov. bibliog Phys R 83:40-3 Jl 1 '51
Disintegrations of Nd^{147} and Pm^{149}. E. Kondaiah. bibliog Phys R 81:1056-7 Mr 15 '51
Hyperfine structure of Sm^{149}, Sm^{147}, Nd^{145}, and Nd^{143}. K. Murakawa and J. S. Ross. bibliog Phys R 82:967-8 Je 15 '51

NEODYMIUM compounds
Studies of Zeeman effects from solutions of europium and neodymium salts. G. J. Rotariu. bibliog J Chem Phys 19:977-8 Jl '51

NEODYMIUM oxalate
Solubility of the rare earth oxalates and complex ion formation in oxalate solution; neodymium and cerium(III). C. E. Crouthamel and D. S. Martin, jr. bibliog Am Chem Soc J 73:569-73 F '51

NEO-FATTY acids. See Acids, Fatty

NEOGENE. See Geology, Stratigraphic—Cenozoic

NEOLITE
Rival for leather; Goodyear's Neolite synthetic. il Bsns W p 108-10 F 24 '51

NEOMYCIN
Identity of the neomycin complex, as measured by countercurrent distribution and microbiological analyses. E. A. Swart, H. A. Lechevalier and S. A. Waksman. bibliog Am Chem Soc J 73:3253-5 Jl '51
Isolation and characterization of neomycin. B. E. Leach and others. bibliog il Am Chem Soc J 73:2797-800 Je '51
Isolation of vitamin B_{12b} from neomycin fermentations. W. G. Jackson and others. bibliog Am Chem Soc J 73:337-41 Ja '51
Neamine, an antibacterial degradation product of neomycin. B. E. Leach and C. M. Teeters. il Am Chem Soc J 73:2794-7 Je '51

NEOMYCIN—*Continued*

Neomycins B and C, and some of their degradation products. J. D. Dutcher and others. Am Chem Soc J 73:1384-5 Mr '51

Streptomyces antibiotics; 1,3-diamino-4,5,6-trihydroxycyclohexane from neomycin A. F. A. Kuehl, jr., M. N. Bishop and K. Folkers. Am Chem Soc J 73:881-2 F '51

NEON

Cross sections for ion-atom collisions in He, Ne, and A. J. A. Hornbeck and G. H. Wannier. Phys R 82:458 My 1 '51

Disintegration of neon by fast neutrons. C. H. Johnson and others. Phys R 82:117-18 Ap 1 '51

Ionization of argon atoms by helium or neon metastable atoms. M. A. Biondi. Phys R 83:653-4 Ag 1 '51

Mobilities of molecular and atomic rare gas ions in the parent gases; helium, neon, and argon. J. A. Hornbeck. bibliog Phys R 80: 297-8 O 15 '50

See also

Electric lamps, Neon

NEON signs. See Electric signs

NEOPENTANE

Vapor pressure and critical constants of neopentane. J. A. Beattie and others. J Chem Phys 19:948-9 Jl '51

NEOPENTANE. See Dimethyl propane

NEOPRENE

Aging of black neoprene jackets. G. N. Vacca, R. H. Erickson and C. V. Lundberg. Ind & Eng Chem 43:443-6 F '51

Air cure for neoprene. il Chem Ind W 68: 21 Ap 21 '51

Applications for neoprene. Can Chem & Process Ind 34:980 D '50

Development of wet strength in neoprene-containing papers. G. W. Wheeler and others. Tappi 34:297-301 Jl '51

Neoprene applications in engineering design. R. W. Malcolmson. il Mech Eng 73:627-32+ Ag '51

Neoprene protective coating. Chem Eng 58: 166 Ap '51

Neoprene treated paper developed by du Pont. il Tappi 34:sup72A+ S '51; Same cond. Paper Ind 33:642-3 S '51

Putty seals floor joints for fire safety; DuPont petroleum laboratory. F. J. Staudt. diags Mill & Factory 49:126 Ag '51

Sinclair evaluates neoprene coatings for tanker fleet. W. N. Damonte and T. T. Wilkinson. il diag Marine Eng 56:40-7 O '51

Structure-property relationships for neoprene type W. W. E. Mochel and J. B. Nichols. bibliog Ind & Eng Chem 43:154-7 Ja '51

Without subsidy; DuPont expands neoprene production capacity. Chem Ind 67:557 O '50

Testing

Compounding neoprene products for resistance to petroleum gases. H. G. Bimmerman and R. E. Shrader. il Rubber Age 68: 183-7 N '50

NEOPYRITHIAMINE

Neopyrithiamine; the synthesis of 2-methyl-3-(β-hydroxyethyl)-pyridine. A. N. Wilson and S. A. Harris. Am Chem Soc J 73:2388-90 My '51

NEOQUASSIN

Quassin and neoquassin. E. London, A. Robertson and H. Worthington. Chem Soc J p3431-40 D '50

NEPAL

Danger in Nepal. Economist 159:1008-9 D 9 '50

Indian motives in Nepal. map Economist 160: 27-8 Ja 6 '51

Trouble in Nepal. map Economist 159:798 N 18 '50

NEPHELINE

Change of free energy with pressure of the reaction, nepheline + albite = 2 jadeite. H. S. Yoder and C. E. Weir. bibliog Am J Sci 249:683-94 S '51

NEPHELOMETRIC analysis

Investigations on the passage of light through suspensions. A. H. M. Andreasen and others. il diags Soc Chem Ind J 69:312-17 O '50

NEPHELOMETRY

Powder-size measurement by a combination of the methods of nephelometry and photoextinction. H. E. Rose. bibliog diags Soc Chem Ind J 69:266-72 S '50

NEPTUNIUM

Melting point and the density of neptunium metal; a micro melting point apparatus for metals. E. F. Westrum, jr. and L. Eyring. diag Am Chem Soc J 73:3399-400 Jl '51

Oxidation-reduction reactions of neptunium (IV) and -(V). J. R. Huizenga and L. B. Magnusson. Am Chem Soc J 73:3202-6 Jl '51

Spectrophotometry of neptunium in perchloric acid solutions. R. Sjoblom and J. C. Hindman. bibliog Am Chem Soc J 73:1744-51 Ap '51

Isotopes

Decay of Np^{236}. D. A. Orth and G. D. O'Kelley. bibliog Phys R 82:758-9 Je 1 '51

NERVES

La cellule nerveuse, by M. G. Marinesco. M. L. Barr. Science 114:215-16 Ag 24 '51

Chronic remote nerve stimulation technique in physiological investigation; abstract. J. J. Farrell and J. M. Lafferty. Science 112:422 O 13 '50

Differential growth response of nerve cells to thyroid hormone; abstract. P. Weiss and F. Rossetti. Science 113:476 Ap 27 '51

Electrical excitation of nerves in the skin at audiofrequencies. A. B. Anderson and W. A. Munson. il diags Acoustical Soc Am J 23:155-9 Mr '51

Loss of choline esterase activity in nerve tissue resulting from processes of histological preparation. W. L. Hard and M. D. Fox. bibliog Science 112:598-9 N 17 '50

Mammalian nerve, muscle preparation suitable for single-fiber experiments. V. B. Brooks. bibliog il Science 113:300 Mr 16 '51

Physical factors involved in ultrasonically induced changes in living systems; amplitude duration relations and the effect of hydrostatic pressure for nerve tissue. W. J. Fry and others. diag Acoustical Soc Am J 23: 364-8 My '51

Synthesis of neurotropic and musculotropic stimulators and inhibitors; benzilic acid derivatives. A. L. Morrison, M. Königstein and A. Cohen. Chem Soc J p2887-90 O '50

Blocking

Adrenergic blocking agents; N-aralkyl-β-haloethylamines. J. F. Kerwin and others. bibliog Am Chem Soc J 72:3983-6 S '50

Adrenergic blocking agents; N-(aryloxyisopropyl)-β-haloethylamines. J. F. Kerwin and others. bibliog Am Chem Soc J 73:4162-8 S '51

Adrenergic blocking agents; N-(2-chloroethyl)-N-(2-phenoxyethyl)-amine hydrochlorides. W. S. Gump and E. J. Nikawitz. bibliog Am Chem Soc J 72:3846-51 S '50

Reported adrenergic blocking action of β-haloethylammonium compounds. J. F. Kerwin and others. bibliog Science 113:315-17 Mr 23 '51

Synthesis of some fluorine substituted adrenergic blocking agents. A. F. Lindenstruth and C. A. VanderWerf. Am Chem Soc J 73:4209-11 S '51

Synthetic neuromuscular blocking agents; heterocyclic decamethylenebis(quaternary ammonium salts). E. P. Taylor. Chem Soc J p 1150-7 My '51

NERVOUS and mental disease, Association for research in. See Association for research in nervous and mental disease

NERVOUS system

Association for research in nervous and mental disease meeting, New York, Dec. 15-16. Science 113:255-6 Mr 2 '51

Nervous system as a communication network; summary and discussion. J. A. V. Bates. Inst E E Proc 98 pt 3:112 Mr '51; Same. Elec R (Lond) 147:873-4 D 1 '50

Spinal cats walk. P. S. Shurrager. il Sci Am 183:20-2 N '50

Diseases

See also

Causalgia

NESCO, Inc.

New management spurs sales, earnings. Barron's 31:14 My 14 '51

NESSLER'S reagent

Determination of organic nitrogen; control of variables in the use of Nessler's reagent. J. F. Thompson and G. R. Morrison. bibliog Anal Chem 23:1153-7 Ag '51

NETHERLANDS

See also

Banks and banking—Netherlands
Furniture industry and trade—Netherlands
Package goods—Netherlands
Paper board industry—Netherlands

Bibliography

Guide to Dutch bibliographies. B. H. Wabeke, comp. 193p pa $1.30 Library of Congress, Card division, Washington '51

Economic conditions

Dutch economic scene. Economist 161:569-70+, 634+ S 8-15 '51

News by countries. For Comm W 42:13-14 F 26; 43:18 Ap 16; 16 My 21 '51

NETHERLANDS institute for documentation

Nederlands instituut voor documentatie en registratuur; report for 1949-50. M. Verhoef. Aslib Proc 3:55-6 F '51

NETHERLANDS New Guinea

Fresh start in New Guinea. map Economist 160:26-7 Ja 6 '51

NETHERLANDS organization for pure scientific research

Z.W.O., the Netherlands science foundation. J. H. Bannier. Science 113:197-201 F 23 '51

NETROPSIN. See Antibiotic substances

NETS

See also

Fishing nets

NETWORK analyzers. See Electric distribution—Network analyzers

NEUDOERFER, John L.

Iron age salutes. por Iron Age 167:69 F 8 '51

Portrait. Fortune 43:15 Ja '51

NEUROSES, Experimental

Neurotic rats; abstract. J. M. Hunt and H. Schlosberg. Sci Am 183:32 D '50

NEUTRALIZATION

Acid chemical wastes made harmless by automatic lime slurry neutralization; Sylvania electric products inc. plant. diags Eng N 146:47-8 Ja 25 '51

Neutralization nomograph for determining alkali requirement in neutralizing acidic wastes. R. D. Hoak. Water & Sewage Works 98:360-1 Ag '51

NEUTRINOS

Electron-neutrino angular correlation. E. Greuling and M. L. Meeks. bibliog Phys R 82:531-7 My 15 '51

Experiments on the emission of neutrinos from P^{32}. C. W. Sherwin. bibliog plan diag Phys R 82:52-7 Ap 1 '51

NEUTRONS

Activation cross sections measured with antimony-beryllium photoneutrons. V. Hummel and B. Hamermesh. diags Phys R 82:67-8 Ap 1 '51

Addition energy for neutrons in the $h_{11/2}$ shell. A. C. G. Mitchell. bibliog Phys R 83:183-4 Jl 1 '51

Breakdown of a proton. Sci Am 184:32 Je '51

Calculations on the number of neutrons in the atmosphere. S. Lattimore. bibliog Phys R 81:643 F 15 '51

Capture cross sections for fast neutrons. R. L. Henkel and H. H. Barschall. bibliog diags Phys R 80:145-9 O 15 '50

Change of cosmic-ray neutron intensity following solar disturbances. J. A. Simpson, jr. Phys R 81:639-40 F 15 '51

Chemical actions of ionising radiations on aqueous solutions; the action of neutrons and of α-particles on benzene. G. Stein and J. Weiss. Chem Soc J p3254-6 D '49

Chemical analysis by neutron spectroscopy. T. I. Taylor and others. bibliog diags Science 114:341-55 O 5 '51

Chemical identity of the sulphur formed by the slow neutron bombardment of alkali chlorides. U. Croatto and A. G. Maddock. Chem Soc J supp no 2:S351-5 '49

Cloud-chamber study of nuclear interactions in lead and aluminum. B. P. Gregory and J. H. Tinlot. bibliog il diags Phys R 81:667-75 Mr 1 '51

Coherent scattering processes arising from quantum correlations. L. Goldstein. bibliog Phys R 83:289-98 Jl 15 '51

Comparison of the experimental and computed fast neutron efficiencies of a scintillation counter. G. E. Owen and others. bibliog Phys R 83:675-6 Ag 1 '51

Comparison of weak neutron fluxes by use of organic bromides. P. F. D. Shaw and C. H. Collie. Chem Soc J p434-43 F '51

Correlation phenomena and capture of polarized neutrons. O. Halpern. Phys R 83:669 Ag 1 '51

Cross section for the reaction $C^{12}(\gamma,n)C^{11}$. R. N. H. Haslam and others. bibliog Phys R 82:270-1 Ap 15 '51

Depression of the thermal neutron density by a detecting foil. C. W. Tittle. bibliog Phys R 80:756-7 N 15 '50

Design of neutron counters using multiple detecting layers. R. D. Lowde. bibliog il diags R Sci Instr 21:835-42 O '50

Detection of slow neutrons. R. Hofstadter and others. il Phys R 82:749 Je 1 '51

Determination of beryllium by photodisintegration; γ,n reaction. A. M. Gaudin and J. H. Pannell. bibliog il diags Anal Chem 23:1261-5 S '51

Determination of the number of neutrons associated with the stoppage of negative μ-mesons in lead. G. Groetzinger and others. bibliog diags Phys R 81:969-72 Mr 15 '51

(d,n) Reactions with 15-Mev deuterons; angular distributions. C. E. Falk. bibliog Phys R 83:499-504 Ag 1 '51

Disintegration of boron by fast neutrons. B. Petree and others. bibliog diags Phys R 83:1148-53 S 15 '51

Disintegration of boron by slow neutrons. G. C. Hanna. bibliog Phys R 80:530-4 N 15 '50

Disintegration of He^3 by fast neutrons. J. H. Coon. bibliog Phys R 80:488 N 1 '50

Disintegration of neon by fast neutrons. C. H. Johnson and others. Phys R 82:117-18 Ap 1 '51

Distribution of slow neutrons in free atmosphere up to 100,000 feet. L. C. L. Yuan. bibliog diags Phys R 81:175-84 Ja 15 '51

Double transmission and depolarization of neutrons. M. Burgy and others. bibliog diag Phys R 80:953-60 D 15 '50

Effect of electron-neutron interaction on spectral isotope shifts. L. Wilets and L. C. Bradley, 3d. bibliog Phys R 82:285 Ap 15 '51

Effect of fast neutron bombardment on the electrical properties of germanium. J. W. Cleland and others. bibliog Phys R 83:312-19 Jl 15 '51

Electron-neutron interaction. L. L. Foldy. bibliog Phys R 83:688 Ag 1 '51

Emission of long-range charged particles in the slow neutron fission of heavy nuclei. K. W. Allen and J. T. Dewan. bibliog diags Phys R 80:181-8 O 15 '50

Emission of long-range particles in the fast neutron ternary fission of U-238 and Th-232. E. W. Titterton. bibliog Phys R 83:673-4 Ag 1 '51

Emission of short-range charged particles in the slow neutron fission of uranium. K. W. Allen and J. T. Dewan. bibliog diags Phys R 82:527-30 My 15 '51

Energy and density distribution of cosmic-ray neutrons. W. O. Davis. bibliog Phys R 80:150-4 O 15 '50

Existence of different capture levels in the formation of nuclear isomers by slow neutron irradiation. P. C. Capron and A. J. Verhoeve-Stokkink. bibliog Phys R 81:336-9 F 1 '51

Fast neutron disintegration of C^{12} and B^{10}. J. L. Perkin. Phys R 81:892-3 Mr 1 '51

Gamma-neutron cross sections. H. E. Johns and others. bibliog diag Phys R 80:1062-8 D 15 '50

Gamma-rays from neutron-activated gold. R. W. Pringle and S. Standil. bibliog Phys R 80:762-3 N 15 '50

Goldberger model for the interaction of high energy nucleons with heavy nuclei. G. Bernardini and others. Phys R 83:669-71 Ag 1 '51

Gravitational acceleration of neutrons. A. W. McReynolds. Phys R 83:172-3 Jl 1 '51

High energy neutrons from the disintegration of C^{13} by deuterons. J. E. Richardson. bibliog Phys R 80:850-2 D 1 '50

Index of refraction for neutrons. D. Kleinman and G. Snow. Phys R 82:952 Je 15 '51

Interaction of fast neutrons with nitrogen. C. H. Johnson and H. H. Barschall. bibliog Phys R 80:818-23 D 1 '50

Interpretation of nuclear cross sections for high energy neutrons. R. Jastrow. bibliog Phys R 82:261-2 Ap 15 '51

NEUTRONS—*Continued*

Interpretation of photoneutron yields. A. G. W. Cameron. bibliog Phys R 82:272-3 Ap 15 '51

Latitude effect of cosmic-ray neutrons. W. P. Staker and others. bibliog Phys R 81: 889-90 Mr 1 '51

Li^9; new delayed neutron emitter. W. L. Gardner and others. Phys R 83:1054 S 1 '51

Low states of F^{17} and neutrons from $O^{16}+D$. F. Ajzenberg. bibliog Phys R 83:693 Ag 1 '51

Magnetic moments of the proton and neutron. R. K. Wangsness. Phys R 80:769 N 15 '50

Magnetic structure of magnetite and its use in studying the neutron magnetic interaction. C. G. Shull and others. bibliog Phys R 81:483-4 F 1 '51

$Mn^{55}(p,n)Fe^{55}$ neutron spectrum. P. H. Stelson and W. M. Preston. bibliog diag Phys R 82:655-7 Je 1 '51

$(n,2n)$ and (n,p) cross sections. B. L. Cohen. Phys R 81:184-8 Ja 15 '51

Neutron. P. Morrison and E. Morrison. il diag Sci Am 185:44-53 O '51

Neutron binding energies from (d, p) reactions and nuclear shell structure. J. A. Harvey. bibliog Phys R 81:353-64 F 1 '51

Neutron crystal monochromators. R. J. Weiss and others. Phys R 83:863-4 Ag 15 '51

Neutron energy distribution in proton bombardment of beryllium. D. Bodansky. Phys R 80:481 N 1 '50

Neutron energy distributions in proton bombardment of Be and C at 100 Mev. D. Bodansky and N. F. Ramsey. diags Phys R 82:831-6 Je 15 '51

Neutron production by a 50-Mev betatron; abstract. G. C. Baldwin and F. R. Elder. Science 112:420 O 13 '50

Neutron production by cosmic rays at sea level. A. R. Tobey and C. G. Montgomery. bibliog diags Phys R 81:517-19 F 15 '51

Neutron refraction in ferromagnets. M. Lax. Phys R 80:299 O 15 '50

Neutron resonances of tellurium. C. Heindl and I. W. Ruderman. bibliog Phys R 83: 660-1 Ag 1 '51

Neutron spectra from nuclear reactions induced by 16-Mev protons. P. C. Gugelot. bibliog diag Phys R 81:51-60 Ja 1 '51

Neutron thresholds from the reactions $T^3 (p,n)He^3$, $Li^7 (p,n)Be^7$, $Be^9 (d,n){}^*B^{10}$, and $O^{16} (d,n)F^{17}$. T. W. Bonner and J. W. Butler. diags Phys R 83:1091-6 S 15 '51

Neutron thresholds in light elements. E. B. Tucker. bibliog diag Phys R 83:473-4 Jl 15 '51

Neutron yield for the Li+T reactions. R. W. Crews. Phys R 82:100-1 Ap 1 '51

Neutron yield from $Be^9(\gamma,n)Be^8$ reaction. G. J. Hine and F. E. Senftle. Phys R 80:904 D 1 '50

Neutron yield from the $C^{13}(p, n)N^{13}$ reaction. R. E. Adamson, jr. and others. bibliog Phys R 80:985-7 D 15 '50

Neutron yields from photo-disintegration by gamma-rays from lithium. B. D. McDaniel and others. diags Phys R 80:807-12 D 1 '50

Neutrons from the nucleonic component as an indicator of changes in primary intensities. J. A. Simpson, jr. bibliog Phys R 81: 895-6 Mr 1 '51

Neutrons produced in the atmosphere by the cosmic radiations. J. A. Simpson. bibliog diags Phys R 83:1175-88 S 15 '51

New neutron-deficient radioactive isotopes of the light rare-earth region. B. J. Stover. bibliog Phys R 81:8-13 Ja 1 '51

90-Mev neutron-proton scattering at large proton angles. R. Wallace. diags Phys R 81:493-7 F 15 '51

Nuclear magnetic moments and similarity between neutron and proton states in the nucleus. A. L. Schawlow and C. H. Townes. Phys R 82:268-9 Ap 15 '51

Photoneutron cross sections of Fe^{54}, Ni^{58}, and Zn^{64}. L. Katz and others. bibliog Phys R 82:271-2 Ap 15 '51

Photoneutron fission analysis for U-235 in high purity U-238. R. L. Macklin and J. H. Lykins. bibliog J Chem Phys 19:844-5 Jl '51

Photo-neutron thresholds of beryllium and deuterium. R. C. Mobley and R. A. Laubenstein. bibliog diags Phys R 80:309-14 N 1 '50

Probable emission of a beryllium-8 nucleus in the fast neutron fission of thorium-232. E. W. Titterton. bibliog Phys R 83:1076-7 S 1 '51

Proton-neutron reactions and thresholds. H. T. Richards and others. bibliog Phys R 80: 524-30 N 15 '50

Protons and deuterons ejected from nuclei by 90-Mev neutrons. J. Hadley and H. York. bibliog diags Phys R 80:345-54 N 1 '50

Radioactive decay of the neutron. J. M, Robson. bibliog plan diag Phys R 83:349-58 Jl 15 '51

Reaction C^{14} $(p,n)N^{14}$; excited states in N^{15}. W. D. Roseborough and others. bibliog diag Phys R 83:1133-6 S 15 '51

Reflection of neutrons from magnetized mirrors. D. J. Hughes and M. T. Burgy. bibliog diags Phys R 81:498-506 F 15 '51

Relative high energy neutron yields from targets bombarded with protons and deuterons. W. J. Knox. bibliog diag Phys R 81:687-92 Mr 1 '51

Relative photoneutron yields from the 330-Mev bremsstrahlung. K. M. Terwilliger and others. bibliog diag Phys R 82:820-2 Je 15 '51

Relative probabilities and absolute cross sections of the D-D reactions. K. G. McNeill and G. M. Keyser. bibliog diag Phys R 81: 602-6 F 15 '51

Scintillating liquids as neutron detectors. C. E. Falk and others. bibliog Phys R 83:176-7 Jl 1 '51

Scintillation counter for fast neutrons. H. B. Frey. R Sci Instr 21:886 O '50

Slow neutron-induced radioactivities of nuclear explosions. C. E. Mandeville. Franklin Inst J 252:297-308 O '51

Slow neutron velocity spectrometer studies; Au, Ag, Br, Fe, Co, Ni, Zn. W. W. Havens, jr. and L. J. Rainwater. bibliog Phys R 83:1123-33 S 15 '51

Some (n,γ) effects in iodobenzene. P. F. D. Shaw. Chem Soc J p443-7 F '51

Some effects of temperature, phase and nature of chemical species on halogen atom reactions initiated by radiative neutron capture and by isomeric transition. S. Goldhaber, R. S. H. Chiang and J. E. Willard. bibliog Am Chem Soc J 73:2271-5 My '51

Some mechanical features of a double-crystal neutron spectrometer. G. E. Bacon and others. il diag J Sci Instr 27:330-1 D '50

Some new values of atomic masses, principally in the region of 82 neutrons. H. E. Duckworth and others. bibliog Phys R 83:1114-17 S 15 '51

Studies of neutron-deficient radioactive isotopes. G. Wilkinson. Chem Soc J supp no 2:S360-3 '49

Thermal neutron diffusion length of paraffin. C. W. Tittle. bibliog Phys R 80:756 N 15 '50

Thermal neutron fission of Am^{241}. B. B. Cunningham and A. Ghiorso. Phys R 82: 558 My 15 '51

Thick target fast neutron yield from 15-Mev deuteron and 30-Mev alpha-bombardment. A. J. Allen and others. bibliog diags Phys R 81:536-9 F 15 '51

Thick target yields from the (d,n) reaction at 10 Mev. L. W. Smith and P. G. Kruger. bibliog diags Phys R 83:1137-40 S 15 '51

Threshold for photoneutron reaction in U^{238}. J. R. Huizenga and others. bibliog Phys R 82:561-2 My 15 '51

Thresholds of photo-neutron reactions. R. Sher and others. bibliog diag Phys R 81: 154-5 Ja 1 '51

Total cross sections of Be, B, O, and F for fast neutrons. C. K. Bockelman. bibliog Phys R 80:1011-13 D 15 '50

Total cross sections of nuclei for 42-Mev neutrons. R. H. Hildebrand and C. E. Leith. bibliog diags Phys R 80:842-5 D 1 '50

Total neutron cross sections of magnesium and silicon. R. E. Fields and M. Walt. Phys R 83:479 Jl 15 '51

Upper limit for the time between fission and the emission of the neutrons. T. M. Snyder and R. W. Williams. diags Phys R 81:171-5 Ja 15 '51

$V^{51}(p,n)Cr^{51}$ neutron spectrum. P. H. Stelson and others. Phys R 80:287 O 15 '50

NEUTRONS—*Continued*

Variation with energy of nuclear collision cross sections for high energy neutrons. J. DeJuren and B. J. Moyer. bibliog diag Phys R 81:919-23 Mr 15 '51

Yields by fast and slow neutrons in a Szilard-Chalmers reaction. E. Broda and W. Rieder. Chem Soc J supp no 2:S356 '49

Absorption

Pile neutron absorption cross sections. S. P. Harris and others. Phys R 80:342-4 N 1 '50

Thermal neutron absorption cross section of silicon. C. W. Tittle and H. Faul. Phys R 80:908 D 1 '50

Capture

Mechanism of *nD* capture. N. Austern. bibliog Phys R 83:672 Ag 1 '51

Neutron capture cross section of Am^{241}. G. C. Hanna and others. Phys R 81:486-7 F 1 '51

Neutron capture cross sections and level density. H. Hurwitz, jr. and H. A. Bethe. Phys R 81:898 Mr 1 '51

Neutron capture gamma-ray spectra. B. Hamermesh. bibliog diags Phys R 80:415-19 N 1 '50

Neutron capture γ-rays from fluorine, sodium, magnesium, aluminum, and silicon. B. B. Kinsey and others. bibliog diag Phys R 83:519-34 Ag 1 '51

Neutron capture γ-rays from lead and bismuth. B. B. Kinsey and others. bibliog Phys R 82:380-8 My 1 '51

Odd-even effect in neutron capture gamma-ray spectra. B. Hamermesh. Phys R 81:487 F 1 '51

Polarization of gamma-radiation following capture of polarized neutrons. L. C. Biedenharn and others. Phys R 83:683 Ag 1 '51

Radiative capture of neutrons in deuterium. B. B. Kinsey and G. A. Bartholomew. Phys R 80:918-19 D 1 '50

Radioactivity induced in iridium by neutron capture. J. M. Cork and others. Phys R 82:258-9 Ap 15 '51

Relative neutron capture cross sections of the isotopes of krypton and xenon. J. Macnamara and H. G. Thode. Phys R 80:296-7 O 15 '50

Resonance capture of neutrons by uranium. H. L. Anderson. bibliog diag Phys R 80:499-506 N 15 '50

Scintillation counter studies of neutron capture gamma-ray spectra. B. Hamermesh and V. Hummel. bibliog Phys R 83:663-4 Ag 1 '51

Scintillation spectroscopy of the gamma-rays from slow neutron capture in manganese. R. W. Pringle and G. Isford. bibliog il Phys R 83:467-8 Jl 15 '51

Thermal neutron capture cross sections. H. Pomerance. bibliog Phys R 83:641-5 Ag 1 '51

Thermal neutron capture cross section of Co^{59}. L. Yaffe and others. bibliog Phys R 82:553 My 15 '51

Diffraction

Coherent scattering amplitudes as determined by neutron diffraction. C. G. Shull and E. O. Wollan. Phys R 81:527-35 F 15 '51

Hydrogen positions in uranium hydride by neutron diffraction. R. E. Rundle. diag Am Chem Soc J 73:4172-4 S '51

Magnetic neutron diffraction from exchange-coupled lattices at high temperatures. M. Slotnick. bibliog Phys R 83:1226-30 S 15 '51

Nature of the second-order transition in ND_4Br. H. A. Levy and S. W. Peterson. Phys R 83:1270-1 S 15 '51

Neutron diffraction by paramagnetic and antiferromagnetic substances. C. G. Shull and others. bibliog Phys R 83:333-45 Jl 15 '51

Neutron diffraction by the gases N_2, CF_4, and CH_4. N. Z. Alcock and D. G. Hurst. bibliog Phys R 83:1100-5 S 15 '51

Structure of ammonium chloride by neutron diffraction. G. H. Goldschmidt and D. G. Hurst. bibliog diag Phys R 83:88-94 Jl 1 '51

Scattering

Angular distribution of fast neutrons from deuteron bombardment. K.-H. Sun and others. bibliog diag Phys R 82:266-7 Ap 15 '51

Angular distribution of 14-Mev neutrons scattered by tritons. J. H. Coon and others. diag Phys R 81:33-5 Ja 1 '51

Angular distribution of high energy neutrons from targets bombarded by 330-Mev protons. R. D. Miller and others. bibliog diag Phys R 81:374-8 F 1 '51

Angular distribution of 3.1-Mev neutrons scattered by protons. Y. Oda and others. Phys R 80:469 N 1 '50

Angular distribution of neutrons from targets bombarded by 20-Mev deuteron. L. Schecter. bibliog Phys R 83:695-7 Ag 15 '51

Angular distribution of neutrons from the bombardment of Be by 340-Mev protons. J. DeJuren. Phys R 81:458 F 1 '51

Angular distribution of the neutrons produced in the photo-disintegration of the deuteron by the 2.51-Mev gamma-rays of Ga^{72}. G. R. Bishop and others. bibliog diag Phys R 81:219-22 Ja 15 '51

Angular distributions of neutrons from (α, n) and (d, n) reactions. B. L. Cohen. bibliog Phys R 81:632-3 F 15 '51

Coherent neutron scattering cross section of V^{51}. A. W. McReynolds and R. J. Weiss. bibliog Phys R 83:171-2 Jl 1 '51

Effect of short wavelength interference on neutron scattering by dense systems of heavy nuclei. G. Placzek and others. Phys R 82:392-403 My 1 '51

Energy dependence of the resonant scattering of slow neutrons from gold. J. Tittman and C. Sheer. bibliog diags Phys R 83:746-56 Ag 15 '51

Fast neutron energies determined by the use of resonant scatterers. P. H. Stelson and W. M. Preston. Phys R 83:469-70 Jl 15 '51

Field corrections to neutron-proton scattering in a new mixed meson theory. D. B. Beard and H. A. Bethe. diags Phys R 83:1106-14 S 15 '51

Forward scattering of 3.1-Mev neutrons by the deuteron. J. Sanada and S. Yamabe. Phys R 80:750 N 15 '50

High energy neutron scattering by nuclei. S. Pasternack and H. S. Snyder. Phys R 80:921 D 1 '50

Inelastic scattering of fast neutrons. M. A. Grace and others. Phys R 82:969 Je 15 '51

Inelastic scattering of high energy neutrons by deuterons according to the impulse approximation. G. F. Chew. bibliog Phys R 80:196-202 O 15 '50

Inelastic scattering of 15-Mev neutrons by lead, iron, and aluminum. P. H. Stelson and C. Goodman. bibliog diag Phys R 82:69-71 Ap 1 '51

Neutron cross section of Mn below 5000 ev. S. P. Harris and others. bibliog diag Phys R 80:1014-17 D 15 '50

Neutron depolarization on scattering from carbon, paraffin, and phosphorus. W. E. Meyerhof and D. B. Nicodemus. bibliog diags Phys R 82:5-12 Ap 1 '51

Neutron-deuteron scattering amplitudes. E. O. Wollan and others. bibliog Phys R 83:700-2 Ag 15 '51

Neutron-deuteron scattering at high energy. R. L. Gluckstern and H. A. Bethe. bibliog diags Phys R 81:761-81 Mr 1 '51

Neutron-proton scattering at 27 Mev. J. E. Brolley, jr. and others. bibliog diag Phys R 82:190-3 Ap 15 '51

Neutron-proton scattering in the energy range of 18 to 21 Mev. E. M. Baldwin. bibliog diags Phys R 83:495-9 Ag 1 '51

Neutron-proton scattering with repulsive forces. P. O. Olsson. Phys R 83:845 Ag 15 '51

Production of highly polarized neutron beams by Bragg reflection from ferromagnetic crystals. C. G. Shull. Phys R 81:626 F 15 '51

Relativistic corrections in high energy *n-p* scattering. A. Siegel. bibliog Phys R 82:194-203 Ap 15 '51

Resonant scattering in samarium and gadolinium. B. N. Brockhouse and D. G. Hurst. bibliog Phys R 83:841 Ag 15 '51

NEUTRONS—Scattering—*Continued*
Resonant scattering of slow neutrons by cadmium. B. N. Brockhouse and others. bibliog diag Phys R 83:840-1 Ag 15 '51
Scattering and polarization of neutrons in an iron single crystal. D. J. Hughes and others. bibliog Phys R 80:481-2 N 1 '50
Scattering of thermal neutrons by mercury. C. T. Hibdon and others. bibliog Phys R 82:560-1 My 15 '51
Slow neutron resonant scattering of gold. J. Tittman and others. Phys R 80:903 D 1 '50
Small-angle scattering of 3.27-Mev neutrons by deuterons. I. Hamouda and G. de Montmollin. bibliog Phys R 83:1277 S 15 '51
Small angle scattering of neutrons. R. J. Weiss. il diag Phys R 83:379-89 Jl 15 '51
Small angle scattering of thermal neutrons. H. H. A. Krueger and others. bibliog diag Phys R 80:507-10 N 15 '50
Spin dependence of neutron scattering by Na^{23}. W. Selove. Phys R 80:290 O 15 '50
Theory of slow neutron scattering by solid and liquid helium. L. Goldstein and D. W. Sweeney. bibliog Phys R 80:141-4 O 15 '50
Total cross section of helium for fast neutrons. S. Bashkin and others. bibliog diags Phys R 82:378-80 My 1 '51
Total neutron cross sections of several nuclei at 14 Mev. A. H. Lasday. bibliog Phys R 81:139 Ja 1 '51
Total scattering cross section of neutrons by hydrogen and carbon. E. E. Lampi and others. diag Phys R 80:853-6 D 1 '50

NEVADA
See also
Gold mines and mining—Nevada
Mines and mineral resources—Nevada
Paleontology—Nevada
Petroleum industry and trade—Nevada

NEVADA tungsten corporation
Stock offered. Comm & Fin Chr 173:477 Ja 29 '51

NEW BEDFORD gas and Edison light company
Notes sold. Comm & Fin Chr 172:1635 O 30 '50

NEW BRUNSWICK
See also
Mines and mineral resources—New Brunswick
Roads—New Brunswick

NEW employees. See Employment management—New employees

NEW ENGLAND
New England's crystal ball; four-square gospel of progress; steel, natural gas, power, and clean water. il Eng N 145:96 D 21 '50
See also
Aluminum industry and trade—New England
Coal trade—New England
Gas, Natural—New England, Supply to
Steel works—New England

Industries and resources

Is New England too old? interview with Walter Wheeler. Bsns W p77-8+ F 17 '51
New England ails. Bsns W p90+ Jl 7 '51
Yankee X-ray; what's wrong with New England? editorial. Bsns W p152 Ag 11 '51; Discussion. p91-2 S 15 '51

NEW ENGLAND association of chemistry teachers
Summer conference, 12th, Storrs, Conn. J Chem Educ 27:691-2 D '50

NEW ENGLAND conference for the graphic arts
Conference, Boston, April 16-17. Inland Ptr 127:31-3 My '51

NEW ENGLAND electric system
Merger approved. Comm & Fin Chr 173:662 F 12 '51
Public utility securities. O. Ely. Comm & Fin Chr 173:1676 Ap 19 '51
Utility to sell gas property. Barron's 31:12-13 S 17 '51

NEW ENGLAND gas and electric association
Offering to shareholders. Comm & Fin Chr 173:2391 Je 11 '51
Public utility securities. O. Ely. Comm & Fin Chr 173:2475 Je 14 '51

NEW ENGLAND-New York inter-agency committee
Inter-agency body cites need for resources study. Elec World News ed 135:13 F 5 '51
Meeting, Hartford. Eng N 146:136 Ap 12 '51

NEW ENGLAND power company
Bonds offered. Comm & Fin Chr 173:862 F 26 '51

NEW ENGLAND public service company
Public utility securities. O. Ely. Comm & Fin Chr 173:2688 Je 28 '51

NEW ENGLAND sewage works association
Annual fall meeting, 21st, Bridgeport. Water & Sewage Works 97:524-6 D '50

NEW ENGLAND textile foundation
Gives $125,000 to textile schools in 1950. Rayon 32:109 Mr '51

NEW ENGLAND water works association
Annual meeting, 69th, Poland Spring, Me.; with abstracts of papers. Water & Sewage Works 97:447-53 N '50

NEW GUINEA
See also
World war, 1939-1945—New Guinea

NEW GUINEA, Dutch. See Netherlands New Guinea

NEW JERSEY
See also
Public works—New Jersey
Roads—New Jersey

NEW JERSEY zinc company
Plans broad diversification. Barron's 31:11-12 Ag 13 '51

NEW LONDON, Connecticut

Industries

Industry floods New London. map Bsns W p 106+ Mr 3 '51

NEW MEXICO
See also
Geology—New Mexico
Paleoclimatology—New Mexico
Petroleum—New Mexico

Antiquities

Peoples of Pine Lawn valley. P. S. Martin. il Sci Am 185:46-51 Jl '51

NEW ORLEANS
King Carnival's in uniform at Mardi Gras. il Bsns W p 102-3 F 17 '51
Letter from the Crescent city. Eng N 146:132 Je 7 '51
See also
Drug trade—New Orleans
Housing—New Orleans

Commerce

Port of New Orleans releases export, import figures for first half of 1950. Manuf Rec 120:53 Ja '51

Galleries and museums

They still sell drugs, too; oldest drugstore now pharmaceutical museum. il Bsns W p 100-2 N 18 '50

Industries

New Orleans, world port; ideal location for industry. il Manuf Rec 120:36-8 Ag '51

NEW products. See Products, New

NEW SOUTH WALES
See also
Mines and mineral resources—New South Wales

NEW YORK (city)
Defense communications. plan diag Electronics 24:74-5 F '51
New York assesses itself. il Bsns W p 110-12+ My '51
NYC planning commission proposes a radical change in zoning regulations. diags Eng N 146:26-7 My 3 '51
See also
Gas, Natural—New York (city), Supply to
Housing—New York (city)

Bridges

How rebuilder of Brooklyn bridge overcame two problems. il Pub Works 82:34 Jl '51

NEW YORK (city)—*Continued*

Churches

Ancient churches grace downtown New York. il East Underw 51:12-13+ D 15 '50

Galleries and museums

See also
Museum of the city of New York

Harbor

Last lap of tourist season gives New York port a workout. il Bsns W p 100-4 S 15 '51
Last of the business rackets; New York waterfront. D. Bell. il Fortune 43:88-91+ Je '51
New York; a magnificent harbor; its port is slipping. il Bsns W p94-6 Ap 21 '51
Radar aid for New York harbor. il Marine Eng 56:60-1 Jl '51; Excerpts. Tele-Tech 10:82-3 Jl '51

Hotels, restaurants, etc.

Where to eat in New York. J. Trundle. Ind Marketing 36:98+ Je '51

Police

See Police—New York (city)

Railroads

Railroad progress and regional transportation. Ry Age 131:90-1 S 17 '51

Rockefeller Center

Sheltering 135,000 from bombs. il Bsns W p22-3 F 3 '51

Sanitary affairs

Controlling rats in New York city. W. A. Hardenbergh and J. J. Weinstein. il Pub Works 82:53-5 Mr '51
One side parking aids street cleaning. H. Liebman. il Pub Works 82:38-9 Mr '51
Sanitary landfill handles 9½ million yards yearly at Fresh Kills, Staten Island. H. Liebman. il Pub Works 82:39-41 Jl '51

Sewerage

First, you need a construction site; making construction site out of a lagoon; problem solved by constructors of Hunts Point sewage works. il Eng N 147:28-31 Ag 16 '51
Industrial waste investigations. R. Shapiro. Sewage & Ind Wastes 23:775-81 Je '51
New York's latest sewage treatment works; use of dual-fuel engines for power plant. flow diag il map diags Diesel Power 28:44-9 N '50
Operation and maintenance of sewage treatment plants. N. I. Kass and others. il Sewage & Ind Wastes 23:1177-98 S '51
Progress report on sewer rental. R. H. Gould. Sewage & Ind Wastes 23:849-52 Jl '51

Subways

A-c lighting for subways. Westinghouse Eng 10:256 N '50
Conveyor belt subway passenger system proposed in New York. il Rubber Age 69:72-3 Ap '51
Development of a-c fluorescent lighting for subway cars. E. W. Beggs and H. W. Graybrook. il diag Illum Eng 45:617-21 O '50
Plans advance for $500 million subway, $80 million tube. Eng N 147:24 S 20 '51
Stainless steel trains for subways. il Engineer 190:651 D 29 '50
Tiny subway cars would ride belts in New York subway; illustrations with text. Bsns W p26 Mr 31 '51

Tunnels

Excessive leakage in the Brooklyn-Battery tunnel. O. Singstad. Civil Eng 21:478 Ag '51
Lighting of the Brooklyn-Battery tunnel. L. Geenens and K. M. Reid. bibliog il map diags Illum Eng 45:697-703; Discussion. 703-4 N '50
Over 2000 louver blades in vent tower; Brooklyn-Battery tunnel. il Sheet Metal Worker 42:78 D '50
Plans advance for $500 million subway, $80 million tube. Eng N 147:24 S 20 '51
Port of New York authority discloses plans for third Lincoln Tunnel tube. il Eng N 146:26 Mr 15 '51
See also
Holland tunnel

Water supply

Biggest turbine pumps for Hudson River supply. Pub Works 82:66+ S '51
Builder readies tap on Hudson. il Eng N 145:32-4 N 16 '50
World's largest turbine pumps installed. il Munic Util 89:25+ Ag '51

NEW YORK (state)
See also
Building laws and regulations—New York (state)
Forest and forestry—New York (state)
Iron mines and mining—New York (state)
Mines and mineral resources—New York (state)

NEW YORK academy of medicine
Library of the New York academy of medicine. G. Rosen. Special Lib 42:86-9 Mr '51

NEW YORK air brake company
Westinghouse Air Brake vs. New York Air Brake; a comparative study. H. S. Coffin. il Mag of Wall St 87:174-6+ N 18 '50

NEW YORK board of trade

Drug, chemical and allied trades section

Annual meeting. 61st, Shawnee-on-Delaware, Pa. Sept. 20-22. Oil Paint & Drug Rep 160:7 S 24 '51

Insurance section

Luncheon meeting, New York, Jan. 18. East Underw 52:29+ Ja 26 '51
New officers. East Underw 51:88 D 15 '50

NEW YORK central railroad
Annual report. Comm & Fin Chr 173:1585-6 Ap 16 '51
Equipment trust certificates offered. Comm & Fin Chr 173:106 Ja 8 '51
Passenger deficits consume its freight profits; with financial data, selected years, 1929-1950. A. Jansen. map Barron's 31:9-10 S 17 '51
Railroad securities. Comm & Fin Chr 172:1912; 173:1456; 174:1272 N 16 '50, Ap 5, O 4 '51

NEW YORK, Chicago and St Louis railroad
Nickel Plate; with financial data, 1941-50. R. E. Bedingfield. map Barron's 31:11-12 O 1 '51
Railroad securities. Comm & Fin Chr 173:78; 174:338 Ja 4, Jl 26 '51

NEW YORK curb exchange
N.Y. curb exchange elects Mann, Kershaw. Comm & Fin Chr 173:840 F 22 '51
Selling curb exchange to business. Bsns W p94-5 Mr 31 '51
Truslow to resign as president; McCormick successor. Comm & Fin Chr 173:727 F 15 '51

NEW YORK herald tribune
72-page forum section. Ed & Pub 83:58 N 4 '50

NEW YORK life insurance company
Claims records show close connection between life insurance and U.S. history. Nat Underw (Life ed) 54:9+ D 1 '50

NEW YORK, New Haven and Hartford railroad
B.R.T. man says Dumaine would destroy New Haven. Ry Age 130:63-4 Ap 2 '51
Dumaine vs. stockholders. il Bsns W p 128-9 Ap 21 '51
Frederic C. Dumaine, jr. succeeds his late father as New Haven president and chairman. Ry Age 130:49 Je 18 '51
New Haven affairs aired before Senate group; McMahon committee. Ry Age 131:65-8 Jl 9 '51
Union talks slowdown to save vice-president. Bsns W p21 Mr 31 '51

NEW YORK, Ontario and western railway
Shippers want rail service; Eleven-county consolidated committee works to increase traffic, cut expenses and prevent abandonment. il map Ry Age 130:49-52 Ap 2 '51

NEW YORK paint and varnish production club
Meeting, New York, May 3. Chem & Eng N 29:2047 My 21 '51

NEW YORK personnel club
New York personnel club workshops. E. Bergstrom. Personnel J 30:144-5 S '51

NEW YORK security dealers association
Silver anniversary dinner, New York, Dec. 8; portraits. Comm & Fin Chr 172:2453-6 D 21 '50
What New York Security Dealers have accomplished; presidential address. D. Morris. Comm & Fin Chr 172:2284+ D 14 '50

NEW YORK sewage and industrial wastes association

Annual meeting, New York. Eng N 146:26 Ja 25 '51

Annual meeting, 23d, New York, Jan. 19-20; with abstracts of papers. Water & Sewage Works 98:137-41 Mr '51

NEW YORK state bar association

Insurance section

Annual meeting, New York. East Underw 52: 37-8 F 2 '51; Nat Underw 55:6 F 1 '51

NEW YORK state barge canal

Winter concreting, intrusion method combined on barge canal lock repair. il Eng N 146:32-3 Mr 22 '51

NEW YORK state college of forestry. See Syracuse university—New York state college of forestry

NEW YORK state electric and gas corporation

Stock offered. Comm & Fin Chr 174:276-7 Jl 23 '51

NEW YORK stock exchange

Big Board's new wonder boy; George Keith Funston. Bsns W p 118 Je 2 '51

Crooks, chairman of board; other officers. Comm & Fin Chr 173:2063 My 17 '51

Lifting the ticker tape curtain in colleges. R. B. Menschel. Comm & Fin Chr 173:924 Mr 1 '51

Monthly range of prices on the New York stock exchange for year 1950. Comm & Fin Chr 173:355-75 sec 2 Ja 18 '51

New president has work cut out for him. R. M. Bleiberg. Barron's 31:5 My 28 '51

President's first public address. G. K. Funston. Comm & Fin Chr 174:1348+ O 11 '51

Revision of commissions urged. L. Gould. Comm & Fin Chr 172:1896 N 16 '50

Seat prices point to lagging market; graph. Bsns W p 124 Ag 18 '51

Advertising

Stock exchange starts $800,000 ad campaign. Ed & Pub 84:20 Ja 27 '51

NEW YORK, Susquehanna and western railroad

Soon likely to emerge from bankruptcy. Barron's 31:11-12 S 24 '51

NEW YORK times

Chronicle salutes the Times on its 100th birthday. A. Wilson. Comm & Fin Chr 174: 1160 S 27 '51

Mackinnon explains why Times ticks. G. A. Brandenburg. Ed & Pub 84:22 Ag 18 '51

Many plaudits, honors heaped on New York times. Ed & Pub 84:11 S 22 '51

New York times hangs its centennial flag. Ed & Pub 84:11 Ja 6 '51

New York Times payroll reaches $20,400,000. Ed & Pub 84:22 Ap 14 '51

New York times tells story of its first 100 years; Meyer Berger's biography. J. Walker. Ed & Pub 84:13+ S 15 '51

Silurians mark centenary of New York times. Ed & Pub 84:54 My 19 '51

NEW YORK university

Hall of fame

See Hall of fame for great Americans

School of retailing

How the School of retailing was founded and developed. S. W. Reyburn. J Retailing 26: 93-100 Fall '50

Is professional training in retailing worth while? evaluation by its graduates. J Retailing 27:53-67+ Summer '51

NEW ZEALAND

See also

Aeronautics—New Zealand

Electricity supply—New Zealand

Hydroelectric plants—New Zealand

Strikes—New Zealand

Commercial policy

Tariffs and trade controls. For Comm W 41: 19-20 D 4 '50

Economic conditions

Inflation threatens New Zealand. Economist 160:552 Mr 10 '51

News by countries. For Comm W 42:17 Ja 1; 24-5 F 19; 17-18 Mr 19; 43:14 Ap 23; 13 Je 18 '51

Politics and government

Bidding for power. Economist 161:516+ S 1 '51

Election issues. Economist 161:352 Ag 11 '51

New Zealand government's first year. Economist 160:27 Ja 6 '51

Revival of New Zealand labour party. Economist 159:1010+ D 9 '50

NEWBERG, William Charles

Portrait. Bsns W p68 S 15 '51; Fortune 44:132 O '51

NEWBORN infants. See Infants, Newborn

NEWCOMEN society for the study of history of engineering and technology

Summer meeting, Lincolnshire, May 30-June 2. Engineer 191:760 Je 8 '51

NEWFOUNDLAND

See also

Paper mills—Newfoundland

Industries and resources

Big industrial upsurge underway. J. Montagnes. Barron's 31:16 Ag 27 '51

Remaking a fish and chips economy. il Bsns W p 132-4 Jl 28 '51

NEWHOUSE, Samuel I. 1895-

Buys Oregonian in $5,250,000 cash transaction. J. Walker. por Ed & Pub 83:5-6 D 16 '50

Oregonian's new owner. por Ptr Ink 233:88 D 15 '50

NEWNES, George, limited

Statement by the chairman. F. Newnes. Economist 161:603 S 8 '51

Statement by the chairman at annual general meeting. F. Newnes. Economist 159: 565 S 30 '50

NEWS

Many papers refused Wright flight story. Ed & Pub 83:22 D 30 '50

See also

Reporting

War news

International aspects

See also

Newspapers—Foreign correspondents

NEWS agencies

Bolling, Wishengrad head ONA and Press Features. E. Knoll. Ed & Pub 84:46 Jl 28 '51

How to use the Big Three to get industrial publicity; news wire services, what they are and where. R. McDevitt and J. D. Waugh. Ind Marketing 35:40-1+ D '50

Kefauver report asks wire service licensing to transmit sporting event information. Ed & Pub 84:10 My 5 '51

Reuters celebrates its 100th anniversary. D. Willens. il Ed & Pub 84:9+ Je 9 '51

See also

Associated press

Foreign news service

International news service

Pan-Asia newspaper alliance

Press agents, Government

Tass (U.S.S.R. news agency)

United press

NEWS photographers

Brandt's back to earth after fabulous flight. J. L. Collings. Ed & Pub 84:50 Ag 25 '51

Dog eat dog affair at peace conference. J. L. Collings. Ed & Pub 84:50 S 22 '51

Early photo days in Capital. H. Miller. Ed & Pub 83:38 D 30 '50

Editor, fotog report sports pix preference. J. L. Collings. Ed & Pub 84:60 S 29 '51

50,000 photographs but nary a one of himself; John G. Hemmer. J. Jenkins. Ed & Pub 84:44 Jl 28 '51

Gottlieb in zoo war bombed with a melon by giant gorilla. J. W. Dragonetti. il Ed & Pub 84:50 Ag 11 '51

If your I.Q. droops, see short courses. J. L. Collings. Ed & Pub 84:52 Ja 20 '51

Imagination for sale; salesman; Aumuller. J. L. Collings. il Ed & Pub 84:45 My 19 '51

Jack Kilpatrick of Richmond wins VPA prize. Ed & Pub 84:50 Ja 27 '51

John Wolter finds briefing's the thing. J. L. Collings. Ed & Pub 83:44 D 23 '50

NEWS photographers—*Continued*
Karsh's camera magic revealed at Kent State. J. L. Collings. Ed & Pub 84:44-5 Mr 31 '51
Lensman is jack of all trades. J. W. Lemen. Ed & Pub 83:46 N 18 '50
Lensmen, colleges adopt football coverage rules. Ed & Pub 84:46 Ag 4 '51
Obliging police prevent photos of union leaders. Ed & Pub 84:14 Ag 25 '51
Snap-happy Sarnos. Ed & Pub 84:52 Ja 20 '51
Terhune works fast on a double shooting. J. L. Collings. Ed & Pub 83:55 N 4 '50
They were very gentle, lady says. J. L. Collings. Ed & Pub 83:44 O 21 '50
Think out pictures, Kent experts advise. J. L. Collings. Ed & Pub 84:45 Mr 24 '51
Weekly fotogs shine in New Jersey photo contest. J. L. Collings. il Ed & Pub 83:52 O 28 '50
also National press photographers association

NEWS photographs
De Narie wins Hearst photo contest, $500. J. L. Collings. il Ed & Pub 84:92 Ap 28 '51
E & P prizes increased; non-dailies now eligible. J. L. Collings. Ed & Pub 84:42 Ja 6 '51
Film latest A-bombing; Bill Kuenzel honored. J. L. Collings. Ed & Pub 84:60 F 10 '51
Flying reporter rated tops in 12th E & P photo contest. J. L. Collings. il Ed & Pub 84:5, 7-10 Mr 17 '51
Johnnie's contraption good on sequence pix. S. Witwer. il Ed & Pub 84:42 My 5 '51
No law against it, but, INP refused death pix. J. L. Collings. Ed & Pub 84:17 Mr 17 '51
Offset increases use of pictures. M. Suisman. Ed & Pub 84:67 Je 9 '51
Ottawa Citizen battles police on picture ban. Ed & Pub 83:57 D 16 '50
Photos improved by pointing-up. C. Jensen. Ed & Pub 83:51 D 9 '50
Prize news pictures are of salon quality. J. L. Julian. il Ed & Pub 84:60 My 12 '51
Royal family photo taboos inspire others. D. Willens. Ed & Pub 84:68 Ap 21 '51
Seek federal statute to protect lensmen. J. L. Collings. Ed & Pub 84:46 Ja 13 '51
Services photo files are big business. J. L. Collings. Ed & Pub 83:48 D 2 '50
U.S. agency feeds pictures to foreign press. Ed & Pub 84:49 Ap 7 '51
What's needed most? J. L. Collings. Ed & Pub 84:58 Mr 10 '51
Who was prouder, Doc Desfor or his brother? J. L. Collings. Ed & Pub 84:44 My 26 '51
See also
International news photos
War photographs

NEWS workshop (periodical)
NYU students publish professional journal. D. Bentel. Ed & Pub 84:50 My 19 '51

NEWSOM, Herschel D.
Portrait. Fortune 43:15 Ja '51

NEWSPAPER advertising executives association
Annual meeting, Chicago, Jan. 22-24, program. Ed & Pub 84:26 Ja 13 '51
Annual meeting, Chicago, Jan. 22-24; with abstracts of papers. Ed & Pub 84:5-10 Ja 27; 22+ F 3 '51
Higher advertising rates imminent, NAEA theme. Ed & Pub 84:7+ Je 30 '51

NEWSPAPER and mail deliverers' union
Federal judge considers case of deliverers. Ed & Pub 84:10 Mr 31 '51
Judge says press important as food. Ed & Pub 84:13 Mr 24 '51
Strike ban placed on drivers' union. Ed & Pub 84:12 Ap 14 '51
Union haled to court for pressure tactics. Ed & Pub 84:6 Mr 3 '51
Union's tough tactics described in court. Ed & Pub 84:11+ Mr 17 '51

NEWSPAPER associations
CNPA service bolsters Long's faith in press. C. Watson. Ed & Pub 83:24 N 18 '50
See also American newspaper publishers' association; Inland daily press association; National editorial association; Southern newspaper publishers association

NEWSPAPER awards
Better editorial page appearance noted by judges in Inland awards. il Ed & Pub 84:47 F 10 '51
E&P gives certificates for best promotions. Ed & Pub 84:7+ Mr 24 '51
Most Florida awards given for crusading. Ed & Pub 84:16 Mr 31 '51
1950 Newspaper week winners. Ed & Pub 83:7 N 11 '50
Press takes $13,000 of Freedom awards. Ed & Pub 84:13 F 24 '51
25 papers cited for coverage of civic affairs. Ed & Pub 83:49 O 28 '50
Winona daily tops in NEA contests. Ed & Pub 84:16 Je 2 '51
See also
Journalism awards

NEWSPAPER carriers
Better carrier training needed. S. E. Abbott. Ed & Pub 84:43 Ag 4 '51
California newspaperboy foundation fourth birthday. Ed & Pub 83:51 O 21 '50
Carrier boy system needs active defense. J. W. Dragonetti. Ed & Pub 84:11 Mr 24 '51
Carriers congress added to defense bond drive. G. A. Brandenburg. Ed & Pub 84:42 Ap 21 '51
Checkbooks for news carriers solve publisher's collection problem. W. J. Brons. il Bankers Mo 68:22+ Ag '51
Child labor tag on carriers decried. M. Kniskern. Ed & Pub 84:32 Ja 20 '51
District men are urged to visit carriers' folks. G. A. Brandenburg. Ed & Pub 84:40 Ap 7 '51
Ex-carriers rate well as scholars at Exeter. G. A. Brandenburg. Ed & Pub 83:44 N 4 '50
Graham tells factors in carrier good will. G. A. Brandenburg. Ed & Pub 84:52 Je 9 '51
Jury accepts carrier status as contractor. Ed & Pub 84:38 Ja 6 '51
New Bedford daily offers yearly carrier program. G. A. Brandenburg. Ed & Pub 84:51 Jl 14 '51
Newspaperboy day set for Oct. 6 observance. G. A. Brandenburg. Ed & Pub 84:46 S 22 '51
Only 11 states fail to equal '49's National newspaperboy day. Ed & Pub 84:32 Ap 28 '51
Outlines formula for carrier results. E. Mill. Ed & Pub 84:42 S 8 '51
Packaged promotion boosted. W. Aronoff. Ed & Pub 83:48 D 9 '50
Pullman-Standard award to honor carrier boy. G. A. Brandenburg. Ed & Pub 84:42 Ag 25 '51
Treasury again asks carriers help bond drive. Ed & Pub 84:50 Mr 31 '51
Trips prove popular as carrier promotion. R. Houk. Ed & Pub 83:52 N 18 '50

NEWSPAPER classified advertising managers, Association of. See Association of newspaper classified advertising managers

NEWSPAPER controllers and finance officers, Institute of. See Institute of newspaper controllers and finance officers

NEWSPAPER ethics
Editorial cooperation; control of newspapers by advertisers. D. B. Arnold. Adv Agency 44:82 O '51
Neither affiliations nor gratuities wanted. F. W. Stein. Ed & Pub 84:25-6 Je 9 '51
Press fulfills its duty and always improving; SDX discussion. Ed & Pub 83:65 N 18 '50
Ronald's will bequeaths word as chief asset. Ed & Pub 84:22 My 5 '51
Storke repaying debt to community by refusing to sell. C. Watson. Ed & Pub 84:26 Ja 27 '51
Warns papers against Mac orgy. J. Cowles. Ed & Pub 84:40 My 12 '51
Welfare of readers put first; Wisconsin editors say; excerpts from replies. Ed & Pub 83:30+ D 9 '50
See also
Journalism ethics
Newspapers—Advertising policies

NEWSPAPER libraries
Dailies' library filing system is simplified; Minneapolis star and tribune. Ed & Pub 84:18 Je 30 '51

NEWSPAPER libraries—*Continued*

Librarians study service, microfilm; Special libraries association Newspaper division 28th national convention, St Paul. Ed & Pub 84:71 Je 23 '51

Literary detectives. T. W. Connor. Ed & Pub 84:58 Ap 21 '51

What's your information rating? C. M. Lewis. Special Lib 42:249-54+ S '51

NEWSPAPER offices

Baltimore Sunpapers in rich plant (number five). il Ed & Pub 83:5+ D 30 '50

Big auditorium floats in plant at Providence. il Ed & Pub 83:10 D 9 '50

Caledonian record publishing co., St. Johnsbury, Vt. il plans diags Arch Rec 109:172-4 Je '51

Complete plant for a newspaper; Washington post. il plans Arch Rec 110:144-7 Jl '51

Deseret news has public auditorium. Ed & Pub 84:60 Jl 14 '51

Gene Pulliam's new Indiana plant finished. R. E. Campbell. Ed & Pub 83:11 O 28 '50

Journal moves into new plant in Kankakee. il Ed & Pub 84:24 Jl 21 '51

Orlando papers using six buildings finally assembled under one roof. il Ed & Pub 84:39 Ag 11 '51

San Rafael journal doubles its space. il Ed & Pub 84:74 My 12 '51

Seattle Times project cost over $2,625,000. Ed & Pub 84:24 Ja 27 '51

South Bend tribune opens new building. il Ed & Pub 84:16 My 12 '51

$300,000 plant for Orlando papers. Ed & Pub 83:62 N 11 '50

$3,000,000 Times-Herald project begins. Ed & Pub 84:12 Ja 20 '51

Washington post in colorful new plant. il Ed & Pub 83:11+ D 2 '50

Yakima Republic and Herald move into new million dollar plant. il Ed & Pub 84:46 S 8 '51

Air conditioning

Heat pump application to a newspaper plant; Portland Oregonian. J. D. Kroeker and others. flow diags il Heating-Piping 23:109-16 S '51; Abstracts. Dom Eng 178:110 Ag '51; Mech Eng 73:1005 D '51

Equipment

Archie Burns helps modernize La Prensa of Lima, Peru. F. G. Walker. il Ed & Pub 84:45 S 8 '51

Conveyors play important part in new South Bend Tribune plant. G. A. Brandenburg. il Ed & Pub 84:65-6, 68 My 12 '51

Electronics speed news for Detroit paper. Bsns W p92 Ag 11 '51

Mechanical equipment of 2430 newspapers in 1690 plants; tables. Ed & Pub 84:1-60 sec 2 S 29 '51

Paster devised for single wrap. Ed & Pub 84:51 Ja 13 '51

What new system can do; mechanical accounting at Washington post. G. S. Phillips. il Am Bsns 21:14-15+ Je '51

Fires and fire protection

In case of fire; always be ready; extra expense insurance is comforting. W. E. Williams. Ed & Pub 83:58 N 11 '50

Lighting

Low-brightness illumination for a newspaper plant. W. H. Kahler. il Illum Eng 46:274-5 Je '51

Protection

Newspapers plan defense programs, bomb shelters. Ed & Pub 84:9 Ja 20 '51

Show windows

Advertising result story solves window problems. T. S. Irvin. Ed & Pub 84:42 Ag 18 '51

NEWSPAPER offices, Traveling

Mobile newspaper office. il Elec R (Lond) 148:560 Mr 16 '51

NEWSPAPER personnel relations association

Spahn is president of personnel group; organization. G. A. Brandenburg. Ed & Pub 84:16 Mr 17 '51

NEWSPAPER promotion association, National. See National newspaper promotion association

NEWSPAPER publishers and editors, International federation of. See International federation of newspaper publishers and editors

NEWSPAPER publishers association, Southern. See Southern newspaper publishers association

NEWSPAPER representatives

Adjust sights upward; West Coast sales line. R. S. Nicholson. Ed & Pub 83:31 D 9 '50

Credits reps with sound selling. C. D. Buddle. Ed & Pub 84:61 Mr 10 '51

Elsberry and staff sell small towns. G. A. Brandenburg. Ed & Pub 84:28 Ja 13 '51

Gallup poll finds reps want papers improved. Ed & Pub 84:12 F 10 '51

Gives his theory of representing paper. W. F. Gallagher. Ed & Pub 84:34 Mr 3 '51

See also

Advertising, Soliciting of
Advertising mediums—Newspapers
Daniels, Warren Albert
Meeker, Frank H.

NEWSPAPER representatives, American association of. See American association of newspaper representatives

NEWSPAPER vending boxes

Montreal honor boxes boost morning sales. R. Lascoff. il Ed & Pub 84:22 Jl 7 '51

NEWSPAPER vendors

Court weighs Daily Worker newsstand ban. Ed & Pub 83:8 D 16 '50

Daily Worker ban hearing is postponed. Ed & Pub 83:8 D 9 '50

NEWSPAPER week

Many features offered. Ed & Pub 84:24 S 22 '51

NEWSPAPERS

Better papers in '70. G. Gallup. Ed & Pub 84:68 Ja 13 '51

Kind of newspaper students would make. Ed & Pub 84:26 My 5 '51

Mott says papers must give more hard news. D. Bentel. Ed & Pub 84:32 Ag 11 '51

NPA says go slow with building plans. M. M. Lord. Ed & Pub 84:14 S 15 '51

Newspapers in 1951. il Ptr Ink 233:35 D 29 '50

Newspapers suffer heavy losses from big blizzard. R. Erwin. il Ed & Pub 83:9+ D 2 '50

Papers taken for granted. H. J. Gediman. Ed & Pub 84:28 S 8 '51

See also

Advertising mediums—Newspapers
Audit bureau of circulations
College newspapers
Color in newspapers
Foreign language press
Freedom of the press
Jersey journal
Journalism
National production authority—Newspaper industry advisory committee
Newspaper offices
Newsprint paper
Publicity
Radio broadcasting stations, Newspaper
Reporters
Reporting
Television stations, Newspaper
Trade journals
Women as journalists

Accounting

Management report system is thorough; New York herald tribune. C. M. Hupp. Ed & Pub 84:30 Je 2 '51

Severance deduction suggested in tax file; profit and loss on a daily basis. J. O. Murray. Ed & Pub 84:10+ My 19 '51

Standard ad invoice form recommended. C. J. O'Mara. Ed & Pub 83:22 D 9 '50

What new system can do; mechanical accounting at Washington post. G. S. Phillips. il Am Bsns 21:14-15+ Je '51

Advertising

Bureau set to break drive aimed at re-selling dailies. R. B. McIntyre. il Ed & Pub 84:7+ S 22 '51

Bureau speeds issue of second ad in series; criticism of initial Eisenhower ad. Ed & Pub 84:8 S 29; 66 O 6 '51

Canadians' success brochure rates a bow; Canadian daily newspapers association. T. S. Irvin. Ed & Pub 84:52 Ap 21 '51

Classic Memphis ad relates friendly story. T. S. Irvin. Ed & Pub 84:44 F 24 '51

Free offer gimmick increases circulation. J. Walker. Ed & Pub 83:58 D 16 '50

NEWSPAPERS—Advertising—*Continued*

Good promotion secret, is to be persistent; Cronenwett letters and folders. T. S. Irvin. Ed & Pub 84:46 Ag 25 '51

"Lemmie Duitt" to help advertisers in Pasadena. T. S. Irvin. Ed & Pub 83:52 D 2 '50

St Louis rivals swing punches hard but high. T. S. Irvin. Ed & Pub 84:40 Je 9 '51

Advertising departments

All-girl staff has rapid two-year linage increase. H. W. Tushingham. Ed & Pub 84:44 Ap 14 '51

Asks sales management. K. F. Moore. Ed & Pub 84:12 Je 9 '51

Commission system favored by majority. H. W. Tushingham. Ed & Pub 84:52 Je 2 '51

Cooperative measures dampen credit losses; classified section. H. W. Tushingham. Ed & Pub 84:48 My 19 '51

Defense effort hits classified personnel. Ed & Pub 84:9 Mr 24 '51

Five-man layout staff serves 106 accounts. C. D. Armel. Ed & Pub 84:12 F 10 '51

Glass becomes ad manager of New York news. Ed & Pub 84:18 Ja 13 '51

Good rules to follow for ad production. L. Farrant. Ed & Pub 83:16 D 30 '50

Increasing costs now challenge CAM wisdom. H. W. Tushingham. Ed & Pub 84:54 Je 16 '51

Institute of newspaper controllers and finance officers 3d annual meeting, Cleveland. Ed & Pub 83:14 O 28 '50

Men's wear promotion creates 11,662 lines. Interstate advertising managers' association meeting, Bethlehem, Pa. Sept. 21-22. Ed & Pub 84:17 S 29 '51

Modern phone turrets asset to ad service. W. Lehmann. Ed & Pub 84:30 F 10 '51

Norfolk dailies' ad departments consolidated. Ed & Pub 84:54 Ja 6 '51

Old brochure recalls Hearst's ad policies. R. B. McIntyre. Ed & Pub 84:18 Ag 18 '51

Proper approach; more listening aids selling. H. W. Tushingham. Ed & Pub 84:48 Ja 20 '51

Sales help manpower shortage anticipated. H. W. Tushingham. Ed & Pub 84:46 F 17 '51

Sales staff assets reappraised for '51. H. W. Tushingham. Ed & Pub 84:32 Ja 13 '51

Supervisors guide destiny of personnel. H. W. Tushingham. Ed & Pub 84:67 Jl 14; 40 Jl 21 '51

Survey reveals facts helpful in ad growth; classified clinic. H. W. Tushingham. Ed & Pub 84:44 Je 23 '51

Ten promoted on ad staff of New York news. Ed & Pub 84:53 Ja 27 '51

Waterloo (Ia.) all-girl classified department successful. H. W. Tushingham. Ed & Pub 83:64 D 9 '50

Advertising policies

Don't let price copy obscure brand linage. T. S. Irvin. Ed & Pub 84:54 Je 2 '51

Let's sell advertising instead of newsprint. C. Bedell. Ed & Pub 84:34+ Jl 7 '51

Papers in court; ad policies competing for business. Bsns W p48+ My 12 '51

Advertising rates

See Advertising—Rates

Advertising service

Ads sold as Bob puts squeeze on salesmen. R. H. Lampee. Ed & Pub 84:30 Jl 28 '51

Answering ad service answers double purpose. H. W. Tushingham. Ed & Pub 83:38 O 28 '50

Five-star merchandising plan shines for daily. R. B. McIntyre. Ed & Pub 84:16 My 5 '51

Grocery bag ads offered dailies as merchandisers. R. B. McIntyre. Ed & Pub 84:14 My 19 '51

Local level planning sells national linage. M. E. York. Ed & Pub 84:16 Ag 4 '51

See also

Advertising mediums —Newspapers

Market research, Newspaper

Anniversary editions

140-page issue marks Plymouth centennial. Ed & Pub 84:38 Ag 25 '51

Oregonian celebrates centennial for month. C. Lyon. Ed & Pub 83:12 D 2 '50

Richmond times-dispatch celebrates its 100th birthday. Ed & Pub 83:13 O 28 '50

Book reviews

Book reviews carry money-back guarantee; Houston press. J. Wagner. Ed & Pub 84:58 My 19 '51

Dailies win awards for book reviews. Ed & Pub 84:10 Mr 10 '51

Letters based on Kuhn piece draw replies. Ed & Pub 84:51 Ap 7 '51

Business news

Fresh facts should give quick picture of markets. T. S. Irvin. Ed & Pub 84:62 Ja 13 '51

Charities

Herald Tribune Fresh air fund seeks million. Ed & Pub 84:20 My 26 '51

Christmas activities

Goodfellows spread cheer for 38th year. il Ed & Pub 83:9 D 23 '50; 84:54 Ja 6 '51

Newspaper activities kindle Christmas spirit. Ed & Pub 83:7 D 23 '50

Thousands get lift from dailies' songfests. Ed & Pub 83:8 D 23 '50

Circulation

Circulation gain greater than population growth. O. R. Smith. Ed & Pub 84:7+ Ag 11 '51

Circulations outrun gain in U.S. families. M. G. Sullivan. Ed & Pub 84:10 F 24 '51

Dailies continue record circulations in 1951 audit. G. A. Brandenburg. Ed & Pub 84:13+ Jl 14 '51

Face new challenge for readers' time. J. A. Swan. Ed & Pub 84:43 My 26 '51

Silha outlines factors of circulation growth. G. A. Brandenburg. Ed & Pub 84:11 Mr 24 '51

See also

Audit bureau of circulations

Southern circulation managers association

Circulation managers

Circulation managers divided on need for research group. G. A. Brandenburg. Ed & Pub 84:42 F 17 '51

Circulation workers face new handicaps. Ed & Pub 83:42 N 25 '50

District men need to be busy. J. Mullen. Ed & Pub 84:40 Je 2 '51

Ernie, the doer, tells what needs to be done. G. A. Brandenburg. Ed & Pub 84:44-5 S 1 '51

Six Scripps-Howard circulators tell about their jobs. G. A. Brandenburg. Ed & Pub 83:40 D 23 '50

Ways to meet high costs. J. A. Abey. Ed & Pub 83:50 O 21 '50

Circulation systems

Amarillo newspapers cover three-state area. G. A. Brandenburg. Ed & Pub 84:62 F 10 '51

Daily makes it easy for mail subs to pay; Knoxville (Tenn.) journal. G. A. Brandenburg. Ed & Pub 83:44 O 28 '50

Knoxville mail subscribers are own salesmen. G. A. Brandenburg. Ed & Pub 84:44 Ag 18 '51

New city dealer setup wins independent status. Ed & Pub 84:52 Ag 11 '51

Target town promotion wins new subscribers. G. A. Brandenburg. Ed & Pub 83:38 D 16 '50

See also

Newspaper vending boxes

Columnists

Al Segal, "Cincinnatus," deals in human interest. H. V. Martin. Ed & Pub 84:48 Ja 6 '51

Columnist vs editor; discussion at ASNE. Ed & Pub 84:20+ Ap 28 '51

Copy reader's rhymes in Journal, Press, Times. R. Johns. Ed & Pub 83:24 D 16 '50

Dr Ray still writing his columns at 90. Ed & Pub 84:52 Ja 27 '51

Graffis writes for illiterates. G. A. Brandenburg. Ed & Pub 83:36 D 23 '50

Last Billy Rose Horseshoes column Dec. 4. Ed & Pub 83:13 D 2 '50

Lovelorn advice fills need, or for laughs? J. McMaster. Ed & Pub 84:40 F 17 '51

NEWSPAPERS—Columnists—*Continued*

Midnight Earl is an old homebody. P. Schuyler. il Ed & Pub 83:13+ D 23 '50

Pat and Tess, column team, break into tv. S. M. Friedman. Ed & Pub 83:30 N 18 '50

Public servant writes column as safety valve; San Diego building inspector, Oscar G. Knecht. J. M. Olson. Ed & Pub 84:24 My 26 '51

Readers elect Tolbert to job he lampooned. Ed & Pub 83:28 N 18 '50

Zodiac is consulted in launching column. J. McMaster. Ed & Pub 84:40 Ja 6 '51

See also

Brown, Constantine

Butler, Frank

Mackenzie, DeWitt T.

Comic strip

Annie Oakley mixes hoss and soap opera. J. McMaster. Ed & Pub 84:42 F 24 '51

Authenticity is keynote in Prince Valiant strip. E. Knoll. Ed & Pub 84:60 S 22 '51

Blondie, Alley most popular in 2,500 votes. Ed & Pub 84:12 Mr 3 '51

Bronc Saddler rides the modern plains. J. McMaster. Ed & Pub 83:48 N 18 '50

Buck O'Rue, a Wild West travesty, appears. J. McMaster. Ed & Pub 84:34 F 3 '51

Cassidy comic hops over to King features. J. McMaster. Ed & Pub 83:46 O 21 '50

Comics have great pull. R. C. Westover. Ed & Pub 84:47 S 1 '51

'51 to test other media comics trend. J. McMaster. Ed & Pub 83:42 D 23 '50

Hatlo deals with names like hometown scribe. J. McMaster. Ed & Pub 83:44 D 2 '50

Invincible comics stars? not completely. J. McMaster. Ed & Pub 83:40 N 4 '50

King Aroo reigns with whimsy, humor. J. McMaster. Ed & Pub 83:40 O 28 '50

Orphan Annie says, keep your nose tidy! P. Schuyler. il Ed & Pub 84:12+ F 24 '51

Papers explore ways to save comics space. E. Knoll. Ed & Pub 84:46 Jl 14 '51

Realistic farm picture goal of Sandy Hill. J. McMaster. Ed & Pub 83:46 N 11 '50

Young McClure artist tries to please himself; Jack Kent of San Antonio. J. McMaster. Ed & Pub 84:46 My 5 '51

Competition

Competition in the newspaper industry. R. H. Ray. J Marketing 15:444-56 Ap '51

Consolidations

Madison papers keep competitive spirit. G. A. Brandenburg. Ed & Pub 84:30 Mr 31 '51

Monopoly curb is restricted to section under HR-2734. Ed & Pub 83:10 D 16 '50

Copy boys

Press would be dead without cry of copy. P. H. Spiers, jr. Ed & Pub 84:108 Ap 21 '51

Copy editors

21 dailies send copy editors to API seminar. Ed & Pub 84:38 Ap 7 '51

Correspondents

Fulltime space writers ruled employes. Ed & Pub 84:18 Ag 4 '51

News correspondent held not legal agent. A. W. Gray. Ed & Pub 83:48 O 21 '50

See also

United nations—Reporters and reporting

Correspondents, New York

Big town reporting for folk back home. R. Erwin. Ed & Pub 84:16 Ag 18 '51

Correspondents, Washington

Leviero spikes plant claim on Truman-MacArthur Wake Island conference story. Ed & Pub 84:14 My 26 '51

Washington reporters; what did the man say? A. F. Jones. Ed & Pub 83:20 O 21 '50

White House pops eyes wide open at 1 a.m.; MacArthur dismissal. Ed & Pub 84:9 Ap 14 '51

Costs

High production cost fatal to St Louis star-times. Ed & Pub 84:7-8 Je 23 '51

Page costs don't tell service cost. L. A. Link. Ed & Pub 83:63 N 11 '50

Court news

Bar urged to renew trial coverage talks. J. Walker. Ed & Pub 84:12 S 22 '51

Court watchdog offered as alternative to statute. J. Walker. Ed & Pub 84:5 F 17 '51

Editor says courts can assure fair trial; Florida case of Shepherd and Irvin. B. Struby. Ed & Pub 84:20 Je 9 '51

Judicial proceedings definition is variable. A. W. Gray. Ed & Pub 84:48 Je 2 '51

North Carolina judicial council favors law to open pleadings. Ed & Pub 83:30 O 28 '50

Ottawa journal discusses fine for trial story. Ed & Pub 84:50 F 24 '51

Trial by press admonition issues from Supreme court. Ed & Pub 84:7+ Ap 14 '51

Crime investigation

Brooklyn lid blows off; medal award followed by arrest of policemen. Ed & Pub 84:9+ My 12 '51

Cops' hands in pockets after kickback expose. Ed & Pub 84:15 S 15 '51

Dailies' investigators keep spotlight on vice. Ed & Pub 84:38 Ap 14 '51

Daily's effort frees man jailed as killer. Ed & Pub 84:72 Je 9 '51

Five newsmen are indicted after expose; gaining support. Ed & Pub 84:60 S 1; 11 S 8 '51

Former teacher bares school building racket; Joy Reese Coleman. Ed & Pub 84:58 F 24 '51

Indiana daily hits city officials in coal buying. Ed & Pub 83:29 D 2 '50

Journalistic romance is just a big gamble; Brooklyn Eagle gambling exposure. Ed & Pub 83:57 N 4 '50

Miami dailies help make mobsters scram. L. Barnhill. Ed & Pub 83:8 D 2 '50

Reporter sparks anti-dope drive. R. Erwin. Ed & Pub 84:14+ F 3 '51

Reporter's crime story sets off national probe. Ed & Pub 83:39 D 2 '50

Urges press lead national posse vs. crime. E. S. Friendly. Ed & Pub 84:21+ Ap 28 '51

Crime reporting

11 Pulitzer prizes won on war or crime theme. R. Erwin. Ed & Pub 84:7+, 9+ My 12 '51

Illinois daily denies syndicate pressure; Lincoln courier. Ed & Pub 84:136 Ap 28 '51

Lincoln publishers stand pat on policy. Ed & Pub 84:53 My 5 '51

Put down those mops, we've got a scoop! Robert Webb of New Orleans states. R. Heinecke. Ed & Pub 84:13 Ag 4 '51

Quote from official saves man from chair. Ed & Pub 83:48 N 25 '50

Scoops are Norma W. Pace's fee as lawyer on police beat. B. L. Mastin. Ed & Pub 83:30 N 25 '50

Sin is news. R. Poulin. Ed & Pub 84:20 F 10 '51

Delivery

Resort carrier service reduces summer slump. A. H. Adams. Ed & Pub 83:44 N 11 '50

Directories

1951 year book corrections and additions. Ed & Pub 84:38 My 5 '51

Dramatic and music critics

Actress-critic feud sets off rights battle; Silvio d'Amico, dean of Italian drama critics, and Tatiana Pavlova. S. Stogel. Ed & Pub 84:52 Ap 7 '51

Mild Claudia Cassidy despises mediocrity, Chicago Tribune music and drama critic. G. A. Brandenburg. Ed & Pub 84:28 Mr 10 '51

Dress pattern features

Celluloid beginnings; Star pattern fashion feature. J. McMaster. Ed & Pub 83:42 D 16 '50

Home sewing column to run ads in 25 papers. Ed & Pub 84:20 Ja 20 '51

Editorial writers

Editorial writers face greater responsibility. G. A. Brandenburg. Ed & Pub 83:7+ N 25 '50

Editorial writers' independence is risky. J. Lofton. Ed & Pub 84:12 Ap 7 '51

Oregon writers do other chores. Ed & Pub 83:28 O 28 '50

NEWSPAPERS—*Continued*

Editors

California seminar attracts 160 editors. Ed & Pub 84:13+ Je 30 '51
Catledge made executive managing editor. Ed & Pub 84:12 Ja 20 '51
Ewing wins MacArthur's thanks, praise. Ed & Pub 84:11 F 3 '51
Ghosts, flying saucers all made to order by city editor. P. Stevenson. Ed & Pub 84:54 Ja 20 '51
Robert Wolfe, Carr Van Anda in Ohio shrine. Ed & Pub 83:55 D 16 '50
Seven promotions on editor roll in San Diego. Ed & Pub 84:20 Ja 13 '51
16 editors back Dewey despite Gannett stand. Ed & Pub 83:15 N 4 '50
Two poll victories cap Clarvoe's 25-year record. C. Watson Ed & Pub 83:64 N 18 '50
Who's editing it now? Fleet Street refrain. D. Willens. Ed & Pub 84:28 My 26 '51
See also
Crowley, Raymond L.

Employees

Altoona mirror fetes oldtimers on anniversary. Ed & Pub 84:24 Je 23 '51
Apprentices and foremen receive attention in personnel relations. R. Spahn. Ed & Pub 84:74 Mr 10 '51
Award against daily on color starting time. Ed & Pub 84:45 My 26 '51
Canadian ITU strike enters its sixth year. Ed & Pub 84:20 My 12 '51
Commission system favored by majority. H. W. Tushingham. Ed & Pub 84:52 Je 2 '51
Corpus Christi daily sets up education fund. Ed & Pub 84:52 Ja 6 '51
Dailies tieup political issue in Pittsburgh. Ed & Pub 83:59 N 4 '50
Dailies' workers older than other industries. Ed & Pub 84:7 Ag 25 '51
Group handles office orphans at Denver post. Ed & Pub 83:30 N 25 '50
Guild shop rejected in Canada mediation. Ed & Pub 84:18 F 24 '51
Guild taking strike vote of AP members. Ed & Pub 83:9 O 28 '50
ITU paper's editor charges slanting, quits. Ed & Pub 83:28 D 23 '50
Los Angeles News drops 53 to stave off deficit. Ed & Pub 84:8 S 15 '51
Makeup man is salesman. J. E. Rohde. Ed & Pub 84:28 Ag 25 '51
Mine workers pledge help in Beckley strike. Ed & Pub 83:6 D 30 '50
New York dailies, nine unions agree on two-year pacts. Ed & Pub 83:6 O 28 '50
Non-union employes protected by injunction. A. W. Gray. Ed & Pub 84:50 My 5 '51
Old North's alumni plan 25th reunion. J. W. Dragonetti. Ed & Pub 83:38 N 25 '50
Pittsburgh dailies bounce back to normal. E. F. Brennan. Ed & Pub 83:10 N 25 '50
Quick indoctrination handled with booklet. T. S. Irvin. Ed & Pub 83:52 O 21 '50
Reelroom to be shelter at Chicago tribune. Ed & Pub 84:9 Ja 20 '51
Right of discharge changed by contract. A. W. Gray. Ed & Pub 83:43 D 23 '50
Seven-week strike on Pittsburgh daily newspapers; editorial. Ed & Pub 83:38 N 18 '50
Size of salary doesn't make a professional. Ed & Pub 84:7 F 10 '51
Small daily sets up program for staffers; Gainesville (Ga.) times. S. Meyer. Ed & Pub 84:22 S 1 '51
Some crafts sign up with New York City dailies. Ed & Pub 83:6 N 11 '50
Spahn is president of personnel group; organization of the Newspaper personnel relations association. G. A. Brandenburg. Ed & Pub 84:16 Mr 17 '51
Suggestions, employe paper build morale. Ed & Pub 84:28 Je 9 '51
Unions make local bargaining difficult. Ed & Pub 84:137 Ap 28 '51
Unions pose differing slant on wage control. J. J. Butler. Ed & Pub 84:10 Je 9 '51
Wage panel majority sees no exemptions. Ed & Pub 84:11 Ag 25 '51
Want Chronicle job? get in copyboy line. C. Watson. Ed & Pub 83:14 N 25 '50
Why small papers enjoy wage-hour exemption. A. W. Gray. Ed & Pub 84:28 F 17 '51
Written mailer pact, Pittsburgh tieup issue. Ed & Pub 83:10 O 21 '50
See also
Newspaper and mail deliverers' union
Newspapers—Circulation managers
Newspapers—Correspondents
Printers
Reporters

Engraving departments

85-line engraver does best work. R. R. O'Brien. Ed & Pub 83:61 D 9 '50

Farm news

Ellis and Conn tell how to edit farm news. D. I. Day. Ed & Pub 84:18 Jl 7 '51
Farm editor hears corn grow, and proves it. H. Jacobs. Ed & Pub 84:17 Ag 18 '51

Fashion news

Dress institute service helps style reporting. Ed & Pub 83:47 O 28 '50
Fashion news fills six pages every month. Ed & Pub 84:35 Mr 3 '51
Men's fashion section to run in 12 dailies. Ed & Pub 84:36 Mr 10 '51

Finance

Census shows U.S. press nearly $2 billion business. Ed & Pub 84:5 F 3 '51
Chicago news continues gain, $1,529,557 net. Ed & Pub 84:11 F 10 '51
Controllers ready with axes to combat rising costs. Ed & Pub 83:7+ O 21 '50
Institute of newspaper controllers and finance officers meeting, St Louis. Ed & Pub 84:14 S 29 '51
International paper co. role in N.O. Item sale. Ed & Pub 84:9-10 Mr 3 '51
Newspaper business; the death of a formula. Fortune 44:118-19+ S '51
Newspapers' operating costs outrun revenue in 1950, fourth year in row. R. U. Brown. Ed & Pub 84:5-6 Ap 7 '51
Only five per cent of $875,000 gain in revenue is net profit. R. U. Brown. Ed & Pub 85:5-6 Ap 14 '51
Papers net $693,000 out of $16,463,000; Boston herald-traveler. Ed & Pub 84:14 Mr 3 '51
Weekly editor's store provides revenue source; Grand Ledge independent sells party supplies. Ed & Pub 84:34 Mr 10 '51

Food sections

Agnes Olmstead wins trophy for food news. Ed & Pub 83:22 N 18 '50
Food editors' conference is highly praised. Ed & Pub 83:64 O 28 '50
Food news and ads show steady climb. G. A. Brandenburg. Ed & Pub 84:17+ S 15 '51
44-page grocery section hailed as new record. A. L. Carmical. Ed & Pub 83:57 O 21 '50
Papers have put Jessie DeBoth where she is. J. L. Collings. Ed & Pub 84:12 Ja 6 '51

Foreign correspondents

Diplomats get press into spy tempest. R. Daniell. Ed & Pub 83:10 D 9 '50
More coverage needed abroad. R. F. Anderson. Ed & Pub 84:53 Ja 6 '51
Newsmen hardly like keeping up with Ike. Ed & Pub 84:52 Ja 27 '51
1946 friendship opens Yemen to reporter. J. B. McFadden. Ed & Pub 84:100 Ap 28 '51
Seeks world aid for foreign correspondents. T. Lie. Ed & Pub 84:9+ Jl 7 '51
UN studies status of correspondents. Ed & Pub 84:32 S 1 '51
Vatican assignment challenges newsmen. R. Erwin. Ed & Pub 84:17 Mr 3 '51

Foreign news

Spain bases censorship on Atlantic City pact. H. E. Knoblaugh. Ed & Pub 84:13 Mr 31 '51
World news digest popular in W-T & S. R. Erwin. Ed & Pub 84:28 Je 30 '51

Government news

Five persistent newsmen pierce Council secrecy. Ed & Pub 83:32 N 18 '50
Meeting with officials combats handoutitis; Oregon newspaper publishers assn. Ed & Pub 84:32 S 22 '51
New York state society of newspaper editors autumn meeting, New York. Ed & Pub 83:5-6 O 21 '50

NEWSPAPERS—Government news—*Cont.*

Newspapers praised for anti-crime help. Ed & Pub 84:8 Mr 31 '51

Senator Case probes control-by-handout. J. J. Butler. Ed & Pub 84:56 S 8 '51

Voluntary security rules broaden restricted area. J. J. Butler. Ed & Pub 84:11 S 29 '51

See also

Newspapers—Correspondents, Washington

History

Sacramento union looks ahead at 100. C. Watson. Ed & Pub 84:10 Mr 24 '51

Human interest stories

Daily and tv station present dramatic story. Ed & Pub 84:14 Je 2 '51

Illustrations

More pictures used in small town papers; Polaroid Land one-minute camera. Ed & Pub 83:20 D 9 '50

Indexes

New York Times index for the published news of 1950. v38 1259p $35 New York times co, 229 W. 43d st, New York 18 '51

Industrial news

Business page developed into bright feature. Ed & Pub 83:11 D 30 '50

International aspects

International press institute starts with $270,000 aid. L. Markel. Ed & Pub 84:13 Ap 21 '51

Soviet-U.S. press debate in the making. Ed & Pub 84:10 Ag 4 '51

Labor news

Labor coverage hurt by editorial blowoff. Ed & Pub 84:24 Mr 3 '51

Woman covers labor unions, inside and out. Ed & Pub 84:14 Ap 7 '51

Language, style, etc.

Readers are foggy on newspaper cliches. D. M. White. Ed & Pub 84:20 Ap 7 '51

Law

Court asked to void New Orleans Picayune advertising contracts; anti-trust suit. Ed & Pub 84:6 F 3 '51

Courts more tolerant of judicial criticism. A. W. Gray. Ed & Pub 83:32 D 30 '50

Damages in cancellation of advertising contract. A. W. Gray. Ed & Pub 83:55 O 28 '50

Editorial hits confidence law for reporters; Chicago tribune. Ed & Pub 84:13 Je 9 '51

Florida press under barrage of 35 bills. Ed & Pub 84:16 My 19 '51

General circulation definition is settled. A. W. Gray. Ed & Pub 84:39 Mr 3 '51

Georgia newspaper regulation bill beaten. Ed & Pub 84:13 F 17 '51

Inspection of records held citizen's privilege. A. W. Gray. Ed & Pub 84:96 Ap 21 '51

Judge weighs arguments on forced unit ad rates; New Orleans case. Ed & Pub 84:11+ Jl 21 '51

Law's outlook on errors run in advertisements. A. W. Gray. Ed & Pub 84:26 Ag 25 '51

Lorain journal asks for limited decree. Ed & Pub 83:11 N 4 '50

Lorain journal asks if radio ad is must. Ed & Pub 84:9 F 3 '51

Lorain journal taking order to Supreme court; with text of judgment. Ed & Pub 84:10-11 Ja 13 '51

Lorain journal tests U.S. backing of rival. Ed & Pub 84:22 S 29 '51

Newspaper essential, claims laws group. Ed & Pub 84:108+ Ap 28 '51

Political rate limit raises utility question. A. W. Gray. Ed & Pub 84:55 Jl 14 '51

Retraction laws lack Supreme court decision. A. W. Gray. Ed & Pub 84:39 F 3 '51

R.I. papers win court decision to see records. Ed & Pub 84:47 Jl 21 '51

Rule on contracts against competition. A. W. Gray. Ed & Pub 84:51 Ja 6 '51

Solons defend pet press bills before editors. Ed & Pub 84:28 Ap 14 '51

Supreme court will review retraction law. Ed & Pub 83:53 O 21 '50

Trial of Times-Picayune anti-trust case begins. Ed & Pub 84:7+ My 5 '51

U.S. asks court to outlaw compulsory unit ad rate. Ed & Pub 83:3-4 D 30 '50

WEOL asks $984,000 from Lorain journal. Ed & Pub 84:18 Jl 14 '51

Wisconsin enacts press-approved retraction law. Ed & Pub 84:47 Ag 18 '51

See also

Copyright

Libel and slander

Privacy, Right of

Privileged communications

Local news

Local coverage for Japanese studied. Y. Sajima. Ed & Pub 84:12 F 3 '51

Mailing

Few newspapers offer special GI mail rate. G. A. Brandenburg. Ed & Pub 84:48 Ja 27 '51

Tells how paper carries mail. G. A. Brandenburg. Ed & Pub 84:30 Ja 13 '51

Management

Annenberg policies advance Inquirer. J. W. Dragonetti. Ed & Pub 84:14 Ag 4 '51

How local news builds readers. W. K. Todd. Ed & Pub 84:48 Mr 17 '51

Secret formula for managing? just train 'em. J. W. Dragonetti. Ed & Pub 83:20 D 16 '50

Two-cent daily still thrives in efficient plant; Hanover evening sun. G. R. Dowdell. Ed & Pub 84:22 Ag 11 '51

Market research

See Market research, Newspaper

Medical news

Medical board gains clearance for stories. Ed & Pub 84:30 Je 16 '51

Negro relations

Three Texas papers add Negro news with success. Ed & Pub 84:44 Je 2 '51

Photography departments

Billy Davis tells how his photo department is run. J. L. Collings. Ed & Pub 84:114+ Ap 21 '51

New photo laboratory in Washington post is dream job. J. L. Collings. il Ed & Pub 83:36+ D 9 '50

Some conditions bad, Sarno finds on tour. J. L. Collings. Ed & Pub 84:50 Je 16 '51

Steve Ditzian proud of lab he designed. J. L. Collings. Ed & Pub 84:38 Ag 18 '51

Survey gives inside on photo departments; abstract. N. I. Lindquist. Ed & Pub 83:52 N 25 '50

Political influence

Newsday changes big ballot battle. Ed & Pub 83:13 N 18 '50

Papers cited for increasing voter activity. Ed & Pub 83:64 D 16 '50

Ruling avoided on South Bend contribution. Ed & Pub 84:56 Ja 6 '51

Political news

Chicago editors deny political apathy. G. A. Brandenburg. Ed & Pub 83:10 N 11 '50

Nixon-Douglas contest coverage measured. C. Watson. Ed & Pub 84:12 Ja 27 '51

Politicos battle it out on New York News page. R. Erwin. il Ed & Pub 83:49 N 4 '50

Stanford report. C. Bush; F. A. Clarvoe. Ed & Pub 84:8, 57 F 24 '51

Suit is brought for partisanship in Minneapolis. Ed & Pub 83:59 N 4 '50

U.S. press gets A for British poll news. H. G. Nicholas. Ed & Pub 84:22 F 24 '51

Prices

Circulators debate adjustments in rates. Ed & Pub 84:13 S 8 '51

Newsprint supply big in '51 sales demand; circulation managers predict higher Sunday prices. Ed & Pub 83:34 D 30 '50; 84:38 Ja 6 '51

Post higher prices for subscribers. Ed & Pub 83:12 D 23 '50; 84:13 Ja 6 '51

Price is raised to better paper; Long Beach independent. L. A. Collins. Ed & Pub 83:22 O 21 '50

NEWSPAPERS—Prices—*Continued*

Sunday paper up to 20c regains early losses. Ed & Pub 84:52 Je 23 '51
Ten cent daily prescribed for sick industry. J. F. O'Connor. Ed & Pub 84:9 S 22 '51
Threat of increased prices tops small dailies session. R. M. Hederman, jr. Ed & Pub 84:14, 141 Ap 28 '51

Printing

ANPA research spurs manufacturers' effort. C. M. Flint. Ed & Pub 84:24+ Ap 28 '51
American newspaper publishers association 23d Mechanical conference, Chicago, June 11. Ed & Pub 84:12+ Je 16 '51
Composing room bosses swap ideas in mark-up to makeup discussion. Ed & Pub 83:52 D 9 '50
Joint printing plant helps separate papers. W. H. Fleming. Ed & Pub 83:8 O 21 '50
LaSalle news-tribune captures Ayer trophy. il Ed & Pub 84:20 Ap 21 '51
Offset weekly makes friends and money. Ed & Pub 83:20 N 18 '50
Photo composing still major research goal. Ed & Pub 84:24 Ap 28 '51
Six plants print World telegram and sun in unique production. Ed & Pub 83:66 N 11 '50
Technical problems of the newspaper industry; abstract. G. Larocque. Tappi 34: sup86A Ja '51
Teletype-Comet installation in East Liverpool (Ohio) review. Ed & Pub 84:72 My 12 '51

Prize contests

Memphis boy best speller in Scripps-Howard bee. Ed & Pub 84:60 Je 2 '51

Public relations

Neither affiliations nor gratuities wanted. F. W. Stein. Ed & Pub 84:25-6 Je 9 '51
92 per cent in Pittsburgh survey rate dailies more important. E. F. Brennan. Ed & Pub 83:9+ N 18 '50
"Plant to prosper" makes Memphis market fruitful. T. S. Irvin. Ed & Pub 83:14 N 11 '50
Profits and free press, ideal public relations story today. T. S. Irvin. Ed & Pub 84:46 S 29 '51
Public relations department proves valuable asset to daily. F. A. Miller. Ed & Pub 84:55 Mr 3 '51
Public relations during shutdown tests your ingenuity. T. S. Irvin. Ed & Pub 83:50 N 4 '50
Reports to readers. Ed & Pub 84:62 Ja 13 '51
Your public relations needs personal touch. E. Kellerhals. Ed & Pub 84:46 Ja 27 '51

Publishers

Ex-copy boy buys eight papers in $350,000 deal. J. Klein. Ed & Pub 83:28 D 23 '50
Paul Patterson retiring, Schmick heads Sunpapers. Ed & Pub 83:6 N 25 '50
Robert Wolfe, Carr Van Anda in Ohio shrine. Ed & Pub 83:55 D 16 '50
See also
Driscoll, James Joseph
Hill, Alfred Gibson

Radio reporting

Newspaper radio cars. J. J. Reidy. Ed & Pub 83:46 N 18 '50

Radio transmission

Miami students work out new fax techniques. C. M. Chuckrow. Ed & Pub 84:94 Ap 28 '51
Multiplexed broadcast facsimile. J. V. L. Hogan and J. W. Smith. il diags Electronics 24:97-9 O '51

Reader interest

Comics, social, sports draw top readership. Ed & Pub 84:11 Ja 27 '51
Housewife readership of 120 papers compiled. Ed & Pub 84:18 Mr 31 '51
Local features score in Sunday paper study. E. Knoll. Ed & Pub 84:8 F 10 '51
Montreal star surveyed again on readership. Ed & Pub 83:22 D 30 '50
Teen-age reading habits surveyed in South Bend. T. S. Irvin. Ed & Pub 84:44 Mr 17 '51
What boys and girls like in the newspaper; with tabulations. P. I. Lyness. Ed & Pub 83:18 N 4 '50
Who reads what in those fat Sunday newspapers. Sales Management 66:82 Mr 1 '51

Real estate news

Real estate page awards are announced. Ed & Pub 83:32 N 18 '50

Recipe sections

700 amateurs cook with gas; man wins. Ed & Pub 83:12 D 9 '50

Religious news

New national paper issued by Protestants. Ed & Pub 83:12 D 30 '50

Reports

Management report system is thorough; New York herald tribune. C. M. Hupp. Ed & Pub 84:30 Je 2 '51
Reports to readers also make mailing pieces. T. S. Irvin. Ed & Pub 84:34 F 10 '51

Sales promotion

Additional revenue will be promotion job. T. S. Irvin. Ed & Pub 83:68 D 9 '50
Dailies seek to win more teen age readers. G. A. Brandenburg. Ed & Pub 83:50 D 2 '50
Football game nets 1,300 new subscriptions. Ed & Pub 83:30 O 28 '50
Hopalong nets 5,000 orders for Seattle P-I. Ed & Pub 84:47 Ap 14 '51
It's time to be alive to broken traditions. T. S. Irvin. Ed & Pub 83:66 N 18 '50
Know America first; done without hoop-la; Miami (Fla.) daily news booklet. T. S. Irvin. Ed & Pub 84:48 Jl 28 '51
Let's have competitive talk, but keep it clean. T. S. Irvin. Ed & Pub 84:48 My 5 '51
Letters to these wives sell Rio Grande valley. T. S. Irvin. Ed & Pub 84:30 Mr 3 '51
Oklahoman effectively uses state's brochure. T. S. Irvin. Ed & Pub 84:54 S 22 '51
Packaged promotion boosted. W. Aronoff. Ed & Pub 83:48 D 9 '50
Premium subscription results for 47 dailies. Ed & Pub 84:78+ Ap 21 '51
Promotion departments have essential function. B. E. Stolpe. Ed & Pub 84:42 Ja 20 '51
Promotion men have fact-finding parley. T. McDowell. Ed & Pub 84:9+ My 5 '51
Roberts piece reaches high tide of promotion; Kansas City star. T. S. Irvin. Ed & Pub 84:56 Ag 11 '51
San Francisco news aims to sell 1,000,000 cookbooks. Ed & Pub 84:18 F 3 '51
Summertime stunts prove to be stimulating. T. S. Irvin. Ed & Pub 83:34 Jl 21 '51
Take a look back at '50 to see ahead into 1951. T. S. Irvin. Ed & Pub 83:35 D 30 '50
Tells how sales staffers should be sold. E. W. Swick. Ed & Pub 84:44 Mr 10 '51
There's learnin an' fun in Omaha B and G week. T. S. Irvin. Ed & Pub 84:48 Ap 14 '51
35 on Podvey's staff to promote Inquirer. J. W. Dragonetti. Ed & Pub 83:18 N 11 '50
Young musicians' radio show provides school tieup; New York times. T. S. Irvin. Ed & Pub 84:36 Mr 24 '51

School news

Educators seek better relations with press. Ed & Pub 84:22 My 19 '51
School board sees evidence, opens sessions. Ed & Pub 84:26 Jl 28 '51

Science news

Howden figured story would rate George Westinghouse science writing award. S. Hammer. Ed & Pub 84:48 Ja 6 '51
Howden wins Westinghouse science award. Ed & Pub 83:10 D 16 '50
Science news doubled in decade, editors say. H. Krieghbaum. Ed & Pub 84:22 Ap 7 '51

Serials

Book publishers split on value of serials. J. McMaster. Ed & Pub 84:48 Ap 7 '51
Syndicates gain more first cracks at serials. J. McMaster. Ed & Pub 84:42 Ap 14 '51

Service

Consider the hot-rods, conduct safety drive. T. S. Irvin. Ed & Pub 84:52 My 19 '51

NEWSPAPERS—Service—*Continued*

Corruption is press target. B. L. Walters. Ed & Pub 84:26 S 29 '51

Dailies vary approach to safe-driving effort. Ed & Pub 84:18+ Ag 11 '51

Daily's party safety valve for teen grads; Long Beach independent. Ed & Pub 84:22 Je 30 '51

Don't let marketing memos become routine. T. S. Irvin. Ed & Pub 84:42 S 1 '51

Estes obtains huge industries for Longview, Tex. Ed & Pub 84:57 Je 16 '51

Farm peonage expose captures Broun award. Ed & Pub 84:12 Mr 10 '51

Happyland has made 6,000 happy since '30; Toronto (Ont.) Telegram vacation resort. T. S. Irvin. Ed & Pub 84:48 Je 30 '51

Hearst paper slashes tape to get GI home. R. Erwin. Ed & Pub 83:8 D 16 '50

Industry gain is attributed to daily's effort. Ed & Pub 84:98 Ap 21 '51

Kefauver cleanup idea good local promotion. T. S. Irvin. Ed & Pub 84:50 Ap 7 '51

New York mirror assists GIs on furlough. Ed & Pub 84:13 Mr 10 '51

Newsmen form Mid-West flood control council. Ed & Pub 84:18 S 8 '51

Press active in probe of Louisiana state penitentiary. Ed & Pub 84:14 Mr 24 '51

Racing license denial follows paper's poll. Ed & Pub 84:28 Je 2 '51

$600 started phone service for wounded. C. Watson. Ed & Pub 83:34 N 11 '50

$331,595 tops goal for 1950 Fresh air fund. Ed & Pub 84:18 Ja 20 '51

Wallace heads ANPA-ICMA safety effort. Ed & Pub 84:13 S 22 '51

World-herald to give $5,000 in soil project. Ed & Pub 84:16 Ap 14 '51

See also
Newspapers—Charities

Ship news

50 newsmen cover new ship on voyage. Ed & Pub 84:46 Ja 27 '51

Small size

Tiny daily nets $8,500 a year for N.C. editor; Tryon daily bulletin. Ed & Pub 84:30 Ag 11 '51

Society news

New York Times staffer lauds society editor, Bessie I. Phillips. Ed & Pub 83:20 N 11 '50

Sports news

New sports columns by Wismer, Dizzy Dean. E. Knoll. Ed & Pub 84:52 Ag 25 '51

New summary form devised for basketball. Ed & Pub 84:35 Ja 6 '51

1,000 negatives made to report grid game. W. Lister and C. Elfont. Ed & Pub 83:14 N 4 '50

Small gate blamed on newspapers. Ed & Pub 83:46 N 25 '50

Sox inspire writers to coin colorful phrases. Ed & Pub 84:22 Je 23 '51

Sports reporters speed demons, too. Ed & Pub 84:53 S 1 '51

T. H. Parker, music and drama critic, reviews football game. Ed & Pub 83:39 D 2 '50

Statistics

Median-size study corrects typical daily impression; with tabulations. W. F. Swindler. Ed & Pub 83:5-6 D 9 '50

Syndicate service

Ain't it the truth is new McClure panel. Ed & Pub 84:54 Ag 11 '51

Chief Hearst had direct control of syndicate operation. E. Knoll. Ed & Pub 84:48 Ag 18 '51

Crime probe influencing feature offerings. J. McMaster. Ed & Pub 84:40 Mr 31 '51

Editors and lawyers pass columnists' copy. J. McMaster. Ed & Pub 84:32 Mr 3 '51

Fat promotions pay off in diet series response. J. McMasters. Ed & Pub 84:38 Mr 24 '51

Herald tribune obtains Forrestal diaries. J. McMaster. Ed & Pub 83:44 N 25 '50

Post-Hall to sell Dateline your world. J. McMaster. Ed & Pub 83:34 D 9 '50

Science and history, Washington deflation. Ed & Pub 84:52 Je 16 '51

Syndicates called lax in promotion activities. J. McMaster. Ed & Pub 84:48 Ja 13 '51; Reply. 84:40 Ja 20 '51

Syndicates wary in adding columns. J. McMaster. Ed & Pub 83:41 D 30 '50

United becomes second syndicate to sell tv. J. McMaster. Ed & Pub 84:44 My 12 '51

Directories

Twenty-sixth annual directory of syndicated features. Ed & Pub 84:3-44 sec 2 Jl 28 '51

Taxation

Circulation expense can raise tax credit. C. T. Koester. Ed & Pub 84:28 Ja 20 '51

Columbus ends newspaper license levy. Ed & Pub 83:53 N 25 '50

Eliminating competition not tax deduction item; Toledo blade co. A. W. Gray. Ed & Pub 83:45 N 4 '50

Georgia papers accept local license tax. Ed & Pub 83:52-3 N 11 '50

Joint printing plant helps separate papers. W. H. Fleming. Ed & Pub 83:8 O 21 '50

License taxes based on revenue held valid. A. W. Gray. Ed & Pub 84:39 F 10 '51

PNPA fights one cent per copy tax proposal. Ed & Pub 84:52 Ag 18 '51

Surplus rulings guide expansion programs. A. W. Gray. Ed & Pub 84:50 Ja 20 '51

Telegraph service

International press rate is kept down; the committee on press communications of the ANPA report. Ed & Pub 84:30 Ap 28 '51

Publishers oppose new telegraph rates. Ed & Pub 84:12 Jl 7 '51

Publishers to fight Western Union rates. Ed & Pub 84:79 Je 9 '51

Telephone service

Detroit times Singit cuts wire tolls 73 per cent. il Ed & Pub 84:9 My 19 '51

Phone boards attest public's faith in press. Ed & Pub 84:22 F 10 '51

Television competition

If tv is real threat, let's fight it together. T. S. Irvin. Ed & Pub 83:48 D 16 '50

Linage leaders found in tv's main markets. Ed & Pub 84:20 Ag 4 '51

Quarter-in-slot makes circulation famine. J. Walker. Ed & Pub 84:50 F 17 '51

Reading of newspapers holds firm in tv homes. J. Walker. Ed & Pub 84:5 Mr 31 '51

Survey helps to guide debate on tv's effects. Ed & Pub 84:26 Mr 31 '51

Total newspaper sales climb in tv areas. Ed & Pub 83:5 N 25 '50

Warns against cutting dailies budget for tv. A. B. Sikes. Ed & Pub 84:30 Ap 21 '51

Television program listing

Flysheets give lift to radio-tv linage. J. Walker. Ed & Pub 84:20 Ag 18 '51

Transportation

Company-owned trucks best for San Antonio. G. A. Brandenburg. Ed & Pub 84:38 Jl 21 '51

Multiple problems hit moving of newsprint; ANPA traffic department. R. A. Cooke. Ed & Pub 84:50+ Ap 28 '51

Newspaper trucks score new low accident rate. Ed & Pub 84:23 Ap 28 '51

135 trucks average 10,000 miles in day; Los Angeles Evening herald & express. H. T. Aust. Ed & Pub 84:46 My 19 '51

Survey shows incentive plans for safe driving. G. A. Brandenburg. Ed & Pub 84:42 Jl 28 '51

Swedish dailies rely on fast train service. G. A. Brandenburg. Ed & Pub 84:50 Je 30 '51

Trial reporting

Lawyers study plan to limit trial coverage. Ed & Pub 83:20 D 9 '50

War news

Army tells how casualty report is speeded up. Ed & Pub 83:22 D 2 '50

Weekly newspapers

Adman hails influence of small papers. Ed & Pub 84:16 Ap 21 '51

NEWSPAPERS—Weekly newspapers—*Cont.*

Houghs' journalism, literary achievement; Vineyard gazette. S. Bologna. Ed & Pub 83:13 N 25 '50

Women's sections

Byline peps up women's staff; Inland daily press association clinic, Evanston, Ill. Ed & Pub 84:26 Ap 14 '51

Jean Mooney to head NEA women's service. E. Knoll. Ed & Pub 84:48 Ag 4 '51

Alabama

Press seizure bill amended for Alabama. Ed & Pub 84:45 F 3 '51

Argentina

Fight for a free press in Argentina. Economist 160:437-8 F 24 '51

See also

La Prensa

Brazil

Brazil pledges free press. G. Vargas. Ed & Pub 84:8 F 3 '51

California

History and bibliography of southern California newspapers, 1851-1876. M. Dawson. 86p bibliog(p84-6) $2.50 Dawson's book shop, 627 South Grand st, Los Angeles '50

Chicago

Chicago news 75 years old. Ed & Pub 84:9 Ja 6 '51

China

What happens to press when Commies come. R. Gould. Ed & Pub 84:16 Ja 6 '51

Davenport, Iowa

Davenport dailies go round-the-clock. Ed & Pub 84:55 S 22 '51

Florida

Miami Herald smear fails to win support. Ed & Pub 84:10 Je 2 '51

Miami's AM evicted from Voiler's plant. Ed & Pub 84:13 F 3 '51

Reporter feud tied to Florida anti-press war. Ed & Pub 84:14 Jl 7 '51

Great Britain

Austerity diet profitable for Britain's newspapers. D. Willens. Ed & Pub 84:9+ Ap 7 '51

London Daily Mirror group's profit higher. D. Willens. Ed & Pub 84:15 My 5 '51

Italy

Actress-critic feud sets off rights battle; Silvio d'Amico, dean of Italian drama critics, and Tatiana Pavlova. S. Stogel. Ed & Pub 84:52 Ap 7 '51

Italian ABC is advanced by advertisers. Ed & Pub 84:48 Ja 27 '51

Japan

Basic English tabloid zooms ahead in Japan. V. A. Schlich. Ed & Pub 84:20 Ag 4 '51

Kansas

Midwest dailies publish in spite of record flood. Ed & Pub 84:13 Jl 21 '51

Korea

Kimpo daily appears. Ed & Pub 83:9 O 28 '50

London

London Daily Mirror group's profit higher. D. Willens. Ed & Pub 84:15 My 5 '51

Who's editing it now? Fleet Street refrain. D. Willens. Ed & Pub 84:28 My 26 '51

Macon, Georgia

Peyton Anderson buys full control in Macon. Ed & Pub 84:8 Ja 6 '51

Mexico

Mexico gives papers credit in money crisis. Ed & Pub 84:16 Je 16 '51

Minneapolis

Suit is brought for partisanship in Minneapolis. Ed & Pub 83:59 N 4 '50

Nebraska

Lincoln star switches to A.M., Journal P.M. Ed & Pub 84:36 Ja 13 '51

New Orleans

Anti-trust trial ends; defense takes two days. Ed & Pub 84:13+ My 19 '51

International paper co. role in N.O. Item sale. Ed & Pub 84:9-10 Mr 3 '51

L. K. Nicholson turned down monopoly in New Orleans. Ed & Pub 84:10+ My 12 '51

New York (city)

Century-old papers shown until Dec. 30. L. H. Fox. Ed & Pub 84:30 S 29 '51

New York (state)

New York state society of newspaper editors autumn meeting, New York. Ed & Pub 83:5-6 O 21 '50

Philadelphia

Philadelphia newspapers. D. B. Arnold. Adv Agency 44:98+ Mr '51

Pittsburgh

BAB and B of A clash on Pittsburgh story. Ed & Pub 84:13 F 3 '51

Dailies tieup political issue at Pittsburgh. Ed & Pub 83:59 N 4 '50

Newspaper strike put a crimp in retailing. Bsns W p86 D 2 '50

Pittsburgh Press skeleton staff kept things rattling along. J. Williams. il Ed & Pub 83:11 N 25 '50

Sweden

Swedish dailies rely on fast train service. G. A. Brandenburg. Ed & Pub 84:50 Je 30 '51

United States

British editors like our newspaper plants. R. Erwin. Ed & Pub 84:23 Ap 21 '51

Iced water, gum, cigarette urns amaze British. Ed & Pub 84:20 Jl 14 '51

U.S. press gets A for British poll news. H. G. Nicholas. Ed & Pub 84:22 F 24 '51

NEWSPAPERS, College. See College newspapers

NEWSPAPERS, Ship

Ocean dailies published by ships. R. Erwin. il Ed & Pub 84:11+ Ap 7 '51

NEWSPAPERS, Trade union

Debut of ITU's Meriden daily received with cool interest. R. Erwin. Ed & Pub 84:7+ Ag 4 '51

ITU starts its own presses rolling; to create jobs for its members. Bsns W p34+ Ag 11 '51

ITU starts three new dailies in challenge to monopolies. Ed & Pub 84:7-8 Jl 21 '51

NEWSPRINT paper

ANPA board to meet newsprint suppliers. Ed & Pub 84:16 S 15 '51

Analysis of publishing proposed. G. E. Young. Ed & Pub 83:26 D 9 '50

Application of Pusey and Jones dual revolving syphons to newsprint machine dryers at Pine Falls. E. H. Lougheed. il diags Pulp & Pa of Can 51:95-8 D '50

Australia has newsprint trouble too. Paper Tr J 131:74 N 30 '50

Australian and New Zealand notes; possibility of producing reels of newsprint using pulp from tropical growths. W. T. Curtis-Willson. Paper Tr J 133:31 Jl 27 '51

Coosa River mill nets $857,000 first year. Ed & Pub 84:11+ My 12 '51

Coosa River mill supplies southern newsprint for southern papers. J. W. Hughes. il Paper Tr J 131:23-4+ D 28 '50

Did paper firm kill daily? two sides of story related, Lake Charles (La.) southwest citizen. J. Walker. Ed & Pub 84:7-8 Jl 28 '51

Dollars granted for newsprint in Britain, but. D. Willens. Ed & Pub 83:57 D 2 '50

Ecuador chief appeals to club for newsprint. G. Plaza. Ed & Pub 84:14 Je 30 '51

Effect of process variables in the grinding of newsprint groundwood. S. A. Collicutt. bibliog Pulp & Pa of Can (Convention no) 52:159-65+ [F] '51

Europe's idle machines could run South's mills. J. B. Snider. Ed & Pub 84:60 Ap 21 '51

'51 newsprint supply unlikely to equal '50. C. Williams. Ed & Pub 84:22+ Ap 28 '51

Government intervention in newsprint crisis asked. J. J. Butler. Ed & Pub 84:11+ My 12 '51

NEWSPRINT paper—*Continued*
International newsprint control. Paper Tr J 132:39-40 F 16 '51
Look ahead. S. Katz. Ed & Pub 83:38 D 16 '50
Mills rate '51 capacity at 6,409,816 tons. Ed & Pub 84:20 F 3 '51
NPA order is flexible for newsprint stocks. Ed & Pub 84:7 Ja 6 '51
New bagasse test makes good newsprint. Ed & Pub 84:15 Ag 25 '51; Same abr. Paper Tr J 133:20 Ag 24 '51
Newsprint complaints keep ration idea alive. Ed & Pub 84:62 Mr 3 '51
Newsprint pool idea gaining momentum. Ed & Pub 84:11 Mr 31 '51
Newsprint situation. R. M. Fowler. Paper Tr J 132:17-18+ My 4 '51; Abstract. Ed & Pub 84:9+ Ap 28 '51
Newsprint use continues at record rate. Ed & Pub 83:67 N 18 '50
Ohio mill to be reactivated for 300 tons of paper daily. Ed & Pub 83:5-6 N 11 '50
Operation of anti-deflection top press rolls on newsprint machines. D. R. Catford. il diags Pulp & Pa of Can (Convention no) 52:221-5 [F] '51
Papers must finance mills. R. W. Slocum. Ed & Pub 84:10+ My 19 '51
Plastic blanket saves newsprint. Ed & Pub 83:13 D 9 '50
Radioactive isotopes used in trial run of newsprint at Baie Comeau. Paper Ind 32: 1066 Ja '51
Refining of rejects; results of survey tabulated. C. T. Robinson. Pulp & Pa of Can 51:54-8 F '50; Same. Tappi 33:566-71 D '50
St Raymond mill output bought by New York news. Ed & Pub 83:6 D 30 '50
Seven nations drop call for newsprint parley. Ed & Pub 84:26 Jl 7 '51
SNPA report advocates expansion of two newsprint mills in South. Ed & Pub 83:5+ O 28 '50
Special section run on rag paper; the Berkshire evening eagle. Ed & Pub 84:66 Mr 10 '51
Technical problems of the newspaper industry; abstract. G. Larocque. Tappi 34: sup86A Ja '51
318 ways to reduce usage of newsprint. Ed & Pub 84:26 Je 2; 44 Je 9; 26+ Je 16; 32 Je 30 '51
Various groups eye Labrador for newsprint. R. Jackson. Ed & Pub 84:58 Ap 28 '51
Western papers to share in newsprint appraisal. C. Watson. Ed & Pub 84:9 F 17 '51

Prices

ANPA decries price rise; newsprint parley called off. Ed & Pub 83:11 O 21 '50
Four Canadian newsprint manufacturers up price. Paper Ind 33:386 Jl '51
Fowler answers DiSalle. Paper Tr J 132:14 Je 22 '51
It's $6 a ton now, maybe more in Jan. Ed & Pub 83:6 N 4 '50
Newsprint price atmosphere in Canada. Paper Tr J 131:13-14 N 16 '50
Newsprint shortage reflected in swing to higher prices. il Paper Ind 33:622 S '51
Newsprint up again in Britain; who pays now? D. Willens. Ed & Pub 83:28 N 4 '50
Publishers' comment on price increase. Ed & Pub 84:7+ Je 9 '51
27 per cent rise on paper hits Italian dailies. S. Stogel. Ed & Pub 83:49 N 25 '50
U.S. roars at Canadian newsprint price. il Bsns W p 145-7 Jl 7 '51

Statistics

Mills beat '49 record of 6,075,000 tons. Ed & Pub 83:26 D 23 '50
Newsprint paper in 1950. V. L. Tipka. Paper Tr J 132:71-2+ F 23 '51
World newsprint trends and developments. O. K. Krogfoss. For Comm W 41:3-4+ D 18 '50

Testing

Measuring the printing quality of newsprint. G. Larocque and others. bibliog il diags Pulp & Pa of Can (Convention no) 52:166-74 [F] '51

Transportation

Multiple problems hit moving of newsprint; ANPA traffic department. R. A. Cooke. Ed & Pub 84:50+ Ap 28 '51

NEWSSTANDS
Ex-newsboy gets bus terminal newsstands. R. Erwin. Ed & Pub 83:15 N 25 '50

NEWTON, Howard, d. 1951
My friend, Howard Newton. W. Weir. por Adv Agency 44:58+ F '51

NEWTON Chambers and company, limited
Statement by the chairman. S. Roberts. Economist 160:770-1 Mr 31 '51

NIACIN. See Nicotinic acid

NIAGARA alkali company
Niagara Alkali, 1900-1950. Soap & San Chem 26:49+ O '50

NIAGARA falls power company
Larger Niagara Mohawk to lead in hydro output. Elec World News ed 134:14 N 13 '50

NIAGARA Mohawk power corporation
Bonds offered. Comm & Fin Chr 172:1734-5 N 6 '50
Larger Niagara Mohawk to lead in hydro output. Elec World News ed 134:14 N 13 '50
Planning a modern utility merger. E. J. Machold. Pub Util 47:747-57 Je 7 '51
Public utility securities. O. Ely. Comm & Fin Chr 173:940-1; 174:705 Mr 1, Ag 23 '51

NIAGARA river
Soundings above Niagara falls obtained by helicopter and Kytoons. F. P. Bane. il map Civil Eng 21:529-32 S '51

Power utilization

Advantages of redevelopment of Niagara power by private enterprise. E. J. Machold. Edison Elec Inst Bul 19:289-92+ S '51
Canada builds a 1,200,000-hp plant. il map Power 95:78-81 O '51
Federal role debated in Niagara power plan. Eng N 147:27 Ag 23 '51
More power at Niagara. il Comp Air Mag 56:243 S '51
Niagara power; business goes over the Falls. map Fortune 44:83-5+ O '51
Senate group hears three-way battle over Niagara power development plans. Eng N 147:27 Ag 30 '51

NICARAGUA
See also
Gold mines and mining—Nicaragua

Commercial policy

Free trade treaty concluded with El Salvador. For Comm W 44:14 S 17 '51

Economic conditions

News by countries. For Comm W 41:11-12 D 25 '50; 42:16 Ja 22; 18 Mr 12; 19 Mr 26; 43:17 Ap 30 '51

NICHOLS, Frank R.
Iron age salutes. por Iron Age 167:69 Mr 29 '51

NICHOLSON, Ralph
Nicholson heads Charlotte observer. Ed & Pub 84:9 Ag 4 '51

NICKEL
Absorption spectra of certain nickel(II) and cobalt(II) complex ions. G. L. Roberts and F. H. Field. bibliog Am Chem Soc J 72:4232-5 S '50
Activation of a solid nickel catalyst for the hydrogenation of ethylene by heat treatment in a high vacuum. R. K. Sherburne and H. E. Farnsworth. bibliog J Chem Phys 19:387-8 Mr '51
Automatic magnetic balance for the study of ferromagnetic materials. R. F. S. Robertson and P. W. Selwood. bibliog diags R Sci Instr 22:146-52 Mr '51
Bench-scale studies of the Fischer-Tropsch synthesis over iron, nickel, and nickel-cobalt catalysts (Japan). S. Watanabe. rev ed bibliog 12pls U S Bur Mines Information Circ 7611:1-26 '51
Bending and coiling tubes of nickel and high-nickel alloy. il Heat & Ven 48:78-80 S '51
Carbonyl nickel films as hydrogenation catalysts. L. L. Baker, jr. and R. B. Bernstein. bibliog Am Chem Soc J 73: 4434-6 S '51
Chemical engineering materials of construction; nickel and high-nickel alloys. H. O. Teeple. Ind & Eng Chem 43:2242-51 bibliog(231 ref, p2249-51) O '51

NICKEL—*Continued*

Chemical spot tests for nickel and molybdenum. E. H. Snyder and A. H. Klein. Metal Prog 60:78-9 S '51

Complex formation between nickel ion and hydrazine in solution. E. C. Gilbert and W. H. Evans. Am Chem Soc J 73:3516-18 Jl '51

Construction materials in the paper industry; nickel and nickel alloys. H. O. Teeple. Chem Eng 58:222+ Ja '51

Cross sections of gamma-proton reactions. J. Halpern and A. K. Mann. bibliog diag Phys R 83:370-3 Jl 15 '51

Domain patterns on nickel. H. J. Williams and J. G. Walker. il diags Phys R 83:634-6 Ag 1 '51

Domain wall relaxation in nickel. W. P. Mason. Phys R 83:683-4 Ag 1 '51

Etched surfaces of nickel single crystals. S. Yamaguchi. il J Ap Phys 22:983-4 Jl '51

Ferromagnetic domains in bicrystals of nickel. U. M. Martius and others. bibliog il Phys R 82:106-7 Ap 1 '51

Influence of magnetization on ultrasonic attenuation in a single crystal of nickel or iron-silicon. S. Levy and R. Truell. il Phys R 83:668-9 Ag 1 '51

Initial susceptibility of nickel under tension. H. J. Peppiatt and B. N. Brockhouse. bibliog J Ap Phys 22:985-6 Jl '51

Interaction between the *d*-shells in the transition metals; calculation of the Weiss factors in Fe, Co, and Ni. C. Zener. Phys R 83:299-301 Jl 15 '51

M-14 nickel order as it affects stainless. Sheet Metal Worker 42:37-8 Mr '51

Magnetic domain patterns on nickel crystals. M. Yamamoto and T. Iwata. il diags Phys R 81:887-8 Mr 1 '51

Materials for fluorine control equipment. G. E. Zima and R. N. Doescher. il diags Metal Prog 59:660-3 My '51

Nickel and nickel alloys; review of progress since 1929. L. B. Pfeil. il Metallurgia 42:302-7 N '50

Nickel bottleneck. Bsns W p 150-1 Je 23 '51

Nickel shortage shifts focus to type 430 stainless. il Steel 129:66-8+ Ag 20 '51

Nickel thefts are plaguing electroplaters. Bsns W p50 O 13 '51

Nickel's birthday. Comp Air Mag 56:161 Je '51

Oxidation kinetics of nickel and cobalt. W. J. Moore and J. K. Lee. J Chem Phys 19:255 F '51

Oxide cathode base metal studies; influence of magnesium in cathode nickel on the thermionic performance. R. Forman and G. F. Rouse. bibliog il diags J Res Nat Bur Stand 46:30-7 Ja '51

Phase boundary potentials of nickel in foreign ion solutions. D. MacGillavry, J. J. Singer, jr. and J. H. Rosenbaum. Am Chem Soc J 73:1388 Mr '51

Phenomenological derivation of the first- and second-order magnetostriction and morphic effects for a nickel crystal. W. P. Mason. Phys R 82:715-23 Je 1 '51

Radioactivity of nickel. H. W. Wilson. bibliog Phys R 82:548 My 15 '51

Resistance welding of nickel and high-nickel alloys. R. M. Wilson, jr. bibliog il diags Welding J 30:685-710 Ag '51; Same cond. Materials & Methods 34:95-9 O '51

Role of oxide composition in oxidation of nickel and cobalt. R. L. Tichenor. J Chem Phys 19:796-7 Je '51

Saga of nickel in machine tools. G. R. Brophy and W. S. Mounce. il Am Mach 95:156-9 Je 11 '51

Slow neutron velocity spectrometer studies; Au, Ag, Br, Fe, Co, Ni, Zn. W. W. Havens, jr. and L. J. Rainwater. bibliog Phys R 83:1123-33 S 15 '51

Squeeze on nickel. map Fortune 42:93-6+ N '50

Story of nickel and cobalt. C. A. Scarlott. il Westinghouse Eng 11:117-23 Jl '51; Same cond. diags Materials & Methods 34:61-5 Jl '51

Study in terpene series; dehydroxymethylation of bicyclic primary terpenic alcohols by hydrogenolysis in the presence of nickel catalysts. V. N. Ipatieff, G. J. Czajkowski and H. Pines. bibliog Am Chem Soc J 73:4098-101 S '51

200th anniversary of the discovery of nickel; symposium. Chem & Eng N 29:3830 S 17 '51

Welding electrodes and rods for ferrous and nonferrous metals; filler metals for nickel and nickel alloys. H. R. Clauser. il Materials & Methods 32:81-2 D '50

X-ray diffraction study of the oxidation characteristics of nickel-pickled sheet iron as related to enamel adherence. G. S. Douglas and J. M. Zander. bibliog il Am Cer Soc J 34:52-9 F 1 '51

X-ray diffraction study on the structure of the Ni-Cu coprecipitation catalysts. N. Kadota and S. Ikeda. Am Chem Soc J 73:4475-6 S '51

Analysis

Chemical analysis of soda-lime-silica glasses for trace quantities of several colorants. P. Close and others. Am Cer Soc J 33:348-9 N 1 '50

Colorimetric determination of nickel with alpha-furildioxime. A. R. Gahler, A. M. Mitchell and M. G. Mellon. bibliog Anal Chem 23:500-3 Mr '51

Differential spectrophotometric determination of high percentages of nickel. R. Bastian. bibliog Anal Chem 23:580-6 Ap '51

Geochemical field method for determination of nickel in plants. L. E. Reichen. bibliog diag Anal Chem 23:727-9 My '51

Photocolorimetric method for the analysis of nickel in nickel plating baths. G. C. H. Stone. bibliog il diag Metal Finishing 49:44-8 F '51

Reaction of nickel(II) and beta-isothioureidopropionic acid. L. J. Uhlig and H. Freiser. Anal Chem 23:1014-16 Jl '51

Spectrophotometric determination of nickel in aluminum alloys. M. D. Cooper. Anal Chem 23:880-3 Je '51

Spectrophotometric determination of nickel in calcium metal using 1,2-cyclohexanedionedioxime. R. C. Ferguson and C. V. Banks. bibliog Anal Chem 23:448-53 Mr '51

Spectrophotometric determination of nickel in steel. M. D. Cooper. Anal Chem 23:875-80 Je '51

Isotopes

Characteristics of Ni^{59} and Ni^{63}. A. R. Brosi and others. bibliog Phys R 81:391-5 F 1 '51

Photoneutron cross sections of Fe^{54}, Ni^{58}, and Zn^{64}. L. Katz and others. bibliog Phys R 82:271-2 Ap 15 '51

Radiations from Br^{77} and Ni^{57}. R. Canada and A. C. G. Mitchell. diag Phys R 83:955-9 S 1 '51

Metallography

Electrolytic polishing of nickel. G. W. Wensch. il Metal Prog 58:735-6 N '50

Thermal polishing and etching of nickel. G. W. Wensch. il Metal Prog 57:488 Ap '50; Discussion. 58:733-4 N '50

Prices

Nonferrous prices; tabulation. Steel 128:129 Ja 1 '51

Raney nickel

Catalytic decomposition of highly concentrated hydrazine by Raney nickel. L. F. Audrieth and W. L. Jolly. bibliog J Phys & Colloid Chem 55:524-31 Ap '51

Catalytic hydrogenation of diphenyl in the presence of Raney nickel. I. Goodman. Chem Soc J p 1371-2 My '51

Composition of W-6 Raney nickel catalyst. V. N. Ipatieff and H. Pines. Am Chem Soc J 72:5320-1 N '50

Hydrogenation of nitro compounds with Raney nickel treated with chloroplatinic acid and with alkali. G. S. Samuelsen, V. L. Garik and G. B. L. Smith. bibliog Am Chem Soc J 72:3872-4 S '50

Some factors influencing the activity of Raney nickel catalyst; preparation of Raney nickel from nickel-magnesium alloy. J. N. Pattison and E. F. Degering. Am Chem Soc J 72:5756 D '50

Some factors influencing the activity of Raney nickel catalyst; the poisoning of Raney nickel by halogen compounds. J. N. Pattison and E. F. Degering. bibliog Am Chem Soc J 73:611-13 F '51

NICKEL—Raney nickel—*Continued*

Some factors influencing the activity of Raney nickel catalyst; the role of oxygen in the aging of Raney nickel catalyst. J. N. Pattison and E. F. Degering. Am Chem Soc J 73:486-7 Ja '51

Studies of coal tar bases; by-products of the hydrogenation of pyridine with Raney nickel. J. I. Jones. Chem Soc J p 1392-7 My '50

NICKEL alloys

Age hardenable high-nickel alloys. W. A. Mudge. data sheet(p528B) Metal Prog 59: 529-36 Ap '51

Bending and coiling tubes of nickel and high-nickel alloy. il Heat & Ven 48:78-80 S '51

Casting-in of Inconel tubes in copper blocks. F. J. Lambert. il Metal Prog 59:809-11 Je '51

Chemical engineering materials of construction; nickel and high-nickel alloys. H. O. Teeple. Ind & Eng Chem 43:2242-51 bibliog(231 ref, p2249-51) O '51

Construction materials in the paper industry; nickel and nickel alloys. H. O. Teeple. Chem Eng 58:222+ Ja '51

Deterioration of oxide-coated cathodes under low duty-factor operation. J. F. Waymouth, jr. bibliog il diags J Ap Phys 22: 80-6 Ja '51

Electrodeposition of rhenium-nickel alloys. L. E. Netherton and M. L. Holt. bibliog Electrochem Soc J 98:106-9 Mr '51

Heating of nickel alloys; susceptibility to attack by sulphur. Chem Age (Lond) 63: 783 D 2 '50

High-nickel alloys; procedures using arc, atomic hydrogen, gas, resistance welding, brazing and cutting. R. M. Wilson, jr. bibliog il diags Welding J 30:247-56 Mr '51

High-permeability magnetic alloys. G. A. V. Sowter. Inst E E Proc 98 pt 2:5-8 F '51

Materials of construction vs. phenol; nickel and nickel alloys. W. Z. Friend. Chem Eng 58:222 Ag '51

Metallographic study of diffusion interfaces. G. C. Kuczynski and B. H. Alexander. il J Ap Phys 22:344-9 Mr '51

Microscopic observation of the solidification of Cu-Ni alloy droplets. R. E. Cech and D. Turnbull. bibliog il J Metals 3:Trans 242-3 Mr '51

Navy studies jet structural alloys at intermediate temperatures. J. F. Erthal. il Iron Age 167:91-5 My 10 '51

Nickel alloys for oxide-coated cathodes. A. M. Bounds and T. H. Briggs. bibliog il diag Inst Radio Eng Proc 39:788-99 Jl '51

Nickel-aluminum alloy combines strength and corrosion resistance; Duranickel. P. O'Keefe. il Materials & Methods 33:73-7 Ap '51

Nickel-aluminum-molybdenum alloys for service at elevated temperatures; abstract. H. V. Kinsey and M. T. Stewart. Materials & Methods 32:8 D '50

Nickel and nickel alloys; review of progress since 1929. L. B. Pfeil. il Metallurgia 42: 302-7 N '50

Nickel industry in 1950. J. F. Thompson. Chem Age (Lond) 63:879-82 D 23 '50

Precision investment nonferrous casting alloys; tabulation; engineering file facts. Materials & Methods 32:99 N '50

Properties of nickel-copper alloys; tabulation; engineering reference sheet. Elec World 136:124 Jl 16 '51

Quick patina on copper, brass or nickel alloys. W. G. Schneider. il Metal Prog 60: 74-6 S '51

Resistance welding of nickel and high-nickel alloys. R. M. Wilson, jr. bibliog il diags Welding J 30:685-710 Ag '51; Same cond. Materials & Methods 34:95-9 O '51

Secondary emission of nickel-barium mixtures and rhenium when bombarded by electrons with energies from 50 to 8000 electron-volts. H. E. Farnsworth and M. J. Lun. il diag J Ap Phys 22:77-9 Ja '51

Silver brazing of nickel alloys; reference book sheet. diags Am Mach 95:169, 171, 173 S 17 '51

Silver plating on inconel. L. J. Cook. R Sci Instr 22:542 Jl '51

Use of nickel containing alloys in the pulp and paper industry; corrosion problems. H. O. Teeple. il Paper Tr J 131:28+ N 9; 19-23 N 16; 14-15+ bibliog(80 titles, p23-5) N 23 '50

Welding electrodes and rods for ferrous and nonferrous metals; filler metals for nickel and nickel alloys. H. R. Clauser. il Materials & Methods 32:81-2 D '50

X-ray detection of long-range order in Ni_3Mn. B. L. Averbach. J Ap Phys 22:1088-9 Ag '51

See also

Alnico
Chromel
Chromium nickel steel
Iron alloys—Nickel alloys
Monel metal
Nickel steel
Worthite

NICKEL carbide

Isothermal decomposition of nickel carbide. L. J. E. Hofer, E. M. Cohn and W. C. Peebles. bibliog J Phys & Colloid Chem 54:1161-9 N '50

NICKEL carbonyl

Carbonyl nickel films as hydrogenation catalysts. L. L. Baker, jr. and R. B. Bernstein. bibliog Am Chem Soc J 73:4434-6 S '51

Carbonylation of alcohols with nickel carbonyl catalyst. H. Adkins and R. W. Rosenthal. bibliog Am Chem Soc J 72:4550-3 O '50

Coupling of allylic halides by nickel carbonyl. I. D. Webb and G. T. Borcherdt. Am Chem Soc J 73:2654-5 Je '51

Reaction of nickel carbonyl with ethynyldimethylcarbinol and *iso*propenylacetylene. E. D. Bergmann and E. Zimkin. Chem Soc J p3455-7 D '50

Researches on acetylenic compounds; the reaction between nickel carbonyl and disubstituted acetylenes. E. R. H. Jones, T. Y. Shen and M. C. Whiting. diag Chem Soc J p48-52 Ja '51

Researches on acetylenic compounds; the reaction between nickel carbonyl and monosubstituted acetylenic compounds. E. R. H. Jones, T. Y. Shen and M. C. Whiting. Chem Soc J p230-6 Ja '50

Vapor deposition of metals on ceramic particles. J. E. Cline and J. Wulff. bibliog il diag Electrochem Soc J 98:385-7 O '51

NICKEL chloride

Catalyst evaluation and middle oil preparation in an experimental high pressure coal hydrogenation plant. H. J. Kandiner, R. W. Hiteshue and E. L. Clark. Chem Eng Prog 47:392-6 Ag '51

Nickel salts from nickel anodes; porous pot method. N. Hall and G. B. Hogaboom, jr. diag Metal Finishing 49:66-7+ My '51

NICKEL chromium steel

Construction materials in the paper industry; Durimet 20. W. A. Luce. Chem Eng 57:232+ D '50; 58:218+ Ja '51

Data in chart form presents concentrations and temperatures for corrosion of Durimet 20 by sulfuric acid. M. G. Fontana. Ind & Eng Chem 43:sup 107A-8A+ O '51

Effect of initial heating temperature on the mechanical properties of Ni-Cr-Mo steels. J. A. Wheeler and others. bibliog 2pls diag Iron & Steel Inst J 167:301-8 Mr '51

Heat treatment of three per cent nickel-chromium case-hardening steel. H. D. Mansion. il Metallurgia 44:57-62 Ag '51

Nickel-chromium-molybdenum steel valve casting after 50,000 hours of service at 900 F. T. N. Armstrong and R. J. Greene. il A S M E Trans 73:751-3; Discussion. 753-4 Ag '51

Nickel-chromium-molybdenum steels; typical properties; tabulation; engineering file facts. Materials & Methods 33:105 Mr '51

NICKEL clad steel. See Steel, Nickel clad

NICKEL coating

Vapor deposition of metals on ceramic particles. J. E. Cline and J. Wulff. bibliog il diag Electrochem Soc J 98:385-7 O '51

NICKEL compounds

Inorganic complex compounds containing polydentate groups; formation constants of diethylenetriamine-nickel(II) and -copper (II) complexes. H. B. Jonassen, R. B. LeBlanc and R. M. Rogan. Am Chem Soc J 72:4968-71 N '50

NICKEL compounds—*Continued*

Inorganic complex compounds containing polydentate groups; formation constants of the triethylenetetramine-copper(II) and nickel(II) complex ions. H. B. Jonassen and A. W. Meibohm. bibliog J Phys & Colloid Chem 55:726-33 My '51

Preparation of new compounds of trivalent nickel. L. E. Edelman. Am Chem Soc J 72:5765-6 D '50

Studies in co-ordination chemistry; complexes of bivalent and tervalent nickel with a di(tertiary arsine). R. S. Nyholm. Chem Soc J p2061-71 Ag '50

NICKEL cyanide

Exchange reactions of tetracyanonickelate ion; the structure of nickel cyanide. F. A. Long. bibliog Am Chem Soc J 73:537-40 F '51

Polarography of the nickel cyanide complexes and the solubility and constitution of nickel cyanide. D. N. Hume and I. M. Kolthoff. bibliog Am Chem Soc J 72:4423-6 O '50

NICKEL ferrates

Ferromagnetic resonance in nickel ferrite. W. A. Yager and others. bibliog diags Phys R 80:744-8 N 15 '50

NICKEL foil

Thin nickel foils. S. Bashkin and G. Goldhaber. il R Sci Instr 22:112-13 F '51

NICKEL formates

Kinetics of the decomposition of nickel formate. L. L. Bircumshaw and J. Edwards. diags Chem Soc J p 1800-9 Jl '50

NICKEL industry and trade

Nickel capacity grows. Bsns W p88 Je 9 '51

Nickel, 1950. H. W. Davis. Eng & Min J 152:97 F '51

Nickel remains scarce. Economist 160:1523 Je 23 '51

Nickel; resources, production, uses, defense impact, and future outlook. J. V. Beall. il map Min Eng 3:664-73 Ag '51; Same. J Metals 3:712-19 S '51

See also

International nickel company

Statistics

Nickel production, consumption, prices and imports; tabulations. Iron Age 167:304 Ja 4 '51

Nickel production, 1933-1950; tabulation. Steel 128:133 Ja 1 '51

Canada

Nickel industry in 1950. J. F. Thompson. Chem Age (Lond) 63:879-82 D 23 '50; Excerpts. Steel 128:360-2+ Ja 1 '51; Abstract. Iron Age 167:432+ Ja 4 '51

NICKEL mines and mining

Nickel; resources, production, uses, defense impact, and future outlook. J. V. Beall. il map Min Eng 3:664-73 Ag '51; Same. J Metals 3:712-19 S '51

Ontario

Creighton number seven shaft and concentrator; International nickel co. il Can Min J 72:90-2 S '51

Ontario nickel industry. il Can Min J 71:134-43 N '50

NICKEL oxides

Barium-nickel oxides with tri- and tetravalent nickel. J. J. Lander and L. A. Wooten. il Am Chem Soc J 73:2452-4 Je '51

High temperature bodies in the system MgO-TiN-NiO; abstract. L. D. Hower. Metal Prog 59:566+ Ap '51

Microwave resonance absorption of $NiOFe_2O_3$. T. Okamura and others. bibliog Phys R 80:910-11 D 1 '50

Phase system BaO-NiO. J. J. Lander. bibliog il Am Chem Soc J 73:2450-2 Je '51

Stability of gaseous diatomic oxides. L. Brewer and D. F. Mastick. bibliog J Chem Phys 19:834-43 Jl '51

NICKEL Plate railroad. See New York, Chicago and St Louis railroad

NICKEL plating

Adding brighteners to nickel bath; table; engineering data sheet. Metal Finishing 49:77 Ja '51

Avoiding difficulties caused by shortages of nickel materials. Metal Finishing 49:63-4 F '51

Bright nickel plating on metallic single crystals in the absence of addition agent. H. Leidheiser, jr. and A. T. Gwathmey. il Electrochem Soc J 98:225-30 Je '51

Bright plating of tin-nickel alloys. N. Parkinson and J. W. Price. Metal Finishing 49:61-3 Ag '51

Choose the right nickel plating system. il Steel 128:94-6+ Je 4 '51

Fatigue loss and gain by electroplating. J. O. Almen. bibliog il diag Product Eng 22:109-16 Je '51

Nickel plated wire now can be cold drawn. Steel 127:86 N 6 '50

Nickel plating with insoluble electrodes; abstract. W. A. Wesley and others. Steel 129:112+ S 10 '51

Nickel plating without nickel chloride. M. B. Diggin. Metal Finishing 49:63 F '51

Nickel salts from nickel anodes; porous pot method. N. Hall and G. B. Hogaboom, jr. diag Metal Finishing 49:66-7+ My '51

Photocolorimetric method for the analysis of nickel in nickel plating baths. G. C. H. Stone. bibliog il diag Metal Finishing 49:44-8 F '51

Pitting in electroplating nickel; causes and prevention; abstract. J. Salauze. Metal Finishing 49:87 S '51

Plates steel pipe, doubles for nickel; Electro Clad process. Bsns W p 136 S 22 '51

Relationship between orientation, grain size, and brightness in nickel electrodeposits. G. L. Clark and S. H. Simonsen. bibliog il Electrochem Soc J 98:110-15 Mr '51

What platers can do about the nickel shortage. diags Steel 128:81-3 Ap 2 '51

NICKEL selenate

Study of heterogeneous equilibria in aqueous solutions of the nickel selenates at 30°. C. S. Rohrer and H. R. Froning. bibliog Am Chem Soc J 72:4656-9 O '50

NICKEL steel

Isothermal transformation diagrams for nickel steels. bibliog il Metallurgia 43:234-42, 280-8 My-Je '51

Properties of nickel alloy steels. Engineering 172:215 Ag 17 '51

Saga of nickel in machine tools. G. R. Brophy and W. S. Mounce. il Am Mach 95:156-9 Je 11 '51

See also

Chromium nickel steel

Nickel chromium steel

NICKEL sulfate

Magnetic anisotropy of α-$NiSO_4 \cdot 6H_2O$ between 13 and 295° K; a torsion balance for magnetic anisotropy measurements. J. W. Stout and M. Griffel. bibliog diag J Chem Phys 18:1449-54 N '50

Nickel salts from nickel anodes; porous pot method. N. Hall and G. B. Hogaboom, jr. diag Metal Finishing 49:66-7+ My '51

Study of the solubility of triethylenediaminenickel thiosulfate. J. H. Gast and F. L. Aldrich. Am Chem Soc J 73:3037-9 Jl '51

NICKEL tungstate

Catalytic activity of reduced nickel tungstate. C. S. Rohrer, J. Rooley and O. W. Brown. bibliog J Phys & Colloid Chem 55:211-14 F '51

NICKERSON, A. L.

Portrait. Sales Management 67:40 Jl 1 '51

NICOTIANA glauca. See Tree tobacco

NICOTINAMIDE

Codehydrogenases; the synthesis of dihydronicotinamide-D-ribofuranoside [*N*-D-ribofuranosidyl-1 : 2(or 6)-dihydronicotinamide]. L. J. Haynes and A. R. Todd. Chem Soc J p303-8 Ja '50

Lactic dehydrogenase and DPN-ase activity of blood. S. G. A. Alivisatos and O. F. Denstedt. bibliog Science 114:281-3 S 14 '51

Nicotinamide; ultraviolet absorption spectra and dissociation constants. H. H. G. Jellinek and M. G. Wayne. bibliog J Phys & Colloid Chem 55:173-80 F '51

Analysis

Chemical differentiation between nicotinic acid and nicotinamide. J. P. Sweeney and W. L. Hall. bibliog Anal Chem 23:983-6 Jl '51

Fluorometric determination of nicotinamide by use of synthetic ion exchange resins. M. Kato and H. Shimizu. bibliog diags Science 114:12-14 Jl 6 '51

NICOTINE

Alkaloid biogenesis; specificity of the nicotine-nornicotine conversion. R. F. Dawson. bibliog Am Chem Soc J 73:4218-21 S '51

Azeotropism in binary solutions at reduced pressures; the nicotine-water system. R. T. Fowler. bibliog diag Soc Chem Ind J 69(sup no 2):S65-9 '50

Solvents for extracting nicotine from aqueous solutions. C. O. Badgett. bibliog Ind & Eng Chem 42:2530-1 D '50

Ternary system nicotine-water-kerosene. C. O. Badgett. diag Ind & Eng Chem 43:2370-2 O '51

Analysis

Modification of Sanchez color test for nicotine. L. Feinstein and E. T. McCabe. Anal Chem 23:385 F '51

NICOTINIC acid

Analysis

Chemical differentiation between nicotinic acid and nicotinamide. J. P. Sweeney and W. L. Hall. bibliog Anal Chem 23:983-6 Jl '51

Determination of small quantities of niacin in presence of niacinamide; separation by paper partition chromatography. E. G. Wollish, M. Schmall and E. G. E. Shafer. bibliog il diag Anal Chem 23:768-71 My '51

Estimation of nicotinic acid in tissues by the cyanogen bromide reaction. H. C. Goldthorpe and D. Tippit. Anal Chem 23:484-7 Mr '51

Stable isotope dilution method for nicotinic acid determination. N. R. Trenner and others. bibliog Anal Chem 23:487-90 Mr '51

Manufacture

Quinoline by-passed. Chem W 69:15-16 S 1 '51

NICOTYRINE

Acetylation of 3,2′-nicotyrine. P. G. Haines and A. Eisner. bibliog Am Chem Soc J 72:4618-21 O '50

NIELSEN, Arthur Charles, 1897-

Portrait. Bsns W p63 Ja 6 '51

NIEMAN foundation

12 from U.S. on Nieman list; three associates. Ed & Pub 84:18 Je 23 '51

NIEMEYER, Oscar, 1907-

Work of Oscar Niemeyer, by S. Papadaki, ed.; review. il diags Arch Forum 93:138-9+ N '50

NIGERIA

Towards the birth of a Nigerian nation. map Economist 160:1049-50 My 5 '51

See also

Budget—Nigeria

Geology—Nigeria

Economic conditions

News by countries. For Comm W 44:17 Jl 9 '51

NIGHT myopia. See Eye—Accommodation and refraction

NIGHT photography. See Photography, Night

NIGHT work

Legal restrictions on night work by women. Mo Labor R 72:414-16 Ap '51

NI-HARD. See Iron alloys—Nickel chromium alloys

NILE river

Nile Valley reclamation project negotiations under way again. map Eng N 147:46+ S 20 '51

Old lake plan is revived to store waters of the Nile. Eng N 146:56-7 Je 14 '51

NINETEEN hundred and fifty

This happened in 1950. Ptr Ink 233:62+ D 29 '50

What happened in 1950; chronology of important industrial events. Steel 128:279-80+ Ja 1 '51

NINHYDRIN

New method of detecting slime in pulp and paper. S. J. Buckman and V. Henington. il Tappi 34:302-5 Jl '51

NIOBIUM. See Columbium

NITRALLOY

Straight forming licks tough nitralloy job. diags Am Mach 95:133 O 15 '51

Two new gear materials; Nitralloy N and ductile iron. C. M. Schwitter. il Mach 57:179-82 D '50; 181-8 Ja '51; Same cond. il Automotive Ind 104:42-5+ Ja 1 '51

NITRAMINES

Cyclic and linear nitramines formed by nitrolysis of hexamine. W. E. Bachmann and others. Am Chem Soc J 73:2769-73 Je '51

Decomposition of primary nitramines in alkaline solutions. J. Barrott, M. I. Gillibrand and A. H. Lamberton. diag Chem Soc J p 1282-9 My '51

Kinetics and mechanism of aromatic nitration; the rearrangement of aromatic *N*-nitroamines. E. D. Hughes and G. T. Jones. Chem Soc J p2678-84 O '50

Methylene-nitramines. K. W. Dunning and W. J. Dunning. Chem Soc J p2920-32 N '50

Structure and infrared absorption spectra of polynitrophenylmethylnitramines and polynitroanilines. W. C. Lothrop, G. R. Handrick and R. M. Hainer. bibliog Am Chem Soc J 73:3581-4 Ag '51

NITRAMINO imidazoline

Hydrolysis of 1-nitro-4-methyl-2-nitramino-2-imidazoline. A. F. McKay and S. J. Viron. Am Chem Soc J 72:3965-6 S '50

NITRATES

Distribution of several bivalent and trivalent metallic nitrates between water and *n*-hexyl alcohol at 25°. C. C. Templeton and L. K. Daly. Am Chem Soc J 73:3989-91 Ag '51

Ferric-catalyzed hydrogen peroxide decomposition; effect of nitrate ion. S. Peterson. bibliog Am Chem Soc J 73:3521-2 Jl '51

Hydrolysis of *NN′*-dinitro-oxamide-*NN′*-bis-(2-ethyl nitrate). J. Vaughan. Chem Soc J p748-9 F '50

Millicoulometry; the purported reduction of nitrate at the dropping mercury electrode. L. Meites. bibliog Am Chem Soc J 73:4115-19 S '51

Potentiation of muscular contraction by the nitrate-ion. A. J. Kahn and A. Sandow. bibliog il Science 112:647-9 D 1 '50

Preparation and heats of combustion of some amine nitrates. T. L. Cottrell and J. E. Gill. Chem Soc J p 1798-800 Jl '51

Analysis

Determination of nitrate in plant material. C. M. Johnson and A. Ulrich. bibliog Anal Chem 22:1526-9 D '50

NITRATION

Chemical engineering unit processes fourth annual review. W. D. Crater. bibliog(40 ref) Ind & Eng Chem 43:1987-90 S '51

Cinnolines; the preparation and nitration of cinnoline. J. S. Morley. Chem Soc J p 1971-5 Ag '51

Conversion of sucrose into pyridazine derivatives; the nitration of pyridazine derivatives. S. Dixon and L. F. Wiggins. Chem Soc J p3236-9 N '50

Kinetics and mechanism of aromatic nitration. E. D. Hughes and others. Chem Soc J p2400-73, 2628-84 S-O '50

Kinetics of nitration. W. R. Tomlinson, jr. and P. H. Groggins. Chem Eng 57:131-3 D '50

Mononitration of cumene. J. W. Haun and K. A. Kobe. bibliog il diags Ind & Eng Chem 43:2355-62 O '51

Nitration and bromination of tetraacetyl-β-D-glucopyranosylbenzene. J. M. Craig and W. A. Bonner. Am Chem Soc J 72:4808-9 O '50

Nitration in sulphuric acid; nitration of the trimethyl-*p*-tolylammonium ion in 75-85 per cent sulphuric acid. G. Williams and A. M. Lowen. Chem Soc J p3312-18 N '50

Nitration in sulphuric acid; the nitronium ion as nitrating agent in 75-85 per cent sulphuric acid. A. M. Lowen, M. A. Murray and G. Williams. Chem Soc J p3318-22 N '50

Nitration of benzylidene diacetate. W. Davey and J. R. Gwilt. Chem Soc J p3348-9 N '50

Nitration of *pp′*-dichloroazobenzene. C. D. Houghton and W. A. Waters. Chem Soc J p 1018-19 Mr '50

Nitration of dimethylaniline to tetryl, 2 : 4 : 6 : N-tetranitromethylaniline; the course of the reaction. C. E. Clarkson, I. G. Holden and T. Malkin. Chem Soc J p 1556-62 Je '50

Nitration of 4-hydroxy- and 4-chloro-3-methylquinoline. A. Adams and D. H. Hey. Chem Soc J p2092-6 Ag '50

NITRATION—*Continued*

Nitration of 2-hydroxy-4 : 6-dimethylquinoline and the preparation of some related compounds. J. L. C. Marais and O. G. Backeberg. Chem Soc J p2207-11 Ag '50

Nitration of melamine and of triacetylmelamine. E. R. Atkinson. Am Chem Soc J 73: 4443-4 S '51

Nitration of 5-methyl-2-thenoic acid. E. Campaigne and H. G. Grose. Am Chem Soc J 73:3812-14 Ag '51

Nitration of polystyrene. H. Zenftman. Chem Soc J p982-6 Mr '50

Nitration of tropolone. J. W. Cook and others. bibliog Chem & Ind p669 Ag 4 '51

Orientation problems; the nitration of the isomeric tolylsuccinimides. W. H. Evans and A. McGookin. bibliog J Ap Chem 1:26-9 Ja '51

Purpurogallin; nitration and nitrosation of β-methyltropolone. R. D. Haworth and P. R. Jefferies. Chem Soc J p2067-71 Ag '51

Quinamine; sulphobenzeneazoquinamine and nitration and oxidation of quinamine to 3 : 6 : 8 - trinitro - 4 - hydroxyquinoline. G. Bendz and others. Chem Soc J p 1130-8 Ap '50

Structure of the nitration products of 9-phenylxanthylium salts. R. L. Shriner and C. N. Wolf. bibliog Am Chem Soc J 73: 891-4 Mr '51

Unit processes; Chemical Engineering report, March 1951. P. H. Groggins. diag Chem Eng 58:130 Mr '51

NITRIC acid

Colorimetric determination of molybdenum by means of nitric and perchloric acids. H. J. Evans, E. R. Purvis and F. E. Bear. bibliog Anal Chem 22:1568-9 D '50

Compound fertilizers from rock phosphate, nitric and phosphoric acids, and ammonia. E. C. Houston, T. P. Hignett and R. E. Dunn. flow diag diag Ind & Eng Chem 43: 2413-18 O '51

Cryoscopic measurements in nitric acid; the solutes dinitrogen pentoxide and water; the self-dissociation of nitric acid. R. J. Gillespie, E. D. Hughes and C. K. Ingold. Chem Soc J p2552-8 S '50

Cryoscopic measurements in sulphuric acid; ionisation of nitric acid in sulphuric oleum. R. J. Gillespie and J. Graham. Chem Soc J p2532-7 S '50

Cryoscopic measurements in sulphuric acid; the solutes nitric acid, dinitrogen pentoxide, dinitrogen tetroxide, and dinitrogen trioxide; cryoscopic proof of the formation of the nitronium ion, NO_2^+. R. J. Gillespie and others. Chem Soc J p2504-15 S '50

Degree of ionization of nitric acid to the nitronium ion in sulphuric acid solution. T. G. Bonner and G. Williams. bibliog Chem & Ind p820-1 S 29 '51

Equilibria of two basic bismuth nitrates in dilute nitric acid at 25°. D. F. Swinehart and A. B. Garrett. bibliog Am Chem Soc J 73:507-10 F '51

Fertiliser manufacture; further research on sulphurless processes. F. M. Reynolds. Chem Age (Lond) 64:585-7 Ap 21 '51

Fertiliser manufacture; the nitric acid treatment of phosphate rock; abstracts. M. H. R. J. Plusjè. diags Chem Age (Lond) 64: 309-10 F 24 '51; Chem Eng 58:169 My '51

Iodopermanganate determination of nitrites in the presence of nitric acid. R. C. Brasted. bibliog Anal Chem 23:980-3 Jl '51

Iridium in perchloric, phosphoric, and nitric acid mixtures; a spectrophotometric study. G. H. Ayres and Q. Quick. bibliog Anal Chem 22:1403-8 N '50

Kinetics and mechanism of aromatic nitration. E. D. Hughes and others. Chem Soc J p2400-66 S '50

Kinetics of the thermal decomposition of nitric acid vapor. H. S. Johnston and others. Am Chem Soc J 73:2319-21 My '51

Manganese concentration from low grade domestic ore; Nossen nitric acid cycle. E. S. Nossen. bibliog flow diag il Ind & Eng Chem 43:1695-700 Jl '51

Materials of construction report. il diags Chem Eng 57:126-9 N '50

Methylene-nitramines. K. W. Dunning and W. J. Dunning. Chem Soc J p2920-32 N '50

Nitric acidulation of rock phosphate. T. P. Hignett. Chem Eng 58:166-9 My '51

Phosphate production without sulfuric acid. J. W. Turrentine. il Chem & Eng N 29:3454-6 Ag 20 '51

Rates and temperature coefficients in the hydration of gaseous isobutene by dilute aqueous nitric acid. J. B. Levy and others. diag Am Chem Soc J 73:3792-6 Ag '51

Vibrational spectra of ionic forms of oxides and oxy-acids of nitrogen; Raman spectra of solutions in sulphuric oleum; the polysulphuric acids; ionisation of nitric acid in oleum. D. J. Millen. Chem Soc J p2589-600 O '50

Vibrational spectra of ionic forms of oxides and oxy-acids of nitrogen; Raman spectral evidence of the ionisation of dinitrogen pentoxide in nitric acid, and of the constitution of anhydrous nitric acid. C. K. Ingold and D. J. Millen. Chem Soc J p2612-19 O '50

Vibrational spectra of ionic forms of oxides and oxy-acids of nitrogen; Raman-spectral evidence of the ionisation of dinitrogen tetroxide in nitric acid; the nitrosonium ion, NO^+, and the nitrosonium-nitrogen dioxide ion, $N_2O_3^+$. J. D. S. Goulden and D. J. Millen. Chem Soc J p2620-7 O '50

Vibrational spectra of ionic forms of oxides and oxy-acids of nitrogen; Raman-spectral evidence of the ionisation of nitric acid by perchloric, sulphuric, and selenic acids; spectroscopic identification of the nitronium ion, NO_2^+. C. K. Ingold, D. J. Millen and H. G. Poole. Chem Soc J p2576-89 O '50

NITRIC oxide. See Nitrogen oxides

NITRIDES

Certain refractory compounds as thermionic emitters. D. L. Goldwater and R. E. Haddad. diag J Ap Phys 22:70-3 Ja '51

Formation of metallic hydrides and nitrides and their significance in the synthesis of ammonia. A. Soliman. bibliog J Ap Chem 1:98-104 Mr '51

New superconducting borides and nitrides. J. K. Hulm and B. T. Matthias. bibliog Phys R 82:273-4 Ap 15 '51

NITRILES

Acid-catalyzed reaction of formaldehyde with allyl cyanide. C. C. Price and I. V. Krishnamurti. Am Chem Soc J 72:5334-5 N '50

Acid-catalyzed reactions of nitriles; condensation of cyclohexanone with nitriles. E. E. Magat. Am Chem Soc J 73:1367-8 Mr '51

Acid-catalyzed reactions of nitriles; polyamides from formaldehyde and dinitriles. E. E. Magat and others. Am Chem Soc J 73:1031-5 Mr '51

Acid-catalyzed reactions of nitriles; the reaction of nitriles with formaldehyde. E. E. Magat and others. bibliog Am Chem Soc J 73:1028-31 Mr '51

Acid-catalyzed reactions of nitriles; the reaction of nitriles with N-methylolamides. E. E. Magat and L. F. Salisbury. Am Chem Soc J 73:1035-7 Mr '51

2,2-Dialkoxyalkanenitriles. J. G. Erickson. Am Chem Soc J 73:1338-9 Mr '51

α-Halogenation of secondary nitriles. C. L. Stevens and T. H. Coffield. bibliog Am Chem Soc J 73:103-5 Ja '51

Kinetics of halogen addition to unsaturated compounds; the β-ethylenic nitriles. D. A. Evans and P. W. Robertson. Chem Soc J p2834-5 O '50

New reaction of nitriles; preparation of N-(2-halo-1-ethyl)-amides. R. M. Lusskin and J. J. Ritter. Am Chem Soc J 72:5577-8 D '50

New reaction of nitriles; unsaturated amides. H. Plaut and J. J. Ritter. Am Chem Soc J 73:4076-7 S '51

Nitriles as selective solvents; extraction of aromatics from petroleum hydrocarbons. K. W. Saunders. bibliog Ind & Eng Chem 43:121-6 Ja '51

Polyamides from azelaonitrile and formaldehyde. D. T. Mowry and E. L. Ringwald. bibliog Am Chem Soc J 72:4439-41 O '50

Preparation of nitriles. P. Oxley and others. Chem & Ind p77 Ja 27 '51

Preparation of some 2,3-diaryl-2-pentenenitriles by the Knoevenagel condensation. K. Rorig. bibliog Am Chem Soc J 73:1290-2 Mr '51

Reaction of aromatic nitriles with guanidine. P. B. Russell and G. H. Hitchings. bibliog Am Chem Soc J 72:4922-5 N '50

NITRILES—*Continued*

Reduction of nitriles to primary amines with lithium aluminum hydride. L. H. Amundsen and L. S. Nelson. Am Chem Soc J 73:242-4 Ja '51

See also
Acetonitrile
Acrylonitrile
Malononitrile

Analysis

Determination of nitrile-type nitrogen with ordinary Kjeldahl digestion. C. H. Vanetten and M. B. Wiele. bibliog Anal Chem 23:1338-9 S '51

NITRITES

High molecular weight alkyl amine nitrites and hydrohalides. V. C. Petrillo. Am Chem Soc J 73:2381-2 My '51

Analysis

Gasometric determination of nitrite and sulfamate. W. N. Carson, jr. bibliog diags Anal Chem 23:1016-19 Jl '51

Iodopermanganate determination of nitrites in the presence of nitric acid. R. C. Brasted. bibliog Anal Chem 23:980-3 Jl '51

NITRO compounds

Alkaline reduction of aromatic nitro compounds with glucose. H. W. Galbraith, E. F. Degering and E. F. Hitch. bibliog Am Chem Soc J 73:1323-4 Mr '51

Chemical engineering unit processes fourth annual review; amination by reduction. J. Werner. bibliog(64 ref) Ind & Eng Chem 43:1917-19 S '51

Chemistry of aliphatic dinitro compounds; the Michael reaction. L. Herzog, M. H. Gold and R. D. Geckler. Am Chem Soc J 73:749-51 F '51

Cryoscopic measurements in sulphuric acid; the basicity of nitro-compounds, sulphonyl compounds, and sulphuryl compounds in sulphuric acid. R. J. Gillespie. Chem Soc J p2542-51 S '50

Derivatives of sulfenic acids; the synthesis of α-nitro sulfides. N. Kharasch and J. L. Cameron. bibliog Am Chem Soc J 73:3864-7 Ag '51

Factors affecting the directive influence of the nitro group in the nitro complexes of palladium(II). H. B. Jonassen and N. L. Cull. bibliog Am Chem Soc J 73:274-8 Ja '51

Hydrogenation of nitro compounds with Raney nickel treated with chloroplatinic acid and with alkali. G. S. Samuelsen, V. L. Garik and G. B. L. Smith. bibliog Am Chem Soc J 72:3872-4 S '50

Interaction between polynitro-compounds and aromatic hydrocarbons and bases; picric acid and alkylated benzene derivatives in chloroform solution. H. D. Anderson and D. L. Hammick. Chem Soc J p 1089-94 Ap '50

Kinetics of the catalytic hydrogenation of the nitro group on platinum. H. A. Smith and W. C. Bedoit, jr. bibliog J Phys & Colloid Chem 55:1085-104 Je '51

Magnetic susceptibility of certain organic compounds; the contribution of the nitro-group to the magnetic susceptibility of aliphatic and aromatic nitro-compounds. F. G. Baddar and S. Sugden. Chem Soc J p308-11 Ja '50

β-Nitrosulfides and β-aminosulfides. W. E. Parham and F. L. Ramp. Am Chem Soc J 73:1293-5 Mr '51

Oxidation of anthrone by aromatic nitro-compounds. V. M. Ingram. Chem Soc J p2246-7 Ag '50

Polarographic behavior of organic compounds; kinetics in a system nitroester-nitroölefin-nitroalcohol. W. J. Seagers and P. H. Elving. Am Chem Soc J 73:947-8 Mr '51

Quantitative study of the orienting influence of the nitro group in the formation of nitrobiphenyls by reaction of nitrobenzene with N-nitrosoacetanilide, with benzoyl peroxide, and with benzenediazonium chloride and alkali. D. F. DeTar and H. J. Scheifele, jr. bibliog Am Chem Soc J 73:1442-5 Ap '51

Reductive acetylation of aliphatic nitro-compounds. C. Simons. Chem Soc J p2392-3 S '50

Reductive cyclization: a general method for the synthesis of 1-azabicyclo compounds. N. J. Leonard and W. E. Goode. bibliog Am Chem Soc J 72:5404-7 D '50

Some new *aci*-nitro compounds. E. B. Hodge. Am Chem Soc J 73:2341-2 My '51

Ultra-violet spectra of certain substituted aromatic nitro-compounds. P. Fielding and R. J. W. Le Fèvre. Chem Soc J p2812-13 O '50

See also
Nitroparaffins

Analysis

Analogous nitro and nitroso compounds; separation, identification, and quantitative estimation. W. R. Edwards, jr. and C. W. Tate. bibliog Anal Chem 23:826-30 Je '51

NITRO group

Absorption spectra of some phenyl sulfides, sulfoxides and sulfones containing nitro and amino groups. H. H. Szmant and J. J. McIntosh. bibliog Am Chem Soc J 73:4356-9 S '51

Lithium aluminum hydride test for aromatic nitro and nitroso groups. H. Gilman and T. N. Goreau. Am Chem Soc J 73:2939-40 Je '51

Quantitative study of the orienting influence of the nitro group in the formation of nitrobiphenyls by reaction of nitrobenzene with N-nitrosoacetanilide, with benzoyl peroxide, and with benzenediazonium chloride and alkali. D. F. DeTar and H. J. Scheifele, jr. bibliog Am Chem Soc J 73:1442-5 Ap '51

NITROAMINES. See Nitramines

NITROAMINOGUANIDINE

Preparation of nitroaminoguanidine. R. A. Henry, R. C. Makosky and G. B. L. Smith. Am Chem Soc J 73:474 Ja '51

Reaction of methylamine with nitroaminoguanidine. R. A. Henry and G. B. L. Smith. Am Chem Soc J 73:1858-9 Ap '51

Reaction of nitrous acid with nitroaminoguanidine. E. Lieber and others. Am Chem Soc J 73:2327-9 My '51

NITROAMINOIMIDAZOLIDINE

Reaction of acetyl chloride with 1-nitro-2-nitramino-2-propoxyimidazolidine. R. H. Hall and G. F. Wright. Am Chem Soc J 73:2213-16 My '51

Reactions of 1-nitro-2-nitramino-2-propylaminoimidazolidine with acetyl chloride. R. H. Hall and G. F. Wright. Am Chem Soc J 73:2208-13 My '51

NITROAMINOTETRAZOLE

Ultraviolet absorption spectra of 5-nitroaminotetrazole and its salts. E. Lieber, E. Sherman and S. H. Patinkin. Am Chem Soc J 73:2329-31 My '51

NITROANILINE

Structure and infrared absorption spectra of polynitrophenylmethylnitramines and polynitroanilines. W. C. Lothrop, G. R. Handrick and R. M. Hainer. bibliog Am Chem Soc J 73:3581-4 Ag '51

NITROANISOLE

Mechanism of bromine substitution in aqueous solution. W. J. Wilson and F. G. Soper. Chem Soc J p3376-9 D '49

NITROBENZALDEHYDE

Preparation of the mononitrobenzaldehydes. W. Davey and J. R. Gwilt. Chem Soc J p204-8 Ja '50

Analysis

Proximate analysis of benzaldehyde mononitration products. W. Davey and J. R. Gwilt. bibliog Soc Chem Ind J 69:330-7 N '50

NITROBENZENE

Analysis of homogeneous ternary systems; the system benzene, *n*-butyl bromide and nitrobenzene. R. Ginell and H. Silverman. Am Chem Soc J 73:1596-7 Ap '51

Apparent polarities of a number of substituted chloro-, nitro-, methyl-, methoxy-, and acetyl-benzenes. C. G. Le Fèvre and R. J. W. Le Fèvre. Chem Soc J p 1829-33 Jl '50

Aromatic sulphonation; the ionisation constants of *p*-nitrotoluene, nitrobenzene, and *p*-chloronitrobenzene, and the acidity function of oleum. J. C. D. Brand. Chem Soc J p997-1003 Mr '50

NITROBENZENE—*Continued*

Chemical actions of ionising radiations on aqueous solutions; hydroxylation of nitrobenzene by free radicals produced by X-rays. H. Loebl, G. Stein and J. Weiss. Chem Soc J p2704-9 O '50

Colorimetric estimation of tetrachloronitrobenzene. M. E. Auerbach. Anal Chem 22: 1287-8 O '50

Conductance of aluminum bromide in benzonitrile on addition of various basic complexing agents at 25°. R. E. Van Dyke and T. S. Harrison. Am Chem Soc J 73:402-6 Ja '51

Conductance of aluminum chloride in nitrobenzene on addition of various nitrogen bases at 25°. R. E. Van Dyke and H. E. Crawford. Am Chem Soc J 73:2022-5 My '51

Conductance of aluminum chloride in nitrobenzene on addition of various oxygen bases at 25°. R. E. Van Dyke and H. E. Crawford. diag Am Chem Soc J 73:2018-21 My '51

Conductance of methanol, acetone, ethyl acetate and acetic anhydride complexes of aluminum bromide in nitrobenzene at 25°. R. E. Van Dyke. Am Chem Soc J 73:398-402 Ja '51

Measurements of ultrasonic absorption in various mixtures of nitrobenzene. D. Sette. Acoustical Soc Am J 23:359-63 My '51

Rapid micromethod for alkaline nitrobenzene oxidation of lignin and determination of aldehydes. J. E. Stone and M. J. Blundell. bibliog il diag Anal Chem 23:771-4 My '51

Reaction of triphenylmethyl with nitrobenzene. G. S. Hammond and A. Ravve. Am Chem Soc J 73:1891 Ap '51

NITROBENZIMIDAZOLE

Restriction of tautomerism in the amidine system by hydrogen bonding; the case of 4(7)-nitrobenzimidazole. J. L. Rabinowitz and E. C. Wagner. Am Chem Soc J 73:3030-7 Jl '51

NITROBENZOIC acid

Analysis

Proximate analysis of benzaldehyde mononitration products. W. Davey and J. R. Gwilt. bibliog Soc Chem Ind J 69:330-7 N '50

NITROBENZYL bromide. See Bromonitrotoluene

NITROBUTANOL

Polarographic behavior of organic compounds; some ethers and esters of 2-nitro-1-butanol. W. J. Seagers and P. J. Elving. bibliog Am Chem Soc J 72:5183-5 N '50

NITROCELLULOSE

Adsorption system for the fractionation of nitrocellulose with respect to molecular weight. M. C. Brooks and R. M. Badger. bibliog Am Chem Soc J 72:4384-8 O '50

Combustion profiles of a double-base nitrocellulose propellant. S. Patai and J. Jordan. il J Ap Chem 1:179-82 Ap '51

Electron-microscope study of plasticized nitrocellulose. J. Ames and A. M. D. Sampson. bibliog il J Ap Chem 1:337-41 Ag '51

Polymolecularity of viscose rayon and rayon-grade pulps. W. E. Davis. bibliog flow sheets Ind & Eng Chem 43:516-21 F '51

NITROGEN

Addition of acetic anhydride to benzalaniline; the Perkin reaction in the nitrogen system. H. S. Angel and A. R. Day. bibliog Am Chem Soc J 72:3874-7 S '50

Aging of class-B insulating material in nitrogen. H. C. Stewart and L. C. Whitman. il Elec Eng 70:257-8 Mr '51

Alkalinity-nitrogen relationships in sewage treatment. W. W. Eckenfelder, jr. and J. W. Hood. bibliog Water & Sewage Works 97:507-10 D '50

Anisotropy of nitrogen adsorption on single crystal copper surfaces. T. N. Rhodin, jr. bibliog Am Chem Soc J 72:5691-9 D '50

Concerning the C^{14}—N^{14} β-decay. E. Gerjuoy. Phys R 81:62-3 Ja 1 '51

Correlation of the thermodynamic properties of nitrogen absorbed on titanium dioxide. G. L. Kington and J. G. Aston. bibliog Am Chem Soc J 73:1934-6 My '51

Determination of nitrogen adsorption-desorption isotherms; estimation of total pore volumes of porous solids. E. P. Barrett and L. G. Joyner. Anal Chem 23:791-2 My '51

Determination of pore volume and area distributions in porous substances; comparison between nitrogen isotherm and mercury porosimeter methods. L. G. Joyner, E. P. Barrett and R. Skold. Am Chem Soc J 73: 3155-8 Jl '51

Determination of pore volume and area distributions in porous substances; computations from nitrogen isotherms. E. P. Barrett, L. G. Joyner and P. P. Halenda. diags Am Chem Soc J 73:373-80 Ja '51

Dispersion of velocity and anomalous absorption of ultrasonics in nitrogen. A. J. Zmuda. bibliog diags Acoustical Soc Am J 23: 472-7 Jl '51

Effect of heat treatment on the surface properties of gibbsite; adsorption isotherms of nitrogen and of oxygen at -182.7°C. S. J. Gregg and K. S. W. Sing. bibliog diag J Phys & Colloid Chem 55:592-7 Ap '51

Effect of high pressures on the explosibility of mixtures of ethane, air, and carbon dioxide and of ethane, air, and nitrogen. R. E. Kennedy and others. bibliog 6pls U S Bur Mines Rep of Invest 4751:1-11 '50

Effect of wetting on the nitrogen adsorption-desorption isotherm of a silica aerogel. M. F. L. Johnson and H. E. Ries, jr. Am Chem Soc J 72:4289 S '50

Effects of three interstitial solutes (nitrogen, oxygen, and carbon) on the mechanical properties of high-purity, alpha titanium. W. L. Finlay and J. A. Snyder. bibliog il J Metals 188:Trans 277-86 F '50; Discussion. 188:Trans 1368-9 N '50

Fluorination of organic compounds containing nitrogen. R. N. Haszeldine. Chem Soc J p 1966-8 Jl '50

Fractional transition probabilities of the first positive band system ($B^3\Pi \rightarrow A^3\Sigma$) of molecular nitrogen. C. E. Montgomery and R. W. Nicholls. bibliog Phys R 82:565-6 My 15 '51

Gamma-rays from deuteron bombardment of B^{10}, B^{11}, N^{14}, and F^{19}. J. Terrell and G. C. Phillips. bibliog Phys R 83:703-8 Ag 15 '51

Heat of adsorption of nitrogen on titanium dioxide (rutile) at 77.3°K. G. L. Kington and J. G. Aston. Am Chem Soc J 73:1929-34 My '51

Heat of dissociation in nitrogen. G. Glockler. J Chem Phys 18:1518 N '50

Heat of dissociation of nitrogen. G. B. Kistiakowsky, H. T. Knight and M. E. Malin. Am Chem Soc J 73:2972-3 Je '51

Heat of formation of CN and the dissociation energies of N_2 and C_2N_2. L. Brewer, L. K. Templeton and F. A. Jenkins. bibliog Am Chem Soc J 73:1462-5 Ap '51

Induced infrared absorptions of H_2, N_2, and O_2 in the first overtone regions. H. L. Welsh and others. Phys R 83:1264 S 15 '51

Influence of foreign gases at high pressures on the infrared absorption band of methane at 3.3μ. H. L. Welsh and others. bibliog diag J Chem Phys 19:340-4 Mr '51

Infrared spectrum of active nitrogen. L. M. Branscomb. il Phys R 82:83-6 Ap 1 '51

Intensity distribution of the first negative ($B^2\Sigma \rightarrow X^2\Sigma$) band system of N_2^+. R. G. Turner and R. W. Nicholls. Phys R 82:290 Ap 15 '51

Interaction of fast neutrons with nitrogen. C. H. Johnson and H. H. Barschall. bibliog Phys R 80:818-23 D 1 '50

Kinetics of the reactions of beryllium with oxygen and nitrogen and the effect of oxide and nitride films on its vapor pressure. E. A. Gulbransen and K. F. Andrew. bibliog Electrochem Soc J 97:383-95 N '50; Discussion. 98:257 Je '51

Kinetics of the reactions of vanadium with oxygen and nitrogen. E. A. Gulbransen and K. F. Andrew. bibliog Electrochem Soc J 97:396-404 N '50

Measurements of the heat conductivity of nitrogen-carbon dioxide mixtures. F. G. Keyes. bibliog A S M E Trans 73:597-601; Discussion. 601-3 Jl '51

Microwave measurements of the dielectric properties of gases. G. Birnbaum and others. bibliog il diag J Ap Phys 22:95-102 Ja '51

Negative coaxial cylindrical corona discharges in pure N_2, O_2, and mixtures thereof. C. G. Miller and L. B. Loeb. J Ap Phys 22:614-21 My '51

NITROGEN—*Continued*

Neutron diffraction by the gases N_2, CF_4, and CH_4. N. Z. Alcock and D. G. Hurst. bibliog Phys R 83:1100-5 S 15 '51

Nitrogen industry. M. F. Fogler. Can Chem & Process Ind 35:137-40 F '51

Nomograph gives equilibrium constants for nitrogen. R. C. Scott, jr. and D. S. Davis. Chem Eng 58:134 Ap '51

Positive coaxial cylindrical corona discharges in pure N_2, O_2, and mixtures thereof. C. G. Miller and L. B. Loeb. bibliog diags J Ap Phys 22:494-503 Ap '51

Precipitation of carbon and nitrogen in cold-worked alpha-iron. S. Harper. bibliog Phys R 83:709-12 Ag 15 '51

Small-angle scattering of X-rays by nitrogen. R. W. Wild. bibliog diag J Chem Phys 18:1627-32 D '50

Some measurements of thermal transpiration. S. Chu Liang. diag J Ap Phys 22:148-53 F '51

Spectroscopic study of N-H isomerism in porphyrin free bases. G. D. Dorough and K. T. Shen. bibliog diag Am Chem Soc J 72:3939-44 S '50

Starting potentials of positive and negative coronas with coaxial geometry in pure N_2, pure O_2, and various mixtures at pressures from atmospheric to 27 mm. C. G. Miller and L. B. Loeb. J Ap Phys 22:740-1 Je '51

Structural model of low pressure physical adsorption. M. A. Cook and others. bibliog J Chem Phys 19:367-76 Mr '51

Surface-area determination by adsorption of nitrogen from nitrogen-helium mixtures. W. V. Loebenstein and V. R. Deitz. bibliog diag J Res Nat Bur Stand 46:51-5 Ja '51

Thickness of shock fronts in argon and nitrogen and rotational heat capacity lags. E. F. Greene and others. bibliog diag J Chem Phys 19:427-34 Ap '51

Transmutation of N^{14} by protons. D. B. Duncan and J. E. Perry. bibliog diag Phys R 82:809-13 Je 15 '51

Ultrasonic velocities in gases at low pressures. R. A. Boyer. bibliog diag Acoustical Soc Am J 23:176-8 Mr '51

Zero point entropy of nitrogen adsorbed on titanium dioxide. J. G. Aston, G. J. Szasz and G. L. Kington. Am Chem Soc J 73:1937-8 My '51

See also

Gas, Natural—Nitrogen removal

Iron—Nitrogen content

Steel—Nitrogen effect

Analysis

Detection of nitrogen in organic compounds. L. E. Brown and C. L. Hoffpauir. bibliog Anal Chem 23:1035-6 Jl '51

Determination of nitrile-type nitrogen with ordinary Kjeldahl digestion. C. H. Vanetten and M. B. Wiele. bibliog Anal Chem 23:1338-9 S '51

Determination of organic nitrogen; control of variables in the use of Nessler's reagent. J. F. Thompson and G. R. Morrison. bibliog Anal Chem 23:1153-7 Ag '51

Dumas microdetermination of nitrogen in refractory organic compounds; modification of Zimmermann's method. P. D. Sternglanz, R. C. Thompson and W. L. Savell. bibliog diags Anal Chem 23:1027-30 Jl '51

Improved apparatus for determining organic nitrogen. D. B. Williams. il Water & Sewage Works 98:87-8 F '51

Isotopic determination of nitrogen and carbon by means of a microwave spectrograph. A. L. Southern and others. bibliog diag Anal Chem 23:1000-4 Jl '51

Kjeldahl flask tray. F. H. Smith. il diags Anal Chem 23:687 Ap '51

Kjeldahl microdigestions in sealed tubes at 470° C. L. M. White and M. C. Long. bibliog Anal Chem 23:363-5 F '51

Micro-determination of nitrogen as ammonia by the diffusion technique. H. Naylor. diags Textile Inst J Trans 42:T300-8 Jl-Ag '51

Modified vacuum fusion apparatus for determination of oxygen, hydrogen, and nitrogen in certain metals. A. F. Torrisi and J. L. Kernahan. diag Anal Chem 23:928-9 Je '51

Nitrogen and sulfur in steel determinations. Chem & Eng N 29:1619-20 Ap 23 '51

Procedure for collection of isotopic nitrogen. W. R. Vaughan and others. bibliog diags Anal Chem 23:508-11 Mr '51

Recommended specifications for microchemical apparatus; micro-Kjeldahl nitrogen. il diags Anal Chem 23:523-8 Mr '51

Reference standard for mass spectrometric analysis of nitrogen. S. Soloway. Anal Chem 23:386 F '51

Spectrographic determination of nitrogen in some organic nitrogen compounds. L. D. Frederickson, jr. and L. Smith. bibliog il diag Anal Chem 23:742-4 My '51

Tabulation of apparatus used for the micro-Dumas determination. Anal Chem 23:537-8 Mr '51

Ultramicronitrometer for use in determination of nitrogen in mineral oil. W. Kirsten and B. Wallberg-Olausson. diag Anal Chem 23:927-8 Je '51

Industrial applications

Determining the purging velocity for a ten-inch, 8½-mile main; use of nitrogen slug. H. C. Judd. il Gas Age 108:47-8 Ag 16 '51

Factors in nitrogen packaging; requirements for successful flexible packs and a control test method for spotting leakers. W. S. Walker. il Mod Packaging 24:136-40+ D '50

Fleischmann's adopts the nitrogen pack for dry yeast. il Mod Packaging 24:98 D '50

Gas circulation dries out insulation while transformer carries load. M. E. Willis and M. L. Daltroff. il diags Elec World 135:108-9 F 12 '51

Nitrogen lessens junction box explosion hazard. C. B. Anderson. il diag Elec World 135:110 Mr 12 '51

Sealed, gas-filled transformer does class H job with B insulation. C. E. Sutton. il Elec World 135:112-13 F 12 '51

Isotopes

Abundance of N^{15} in the nitrogen present in crude oil and coal. P. V. Smith, jr. and B. E. Hudson, jr. Science 113:577 My 18 '51

Alpha-particle groups from the $N^{14}(d, \alpha)C^{12}$ and $N^{15}(d, \alpha)C^{13}$ reactions. R. Malm and W. W. Buechner. bibliog Phys R 81:519-22 F 15 '51

Displacement of corresponding energy levels of C^{13} and N^{13}. J. B. Ehrman. Phys R 81:412-16 F 1 '51

Exchange between N_2^{30} and N_2^{28} over iron catalysts. J. T. Kummer and P. H. Emmett. bibliog J Chem Phys 19:289-92 Mr '51

Excitation function of $C^{14}(\alpha,p)N^{17}$. K.-H. Sun and others. bibliog diag Phys R 82:267-8 Ap 15 '51

γ-Rays from the decay of N^{16}. C. H. Millar and others. bibliog Phys R 81:150 Ja 1 '51

Infra-red spectra of $N^{15}N^{14}O^{16}$ and $N^{14}N^{15}O^{16}$; some thermodynamic properties of the isotopic N_2O molecules. J. Bigeleisen and L. Friedman. bibliog J Chem Phys 18:1656-9 D '50

Isotope shifts in some lines of carbon and nitrogen. J. R. Holmes. Opt Soc Am J 41:360-1 My '51

Neutron yield from the $C^{13}(p, n)N^{13}$ reaction. R. E. Adamson, jr. and others. bibliog Phys R 80:985-7 D 15 '50

Photo-production of N^{17}; $O^{18}(\gamma,p)N^{17}$. W. E. Stephens and others. bibliog Phys R 82:511-14 My 15 '51

Procedure for collection of isotopic nitrogen. W. R. Vaughan and others. bibliog diags Anal Chem 23:508-11 Mr '51

Proton groups from the $N^{14}(d,p)N^{15}$ and $N^{15}(d,p)^{16}$ reactions. R. Malm and W. W. Buechner. bibliog Phys R 80:771-4 D 1 '50

Reaction $C^{14}(p,n)N^{14}$: excited states in N^{15}. W. D. Roseborough and others. bibliog diag Phys R 83:1133-6 S 15 '51

Study of diazo-compounds by use of nitrogen isotopes; the structure of the diazonium ion. P. F. Holt and B. I. Bullock. Chem Soc J p2310-11 S '50

Three new delayed alpha-emitters of low mass. L. W. Alvarez. bibliog Phys R 80:519-23 N 15 '50

NITROGEN, Liquid

Air separation plants; packaged units will produce oxygen and nitrogen. il Chem Eng 58:190+ S '51

Better impact pulverization achieved by new process; uses liquid nitrogen. Rubber Age 68:318 D '50; Excerpts. Mach 57:169 N '50

Constant-level control for liquid nitrogen. M. Lounsbury. diag R Sci Instr 22:533 Jl '51

Freeze-grinding; cooling tough materials with liquid nitrogen. il Chem Ind 67:554-5 O '50

Liquid nitrogen as a tool for obtaining homogeneous bacterial suspensions. M. Usdin and J. M. Birkeland. Science 113:745 Je 29 '51

Low temperature separation of ethane from methane and air. R. L. Slobod. bibliog diag Anal Chem 23:361-3 F '51

New nitrogen technic assures fine grinding, in only one pass. G. Miller. il diags Food Eng 23:36-7 Jl '51

Periodic level controller for liquid nitrogen. B. Zweig. diags R Sci Instr 22:431 Je '51

Stainless orange peel holds nitrogen; illustrations with text. Am Mach 95:129 Je 25 '51

Stainless steel sphere fabricated from shaped plates to contain 200 gal. of liquid nitrogen. il Steel 128:82 Mr 26 '51; Mech Eng 73:374, 415 My '51; Aviation W 54:28+ Mr 26 '51; Mach 57:187 Je '51; Welding J 30:538-9 Je '51

Styrofoam containers for liquid nitrogen. H. C. Froelich and C. Kenty. diags R Sci Instr 22:214 Mr '51

Unique operation; grinding with liquid N_2. il diags Chem Eng 58:106-7 Je '51

Vapor pressure of liquid nitrogen. A. S. Friedman and D. White. bibliog Am Chem Soc J 72:3931-2 S '50

Welded spheres solve liquid nitrogen storage. J. A. Toland. il Iron Age 167:86-8 Mr 29 '51

NITROGEN chloride

Toxic factor from agenized proteins; infrared measurements. L. N. Short and H. W. Thompson. Chem Soc J p 1746-9 Jl '51

NITROGEN compounds

Carcinogenic nitrogen compounds; derivatives of 1:2- and 3:4-benzophenarsazines. N. P. Buu-Hoï and R. Royer. Chem Soc J p795-8 Mr '51

Chemistry of carcinogenic nitrogen compounds; angular hydroxybenzacridines and hydroxydibenzacridines. N. P. Buu-Hoï. Chem Soc J p2096-9 Ag '50

Chemistry of carcinogenic nitrogen compounds; new substituted angular benzacridines and dibenzacridines. N. P. Buu-Hoï. Chem Soc J p 1146-52 Ap '50

Chemistry of nitronium salts; isolation of some nitronium salts. D. R. Goddard, E. D. Hughes and C. K. Ingold. diags Chem Soc J p2559-75 O '50

Conductance of aluminum chloride in nitrobenzene on addition of various nitrogen bases at 25°. R. E. Van Dyke and H. E. Crawford. Am Chem Soc J 73:2022-5 My '51

Estimated bond energies in carbon, nitrogen, oxygen, and hydrogen compounds. G. Glockler. bibliog J Chem Phys 19:124-5 Ja '51

Hydrogenation of petroleum nitrogen bases. R. J. Miller. bibliog Ind & Eng Chem 43:1410-14 Je '51

Nitrogenous compounds in sugar beet juices. R. J. Brown. bibliog Ind & Eng Chem 43:610-14 Mr '51

Quenching of fluorescence in solution; effect of the structure of the quencher on the efficiency of the reaction. J. C. Rowell and V. K. LaMer. bibliog Am Chem Soc J 73:1630-4 Ap '51

Stability of fuel oils in storage; effect of some nitrogen compounds. R. B. Thompson and others. bibliog Ind & Eng Chem 43:935-9 Ap '51

Synthesis of heterocyclic nitrogen-containing ketones; ketones derived from 2-picoline. N. N. Goldberg, L. B. Barkley and R. Levine. bibliog Am Chem Soc J 73:4301-3 S '51

Vibrational spectra of ionic forms of oxides and oxy-acids of nitrogen; Raman spectral evidence of ionisation in crystalline nitronium salts; the constitution of solid dinitrogen pentoxide; note on the spectrum of the perchlorate ion. D. J. Millen. Chem Soc J p2606-12 O '50

NITROGEN fixation

Free nitrogen. Chem Age (Lond) 63:852 D 16 '50

Nitrogen fixation by sulfate-reducing bacteria indicated by nitrogen/argon ratios. F. D. Sisler and C. E. ZoBell. Science 113:511-12 My 4 '51

Nitrogen industry. M. F. Fogler. Can Chem & Process Ind 35:137-40 F '51

Recovery of nitrogen oxides by silica gel. E. G. Foster and F. Daniels. bibliog Ind & Eng Chem 43:986-92 Ap '51

NITROGEN mustards

Action of ionizing radiations and of radiomimetic substances on deoxyribonucleic acid; the action of some compounds of the mustard type. J. A. V. Butler and K. A. Smith. Chem Soc J p3411-18 D '50

Action of ionizing radiations and of radiomimetic substances on deoxyribonucleic acid; the molecular weights of deoxyribonucleic acid degraded by X-rays and by treatment with a nitrogen mustard. B. E. Conway, L. Gilbert and J. A. V. Butler. pl Chem Soc J p3421-5 D '50

Aryl-2-halogenoalkylamines; a comparison of the stability of esters derived from some aryl-2-halogenoalkylamines with those obtained from other radiomimetic compounds. W. Davis and W. C. J. Ross. Chem Soc J p3056-62 N '50

New developments in the chemistry of war gases. M. F. Sartori. bibliog Chem R 48:225-36 Ap '51

Nitrogen mustards. E. Wilson and M. Tishler. Am Chem Soc J 73:3635-41 Ag '51

Reactions of certain epoxides in aqueous solutions. W. C. J. Ross. Chem Soc J p2257-72 S '50

Some compounds related to the aromatic nitrogen mustards. G. A. R. Kon and J. J. Roberts. Chem Soc J p978-82 Mr '50

NITROGEN oxides

Atmospheric nitrous oxide and the nitrogen cycle. A. Adel. bibliog Science 113:624-5 Je 1 '51

Catalytic action of NO_2 with light. L. C. McCabe. Ind & Eng Chem 43:sup89A-90A+ Ap '51

Chemiluminescence of the sodium or sodium halide catalyzed oxidation of carbon monoxide by nitrous oxide. C. P. Fenimore and J. R. Kelso. il Am Chem Soc J 72:5045-8 N '50

Cryoscopic measurements in nitric acid; the solutes dinitrogen pentoxide and water; the self-dissociation of nitric acid. R. J. Gillespie, E. D. Hughes and C. K. Ingold. Chem Soc J p2552-8 S '50

Cryoscopic measurements in sulphuric acid; the solutes nitric acid, dinitrogen pentoxide, dinitrogen tetroxide, and dinitrogen trioxide; cryoscopic proof of the formation of the nitronium ion, NO_2^+. R. J. Gillespie and others. Chem Soc J p2504-15 S '50

Decomposition of nitrogen pentoxide in the presence of nitric oxide. R. L. Mills and H. S. Johnston. bibliog diags Am Chem Soc J 73:938-44 Mr '51

Esterification by dinitrogen tetroxide. A. D. Yoffe and P. Gray. Chem Soc J p 1412-14 Je '51

Hyperfine structure of Zeeman levels in nitric oxide. A. F. Henry. Phys R 80:549-52 N 15 '50

Inflammation of methyl and ethyl nitrate vapours; characteristics of the explosion process and intermediate reactions involving nitrogen dioxide. P. Gray and A. D. Yoffe. diag Chem Soc J p3180-5 N '50

Infrared and Raman spectra of condensed nitric oxide. A. L. Smith and others. bibliog J Chem Phys 19:189-92 F '51

Infra-red spectra of $N^{15}N^{14}O^{16}$ and $N^{14}N^{15}O^{16}$; some thermodynamic properties of the isotopic N_2O molecules. J. Bigeleisen and L. Friedman. bibliog J Chem Phys 18:1656-9 D '50

Interpretation of the data on the thermal decomposition of nitrous oxide. H. S. Johnston. bibliog J Chem Phys 19:663-7 Je '51

Intramolecular isotopic fractionation; the example of nitrous oxide. J. M. McCrea. bibliog J Chem Phys 19:48-9 Ja '51

NITROGEN oxides—*Continued*

Kinetics and mechanism of aromatic nitration; nitration by dinitrogen pentoxide in aprotic solvents. V. Gold and others. Chem Soc J p2452-66 S '50

Kinetics of the rapid gas phase reaction between NO, NO_2, and H_2O. L. G. Wayne and D. M. Yost. bibliog il diag J Chem Phys 19:41-7 Ja '51

Liquid dinitrogen tetroxide solvent system. C. C. Addison and others. diags Chem Soc J p 1289-310 My '51

Mechanism of formation of nitric oxide in glow discharges. R. W. Nicholls. J Chem Phys 19:250 F '51

Microwave spectrum of NO_2. K. B. McAfee, jr. Phys R 82:971 Je 15 '51

New absorption bands of the NO molecule in the extreme ultraviolet region. Y. Tanaka and others. J Chem Phys 19:979 Jl '51

Nitration in sulphuric acid; the nitronium ion as nitrating agent in 75-85 per cent sulphuric acid. A. M. Lowen, M. A. Murray and G. Williams. Chem Soc J p3318-22 N '50

Oxidation of aldehydes in the gaseous phase; the inhibition of the oxidation of acetaldehyde by nitrogen peroxide (dioxide). C. A. McDowell and J. H. Thomas. Chem Soc J p 1462-7 Je '50

Oxidation of cotton cellulose by nitrogen dioxide. T. P. Nevell. bibliog diags Textile Inst J Trans 42:T91-129 Mr '51

Oxidation of glucose and related compounds with oxides of nitrogen. E. F. Degering and R. A. Berntsen. Am Chem Soc J 73: 848-9 F '51

Oxidation of nitric oxide at high pressures of reactants. H. S. Johnston and L. W. Slentz. Am Chem Soc J 73:2948 Je '51

Qualitative X-ray study of the oxidation of cotton cellulose by nitrogen dioxide. T. P. Nevell. bibliog il Textile Inst J Trans 42: T130-40 Mr '51

Rapid gas phase reaction between nitric oxide and ozone. H. S. Johnston and H. J. Crosby. J Chem Phys 19:799 Je '51

Reaction of aromatic triazenes with nitric oxide. T. W. Campbell. Am Chem Soc J 73:4019-21 Ag '51

Reaction of dinitrogen tri- and tetr-oxides with olefins; ethylbut-1-ene and dec-1-ene. C. R. Porter and B. Wood. Inst Pet J 37: 388-95 Jl '51

Reactions of nitrosyl chloride. J. R. Partington and A. L. Whynes. diags Chem Soc J p3135-41 D '49

Recombination of methyl radicals. D. M. Miller and E. W. R. Steacie. bibliog diag J Chem Phys 19:73-7 Ja '51

Recovery of nitrogen oxides by silica gel. E. G. Foster and F. Daniels. bibliog Ind & Eng Chem 43:986-92 Ap '51

Rotation-vibration spectra of diatomic and simple polyatomic molecules with long absorbing paths; the spectrum of nitrous oxide (N_2O) below 1.2μ. G. Herzberg and L. Herzberg. bibliog il J Chem Phys 18: 1551-61 D '50

Sorption of gases on metals at room temperature. A. L. McClellan and N. Hackerman. bibliog J Phys & Colloid Chem 55:374-82 Mr '51

Spectroscopic evidence of the dimerization of NO in the gaseous state. L. D'Or and others. J Chem Phys 19:1064 Ag '51

Study of nitrogen oxide concentrations during arc welding. L. Silverman and S. I. Husain. bibliog A M A Archives Ind Hygiene & Occup Med 3:135-46 F '51

Thermal decomposition of nitrogen pentoxide at high temperature. H. S. Johnston and Y. Tao. Am Chem Soc J 73:2948-9 Je '51

Vibrational spectra of ionic forms of oxides and oxy-acids of nitrogen. C. K. Ingold and others. Chem Soc J p2576-627 O '50

Volumetric behavior of nitric oxide. B. H. Golding and B. H. Sage. bibliog Ind & Eng Chem 43:160-1 Ja '51

Analysis

Determination of nitric oxide and nitrogen textroxide in admixture. G. C. Whitnack and others. bibliog diag Anal Chem 23: 464-7 Mr '51

Physiological effect

Industrial hygiene; nitrogen oxides, sulfur dioxide, and sulfuric acid mists. Ind & Eng Chem 43:sup 111A-12A+ Je '51

NITROGLYCERIN

Analysis

Determination of diethylene glycol dinitrate and nitroglycerin by infrared spectroscopy. S. Pinchas. bibliog Anal Chem 23:201-2 Ja '51

NITROGUANIDINE

Chemistry of linear substituted nitroguanidines. R. H. Hall, A. F. McKay and G. F. Wright. Am Chem Soc J 73:2205-8 My '51

Crystallographic data. W. C. McCrone. il diags Anal Chem 23:205-6 Ja '51

Nitroguanidines as pseudo-acids. S. S. Barton, R. H. Hall and G. F. Wright. bibliog Am Chem Soc J 73:2201-5 My '51

Solubility of nitroguanidine in water. W. McBride and others. Am Chem Soc J 73: 485-6 Ja '51

NITROLEPIDINE

Reactions of methazonic acid; the preparation of 3-nitrolepidines and 3-nitro-4-arylquinolines. K. Schofield and R. S. Theobald. Chem Soc J p395-402 Ja '50

NITROMETERS

Gasometric determination of nitrite and sulfamate. W. N. Carson, jr. bibliog diags Anal Chem 23:1016-19 Jl '51

Ultramicronitrometer for use in determination of nitrogen in mineral oil. W. Kirsten and B. Wallberg-Olausson. diag Anal Chem 23:927-8 Je '51

NITROMETHANE

Estimation of surface tensions; ternary liquid mixtures. A. S. Michaels, R. S. Alexander and C. L. Becker. bibliog Ind & Eng Chem 42:2332-6 N '50

Heat capacities of several organic liquids. E. W. Hough, D. M. Mason and B. H. Sage. Am Chem Soc J 72:5775-7 D '50

Heat-transfer coefficient of condensing vapours. J. C. Chu and others. bibliog flow sheet J Ap Chem 7:73-80 F '51

Kinetics of the ammonium acetate-catalyzed condensation of vanillin and nitromethane. T. I. Crowell and F. A. Ramirez. bibliog Am Chem Soc J 73:2268-70 My '51

Reactions of quinolinium compounds with nitromethane. N. J. Leonard, H. A. DeWalt, jr. and G. W. Leubner. bibliog Am Chem Soc J 73:3325-9 Jl '51

Synthesis of cycloheptanone by a nitromethane condensation sequence. H. J. Dauben, jr. and others. Am Chem Soc J 73: 2359-61 My '51

Thermal decomposition of nitromethane. L. J. Hillenbrand, jr. and M. L. Kilpatrick. bibliog J Chem Phys 19:381 Mr '51

NITRONAPHTHALENE

Analysis

Fluorometric determination of 2-nitronaphthalene. F. L. English and J. W. Eppert. Anal Chem 23:717-20 My '51

NITRONAPHTHYLAMINE

Bromination of 6-nitro-1-naphthylamine. H. H. Hodgson and R. E. Dean. Chem Soc J p822-3 Mr '50

Some derivatives of 5-nitro-2-naphthylamine with a note on its preparation. H. H. Hodgson and R. E. Dean. Chem Soc J p820-2 Mr '50

NITRONIUM ion. See Nitrogen oxides

NITRONIUM perchlorate. See Nitryl perchlorate

NITRONIUM salts. See Nitrogen compounds

NITROOLEFINS

Reactions of diazo compounds with nitroölefins; the preparation of pyrazoles. W. E. Parham and J. L. Bleasdale. bibliog Am Chem Soc J 72:3843-6 S '50

NITROPARAFFINS

Alkylation of nitroparaffins with amines and their derivatives. H. R. Snyder and W. E. Hamlin. bibliog Am Chem Soc J 72:5082-5 N '50

Carbon-alkylation reactions of nitroalkanes; the reaction of *p*-nitrobenzyltrimethylammonium iodide and sodium 2-propanenitronate. H. Shechter and R. B. Kaplan. Am Chem Soc J 73:1883 Ap '51

NITROPARAFFINS—*Continued*
Condensation of nitroalkanes with anils. C. D. Hurd and J. S. Strong. Am Chem Soc J 72:4813-14 O '50
Condensation of nitroparaffins with α,β-unsaturated ketones using calcium hydride. N. Fishman and S. Zuffanti. Am Chem Soc J 73:4466 S '51
Electrochemical reduction of nitroalkanes; preparation of *N*-alkylhydroxylamines (hydroxaminoalkanes). M. W. Leeds and G. B. L. Smith. bibliog Electrochem Soc J 98:129-33 Ap '51
Reactions of nitroparaffins; the reaction of primary nitroparaffins with acetic anhydride. T. Urbański. Chem Soc J p3374-6 D '49
Reduction of certain halogenated nitroparaffins by liquid ammonia; brompicrin. E. Schulz, S. Meisel and F. C. Schmidt. Am Chem Soc J 73:2962 Je '51
Regeneration of nitroparaffins from their salts. N. Kornblum and G. E. Graham. bibliog Am Chem Soc J 73:4041-3 Ag '51

NITROPHENOL
Chemical studies on insecticides; determination of parathion and dimethylparathion. J. A. A. Ketelaar and J. E. Hellingman. bibliog Anal Chem 23:646-50 Ap '51
Preventing mould on leather. Chem Age (Lond) 64:204 F 3 '51
Some *p*-nitrophenyl derivatives of *o*-phosphoric and *o*-thiophosphoric acid. J. A. A. Ketelaar and H. R. Gersmann. Am Chem Soc J 72:5777 D '50

Analysis

Determination of parathion and *p*-nitrophenol in technical grade materials and in dust preparations. K. O'Keeffe and P. R. Averell. bibliog Anal Chem 23:1167-9 Ag '51

NITROPHENYLARSONIC acid
Amperometric titrations with *m*-nitrophenylarsonic acid. I. M. Kolthoff and R. A. Johnson. bibliog Electrochem Soc J 98:138-45 Ap '51

NITROPHENYL butadiene
Reactions of 1-(*p*-bromophenyl)-1,3-butadiene and 1-(*p*-nitrophenyl)-1,3-butadiene with acrylic acid and ethyl acrylate. G. A. Ropp and E. C. Coyner. bibliog Am Chem Soc J 72:3960-3 S '50

NITROPHENYL group
Chloromycetin (chloramphenicol); the synthesis of 3-methyl and 3-*p*-nitrophenyl substituted compounds. M. C. Rebstock. Am Chem Soc J 73:3671-4 Ag '51

NITROPROPANE
Electrochemical reduction of nitroalkanes; preparation of *N*-alkylhydroxylamines (hydroxaminoalkanes). M. W. Leeds and G. B. L. Smith. bibliog Electrochem Soc J 98:129-33 Ap '51

NITROPROPANOIC acid
Preparation of β-nitropropanoic acid. H. B. Hass, H. Feuer and S. M. Pier. Am Chem Soc J 73:1858 Ap '51

NITROQUINOLINE
Reactions of methazonic acid; the preparation of 3-nitrolepidines and 3-nitro-4-arylquinolines. K. Schofield and R. S. Theobald. Chem Soc J p395-402 Ja '50

NITROSATION
Nitrosation of hexamethylenetetramine and related compounds. W. E. Bachmann and N. C. Deno. Am Chem Soc J 73:2777-9 Je '51
Nitrosoacylarylamines; the nitrosation of 3-acetamido-4-quinolones and -quinaldones. W. J. Adams and D. H. Hey. Chem Soc J p 1521-7 Je '51
Purpurogallin; nitration and nitrosation of β-methyltropolone. R. D. Haworth and P. R. Jefferies. Chem Soc J p2067-71 Ag '51

NITROSOACETANILIDE
Mechanism of the reaction of N-nitrosoacetanilide with methanol. D. F. DeTar. bibliog Am Chem Soc J 73:1446-9 Ap '51

NITROSOAMINES
Liquid dinitrogen tetroxide solvent system; reactions involving some alkylammonium salts, with particular reference to solvolysis and the formation of diethylnitrosamine. C. C. Addison, C. P. Conduit and R. Thompson. Chem Soc J p 1298-303 My '51
Liquid dinitrogen tetroxide solvent system; thermal and conductometric studies of solutions of diethylnitrosamine in liquid dinitrogen tetroxide. C. C. Addison, C. P. Conduit and R. Thompson. diags Chem Soc J p 1303-10 My '51
Nitrosoacylarylamines; the nitrosation of 3-acetamido-4-quinolones and -quinaldones. W. J. Adams and D. H. Hey. Chem Soc J p 1521-7 Je '51

NITROSOBENZENE
Kinetics of aromatic halogen substitution; nitrosobenzene and azobenzene. P. W. Robertson, T. R. Hitchings and G. M. Will. Chem Soc J p808-12 Mr '50
Preparation of nitrosobenzene. P. S. Robertson and J. Vaughan. diag J Chem Educ 27:605 N '50

NITROSO compounds
Infra-red spectra of three sydnones and certain *N*-nitroso-compounds. J. C. Earl and others. Chem Soc J p2207-8 Ag '51
Lithium aluminum hydride test for aromatic nitro and nitroso groups. H. Gilman and T. N. Goreau. Am Chem Soc J 73:2939-40 Je '51
New reactions involving alkaline treatment of 3-nitroso-2-oxazolidones. M. S. Newman and A. Kutner. bibliog Am Chem Soc J 73:4199-204 S '51
Recovery of organic material from cobalt 1-nitroso-2-naphtholate. A. D. Dargaville, D. L. Ingles and J. B. Polya. J Ap Chem 1:345-6 Ag '51

Analysis

Analogous nitro and nitroso compounds; separation, identification, and quantitative estimation. W. R. Edwards, jr. and C. W. Tate. bibliog Anal Chem 23:826-30 Je '51

NITROSO R salt
Isolation and determination of cobalt as nitroso R salt complex by chromatographic ion exchange. J. A. Dean. bibliog Anal Chem 23:1096-7 Ag '51

NITROSTYRENE
Hydroximyl chlorides from nitrostyrenes. C. D. Hurd, M. E. Nilson and D. M. Wikholm. bibliog Am Chem Soc J 72:4697-9 O '50
Nitrostyrenes and 2-nitro-5-vinylfuran. R. H. Wiley and N. R. Smith. bibliog Am Chem Soc J 72:5198-9 N '50

NITROSYL bromide
Vibrational spectra and structure of inorganic molecules; the infra-red spectra of nitrosyl chloride and nitrosyl bromide from 2.0 to 25μ. W. G. Burns and H. J. Bernstein. bibliog J Chem Phys 18:1669-73 D '50

NITROSYL chloride
Microwave absorption spectrum of nitrosyl chloride NOCl. J. D. Rogers and others. bibliog Phys R 83:431-4 Jl 15 '51
Nitrosyl chloride. L. J. Beckham and others. Chem R 48:319-96 bibliog(589 ref, p383-96) Je '51
Reactions of nitrosyl chloride. J. R. Partington and A. L. Whynes. diags Chem Soc J p3135-41 D '49
Structure of nitrosyl chloride from the microwave absorption spectrum. H. J. Bernstein. J Chem Phys 18:1514 N '50
Vibrational spectra and structure of inorganic molecules; the infra-red spectra from nitrosyl chloride and nitrosyl bromide from 2.0 to 25μ. W. G. Burns and H. J. Bernstein. bibliog J Chem Phys 18:1669-73 D '50

NITROSYL compounds
Preparation of nitrosyl complex fluorides and of fluorosulphonates by means of bromine trifluoride. A. A. Woolf. Chem Soc J p 1053-6 Ap '50

NITROSYL fluoride
Determination of the two-dipole moment components in nitrosyl fluoride. D. W. Magnuson. bibliog J Chem Phys 19:1071 Ag '51
Infra-red spectrum of nitrosyl fluoride. E. A. Jones and P. J. H. Woltz. J Chem Phys 18:1516 N '50
Preparation of nitrosyl fluoride and nitryl fluoride. A. V. Faloon and W. B. Kenna. diag Am Chem Soc J 73:2937-8 Je '51

NITROTOLUENE

Aromatic sulphonation; the ionisation constants of *p*-nitrotoluene, nitrobenzene, and *p*-chloronitrobenzene, and the acidity function of oleum. J. C. D. Brand. Chem Soc J p997-1003 Mr '50

Preparation of the mononitrobenzaldehydes. W. Davey and J. R. Gwilt. Chem Soc J p204-8 Ja '50

NITROTOLUENE diamine

Monoacetylation of 2,4-diamino-6-nitrotoluene. R. J. Foster, F. G. Rosicky and C. Niemann. bibliog Am Chem Soc J 72:3959-60 S '50

NITROUS acid

Action of nitrous acid on 2-phenylcyclohexylamine. D. V. Nightingale and M. Maienthal. bibliog Am Chem Soc J 72:4823-4 O '50

Anhydrides of polyhydric alcohols; the amino-derivatives of 1 : 4-3 : 6-dianhydro-mannitol, -sorbitol, and -L-iditol, and their behaviour towards nitrous acid. V. G. Bashford and L. F. Wiggins. pl Chem Soc J p371-4 Ja '50

Deamination of amino-acids by nitrous acid with particular reference to glycine; the chemistry underlying the Van Slyke determination of α-amino-acids. A. T. Austin. diag Chem Soc J p 149-57 Ja '50

Effect of nitrous acid on the oxidizing power of nitric acid. R. C. Brasted. J Chem Educ 28:442 Ag '51

Effects of ultrasonic waves and nitrous acid on the production of colloidal sulfur. S. Akiya and others. bibliog Science 112:463-5 O 20 '50

Kinetics and mechanism of aromatic nitration; the nitration of phenols and phenolic ethers; the concomitant dealkylation of phenolic ethers; the role of nitrous acid. C. A. Bunton and others. Chem Soc J p2628-56 O '50

Reaction of nitrous acid with diaminoguanidine in acetic acid media; isolation and structure proof of reaction products. E. Lieber and D. R. Levering. bibliog Am Chem Soc J 73:1313-17 Mr '51

Reaction of nitrous acid with nitroaminoguanidine. E. Lieber and others. Am Chem Soc J 73:2327-9 My '51

Reactions of nitrous acid. J. H. Dusenbury and R. E. Powell. Am Chem Soc J 73:3266-70 Jl '51

Rotational isomerism in nitrous acid and alkyl nitrites. L. D'Or and P. Tarte. J Chem Phys 19:1064-5 Ag '51

NITROUS oxide

Technique for the study of solid-gas surface reactions: the decomposition of nitrous oxide on iron oxide-zinc oxide catalysts. L. P. Bupp and A. B. Scott. diag Am Chem Soc J 73:4422-6 S '51

NITROVINYLFURAN

Nitrostyrenes and 2-nitro-5-vinylfuran. R. H. Wiley and N. R. Smith. bibliog Am Chem Soc J 72:5198-9 N '50

NITROXYLENE

Polarographic determination of mono- and dinitroxylenes. C. H. Hale. bibliog Anal Chem 23:572-3 Ap '51

NITRYL fluoride

Preparation of nitrosyl fluoride and nitryl fluoride. A. V. Faloon and W. B. Kenna. diag Am Chem Soc J 73:2937-8 Je '51

NITRYL perchlorate

Cryoscopic measurements in sulphuric acid; the solutes nitronium perchlorate and ammonium perchlorate; the basicity of the perchlorate ion and the acidity of perchloric acid; notes on the strengths of some oxy-acids. R. J. Gillespie. Chem Soc J p2537-42 S '50

NOBEL prizes

Nobel award reaffirms kinship of chemistry and medicine; Tadeus Reichstein, Edward C. Kendall. Chem & Eng N 28:4169-70 N 27 '50

Nobel prizes. Sci Am 183:26-7 D '50

NODULAR cast iron. See Cast iron—Graphitization

NOEL, Frank

Noel captured; his heart was too big. S. Swinton. por Ed & Pub 83:7 D 9 '50

NOISE

Air conditioning helps control noise. C. M. Ashley. bibliog il Refrig Eng 58:1080-3+ N '50

Are we ready for standards in noise? J. H. Sterner. Ind Med 20:99-101 Mr '51

Changes in pitch of tones of low frequency as a function of the pattern of excitation produced by a band of noise. J. P. Egan and D. R. Meyer. diags Acoustical Soc Am J 22:827-33 N '50

Controlling noise and vibration. Nat Safety N 63:26 Mr '51

Effects of noise on human behavior and communication. H. Davis. A M A Archives Ind Hygiene & Occup Med 3:227-31 Mr '51

Generation and measurement of low frequency random noise. R. R. Bennett and A. S. Fulton. diags J Ap Phys 22:1187-91 S '51

How to measure apparatus noise. C. H. G. Gray. il Standardization 22:55-6 F '51

Industrial noise. R. M. McGrath. Science 113: sup3 F 16 '51

Intermittent loud noise and mental performance. K. R. Smith. Science 114:132-3 Ag 3 '51

Levels and spectra of traffic, industrial, and residential area noise. G. L. Bonvallet. Acoustical Soc Am J 23:435-9 Jl '51

Measuring and evaluating noise. A. H. Fiske, jr. Gen Elec R 53:29-31 N '50

Muffling the noisemakers; at AiResearch laboratory, Los Angeles. il Nat Safety N 64:37 Ag '51

Noise and its effects on office workers; abstract. R. A. Wilson. Management R 40: 59-60 F '51

Noise as cause of hearing impairment. Safety Maint & Prod 102:71 S '51

Noise can drive you crazy! B. E. Woodbury. il Safety Maint & Prod 101:54-5+ F '51

Noise in industry; report of a conference during A.M.A. 10th annual congress on industrial health, New York, Feb. 20, 1950. A M A Archives Ind Hygiene & Occup Med 3:232-5 Mr '51

Power spectrum of a narrow band noise passed through a nonlinear impedance element. J. L. McLucas and R. C. Raymond. J Ap Phys 22:1211-13 S '51

Random noise in an attenuating fluid medium. R. E. Roberson. diag Acoustical Soc Am J 23:353-8 My '51

Random noise in dielectric materials. J. H. Mason. bibliog J Ap Phys 22:235-6 F '51

Resonant vibrations in a water-filled piping system. D. B. Callaway and others. Acoustical Soc Am J 23:550-3 S '51

Theory of random noise; phenomenological models. D. Middleton. bibliog J Ap Phys 22:1143-63 S '51

Tire tread noise analyzer. S. A. Lippmann and K. A. Ferguson. il diags Electronics 23:84-7 N '50

See also

Airplane engines—Noise
Airplanes—Noise
Automobiles—Noise
Ear—Injuries
Electric fans, Ventilating—Noise
Electric lamps, Fluorescent—Noise
Electric transformers—Noise
Radar receiving apparatus—Noise
Radio communication—Interference
Radio communication—Interference elimination
Radio receiving apparatus—Noise
Sound absorbent materials
Sound filters
Telephone—Noise
Vacuum tubes—Noise

NOMENCLATURE

See also

Zoology—Nomenclature

NOMILIN

Bitter principles of citrus; relation of nomilin and obacunone. O. H. Emerson. Am Chem Soc J 73:2621-3 Je '51

NOMOGRAPHS

Alignment chart predicts gas furnace performance. Am Gas Assn Mo 33:17-19 Je '51

Aluminum-coil weight and length; chart; reference book sheet. J. T. Hogan. Am Mach 95:143 Je 25 '51

Angle nomograph shows cutter clearances. D. E. Sweet. diags Am Mach 95:158 O 15 '51

Chart for determining capacity of tanks. Pet Eng 23:D34 S '51

NOMOGRAPHS—*Continued*

Chart giving insulation thickness to prevent sweating. Power Eng 54:91-2 N '50

Column nomograph; reference book sheet. C. A. Kulmann. diags Product Eng 21:171 N '50

Combining sound levels; nomogram; reference sheet. W. B. Conover. Electronics 23:118 D '50

Construction of circular nomographs with hyperbolic coordinates. W. H. Burrows. Ind & Eng Chem 43:158-9 Ja '51

Construction of nomographs with hyperbolic coordinates; general hyperbolic coordinates. W. H. Burrows. diags Ind & Eng Chem 43:1193-6 My '51

Construction of three-dimensional nomographs. W. H. Burrows. bibliog il diags Ind & Eng Chem 43:1823-6 Ag '51

Cut out trial-and-error. J. F. Heiss and H. C. Bramer. diags Chem Eng 58:112-14+ Je '51

Determining capacity in circuits by frequency-shaft method. E. A. Slusser. diag Tv Eng 2:16-17+ Jl '51

Dimensional tolerance charts for helical springs; reference book sheet. C. H. Sacks. diags Product Eng 22:199, 201, 203 S '51

Eccentrically loaded corner columns. L. S. Muller. diags Am Concrete Inst J 22:562-5 Mr '51

Figuring horsepower by Prony brake; chart; data sheet. J. F. Hyman. Power 94:144 D '50

Gain-bandwidth nomograph; reference sheet. C. W. Young. Electronics 23:116-18 N '50

Graphical method for solution of rate-time problems involving constant percentage decline. R. W. Woods. Oil & Gas J 49:125 Mr 22 '51

Graphical method of sizing cyclone dust collectors. L. Monroe. bibliog diags Heat & Ven 47:63-6 D '50; Discussion. 48:104+ Mr '51

Helical spring nomograph; reference book sheet. C. A. Kulmann. Product Eng 21:165 D '50

Latent heats of vaporization nomograph. T. H. Arnold, jr. and P. K. Raiford. Chem Eng 58:138-9 Ap '51

Logarithmic modulus chart speeds construction of nomographs. D. S. Davis. Chem Eng 58:125 Mr '51

Minimum-loss matching pads; reference sheet. J. C. Bregar. Electronics 24:118 F '51

Neutralization nomograph for determining alkali requirement in neutralizing acidic wastes. R. D. Hoak. Water & Sewage Works 98:360-1 Ag '51

New nomographic treatment of the cubic. C. R. Wylie, jr. J Eng Educ 41:490-5 Ap '51

Nomogram for the calculation of relative centrifugal force. V. P. Dole and G. C. Cotzias. Science 113:552-3 My 11 '51

Nomogram simplifies worm and gear design; data sheet. G. Sved. Machine Design 23:157-9 Ag '51

Nomograms for quantitative analysis of electrical logs. bibliog World Oil 132:131-4 Ap '51

Nomograms for the solution of anchor bolt problems. A. I. Gartner. bibliog diags Pet Refiner 30:101-6 Jl '51

Nomograph and table for use with bumped data. D. S. Davis. Chem Eng 58:140 Je '51

Nomograph; calculation of the degree of elongation of fiber during its preparation. J. T. Hogan. Am Dyestuff Rep 39:725 O 30 '50

Nomograph for calculating contact time for vapor-phase reactions. J. N. Pattison. Ind & Eng Chem 43:1444-6 Je '51

Nomograph for estimation of population equivalent. J. W. Kirkpatrick. Water & Sewage Works 97:528 D '50

Nomograph for gain control of Perkin-Elmer infrared spectrometer. A. S. Henick, B. R. Anderson and M. Freed. Anal Chem 23:661-3 Ap '51

Nomograph for gaseous systems; diffusion coefficients. C. D. Spangenberg, jr. Chem Eng 58:170-1 S '51

Nomograph for the volume of cones or pyramids; reference book sheet. C. P. Nachod. diags Product Eng 22:209 My '51

Nomograph for washing of cakes on filters. B. H. Nicolaisen and T. M. Jenney. Chem Eng 57:136 D '50

Nomograph gives enthalpy correction for nonideal gases. D. S. Davis. Chem Eng 57:135 D '50

Nomograph gives solubility of sulphur dioxide in water. D. S. Davis. Chem Eng 58:125-6 Ja '51

Nomograph helps determine particle free settling rate. S. M. Walas. Chem Eng 58:177-8 S '51

Nomograph of Dittus-Boelter equation for heating and cooling liquids. J. F. Heiss and J. Coull. Ind & Eng Chem 43:1226-9 My '51

Nomograph on bend allowances. L. M. Majeske. Tool Eng 26:39 F '51

Nomograph on flow of viscous fluids. L. M. Majeske. Tool Eng 27:39 Ag '51

Nomograph provides method for comparison of weir formulas. C. G. Edson. Civil Eng 21:476-7 Ag '51

Nomographic charts. C. A. Kulmann. 244p $6.50 McGraw-Hill book co, 330 W. 42d st, New York 18 '51

Nomographic design of helical springs; data sheet. J. H. Keyes. Machine Design 22:173-4 D '50

Pipe bending chart. W. F. Schaphorst. Pet Eng 23:D53 S '51

Properties of rectangular sections; reference book sheet. C. A. Kulmann. diags Product Eng 21:167 N '50

Solution of Manning's formula and velocity and discharge for partially full circular sewers. J. P. Messina. Water & Sewage Works 98:418-19 O '51

Temperature-compensating capacitor nomograph; reference sheet. T. T. Brown. Electronics 24:132+ O '51

NOMOGRAPHY

Circular nomogram theory and construction technique. E. C. Varnum. bibliog diags Product Eng 22:152-6 Ag '51

NONCANCELLABLE policies. See Insurance, Accident—Noncancellable policies

NON-FERROUS founders' society

Annual meeting, Boston, Oct. 13-14. Foundry 78:124+ D '50

NON-FORFEITURE benefits. See Insurance, Life—Policies—Non-forfeiture benefits

NOPADIENE

Nopadiene. L. J. Kitchen. Am Chem Soc J 73:2368-9 My '51

NORBORNYLENE. See Bicycloheptene

NORCHOLESTENOLONE

Preparation of cholesterol from Δ^5-norcholestene-3β-ol-25-one. W. G. Dauben and H. L. Bradlow. Am Chem Soc J 72:4248-50 S '50

NORCHOLESTEROL

Preparation of cholesterol from 25-ketonorcholesterol. A. I. Ryer, W. H. Gebert and N. M. Murrill. bibliog Am Chem Soc J 72:4247-8 S '50

NORDIHYDROGUAIARETIC acid

Analysis

Extraction and purification of nordihydroguaiaretic acid. J. O. Page. bibliog(38 ref) Anal Chem 23:296-8 F '51

NORFOLK, Virginia

Industries

Norfolk is booming. Manuf Rec 119:35 N '50

Streets

Bridge and tunnel promise traffic relief. il maps Eng N 145:44-5 N 16 '50

NORFOLK and western railway

Norfolk & Western turns coal to gold. map Bsns W p 112-14+ N 18 '50

NORFOLK southern railway

Security I like best. S. J. Sanford. Comm & Fin Chr 173:1874-5 My 3 '51

NORISODRINE sulfate

Norisodrine sulfate (N-isopropylarterenol), toxicity in industrial use. R. M. Watrous and H. N. Schulz. bibliog diag Ind Med 20:305-7 Jl '51

NORLEUCINE

Resolution of amino acids; isoleucine, alloisoleucine, leucine and norleucine. W. A. H. Huffman and A. W. Ingersoll. bibliog Am Chem Soc J 73:3366-9 Jl '51

NORNICOTINE

Alkaloid biogenesis; specificity of the nicotine-nornicotine conversion. R. F. Dawson. bibliog Am Chem Soc J 73:4218-21 S '51

NORNICOTINE—*Continued*
New tests for the nicotiana alkaloids, nornicotine and anabasine. L. Feinstein and E. T. McCabe. Science 112:534 N 3 '50

Analysis

Modification of Sanchez color test for nicotine. L. Feinstein and E. T. McCabe. Anal Chem 23:385 F '51
Quantitative test for nornicotine. L. Feinstein and E. T. McCabe. Anal Chem 23:924-5 Je '51

NORPSEUDOEPHEDRINE
Configurational correlation of chloramphenicol with nor-ψ-ephedrine. G. Fodor, J. Kiss and I. Sallay. Chem Soc J p 1858-63 Jl '51

NORRIS award
First Norris award for teaching of chemistry goes to Forbes. Chem & Eng N 29:2274-5, 2278 Je 4 '51

NORRIS stamping and manufacturing company
Stock offered. Comm & Fin Chr 172:1930 N 20 '50

NORTESTOSTERONE
Hydroaromatic steroid hormones; 10-nortestosterone. A. J. Birch. Chem Soc J p367-8 Ja '50
Hydroaromatic steroid hormones; some hydrochrysene derivatives. A. J. Birch and H. Smith. Chem Soc J p 1882-8 Jl '51

NORTH, John Alden, 1901-
Sketch. por East Underw 52:25-6 Mr 30 '51

NORTH AMERICA

Antiquities

Early Americans. F. H. H. Roberts. il diag Sci Am 184:15-19 F '51
How man came to North America. R. Solecki. il map Sci Am 184:11-15 Ja '51

NORTH AMERICAN aviation, inc.
First 45,000. il Aero Digest 63:24-5+ Ag '51
NAA expands production plans. Aviation W 53:17-18 D 4 '50
NAA report. Aviation W 54:17 F 12 '51
War plane solo pays for North American. il Bsns W p 32+ N 25 '50

NORTH AMERICAN refractories company
Security I like best. E. F. Hayes. Comm & Fin Chr 173:1122+ Mr 15 '51

NORTH ATLANTIC defense alliance
Affair of Admiralty; appointment of American admiral. Economist 160:467-8 Mr 3 '51
Arming the right flank of the West; Turkey's election to NATO. map Bsns W p 149-50 S 29 '51
Arms before aid. Economist 159:1192-3 D 30 '50
Atlantic army problems. Economist 159:933 D 2 '50
Atlantic issues at Ottawa. Economist 161:607-12 S 15 '51
Atlantic pact arguments. Economist 159:726 N 11 '50
Economics of the Atlantic pact. Economist 159:750+ N 11 '50
Foreign aid jet plane deliveries speeded. il Aviation W 53:12-13 D 4 '50
Framework of alliance. Economist 160:59-60 Ja 13 '51
Nato and Turkey. Economist 161:5-6 Jl 7 '51
Nato on new lines. Economist 160:1106-7 My 12 '51
Production; toughest job in NATO is held by W. R. Herod. il Bsns W p 157-8 My 26 '51
Streamlining Nato. Economist 160:1024-5 My 5 '51
Twelve in search of a plan. Economist 160:1142-4 My 19 '51
Where the West buys arms. il Bsns W p 136-8 Mr 3 '51

NORTH CAROLINA

Industries and resources

New industry invests over hundred million in 1950. Manuf Rec 120:52 Ja '51

NORTHAMPTON, Massachusetts
See also Housing—Northampton, Massachusetts

NORTHBOROUGH, Massachusetts
See also
Banks and banking—Northborough, Massachusetts

NORTHEAST
See also
Housing—Northeastern states

NORTHERN Indiana public service company
Indiana utility dividend appears well protected. Barron's 30:15 D 25 '50

NORTHERN Pacific railway
Equipment trust certificates offered. Comm & Fin Chr 173:1072 Mr 12 '51
Northern Pacific; Denney to Macfarlane. Ry Age 129:25-7 D 30 '50
Railroad securities. Comm & Fin Chr 173:2067 My 17 '51
Security I like best. W. G. Kahlert. Comm & Fin Chr 173:1454 Ap 5 '51

NORTHERN paper mills
50 years of progress. il Paper Tr J 133:152-4 S 7 '51

NORTHERN states power company
Preferred stock offered. Comm & Fin Chr 172:1635-6 O 30 '50
Public utility securities. O. Ely. Comm & Fin Chr 172:1499 O 19 '50

NORTHROP aircraft, inc.
High earnings may restore dividend. Barron's 31:11-12 My 14 '51
Stock offering oversubscribed. Comm & Fin Chr 174:638 Ag 20 '51

NORTHWEST electric light and power association
Accounting and business practice section meeting, Boise, June 14-15. Elec West 107:83-4+ Jl '51
Annual sales conference, Portland, May 7-9. Elec West 106:96-8 Je '51
Engineering and operation section meeting, Salt Lake City, April 25. Elec World 135:85 My 7 '51
Personnel and safety section meeting, Spokane, May 16-18. Elec West 107:82-3 Jl '51

NORTHWEST public power association
Semi-annual meeting, Portland, Sept. 13-15. Elec West 105:98-9 O '50

NORTHWEST TERRITORIES, Canada
See also
Mines and mineral resources—Northwest Territories, Canada

NORTON company
Grinding machine anniversary. Comp Air Mag 55:278-9 D '50

NORTRICYCLENE
Raman and infrared spectra of nortricyclene. E. R. Lippincott. diag Am Chem Soc J 73:2001-6 My '51

NORWAY
See also
Paper industry and trade—Norway

Defenses

Norway's defence effort. Economist 160:382+ F 17 '51

Economic conditions

News by countries. For Comm W 42:13-14 Ja 8; 16-17 F 5; 18 Mr 19; 43:18-19 Ap 16; 16-17 My 21; 13-14 Je 18; 44:17-18 Jl 9; 17-18 Ag 6; 14+ S 10; 45:14 O 8 '51
Norwegian prices and wages. Economist 160:1242 My 26 '51

Economic policy

Plan for north Norway. Economist 161:519 S 1 '51

Industries and resources

Industrial developments in postwar Norway. R. Hamerschlag. il For Comm W 44:3-4+ Ag 20 '51

NORWEGIAN language

Dictionaries

Gyldendal's English-Norwegian and Norwegian-English dictionary. B. Berulfsen and H. Scavenius. 336p $5 David McKay co, 225 Park av, New York 17 '51

NOTATION, Physical. See Physics—Notation

NOTCHED bar testing
Evaluating notch toughness. R. W. Vanderbeck and M. Gensamer. bibliog il Welding J 29:sup37-48 Ja '50; Discussion. 30:sup408-14 Ag '51

NOTCHED bar testing—*Continued*

How to determine toughness of steels from notched bar tests. E. J. Ripling. bibliog Materials & Methods 34:81-5 S '51

Impact tests help engineers specify steel; based on papers by L. D. Jaffe and others. S A E J 59:24-8 Mr '51

Notch-bend test. C. A. Zapffe and C. O. Worden. bibliog il Welding J 30:sup47-54 Ja '51

Statistical analysis of tests of Charpy V-notch- and keyhole bars. J. A. Rinebolt and W. J. Harris, jr. Welding J 30:sup202-8 Ap '51

NOTIONS (merchandize)

K is for Kleinert's. il Mod Packaging 24:102-4 Ag '51

NOTRE DAME university

Teaching nuclear chemistry. W. H. Hamill and others. J Chem Educ 28:8-10 Ja '51

NOVA SCOTIA

See also

Geology—Nova Scotia

Mines and mineral resources—Nova Scotia

Roads—Nova Scotia

NOVA SCOTIA center for geological sciences

Acadia, place of plenty; Canadian and American students find opportunity to cement international friendships while studying Nova Scotia's geology. J. J. Rowlands. il Tech R 53:345-50 My '51

NOVOL diamine

Role of phenol in the reaction of 4,7-dichloroquinoline with novol diamine. A. R. Surrey and R. A. Cutler. Am Chem Soc J 73:2623-6 Je '51

NOZZLES

Air humidification coefficients in spray towers; gas-film mass transfer coefficients at low air velocities for use in scrubber design. C. F. Bonilla, J. R. Mottes and M. Wolf. bibliog il Ind & Eng Chem 42:2521-5 D '50

Atom (izer) holes take adroit drilling; Vapor-Clarkson steam-generator nozzle; illustrations with text. L. Gross. diags Am Mach 95:138-9 My 14 '51

Boron carbide can be used for aircraft thrust nozzles. S. D. Stoddard. bibliog Brick & Clay Rec 118:83 Ap '51

C.A.V., Ricardo Pintaux nozzle to aid in cold starting of engines. diags Diesel Power 29:73 Je '51

Chlorine dispersion with fog nozzles. E. S. Hopkins and H. A. Faber. il Water & Sewage Works 98:350-2 Ag '51

Discharge coefficients of small-diameter orifices and flow nozzles. H. P. Grace and C. E. Lapple. bibliog il diags A S M E Trans 73:639-47 Jl '51

Filling digesters from overhead chip bins; use of steam nozzles. G. Morseth and V. Haner. diag Paper Ind 32:860-1 N '50

Flexible nozzle for a small supersonic wind tunnel. S. Dhawan and A. Roshko. il diags J Aeronautical Sci 18:253-8 Ap '51

Nozzle reconditioning; Leslie Hartridge ltd. il Automobile Eng 41:135-6 Ap '51

1,500,000 gallons of hot undersealing asphalt f.o.b. nozzle. il Roads & Sts 94:67-8 My '51

Operating characteristics of a vibrating-type atomizing nozzle. C. M. Sliepcevich, J. A. Consiglio and F. Kurata. flow diag il diag Ind & Eng Chem 42:2353-8 N '50

Performance characteristics of spray-type absorption equipment. R. L. Pigford and C. Pyle. bibliog flow diag il diags Ind & Eng Chem 43:1649-62 Jl '51

Removal of submicron aerosol particles from moving gas stream; condensation center effects in steam nozzles. P. J. Schauer. bibliog il diags Ind & Eng Chem 43:1532-8 Jl '51

Thermodynamics and chemical kinetics of one-dimensional nonviscous flow through a Laval nozzle. S. S. Penner. J Chem Phys 19:877-81 Jl '51

Venturi design keeps stack top flyash-free. H. A. Pietzner. il Elec World 135:136+ F 12 '51

NUCLEAR engineering (term)

Nuclear engineering. D. W. Cardwell. J Eng Educ 41:362-6 Mr '51

Undergraduate nuclear engineering curriculum at North Carolina state college. C. K. Beck. J Eng Educ 41:378-82 Mr '51

What is nuclear engineering? A. M. Weinberg. Inst Radio Eng Proc 39:996-8 S '51

NUCLEAR reactors. See Atomic piles

NUCLEAR shielding. See Radioactivity—Protection

NUCLEAR spin

$B^{10}(n, \alpha)$ reaction and the low excited state of Li^7. D. R. Inglis. Phys R 81:914-19 Mr 15 '51

Cross section for the reaction $\pi^+ + d \rightarrow p + p$, and the spin of the π^+ meson. D. L. Clark and others. bibliog Phys R 83:649 Ag 1 '51

Nuclear audiofrequency spectroscopy by resonant heating of the nuclear spin system. N F. Ramsey and R. V. Pound. Phys R 81:278-9 Ja 15 '51

Nuclear spin of Be^9. H. S. Gutowsky and others. bibliog Phys R 81:635-6 F 15 '51

Nuclear spin of ${}_{43}Tc^{99}$. K. G. Kessler and W. F. Meggers. bibliog Phys R 80:905-6 D 1 '50

Nuclear spin relaxation studies in dilute sodium-liquid ammonia solutions. R. Newman and R. A. Ogg, jr. bibliog J Chem Phys 19:214-17 F '51

Nuclear spin relaxation times in single crystals of LiF. R. V. Pound. bibliog Phys R 81:156 Ja 1 '51

Nuclear spin system at negative temperature. E. M. Purcell and R. V. Pound. il Phys R 81:279-80 Ja 15 '51

Nuclear spins and quadrupole moments of stable germanium isotopes. J. M. Mays and C. H. Townes. bibliog Phys R 81:940-1 Mr 15 '51

Nuclear spins of the 2.62-Mev and 3.20-Mev excited states of thorium *D*. H. E. Petch and M. W. Johns. bibliog Phys R 80:478-9 N 1 '50

Spin and magnetic moment of O^{17}. F. Alder and F. C. Yu. Phys R 81:1067-8 Mr 15 '51

Spin and quadrupole moment of Cl^{36}. C. M. Johnson and others. il Phys R 83:1249 S 15 '51

Spin echoes. E. L. Hahn. bibliog il diags Phys R 80:580-94 N 15 '50

Spin of Be^9. N. A. Schuster and G. E. Pake. bibliog Phys R 81:886-7 Mr 1 '51

Spin of O^{18}. S. L. Miller and others. Phys R 82:454-5 My 1 '51

Spin of the μ-meson. E. R. Caianiello. bibliog Phys R 83:735-40 Ag 15 '51

Spin of the nuclear ground state in the *jj*-coupling scheme. I. Talmi. Phys R 82:101-2 Ap 1 '51

Spin of the pion via the reaction $\pi^+ + d \rightleftharpoons p + p$. R. Durbin and others. diags Phys R 83:646-8 Ag 1 '51

NUCLEAR studies, Oak Ridge institute of. See Oak Ridge institute of nuclear studies

NUCLEIC acids

Application of radioactive indicators in biochemistry; formation of nucleic acids. G. C. Hevesy. bibliog Chem Soc J p 1626-30 Je '51

Deoxy-sugars; the value of the Dische test for the quantitative determination of deoxypentose nucleic acids. W. G. Overend. Chem Soc J p 1484-7 Je '51

Determination of carbohydrate residues in pentose nucleic acids. G. R. Barker. Chem Soc J p 1636-7 Je '50

Incorporation of isotopic phosphate in the mononucleotides of liver nucleic acids. E. Volkin and C. E. Carter. Am Chem Soc J 73:1519-20 Ap '51

Isolation and identification of desoxy-5-methylcytidylic acid from thymus nucleic acid. W. E. Cohn. bibliog Am Chem Soc J 73:1539-41 Ap '51

Isolation in crystalline form and characterization of the two isomeric cytidylic acids derived from yeast nucleic acid. H. S. Loring and N. G. Luthy. bibliog il Am Chem Soc J 73:4215-18 S '51

NUCLEIC acids—*Continued*

Mg content of various nucleic acid compounds. G. Jungner. bibliog Science 113:378-9 Ap 6 '51

Nucleic acid content of bact. lactis aerogenes. P. C. Caldwell and C. Hinshelwood. Chem Soc J p 1415-18 My '50

Nucleic acids and cancer research. E. McDonald and W. A. Mosher. Franklin Inst J 251:183-7 Ja '51

Nucleic acids of normal and tumour tissues; the preparation and composition of a pentosenucleic acid from the fowl sarcoma. G.R.C.H. 15. R. N. Beale, R. J. C. Harris and E. M. F. Roe. Chem Soc J p 1397-407 My '50

Nucleic acids; papers before the International congress of pure and applied chemistry. Chem & Eng N 29:3949-51 S 24 '51

Photochemical action of ultraviolet light on the absorption spectra of nucleic acid and related substances. D. Rapport and A. Canzanelli. Science 112:469-71 O 20 '50

Protein and nucleic acid conference, New Hampton, N.H. Aug. 28-Sept. 1. Science 112:639-43 D 1 '50

Studies on the structure of nucleic acids; interaction of rosaniline with desoxypentose nucleic acid. L. F. Cavalieri and A. Angelos. bibliog Am Chem Soc J 72:4686-90 O '50

Studies on the structure of nucleic acids; investigation of pentose nucleic acid and enzyme-resistant residues. L. F. Cavalieri, S. E. Kerr and A. Angelos. bibliog Am Chem Soc J 73:2567-78 Je '51

See also

Desoxypentose nucleic acid

Analysis

Microspectrophotometry and cytochemical analysis of nucleic acids. H. Naora. bibliog diags Science 114:279-80 S 14 '51

NUCLEOPROTEINS

Physical-chemical studies on the interaction of surface-active agents with nucleoproteins. M. W. Renoll and Q. Van Winkle. Am Chem Soc J 73:2504-9 Je '51

NUCLEOSIDASES

Partial purification of a non-phosphorylytic uridine nucleosidase from yeast. C. E. Carter. bibliog Am Chem Soc J 73:1508-10 Ap '51

NUCLEOSIDES

Experiments on the synthesis of purine nucleosides; 1:2:3:5-tetra-acetyl D-xylofuranose and the D-xylofuranosides of theophylline and adenine. P. Chang and B. Lythgoe. Chem Soc J p 1992-3 Ag '50

New synthesis of purine nucleosides; the synthesis of adenosine, guanosine and 2,6-diamino-9-β-D-ribofuranosylpurine. J. Davoll and B. A. Lowy. bibliog Am Chem Soc J 73:1650-5 Ap '51

Synthesis of nucleosides of cytosine and 5-methylcytosine. J. J. Fox and I. Goodman. bibliog Am Chem Soc J 73:3256-8 Jl '51

NUCLEOTIDES

Chemistry of the nucleotides; abstract. A. R. Todd. Chem & Eng N 29:3942-3 S 24 '51

Enzymatic evidence for the structure of desoxyribonucleotides. C. E. Carter. Am Chem Soc J 73:1537-9 Ap '51

Enzymatic transfer of hydrogen from alcohol to DPN. F. H. Westheimer and others. Am Chem Soc J 73:2403 My '51

Incorporation of isotopic formate into the nucleotides of ribo- and desoxyribonucleic acids. J. R. Totter, E. Volkin and C. E. Carter. bibliog Am Chem Soc J 73:1521-2 Ap '51

Incorporation of isotopic phosphate in the mononucleotides of liver nucleic acids. E. Volkin and C. E. Carter. Am Chem Soc J 73:1519-20 Ap '51

Levels of nucleotide in the blood during shock. G. T. Hoffmann and others. Science 114:188-9 Ag 17 '51

Nucleotides; analogues of adenosine-5′ phosphate and uridine-5′ phosphate containing phenylphosphonate and ethylphosphonate groups. N. Anand and A. R. Todd. Chem Soc J p 1867-72 Jl '51

Nucleotides; riboflavin-5′ phosphate. H. S. Forrest and A. R. Todd. Chem Soc J p3295-9 N '50

Nucleotides; the structure of the synthetic nucleotides prepared from the benzylidene ribonucleosides. D. M. Brown, L. J. Haynes and A. R. Todd. Chem Soc J p3299-304 N '50

Preparation of desoxynucleotides. E. Volkin, J. X. Khym and W. E. Cohn. bibliog Am Chem Soc J 73:1533-6 Ap '51

Synthetic ribonucleoside-2′ phosphates. D. M. Brown, L. J. Haynes and A. R. Todd. Chem Soc J p408 Ja '50

See also

Desoxyribonucleotides

NUMBERING systems

Guide for successive numbering of transmission line structures; engineering reference sheet. diags Elec World 135:106 F 26 '51

NUMBERS

Notation for large and small numbers. J. W. Clegg. Chem Eng Prog 47:38 Ja '51

NUMBERS, Theory of

Theory of numbers. P. S. Herwitz. il Sci Am 185:52-5 Jl '51

See also

Magic squares

NUMERICAL variational method. See Wave mechanics

NUMEROLOGY

Numerology and amateur radio. E. Leigh-Falcon. Q S T 35:48-9 Ap '51

NUNN, Wesley Irvin, 1895-

Portrait. Sales Management 67:41 O 1 '51

NURSERIES (horticulture)

Profits at Wayside gardens. il Fortune 44:104-6+ S '51

NURSERY schools

Building for pre-school children; nursery school, Des Moines, Iowa. il plans Am Bld 73:109+ My '51

Pre-school in action. H. H. Waechter and E. Waechter. bibliog il plan Arch Rec 109:96-101, 194 F '51

Sunday school doubles as nursery school; Neighborhood church, Pasadena. il plan Arch Rec 109:102-5 F '51

NURSES and nursing

Nursing in tuberculosis hospitals. M. B. Naylor. bibliog Pub Health Rep 66:1272-90 O 5 '51

Occupational tuberculosis among interns and nurses. L. Brahdy. Ind Med 19:584-6 D '50

NURSES and nursing, Industrial

Nurse as a sanitation inspector. V. Donnelly. Safety Maint & Prod 101:70-2+ Ap '51

Problems in radioisotope therapy nursing. P. Gazay. Ind Med 20:234-5 My '51

Progress in industrial nursing. Safety Maint & Prod 101:128-9 Je '51

NURSES and nursing, Public health

Community-wide chest X-ray survey. Z. Bryant and G. S. Jones. Pub Health Rep 65:1573-87 D 1 '50

Conference of state directors of public health nursing, Washington, March 12-19; summary. Pub Health Rep 66:515-20 Ap 27 '51

NUSSELT theory. See Condensation

NUTRILITE

Nutrilite. Consumers Res Bul 27:16-17 F '51

NUTRITION

Antibiotics in nutrition; abstract and discussion. W. F. J. Cuthbertson. Chem & Ind p477 Je 23 '51

Better nutrition for more people. H. C. Sherman. Franklin Inst J 251:93-102 Ja '51

Caloric requirements of the obese. A. W. Pennington. bibliog Ind Med 20:267-71 Je '51

Factors in distribution affecting the quality and nutritional value of foodstuffs; abstracts. J. Sword; A. M. Copping. Chem & Ind p 169-70; Discussion. 170-1 Mr 3 '51

New health factor found in natural fats; abstract. K. W. Keane. Chem & Eng N 29:1621 Ap 23 '51

Nutrition and the control of chronic disease. R. W. Vilter and C. Thompson. bibliog Pub Health Rep 66:630-6 My 18 '51

Nutrition of the preschool child. P. C. Jeans. Pub Health Rep 66:834-6 Je 29 '51

Nutrition program for employee health and morale; abstract. W. D. Murray. Management R 40:277 My '51

Nutrition; progress in 75 years. E. V. McCollum. il Ind & Eng Chem 43:567-9 Mr '51

NUTRITION—*Continued*

Toward better training and services in medical nutrition. C. G. King. Pub Health Rep 65:1719-21 D 22 '50

Tremendous nutrition task ahead; C&EN annual review. C. G. King. il Chem & Eng N 29:24-7 Ja 1 '51

See also

Food preferences (animal)

Study and teaching

Health department assistance in nutrition education in elementary and secondary schools. F. E. Whitehead and F. J. Stare. bibliog Pub Health Rep 66:306-10 Mr 9 '51

NUTRITION research

Borden award; Osborne and Mendell award. Science 112:637 N 24 '50

How rats help vitamin assay. il Chem Ind W 68:28-9 Ja 27 '51

Nutrition foundation awards. Chem & Eng N 29:2292 Je 4 '51

Nutrition foundation renews grants-in-aid. Chem & Eng N 29:60 Ja 1 '51

NUTS

Chemistry of allergens; properties and composition of natural proteoses isolated from oil seeds and nuts by the CS-1A procedure. J. R. Spies and others. bibliog Am Chem Soc J 73:3995-4001 Ag '51

See also

Filberts

Macadamia nuts

NUTS, Salted

BHA ups shelf life of salted nuts; butylated hydroxyanisole added to cooking oil and salt. S. R. Cecil and J. G. Woodroof. bibliog il Food Ind 23:81-4+ F '51

NUTTALL, George Henry Falkiner, 1862-1937

Nuttall memorial celebration. A. Boyden. Science 114:162 Ag 10 '51

NUX vomica

Indian nux vomica in good demand. For Comm W 45:17 O 8 '51

Nux-vomica situation, India and Indochina. For Comm W 42:21 Mr 12 '51

NYASALAND

British Central Africa; southern Rhodesia, northern Rhodesia and Nyasaland. map Economist 160:1415-16, 1510-11 Je 16-23 '51

NYASALAND railways, limited

Statement by the chairman. W. M. Codrington. Economist 160:47 Ja 6 '51

NYLON

Applications of nylon catheters in physiology of the circulation. J. H. Last and others. bibliog diags Science 112:719-20 D 15 '50

Here's how nylon anti-static agents compare with each other. L. B. Chandler. Textile World 101:116-17 Ja '51

Mechanism of the degradation of polyamides. B. G. Achhammer and others. il diags J Res Nat Bur Stand 46:391-421 bibliog(67 titles, p420-1) My '51

Method for determining the propagation constants of plastics at ultrasonic frequencies. H. J. McSkimin. diags Acoustical Soc Am J 23:429-34 Jl '51

Near infrared pleochroism; the 0.8—2.5μ region of some linear polymers. L. Glatt and J. W. Ellis. bibliog J Chem Phys 19:449-57 Ap '51

Static electricity prevention; glycols plus common salt used; patent. Am Dyestuff Rep 40:357 My 28 '51

Synthetic fibers; Chemical Engineering report. diags Chem Eng 58:125-32 Ag '51

Synthetic fur. Mech Eng 73:411 My '51

Transmission of beta-rays by nylon and Formvar. R. B. Heller and others. bibliog il diag R Sci Instr 21:898-902 N '50

See also

Dyes and dyeing—Nylon

Analysis

Quantitative determination of nylon, orlon and fiber V in wool blends. H. W. Wolf. bibliog il Am Dyestuff Rep 40:273-6 Ap 30 '51

Industrial applications

Nylon, a factor in stress corrosion of aluminum bronze. E. J. Silk. il J Metals 3:600 Ag '51

Nylon fish nettings; Nylock. C. D. Lindgren. il Rayon 32:34-5 Ja '51

Nylon-in-rubber diaphragm improves regulation. diag Product Eng 22:165 Mr '51

Nylon is answer in new system guarding bulk food; foolproof way to scan stored-grain temperatures. il plan Food Eng 23:51-2+ Jl '51

Nylon locknut. il Aviation W 54:55 My 28 '51; Product Eng 22:184 Jl '51

Where can your mill use nylon plastic? il diags Textile World 100:103-7 O '50

Manufacture

Canada to make own raw materials for nylon. Chem & Eng N 29:3539-40 Ag 27 '51

Molding

Telephone that's tough; molded nylon housing. il Mod Plastics 29:95 S '51

Physiological effect

Non-sensitization of nylon thread. S. W. Jennes. bibliog Ind Med 20:272 Je '51

Testing

Extension and relaxation of nylon filaments. N. J. Abbott. diag Textile Res J 21:227-34 Ap '51

NYLON balls. See Balls, Nylon

NYLON fabrics

Design and construction of earthmover tires; abstract. C. W. Moss. S A E J 59:72-3 Ag '51

Here's how nylon anti-static agents compare with each other. L. B. Chandler. Textile World 101:116-17 Ja '51

Learn a lesson from nylon in promotion of new synthetics. il Rayon 32:34-5+ Je '51

New way to flameproof nylon. R. C. Axtmann and A. T. Sweet. il Textile World 101:130+ Mr '51

Sky's the limit for synthetic fibers; interview with David A. Travis. il Bsns W p46-8+ S 29 '51

Soil removal from nylon; a study of the effect of various washing conditions. B. N. McKee and E. D. Roseberry. Rayon 32:62-4 My; 54-6 Je '51

Some trends in nylon fabrics. H. E. Wenrich. Rayon 31:71-2 S; 63-4 N '50

Heat setting

New machine sets nylon fabrics by radiant heat; McCreary machine works, inc. il Elec World 136:112 Jl 30 '51; Textile World 101:148 Ag '51

Nylon-setting machine treats rolls of woven or knitted fabric; Sanderson and co. ltd. il Textile World 101:146 Ag '51

You can up seaming efficiency if you preset nylon stockings. H. B. LeFeaux. il Textile World 101:145+ O '51

Rayon mixtures

Mixed fabrics of nylon and cellulose; burn-out style; patent. Am Dyestuff Rep 39:766 N 13 '50

NYLON fibers

Interfiber stress and its transmission; measurement and theory of the contact area between fibers under pressure. R. B. Finch. bibliog il diags Textile Res J 21:375-92 Je '51

Making small metal tubes by electrodeposition on nylon fibers. R. J. E. Gezelius. R Sci Instr 21:886 O '50; Abstract. Electronics 24:216+ N '51

NYLON finishing

Creaseproofing nylon; patent. Am Dyestuff Rep 40:373 Je 11 '51

Nylonizing for comfort; Bick process. il Rayon 31:85 O '50

See also

Nylon fabrics—Heat setting

NYLON hosiery. See Hosiery

NYLON industry

Great Britain

Next stage in nylon. Economist 160:335-6 F 10 '51

NYLON mills

More nylon, more makers. il Chem Ind W 68:18-19 Ap 21 '51

NYLON mills—*Continued*

Air conditioning

Tailored air conditioning for temperamental nylon at Sapphire hosiery mills. H. L. Kempaner. il Rayon 31:37-9+ N '50

NYLON printing

Printing nylon with acid or direct dyes; salts of volatile bases added; patent. Am Dyestuff Rep 40:340 My 28 '51

NYLON sizing

Acrysol A-1; new synthetic size solves many nylon sizing problems. H. C. Borghetty and J. J. Bernard. Rayon 32:58+ Jl '51

Full-fashioned hosiery yarns; the current sizing situation. V. A. Schiffer. il Rayon 32:39-40 Ap '51

Polyacrylic acid size solves nylon-sizing problem. Textile World 101:162 Je '51

NYLON spinning

Nylon staple on the cotton system; some properties of all-nylon yarns. F. Millard. Textile Inst J Trans 42:T 168-80 Ap '51

Processing of nylon staple (three denier, 1½ inch) on cotton spinning machinery. F. Millard. bibliog Textile Inst J 42:P 125-31 Ap '51

Spinning nylon staple; the cotton and American worsted systems. Rayon 31:71-3 D '50

NYLON thread

Non-sensitization of nylon thread. S. W. Jennes. bibliog Ind Med 20:272 Je '51

NYLON weaving

Some trends in nylon fabrics. H. E. Wenrich. Rayon 31:71-2 S; 63-4 N '50

Teamwork gives quality weaving at Burlington Mills plant. W. A. Thomason, jr. il Textile World 101:122-5 F '51

NYLON yarn

Be prepared for changes in women's nylon hosiery; rayon may come back. V. A. Schiffer. Rayon 31:69-70 O '50

Chemstrand to make nylon yarn. il Chem Eng Prog 46:sup 16 D '50

Engineer nylon yarn for a particular use. R. L. Voigt and J. A. Newman. Textile World 101:149 Mr '51

Nylon staple on the cotton system; some properties of all-nylon yarns. F. Millard. Textile Inst J Trans 42:T 168-80 Ap '51

Socks from nylon staple. Rayon 32:56 My '51

Testing

Chemical resistance of nylon. Am Dyestuff Rep 40:312 My 14 '51

Testing and specification of yarn; with particular reference to continuous filament nylon yarn. E. J. Alexander and A. R. Munden. bibliog Textile Inst J 42:P717-52; Discussion. P752-3 Ag '51

NYQUIST relation

Irreversibility and generalized noise; extension of Nyquist relation for voltage fluctuations in electrical impedances. H. B. Callen and T. A. Welton. Phys R 83:34-40 Jl 1 '51

NYROP, Donald W.

Horne appointed CAA head; Nyrop new Board chairman. por(p48) CAA J 12:37 Ap 20 '51

NYSTROM, Paul Henry, 1878-

Portrait. Bsns W p63 Ja 6 '51

O

OAK

Experiment in mechanical elimination of scrub oak. F. N. Fixmer. Pulp & Pa of Can 51:118 D '50

OAK PARK, Michigan

Little city with big plans. il Bsns W p55-7 O 28 '50

OAK RIDGE institute of nuclear studies

Programs of interest to engineering faculty and students. W. G. Pollard. J Eng Educ 41:367-9 Mr '51

OAK RIDGE national laboratory

Facsimile reproduction for AEC library service. il Electronics 24:222+ Mr '51

Facsimile test model goes on trial at Oak Ridge. il Chem & Eng N 29:58-60 Ja 1 '51; Same abr. Elec Eng 70:177-8 F '51; Same abr. Mech Eng 73:145 F '51; Excerpt. Product Eng 22:155 F '51

Liquid waste disposal. F. N. Browder. flow sheets map diag Ind & Eng Chem 43:1502-5 Jl '51

Oak Ridge reports results on water decontamination study. C. P. Straub and others. Eng N 147:38-41 Ag 16 '51

OAKLAND, California

Oakland pushes service expansion to keep up with industrial boom. il Eng N 146:55-6 Ja 11 '51

OATES, James Franklin, 1899-

Chicago gets more gas; Oates solves tough problem. por(cover) Bsns W p48+ D 30 '50

OATIS, William N. 1914-

ASNE, ANPA directors act in Oatis case. Ed & Pub 84:10 Ag 4 '51

Editors say get tough! to win liberty for Oatis. J. Walker. por Ed & Pub 84:7-9+ Jl 14 '51

House and State dept. act. Ed & Pub 84:8 Ag 18 '51

Ma Machree a rascal if Bill Oatis is spy. D. Bannon. Ed & Pub 84:50 Jl 7 '51

N.Y. editors seek release of Oatis. Ed & Pub 84:46 S 1 '51

Reprisals in Oatis case sought in Congress action. Ed & Pub 84:10 Jl 21 '51

Scripps-Howard staff keeps Oatis case hot. Ed & Pub 84:13 Jl 28 '51

OATS

Control of covered smut of oats by seed treatment with an antibiotic. A. W. Henry and others. Science 113:390 Ap 6 '51

OBACUNONE

Bitter principles of citrus; relation of nomilin and obacunone. O. H. Emerson. Am Chem Soc J 73:2621-3 Je '51

OBELISKS

Moving the obelisk. B. Dibner. il Sci Am 184:58-9 Je '51

OBESITY. See Corpulence

O'BRIEN, Catherine L.

Portrait. Fortune 43:28 Je '51

OBSOLESCENCE

Adapting to technological change. Y. Brozen. bibliog J Bsns 24:114-26 Ap '51

Effect of Diesels on obsolescence. J. B. Akers. il Ry Age 130:45-9 Ap 9 '51

Obsolescence of watt-hour meters. G. M. Donnelly. Elec West 105:84-8 O '50

See also

Depreciation

Machinery, Replacement of

OBSOLETE securities. See Securities—Obsolete securities

OBSTETRICS

Obstetrical and gynecological aspects of backache. R. F. Lamar. Ind Med 20:19-20 Ja '51

OCCUPATIONAL health, American foundation of. See American foundation of occupational health

OCCUPATIONS

Employment outlook in department stores; occupational study. il U S Bur Labor Statistics Bul 1020:1-23; pa 20c Supt. of doc. '51

Occupational outlook handbook; employment information on major occupations for use in guidance. il maps U S Bur Labor Statistics Bul 998:1-576; pa $3 Supt. of doc. '51

See also

Ability tests

Handicapped

Job analysis

Office workers

Radio workers

Research workers

OCCUPATIONS, Choice of

Planning your future. T. A. Marshall, jr. Mech Eng 73:216-18 Mr '51

OCEAN

Crustal layers of the continents and oceans. B. Gutenberg. bibliog map diags Geol Soc Bul 62:427-39, pl 1 My '51

Deep-sea layer of life. L. A. Walford. il Sci Am 185:24-8 Ag '51

Dependence of shadow zone sound on the surface sound velocity gradient. R. W. Morse. diags Accoustical Soc Am J 22:857-60 N '50

Effect of temperature inhomogeneities in the ocean on the propagation of sound. L. Liebermann. diags Acoustical Soc Am J 23:563-70 S '51

OCEAN—*Continued*
Geologic evidence regarding the source of the earth's hydrosphere and atmosphere; abstract. W. W. Rubey. Science 112:545 O 20 '50
Geologic history of sea water; an attempt to state the problem. W. W. Rubey. Geol Soc Bul 62:1111-47 bibliog(p 1143-7) S '51
Military biological oceanography. W. V. Kielhorn. il U S Naval Inst Proc 77:946-53 S '51
Minerals from the sea. C. M. Shigley. bibliog flow sheets il J Metals 191:25-9 Ja '51
Oceanography. Mech Eng 72:903-4 N '50
Oceans from the interior? Rubey theory. Sci Am 184:28-9 Ja '51
Source of atmospheric salts. S. G. Boyce. bibliog Science 113:620-1 Je 1 '51
See also
Atlantic ocean
Canyons, Submarine
Continental shelf
Hydrographic surveying
Hydrosphere
Sea level
Tidal power
Waves

OCEAN bottom
Barite concretions from the ocean floor. R. Revelle and K. O. Emery. map Geol Soc Bul 62:707-23, pl 1-2 bibliog(p722-3) Jl '51
Sea bottom off the coast of California; a review of Special paper 31, Geological society of America, by Shepard and Emery. A. C. Lawson. diag Geol Soc Bul 61:1225-41 N '50
Submarine topography in the North Atlantic. I. Tolstoy. bibliog maps Geol Soc Bul 62:441-50, pl 1-6 My '51
See also
Canyons, Submarine
Mountains, Submarine
Red sea

OCEAN travel
Last lap of tourist season gives New York port a workout. il Bsns W p 100-4 S 15 '51
See also
Steamboat lines

OCHOA, Severo, 1905-
European chemists in America honor S. Ochoa. Chem & Eng N 29:558 F 12 '51

OCTADECENOIC acids
2-Octadecenoic acid; preparation and some reactions of the *cis* and *trans* isomers. G. S. Myers. bibliog Am Chem Soc J 73:2100-4 My '51
Study of *n*-octadecenoic acids; diffraction patterns of *trans*-6- through 12-octadecenoic acids. E. S. Lutton and D. G. Kolp. Am Chem Soc J 73:2733-5 Je '51
Study of *n*-octadecenoic acids; synthesis of *cis*- and *trans*-7- through 12- and of 17-octadecenoic acids. W. F. Huber. Am Chem Soc J 73:2730-3 Je '51

Analysis

Determination of *trans*-octadecenoic acids, esters, and alcohols in mixtures; infrared spectrophotometric method. O. D. Shreve and others. bibliog Anal Chem 22:1261-4 O '50

OCTADECENOL
Monolayer properties of elaidyl alcohol. J. Glazer and E. D. Goddard. Chem Soc J p3406-8 D '50

OCTADECYLAMINE
Plant stops return line corrosion, saves $14,200 a year; use of Permacol; Glenn L. Martin co. E. Elliott and P. J. Gaughan. il diag Power Eng 55:104+ Ag '51

OCTAHYDROANTHRACENE
Derivatives of 1,2,3,4,5,6,7,8-octahydroanthracene. D. L. Turner. bibliog Am Chem Soc J 72:4318-19 S '50

OCTAHYDROPHENANTHRENE
Preliminary syntheses in the morphine series; Michael condensations with 2-aryl*cyclo*hex-2-enones and cyclisation of the products to octahydrophenanthrene derivatives. D. Ginsburg and R. Pappo. Chem Soc J p938-45 Ap '51
Synthesis, stereochemistry, and infrared and ultraviolet spectra of several tricyclic ketones homologous with ketoöctahydrophenanthrene. C. D. Gutsche. bibliog Am Chem Soc J 73:786-92 F '51

OCTAHYDROPYRROCOLINE
Synthesis in the octahydropyrrocoline series. G. R. Clemo and others. Chem Soc J p 1140-3 Ap '50

OCTAMETHYLCYCLOTETRASILOXANE
Raman spectra of hexamethylcyclotrisiloxane and octamethylcyclotetrasiloxane. H. Murata. J Chem Phys 19:659-60 My '51

OCTANE
Experimental vapor heat capacities and heats of vaporization of seven octanes. G. M. Barrow. Am Chem Soc J 73:1824-6 Ap '51
Isobaric heat capacities at bubble point; *n*-hexane, methylcyclopentane, and *n*-octane. T. J. Connolly, B. H. Sage and W. N. Lacey. bibliog Ind & Eng Chem 43:946-50 Ap '51

OCTANE number
Effects of pressure and other variables on determinations of octane number. W. J. Levedahl. J Res Nat Bur Stand 45:148-53 Ag '50
Extrapolation of octane numbers above 100. J. F. Deters. Pet Refiner 30:127-9 Je '51
Relation of octane number to cool flame formation. M. R. Barusch and J. Q. Payne. bibliog diags Ind & Eng Chem 43:2329-32 O '51

OCTANOL. See Octyl alcohol

OCTENE
Oxidation of olefins representing some structural units of GR-S. W. C. Warner and J. R. Shelton. bibliog il Ind & Eng Chem 43:1160-4 My '51
Reaction of oct-1-ene with *N*-bromosuccinimide. L. Bateman and J. I. Cunneen. Chem Soc J p941-6 Mr '50

OCTOIL
Electron diffraction by transmission through thin liquid films. C. W. Lufcy and others. bibliog il J Chem Phys 19:217-19 F '51
Reverse separation in fractionation pumps. K. Hickman. bibliog diag R Sci Instr 22:141-6 Mr '51

OCTYL alcohol
Extraction of cobaltous chloride with capryl alcohol in a spray tower. R. L. Kylander and L. Garwin. bibliog diags Chem Eng Prog 47:186-90 Ap '51
Hydrolysis of the acetal of D(+)-2-octanol. J. M. O'Gorman and H. J. Lucas. bibliog Am Chem Soc J 72:5489-90 D '50
Isolation of *d*-3-octanol from American oil of spearmint. C. E. Bryan, N. C. Burnett and R. B. Wearn. bibliog Am Chem Soc J 73:1848 Ap '51

OCTYL phthalate
Properties of polyvinyl chloride compounds; effect of phthalate ester structure. P. V. Smith, jr., R. G. Newberg and D. W. Young. bibliog il Ind & Eng Chem 42:2576-9 D '50

ODD lot trading. See Stocks—Odd lots

ODEON theatres, limited
Statement by the chairman at annual general meetings of Odeon theatres limited and its subsidiary companies. J. A. Rank. Economist 159:671-2 O 28 '50

ODORANTS for natural gas. See Gas, Natural—Odorizing

ODORS
Addition of sodium nitrate to a river prevents formation of hydrogen sulfide odor nuisance. H. R. Murdock. Ind & Eng Chem 43:sup79A-80A Ja '51
Adsorption can control odors; activated carbon. A. Turk and K. A. Bownes. il diags Chem Eng 58:156-8 My '51
Characteristic odor of nodular iron fractures and carbide slags. B. F. Brown. Foundry 79:174 O '51
Eric Kunz taught manufacturers to make products smell sweet. Chem & Eng N 28:4450 D 18 '50
Large-scale odor and dust control results in nuisance-free refuse handling station. W. A. Xanten. il plan Heat & Ven 48:65-7 Ag '51
Odor control in air conditioning systems; abstract. K. B. Magee. Refrig Eng 59:682-3 Jl '51
Odor elimination process is simple, ingenious steam cooking animal wastes. J. V. Hightower. il diag Chem Eng 58:116 Je '51
Odor permeability of glassine; correlation between organoleptic and instrumental evaluations permits rapid control testing of samples. L. C. Cartwright and P. H. Kelley. bibliog il diag Mod Packaging 24:121-2+ Ja '51

ODORS—*Continued*

Odor prevention in resin treated fabrics. L. A. Fluck and others. bibliog Am Dyestuff Rep 40:154-60 Mr 5 '51

Route mapped for future odor research; Toilet goods association symposium on olfaction. Chem & Eng N 28:4449 D 18 '50

See also

Deodorization
Deodorizers
Gas, Natural—Odorizing
Sewage disposal—Odor removal
Smell
Water purification—Taste and odor removal

Measurement

New instrument designed to disclose odor concentration levels in gas. C. E. White. bibliog il Am Gas J 175:8-11 Ag '51

OERSTED, Hans Christian, 1777-1851

H. C. Oersted. E. C. Smith. Engineering 171:276-7 Mr 9 '51

OESTERREICH, Edmund W. 1894-

Creator of life-saving technique honored by electric industry; Oesterreich pole top method of resuscitation. por Edison Elec Inst Bul 19:240-2 Jl '51; Excerpts. Nat Safety N 64:54 S '51

E. W. Oesterreich cited for his pole top method. por(cover) Elec World News ed 135:13 Je 11 '51

ŒSTRONE. See Estrone

OFFICE appliances

Branch office on wheels; Burroughs demonstrates office machines in mobile sales room. Am Bsns 21:49-51 F '51

Have office machines overloaded your electrical system? il Am Bsns 21:32+ Ap '51

Machines are for the boss; interview with Lieut. Gen. Leslie R. Groves. Bsns W p61-2+ Ap 14 '51

Modern machines save money for small office. P. Eastman. il Am Bsns 21:14-15+ Mr '51

Modern punched card equipment and electronic machines used by insurance companies. P. C. Coulter and C. H. Mahan. il East Underw 51:28+ N 17 '50

New machines fill car record gaps. il Ry Age 130:32 F 19 '51

Office device solves sorting problem. il Mill & Factory 49:116 S '51

Office machines; demand stays vigorous despite end of scare buying. A. Glenn. Barron's 30:11 D 4 '50

Office machines enable insurance company to reduce rates; Wisconsin farm bureau federation. il Am Bsns 21:18-19+ Je '51

Why are office beginners trained in mock maneuvers? need for up-to-date equipment in school classrooms. M. French. Am Bsns 21:30+ S '51

See also

Accounting—Mechanical aids
Dictating machines
Duplicating machines
Tabulating machines
Typewriters

Advertising

IBM schedules capitalism ad for all dailies. Ed & Pub 83:49 D 23 '50

Exhibitions

Business show visitors get in on the act. il Bsns W p22-3 N 4 '50

Manufacture

Designing a motor for high production. J. L. Moody. il Machine Design 23:139-40 Je '51

Testing

Practical application of high-speed photography in business machines. W. L. Hicks and R. L. Wright. il Soc Motion Picture & Tv Eng J 57:1-8 Jl '51

OFFICE buildings

Building with stainless skin; 41-story office building in Pittsburgh. il Eng N 146:40-1 F 22 '51

Cost cut in office building design. il plan diags Eng N 146:28-30 Je 7 '51

McCully Square building, Honolulu. il plans Arch Rec 108:120-1 N '50

Machines save time in erecting skyscraper; Sinclair Oil building. il plans Eng N 145:20-3 D 28 '50

Moving stairways in office buildings vs. elevators. G. B. Gusrae. il Arch Rec 108:146-8 D '50

Moving stairways move into office buildings. il diags Arch Forum 94:110-11+ F '51

Skyscraper bank; Tulsa's First national bank's new building offers prime office space. il plans diags Arch Forum 94:104-9 Ap '51

Small office buildings; building types study. il plans diags Arch Rec 110:144-67 S '51

Sunshades for office buildings. il diags Arch Forum 93:92-5+ D '50

West Coast offices for U.S. gypsum co. il plans Arch Rec 108:108-9 N '50

See also

Insurance company buildings
Newspaper offices
Physicians' offices
Railroads—Office buildings
Telephone company buildings

Air conditioning

Absorption machines cool New York building from top down. G. V. Bond. il diag Refrig Eng 59:243-5 Mr '51

Air conditioning helps make old building a modern advertising agency. W. F. Switzer. il Refrig Eng 59:162-3 F '51; Abstract. Heat & Ven 48:67 Mr '51

Aluminum ceiling panels for heating and cooling. E. S. Howarth and others. il diags Heating-Piping 23:125-33 S '51; Same abr. Heat & Ven 48:71 S '51

Century-old building air conditioned. il Heat & Ven 48:104 O '51

Empire State building to be air conditioned. Refrig Eng 59:77+ Ja '51; Heating-Piping 23:131 Ja '51; Heat & Ven 48:112+ Ja '51

Machine drills air intakes for room conditioning units. W. D. Sampson. il diags Heating-Piping 23:82-4 Jl '51

Man-made weather 41 stories up; heating and cooling for tall buildings. il Dom Eng 178:96-8+ S '51; Same. Heating-Piping 23:95-7 O '51; Same cond. Refrig Eng 59:877 S '51; Excerpt. Heat & Ven 48:83 N '51

Panel cooling; Leopold system. il diag Arch Forum 94:166-8 Ap '51

Skyscraper creates its own ideal climate; patterns of sun and shadow reacting on thermostats will control special climate of U.S. Steel-Mellon national bank skyscraper. J. Delaney. il Iron Age 168:87-8 Ag 9 '51

Three air conditioning systems to serve Chrysler Building East. il Heating-Piping 23:84-5 S '51

Two-year performance of a heat pump system furnishing year-round air conditioning in modern office building. P. Sporn and E. R. Ambrose. flow diags Heating-Piping 23:101-6 Ag '51; Excerpt. Heat & Ven 48:102 O '51; Discussion. 23:136-7 S '51

See also

Office buildings, Industrial—Air conditioning

Automobile parking space

Individualized offices, with parking; Security Life and Trust building, Winston-Salem, N.C. il plans diags Arch Rec 110:152-5 S '51

Office building for an inside lot; Herold building, Oklahoma City. il plans diag Arch Rec 110:156-60 S '51

Park at your desk office building; Cafritz building, Washington, D.C., has garage core. N. Shigon. il Am Bsns 21:34 Je '51

Cleaning

Truck for filling trash bags. H. R. Dampman. plan diags Sheet Metal Worker 42:64+ N '50

Electric equipment

Have office machines overloaded your electrical system? il Am Bsns 21:32+ Ap '51

Modern office installation; Whitehall gardens, London. il Elec R (Lond) 149:163-8 Jl 27 '51

Finance

For rent; a built-to-order plant or office. il Am Bsns 20:18-19+ O '50

OFFICE buildings—*Continued*

Heating and ventilation

Boiler room in the sky; 20th floor location for packaged steam generators at Tulsa building. A. M. Gaynor. il Heating-Piping 23:78-9 Je '51

OFFICE buildings, Industrial

Block manufacturer's office sells his products; Vander Heyden, inc. il Rock Prod 54:158 F '51

Built to beat the heat; Esso-Standard's new refinery office building. il Factory Management 109:76-7 Jl '51

Esso office building, Baton Rouge. il plans diag Arch Rec 109:85-90 Ja '51

Ford builds a new automobile city; Dearborn administrative center. il map plans diags Arch Forum 93:102-7 D '50

Graybar sets a light example. il Elec West 105:78-9 D '50

Orders go out two days sooner; E. H. Sargent's new Chicago plant and office building. il Am Bsns 20:49-52 D '50

Self-supporting walls hide long-cantilever floor slabs; office building in Louisville, Ky. il Eng N 146:42 Je 21 '51

Selling concrete block by use-example; Vander Heyden, inc. il Concrete 58:24+ D '50

Showroom and office annex for Vikon tile corp., Washington, N.J. H. Moore, jr. il plan diag Arch Forum 94:190-1 Je '51

Unique building; public views new home of Service pipe line co. P. Reed. Oil & Gas J 49:60-1 O 26 '50

See also

Railroads—Office buildings

Air conditioning

Cool spot in a hot lot; air conditioning an outdoor parking lot's offices. il diag Refrig Eng 59:369 Ap '51

Cut air-conditioning costs; home office building of Modine manufacturing co., Racine, Wis. il Am Bsns 21:26+ My '51

How Lone star gas co. solved difficult air conditioning problem. F. L. McFadden, jr. il Gas Age 107:56-8+ My 24 '51

It blows hot, it blows cold; air-tempering system in plant of Union hardware and metal co. il plan Dom Eng 177:94-5 Je '51

It's not the heat; office space conditioned by Kathabar system. G. W. Wolcott. il Mill & Factory 48:102-3 F '51

Office building designed for flexibility; Esso standard oil co. office at Baton Rouge, La. il plan diags Eng N 146:43-5 Ja 25 '51

Oldest market is the best market! heating and air conditioning contract for remodeled office building. il Dom Eng 177:128-9+ F '51

Triple-filtered air for new building; American air filter co., Louisville, Ky. il Heating-Piping 23:91 Ag '51

Electric equipment

Flexible offices; baseboard raceway gives easier access for changes in electrical services. il diags Arch Forum 94:156-7 My '51

Heating and ventilation

Engineer designs own working quarters. Heat & Ven 48:79 My '51

Location

Offices move to suburbs; Westchester County's garden-type office buildings. il map Bsns W p79-80+ Mr 17 '51

OFFICE equipment

Get more mileage from your business machines. Sales Management 67:42-3 O 1 '51

OFFICE equipment industry

Branch expenses shrink when Clary gives managers a share in profits. M. S. Bandoli. Sales Management 66:56-8+ Je 1 '51

Multiplying business; sales volume in the calculating and accounting machine industry well above last year. il Steel 129:46 Jl 9 '51

Advertising

Testimonial campaign in trade press bags good quality inquiries; Gray Audograph. il Ptr Ink 233:25-6 D 8 '50

OFFICE furniture

Modular office set-ups; Globe-Wernicke sectional office equipment. il diags Arch Forum 95:214+ Jl '51

See also

Desks

Manufacture

Two men do work of 12 and cut paint need 45 per cent; electrostatic spray units at Metal office furniture co. A. C. Terrell. il Mill & Factory 48:108-9 F '51

Standards

Standard desks, no office pets. H. W. Vetter. il Standardization 22:246-7 Ag '51

OFFICE lighting

Appraisal of modern fluorescent office lighting systems; with cost data. G. J. Taylor. bibliog il Illum Eng 46:140-51; Discussion. 151-62 Mr '51

Commercial lighting. T. S. Jones. il diags Elec R (Lond) 147:1011-18 D 22 '50

Graybar sets a light example. il Elec West 105:78-9 D '50

Lighting a large office; First national bank, Chicago. C. K. Lambka. il Illum Eng 46:314 Je '51

Lighting a reception room. D. H. Watt. il Illum Eng 45:681-2 N '50

Luminous ceilings for offices. R. C. Putnam. il diags Illum Eng 46:410-12 Ag '51

Planning and control for seeing tasks. il Elec West 106:66 Ja '51

Suntan and germicide lamps used in Westinghouse office. il Elec World 136:162 Ag 13 '51

What to do if employees complain of lighting fixtures in office; Council Bluffs gas co. P. Eastman. il Am Bsns 21:26 Ja '51

OFFICE machines. See Office appliances

OFFICE management

Alert office management in World war 2.5; abstract. E. O. Griffenhagen. Management R 40:118 Mr '51

Applying quality control to office operation; abstract. F. E. Shelton. Management R 39:590-1 O '50

Big task, small space; Cook electric co. Chicago. il Am Bsns 21:12-13+ Ap '51

Brooklyn Union has experienced four benefits from clerical control. J. G. Reynolds. Gas Age 107:36-7+ F 15 '51

Busted bottlenecks at Studebaker; work analysis plan. C. F. Johnson. Am Bsns 20:10-11+ O '50

Continuous methods work will control clerical costs. S. D. Flinn. N A C A Bul 33:26-37 S '51

Control records and the Controlled materials plan. A. N. Seares. Advanced Management 16:14-16 Ag '51

Cut office labor costs one-half; modern machines and equipment for S. Jackson & sons, New Orleans. il Am Bsns 21:22 Mr '51

Daily progress reports spotlight office bottlenecks; Guarantee reserve life insurance co. of Hammond. il Am Bsns 21:30+ Jl '51

Duplicating system saves endless rewriting; Jasper-Blackburn co., St Louis. il Am Bsns 21:22 Ja '51

Good procedures are a practical matter. R. Broatch, jr. N A C A Bul 32:1013-23 My '51

Grievances in the office-factory relationship. Management R 40:264-5 My '51

Have you a modern office? abstract. C. O. Libbey. Management R 40:465-6 Ag '51

How can we step up office output? il Am Bsns 20:53-6 N '50

How office incentive plan works at Continental companies. il Am Bsns 21:14-15 F '51

How to manage the accounting engagement; a survey of how 11 successful firms do it. L. H. Pilié. J Account 91:422-7 Mr '51

Improving the office product and operations. C. E. Lindquist. plan N A C A Bul 32:1003-12 My '51

In the modern office. Credit & Fin Management 53:30-1 Ja '51

Increasing office productivity through training. J. W. Quigg. il Advanced Management 15:14-18 O '50

Machines are for the boss; interview with Lieut. Gen. Leslie R. Groves. Bsns W p61-2+ Ap 14 '51

OFFICE management—*Continued*

Model offices find many ways to improve efficiency. D. Baker. il Am Bsns 21:54-5 F '51

New frontiers for the industrial engineer; analytical survey of the office. H. L. Wylie. Advanced Management 16:7-10 Ap '51

Office managers in a confused world; abstract. H. G. Heneman, jr. Management R 40:267 My '51

Office time-study; Mulligan & company's clerical cost control. Bsns W p94+ S 8 '51

Profits from office analysis; abstract. W. V. Smith. Management R 40:331 Je '51

Quality control in the office; abstract. B. B. Murdock. Management R 40:333-4 Je '51

Savings from modern office lower cost to policyholders; United services automobile association. E. Whitmore. il Am Bsns 21:10+ F '51

Streamline your office organization now; abstract. Management R 39:707 D '50

Survey enabled Dodson to toss out 1,500 forms. J. Garth. il Am Bsns 21:10-11+ Ja '51

Take a new look at your methods; abstract. A. J. Bows. Management R 40:331-2 Je '51

This company finds change no strain; Employers Mutuals, Wausau, Wisconsin. W. Norris. il Am Bsns 21:8-9+ Je '51

Touch-up on work simplification. I. C. Jones. N A C A Bul 32:717-20 F '51

Trends in office customs. Management R 40:399-400 Jl '51

Ways of stepping up office worker output explored at conference of American management association, New York. J Account 90:supA25-6+ D '50

White-collar girls talk back; habits workers dislike in bosses. M. French. Am Bsns 20:22-4+ D '50

Why endorse the backs of checks? Oklahoma natural gas co.'s work simplification program. E. Whitmore. il Am Bsns 21:18-19+ My '51

Why turnover is low in insurance office; Companion Companies home offices, Omaha. W. Norris. il Am Bsns 21:18-19+ Ja '51

Work simplification applied to clerical operations. H. R. Nissley. Management R 39:648-9 N '50

See also

Accounting
Billing
Business management
Commercial correspondence
Executives
Credit departments
Files and filing (documents, etc.)
Forms and blanks, Business
Office workers
Transcription departments

Standards

Office standards impact; abstract. T. H. McDonough. Standardization 21:325 D '50

OFFICE management association, Life. See Life office management association

OFFICE managers

Increasing office productivity through training. J. W. Quigg. il Advanced Management 15:14-18 O '50

OFFICE of defense mobilization. See United States—Defense mobilization, Office of

OFFICE of price stabilization. See United States—Price stabilization, Office of

OFFICE standards. See Office management—Standards

OFFICE supplies

Keeping track of 15,000 items; Horder's inc., Chicago retailer and wholesaler of office supplies. il Am Bsns 21:18-19+ Ap '51

OFFICE workers

Control of clerical costs by work measurement; abstract. H. F. van Gorder. Management R 40:123-4 Mr '51

Facts about office unionization; abstract. O. R. Wessels. Management R 40:470 Ag '51

Getting results with a clerical incentive plan; abstract. T. W. Smith. Management R 40:184-5 Ap '51

Group incentive plan for the office. O. R. Altum. N A C A Bul 32:1033-9 My '51

Growth in Britain's non-productive workers. F. B. Makin. Banking 43:60 Mr '51

Jones commercial high school students fill gaps in business in Chicago offices. M. French. il Am Bsns 21:20+ My '51

Labor crisis, clerical. Bsns W p25 My 19 '51

New York office workers' salaries rise 15 to 20 per cent since 1948. Adv Agency 44:77 S '51

Noise and its effects on office workers; abstract. R. A. Wilson. Management R 40:59-60 F '51

Office cracks down on bathing-beauty garb. Bsns W p37 Jl 7 '51

Office help poses a problem in a strike. Bsns W p 116 O 21 '50

Office workers earn more in government jobs, study shows. Management R 40:531 S '51

Office workers; salaries, hours of work, supplementary benefits, Los Angeles. U S Bur Labor Statistics Bul 1002:1-20 '50; Excerpt. Mo Labor R 71:470-3 O '50

Office workers' salaries; some inter-city comparisons. Management R 40:467-8 Ag '51

Salaries of office workers; intercity differences, early 1950. T. P. Kanninen. Mo Labor R 71:576-80 N '50

Unions want white collarites. Bsns W p36-7 My 5 '51

White-collar girls talk back; habits workers dislike in bosses. M. French. Am Bsns 20:22-4+ D '50

See also

Bank employees
Secretaries, Private
Typists

OFFICES

Carpenter paper company builds new plant for $11.50 a square foot; home office building in Omaha. il Am Bsns 21:16-17 Ja '51

Company transforms rented floor into streamlined offices; Kansas City bridge co. il Am Bsns 21:20-1 Ja '51

Curtains for offices? casement cloth versus venetian blinds. il Sales Management 66:89-90 Je 15 '51

Employees get a sun tan in Westinghouse offices. D. Baker. il Am Bsns 21:22-3 Jl '51

How to plan 526 branch offices; Household finance corp. of Chicago. il Am Bsns 21:34 My '51

Office survey shows many improvements. il Am Bsns 20:14-15+ D '50

Offices of American business; illustrations with text (cont). Am Bsns 20:49-51 S; 49-52 O; 61-3 N; 49-52 D '50; 21:53-5 Ja '51

100 best offices. il Am Bsns 21:7-11+ Ja; 10-11, 14-15+ F; 14-15, 18-22, 36-7 Mr; 12-13+, 24+ Ap; 14-19+, 26+ My; 10-11+ Je; 30+ Jl; 14-15+, 22+ Ag; 26+ S '51

Remodeled offices demonstrate uses of fibre board panels; Upson Strong-Bilt panels. il Arch Rec 110:163 Jl '51

Trends in movable office partitions; abstract. A. M. Hattel. Management R 40:532-3 S '51

What to look for when modernizing offices. D. Martin. il Am Bsns 20:16-17+ N '50

See also

Advertising agencies—Offices
Architects' offices
Contractors' offices
Dentists' offices
Office lighting
Optometrists' offices
Physicians' offices
Printing offices

Layout

Guides to efficient office layout; abstract. G. Fergason. Management R 40:404-5 Jl '51

Planned office layout key to lower costs; abstract. L. W. Miller. Management R 40:268-9 My '51

Solving your office space problem; abstract. K. B. Willett. il Management R 40:11-12 Ja '51

OFFSET ink. See Ink, Lithographic

OFFSET printing. See Printing, Offset

OHIO

See also

Evendale, Ohio
Roads—Ohio

OHIO associated telephone company

Preferred stock offered. Comm & Fin Chr 174:1300 O 8 '51

OHIO consolidated telephone company

Preferred stock offered. Comm & Fin Chr 172:1930 N 20 '50

OHIO Edison company

Last year's merger boosts earning power. Barron's 31:21 F 26 '51

Public utility securities. O. Ely. Comm & Fin Chr 173:1871 My 3 '51

Stock offering. Comm & Fin Chr 172:1535 O 23 '50

OHIO oil company

Companies that should earn more in 1951; with comparative balance sheet items. Mag of Wall St 88:248 Je 2 '51

OHIO River Valley water sanitation commission

Letter from the Ohio River valley. il Eng N 146:108 F 22 '51

Ohio Valley Commission pioneers in regional stream cleanup program. E. J. Cleary. il Civil Eng 21:464-5 Ag '51

OHIO state university

Cryogenic laboratory

Temperature scale of the Cryogenic laboratory. T. Rubin, H. L. Johnston and H. Altman. il diag Am Chem Soc J 73:3401-4 Jl '51

Medical center

O.S.U. medical center; a ceramic creation. il Am Cer Soc Bul 30:306-7 S 15 '51

OIL, Gas. See Gas oil

OIL, Insulating. See Insulating oil

OIL, Transformer. See Insulating oil

OIL analysis

Chemical analysis of styrenated drying oils and alkyds. C. P. A. Kappelmeier and others. bibliog Paint Oil & Chem R 114:16+ F 1 '51

Determination of acid number of oils and resins in aqueous medium. G. Narsimhan and S. A. Saletore. bibliog Anal Chem 23:1315-17 S '51

Determination of copper and iron in oils by amperometric titration. T. D. Parks and L. Lykken. bibliog Anal Chem 22:1503-5 D '50

Identifying vegetable oils; effective German alkali isomer test. Chem Age (Lond) 63:572-3 O 21 '50

Oil content of petroleum waxes. diags Tappi 34:sup 140A-2A S '51

Properties of interfacial films. G. Narsimhan and S. A. Saletore. bibliog Anal Chem 23:1317-18 S '51

Recovery of inorganic ash from petroleum oils; radiochemical evaluation. L. O. Morgan and S. E. Turner. Anal Chem 23:978-9 Jl '51

Simplified method for the determination of the oil content of textiles; comparison of Aliquot method with Soxhlet and nonionic scouring methods. Am Dyestuff Rep 40:30-2 Ja 8 '51

Steric hindrance in dienometry; abstract. J. D. Von Mikusch. Paint Oil & Chem R 114:42+ Ap 12 '51

Test for microdetection of parathion in orange and lemon oils. F. A. Gunther and R. C. Blinn. Anal Chem 22:1450 N '50

Third annual review of analytical chemistry; essential oils and related products. E. Guenther and E. E. Langenau. bibliog(71 ref) Anal Chem 23:217-20 F '51

Ultramicronitrometer for use in determination of nitrogen in mineral oil. W. Kirsten and B. Wallberg-Olausson. diag Anal Chem 23:927-8 Je '51

See also

Lubricating oils—
Analysis
Petroleum—Analysis

OIL and colour chemists' association

London section annual meeting, 13th, April 19. Chem Age (Lond) 64:667-8 Ap 28 '51

OIL and gas journal (periodical)

Journal story. H. D. Ralph. il Oil & Gas J 50:supp 120-63 My 31 '51

OIL bulk stations

Census lists 23,000 truck tank units operated by bulk plants, terminals. Nat Pet N 43:32-3 Jl 4 '51

How to cut station, plant building costs; independent finds answer by using company employes and salvaging old materials. L. Castle. il plan Nat Pet N 43:42-5 My 16 '51

How to save money by stopping product leaks in petroleum bulk plants and terminals. Nat Pet N 42:17-24+ N 22 '50

Oil terminal sales volume, number up sharply in ten years, census says. Nat Pet N 43:23 F 14 '51

Shell study cites bulk plant cost cuts; abstract. S. Tomlin. Nat Pet N 42:34 N 29 '50

Costs

How to find jobber cost-per-gallon. Nat Pet N 43:55 Jl 25 '51

OIL burner industry

Fuel oil burner outlook for 1951; abstract. C. R. Jonswold. Heat & Ven 48:120 My '51

Oil heating and 1951. R. H. L. Becker. Sheet Metal Worker 42:41+ My '51

Advertising

Which ad attracted more readers? il Ind Marketing 36:46+ Ag '51

OIL burners

Burner atomizes oil to insure complete combustion. Product Eng 22:242+ My '51

Combustion safeguard for oil burners. il Blast F & Steel Pl 39:838-9 Jl '51

Firing periodic sewer pipe kilns with oil as stand-by fuel. M. P. Hall. Am Cer Soc Bul 29:407-9 N 15 '50

Gas and oil combustion equipment for the clay products industry. E. R. Brooks, jr. il diags Brick & Clay Rec 117:36-7+ D '50; 118:68-70 Ja '51

Gun type burners ignite horizontal rotaries. M. A. Schneider. il Heating-Piping 23:73 Ag '51

New products at the oil heat show. Dom Eng 177:127-8+ My '51

Practical oil burner work patterns. C. H. Burkhardt. diags Sheet Metal Worker 42:71-3+ N; 51-4 D '50; 114-15+ Ja '51

Control

Electronic instruments and controls. K. Steiner and W. G. Carter. il diags Heating-Piping 23:96-9 Jl; 77-9 S '51

Low cost cut-off device for oil burners. il Mill & Factory 49:135-6 Jl '51

Seeing eye oil heating system. il Dom Eng 177:141+ Ap '51

Maintenance and repair

Helical-wire thread inserts permit salvage of fuel pumps. il Mach 57:165 Je '51

Oil burner servicing (cont.) il diags Dom Eng 176:142-4+ D '50; 177:149-50+ Ja; 138+ F; 128+ Mr; 110+ Ap; 142+ My; 150+ Je; 178:128-9+ Jl; 92-3 Ag; 151-2+ S; 124-5+ O '51 (to be cont)

Practical oil burner work patterns. C. H. Burkhardt. diags Sheet Metal Worker 42:51-4 D '50; 114-15 Ja; 59-60+ F; 76-8 Mr; 59-60 Ap; 68-71 My; 60-1+ Je; 65-7 Jl; 60-1 Ag; 71-3 S; 43:59-61 O '51 (to be cont)

Rating

Conversion oil burners. il Consumers Res Bul 27:9-13 Je '51

OIL chemists' society, American. See American oil chemists' society

OIL companies

Big companies report 1950 is good sales year. il Nat Pet N 43:37-40 Ap 18 '51

Big oil companies don't gyp public. C. V. Little. Nat Pet N 43:54-5 Ag 8 '51

Deep Rock's jobber distribution plan aids supplier-independent teamwork. L. Castle. Nat Pet N 43:33-4 Ag 1 '51

FTC study hits oil company size. Nat Pet N 42:35-6 D 13 '50

Independent celebrates 50 years of growth; Theisen-Clemens oil co. P. Wollstadt. il maps Nat Pet N 43:30-3+ F 14 '51

Independents open tire re-tread shop. il Nat Pet N 43:66 Ag 1 '51

Jobbers bled by majors' techniques in grab for business. C. H. Arnold. Nat Pet N 43:53-6 Jl 18 '51

Time has come for suppliers selling below jobber price to explain why. L. Castle. Nat Pet N 43:25-6 Ag 29 '51

Traveling library shows how to increase profits from oil operations; Cities Service takes business information to distributors, regional men. H. Ridder. il Nat Pet N 43:30-1+ Jl 25 '51

Your company magazines. A. Reese. il World Oil 132:68-70 My '51

See also

National oil jobbers council
Richfield oil corporation
Standard oil company (New Jersey)
Standard oil company of California
Standard oil company of Indiana

OIL companies—*Continued*

Accounting

Accounting forms for oil jobbers. J. H. White. Nat Pet N 43:17-22 Ja 3 '51
Classification by oil companies of materials, supplies, and equipment. J Account 91:464-5 Mr '51
Interpretation of earnings changes in an oil company. E. W. Korsmeyer. N A C A Bul 31:1383-92 Jl '50; Same. il Pet Refiner 29:109-12 N '50
Oil companies list warehouse costs. il Nat Pet N 43:58 Jl 4 '51
TBA cost accounting; numerous methods used for figuring merchandising cost of TBA causes wide variation in results, survey shows. Nat Pet N 43:70+ Ap 4 '51

Advertising

High readership given messages mailed with monthly statements. R. E. Bjorkback. Nat Pet N 42:27-8 N 22 '50
Jobber says television music show has doubled gallonage within year; Clipper oil co. Nat Pet N 43:54 Ja 24 '51
Jobber's newspaper ad promotes industry service. il Nat Pet N 43:77 Mr 7 '51
Marketers can promote own business with Oil progress week material. R. E. Bjorkback. Nat Pet N 43:35 S 5 '51
New tv show is public relations man's dream come true; Richfield Oil gives television tour of plants to potential customers. L. F. Thomann. il Ptr Ink 235:44-5 Je 22 '51
Newspaper mats help jobbers tell own story. il Nat Pet N 43:56-7 Ap 25 '51
Oil progress week material ready for marketer to help self, industry. il Nat Pet N 43:38 S 12 '51
Photo collection tells Shell institutional story. il Ind Marketing 36:54, cover Mr '51
Public interest makes economy run springboard for heavy advertising. F. Breese. Nat Pet N 43:34-5 Mr 14 '51
Shell spends millions using market formula. D. C. Marschner. Ed & Pub 83:8 N 11 '50
Union oil co. concentrates on ads that sell the company. il Bsns W p40-2+ D 2 '50
Wise use of radio can be valuable sales aid, jobbers, dealers told. Nat Pet N 43:56 Mr 28 '51

Buildings

Oil marketing center; new facility of Pan-Am Southern. il Nat Pet N 43:31+ Ag 8 '51

Costs

8,000 jobbers being asked to fill out these cost forms. Nat Pet N 43:20-2 Ag 29 '51

Credit problems

American petroleum credit association meeting, Nov. 13. Nat Pet N 42:41 N 22 '50
Attack on value of oil lien law disregards special case farmer. L. E. Castle. Nat Pet N 43:34 Mr 14 '51
Company is pleased with results of universal credit card policy. L. Castle. Nat Pet N 42:27-8 D 13 '50
Credit-Chek books replace cards in General Petroleum's new system. F. Breese. Nat Pet N 42:26 D 6 '50
Credit men seek way to halt rise in delinquent fuel oil accounts. F. Holman. Nat Pet N 43:23-4 Je 27 '51
Cycle billing of credit accounts. F. C. Sturtevant. il Nat Pet N 43:39+ S 19 '51
How credit "cheks" work. F. Breese. il Nat Pet N 43:49-52 My 9 '51
How fuel oil credit collections compare as of Feb. 28, 1951, with same time in '50. Nat Pet N 43:42-3 My 2 '51
Jobber honors all motorist credit cards. F. C. Sturtevant. il Nat Pet N 43:44-6+ Ag 22 '51
Jobbers careful to avoid making farmers target of lien law bill. L. E. Castle. Nat Pet N 43:33 Ja 31 '51
OHI group plans credit data exchange. Nat Pet N 42:36 D 6 '50
Oil men told to holler for cash with collections growing tougher. R. E. Bjorkback. Nat Pet N 42:29-30 N 1 '50
Tight dealer capital has increased special financing, credit men say. Nat Pet N 43:24 Ap 25 '51

Directories

Principal companies, operating outside U.S. World Oil 133:88+ Jl 15 '51

Employees

Bill would free many distributors from observing U.S. wage-hour law. Nat Pet N 43:27 Je 20 '51
How station salesmen sell. N. Hall. Nat Pet N 43:50-3 My 23 '51
Listening to employes' suggestions; Socony-Vacuum plan of cash awards. F. C. Sturtevant. il Nat Pet N 42:21-2 D 6 '50
Oil should plan now how to replace manpower losses to armed forces. L. Castle. Nat Pet N 42:25 D 27 '50
Opinions expressed on Connally bill and its effect on oil marketers. Nat Pet N 43:17-18 Jl 4 '51
PAD willing to help oil companies seeking deferment for key employes. Nat Pet N 43:22 Ag 8 '51
Training truck drivers. T. J. Breslin. il Nat Pet N 43:42-4 Ja 17 '51

Finance

Jobber cost study backs higher margin bid. Nat Pet N 43:32-3 Ap 4 '51
Majors' 1950 profits up 24 per cent, but below 1948. Nat Pet N 43:53-5 My 30 '51

Insurance requirements

How jobbers can slice fire insurance rates. H. Ridder. Nat Pet N 43:43-5 Mr 7 '51

Libraries

Sun oil company library, Public relations department. H. M. Pyle. Special Lib 42:140-1+ Ap '51

Management

Building fuel oil gallonage; Hawkeye oil co. L. Castle. il Nat Pet N 43:53-6 Je 20 '51
How business audit can plug cost leaks. A. Truesdell. Nat Pet N 43:54-5 My 23 '51
Keeping farm oil tanks full; Appleton oil co. L. Castle. il Nat Pet N 43:57-60 Jl 25 '51
Simplified degree day delivery; McCall oil co. F. C. Sturtevant. il Nat Pet N 43:48-51 Jl 11 '51

Officials

Southwest production personalities. Oil & Gas J 50:supp 306+ My 31 '51
Southwest refining personalities. Oil & Gas J 50:supp 352+ My 31 '51

Records

At a glance jobber bookkeeping. H. Ridder. il Nat Pet N 43:52-4+ Je 13 '51

Safety measures

City asks safety school for dealers. Nat Pet N 42:37 D 13 '50
Truck safety. H. Ridder. diags Nat Pet N 42:17-20 D 6; 17-21 D 13; 59-61 D 27 '50; 43:36-7 Ja 3; 46-9 Ja 10 '51

Securities

See Petroleum industry and trade—Securities

Side line selling

Census reports TBA sales represent 2.7 per cent of total oil bulk plant, terminal sales. Nat Pet N 43:27 Je 20 '51
Industry should push budget sales with TBA free from credit curbs. F. C. Sturtevant. Nat Pet N 42:62+ N 8 '50
Jobbers call TBA both profit-maker and competitive must, survey shows. F. C. Sturtevant. il Nat Pet N 43:68-9 Mr 7 '51
Large-company TBA selling; Richfield oil corp. G. R. Miller. il Nat Pet N 43:57+ F 7 '51
Marketers study TBA policies in War II as guide during current mobilization. F. C. Sturtevant. Nat Pet N 43:72+ F 7 '51
Non-related company handles marketer's TBA. Nat Pet N 43:74-5 Je 6 '51
Reducing battery adjustment claims. F. C. Sturtevant. il Nat Pet N 43:61+ F 7 '51
T B A cost accounting; numerous methods used for figuring merchandising cost of TBA causes wide variation in results, survey shows. Nat Pet N 43:70+ Ap 4 '51

OIL companies—Side line selling—*Continued*
TBA selling in Far West different from merchandising in other areas. F. C. Sturtevant. Nat Pet N 43:57+ My 2 '51

Kansas City
Compounder's battle to survive flood portrays plight of many independents. L. Castle. Nat Pet N 43:25-6 Ag 22 '51
Fight against flood damage. L. Castle. il Nat Pet N 43:72-5+ S 19 '51
Flood hits industry. Oil & Gas J 50:176 Jl 26 '51
Oil compounders suffer heavy damage from flood. Nat Pet N 43:34 Ag 15 '51
Oil men battle to supply public despite heavy flood, fire loss. il Nat Pet N 43:24-5 Jl 18 '51
Reconstruction after a flood; how oil facilities were rebuilt in record time. L. Castle. il Nat Pet N 43:52-5 S 12 '51

OIL containers
New oil drums made from old ones. il Pet Refiner 29:133-4 N '50
Packaging group adopts can standards. Nat Pet N 43:32 F 21 '51

OIL daily (newspaper)
Newspaper, the Oil daily, is launched in Chicago. Sales Management 67:136 O 1 '51
Oil daily set to start as new AM paper. Ed & Pub 84:11 S 22 '51

OIL delivery
Keeping farm oil tanks full; Appleton oil co. L. Castle. il Nat Pet N 43:57-60 Jl 25 '51
Simplified degree day delivery; McCall oil co. F. C. Sturtevant. il Nat Pet N 43:48-51 Jl 11 '51

OIL engines. See Diesel engines; Internal combustion engines

OIL films
Lubrication at extreme pressures with mineral oil films. O. H. Clark and others. bibliog il diags J Ap Phys 22:474-83 Ap '51
Oil film thickness indicators for sleeve-type bearings. il Diesel Power 29:62 S '51
Performance of oil-film bearings with abrasive-containing lubricant. A. E. Roach. bibliog il diags A S M E Trans 73:677-85; Discussion. 685-6 Jl '51

OIL filters
Basic media and fibre study in filter development. J. A. Plummer. il diags Diesel Power 29:78-80 Ja '51
Diesel lube filters save man-hours. J. Kapla. il diag Power 95:96-7 F '51
Fuel injection; wear of equipment and filtration of fuel for compression-ignition engines. A. E. W. Austen and B. E. Goodridge. bibliog il diags Automobile Eng 41:109-18 Mr '51
Maintenance of internal combustion engines; filtration of air and oil. P. H. Moore. il Pet Eng 23:C113-14+ Jl '51

OIL filters, Automobile
Campaign stresses point oil filter sales can prove a service to average motorist. F. C. Sturtevant. il Nat Pet N 43:48+ Jl 4 '51
Reports findings of dust tunnel tests; abstract. W. S. James. S A E J 59:77 My '51
Shock treatment will spark 1951 ad copy about hidden product; Purolator. C. D. Kelly. il Ptr Ink 234:28-30 Ja 26 '51
Use of a microscopic technique in studying the filtration characteristics of wool and cotton fibres. C. A. Rodman and A. W. Pansey. il Textile Res J 20:873-9 D '50

Manufacture
Southern firm scores outstanding growth; WIX accessories corp. il Manuf Rec 120:42-3 My '51

Testing
Oil filters; by-pass v. full flow tests. il diags Automobile Eng 41:192-5 My '51

OIL fires
Directionally-drilled well cheats blaze, produces oil. G. E. Justice. il diag World Oil 133:309-11 S '51
Foam suppression of petrol fires. Chem Age (Lond) 63:750 N 25 '50
Oil fire bows to dry chemical. il Safety Maint & Prod 101:26-7 F '51
Prevention of fire in cargo ships using oil fuel. Engineering 172:279 Ag 31 '51
Ten steps to prevent hydraulic disaster. R. Tyler. il Am Mach 95:159 S 17 '51; Factory Management 109:138 S '51; Machine Design 23:141-2 S '51
See also
Oil tanks—Fire protection
Petroleum refineries—Fires and fire protection
Tank trucks—Fires and fire protection

OIL flow
Application of radioactive tracer techniques to the study of the movement of oil in sands. S. E. Coomber and E. N. Tiratsoo. 3pls diags Inst Pet J 36:543-58; Discussion. 558-60 S '50
Fuel flow; works trial of a metering pump. A. L. Cude and J. Stringer. flow diag diags Iron & Steel Inst J 168:46-51 My '51
Graphical solution of single phase flow problems. E. R. Brownscombe and L. R. Kern. bibliog Pet Eng 23:B7-10+ F '51
Linear steady-state flow of oil and water. J. C. Calhoun, jr. diags Oil & Gas J 49:73 Ja 4 '51
Prediction of surge pressures in long oil-transmission lines. M. Ludwig and S. P. Johnson. Am Pet Inst Proc 30(5):62-70 '50

OIL fuel
Ash residue in fuel oils. P. F. Schmidt. Power Eng 54:78-9 D '50
Burning heavy fuel. Diesel Power 29:53-5 Mr '51
Caustic-methanol sweetening of heater oils; patent. Pet Processing 6:643 Je '51
Characteristics and development of naval fuel oils; abstracts and discussion. M. Blanchier. Engineer 192:79-80 Jl 20 '51; Engineering 172:136-7 Ag 3 '51
Conversion of periodics to oil firing can be profitable. S. E. Shepard. il diags Brick & Clay Rec 119:30-1 Jl '51
Flash points of fuel oils. P. F. Schmidt. il Power Eng 54:84-6 N '50
Flow of viscous fluids simplified; system called Thermal Electric. diags Heat & Ven 48:68-70 Ag '51
Fuel oil as an absorbent in recovery of light oil. C. R. Montgomery. il Iron & Steel Eng 27:74-8; Discussion. 78-81 D '50
Fuel oil complaints and troubles. P. F. Schmidt. Power Eng 55:83-4 Ap '51
Fuel oil costs cut with electric preheaters. il Elec World 136:100 Jl 2 '51
Fuel oil delivery truck maintenance. R. T. Gould. diags Nat Pet N 43:58-9 Ap 18; 52-4 Ap 25 '51
Gas evolution in liquids and cavitation. P. H. Schweitzer and V. G. Szebehely. diags J Ap Phys 21:1218-24 D '50
Hydrogenation of shale-oil coker distillate. E. L. Clark and others. bibliog flow diags diag Ind & Eng Chem 43:2173-8 S '51
In an emergency what about Diesel fuels? T. L. Apjohn. il Ry Age 130:46-9 My 7 '51
LPG versus gasoline and Diesel fuel; abstract. E. S. Corner and E. H. Berg. Automotive Ind 105:48-9 Jl 1 '51
Locomotive fuel oil. G. E. Anderson. Ry Mech & Elec Eng 124:687 N '50
Middle of the barrel comes of age. A. L. Nickerson. Pet Refiner 30:71+ Jl '51
Oil and gas trends in warm air heating. C. H. Burkhardt. maps Sheet Metal Worker 42:45-50 My '51
Opportunities for petroleum in the energy markets of the future. C. F. Smith. Am Pet Inst Proc 30(3):28-32 '50; Same cond. Nat Pet N 42:29+ N 15 '50; Same cond. Pet Processing 5:1297-9 D '50; Excerpts. Oil & Gas J 49:183-4 N 16 '50
Pour points of fuel oils. P. F. Schmidt. diag Power Eng 55:86-7 Ja '51
Preheating of fuel oils. P. F. Schmidt. Power Eng 55:84-5 Mr '51
Problem of burning residual oils in gas turbines. P. Lloyd and R. P. Probert. bibliog diags Inst Mech Eng Proc 163 (W.E.P. no 60):206-20, pl 3-5 '50
Residual fuel-oil purchasing. W. L. Nelson. bibliog Oil & Gas J 49:108 Mr 8 '51
Sanford Brick and Tile saves $36 a day by switching fuel oils. il Brick & Clay Rec 118:65+ Mr '51

OIL fuel—*Continued*

Synthetic liquid fuels; annual report of the Secretary of the interior for 1950; oil from oil shale. 75pls U S Bur Mines Rep of Invest 4771:1-88 bibliog(p87-8) '51

Utah plant uses wax distillate fuel. J. Joseph. il diag Diesel Power 28:38-40 N '50

Vanadium vandalism; use of agent in residuel fuel oil contributes to furnace, boiler corrosion; panel discussion. Oil & Gas J 49:48+ N 30 '50

Vapor-phase hydrogenation of light and heavy oils. M. L. Wolfson and others. bibliog diags Ind & Eng Chem 43:536-40 F '51

See also

Airplane engines—Fuel
Automobile engines—Fuel
Automotive fuel
Boilers—Oil firing
Coal liquefaction
Diesel engines—Fuel
Gasoline
Internal combustion engines—Fuel
Liquid fuel
Oil burners
Oil fuel industry

Manufacture

Furfural extraction. flow diag Oil & Gas J 49:206-7 Mr 29 '51

Vis-breaking and pour reduction. flow diag Oil & Gas J 49:188-9 Mr 29 '51

Prices

Conversion from oil to coal; OPS aim in hoisting ceiling price of oil. Bsns W p 135 Je 9 '51

Fuel oil men on East coast ask OPS for price hike. Nat Pet N 43:22 Ag 29 '51

Suppliers deny fuel oil price plot. Nat Pet N 42:28-9 D 20 '50

Standards

Standardization committee; work and programme of sub-committee number four; gas, Diesel, and fuel oil. H. Gardner. Inst Pet J 37:352-6 Jl '51

Storage

Stability of fuel oils in storage; effect of some nitrogen compounds. R. B. Thompson and others. bibliog Ind & Eng Chem 43:935-9 Ap '51

Sulfur content

SO_2 and SO_3 in exhaust gases of internal-combustion engines. M. J. van der Zijden and others. bibliog diags Inst Pet J 36:561-74 S '50

Sulfur content of distillate fuel. W. L. Nelson. Oil & Gas J 50:112 S 6 '51

Sulphur in fuel oils. P. F. Schmidt. Power Eng 55:96-7 F '51

Testing

Accelerated aging test limitations. C. A. Duval. Pet Refiner 30:85-6 F '51

Diesel oil cold tests and method for cloud point determination. Y. C. Young. bibliog il diag Pet Eng 23:C40+ S '51; Same abr. Oil & Gas J 50:121 My 31; 115 Je 7 '51

Fuel oil stability tests. Pet Eng 22:C31-2 N '50

Rating of fuel oils by a test unit. D. W. Locklin and G. V. Parmelee. bibliog il diag Heating-Piping 22:121-7 D '50

Smoke measurement in a fuel oil test unit. D. W. Locklin and G. V. Parmelee. bibliog il diags Heating-Piping 22:107-11 N '50

OIL fuel industry

Consignee headaches; survey shows low commissions, credit and manpower lack are biggest problems. F. C. Sturtevant. il Nat Pet N 43:46-8 Je 27 '51

Fuel oil distributors greet gas with hard-hitting sales attack. L. Castle. Nat Pet N 43:31 Ap 11 '51

How consignees operate. F. C. Sturtevant. il Nat Pet N 43:29-31+ My 23 '51; Discussion. 43:48+ Je 27 '51

How fuel oil credit collections compare as of Feb. 28, 1951, with same time in '50. Nat Pet N 43:42-3 My 2 '51

Jobber group speaks up with plans to avoid shortages of heating oil. R. E. Bjorkback. Nat Pet N 43:43+ Ap 4 '51

Jobbers say they are being pinched by supplier fuel oil allocations. Nat Pet N 43:21-2 Jl 11 '51

More heating oil is needed to meet cold winter demand, oil men agree. Nat Pet N 42:14 O 25 '50

OHI group plans credit data exchange. Nat Pet N 42:36 D 6 '50

Oil heating and 1951. R. H. L. Becker. Sheet Metal Worker 42:41+ My '51

Oil shortage misses by inches. Bsns W p24 Mr 24 '51

PAD official says big fuel oil demand calls for early fill, no overselling. G. A. Wilson. Nat Pet N 43:31-2 Ag 22 '51

PAD steps up drive to make sure winter fuel oil demand is met. Nat Pet N 43:20-1 Jl 4 '51

Sufficient heating oil next winter hinges on increase in plant capacity. Pet Processing 6:665-7 Je '51

Suppliers' fill-up drives hurt jobber. O. H. Ellis. Nat Pet N 43:17 My 30 '51

What oil jobbers think about gas competition. J. Barton. Nat Pet N 43:38-9 F 14 '51

Advertising

How jobbers promote oil heat. J. Barton. il Nat Pet N 42:17-22 D 27 '50; 43:49-52 Ja 24 '51

Finance

New Jersey fuel oil distributors get banker's slant on financing. N. Brassler. Nat Pet N 43:35-6 My 16 '51

Statistics

Oil-storage capacity. B. F. Linz. Oil & Gas J 49:53-4 D 14 '50

Chicago

Squeeze on Chicago fuel oil dealers studied. Nat Pet N 42:31 N 8 '50

Middle western states

Industry fighting off midwest oil shortage threatened by rail strike, cold weather. il Nat Pet N 43:25-7 F 7 '51

OIL gas. See Gas, Oil

OIL handling

Diesel instruments and controls; pointers on metering engine fuel. E. J. Kates. diags Power 95:94-6+ Je '51

High speed filling plant moves oil for navy. F. A. Edwards. il Nat Pet N 43:31+ My 30 '51

Latest ways to get smooth oil flow. O. F. Campbell. diag Power 95:109 S '51

OIL heat institute of America

Annual meeting, 28th, Chicago, April 2-6. Dom Eng 177:125+ My '51

Annual meeting, 28th, Chicago, April 2-6; with abstracts of papers. Nat Pet N 43:35+ Ap 11 '51; Sheet Metal Worker 42:53-6 My '51; Heating-Piping 23:81 My '51

Convention and exposition, 28th, Chicago, April 2-5; program. Dom Eng 177:90-1 Ap '51

Year's activities. Sheet Metal Worker 42:44-5 D '50

OIL heating

Flow of viscous fluids simplified; system called Thermal Electric. diags Heat & Ven 48:68-70 Ag '51

Preheating of fuel oils. P. F. Schmidt. Power Eng 55:84-5 Mr '51

Producing high-pour-point oil in Brace field, Texas. U. S. Branson, jr. il diag Oil & Gas J 50:208+ Je 21 '51

Road oil heating; Washington state highway dept., Union Gap; data sheet. E. B. Allard. il diags Elec West 105:77 N '50

Skelly designs tank heater for maximum efficiency. il diags Oil & Gas J 49:190+ F 22 '51

Station automatically heats and ships crude, telemeters data. G. M. Wilson. il World Oil 133:213-14+ Jl '51

OIL industries

Lower prices for oils if big crops realized. Barron's 31:19 Mr 26 '51

Prospects for vegetable oils. Economist 159:1222-3 D 30 '50

Vegetable oils slip on big crop reports. Barron's 31:17 My 14 '51

OIL industries—*Continued*

Vegetable oils weak; no end to slump seen. Barron's 31:35-6 Je 18 '51

See also

American oil chemists' society
Essential oils
Fish oil
Linseed oil
Lubricating oil industry
Lubricating oils
Oil companies
Oil fuel industry
Oils and fats
Petroleum industry and trade
Soybean oil
Tung oil

Exhibitions

OCCA technical exhibition; latest developments in paints and oils. Chem Age (Lond) 64:461-3 Mr 24 '51

Angola

Production and exports. For Comm W 41: 17-18 O 30 '50

Argentina

Favorable markets for Argentine oilseeds. For Comm W 43:20 Je 4 '51

1951 production outlook favorable, Argentina. For Comm W 42:21 Ja 1 '51

Belgium

Belgian vegetable oilseed and oil situation. For Comm W 44:23-4 Jl 9 '51

Bolivia

New edible-oil factory near Cochabamba. For Comm W 44:23-4 S 3 '51

Brazil

Brazilian vegetable oilseeds output estimated up in 1951. Oil Paint & Drug Rep 160:4 S 17 '51

Oilseed harvest and trade, Brazil. For Comm W 44:21 S 24 '51

Chile

Chile has record edible-oil production. For Comm W 43:21 Je 25 '51

Production and import requirements, Chile. For Comm W 41:23 D 4 '50

Dominican Republic

Developments in Dominican Republic. For Comm W 41:20 N 27 '50

France

French oil and fat production, 1950. For Comm W 44:19 Jl 23 '51

French West Africa

Vegetable oils and oilseeds, French West Africa. For Comm W 41:20-1 D 18 '50

Guatemala

Fats and oils; situation in Guatemala. For Comm W 43:18 Je 18 '51

Indonesia

Indonesian industry. For Comm W 44:13 Ag 13 '51

Italy

Oilseed production declining, Italy. For Comm W 42:21 Ja 1 '51

Japan

Vegetable oilseeds and oils, Japan. For Comm W 42:22 Ja 1 '51

Sweden

Production of fats and oils increased, Sweden. For Comm W 44:20 Jl 30 '51

Turkey

Oilseed production and trade, Turkey. For Comm W 42:22 Ja 1 '51

OIL jobbers council, National. See National oil jobbers council

OIL lands

Leases upheld; North Dakota ruled able to issue school-land oil leases. Oil & Gas J 50:101 Ag 16 '51

Let's improve and simplify our oil and gas lease form. M. W. Ball. Oil & Gas J 49:114-15 F 15 '51

Rancher's side. World Oil 132:39-43 Mr '51

See also

Earthquakes and oil lands
Oil reserves (United States navy)
Petroleum laws and regulations

Maps

Maps of oil-producing countries. il World Oil 133:115+ Jl 15 '51

OIL leases. See Oil lands

OIL measurement

Diesel instruments and controls; pointers on metering engine fuel. E. J. Kates. diags Power 95:94-6+ Je '51

Take mess out of oil tank gaging. B. W. Wheeler. diags Power 95:95 Ja '51

See also

Petroleum—Measurement

OIL mists. See Mists, Oil

OIL palm

Where bananas won't grow, oil palms will; United fruit company experiments. il Bsns W p 148-9 Mr 24 '51

OIL pipe lines

How to support fuel oil supply lines. diags Elec World 135:110+ Mr 12 '51

See also

Petroleum pipe lines
Petroleum products pipe lines

OIL pipes

Ten steps to prevent hydraulic disaster. R. Tyler. il Am Mach 95:159 S 17 '51; Factory Management 109:138 S '51; Machine Design 23:141-2 S '51

See also

Petroleum pipe lines

OIL pumps

Design of oil well pumps. M. C. Turner. diag Pet Eng 23:B35-6+ Ag '51

OIL reclamation

Commerce reports on difficulties in reclaiming mixed crankcase oils. H. Ridder. Nat Pet N 43:59-60 Ap 4 '51

Design changes in oil refiners. il diags Product Eng 22:117 Ja '51

Grease spoils oil for re-refining. W. L. Nelson. Oil & Gas J 50:349 Jl 26 '51

Reclaimed oil must be so labeled, FTC holds in provisional order. Nat Pet N 42:31 N 1 '50

Re-refiner takes exception to data on difficulties in reclaiming lubes. A. O'Blasny. Nat Pet N 43:52 My 30 '51

Reviewing the principles of centrifugal purification. K. D. Reed. il diag Diesel Power 29:60-2 F '51

OIL refineries

See also

Petroleum refineries

Equipment

Edible oil industry; a challenge to chemical engineering. W. H. Goss. Chem Eng Prog 47:489-93 S '51

OIL refining

Characteristics and utilization of oil shale and shale oil. H. M. Thorne and others. bibliog Ind & Eng Chem 43:20-7 Ja '51

Cold refining of fatty acids; abstract. Soap & San Chem 27:81 Jl '51

Liquid fuel from oil shale. W. Q. Hull, B. Guthrie and E. M. Sipprelle. bibliog flow diags il diags Ind & Eng Chem 43:2-15 Ja '51

Oil mill refining wastes; French research; abstract. P. Mérat. Chem Age (Lond) 63: 573-4 O 21 '50

Oil-shale research and process development; Petroleum and oil-shale experiment station, Laramie, Wyo. K. E. Stanfield and H. M. Thorne. bibliog il Ind & Eng Chem 43:16-20 Ja '51

Shale oil refining. J. D. Lankford and C. F. Ellis. il diags Ind & Eng Chem 43:27-32 Ja '51

White mineral oil for use in the hot-oil dyeing process. R. K. Rhodes. Am Dyestuff Rep 40:489-90 Ag 6 '51

OIL reserves (United States navy)

Ace-in-the-hole; California's Elk Hills naval reserve offers means for rapidly increasing daily output of crude. D. H. Stormont. map Oil & Gas J 49:33 F 1 '51

Alaska search to end. Oil & Gas J 50:58 Ag 9 '51

OIL sand

See also

Bituminous sand

OIL seals

Friction of flexible packings. D. F. Denny. diags Inst Mech Eng Proc 163 (W.E.P. no 57):98-102; Discussion. 103-10 '50

Oil-seal pilot grips with atmospheric pressure. R. B. Wolverhampton. diag Am Mach 95:172 Jl 9 '51

OIL seeds

Chemistry of allergens; properties and composition of natural proteoses isolated from oilseeds and nuts by the CS-1A procedure. J. R. Spies and others. bibliog Am Chem Soc J 73:3995-4001 Ag '51

USDA urged to step up oilseeds research. Oil Paint & Drug Rep 159:7 F 26 '51

OIL separators

Dissolved-air flotation separates oil from waste water. N. A. D'Arcy, jr. il Am Pet Inst Proc 31 M(3):34-42; Discussion. 42-4 '51

Hydraulic characteristics of gravity-type oil-water separators. G. A. Rohlich. bibliog il diags Am Pet Inst Proc 31 M(3):63-84; Discussion. 84-5 '51

Performance of a gravity-type oil-water separator on petroleum refinery wastes. R. N. Giles and others. bibliog il plan diag Sewage & Ind Wastes 23:281-91 Mr '51; Abstract. Water & Sewage Works 98:36 Ja '51; Discussion. G. A. Rohlich. Sewage & Ind Wastes 23:291-4 Mr '51

OIL shales

Acid treatment of shale gasoline; hydrolysis of the acid sludge. R. C. Mathews and G. E. Mapstone. Inst Pet J 37:147-57 Mr '51

Equipment tested at the Bureau's oil-shale mine. F. D. Wright and others. bibliog 17pls U S Bur Mines Rep of Invest 4810:1-13 '51

Oil from shale, is it coming soon? B. Skrotzki. il plan Power 95:71-4 Ja '51

Probable fondo origin of Marcellus-Ohio-New Albany-Chattanooga bituminous shales. J. L. Rich. diag Am Assn Pet Geologists Bul 35:2017-40 bibliog(p2039-40) S '51

Shale deposits promise huge petroleum supply. Barron's 30:16 N 13 '50

Synthetic liquid fuels; annual report of the Secretary of the interior for 1950; oil from oil shale. 75pls U S Bur Mines Rep of Invest 4771:1-88 bibliog(p87-8) '51

Analysis

Further investigation of the chemical constitution of the kerogen of oil shales. T. E. Dancy and V. Giedroyc. bibliog Inst Pet J 36:607-23 O '50

Further researches on the determination of the chemical composition or oil shales. T. E. Dancy and V. Giedroyc. Inst Pet J 36:593-603 S '50

Isolation and identification of pyrrole and 2-methylpyrrole from shale oil. A. G. Janssen and others. Am Chem Soc J 73:4040-1 Ag '51

Distillation

Characteristics and utilization of oil shale and shale oil. H. M. Thorne and others. bibliog Ind & Eng Chem 43:20-7 Ja '51

Chemical engineering unit processes fourth annual review; pyrolysis of coal and shale. C. H. Prien. il Ind & Eng Chem 43:2006-15 bibliog(277 ref, p2013-15) S '51

Gum formation in shale-oil naphtha. G. U. Dinneen and W. D. Bickel. Ind & Eng Chem 43:1604-7 Jl '51

Heat requirements for retorting oil shale. H. W. Sohns and others. bibliog flow diag il diag Ind & Eng Chem 43:33-6 Ja '51

High hopes for cheap shale oil. il diag Chem Eng 58:202 Ag '51

Hydrogen sulfide poisoning in shale oil industry. G. Ahlborg. bibliog A M A Archives Ind Hygiene & Occup Med 3:247-66 Mr '51

Hydrogenation of shale-oil coker distillate. E. L. Clark and others. bibliog flow diags diag Ind & Eng Chem 43:2173-8 S '51

Improved process developed for retorting oil shale. flow diag il Pet Processing 6:740-3 Jl '51

Liquid fuels from oil shale. W. Q. Hull, B. Guthrie and E. M. Sipprelle. bibliog flow diags il diags Ind & Eng Chem 43:2-15 Ja '51

New oil-shale process. O. L. Chapman. Mech Eng 73:140-1 F '51

New shale plant unit. B. Guthrie. Mech Eng 73:746 S '51

Oil-shale operations in New South Wales, Australia. A. J. Kraemer and H. M. Thorne. bibliog 23pls U S Bur Mines Rep of Invest 4796:1-48 '51

Oil-shale research and process development; Petroleum and oil-shale experiment station, Laramie, Wyo. K. E. Stanfield and H. M. Thorne. bibliog il Ind & Eng Chem 43:16-20 Ja '51

Shale oil refining. J. D. Lankford and C. F. Ellis. il diags Ind & Eng Chem 43:27-32 Ja '51

Studies in shale oil; some properties of the gas oil fraction. G. Nottes and G. E. Mapstone. bibliog Inst Pet J 37:259-64 My '51

Study of preheating Colorado oil shale. W. E. Robinson and A. B. Hubbard. 7pls U S Bur Mines Rep of Invest 4787:1-13 '51

Thermal decomposition study of Colorado oil shale. A. B. Hubbard and W. E. Robinson. 13pls U S Bur Mines Rep of Invest 4744:1-24 '50

Mining methods

Oil-shale mining developments and the mining industry. E. M. Sipprelle and H. J. Ballinger. il Min Cong J 37:46-51 Ag '51

Australia

Oil-shale operations in New South Wales, Australia. A. J. Kraemer and H. M. Thorne. bibliog 23pls U S Bur Mines Rep of Invest 4796:1-48 '51

Colorado

Characteristics and utilization of oil shale and shale oil. H. M. Thorne and others. bibliog Ind & Eng Chem 43:20-7 Ja '51

Green River oil-shale reserves of northwestern Colorado. C. Belser. 49pls U S Bur Mines Rep of Invest 4769:1-13 '51

Study of preheating Colorado oil shale. W. E. Robinson and A. B. Hubbard. 7pls U S Bur Mines Rep of Invest 4787:1-13 '51

Europe

Oil-shale industries of Europe. B. Guthrie and S. Klosky. 65 pls U S Bur Mines Rep of Invest 4776:1-73 '51

Spain

Oil shale in Spain. H. M. Thorne and A. J. Kraemer. 2pls U S Bur Mines Rep of Invest 4736:1-21 '50

OIL stocks. See Petroleum industry and trade—Securities

OIL storage

Accurate method for determining average temperatures in storage tanks; averaging resistance thermometer. J. H. Berglund and R. T. Pierce. il diags Pet Eng 23:A39-44+ Ja '51

Swedes store oil underground in disused mine and save money. il Eng N 146:56-7 Ap 19 '51; Chem Eng 58:238 My '51; Comp Air Mag 56:218 Ag '51

OIL tanks

Adequate foundations are first requirement for good tank service. I. E. Boberg. il diag Pet Refiner 30:125-7 Ap '51; Same. Oil & Gas J 50:106-7 Je 7 '51; Same. Pet Eng 23:D31-2+ Jl '51

Bubbler liquid level gage; patent. diag Pet Processing 6:1013 S '51

Cleanout openings for oil-storage tanks. I. E. Boberg and L. P. Zick. il diags Oil & Gas J 50:95 Ag 2; 109 Ag 9; 165 Ag 16; 165 Ag 23; 95 Ag 30 '51

Collapsible storage tank holds oil products. il Nat Pet N 43:48-9 Ja 31 '51

Foundation for large circular tanks. il diag Engineer 190:623-4 D 22 '50

From oil to grain; how the Katy assisted in creation of grain storage bins from an abandoned oil tank farm. il map Ry Age 129:58-9 D 2 '50

Grain takes oil's place in east Texas tank farm. il Bsns W p22-3 O 21 '50

How to save money by stopping product leaks in petroleum bulk plants and terminals. Nat Pet N 42:17-24+ N 22 '50

Remote tank gaging; New Shell system at Bakersfield station. D. H. Stormont. il Oil & Gas J 49:62-3 F 1 '51

OIL tanks—*Continued*

Restraints on the expansion of vertical tanks under liquid head. P. Kerr. diags Inst Pet J 37:209-23 Ap '51

Shell Haven refinery uses Durley Dome foundations for large-diameter tanks. V. S. Swaminathan. il diag Oil & Gas J 49:166+ F 22 '51

Skelly designs tank heater for maximum efficiency. il diags Oil & Gas J 49:190+ F 22 '51

Take mess out of oil tank gaging. B. W. Wheeler. diags Power 95:95 Ja '51

Tank insulated in four steps. il Pet Processing 6:882 Ag '51

What's best way to install oil tank? diags Power 95:136+ My '51

Cleaning

Cleaning of oil tanks. Chem Age (Lond) 65:353-4 S 15 '51

Fire protection

Underwriters regulations on tank vents. Sheet Metal Worker 42:59+ Je '51

Protection

Above-ground cathodic protection. W. J. Schreiner. diag Am Gas Assn Mo 33:31-2 Jl-Ag '51

Transportation

Trucking large shop erected tanks. il Oil & Gas J 50:92-3 Ag 2 '51

OIL testing

See also

Oil fuel—Testing

OIL waste

How the petroleum industry controls pollution caused by oil wastes. A. D. McRae. map diags Munic Util 89:56+ S '51

OIL well derricks. See Derricks, Oil well

OIL well drills. See Drills, Oil well

OIL wells. See Petroleum—Well drilling

OIL workers international union

OWIU claims its health recovered after sickness caused by strikes. F. Breese. Nat Pet N 43:26 Mr 21 '51

Strike insurance. Bsns W p 128 Mr 3 '51

OILS, Essential. See Essential oils

OILS, Lubricating. See Lubricating oils

OILS and fats

Component acids and glycerides of a badger fat. S. Gupta, T. P. Hilditch and M. L. Meara. Chem Soc J p3145-51 N '50

Component acids of a hippopotamus fat. C. Barker and T. P. Hilditch. Chem Soc J p3141-4 N '50

Fats, 1900-1950; essay in historical chemistry. T. P. Hilditch. Chem & Ind p 154-9 Mr 3 '51

Hydrolysis of fats at high temperatures. A. Sturzenegger and H. Sturm. bibliog diag Ind & Eng Chem 43:510-15 F '51

Rational grading of seed oils; abstract. T. P. Hilditch. Chem & Ind p442-3 Je 9 '51

Reactions of oxygen with fatty material; review of progress from 1945-1951. R. P. A. Sims. bibliog(57 ref) Can Chem & Process Ind 35:125-9+ F '51

Reactions of tertiary butyl hypochlorite with vegetable oils and their derivatives; conversion of alkyl oleates and methyl linoleate to derivatives of ketostearic acids. H. M. Teeter and others. bibliog Am Chem Soc J 73:2302-3 My '51

Seed fat of macadamia ternifolia. R. E. Bridge and T. P. Hilditch. Chem Soc J p2396-9 S '50

Seed fat of parinarium laurinum; component acids of the seed fat. J. P. Riley. Chem Soc J p 12-18 Ja '50

Seed fat of parinarium laurinum; component glycerides of the seed fat. J. P. Riley. Chem Soc J p291-3 F '51

Seed oil of onguekoa gore Engler; the position of the hydroxyl group in the unsaturated monohydroxy-C_{18} acid (or acids). J. P. Riley. Chem Soc J p 1346-8 My '51

Solvent extraction of oilseed. E. P. Cofield, jr. bibliog il diags Chem Eng 58:127-40 Ja '51

Vegetable oils. W. H. Shearon, jr. il Chem & Eng N 29:4065-70 O 1 '51

See also

Acids, Fatty
American oil chemists' society
Cacao butter
Castor oil
Cod liver oil
Cottonseed oil
Drying oils
Emulsions
Essential oils
Fish oil
Fusel oil
Gasoline
Insulating oil
Lard
Linseed oil
Lubricating greases
Lubricating oils
Lubrication and lubricants
Oil fuel
Oil industries
Oleomargarine
Olive oil
Palm oil
Peppermint oil
Petroleum
Rancidity
Ricinene oil
Sesame oil
Shortening
Soap
Soybean oil
Stillingia oil
Tall oil
Tallow
Tung oil
Viscosity
Whale oil

Prices

Chemicals, oils, and drugs price changes Jan. 1, 1950 and Jan. 1, 1951 compared; tabulation by commodity. Oil Paint & Drug Rep 159:9-10+ sec 2 Ja 29 '51

Chemicals, oils and drugs price record, selected years, 1939-1950; tabulations. Oil Paint & Drug Rep 159:7 sec 2 Ja 29 '51

Oils, fats and waxes; 1950 market trends. Oil Paint & Drug Rep 159:63-4 sec 2 Ja 29 '51

Statistics

Fats and oils market, '51-'52. Soap & San Chem 27:31-2+ Ag '51

Fats, oils 1950 world production up slightly. Oil Paint & Drug Rep 159:5 Mr 12 '51

Oils, fats and waxes. Published in weekly numbers of Oil, paint and drug reporter

Oils, fats consumption; Nov. Oil Paint & Drug Rep 159:7 Ja 29 '51 [cont monthly]

Oils, fats output, use; November. Oil Paint & Drug Rep 159:7 Ja 15 '51 [cont monthly]

US fats, oils imports up in '50; exports off; with tabulation. Oil Paint & Drug Rep 159:77 Mr 12 '51

OILWELL drilling contractors, American association of. See American association of oilwell drilling contractors

OINTMENTS

Ointment iodine. Chem Ind W 68:34 Ap 14 '51

Precipitated itch; a new poison ivy remedy. TAM. Chem Ind W 68:43 Ja 27 '51

Protective hand creams. il Safety Maint & Prod 102:62-4 Ag '51

OKANIN

Chemistry of extractives from hardwoods; okanin and *iso*okanin, the isomeric 2 : 3 : 4 : 3′ : 4′-pentahydroxychalkones. F. E. King and T. J. King. Chem Soc J p569-71 F '51

OKINAWA

See also

Geology—Okinawa

OKLAHOMA

See also

Petroleum industry and trade—Oklahoma
Water, Underground—Oklahoma

Industries and resources

Electricity comes to the Ozarks. A. G. Mezerik. il Sales Management 65:90+ N 1 '50

OKLAHOMA gas and electric company

Security I like best. H. I. Josey. Comm & Fin Chr 172:2434+ D 21 '50

Stock offered. Comm & Fin Chr 173:1481 Ap 9 '51

OLD age

Can businessmen lick old age? interview with Dr Charles E. Dutchess. Bsns W p98-103 N 11 '50

FSA conference on aging, Washington, D.C., Aug. 13-15. Mo Labor R 71:489-90 O '50

Geriatrics; problems with the aged in industry. C. T. Olson. Ind Med 20:205-11 My '51; Abstract. Nat Safety N 64:40+ S '51

National conference on aging, Washington, Aug. 13-15. Pub Health Rep 65:1369-74 O 20 '50

OLD age—*Continued*

New York committee calls for insurers' cooperation in solving problems of aged. Nat Underw 54:14 S 28 '50; Same. Nat Underw (Life ed) 54:19 N 10 '50

Northwestern National findings on aged. Nat Underw (Life ed) 55:9 O 12 '51

Where our old folks live; with map showing percentage of population aged 65 and over in each state, 1948. Life Ins Courant 56:42 F '51

See also

Age and employment
Longevity
Retirement

OLD age homes

Home for the Jewish aged; Kansas City. il plans Arch Rec 108:112-17 D '50

OLD age pensions

Business proprietors to be affected by the new Social security act. S. H. Unterberger. Inland Ptr 126:82-3 O '50

Number of oldsters on OASI rolls nearing assistance group. Life Ins Courant 56:5 Ag '51

Self-employed to benefit by proposed pension plan developed by New York state bar association. P. A. Johnston. Barron's 31:15-16 S 24 '51

Social security unlimited. J. K. Polk. Am Gas Assn Proc 1950:16-19; Same. Am Gas Assn Mo 32:17+ N '50

See also

Pensions, Industrial
Railroads—Pensions

Great Britain

Being lavish; increasing burden of old age pensions. Economist 160:1089-90 My 12 '51

OLDER workers. See Age and employment

OLEANOLIC acid

Chemistry of the pentacyclic triterpenes; elucidation of the betulin-oleanolic acid relationship. G. S. Davy and others. bibliog Chem & Ind p732 N 11 '50

OLEFINS

Absorption spectra and photo-isomerization of arylated dienes. Y. Hirshberg, E. Bergmann and F. Bergmann. bibliog Am Chem Soc J 72:5120-3 N '50

Action of elementary fluorine upon organic compounds; the vapor phase fluorination of $CHCl{=}CCl\text{-}CHF_2$. M. Hauptschein and L. A. Bigelow. Am Chem Soc J 73:1428-30 Ap '51

Addition compounds of olefins with mercuric salts. J. Chatt. Chem R 48:7-43 bibliog(73 ref, p42-3) F '51

Addition of ketene to cyclic conjugated dienes. A. T. Blomquist and J. Kwiatek. bibliog Am Chem Soc J 73:2098-100 My '51

Addition reactions in phospho-organic syntheses; the addition of phosphorus pentachloride to normal olefins. G. M. Kosolapoff and J. F. McCullough. Am Chem Soc J 73:855-6 F '51

Catalytic esterification of olefins with organic acids. R. D. Morin and A. E. Bearse. bibliog Ind & Eng Chem 43:1596-600 Jl '51

Chemistry of the oxo and related reactions; hydrogenation. I. Wender, R. Levine and M. Orchin. bibliog Am Chem Soc J 72:4375-8 O '50

Copolymerization; copolymerization of acetylene derivatives with olefins; retardation by radicals from acetylenes. K. W. Doak. bibliog Am Chem Soc J 72:4681-6 O '50

Copolymerization; the copolymerization of 2-chlorobutadiene, 2,3-dichlorobutadiene and 1,1-diphenylethylenes with olefins. K. W. Doak and D. L. Dineen. Am Chem Soc J 73:1084-7 Mr '51

Cracking oil stocks for conversion to olefins; patent. P. J. Gaylor. diag Pet Processing 6:57 Ja '51

1-Cyano-1,3-butadienes; Diels-Alder reactions with dienes. H. R. Snyder and G. I. Poos. bibliog Am Chem Soc J 72:4096-103 S '50

Cyclic polyolefins; allylic rearrangement in the reactions of *cis*- and *trans*-3,5-dibromocyclopentenes with dimethylamine. A. C. Cope and others. bibliog Am Chem Soc J 73:1199-204 Mr '51

Cyclic polyolefins; carbonyl-bridged compounds derived from the adduct of α-carbethoxycyclohexanone and acrolein. A. C. Cope and M. E. Synerholm. bibliog Am Chem Soc J 72:5228-32 N '50

Cyclic polyolefins; 3,7-dibromo-1,2,5,6-dibenzcyclooctadiene and 1,2,5,6-dibenzcyclooctatetraene. A. C. Cope and S. W. Fenton. bibliog Am Chem Soc J 73:1668-73 Ap '51

Cyclic polyolefins; isolation of vinylcyclooctatetraene and *cis*-1-phenyl-1,3-butadiene from acetylene polymers. A. C. Cope and S. W. Fenton. bibliog Am Chem Soc J 73:1195-8 Mr '51

Cyclic polyolefins; 1-methylene-2,3,6,7-dibenzcycloheptatriene. A. C. Cope and S. W. Fenton. bibliog Am Chem Soc J 73:1673-8 Ap '51

Cyclic polyolefins; phenylcycloheptatriene and phenylcyclooctatriene. A. C. Cope and A. D'Addieco. bibliog Am Chem Soc J 73:3419-24 Jl '51

Cyclic polyolefins; preparation of arylcyclooctatetraenes from cyclooctatetraene and organometallic compounds. A. C. Cope and M. R. Kinter. bibliog Am Chem Soc J 73:3424-30 Jl '51

Cyclic polyolefins; rearrangement of cyclooctatetraene oxide to 1,3,5-cyclooctatrien-7-one. A. C. Cope and B. D. Tiffany. Am Chem Soc J 73:4158-61 S '51

Density, refractive index, boiling point, and vapor pressure of eight monoolefin (1-alkene), six pentadiene, and two cyclomonoolefin hydrocarbons. A. F. Forziati and others. bibliog J Res Nat Bur Stand 45:406-10 N '50

Developments in the theory of cationic polymerization. P. H. Plesch. bibliog J Ap Chem 1:269-72 Je '51

Diels-Alder reaction with α,β,γ,δ-unsaturated acids. N. C. Deno. Am Chem Soc J 72:4057-9 S '50

Effect of *cis* and *trans* olefinic groups on the properties of polyurethans and polyesters. C. S. Marvel and C. H. Young. Am Chem Soc J 73:1066-9 Mr '51

Further method for production of 11-keto-steroids from $\Delta^{7,9(11)}$-dienes. L. F. Fieser and others. Am Chem Soc J 73:4053-4 Ag '51

Halogenation of olefins in heterocyclic tertiary amines; cycloalkenes. F. N. Hayes, H. K. Suzuki and D. E. Peterson. bibliog Am Chem Soc J 72:4524-5 O '50

Kinetics of the *cyclo*pentadiene-chloranil reaction; a note on the configuration of transition states in diene synthesis. W. Rubin and A. Wassermann. Chem Soc J p2205-7 Ag '50

Kinetics of the thermal decomposition of olefins; propylene. K. U. Ingold and F. J. Stubbs. Chem Soc J p 1749-55 Jl '51

Liquid complexes of lower olefins with anhydrous metal salts. A. W. Francis. bibliog diags Am Chem Soc J 73:3709-13 Ag '51

α-Methylenic reactivity in olefinic systems; the structure of the dimeride formed by the stannic chloride-catalysed polymerisation of trimethylethylene; synthesis and characterisation of isomeric methyl hexyl ketones. J. W. Baker. Chem Soc J p 1302-9 My '50

New £300,000 solvent plant; Bromborough pool works. il Chem & Ind p44 Ja 20 '51

Noncatalytic polymerization of olefins to lubricating oils. F. M. Seger, H. G. Doherty and A. N. Sachanen. bibliog Ind & Eng Chem 42:2446-52 D '50

Olefin co-ordination compounds; discussion of proposed structures; the system ethylene-trimethylborine. J. Chatt. diags Chem Soc J p3340-8 D '49

Oxidation of olefins representing some structural units of GR-S. W. C. Warner and J. R. Shelton. bibliog il Ind & Eng Chem 43:1160-4 My '51

Phenylmaleic anhydride as a diene in the Diels-Alder reaction. L. E. Miller and D. J. Mann. bibliog Am Chem Soc J 73:45-8 Ja '51

Polyalkylene sulfides; the rate of formation in emulsion. C. S. Marvel and A. H. Markhart, jr. Am Chem Soc J 73:1064-5 Mr '51

Polymerization of olefins with Friedel-Crafts catalysts. R. L. Meier. diag Chem Soc J p3656-71 D '50

OLEFINS—*Continued*

Preparation and some reactions of 1,1,1-trifluoro-2-alkenes. K. N. Campbell, J. O. Knobloch and B. K. Campbell. bibliog Am Chem Soc J 72:4380-4 O '50

Preparation of terminally unsaturated perfluoro olefins by the decomposition of the salts of perfluoro acids. L. J. Hals, T. S. Reid and G. H. Smith, jr. Am Chem Soc J 73:4054 Ag '51

Quantitative inversion of *cis-* and *trans-*alkene isomers; a new synthesis of normal *cis*-alkenes. M. C. Hoff, K. C. Greenlee and C. E. Boord. bibliog Am Chem Soc J 73:3329-36 Jl '51

Quinone imides; addition of dienes to *p*-quinone sulfonimides. R. Adams and C. R. Walter, jr. Am Chem Soc J 73:1152-5 Mr '51

Radical mechanisms in saturated and olefinic systems. E. H. Farmer and C. G. Moore. Chem Soc J p 131-53 Ja '51

Reaction of chromyl chloride with olefins. S. J. Cristol and K. R. Eilar. bibliog Am Chem Soc J 72:4353-6 O '50

Reaction of diborane with some alkene oxides and vinyl compounds. F. G. A. Stone and H. J. Emeléus. diag Chem Soc J p2755-9 O '50

Reaction of dinitrogen tri- and tetr-oxides with olefins; ethylbut-1-ene and dec-1-ene. C. R. Porter and B. Wood. Inst Pet J 37: 388-95 Jl '51

Reaction of isoalkanes and olefin precursors catalyzed by sulfuric acid. R. F. Marschner and D. R. Carmody. Am Chem Soc J 73:604-7 F '51

Reaction of methyl radicals with olefins; the reaction with tetrafluoroethylene and vinyl fluoride. F. A. Raal and C. J. Danby. Chem Soc J p 1596-9 Je '50

Reactions of atoms and free radicals in solution; the peroxide-induced addition of sulfuryl chloride to 1-alkenes. M. S. Kharasch and A. F. Zavist. bibliog Am Chem Soc J 73:964-7 Mr '51

Reactions of methyl radicals; abstraction of hydrogen atoms from olefins. A. F. Trotman-Dickenson and E. W. R. Steacie. bibliog J Chem Phys 19:169-71 F '51

Reactions of polyfluoro olefins; preparation of polyfluoro ethers. J. T. Barr and others. bibliog Am Chem Soc J 72:4480-2 O '50

Reverse addition of lithium aluminum hydride to nitro olefins. R. T. Gilsdorf and F. F. Nord. Am Chem Soc J 72:4327-8 S '50

Stereochemical studies of olefinic compounds; ring scission of 2-1′-halogenoalkyltetrahydrofurans and 3-halogeno-2-alkyl-tetrahydropyrans as a route to alk-4-en-1-ols of known configuration and as a method of chain extension by five methylene groups. L. Crombie and S. H. Harper. Chem Soc J p1707-14 Jl '50

Stereochemical studies of olefinic compounds; ring scission of 3-halogeno-2-alkyltetrahydrofurans as a route to alk-3-en-1-ols of known configuration and as a method of chain extension by four methylene groups. L. Crombie and S. H. Harper. Chem Soc J p 1714-22 Jl '50

Structure of olefin co-ordination compounds; abstract. Chem & Ind p311 Ap 21 '51

Synthetic long-chain aliphatic compounds; a critical examination of two methods of synthesis of olefinic acids. D. E. Ames and R. E. Bowman. Chem Soc J p 1079-86 Ap '51

Synthetic long-chain aliphatic compounds; erucic and brassidic acids; a new olefin synthesis. R. E. Bowman. Chem Soc J p 177-80 Ja '50

See also
Ethylene
Propene

Analysis

Analysis of mixtures of olefin hydrocarbons produced by codimerization of butenes. A. R. Glasgow, jr. J Res Nat Bur Stand 46: 43-50 Ja '51

Determination of aromatics and olefins in wide boiling petroleum fractions. A. E. Spakowski, A. Evans and R. R. Hibbard. Anal Chem 22:1419-22 N '50

Investigation into the olefinic components of a Pennsylvanian crude oil. F. A. Haak and K. van Nes. bibliog Inst Pet J 37:245-54 My '51

OLEIC acid

Chemistry of epoxy compounds; cooxidation of aldehydes and oleic acid, methyl oleate or oleyl alcohol. D. Swern and T. W. Findley. bibliog Am Chem Soc J 72:4315-16 S '50

Determination of oxiran-oxygen, with special reference to its application to the study of autoxidation. G. King. Chem Soc J p 1980-4 Ag '51

Mechanism of oxidation of monoethenoid fatty acids; factors influencing hydroperoxide formation and transition in catalytic autoxidations. J. H. Skellon. Chem Soc J p2020-3 Ag '50

Reactions of tertiary butyl hypochlorite with vegetable oils and their derivatives; conversion of alkyl oleates and methyl linoleate to derivatives of ketostearic acids. H. M. Teeter and others. bibliog Am Chem Soc J 73:2302-3 My '51

Synthetic long-chain aliphatic compounds; a critical examination of two methods of synthesis of olefinic acids. D. E. Ames and R. E. Bowman. Chem Soc J p 1079-86 Ap '51

Synthetic long-chain aliphatic compounds; some methyl-substituted oleic acids. D. E. Ames and R. E. Bowman. Chem Soc J p 1087-92 Ap '51

OLEIN

Partial hydrogenation of triolein. J. H. Benedict and B. F. Daubert. bibliog Am Chem Soc J 72:4356-9 O '50

Saponification of α-monomyristin, α-monostearin and α-mono-olein. H. H. G. Jellinek and A. Gordon. bibliog J Ap Chem 1:185-8 Ap '51

OLEODISTEARIN

Thermal interchange of acyl groups in triglycerides. C. Barker, R. V. Crawford and T. P. Hilditch. Chem Soc J p 1194-200 My '51

OLEOMARGARINE

Canadian margarine decision upheld by London Privy council; with tabulation of production, Jan. '49-Sept. '50. For Comm W 41:19 N 20 '50

FDA weighs synthetic vitamin A use in oleo. Oil Paint & Drug Rep 159:4+ Ap 2 '51

Margarine manufactured in Venezuela. For Comm W 43:20 My 21 '51

New Dairy products act continues ban on margarine imports in Canada. For Comm W 44:11 Jl 30 '51

OLEUM. See Sulfuric acid

OLEYL alcohol

Chemistry of epoxy compounds; cooxidation of aldehydes and oleic acid, methyl oleate or oleyl alcohol. D. Swern and T. W. Findley. bibliog Am Chem Soc J 72:4315-16 S '50

OLFACTION. See Smell

OLIVE oil

Exports of Portuguese olive oil curtailed. For Comm W 43:18 Je 18 '51

Greek olive oil output seen at 31-year low. Oil Paint & Drug Rep 159:4 Ap 2 '51

Italian, French olive oil production seen lower. Oil Paint & Drug Rep 158:4 D 4 '50

Italy's olive-oil production and trade. For Comm W 42:22 Ja 1 '51

Olive-oil production, consumption, and trade, France. For Comm W 41:20 D 18 '50

Olive-oil production, consumption, and trade, Portugal. For Comm W 42:16-17 Ja 8 '51

Olive-oil production sharply reduced, Spain. For Comm W 42:22 Ja 1 '51

Reduced 1950-51 olive-oil output expected, Tunisia. For Comm W 42:21-2 Ja 1 '51

Spain's olive-oil production and exports. For Comm W 43:19 My 28 '51

Turkey's olive-oil production, exports, and markets. For Comm W 41:15 D 25 '50

Turkish olive-oil situation. For Comm W 44: 19 Jl 23 '51

US '50 edible olive oil imports at 20-year high. Oil Paint & Drug Rep 159:74 Ap 16 '51

OLIVES
Olive-packing mechanized; plastic trees used in process of First national stores. il Food Eng 23:75 Jl '51
Spanish olive crop small. For Comm W 41:17 D 25 '50

OLIVETTI, Adriano
Design with a point. Fortune 43:112-17 Je '51

OLIVINE
Casting surfaces produced in olivine molding sand. G. S. Schaller and A. M. Nelson. il diags Foundry 79:110-13+ O '51
Olivine sand research. G. S. Schaller and W. A. Snyder. il Foundry 79:104-5+ My '51

OLMSTEAD, Agnes Reasor
Wins trophy for food news. por Ed & Pub 83:22 N 18 '50

OLMSTED and Foley
Story of Olmsted & Foley. il Adv Agency 44:64-6 F '51

OLNEY medal
Olney medal award to George L. Royer. il Am Dyestuff Rep 39:872-6 D 11 '50

OLSON, Oscar William, 1889-
Sharing the commodity risk; interview. pors Bsns W p38+ Ja 27 '51

OLYMPIC games
Finland's communication facilities expanded for 1952 olympic games. For Comm W 45:23 O 8 '51

OMAHA, Nebraska
Grateful Omaha thanks its hinterland. il Bsns W p93-4+ Je 16 '51

OMBUOSIDE
Chemistry of some South American plant products; alkaloids and flavanols; abstract. V. Deulofeu. Chem & Eng N 29:3943 S 24 '51

OMEGATRON
Measurement of *e/M* by cyclotron resonance. H. Sommer and others. bibliog diags Phys R 82:697-702 Je 1 '51
Values of μ_p, F, and M_p/m_e using the omegatron. H. Sommer and others. bibliog Phys R 80:487 N 1 '50

ONCHOCERCIASIS
Insecticides in industry and public health. H. Pirie. Chem & Ind p 101-2 F 10 '51

ONERA process. See Chromizing

ONGUEKOA
Seed oil of onguekoa gore Engler; the position of the hydroxyl group in the unsaturated monohydroxy-C_{18} acid (or acids). J. P. Riley. Chem Soc J p 1346-8 My '51

ONIONS
Control of storage sprouting in onions by preharvest foliage sprays of maleic hydrazide. S. H. Wittwer and R. C. Sharma. bibliog il Science 112:597-8 N 17 '50
Damage to onion crop enhances price outlook. Barron's 31:27-8 O 8 '51
Effect of maleic hydrazide on certain dehydrogenases in tissues of onion plants. F. M. R. Isenberg and others. Science 113:58-60 Ja 19 '51
Firm onion price may bolster output. Barron's 31:27-8 Mr 12 '51

ONTARIO
See also
Geology—Ontario
Gold mines and mining—Ontario
Iron mines and mining—Ontario
Mines and mineral resources—Ontario
Nickel mines and mining—Ontario
Roads—Ontario
Silver mines and mining—Ontario
Water, Underground—Ontario

Hydroelectric power commission

Appraisal of the Hydro-electric power commission of Ontario. F. P. Morrissey. Land Econ 27:49-57 F '51
Ontario's notable year. il Elec R (Lond) 147:593-4 O 20 '50
Salute to the living; Hydro electric power commission is honoring living engineers. il Eng N 146:144 Ap 26 '51

Mines, Department of

Department of mines. H. C. Rickaby. Can Min J 71:65-72 N '50
Inspection branch. W. O. Tower. Can Min J 71:73-5 N '50
Prospecting classes. W. D. Harding. il Can Min J 71:179-82 N '50

Sanitary affairs

Record-breaking activity in water and sewage works programs. A. E. Berry. Munic Util 89:26+ Mr '51

ONTARIO good roads association
Annual meeting, 49th, Toronto, Feb. 20-21; with abstracts of papers. Roads & Eng Constr 89:99-106+ Mr '51

ONTARIO mining association
Ontario mining association. N. F. Parkinson. il Can Min J 71:88-92 N '50

ONTARIO road builders' association
Annual meeting, Toronto, Feb. 21. Roads & Eng Constr 89:107-10+ Mr '51

OPACIFIERS
System Na_2O-P_2O_5-Al_2O_3-B_2O_3 as a possible base for low-temperature titania-opacified porcelain enamels. L. R. Blair and M. D. Beals. bibliog Am Cer Soc J 34:110-15 Ap 1 '51

OPACITY
Some factors affecting the opacity, color, and color stability of titania-opacified enamels. R. F. Patrick. bibliog Am Cer Soc J 34:96-102 Mr 1 '51
See also
Paper—Opacity

OPALESCENCE
Opalescence of a two-component liquid system near the critical mixing point. B. H. Zimm. bibliog J Phys & Colloid Chem 54:1306-17 D '50

OPEN air theaters. See Moving picture theaters, Open air; Theaters, Open air

OPEN and closed shop
Closed shop illegal yet it flourishes. Bsns W p38 O 13 '51
Closed shop in hiding. Fortune 44:62+ S '51
Drop elections? pressure to cut union-shop election requirement out of T-H. Bsns W p 125-6 Mr 3 '51
Most CIO union shops voided. Bsns W p32-4 Jl 21 '51
Open-shop contractor stops AFL picketing; Brown & Root, inc. Bsns W p36+ Ap 28 '51
Open-shop fight at Brown & Root, inc. Bsns W p 106+ O 28 '50
Texas contractor fights AFL unions in sweeping anti-closed shop suit. J. A. Lee. Eng N 145:24 O 26 '50
Union security and the closed shop. Bsns W p32 Ap 7; 38 Ap 14; 40 Ap 21 '51

OPEN door policy (Far East). See Far Eastern question

OPEN hearth furnaces
All-basic open hearth furnaces conference, Leamington Spa, May 2-3. Engineer 191:644-8, 696-7 My 18-25 '51; Metallurgia 43:289-94 Je '51
AIME openhearth and blast furnace committee meeting, Cleveland, April 2-4. Iron Age 167:104-6 Ap 12 '51
Applications of the statistical analysis of factors affecting the output of an openhearth furnace. P. Arnold and M. W. Thring. Iron & Steel Inst J 167:44-5 Ja '51
Combustion in the open hearth furnace. J. M. Brashear. Blast F & Steel Pl 39:421-5+ Ap '51
Economics of a 500-ton open hearth furnace. W. W. Kompart. il Iron & Steel Eng 28:55-7 Mr '51; Abstract. Steel 127:78+ O 23 '50
Electric furnace or open hearth? with cost data. C. F. Ramseyer. il plan diag Iron & Steel Eng 28:57-67 Je '51
First electrical precipitator installed on openhearth furnace. L. C. McCabe. Ind & Eng Chem 43:sup89A-90A+ Mr '51
Flow-pattern determinations in cold furnaces. M. P. Newby. Iron & Steel Inst J 168:400 Ag '51
See also
Open hearth process

Charging

Characteristics of scrap in relation to bulk handling. E. L. Diamond. diags Iron & Steel Inst J 164:452-62 Ap '50; Same cond. Iron Age 166:95-9 S 21 '50; Discussion. Iron & Steel Inst J 167:364-6 Ap '51
Feeding a furnace. Westinghouse Eng 10:255 N '50
How good materials handling helps Armco. G. F. Sullivan. il plan Iron Age 167:75-8 Mr 22 '51

OPEN hearth furnaces—Charging—*Continued*

New developments in scrap handling for the open hearth. L. R. Rissler. il diags Iron & Steel Eng 28:108-13; Discussion. 113-15 Ag '51

Novel method of charging open hearth furnaces in use at Armco plant. C. J. Andreotta. il Blast F & Steel Pl 39:321-3 Mr '51

Open hearth charge ore; key to steel capacity expansion. L. B. Lindemuth. bibliog il J Metals 3:592-6 Ag '51

Open hearth charging time cut 55 per cent. L. R. Rissler. il diags Steel 127:114+ D 18 '50

Proposed charging system could boost open-hearth production. plan diag Steel 128:90+ Ap 9 '51

Control

Automatic control systems for multi-fuel firing. R. L. Willis. diags Iron & Steel Eng 28:84-8 My '51

Automatic controls increase openhearth tonnage. A. Robinson and J. H. Chesters. il diag Iron Age 167:92-6 Mr 8 '51

Effect of automatic controls on open hearth production at Lackawanna. R. M. Jordan. il Iron & Steel Eng 28:63-6 Ag '51

Instrumentation and automatic reversal system of open hearth furnaces. C. E. Mortensen. il diags Blast F & Steel Pl 39:533-9 My '51

Measurement and control in the utilization of mixed fuels and oxygen in open-hearth furnaces. M. J. Conway and E. H. Cauger. il diags Instruments 24:1028-34 S '51; Same abr. with additional diags and table. Iron & Steel Eng 28:106-14 Jl '51

Operating advantages and limitations of open hearth controls. B. B. Bargman. diags Iron & Steel Eng 28:91-5; Discussion. 95-7 Mr '51

Design

Experiments on gaseous mixing in open-hearth furnace models. R. D. Collins and J. D. Tyler. il diags Iron & Steel Inst J 162:457-66 Ag '49; Discussion. 166:186-93 N '50

Experiments on gaseous mixing in open-hearth furnace models; semi-Venturi designs. R. D. Collins and J. D. Tyler. diags Iron & Steel Inst J 166:235-45 N '50

Flow patterns in furnaces. J. H. Chesters. bibliog il diags Chem & Ind p448-55 Je 16 '51

Open-hearth furnace models; study of flow patterns. J. H. Chesters and others. bibliog(62 ref) il 18pls diags Iron & Steel Inst J 162:385-415 Ag '49; Discussion. 166:186-93 N '50

Recent developments in open-hearth furnace design and operation. A. H. Leckie. il diags Engineering 168:599-601, 627-9 D 2-9 '49; Same cond. Blast F & Steel Pl 38:1166-73 O '50

Firing

Fuel flow; works trial of a metering pump. A. L. Cude and J. Stringer. flow diag diags Iron & Steel Inst J 168:46-51 My '51

Significance of air temperature in open hearth operation; abstract. J. S. Marsh. Metal Prog 60:124+ Ag '51

Lining

Carbon block proposed for open-hearth bottoms. il diags Steel 128:82+ F 12 '51

Construction and maintenance of open hearth furnace bottoms. C. W. Conn. Iron & Steel Eng 27:100-2 D '50

Increasing furnace availability; abstract. S. J. Dougherty. Steel 128:92+ My 21 '51

New fairing arch lessens fantail erosion. G. P. Reintjes. il Steel 129:74 Jl 23 '51

Open hearth and electric furnace refractories. J. R. Cady. bibliog il Blast F & Steel Pl 39:684-7 Je '51

Practical considerations of open-hearth construction; abstract. P. A. Gaebe. Steel 128:90 My 21 '51

Refractory papers presented at annual open hearth conference, Cleveland. Brick & Clay Rec 118:49-50 My '51

Temperatures of openhearth bottoms measured. R. B. Snow. diag Iron Age 167:103-6 F 1; 98-100 F 8 '51

Zebra type open-hearth roof steps up heats per campaign. il Steel 128:126+ My 7 '51

Models

Experiments on gaseous mixing in open-hearth furnace models. R. D. Collins and J. D. Tyler. il diags Iron & Steel Inst J 162:457-66 Ag '49; Discussion. 166:186-93 N '50

Experiments on gaseous mixing in open-hearth furnace models; semi-Venturi designs. R. D. Collins and J. D. Tyler. diags Iron & Steel Inst J 166:235-45 N '50

Open-hearth furnace models; study of flow patterns. J. H. Chesters and others. bibliog (62 ref) il 18pls diags Iron & Steel Inst J 162:385-415 Ag '49; Discussion. 166:186-93 N '50

Tapping

Bazooka goes civilian; taps open-hearth furnaces; Jet Tapper; illustrations with text. Bsns W p50 Ap 28 '51

Jet tapping. H. Walker and A. R. Almeida. il diags J Metals 3:374-6 My '51

Jet tapping of open hearth furnaces. H. H. Northrup. il Iron & Steel Eng 28:83-6 Jl '51

Open hearth furnaces jet tapped in 30 seconds. il diags Steel 128:64+ Ap 30 '51

Safety precautions in jet tapping. R. H. Ferguson. il J Metals 3:377-8 My '51

OPEN hearth process

Instrumentation and automatic reversal system of open hearth furnaces. C. E. Mortensen. il diags Blast F & Steel Pl 39:533-9 My '51

Instrumentation in steelmaking; Pittsburgh section, Instrument society of America 1st regional conference. Metal Prog 59:657-9 My '51

Ionic theory of slag-metal equilibria; applications to the basic open-hearth process. P. Herasymenko and G. E. Speight. bibliog Iron & Steel Inst J 166:289-303 D '50; Discussion. 168:376 Ag '51

National open hearth committee, American institute of mining and metallurgical engineers 34th annual conference, Cleveland, April 2-4; summaries of papers. Foundry 79:265-6 Je '51

National open hearth steel committee and blast furnace, coke oven and raw materials committees of AIME 34th conference, Cleveland, April 2-4; abstracts of papers. Steel 128:90+ My 21 '51

National open hearth steel committee and the blast furnace, coke oven and raw materials committee of the A.I.M.E. 34th joint conference, Cleveland, April 2-4; program. Blast F & Steel Pl 39:sup20-4+ Ap '51; J Metals 3:301, 302A-303D Ap '51

Open hearth bath pyrometers. H. B. Emerick. il diag Blast F & Steel Pl 38:1425-7 D '50

Open hearth charge ore; key to steel capacity expansion. L. B. Lindemuth. bibliog il J Metals 3:592-6 Ag '51

Open hearth charge ores. J. J. Golden and H. E. Warren, jr. Iron & Steel Eng 28:125-7 Ag '51; Excerpt. Steel 128:97-8 My 28 '51

Significance of air temperature in open hearth operation; abstract. J. S. Marsh. diags Iron & Steel Eng 28:117-18 Ag '51

Statistical analysis of open hearth data. W. R. Weaver. Iron & Steel Eng 28:53-7; Discussion. 57-8 F '51

Steel quality as affected by track time and soaking pit practice. A. F. Mohri. Blast F & Steel Pl 39:665-70 Je '51

Steelmaking for castings. J. H. Hall. diags Foundry 79:128-9+ Ap; 101+ My; 109+ Je; 77+ Jl '51

Storage and distribution of oxygen for the open hearth. B. P. Sarasin and R. Tietig, jr. il diags Iron & Steel Eng 28:81-9; Discussion. 89-90 Je '51

Thermodynamic aspects of the movement of sulphur; abstracts and discussion. F. D. Richardson and G. Withers. Engineer 190:522-3 D 1 '50; Engineering 170:447-8 D 1 '50

See also

Open hearth furnaces

OPEN house. See Visitors

OPEN pit mining. See Mining methods—Stripping operations

OPEN-pit mining association

Electrical division 7th annual meeting, Urbana, Ill. July 27. Coal Age 56:132+ S '51

OPERATIONS research
Operations research. H. C. Levinson and A. A. Brown. diags Sci Am 184:15-17 Mr '51
Operations research. P. M. Morse. il Tech R 53:191-4+ F '51
See also
Industrial research

OPIANIC acid
Synthetical experiments in the chelidonine-sanguinarine group of the alkaloids. A. S. Bailey and R. Robinson. Chem Soc J p 1375-9 My '50

OPPENAUER reaction
Factors interfering with the Oppenauer oxidation of amino alcohols. R. E. Lutz, R. H. Jordan and W. L. Truett. bibliog Am Chem Soc J 72:4085-9 S '50
Meerwein-Ponndorff/Oppenauer reaction. W. A. Johnson and G. E. H. Skrimshire. bibliog diags Chem & Ind p380-4 My 19 '51; Discussion. J. C. McGowan. p601-2 Jl 7 '51

OPTICAL bleaches. See Bleaching materials

OPTICAL compensators. See Compensators, Optical

OPTICAL crystals. See Crystals

OPTICAL illusions
Experiments in perception. W. H. Ittelson and F. P. Kilpatrick. il Sci Am 185:50-5 Ag '51
See also
Mirages

OPTICAL instruments
Duplicating machining simplified with optical follower. il Steel 128:88 Ap 2 '51
High vacuum evaporated optical coatings. R. E. Frazer. Instruments 24:284-5+ Mr '51
Inside information; Boroscope for inspecting insides of aircraft engine cylinders. il Aviation W 54:54+ Je 4 '51
Lashograph; an instrument for observing valve lash in a running engine; abstracts. E. B. Etchells. diags Automotive Ind 104:51+ Ap 1 '51; S A E J 59:35+ Jl '51
New approach in the analytical study of the spherical aberrations of any order. J. Lefaivre. diag Opt Soc Am J 41:647 S '51
Reverse-image attachment for die milling halves masters needed. il Am Mach 95:143 My 28 '51
See also
Compensators, Optical
Densitometers
Diffraction gratings
Dioptometers
Interferometers
Light filters
Measuring instruments, Optical
Microscope and microscopy
Monochromators
Photometers
Polariscope
Prisms
Projection apparatus
Reflectometers
Refractometers
Spectrograph
Spectrometers
Spectrophotometers
Spectroradiometers
Stroboscopic instruments
Sun glasses—Testing
Surveying instruments
Telescope

OPTICAL measurements
Differential correction of an optical system. A. E. Glancy. diags Opt Soc Am J 41:389-96 Je '51
Diffraction errors in an optical measurement at radio wavelengths. G. A. Woonton and others. diag J Ap Phys 22:390-7 Ap '51
High precision measurements with simple equipment. A. C. S. van Heel. il diags Opt Soc Am J 40:809-16 D '50
Optical projection method for measuring fiber length. T. Fyfe. bibliog il Tappi 34:306-10 Jl '51
Optimum optical density in spectrophotometry. R. Cole. Opt Soc Am J 41:38-40 Ja '51
Polarimetric determination of the ratio of complex reflection coefficients. R. E. Hartman. Opt Soc Am J 41:244-6 Ap '51
Precise topography of optical surfaces. J. B. Saunders. il diags J Res Nat Bur Stand 47:148-55 S '51
Precision alignment in daylight. C. Franx and A. C. S. van Heel. diags Opt Soc Am J 41:277 Ap '51
Reflection and transmission of radiation by metal films and the influence of non-absorbing backings. L. Harris and others. bibliog diags Opt Soc Am J 41:604-14 S '51

OPTICAL measuring instruments. See Measuring instruments, Optical

OPTICAL methods
Measurement of cement specimen lengths; optical method. A. Beitlich. diags Rock Prod 54:138+ Je '51
Powder-size measurement by a combination of the methods of nephelometry and photo-extinction. H. E. Rose. bibliog diags Soc Chem Ind J 69:266-72 S '50
Visual and optical evaluation of metal surfaces. H. Thielsch. bibliog il diags Metal Finishing 49:54-61 My '51

OPTICAL properties
Achromatic doublet of silicon and germanium. R. G. Treuting. il Opt Soc Am J 41:454-6 Jl '51
Influence of optical working on surface structure of plastic crystals. A. Smakula and M. W. Klein. il diags Opt Soc Am J 40:748-50 N '50
Influence of the immersion medium on the rotation properties of anisotropic minerals in reflected light. E. N. Cameron. Econ Geol 46:68-75 Ja '51
Microscopic appearance of polymorphic forms of one-acid triglycerides. O. T. Quimby. bibliog 2pls Am Chem Soc J 72:5064-8 N '50
Polarization figures and rotation properties in reflected light and their application to the identification of ore minerals. E. N. Cameron and L. H. Green. diags Econ Geol 45:719-54 D '50
Some optical properties of lead-activated sodium chloride phosphors. J. H. Schulman and others. bibliog il Opt Soc Am J 40:854-62 D '50
See also
Paper—Optical properties

OPTICAL rotation
α- and the β-form of 2 : 3 : 4 : 6-tetra-acetyl D-galactopyranose anilide. K. Butler, F. Smith and M. Stacey. Chem Soc J p3371-4 D '49
Anodic syntheses; retention of optical activity during the Kolbe reaction. R. P. Linstead, J. C. Lunt and B. C. L. Weedon. Chem Soc J p3333-5 N '50
Automatic measurement of optical rotation. G. B. Levy. bibliog Anal Chem 23:1089-92 Ag '51
Branched-chain fatty acids; synthesis of the optical isomers of 15-methyloctadecanoic acid. J. Cason and R. A. Coad. bibliog Am Chem Soc J 72:4695-7 O '50
Cleavage reactions of optically active secondary butyl methyl ether. R. L. Burwell, jr., L. M. Elkin and L. G. Maury. bibliog Am Chem Soc J 73:2428-31 Je '51
Dependence of optical rotatory power on chemical constitution. M. P. Balfe. Chem Soc J p 1871-3 Jl '50
Dependence of optical rotatory power on chemical constitution; (-)-1-chloro-3-phenoxypropan-2-ol and (-)-glycide phenyl ether. M. P. Balfe, M. K. Hargreaves and J. Kenyon. Chem Soc J p 1861-6 Jl '50
Dependence of optical rotatory power on chemical constitution; *cyclo*hexylphenylcarbinol. M. P. Balfe, G. H. Beaven and J. Kenyon. Chem Soc J p 1857-60 Jl '50
Dependence of optical rotatory power on chemical constitution; (+)-2-(2-hydroxy-*n*-propyl)pyridine. I. G. Anderson, M. P. Balfe and J. Kenyon. Chem Soc J p 1868-71 Jl '50
Dependence of optical rotatory power on chemical constitution; (-)-2-thienylmethylcarbinol. I. G. Anderson, M. P. Balfe and J. Kenyon. Chem Soc J p 1866-8 Jl '50
Determination of citrus pectic substances by optical rotation. R. M. McCready and others. Anal Chem 23:975-7 Jl '51
Experiments relating to the resolution of tertiary alcohols; the resolution and deamination of α-naphthylphenyl-*p*-tolyl-methylamine, and the Curtius, Hofmann, and Schmidt reactions with 2-methyl-2-phenylhexanoic acid. C. L. Arcus, J. Kenyon and S. Levin. Chem Soc J p407-10 F '51
Experiments with optically active diphenyls. F. Bell and G. A. Dinsmore. Chem Soc J p3691-2 D '50
First-order asymmetric transformation arising from solvation. J. Glazer, M. M. Harris and E. E. Turner. Chem Soc J p 1753-7 Jl '50

OPTICAL rotation—*Continued*

Internal consistency of determinations of absolute optical configuration by the one-electron theory of optical rotation. J. F. Lane. bibliog Science 113:577-8 My 18 '51

Isolation of optically pure (—)-*sec.*-butylcarbinol from fusel oil. P. Le Couteur, J. Kenyon and T. A. Rohan. bibliog J Ap Chem 1:341-5 Ag '51

Mechanisms for the mutarotation and hydrolysis of the glycosylamines and the mutarotation of the sugars. H. S. Isbell and H. L. Frush. bibliog J Res Nat Bur Stand 46:132-44 F '51

Methods of resolution; *N*-(—)-menthyl-*p*-sulphamylbenzoic acid. B. A. Everard and J. A. Mills. Chem Soc J p3386-9 D '50

Methods of resolution; variations of the resolution of alcohols through acid esters. A. K. Macbeth, J. A. Mills and R. Pettit. Chem Soc J p3538-42 D '50

Optical activation by asymmetric solvent action. C. Buchanan and S. H. Graham. Chem Soc J p500-7 F '50

Optical activity dependent on a six-covalent bivalent osmium complex. F. H. Burstall, F. P. Dwyer and E. C. Gyarfas. Chem Soc J p953-5 Mr '50

Optical properties of 2-amino-*n*-octane, 2-dimethylamino-*n*-octane, and trimethyl-2-*n*-octylammonium iodide. F. G. Mann and J. Reid. Chem Soc J p3384-6 D '50

Optical resolution of (±)-*trans*-9 : 10-dihydroxy-9 : 10-dihydrophenanthrene. J. Booth, E. Boyland and E. E. Turner. Chem Soc J p2808-10 O '50

Optical rotation of 2-chlorobutane. R. L. Letsinger, L. G. Maury and R. L. Burwell, jr. Am Chem Soc J 73:2373 My '51

Optical rotation of peptides. B. F. Erlanger and others. bibliog Am Chem Soc J 73:3508-12 Jl '51

Optical rotation of peptides; lysine dipeptides. B. F. Erlanger and E. Brand. Am Chem Soc J 73:4025-7 Ag '51

Optical rotation of peptides; lysine tripeptides. E. Brand and others. Am Chem Soc J 73:4027-8 Ag '51

Optical rotation of quartz in the infrared to 9.7μ. H. S. Gutowsky. bibliog J Chem Phys 19:438-40 Ap '51

Optically active phenylmethylcarbinyl ethers. K. Mislow. Am Chem Soc J 73:4043-4 Ag '51

Partial resolution of racemic compounds. M. D. Armstrong. Am Chem Soc J 73:4456-7 S '51

Preferential complexing of iron(III) with β-glucose. J. C. Delaney, J. Kleinberg and W. J. Argersinger, jr. Am Chem Soc J 72:4277-8 S '50

Preparation and resolution of DL-α-fenchylamine. A. W. Ingersoll and H. D. DeWitt. Am Chem Soc J 73:3360-2 Jl '51

Reactions of carbohydrates with nitrogenous substances; mutarotations of some glycosylamines. W. Pigman and others. Am Chem Soc J 73:1976-9 My '51

Reactions of organometallic compounds with alkyl halides; on Wurtz syntheses with optically active halides. J. F. Lane and S. E. Ulrich. bibliog Am Chem Soc J 72:5132-4 N '50

Resolution of amino acids. L. R. Overby, A. W. Ingersoll and W. A. H. Huffman. bibliog Am Chem Soc J 73:3363-9 Jl '51

Resolution of *p*-chlorobenzhydrol. G. H. Green and J. Kenyon. Chem Soc J p751-2 F '50

Restricted rotation in aromatic amines; the effect of monosubstitution in the *ortho* position. R. Adams and A. S. Nagarkatti. Am Chem Soc J 72:4606-8 O '50

Restricted rotation in aryl amines; isopropyl derivatives of dibenzenesulfonamidomesitylene. R. Adams and N. K. Nelson. Am Chem Soc J 72:5077-9 N '50

Rotation of polyols in ammonium molybdate solutions. N. K. Richtmyer and C. S. Hudson. Am Chem Soc J 73:2249-50 My '51

Rotatory dispersion and circular dichroism of (—)-γ-chloro-γ-nitroso-β-phenylvaleric acid. S. Mitchell and W. E. F. Naismith. Chem Soc J p3116-19 D '49

Simple preparation of optically active secondary alcohols. A. A. Bothner-By. Am Chem Soc J 73:846 F '51

Solution of the problem of internal compensation in meso compounds as afforded by studies on analogous coordination complexes. R. W. Hakala. Science 113:15 Ja 5 '51

Specification of configuration about quadricovalent asymmetric atoms. R. S. Cahn and C. K. Ingold. Chem Soc J p612-22 F '51

Thermodynamic properties and rotational isomerism of 2-thiabutane. D. W. Scott and others. bibliog Am Chem Soc J 73:261-5 Ja '51

Use of the capital letter prefixes L and D. H. B. Vickery. bibliog Science 113:314-15 Mr 23 '51

See also

Racemization

OPTICAL society of America

Annual report of secretary for the calendar year, 1950. Opt Soc Am J 41:490-2 Jl '51

Directory of members. Opt Soc Am J 40:699-736 O '50

Meeting, Oct. 26-28. Glass Ind 31:627-8 D '50

Proceedings of the winter meeting, Washington, March 1-3; with abstracts of papers. Opt Soc Am J 41:283-93 Ap '51

Recognizes the 50th anniversary of the founding of the National bureau of standards. Opt Soc Am J 41:367-8 Je '51

Winter meeting, Washington, March 1-3. Chem & Eng N 29:1116 Mr 19 '51

OPTICAL trade

Dress rehearsal sales teach inside technical men to sell; Bausch & Lomb's see and do training technique. B. T. Parker. Sales Management 67:45-6 S 1 '51

Why our newest catalog is a card index file; American optical co. A. J. Oker. il Ptr Ink 235:34-5 My 11 '51

Advertising

Give the salesmen's old story a new package; Soft-Lite lens co. A. A. Kohler. il Ptr Ink 236:38 Ag 31 '51

We sold the doctors first; now to consumers with new name and guarantee; Univis lens co. R. O. Barber. il Ptr Ink 235:34-5 Ap 6 '51

See also

Spectacles—Advertising

OPTICS

Nomogram for estimating the optimum aperture of optical systems. F. I. Havlicek. Opt Soc Am J 41:483-4 Jl '51

Optics of radio waves. O. Halpern. Phys R 82:971-2 Je 15 '51

Proceedings of the winter meeting of the Optical society of America, Washington, March 1-3; with abstracts of papers. Opt Soc Am J 41:283-93 Ap '51

Quantum effects in optics. U. Fano. bibliog Opt Soc Am J 41:58-9 Ja '51

Wide-angle metal-plate optics. J. Ruze. diags Inst Radio Eng Proc 38:53-9 Ja '50; Correction. 39:697 Je '51

See also

Absorption of rays
Beer's law
Color
Diffraction
Electro-optics
Fluorescence
Interference (light)
Lenses
Light
Light filters
Luminescence
Magneto-optics
Measuring instruments, Optical
Photochemistry
Photoelasticity
Photographic optics
Photometry
Photomicrography
Polarization (light)
Prisms
Radiation
Reflection (optics)
Refractive index
Spectrum
Television
Visibility

History

Early work in applied optics at the National bureau of standards. E. C. Crittenden. bibliog Opt Soc Am J 41:369-76 Je '51

Tables, calculations, etc.

Optical calculations with automatic computing machinery. D. P. Feder. diags Opt Soc Am J 41:630-5 S '51

OPTICS, Geometrical

Graphical ray-trace and surface generation methods for aspheric surfaces. R. E. Lewis. bibliog diags Opt Soc Am J 41:456-9 Jl '51

OPTICS, Geometrical—*Continued*

Optical design by a matrix method. C. W. Harris. Opt Soc Am J 40:819-22 D '50

Some geometrical factors in light-scattering apparatus. J. J. Hermans and S. Levinson. bibliog diags Opt Soc Am J 41:460-5 Jl '51

Standards

International commission of optics; recommendations for the standardization of sign conventions and symbols in geometrical optics, and for the definition of refractive indexes of optical glass. Opt Soc Am J 41:140-1 F '51

OPTICS, Physiological

Resolving power of the human eye. K. N. Ogle. bibliog diag Opt Soc Am J 41:517-20 Ag '51

Studies of rod-process by polarization method. K. Motokawa and others. Opt Soc Am J 41:478-81 Jl '51

Use of a half-shadow plate with uniform field compensators. H. G. Jerrard. bibliog diags J Sci Instr 28:10-14 Ja '51

See also

Color sense

Eye—Accommodation and refraction

Optical illusions

Sight

OPTIONS, Stock purchase. See Stock purchase options

OPTOMETRISTS' offices

Burkhardt optometrist shop, New York city. il plan Arch Rec 110:120-1 Ag '51

Middling rental space becomes a colorful office. il plan diags Am Bld 73:185+ My '51

ORANGE FREE STATE

See also

Gold mines and mining—Orange Free State

ORANGE juice

Effect of high-voltage cathode rays on ascorbic acid; in vitro and in situ experiments. B. E. Proctor and J. P. O'Meara. bibliog Ind & Eng Chem 43:718-21 Mr '51

ORANGE juice, Frozen

Advances in evaporation, freezing made by Minute Maid plant. H. R. Cloud. il diag Food Ind 22:1891-4 N '50

Chemical engineering in the frozen food industry. V. C. Praschan. flow diags il diags Chem Eng Prog 47:325-30 Je '51

Frozen juices; business soared, but high costs erased profits. B. Ravits. Barron's 31:13 F 5 '51

Low temperature evaporators; abstract. A. W. Eckstrom. diag Refrig Eng 59:867-8 S '51

Newest citrus juice plant features special layout, advanced processing technics; special Food Industries report. F. R. Hopkins and C. K. Walker. flow sheet(p 104-7) il plan Food Ind 23:67-74 Ja '51

Orange concentrators face tough cost-price problems. C. E. Wright. Food Ind 23:109-10 F '51

Sunkist fruit is quickfrozen; California cooperatives in frozen concentrate line. Bsns W p 100-1 Jl 21 '51

Rating

Getting your daily quota of vitamin C in frozen orange juice; report on 11 brands of frozen strawberries. il Consumers Res Bul 27:8-10 Ap '51

ORANGE OT

Cosolubilization in solutions of potassium laurate; effect of cosolubilized alcohols and hydrocarbons on the solubilization of several aromatic compounds in potassium laurate solutions. I. M. Kolthoff and W. F. Graydon. bibliog J Phys & Colloid Chem 55:699-712 My '51

ORANGES

California oranges regain their stature. Bsns W p87 Mr 31 '51

Citrus investments; Florida orange groves bring high return at present prices. E. J. Mann. Barron's 31:7 S 3 '51

ORBITALS, Atomic. See Atomic orbitals

ORCHESTRA shells

Band shell at Highland Park, Ill., pioneers new ground in acoustics. il plan diag Arch Forum 95:142-3 Jl '51

ORCHESTRAS

Accounting

How to set up and operate accounts for a symphony orchestra. J. P. Maloney. J Account 90:509-10 D '50

ORCINOL

Application of the modified Gattermann reaction to methyl and ethyl orsellinate. W. B. Whalley. Chem Soc J p3278-80 D '49

ORCO process. See Petroleum—Production methods

ORDERS

Alert employee saves 91 per cent of stenographic time in order procedure of Fisher Body division. R. G. French. il Am Bsns 21:32 F '51

Company fills order in three hours instead of three days; Nelson electric supply co. E. Whitmore. il Am Bsns 21:24+ Ap '51

Conveyor expedites order for industrial "Sears, Roebuck"; Fisher scientific co., Pittsburg. G. D. Crain, jr. il Ind Marketing 36:38-9+ Mr '51

Dow teletype speeds sales service. il Chem Ind W 68:30-1 Mr 10 '51

New inventory control system reduces customer complaints, speeds delivery of orders. A. Weiss. J Account 91:570-4 Ap '51

New system eliminates rewriting for back orders; Timken-Detroit axle co.'s Ditto one-writing order-invoice system. K. P. Hayes. il Am Bsns 21:30 Je '51

One-way traffic in this stockroom; Formfit company's Plaza plant in Chicago. il Factory Management 109:97 S '51

Orders are shipped day of receipt; streamlined system of order writing and billing; John Morrell & co. C. F. Johnson. il Am Bsns 20:12-13+ D '50

ORDERS, Unfilled

Five companies with big order backlogs; with comparative balance sheet items. Mag of Wall St 88:302-4 Je 16 '51

ORDNANCE

Engineering materials in ordnance equipment. B. S. Mesick. il Materials & Methods 33:59-63 My '51

Finishing army ordnance materiel. G. T. Viglione. il Metal Finishing 49:89-91+ Jl '51

Superior ordnance saves lives. E. L. Cummings. il Mach 57:134-5 Ja '51

Bibliography

Manufacturing information that helped to win World war II. Mach 57:175-6 Ja '51

Manufacture

Founders object to inspection methods. J. W. Bryant. Foundry 79:126+ Mr '51

Standards

Some adventures in military standardization. M. F. Schoeffel. il Standardization 22:277-9 S '51

Testing

Metallurgical activities at Aberdeen proving ground. il diag Metal Prog 59:499-502 Ap '51

Pace quickens at Aberdeen. Steel 128:47-8 Je 18 '51

ORDNANCE association, American. See American ordnance association

ORE cars

Rehabilitation of ore cars. J. F. Likarish. il Welding J 29:837-43 O '50; Same abr. Ry Mech & Elec Eng 125:65-9 My '51

ORE deposits

Age relationship of the Murray granite and Sudbury norite. C. R. Lewis. bibliog maps diags Can Min J 72:55-62 My; 70-5 Je '51

Alteration and metallization in the Bagdad porphyry copper deposit, Arizona. C. A. Anderson. bibliog maps diags Econ Geol 45:609-28 N '50

Alteration features at Silver Bell, Ariz. P. F. Kerr. bibliog maps diags Geol Soc Bul 62:451-80, pl 1-4 My '51

Aspects of structure and mineralization used as guides in the development of the Picher field. J. P. Lyden. bibliog maps diags Min Eng 187:Trans 1251-9 D '50

Copper mineralization in the Fungurume region, Katanga. R. Oosterbosch; H. Schuiling. il diags Econ Geol 46:121-48 Mr '51

ORE deposits—*Continued*

Crow River area geology. E. O. Chisholm. il map Can Min J 71:112-13 N '50

Experiments on the deposition of iron with special reference to the Clinton iron ore deposits. J. R. Castaño and R. M. Garrels. bibliog Econ Geol 45:755-70 D '50

Formation of late magmatic oxide ores. A. M. Batemann. il diags Econ Geol 46:404-26 Je '51

General geology and structure in Kirkland Lake area. W. S. Savage. il map Can Min J 71:107-9 N '50

General geology, Red Lake area. E. O. Chisholm. map Can Min J 71:110-11 N '50

Genetic classification of the bed rock hypogene mineral deposits. H. Schmitt. bibliog Econ Geol 45:671-80 N '50

Geochemical techniques as applied in recent investigations in the Tintic district, Utah. H. Almond and H. T. Morris. bibliog maps diags Econ Geol 46:608-25 S '51

Geology and mineral occurrances. R. B. Graham. il maps plan diags Can Min J 72:65-71 S '51

Geology and ore deposits of the Front Range, Colorado. T. S. Lovering and E. N. Goddard. il maps plans U S Geol S Professional Pa 223:1-319, pl 1-30 '50

Geology of the Broken Hill ore deposit, Broken Hill, N.S.W., Australia. J. K. Gustafson and others. maps diags Geol Soc Bul 61:1369-437, pl 1-8 bibliog(p 1436-7) D '50

Geraldton-Beardmore area, general geology. W. L. Greer. bibliog il map Can Min J 71:114-15 N '50

Getchell mine study demonstrates paradox of scale. P. Joralemon. il maps Min Cong J 37:34-6 Ja '51

Interpretation of ore textures. E. S. Bastin. (Memoir 45) 101p, 18pls bibliog(p76-9) Geological soc. of America, 419 W. 117th st, New York 27 '50

Metallogenic epochs in Idaho. A. L. Anderson. bibliog Econ Geol 46:592-607 S '51

Metamorphism and associated mineralization in the Philipsburg region, Montana. maps diags Geol Soc Bul 61:1053-90, pl 1-14 bibliog(p 1089-90) O '50

Mine geology; Kerr-Addison mine. il maps Can Min J 72:68-75 Ap '51

Non-ferrous base metal deposits in Ontario. J. E. Thomson. Can Min J 71:152-4 N '50

Paragenesis of the Tri-State jasperoid. E. S. Bastin. il Econ Geol 46:652-7 S '51

Porcupine gold area. N. Hogg. bibliog map Can Min J 71:102-6 N '50

Significant replacement textures at Cobalt and South Lorraine, Ontario, Canada. E. S. Bastin. bibliog Econ Geol 45:808-17, pl 1-4 D '50

Structural control of orebodies as illustrated by the use of vein contours at the O'Brien gold mine, Cadillac, Quebec. J. W. Mills. bibliog diags Econ Geol 45:786-807 D '50

Temperatures of mineral formation in bottom-run lead-zinc deposits of the upper Mississippi valley, as indicated by liquid inclusions. S. W. Bailey and E. N. Cameron. map diags Econ Geol 46:626-51 bibliog (p650-1) S '51

Trade-element studies, Santa Rita, New Mexico. D. L. Graf and P. F. Kerr. bibliog maps diags Geol Soc Bul 61:1023-52 O '50

Water in primordial and derivative magma and its relation to the ore-forming fluid. J. D. Ridge. bibliog Am J Sci 249:512-32 Jl '51

See also

Copper ores
Fluorspar
Geology
Gold ores
Iron ores
Lead ores
Mercury ores
Mines and mineral resources
Silver ores
Uranium ores
Zinc ores

ORE docks

B.&O. dedicates new ore pier at Baltimore. Ry Age 130:52+ My 28 '51

B&O dedicates new pier at Baltimore. S. A. Lauver. il Manuf Rec 120:55 Je '51

B.&O. invests $5 million in ore import pier at Baltimore. C. E. Sloan. il Ry Age 131:36-41 Jl 2 '51

B&O to dedicate new ore pier at Baltimore. il Manuf Rec 120:44 Ap '51

Foreign ore to flow through B&O's new pier. il Iron Age 167:107 My 17 '51; Eng N 146:25 My 3 '51

Imported ore via Baltimore; B&O's $5-million ore handling pier. Bsns W p66 My 26 '51

New $8 million pier for iron ore to be built in Philadelphia. Iron Age 168:125 Ag 16 '51; Eng N 147:26 Ag 23 '51

Ore-unloading dock at Baltimore. il Marine Eng 56:52-5 Jl '51

Record ore haul needed to supply 1951 furnace demand. il Iron & Steel Eng 28:141-2+ My '51

ORE handling

Adjustable voltage drives for ore handling. C. B. Risler. il diags Iron & Steel Eng 28:102-7; Discussion. 108-9 Je '51

Anchored against wind; rail clamps for ore bridges. il Nat Safety N 62:40 N '50

Conveyor belt stackers facilitate iron ore handling. il Steel 129:96 Jl 9 '51

Developments in the design of coal and ore bridges. B. A. Rose. il diags Iron & Steel Eng 27:60-4; Discussion. 64-5 O '50

Handling imported ore. G. H. Atwood. il Iron & Steel Eng 28:120+ Je '51

Ore unloader built on East coast. W. B. MacLean. il diags Iron & Steel Eng 27:122-4 D '50; Same cond. Elec World 135:118 F 26 '51; Abstract. Eng & Min J 152:79 Mr '51

Ore-unloading dock at Baltimore. il Marine Eng 56:52-5 Jl '51

Venezuela's iron ore now reaching U.S. furnaces; illustrations with text. Eng & Min J 152:114-15 Ap '51

What freezeproofing can do to simplify winter ore unloading. il Eng & Min J 152:103 Ap '51

See also

Ore cars
Ore docks

ORE sampling

Channel sampling with diamond impregnated wheels. il diags Eng & Min J 152:84 Ag '51

Geological department; Kerr-Addison mine. il plans diag Can Min J 72:109-17 Ap '51

One-oz. sample from 10,000 tons of ore. il Bsns W p 114+ Je 16 '51

Ore control at Inspiration. J. L. Carne. il Min Eng 3:501-2 Je '51

Ore control; churn-drill hole sludge samples at Cananea. F. M. Leonard, jr. Min Eng 3:415 My '51

Ore sampling at Castle Dome. J. J. Spencer. Min Eng 3:320 Ap '51

Ore testing and sampling services. A. A. Cole. il Can Min J 71:172-5 N '50

ORE ships

Ballast tank gages in engine room facilitate trimming of ore carriers. il diag Marine Eng 55:59 D '50

Design and construction of Great Lakes bulk freighter Wilfred Sykes. E. B. Williams and others. il plans diags Marine Eng 55:40-73 Je '50; Excerpts. Midwest Eng 3:6-8+ N '50

Economics of repowering Lakes vessels. Marine Eng 56:58-62 Ag '51

Geared-Diesel repowering for Great Lakes vessels. C. R. Slawter and B. E. Ericson. plan Marine Eng 56:40-4 Je '51

Importance of the Caribbean in the search for iron ore. J. B. Blackford. il U S Naval Inst Proc 77:582-9 Je '51

Keel laid for Pittsburgh ore carrier. il Marine Eng 56:52-6 F '51

Lakes ore carrier lengthened; steamship Philip D. Block has 72-foot midsection added; illustrations with text. Marine Eng 56:46-7 Jl '51

New geared-turbine design for repowering ore carrier Williams. A. D. Sutton. il Marine Eng 56:42-5 Jl '51

Ore boats: launch greatest building program ever. B. Taylor. il Iron Age 168:103 Ag 2 '51

Repowering Lakes ore carriers; geared Diesel drive on the Eugene W. Pargny, and geared turbines on the Homer D. Williams. il plans diags Marine Eng 56:36-41 Jl '51

Victory ship converted as ore carrier; Bethlehem Baltimore yard completes rebuilding of Cliffs Victory. il Marine Eng 56:50-7 Ag '51

Warping an oreboat across country; Cliffs Victory. il map Bsns W p22-4 My 19 '51

ORE testing

Beaker flotation as a quantitative tool in flotation testing. W. Loblowitz. Min Eng 3:Trans 522-3 Je '51

Flotation tests on Korean scheelite ore. W. Mitchell, jr. and others. bibliog il Min Eng 190:Trans 60-4 Ja '51

How to simplify testing for sink-float separation. S. E. Erickson. il diags Eng & Min J 152:88-9 Je '51

Ore testing and sampling services. A. A. Cole. il Can Min J 71:172-5 N '50

See also

Assaying
Ore sampling

ORE transportation

See also

Iron ores—Transportation
Mine haulage
Ore cars
Ore ships

ORE treatment

Advances in mineral dressing. S. R. B. Cooke. il Min Cong J 37:47-9 F '51

Basic features of the washer at Clear Springs. flow sheet il diag Eng & Min J 152:107-9 Ap '51

Beneficiation in 1950; annual review. G. J. Holt. il Min Eng 190:122-5 F '51

Bureau of mines studies iron ore concentration; gravity-flotation combination appears best. B. H. Clemmons. bibliog il Min Eng 187:1221-4 D '50

Calculate classifier data accurately by new method. F. C. Bond. Eng & Min J 151:90-1 D '50

Calorimetric method for studying grinding in a tumbling medium. A. K. Schellinger. bibliog diags Min Eng 3:Trans 518-22 Je '51

Concentration of oxide manganese ores from Lander county, Nev. T. F. Mitchell and others. U S Bur Mines Rep of Invest 4780: 1-16 '51

Concentration of the complex copper-lead-cobalt-nickel ores of southeast Missouri. M. M. Fine and others. il Min Eng 3:Trans 602-4 Jl '51

Effects of rod mill feed size reduction. J. J. Strohl and H. J. Schwellenbach. Min Eng 187:Trans 1273-4 D '50

Experimental treatment of oxidized lead-silver ore from Eureka, Nev. A. L. Engel. flow sheets U S Bur Mines Rep of Invest 4762:1-9 '51

How to get more tonnage through your present mill. J. J. Burns. Eng & Min J 152:120-1 Jl '51

Improved method of gravity concentration in the fine-size range. A. Thunaes and H. R. Spedden. flow sheet il Min Eng 187:Trans 879-82 Ag '50; Discussion. 187:Trans 1156-7 N '50

Metallurgical applications of the DorrClone. F. T. Weems. bibliog diags Min Eng 3: Trans 681-90 Ag '51

Milling in review. il Eng & Min J 152:116-21 F '51

New theory of comminution. F. C. Bond and J. T. Wang. bibliog Min Eng 187:Trans 871-8 Ag '50; Discussion. 3:Trans 983-6 N '51

Operating factors in heavy-media processing. L. J. Erck. il diag Min Cong J 37:18-20+ Ja; 88-91 Ap '51

Plans for treating Greater Butte Project ores. F. F. Frick. il Min Cong J 37:42-3+ Ag '51

Probability theory of wet ball milling and its application. E. J. Roberts. bibliog diag Min Eng 187:Trans 1267-72 D '50; Discussion. 3:Trans 988-90 N '51

Processing uranium ores. F. W. McQuiston, jr. il Min Cong J 36:28-30 O '50

Tertiary crusher for soft home ores. C. Lang. diags Iron & Steel Inst J 168:164 Je '51

Three new steps in treating Florida phosphate rock. A. Crago. flow sheet il Eng & Min J 151:78-83 N '50

See also

Ball mills
Crushing machinery
Cyanide process
Flotation process
Gold metallurgy
Hydrometallurgy
Iron metallurgy
Leaching
Metallurgical plants
Metallurgy
Sintering
Smelting
Tailings
Tube mills

OREGON

See also

Floods—Oregon
Hydroelectric plants—Oregon
Irrigation—Oregon

OREGONIAN (newspaper)

Ads keep free press. H. W. Moloney. Ed & Pub 83:20 N 25 '50

Newhouse's $5,000,000 buys the 100-year-old Oregonian. Ptr Ink 233:82+ D 15 '50

Oregonian celebrates 100 pioneering years. Sales Management 66:69 Ja 1 '51

Samuel I. Newhouse buys Oregonian in $5,250,000 cash transaction. J. Walker. il Ed & Pub 83:5-6 D 16 '50

ORES

Classification and definitions of textures and mineral structures in ores. G. M. Schwartz. bibliog Econ Geol 46:578-91, pl 1-5 S '51

Sizing fine particles with air; new Infrasizer. H. E. T. Haultain. il Comp Air Mag 55:281 D '50

See also

Copper ores
Geology
Gold ores
Iron ores
Lead ores
Manganese ores
Metallurgy
Metals
Mines and mineral resources
Ore deposits
Ore sampling
Ore treatment
Zinc ores

ORGAN

Church design for music; contemporary churches and pipe organs. R. Berry. Arch Forum 95:116+ S '51

Fokker's organ in Huygens' tuning. M. F. Meyer. Acoustical Soc Am J 23:369 My '51

Voicing of organ flue pipes. D. M. A. Mercer. bibliog diags Acoustical Soc Am J 23:45-54 Ja '51

ORGAN, Electric

Gas-diode electronic organ. R. M. Strassner. bibliog il diags Electronics 24:70-4 Ja '51

ORGANIC compounds. See Chemistry, Organic

ORGANIZATION (term)

What do you mean by that remark? A. Brown. Advanced Management 16:6-8 Ag '51

ORGANIZATION for European economic cooperation. See Reconstruction (World war, 1939-1945)—Marshall plan

ORGANIZATION in industry

Bosses break rule on span of control; A.M.A. survey of 141 companies. Bsns W p 102-4 Ag 18 '51

Circles soothe V-P egos; Browne's concentric organizational chart. Bsns W p67-8 Mr 3 '51

Close organization pays off on tough building schedule; New York City's bus terminal. D. C. Andrews. il Eng N 145:32-4 D 14 '50

Dynamic organization. D. E. Bird. Advanced Management 16:2 Je '51

Foreman as an executive. R. Hersey. Personnel J 29:252-6 D '50

Heinz mobilizes for mass markets. L. M. Hughes. il Sales Management 65:37-9+ D 1 '50

How coordinated expansion secures top label foods at low cost; Stokely-Van Camp, inc. A. J. Stokely. il Food Eng 23:80-2+ Ag '51

How to set up effective cost control in your plant. J. A. Parton, jr. flow diag plan Mill & Factory 49:103-7 Jl '51

Integration of organization and management. R. T. Livingston and D. B. Hertz. bibliog A S M E Trans 73:997-1003; Discussion. 1003-4 O '51

Inventory, planning, and development of the management organization; United parcel service. C. W. L. Foreman. Personnel 27: 267-76, 403-13 Ja-Mr '51

Maintenance on wheels; jeep and power trucks aid in organized maintenance at Yale & Towne manufacturing co. il Mill & Factory 48:91-8 Ja '51

Organization and management. J. Eccles. Inst E E Proc 98 pt 1:14-15 Ja '51

Organisation for the maintenance of buildings and installations. R. Chalmers. Engineer 191:186-7 F 9 '51

Organizing a distribution operations department. J. L. Joachim. Gas Age 106:16-17+ D 21 '50

Over-all mill controls; give your operations flexibility. R. Ashner. Rayon 31:45-8+ N '50

Personality of a business team. J. E. Janney. Foundry 79:106+ S '51

ORGANIZATION in industry—*Continued*

Production engineering, cost-cutting task force; Hollinger consolidated gold mines. J. W. Thomson. Eng & Min J 152:74-5 Ap '51

Put your organization chart to work. H. Hubben. Personnel 27:501-4 My '51

They tackle management's intangibles; Ansul chemical company's executive committee. il Mod Ind 22:48-51 Ag '51

Trumbull remodels its management to meet the age of crisis. A. R. Hahn. Sales Management 66:37-9+ F 15 '51

See also

Accounting departments
Advertising departments
Committees (in management)
Controllers
Credit departments
Drafting departments
Employment departments
Engineering departments
Instrument departments
Market research departments
Purchasing departments
Research departments
Safety organization
Sales departments
Standards departments
Traffic departments, Industrial

ORGANOMETALLIC compounds

Alkali organometal compounds; the reaction of benzylsodium with alkyl halides. D. Bryce-Smith and E. E. Turner. Chem Soc J p 1975-9 Ag '50

Covalency, co-ordination, and chelation. W. J. Lile and R. C. Menzies. Chem Soc J p617-21 F '50

Cyclic polyolefins; preparation of arylcycloöctatetraenes from cycloöctatetraene and organometallic compounds. A. C. Cope and M. R. Kinter. bibliog Am Chem Soc J 73:3424-30 Jl '51

Ethylene imine ketones; stereochemical configurations and reactions with organometallic compounds. N. H. Cromwell and others. Am Chem Soc J 73:2803-6 Je '51

Monomers and polymers; syntheses with the aid of metallostyrenes. G. B. Bachman, C. L. Carlson and M. Robinson. bibliog Am Chem Soc J 73:1964-5 My '51

Reactions of organometallic compounds. S. J. Cristol and others. bibliog Am Chem Soc J 73:810-18 F '51

Reactions of organometallic compounds; the reactions of phenylsodium with α- and γ-methylallyl chlorides. S. J. Cristol and W. C. Overhults. bibliog Am Chem Soc J 73:2932-3 Je '51

Reactions of organometallic compounds with alkyl halides. S. E. Ulrich and others. bibliog Am Chem Soc J 72:5127-34 N '50

Reactions of some organometallic compounds with 2-substituted quinolines. H. Gilman and J. A. Beel. bibliog Am Chem Soc J 73:774-7 F '51

Studies in the sterol group; reactions between 17-keto-steroids and organometallic compounds. C. W. Greenhalgh, H. B. Henbest and E. R. H. Jones. Chem Soc J p 1190-3 My '51

ORGANOSOLS. See Colloids

ORIENTATION (architecture)

Designed to face the sun; lakefront home. il plans diags Am Bld 73:110-11 S '51

Herbert Jacobs house near Madison, Wis.; two-story solar hemicycle; designed by F. L. Wright. il plans Arch Forum 94:90-3 Ja '51

Secretariat's orientation; why architects sited the building as they did. il plan diags Arch Forum 93:108-9 N '50

Temperate house; how to do something about the weather by natural means. V. G. Olgyay. il maps plans diags Arch Forum 94:179-91 Mr '51

ORIENTATION (chemistry)

Mechanism of aromatic mercuration; orientation effects. W. J. Klapproth and F. H. Westheimer. bibliog Am Chem Soc J 72:4461-5 O '50

Orientation of disubstituted fluoranthene derivatives. N. Campbell and others. Chem Soc J p2784-7 O '50

Orientation problems; the nitration of the isomeric tolylsuccinimides. W. H. Evans and A. McGookin. bibliog J Ap Chem 1:26-9 Ja '51

Quantitative study of the orienting influence of the nitro group in the formation of nitrobiphenyls by reaction of nitrobenzene with N-nitrosoacetanilide, with benzoyl peroxide, and with benzenediazonium chloride and alkali. D. F. DeTar and H. J. Scheifele, jr. bibliog Am Chem Soc J 73:1442-5 Ap '51

Studies in the biphenyl series; orientation in bromination of 4-ethoxybiphenyl and bromo-4-ethoxybiphenyls. J. L. Abernethy and H. Pollock. Am Chem Soc J 73:1514-16 Ap '51

ORIENTATION (crystals). See Crystals

ORIFICE meters

Calculation of orifice meter charts by the square-root planimeter method. J. T. Cortelyou. Instruments 23:1081 O '50

Calculation of orifice meter coefficients. J. W. J. Bercher. Pet Eng 23:D5-10+ Je '51

Calculation of orifice meter coefficients for natural gas. G. H. Forster, jr. Instruments 23:1311-12 D '50

Gas orifice meter. L. K. Spink; C. B. Nolte. il diags Am Gas J 173:10-12 D '50; 174:20-2+ Ja '51

Maintenance of mercury-type orifice meters. M. Welch. Instruments 23:1197-9 N '50

Measurement of flow of fluids through orifice meters with particular reference to the measurements of liquids and steam. W. L. Cowan. diags Instruments 24:817-19, 975-7, 1101-4 Jl-S '51

Measuring flows by the orifice method. diag Water & Sewage Works 98:R38-9 Ap '51

Method for correcting orifice-meter measurements for flow pulsations. E. V. Hardway, jr. diag Instruments 24:763-5+ Jl '51; Discussion. 24:1094-5 S '51

New eight-day orifice-meter charts effect 20 per cent economy. il Oil & Gas J 50:102+ S 6 '51

Orifice meters with supercritical compressible flow. R. G. Cunningham. bibliog(32 titles) diags A S M E Trans 73:625-37; Discussion. 637-8 Jl '51

Precision and accuracy of orifice-meter installations. L. V. Cunningham, jr. il diags Mech Eng 72:979-83 D '50; Same. Pet Processing 5:1312-17 D '50; Discussion. Mech Eng 73:434-5 My '51

Stuffing box for high-pressure orifice meter. il Machine Design 23:204 Mr '51

ORIFICES

Discharge coefficients of small-diameter orifices and flow nozzles. H. P. Grace and C. E. Lapple. bibliog il diags A S M E Trans 73:639-47 Jl '51

High-pressure drops through orifices. J. A. Perry, jr. Instruments 24:279 Mr '51

Measurement of chemical equilibria by means of the critical flow orifice. H. Wise and D. Altman. bibliog J Chem Phys 19:515-16 Ap '51

Use an orifice-valve for checking flow rates periodically. J. B. O'Hara. diag Chem Eng 58:170-1 My '51

ORLON

Acrylic fiber filter bags. Safety Maint & Prod 102:65 S '51

Dyeing of new synthetic fibers. P. L. Meunier. Am Dyestuff Rep 40:51-4 Ja 22 '51

More black; in the bag; orlon filter bags recover carbon black. il Chem W 69:23 Jl 7 '51

Orlon acrylic fiber; chemistry and properties. R. C. Houtz. bibliog il Textile Res J 20:786-801 N '50

Orlon acrylic fiber dyed with new technique. Textile World 101:150 Jl '51

Orlon filters recover waste. il Chem Eng 58:156 Ag '51

Analysis

Quantitative determination of nylon, orlon and fiber V in wool blends. H. W. Wolf. bibliog il Am Dyestuff Rep 40:273-6 Ap 30 '51

ORNITHINE

Ornithine anhydride. E. Katchalski and P. Spitnik. Am Chem Soc J 73:2946-7 Je '51

Synthesis of ethyl acetamidocyanoacetate, DL-lysine, DL-ornithine and DL-tyrosine labeled isotopic carbon. M. Fields, D. E. Walz and S. Rothchild. bibliog Am Chem Soc J 73:1000-2 Mr '51

OROTIC acid
Synthesis of oxalacetic acid-1-C^{14} and orotic acid-6-C^{14}. C. Heidelberger and R. B. Hurlbert. bibliog Am Chem Soc J 72:4704-6 O '50
ORSBORNE, George Black
Round-world cruise on the cuff; manufacturers stock ship and Captain Orsborne plugs products. pors Bsns W p22-3 F 17 '51
ORSELLINIC acid
Application of the modified Gattermann reaction to methyl and ethyl orsellinate. W. B. Whalley. Chem Soc J p3278-80 D '49
ORTHICON. See Television cameras
ORTHOFORMIC acid
Orthoformic esters. bibliog Chem Age (Lond) 64:163-6, 205-8 Ja 27-F 3 '51
ORTHOPEDIA
Orthopedic aspects of backache. R. H. Kiene. Ind Med 20:17-19 Ja '51
ORTHOPEDIC apparatus
See also
Artificial limbs
OSAGE orange
Osage orange pigments; synthesis of dihydro-iso-osajin and of dihydro-isopomiferin. M. L. Wolfrom and B. S. Wildi. bibliog il Am Chem Soc J 73:235-41 Ja '51
OSAJIN
Silver nitrate as a test for ortho and para dihydric phenols. B. S. Wildi. Science 113: 188 F 16 '51
See also
Isoosajin
OSAZONES
Formation of osazones. G. J. Bloink and K. H. Pausacker. Chem Soc J p2212 Ag '51
Formation of osazones; the formation of glucosazone. G. J. Bloink and K. H. Pausacker. Chem Soc J p622-3 F '51
Formation of osazones; the reaction of 2-hydroxy*cyclo*hexanone with arylhydrazines. G. J. Bloink and K. H. Pausacker. Chem Soc J p 1328-31 My '50
OSBORN, Harry B. jr
Iron age salutes. por Iron Age 167:89 Mr 1 '51
OSBORN manufacturing company
Osborn story; brushing up on business. il Steel 129:54-5 Jl 9 '51
OSCILLATIONS
Almost sinusoidal oscillations in nonlinear systems. J. S. Schaffner. diags Ill U Eng Exp Sta Bul 395:1-64 bibliog(p63-4) '51 (pa 60c)
Amplitude bounds for certain relaxation oscillations. N. Wax. J Ap Phys 22:278-81 Mr '51
Application of admittance methods in the classical theory of small oscillations. D. C. Johnson. diags Engineering 171:650-2 Je 1 '51
Beam oscillations in an f-m cyclotron. T. Teichmann. J Ap Phys 21:1251-7 D '50
Oscillations of magnetic suspensions. K. Millsaps and J. C. McPherson. bibliog diag J Ap Phys 22:429-32 Ap '51
Parametric excitation. N. Minorsky. il J Ap Phys 22:49-54 Ja '51
OSCILLATIONS, Electric
Oscillatory phenomena in direct current glow discharges. T. Donahue and G. H. Dieke. bibliog il diags Phys R 81:248-61 Ja 15 '51
OSCILLATORS
Alternate ways in the analysis of a feedback oscillator and its application. E. J. Post and H. F. Pit. bibliog diags Inst Radio Eng Proc 39:169-74 F '51
Bridged-T audio oscillator. J. D. Gallagher. il diags Radio & Tv N 45:62-3 Je '51
Bridged-T network. P. G. Sulzer. diags Inst Radio Eng Proc 39:819-21 Jl '51
Coffee-can vfo sr. E. Hayward. il diags Q S T 35:26-7 S '51
Combined search and automatic frequency control of mechanically tuned oscillators. J. G. Stephenson. diag Inst Radio Eng Proc 38:1314-17 N '50
Constant-amplitude oscillator. N. C. Hekimian. diag Electronics 24:164+ Jl '51
Design of cyclotron oscillators. J. Backus. diags R Sci Instr 22:84-92 F '51
Electronic advertising display. W. Finke. il diags Radio & Tv N 45:60-1 Je '51
Frequency spotter for the novice. R. L. Baldwin. il diag Q S T 35:30-1+ O '51
Linear beat-frequency oscillator for frequency measurement. R. W. Woodward. il diags Q S T 35:26-8+ My '51
Locked-in oscillator for tv sound. M. S. Corrington. bibliog diags Electronics 24:120-5 Mr '51
Maintaining oscillations by the periodic variation of *L* or *C*. G. W. O. Howe. Wireless Eng 28:69-70 Mr '51
Multiple excitation of an elastic system. G. S. Bennett. Acoustical Soc Am J 23:229-31 Mr '51
New v.f.o. keying method. E. Miller. diags Radio & Tv N 45:69 Mr '51
Novel application for neon diodes. I. Gottlieb. diags Electronics 24:180+ Ja '51
Oscillator to supply current for rectified radio-frequency acid-base determinations. G. G. Blake. diag Chem & Ind p59 Ja 27 '51
Phone man's vfo. C. A. Dene. il diag Q S T 35:18-19 Jl '51
Precision decade oscillator for 20 cycles to 200 kilocycles. C. M. Edwards. il diag Inst Radio Eng Proc 39:277-8 Mr '51
Rc beat-frequency oscillator. R. H. Dorf. il diag Radio & Tv N 44:68-70+ N '50
Saturable reactors and control oscillators. E. Bukstein. diags Radio & Tv N 45:42+ Ap '51
Servo drive for heterodyne oscillators; abstract. T. Slonczewski. diag Elec Eng 70:683 Ag '51
Seven-league oscillator. F. B. Anderson. diags Inst Radio Eng Proc 39:881-90 Ag '51
Square wave generator. il R Sci Instr 22:653-4 Ag '51
300- to 4,000-kilocycle electrically tuned oscillator. A. I. Pressman and J. P. Blewett. il diags Inst Radio Eng Proc 39:74-7 Ja '51
V-o-m (volt-ohm-milliammeter) and grid-dip oscillator. M. White. il diags Radio & Tv N 45:45-7+ F '51
Wide range microwave sweeping oscillator. M. E. Hines. il diags Bell System Tech J 29:553-9 O '50
Wide-range resonators for vhf and uhf. G. F. Montgomery and P. G. Sulzer. il diags Electronics 24:200+ My '51
Wide-range sweeping oscillator. L. A. Rosenthal. bibliog il diags Electronics 24:114-16 O '51
Wide-range test oscillator. J. Galin. il diag Q S T 35:29-31+ Ja '51
Wide-range variable-frequency oscillator. A. Cormack. diags Wireless Eng 28:266-70 S '51
See also
Klystron
Magnetron
Multivibrators
Pulse generators

Frequency stabilization

New centimetre-wave discriminator and its application to a frequency-stabilized oscillator. K. C. Johnson. diags Inst E E Proc 98 pt 3:77-80 Mr '51
Simple crystal discriminator for fm oscillator stabilization. J. Ruston. diags Inst Radio Eng Proc 39:783-8 Jl '51
OSCILLATORS, Crystal
Overtone crystal oscillator circuits. E. P. Tilton. diags Q S T 35:56-60 Ap '51
Overtone crystal oscillator design. G. H. Lister. bibliog il diags Electronics 23:88-93 N '50
Overtone crystals and maintaining oscillators operating in the frequency range of 33-55 mc/s. J. B. Supper. diags Inst E E Proc 98 pt 3:240-7 My '51
Progress in development of test oscillators for crystal units. L. F. Koerner. il diags Inst Radio Eng Proc 39:16-26 Ja '51
Stabilized master oscillator for multi-channel communication. E. W. Pappenfus. il diags Electronics 23:108-13 D '50
OSCILLOGRAPHS
Astigmatism correction for oscilloscopes. H. O. Hoadley. il diags R Sci Instr 22:706-8 S '51
Compact recording oscillograph saves space. il Product Eng 21:182 D '50
Controlled tripping of high-voltage impulse generators. A. S. Husbands and J. B. Higham. bibliog il diags J Sci Instr 28:242-5 Ag '51
Oscillograph design simplifies operation. il Product Eng 22:188 Ja '51

OSCILLOGRAPHS—*Continued*

Oscillographs unaffected by gravity conditions. il Product Eng 22:196 Ap '51

Recording oscillographs. il R Sci Instr 22: 283 Ap '51

OSCILLOGRAPHS, Cathode ray

Aids to CRO display of phase angle. L. Fleming. bibliog diags Electronics 24:226+ F '51

Detection by oscillographic methods of winding failures during impulse tests on transformers. E. C. Rippon and G. H. Hickling. bibliog diags Inst E E Proc 96 pt 2:769-78 O '49; Discussion. 96 pt 2:779-88; 98 pt 2: 73-81 O '49, F '51

Engine indicating; C.A.V.-Ricardo photoelectric pressure and movement gauges. il diags Automobile Eng 41:341-3 S '51

Fiftyfold momentary beam intensification for a high-voltage cold-cathode oscillograph. J. H. Park. il diags J Res Nat Bur Stand 47: 87-93 Ag '51

Increasing bandwidth of older oscilloscopes. J. Kauke. diags Radio & Tv N 45:104-5 Mr '51

Measure phase angle in relay circuit accurately. J. R. Eaton and J. S. Race. diags Elec World 134:126+ N 20 '50

Microwave sweep generator; permits oscilloscope indication of match between wideband traveling-wave tubes and transmission lines. L. C. Eisaman. il diags Electronics 23:101-3 N '50

Millimicrosecond oscillography. Y. P. Yu and others. bibliog il diags Electronics 24:106-11 Jl '51

New cathode-ray oscillograph. il R Sci Instr 22:653 Ag '51

Oscillograph field plotter. C. Susskind and A. R. Perrins. il diag Electronics 24:140 S '51

Oscillographic polarography; improved method of measurement and causes of errors. P. Delahay and G. L. Stiehl. bibliog il diag J Phys & Colloid Chem 55:570-85 Ap '51

Oscilloscope for the observation of long duration transients. A. E. Ferguson. il diags J Sci Instr 28:52-6 F '51

Radio-frequency wave analyzer. C. H. Bredall. il diags Tele-Tech 9:37-40 D '50

Simplified electronic switch for oscilloscopes. L. N. Van Allen. diag Electronics 24:136 Ap '51

Storage oscilloscope. L. E. Flory and others. il diags RCA R 12:220-9 Je '51

Strain-testing railroad bridges. A. D. M. Lewis. il diags Electronics 24:117-19 S '51

Sweep-operated oscilloscope beam blanker with tissue stimulator synchronizer. A. L. Dunn and others. il diag Instruments 24: 408-9 Ap '51

Sync signal inverter for the scope. W. J. Hantz. diag Radio & Tv N 45:98 F '51

Synchronized electronic switch. J. F. Dundovic and T. Lode. diags Electronics 24:136+ My '51

Testing insulation with the surge comparator. D. J. Reynolds and others. il diags Westinghouse Eng 11:112-16 Jl '51

Traveling-wave amplifier measurements. F. E. Radcliffe. diags Electronics 24:110-11 Ag '51

Tube characteristic tracer using pulse techniques. H. M. Wagner. bibliog il diags Electronics 24:110-14 Ap '51

Variations of the wave height with the rate of potential change in oscillographic polargraphy; single-sweep method vs. multisweep method. P. Delahay and G. Perkins. bibliog J Phys & Colloid Chem 55:1146-51 O '51

Wide-range linear sweep. L. E. Garner, jr. il diags Radio & Tv N 45:62-3 Ja '51

OSCILLOSCOPES. See Oscillographs

O'SHAUGHNESSY, James, 1863-1950

Sketch. por Ed & Pub 83:60 D 2 '50

Veteran adman and 4As head. por Ptr Ink 233:72 D 8 '50

OSHKOSH, Wisconsin

Outline for action for civil defense. R. C. Rutledge. il Pub Works 82:43-4 Je '51

OSMAN, Arthur

Build-up; three party-line unions merge into a new front. por Fortune 42:50+ N '50

OSMIUM

Isotopes

8x10-^{10}-sec isomeric state in $_{76}$Os^{186}. F. K. McGowan. Phys R 81:1066-7 Mr 15 '51

Isotope shift in the spectrum of Os I and the magnetic moment of Os^{189}. S. Suwa. Phys R 83:1258-9 S 15 '51

Ratio of *L* to *K* electron capture for Os^{185}. M. M. Miller and R. G. Wilkinson. bibliog diag Phys R 83:1050-1 S 1 '51

Scintillation studies of Os^{185}. M. M. Miller and R. G. Wilkinson. bibliog Phys R 82:981 Je 15 '51

OSMIUM compounds

Formal potential of the bromoperosmite-bromoösmate electrode in hydrobromic acid solutions. R. W. Mertes, W. R. Crowell and R. K. Brinton. diags Am Chem Soc J 72:4218-21 S '50

Optical activity dependent on a six-covalent bivalent osmium complex. F. H. Burstall, F. P. Dwyer and E. C. Gyarfas. Chem Soc J p953-5 Mr '50

Preparation of the enantiomorphous forms of the tris-2,2′-dipyridyl osmium(III) ion. F. P. Dwyer and E. C. Gyarfas. Am Chem Soc J 73:2322-3 My '51

OSMIUM fluoride

Tripyramidal bond orbitals. G. H. Duffey. bibliog J Chem Phys 19:553-4 My '51

OSMIUM oxides

Osmium tetroxide catalyzed oxidation of fumaric and maleic acids. M. Zelikoff and H. A. Taylor. Am Chem Soc J 72:5039-42 N '50

Relative reactivity of aromatic double bonds; addition of osmium tetroxide to substituted 1 : 2-benzanthracenes. G. M. Badger and K. R. Lynn. Chem Soc J p 1726-9 Jl '50

Relative reactivity of aromatic double bonds; the relation between double-bond character and the velocity of addition of osmium tetroxide. G. M. Badger. Chem Soc J p 1809-14 Jl '50

OSMOMETERS

Practice of osmometry; its contribution to the characterization of a high polymer. D. Cleverdon. bibliog il diags J Ap Chem 1:272-80 Je '51

OSMOSIS

Biological performance of osmotic work; a redox pump. E. J. Conway. bibliog Science 113:270-3 Mr 9 '51

Osmosis in a high frequency electric field. Z. László. J Chem Phys 19:800-1 Je '51

Some newer experimental results on the osmosis in alternating electric fields. Z. László. J Chem Phys 19:133-4 Ja '51

See also

Electrophoresis

Osmotic pressure

OSMOTIC pressure

Bound metal in ethyl cellulose effect on dilute solution properties. E. F. Evans and H. M. Spurlin. bibliog Am Chem Soc J 72:4750-6 O '50

Colloid osmotic pressure of serum. G. Scatchard. bibliog Science 113:201-2 F 23 '51

Comparison of molecular weights of polystyrene by the light-scattering and osmometric methods. Q. A. Trementozzi. bibliog J Phys & Colloid Chem 54:1227-39 N '50

Determination of molecular shape by osmotic measurement. A. Isihara. J Chem Phys 18: 1446-9 N '50

Fractionation of starch; the determination of the molecular weights of the triacetates of amyloses and amylose fractions by osmotic pressure measurements. R. S. Higginbotham. bibliog diags Textile Inst J Trans 42:T235-48 Je '51

Light scattering in solutions of serum albumin; effects of charge and ionic strength. J. T. Edsall and others. bibliog Am Chem Soc J 72:4641-56 O '50

Molecular weight of a protein; a student determination of osmotic pressure. S. Peterson. J Chem Educ 28:486-7 S '51

Osmometry of high polymers. D. Cleverdon and D. Laker. bibliog J Ap Chem 1:2-13 Ja '51

Osmotic and activity coefficients of cobalt bromide and cobalt iodide. R. A. Robinson, H. J. McCoach and C. K. Lim. Am Chem Soc J 72:5783-4 D '50

OSMOTIC pressure—*Continued*

Osmotic pressure and molecular weight. D. I. Hitchcock. bibliog J Chem Educ 28:478-9 S '51

Practice of osmometry; its contribution to the characterization of a high polymer. D. Cleverdon. il diags J Ap Chem 1:272-80 Je '51

Rational method for calculating colloid osmotic pressure of serum. R. H. Kesselman. bibliog Science 112:255-6 S 1 '50; Discussion. P. D. Meyer 113:279 Mr 9 '51

Theory of ionic solutions. J. E. Mayer. diags J Chem Phys 18:1426-36 N '50

Toward a clearer concept of osmotic quantities in plant cells. J. Levitt. bibliog Science 113:228-31 Mr 2 '51

Treatment of osmotic and light scattering data for dilute solutions. T. G. Fox, jr., P. J. Flory and A. M. Bueche. bibliog Am Chem Soc J 73:285-9 Ja '51

Treatment of osmotic data on high polymers. D. Cleverdon and D. Laker. Chem & Ind p272-3 Ap 7 '51

OSTEOPATHIC physicians. See Physicians, Osteopathic

OSTWALD, Wilhelm, 1853-1932

Lack of natural philosophy in our education; in memoriam. E. A. Hauser. bibliog por J Chem Educ 28:492-4 S '51

OTIS and company

Battle of Otis. Bsns W p 100+ Ag 4 '51

Judge Clancy rules against Otis & co. in Kaiser-Frazer suit. Comm & Fin Chr 174:165 Jl 12 '51

K-F, Otis in court. Bsns W p 125-6 Mr 24 '51

OTTAWA

Canada's capital is being transformed. il Eng N 146:54-5 Mr 8 '51

Sewerage

Sewage-disposal proposals. il map Munic Util 89:21-5+ Mr '51

Water supply

Water-supply improvements for Canada's capital. map Munic Util 89:17-21+ F '51

OTTAWA river

Ottawa River power development. W. M. Goodwin; A. S. Park. il maps diag Comp Air Mag 55:178-81, 212-15, 248-50, 272-6 Jl-D '50

OTTOMAN bank

Statement by the chairman. Lord Latymer. Economist 160:1594 Je 30 '51

OUABAIN

Utilization of C^{14}-labeled glucose by cardiac muscle treated with a cardiac glycoside. A. Wollenberger. Science 113:64-5 Ja 19 '51

OUTAGES. See Electric power—Interruptions

OUTBOARD motors. See Motor boat engines, Outboard

OUTDOOR advertising bureau, National. See National outdoor advertising bureau

OUTDOOR factories. See Factories—Open-air construction

OUTDOOR living areas

Suggestions for the merchant builder; the outdoor room. il plan Arch Forum 94:122 Ja '51

OUTDOOR steam plants. See Steam plants, Outdoor

OUTPUT of workers. See Labor productivity

OVALBUMIN. See Albumin

OVENS

Conveyorized finishing system utilizes penthouse ovens. il Steel 128:80 Ap 9 '51

See also

Core ovens

OVENS, Baking

See also

Electric ovens, Baking

OVER-the-counter marketing. See Securities—Over-the-counter marketing

OVERALLS

Advertising

Free; romance of the old West with every pair of work pants. D. Cronin. il Sales Management 66:56-8+ Je 15 '51

OVERHEAD expense

Allocation of overhead costs, a short cut; Caterpillar tractor co. W. H. Franklin. N A C A Bul 32:1427-36 Ag '51

Alternatives in allocating administrative costs. P. R. Kelsey. N A C A Bul 32:1496-500 Ag '51

Eight keys to overhead. W. V. Clark, jr. N A C A Bul 32:363-72 D '50

Making administrative overhead flexible. Management R 39:620-2 O '50

More useful accounting for indirect costs. A. S. Sapega. N A C A Bul 33:13-25 S '51

Spending on sales promotion may increase profit and reduce overhead ratio to sales. A. C. Kiechlin. Inland Ptr 126:55-6 D '50

Work up a sound burden rate, then test it. J. A. Campbell. N A C A Bul 32:1437-45 Ag '51

OVERLAP integrals. See Wave mechanics

OVERTIME

Lunch with pay; court rules worker must be paid if given responsibilities. Bsns W p34+ Je 30 '51

Premium pay; an analysis of industrial practices. F. W. Mueller and J. C. Nix. Mo Labor R 73:148-51 Ag '51

Premium pay practices in private industry. J. A. Carey and others. bibliog 54p U.S. Bur. of labor statistics, Washington 25 '51

Sabbath day woe; Seventh day adventist loses to International Shoe on overtime work. Bsns W p 117 O 21 '50

OVERTONES

Overtone crystal oscillator design. G. H. Lister. bibliog il diags Electronics 23:88-93 N '50

OVERVOLTAGE

Electrokinetics of hydrogen evolution; deuterium overvoltage on mercury. B. Post and C. F. Hiskey. Am Chem Soc J 73:161-4 Ja '51

Electrokinetics of hydrogen evolution; hydrogen overvoltage on mercury. B. Post and C. F. Hiskey. bibliog diag Am Chem Soc J 72:4203-8 S '50

Electronic instrumentation for overvoltage measurements. D. Staicopoulos and others. il diags Electrochem Soc J 98:68-73 F '51

Formative time lags of spark breakdown in air in uniform fields at low overvoltages. L. H. Fisher and B. Bederson. bibliog diag Phys R 81:109-14 Ja 1 '51

Kinetics of oxidation-reduction electrode reactions. J. V. Petrocelli. bibliog Electrochem Soc J 98:187-92 My '51

Overvoltage at oxidation-reduction electrodes. J. V. Petrocelli and A. A. Paolucci. bibliog Electrochem Soc J 98:291-5 Jl '51

Overvoltage at the copper electrode. T. Rubin. J Chem Phys 19:803 Je '51

OVERVOLTAGE (electric lines)

Magnification of switching overvoltages in coupled oscillatory circuits. I. B. Johnson and J. Berdy. diags Gen Elec R 53:22-4 D '50

Overvoltage during power-system faults; lightning-arrester application. R. W. Ferguson. diags Westinghouse Eng 11:92-3 My '51

OVUM, Transplantation of. See Reproduction

OWENS-ILLINOIS glass company

Security I like best. W. A. Hobbs. Comm & Fin Chr 172:1882 N 16 '50

OXALACETIC acid

Metal ion-catalyzed decarboxylation; a model for an enzyme system. R. Steinberger and F. H. Westheimer. Am Chem Soc J 73:429-35 Ja '51

Synthesis of oxalacetic acid-1-C^{14} and orotic acid-6-C^{14}. C. Heidelberger and R. B. Hurlbert. bibliog Am Chem Soc J 72:4704-6 O '50

OXALATES

Assimilation of carbon dioxide in oxalate and citrate by aspergillus niger. K. F. Lewis and S. Weinhouse. bibliog Am Chem Soc J 73:2906-9 Je '51

Oxidation of oxalate ion by peroxydisulfate. T. L. Allen. bibliog Am Chem Soc J 73:3589-93 Ag '51

Solubility of the rare earth oxalates and complex ion formation in oxalate solution; neodymium and cerium(III). C. E. Crouthamel and D. S. Martin, jr. bibliog Am Chem Soc J 73:569-73 F '51

Study of some complex chlorides and oxalates by solubility measurements. J. E. Barney, 2d, W. J. Argersinger, jr. and C. A. Reynolds. bibliog Am Chem Soc J 73:3785-8 Ag '51

OXALATO compounds
Polarographic study of the oxalato complexes of titanium. R. L. Pecsok. bibliog Am Chem Soc J 73:1304-8 Mr '51

OXALIC acid
Effect of sunlight on the ascorbic acid present in oxalic acid extracts of vegetables. L. H. Lampitt and others. Chem & Ind p699 O 14 '50
Heat of solution of halides, sulphuric acid, oxalic acid, sodium hydroxide, and urea in ethyl alcohol-water mixtures. M. Bobtelsky and R. D. Larisch. diag Chem Soc J p3612-15 D '50
Separation of mixtures of solutes by distribution between solvents; the separation of the components of a fixed quantity of a mixture by a continuous counter-current extraction process. J. D. A. Johnson and A. Talbot. diags Chem Soc J p 1068-88 Ap '50
System oxalic acid-sodium hydroxide-water. W. H. H. Norris. diags Chem Soc J p 1708-15 Jl '51

OXALYL chloride
Formation of complexes in benzene-oxalyl chloride solutions. B. D. Saksena and R. E. Kagarise. il J Chem Phys 19:994-9 Ag '51
Rotational isomerism in oxalyl chloride (ClOC-COCl). B. D. Saksena and R. E. Kagarise. bibliog il J Chem Phys 19:987-93 Ag '51
Ultraviolet spectrum of oxalyl chloride. B. D. Saksena and R. E. Kagarise. il J Chem Phys 19:999-1001 Ag '51

OXAMIDE
Tris-(hydroxymethyl)-aminomethane derivatives; oxamides, ureas, oxazolidines and 1-aza-3,7-dioxabicyclo(3.3.0)octanes. J. S. Pierce and others. Am Chem Soc J 73:2595-6 Je '51

OXAZINE
1 : 4-Oxazines; synthesis of hydroxy-1 : 4-oxazines. G. T. Newbold, F. S. Spring and W. Sweeny. Chem Soc J p909-11 Mr '50

OZAZOLES
Syntheses in the penicillin field; the preparation of thiazolinyl-amino-oxazole derivatives. A. H. Cook, G. Harris and A. L. Levy. Chem Soc J p3227-35 D '49
Syntheses in the penicillin field; thiazolinyl-amino-oxazole derivatives. A. H. Cook and G. Harris. Chem Soc J p3236-41 D '49
Synthesis of N-(2-benzoyl-4-oxazoloyl)-valine. H. Adkins, R. M. Ross and D. C. Schroeder. bibliog Am Chem Soc J 72:5401-3 D '50

OXAZOLIDINE
Heterocyclization of epimeric aminocyclanols; oxazolidines. G. E. McCasland and E. C. Horswill. bibliog Am Chem Soc J 73:3923-6 Ag '51
Tris-(hydroxymethyl)-aminomethane derivatives; oxamides, ureas, oxazolidines and 1-aza-3,7-dioxabicyclo(3.3.0)octanes. J. S. Pierce and others. Am Chem Soc J 73:2595-6 Je '51
Tris-(hydroxymethyl)-aminomethane derivatives; substituted 4-hydroxymethyloxazolidines; ester and amide interchange. J. S. Pierce and C. D. Lunsford. Am Chem Soc J 73:2596-8 Je '51

OXAZOLIDINEDIONE
Derivatives of oxazolid-2 : 4-dione; the alkylation of 5 : 5-dimethyloxazolid-2 : 4-dione. J. S. H. Davies and others. Chem Soc J p30-41 Ja '50
Synthetic polypeptides; initiators for the co-polymerisation of oxazolid-2 : 5-diones. D. Coleman. Chem Soc J p3222-9 N '50
Synthetic polypeptides; properties of oxazolid-2 : 5-diones and an initial study of the preparation of polypeptides therefrom. D. Coleman and A. C. Farthing. diag Chem Soc J p3218-22 N '50
Synthetic polypeptides; synthesis of oxazolid-2 : 5-diones and a new reaction of glycine. A. C. Farthing. Chem Soc J p3213-17 N '50

OXAZOLIDONE
Anticonvulsant drugs; some 2-oxazolidones. W. J. Close. Am Chem Soc J 73:95-8 Ja '51
Geometrical isomerism of 2,4-dibenzylidene-3-phenyl-5-oxazolidones; their rearrangement to 1,4-diphenyl-2-benzylidene-3,5-pyrrolidiones. S. Larsen and J. Bernstein. Am Chem Soc J 72:4447-52 O '50
New reactions involving alkaline treatment of 3-nitroso-2-oxazolidones. M. S. Newman and A. Kutner. bibliog Am Chem Soc J 73:4199-204 S '51

OXAZOLINE
Amidines; preparation of 2-substituted Δ^2-oxazolines and 4 : 5-dihydro-1 : 3-oxazines from hydroxyalkylamines and *N*-substituted amidines or ketoxime sulphonates. P. Oxley and W. F. Short. Chem Soc J p 1100-1 Ap '50
Heterocyclization of epimeric aminocyclanols; oxazolines. G. E. McCasland and E. C. Horswill. bibliog Am Chem Soc J 73:3744-6 Ag '51

OXAZOLONE
Some substituted crotonolactones and oxazolones. W. T. Smith, jr. and C. Hanna. Am Chem Soc J 73:2387-8 My '51
Syntheses in the penicillin field; attempts to synthesise true thiazolinyl-oxazolones. A. H. Cook and others. Chem Soc J p3220-7 D '49
Syntheses in the penicillin field; the structure and reduction of some thiazolinyl-oxalones. R. Bentley, A. H. Cook and J. A. Elvidge. Chem Soc J p3216-20 D '49

OXFORD university

Libraries

Building up of a library in the social studies at Nuffield college. N. M. Lock. J Doc 7:1-9 Mr '51

OXIDASES
Adaptive increase of the tryptophan peroxidase-oxidase system of liver. W. E. Knox and A. H. Mehler. bibliog Science 113:237-8 Mr 2 '51
Ascorbic acid oxidase of cucumber. D. H. F. Clayson and J. A. Beesley. bibliog Chem & Ind p 191-2 Mr 10 '51
Some oxidase systems in flour; abstract and discussion. H. Burton. Chem & Ind p249-50 Mr 31 '51
See also
Cytochrome oxidase

OXIDATION
Analysis of fat acid oxidation product by countercurrent distribution methods; model compounds. K. T. Zilch and H. J. Dutton. bibliog Anal Chem 23:775-8 My '51
Analysis of fat acid oxidation products by countercurrent distribution methods; methyl oleate. J. Fugger and others. bibliog Am Chem Soc J 73:2861-4 Je '51
3 : 4-Benzoxanthens; the synthesis and oxidation of 3 : 4-benzoxanthen. F. G. Baddar and M. Gindy. Chem Soc J p64-6 Ja '51
Bismuth-catalysed air-oxidation of acyloins. B. Holden and W. Rigby. Chem Soc J p 1924-5 Jl '51
Catalysed hydrogen peroxide oxidation of aromatic hydrocarbons. J. W. Cook and R. Schoental. Chem Soc J p47-54 Ja '50
Catalytic oxidation of sulfur dioxide; effect of diffusion. R. W. Olson, R. W. Schuler and J. M. Smith. bibliog diags Chem Eng Prog 46:614-24 D '50
Chemical engineering unit processes fourth annual review. L. F. Marek. bibliog(96 ref) Ind & Eng Chem 43:1990-6 S '51
Chemical oxidation of organic acids; some observations on the oxidation of propionate by alkaline permanganate. H. R. Mahler and A. Roberts. bibliog Am Chem Soc J 72:5095-8 N '50
Chemiluminescence of the sodium or sodium halide catalyzed oxidation of carbon monoxide by nitrous oxide. C. P. Fenimore and J. R. Kelso. il Am Chem Soc J 72:5045-8 N '50
Chemistry of epoxy compounds; cooxidation of aldehydes and oleic acid, methyl oleate or oleyl alcohol. D. Swern and T. W. Findley. bibliog Am Chem Soc J 72:4315-16 S '50
Δ^5-Cholestene-3β, 4β, 7α-triol and the inhibition of the oxidation of hydroxyl groups by vicinal substituents. S. Lieberman and D. K. Fukushima. bibliog Am Chem Soc J 72:5211-18 N '50
Chromyl chloride oxidation of methylcyclohexane. A. Tillotson and B. Houston. bibliog Am Chem Soc J 73:221-2 Ja '51
Color change of ferrous hydroxide upon oxidation. R. R. Shively, jr. and W. A. Weyl. J Phys & Colloid Chem 55:512-15 Ap '51

OXIDATION—*Continued*

Complexes between metal salts and long-chain aliphatic amines; the oxidation of copper(I) complexes to copper(II) complexes. R. G. Wilkins and A. R. Burkin. Chem Soc J p 132-6 Ja '50

Compounds related to thiosemicarbazide; the oxidation of thiosemicarbazones. E. Hoggarth. Chem Soc J p2202-4 Ag '51

Constitution of chlorophorin; further oxidation experiments, and the completion of the structural problem. F. E. King and M. F. Grundon. Chem Soc J p3547-52 D '50

Crossed reaction chains in oxidation by molecular oxygen; oxidation of hydrocarbons in aldehyde-air mixtures. N. J. H. Small and A. R. Ubbelohde. diags Chem Soc J p723-8 F '50

Deoxy-sugars; comparative rates of oxidation and reduction of D-galactose and 2-deoxy-D-galactose. W. G. Overend, F. Shafizadeh and M. Stacey. Chem Soc J p2062-4 Ag '51

Determination of formal oxidation potentials of ferric-ferrous and dichromate-chromic systems; selection of substituted 1,10-phenanthroline indicators for determination of iron at low acidity. G. F. Smith. bibliog Anal Chem 23:925-7 Je '51

Determination of oxiran-oxygen, with special reference to its application to the study of autoxidation. G. King. Chem Soc J p 1980-4 Ag '51

Determination of oxygen-consumed values of organic wastes; a comparative study of methods. W. A. Moore, F. J. Ludzack and C. C. Ruchkoft. bibliog Anal Chem 23:1297-300 S '51

Diffusion as a rate-limiting factor in the oxidation of transformer oils. R. Irving and C. N. Thompson. bibliog Inst Pet J 37:67-79 F '51

Diphenyl-*t*-dehydroabietinol and its oxidation product. H. H. Zeiss. Am Chem Soc J 73:497-9 Ja '51

Effect of ascorbic acid on the enzymatic oxidation of monohydric and *o*-dihydric phenols. R. C. Krueger. bibliog Am Chem Soc J 72:5582-7 D '50

Effect of chromium on the oxidation resistance of titanium carbide. J. D. Roach. bibliog Electrochem Soc J 98:160-5 Ap '51

Effect of magnetic transformation at the Curie temperatures on oxidation rates of chromium-iron alloys. H. H. Uhlig and A. D. Brasunas. bibliog Electrochem Soc J 97:448-52 D '50; Discussion. 98:259-61 Je '51

Elbs persulfate oxidation. S. M. Sethna. bibliog(47 ref) Chem R 49:91-101 Ag '51

Exchange reaction between the two oxidation states of thallium in solution. G. Harbottle and R. W. Dodson. bibliog Am Chem Soc J 73:2442-7 Je '51

Formation of an acrylal in side chain degradation of the bile acids. T. F. Gallagher and E. Elisberg. Am Chem Soc J 73:194-6 Ja '51

Further studies on the stability of β-hydroxyethylamines toward the Oppenauer oxidation; *cis*- and *trans*-1-amino-2-indanols. R. E. Lutz and R. L. Wayland, jr. bibliog Am Chem Soc J 73:1639-41 Ap '51

Indoles; the preparation and oxidation of the *Bz*-nitro-2-methyl-3-ethyl-,-2 : 3-diphenyl-, and -2-methyl-3-phenyl-indoles. K. Schofield and R. S. Theobald. Chem Soc J p 1505-9 Je '50

Induced oxidation of alcohols during the reduction of acid permanganate. J. H. Merz, G. Stafford and W. A. Waters. Chem Soc J p638-45 Mr '51

Kinetics of the Kjeldahl reaction. G.-M. Schwab and E. Schwab-Agallidis. diag Am Chem Soc J 73:803-9 F '51

Kinetics of the oxidation of cobalt. E. A. Gulbransen and K. F. Andrew. bibliog il Electrochem Soc J 98:241-51 Je '51

Kinetics of the oxidation of organic compounds by ceric sulphate; the oxidation of acetone. J. Shorter and C. Hinshelwood. Chem Soc J p3276-83 N '50

Kinetics of the oxidation of organic compounds by ceric sulphate; the reactivities of aliphatic ketones and acetaldehyde. J. Shorter. Chem Soc J p3425-31 D '50

Kinetics of the reaction of beryllium with oxygen and nitrogen and the effect of oxide and nitride films on its vapor pressure. E. A. Gulbransen and K. F. Andrew. bibliog Electrochem Soc J 97:383-95 N '50; Discussion. 98:257 Je '51

Kinetics of the reaction of germanium and oxygen. R. B. Bernstein and D. Cubicciotti. Am Chem Soc J 73:4112-14 S '51

Kinetics of the reactions of vanadium with oxygen and nitrogen. E. A. Gulbransen and K. F. Andrew. bibliog Electrochem Soc J 97:396-404 N '50

Lead tetraacetate oxidation of pregnenolone benzoate. O. Mancera. Am Chem Soc J 72:5752-3 D '50

Low temperature oxidation of copper; physical mechanism. T. N. Rhodin, jr. bibliog Am Chem Soc J 72:5102-6 N '50

Low temperature oxidation of copper; reaction rate anisotropy. T. N. Rhodin, jr. Am Chem Soc J 73:3143-6 Jl '51

Mechanism of oxidation; a new type of peroxide rearrangement catalyzed by acid. B. Witkop and J. B. Patrick. bibliog Am Chem Soc J 73:2196-200 My '51

Mechanism of oxidation of monoethenoid fatty acids; factors influencing hydroperoxide formation and transition in catalytic autoxidations. J. H. Skellon. Chem Soc J p2020-3 Ag '50

Mechanism of the chromic acid oxidation of isopropyl alcohol; the chromic acid ester. F. Holloway, M. Cohen and F. H. Westheimer. bibliog Am Chem Soc J 73:65-8 Ja '51

Mechanism of the γ-ray induced oxidation of formic acid in aqueous solution. E. J. Hart. bibliog Am Chem Soc J 73:68-73 Ja '51

Medium for the study of the bacterial oxidation of ferrous iron. W. W. Leathen and others. Science 114:280-1 S 14 '51

Meerwein-Ponndorff/Oppenauer reaction. W. A. Johnson and G. E. H. Skrimshire. bibliog diags Chem & Ind p380-4 My 19 '51; Discussion. J. C. McGowan. p601-2 Jl 7 '51

Method for evaluating the oxidation stability of inhibited transformer oils. G. H. Beaven and others. bibliog pl diag Inst Pet J 37:25-39 Ja '51

Molybdate-catalyzed hydrogen peroxide oxidation of β-naphthol. A. R. Bader. Am Chem Soc J 73:3731-2 Ag '51

New catalytic process oxidizes wastes; DuPont oxidizes organic content to carbon dioxide and water. flow sheet Chem Eng 58:183 Je '51

New mechanism for measuring high temperature oxidation of iron. M. G. Fontana. il Ind & Eng Chem 43:sup71A-2A+ Ap '51

New observations on the Elbs persulphate oxidation. J. Forrest and V. Petrow. Chem Soc J p2340-2 S '50

New reagent for the oxidation of acyloins to diketones. W. Rigby. Chem Soc J p793-5 Mr '51

Non-degradative oxidation of lignin sulfonates. D. M. Ritter. bibliog Am Chem Soc J 73:2550-3 Je '51

One-electron oxidation of copper phthalocyanine. A. E. Cahill and H. Taube. Am Chem Soc J 73:2847-51 Je '51

Osmium tetroxide catalyzed oxidation of fumaric and maleic acids. M. Zelikoff and H. A. Taylor. Am Chem Soc J 72:5039-42 N '50

Overvoltage at oxidation-reduction electrodes. J. V. Petrocelli and A. A. Paolucci. bibliog Electrochem Soc J 98:291-5 Jl '51

Oxidation and reduction of 4-acetamidobenzaldehyde thiosemicarbazone. R. Duschinsky and H. Gainer. Am Chem Soc J 73:4464-6 S '51

Oxidation kinetics of nickel and cobalt. W. J. Moore and J. K. Lee. J Chem Phys 19:255 F '51

Oxidation levels of rhenium. C. L. Rulfs and P. J. Elving. bibliog Am Chem Soc J 73:3284-92 Jl '51

Oxidation number in auto-redox reactions. L. P. Eblin. J Chem Educ 28:221-3 Ap '51

Oxidation of a di-*o*-substituted diphenyl sulfide. P. Block, jr. and J. L. Balmat. Am Chem Soc J 72:5638-40 D '50

OXIDATION—*Continued*

Oxidation of alcohols by 2 : 4-dinitrophenylhydrazine. E. A. Braude and W. F. Forbes. Chem Soc J p 1762-4 Jl '51

Oxidation of aldehydes in the gaseous phase; the inhibition of the oxidation of acetaldehyde by nitrogen peroxide (dioxide). C. A. McDowell and J. H. Thomas. Chem Soc J p 1462-7 Je '50

Oxidation of aldoses by hypoiodous acid; comparison of the rates of oxidation of α- and β-D-glucose. K. D. Reeve. Chem Soc J p 172-7 Ja '51

Oxidation of aminopyridines to nitropyridines. R. H. Wiley and J. L. Hartman. Am Chem Soc J 73:494 Ja '51

Oxidation of anthrone by aromatic nitrocompounds. V. M. Ingram. Chem Soc J p2246-7 Ag '50

Oxidation of benzpinacolyl alcohol. W. A Mosher and H. A. Neidig. bibliog Am Chem Soc J 72:4452-4 O '50

Oxidation of carbon black by solid potassium perchlorate. S. Patai and E. Hoffmann. bibliog Am Chem Soc J 72:5098-101 N '50

Oxidation of cellulose by chromium trioxide; new method for determining accessibility. R. E. Glegg. bibliog Textile Res J 21:143-8 Mr '51

Oxidation of chromium(III) with potassium ferrate(VI). J. M. Schreyer, G. W. Thompson and L. T. Ockerman. Anal Chem 22:1426-7 N '50

Oxidation of cotton cellulose by nitrogen dioxide. T. P. Nevell. bibliog diags Textile Inst J Trans 42:T91-129 Mr '51

Oxidation of di- and triaminoguanidine with potassium iodate. G. I. Keim, R. A. Henry and G. B. L. Smith. bibliog Am Chem Soc J 72:4944-6 N '50

Oxidation of di-*t*-butylpyrogallol by oxygen in alkaline solution. T. W. Campbell. bibliog Am Chem Soc J 73:4190-5 S '51

Oxidation of 4 : 11-dibromofluoranthene. N. Campbell, W. H. Stafford and J. F. K. Wilshire. Chem Soc J p 1137-8 Ap '51

Oxidation of diphenylamine and of its *N*-derivatives; oxidation of the benzyl group of some benzylamines and benzyl ethers to benzoyl. J. Forrest, S. H. Tucker and M. Whalley. Chem Soc J p303-5 F '51

Oxidation of free methyl radicals. J. H. Raley and others. bibliog Am Chem Soc J 73:15-17 Ja '51

Oxidation of glucose and related compounds with oxides of nitrogen. E. F. Degering and R. A. Berntsen. Am Chem Soc J 73:848-9 F '51

Oxidation of iodide to iodine by dilute solutions of organic peroxides. R. D. Cadle and H. Huff. bibliog diag J Phys & Colloid Chem 54:1191-5 N '50

Oxidation of isoborneol with chromic acid. W. A. Mosher and E. O. Langerak. Am Chem Soc J 73:1302-4 Mr '51

Oxidation of lithium and the alkaline earth metals in liquid ammonia. J. K. Thompson and J. Kleinberg. Am Chem Soc J 73:1243-5 Mr '51

Oxidation of manganous sulphate by chromic acid in sulphuric acid solution. M. Bobtelsky and A. Glasner. Chem Soc J p3085-9 D '49

Oxidation of nitric oxide at high pressures of reactants. H. S. Johnston and L. W. Slentz. Am Chem Soc J 73:2948 Je '51

Oxidation of olefins representing some structural units of GR-S. W. C. Warner and J. R. Shelton. bibliog il Ind & Eng Chem 43:1160-4 My '51

Oxidation of oxalate ion by peroxydisulfate. T. L. Allen. bibliog Am Chem Soc J 73:3589-93 Ag '51

Oxidation of phenols with benzoyl peroxide. S. L. Cosgrove and W. A. Waters. Chem Soc J p3189-94 D '49; p388-91 F '51

Oxidation of phenols with the free hydroxyl radical. S. L. Cosgrove and W. A. Waters. Chem Soc J p 1726-30 Jl '51

Oxidation of silicon at high temperatures. M. B. Brodsky and D. Cubicciotti. bibliog Am Chem Soc J 73:3497-9 Jl '51

Oxidation of some rare earth oxides with ozone. S. Rabideau and G. Glockler. Am Chem Soc J 73:488 Ja '51

Oxidation of some secondary aliphatic-aromatic alcohols. H. A. Neidig and others. Am Chem Soc J 72:4617-18 O '50

Oxidation of steroids; methyl $\Delta^{9(11)}$-lithocholenate and methyl 9α, 11α-oxidolithocholanate. L. F. Fieser and S. Rajagopalan. bibliog Am Chem Soc J 73:118-22 Ja '51

Oxidation of steroids; selective oxidations and acylations in the bile acid series. L. F. Fieser and S. Rajagopalan. bibliog Am Chem Soc J 72:5530-6 D '50

Oxidation of sulphurous acid. H. Bassett and W. G. Parker. Chem Soc J p 1540-60 Je '51

Oxidation of terpenes with molecular oxygen; oxidation of terpinolene in aqueous dispersion. J. N. Borglin and others. bibliog il Am Chem Soc J 72:4591-6 O '50

Oxidation of terpenes with molecular oxygen; oxidation products of terpinolene. E. J. Lorand and J. E. Reese. bibliog Am Chem Soc J 72:4596-601 O '50

Oxidation of toluene by sodium dichromate. R. D. Abell. Chem Soc J p 1379-81 Je '51

Oxidation of zirconium at high temperatures. D. Cubicciotti. Am Chem Soc J 72:4138-41 S '50

Oxidation process pares cost of ethylene oxide. diag Chem Eng 58:194-5 Je '51

Oxidation-reduction reactions of neptunium (IV) and -(V). J. R. Huizenga and L. B. Magnusson. Am Chem Soc J 73:3202-6 Jl '51

Oxidation stability of transformer oils. A. J. Ham and C. N. Thompson. bibliog 4pls Inst Pet J 36:673-83 N '50

Oxidation states of the rare-earth and actinide elements. R. E. Connick. Chem Soc J supp no 2:S235-41 '49

Oxidations with sodium bismuthate; glycol fission and related reactions. W. Rigby. Chem Soc J p 1907-13 Jl '50

Oxygen atom transfer during the oxidation of aqueous sodium sulfite. E. R. S. Winter and H. V. A. Briscoe. Am Chem Soc J 73:496-7 Ja '51

Oxygen atom transfer in oxidation-reduction reactions; the mechanism of the sulfite-nitrite reaction. A. C. Rutenberg, J. Halperin and H. Taube. Am Chem Soc J 73:4487-8 S '51

Periodate oxidation of D-glucosazone. C. F. Huebner and K. P. Link. Am Chem Soc J 72:4812-13 O '50

Periodate oxidation of the formyl esters of starch. O. A. Moe, S. E. Miller and M. I. Buckley. Am Chem Soc J 73:4185-6 S '51

Periodate oxidations of phenyl β-D-thioglycopyranosides, phenyl β-D-glucopyranosyl sulfones and related compounds. W. A. Bonner and R. W. Drisko. Am Chem Soc J 73:3699-701 Ag '51

Phthalocyanines and related compounds; the oxidation of phthalocyanine, tetrabenzporphin, and allied substances. R. P. Linstead and F. T. Weiss. Chem Soc J p2981-7 N '50

Possible free radical oxidation would have industrial importance; first William Albert Noyes lecture. Chem & Eng N 28:4074 N 20 '50

Practical synthesis of D-glucuronic acid through the catalytic oxidation of 1,2-isopropylidene-D-glucose. C. L. Mehltretter and others. bibliog Am Chem Soc J 73:2424-7 Je '51

Preparation of a reversible oxidation product of α-tocopherol, α-tocopheroxide and of related oxides. P. D. Boyer. bibliog Am Chem Soc J 73:733-40 F '51

Propionic acid by the air oxidation of propionaldehyde. W. K. Langdon and E. J. Schwoegler. Ind & Eng Chem 43:1011-12 Ap '51

Purpurogallin; mechanism of the oxidation of pyrogallol. A. Critchlow, R. D. Haworth and P. L. Pauson. Chem Soc J p 1318-25 My '51

Qualitative X-ray study of the oxidation of cotton cellulose by nitrogen dioxide. T. P. Nevell. bibliog il Textile Inst J Trans 42:T130-40 Mr '51

Quantitative recovery of carbon dioxide in lead tetraacetate oxidations of sugars and sugar derivatives. S. Abraham. bibliog diag Am Chem Soc J 72:4050-3 S '50

OXIDATION—*Continued*

Quinamine; sulphobenzeneazoquinamine and nitration and oxidation of quinamine to 3 : 6 : 8-trinitro-4-hydroxyquinoline. G. Bendz and others. Chem Soc J p 1130-8 Ap '50

Reaction between oxygen and thorium. P. Levesque and D. Cubicciotti. Am Chem Soc J 73:2028-31 My '51

Reactions of organic peroxides; oxidation of methyl*cyclo*pentane and methyl*cyclo*hexane. E. J. Gasson and others. Chem Soc J p2798-801 O '50

Reactions of organic peroxides; reactions of αα-dimethylbenzyl hydroperoxide (*iso*propylbenzene hydroperoxide). E. G. E. Hawkins. Chem Soc J p2169-73 Ag '50

Reactions of unsaturated compounds; the oxidation of *as*-di*neo*pentylethylene by chromic oxide. W. J. Hickinbottom and D. G. M. Wood. Chem Soc J p 1600-2 Je '51

Reversible oxidation-reduction reactions of aromatic amines. L. F. Oldfield and J. O. Bockris. bibliog diag J Phys & Colloid Chem 55:1255-74 O '51

Role of oxide composition in oxidation of nickel and cobalt. R. L. Tichenor. J Chem Phys 19:796-7 Je '51

Selective oxidations with red lead. L. Vargha and M. Reményi. Chem Soc J p 1068-9 Ap '51

Sensitized catalysts; the ascorbic acid method. H. J. Kauffmann. Am Chem Soc J 73:4311-14 S '51

Some properties of an ascorbic acid oxidation inhibitor in vegetables. B. J. Branthoover and M. M. Hard. bibliog Science 114:296-8 S 21 '51

Spectrophotometric determination of carboxyl in cellulose. F. H. Forziati and others. bibliog J Res Nat Bur Stand 46:288-91 Ap '51

Stabilization of neutral hypochlorite-oxidized cotton fiber. R. E. Reeves and J. R. Jung, jr. bibliog Textile Res J 21:22-5 Ja '51

Steroidal sapogenins; oxidation of $\Delta^{5,16,20(22)}$-furostatriene-3β,26-diol. A. Sandoval and others. Am Chem Soc J 73:3820-4 Ag '51

Steroids and related compounds; further experiments on the bromination of oxidation products of cholestane-3β : 5α : 6β-triol. B. Ellis and V. Petrow. Chem Soc J p2194-8 Ag '50

Studies in peroxidase action; the oxidation of *p*-anisidine; a further example of ready demethoxylation; some theoretical considerations. D. G. H. Daniels and B. C. Saunders. Chem Soc J p2112-18 Ag '51

Studies in peroxidase action; the oxidation of dimethylaniline. F. T. Naylor and B. C. Saunders. Chem Soc J p3519-23 D '50

Studies on lignin and related products; oxidation of basic calcium lignosulphonate with silver oxide and alkali. I. A. Pearl and D. L. Beyer. bibliog Tappi 33:508-12 O '50

Studies on lignin and related products; the oxidation of fermented sulphite spent liquor with cupric oxide under pressure. I. A. Pearl and D. L. Beyer. bibliog Tappi 33:544-8 N '50

Studies on the oxidation of potassium ruthenocyanide. D. D. DeFord and A. W. Davidson. bibliog Am Chem Soc J 73:1469-74 Ap '51

Studies on the Schardinger dextrins; periodate oxidation. D. French and R. L. McIntire. bibliog Am Chem Soc J 72:5148-50 N '50

Studies on the structure and oxidation products of 1-methyl-3-phenylindane, a dimer of styrene. P. E. Spoerri and M. J. Rosen. bibliog Am Chem Soc J 72:4918-20 N '50

Study of degradation of polystyrene, using infrared spectrophotometry. B. G. Achhammer and others. bibliog J Res Nat Bur Stand 47:116-25 Ag '51

Surface oxidation of furnace black and resulting rubber properties. M. R. Cines. bibliog Rubber Age 69:183-8 My '51

Synthesis and oxidation of 2,2′-methylenebis-(5-acetylthiophene). T. L. Cairns, B. C. McKusick and V. Weinmayr. Am Chem Soc J 73:1270-3 Mr '51

Theory of basicity and oxidation applicable to steelmaking. W. L. Kerlie. bibliog Iron & Steel Inst J 167:9-26 Ja '51

Thermal and oxidation stability of polymethylphenylsiloxanes. C. M. Murphy, C. E. Saunders and D. C. Smith. bibliog Ind & Eng Chem 42:2462-8 D '50

Unit processes; Chemical Engineering report, March 1951. L. F. Marek. diag Chem Eng 58:136-7 Mr '51

Vapour-phase oxidation of methyl*cyclo*pentane. J. H. Burgoyne and J. A. Silk. Chem Soc J p572-84 F '51

X-ray diffraction study of the oxidation characteristics of nickel-pickled sheet iron as related to enamel adherence. G. S. Douglas and J. M. Zander. bibliog il Am Cer Soc J 34:52-9 F 1 '51

See also
Rubber, Artificial—
Oxidation

Autoxidation

Autoxidation of hydrazine; effect of dissolved metals and deactivators. L. F. Audrieth and P. H. Mohr. bibliog Ind & Eng Chem 43:1774-9 Ag '51

Autoxidation of *iso*propylbenzene. G. P. Armstrong, R. H. Hall and D. C. Quin. diag Chem Soc J p666-70 F '50

Autoxidation of phenylhydrazones. K. H. Pausacker. Chem Soc J p3478-81 D '50

Autoxidation pans out; low-strength SO_2 into sulphates or acid by catalytic air oxidation; Inflo process. il diag Chem Eng 58:224 S '51

Infrared absorption spectra of some epoxy compounds. O. D. Shreve and others. bibliog Anal Chem 23:277-82 F '51

Infrared absorption spectra of some hydroperoxides, peroxides, and related compounds. O. D. Shreve and others. bibliog Anal Chem 23:282-5 F '51

Mechanism of autoxidation of monoethenoid fatty acids and their derivatives. J. H. Skellon and A. Gordon. bibliog Chem & Ind p629-32 Jl 21 '51

Reactions of oxygen with fatty material; review of progress from 1945-1951. R. P. A. Sims. bibliog(57 ref) Can Chem & Process Ind 35:125-9+ F '51

Retardation of benzaldehyde autoxidation by *p*-cresol. W. A. Waters and C. Wickham-Jones. Chem Soc J p812-23 Mr '51

Ring effects in autoxidation; a new type of Camps reaction. B. Witkop, J. B. Patrick and M. Rosenblum. il Am Chem Soc J 73:2641-7 Je '51

OXIDATION, Electrolytic

Anodic oxidation of thallous ion on the rotating platinum microelectrode. P. Delahay and G. L. Stiehl. Am Chem Soc J 73:1755-6 Ap '51

Coulometric titrations with electrically generated ceric ion. N. H. Furman, W. D. Cooke and C. N. Reilley. diags Anal Chem 23:945-6 Jl '51

OXIDATION, Heat of

Heat of oxidation of manganous ion to permanganate and the manganese potentials. Z. Z. Hugus, jr. and W. M. Latimer. bibliog Electrochem Soc J 98:296-8 Jl '51

OXIDATION, Physiological

Autoxidation in lactating mammary gland tissue. R. O. Moore and W. L. Nelson. bibliog Science 114:62-3 Jl 20 '51

Bacterial oxidation of tryptophan; a study in comparative biochemistry. R. Y. Stanier and O. Hayaishi. bibliog Science 114:326-30 S 28 '51

Effect of aureomycin on the respiration of normal rat liver homogenates. J. C. Van Meter and J. J. Oleson. Science 113:273 Mr 9 '51

Ions and radicals in biochemical processes. W. A. Mosher. bibliog Franklin Inst J 251:665-74 Je '51

Polycyclic aromatic hydrocarbons; synthesis of the metabolic oxidation products of 3 : 4-benzpyrene. J. W. Cook, R. S. Ludwiczak and R. Schoental. Chem Soc J p 1112-21 Ap '50

Rapid and sensitive spectrophotometry. B. Chance and V. Legallais. bibliog il diags R Sci Instr 22:619-38 Ag '51

Special respiratory system in mammalian adrenal glands. D. G. Humm and others. bibliog Science 113:578-9 My 18 '51

OXIDATION potentials. See Potential, Electric

OXIDATION-reduction potential. See Potential, Electric

OXIDE cathodes. See Cathodes

OXIDES

Benzothiophenes and their 1-dioxides. A. H. Schlesinger and D. T. Mowry. bibliog Am Chem Soc J 73:2614-16 Je '51

Desulphurizing spent oxide. L. T. Minchin. Gas Age 107:54 Mr 15 '51

Deterioration of oxide-coated cathodes under low duty-factor operation. J. F. Waymouth, jr. bibliog il diags J Ap Phys 22:80-6 Ja '51

Gasification of carbon; metal oxides in a fluidized power bed. W. K. Lewis, E. R. Gilliland and M. P. Sweeney. bibliog diags Chem Eng Prog 47:251-6 My '51

Halogen-activating effect of the N-oxide group in chlorophenazine-N-oxides; synthesis of an isomer of iodinin. D. L. Vivian. bibliog Am Chem Soc J 73:457-8 Ja '51

Higher oxides of the lanthanide elements; terbium dioxide. D. M. Gruen, W. C. Koehler and J. J. Katz. bibliog diags Am Chem Soc J 73:1475-9 Ap '51

Preparation and properties of the oxide-sulfides of cerium, zirconium, thorium and uranium. E. D. Eastman and others. Am Chem Soc J 73:3896-8 Ag '51

Preparation of a reversible oxidation product of α-tocopherol, α-tocopheroxide and of related oxides. P. D. Boyer. bibliog Am Chem Soc J 73:733-40 F '51

Reaction of bromine trifluoride with oxides and some oxy-acid salts. H. J. Emeléus and A. A. Woolf. diag Chem Soc J p 164-8 Ja '50

Reaction of diborane with some alkene oxides and vinyl compounds. F. G. A. Stone and H. J. Emeléus. diag Chem Soc J p2755-9 O '50

Reaction of fluorine with the oxides and oxy-compounds of manganese and rhenium. E. E. Aynsley, R. D. Peacock and P. L. Robinson. diag Chem Soc J p 1622-4 Je '50

Recent X-ray diffraction studies on the hydrous oxides and hydroxides. W. O. Milligan. bibliog il J Phys & Colloid Chem 55:497-507 Ap '51

Sintered oxide crucibles withstand temperatures exceeding 2000° centrigrade. il Brick & Clay Rec 118:72-3 Ap '51

Some heterocyclic *N*-oxides. P. Mamalis and V. Petrow. Chem Soc J p703-11 F '50

Stability of gaseous diatomic oxides. L. Brewer and D. F. Mastick. bibliog J Chem Phys 19:834-43 Jl '51

Studies of the exchange reactions of solid oxides; the exchange of oxygen between water vapour and certain metallic oxides. E. Whalley and E. R. S. Winter. Chem Soc J p 1175-7 Ap '50

Studies of the exchange reactions of solid oxides; the exchange of oxygen isotopes between gaseous oxygen and certain metallic oxides. E. R. S. Winter. diag Chem Soc J p 1170-5 Ap '50

Thermodynamics of substances of interest in iron and steel making; compounds between oxides. F. D. Richardson and others. Iron & Steel Inst J 166:213-34+ bibliog(134 ref, p233-4+) N '50

See also

Nitrogen oxides

Rare earths

Titanium oxides

OXIDIZING agents

Substituted benzidines and related compounds as reagents in analytical chemistry; reaction with oxidising agents. R. Belcher and A. J. Nutten. Chem Soc J p546-7 F '51

OXIMES

Amidines; preparation of 2-substituted Δ^2-oxazolines and 4 : 5-dihydro-1 : 3-oxazines from hydroxyalkylamines and *N*-substituted amidines or ketoxime sulphonates. P. Oxley and W. F. Short. Chem Soc J p 1100-1 Ap '50

Beckmann rearrangement of O-picrylbenzophenone oxime. B. B. Lampert and F. G. Bordwell. Am Chem Soc J 73:2369-70 My '51

Experiments with diazomethane and its derivatives; action of diazomethane on *o*-quinone monoximes. A. Schönberg and W. I. Awad. Chem Soc J p72-5 Ja '50

Geometric isomers of isobutyrophenone oxime. H. M. Kissman and J. Williams. bibliog Am Chem Soc J 72:5323-4 N '50

Isomerism of the oximes; the acid hydrolysis of acetyl-α-aldoximes. O. L. Brady and J. Miller. Chem Soc J p 1234-42 My '50

Isomerism of the oximes; the action of alkali on α- and β-*o*-iodobenzaldoximes. O. L. Brady and S. G. Jarrett. Chem Soc J p 1232-3 My '50

Isomerism of the oximes; the hydrolysis of acyl derivatives. M. Benger and O. L. Brady. Chem Soc J p 1221-7 My '50

Isomerism of the oximes; the hydrolysis of acyl halogenobenzaldoximes by alkalis. O. L. Brady and S. G. Jarrett. Chem Soc J p 1227-32 My '50

Isomerism of the oximes; the kinetics of the pyrolysis of acyl derivatives. D. Ambrose and O. L. Brady. Chem Soc J p 1243-9 My '50

Oximes of β-naphthacyl halides and their pyridinium salts. C. T. Bahner and others. Am Chem Soc J 73:4013 Ag '51

Raman spectra study of hydrogen bond in acetoxime. C. N. Caughlan, H. V. Tartar and E. C. Lingafelter. bibliog Am Chem Soc J 73:1180-2 Mr '51

Rate of oximation and extent of enolization of alkyl aryl ketones. M. J. Craft and others. Am Chem Soc J 73:4462-3 S '51

Rate of oxime formation of isomeric ketones from *p*-cymene. M. J. Craft and C. T. Lester. Am Chem Soc J 73:1127-8 Mr '51

Rearrangement of oxime N-ethers. A. C. Cope and A. C. Haven, jr. bibliog Am Chem Soc J 72:4896-903 N '50

Spectrophotometric determination of nickel in calcium metal using 1,2-cyclohexanedionedioxime. R. C. Ferguson and C. V. Banks. bibliog Anal Chem 23:448-53 Mr '51

Steroids; Beckmann rearrangement of 17-ketosteroid oximes. S. Kaufmann. bibliog Am Chem Soc J 73:1779-80 Ap '51

Synthesis of 1-(3′-methoxy-4′-acetoxyphenyl)-2,6-dicarbethoxycyclohexanedione-3,5; related oximes and *p,p′*-disazo-diphenyl derivatives. P. E. Papadakis and others. bibliog Am Chem Soc J 72:4256-7 S '50

OXINE. See Quinolinol

OXIRANE

Determination of oxiran-oxygen, with special reference to its application to the study of autoxidation. G. King. Chem Soc J p 1980-4 Ag '51

Infrared absorption spectra of some epoxy compounds. O. D. Shreve and others. bibliog Anal Chem 23:277-82 F '51

OXO process

Chemistry of the oxo and related reactions; hydrogenation. I. Wender, R. Levine and M. Orchin. bibliog Am Chem Soc J 72:4375-8 O '50

Chemistry of the oxo and related reactions; reductions in the aromatic series. I. Wender, H. Greenfield and M. Orchin. Am Chem Soc J 73:2656-8 Je '51

Mechanism of the oxo and related reactions; evidence for homogeneous hydrogenation. I. Wender, M. Orchin and H. H. Storch. Am Chem Soc J 72:4842-3 O '50

Oxo process; abstract. C. L. Levesque. Chem & Eng N 29:1830 My 7 '51

Structures of the oxo aldehydes from styrene. L. A. Wetzel, C. H. McKeever and C. L. Levesque. Am Chem Soc J 72:4939-40 N '50

Unit processes; Chemical Engineering report, March 1951. W. G. Schroeder and M. Orchin. diag Chem Eng 58:135-6 Mr '51

OXYACETIC acid

2-Methyl-2-monoalkylaminopropyl and dialkylaminoethyl aryloxyacetates. J. S. Pierce, W. K. Easley and H. H. Hannabas, jr. Am Chem Soc J 73:4046-7 Ag '51

Preparation of some acenaphthoxyacetic acids. H. Rapoport, T. P. King and J. B. Lavigne. bibliog Am Chem Soc J 73:2718-21 Je '51

OXYACETYLENE apparatus

Manifolding oxygen, acetylene cylinders cuts piping costs. il Heating-Piping 23:73 Je '51

OXYACETYLENE cutting

Beveling circular plates. il Ry Mech & Elec Eng 125:62 F '51

Cutting equipment speeds steel mill scrap reduction. il Welding J 30:638-9 Jl '51

Difficult shipyard jobs speeded by powder cutting. il Welding J 30:177 F '51

OXYACETYLENE cutting—*Continued*

Edge preparation of plate for welding. C. A. Heffernon. il diags Welding J 30:221-8 Mr '51; Same cond. Mach 57:182-6 F '51

Flame gouging for better welds in autoclave fabrication; Blaw-Knox co. il Welding J 30:262 Mr '51

Gas cutting machine for hot cropping of blooms. W. S. Walker and A. C. Gerrard. il plan diags Iron & Steel Inst J 168:401-6 Ag '51

Guide for straight-line cutting. H. P. Martin. il diags Welding J 30:639 Jl '51

Here's a fast way to drill holes in steel plate; illustrated instructions. Coal Age 56:108 S '51

Hints for cutting thick steel. O. J. Swan. diags Welding J 29:1103 D '50

How to cut steel; illustrated instructions. H. J. Diehl. Welding J 30:359-61 Ap '51

New developments in flame cutting stainless steel. G. E. Bellew. il diag Welding J 30:265-8 Mr '51

Scrap cutting blowpipe efficiently operated on gantry rig. il Welding J 30:177-8 F '51

Special lathe handles flame machining. C. Shank. il Am Mach 95:172 O 1 '51

Tracing devices in shape flame cutting. R. O. Fish. il diags Welding J 29:1059-64 D '50

Using oxyacetylene processes for fabricating piping. E. P. Auler. il Heating-Piping 23:102-5 Jl '51

OXYACETYLENE flame

Adjusting the oxyacetylene flame. R. G. Harner. il Welding J 30:175-6 F '51

Commercial flame hardening. E. J. Cox. il Welding J 30:229-33 Mr '51

Electronic control of production flamatic hardening. M. Garvin and D. Strauchen. il Welding J 29:981-5 N '50

Flame-hardening as a versatile production tool. G. H. Silver. il Mach 57:187-9 F '51

Flame hardening of large surfaces. J. J. Barry. il diags Welding J 30:111-16 F '51

Getting ready to paint? let the air acetylene torch help you. il diags Mill & Factory 49:125 Ag '51

Induction and flame hardening simplified. J. Obrebski. diags Am Mach 95:136-7 S 17 '51

Localized flame hardening of steel cutters reduces warpage; baler knives; International harvester co. A. P. Alexander. il Materials & Methods 33:76 Mr '51

New process quickly removes surface defects on castings. il Iron Age 168:101 Jl 19 '51

Steel warehouse building flame cleaned without necessity for work shutdown. il Welding J 30:272 Mr '51

Use of oxyacetylene process to reduce stress. H. E. Kennedy. diags Welding J 29:985-8 N '50

OXYACETYLENE welding

Auto body repair; illustrations with text. R. E. Scott. Welding J 30:742-3 Ag '51

Backhand welding of pipe. J. W. Carrier. il diags Welding J 30:54-5 Ja '51

Burlington reclamation practice at Eola, Ill. W. G. Muschler. il Ry Mech & Elec Eng 125:56-8 Ja '51

Engineering aspects of tool and die welding. A. R. Butler. Tool Eng 26:45-6 Ap '51

Hard facing of steam valve seats and disks. O. E. Swenson. il diags Welding J 29:1053-8 D '50

Hints for welding common metals; reference book sheet. Am Mach 94:127, 129 O 30 '50

How to bring worn parts back to life. E. A. Shevey. il Welding J 30:180 F '51

How to join aluminum sheet by oxy acetylene welding. il diags Mill & Factory 49:90 Ag '51

Pressure-welding characteristics of some copper-base alloys; abstract. E. Davis and E. Holmes. Metal Prog 59:544+ Ap '51

Refresher course on pipe welding and cutting. il Dom Eng 177:98-9+ Je; 178:114+ Jl; 116+ Ag; 157-8+ S '51

Repairing hospital equipment by welding. il diag Welding J 30:367-8 Ap '51

Stoker drive shaft saved by welding. G. S. McGinley. il Power 95:105 Mr '51

Safety measures

Safety tips in handling oxy-acetylene equipment. il Roads & Sts 93:41 D '50

OXYARC cutting. See Electric cutting—Oxyarc process

OXYCELLULOSE

Acidic properties of cotton cellulose and derived oxycellulose; ion-exchange reactions with basic dyes. G. F. Davidson. bibliog Textile Inst J Trans 41:T361-80 O '50

Auto-hydrolysis of acidic oxycelluloses. G. F. Davidson and H. A. Standing. Textile Inst J Trans 42:T141-4 Mr '51

Oxidation of cotton cellulose by nitrogen dioxide. T. P. Nevell. bibliog diags Textile Inst J Trans 42:T91-129 Mr '51

Qualitative X-ray study of the oxidation of cotton cellulose by nitrogen dioxide. T. P. Nevell. bibliog il Textile Inst J Trans 42:T130-40 Mr '51

Studies on modified cellulose; alkali stability of oxidized, hydrolyzed, and methanolized celluloses. A. Meller. bibliog(52 titles) Tappi 34:171-9 Ap '51

OXYDIPROPIONITRILE

Aromatics recovery by solvent refining; β,β'-oxydipropionitrile as a selective solvent. E. C. Medcalf and others. Pet Refiner 30:97-100 Jl '51

OXYGEN

Action of ionizing radiations and of radiomimetic substances on deoxyribonucleic acid; the effect of oxygen on the degradation of the nucleic acid by X-rays. J. A. V. Butler and B. E. Conway. diag Chem Soc J p3418-21 D '50

Aeration of culture media; a comparison of the sulphite and polarographic methods. W. S. Wise. bibliog Soc Chem Ind J 69(sup no 1):S40-1 '50

Air separation plants; packaged units will produce oxygen and nitrogen. il Chem Eng 58:190+ S '51

Central oxygen, anesthetic piping, important services in hospitals. il Heating-Piping 22:84-7 D '50

Chemical characterization of catalysts; oxygen exchange between water and cracking catalysts. G. A. Mills and S. G. Hindin. bibliog Am Chem Soc J 72:5549-54 D '50

Chemical oxygen consumed and its relationship to b.o.d W. A. Moore and C. C. Ruchhoft. bibliog Sewage & Ind Wastes 23:705-12 Je '51

Chlorate candles as a source of oxygen. W. H. Schechter and others. bibliog diag Ind & Eng Chem 42:2348-53 N '50

Composition of $CaO\text{-}FeO\text{-}Fe_2O_3$ and $MnO\text{-}FeO\text{-}Fe_2O_3$ melts at several oxygen pressures in the vicinity of 1600°. R. W. Gurry and L. S. Darken. bibliog Am Chem Soc J 72:3906-10 S '50

Decomposition of cumene hydroperoxide by ferrous iron in the presence of oxygen. J. W. L. Fordham and H. L. Williams. bibliog Am Chem Soc J 72:4465-9 O '50

Effect of heat treatment on the surface properties of gibbsite; adsorption isotherms of nitrogen and of oxygen at -182.7°C. S. J. Gregg and K. S. W. Sing. bibliog diag J Phys & Colloid Chem 55:592-7 Ap '51

Effect of traces of oxygen on the reaction of aluminum borohydride with ethylene. R. S. Brokaw and R. N. Pease. bibliog Am Chem Soc J 72:5263-6 N '50

Effects of three interstitial solutes (nitrogen, oxygen, and carbon) on the mechanical properties of high-purity, alpha titanium. W. L. Finlay and J. A. Snyder. bibliog il J Metals 188:Trans 277-86 F '50; Discussion. 188:Trans 1368-9 N '50

Emission of the forbidden oxygen lines by molecular dissociation. R. Herman and others. bibliog il diags Phys R 82:751-2 Je 1 '51

First and second pressure limits of explosion of diborane-oxygen mixtures. F. P. Price. bibliog Am Chem Soc J 72:5361-5 D '50

How does cold affect oxygen pressures? Power Eng 55:80-1 Jl '51

Hydrogen-oxygen reaction at the second explosion limit. H. P. Broida. J Chem Phys 19:790 Je '51

Induced infrared absorptions of H_2, N_2, and O_2 in the first overtone regions. H. L. Welsh and others. Phys R 83:1264 S 15 '51

Influence of argon, helium, oxygen, and carbon dioxide on emission spectra in the d.c. arc. B. L. Vallee and others. bibliog diag Opt Soc Am J 40:751-4 N '50

OXYGEN—*Continued*

Influence of oxygen upon polymerization reactions. J. Abere, H. Mark and W. P. Hohenstein. bibliog J Ap Chem 1:363-70 Ag '51

Isomerization of saturated hydrocarbons; the effect of oxygen and light upon the isomerization of methylcyclopentane in the presence of aluminum bromide. H. Pines, E. Aristoff and V. N. Ipatieff. Am Chem Soc J 72:4304 S '50

Kinetics of the reactions of beryllium with oxygen and nitrogen and the effect of oxide and nitride films on its vapor pressure. E. A. Gulbransen and K. F. Andrew. bibliog Electrochem Soc J 97:383-95 N '50; Discussion. 98:257 Je '51

Kinetics of the reactions of vanadium with oxygen and nitrogen. E. A. Gulbransen and K. F. Andrew. bibliog Electrochem Soc J 97:396-404 N '50

Line breadths of the fine structure of the microwave spectrum of oxygen. R. S. Anderson and others. bibliog Phys R 82:264 Ap 15 '51

Low states of F^{17} and neutrons from $O^{16}+D$. F. Ajzenberg. bibliog Phys R 83:693 Ag 1 '51

Luminous reaction of pentaborane and oxygen at and below the first pressure limit of explosion. F. P. Price. bibliog diag Am Chem Soc J 73:2141-4 My '51

Melting point-composition diagram of the zirconium-oxygen system. D. Cubicciotti. Am Chem Soc J 73:2032-5 My '51

Method of preparing oxygen. F. T. Groves. J Chem Educ 28:331 Je '51

Microwave magnetic resonance spectrum of oxygen. R. Beringer and J. G. Castle, jr. bibliog Phys R 81:82-8 Ja 1 '51

Microwave measurements of the dielectric properties of gases. G. Birnbaum and others. bibliog il diag J Ap Phys 22:95-102 Ja '51

Naphthoquinone antimalarials; naphthoquinones with oxygen in the side chain. M. Paulshock and C. M. Moser. bibliog Am Chem Soc J 72:5073-7 N '50

Negative coaxial cylindrical corona discharges in pure N_2, O_2, and mixtures thereof. C. G. Miller and L. B. Loeb. J Ap Phys 22:614-21 My '51

Nuclear electron pairs from $F^{19}(p,\alpha)^*O^{16}$. G. C. Phillips and N. P. Heydenburg. bibliog Phys R 83:184-5 Jl 1 '51

Operation of Kerpely producer with oxygen-enriched blast. H. R. Batchelder and others. flow diag diag Am Gas Assn Proc 1950:348-54

Oxidation of terpenes with molecular oxygen; oxidation of terpinolene in aqueous dispersion. J. N. Borglin and others. bibliog il Am Chem Soc J 72:4591-6 O '50

Oxidation of terpenes with molecular oxygen; oxidation products of terpinolene. E. J. Lorand and J. E. Reese. bibliog Am Chem Soc J 72:4596-601 O '50

Oxygen atom transfer during the oxidation of aqueous sodium sulfite. E. R. S. Winter and H. V. A. Briscoe. Am Chem Soc J 73:496-7 Ja '51

Oxygen atom transfer in oxidation-reduction reactions; the mechanism of the sulfite-nitrite reaction. A. C. Rutenberg, J. Halperin and H. Taube. Am Chem Soc J 73:4487-8 S '51

Oxygen depletion in a sewer manhole. G. J. Raschka and W. J. Uber. Sewage & Ind Wastes 23:802-7 Je '51

Oxygen exchange as evidence for the existence of an intermediate in ester hydrolysis. M. L. Bender. bibliog Am Chem Soc J 73:1626-9 Ap '51

Oxygen removal in the polarography of biological solutions. C. Tanford and J. Epstein. diags Anal Chem 23:802-3 My '51

Path of oxygen in photosynthesis. G. D. Dorough and M. Calvin. diags Am Chem Soc J 73:2362-5 My '51

Photo-disintegration of O^{16}. M. A. Preston. Phys R 80:307-8 O 15 '50

Pilot-plant gasification of pulverized coal with oxygen and highly superheated steam. G. R. Strimbeck and others. bibliog 45pls U S Bur Mines Rep of Invest 4733:1-41 '50; Same. Am Gas Assn Proc 1950:501-63

Polarography in liquid ammonia; the polarography of thallium(I), copper(II), and ammonium ions and of molecular oxygen. H. A. Laitinen and C. E. Shoemaker. bibliog Am Chem Soc J 72:4975-7 N '50

Positive coaxial cylindrical corona discharges in pure N_2, O_2, and mixtures thereof. C. G. Miller and L. B. Loeb. bibliog diags J Ap Phys 22:494-503 Ap '51

Removal of oxygen from commercial cylinder-hydrogen by means of palladized asbestos. L. W. Owen. bibliog diags Soc Chem Ind J 69:272-5 S '50

Resonant absorption of oxygen at 2.5-millimeter wavelength. R. S. Anderson and others. bibliog Phys R 83:1061-2 S 1 '51

Role of oxygen in the production of synthetic liquid fuels from coal. H. R. Batchelder and others. bibliog 3pls U S Bur Mines Rep of Invest 4775:1-15 '51

Self-consistent treatment of the oxygen dissociation region in the upper atmosphere. H. E. Moses and T. Wu. bibliog Phys R 83:109-21 Jl 1 '51

Some factors influencing the activity of Raney nickel catalyst; the role of oxygen in the aging of Raney nickel catalyst. J. N. Pattison and E. F. Degering. Am Chem Soc J 73:486-7 Ja '51

Sorption of gases on metals at room temperature. A. L. McClellan and N. Hackerman. bibliog J Phys & Colloid Chem 55:374-82 Mr '51

Stability of short arcs in oxygen, hydrogen, and helium. W. M. Brubaker. bibliog diag Phys R 83:979-81 S 1 '51

Starting potentials of positive and negative coronas with coaxial geometry in pure N_2, pure O_2, and various mixtures at pressures from atmospheric to 27 mm. C. G. Miller and L. B. Loeb. J Ap Phys 22:740-1 Je '51

Structural model of low pressure physical adsorption. M. A. Cook and others. bibliog J Chem Phys 19:367-76 Mr '51

Synthesis gas from pulverized coal, oxygen, and highly superheated steam is produced in pilot plant. L. D. Schmidt. flow sheet diags Am Gas J 175:10-14+ Jl '51

Thermal hydrogen-oxygen reaction at relatively low temperatures. H. P. Broida and O. Oldenberg. bibliog J Chem Phys 19:196-202 F '51

Total cross sections of Be, B, O, and F for fast neutrons. C. K. Bockelman. bibliog Phys R 80:1011-13 D 15 '50

Ultrasonic velocities in gases at low pressures. R. A. Boyer. bibliog diag Acoustical Soc Am J 23:176-8 Mr '51

Vanadium-oxygen equilibrium in liquid iron. J. Chipman and M. N. Dastur. bibliog il J Metals 191:Trans 111-15 F '51

Zeeman effect in oxygen. A. F. Henry. bibliog Phys R 80:396-401 N 1 '50

See also

Combustion

Analysis

Carbon, oxygen, and sulfur content of Chilean coppers as related to cuprous-oxide rectifiers. C. C. Hein and W. M. Hickam. J Ap Phys 22:1192-5 S '51

Determination of carbon dioxide and oxygen in natural gases. A. C. Lyles and R. A. Montague. il diags Pet Refiner 30:93-4 Ap '51

Determination of dissolved oxygen in industrial wastes by the Winkler and polarographic methods. M. C. Rand and H. Heukelekian. bibliog Sewage & Ind Wastes 23:1141-9 S '51

Determination of oxygen in zirconium metal by the vacuum fusion method. J. K. Stanley, J. von Hoene and G. Wiener. bibliog Anal Chem 23:377-9 F '51

Determination of superoxide oxygen. E. Seyb, jr. and J. Kleinberg. bibliog diag Anal Chem 23:115-17 Ja '51

Determining traces of oxygen in bismuth metal; hydrogen reduction method. E. S. Funston and S. A. Reed. bibliog il diag Anal Chem 23:190-1 Ja '51

Direct determination of oxygen in compounds containing carbon, hydrogen and oxygen; a physical-chemical technique, Unterzaucher carbon-reduction procedure. C. C. Harris, D. M. Smith and J. Mitchell, jr. bibliog diags Anal Chem 22:1297-304 O '50

OXYGEN—Analysis—*Continued*

Direct determination of oxygen in organic compounds; thermal decomposition method; report of round-table discussion. bibliog Anal Chem 23:530-3 Mr '51

George Kent magnetic oxygen recorder. il Metallurgia 44:92 Ag '51; Chem Age (Lond) 65:195 Ag 11 '51

How to obtain accurate analyses of oxygen using alkaline pyrogallol. diag Pet Processing 6:169 F '51

Modified vacuum fusion apparatus for determination of oxygen, hydrogen, and nitrogen in certain metals. A. F. Torrisi and J. L. Kernahan. diag Anal Chem 23:928-9 Je '51

Organic microanalysis. G. Ingram. Chem Age (Lond) 64:125-7 Ja 20 '51

Oxygen analyser. il Engineer 191:297 Mr 2 '51

Oxygen measurement as a guide to combustion efficiency. L. D. Cipriano and O. W. Riggs. il diags Oil & Gas J 50:90-2+ Jl 12 '51

Titration of dissolved oxygen using acid-chromous reagent. H. W. Stone and R. L. Eichelberger. bibliog diags Anal Chem 23:868-71 Je '51

Industrial applications

Appraisal of oxygen enriched blast encourages iron production; abstract. O. R. Rice. Steel 129:100 S 3 '51

Improving cupola operation with oxygen-enriched blast. R. O. Day. diag Foundry 79:84-7 S '51

Industrial uses of oxygen; developments in the manufacture of melamine. Chem Age (Lond) 65:9-10 Jl 7 '51

Instrumentation and control for mixed fuels and oxygen in open hearth furnaces. M. J. Conway and E. H. Cauger. il diags Iron & Steel Eng 28:106-14 Jl '51

New oomph for converters. Comp Air Mag 56:161 Je '51

Oxy-argon gas speeds up welding. il Iron Age 167:85 Je 14 '51; Materials & Methods 34:10 Jl '51; Welding J 30:654+ Jl '51

Oxygen as a means of increasing Bessemer production; abstracts. W. G. McDonough. Iron Age 167:72 My 31 '51; Steel 128:92 My 28 '51; Iron & Steel Eng 28:116-17 Ag '51; Metal Prog 60:130+ S '51

Oxygen enrichment in the cupola; abstract. W. C. Newell. Metal Prog 58:918+ D '50

Oxygen for steel refining. G. Husson. Metal Prog 58:868 D '50

Oxygen in acid electric steel production. J. H. Garrison. il J Metals 3:601-2 Ag '51

Production of water gas with tonnage oxygen. J. W. Blatchford. diag Am Gas Assn Proc 1950:652-8

Storage and distribution of oxygen for the open hearth. B. P. Sarasin and R. Tietig, jr. il diags Iron & Steel Eng 28:81-9; Discussion. 89-90 Je '51

Use of oxygen/carbon dioxide instead of air in the final stage of the basic Bessemer process. B. Kalling and others. bibliog diag Iron & Steel Inst J 168:337-43 Ag '51

Isotopes

Angular distributions of protons from the reaction O^{16}(*d*, *p*)O^{17}. H. B. Burrows and others. Phys R 80:1095 D 15 '50

Carbonate-water isotopic temperature scale. S. Epstein and others. bibliog Geol Soc Bul 62:417-25 Ap '51

Hydrolysis of aryl sulphonates. C. A. Bunton and Y. F. Frei. Chem Soc J p 1872-3 Jl '51

Isotopic composition of oxygen in air dissolved in Pacific Ocean water as a function of depth. N. M. Rakestraw, D. P. Rudd and M. Dole. Am Chem Soc J 73:2976 Je '51

Photo-production of N^{17}; N^{18}(γ,*p*)N^{17}. W. E. Stephens and others. bibliog Phys R 82:511-14 My 15 '51

Self-diffusion and structure of liquid water; measurement of self-diffusion of liquid water with O^{18} as tracer. Jui Hsin Wang. bibliog Am Chem Soc J 73:4181-3 S '51

Spin and magnetic moment of O^{17}. F. Alder and F. C. Yu. Phys R 81:1067-8 Mr 15 '51

Spin of O^{18}. S. L. Miller and others. Phys R 82:454-5 My 1 '51

Studies of the exchange reactions of solid oxides; the exchange of oxygen between water vapour and certain metallic oxides. E. Whalley and E. R. S. Winter. Chem Soc J p 1175-7 Ap '50

Studies of the exchange reactions of solid oxides; the exchange of oxygen isotopes between gaseous oxygen and certain metallic oxides. E. R. S. Winter. diag Chem Soc J p 1170-5 Ap '50

Manufacture

Construction and operation of tonnage oxygen plants. M. J. Conway. flow diag il Iron & Steel Eng 28:58-65 Mr '51

Method for calculating the production cost of oxygen. P. S. Parker. Am Gas Assn Proc 1950:758-61

Poured packing, lower-cost oxygen; Linde-Fränkl cycle. Chem W 68:33 Je 23 '51

Production of cheap oxygen for hydrocarbon synthesis; patent. flow diag diag Pet Processing 5:1211+ N '50

What price tonnage oxygen? Linde-Fraenkl process. Chem Eng 58:186+ Jl '51

Transportation

Longer haul for oxygen. il Chem Ind W 68:15 My 12 '51

OXYGEN, Liquid

Dewar flasks of unusual design; small liquid oxygen containers for use in fighter aircraft. D. S. Goalwin. il diags Refrig Eng 59:768-9 Ag '51

OXYGEN apparatus

Oxygen analyser. il Engineer 191:297 Mr 2 '51

Oxygen piping systems an important hospital service. il diag Heating-Piping 23:94-6 Mr '51

Storage and distribution of oxygen for the open hearth. B. P. Sarasin and R. Tietig, jr. il diags Iron & Steel Eng 28:81-9; Discussion. 89-90 Je '51

Safety measures

How to handle oxygen cylinders safely. il diags Constr Methods 33:102+ Mr '51

OXYGEN bombs

Determination of sulfur after combustion in a small oxygen bomb; rapid titrimetric method. R. K. Siegfriedt, J. S. Wiberley and R. W. Moore. bibliog il Anal Chem 23:1008-11 Jl '51

Determination of sulfur and chlorine in organic materials; reduced scale oxygen bomb. E. J. Agazzi, T. D. Parks and F. R. Brooks. bibliog il Anal Chem 23:1011-13 Jl '51

OXYGEN compounds

Aromatic cyclodehydrogenation; studies on ring oxygen compounds, dinaphtho[1,2, 1′,2′]-furan. M. Orchin and L. Reggel. Am Chem Soc J 73:1877-8 Ap '51

Molecular-orbital treatment of organic compounds containing oxygen. J. G. M. Bremner and W. C. G. Bremner. Chem Soc J p2335-40 S '50

OXYGEN cutting

Hardness of oxygen-cut surfaces and their softening by heat treatment; abstract. G. Kritzler and H. Thier. Welding J 30: sup282 Je '51

OXYGEN fluoride. See Fluorine oxides

OXYGEN in the body

Polarographic measurement of the oxygen consumption of skin in vivo. F. Urbach and G. Peirce. bibliog Science 112:785-6 D 29 '50

Relation of oxygen uptake to hemoglobin synthesis. J. E. Richmond and others. bibliog Science 113:404-5 Ap 13 '51

OXYHEMOGLOBIN

Spectrophotometric determination of hemoglobin and oxyhemoglobin in whole hemolyzed blood. G. G. Nahas. il Science 113:723-5 Je 22 '51

OXYHYDROGEN flame

Flame polishing with oxy-hydrogen torch. il Mod Plastics 28:155 Jl '51

Kinetics of OH radicals from flame emission spectra; total transition probabilities and the energetic distribution of OH($^2\Sigma^+$) and O$_2$($^3\Sigma_u^-$) in the oxy-hydrogen flame. K. E. Shuler. bibliog J Chem Phys 19:888-94 Jl '51

OXYPHEN

Wet comparison. Chem Ind W 68:30 Ja 27 '51

OXYTHIAMINE. See Vitamins—Vitamin B_1

OYSTER shells

Oyster-shell chemistry. W. H. Shearon, jr. il Chem & Eng N 29:3078-80 Jl 30 '51

OYSTERS

Early sexual development and growth of the American oyster in Louisiana waters. R. W. Menzel. bibliog Science 113:719-20 Je 22 '51

West Indian tree oyster on the Louisiana coast, and notes on growth of the three Gulf Coast oysters. G. Gunter. Science 113:516-17 My 4 '51

OYSTERS, Frozen

Transparent can; frozen oysters and fish in acetate-bodied cans. il Mod Packaging 24:83 D '50

OZONE

Anode-electrolyte temperature differentials; electrolytic formation of ozone. T. R. Beck and G. L. Putnam. bibliog diag Ind & Eng Chem 43:1123-6 My '51

Bactericidal action of ozone; abstract. R. H. Leiguarda and others. Am Water Works Assn J 43:sup42+ Jl '51

Demonstration of ozone from bottled oxygen. J. E. Ransford. diag J Chem Educ 28:477 S '51

Force constants, frequency assignments, and thermodynamic properties of ozone. M. J. Klein and others. bibliog J Chem Phys 19:1068-9 Ag '51

Oxidation of some rare earth oxides with ozone. S. Rabideau and G. Glockler. Am Chem Soc J 73:488 Ja '51

Ozone kills phenols in waste. il Chem Eng 58:224+ S '51

Photochemical reaction between ozone and hydrogen peroxide. D. H. Volman. bibliog diag Am Chem Soc J 73:1018-22 Mr '51

Production of ozone with refrigerated anodes. E. I. Lash and others. bibliog flow sheet diags Electrochem Soc J 98:134-7 Ap '51

Rapid gas phase reaction between nitric oxide and ozone. H. S. Johnston and H. J. Crosby. J Chem Phys 19:799 Je '51

See also

Rubber, Effect of ozone on

Analysis

Iodometric determination of ozone of high concentration. E. D. Boelter, G. L. Putnam and E. I. Lash. bibliog Anal Chem 22:1533-5 D '50

OZONE, Liquid

Concentrated liquid ozone now can be manufactured safely. il Elec Eng 70:560 Je '51; Chem & Eng N 29:2474-5 Je 18 '51; Mech Eng 73:583 Jl '51

Liquid ozone; taming a wildcat; abstract. C. E. Thorp. Chem Eng 58:276-7 My '51

Ozone handling technique studied. Aviation W 54:32-3 My 21 '51

Ozone tamed; Armour foundation makes concentrated liquid without explosion. Bsns W p 118 Ap 14 '51

Safer outlook for ozone. il Chem Ind W 68:21-2 My 5 '51

OZONIZATION

Contribution to the chemistry of the alkali metal ozonates. T. P. Whaley and J. Kleinberg. bibliog diag Am Chem Soc J 73:79-82 Ja '51

Ozonation of cyanide wastes. R. G. Tyler and others. Sewage & Ind Wastes 23:1150-3 S '51

OZONIZERS

Decomposition of the isomeric valeric acids in the ozonizer discharge. W. S. Partridge and W. M. Garrison. bibliog Am Chem Soc J 72:4302-3 S '50

Ozonator for testing of rubber. diag Rubber Age 68:232 N '50

Ozone generators in garages add new hazard. Safety Maint & Prod 101:32 Ja '51

You can build load with industrial ozone. V. Hann. il Elec World 135:54-5 Ja 15 '51

OZONOLYSIS

Steroid series; the ozonolysis of fucosterol and some of its derivatives. D. H. Hey, J. Honeyman and W. J. Peal. Chem Soc J p2881-4 O '50

P

P enzyme. See Enzymes

PAS. See Aminosalicylic acid

pH. See Hydrogen ion concentration

PACIFIC coast electrical association

Annual meeting, Los Angeles, May 21-23. Elec World 135:68 Je 4 '51

Annual meeting, Los Angeles, May 21-23; with abstracts of papers and committee reports. Elec West 106:104-16+ Je '51

Fall meeting, San Francisco. Elec West 105:86-98 D '50

Meeting, Honolula, Nov. 30-Dec. 1. Elec West 106:83-6 Ja '51

PACIFIC coast gas association

Annual meeting, 58th, San Francisco, Aug. 21-23. Am Gas J 175:33-4 S '51

Annual meeting, 58th, San Francisco, Aug. 21-23; with abstracts of papers. Gas Age 108:44-7+ S 27 '51

PACIFIC fire insurance company

100 years old. Nat Underw 55:5+ Ap 26 '51

PACIFIC fire rating bureau

New officers. Nat Underw 55:4 My 24 '51

PACIFIC gas and electric company

Annual report. Comm & Fin Chr 173:1586 Ap 16 '51

California's P.G.&E. il map Fortune 43:72-7+ Mr '51

Importance of utility taxes. S. P. Allen. Pub Util 46:547-52 O 26 '50

Offering to stockholders underwritten. Comm & Fin Chr 173:1277-8 Mr 26 '51

Public utility securities. O. Ely. Comm & Fin Chr 173:1158-9 Mr 15 '51

Security I like best. L. B. Robinson. Comm & Fin Chr 173:1222+ Mr 22 '51

PACIFIC islands. See Islands of the Pacific

PACIFIC lighting corporation

Stock offered. Comm & Fin Chr 173:1795 Ap 30 '51

PACIFIC mills

Five high yield stocks that should do well in a defense economy; with comparative balance sheet items. Mag of Wall St 87:453 Ja 27 '51

Sales and profits stage sharp comeback; outlook for 1951 continues bright. W. Wells. Barron's 30:21-2 D 11 '50

PACIFIC ocean

Cenozoic marine climates of the Pacific coast. J. W. Durham. maps Geol Soc Bul 61:1243-63 bibliog(p 1261-3) N '50

Sea bottom off the coast of California; a review of Special paper 31, Geological society of America, by Shepard and Emery. A. C. Lawson. diag Geol Soc Bul 61:1225-41 N '50

PACIFIC power and light company

Common stock offered. Comm & Fin Chr 172:1439 O 16 '50

Stock offered. Comm & Fin Chr 174:367-8 Jl 30 '51

PACIFIC relations, Institute of. See Institute of Pacific relations

PACIFIC southwest association of chemistry teachers

Annual meeting, 2d, Los Angeles, Nov. 3-4. J Chem Educ 28:48 Ja '51

PACIFISM. See Peace

PACKAGE design

Band-Aid adhesive bandages; nominated for packaging's Hall of fame. il Mod Packaging 24:80-5+, cover Mr '51

Beech-Nut glassed foods; nominated for packaging's Hall of fame. il Mod Packaging 24:84-90+ Ja '51

Birds Eye; nominated for packaging's Hall of fame. il Mod Packaging 24:76-81+ Jl '51

Brush in a blister; spherical acetate dome in paperboard set-up box displays English hair brush. il Mod Packaging 24:77 N '50

Cameras for connoisseurs; Busch Verascope and equipment. il Mod Packaging 24:96-7 Je '51

Can your product package pass this six-point test? J. F. Nabkey. Sales Management 66:113+ Ap 15 '51

Candy with imagination; industry can profit by work of student package designers. il Mod Packaging 24:112-13 F '51

PACKAGE design—*Continued*

Circus in a box; Swingzy stage play carton for crayons. il Mod Packaging 24:104-6 My '51

Counter action; Robert Burns gets it with counter carton for little cigars. il Mod Packaging 24:106-7 D '50

Designing the package as part of the product; abstract. C. D. Mattingly. Mod Packaging 24:124-5 My '51

Folding-box winners. il Mod Packaging 24:170-4+ Ap '51

Four Roses; nominated for packaging's Hall of fame. il Mod Packaging 24:84-90+ N '50

Gillette razors and blades; nominated for packaging's Hall of fame. il Mod Packaging 24:92-9+ My '51

High-fashion paints; General Paint's one-shot color tube leads to packaging redesign and new merchandising approach. il Mod Packaging 24:96-8 D '50

Jell-O; nominated for packaging's Hall of fame. il Mod Packaging 24:88-93+ D '50

Lipton tea; nominated for packaging's Hall of fame. il Mod Packaging 24:86-92+, cover F '51

Oh Henry! nominated for packaging's Hall of fame. il Mod Packaging 24:126-31+, cover Ap '51

Package tune-up; Scotch brand sound recording tape. il Mod Packaging 24:108-9 D '50

What women like and dislike about packages today; new survey on grocery store products. A. R. Hahn. il Sales Management 67:50-2+ Jl 15; 66-8+ Ag 1; 48-50+ Ag 15 '51

What's right with this package? Swift's peanut butter. il Sales Management 67:76-7 Jl 15 '51

Witty packaging; it builds sales for Blum's. il Sales Management 66:96+ F 15 '51

See also

Candy boxes
Labels
Package goods—Gift packages

Family of products

Does your packaging cost you sales? Minute products division, General foods corp. N. R. Anderson. il Ptr Ink 236:46-7 S 14 '51

FR's improvements; refinements in packaging of well-designed photo-supply family. il Mod Packaging 24:96-7 Ag '51

K is for Kleinert's. il Mod Packaging 24:102-4 Ag '51

More "windows" for Dulany; frozen-food label technique extended to canned foods. il Mod Packaging 24:104-5 D '50

Now there's family resemblance wherever Warfield brand appears. R. S. Smith, jr. and A. T. MacMath. il Sales Management 66:56+ Ja 15 '51

Overhauling the trademark; AC spark plug division of GM. J. C. Hines. il Mod Packaging 24:112-14 Je '51

Rexall; four years after; second look at redesign program. il Mod Packaging 24:116-20+ F '51

Successful dehydrated foods; Wyler & co.'s packaging problems. il Mod Packaging 24:114-16 D '50

Sunset discards package mish-mash; now there's a family; fishing lines. il Sales Management 65:80+ D 1 '50

Unified labels spark sell-the-line merchandising plan for Pabco. il Sales Management 67:44-6+ S 15 '51

Yellow wins again in Illinois meat co.'s shopper poll on new labels. il Mod Packaging 24:118-20 My '51

PACKAGE dyeing. See Dyes and dyeing—Package dyeing

PACKAGE goods

Chicken feed stuff the dealer despises; what we do about it; screws, washers, rubber plugs, etc. for plumbing replacement. il Sales Management 67:96+ O 1 '51

Geographical considerations; variations of climate, trade practices and consumer preferences. il map Mod Packaging 24:73-7+ Je '51

Light look package for new King whisky. il Mod Packaging 24:84-5 F '51

Now that these loose items are packaged, sales are on the way up; Sargent hardware enters consumer market. J. B. Duff. il Ptr Ink 236:38-9 Jl 27 '51

What products win five and ten cent awards? Sales Management 66:57 Mr 15 '51

What women like and dislike about packages today; new survey on grocery store products. A. R. Hahn. il Sales Management 67:50-2+ Jl 15; 66-8+ Ag 1; 48-50+ Ag 15 '51

See also

Candy trade
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Toilet goods

Advertising

Designs package on video. il Ptr Ink 233:42 N 10 '50

How to lick silence at point-of-purchase; Noxzema's new shave cream provocative package. il Sales Management 66:62-3 Ap 1 '51

What does your package look like on tv? B. Foreman. il Ptr Ink 235:36-7 My 18 '51

Color

Seafood a la color; Fulham bros. carton for stronger appeal and better protection of frozen fish fillets. il Mod Packaging 24:102-4 Je '51

Combination packages

Single bright idea sells 11,000,000 packages of TobyJell; sold with Brown 'N Serve bakery rolls. E. Gidlow. il Sales Management 67:37-9 S 15 '51

Gift packages

Desk-stand package; Eversharp's plastic pen and pencil case. il Mod Packaging 24:87 D '50

Gift market. il Mod Packaging 24:79-85+ My '51

Less glamour, or more? diversity of this year's cosmetic gift packaging. il Mod Packaging 24:78-82+ N '50

Sweet and pretty; Curries gift package combines candies with fresh corsage. il Mod Packaging 24:83 Ja '51

New packages

Ansco's triple threat; new three-roll film package. il Mod Packaging 24:88-9 Jl '51

Bold new Foulds. il Mod Packaging 24:90-3 Je '51

Look at these packages; they revolutionized a sales plan; Bonner packing co. E. Gidlow. il Sales Management 67:76-8+ O 15 '51

New attacks on old sales problems lift volume 120 per cent for Schilling. J. D. Miller. il Sales Management 66:37-9+ Je 15 '51

Repeat item re-wrapped for brand recognition; Master white bread. J. Witte. il Ptr Ink 234:34-5 F 16 '51

Snowdrift restyles for 50th anniversary. il Mod Packaging 24:82 Ja '51

Versatile in-line carton maker; new Duco Cement cartons show its advantages. il Mod Packaging 24:96-103 Ja '51

When you are shifting to a new package; jump directly or shift gradually? il Ptr Ink 236:36-9+ Jl 13 '51

Why Carr is closing its package window. il Ptr Ink 235:41 Ap 20 '51

Protection

Geographical considerations. il map Mod Packaging 24:73-7+ Je '51

Military status of flexible packaging; new materials and new requirements indicate changes in government demands on industry. C. A. Southwick, jr. il diags Mod Packaging 24:121-4 N '50

Rat-repellent findings; package protection by repellents in adhesives. J. F. Welch. il Mod Packaging 24:138-40 My '51

What and how of glassine; analysis of basic properties and applications. G. C. Borden, jr. and P. K. Wolper. il Mod Packaging 23:111-17+ Ag '50; Same. Tappi 34:sup28A+ My '51

See also

Closures (containers)
Food packages—Protection
Packaging materials—Moisture protection

Sampler packages

Gerber's miniatures; semi-automatic line produces 15,000 samples per day. il Mod Packaging 24:90-1 My '51

PACKAGE goods—Sampler packages—*Cont.*
Minuscule samples; Harper's Bazaar's perfume packet mailed to readers; flame-sealed Plastene ampoules. il Mod Packaging 24:80-2 Ja '51

Netherlands

Dutch perk-up; sprightly new packages reflect U.S. influence. il Mod Packaging 24:116-18+ Ja '51

PACKAGING
American management association's 20th national packaging conference and exposition, Atlantic City; abstracts of papers. Mod Packaging 24:121-30 My '51
Armed forces adopt new waterproof packaging. il Iron Age 168:96-7 Jl 12 '51
Ball-point revival; Fisher Pen's fresh merchandising ideas backed up with effective packaging and display. il Mod Packaging 24:108-9 F '51
Bold new Foulds. il Mod Packaging 24:90-3 Je '51
Book boosters; Doubleday uses packaging and display. il Mod Packaging 24:92-3 Mr '51
Developing the drug package. il Mod Packaging 24:69-74 Mr '51
Distributors blessed the day Morse revamped its packages; factory-cut and packaged roller chain. il Sales Management 66:52+ Mr 15 '51
Four fat dividends follow packaging of copper tubing. D. G. Baird. il Sales Management 66:82+ My 20 '51
Greaseproof barriers, methods, and materials. E. G. Greenman. Tappi 34:sup107A-9A Ap '51
How a manufacturer cut costs by increasing packages threefold; Hyatt Bearings. il Ptr Ink 235:35 My 11 '51
Impact of defense requirements in the paper and twine industry. C. K. Royce. Paper Tr J 132:37-8 Je 29 '51
Increasing packaging efficiency through coordinated action; Black Draught tablets; abstract. S. E. Noble. Mod Packaging 24:123-4 My '51
Long life to hearing-aid batteries; Olin's improved packaging program. il Mod Packaging 24:168 N '50
Military packaging; container requirements. A. V. Grundy and F. Rubinate. il Food Eng 23:111-14+ S '51
Military packaging is big business. H. H. Loeffler. Standardization 22:214-15+ Jl '51
Military packaging requirements; summary of panel discussion. J. A. Way and others. Mod Packaging 24:122-3 My '51
Military status of flexible packaging; new materials and new requirements indicate changes in government demands on industry. C. A. Southwick, jr. il diags Mod Packaging 24:121-4 N '50
More mileage from materials; problems of short supplies and soaring costs. il diags Mod Packaging 24:77-82+ D '50
Packaging and rearmament; panel discussion; abstract. H. T. Holbrook and others. Mod Packaging 24:120-2 D '50
Packaging for industry. il Mod Packaging 24:113-18+ Ap '51
Packaging; get set now for fast changes. il diags Mod Ind 20:38-44 D '50
Packaging institute 12th annual forum, New York, Oct. 23-25; with abstracts of papers. Mod Packaging 24:117-28 D '50
Packaging lessons from the last war; abstract. H. W. Gadsden. Mod Packaging 24:121-2 My '51
Packaging; materials as important as markets in 1951. il Ptr Ink 233:33 D 29 '50
Packaging; this act's for everyone; Coleman co. il diags Mod Ind 22:52-5 Ag '51
Packaging turbojet engine parts. A. F. Hinett. il Aero Digest 62:26-8+ Ap '51
Petroleum products packaging; panel discussion; abstract. R. C. Reed and others. Mod Packaging 24:124-6 D '50
Petroleum waxes; their use and evaluation for paper packaging. T. C. G. Thorpe. diags Inst Pet J 37:275-303; Discussion. 303-15 Je '51
Pre-packaged for the surgeon; vinyl surgical drapes. il Mod Packaging 24:96-9 Mr '51
Road ahead in 1951. il Mod Packaging 24:71-9+ Ja '51
Safeguarding parts during shipment and storage. il Diesel Power 28:43 D '50
Safety blade sleeve; Marlin's slide-off wrapper makes razor-blade insertion safe and quick. il Mod Packaging 24:84-6 D '50
Starring the pen; counter unit makes combined packer, display and dispenser for 72 ball pens. il Mod Packaging 24:100-1 My '51
Substitution; lessons of World war II. il Mod Packaging 24:77-83+ F '51
Vapor packaging keeps rust off weapons, tools. G. Foster. il Iron Age 167:99-103 Je 7 '51
Wake up, Uncle Sam! packaging lessons of the last war. H. T. Holbrook. map Mod Packaging 24:73-6+ N '50
Watch packaging specs in figuring military contracts. E. Karpick. il Steel 129:70-3 Jl 16 '51
Wire rope blocks emerge from the barrel in the stock room. S. O. Brown. il Sales Management 66:42-4 Je 1 '51
See also
Closures (containers)
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Vegetables—Prepackaging

Cost

Economics of container design; principles of calculus applied to proportioning of containers can effect substantial savings in materials. C. F. Carr. diags Mod Packaging 24:186-8+ Ap '51

Exhibitions

Executive grabs his paints; Riegel Paper's exhibition; illustrations with text. Bsns W p22-3 Ap 14 '51
National packaging exhibition, 2d, London, Jan. 30-Feb. 9. il Engineering 171:186-8, 192 F 16 '51
National packaging exposition, 20th, Atlantic City; program and list of exhibitors. Mod Packaging 24:138-9+, insert Ap '51

Patents

U.S. patents digest. H. A. Levey, ed. Published in monthly numbers of Modern packaging

Standards

Packaging committee makes progress toward oil drum, pail, can standards; Petroleum committee of the Packaging institute. Nat Pet N 42:35 N 1 '50

Unit packaging

Multiple merchandiser; multi-brand display unit on cigar counters. il Mod Packaging 24:163 Ap '51
Packeted cleansers; single-use, measured-quantity envelopes. il Mod Packaging 24:90-1 Mr '51
Single-shots; liquid products in gelatin capsules. il Mod Packaging 24:148-50+ Ap '51

PACKAGING association of Canada
Organization meeting, Toronto. Pulp & Pa of Can 51:206+ N '50

PACKAGING departments
Role of a packaging engineer; abstract. W. Stearn. Tappi 33:sup 102A-3A D '50

PACKAGING institute
Annual forum, 12th, New York, Oct. 23-25; with abstracts of papers. Mod Packaging 24:117-28 D '50
Annual meeting, New York. Food Ind 22:2147+ D '50

PACKAGING laboratories
Army package probe; Package development laboratory. il Chem W 69:19 Jl 28 '51

PACKAGING machinery
Automatic packaging machine handles varied parts; Buick service parts div. warehouse. W. G. Patton. il Iron Age 167:80-2 Mr 22 '51
Camera reports what's new at packaging show. Food Eng 23:110-13 Je '51
Carry-homes, 60 a minute; unit sets up, loads, glues, seals six-can beer carton. il Food Eng 23:50 Jl '51
Chain transporting rigs transfer work. F. H. Mayoh. il diag Am Mach 95:123 My 28 '51

PACKAGING machinery—*Continued*

Cracker-filling achievement; new system of weighing; Megowen-Educator food co. il diag Mod Packaging 24:140-3 Ap '51

Electronics in packaging; abstract. R. L. Merrill and W. Hecox. Mod Packaging 24: 124 D '50

Frozen foods speed-up; new machine and end-opening carton at Cedergreen frozen pack corp. il Mod Packaging 24:106-7 F '51

Gerber's miniatures; semi-automatic line produces 15,000 samples per day. il Mod Packaging 24:90-1 My '51

Mechanized squeeze-bottling; Ciba's improved nebulizer. il diag Mod Packaging 24:68-70+ Ag '51

National packaging exhibition, 2d, London, Jan. 30-Feb. 9. il Engineering 171:186-8, 192 F 16 '51

New automatic cartoner sells more at less cost; View Pack. il Mod Packaging 24: 160-1 Mr '51

New machinery at the show; illustrations with text. Mod Packaging 24:152-7 Ap '51

New photoelectric register controls. G. M. Chute. il diags Electronics 24:92-7 My '51

Non-wicking bakery tray; high-speed mechanical handling on cookie lines at Farm Crest. flow chart il Mod Packaging 24:76-8 Mr '51

Packages dry foods regimental style. J. V. Ziemba. il Food Ind 23:102-3 Mr '51

Packaging machine for stockings. il Engineering 172:93-5 Jl 20 '51

Sale I never forgot; he bought results. E. J. Presser. Ptr Ink 235:66 Je 15 '51

Stockings packed and labeled mechanically. il Textile World 100:145 O '50

Vacuum bag it, for better quality; Armour's sliced bacon packages. E. S. Stateler. il Food Ind 22:2045-6 D '50

Versatile in-line carton maker; new Duco Cement cartons show its advantages. il Mod Packaging 24:96-103 Ja '51

Wagner's low cost packaging brings back five cent pies. D. Copell. il Food Ind 22: 1883-4+ N '50

Weigher-stacker speeds matzoth line. il diags Food Eng 23:94-5+ Je '51

See also

Filling machines
Wrapping machines

Maintenance and repair

Maximum use of packaging equipment with proper maintenance; abstract. E. J. Capstack. Mod Packaging 24:128 My '51

PACKAGING materials

Available packaging materials; abstract. F. J. Rubinate. Tappi 33:sup 103A-4A D '50

Barrier materials seal out corrosion. il Steel 129:98 S 10 '51

Chemical packaging in polythene. J. H. Childs. Can Chem & Process Ind 35:236-7 Mr '51

Defense packaging eating into civilian supply. Chem & Eng N 29:1838-9 My 7 '51

Don't let your package get caught short. R. H. Colley. il Ptr Ink 234:42-3 Mr 23 '51

Emergency packaging; special Food Engineering report. il Food Eng 23:123-34 Ap '51

Greaseproof barriers, methods, and materials. E. G. Greenman. Tappi 34:sup 107A-9A Ap '51

How to save packaging materials. Mod Ind 21:91 Je '51

Impact of defense requirements in the pulp and paper industry. C. K. Royce. Tappi 34:sup 112A-13A Ag '51

Military status of flexible packaging; new materials and new requirements indicate changes in government demands on industry. C. A. Southwick, jr. il diags Mod Packaging 24:121-4 N '50

More mileage from materials; problems of short supplies and soaring costs. il diags Mod Packaging 24:77-82+ D '50

New packaging materials; characteristics and use; abstract. R. D. Couch. Mod Packaging 24:129 My '51

Outlook for packaging supplies seminar; abstract. L. R. Forker and others. Mod Packaging 24:118-20 D '50

Pack in popcorn? proposed use as package cushioning material. Mod Packaging 24:170 Ja '51

Packaging material picture; summary of panel discussion. G. M. Shimer and others. Mod Packaging 24:125-7 My '51

Packaging; materials as important as markets in 1951. il Ptr Ink 233:33 D 29 '50

Packaging possibilities broadened by the use of polyethylene linings and containers. R. E. Wright. bibliog il Ind & Eng Chem 42: sup 123A-4A N '50

Packaging problems discussed at Chicago meeting. Brick & Clay Rec 119:62 Jl '51

Paperboard, wood, adhesives, paper; digests of addresses at National packaging conference, Atlantic City, April 17-19. Paper Tr J 132:28+ Ap 27 '51

Polyamide resin suspensoids; answer to many packaging adhesive problems. H. Wittcoff. il Mod Packaging 24:111-15 Mr '51

Pouches, joint army and navy packaging. L. M. Burgess. Tappi 34:sup 109A-11A Ap '51

Prepare for substitute packaging now; P.I. panel warns. il Ptr Ink 234:25-7+ Ja 5 '51

Protective coatings and films open new markets in packaging field. Chem & Eng N 29:1509-10 Ap 16 '51

Road ahead in 1951. il Mod Packaging 24: 71-9+ Ja '51

Round-table planning; a meeting with suppliers may be answer to difficult procurement problems. il Mod Packaging 24:90-1 Ag '51

Substitution; lessons of World war II. il Mod Packaging 24:77-83+ F '51

Unique new method for strengthening packages. il Paper Ind 33:42 Ap '51

Volcanic packing; expanded perlite. il Chem Ind W 68:28 Ap 7 '51

See also

Adhesives
Aluminum foil
Cellophane
Glassine
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Paper, Greaseproof
Paper, Waxed
Paper board
Plastic films
Waxes
Wrapping materials
Wrapping paper

Moisture protection

Vapor corrosion control; military services replacing grease with chemically impregnated paper and cardboard. il Chem W 68: 24 Je 30 '51

Vapor-phase inhibitor goes to war; anticorrosion packaging in the new armaments program. il Mod Packaging 24:92-5 Jl '51

Patents

U.S. patents digest. H. A. Levey, ed. Published in monthly numbers of Modern packaging

Permeability

Factors in nitrogen packaging; requirements for successful flexible packs and a control test method for spotting leakers. W. S. Walker. il Mod Packaging 24:136-40+ D '50

Flavor factors in frozen-food wraps; study on frozen ground beef. J. D. Winter and A. Hustrulid. bibliog diag Mod Packaging 24:133-7+ My '51

Odor permeability of glassine; correlation between organoleptic and instrumental evaluations permits rapid control testing of samples. L. C. Cartwright and P. H. Kelley. bibliog il diag Mod Packaging 24: 121-2+ Ja '51

Organic-vapor transmission test; General Foods methyl furoate method. T. J. Muldoon and others. diag Mod Packaging 24: 123-6 Ja '51

Printing

Prints cases as you use 'em; four-header case printer developed by Adolph Gottscho. il Food Ind 23:117+ F '51

Reproduction and package printing; panel discussion; abstract. M. G. Baldwin and others. Mod Packaging 24:122-3 D '50

Significant advances in packaging printing; abstract. A. C. Zettlemoyer. Mod Packaging 24:130 My '51

PACKAGING materials—*Continued*

Testing

Free oil in packaged foods; method of measuring resistance of container materials to stain. A. H. Landrock and B. E. Proctor. bibliog diag Mod Packaging 24:107-12 Ag '51

New data on cherries; Department of agriculture compares various films in prepackaging. F. Gerhardt and G. Lindell. il Mod Packaging 24:116-19+ Mr '51

Odor permeability of glassine; correlation between organoleptic and instrumental evaluations permits rapid control testing of samples. L. C. Cartwright and P. H. Kelley. bibliog il diag Mod Packaging 24:121-2+ Ja '51

Organic-vapor transmission test; General Foods methyl furoate method. T. J. Muldoon and others. diag Mod Packaging 24:123-6 Ja '51

PACKAGING research

Measuring humidity equilibria; new rapid graphical interpolation method. A. H. Landrock and B. E. Proctor. bibliog il diag Mod Packaging 24:123-30+ F '51

Quartermaster packaging, 1951. il Mod Packaging 24:59-65+ Jl '51

See also

Packaging laboratories

PACKARD motor car company

What about the automobile independents? G. W. Mathis. Mag of Wall St 88:305-7+ Je 16 '51

PACKING

Air-water contact operations in a packed column. F. Yoshida and T. Tanaka. diags Ind & Eng Chem 43:1467-73 Je '51

Chemlon V-ring packing, molded of Teflon. il Mod Plastics 28:148 F '51

Critical conditions of two-phase flow in packed columns. B. J. Lerner and C. S. Grove, jr. bibliog diags Ind & Eng Chem 43:216-25 Ja '51

Design of packed distillation columns; empirical method for the estimation of column height using the H.E.T.P. concept. C. H. G. Hands and F. R. Whitt. bibliog J Ap Chem 1:135-40 Mr '51

Design of packed distillation columns; operating vapour rates for packed distillation columns. C. H. G. Hands and F. R. Whitt. bibliog J Ap Chem 1:19-25 Ja '51

Design of packed distillation columns; pressure drop through packed distillation columns. C. H. G. Hands, F. R. Whitt and K. S. Gregory. bibliog il Soc Chem Ind J 69:321-30 N '50

Design of packed distillation columns; rectification film resistances in a packed column. C. H. G. Hands and F. R. Whitt. bibliog diag J Ap Chem 1:67-73 F '51

Distillation in 2, 4 and 5.75 inch diameter packed columns. A. C. Heinlein and others. Chem Eng Prog 47:344-6 Jl '51

Do's and don'ts of packing practice. J. W. Hemphill. diags Paper Ind 32:1080-3 Ja '51

Felt hats may not be best packin' after all. Power 95:142 Jl '51

Fractionating efficiency of various packings in distillation columns operating at reduced pressure. M. Myles and others. diag Ind & Eng Chem 43:1452-6 Je '51

Friction of flexible packings. D. F. Denny. diags Inst Mech Eng Proc 163 (W.E.P. no 57):98-102; Discussion. 103-10 '50

Helpful hints for handling packings. Water & Sewage Works 98:R76 Ap '51

How to seal rotating shafts against high pressures. W. Coopey. diags Chem Eng 58:116-17 Jl '51

Inexpensive packing gland assembled for glass tubing. J. E. Drummond. diag Elec World 136:116+ S 24 '51

Limiting flows in packed extraction columns; correlation for large packings. J. W. Crawford and C. R. Wilke. bibliog flow diag il diag Chem Eng Prog 47:423-30; Discussion. 430-1 Ag '51

Mechanical shaft seals for general refinery service. A. Fanestiel. il diags Oil & Gas J 49:56+ F 1 '51

Pack pump pistons right. diags Power 95:120-1 O '51

Packed-tube heat transfer. M. Leva. diags Ind & Eng Chem 42:2498-501 D '50

Packings for hydraulic equipment. G. N. Dorr. diags Mach 58:170-5 S; 180-3 O '51

Plastic packing. il Blast F & Steel Pl 38:1350 N '50

Practical pointers on packing. J. E. Hyler. il diags Mill & Factory 48:102-6 Mr '51

Rubber O-rings display low compression set. diag Product Eng 22:166 F '51

Temperature gradients in gas streams flowing through fixed granular beds. C. A. Coberly and W. R. Marshall, jr. bibliog flow sheet Chem Eng Prog 47:141-50 Mr '51

Turbine-packing wear causes loss in unit efficiency. C. A. Lilly, jr. and J. E. Downs. il Power 94:113 D '50

Velocities and effective thermal conductivities in packed beds. M. Morales, C. W. Spinn and J. M. Smith. bibliog diags Ind & Eng Chem 43:225-32 Ja '51

See also

Gaskets

Stuffing boxes

Advertising

Steady sales increase follows publication of reference book; Vix-Syn, synthetic rubber packings. il Ptr Ink 235:40 My 18 '51

PACKING for shipment

Better packaging; recommendations of committee of Maritime association of the port of New York. il Spectator (Property ed) 16:24-6+ Je '51

Bigger unit load cuts handling and shipping costs 39 per cent; G.E. ships refrigerator cord sets to Erie plant. K. I. Oxenrider. il Factory Management 109:102-3 My '51

Cheaper parts packaging eliminates borrowing damage. il Iron Age 168:102 Jl 12 '51

Chemicals for export. W. H. Shearon, jr. il Chem & Eng N 29:4256-8 O 15 '51

Claim prevention men brush up on furniture packing; refresher course conducted by Southern weighing and inspection bureau; illustrations with text. Ry Age 131:84-5 S 17 '51

Commodity rates on return pallets in Canada. il Ry Age 130:39 F 5 '51

Giant jobs for tapes; new reinforced materials fill in for scarce metal strapping. il diags Mod Packaging 24:98-102 Jl '51

How package engineering has cut damage claims. il Ry Age 131:74+ Ag 6 '51

How paper mills conserve steel strapping. A. N. Perry. il Paper Tr J 133:19-20 Jl 6 '51

How to lick a carton storage problem; overhead storage balcony equipped with chutes and conveyors at Westinghouse Electric's Beaver, Pa. plant. J. C. Hencel. il Factory Management 108:114-15 N '50

Improved packaging saves time and space. il Automotive Ind 105:51+ Ag 1 '51

Mass-scale exports: Aramco's experience points way to safer export packaging. G. Stephen. il Mod Packaging 24:114-18 N '50

Packaging 50-mva condenser cuts erection time 33 per cent. C. H. Bjorquist. il Elec World 135:118 F 12 '51

Packaging; this act's for everyone; Coleman co. il diags Mod Ind 22:52-5 Ag '51

Packing problem. il Electrician 146:289-92 Ja 26 '51

Packing tractors for the high seas; illustrations with text. Mill & Factory 48:118 My '51

Paperboard packaging reduces shipping damage. W. J. Rusin. il Iron Age 166:93-4 N 9 '50

Protective mountings; Lord mfg. co. claims it can solve your problem. Aviation W 55:52 Jl 9 '51

Quartermaster packaging, 1951. il Mod Packaging 24:59-65+ Jl '51

Recommendations of the committee on cargo packaging. Mod Packaging 24:190 My '51

Reducing product damage through better shipping protection; abstract. A. M. Underhill. Mod Packaging 24:129-30 My '51

RMA packing specifications for crude rubber should be made more specific. C. B. McKeown and T. E. Williams. il India Rubber World 123:683-5 Mr '51

PACKING for shipment—*Continued*

Shartle's export packing commended. il Paper Ind 33:160+ My '51

Stopping pilferage; secret profit-sapper. il diags Mod Ind 21:50-1 Mr '51

Vapor-phase inhibitor goes to war; anticorrosion packaging in the new armaments program. il Mod Packaging 24:92-5 Jl '51

Vermiculite cushioning; for shipment of fragile items. il Mod Packaging 24:80-1 Je '51

Wake up, Uncle Sam! packaging lessons of the last war. H. T. Holbrook. map Mod Packaging 24:73-6+ N '50

See also

Containers (for shipping)

Crates

Shipment of goods

PACKINGHOUSE workers of America, United. See United packinghouse workers of America

PACKING houses

Old recipes plus new tools; Armour's dry sausage department. il Food Eng 23:85-7 Je '51

Pork packer comes up with seven better practices; Tobin co., Rochester, N.Y. il Food Ind 22:1873-5+ N '50

By-products

Chemical engineering in the meat-packing industry. M. D. Sanders and others. flow diags il diag Chem Eng Prog 47:443-8 S '51

Manufacturing, mining and medicine; benefit from meat research; Armour's new products. J. D. Ratcliff. il Dun's R 59:24+ Ag '51

Solvent extraction saves $$$; processing cracklings at John Morrell & co. plant. J. L. Carlson. il diag Food Eng 23:102-4 Je '51

Employees

Collective bargaining in the meat-packing industry. A. Bercowitz. Mo Labor R 73:156-9 Ag '51

Free hams, too? packinghouse workers bargaining demands. Bsns W p42 S 15 '51

Meat issue; annual wage for packinghouse workers. il Bsns W p30-1 Jl 28 '51

Pay freeze produces strikes; Chicago packing house trouble. il Bsns W p 124-5 F 10 '51

Wage chronology no. six; Armour & co.; supplement, 1950. Mo Labor R 71:474-5 O '50

Wage chronology no. seven; Swift & co. supplement, 1950. Mo Labor R 71:476-8 O '50

Equipment

Cutting board for trimming and boning meat is made of new plastic compound. il Mod Plastics 28:158 Jl '51

Engineering did it; Boston sausage & provision co. J. V. Ziemba. il Food Eng 23:105-9+ Ap '51

Quick bacon cure; automatic machine injects pickle through 101 needles; Inject-O-Cure process. L. E. Malcom. il Food Eng 23:60-2 My '51

Up goes output on continuous boning line. il Food Ind 23:94-5 Mr '51

Fires and fire protection

Combustible gas alarm aids safety in solvent extraction; Hunter packing co. il Heating-Piping 23:99-101 Mr '51; Same. Safety Maint & Prod 101:30-1+ Ap '51

Waste

High rate anaerobic digestion of meat packing wastes. W. J. Fullen and L. W. Murphy. il diag Pub Works 82:44-6 Jl '51

PACKING industry

Meat freight rate; new increases have wiped out western packers gains. Bsns W p62-3 Ja 13 '51

See also

Armour and company of Illinois

Swift and company

Accounting

Fringe labor costs in the packing industry. C. P. Elsen. N A C A Bul 32:1457-64 Ag '51

PADUCAH, Kentucky

Paducah; atomic energy boom town. il Bsns W p84-6+ Jl 7 '51

PAHAQUARRY township, New Jersey

Mystery of Pahaquarry copper. C. H. Vivian. il maps Comp Air Mag 56:58-64 Mr '51

PAIN

Influence of skin temperature upon the pain threshold as evoked by thermal radiation. J. D. Hardy and others. bibliog Science 114:149-50 Ag 10 '51

PAINT

Butyl titanate; preparation polymerization and use in paint. G. Winter. bibliog Paint Oil & Chem R 114:12+ Je 21 '51

Chemical engineering materials of construction. J. C. Moore. bibliog(71 ref) Ind & Eng Chem 43:2251-5 O '51

Dissolving package; special film containing semi-solid pigment is miscible with paint in which it is mixed. il Mod Packaging 24:88-9 Ag '51

Federation of paint and varnish production clubs papers; abstracts. Oil Paint & Drug Rep 158:81-3 N 13; 7+ N 27 '50

Fire hazards of paints and cleaners. Safety Maint & Prod 101:55-7 Mr '51

GM rocks the paint industry. H. C. Tuttle. Steel 128:95-6 Je 25 '51

High-fashion paints; General Paint's one-shot color tube leads to packaging redesign and new merchandising approach. il Mod Packaging 24:96-8 D '50

Livering. bibliog Paint Oil & Chem R 114:17-18 S 13 '51

New paint discovery will intensify competition, hypo paint advertising; Tint-a-matic. il Ptr Ink 234:28 Mr 2 '51

Paint blistering becomes critical problem in Northwest; abstract. S. Werthan. Chem & Eng N 29:2278 Je 4 '51

Paint sales booster; odorants. il Chem W 69:26-7 Jl 28 '51

Paints, surface finish and design; abstract and discussion. L. A. Jordan. Chem & Ind p91-2 F 3 '51

Routine measurement of surface of paint pigments and other fine powders. P. C. Carman and P. L. Malherbe. bibliog J Ap Chem 1:105-8 Mr '51

Rubberized paint. Mech Eng 73:509 Je '51

Switch to latex-base; Pittsburgh Plate Glass butadiene-styrene latex-base paint. il Chem W 69:27 Ag 25 '51

Water-in-oil emulsion varnishes and paints. W. Bosch. bibliog Paint Oil & Chem R 113:99-103 N 23 '50

See also

Factories—Painting

Lacquer and lacquering

Pigments

Varnish and varnishing

Analysis

Colorimetric determination of rosin and rosin esters. M. H. Swann. bibliog Anal Chem 23:885-8 Je '51

Color

Color card saves time and paint. Eng N 147:38 Jl 19 '51

Color tolerance specifications for paint. T. F. Boyd. Opt Soc Am J 41:552-7 Ag '51

Dissolving package; special film containing semi-solid pigment is miscible with paint in which it is mixed. il Mod Packaging 24:88-9 Ag '51

Federal color card for paint. bibliog Opt Soc Am J 41:649-52 S '51; Abstract. Paint Oil & Chem R 114:12B Je 21 '51

Drying

Cut costs, build business with infrared oven. B. M. Davis and W. W. Huntley. il Elec World 134:146 N 20 '50

Forty cents worth of infrared does the job; infrared oven for car painting. il Elec West 107:92 S '51

Infrared oven cuts paint drying costs. S. Burck. il Elec World 136:101 Jl 2 '51

Paint drying oven; data sheet. E. M. Atwood. il Elec West 106:80 Ap '51

Failure

39c gadget backbones a business; device reduces paint peeling. il Bsns W p 112 Jl 7 '51

Manufacture

Dispersion making; abstract. F. B. Havens. Chem & Eng N 29:2278-9 Je 4 '51

PAINT—Manufacture—*Continued*

Ten miles of pipe puts gravity to work; W. P. Fuller & co. G. K. Anderson. il Mill & Factory 49:121-2 S '51

Prices

Paint industry gets ceiling adjustments. Oil Paint & Drug Rep 159:3+ Je 25 '51

Removal

Getting ready to paint? let the air acetylene torch help you. il diags Mill & Factory 49:125 Ag '51

Specifications

Government cuts number of paint specifications. Oil Paint & Drug Rep 158:4 D 25 '50

Testing

Accelerated yellowing on white enamels, by the Baltimore club. Paint Oil & Chem R 113:79-80+ N 23 '50

Blistering phenomena of paints in marine environments. W. G. O'Driscoll. il diag Iron & Steel Inst J 167:353-7 Ap '51

Chemical engineering materials of construction. J. C. Moore. bibliog(71 ref) Ind & Eng Chem 43:2251-5 O '51

Effect of zinc oxide on architectural white alkyd enamels, by the Western New York club. Paint Oil & Chem R 113:74-8 N 23 '50

Exposure tests on zinc oxide paints; abstract. Paint Oil & Chem R 114:27 Mr 1 '51

Hiding power by Hunter reflectometer of synthetic iron oxides, by the Toronto club. il diag Paint Oil & Chem R 113:70-3 N 23 '50

Mechanical properties of paint films; abstract. N. A. Brunt. Paint Oil & Chem R 114:32+ Ap 26 '51

Method of examining the adhesion of paint to steel. S. C. Britton and R. M. Angles. bibliog il 2pls Iron & Steel Inst J 168:358-63 Ag '51

Methods of test for deep tone flat wall paints, by the New York club. diags Paint Oil & Chem R 113:106-8 N 23 '50

NBS laboratory for more accurate accelerated paint tests. il Paint Oil & Chem R 114:17 Mr 1 '51

Outdoor exposure results on clear and pigmented films at six months, by the C-D-I-C club. il Paint Oil & Chem R 113:120-3 N 23 '50

Why automobile finishes lose luster; abstract. R. J. Wirshing. Automotive Ind 105:70 Ag 1 '51

See also

Paint, Anti-fouling—Testing

PAINT, Antifouling

Antifouling paints; inherent errors in determination of leaching rate. A. L. Alexander, J. B. Ballentine and M. O. Yeiter. bibliog il Ind & Eng Chem 43:931-5 Ap '51

Testing

Leaching rate tests and anti-fouling paint. O. Irish. bibliog Paint Oil & Chem R 114:16+ Je 7 '51

PAINT, Fire resisting

Du Pont's research men on trail of paint to prevent fires at sea. Paint Oil & Chem R 114:37 My 24 '51; Same abr. Marine Eng 56:55-6 Jl '51

New paint retards fire. S. Lee. il Safety Maint & Prod 101:16-17+ Ja '51

Sherwin-Williams announces non-combustible marine paint. il Marine Eng 55:64-5 N '50

PAINT, Heat resisting

Hot surface marine paint. H. L. Warnecke. il Paint Oil & Chem R 114:31+ Ap 12 '51

PAINT, Protective

Anti-corrosive pigments; coated granular materials described in Geman literature. Chem Age (Lond) 63:772 D 2 '50

Corrosion protection of sewage works structures; abstract. W. T. McClenahan. Water & Sewage Works 98:423 O '51

Electrochemical behaviour of paint film on steel in sea-water. J. T. Crennell. Soc Chem Ind J 69(sup no 1):S36-8 '50; 371-3 D '50

Electrochemical behaviour of paint films in sea-water. J. E. O. Mayne. bibliog Chem & Ind p293-4 Ap 14 '51

Heat reflected and conserved by aluminum paint coatings. G. M. Babcock and F. B. Rethwisch. il Heat & Ven 48:68-9 Mr '51

How to paint a bridge. H. C. Jester. il Pub Works 81:31-4+ N '50

Like a duck's back; water-repellent finishes for masonry. il Chem W 69:35 S 29 '51

Metallic and nonmetallic coatings for gray iron. C. O. Burgess. bibliog il Foundry 79:108-11+ F '51

Natural gasoline; today's equipment; paints and their application; abstract. J. M. Hebden. Pet Processing 5:1323 D '50

New coatings technology meets corrosion problems. Chem & Eng N 29:2047 My 21 '51

New mica base paint system withstands severe atmospheric conditions. J. G. Ford and A. J. Kuti. il Materials & Methods 32:58-61 N '50; Same cond. Steel 127:56-8 O 30 '50; Same cond. Westinghouse Eng 11:42-5 Mr '51

New three-decker paint. il Can Min J 72:112 F '51

Organic coatings advance in attack on corrosion; varnish and paint chemistry symposium. Chem & Eng N 28:4260+ D 4 '50

Painting damp water pipes. Water & Sewage Works 98:R50 Ap '51

Physical chemistry of protective coatings. H. Lomas. bibliog il Paint Oil & Chem R 114:15-16+ Ag 16 '51

Plan painting of new plants to reduce costs. T. J. Eberhardt. Elec World 135:78+ Ja 1 '51

Properties of anticorrosive pigments and their vehicles. M. Ragg. Paint Oil & Chem R 114:16-17+ Ap 12 '51

Protection of structural steel against atmospheric corrosion. J. C. Hudson; W. A. Johnson. bibliog il pl diags Iron & Steel Inst J 168:165-80 Je '51

Relationship of price and life of paint to cost of tower protection per year; nomograph; engineering reference sheet. Elec World 135:162 Ja 29 '51

Repainting steel water tanks. J. O. Jackson. il Water & Sewage Works 98:160-3 Ap '51

Role of the vehicle in paints for submerged surfaces. A. C. Elm. Paint Oil & Chem R 114:13-14+ Mr 1 '51

Storage battery paint resists acid corrosion. il Power Eng 54:92 N '50; Steel 127:113 D 4 '50

Waterproof paint. il Chem Ind W 68:26 Ap 7 '51

What you should know about painting water tanks. H. C. Jester. il Pub Works 82:50-2+ Je '51

See also

Electric transformers—Painting
Paint, Anti-fouling
Paint, Fire resisting

Testing

See also

Paint, Anti-fouling—Testing

PAINT, Temperature indicating

New color-thermometers are temperature indicating paints. il Chem Eng 58:164 Mr '51; Glass Ind 32:412+ Ag '51

Paints indicate temperature. F. Appell. Paint Oil & Chem R 114:34 Ag 30 '51

PAINT and varnish production clubs, Federation of. *See* Federation of paint and varnish production clubs

PAINT brushes

Pressure-fed paint brushes and rollers. J. Starr. il Comp Air Mag 56:18-19 Ja '51

PAINT factories

Federation discusses plant problems. N. T. Phelps and others. Oil Paint & Drug Rep 158:87+ N 20 '50

Pittsburgh Plate Glass opens new plant at Torrance, Calif. il Paint Oil & Chem R 114:32-3 My 24 '51

Planned for production General Paint's powerful plant. il Paint Oil & Chem R 114:16-17 Mr 15 '51

Accounting

See Paint industry and trade—Accounting

Equipment

Better methods come when paint company builds new plant; camera tour of Socony Paint Products' Metuchen plant. D. Wolters. Factory Management 108:108-13 N '50

Need increased mill capacity? E. H. Cox. il Paint Oil & Chem R 114:24+ Mr 15 '51

PAINT industry and trade

High-fashion paints; General Paint's one-shot color tube leads to packaging redesign and new merchandising approach. il Mod Packaging 24:96-8 D '50

Manpower shortage cited as number one problem. Chem & Eng N 28:4258-9 D 4 '50

Paints and varnishes; a sprawling industry shows promise for 1951. M. W. Schwarz. Barron's 31:23 Ap 16 '51

Paints feeling raw materials pinch; C&EN annual review. H. Burrell. Chem & Eng N 29:27-8 Ja 1 '51

Sale I never forgot; we sold color, not just paint. F. P. Connolly. Ptr Ink 234:44+ Ja 26 '51

Taking the guess out of color; Sherwin-Williams new set of guides. il Bsns W p60-1 Ja 20 '51; Chem Ind W 68:12-13 Ja 27 '51

See also

National paint, varnish and lacquer association

Accounting

Chemist and the paint factory. D. Thatcher. Chem Age (Lond) 64:167-8 Ja 27 '51

Exhibitions

OCCA technical exhibition; latest developments in paints and oils. Chem Age (Lond) 64:461-3 Mr 24 '51

History

Chemical progress during the 75 years of the American chemical society; paint, varnish, and plastics chemistry. C. R. Bragdon and M. M. Renfrew. bibliog il Ind & Eng Chem 43:1272-82 Je '51

France

French industry developments. For Comm W 45:20 O 8 '51

Japan

Technical view of Japanese paint industry. T. Matsumoto. Paint Oil & Chem R 113:20-1 D 7; 16+ D 21 '50

PAINT laboratories

Army research insures fighting trim; Paint and chemical laboratory, Aberdeen proving ground. il Chem W 68:18-19 Je 9 '51

British titan products, ltd.; new laboratories at Billingham. il Chem & Ind p788-90 S 22 '51

PAINT materials

Determination of stability of paint and paper coating latex. W. H. Watson and E. S. Graham. diags Paint Oil & Chem R 114:11+ My 24 '51

Paint materials report. W. P. Colio. Oil Paint & Drug Rep 158:79-81 N 13 '50

Paint materials status reviewed by New York group. Oil Paint & Drug Rep 159:73 Mr 19 '51

Paints feeling raw materials pinch; C&EN annual review. H. Burrell. Chem & Eng N 29:27-8 Ja 1 '51

Post plasticized polystyrene in water paint emulsions. F. J. Hahn. Paint Oil & Chem R 114:14-15+ Je 7 '51

See also

Drying oils
Finishing materials
Pigments
Tall oil
Titanium oxides
Tung oil
Varnish and varnishing

Prices

Protective coatings materials; 1950 market trends. Oil Paint & Drug Rep 159:58-60 sec 2 Ja 29 '51

Statistics

Protective coatings materials. Published in weekly numbers of Oil, paint and drug reporter

PAINT research

ASTM paint committee D-1 reviews research progress. Oil Paint & Drug Rep 159:7+ Mr 5 '51

Blistering of paint films; abstract. J. E. O. Mayne. Paint Oil & Chem R 114:44+ Ap 12 '51

Evaluation of fineness gage and paint film characteristics based on particle size distributions on pigment dispersions. C. Baker and J. F. Vozzella. bibliog il Paint Oil & Chem R 113:109-20 N 23 '50

Race for outdoor water paint. Bsns W p46+ O 13 '51

Research program reviewed at NPV&L association convention. Oil Paint & Drug Rep 158:94-5 N 20 '50

Strength of surface coating films. H. Grinsfelder. Paint Oil & Chem R 113:18+ D 7 '50

Study of pigment dispersion by the New York club. bibliog il Paint Oil & Chem R 109:76-81 N 14 '46; 111:57-8+ N 11 '48; 113:88-90+ N 23 '50

PAINT rollers

Pressure-fed paint brushes and rollers. J. Starr. il Comp Air Mag 56:18-19 Ja '51

PAINT spraying

Design of spray paint shop for cars. il Ry Age 131:34-5 Jl 30 '51

Finish your products the hot spray way. J. A. Bede. il diags Refrig Eng 58:1084-6 N '50

Hot lacquer spraying problems solved. J. A. Bede. diag Automotive Ind 104:48+ Ja 15 '51

Hot paint spraying saves finishing materials, labor. H. J. Holtz. il Steel 128:85-6 Mr 12 '51

Hot-spray method of finishing passenger car bodies; abstract. J. B. Wiesel. Automotive Ind 103:53 D 1 '50

Hot spraying of lacquer feasible for aircraft. E. D. Mitchell and O. J. Winkles. il Automotive Ind 105:42-3+ S 1 '51

Masking problems in manual and automatic spray painting of molded plastic parts. H. E. MacArthur. il India Rubber World 124:451-3 Jl '51

Portable air tank for touch-up paint spraying. J. B. Segallos. diag Bus Transportation 30:51 Mr '51

Spraying cabinet speeds transformer painting. J. M. Davis and L. A. Bucklew. il Elec World 135:120+ Mr 12 '51

Steam sprays paint. H. E. Linsley. il Am Mach 94:110-11 D 25 '50

Super-heated steam replaces compressed air in new paint spraying process. il Manuf Rec 120:41 Ja '51; Same. Mill & Factory 48:149 Ap '51

Switch for paint sprayer. C. E. Hayward. diag Tool Eng 27:60 S '51

Three colors sprayed at once. Steel 128:138+ My 7 '51

Time, labor and materials saved by hot spraying industrial organic finishes. L. M. Jaroff. il diags Materials & Methods 32:54-6 D '50

Truck for street and traffic signing. D. Sullivan. il Pub Works 82:39 F '51

Versatile finishing system speeds manufacture of lubrication equipment. R. Schirmer. il Steel 129:74-5 Ag 20 '51

Booths

Faulty weather caps impair spray booths. Heating-Piping 23:84 Jl '51

Ventilation of paint spray booths; question and answers. Heat & Ven 48:105+ O '51

PAINT spraying, Electrostatic

Electronic painting. D. Reebel. il diags Steel 129:94-6 S 3 '51

Electrostatic paint spray is 98 per cent efficient. il diags Am Mach 95:142 Ag 20 '51; Automotive Ind 105:54+ S 1 '51; Mach 58:185-6 S '51; Steel 129:80 Ag 6 '51; Materials & Methods 34:146+ O '51; Mill & Factory 49:141 O '51

Paint saving; new spray method developed. G. Beaudet. diags Iron Age 168:105 Ag 2 '51

Two men do work of 12 and cut paint need 45 per cent; electrostatic spray units at Metal office furniture co. A. C. Terrell. il Mill & Factory 48:108-9 F '51

Why waste paint? Ransburg electro-spray process. il Bsns W p57+ Ag 18 '51

Safety measures

New safety device for electrostatic spraying. T. A. Dickinson. il diag Mill & Factory 47:98 D '50

PAINT, varnish and lacquer association, National. See National paint, varnish and lacquer association

PAINTING, Factory. See Factories—Painting

PAINTING, Industrial

Conveyor quick dip saves space, paint. il Steel 128:126 My 14 '51

Efficiency miracle at Steelcraft; new metal-cleaning and painting unit; illustrations with text. Mod Ind 21:22+ F '51

Maintenance by real sky-hook; helicopters for stack or tower painting. il Pet Processing 6:636 Je '51

Paint failures cleaned away; Ironrite inc. il Steel 128:109-10 Mr 26 '51

Painted shelves, wartime substitute or peacetime development? E. J. Hakel and J. B. Horvay. il Refrig Eng 59:457-8 My '51

Painting speeded on bulky fabrications; power transformer radiators. M. P. Getting, jr. and J. G. Fink. il diags Iron Age 167:59-62 Ja 11 '51

Pressure-fed paint brushes and rollers. J. Starr. il Comp Air Mag 56:18-19 Ja '51

Tanks on wheels speed paint job; fabrication and painting of farm elevators at Flxible co. W. Rudolph. il plan Mill & Factory 47:108-9 N '50

Textured organic coatings. L. Back. il Product Eng 22:129-36 Ap '51

See also

Bridge painting
Car painting and finishing
Lacquer and lacquering
Paint, Protective
Paint spraying
Varnish and varnishing

also subdivision Painting under special subjects, e.g.

Airplanes
Automobiles
Concrete
Electric plants (central stations)
Electric transformers
Factories
Machinery
Masonry
Motor buses
Ships

Cost

Painting data for transmission towers; with tables; engineering reference sheet. Elec World 135:78, 82+ Ja 15 '51

PAINTINGS

See also

Art and industry

PAJAMAS

Rating

Men's cotton pajamas. il Consumers Res Bul 27:24-5 Ja '51

PAKISTAN

Afghanistan on the frontier. map Economist 159:1150-1 D 23 '50

Constitution making in Pakistan. Economist 159:1007 D 9 '50

See also

Finance—Pakistan
Petroleum industry and trade—Pakistan
Transportation—Pakistan

Commercial policy

Chittagong port charges increased; shipping restrictions removed. For Comm W 43:24-5 My 21 '51

Import-licensing policy for January-June 1951. For Comm W 42:17 Ja 29 '51

India and Pakistan sign mutual supply agreement and collateral exchange understanding. For Comm W 42:15-16 Mr 19 '51

India resumes trade with Pakistan. Bsns W p 138-9 Mr 3 '51

Tariffs and trade controls. For Comm W 42:25 F 19; 44:17 Jl 30; 14 Ag 20 '51

Trade pacts signed with Austria, Poland, Egypt, Spain, west Germany. For Comm W 41:12 D 25 '50

Economic conditions

Booming Pakistan. Economist 160:204-5 Ja 27 '51

News by countries. For Comm W 41:12 D 25 '50; 42:16-17 Ja 29; 14 F 26; 43:14 Ap 2; 14-15 Ap 23; 17 My 21; 45:13 O 15 '51

Foreign relations

India and Pakistan. Economist 161:139-41 Jl 21 '51

PALEOBOTANY

See also

Pollen, Fossil

Tertiary

Tree trunks preserved in a volcanic flow in the northern Cameroons. H. P. T. Hyde. bibliog map Am J Sci 249:72-7, pl 1 Ja '51

Maine

Late-glacial and postglacial pollen diagrams from Maine. E. S. Deevey, jr. bibliog map Am J Sci 249:177-207 Mr '51

PALEOCLIMATOLOGY

Carbonate-water isotopic temperature scale. S. Epstein and others. bibliog Geol Soc Bul 62:417-25 Ap '51

Cenozoic marine climates of the Pacific coast. J. W. Durham. maps Geol Soc Bul 61:1243-63 bibliog(p 1261-3) N '50

Measurement of paleotemperatures and temperatures of the upper cretaceous of England, Denmark, and the southeastern United States. H. C. Urey and others. bibliog Geol Soc Bul 62:399-416, pl 1 Ap '51

New Mexico

Pleistocene climate in New Mexico. L. B. Leopold. bibliog Am J Sci 249:152-68 F '51

PALEOECOLOGY

Basic assumption underlying paleoecology; abstract. W. P. Woodring. Science 113:482-3 Ap 27 '51

PALEONTOLOGY

Abstracts of papers, Pacific Coast branch of Paleontological society. Geol Soc Bul 61:1537-42 pt 2 D '50

Introduction to the study of organic limestones. J. H. Johnson. rev ed bibliog il diags Colorado School of Mines [Golden] Quarterly 46 no 2:1-185 '51 (pa $2)

See also

Conodonts
Corals, Fossil
Paleobotany
Vertebrates, Fossil

Cambrian

Irvingella major (ptychopleurites) faunizone of the upper Cambrian. J. L. Wilson and E. A. Frederickson. bibliog Am J Sci 248:891-902, pl 1 D '50

Cenozoic

Cenozoic marine climates of the Pacific coast. J. W. Durham. maps Geol Soc Bul 61:1243-63 bibliog(p 1261-3) N '50

Cretaceous

Early cretaceous mammals from northern Texas. B. Patterson. bibliog diags Am J Sci 249:31-46 Ja '51

Lower cretaceous ammonites in Colorado, Wyoming, and Montana. W. A. Cobban and J. B. Reeside, jr. bibliog Am Assn Pet Geologists Bul 35:1892-3 Ag '51

New lituolid foraminiferal genus from the cretaceous, with an emendation of cribrostomoides Cushman. D. L. Frizzell and E. Schwartz. diags Mo U Sch Mines & Met Bul tech ser 76:1-12, pl 1 bibliog(p 11-12) '50

Devonian

Clymenoid ammonoid from New Mexico. A. K. Miller and C. Collinson. diags Am J Sci 249:600-3 Ag '51

Devonian microfossils, Andrews county, Texas. S. P. Ellison, jr. and W. T. Wynn. map diag Am J Sci 248:794-9, pl 1 N '50

Miocene

Antiquity of man in America demonstrated by the fluorine test. T. D. Stewart. Science 113:391-2 Ap 6 '51

Fluorine content of some miocene horse bones. R. Olsen. Science 112:620-1 N 24 '50

Oligocene

Habits and adaptation of the oligocene saber tooth carnivore, Hoplophoneus. J. Hough. U S Geol S Professional Pa 221-H:125-35, pl 26-31; pa 40c Supt. of doc. '50

Ordovician

Ordovician graptolites from South-central Yukon. C. E. Decker. diags Am Assn Pet Geologists Bul 34:2223-4 N '50

St Paul group; a revision of the Stones River group of Maryland and adjacent states. R. B. Neuman. maps diags Geol Soc Bul 62:267-324, pl 1-10 bibliog(p322-4) Mr '51

PALEONTOLOGY—Ordovician—*Continued*

Small graptolite determines Ordovician horizon. C. E. Decker. diag Am Assn Pet Geologists Bul 35:1673-4 Jl '51

Paleozoic

Faunal lists and descriptions of paleozoic corals. R. S. Bassler. (Memoir 44) 315p, 20pls Geological soc. of America, 419 W. 117th st, New York 27 '50

Pennsylvanian

Tetrapods of the Pennsylvanian nodules from Mazon creek, Illinois. J. T. Gregory. diags Am J Sci 248:833-73 bibliog(p872-3) D '50

Pliocene

Neohipparion leptode (Merriam) from the pliocene of north-western Nevada. C. Stock. diags Am J Sci 249:430-8, pl 1-6 Je '51

Triassic

New belemnoid from the triassic of Nevada. A. G. Fischer. diags Am J Sci 249:385-93, pl 1-2 My '51

Some triassic fresh-water gastropods from northern Arizona. T. Yen. bibliog Am J Sci 249:671-5, pl 1 S '51

Arizona

Some triassic fresh-water gastropods from northern Arizona. T. Yen. bibliog Am J Sci 249:671-5, pl 1 S '51

Colombia

Report on fossil vertebrates from the upper Magdalena valley, Colombia. D. E. Savage. bibliog Science 114:186-7 Ag 17 '51

Florida

Rock from Straits of Florida. J. Bush. bibliog il Am Assn Pet Geologists Bul 35:102-7 Ja '51

Illinois

Tetrapods of the Pennsylvanian nodules from Mazon creek, Ill. J. T. Gregory. diags Am J Sci 248:833-73 bibliog(p872-3) D '50

Nevada

Neohipparion leptode (Merriam) from the pliocene of north-western Nevada. C. Stock. Am J Sci 249:430-8, pl 1-6 Je '51

New belemnoid from the triassic of Nevada. A. G. Fischer. diags Am J Sci 249:385-93, pl 1-2 My '51

New Mexico

Clymenoid ammonoid from New Mexico. A. K. Miller and C. Collinson. diags Am J Sci 249:600-3 Ag '51

New York (state)

Middle Devonian coral beds of central New York. W. A. Oliver, jr. map diags Am J Sci 249:705-28, pl 1-2 bibliog(p727-8) O '51

Norway

Athens graptolites from Norway recently identified. C. E. Decker. diags Am Assn Pet Geologists Bul 35:1671-2 Jl '51

Texas

Devonian microfossils, Andrews county, Texas. S. P. Ellison, jr. and W. T. Wynn. map diag Am J Sci 248:794-9, pl 1 N '50

Early cretaceous mammals from northern Texas. B. Patterson. bibliog diags Am J Sci 249:31-46 Ja '51

Washington (state)

Bison from eastern Washington. H. W. Tipper and others. map Am J Sci 249:318-22 Ap '51

Mold of a rhinoceros in basalt, lower Grand Coulee, Wash. W. M. Chappell and others. bibliog map diags Geol Soc Bul 62:907-18, pl 1-2 Ag '51

Yukon

Ordovician graptolites from South-central Yukon. C. E. Decker. diags Am Assn Pet Geologists Bul 34:2223-4 N '50

PALEOPEDOLOGY

Pre-Wisconsin soil in the Rocky Mountain region, a progress report. C. B. Hunt and V. P. Sokoloff. map diags U S Geol S Professional Pa 221-G:109-23 bibliog(p118-21); pa 15c Supt. of doc. '50

PALLADIUM

Investigation of possible interactions between palladium(II) and -(IV) and between palladium(II) and platinum(IV) in hydrochloric acid solutions and in the crystalline state. A. J. Cohen and N. Davidson. bibliog diag Am Chem Soc J 73:1955-8 My '51

Mechanism of disproportionation of *d*-limonene. H. E. Eschinazi and E. D. Bergmann. bibliog Am Chem Soc J 72:5651-4 D '50

Polymerization induced by catalytic decomposition of hydrazine at palladium surfaces. G. Parravano. bibliog Am Chem Soc J 72:3856-60 S '50

Pseudo-metallic bonding of hydrides. A. R. Ubbelohde. diag Chem Soc J p 1143-6 Ap '50

Removal of oxygen from commercial cylinder-hydrogen by means of palladized asbestos. L. W. Owen. bibliog diags Soc Chem Ind J 69:272-5 S '50

Analysis

Spectrographic study of platinum and palladium in common sulphides and arsenides of the Sudbury district, Ontario. J. E. Hawley and others. bibliog il Econ Geol 46:149-62 Mr '51

Isotopes

Carrier-free radioisotopes from cyclotron targets; preparation and isolation of Pd^{103} from rhodium. J. D. Gile and others. bibliog J Chem Phys 19:660-1 My '51

PALLADIUM alloys

Palladium alloys; rose bowl presented to Princess Margaret. T. Bishop. il Metal Prog 60:67 Ag '51

PALLADIUM compounds

Factors affecting the directive influence of the nitro group in the nitro complexes of palladium(II). H. B. Jonassen and N. L. Cull. bibliog Am Chem Soc J 73:274-8 Ja '51

Simple and complex fluorides of some noble metals. A. G. Sharpe. Chem Soc J p3444-50 D '50

Studies in co-ordination chemistry; trisarsine complexes of bivalent platinum and palladium. R. S. Nyholm. Chem Soc J p848-51 Mr '50

PALLETS

Adjustable pallet racks; Federal telephone & radio corp. il Factory Management 109:57 Ap '51

Bigger unit load cuts handling and shipping costs 39 per cent; G.E. ships refrigerator cord sets to Erie plant. K. I. Oxenrider. il Factory Management 109:102-3 My '51

Collapsible wood pallets speed tire handling in warehouse. F. C. Sturtevant. il Nat Pet N 43:64+ Je 6 '51

Commodity rates on return pallets in Canada. il Ry Age 130:39 F 5 '51

Cuts frit handling time 60 manhours per carload. A. V. Blatz. il diags Cer Ind 57:48-9+ S '51

Getting our supplies on pallets saves labor, materials, space; Philip Morris & co. W. C. Foley. il Factory Management 109:74-6 F '51

How palletized load prevents damage. W. L. Eubank. il Ry Age 130:33 My 7 '51

New pallet eliminates forks. il Iron Age 168:89 Ag 2 '51

Pallet loader cuts distribution costs. il Can Chem Process 35:652-3 Ag '51

Palletized vertical storage revolutionizes warehouse operations; International harvester co. D. I. Brown. il Iron Age 167:87-90 Ap 26 '51

Palletizing batteries. F. Breese. il Nat Pet N 43:58-9+ S 5 '51

Palletizing; saves all-around; Pepsi-Cola bottling co. B. Schwartzman. il Food Eng 23:100-1+ Ap '51

Pallets aid transportation and warehousing. il Safety Maint & Prod 102:39-41 S '51

Pallets and unit loads; illustrations with text. Mill & Factory 48:98-100 Ap '51

PALLETS—*Continued*
Power pack; pallets of corrugated and fibreboard materials. J. D. Malcolmson. il Mod Packaging 24:176-8 Ap '51
Reversible steel pallets used for handling drums. Nat Pet N 43:68-9 Je 6 '51

PALM oil
Palm oil fractions. Chem Age (Lond) 63:574 O 21 '50
Tallow can replace palm oil in hot dip tinning. G. C. Ference and W. R. Johnson. il diag Iron Age 168:86-9 Ag 2 '51
Where bananas won't grow, oil palms will; United fruit company experiments. il Bsns W p 148-9 Mr 24 '51

PALMER, Dwight R. G. 1886-
Portrait. Fortune 44:124 S '51

PALMER, H. Dale
Portrait. Fortune 44:25 Ag '51

PALMITIC acid
Dielectric and molecular behavior of 1,3-dipalmitin, 1,3-distearin, tripalmitin, tristearin and tetradecyl palmitate. R. W. Crowe and C. P. Smyth. bibliog Am Chem Soc J 72:5281-7 N '50

PALMITIN
Dielectric and molecular behavior of 1,3-dipalmitin, 1,3-distearin, tripalmitin, tristearin and tetradecyl palmitate. R. W. Crowe and C. P. Smyth. bibliog Am Chem Soc J 72:5281-7 N '50
Molecular rotation and proton transfer in the solid forms of 1-monopalmitin and 1-monostearin. R. W. Crowe and C. P. Smyth. bibliog Am Chem Soc J 72:4427-32 O '50
Polymorphism of 2-acetyl-, 2-butyryl- and 2-caproyldistearin and -dipalmitin. F. L. Jackson, R. L. Wille and E. S. Lutton. bibliog il Am Chem Soc J 73:4280-4 S '51

PALMITOYLASCORBIC acid
Physiological availability of dehydro-L-ascorbic acid and palmitoyl-L-ascorbic acid. E. De Ritter and others. bibliog Science 113:628-31 Je 1 '51

PALMS
See also
Oil palm

PAMPHLETS
Filing scheme for pamphlets. B. A. Evans. Aslib Proc 3:165-8 Ag '51

PANAGRA. See Pan American-Grace airways

PANAMA
See also
Hotels—Panama

Economic conditions

News by countries. For Comm W 42:14 Ja 8; 17 Ja 29; 25-6 F 19; 20 Mr 26; 43:19-20 Ap 16; 15-16 My 28; 16-17 Je 25; 44:15-16 Jl 16; 14-15 Ag 20; 18 S 24 '51
President thinks worst of economic crisis over; improvement foreseen. For Comm W 41:15 N 27 '50

PANAMA university
Planned like a modern acropolis. il plan Arch Forum 95:160-3 S '51

PAN AMERICAN conferences
Inter-American conference sets emergency economic pattern. G. Wythe. For Comm W 43:3+ My 28 '51

PAN AMERICAN engineering congress
Constitution for UPADI adopted at organization conference, Havana, April 19-22. Civil Eng 21:289 My '51; Mech Eng 73:524 Je '51

PAN AMERICAN-GRACE airways
New battle flares over Panagra. W. Kroger. il Aviation W 54:59-60 My 14 '51
PanAm and Grace split over Panagra. Bsns W p20 My 19 '51
Struggle for gateways; Panagra is pawn in Pan American-Grace control battle. S. Altschul. Barron's 31:9-10 Je 18 '51

PAN AMERICAN highway
Business blossoms on Pan Am turnpike. il Bsns W p 116-19 Ja 6 '51
Mexican section of Pan-American highway completed. For Comm W 42:23 F 5 '51
Pan American highway in Peru. For Comm W 42:21-2 F 26 '51

PAN-AMERICAN railway congress association
Congress, Mexico city, Oct. 10-20. Ry Age 129:167-8 O 28 '50

PAN AMERICAN world airways
Changes its income accounting. Barron's 31:19 My 21 '51
EAL strengthened by PAA deal. S. Altschul. Aviation W 54:18 F 12 '51
New battle flares over Panagra. W. Kroger. il Aviation W 54:59-60 My 14 '51
PAA gains important inter-America link. Aviation W 54:69 My 21 '51
PAA report omits mail estimate. S. Altschul. Aviation W 54:47-8 My 14 '51

PAN-ASIA newspaper alliance
Pan-Asia press group doubles in membership. Ed & Pub 84:20 S 22 '51

PAN INDIAN ocean science congress
Meeting, 1st, Bangalore, Jan. 2-10. Science 113:164 F 9 '51

PANCAKES
Griddle-ready; fresh-mixed pancake batter packaged like milk. il Mod Packaging 24:93 F '51

PANEL discussion. See Discussion

PANELING
Oregon lab tests wood panels. il Eng N 146:47-8 Ap 12 '51

PANELS, Sandwich. See Laminated construction

PANHANDLE eastern pipe line company
Continued expansion seen. Barron's 31:11+ Jl 16 '51
Security I like best. C. C. Brown. Comm & Fin Chr 172:2530 D 28 '50

PANIC. See Fear

PANTOGRAPH
Gorton pantograph machine for milling around cylinders. il Am Mach 95:156 Ag 6 '51
Pantographic roll engraver. il Mod Plastics 29:152+ S '51

PANTOTHENIC acid
Comparison of the niacin and pantothenic acid content of certain cereal grains grown under the same environmental conditions. J. C. Carroll and C. Lee Peng. bibliog Science 113:211-12 F 23 '51
Phosphates of pantothenic acid. T. E. King and F. M. Strong. bibliog Science 112:562-5 N 10 '50
Purification of coenzyme A from fermentation sources and its further partial identification. W. H. DeVries and others. Am Chem Soc J 72:4838 O '50
Synthesis of pantothenic acid-2′ and -4′ phosphates as possible degradation products of coenzyme A. J. Baddiley and E. M. Thain. Chem Soc J p246-51 F '51

PAPAIN
Papain-catalyzed synthesis of acyl-D- and L-phenylalanylphenylhydrazides from a series of enantiomorphic pairs of acylated phenylalanines. W. H. Schuller and C. Niemann. bibliog Am Chem Soc J 73:1644-6 Ap '51

PAPALOAPAN river
Rectification of the Papaloapan river in Mexico. R. Schega. il map Am Soc C E Proc 77 [no 71]:1-13 My '51

PAPAVERINE
Preparation of some homologs of papaverine. E. R. Shepard and J. F. Noth. bibliog Am Chem Soc J 72:4364-8 O '50
Synthesis of papaverine and some related compounds. A. Galat. Am Chem Soc J 73:3654-6 Ag '51

PAPAYAS
Rich powder from papaya. G. S. King and others. il Food Eng 23:147 S '51

PAPER
International symposium on pulp and paper, Appleton, Wis. Sept. 17-21. Paper Tr J 133:50-2 O 5 '51
Neoprene treated paper developed by du Pont. il Tappi 34:sup72A+ S '51; Same cond. Paper Ind 33:642-3 S '51
Paper in the hotel industry. E. Hershberger. Paper Tr J 132:30+ My 4 '51
Salesmen's corner; careful selection of paper for printing job. F. Rundell. Inland Ptr 126:48-50 Ja '51
Salesmen's corner; ways and means for saving paper. F. Rundell. Inland Ptr 126:52-3 D '50
See also
Dyes and dyeing—Paper
Filter paper
Glassine
Newsprint paper
Paper board
Tissue paper
Toilet paper
Waste paper
Wood pulp
Wrapping paper

PAPER—*Continued*

Analysis

Determination of starch in paper. K. M. Brobst and D. P. Langlois. bibliog Tappi 34:238-40 My '51

Effect of melamine resin on chemical tests of paper. W. K. Wilson and others. bibliog Tappi 34:410-15 S '51

Color

Color engineering. F. A. Soderberg. plans Paper Tr J 131:250+ N 30 '50

Instrumentation studies; photoelectric instruments for measurement of color; reflectance and transmittance; photovolt photoelectric reflection meter, Model 610. L. R. Dearth and others. bibliog il diag Tappi 33:sup 85A-9A O '50

Instrumentation studies; study of photoelectric instruments for the measurement of color; reflectance and transmittance; Densichron as a reflection meter. L. R. Dearth and others. bibliog il Tappi 34:sup 126A-32A Ag '51

Instrumentation studies; study of photoelectric instruments for the measurement of color; reflectance and transmittance; Hunter color and color-difference meter. J. A. Van den Akker and others. bibliog il Tappi 34:sup 143A-58A S '51

Two-sidedness of colored paper. H. A. Lips. bibliog Tappi 33:603-8 D '50

See also
Dyes and dyeing—Paper

Dictionaries

Dictionary of terms used in the paper, printing and allied industries. G. H. LaFontaine, comp. Howard Smith paper mills, Toronto '49

Dirt content

Photographic standards for dirt control. W. F. Cyrus. Tappi 34:335-6 Jl '51

See also
Paper making—Dirt problem

Dyeing

See Dyes and dyeing—Paper

Electric properties

Electrical resistance of papers; abstract. R. Seve. Paper Ind 33:438 Jl '51

Erasing qualities

Instrumentation studies; erasability of paper. J. A. Van den Akker and others. bibliog il Tappi 34:sup89A-92A F; sup 112A-18A Mr; sup 103A-19A Jl '51

Gloss measurement

Contrast gloss of paper at 57.5°; revision of Tappi official standard T 424 m-45. bibliog Tappi 34:sup86A F '51

Specular gloss of paper at 75°; Tappi tentative standard T 480 m-51. bibliog diags Tappi 34:sup87A-8A F '51

Opacity

Opacity of papers; abstract. H. W. Giertz. Paper Ind 33:438+ Jl '51

Opacity of pulp; abstract. H. W. Giertz. Paper Ind 33:319 Je '51

Optical properties

Specular and diffuse reflectances of printing ink and common papers. H. M. Sharp and J. F. Parsons. plan diag Illum Eng 46:413-14 Ag '51

Tappi optical properties committee meeting, Rochester; summary of discussion. Tappi 33:sup86A-7A D '50

Permeability

See also
Paper—Water resistance

Printing properties

Characteristics of the papers in the uncoated field. F. Rundell. Inland Ptr 126:66-8 Ja '51

Introduction to printing methods and paper. R. A. Day. Paper Tr J 131:322-3 N 30 '50

Measuring the printing quality of newsprint. G. Larocque and others. bibliog il diags Pulp & Pa of Can (Convention no) 52:166-74 [F] '51

Oil resistance of the surface of paperboard. diags Pulp & Pa of Can 52:112-14 My '51

Paper and board characteristics that affect inks and printability. L. F. Engelhart. Tappi 34:sup 112A-21A S '51

Paper and printing. W. H. Birchard. Pulp & Pa of Can 51:88-91 D '50

Paper and printing problems from the standpoint of the merchant and printer. W. H. Bureau. Tappi 33:sup 104A-5A N '50

Paper testing and research in Great Britain. A. G. Thomson. Pulp & Pa of Can 52:109 My '51

Printing ink and equipment development and their effect on paper requirements. L. F. Engelhart. Tappi 34:sup 116A-19A Ag '51

Printing paper end-use specifications. F. M. Truesdale. Tappi 34:sup 105A-8A Je '51

Problems a printer meets in coated paper and the safest ways for handling them. F. Rundell. Inland Ptr 126:63-5 O '50

Resin bonding of hardwood fibers in offset papers. B. W. Scribner and others. bibliog J Res Nat Bur Stand 45:208-17 S '50

Technical association of the pulp and paper industry Pacific section meeting, Camas, Wash. Nov. 7; abstracts of papers on printing and print papers. Tappi 34:sup66A+ F '51

Technique of printing on dull-coated stock. Inland Ptr 127:72 Ap '51

Protection

Paper-protecting film, Presto-Seal. Consumers Res Bul 27:15 Je '51

Protection of paper and textile products from insect damage. S. S. Block. bibliog il Ind & Eng Chem 43:1558-63 Jl '51

Softness

Mechanism of the softening of paper by glycerin. W. H. McPherson, jr. bibliog il Tappi 33:531-7 N '50

Specifications

Paper and packaging; revised or new federal specifications of recent issue. Tappi 33: sup97A D '50; 34:sup92A F '51

Paper testing and specifications. L. S. Reid. Paper Tr J 131:324+ N 30 '50

Printing paper end-use specifications. F. M. Truesdale. Tappi 34:sup 105A-8A Je '51

Standards

Contrast gloss of paper at 57.5°; revision of Tappi official standard T 424 m-45. bibliog Tappi 34:sup86A F '51

Photographic standards for dirt control. W. F. Cyrus. Tappi 34:335-6 Jl '51

Specular gloss of paper at 75°; Tappi tentative standard T 480 m-51. bibliog diags Tappi 34:sup87A-8A F '51

Strength

Application studies on a cationic urea-formaldehyde wet-strength resin. I. J. Gruntfest and others. bibliog Tappi 34:108-10 Mr '51

Development of wet strength in neoprene-containing papers. G. W. Wheeler and others. Tappi 34:297-301 Jl '51

Effect of drying and heating on the swelling of cellulose fibers and paper strength. L. M. Lyne and W. Gallay. bibliog Tappi 33:429-35 S '50; Same. Pulp & Pa of Can 51:129-34 S '50

Factors influencing the retention and efficiency of wet-strength resins. C. S. Maxwell and others. bibliog Tappi 34:233-8 My '51

Instrumentation studies; tearing strength of paper; the Brecht-Imset through-tear tester. K. W. Hardacker and J. A. Van den Akker. il diags Tappi 33:sup 109A-18A N '50

Resin bonding of paper fibers. C. G. Landes. bibliog(79 refs) il Tappi 33:463-71 S '50; Same. Pulp & Pa of Can 51:120-8 S '50

Retention of wet-strength additives in paper. I. J. Gruntfest. bibliog Tappi 33:529-30 N '50

PAPER—Strength—*Continued*

Strength and dignity combine in high-grade bond papers. F. Rundell. Inland Ptr 126: 49-50 D '50

Terminology

Definitions fully approved by the TAPPI committee; tentative definitions. Tappi 34: sup88A Mr '51

Testing

Application of statistical methods to paper testing procedures; reproducibility of physical tests. L. K. Reitz and F. J. Sillay. Tappi 33:504-6 O '50

Challenge to testing. A. E. Bachmann. Tappi 33:sup24A+ D '50

Dynamic measurements of physical properties of pulp and paper by audiofrequency sound. M. Horio and S. Onogi. J Ap Phys 22:971-7 Jl '51

Impact-fatigue test for paper; new instrument and method provide control test on flat samples to predict performance of filled bags. R. D. Couch and T. J. Muldoon. il Mod Packaging 24:131-5+ D '50

Initial tear of paper, board, etc.; abstract. J. Bekk. il Paper Ind 32:1200 F '51

Instrumentation studies; photoelectric instruments for measurement of color; reflectance and transmittance; photovolt photoelectric reflection meter, Model 610. L. R. Dearth and others. bibliog il diag Tappi 33:sup85A-9A O '50

Instrumentation studies; study of photoelectric instruments for the measurement of color; reflectance and transmittance; Densichron as a reflection meter. L. R. Dearth and others. bibliog il Tappi 34:sup 126A-32A Ag '51

Instrumentation studies; study of photoelectric instruments for the measurement of color; reflectance and transmittance; Hunter color and color-difference meter. J. A. Van den Akker and others. bibliog il Tappi 34:sup 143A-58A S '51

Instrumentation studies; tearing strength of paper; the Brecht-Imset through-tear tester. K. W. Hardacker and J. A. Van den Akker. il diags Tappi 33:sup 109A-18A N '50

Paper testing and specifications. L. S. Reid. Paper Tr J 131:324+ N 30 '50

Tappi testing conference, Rochester, Sept. 13-15; chairman's address and reports of participating committees. Tappi 33:sup74A-90A D '50

See also
Paper—Erasing qualities

Transportation

How paper mills conserve steel strapping. A. N. Perry. il Paper Tr J 133:19-20 Jl 6 '51

Scott Paper reduces damage claims; traffic department spearheads campaign. il Ry Age 130:48-50 Mr 5 '51

Water resistance

Effect of compounding variables on styrene-butadiene latex used for protective coating for paper. M. E. Wendt and W. H. Aiken. bibliog Tappi 34:49-56 F '51

Wet strength

See Paper—Strength

PAPER, Building

Water-vapor permeability of building papers and other sheet materials. E. R. Bell and others. bibliog il diag Heating-Piping 22: 109-15 D '50

PAPER, Chromatographic. See Chromatography

PAPER, Coated

Better quality in coated offset papers; abstract. H. Nendorf. Paper Ind 32:1206 F '51

Problems a printer meets in coated paper and the safest ways for handling them. F. Rundell. Inland Ptr 126:63-5 O '50

St Regis operates second polyethylene coating machine. il Paper Ind 32:840 N '50

PAPER, Cover

Sell a book by its cover? case for use of cover papers. F. Rundell. Inland Ptr 126: 47-8 F '51

PAPER, Decorative

Danish artists produce batique art on paper. il Inland Ptr 127:42 Ap '51

PAPER, Filter. See Filter paper

PAPER, Government

Bids and awards; GPO first quarter, 1951 paper needs. Paper Tr J 131:56-8 D 14 '50

Bids and awards; GPO 3d quarter, 1951. Paper Tr J 132:34-6 Je 22 '51

Production and procurement of paper items. E. T. A. Coughlin. Tappi 34:sup92A+ My '51

PAPER, Greaseproof

Effect of compounding variables on styrene-butadiene latex used for protective coating for paper. M. E. Wendt and W. H. Aiken. bibliog Tappi 34:49-56 F '51

Greaseproof barriers, methods, and materials. E. G. Greenman. Tappi 34:sup 107A-9A Ap '51

Precipitation coating; depositing continuous film on surface of paper stock for greaseproof packaging. D. R. Erickson. il diag Mod Packaging 24:107-9+ Jl '51

PAPER, Hand-made

Scheme for the development of hand-made paper industry. V. P. Iydurai. il Pulp & Pa of Can 51:111 N '50

PAPER, Insulating

Deterioration of transformer oil and paper insulation by temperatures. F. J. Vogel and others. bibliog Elec Eng 70:244-7 Mr '51

Radial and tangential stresses in impregnated paper insulation. J. B. Whitehead. Elec Eng 70:297 Ap '51

Raw materials for electric cable making. A. King. il Electrician 146:1618-28 My 11 '51

Sheathing of paper insulated power cables. C. C. Barnes. bibliog diags Electrician 145: 1435-40 D 15 '50

Terminal risers for solid-type impregnated paper cables. W. A. Del Mars. Elec Eng 69:1091 D '50

PAPER, Laminated

Furniture can be made from cardboard. J. Robinson. il Pulp & Pa of Can 52:51-2 F '51

Preparation and properties of resin saturating papers. M. P. Seidel. Tappi 33:494-5 O '50

Redwood plastic pulp for phenolic resin laminates. T. A. Howells and R. H. Goms. il Tappi 34:121-5 Mr '51

Testing

Mechanical properties of paper-base laminates. M. P. Seidel. diags Tappi 33:549-51 N '50

Moisture sorption and dimensional stability of paper-base laminates. M. P. Seidel and R. H. Runk. Tappi 33:551-3 N '50

PAPER, Tissue. See Tissue paper

PAPER, Waterproof

Bitumen emulsions in waterproofing papers and boards; abstract. Paper Ind 33:319 Je '51

Illinois Central car upgrading method pleases shippers and reduces claims; new type of paper for lining box car floors, sides and ends. il Ry Age 129:55 N 4 '50

PAPER, Waxed

Petroleum waxes; their use and evaluation for paper packaging. T. C. G. Thorpe. diags Inst Pet J 37:275-303; Discussion. 303-15 Je '51

Manufacture

Modernization at Hollingsworth & Whitney Waxing division. il Paper Tr J 133:126+ S 7 '51

PAPER associations

See also
Technical association of the pulp and paper industry

PAPER bags

American life and industry; their effect on the shipping sack situation. F. Pocta. Paper Tr J 132:80+ F 23 '51

Impact-fatigue test for paper; new instrument and method provide control test on flat samples to predict performance of filled bags. R. D. Couch and T. J. Muldoon. il Mod Packaging 24:131-5+ D '50

See also
Advertising mediums—Paper bags

PAPER bags—*Continued*

Manufacture

Major expansion program for Union bag & paper corp. A. Calder. Paper Tr J 132:11-12 Mr 16 '51

Seam adhesives for multiwall bags. K. M. Shold. Tappi 34:294-6 Jl '51

Utilisation of bagasse for wrapping and bag paper manufacture; abstract. M. P. Bhangava and others. Pulp & Pa of Can (Convention no) 52:248 [F] '51

PAPER board

Boxboard. J. Kubicka. Paper Ind 33:80-2 Ap '51; Same. Tappi 34:sup96A+ My '51

Boxboard from wheat straw to replace wood veneer in wire-bound shipping containers. E. C. Lathrop and others. flow sheet il Tappi 34:145-52 Ap '51

Coarse papers; board, containers, etc. C. S. Huestis. il Paper Tr J 131:299-300+ N 30 '50

Forming structural-type boards for physical tests of pulp. diags Tappi 34:sup 118A-21A Je '51

See also
Cardboard
Paper boxes

Manufacture

Bathurst conservation measures. E. P. McGinn. flow diag il Paper Tr J 132:19-20+ Je 29 '51

B C M; Bathurst's new product. flow diag il plan Pulp & Pa of Can 52:78-87 My '51; Excerpt. Paper Ind 33:286-8 Je '51

Experiences in development of coated board; abstract. H. Kindig. Paper Ind 32:907-8 N '50

Paper and paperboard making. H. Williamson. flow diag diags Paper Ind 31:1431-3; 32:50-2, 167-9, 283-8, 392-4, 509-11, 612-13, 735-8, 867-8, 967-9, 1086-8, 1184-6, 1291-4; 33:57-61, 173-6, 521-4, 660-2, 792-5 Mr '50-My, Ag-O '51 (to be cont)

Pressure washing of kraft brown stock. E. Zimmerman and H. Vranian. il diags Tappi 33:561-6 D '50

Stock preparation in board mills. L. E. Eberhardt. flow sheets il diag Paper Tr J 133: 84+ Jl 13 '51; Abstract. Paper Ind 33:551 Ag '51

Stock preparation in the manufacture of liner board. W. C. Hayes. diags Paper Tr J 132:15-16+ Mr 30 '51

Strawboard waste problem. D. E. Bloodgood. bibliog il diag Water & Sewage Works 98: 408-12 S '51

Printing properties

Paper and board characteristics that affect inks and printability. L. F. Engelhart. Tappi 34:sup 112A-21A S '51

Testing

Contribution of sodium silicate to the stiffness of paperboard. R. H. Sams and N. W. McCready. Tappi 34:67-70 F '51

Instrumentation studies; the Beach puncture tester. J. A. Van den Akker and W. A. Wink. bibliog il diags Tappi 33:sup 114A-22A D '50

Oil resistance of the surface of paperboard. diags Pulp & Pa of Can 52:112-14 My '51

Quartermaster inspection and testing. R. E. Willett. Tappi 34:sup54A+ Ap '51

PAPER board, Corrugated

Corrugated containers; digests of talks at Tappi Chicago section meeting, Nov. 1950. S. F. Thune and others. Paper Ind 32: 1002+ D '50; Tappi 34:sup79A-81A Ja '51

New developments in starch adhesives. J. E. Killinger. Tappi 34:sup36A+ Ap '51

Now, corrugated cartons for citrus fruit. C. E. Wright. il Paper Tr J 132:22-3 My 11 '51

Silicate adhesives for weatherproof corrugated board. R. L. Kreyling. bibliog Tappi 34:sup48A+ Ap '51

Manufacture

First corrugated combining conference, Tappi Lake Erie section, Cleveland, May 17-18; digests of papers. Tappi 34:sup20A+ Jl '51

Operation of the single facer with sodium silicate. E. M. Hertzmark. Tappi 34: sup86A+ Jl '51

Past, present, and future design of corrugated combiners. W. Goettsch. Tappi 34: sup26A+ Jl '51

Production and refining of semichemical pulp for corrugating board. J. E. Sapp. Paper Tr J 130:22-4 Je 29 '50; Same cond. Paper Ind 32:1348-50 Mr '51; Same cond. Pulp & Pa of Can 52:96-8 Mr '51

Urea-formaldehyde resins in starch corrugating pastes. E. S. Gantt. Tappi 34:sup42A+ Ap '51

Use of starch adhesives on the single facer in the manufacture of corrugated board. C. R. Vander Meulen. Tappi 34:sup80A+ Jl '51

Weatherproof corrugated board operating problems. J. J. Koenig. Tappi 34:sup58A+ Ap '51

Weatherproof corrugated boxboard manufacture experience with vinyl resin adhesives. E. G. Boyce. Tappi 34:sup46A+ Ap '51

Testing

Commercial laboratory testing. C. J. Zusi. Tappi 34:sup52A+ Ap '51

Theoretical and actual qualities of corrugated board; abstract. C. Root. Tappi 34:sup22A+ Jl '51

PAPER board industry

Trends in the paperboard industry. P. S. Bolton. Tappi 34:sup 110A-12A Ag '51

What we have done to remain competitive. W. F. Wolfe. Paper Tr J 133:73-4 Jl 13 '51

Netherlands

Netherlands strawboard industry and trade. For Comm W 45:21 O 8 '51

PAPER board mills

American Box new plant. Paper Tr J 133:13 Ag 31 '51

Application of the OCO water system to paper mill white water recovery. G. C. Ehemann and others. flow diags il Pulp & Pa of Can 51:107-11 Je '50; Same. Sewage & Ind Wastes 22:1573-80; Discussion. 1580-2 D '50

Board machine rebuilt in West Virginia Charleston (S.C.) plant modernization. Paper Ind 32:1061 Ja '51

Fibreboard products inc. turns sawmill waste into container materials. L. A. Lawrence. il Comp Air Mag 55:242-5 N '50

New equipment improves operations at Crown Paper Board's Philadelphia mill. R. S. Brookover. il Paper Ind 32:964-5 D '50

Strawboard mill layout at Hinde and Dauch, Trenton, Ont. W. H. Palm. Tappi 34:sup 124A; Discussion. sup 124A-5A S '51

Electric equipment

Electronic equipment at Ohio Boxboard. Paper Tr J 133:36 S 28 '51

Equipment

Air power solves papermakers' problem. il Comp Air Mag 56:47 F '51

Bathurst conservation measures. E. P. McGinn. flow diag il Paper Tr J 132:19-20+ Je 29 '51

B C M; Bathurst's new product. flow diag il plan Pulp & Pa of Can 52:78-87 My '51

Developments at Anglo-Canadian; new board mill and steam generating unit. il diags Pulp & Pa of Can 51:74-89 O '50

Disk mill refining of strawboard pulps. L. E. Eberhardt. Tappi 34:sup 131A; Discussion. sup 131A-2A S '51

Drying 800 tons kraft board daily on one machine. L. C. Crowder. diags Tappi 34:415-19 S '51

Fibreboard products, inc. announces $5,000,000 expansion program. il Paper Ind 32:1256-8 Mr '51

Overhead primaries on Black-Clawson board machines. J. Cutro. il Pulp & Pa of Can 52:138-9 Je '51

South African mill makes suitcase board. H. Baars. il Paper Ind 32:1178-9 F '51

Stock preparation in board mills. L. E. Eberhardt. flow sheets il diag Paper Tr J 133: 84+ Jl 13 '51

Power

National Container installs 625 lb plant at Tomahawk. J. E. Hoeft. il plan diags Power Eng 54:54-7+ D '50

New boiler installation at Anglo-Canadian. diag Pulp & Pa of Can 51:87-9 O '50

PAPER board mills—Power—*Continued*

Utility tie props industrial hydro; United board and carton corp. paperboard mill. E. Gorham. il diag Power 95:71-4 F '51

Why one paper mill turned to purchased power. E. Gorham. il Elec World 135:61-3 Ja 1 '51

PAPER box factories

Newest Pacific Coast box plant makes laminated folding boxes. il Paper Ind 32:1168-9 F '51; Same cond. Paper Tr J 132:14+ F 9 '51

Costs

Waste in the corrugated box shops. F. D. Long. Tappi 34:sup 111A-13A My '51

PAPER box industry

Tappi Chicago section panel on paper box industry. Tappi 34:sup96A+ My '51

What creative selling has done for a lackluster product; Andre flower boxes; multiple use gift boxes. N. Andre. il Sales Management 67:37-9+ Jl 1 '51

Competitions

Best set-up boxes; first competition of the National paper box mfrs. assn.; 68 awards. il Mod Packaging 24:105-9 Je '51

PAPER boxes

Best set-up boxes; first competition of the National paper box mfrs. assn.; 68 awards. il Mod Packaging 24:105-9 Je '51

Coarse papers; board, containers, etc. C. S. Huestis. il Paper Tr J 131:299-300+ N 30 '50

Corrugated containers; digests of talks at Tappi Chicago section meeting, Nov. 1950. S. F. Thune and others. Paper Ind 32:1002+ D '50

Counter action; Robert Burns gets it with counter carton for little cigars. il Mod Packaging 24:106-7 D '50

Folding-box winners. il Mod Packaging 24:170-4+ Ap '51

Grand award winner in folding paper box competition. il Mod Packaging 24:99 My '51

1951's folding paper box winners. il Sales Management 66:64 Ap 15 '51

Paperboard packaging reduces shipping damage. W. J. Rusin. il Iron Age 166:93-4 N 9 '50

Press-open pouring carton for detergent; Oakite Products. il Mod Packaging 24:95 Jl '51

Steel partitions cartoned at 28 per cent labor saving. il Steel 128:90 Je 11 '51

Trends in the paperboard industry. P. S. Bolton. Tappi 34:sup 110A-12A Ag '51

Versatile in-line carton maker; new Duco Cement cartons show its advantages. il Mod Packaging 24:96-103 Ja '51

Manufacture

Boxboard. J. Kubicka. Paper Ind 33:80-2 Ap '51; Same. Tappi 34:sup96A+ My '51

Finishing, handling and production methods. J. Redpath. Paper Ind 33:84-5 Ap '51; Same. Tappi 34:sup 103A-5A My '51

Newest Pacific Coast box plant makes laminated folding boxes. il Paper Ind 32:1168-9 F '51; Same cond. Paper Tr J 132:14+ F 9 '51

Printing

Printing and cutting in the folding box industry. H. W. Wahn. Paper Ind 33:82-4 Ap '51; Same. Tappi 34:sup 100A-3A My '51

Testing

Commercial laboratory testing. C. J. Zusi. Tappi 34:sup52A+ Ap '51

PAPER chemicals

Effect of additives on multi-fiber dispersions. E. F. Thode and others. bibliog Paper Tr J 133:20+ S 21 '51

Effect of urea and related compounds on the mechanical properties of paper. H. D. Fisher. bibliog(42 titles) diag Tappi 34:276-88 Je '51

Forecast for 1951; opinions of manufacturers. Paper Tr J 132:112+ F 23 '51

Handling practices for liquid caustic soda. R. A. Springer. diag Tappi 34:sup 125A-8A; Discussion. sup 128A-9A S '51

Mechanism of the softening of paper by glycerin. W. H. McPherson, jr. bibliog il Tappi 33:531-7 N '50

New papers from the use of chemicals; panel discussion. T. S. Morse and others. Tappi 33:sup90A+ N '50

Nonfibrous raw materials report, 1950. E. N. Poor. Tappi 34:sup22A Ja '51

Our sulphur problem. H. J. Perry. Paper Tr J 131:28-9 D 14 '50

Recent developments for the paper industry by Dow chemical co. E. K. Stilbert. Paper Tr J 132:28+ Ja 12 '51

Silicate of soda uses in the paper mill. F. R. MacGonagle. Tappi 34:sup77A-8A Ja '51

PAPER chromatography. See Chromatography

PAPER coating

Champion machine coating process in the United States and abroad. J. R. Simpson. Paper Ind 32:1350-1 Mr '51

Champion wins KromeKote suit. F. Makara. Paper Tr J 132:42 Je 15 '51

Coating. E. L. Lamb. diags Paper Tr J 131:279-80+ N 30 '50

Coating papers on the Fourdrinier and press sections. C. W. Steele. Paper Tr J 131:30+ N 23 '50

Determination of stability of paint and paper coating latex. W. H. Watson and E. S. Graham. diags Paint Oil & Chem R 114:11+ My 24 '51

Distribution of starch in clay coatings. J. W. Dappen. bibliog diags Tappi 34:324-35 Jl '51

Effect of compounding variables on styrene-butadiene latex used for protective coatings for paper. M. E. Wendt and W. H. Aiken. bibliog Tappi 34:49-56 F '51

Experiences in development of coated board; abstract. H. Kindig. Paper Ind 32:907-8 N '50

Paper coating with new latex binder. il Chem Ind W 68:30-1 Mr 31 '51

Plastics and paper chemists combine forces in new trend. Chem & Eng N 28:3874+ N 6 '50

Polyethylene on paper; extrusion coating process. il Mod Plastics 28:67-71 D '50

Precipitation coating; depositing continuous film on surface of paper stock for grease-proof packaging. D. R. Erickson. il diag Mod Packaging 24:107-9+ Jl '51

Properties of a new vinyl chloride-vinylidene chloride latex for paper coating. E. K. Stilbert and H. L. Clack. bibliog il Tappi 34:337-46 Ag '51

Protective and decorative coatings applied from organic solvents. P. H. Yoder. Tappi 34:sup84A-7A Je '51

Reciprocal paper-plastics developments. E. C. Jahn. bibliog Tappi 34:sup8A+ Ag '51

St Regis operates second polyethylene coating machine. il Paper Ind 32:840 N '50

Tappi coating conference, 2d, Boston, April 18-20. Tappi 34:sup58A+ My '51

Trist paper coating system. A. R. Trist. Tappi 34:sup96A-100A Jl '51

Vapor-phase inhibitor goes to war; anti-corrosion packaging in the new armaments program. il Mod Packaging 24:92-5 Jl '51

Viscosity control of concentrated clay suspensions. N. Millman. diag Paper Tr J 132:28+ F 16 '51

PAPER coloring. See Dyes and dyeing—Paper

PAPER containers

Fibreboard products inc. turns sawmill waste into container materials. L. A. Lawrence. il Comp Air Mag 55:242-5 N '50

Theoretical and actual qualities of corrugated board; abstract. C. Root. Tappi 34:sup22A+ Jl '51

See also

Paper bags

Paper boxes

PAPER cups

Dixie Cup vs. Lily-Tulip Cup; a comparative study. H. S. Coffin. il Mag of Wall St 87:231-3+ D 2 '50

How Lily-Tulip talks to wholesalers' salesmen. M. Beuick. il Ptr Ink 235:38-9 Je 8 '51

PAPER cutting machines

New DA Langston slitter. il Paper Tr J 133:136 S 7 '51

PAPER drying

Application of Pusey and Jones dual revolving syphons to newsprint machine dryers at Pine Falls. E. H. Lougheed. il diags Pulp & Pa of Can 51:95-8 D '50

PAPER drying—*Continued*

Carpenter rotary steam joint. il diag Pulp & Pa of Can 52:98-9 Jl '51

Continuous drying of pulp by convected air. J. F. Gschwind. bibliog il plan diag Tappi 34:167-71 Ap '51

Cowie scraper. H. A. Paterson. il diags Pulp & Pa of Can 51:96-100 O '50

Drying 800 tons kraft board daily on one machine. L. C. Crowder. diags Tappi 34:415-19 S '51

Drying of paper. W. F. Daniell. Paper Tr J 131:278-9 N 30 '50

Heat used in drying paper can be evaluated and often recovered. H. R. Murdock. Ind & Eng Chem 42:sup81A-2A D '50

Ideal dryer system; abstract. J. J. Lanigan. Pulp & Pa of Can 52:114 Ag '51

Infra-red heating and drying. G. Broughton. Paper Tr J 131:23-4+ O 26 '50; 133:22+ Jl 27 '51

Instrumentation as an aid to paper drying. R. B. Lundy. Pulp & Pa of Can 52:58-60 F '51

Insulating dryer roll ends saves steam. il Paper Ind 32:1079 Ja '51

Relationship of dryer-hood design to machine-room ventilation. R. R. Willis. Pulp & Pa of Can 52:93-8 Ap '51

Welded steel drier rolls; increased paper production and reduced maintenance. H. Fieberts. il Paper Tr J 131:21-3 N 2 '50

PAPER dust

Effect of paper dust. W. Schweisheimer. Pulp & Pa of Can 52:165+ Mr '51

PAPER felt. See Felt, Paper

PAPER finishing

Finishing and converting. R. A. Bancroft. il diags Paper Tr J 131:290+ N 30 '50

Paper finishing operations; abstract. J. Cornelius. Pulp & Pa of Can 52:78 Jl '51

See also

Paper coating

PAPER furniture. See Furniture, Paper

PAPER handling

Getting our supplies on pallets saves labor, materials, space; Philip Morris & co. W. C. Foley. il Factory Management 109:74-6 F '51

Handling of finished pulp and paper products from the machine to the shipping dock. H. F. R. Weber. il Tappi 34:73-6 F '51

Outstanding material handling practices in the pulp and paper industry on the West coast. F. D. Helversen. il plans Tappi 33:sup24A+ N '50

PAPER industry and trade

Developments in various countries. Published irregularly in Foreign commerce weekly

Effects of paper imports. D. K. Brown. Paper Tr J 132:125-7 F 23 '51

Expansion '51 '53? H. J. Perry. map Paper Tr J 133:134+ S 7 '51

Feast or famine? G. Olmstead, jr. Tappi 34:sup 12A+ My '51

How CPR 22 affects you. Paper Tr J 132:12 My 4 '51

Impact of defense requirements in the paper and twine industry. C. K. Royce. Paper Tr J 132:37-8 Je 29 '51

Import problems, 1950. W. Bullock. Paper Tr J 132:83 F 23 '51

Mill and merchant relationship. C. Canfield. Paper Tr J 132:54-5 Je 15 '51

Mill superintendent in the present emergency. D. C. Everest. Paper Tr J 131:34-6 N 23 '50

North American pulp and paper industry. R. M. Fowler. Pulp & Pa of Can 51:93-4 O '50

Our outlook and our responsibility. M. C. Dobrow. Paper Tr J 131:22-3 N 9 '50

Outlook for writing paper industry. H. H. Hanson. Paper Tr J 132:16+ Ap 20 '51

Paper problems have not been neglected by the chemical industry. H. F. Lewis. il Chem & Eng N 29:452-5 F 5 '51

Pinch on paper. Bsns W p48+ Mr 17 '51

Pulp and paper production accelerated; C&EN annual review. H. F. Lewis. Chem & Eng N 29:31-2 Ja 1 '51

Review of new lawsuits affecting the paper and pulpwood industry. L. T. Parker. Paper Ind 31:943-5; 32:504-6, 969-71 N '49, Ag, D '50

Role of the pulpwood industry in industrial mobilization. D. C. Everest. Paper Tr J 132:121-3 F 23 '51

Salesmen's corner; paper shortage. F. Rundell. Inland Ptr 127:68-9 Je '51

Some relations, economical and technical, between the pulp and paper trade and the textile trade. G. Ullman. Soc Dyers & Col J 66:576-8 N '50

Viewpoint of the pulp and paper industry with regard to the federal tax program. E. W. Tinker. Paper Tr J 133:14+ Ag 24 '51

World report on pulp and paper. Paper Ind 33:634+ S '51

See also

Crane and company
Eddy, E. B., company
Newsprint paper
Paper board industry
Paper mills
Technical association of the pulp and paper industry

Advertising

Gilbert campaign gets rewards in readership, inquiries, sales. il Ind Marketing 36:74 Ag '51

Trade program paves way for consumer approach. Ptr Ink 236:69 S 14 '51

Finance

Banker looks at the pulp and paper industry. A. N. Rumpf. Tappi 33:sup 14A+ D '50; Abstract. Paper Tr J 133:42+ O 12 '51

Paper industry. H. E. Dickhuth. il Banking 43:78+ Je '51

History

Quebec's pulp and paper industry since 1803. J. N. Stephenson. il Pulp & Pa of Can 51:95-103 N '50

Public relations

Young Canadians learn about Canada's greatest industry. il Pulp & Pa of Can 51:114-16 N '50

Regulation

NPA controls. E. W. Tinker. Paper Tr J 131:12 N 16 '50

Paper industry's status in the rearmament program. L. T. Stevenson. Tappi 34:sup 28A+ Mr '51

Summary of NPA regulations. E. G. Lagerloef. Paper Ind 32:1340-1 Mr '51

Securities

Continuing boom in the paper industry? with financial data on leading companies. P. Dobbs. il Mag of Wall St 88:143-5+ My 5 '51

Is the boom tapering off; with position of leading companies. H. F. Travis. Mag of Wall St 88:674-5, 689-90 S 22 '51

Paper profits by the roll. I. U. Cobleigh. Comm & Fin Chr 174:239+ Jl 19 '51

Statistics

Canada's pulp and paper industry, 1949. Pulp & Pa of Can 52:40-50 F '51

Comparison of imports of dutiable papers and paperboards, calendar year 1949-1950; tabulation. Paper Tr J 132:11 Mr 30 '51

More and more paper production records in 1950. M. C. Dobrow. Paper Tr J 132:60+ F 23 '51

Pulp, paper, and board, 1950; tabulation. Tappi 34:sup 16A Mr '51

Pulp, paper, and paperboard in the United States; review for 1950. W. L. Neubrech. Tappi 34:sup22A+ Je '51

Trends of production and supply, 1950; charts. Paper Tr J 132:102+ F 23 '51

Will a paper shortage hamstring advertising? P. B. B. Andrews. Ptr Ink 236:37-9 S 14 '51

Australia

Pulp, paper and paperboard industry of Australia. H. W. Gepp. bibliog il map Pulp & Pa of Can 52:72-83 Ag '51

Austria

Developments in Austria in 1950. For Comm W 44:18 Ag 27 '51

British Columbia

B.C. sets production record during 1950. Paper Tr J 133:43 Jl 13 '51

Canada

Canada's pulp and paper industry, 1949. Pulp & Pa of Can 52:40-50 F '51

PAPER industry and trade—Canada—*Cont.*

Canadian possibilities, 1951. A. C. Hill. Paper Tr J 132:118+ F 23 '51

Developments in Canada. For Comm W 44:25-6 S 3 '51

1951 outlook for Canada. Paper Tr J 132:14 Ja 19 '51

Printers and early Canadian papermakers. N. L. Edwards. bibliog Pulp & Pa of Can 51:77-8 D '50

Problems and responsibilities in 1951. R. M. Fowler. Pulp & Pa of Can (Convention no) 52:104-8 [F] '51; Same. il Paper Tr J 132:11-14 F 2 '51

Review of the pulp and paper industry in 1950. R. M. Fowler. Pulp & Pa of Can 52:62-5 Ja '51

Young Canadians learn about Canada's greatest industry. il Pulp & Pa of Can 51:114-16 N '50

Colorado

Pulp and papermaking prospects in western Colorado. J. W. Pringle and B. E. Lauer. maps Tappi 33:sup38A+ N '50

Europe

European spotlight; high prices and scarcity facing paper market. Paper Tr J 133:98-9 Jl 13 '51

Finland

Statistical survey of by-products of the Finnish kraft industry; abstract. T. Lassenius. Paper Ind 32:1102 Ja '51

France

France needs wood for papermaking; abstract. S. Beracha. Paper Ind 32:1000 D '50

Situation in the French industry; abstract. S. Beracha. Paper Ind 32:1338 Mr; 33:206-7 My '51

Utilization of paper in France; with tabulations; abstract. S. Beracha. Paper Ind 32:900 N '50

Great Britain

Associated paper mills, limited; statement by the chairman. L. W. Farrow. Economist 160:718 Mr 24 '51

Bowater paper corporation limited; statement by the chairman. E. V. Bowater. Economist 160:713-15 Mr 24 '51

British pulp and paper imports from Canada greatly reduced. R. D. Roe. Pulp & Pa of Can 52:158+ Ag '51

See also
Colthrop board and paper mills, limited

India

Development of the paper industry in Assam. T. Venkajee. map Pulp & Pa of Can 52:63-7 Mr '51

Developments in India. For Comm W 44:21 Jl 2 '51

Scheme for the development of hand-made paper industry. V. P. Iydurai. il Pulp & Pa of Can 51:111 N '50

Japan

Japanese paper industry. H. R. Alley. il map Paper Ind 33:663-7 S '51

New York (state)

Industry's role as related to New York state's pulpwood supply. G. A. Pesez. Tappi 34:sup20A+ Ag '51

Norway

Developments in Norway. For Comm W 44:21 Jl 2 '51

Norwegian pulp and paper industry. F. Burgestad. Pulp & Pa of Can 51:73-6 D '50

Pulp and paper developments, Norway; with tables of exports 1950-51. For Comm W 45:21-2 O 8 '51

Pulp and paper; new export tax. For Comm W 43:16-17 Je 4 '51

Portugal

Developments in Portugal. For Comm W 44:24 S 24; 45:20 O 1 '51

Quebec (province)

Paper and paper board converting operations in the province of Quebec. J. C. W. Evans. Pulp & Pa of Can 51:104-5 N '50

Quebec's pulp and paper industry since 1803. J. N. Stephenson. il Pulp & Pa of Can 51:95-103 N '50

Vital industry geared to the Saguenay. A. W. J. Dyck. Can Chem & Process Ind 34:898 N '50

Southern states

Cement, paper industries emphasize southern expansion. S. Fish. il Manuf Rec 120:36-7 S '51

Growth of pulp and paper industry; abstract. J. R. Weddell. Comm & Fin Chr 173:630 F 8 '51

Ounce per train mile; work of Seaboard air line in developing paper industry. il Paper Tr J 132:20-1 Mr 30 '51

Sweden

Pulp and paper; Sweden's prices rising. For Comm W 45:20-1 O 1 '51

United States

Industry fully prepared to meet its obligations. E. W. Tinker. Paper Tr J 132:55-6 F 23 '51

More and more paper production records in 1950. M. C. Dobrow. Paper Tr J 132:60+ F 23 '51

Paper exports and world demand. G. V. Johnson. Paper Tr J 132:95-6 F 23 '51

Paper industry and freedom of enterprise. L. T. Stevenson. Paper Tr J 132:84+ F 23 '51

Place of the paper industry in the United States economy. L. T. Stevenson. Paper Tr J 133:62+ Jl 13 '51

Possibilities for expansion of the pulp and paper industry in the United States and Alaska. H. R. Josephson. Tappi 34:sup58A+ Ag '51

Review of 1950 in the unbleached kraft paper industry. D. Every. Paper Tr J 132:58 F 23 '51

See also
Tariff—United States
—Paper

PAPER laboratories

Chemical pulping laboratory at the Pulp and paper research institute of Canada. G. J. C. Potter. flow plan il plan diags Pulp & Pa of Can 52:90-4 Ag '51

Collapsible chambers for temperature and humidity control at Institute of paper chemistry. W. D. Beers. il Paper Ind 32:1278-80 Mr '51

Du Pont's new paper laboratory, Deepwater Point, N.J. il Paper Tr J 133:40-2 Ag 24 '51

PAPER makers, International brotherhood of. See International brotherhood of paper makers

PAPER making

Abstracts of papers presented before the technical section Canadian pulp and paper association. Paper Tr J 132:20-8 F 2 '51

American pulp and paper mill superintendents 32d annual meeting, Portland, Ore.; with abstracts of papers. Paper Ind 33:525-30+ Ag '51

Application of radioactive tracers to measurements of fibre flow and distribution. C. A. Sankey and others. diags Pulp & Pa of Can (Convention no) 52:136-46 [F] '51

Application studies on a cationic urea-formaldehyde wet-strength resin. I. J. Gruntfest and others. bibliog Tappi 34:108-10 Mr '51

Besides more chlorine, there is much the paper industry needs from the chemical industry. K. A. Taylor. il Chem & Eng N 29:450-1 F 5 '51

Birch as pulp raw material; abstract. W. Jensen. Pulp & Pa of Can 52:84 Ja '51

Bound water and hydration. A. J. Stamm. bibliog diag Tappi 33:435-9 S '50; Same. Pulp & Pa of Can 51:90-3 S '50

Colloid technology in paper making. E. F. Thode. Paper Tr J 131:287-90 N 30 '50

Continuous stock preparation in a six machine fine paper plant. B. Sucksdorff. il map diags Paper Tr J 132:26+ Ja 19 '51

Deculator process for deaerating stock. diag Paper Ind 33:168-9 My '51

Description and action of the Morden Slush-Maker pulper. B. Morden. il Tappi 34:400-3 S '51

PAPER making—*Continued*

Description and operation of two consistency regulators. F. Brien. diags Pulp & Pa of Can 52:70-4 Ja '51

Effect of pulpstone grit distribution on groundwood quality control. E. P. Walsh. bibliog Pulp & Pa of Can 52:76-81+ Mr '51

Fiber-to-fiber bonding. L. V. Forman. bibliog Tappi 33:444-50 S '50; Same. Pulp & Pa of Can 51:109-14+ S '50

Fine paper manufacture. F. S. Klein. Paper Tr J 131:335-6+ N 30 '50

Flocculation of pulp suspensions and the formation of paper. S. G. Mason. bibliog Tappi 33:440-4 S '50; Same. Pulp & Pa of Can 51:94-8 S '50

Flow measurement of fluids through small pipes. H. W. Stoll. diags Paper Tr J 132:22+ Mr 16 '51

Glycol extracts lignin in new pulping process. diag Chem Eng 58:202-3 Je '51

Handmade paper at the Festival of Britain. il Pulp & Pa of Can 52:172 S '51

Influence of electrolytes on pulp and paper properties. W. E. Cohen and others. bibliog diags Paper Tr J 132:19-20+ Je 22; 133:16-18+ Jl 27 '51

International symposia, Appleton and Montreal; program. Paper Tr J 133:22+ Ag 24 '51

Mechanical charging of Hydrapulpers. L. L. Fitzpatrick. diags Pulp & Pa of Can 52:95-9 Ag '51

Mechanism of the softening of paper by glycerin. W. H. McPherson, jr. bibliog il Tappi 33:531-7 N '50

Mechano-chemical process; rate of delignification. S. I. Aronovsky and G. H. Nelson. il Tappi 34:216-22 My '51

Methods of control of stock treatment. W. E. Patte and H. Crabtree. Pulp & Pa of Can 51:115-16 O '50

Mexican bark paper. E. Tay and E. Zubryn. il Inland Ptr 127:42 Je '51

More pulp, less pollution. il Chem Ind W 68:23 My 5 '51

Neoprened paper. il Chem W 69:14-15 S 1 '51

New development in consistency control of paper stocks; Spruce Falls power & paper co. D. B. Scrivens. il diags Pulp & Pa of Can (Convention no) 52:236-42 [F] '51

Paper and paperboard making. H. Williamson. flow diag diags Paper Ind 31:1431-3; 32:50-2, 167-9, 283-8, 392-4, 509-11, 612-13, 735-8, 867-8, 967-9, 1086-8, 1184-6, 1291-4; 33:57-61, 173-6, 521-4, 660-2, 792-5 Mr '50-My, Ag-O '51 (to be cont)

Paper-plastics conference sponsored by plastics committee of Tappi. Rubber Age 68:474-5 Ja '51

Paper problems have not been neglected by the chemical industry. H. F. Lewis. il Chem & Eng N 29:452-5 F 5 '51

Plastics and paper chemists combine forces in new trend. Chem & Eng N 28:3874+ N 6 '50

Problems in proportioning stocks at varying consistency. R. Bodette. Pulp & Pa of Can 51:117 O '50

Radioactive isotopes used in trial run of newsprint at Baie Comeau. Paper Ind 32:1066 Ja '51

Rag paper industry. L. B. Tucker. il diag Paper Tr J 131:226+ N 30 '50

Recent trends in the manufacture of pulps as related to papermaking. G. H. Tomlinson. Pulp & Pa of Can 51:112-14 O '50

Reciprocal paper-plastics developments. E. C. Jahn. bibliog Tappi 34:sup8A+ Ag '51

Resin bonding of paper fibers. C. G. Landes. bibliog(79 refs) il Tappi 33:463-71 S '50; Same. Pulp & Pa of Can 51:120-8 S '50

Retention of wet-strength additives in paper. I. J. Gruntfest. bibliog Tappi 33:529-30 N '50

Semichemical pulp production with revolving disk mills. C. K. Textor. flow sheet il Tappi 34:sup92A+ Ag '51

Semichemical pulping with single rotary disk refiners. T. W. Small, jr. il diag Tappi 34:sup 104A-8A Ag '51

Some phases of wide-roll high-speed supercalendering; abstract. D. Sherman. Paper Ind 32:1110 Ja '51

Tappi chemical methods committee meeting, Rochester, Sept. 15; summary of discussion. Tappi 33:sup76A-80A D '50

Tappi Delaware Valley section discussion on control testing methods. Tappi 34:sup87A-90A Ja '51

Tappi engineering conference, 5th, Cincinnati, Oct. 2-5; abstracts of papers. Tappi 33:sup57A-8A+ N '50

TAPPI fibrous agricultural residues meeting, Peoria, Nov. 13-14. Paper Ind 32:979-80 D '50; Same. Tappi 34:sup69A-71A Ja '51

Tappi plastics committee, Paper-plastics conference, Syracuse, N.Y. Oct. 19-20; abstracts of papers. Paper Tr J 131:19-21 N 9 '50; Paper Ind 32:986+ D '50; Pulp & Pa of Can 51:103-5 D '50; Tappi 33:sup60A+ D '50

Trends in pulp and paper production from the research angle. G. H. Tomlinson. Pulp & Pa of Can 51:163+ N '50

Use of nickel containing alloys in the pulp and paper industry; corrosion problems. H. O. Teeple. il Paper Tr J 131:28+ N 9; 19-23 N 16; 14-15+ bibliog(80 titles, p23-5 N 23 '50

What we do not know about paper manufacturing. H. S. Spencer. Tappi 34:sup70A+ F '51

Why and how can two fibres adhere to each other? H. F. Mark. Paper Tr J 132:31+ Ja 5 '51

See also

Digesters (paper making)
Felts (paper making)
Paper board—Manufacture
Paper chemicals
Paper coating
Paper drying
Paper finishing
Paper making machinery
Paper making materials
Paper mills
Paper pulp
Paper research
Paper sizing
Tissue paper
Wood pulp

Beating

Control of chemicals in the beater room. G. E. Wilson. Pulp & Pa of Can 51:126+ N '50

Effect of certain latex variables in beater addition of nitrile rubber latices. D. M. Yost and W. H. Aiken. bibliog Tappi 34:30-9 Ja '51

Effect of certain papermaking variables upon beater addition of nitrile rubber latices. D. M. Yost and W. H. Aiken. Tappi 34:40-8 Ja '51

Effect of roll load in the beating of southern kraft pulp. C. S. Walseth and C. G. Geijer. il Tappi 33:490-4 O '50

Effects of natural beater additives on papermaking fibers. J. W. Swanson. bibliog il Tappi 33:451-62 S '50; Same. Pulp & Pa of Can 51:99-108+ S '50

Fundamentals of beating practice. H. Williamson. Paper Ind 33:173-6 My '51

Influence of hemicelluloses in wood pulp fibers on their papermaking properties. L. G. Cottrall. bibliog il Tappi 33:471-80 S '50; Same. Pulp & Pa of Can 51:135-43 S '50

Influence of temperature during the beating process. O. K. Ronning and C. E. Libby. bibliog il Tappi 34:223-33 My '51

Methods for measuring the retention of polysaccharide beater additives. E. H. Shriver, 2d and others. bibliog Tappi 33:578-86 D '50

Paper and paperboard making; beater operation studies. H. Williamson. Paper Ind 33:521-4, 660-2, 792-5 Ag-O '51 (to be cont)

Proportion of water-accessible and nonaccessible cellulose in wood pulps as affected by beating. S. I. Bergman and M. M. Johnson. Tappi 33:586-7 D '50

Some new developments in the beater addition process. F. H. Snyder. Tappi 34:sup 105A-7A Mr '51

Stock preparation; beating and refining. F. B. Schelhorn. il diags Paper Tr J 131:235-6+ N 30 '50

Bibliography

Progress in alkaline pulping in 1949. S. D. Wells. Tappi 33:sup79A-84A O '50

Pulping processes, pt.4, Semichemical processes. C. J. West, comp. (Bibliographic ser. no. 175) 145p Institute of paper chemistry, Appleton, Wis. '50 (pa $5)

Bleaching

Bleached groundwood. H. F. Jacques. Tappi 34:sup 112A; Discussion. sup 113A-14A Je '51

PAPER making—Bleaching—*Continued*

Bleaching kraft pulp with mixtures of sodium chlorite and chlorine. W. A. Stone and J. G. Matarese. Pulp & Pa of Can 52: 85-8 Ja '51

Bleaching of neutral sulphite semichemical pulp; Consolidated water power & paper co. S. R. Parsons and H. J. Lausman. bibliog Tappi 34:97-102 Mr '51

Chlorine bleaching of chemical pulp. J. L. Parsons. diags Paper Tr J 131:216-17+ N 30 '50

Chlorine dioxide and alkaline peroxide in kraft bleaching. F. Casciani and G. K. Storin. bibliog Tappi 33:588-94 D '50

Construction materials in the paper industry; symposium. Chem Eng 57:217-18, 255-6+ O-N '50

Developments in bleaching processes. H. W. Giertz. bibliog(47 ref) flow sheet Tappi 34: 209-15 My '51

Groundwood bleaching variables; a statistical approach. F. R. Sheldon. bibliog Tappi 34:163-6 Ap '51; Excerpt. Paper Tr J 131: 37 N 2 '50

Groundwood bleaching with zinc hydrosulphite; abstract. G. V. Rittenhouse. Tappi 33:sup 105A-6A D '50

Harmac bleach plant begins production. il Pulp & Pa of Can 52:91-2 My '51; Paper Ind 33:672 S '51

Hydrogen peroxide bleaching of chemical and mechanical pulps. R. L. McEwen and others. bibliog(44 ref) il diags Tappi 34: 193-201 My '51

New pulp bleaching technique. diag Chem Eng 57:112 D '50

Oxidation of sulphite pulp in an after bleach; abstract. H. Sihtola and G. R. Gustafsson. Paper Ind 32:1104 Ja '51

Peroxide bleaching. L. A. Pierce. diag Paper Tr J 131:203-4+ N 30 '50

Peroxide bleaching of groundwood; abstract. J. S. Reichert. Paper Tr J 131:36 N 2 '50

Peroxide bleaching of groundwood and sulphite pulps. R. A. Premo. diags Tappi 34: 270-2 Je '51

Preparation of chlorine bleach liquors for paper pulp. N. R. Phillips. bibliog Paper Tr J 131:211-12+ N 30 '50

Production of bleached groundwood pulp at St George. R. L. Robinson. il Pulp & Pa of Can 51:80-2 S '50

Recent developments in pulp bleaching; panel discussion. T. A. Pascoe and others. Tappi 33:sup92A+ N '50

Reflections on groundwood bleaching. H. F. Lewis and M. A. Buchanan. bibliog Pulp & Pa of Can 52:93-5 Mr '51

Sulphite bleaching with hydrogen peroxide. F. R. Sheldon. diags Pulp & Pa of Can 52: 104-7 S '51

By-products

Continuous laboratory propagation of sulphite waste liquor yeast. A. E. Markham and others. bibliog flow sheet Tappi 34:131-40 Mr '51

Fermentation to ethanol of concentrated calcium, magnesium, and ammonium sulphite waste liquors. H. D. Agar and J. L. McCarthy. bibliog diag Tappi 34:126-31 Mr '51

International symposium on pulp and paper, Appleton, Wis. Sept. 17-21. Paper Tr J 133:52 O 5 '51

Rhinelander yeast plant. E. P. McGinn. il diag Paper Tr J 133:96+ S 7 '51

See also
Sulfite liquor

Dirt problem

Sources of wood dirt in unbleached pulp. C. A. Watson. Tappi 34:311-13 Jl '51

Fillers

Distribution of filler in paper. E. Hansen. diags Tappi 34:180-5 Ap '51

Fillers and loading. G. D. Bearce. flow diag diag Paper Tr J 131:243+ N 30 '50

Fillers and loading. O. W. Callighan. Paper Tr J 131:242-3 N 30 '50

Microscopic identification of paper fillers. H. C. Koch and others. il Tappi 34:265-9 Je '51

Scattering coefficients of fillers in suspension; abstract. C. Gustafsson and others. Paper Ind 33:438 Jl '51

Freeness testing

Examination of consistency and freeness control in typical groundwood mills. T. G. Rust. diags Pulp & Pa of Can (Convention no) 52:181-91 [F] '51

Interconversion of Williams freeness values. D. S. Davis. Paper Ind 32:1290 Mr '51

History

Twenty-five years' pulping developments of agricultural residues. F. G. L. Becker. il Paper Tr J 132:16+ Mr 23 '51

Patents

Champion wins KromeKote suit. F. Makara. Paper Tr J 132:42 Je 15 '51

Do you know what is patentable? L. T. Parker. Paper Ind 33:282-4 Je '51

United States patents on papermaking; first quarter, 1950. C. J. West, comp. Tappi 33: sup90A-4A O '50

United States patents on papermaking; second quarter, 1950. C. J. West, comp. Tappi 33:sup94A-8A O '50

United States patents on papermaking; third quarter, 1950. C. J. West, comp. Tappi 33:sup 109A-13A D '50

United States patents on papermaking; fourth quarter, 1950. C. J. West, comp. Tappi 34:sup 129A-34A My '51

United States patents on papermaking, first quarter, 1951. C. J. West, comp. Tappi 34: sup 121A-5A Ag '51

Screening

Consistency and volume control for pulp screens. F. W. Buckley. diag Pulp & Pa of Can 51:145 S '50

How to keep your cylindrical screens at their best throughout the emergency. B. D. Warren. il diags Paper Tr J 133:24-7 Ag 31 '51

How to keep your vibrating screens at peak efficiency. B. D. Warren. il Paper Tr J 133: 19-20 S 14 '51

Review of application of the Jonsson screen. S. Fahlgren. Tappi 34:sup 129A-30A; Discussion. sup 130A-1A S '51

Slotted screen plates for pulp and paper mills. H. W. Downs, jr. il Tappi 34:380-2 Ag '51

Slime problem

Measurement of slime in a paper mill. L. A. McKeown and J. H. Bardsley. Tappi 33:600-3 D '50

New method of detecting slime in pulp and paper. S. J. Buckman and V. Henington. il Tappi 34:302-5 Jl '51

Pink slime in paper mills; control and identification of certain causative organisms. J. W. Appling and others. bibliog Tappi 34: 347-52 Ag '51

Slime acclimatization. P. A. Sartoretto. Tappi 34:sup72A-3A Ja '51

Slime control in paper mills; questions and answers. H. E. Berg and J. R. Sanborn. Tappi 34:sup81A-5A F '51

Soda process

Caustic pulping; the soda process. T. H. Werner. Paper Tr J 131:158-63 N 30 '50

Chemical recovery operations in the soda and sulfate mill. L. G. Willins. diags Paper Tr J 131:183-4+ N 30 '50

Construction materials in the paper industry; alkaline pulping; symposium. il Chem Eng 58:217-18+ Ja '51

Evolution of the modern recovery unit for soda and sulfate pulp mills. F. W. Roberts. il diags Paper Tr J 131:191-4+ N 30 '50

Mead's Kingsport division soda mill modernized. il Paper Ind 32:831-4+ N '50

Soda process. E. W. Keith. flow sheet il diags Paper Tr J 131:178-83 N 30 '50

Study and teaching

Educational and development program at New York state college of forestry. C. E. Libby. Tappi 34:sup 110A Mr '51

Miniature paper mill is feature of new Three Rivers school. Paper Ind 32:1263 Mr '51

Technical education in Quebec; pulp and paper school at Three Rivers. W. W. Werry. il Pulp & Pa of Can 51:119 N '50

Training chemical engineers for the pulp and paper industry. L. C. Jenness. Paper Ind 33:50-1 Ap '51

PAPER making—*Continued*

Sulfate process

Abatement of sulphate pulp mill odor and effluent nuisances. W. O. Hisey. bibliog il Tappi 34:1-6 Ja '51

Alkaline pulping conference sponsored by Technical association of the pulp and paper industry, Jacksonville, Fla. Oct. 25-27; abstracts of papers. Tappi 33:sup66A+ D '50

Application of hydrogen sulphide in sulphidity control. L. B. Taylor. diag Tappi 34:12-15 Ja '51

Chemical recovery in southern sulphate pulp mills. U. J. Westbrook. Paper Tr J 131:26-8 O 26 '50

Chemical recovery operations in the soda and sulfate mill. L. G. Willins. diags Paper Tr J 131:183-4+ N 30 '50

Chlorine dioxide and alkaline peroxide in kraft bleaching. F. Casciani and G. K. Storin. bibliog Tappi 33:588-94 D '50

Compensating for chip moisture variations by chip weighing. M. L. Oliver. Tappi 34:273-5 Je '51

Construction materials in the paper industry; alkaline pulping; symposium. il Chem Eng 58:217-18+ Ja '51

Corrosion and field lining of sulphate digesters. T. T. Collins, jr. and others. il Paper Tr J 132:24+ F 9; 18+ bibliog(62 titles, p24+) F 16 '51

Corrosion of mild steel and mild steel welds in sulphate digesters. R. A. Huseby and M. A. Scheil. il diags Tappi 34:202-9 My '51

Digester corrosion; experience of a sulphate mill. T. C. Johnson. diags Tappi 33:481-4 O '50

Dissolving pulps by sulfate process; International paper company's new Natchez mill. il Chem Ind 67:576-7 O '50

Effect of per cent causticity on the settling rate of white liquor. M. R. Roberts and E. A. Harper. Tappi 34:102-3 Mr '51

Effect of roll load in the beating of southern kraft pulp. C. S. Walseth and C. G. Geijer. il Tappi 33:490-4 O '50

Effect of silicates on digester corrosion. J. C. Hair and A. W. Duskin. Tappi 34:252-4 Je '51

Effect of sulphidity; abstract. J. S. Hart. Pulp & Pa of Can 52:71-2 Jl '51

Evolution of the modern recovery unit for soda and sulfate pulp mills. F. W. Roberts. il diags Paper Tr J 131:191-4+ N 30 '50

Florida's new process; University of Florida. C. E. Wright. il Paper Tr J 133:28-9 S 14 '51

Kraft papermaking; Camas, Wash. mill of Crown Zellerbach corp. F. G. Sawyer and others. bibliog flow sheet il diags Tappi 33:sup 16A+ O '50

Kraft pulp from old railroad cross ties; abstract. R. C. Sproull and others. Paper Ind 32:861 N '50

Kraft pulping. W. Beckler, jr. flow sheet diag Paper Tr J 131:164-71 N 30 '50

Kraft pulping. T. J. Carlin. flow sheets diags Paper Tr J 131:171-2+ N 30 '50

Kraft semi-chemical pulping; National container corp. of Wisconsin. K. E. Olson and W. W. Marteny. flow sheet il Paper Tr J 133:118-20+ S 7 '51

Now use sulphate process at Luke; smelter unit to recover the chemicals. Paper Tr J 132:11 Ap 13 '51

Odor elimination in a sulphate mill; abstract. G. Bozza and P. Colombo. Paper Ind 33:545 Ag '51

Partial acidification of unbleached kraft pulp. J. C. Bradbury. Paper Tr J 131:23-4 N 16 '50

Potlatch Forests, new kraft pulp and paper mill. il diag Paper Tr J 132:19-25+ Mr 9 '51

Preliminary refining of hot stock kraft. G. Petrie. diag Paper Tr J 133:92-3 Jl 13 '51

Presence of galactose units in unbleached kraft pulps. L. E. Wise and others. bibliog Tappi 34:15 Ja '51

Pressure washing of kraft brown stock. E. Zimmerman and H. Vranian. il diags Tappi 33:561-6 D '50

Production of commercial-grade chemical pulps at the Pulp and paper research institute of Canada. J. S. Hart and R. K. Strapp. Pulp & Pa of Can 52:103-6 Ag '51

Progress in alkaline pulping in 1949. S. D. Wells. Tappi 33:sup68A+ bibliog(393 ref, sup79A-84A O '50

Redwood plastic pulp for phenolic resin laminates. T. A. Howells and R. H. Goms. il Tappi 34:121-5 Mr '51

Review of 1950 in the unbleached kraft paper industry. D. Every. Paper Tr J 132:58 F 23 '51

Some physical and chemical properties of high-yield kraft pulps. J. M. Limerick and C. V. Callaghan. flow diag Pulp & Pa of Can (Convention no) 52:175-80 [F] '51

Stabilization of Douglas fir kraft black liquor. H. W. Bialkowsky. and G. G. Dehaas. Paper Ind 33:546-9 Ag '51

Structural and chemical differences between sulphite and sulphate pulps; abstract. G. Jayme and A. von Köppen. Paper Ind 33:76+ Ap '51

Sulphite waste liquor in the kraft cook; "Silphate process"; abstract. N. Mannbro. Paper Ind 33:207 My '51

TAPPI annual Alkaline pulping conference, Jacksonville, Fla. Oct. 25-27. Paper Tr J 131:16+ N 9 '50; Paper Ind 32:983-4 D '50

Use of nickel containing alloys in the pulp and paper industry; corrosion problems. H. O. Teeple. il Paper Tr J 131:28+ N 9 '50

West Virginia pulp and paper co. converts its Luke mill from soda to sulphate. il Paper Ind 33:150-1 My '51

Sulfite process

Ammonia base in the neutral sulphite semichemical pulping process. R. M. Jones and T. E. Detcher. il Tappi 34:sup88A+ Ag '51

Ammonia-base sulphite pulping liquors; their preparation and analysis. F. F. Bishop and J. F. Honstead. bibliog flow diag Tappi 34:318-23 Jl '51

Ammonium bisulphite pulping; its application and future in sulphite pulp manufacture. R. M. Jones and T. E. Detcher. Paper Tr J 133:20+ Ag 3 '51

Automatic control of sulphur combustion. W. T. Butler. il Pulp & Pa of Can (Convention no) 52:243-8 [F] '51

Bleaching of neutral sulphite semichemical pulp; Consolidated water power & paper co. S. R. Parsons and H. J. Lausman. bibliog Tappi 34:97-102 Mr '51

Changes in equipment and in operating practices which will reduce sulphur consumption. W. F. McKee. Pulp & Pa of Can 52:79-82 Jl '51

Chemistry of the sulphite pulping process and the evaporation of its waste liquor. E. Hägglund. il Tappi 33:520-7 O '50

Combustion chamber construction and operation factors relating to lining and shell life. R. G. Arklie and others. Pulp & Pa of Can 52:108-11+ S '51

Commercial sulphite production experience with ammonia-base acid. L. A. LaFond and W. F. Holzer. bibliog il Tappi 34:241-7 Je '51

Construction materials in the paper industry; symposium. il Chem Eng 57:223-4+ D '50

Defects of pulp wood chips; abstract. O. Murto. Pulp & Pa of Can 52:95 Mr '51

Dehydrogenation of *p*-cymene. K. A. Kobe and R. T. Romans. bibliog diag Ind & Eng Chem 43:1755-8 Ag '51

Development of a system for neutral sulphite pulping. T. Agronin. il diags Tappi 34:sup102A-5A Ag '51; Excerpt. Paper Tr J 133:28+ Ag 3 '51

Discussion of a basic reaction in pulping. J. H. Ross and others. bibliog Pulp & Pa of Can 52:116-23 S '51

Effect of bark in the neutral sulphite semichemical pulping of aspen, hickory, and slash pine. E. L. Keller. bibliog Tappi 33:556-60 N '50

Effect of recycling spent liquor in semichemical pulping. E. L. Keller and J. N. McGovern. bibliog Tappi 34:262-5 Je '51

Expansion at Lee paper co. E. P. McGinn. il Paper Tr J 133:139-42 S 7 '51

Factors influencing the service life of brick linings in sulphite digesters. B. Thomas. bibliog diags Tappi 34:16-20 Ja '51

Influence of temperature during the beating process. O. K. Ronning and C. E. Libby. bibliog il Tappi 34:223-33 My '51

PAPER making—Sulfite process—*Continued*

Neutral sulfite semichemical pulping process. H. J. Perry. flow diag Paper Tr J 131:152+ N 30 '50

New evaporator licks effluent woes of pulpers. il diags Chem Eng 58:181-2 Ag '51

Polysaccharide hydrolysis during the sulphite cook; abstract. J. Sundman. Paper Ind 32:1000 D '50; Pulp & Pa of Can 51:94 D '50

Practical burning of pyrites for sulphite pulping; Nichols Freeman flash roaster. E. P. McGinn and others. flow chart il maps diag Paper Tr J 132:21-2+ My 25 '51

Preparation of sulfur dioxide. J. C. Darrah. bibliog diags Paper Tr J 131:131-5 N 30 '50

Production of neutral semichemical sulphite for high grade book paper. L. W. Murtfeldt. flow chart Paper Tr J 130:27-9 Je 29 '50; Same. Paper Ind 32:1347-8 Mr '51

Recent developments in acid making. L. C. H. Reighey and F. J. Hoar. Pulp & Pa of Can 51:99-102 D '50

Recycling of waste liquor in the sulphite cook; abstract. E. Hägglund and others. Paper Ind 32:1338-9 Mr '51

Reducing sulphur consumption; report of sulphite committee, Canadian pulp and paper assn. Tappi 34:sup50A+ My '51

Relations between yield and properties of spruce and aspen sulphite and sulphite semichemical pulps. J. N. McGovern. bibliog Tappi 33:486-9 O '50

Review of the literature on the sulphite process, Sept. 1949-Aug. 1950. G. J. C. Potter. bibliog(36 titles) Pulp & Pa of Can 52:82-5+ Ap '51

Sources of wood dirt in unbleached pulp. C. A. Watson. Tappi 34:311-13 Jl '51

Structural and chemical differences between sulphite and sulphate pulps; abstract. G. Jayme and A. von Köppen. Paper Ind 33:76+ Ap '51

Sulfite acid making. J. H. Snyder. diags Paper Tr J 131:142+ N 30 '50

Sulfite acid preparation. E. R. Barker, jr. diags Paper Tr J 131:136+ N 30 '50

Sulphite bleaching with hydrogen peroxide. F. R. Sheldon. diags Pulp & Pa of Can 52:104-7 S '51

Sulphite cooking control based on liquor viscosities of pine or spruce; abstract. J. Marchlewska-Szrajerowa and W. Surewicz. Paper Ind 32:1000 D '50

Sulphite pulp machines; cylinder wet and operation. C. R. Tittemore. Pulp & Pa of Can 51:103-4 O '50

Sulphite pulp machines; Fourdrinier wet end operation. A. R. Leger. Pulp & Pa of Can 51:101-2 O '50

Sulfite pulping. J. G. L. Caulfield. flow sheet diags Paper Tr J 131:125-6+ N 30 '50

Sulphite studies, the influence of cooking variables. J. S. Hart and R. K. Strapp. Pulp & Pa of Can 52:148-54 Je '51

Sulfur dioxide recovery. A. H. Lundberg. bibliog flow sheet diag Paper Tr J 131:147-51 N 30 '50

Sulphur reactions in sulphite cooking. W. H. Rapson and others. bibliog il diags Pulp & Pa of Can 52:88-97 Jl '51

Use of lead in the pulp and paper industry. V. P. Edwardes. il Paper Tr J 131:18-19+ O 26 '50

Use of nickel containing alloys in the pulp and paper industry. H. O. Teeple. il Paper Tr J 131:19-21 N 16 '50

Use of sulphur for sulphite pulping; report by Tappi acid pulping committee. Tappi 34:sup48A+ My '51

Wisconsin sulphite mills use ammonium base pulping. Paper Ind 33:626 S '51

See also

Sulfite liquor

PAPER making machinery

Application of Pusey and Jones dual revolving syphons to newsprint machine dryers at Pine Falls. E. H. Lougheed. il diags Pulp & Pa of Can 51:95-8 D '50

Carpenter rotary steam joint. il diag Pulp & Pa of Can 52:98-9 Jl '51

Cowie scraper. H. A. Paterson. il diags Pulp & Pa of Can 51:96-100 O '50

Description and action of the Morden Slush-Maker pulper. B. Morden. il Tappi 34:400-3 S '51

Description and operation of two consistency regulators. F. Brien. diags Pulp & Pa of Can 52:70-4 Ja '51

Development and construction of a side drive pulper. E. Cowles and J. M. Kelly. il diags Tappi 34:116-21 Mr '51

Development of a system for neutral sulphite pulping. T. Agronin. il diags Tappi 34:sup 102A-5A Ag '51; Excerpt. Paper Tr J 133:28+ Ag 3 '51

Developments at Anglo-Canadian; new board mill and steam generating unit. il diags Pulp & Pa of Can 51:74-89 O '50

Developments by Puseyjones. Paper Tr J 133:143 S 7 '51

Effects of machine head speed and specimen span on modulus of rupture values obtained in static bending tests of a nominal 5/32-inch Douglas-fir hardboard. H. Wilcox. bibliog Tappi 34:314-16 Jl '51

Electric equipment for paper mill supercalendars. M. S. Smith. Tappi 34:189-92 Ap '51

Factors in paper machine operation at high speeds. A. Hyer. Pulp & Pa of Can 51:109-11 O '50

Forecast for 1951; opinions of manufacturers. Paper Tr J 132:112+ F 23 '51

Frequency-type paper machine speed recorder. E. H. Snider. diags Pulp & Pa of Can 52:107-8 Ag '51

Function of the multiple cylinder machine. H. Williamson. flow diag diags Paper Ind 32:392-4, 509-11, 612-13, 735-8, 867-8, 967-9, 1086-8, 1184-6, 1291-4; 33:57-61 Jl '50-Ap '51

Haug Kollermill. A. J. Haug. il diags Pulp & Pa of Can 52:100-2 Ag '51

Insulating dryer roll ends saves steam. il Paper Ind 32:1079 Ja '51

J. O. Ross engineering corp. installations. il Paper Tr J 133:174-6+ S 7 '51

Maintenance of felt conditioners. B. D. Warren. il diags Paper Tr J 132:28+ My 11 '51

Mechanical charging of Hydrapulpers. L. L. Fitzpatrick. diags Pulp & Pa of Can 52:95-9 Ag '51

New development on high speed paper machine. A. E. Stewart. diags Pulp & Pa of Can 51:130-2 N '50

New Fourdrinier paper machine. Tappi 34:sup52A+ Je '51

New paper machine for Finch Pruyn. il Paper Tr J 133:114+ S 7 '51

Northern paper mills starts new Yankee tissue machine. il Paper Ind 33:280-2 Je '51

Overhead primaries on Black-Clawson board machines. J. Cutro. il Pulp & Pa of Can 52:138-9 Je '51

Paper and textile machinery drives. il Machine Design 23:148-52 Ap '51

Paper machine at Potlatch forests, inc. il Paper Tr J 133:162-4 S 7 '51

Paper machine operation. H. Pratt. il diags Paper Tr J 131:264-6+ N 30 '50

Past, present, and future design of corrugated combiners. W. Goettsch. Tappi 34:sup26A+ Jl '51

Refining of rejects; results of survey tabulated. C. T. Robinson. Pulp & Pa of Can 51:54-8 F '50; Same. Tappi 33:566-71 D '50

Results with turbo pulp refining. L. F. Herman. Tappi 34:sup 132A-3A S '51

Selection of a pulper. J. V. Edge. il Paper Tr J 131:20+ D 28 '50

Semichemical pulp production with revolving disk mills. C. K. Textor. flow sheet il Tappi 34:sup92A+ Ag '51

Semichemical pulping with single rotary disk refiners. T. W. Small, jr. il diag Tappi 34:sup 104A-8A Ag '51

Significance and continuous measurement of draw speed. E. H. Snider. diag Pulp & Pa of Can 52:109-12 Ag '51

Slotted screen plates for pulp and paper mills; abstract. H. W. Downs, jr. Tappi 33:sup64A N '50

Some causes of the wear of Fourdrinier wires. H. T. Fisher. il diag Pulp & Pa of Can 52:87-92+ Mr '51

Stock preparation in board mills. L. E. Eberhardt. flow sheets il diag Paper Tr J 133:84+ Jl 13 '51

Stock preparation in the manufacture of liner board. W. C. Hayes. diags Paper Tr J 132:15-16+ Mr 30 '51

PAPER making machinery—*Continued*

Sulphite pulp machines; cylinder wet end operation. C. R. Tittemore. Pulp & Pa of Can 51:103-4 O '50

Sulphite pulp machines; Fourdrinier wet end operation. A. R. Leger. Pulp & Pa of Can 51:101-2 O '50

Sutherland single rotation disc refiner. L. M. Sutherland. il Paper Tr J 131:25-9 N 23 '50

Wet-end ventilation of high speed news machines. C. E. MacDonald. il diags Pulp & Pa of Can (Convention no) 52:156-8 [F] '51

White-water drainage at the table roll section of a Fourdrinier paper machine. M. C. Wyatt. flow diag diags Pulp & Pa of Can 52:99-106 Ap '51

Yankee machine for dry or semi-creped tissue. L. R. Adkins. Paper Tr J 132:21-2+ My 18 '51

See also

Electric driving—
Paper mills
Paper cutting machines
Paper drying
Rolls (paper machinery)
Wood grinders

Control

Use of a mechanical differential gear for speed control. B. M. Burt. diag Pulp & Pa of Can 51:127-9 N '50

Lubrication

Lubrication, paper industry; abstract. L. W. Miller. Chem Eng 58:276+ F '51

Maintenance and repair

Do's and don'ts of packing practice. J. W. Hemphill. diags Paper Ind 32:1080-3 Ja '51

Standards

Standardization of paper machine design. G. E. Clink. Tappi 33:sup32A+ N '50

PAPER making materials

Agricultural residue pulps; crotalaria pulps. A. J. Ernst and others. Tappi 34:247-51 Je '51

Eucalyptus and esparto grass for processing into high-grade papers. Chem & Eng N 28: 4278 D 4 '50

Inorganic paper from glass fibers and from mica. il Chem Ind W 68:20+ Mr 31 '51

International symposium on pulp and paper, Appleton, Wis. Sept. 17-21. Paper Tr J 133: 50-2 O 5 '51

Linseed flax straw, its use in paper making. G. H. Lafontaine. Pulp & Pa of Can 52: 142-5 Je '51

Microscopy and identification of synthetic fibers. F. D. Houghton. il Tappi 34:353-6 Ag '51

Paper from sericea; abstract. M. E. Barker. Chem Eng 58:258-9 Ja '51

Potato paper; mixture of potatoes and wood pulp. Chem Ind W 68:16-17 F 24 '51

Ramie fiber developments. C. E. Wright. Paper Tr J 132:13 Je 1 '51

Restyling byproducts will add new income; greater utilization of bagasse and blackstrap by newly developed method. il diags Food Eng 23:144-5 Ag '51

Tappi fibrary; catalog of collection of fibers of paper making materials at Institute of paper chemistry, Appleton, Wis. Tappi 34: sup26A+ F '51

Twenty-five years' pulping developments of agricultural residues. F. G. L. Becker. il Paper Tr J 132:16+ Mr 23 '51

Weight factors for cotton linters. I. H. Isenberg and C. L. Peckham. Tappi 33:527-8 O '50

What about cotton stalk pulp? A. J. Ernst and others. bibliog Paper Ind 33:46-8 Ap '51

See also

Bagasse
Bamboo
Cellulose
Paper chemicals
Paper making—
Fillers
Paper pulp
Paper sizing
Pine
Rags
Ramie
Straw
Waste paper
Wood pulp
Wood waste

PAPER manufacturers association, Waterproof. See Waterproof paper manufacturers association

PAPER mills

Expanding Bowater umbrella at Corner Brook, Newfoundland. il map Pulp & Pa of Can 52:54-61 Jl '51

From Blackbottom mill to Excello, 1865-1951; Harding-Jones paper co. il Paper Ind 33: 164-6+ My '51

Two new plants that were built of noncritical materials. il Factory Management 109:B77-9 pt 2 Ap '51

Union Bag announces expansion for Savannah plant. A. Calder. il Paper Ind 33:34-5 Ap '51

See also

Paper board mills
Paper making

Accidents

Address of the president, Ontario pulp and paper makers' safety association 36th annual meeting, Toronto. Pulp & Pa of Can 52:162+ Ag '51

Review of the accident experience in the mills. L. A. Aitken. Pulp & Pa of Can 52: 140+ Ja '51

Where does your mill stand on safety? findings of Bureau of labor statistics survey. Paper Ind 33:180-3 My '51

Accounting

Accounting for supplementary costs of labor. R. B. Knott. Paper Tr J 133:22+ Jl 20 '51

Budgeting for the research and development department. A. G. Lurie. Tappi 34:sup40A+ Ag '51

Paper mill accounts for its selling costs. I. C. Barnes. Paper Ind 32:1181-2+ F '51

Standards and control reports in paper manufacture. G. R. Case. N A C A Bul 32: 1299-312 Jl '51

Cost

Materials handling; cost reduction. R. Belt. Tappi 34:sup 106A-8A My '51

Electric equipment

De-inking plant expansion includes major instrumentation; Fitchburg paper co. R. B. Wolf, jr. il Paper Tr J 133:112+ S 7 '51

Electric equipment for paper mill winders. C. D. Beck. il diags Tappi 34:153-62 Ap '51

Magnetic separators protect equipment by removing tramp iron. G. Richardson. il diags Paper Ind 33:49 Ap '51

Protection of electric equipment from corrosion in pulp and paper mills. G. W. Knapp. il Paper Tr J 132:18+ Ja 19 '51

Subcommittee on cable of the Technical association of the pulp and paper industry meeting, Cantonment, Fla. July 27. Tappi 34:sup78A+ S '51

TAPPI electric cable subcommittee meeting, 1st, Cantonment, Fla. May 11. Tappi 34: sup74A+ Ag '51

See also

Electric driving—
Paper mills

Employees

Development of a training program at Laurentide division of Consolidated paper corporation limited. F. M. Ladd. Pulp & Pa of Can 51:83-5+ S '50

Heat and humidity in the paper and pulp manufacturing industry. W. Schweisheimer. Pulp & Pa of Can 51:236-7+ N '50

How can the industrial relations man best serve his company's interest? H. M. Turner. Pulp & Pa of Can 51:69-73 D '50

How much does it hurt in dollars? cost of workmen's compensation in New York state and comparisons with other states. Paper Tr J 131:21-4 D 21 '50

Human relations in industry. H. F. Dunning. Tappi 33:sup 101A-4A N '50

Owner or driver; which is liable in motor truck accidents? L. T. Parker. Paper Ind 32:1078-9 Ja '51

Paper and allied products; hourly earnings, May 1950. A. N. Jarrell. Mo Labor R 72:288-90 Mr '51

Personnel management. E. B. Stevens. Paper Tr J 131:341-7 N 30 '50

Rediscovery in labor relations. J. O. Wells. Paper Tr J 131:23-4+ N 9 '50

Shorter work week. H. R. Richmond. Pulp & Pa of Can 52:84-6 Ag '51

PAPER mills—Employees—*Continued*

Summary of a personnel program. A. F. Armstrong. Paper Tr J 131:339-41 N 30 '50

Supervisory training; Kimberly-Clark corp. N. Jansen. Pulp & Pa of Can 52:67-9 Mr '51

Together we work. A. R. Heron. Paper Tr J 131:28+ D 21 '50

What to tell your new employees. Paper Ind 33:520 Ag '51

Why Rhinelander paper co. employes studied the Kleenex package; see importance of customer satisfaction. R. Newcomb and M. Sammons. il Ind Marketing 35:102+ N '50

See also

International brotherhood of paper makers

Equipment

Anglo-Newfoundland's rehabilitation program. il Pulp & Pa of Can 51:196+ N '50

Automatic sampler for paper mill use. R. M. Stewart. diag Pulp & Pa of Can 52:116-17 Ag '51

Ball float type liquid level controllers. E. W. Horvick. il Paper Tr J 131:33-4+ N 9 '50

Camas story. il Paper Tr J 133:106+ S 7 '51

Centrifugal pumps in the paper industry. B. R. Burland. diags Pulp & Pa of Can (Convention no) 52:192-8 [F] '51

Charleston improvements; West Virginia pulp and paper co. E. P. McGinn. il Paper Tr J 133:84+ S 7 '51

Chip distributor; a gadget competition entry. A. J. Roche. diags Pulp & Pa of Can 52:115 My '51

Combustion chamber construction and operation factors relating to lining and shell life. R. G. Arklie and others. Pulp & Pa of Can 52:108-11+ S '51

Construction materials in the paper industry; symposium. il Chem Eng 57:217-18 O; 255-6+ N; 223-4+ D '50; 58:217-18+ Ja '51

Continuous stock preparation in a six machine fine paper plant. B. Sucksdorff. il map diags Paper Tr J 132:26+ Ja 19 '51

Conversion from hydraulic to electric grinding; Abitibi power & paper co. ltd. W. B. Hall. flow diag il diags Pulp & Pa of Can (Convention no) 52:208-16 [F] '51

Coosa River mill supplies southern newsprint for southern papers. J. W. Hughes. il Paper Tr J 131:23-4+ D 28 '50

Corrosion-resistant metals for the pulp and paper industry. D. L. Horigan. il Paper Tr J 133:24+ O 5; 20+ O 12 '51

Covington modernizes; West Virginia pulp and paper co. E. P. McGinn. il Paper Tr J 133:62+ S 7 '51

Crossett expansion. E. P. McGinn. il Paper Tr J 133:144-52 S 7 '51

Dryden Paper progresses. J. C. W. Evans. il maps Pulp & Pa of Can 51:62-8 D '50

Expansion at Hudson pulp and paper corp. il Paper Tr J 133:137-8 S 7 '51

Expansion at Lee paper co. E. P. McGinn. il Paper Tr J 133:139-42 S 7 '51

Factors influencing the service life of brick linings in sulphite digesters. B. Thomas. bibliog diags Tappi 34:16-20 Ja '51

Fifty years of progress at Gardner Board and Carton. il Paper Ind 32:1072-7 Ja '51

Filling digesters from overhead chip bins; use of steam nozzles. G. Morseth and V. Haner. diag Paper Ind 32:860-1 N '50

Filtration of lime mud. il Pulp & Pa of Can 52:111+ F '51

Gadget competition entries. S. MacLaughlan and others. diags Pulp & Pa of Can 52:157 Je '51

Gaylord completes postwar expansion. R. W. Porter. il Paper Ind 32:850-9 N '50

Handling of finished pulp and paper products from the machine to the shipping dock. H. F. R. Weber. il Tappi 34:73-6 F '51

Highlights of Camp's expansion program. il Paper Ind 33:285+ Je '51

Hoberg paper mills. R. C. Pratt. il Paper Tr J 133:154-7 S 7 '51

How to determine the economical length of the rotary kiln. R. E. Gibbs. Paper Ind 32:1084-5 Ja '51

How to handle chips with the continuous flow conveyor. W. G. Hudson. diags Paper Ind 33:404-6 Jl '51

Improvements at North Charleston plant of Westvaco. Paper Tr J 131:12 D 21 '50

Instrumentation as an aid to paper drying. R. B. Lundy. Pulp & Pa of Can 52:58-60 F '51

Is your lime kiln stealing profits? R. Gibbs. Paper Ind 32:1180-1 F '51

Kraft papermaking; Camas, Wash. mill of Crown Zellerbach corp. F. G. Sawyer and others. bibliog flow sheet il diags Tappi 33:sup 16A+ O '50

Major expansion at Howard Smith's Cornwall mill. J. C. W. Evans. il Pulp & Pa of Can 52:74-7 Ap '51

Major expansion program for Union bag & paper corp. A. Calder. Paper Tr J 132:11-12 Mr 16 '51

Major new installations at the Covington plant of West Virginia pulp and paper co. Tappi 34:sup54A+ Je '51; Same. il Paper Ind 33:292-4 Je '51

Mando modernization story; Minnesota and Ontario paper co. G. N. Williams. il Paper Tr J 133:159-62 S 7 '51

Materials handling committee inaugurates new methods program; car shunting with Trackmobile. il Pulp & Pa of Can 52:102+ My '51

Mead's Kingsport division soda mill modernized. il Paper Ind 32:831-4+ N '50

New development in consistency control of paper stocks; Spruce Falls power & paper co. D. B. Scrivens. il diags Pulp & Pa of Can (Convention no) 52:236-42 [F] '51

New evaporator licks effluent woes of pulpers. il diags Chem Eng 58:181-2 Ag '51

New Fourdrinier marks progress in 63 year history of Camp manufacturing co. E. P. McGinn. il Paper Tr J 131:33-4+ D 14 '50

Now use sulphate process at Luke; smelter unit to recover the chemicals. Paper Tr J 132:11 Ap 13 '51

Operation and application of a rotary gravity filter. J. K. Perkins. il diag Tappi 33:513-17 O '50

Operation of sludge recovery kilns. R. S. Walker. Tappi 34:366-9 Ag '51

Pneumatic tail cutter. A. Devlin. il diags Pulp & Pa of Can 52:113 Ap '51

Potlatch brings new industry to the inland empire. R. W. Porter. il Paper Ind 33:650-9 S '51

Potlatch Forests, new kraft pulp and paper mill. il diag Paper Tr J 132:19-25+ Mr 9 '51

Powell River development program at half way mark. il Paper Tr J 133:157-8 S 7 '51; Same. Paper Ind 33:632 S '51; Same. Pulp & Pa of Can 52:170+ S '51

Principles of automatic control. M. B. Hall. Pulp & Pa of Can 52:82-6 Mr '51

Process instrumentation. W. S. Yunker. il diags Pulp & Pa of Can (Convention no) 52:199-207 [F] '51

Protective coatings prevent pulp mill corrosion; Insul-Mastic coatings. R. H. Maloy. Paper Tr J 131:18+ D 21 '50

Rhinelander present expansion and modernization program. il Paper Tr J 133:101-2+ S 7 '51

Ruberoids newest roofing felt mill. J. V. Edge. il Paper Tr J 132:34+ Ap 13 '51

St Joe increases pulp yield by hot stock refining. C. E. Wright. il Paper Tr J 132:24+ Ap 6 '51

Six ways to use pneumatic conveyors. W. G. Hudson. il diags Paper Ind 33:178-9 My '51

Slotted screen plates for pulp and paper mills. H. W. Downs, jr. il Tappi 34:380-2 Ag '51

Specification for chromium-nickel-iron alloy castings for sulphite pulp processing equipment; revision of TAPPI official standard E 400 s-43. Tappi 34:sup 117A-18A Je '51

Stainless high alloy steels; current developments affecting the pulp and paper industry. J. M. Wilcox and J. T. Gow. Paper Tr J 133:80+ Jl 13 '51; Abstract. Paper Ind 33:550 Ag '51

Stainless steel castings, valves and fittings beat corrosion in paper industry. N. S. Mott. bibliog il Paper Tr J 132:31-2+ Ja 26 '51

Stainless steels in pulp and paper equipment. H. O. Teeple. bibliog Paper Ind 33:52-4 Ap '51

Thilmany expands. E. P. McGinn. il Paper Tr J 133:128+ S 7 '51

PAPER mills—Equipment—*Continued*

Use of lead in the pulp and paper industry. V. P. Edwardes. il Paper Tr J 131:18-19+ O 26 '50

Use of nickel containing alloys in the pulp and paper industry; corrosion problems. H. O. Teeple. il Paper Tr J 131:28+ N 9; 19-23 N 16; 14-15+ bibliog(80 titles, p23-5) N 23 '50

Wood room. C. A. Redden. flow diag diags Paper Tr J 131:109-12+ N 30 '50

See also

Digesters (paper making)

Paper making machinery

Experimental plants

Pilot plants finding increasing application in domestic and foreign paper industry. Chem & Eng N 29:4086-7 O 1 '51

Fires and fire protection

Carbon dioxide system reduces fire hazards. W. E. Morgan, jr. il Paper Ind 33:51 Ap '51

Heating and ventilation

Relationship of dryer-hood design to machine-room ventilation. R. R. Willis. Pulp & Pa of Can 52:93-8 Ap '51

Wet-end ventilation of high speed news machines. C. E. MacDonald. il diags Pulp & Pa of Can (Convention no) 52:156-8 [F] '51

Lighting

How you can improve the lighting in your plant. J. L. Tugman and E. A. Lindsay. il diag Paper Ind 32:1170-4 F '51

Light and paper. E. A. Lindsay. Tappi 33: sup95A-101A N '50; Excerpts. Illum Eng 46:113-15 Mr '51

Paper mill lighting; Bridgend paper mills. il Electrician 147:352 Ag 3 '51

Maintenance and repair

How Hammermill cuts maintenance costs with electric welding. C. W. Lytton. il Paper Ind 33:398-9 Jl '51

How to keep your cylindrical screens at their best throughout the emergency. B. D. Warren. il diags Paper Tr J 133:24-7 Ag 31 '51

How to keep your vibrating screens at peak efficiency. B. D. Warren. il Paper Tr J 133: 19-20 S 14 '51

How to prolong the life of water removal equipment. L. E. Smith. il Paper Tr J 133: 26+ Ag 24 '51

How to set up a maintenance stores department. C. C. Winston. Paper Ind 32:965-6 D '50

Maintenance in paper and paper products plants; classifying maintenance and planning work. G. Hrubecky. Pulp & Pa of Can 52:111-12 Ap '51

Maintenance in paper and paper products plants; importance of initial planning. A. J. Vreubenburg. Pulp & Pa of Can 52:109-10 Ap '51

Maintenance problems of the recovery furnace room. R. M. Graff. Paper Ind 33: 690-1 S '51

Maintenance reports; use of charts and graphs. C. C. Winston. Paper Ind 32:1182-3 F '51

Preventive maintenance in paper mills; abstract. J. Todd. Paper Tr J 132:36 My 11 '51

Productive maintenance; program for industrial mobilization. H. G. McCullough and H. D. Beale. Paper Tr J 133:23-4 Ag 31 '51

Recent developments in pump maintenance. E. G. Landberg. il Paper Tr J 132:24+ My 18 '51

Suction rolls; their uses and maintenance. C. M. Connor and R. Tourangeau. Paper Tr J 132:30+ Mr 16 '51

Tappi engineering conference, 5th, Cincinnati, Oct. 2-5; abstracts of proceedings of mill maintenance and materials committee. Tappi 34:sup58A-61A Ja '51

Management

Forecasting production improves operations. G. W. Saltford. Paper Ind 33:406-7 Jl '51

How Scott Paper sells production efficiency to plant personnel. C. J. Swan. il Ptr Ink 236:36-8 Ag 17 '51

Is the superintendent a salesman? W. Beckett. Paper Tr J 133:77-8 Jl 13 '51

Ohio Boxboard runs successful campaign to stop waste. il Paper Ind 33:408-10 Jl '51

Superintendent's function in research and technical control; abstract. A. E. H. Fair. Paper Ind 32:1106-7 Ja '51

Waste in pulp and paper mills. J. F. Keyes. Paper Tr J 131:20-2 D 7 '50

Waste reduction. R. C. Sterley. Tappi 34: sup 108A-11A My '51

See also

Paper mills—Quality control

Power

Combustion control. F. P. Moden. Pulp & Pa of Can 51:92-4 D '50

Conversion from hydraulic to electric grinding; Abitibi power & paper co. ltd. W. B. Hall. flow diag il diags Pulp & Pa of Can (Convention no) 52:208-16 [F] '51

Formula for paper-mill power economy; plant of Fibreboard products. H. J. Byrne. il Power 95:71-4 Ap '51

Huge power project planned for Quebec North Shore paper co. E. Griffin. maps Paper Ind 32:1276-7 Mr '51

Increased productivity through automatic combustion control. J. A. Perry, jr. diags Paper Tr J 131:24-6+ N 2 '50

Paper mill power. D. M. Myers. Paper Ind 33:167, 295, 416, 518-19, 668-9 My-S '51

Power and paper. J. Eyton. Pulp & Pa of Can 51:105-8 O '50

Power and steam generation. D. S. Helmick. Tappi 34:sup99A-102A Je '51; Same. Paper Tr J 133:20-3 Ag 31 '51

Power distribution in paper mills. C. F. Schmelzle. diags Pulp & Pa of Can (Convention no) 52:152-5 [F] '51

Power supply. A. B. Sinclair. Pulp & Pa of Can 51:133-4 N '50

Progress in bark burning equipment for steam generation in paper mills. J. E. Neilson. il Pulp & Pa of Can 52:99-101 My '51

Selection of instruments and controls for small steam power plants. F. E. Hutton. Tappi 34:104-7 Mr '51

Super pure steam for the paper mill with the dual-circulation boiler. H. B. Wallace, jr. bibliog il diags Tappi 34:111-15 Mr '51

Supercalender drives. C. D. Beck. il diags Paper Tr J 133:20+ Ag 17 '51

What we have learned about Diesel engines. S. E. Tomczak. Paper Tr J 130:83-4 Je 15 '50; Same. Pulp & Pa of Can 51:158+ N '50; Same abr. Paper Ind 32:1109-10 Ja '51

Quality control

Case studies in the application of industrial statistics to papermaking. C. A. Bicking and R. T. Trelfa. bibliog Tappi 34:370-80 Ag '51

Operating principles as related to quality control. A. E. Bachmann. Tappi 34:sup14A+ F '51

Quality control as an aid in the manufacture of glassine. D. Newcomb. Paper Tr J 133: 22+ Jl 6 '51

Quality control charts with constant limits for subgroups of different size; use of Shewhart control charts. J. F. Langmaid, jr. and H. W. Cobb. Tappi 33:485-6 O '50

Tappi Delaware Valley section discussion on control. A. E. Bachmann. Tappi 34: sup14A+ F '51

Technical control for paper mills. A. J. Haug. Paper Tr J 131:22-4 S 28 '50; Same cond. Paper Ind 32:1108-9 Ja '51

Safety measures

Accident prevention in Quebec's pulp and paper industry. W. L. Bennett. Pulp & Pa of Can 51:224+ N '50

Fourth month of contest shows 100 perfect scores; lists, by division. Paper Ind 33:424 Jl '51

Handling of caustics. R. C. Stratton. Pulp & Pa of Can 52:186+ S '51

Management group's function in a safety program. W. C. Budgeon. Pulp & Pa of Can 52:154+ Mr '51

National safety council Pulp and paper section 38th meeting, Chicago. Paper Ind 32: 870-2+ N '50; Pulp & Pa of Can 51:150+ D '50

Paper industry safety trophy awarded National container corp., Jacksonville. il Paper Ind 32:862-5 N '50

PAPER mills—Safety measures—*Continued*

Paper mill safety is just horse sense. D. J. Thomson. il Paper Ind 32:1284-7 Mr '51

Precautions taken in handling radio-active iodine at Quebec north shore paper company plant during tracer experiment. G. H. Guest and P. M. Bird. Pulp & Pa of Can (Convention no) 52:147-8 [F] '51

Quebec Pulp and paper safety association inc. annual general meeting, Sept. 22. Pulp & Pa of Can 51:168+ O '50

Safety; a cornerstone of security; abstract. C. G. Parker. Paper Ind 32:902-4 N '50

Safety as practiced in the container plants; abstract. G. J. Bienvenu. Paper Ind 32:904-7 N '50

Safety works. J. R. Shea, jr. il Paper Tr J 133:20-2 Jl 6 '51; Same. Pulp & Pa of Can 52:148+ Jl '51; Same abr. Safety Maint & Prod 102:25-6+ Ag '51

Waste

Abatement of sulphate pulp mill odor and effluent nuisances. W. O. Hisey. bibliog il Tappi 34:1-6 Ja '51

Application of the OCO water system to paper mill white water recovery. G. C. Ehemann and others. flow diags il Pulp & Pa of Can 51:107-11 Je '50; Same. Sewage & Ind Wastes 22:1573-80; Discussion. 1580-2 D '50

Chemical recovery in southern sulphate pulp mills. U. J. Westbrook. Paper Tr J 131:26-8 O 26 '50

Chemical recovery operations in the soda and sulfate mill. L. G. Willins. diags Paper Tr J 131:183-4+ N 30 '50

Colorimetric determination of hydrogen sulphide and methyl mercaptan in sulphate pulp mill effluents and of sodium sulphide in black liquor. R. H. Wright and others. bibliog il Tappi 34:289-94 Jl '51

Correlation of b.o.d. and chemical tests on industrial effluents. K. G. Chesley and others. bibliog Tappi 34:86-8 F '51

Economics of waste treatment. V. J. Calise. flow diags il diags Water & Sewage Works 97:480-3 N '50

Effect of per cent causticity on the settling rate of white liquor. M. R. Roberts and E. A. Harper. Tappi 34:102-3 Mr '51

Engineering planning for handling mill waste waters. H. W. Gehm. Tappi 34:sup 120A-2A My '51

Evaluation of wastes disposal problems in the pulp and paper industry. R. H. Savage; H. C. Koch. Sewage & Ind Wastes 22:1567-72 D '50

Evolution of the modern recovery unit for soda and sulfate pulp mills. F. W. Roberts. il diags Paper Tr J 131:191-4+ N 30 '50

Fiber losses at paper mills; effects on streams and sewage treatment plants. N. Nemerow. Sewage & Ind Wastes 23:880-3 Jl '51

Fish or factories? excerpts from statements made before Wisconsin River pollution hearing. Paper Tr J 132:23-4+ Ja 5 '51

Hardinge automatic backwash sand filter; its use on fresh water and white water. G. E. Wilson. il diags Pulp & Pa of Can (Convention no) 52:249-51+ [F] '51

Hoberg submits plans for sulphite disposal plant. Paper Ind 32:1057-8 Ja '51

Kalamazoo Valley mills may be ordered to build own water treatment plants. Paper Ind 32:1158+ F '51

Lignin recovery from soda black liquor; abstract. D. R. Dhingra and others. Pulp & Pa of Can 52:156 Je '51

Natural reduction of paper mill color in streams. M. A. Churchill. map Sewage & Ind Wastes 23:661-70 My '51; Abstract. Water & Sewage Works 98:37 Ja '51; Discussion. W. D. Hanlon. Sewage & Ind Wastes 23:670-1 My '51; Water & Sewage Works 98:37-8 Ja '51

Northern Paper Mills stream improvement plan. flow chart Paper Tr J 132:12+ Ja 5 '51 Same. Paper Ind 32:1056-7 Ja '51

Operation and maintenance of lime sludge kilns. W. H. Tock. Paper Tr J 133:93-6 Jl 13 '51; Same cond. Paper Ind 33:551-2+ Ag '51

Operation of sludge recovery kilns. R. S. Walker. Tappi 34:366-9 Ag '51

Paper companies to cease dumping wastes; Crown Zellerbach corp. Eng N 145:14 D 28 '50

Paper industry and stream pollution. T. E. Brookover. Paper Tr J 131:20+ Ag 10 '50; Same abr. Pulp & Pa of Can 51:86-8 S '50

Paper industry leads cities in water pollution abatement. Chem & Eng N 29:899 Mr 5 '51

Sludge problem tackled by Kalamazoo River mills. Paper Ind 33:629-30 S '51

Stabilization of Douglas fir kraft black liquor. H. W. Bialkowsky and G. G. Dehaas. Paper Ind 33:546-9 Ag '51

Strawboard waste problem. D. E. Bloodgood. bibliog il diag Water & Sewage Works 98:408-12 S '51

Stream improvement progress. il Paper Tr J 132:17-18+ Mr 2 '51

Stream improvement; settling pulp and paper mill waste waters and dewatering bulk solids. A. S. Erspamer and W. D. Rice. il diag Tappi 34:sup73A-7A Ja '51

Thoughts on stream pollution. H. A. Spencer. Tappi 34:sup 113A-15A Ag '51

See also
Paper making—By-products
Sulfite liquor

Alabama

Coosa River mill nets $857,000 first year. Ed & Pub 84:11+ My 12 '51

Austria

Austrian mill modernization. Paper Tr J 132:11 Ja 5 '51

Guatemala

First Central American paper mill in operation. M. F. Bannell. Barron's 31:26 Je 25 '51

Idaho

Potlatch forests, inc. completes new mill in Idaho. il Paper Ind 32:1156-7 F '51

Mexico

Mexico's new mill; Fabricas de papel Loreto y pena pobre, San Angel, D.F. il Paper Tr J 131:12+ N 9 '50

Newfoundland

Anglo-Newfoundland's rehabilitation program. il Pulp & Pa of Can 51:196+ N '50

Community comes to maturity; pulp and paper industry in Newfoundland, with special reference to mills and town of Corner Brook. J. C. Fitzgerald. il Pulp & Pa of Can 52:60-2 Mr '51

Ohio

Fifty years of progress at Gardner Board and Carton. il Paper Ind 32:1072-7 Ja '51

Ontario

Dryden Paper progresses. J. C. W. Evans. il maps Pulp & Pa of Can 51:62-8 D '50

Kimberley-Clark of Canada expansion; second fourdrinier doubles production. il Pulp & Pa of Can 52:87-8 Ag '51

Peru

In Peru, sugar cane evolves into paper. il Bsns W p 164-6 My 12 '51

Virginia

New Fourdrinier marks progress in 63 year history of Camp manufacturing co. E. P. McGinn. il Paper Tr J 131:33-4+ D 14 '50

Wales

Britain's newest paper mills erected at Llangynwyd, Wales, Bridgend paper mills, ltd. il Pulp & Pa of Can 52:100-1 S '51

Wisconsin

50 years of progress; historical sketch of Northern paper mills. il Paper Tr J 133:152-4 S 7 '51

PAPER money

Electronic counting of paper money. il Comp Air Mag 56:100-1 Ap '51; Electronics 24:160+ Ap '51; Elec Eng 70:388 My '51; Mech Eng 73:418-19 My '51

PAPER napkins

Pile on the benefits to introduce new product today; Hudson paper napkins. E. J. Dever, jr. il Ptr Ink 235:33-5 Je 15 '51

PAPER patents. See Paper making—Patents

PAPER pulp

Friction pressure drop in the flow of paper pulp stock. T. E. Guenter and N. H. Ceaglske. bibliog plan diag Tappi 34:140-4 Mr '51

New method of cleaning straw pulp. C. G. Krancher. Tappi 34:sup 133A; Discussion. sup 133A-5A S '51

Testing

Determination of per cent air in paper stocks. R. E. Smith and others. diag Pulp & Pa of Can 52:107-8+ Ap '51

PAPER research

Aljian, Atchison and Lathrop team with Hawaiian sugar industry to study utilization of bagasse. Paper Tr J 133:172-4 S 7 '51; Same cond. Pulp & Pa of Can 52:102 S '51

Application of radioactive tracers to measurements of fibre flow and distribution. C. A. Sankey and others. diags Pulp & Pa of Can (Convention no) 52:136-46 [F] '51

Besides more chlorine, there is much the paper industry needs from the chemical industry. K. A. Taylor. il Chem & Eng N 29:450-1 F 5 '51

Development of wet strength in neoprene-containing papers. G. W. Wheeler and others. Tappi 34:297-301 Jl '51

Effect of additives on multi-fiber dispersions. E. F. Thode and others. bibliog Paper Tr J 133:20+ S 21 '51

Effect of drying and heating on the swelling of cellulose fibers and paper strength. L. M. Lyne and W. Gallay. bibliog Tappi 33: 429-35 S '50; Same. Pulp & Pa of Can 51: 129-34 S '50

Effect of urea and related compounds on the mechanical properties of paper. H. D. Fisher. bibliog(42 titles) diag Tappi 34:276-88 Je '51

Florida's new process; University of Florida. C. E. Wright. il Paper Tr J 133:28-9 S 14 '51

Influence of electrolytes on pulp and paper properties. W. E. Cohen and others. bibliog diags Paper Tr J 132:19-20+ Je 22; 133: 16-18+ Jl 27 '51

Measurement and significance of swelling of cellulose fibers. W. Gallay. bibliog Tappi 33: 425-9 S '50; Same. Pulp & Pa of Can 51: 115-19 S '50

Models for the dynamic properties of paper. R. E. Hurley. diags Tappi 34:390-5 S '51

Paper testing and research in Great Britain. A. G. Thomson. Pulp & Pa of Can 52: 108-9 My '51

Production of commercial-grade chemical pulps at the Pulp and paper research institute of Canada. J. S. Hart and R. K. Strapp. Pulp & Pa of Can 52:103-6 Ag '51

Some things we don't know. W. B. Campbell. Pulp & Pa of Can 52:75-8 Jl '51

Study of the structure of paper by means of soft X-rays. J. D. Pelgroms. bibliog diags Pulp & Pa of Can 52:124-9 S '51

Toward a referee viscosity method for cellulose. A. F. Martin. Tappi 34:363-6 Ag '51

Trends in pulp and paper production from the research angle. G. H. Tomlinson. Pulp & Pa of Can 51:163+ N '50

Why a statistician? M. S. Renner. Tappi 34: sup92A+ Jl '51

See also Lawrence college—Institute of paper chemistry; Pulp and paper research institute of Canada

PAPER rolls

Stadler-Hurter automatic paper roll wrapping machine. diag Pulp & Pa of Can 52:146-7 Je '51

PAPER sizing

Cyanamid's new continuous size emulsifier. flow sheet il Paper Ind 32:1069 Ja '51

Paper sizing. J. J. Turbyne. Paper Tr J 131: 257-8 N 30 '50

Potato starch in papermaking processes. E. E. Stephenson, jr. bibliog il diags Paper Ind 33:288-91, 413-16 Je-Jl '51

Rudiments of paper sizing. R. W. Kumler. Paper Tr J 131:259-60+ N 30 '50

Simplified automatic emulsifier for rosin size. il Paper Ind 32:1270 Mr '51

Suitability of the Cobb test for determining degree of sizing; abstract. L. Nordman. Paper Ind 32:900 N '50

Testing size resistance of paper; abstract. H. Gaegauf and M. Muller. Paper Ind 33:689-90 S '51

Thinking on molecular level saves dollars in paper sizing. Chem Eng 57:160 D '50

Testing

Protection of paper and textile products from insect damage. S. S Block. bibliog il Ind & Eng Chem 43:1558-63 Jl '51

PAPER waste. See Waste paper

PAPER winders

Hudson Sharp continuous operating toilet winder. il Paper Tr J 133:104 S 7 '51

PAPILLOMA virus. See Viruses

PAR collection of checks. See Federal reserve banks—Par collection of checks

PARAAMINOBENZOIC acid. See Aminobenzoic acid

PARACHLOROMETAXYLENOL

Domestic push for PCMX. il Chem W 68:25-6 Je 9 '51

PARACHORS

Refrachor; a new physical constant. S. S. Joshi and G. D. Tuli. Chem Soc J p837-8 Mr '51

PARACHUTE fabrics

Investigation of fabric structure and its relation to certain physical properties; combination fabrics. G. H. Hotte. bibliog Textile Res J 20:811-28 D '50

PARACHUTE troops. See United States—Army—Parachute troops

PARACHUTES

9½-ton bulldozer bails out of C-119; first successful heavy-cargo parachute drop. Aviation W 55:17 Jl 23 '51

Resin treatment gives longer life to webbing of parachute harness. il Mod Plastics 28: 165 N '50

PARAFFIN

Care and storage of wax. Tappi 34:sup 121A-2A Je '51

Paraffin and microcrystalline waxes. D. T. Jones. Soap & San Chem 26:125+ N '50

Production of wax by refinery districts, 1932-1947; tabulations. Pet Eng 23:A 16f Mr '51

TAPPI-A.S.T.M. technical committee on petroleum wax; report on Section V-A, composition melting point and oil content. Tappi 33:sup88A-90A D '50

Thermal neutron diffusion length of paraffin. C. W. Tittle. bibliog Phys R 80:756 N 15 '50

See also

Petroleum—Paraffin problem

Manufacture

Continuous moulding of paraffin wax. L. H. Jennings and others. il plan diags Pet Eng (Ref annual) 23:C42+ Jl 15 '51; Same. Pet Processing 6:840-3 Ag '51; Same. Pet Refiner 30:97-100 Ag '51; Same cond. Oil & Gas J 50:238-9 Jl 26 '51; Same cond. Chem & Eng N 29:3200 Ag 6 '51; Abstract. Chem Eng 58:184+ Ag '51

New method of slabbing wax. D. P. Thornton, jr. il diags Pet Processing 6:963-7 S '51

Testing

Oil content of petroleum waxes. diags Tappi 34:sup 140A-2A S '51

PARAFFINS

Atom polarisation; relationships between molecular dimensions and boiling points for branched-chain paraffins. A. Audsley and F. R. Goss. Chem Soc J p 120-6 Ja '51

Atom polarisation; the solvent-effect theory and its application to the molecular refraction and polarisation of *n*-paraffins in the liquid state. A. Audsley and F. R. Goss. Chem Soc J p2989-97 N '50

Azeotrope between paraffin hydrocarbons. G. Calingaert and M. Wojciechowski. bibliog Am Chem Soc J 72:5310-11 N '50

1-Azo-bis-1-arylalkanes and their decomposition. S. G. Cohen, S. J. Groszos and D. B. Sparrow. bibliog Am Chem Soc J 72:3947-51 S '50

Copper-catalysed decomposition of aliphatic diazo-compounds; the formation of paraffins of high molecular weight. G. D. Buckley, L. H. Cross and N. H. Ray. Chem Soc J p2714-18 O '50

PARAFFINS—*Continued*

Eight liquid phases in stable equilibrium. S. L. Kittsley and H. A. Goeden. il Am Chem Soc J 72:4841-2 O '50

Exchange reactions of normal paraffins and unsubstituted cycloparaffins with alkyl halides, catalyzed by aluminum halides. C. P. Brewer and B. S. Greensfelder. bibliog Am Chem Soc J 73:2257-9 My '51

Inductive effect and chemical reactivity; general theory of the inductive effect and application to electric dipole moments of haloalkanes. R. P. Smith and others. bibliog Am Chem Soc J 73:2263-8 My '51

Interpretation of the CH_2 vibrational frequencies of *n*-paraffins. G. M. Barrow. bibliog J Chem Phys 19:345-6 Mr '51

Limits of flammability of paraffin hydrocarbons in air. M. G. Zabetakis, G. S. Scott and G. W. Jones. il diag Ind & Eng Chem 43:2120-4 S '51

Lower paraffin hydrocarbons; catalytic conversion by boron fluoride with hydrogen fluoride. E. C. Hughes and S. M. Darling. bibliog Ind & Eng Chem 43:746-50 Mr '51

Mass spectra of C_1-C_4 monodeutero paraffins. D. P. Stevenson and C. D. Wagner. J Chem Phys 19:11-16 Ja '51

Preparation and physical properties of a series of *n*-alkanes. A. K. Doolittle and R. H. Peterson. Am Chem Soc J 73:2145-51 My '51

Preparation and purification of methane-*d*, ethane-*d*, propane-1-*d*, propane-2-*d*, *n*-butane-1-*d*, *n*-butane-2-*d*, isobutane-1-*d* and isobutane-2-*d*. C. D. Wagner and D. P. Stevenson. bibliog Am Chem Soc J 72:5785 D '50

Quenching of mercury resonance radiation; the effective cross sections of paraffin hydrocarbons. B. D. Darwent. diags J Chem Phys 18:1532-7 D '50

Reaction between paraffin hydrocarbons and sulphur vapour. W. A. Bryce and C. Hinshelwood. diag Chem Soc J p3379-87 D '49

Reactions of atoms and free radicals in solution; the reactions of acetyl peroxide with chloro- and dichloroalkanes. M. S. Kharasch and G. Buchi. bibliog Am Chem Soc J 73:632-42 F '51

Reactions of methyl radicals; abstraction of hydrogen atoms from paraffins. A. F. Trotman-Dickenson and others. J Chem Phys 19:163-8 F '51

Reactions of paraffin hydrocarbons in the presence of sulfuric acid. V. I. Komarewsky and W. E. Ruther. Am Chem Soc J 72:5501-3 D '50

Studies in Newtonian flow; the dependence of the viscosity of liquids on temperature. A. K. Doolittle. J Ap Phys 22:1031-5 Ag '51

Synthesis and reactions of branched-chain hydrocarbons; hydrocarbons with the 3 : 5 : 5-trimethylhexyl group. E. M. Gutman and W. J. Hickinbottom. Chem Soc J p2064-7 Ag '51

Synthesis of carbon-isotopic alkanes; methane-C^{13}, propane-1-C^{13}, *n*-butane-1-C^{13}, *n*-butane-1-C^{14}, isobutane-1-C^{13}, isobutane-1-C^{14}, and isobutane-2-C^{13}. C. D. Wagner, D. P. Stevenson and J. W. Otvos. bibliog Am Chem Soc J 72:5786 D '50

See also

Cycloparaffins
Ethane
Nitroparaffins

Analysis

Determination of *n*-paraffins in gasoline, oils, and paraffin waxes. W. Leithe. Anal Chem 23:493-5 Mr '51

Mass spectrometric analysis of low-molecular-weight monodeutero-paraffins. D. P. Stevenson and C. D. Wagner. bibliog Am Chem Soc J 72:5612-17 D '50

Materials adsorbed at crude petroleum-water interfaces; isolation and analysis of normal paraffins of high molecular weight. M. O. Denekas and others. bibliog il diags Ind & Eng Chem 43:1165-9 My '51

PARAGUAY

Economic conditions

News by countries. For Comm W 41:15-16 N 27; 12-13 D 25 '50; 42:17 Ja 29; 17 Mr 5; 43:14-15 Ap 2; 16 My 28; 44:14-15 Jl 2; 13-14 Jl 23; 12 Ag 27; 45:15-16 O 1 '51

Economic relations

United States

Paraguay to get Point Four aid through Joint commission for economic development. Chem & Eng N 28:4568 D 25 '50

PARALDEHYDE

Apparent polarisations of paraldehyde in non-polar solvents measured at 10 and 25 cm. R. J. W. Le Fèvre and J. W. Mulley. diag Chem Soc J p295-7 Ja '50

Dielectric polarisations of liquid, dissolved, and gaseous paraldehyde. R. J. W. Le Fèvre, J. W. Mulley and B. M. Smythe. diag Chem Soc J p290-5 Ja '50

PARALYSIS

Effects of a supranormal diet of glutamic acid on the test performance of paretics. R. E. Kantor and F. E. Boyes. bibliog Science 113:681-2 Je 15 '51

PARAMETERS

Interpretation of intermolecular force parameters. S. D. Hamann. J Chem Phys 19:655-6 My '51

PARAMETRIC excitation. See Oscillations

PARAMOUNT pictures corporation

Security I like best. G. M. Loeb. Comm & Fin Chr 173:744 F 15 '51

PARANITROPHENOL. See Nitrophenol

PARAPLEGIC manufacturing company

Veterans man wheelchair assembly line. il Bsns W p40-1 S 22 '51

PARASITES

Literature review on the occurrence and survival of enteric, pathogenic, and related organisms in soil, water, sewage, and sludges, and on vegetation; animal parasites. W. Rudolfs and others. Sewage & Ind Wastes 22:1417-27 bibliog (58 titles, p1424-7) N '50

See also

Ascaris
Trichina and trichinosis
Worms, Intestinal and parasitic

PARATHION

Insecticide formulation; Plant Protection factory at Yalding. Chem Age (Lond) 64:379-80 Mr 10 '51

Properties of *O,O*-diethyl *O-p*-nitrophenyl thiophosphate and *O,O*-diethyl *O-p*-nitrophenyl phosphate. E. F. Williams. bibliog Ind & Eng Chem 43:950-4 Ap '51

Analysis

Chemical studies on insecticides; determination of parathion and dimethylparathion. J. A. A. Ketelaar and J. E. Hellingman. bibliog Anal Chem 23:646-50 Ap '51

Determination of parathion and *p*-nitrophenol in technical grade materials and in dust preparations. K. O'Keeffe and P. R. Averell. bibliog Anal Chem 23:1167-9 Ag '51

Determination of parathion in air samples by ultraviolet absorption spectroscopy. R. C. Hirt and J. B. Gisclard. bibliog diag Anal Chem 23:185-7 Ja '51

Test for microdetection of parathion in orange and lemon oils. F. A. Gunther and R. C. Blinn. Anal Chem 22:1450 N '50

PARCEL post

R.E.A., clerks' union, urge higher parcel post rates. Ry Age 129:45-6 D 9 '50

Rate rise approved by I.C.C. Ry Age 130:59+ My 28 '51

PARENTS and teachers, National congress of. See National congress of parents and teachers

PARINARIUM laurinum

Seed fat of parinarium laurinum; component acids of the seed fat. J. P. Riley. Chem Soc J p 12-18 Ja '50

Seed fat of parinarium laurinum; component glycerides of the seed fat. J. P. Riley. Chem Soc J p291-3 F '51

PARIS

Conservatoire national des arts et metiers

Conservatoire national des arts et metiers. il Engineer 192:178-9 Ag 10 '51

PARITY prices. See Farm produce—Price supports

PARK FOREST, Illinois

Park Forest; proving ground for community planning techniques. il plans diags Arch Rec 109:94-110 My '51

Park Forest, realization of a dream. H. E. Kincaid. il plan Midwest Eng 3:3-5, 30-1 N '50

PARKER rust proof company

Debt-free companies; with comparative balance sheet items. Mag of Wall St 88:403 Jl 14 '51

PARMLY foundation for auditory research

Parmly's plan for auditory research; prevention and alleviation of deafness. il(cover) Midwest Eng 3:9+ Ap '51

PARSHALL flume

Free-flow discharge table for Parshall measuring flumes. N. W. Nester and G. C. Hanes. Water & Sewage Works 98:R130-1 Ap '51

PARSONS, Barbara Joiner

Portrait. Fortune 43:24 Je '51

PARSONS, Sir Charles Algernon, 1854-1931

Sir Charles Parsons; oration delivered at the dedication of the Parsons memorial window in Westminster Abbey. Engineering 170:359 N 10 '50

PARSONS, Charles Lathrop, 1867-

Sketch. pors Chem & Eng N 29:3238-9, cover Ag 13 '51

PARSONS, W. D.

W. D. Parsons retires, Minneapolis star & tribune promotes Fisher. por Ed & Pub 83:16 D 2 '50

PARTHENOGENESIS

Fertilization of the egg. A. Monroy. il diags Sci Am 183:46-9 D '50

PARTICLES

Apparatus and procedure for rapid automatic adsorption, surface area, and pore volume measurement. W. B. Innes. bibliog diags Anal Chem 23:759-63 My '51

Behavior of mineral particles in electrostatic separation. S. Sun and others. bibliog diag Min Eng 187:Trans 369-73 Mr '50; Discussion. 187:Trans 1152-3 N '50

Collection of mist and dust for particle size measurement; electrostatic precipitation on hemacytometer. H. G. Bourne, jr. and L. B. Fosdick. bibliog il diags Anal Chem 22:1563-5 D '50

Creaming latex with ammonium alginate; influence of particle size. E. Schmidt and R. H. Kelsey. bibliog il Ind & Eng Chem 43:406-12 F '51

Determination of particle density of crushed porous solids; gas flow method. S. Ergun. bibliog Anal Chem 23:151-6 Ja '51

Determination of the external volume of ion exchange resin particles. H. P. Gregor, K. M. Held and J. Bellin. bibliog Anal Chem 23:620-2 Ap '51

Distribution of particle sizes. F. Kottler. bibliog il Franklin Inst J 250:339-56, 419-41 O-N '50

Effect of grinding on particles. B. C. Bradshaw. bibliog J Chem Phys 19:1057-9 Ag '51

Effect of particle size and deuterium substitution on the λ-point in ammonium chloride. D. G. Thomas and L. A. K. Staveley. diag Chem Soc J p 1420-5 Je '51

Electrical method for investigating the nature and behavior of small, airborne, charged particles. J. H. Daniel and F. S. Brackett. bibliog diag J Ap Phys 22:542-54 My '51

Electronic spray analyzer for electrically conducting particles. J. M. Geist, J. L. York and G. G. Brown. bibliog diags Ind & Eng Chem 43:1371-7 Je '51

Elutriation of fines from fluidized systems. M. Leva. bibliog diag Chem Eng Prog 47:39-45 Ja '51

Emission of long-range charged particles in the slow neutron fission of heavy nuclei. K. W. Allen and J. T. Dewan. bibliog diags Phys R 80:181-8 O 15 '50

Evaluation of fineness gage and paint film characteristics based on particle size distributions on pigment dispersions. C. Baker and J. F. Vozzella. bibliog il Paint Oil & Chem R 113:109-20 N 23 '50

Fine particles. C. Orr, jr. il Sci Am 183:50-3 D '50

Fitting bimodal particle size distribution curves; comparison of methods. J. M. Dallavalle, C. Orr, jr. and H. G. Blocker. bibliog Ind & Eng Chem 43:1377-80 Je '51

Fluidization studies of solid particles. C. O. Miller and A. K. Logwinuk. bibliog il diags Ind & Eng Chem 43:1220-6 My '51

Glass spheres for the measurement of the effective opening of testing sieves. F. G. Carpenter and V. R. Deitz. il J Res Nat Bur Stand 47:139-47 S '51

Goodness of fit and the distribution of particle sizes. F. Kottler. bibliog Franklin Inst J 251:499-514, 617-41 My-Je '51

Identification of particles in Los Angeles smog by optical and electron microscopy. R. D. Cadle and others. bibliog il diag A M A Archives Ind Hygiene & Occup Med 2:698-715 D '50

Intraparticle diffusion in catalytic heterogeneous systems. N. L. Smith and N. R. Amundson. bibliog diag Ind & Eng Chem 43:2156-67 S '51

Investigations on the passage of light through suspensions. A. H. M. Andreasen and others. il diags Soc Chem Ind J 69:312-17 O '50

Latex particle size from X-ray diffraction peaks. K. L. Yudowitch. bibliog il diag J Ap Phys 22:214-16 F '51

Macromolecular weights determined by direct particle counting; the weight of the tobacco mosaic virus particle. R. C. Williams, R. C. Backus and R. L. Steere. bibliog Am Chem Soc J 73:2062-6 My '51

Methods of sieve analysis with particular reference to bone char. F. G. Carpenter and V. R. Deitz. bibliog J Res Nat Bur Stand 45:328-46 O '50

Microscopy of metallic stearates. P. N. Cheremisinoff. bibliog il Paint Oil & Chem R 114:15-16 Ag 2 '51

New surface measurement tool for mineral engineers; krypton adsorption method. F. W. Bloecher, jr. bibliog diag Min Eng 3: Trans 255-8 Mr '51

Nomograph helps determine particle free settling rate. S. M. Walas. Chem Eng 58:177-8 S '51

Particle agglomeration in tungsten metal powder. B. Kopelman and C. C. Gregg. bibliog J Phys & Colloid Chem 55:557-63 Ap '51

Particle charging in electrostatic precipitation; abstract. H. J. White. Elec Eng 70:682 Ag '51

Particle size analysis of fluid cracking catalysts. F. E. Ivey, jr. bibliog Pet Refiner 30:99-103 Je; 141-5 Jl; 127-32 S '51

Particle size determination by centrifugal pipet sedimentation. H. J. Kamack. bibliog il diag Anal Chem 23:844-50 Je '51

Particle-size determination in radioactive aerosols by radioautograph. J. A. Leary. il Anal Chem 23:850-3 Je '51

Particle size in suspension polymerization. F. H. Winslow and W. Matreyek. bibliog il diags Ind & Eng Chem 43:1108-12 My '51

Physical adsorption of gases in capillaries and on small particles (nucleation of condensation). T. L. Hill. bibliog J Phys & Colloid Chem 54:1186-91 N '50

Powder-size measurement by a combination of the methods of nephelometry and photo-extinction. H. E. Rose. bibliog diags Soc Chem Ind J 69:266-72 S '50

Product control in Bowen-type spray dryer; particle size and particle distribution. H. Wallman and H. A. Blyth. bibliog il diag Ind & Eng Chem 43:1480-6 Je '51

Reply to Fu regarding the new method of estimating the surface area of powder. M. Mizushima. J Chem Phys 19:260 F '51

Routine measurement of surface of paint pigments and other fine powders. P. C. Carman and P. L. Malherbe. bibliog J Ap Chem 1:105-8 Mr '51

Sedimentation cylinder for particle size analysis. C. J. Leith. il Science 113:412-13 Ap 13 '51

Shape factor and other fundamental properties of carbon black. L. H. Cohan and J. H. L. Watson. bibliog il diags Rubber Age 68:687-98 Mr '51

Sizing fine particles with air; new Infrasizer. H. E. T. Haultain. il Comp Air Mag 55:281 D '50

PARTICLES—*Continued*

Specific surface measurement, with special reference to light-absorption methods. A. E. Moore. diag Soc Chem Ind J 69(sup no 1):S33-6 '50

Surface-area determination by adsorption of nitrogen from nitrogen-helium mixtures. W. V. Loebenstein and V. R. Deitz. bibliog diag J Res Nat Bur Stand 46:51-5 Ja '51

Surface area of starch and its role in water sorption. N. N. Hellman and E. H. Melvin. bibliog Am Chem Soc J 72:5186-8 N '50

Versatile chart aids Δp calculations. J. Happel and N. Epstein. Chem Eng 57:137-8 D '50

See also

Aerosols
Brownian movements
Colloids
Dispersion
Drops
Dust
Electrophoresis
Flue dust
Pigments
Powders
Sand
Sedimentation
Sediments

PARTICLES, Elementary

Darling's theory and the mass of the π-meson. P. R. Zilsel. Phys R 82:557 My 15 '51

Evidence concerning the existence of the new unstable elementary neutral particle. V. D. Hopper and S. Biswas. bibliog il Phys R 80:1099-100 D 15 '50

Irreducible volume character of events; a theory of the elementary particles and of fundamental length. B. T. Darling. bibliog Phys R 80:460-6 N 1 '50

Neutron. P. Morrison and E. Morrison. il diag Sci Am 185:44-53 O '51

Study of effect of impingement-particle velocity in radiolysis of some aromatic hydrocarbons. T. J. Sworski and M. Burton. bibliog Am Chem Soc J 73:3790-2 Ag '51

See also

Alpha rays
Beta rays
Deuterons
Electrons
Mesotrons
Neutrons
Photons
Protons
Radioactivity
V particles

PARTITION (chemistry)

Analysis of fat acid oxidation product by countercurrent distribution methods; model compounds. K. T. Zilch and H. J. Dutton. bibliog Anal Chem 23:775-8 My '51

Measurement of large partition coefficients by interchange extraction. C. Golumbic and S. Weller. bibliog Anal Chem 22:1418-19 N '50

Partition studies; partition coefficients and ionization constants of methyl-substituted anilines. C. Golumbic and G. Goldbach. bibliog Am Chem Soc J 73:3966-7 Ag '51

Partition studies; partition coefficients and ionization constants of methyl-substituted pyridines and quinolines. C. Golumbic and M. Orchin. bibliog Am Chem Soc J 72:4145-7 S '50

Study of protein binding by partition analysis; the effect of protein charge. F. Karush. Am Chem Soc J 73:1246-52 Mr '51

PARTITIONS

Partitions between kitchen and dining area; better detail plate. K. R. O'Neal. il plan diags Am Bld 73:122-3 Je '51

Partitions function as columns in scheme for apartment buildings; called cellular construction. P. Weidlinger. il plans diags Arch Rec 109:134-9 Ja '51

Plastic-impregnated honeycomb panels used in new partition line; Korweld. il Arch Forum 95:290 S '51

PARTITIONS, Movable

Features of folding gymnasium partition. il Am Bld 73:208 S '51

PARTITIONS, Steel

Consumer installs slitting and leveling plant; E. F. Hauserman co. il Iron Age 168:78-80 Ag 23 '51

Transportation

Steel partitions cartoned at 28 per cent labor saving. il Steel 128:90 Je 11 '51

PARTNERSHIP

Advice for the new partner, how to make easy the burden of increased duties. A. F. Sanderbeck. J Account 91:408-10 Mr '51

Arrangements for death of partners. bibliog J Account 91:298-9 F '51

Business population by legal form of organization. B. C. Churchill. Survey of Cur Bsns 31:9-14+ Je '51

Frequent checking of partnership structures urged. B. Shaw. Nat Underw 54:20 O 19 '50

Legal problems in father-son farming operations. H. H. Ellis. bibliog Land Econ 27:235-47 Ag '51

Pitfalls in partnerships. J. Garth. Am Bsns 21:12-13+ Mr '51

Service station partnerships; independent oil jobber's system of having partners operate outlets. J. Barton. il Nat Pet N 43:36-8 Mr 28 '51

Should your agency be a corporation or a partnership? N. Fields. Adv Agency 44:56-7+ Je '51

Accounting

Tax consequences arising from purchase of partnership interest; a question of basis. M. M. Spencer. J Account 91:116-19 Ja '51

Taxation

Effect of Henderson case on tax accounting period of deceased partner. G. B. Lourie and A. R. Cutler. bibliog J Account 91:260-5 F '51

PAS. See Aminosalicylic acid

PASCHEN'S law

Failure of Paschen's law and spark mechanism at high pressure. F. L. Jones and C. G. Morgan. bibliog Phys R 82:970-1 Je 15 '51

PASSAMAQUODDY tidal power project

IJC report cites need for Passamaquoddy study. Elec World News ed 134:13 N 13 '50

Quoddy reborn? depth sounding with new navy equipment. Bsns W p64 O 6 '51

PASSENGER cars. See Cars

PASSERINI reaction

Passerini reaction; stereochemistry and mechanism. R. H. Baker and D. Stanonis. bibliog Am Chem Soc J 73:699-702 F '51

PASSIVITY

Adsorbed and reaction-product films on metals. H. H. Uhlig. bibliog Electrochem Soc J 97:215C-20C N '50

Metal passivation by oxygen films explained by residual valences. Chem & Eng N 29:1621-2 Ap 23 '51

Passivity of metals; the mechanism of direct dissolution of ferric oxide. M. J. Pryor and U. R. Evans. pl Chem Soc J p3330-6 D '49

Tarnish-resistant treatments for silverware. Metal Finishing 49:59-60 Ag '51

PASSPORTS

See also

Tourist cards

PASTE

Urea-formaldehyde resins in starch corrugating pastes. E. S. Gantt. Tappi 34:sup42A+ Ap '51

PASTEURELLA

Double infection of the rat fleas X. cheopis and N. fasciatus with pasteurella and salmonela. C. R. Eskey and others. Pub Health Rep 66:1318-26 O 12 '51

PASTEURIZERS, Electric

Electric pasteurization of milk and other liquids; data sheet. R. L. Salladay. flow diag Elec West 107:88 Ag '51

PATCH test. See Skin—Diseases

PATENT foundation

Patent foundation established by George Washington university law school. Elec Eng 70:841-2 S '51

PATENT laws and legislation

Can you use your own discoveries? W. L. Cheesman. Chem & Eng N 29:642-3; Discussion. I. P. Stevenson. 638 F 19 '51

Careers in chemistry and chemical engineering; the chemist in patent law. A. J. Nydick. Chem & Eng N 28:4341-2 D 11 '50

United States

Do you know what is patentable? L. T. Parker. Paper Ind 33:282-4 Je '51

Patent law revision under way. H. Goldsmith. Chem Ind 67:884-5+ D '50

Skies brighten for the chemical inventor. R. Calvert. Chem & Eng N 29:186-8 Ja 15 '51

PATENT medicines. See Medicines, Proprietary

PATENTS

Court opinion raises basic patent questions; are gadgets patentable? Product Eng 22:149 Mr '51

Engineering good patents. R. T. Casey. il diags Machine Design 23:125-9 F '51

Supreme court assails patenting of gadgets. Bsns W p25 D 9 '50

20-year old litigation of patents continues in Whitman-UOP lawsuit. R. E. Bjorkback. Nat Pet N 43:28-9 Mr 14 '51

Why patents; abstracts. W. R. Lane. S A E J 59:47-9 Ja '51; Machine Design 22:169+ N '50

See also

Acoustic patents
Automobiles—Patents
Chemical patents
Glass machinery—Patents
Glass manufacture—Patents
Inventions
Machinery—Patents
Paper making—Patents
Patent laws and legislation
Petroleum—Patents
Petroleum refining—Patents
Plastic materials—Patents
Refrigeration and refrigerating machinery—Patents
Rubber—Patents
Textile patents
Trade marks
Trade secrets
Welding—Patents

Accounting

Payment received for use of a patent; is it income or capital gain? N. E. Schlesinger. bibliog J Account 91:595-9 Ap '51

Licensing

Patentee holds a legal monopoly; licensee cannot avoid paying royalties he agreed to pay. L. T. Parker. Cer Ind 56:67 Ja '51

PATENTS institute, International. See International patents institute

PATERSON, Albert Barnett, 1883-

Six civic organizations unite to honor A. B. Paterson. por Edison Elec Inst Bul 19:258 Ag '51

PATHOLOGIST, Clinical (term)

Clinical pathologist defined by Association. Chem & Eng N 28:4450 D 18 '50

PATHOLOGY

See also

Inflammation

PATINA

Quick patina on copper, brass or nickel alloys. W. G. Schneider. il Metal Prog 60:74-6 S '51

PATINO mines and enterprises consolidated, inc.

Prospects favorable despite break in tin price. Barron's 31:17-18 Mr 19 '51

PATRIOTISM

See also

Loyalty tests

PATTERN making

Develops new type matchplate frame. F. Schumacher. il Foundry 79:194+ F '51

Frozen mercury patterns add flexibility to precision casting. A. H. Allen. il diags Steel 128:66-9 Mr 19 '51

Pattern engineer and the foundry. G. A. Pealer. il Foundry 79:102-3+ O '51

Pattern equipment required to make this tank casting; illustrations with text. Foundry 79:142-3 Ag '51

Patternmaking; technical session, A.F.S. annual meeting. Foundry 79:133+ Jl '51

Plastic-surfaced plywood cuts matchboard cost 84 per cent. il Steel 129:108 S 24 '51

Some applications of geometry in the patternshop; data sheet. diags Foundry 79:143-4 Mr '51

PATTERN storage

How to find your patterns fast. H. Zimmerman. il Factory Management 109:98-9 Je '51

PATTERSON, Paul Chenery, 1878-

Paul Patterson retiring, Schmick heads Sunpapers. por Ed & Pub 83:6 N 25 '50

PATTERSON, William Allan, 1899-

Making a big business out of air. Bsns W p 138-42 Je 16 '51

PATTERSON function

Maxima of the Patterson functions. P. Hartman and A. Wintner. Phys R 81:271-3 Ja 15 '51

PATTON, Walter Green, 1887-

Salute for outstanding service. por Eng & Min J 152:114 My '51

PATTON tank. See Tanks, Military

PATULIN

*Allo*patulin. R. B. Woodward and G. Singh. Am Chem Soc J 72:5351-2 N '50

Howe lecturer describes synthesis, structure of patulin. R. B. Woodward. Chem & Eng N 28:4260 D 4 '50

Infra-red spectroscopy and structural chemistry; *iso*clavacin and patulin. J. F. Grove. Chem Soc J p883-5 Ap '51

PAUL, Saint

Greatest salesman. J. S. Long. Paint Oil & Chem R 114:16+ Jl 19 '51

PAULI exclusion principle

Contribution of the Pauli moment to π-meson production by photons. M. F. Kaplon. bibliog Phys R 83:712-15 Ag 15 '51

PAULUCCI, Jeno F.

Minnesota money promotes chop suey. por Bsns W p87 S 1 '51

PAVEMENTS

Trolley coaches cause pavement wear. P. W. Maetzel. il Roads & Eng Constr 88:82+ N '50

20 billion brick market in sight; greater markets to clay industry. il Brick & Clay Rec 119:33-4 S '51

Welding versus future highway engineer; design for RST prefabricated all-welded highway. A. Cibulka. diags Welding J 30:457-8 My '51

See also

Bridges—Floors
Roads
Streets

Cutting

Buzz saw cuts headaches; mechanical pavement cutter; illustrations with text. Bsns W p56+ N 25 '50

Mechanizing underground piping construction; abstract. A. Douglas. il Heating-Piping 23:88-9 Jl '51

Self-propelled pavement cutter reduces noise. il Elec World 134:102 D 18 '50

Design

Canadian pavement design defended; reply to paper by G. McFadden and others. N. W. McLeod. Eng N 147:35-8 Ag 9 '51

Charts determine concrete pavement design for airports. A. A. Anderson. il Civil Eng 21:22-3 Ja '51

Graphical design of asymmetric street crowns. D. Weage. Pub Works 81:44-5 N '50

Influence of heavy loads on pavement design trends. K. B. Woods. il Am Soc C E Proc 76 [no 23]:1-18 bibliog(96 titles, p 13-18) Je '50; Discussion. 77 [no D-23]:1-3 Mr '51

Michigan issues report on pavement design study. Eng N 145:38 N 16 '50

Modern military aircraft change airfield design concepts. J. B. Newman and H. E. Brown. il Civil Eng 21:206-10 Ap '51

Pavement for New Jersey turnpike designed for high axle loads. diags Eng N 145:35-8 N 23 '50

Pavements bearing capacity computed by theory of layered systems. G. Wilson and G. M. J. Williams. bibliog diags Am Soc C E Proc 76 [no 16]:1-17 My '50; Discussion. 77 [no D-16]:1-3 Mr '51

Performance of airport pavements. H. Aaron. il Roads & Eng Constr 89:78+ S '51

Recent Engineer corps developments in airport pavement design. G. McFadden and T. Pringle. Roads & Sts 94:43-50 F '51

Foundations

Specifications for concrete pavements and bases. Am Concrete Inst J 22:721-44 My '51; Discussion. 23:744^1-744^7 pt 2 D '51

Trenton would cut costs with flexible macadam. Eng N 147:52+ S 13 '51

Soil-cement

Soil cement base at Lubbock municipal airport. R. L. Oldham. il diags Roads & Sts 94:42-4+ Ap '51

Heating

Heating bridge decks and pavements. G. S. Paxson. Pub Works 82:103-4 Ap '51

PAVEMENTS—Heating—*Continued*

Here's experience report on big snow melting system; New England telephone & telegraph co., sidewalks, driveway and ramp; with cost data. R. Goetchius. il plan Heating-Piping 23:94-5 Ag '51

Pittsburgh melts record snowfall; illustrations with text. Heat & Ven 48:83 F '51

Two years' operating data for Detroit's electrically heated highway snow melting system. plan Heat & Ven 48:64-5 Ja '51

See also

Pavements, Concrete
—Heating

Maintenance and repair

See also

Pavements, Bituminous—Maintenance and repair

Resurfacing

Rating method for street resurfacing. R. A. Moyer and others. Pub Works 82:50-1 F '51

Subgrades

Base course drainage for airport pavements. A. Casagrande and W. L. Shannon. il diags Am Soc C E Proc 77[no 75]:1-23 Je '51

PAVEMENTS, Asphalt

Asphalt softener permits reworking old pavement. Pub Works 82:102 Ap '51

Porous-type asphalt lets trees grow. Eng N 147:39 S 20 '51

Red asphalt used for resurfacing London's famous Mall. il Roads & Eng Constr 88:88 O '50

Selection by petrographical methods of roadstone for use in rolled asphalt paving mixtures. L. G. C. Sims. il Soc Chem Ind J 69(sup no 1):S18-23 '50

See also

Pavements, Bituminous
Pavements, Bituminous concrete

PAVEMENTS, Bituminous

Asphalt additive, Darakote, by Dewey & Almy chemical co. il Roads & Eng Constr 89:44 Jl '51

Bituminous slope; paving placed under expressway grade separations. il Roads & Sts 93:70-1 D '50

Has prefabricated bituminous surfacing a peacetime usefulness? C. M. Baskin. il diags Roads & Eng Constr 89:74-80+ Ja '51

Improved triaxial compression cell for testing bituminous paving mixtures. C. A. Carpenter and others. il diag Pub Roads 26:173-9 Ag '51

Instructions to bituminous inspectors on continuous plants. il Roads & Sts 93:74-6+ D '50

New bituminous construction handbook. il Roads & Sts 94:74+ My '51

Shoulder paving serves several purposes. J. D. Meacham. il Roads & Sts 94:72-3 S '51

Step by step procedures in building low cost bituminous surfaces. E. R. Hanna. il Pub Works 81:50 N '50

Street pavement design and construction. W. L. Chilcote. Pub Works 82:60+ F '51

Triple-speed paving job minimizes street traffic disturbances; South Bend. H. S. Driggs. il Roads & Sts 94:79-80+ Mr '51

See also

Pavements, Asphalt
Roads, Bituminous

Maintenance and repair

Cold patch material heater. H. Bruneel. il Pub Works 82:46-7 Je '51

Grid roller reduces road salvage time. il Pub Works 82:47 Jl '51

How St Paul keeps up its bituminous residential streets. il Roads & Sts 93:88+ N '50

Rehabilitation of old pavements; symposium. Roads & Eng Constr 88:111-12+ O '50

Seal coating with emulsion and hot precoated screenings. J. J. McGowan. il Roads & Sts 94:75-6 Ap '51

Small community improves ten miles of streets. il Roads & Sts 93:72-3+ D '50

Softening solvent helps pulverize and remix old bituminous surfacing. E. Withycombe. il Roads & Sts 93:67-9 D '50

Rubber mixtures

Rubber-asphalt road surface in England. Roads & Eng Constr 88:72 D '50

Use of rubber in bitumen for road surfacing. il Engineering 172:268-9 Ag 31 '51

What about rubber in pavements? V. T. Boughton. il Eng N 145:34-8 D 7 '50

PAVEMENTS, Bituminous concrete

Control of hot-mix asphaltic concrete. J. R. Martin. Roads & Sts 94:80-5 Jl '51

Holland tunnels provide tough test for asphaltic concrete. A. L. Ruefer. plan Eng N 146:41-2 Je 28 '51

How a big engineering firm handles a paving program. H. C. Suter. il Pub Works 82:34-5+ My '51

See also

Roads, Bituminous concrete

PAVEMENTS, Concrete

Advantages claimed for Norwegian method of concrete paving. Roads & Eng Constr 89:126+ Ag '51

Bridge repair headaches solved by precast slabs. il Eng N 146:48 Je 14 '51

Charts determine concrete pavement design for airports. A. A. Anderson. il Civil Eng 21:22-3 Ja '51

Curing concrete pavements with membranes. C. C. Rhodes. bibliog il Am Concrete Inst J 22:277-95 D '50

Finishing air-entraining concrete pavements. C. W. Allen. Am Concrete Inst J 22:373-6 Ja '51

Finishing and curing; a key to durable concrete surfaces. M. A. Swayze. bibliog il Am Concrete Inst J 22:317-31 D '50; Discussion. 23:332^1-332^8 pt 2 D '51

High-strength, lightweight deck for new Tacoma Narrows bridge. Eng N 146:34 Ja 11 '51

Horizontal holes for joint supports on edge of concrete pavement are drilled rapidly by two jack hammers mounted on a single frame. il Eng N 146:48 Je 14 '51

Hot-shipped asphalt aids air force runway maintenance crew; undersealing concrete pavements. il Roads & Sts 94:82+ Ja '51

Machines conquer tough slope-paving job; dikes for U.S. government power plant at the Soo. il diags Eng N 147:28-9 Ag 9 '51

Novel flexplane transverse screed; concreting operations on the Bronx viaduct. il Constr Methods 32:83+ N '50

Overseas airport job holds contractor lessons; Beirut, Lebanon. il Roads & Sts 93:50 N '50

Roughening treatment for concrete, granite and other surfaces. il Engineering 171:401 Ap 6 '51

Volume changes in sand-gravel concrete. F. H. Jackson and A. G. Timms. il diag Pub Roads 26:162-72 Je '51

Wide deck pour done by finishing machine carried on temporary supports. il diags Roads & Sts 94:51 My '51

See also

Pavements, Bituminous concrete
Roads, Concrete

Heating

11 miles of snow-melting pipe in bus ramps; New York City's Port Authority bus terminal. il Constr Methods 33:64-6 Ja '51; Heat & Ven 48:146+ F '51

Operating experience and data from a sidewalk snow-melting system. L. A. Stevens and G. D. Winans. bibliog il diags Heating-Piping 23:177-80 Ja '51

Joints

Effective sealing of concrete pavement joints. H. F. Clemmer. il Am Concrete Inst J 22:445-8 F '51

Efficiency of load transfer devices. H. Peterson. diags Concrete 59:18-20 Ag '51

How to use rubber asphalt joint compounds. C. E. Brokaw. Pub Works 82:76-7 F '51

Maintenance and repair

Thin concrete topping restores old pavement. H. W. Hughes. il diags Am Concrete Inst J 22:653-9 Ap '51

PAVEMENTS, Concrete—*Continued*

Reinforcement

Pavement reinforcing pays off. C. P. Smith. Am Concrete Inst J 22:569-70 Mr '51

Scaling

Connecticut treats pavements to minimize salt damage. Eng N 146:35 Je 21 '51

Standards

Specifications for concrete pavements and bases. Am Concrete Inst J 22:721-44 My '51; Discussion. 23:744^1-744^7 pt 2 D '51

Testing

How Kansas built a concrete test pavement. il Eng N 146:37-40 Mr 15 '51

Nebraska seeks more durable concrete. W. H. Palmer. il Eng N 146:28-9 My 24 '51

PAVEMENTS, Granite

Roughening treatment for concrete, granite and other surfaces. il Engineering 171:401 Ap 6 '51

PAVEMENTS, Rubber

See also

Pavements, Bituminous—Rubber mixtures

PAVING machines

New Jaeger spreader with oscillating metering screed. il Roads & Eng Constr 89:68 Mr '51

Novel flexplane transverse screed; concreting operations on the Bronx viaduct. il Constr Methods 32:83+ N '50

Outrigger carries curb and gutter paver. il Roads & Eng Constr 88:86 O '50

Wide deck pour done by finishing machine carried on temporary supports. il diags Roads & Sts 94:51 My '51

PAVLOV, Ivan Petrovich, 1849-1936

Contemporary psychology in the Soviet Union. I. D. London. bibliog(104 ref) Science 114:227-33 Ag 31 '51

PAVLOVA, Tatiana

Actress-critic feud sets off rights battle. S. Stogel. Ed & Pub 84:52 Ap 7 '51

PAXTON, Robert

Portrait. Fortune 44:20 Ag '51

PAYMENT

See also

Checks

Collecting of accounts

Instalment plan

Payrolls

Wage payment plans

PAYROLLS

Chart calculator instantly shows payroll costs. il Coal Age 56:109 Mr '51

Accounting

Meeting payroll peaks with no overtime at Travelers insurance co. il Am Bsns 20:26+ N '50

Production line technique applied to foundry labor accounting; Ferro machine & foundry inc. E. A. Henry. il diags Foundry 78:106-7+ N '50

Southern California Gas modernizes pay roll with machine equipment. S. E. Johnson and J. K. Windsor. il Am Gas J 174:15-16 Mr '51

Statistics

Employment and pay rolls. Published in Monthly labor review

Manufacturing production-worker weekly payroll index, unadjusted; revised series, monthly, 1919-1950. Survey of Cur Bsns 31:28 Jl '51

PEABODY coal company

Headed for sharp earnings comeback. Barron's 31:19 My 21 '51

PEACE

American business and world peace. H. A. Bullis. Comm & Fin Chr 173:920 Mr 1 '51

Balance of power for peace. F. Eberstadt. Comm & Fin Chr 172:1586-7+ O 26 '50

Foreign investment, a weapon for world peace. N. A. Rockefeller. Paper Tr J 132:77-9 Je 15 '51

Neutralism. Economist 160:300-1 F 10 '51

Plan for total peace offensive. W. P. Reuther. Comm & Fin Chr 172:1703 N 2 '50

Skeptical chemist looks into the crystal ball. J. B. Conant. Chem & Eng N 29:3847-9 S 17 '51

See also

International federation

International relations

World peace council

PEACH gum. See Gums and resins

PEACHES

Diseases and pests

Insect transmission of western X-disease of peaches. H. R. Wolfe and others. bibliog Science 113:558-9 My 11 '51

PEANUT butter

What's right with this package? Swift's peanut butter. il Sales Management 67:76-7 Jl 15 '51

PEANUT oil

Hydrolysis of fats at high temperatures. A. Sturzenegger and H. Sturm. bibliog diag Ind & Eng Chem 43:510-15 F '51

PEANUTS

Growth of peanut plants at various diurnal and nocturnal temperatures. W. P. Jacobs. bibliog Science 114:205-6 Ag 24 '51

India relaxes ban on peanut exports. For Comm W 41:19 N 6 '50

Isolation of quercitrin from peanut hulls. C. D. Douglass, W. L. Howard and S. H. Wender. bibliog Am Chem Soc J 72:4177-8 S '50

New peanut combine cuts 80 per cent of labor in harvest; Lilliston peanut combine. il Manuf Rec 119:40-1 D '50

Peanut protein fibers; pilot scale plant. J. C. Arthur, jr. and H. G. Many. bibliog il diag Am Dyestuff Rep 39:719-22 O 30 '50

Solubility of groundnut protein and fibre formation; abstract. R. H. K. Thomson. Chem & Ind p796-7 S 22 '51

PEARE, Robert S. 1901-1951

Address before American institute of electrical engineers, Oct. 18, 1949. por Gen Elec R 54:34-8 My '51

PEARS

Constitution of a pear cell-wall xylan. S. K. Chanda, E. L. Hirst and E. G. V. Percival. Chem Soc J p 1240-6 My '51

PEARSON, Drew, 1897-

$5,100,000 is asked in new Pearson suit. Ed & Pub 84:9 Mr 10 '51

PEARSON, Haydn S.

Nature writing comes straight from the soil. D. F. Williams. por Ed & Pub 84:60 Je 9 '51

PEAS

Enzymic synthesis and degradation of starch; the phosphorylase and *Q*-enzyme of broad bean; the *Q*-enzyme of wrinkled pea. P. N. Hobson, W. J. Whelan and S. Peat. Chem Soc J p3566-73 D '50

Testing

New pea-maturity tester called handy field unit. diag Food Eng 23:143 S '51

PEASANTRY

Communism and the peasants. D. Mitrany. Ann Am Acad 276:99-104 Jl '51

Peasant organization in rural China. G. W. Skinner. bibliog Ann Am Acad 277:89-100 S '51

PEAT

Peat samples for radiocarbon analysis; problems in pollen statistics. E. S. Deevey, jr. and J. E. Potzger. bibliog Am J Sci 249:473-511, pl 1 Jl '51

Radiocarbon datability of peat, marl, caliche, and archaeological materials. H. H. Bartlett. Science 114:55-6 Jl 20 '51

See also

Boilers—Peat firing

PEAT moss

Peat-moss industry, Germany. For Comm W 42:18-19 Ja 1 '51

Peat moss industry in Canada. A. A. Swinnerton. maps diags Can Chem & Process Ind 34:915-19+ N '50

PEBBLES

Performance of a pebble heater type steam superheater. H. R. Batchelder and H. A. Ingols. 8pls U S Bur Mines Rep of Invest 4781:1-8 '51

PECTIN

Analysis

Determination of acetyl in pectin. E. L. Pippen, R. M. McCready and H. S. Owens. bibliog diag Anal Chem 22:1457-8 N '50

PECTINATES

Analysis

Determination of citrus pectic substances by optical rotation. R. M. McCready and others. Anal Chem 23:975-7 Jl '51

PECTINS

Chemical composition and properties of pectins. J. K. N. Jones. Chem & Ind p430-1 Je 9 '51

Industrial uses of pectin. R. W. Money. bibliog Chem & Ind p412-14 Je 2 '51

New, quick, cold-water dessert mix made with low-methoxyl pectin. A. D. Shepherd and others. bibliog il Food Eng 23:44-5+ Jl '51

Sources, production and distribution of pectin. V. L. S. Charley. bibliog il diags Chem & Ind p394-400 My 26 '51

PEENING

Effects of light peening on the yielding of steel. H. L. Harrison and B. D. Mills, jr. il diag Welding J 30:sup251-3 My '51; Same cond. Roads & Sts 94:53-4 Ag '51; Discussion. N. H. Polakowski. Welding J 30:sup 450 S '51; Reply. 30:sup485 O '51

Peening process increases fatigue life of drill collars. G. J. Gilbert. il Oil & Gas J 50: 74-5+ S 6 '51

See also

Shot peening

PEGMATITES

Colorado pegmatite deposit yields beryl and mica. C. A. Wemlinger. il Eng & Min J 151: 92-4 N '50

Geology, mining, and uses of strategic pegmatites. R. H. Jahns. bibliog(45 titles) il maps diags Min Eng 190:Trans 45-59 Ja '51

Mica and beryl pegmatites in Idaho and Montana. W. C. Stoll. maps plans diags U S Geol S Professional Pa 229:1-64, pl 1-9; pa $1.50 Supt. of doc. '50

Pegmatites of the Van Horn mountains, Texas. P. T. Flawn. bibliog il pl map diags Econ Geol 46:163-92 Mr '51

Probable extreme age of pegmatites from southern Rhodesia. L. H. Ahrens and A. M. Macgregor. Science 114:64-5 Jl 20 '51

Uraninitic pegmatites, northern Saskatchewan. J. B. Mawdsley. maps Can Min J 72:66-7 Ja '51

PELLETIER, Joseph, 1788-1842

Joseph Pelletier and Joseph Caventou. M. Delépine. bibliog pors J Chem Educ 28: 454-61 S '51

PELLITORINE

Synthesis of long-chain aliphatic acids from acetylenic compounds; the synthesis of a geometrical isomer of pellitorine. R. A. Raphael and F. Sondheimer. Chem Soc J p 120-2 Ja '50

PELTIER effect

Some experiments with Peltier effect. W. C. White. bibliog diag Elec Eng 70:589-91 Jl '51

PENCE, Harry

Pence keeps up annual review for Enquirer. por Ed & Pub 84:22 Ja 20 '51

PENDULUM

Recording torsion pendulum for the measurement of the dynamic mechanical properties of plastics and rubbers. L. E. Nielsen. bibliog diags R Sci Instr 22:690-3 S '51

Simple torsion pendulum for measuring internal friction. M. E. Fine. diags J Metals 188:Trans 1322 N '50

PENETROMETERS

Improved miniature penetrometer cones for determination of lubricating grease consistency. B. W. Hotten and G. M. Kibler. il diags Anal Chem 22:1574-5 D '50

PENICILLAMINE

N-(N-phenylacetyl-α-DL-glutamyl)-D-penicillamine. W. Baker and P. G. Jones. Chem Soc J p 1143-5 My '51

N-(*N′*-phenylacetylseryl-D-pencillamines as possible biological precursors of benzylpenicillin. W. Baker and W. D. Ollis. Chem Soc J p556-61 F '51

Synthesis of substituted penicillins and simpler structural analogs; phthalimido β-lactam-thiazolidines derived from penicillamine. J. C. Sheehan, H. W. Hill, jr. and E. L. Buhle. Am Chem Soc J 73:4373-5 S '51

PENICILLAMINE, Analogs of

Syntheses in the penicillin field; a synthesis of some penicillamine analogues and attempts to obtain new types of penicillins. A. H. Cook and others. Chem Soc J p 1947-54 Jl '50

PENICILLIC acid

Structure of penicillic acid. J. H. Ford, A. R. Johnson and J. W. Hinman. bibliog Am Chem Soc J 72:4529-31 O '50

PENICILLIN

Antibiotics; penicillin and others. E. Di Cyan. Consumers Res Bul 28:21-2 Ag '51

Attempt to show diffusion of essential growth factors from an induced penicillin-resistant culture to the parent penicillin-sensitive strain. J. L. Stone. bibliog il Science 113: 493-4 Ap 27 '51

Colloidal phenomena of antibiotics. E. A. Hauser and G. J. Marlowe. bibliog J Phys & Colloid Chem 54:1077-87 N '50

Homologs of penicillin degradation products. H. E. Stavely and M. Berestecki. Am Chem Soc J 73:3448-52 Jl '51

In vitro production of cortisone. A. Grevenstuk, E. Ellenbogen and H. Seneca. bibliog Science 114:74-5 Jl 20 '51

Influence of irradiation and penicillin on experimental syphilis transmission. T. F. Probey. bibliog Pub Health Rep 66:644-8 My 18 '51

Penicillin plus. Chem Eng 57:198 N '50

Penicillin production in India. For Comm W 44:15 Jl 9 '51

Phenyl phenaceturate from the decomposition of penicillin in the presence of phenol. S. F. Kern and others. Science 112:787 D 29 '50

Practical synthesis for penicillin; abstract. J. C. Sheehan. Chem & Eng N 29:1507 Ap 16 '51

Pure chemistry award goes to Sheehan for penicillin work. Chem & Eng N 29:1006 Mr 12 '51

Studies in the production of penicillin, respiration and growth of penicillium chrysogenum in submerged culture, in relation to agitation and oxygen transfer. C. T. Calam, N. Driver and R. H. Bowers. bibliog J Ap Chem 1:209-16 My '51

Studies with radioactive penicillin. S. Rowlands, D. Rowley and E. L. Smith. Chem Soc J supp no 2:S405-7 '49

Syntheses in the penicillin field; a synthesis of some penicillamine analogues and attempts to obtain new types of penicillins. A. H. Cook and others. Chem Soc J p 1947-54 Jl '50

Syntheses in the penicillin field; attempts to synthesise true thiazolinyloxazolones. A. H. Cook and others. Chem Soc J p3220-7 D '49

Syntheses in the penicillin field; the preparation of thiazolinyl-amino-oxazole derivatives. A. H. Cook, G. Harris and A. L. Levy. Chem Soc J p3227-35 D '49

Syntheses in the penicillin field; the structure and reduction of some thiazolinyloxalones. R. Bentley, A. H. Cook and J. A. Elvidge. Chem Soc J p3216-20 D '49

Syntheses in the penicillin field; thiazolinylamino-oxazole derivatives. A. H. Cook and G. Harris. Chem Soc J p3236-41 D '49

Synthesis of substituted penicillins and simpler structural analogs. J. C. Sheehan and others. bibliog Am Chem Soc J 73:4367-80 S '51

Synthesis of substituted penicillins and simpler structural analogs; alpha amino monocyclic β-lactams. J. C. Sheehan and J. J. Ryan. Am Chem Soc J 73:1204-6 Mr '51

This antibiotic age. bibliog il Chem & Eng N 29:1190-5 Mr 26 '51

Treatment of penicillin wastes. D. L. Muss. bibliog il Sewage & Ind Wastes 23:486-96 Ap '51

Unique penicillin compound; Estopen. Chem Age (Lond) 64:479 Mr 31 '51

PENICILLIN—*Continued*

Analysis

Automatic measurement of optical rotation. G. B. Levy. bibliog Anal Chem 23:1089-92 Ag '51

Determination of penicillin G using C^{13} isotope as a tracer. J. T. Craig, J. B. Tindall and M. Senkus. Anal Chem 23:332-3 F '51

Modified method for the determination of total penicillin in procaine penicillin. A. M. Wild. J Ap Chem 1:329-32 Ag '51

Manufacture

Penicillin; pictured flow sheet. Chem Eng 58: 174-7 Ap '51

Statistics

Penicillin trends, U.S. and U.K.; with table of annual production figures from 1945-1949. For Comm W 41:17 O 30 '50

PENICILLIN G (benzylpenicillin)

Carboxy derivatives of benzylpenicillin. R. P. Holysz and H. E. Stavely. Am Chem Soc J 72:4760-3 O '50

Hexamminecobalt(III) benzylpenicillinate. R. W. Shortridge and C. Carr. Am Chem Soc J 72:3870-1 S '50

N-(*N'*-phenylacetylseryl)-D-penicillamines as possible biological precursors of benzylpenicillin. W. Baker and W. D. Ollis. Chem Soc J p556-61 F '51

PENICILLIUM

Dechlorogriseofulvin; a metabolic product of penicillium griseofulvum Dierckx and penicillium janczewskii Zal. J. MacMillan. bibliog Chem & Ind p719 Ag 25 '51

Studies in the production of penicillin, respiration and growth of penicillium chrysogenum in submerged culture, in relation to agitation and oxygen transfer. C. T. Calam, N. Driver and R. H. Bowers. bibliog J Ap Chem 1:209-16 My '51

PENILLIC acid

Homologs of penicillin degradation products: 6-methyl-D-benzylpenillic acid. H. E. Stavely. Am Chem Soc J 73:3450-2 Jl '51

PENN, William, 1644-1718

Pennsbury and Penn's walking purchase. C. H. Vivian. Comp Air Mag 56:88-91 Ap '51

PENNEY, Gaylord Wallis

Gaylord Penney and Clifford Foust to receive Franklin Institute medals. por Elec World 136:74 S 24 '51

PENNSALT. See Pennsylvania salt manufacturing company

PENNSYLVANIA

See also

Coal—Pennsylvania

Gas, Natural—Pennsylvania

Petroleum—Pennsylvania

PENNSYLVANIA economy league, inc.

Good government; industry know-how can help. il maps Mod Ind 20:48-51 D '50

PENNSYLVANIA electric company

Preferred stock offered. Comm & Fin Chr 174: 1406 O 15 '51

PENNSYLVANIA gas and electric company

Files plan. Comm & Fin Chr 173:1379 Ap 2 '51

Merger approved. Comm & Fin Chr 173:1891 My 7 '51

PENNSYLVANIA power and light company

Offering to stockholders. Comm & Fin Chr 174:1103 S 24 '51

Offering to stockholders underwritten. Comm & Fin Chr 172:2128 D 4 '50

Portrait of power; Penn Power and Light goes in for art. il Edison Elec Inst Bul 19: 87-8 Mr '51

Public utility securities. O. Ely. Comm & Fin Chr 172:1705 N 2 '50

PENNSYLVANIA power company

Preferred stock offered. Comm & Fin Chr 173:1278 Mr 26 '51

PENNSYLVANIA railroad

Five promising low priced stocks; with comparative balance sheet items. Mag of Wall St 87:555 F 24 '51

Franklin defends relations with Long Island. Ry Age 130:42-3 F 26 '51

Green light for Pennsy; with table of revenues and earnings 1940-1950. A. Jansen. Barron's 30:7-8 N 6 '50

Railroad securities. Comm & Fin Chr 172: 1520 O 19 '50

PENNSYLVANIA salt manufacturing company

Pennsalt looks back over a century of progress. il Water & Sewage Works 97:527 D '50

Stock offered. Comm & Fin Chr 172:2222-3 D 11 '50

This is a laboratory; Stotesbury's Whitemarsh Hall is research laboratory. il Fortune 44: 89-92 O '51

PENNSYLVANIA turnpike. See Roads—Pennsylvania

PENS

See also

Fountain pens

PENS, Marking

Laundry marking pen; Taubman pen recommended. Consumers Res Bul 27:11 Mr '51

PENSION trusts

Common stocks and pension funds. P. I. Wren. Comm & Fin Chr 173:2151+ My 24 '51

Common stocks as inflation hedge for pension funds. P. I. Wren. Comm & Fin Chr 173:813+ F 22 '51; Same cond. Trusts & Estates 90:106-7+ F '51

Common stocks in pension funds. D. L. Terwilleger. Comm & Fin Chr 174:324-5 Jl 26 '51

Emergency causes new fears over trusteed plans; glowing yield estimates may boomerang if funds are diverted to U.S. bonds. Nat Underw (Life ed) 55:1+ F 2 '51

General Motors' new model for pensions; coordinator-trust plan. M. Stroock. Barron's 30:7 D 25 '50

General Tire pension trust buys radio network. Bsns W p 112+ N 4 '50

How I sell pension trusts. W. H. McCoy. East Underw 52:84-5 pt 2 O 5 '51

Internal revenue pension trust division lists principles to be followed in employe plans. Nat Underw (Life ed) 55:6 My 4 '51

M.D.R.T. discussion group takes up "orphaned" pension trusts. Nat Underw (Life ed) 55:9 S 28 '51

Over-optimism of trusteed pension advocates will boomerang on employers. W. F. Drake. Nat Underw (Life ed) 54:8 N 24 '50; Same. East Underw 51:12 N 24 '50

Pension trusts usher in new investment era. W. H. Hillyer. Comm & Fin Chr 174:1051+ S 20 '51

Predicts rise in pension trust programs this year. D. P. Cavanaugh. Nat Underw (Life ed) 55:2 Ja 26 '51

Securities dealers mutual fund departments compete actively in pension field; Kidder, Peabody pamphlet. Nat Underw (Life ed) 54:1 D 29 '50

Ten vital questions about pension trusts. C. Spencer. Weekly Underw 165:758+ S 29 '51

Income tax deductions

Publisher contribution to plan not deductible. A. W. Gray. Ed & Pub 83:49 D 9 '50

Taxfree pensions; BIR rules on trusteed plan written into union contracts. Bsns W p 107-8 D 2 '50

Treasury ruling opens door for pension writing; PS 68. Nat Underw (Life ed) 55:1+ Ag 3 '51

Tax problems

Bill would remove unfairness in tax on pensions. Nat Underw (Life ed) 55:19 Jl 20 '51

Employe annuity, trust rulings made by Revenue bureau; with text. Nat Underw (Life ed) 54:3+ N 17 '50

PENSIONS

See also

Old age pensions

PENSIONS, Industrial

Alternatives in pension planning. R. D. Anderson. N A C A Bul 32:136-57 O '50

Angles in administering pension plans. H. A. Hillman. N A C A Bul 32:158-67 O '50

Area pension plan perks up. Bsns W p 120-1 N 4 '50

Back door to pension mobility; transferable pension credits for skilled workers. Bsns W p35-6 O 13 '51

Can management design a pension plan? abstract. G. G. Terriberry. Management R 39:628-9 O '50

PENSIONS, Industrial—*Continued*

Company pension plan problems; case of Ideal cement co. N. C. Rockwood. Rock Prod 54:67+ Ja '51

Economic and social implications of private pension plans. L. J. Ackerman. Trusts & Estates 90:103-5 F '51; Excerpts. Management R 40:154-5 Mr '51; Nat Underw (Life ed) 55:10 F 16 '51

Economic aspects relating to industrial pensions. W. H. Dupka. Trusts & Estates 90:53-4 Ja '51

Evaluation of negotiated pensions. S. L. Knowlton. Personnel 28:61-7 Jl '51

GE sets precedent; new CIO contract lets union reopen on pensions a second time. Bsns W p32+ O 13 '51; Correction. L. R. Boulware. p74+ O 27 '51

Great expectations for pension, group and business insurance in 1951. Nat Underw (Life ed) 55:1+ Ja 12 '51

Growth of pension schemes. Economist 161: 249-50 Jl 28 '51

In quest of a pension formula; panel appointed by WSB. Bsns W p30-1 S 29 '51

Is this the small company's answer to the pension problem? District 50 plan. P. F. Broderick. Chem Eng 57:125 Ag '50; Discussion. 57:196+ D '50; Reply. 58:220+ F '51

Keeping your retirement plan sold; abstract. S. A. Weaver. Management R 39:682-3 N '50

Longevity of railroad annuitants. Mo Labor R 72:420 Ap '51

New social security law and private pension plans. H. W. Otis. Trusts & Estates 89: 748-9+ N '50

Old hands snub pensions. il Bsns W p 124-6 N 18 '50

Pension changes to fit new SS law; summary of bulletin of Towers, Perrin, Forster & Crosby. il Mod Ind 20:75-6+ N '50

Pension plan miniature. H. W. Howe. N A C A Bul 32:286-7 N '50

Pension plans; A.B.A. trust conference panel. Trusts & Estates 90:170 Mr '51

Pension plans; check list for administrators. J. J. Justin. Harvard Bsns R 28:114-22 N '50

Pension plans; new problems and trends. H. W. Otis. East Underw 52:76-7 pt 2 O 5 '51

Pensions are not enough; the individual company and its older workers. E. S. Hewitt and others. bibliog J Bsns 24:127-40 Ap '51

Pensions in nationalised industry; summary of Acton Society Trust pamphlet. Economist 160:1151-2 My 19 '51

Presents N.A.L.U. stand on pension, SS integration. N. H. Seefurth. Nat Underw (Life ed) 55:3+ F 2 '51

Procedure to use in pension sales. L. M. Huppeler. Nat Underw (Life ed) 55:23-4 O 5 '51

Seven points in drafting pension plans; abstract. Management R 40:240 Ap '51

Situation on pensions. J. C. Benson. Weekly Underw 163:944 O 21 '50

Social security substructure proof against currency depreciation. L. Féraud. Int Labour R 62:141-56 Ag '50

Stampede to buy pension programs before wage controls deadline. Nat Underw (Life ed) 55:1+ Ja 26 '51

Treasury issues biased ruling on integration. Nat Underw (Life ed) 55:10 My 18 '51

Union aim; pension mobility. Bsns W p38 Je 9 '51

What about draftees' pensions? Bsns W p 124-5 O 7 '50; Discussion. p92+ N 4 '50

See also

Insurance companies—Employees' pensions

Railroads—Pensions

Accounting

Accountant's share in company pension problem; abstract. R. C. Tyson. Management R 39:622-4 O '50

Accounting for pensions in the balance-sheet and profit-and-loss statement; abstract. R. Andrea. J Account 90:414 N '50

AIA committee continues discussion of pension accounting problems. J Account 92:219-20 Ag '51

Charging pension premiums to operations. J Account 91:733-4 My '51

Manual summary record for pension contributions. D. S. Brigham. N A C A Bul 32: 170-5 O '50

Two pension accounting problems. J. Account 90:517-18 D '50

Bibliography

Pension and profit-sharing plan; a bibliography prepared by Financial division, Special libraries association. Bankers Mo 67:48-9 N '50

Selected bibliography on industrial pensions. 3p Chamber of commerce of the state of New York, 65 Liberty st, New York '51

Finance

Case for or against employee pension contributions; abstract. M. H. Alvord. Management R 39:725-6 D '50

Common stocks and pension funds. P. I. Wren. Comm & Fin Chr 173:2151+ My 24 '51

Common stocks in pension funds. D. L. Terwilleger. Comm & Fin Chr 174:324-5 Jl 26 '51

General Motors' new model for pensions; coordinator-trust plan. M. Stroock. Barron's 30:7 D 25 '50

Impact of pensions on the economy. R. F. Murray. Comm & Fin Chr 172:1597 O 26 '50

Insured vs. uninsured pensions. H. E. Blagden; C. R. F. Wickenden. Nat Underw (Life ed) 55:2+ My 18 '51

Management of pension fund investments. T. D. Sears. Comm & Fin Chr 172:2086+ N 30 '50

Mutual funds eye pension money to expand sales. Nat Underw (Life ed) 54:3+ D 1 '50

Pension that's the fringe on the top; influence of pension funds as a stabilizing factor in the market. I. U. Cobleigh. Comm & Fin Chr 174:1048 S 20 '51

Problem of investing pension fund reserves. C. V. Campbell. Comm & Fin Chr 173: 1844+ My 3 '51

Prudential using variant of deposit administration; immediate participation guarantee contract. Nat Underw (Life ed) 55:7 Je 29 '51

Why pension systems should be protected by an insured plan. H. E. Blagden. East Underw 52:1+ My 25 '51

See also

Pension trusts

Tax problems

Tax aspects of pension plans. N. C. Rockwood. Rock Prod 54:83+ Je '51

Taxfree pensions; BIR rules on trusteed plan written into union contracts. Bsns W p 107-8 D 2 '50

Employers may not get tax relief on certain bargained covers. M. M. Goldstein. Nat Underw (Life ed) 54:12 N 17 '50

PENSIONS, Municipal

Pensions for municipal employees. W. H. Palmer. Roads & Eng Constr 89:116+ Mr '51

PENSTOCKS

Improved penstocks reduce costs for high-head hydroelectric plants. G. A. Whetstone. il Power Eng 55:64-9 Ag '51

PENTABORANE. See Boron hydrides

PENTABROMOACETONE

Determination of citric and *d*-isocitric acids. C. A. Hargreaves, 2d, M. D. Abrahams and H. B. Vickery. bibliog Anal Chem 23:467-70 Mr '51

PENTABROMOPHENOL

Effect on calves of prolonged oral administration of three potential molluscacides. J .R. Herdt and others. Pub Health Rep 66:1313-17 O 12 '51

Toxicity of some related halogenated derivatives of phenol. E. F. Stohlman. bibliog Pub Health Rep 66:1303-12 O 12 '51

PENTACHLORODIPHENYL

Organic fluoro-compounds; 2 : 4 : 6-trinitro-3-hydroxybenzotrifluoride; a new reagent for the characterisation of amines and pyranol bases. W. B. Whalley. Chem Soc J p2792-4 O '50

PENTACHLOROPHENOL

Dentistry saves wood poles; stops pole-top heart rot. B. J. Barmack. il Elec World 136: 112-13 Jl 16 '51

Industrial intoxication due to pentachlorophenol. E. W. Baader and H. J. Bauer. bibliog il diag Ind Med 20:286-90 Je '51

Pentachlorophenol; green pine preservative; abstract. E. A. Behr and R. T. Rogers. Chem Eng 57:259-60 D '50

Toxicity of some related halogenated derivatives of phenol. E. F. Stohlman. bibliog Pub Health Rep 66:1303-12 O 12 '51

Truth about pentachlorophenol. Chem Age (Lond) 64:245-7 F 10 '51

Wood preservatives. M. A. Lesser. Soap & San Chem 26:119+ N '50

PENTADIENAL

Chemistry of pentadienal and its derivatives. G. F. Woods and H. F. Lederle. Am Chem Soc J 73:2245-7 My '51

PENTADIENE

Degradation of alkenyltrimethylammonium hydroxide. C. D. Hurd and E. H. Ensor. bibliog Am Chem Soc J 72:5135-7 N '50

Density, refractive index, boiling point, and vapor pressure of eight monoolefin (1-alkene), six pentadiene, and two cyclomonoolefin hydrocarbons. A. F. Forziati and others. bibliog J Res Nat Bur Stand 45: 406-10 N '50

Diamidides; derivatives of triazapentadiene and tetra-azaheptatriene. F. C. Cooper, M. W. Partridge and W. F. Short. Chem Soc J p391-404 F '51

Rearrangements involving 1-pentyne, 2-pentyne and 1,2-pentadiene. T. L. Jacobs, R. Akawie and R. G. Cooper. bibliog Am Chem Soc J 73:1273-6 Mr '51

PENTAERYTHRITOL

DO's take pentaerythritol. Chem Ind W 68: 35+ My 5 '51

Determination of dipentaerythritol in the presence of pentaerythritol. J. H. Jaffe and S. Pinchas. bibliog Anal Chem 23:1164-5 Ag '51

Dithiols; further non-vicinal dithiols. P. Bladon and L. N. Owen. Chem Soc J p585-90 F '50

Experiments with acetals of pentaerythritol. E. D. Bergmann and E. Bograchov. Am Chem Soc J 73:1774-5 Ap '51

Unusual orthoester of pentaerythritol. E. D. Bergmann, E. Bograchov and S. Pinchas. Am Chem Soc J 73:2352-3 My '51

PENTAFLUOROBENZOIC acid

Pentafluorobenzoic acid. E. T. McBee and E. Rapkin. Am Chem Soc J 73:1366 Mr '51

PENTAFLUOROETHYL iodide

Reactions of the perfluoroalkyl radicals. J. Banus, H. J. Emeléus and R. N. Haszeldine. Chem Soc J p3041-5 N '50

PENTANE

Continuous stripper for adsorption column effluent streams. R. L. Hopkins. diags Ind & Eng Chem 43:1456-8 Je '51

Fluorination of pentanes by cobalt trifluoride. E. J. Barber, L. L. Burger and G. H. Cady. Am Chem Soc J 73:4241-3 S '51

Lower paraffin hydrocarbons; catalytic conversion by boron fluoride with hydrogen fluoride. E. C. Hughes and S. M. Darling. bibliog Ind & Eng Chem 43:746-50 Mr '51

Vapor pressure and critical constants of normal pentane. J. A. Beattie, S. W. Levine and D. R. Douslin. Am Chem Soc J 73:4431-2 S '51

PENTANOIC acid. See Valeric acid

PENTANOL

Isomerization accompanying alkylation; reaction of benzene with 2- and 3-pentanol. H. Pines, W. D. Huntsman and V. N. Ipatieff. Am Chem Soc J 73:4483 S '51

PENTAQUINE. See Aminoquinoline

PENTENE

Vapor pressure of *cis*-2-pentene, *trans*-2-pentene and 3-methyl-1-butene. D. W. Scott and G. Waddington. Am Chem Soc J 72:4310-11 S '50

PENTENOIC acid

Mercurial diuretics; mercuration of allylacetic acid and related compounds. R. L. Rowland, W. L. Perry and H. L. Friedman. Am Chem Soc J 73:1040-1 Mr '51

PENTENOL

Leaf alcohol and the stereochemistry of the *cis*- and the trans-*n*-hex-3-en-1-ols and -*n*-pent-3-en-1-ols. L. Crombie and S. H. Harper. Chem Soc J p873-7 Mr '50

PENTOSE nucleic acid. See Nucleic acids

PENTOSES

Synthesis of sugars from simpler substances; the in vitro synthesis of the pentoses. L. Hough and J. K. N. Jones. Chem Soc J p 1122-6 Ap '51; Abstract. Chem & Ind p254 Mr 31 '51

Analysis

Determination of pentoses; effect of varying proportions of components of Bial's color reagent. G. L. Miller, R. H. Golder and E. E. Miller. bibliog Anal Chem 23:903-5 Je '51

PENTOSIDES. See Glycosides

PENTOTHAL sodium

Prolongation of thiopental anesthesia in the mouse by premedication with tetraethylthiuram disulfide (antabuse). N. J. Giarman and others. Science 114:35-6 Jl 13 '51

PENTYNE

Rearrangements involving 1-pentyne, 2-pentyne and 1,2-pentadiene. T. L. Jacobs, R. Akawie and R. G. Cooper. bibliog Am Chem Soc J 73:1273-6 Mr '51

PEOPLE today (periodical)

Smaller and smaller; shorter and shorter. il Bsns W p54+ O 21 '50

PEOPLES gas light and coke company

Bonds offered. Comm & Fin Chr 173:2612 Je 25 '51

Chicago gets more gas. il Bsns W p48+ D 30 '50

PEORIA and eastern railway

ICC may better status. Barron's 31:16 O 8 '51

PEPPER

Bumper pepper crop in India predicted. For Comm W 45:18 O 8 '51

Indian pepper trade. For Comm W 44:21 S 24 '51

Indonesian pepper industry. For Comm W 44:18 S 10 '51

Malayan pepper trade. For Comm W 43:20 My 28 '51

Pepper, Malaya and Sarawak. For Comm W 41:23-4 D 4 '50

PEPPERELL manufacturing company

Strong demand boosting sales, earnings. Barron's 31:13 Ja 1 '51

PEPPERMINT

Studies on the host range of the verticillium that causes wilt of menthapiperita L. R. J. Green. Science 113:207-8 F 23 '51

PEPPERMINT oil

Isolation of menthofuran from American peppermint oil. R. H. Eastman. Am Chem Soc J 72:5313-14 N '50

Manufacture

Peppermint oil; pictured flow sheet. Chem Eng 58:192-5 F '51

Portable peppermint plant. il Chem W 69:23 S 1 '51

PEPSIN

Antidiuretic substance obtained by digestion of globulin with pepsin. H. Croxatto and others. bibliog il Science 113:494-5 Ap 27 '51

Kinetics and mechanism of the heat inactivation of pepsin. E. J. Casey and K. J. Laidler. bibliog Am Chem Soc J 73:1455-7 Ap '51

PEPTIDES

Acylalkylcarbonates as acylating agents for the synthesis of peptides. J. R. Vaughan, jr. Am Chem Soc J 73:3547 Jl '51

Adjuvant action of amino acids and peptides in fertilizin agglutination of starfish sperm. C. B. Metz and J. E. Donovan. Science 112:755-6 D 22 '50

Amino-acids and peptides; an examination of the use of carbobenzyloxy-L-glutamic anhydride in the synthesis of glutamyl-peptides. W. J. Le Quesne and G. T. Young. Chem Soc J p 1954-9 Jl '50

Amino-acids and peptides; synthesis of α- and γ-L-glutamyl-peptides by the azide route. W. J. Le Quesne and G. T. Young. Chem Soc J p 1959-63 Jl '50

PEPTIDES—*Continued*
Amino-acids and peptides; the solubility criterion of chemical purity with special reference to amino-acids; the use of differential vapour-pressure measurements. I. W. Hughes, E. W. Williams and G. T. Young. diags Chem Soc J p 1279-81 My '51
Amino-acids and peptides; the solubility criterion of chemical purity with special reference to amino-acids; the use of refractive-index measurements. E. W. Williams and G. T. Young. diags Chem Soc J p 1745-6 Jl '51
Diethyl chloroarsenite as a reagent for the preparation of peptides. J. R. Vaughan, jr. Am Chem Soc J 73:1389 Mr '51
Diethyl chlorophosphite as a reagent for peptide syntheses. G. W. Anderson, A. D. Welcher and R. W. Young. Am Chem Soc J 73:501-2 Ja '51
Enzymic synthesis of peptide bonds; the relative effects of some amino acids and their acyl substituents. S. W. Fox and H. Wax. bibliog Am Chem Soc J 72:5087-90 N '50
Extensibility and minimum number of polypeptide chains in the collagen micelle. P. O. Mustacchi. bibliog il Science 113:405-7 Ap 13 '51
Extent of dissociation of salts in water; calcium salts of some amino-acids and dipeptides. C. W. Davies and G. M. Waind. Chem Soc J p301-3 Ja '50
Formation of polypeptides by rearrangement of α-carboxy hydroxamic acids. C. D. Hurd and C. M. Buess. bibliog Am Chem Soc J 73:2409-12 Je '51
Kinetics of peptide bond formation. D. E. Koshland, jr. bibliog Am Chem Soc J 73:4103-8 S '51
Kinetics of the hydrolysis of simple glycine peptides. L. Lawrence and W. J. Moore. bibliog Am Chem Soc J 73:3973-7 Ag '51
Molecular weight determination of polypeptides. A. R. Battersby and L. C. Craig. Am Chem Soc J 73:1887-8 Ap '51
Near infrared spectra of compounds with two peptide bonds and the configuration of a polypeptide chain. S. Mizushima and others. bibliog Am Chem Soc J 73:1330-3 Mr '51
New synthesis of glutamine and of γ-dipeptides of glutamic acid from phthalylated intermediates. F. E. King and D. A. A. Kidd. Chem Soc J p3315-19 D '49
New synthesis of peptides. G. W. Kenner. Chem & Ind p 15 Ja 6 '51
Optical rotation of peptides. B. F. Erlanger and others. bibliog Am Chem Soc J 73:3508-12 Jl '51
Optical rotation of peptides; lysine dipeptides. B. F. Erlanger and E. Brand. Am Chem Soc J 73:4025-7 Ag '51
Optical rotation of peptides; lysine tripeptides. E. Brand and others. Am Chem Soc J 73:4027-8 Ag '51
Peptide syntheses. T. Wieland. Chem Age (Lond) 64:233-5 F 10 '51
Peptide synthesis; abstract. G. W. Kenner and R. J. Stedman. Chem & Eng N 29:3968 S 24 '51
Polypeptides formed by the Lossen rearrangement. C. D. Hurd and L. Bauer. bibliog Am Chem Soc J 73:4387-91 S '51
Removal of terminal groups from peptides. A. L. Levy. Chem Soc J p404-5 Ja '50
Stepwise degradation of peptides. H. G. Khorana. Chem & Ind p 129 F 17 '51
Studies in the azole series; a new method of peptide synthesis; alanyl-peptides. A. H. Cook and A. L. Levy. Chem Soc J p651-6 F '50
Studies in the azole series; a new method of peptide synthesis; glycyl peptides. A. H. Cook and A. L. Levy. Chem Soc J p646-51 F '50
Studies in the azole series; syntheses of peptides of substituted cysteines. A. H. Cook and J. R. A. Pollock. Chem Soc J p 1898-902 Jl '50
N-Substituted amino-acids; the reductive alkylation of some di- and tri-peptides; a new method of determining the end amino-acid in polypeptides. R. E. Bowman. Chem Soc J p 1349-51 My '50
Symposium on peptides; A.C.S. Division of medicinal chemistry. Chem & Eng N 29:3831 S 17 '51
Synthesis of peptides and esters of phenylalanine as chromogenic substrates for chymotrypsin. A. M. Seligman and G. Wolf. bibliog Am Chem Soc J 73:2086-9 My '51
Synthesis of simple peptides from anhydro-*N*-carboxyamino-acids. J. L. Bailey. Chem Soc J p3461-6 D '50
Synthetic polypeptides. W. E. Hanby, S. G. Waley and J. Watson. Chem Soc J p3009-13 N '50
Synthetic polypeptides; initiators for the co-polymerisation of oxazolid-2 : 5-diones. D. Coleman. Chem Soc J p3222-9 N '50
Synthetic polypeptides; polyglutamic acid. W. E. Hanby, S. G. Waley and J. Watson. Chem Soc J p3239-49 N '50
Synthetic polypeptides; properties of oxazolid-2 : 5-diones and an initial study of the preparation of polypeptides therefrom. D. Coleman and A. C. Farthing. diag Chem Soc J p3218-22 N '50
Synthetic polypeptides; synthesis of oxazolid-2 : 5-diones and a new reaction of glycine. A. C. Farthing. Chem Soc J p3213-17 N '50
Two hydrogen-bonded spiral configurations of the polypeptide chain. L. Pauling and R. B. Corey. Am Chem Soc J 72:5349 N '50

PEPTIZATION. See Colloids

PER acids
Inorganic per-acids; the alkali percarbonates. J. R. Partington and A. H. Fathallah. Chem Soc J p 1934-43 Jl '50
Reactions of peracids; the reaction of cyclohexylphenyl ketone with perbenzoic acid. S. L. Friess and N. Farnham. bibliog Am Chem Soc J 72:5518-21 D '50
Reactions of peracids; the reaction of substituted acetophenones with perbenzoic acid. S. L. Friess and A. H. Soloway. Am Chem Soc J 73:3968-72 Ag '51

Analysis
Inorganic per-acids; the alkali perborates. J. R. Partington and A. H. Fathallah. Chem Soc J p3420-4 D '49

PER diem rules. See Freight cars—Interchange

PERACETIC acid
New job for peracetic; potent bactericide-fungicide. Chem Ind W 68:21 Mr 10 '51
Peracetic acid cleavage of unsymmetrical ketones. W. V. Doering and L. Speers. bibliog Am Chem Soc J 72:5515-18 D '50
Peracetic acid reactions. Chem Age (Lond) 63:883 D 23 '50
Rôle of the disulphide bond in reactions which render wool non-felting. P. Alexander and others. bibliog Soc Dyers & Col J 67:23-7 Ja '51

PERBENZOIC acid
Experiments with diazomethane and its derivatives; action of diazomethanes on perbenzoic acid and benzoquinone derivatives. A. Schönberg, W. I. Awad and N. Latif. Chem Soc J p 1368-9 My '51
Reactions of peracids; the reaction of cyclohexylphenyl ketone with perbenzoic acid. S. L. Friess and N. Farnham. bibliog Am Chem Soc J 72:5518-21 D '50
Reactions of peracids; the reaction of substituted acetophenones with perbenzoic acid. S. L. Friess and A. H. Soloway. Am Chem Soc J 73:3968-72 Ag '51
Reactivities of benzaldehydes with perbenzoate radicals. C. Walling and E. A. McElhill. bibliog Am Chem Soc J 73:2927-31 Je '51

PERBORATES
Inorganic per-acids; the alkali perborates. J. R. Partington and A. H. Fathallah. Chem Soc J p3420-4 D '49

PERCARBONATES. See Peroxycarbonates

PERCEPTION
Experiments in perception. W. H. Ittelson and F. P. Kilpatrick. il Sci Am 185:50-5 Ag '51

PERCHLORATES
Benzopyrylium salts; preparation and properties of substituted 2,3-diphenylbenzopyrylium perchlorates. R. R. Otter and R. L. Shriner. bibliog Am Chem Soc J 73:887-91 Mr '51

PERCHLORATES—*Continued*

Vibrational spectra of ionic forms of oxides and oxy-acids of nitrogen; Raman spectral evidence of ionisation in crystalline nitronium salts; the constitution of solid dinitrogen pentoxide; note on the spectrum of the perchlorate ion. D. J. Millen. Chem Soc J p2606-12 O '50

PERCHLORIC acid

Acylation reactions catalysed by strong acids; evidence for the existence of acetylium (the acetyl cation), $(CH_3 \cdot CO)^+$, in solutions of concentrated aqueous perchloric acid in acetic anhydride. H. Burton and P. F. G. Praill. Chem Soc J p 1203-6 Ap '50

Apparent and partial molal volumes of sodium perchlorate and perchloric acid in mixed solutions. H. E. Wirth and F. N. Collier, jr. bibliog Am Chem Soc J 72:5292-6 N '50

Colorimetric determination of molybdenum by means of nitric and perchloric acids. H. J. Evans, E. R. Purvis and F. E. Bear. bibliog Anal Chem 22:1568-9 D '50

Cryoscopic measurements in sulphuric acid; the solutes nitronium perchlorate and ammonium perchlorate; the basicity of the perchlorate ion and the acidity of perchloric acid; notes on the strengths of some oxy-acids. R. J. Gillespie. Chem Soc J p2537-42 S '50

Electron transfer between ferrous and ferric ions in perchloric acid solutions. R. H. Betts, H. S. A. Gilmour and R. K. Leigh. bibliog Am Chem Soc J 72:4978-80 N '50

Hammett acidity function in six formal perchloric acid-sodium perchlorate mixtures. G. Harbottle. Am Chem Soc J 73:4024-5 Ag '51

Hydrolysis and polymerization of zirconium in perchloric acid solution. R. E. Connick and W. H. Reas. Am Chem Soc J 73:1171-6 Mr '51

Iridium in perchloric, phosphoric, and nitric acid mixtures; a spectrophotometric study. G. H. Ayres and Q. Quick. bibliog Anal Chem 22:1403-8 N '50

Lower oxidation states of ruthenium in acid perchlorate solutions. P. Wehner and J. C. Hindman. bibliog diags Am Chem Soc J 72:3911-18 S '50

Oxidation potentials of the Pu(III)-Pu(IV) and Fe(II)-Fe(III) couples in perchloric acid solution; heat content and entropy changes. R. E. Connick and W. H. McVey. Am Chem Soc J 73:1798-804 Ap '51

Perchloric acid salt of vitamin B_{12}. J. F. Alicino. Am Chem Soc J 73:4051 Ag '51

Polarography of ruthenium(IV) in perchloric acid solutions. L. W. Niedrach and A. D. Tevebaugh. bibliog Am Chem Soc J 73:2835-7 Je '51

Proton magnetic resonance absorption in hydrogen perchlorate monohydrate and the structure of oxonium ion. Y. Kakiuchi and others. bibliog J Chem Phys 19:1069 Ag '51

Spectrophotometry of neptunium in perchloric acid solutions. R. Sjoblom and J. C. Hindman. bibliog Am Chem Soc J 73:1744-51 Ap '51

Suppression of line intensities by perchloric acid. E. E. Pickett and G. Todd. Opt Soc Am J 41:361 My '51

Vibrational spectra of ionic forms of oxides and oxy-acids of nitrogen; Raman-spectral evidence of the ionisation of nitric acid by perchloric, sulphuric, and selenic acids; spectroscopic identification of the nitronium ion, NO_2^+. C. K. Ingold, D. J. Millen and H. G. Poole. Chem Soc J p2576-89 O '50

PERCHROMATES

Formation and constitution of the perchromates. A. Glasner. Chem Soc J p2795-8 O '50

PERCHROMIC acid

Separation of chromium from vanadium by extraction of perchromic acid with ethyl acetate. R. K. Brookshier and H. Freund. bibliog Anal Chem 23:1110-13 Ag '51

PERFLUORO compounds

Fluorine and fluorine substituted hydrocarbons. Chem Age (Lond) 65:323-6 S 8 '51

Fluoro flurry. Chem Ind W 68:12 Mr 3 '51

PERFLUOROBUTYNE

Addition of acetic acid to perfluoro-2-butyne. A. L. Henne, J. V. Schmitz and W. G. Finnegan. Am Chem Soc J 72:4195-7 S '50

PERFLUOROCARBOXYLIC acids

Some properties of perfluorocarboxylic acids. E. A. Kauck and A. R. Diesslin. bibliog il Ind & Eng Chem 43:2332-4 O '51

PERFLUOROCYCLOPENTANE

Liquid-vapor equilibrium of the system tungsten hexafluoride-perfluorocyclopentane. G. H. Rohrback and G. H. Cady. Am Chem Soc J 73:4250-1 S '51

PERFLUORODIMETHYLCYCLOHEXANE

Eight liquid phases in stable equilibrium. S. L. Kittsley and H. A. Goeden. il Am Chem Soc J 72:4841-2 O '50

PERFLUOROPENTANES

Liquid-vapor equilibrium of the system tungsten hexafluoride-perfluoro-*n*-pentane. E. J. Barber and G. H. Cady. bibliog diag Am Chem Soc J 73:4247-50 S '51

Physical properties of perfluoropentanes. L. L. Burger and G. H. Cady. bibliog Am Chem Soc J 73:4243-6 S '51

Pyrolysis of perfluoro-*n*-pentane. G. C. Rogers and G. H. Cady. Am Chem Soc J 73:3523-4 Jl '51

PERFLUOROPROPANE

Raman and infrared spectra of perfluoropropane. W. F. Edgell, H. D. Mallory and D. G. Weiblen. Am Chem Soc J 72:4856-9 N '50

PERFUMERY

Less glamour, or more? diversity of this year's cosmetic gift packaging. il Mod Packaging 24:78-82+ N '50

Minuscule samples; Harper's Bazaar's perfume packet mailed to readers; flame-sealed Plastene ampoules. il Mod Packaging 24:80-2 Ja '51

Studies of compounds related to natural perfumes; concerning *cis-* and *trans*-hex-3-en-1-ol. F. Sondheimer. Chem Soc J p877-82 Mr '50

Studies of compounds related to natural perfumes; the application of the Diels-Alder reaction to the synthesis of β-*cyclo*-citral analogues. J. C. Lunt and F. Sondheimer. Chem Soc J p2957-61 N '50

Studies of compounds related to natural perfumes; the Diels-Alder reaction with acetylenic aldehydes; the synthesis of 4-methylsafranal. J. C. Lunt and F. Sondheimer. Chem Soc J p3361-7 D '50

PERICLASE

Mineral and chemical changes in periclase brick under conditions of steel plant operation. R. G. Wells and L. H. Van Vlack. bibliog il diags Am Cer Soc J 34:64-70 F 1 '51

PERIODATES

Action of phenylhydrazine on the periodate degradation products of phenyl β-D-glycopyranosyl sulfones. W. A. Bonner and R. W. Drisko. Am Chem Soc J 73:3701-3 Ag '51

Periodate oxidation of D-glucosazone. C. F. Huebner and K. P. Link. Am Chem Soc J 72:4812-13 O '50

Periodate oxidations of phenyl β-D-thioglycopyranosides, phenyl β-D-glucopyranosyl sulfones and related compounds. W. A. Bonner and R. W. Drisko. Am Chem Soc J 73:3699-701 Ag '51

Periodate oxidation of the formyl esters of starch. O. A. Moe, S. E. Miller and M. I. Buckley. Am Chem Soc J 73:4185-6 S '51

Studies on the Schardinger dextrins; periodate oxidation. D. French and R. L. McIntire. bibliog Am Chem Soc J 72:5148-50 N '50

PERIODIC acid

Ionization and hydration equilibria of periodic acid. C. E. Crouthamel, A. M. Hayes and D. S. Martin. bibliog Am Chem Soc J 73:82-7 Ja '51

Periodic acid and periodates; the system silver oxide-periodic acid-water at 35°C. P. P. Gyani. bibliog diags J Phys & Colloid Chem 55:1111-19 O '51

PERIODIC system

Lanthanide contraction as a teaching aid. R. N. Keller. bibliog J Chem Educ 28:312-17 Je '51

Lecture room periodic table. F. B. Dutton. il diag J Chem Educ 28:110-11 F '51

Position of the cis- and trans-uranic elements in the periodic system; uranides or actinides? M. Haissinsky. Chem Soc J supp no 2:S241-3 '49

PERIODIC system—*Continued*

Valency and the periodic table. G. Glockler and A. I. Popov. bibliog J Chem Educ 28:212-13 Ap '51

PERIODICALS

Magazines; on the way up in ad linage, circulation and costs. il Ptr Ink 233:36 D 29 '50

Sunset proves a regional magazine can succeed. il Bsns W p62-4+ O 13 '51

Year in review. J. Hanan. Adv Agency 43:86 D '50

See also

Advertising mediums—Periodicals
Agriculture—Periodicals
Chemistry—Periodicals
Electronics—Periodicals
Employees' magazines
House organs
Metallurgy—Periodicals
Newspapers
Psychology—Periodicals
Trade journals

Advertising

American weekly talks in heartbeats of people. T. S. Irvin. Ed & Pub 84:42 Mr 31 '51

How magazines use ads in newspapers. Ed & Pub 84:18 My 5 '51

Advertising service

Post features family shopping promotion. Sales Management 67:134 O 1 '51

Bibliography

List of serials currently received in the library of the United States Department of agriculture, Nov. 1, 1949. K. Jacobs, comp. 349p U.S. Dept. of agriculture, Washington 25, D.C. '50

Union lists

Handlist of psychology periodicals in the learned libraries of Great Britain. J. W. Scott and F. V. Smith, comps. J Doc 6:152-66 S '50

Union list of periodicals and other serial publications in the medical and biological sciences libraries of the Greater Los Angeles area. $5 Mrs Gertrude M. Clark, Assistant librarian, Los Angeles city health dept, 116 Temple st, room 512, Los Angeles 12 '51

Circulation

See also

Audit bureau of circulations

Controlled circulation

Controlled-circulation business papers ready promotion campaign, step up NBP, CCA activities. D. Bruner. Ptr Ink 233:106 N 24 '50

Upholds verified circulation; abstract. G. W. N. Riddle. Ind Marketing 36:118+ Jl '51

Directories

Saga of a directory; Ulrich's periodicals directory. E. C. Graves. Special Lib 42:48-50 F '51

Ulrich's periodicals directory; a classified guide to a selected list of current periodicals, foreign and domestic. E. C. Graves and C. F. Ulrich, eds. 6th ed 534p R. R. Bowker co, 62 W. 45th st, New York 19 '51 ($17.50)

Writers' and artists' year book, 1951; a directory for writers, artists, playwrights, film writers, photographers and composers. 44th ed 386p A. & C. Black, 4-6 Soho square, London, W.1 '51 ($2.50)

Writer's market. R. A. Jones and A. M. Mathieu, eds. 13th ed 515p $3.50 Writer's digest, 22 E. 12th st, Cincinnati 10 '50

Finance

Magazine revenue up five per cent in 1950. Ptr Ink 234:74-5 Ja 26 '51

Illustrations

See Illustrations of books and periodicals

Indexes

Aeronautical engineering index, 1950. 174p Institute of the aeronautical sciences, 2 E. 64th st, New York 21 '51

Annual magazine subject-index, 1948; including as part II, the Dramatic index, 1948. A. C. Sutherland and R. H. Coombs, eds. 480p, 366p, 93p F. W. Faxon co, 83 Francis st, Boston '50 ($17.50)

Electronics cumulative index, covering volumes I-XII, April 1930 through December 1939. Electronics 24:C 1-35 Mid-Je '51 (reprints $1)

Index to legal periodicals, August 1950 to July 1951. J. M. Maguire and I. V. Azian, eds. v44 307p H. W. Wilson co, New York 52 '51

Journal of the Society of motion picture and television engineers; index, 1946-1950. Soc Motion Picture & Tv Eng J 56:1-79 pt 2 My '51

Selected reading list; a means of improving the use of periodical literature. S. Herner. Special Lib 41:324-6+ N '50

Subject index to periodicals, 1949. T. R. Powel, ed. 591p £5 5s Library assn, Chaucer house, Malet place, London, W.C. 1 '51

Symposium on indexing. Special Lib 42:62-6 F '51

See also

Chemical abstracts (periodical)

Law

Court ruling may curb subscription selling. Ed & Pub 84:16 Je 9 '51

Reader interest

Why magazines are still read in tv homes. E. R. Smith and H. E. Johnson. Adv Agency 44:74-5+ Je '51

Records

Focal point; a composite record for the control of periodicals using a visible signalling device. R. M. Jacobs. il J Doc 6:213-28 D '50

Small size

Smaller and smaller; shorter and shorter; Quick and People today. il Bsns W p54+ O 21 '50

Tables of contents

Table of contents reprint service. Special Lib 42:28 Ja '51

Why is a magazine? B. B. Lane. Special Lib 42:186+ My-Je '51

Television competition

What has tv done to other media? Sales Management 67:45-6+ Jl 15 '51

Why magazines are still read in tv homes. E. R. Smith and H. E. Johnson. Adv Agency 44:74-5+ Je '51

Transportation

Trucks take kinks out of the mail for Meredith publishing co.; post office's short haul truck project. il Bsns W p88+ Jl 21 '51

Germany

Deutsche zeitschriften, 1945-1949. 143p, 30p Buchhändler-vereinigung Gmbh, Frankfurt/M '50

Russia

Iron curtain in metallurgical literature. H. Brutcher. Metal Prog 58:331-3+ S '50; Discussion. N. H. Polakowski. 58:866-7 D '50

PERIODICALS, Negro. See Negro periodicals

PERIODICALS, Small size. See Periodicals—Small size

PERISCOPE

Cockpit view vs. screen image. Aviation W 54:32 My 14 '51

Periscope sextant eliminates dome. il diag Product Eng 22:114-15 Ja '51

PERKIN, William Henry, 1860-1929

European chemical developments in the nineteenth century. H. S. van Klooster. J Chem Educ 28:362-3 Jl '51

PERKIN medal

Early chemical development outlined by Henry Howard; Perkin medal award. Chem & Eng N 29:1824+ My 7 '51

PERKIN reaction

Addition of acetic anhydride to benzalaniline; the Perkin reaction in the nitrogen system. H. S. Angel and A. R. Day. bibliog Am Chem Soc J 72:3874-7 S '50

PERKIN reaction—*Continued*

Calcium hydride as a basic catalyst in the Perkin reaction. S. Zuffanti and J. J. Sardella. Am Chem Soc J 72:4322-3 S '50

PERLITE

Expanding perlite in rotary kiln at New Orleans plant. il diags Rock Prod 54:74-6 Jl '51

Kansas City perlite expanding plant; Panacalite perlite, inc. T. Brown. il Rock Prod 54:116-17 Je '51

Light perlite curtain wall saves cost. il Eng N 146:23 Mr 22 '51

Perlite institute advocates aggregate standards. Concrete 58:7 D '50

Perlite mix properties available in table form. Eng N 147:42 S 13 '51

Perlite; new contender for the lightweight aggregate title. F. Kutnewsky. il Comp Air Mag 56:172-6 Jl '51

Perlite, 1950. S. W. Johnson. Eng & Min J 152:101-2 F '51

Recommended mixes for perlite concrete. Concrete 59:46 S '51

Small plant makes perlite block. il Rock Prod 53:118 N '50

Advertising

New competitor of old material has to tell why it's better. N. Keine. il Ptr Ink 235: 46-7 Je 15 '51

PERLITE institute

Meeting, St Louis, Sept. 14-15. Rock Prod 53:72-4+ N '50

PERLMAN, Selig, 1888-

Perlman's theory of the labor movement. Mo Labor R 72:121-6 F '51

PERM Base library, Guam. See United States—Army—Libraries

PERMACOL. See Octadecylamine

PERMANENT molds. See Molds (for casting) —Permanent molds

PERMANENT wave kits

Advertising

First national campaign for new Toni product; home permanent wave kit. il Ptr Ink 236:43 S 21 '51

Rating

Home permanent waves; CR's report on ten well-known brands. Consumers Res Bul 27: 12-14 Ja '51

PERMANGANATES

Chemical oxidation of organic acids; some observations on the oxidation of propionate by alkaline permanganate. H. R. Mahler and A. Roberts. bibliog Am Chem Soc J 72: 5095-8 N '50

Exchange reaction between manganate and permanganate ions. N. A. Bonner and H. A. Potratz. Am Chem Soc J 73:1845-7 Ap '41

Heat of oxidation of manganous ion to permanganate and the manganese potentials. Z. Z. Hugus, jr. and W. M. Latimer. bibliog Electrochem Soc J 98:296-8 Jl '51

Induced oxidation of alcohols during the reduction of acid permanganate. J. H. Merz, G. Stafford and W. A. Waters. Chem Soc J p638-45 Mr '51

Kinetics of the manganous-permanganate reaction. A. W. Adamson. bibliog J Phys & Colloid Chem 55:293-303 F '51

PERMEABILITY

Apparatus for determining gas permeability of carbon and graphite. S. D. Fulkerson and F. J. Lambert. diags Anal Chem 22: 1310-12 O '50

Apparatus for measuring the permeability to water vapour of bituminous emulsion films. A. Evans and C. Q. Keiller. diag Soc Chem Ind J 69(sup no 1):S1-3 '50

Comparative study of water vapor permeability of saran films. T. W. Sarge. bibliog Anal Chem 22:1541-5 D '50

Measurement of specific surface areas of nonporous powders by a pressure-decline liquid-permeability method. C. G. Dodd, J. W. Davis and F. D. Pidgeon. bibliog diags J Phys & Colloid Chem 55:684-98 My '51

Moisture permeability, diffusion and sorption in organic film-forming materials. A. M. Thomas. bibliog J Ap Chem 1:141-58 Ap '51

Permeability constancy range of a porous medium. R. F. Nielsen. bibliog World Oil 132:188+ My '51

Permeability of glass wool and other highly porous media. A. S. Iberall. bibliog J Res Nat Bur Stand 45:398-406 N '50

Permeability of zirconium to hydrogen. R. B. Bernstein and D. Cubicciotti. bibliog diag J Phys & Colloid Chem 55:238-48 F '51

Permeation of vapors through polyethylene. J. A. Cutler and others. bibliog Tappi 34: 404-7 S '51

Rapid water-vapour-permeability comparator. C. R. Oswin. bibliog Chem & Ind p444 Je 9 '51

Water-vaper permeability of building papers and other sheet materials. E. R. Bell and others. bibliog il diag Heating-Piping 22: 109-15 D '50

See also

Packaging materials —Permeability

PERMEAMETERS

Magnetic permeameter. il Instruments 24: 696+ Je '51

PERMUTIT company

Security I like best. R. H. Johnson. Comm & Fin Chr 174:238+ Jl 19 '51

PERON, Eva Duarte de, 1919-

Mrs Peron, grocer. Bsns W p 142-3 Je 2 '51

PEROXIDASES

Adaptive increase of the tryptophan peroxidase-oxidase system of liver. W. E. Knox and A. H. Mehler. bibliog Science 113: 237-8 Mr 2 '51

Studies in peroxidase action; the oxidation of *p*-anisidine; a further example of ready demethoxylation; some theoretical considerations. D. G. H. Daniels and B. C. Saunders. Chem Soc J p2112-18 Ag '51

Studies in peroxidase action; the oxidation of dimethylaniline. F. T. Naylor and B. C. Saunders. Chem Soc J p3519-23 D '50

PEROXIDES

Base catalyzed decomposition of a dialkyl peroxide. N. Kornblum and H. E. DeLaMare. Am Chem Soc J 73:880-1 F '51

Infrared absorption spectra of some hydroperoxides, peroxides, and related compounds. O. D. Shreve and others. bibliog Anal Chem 23:282-5 F '51

Interaction of diacyl peroxides with diazomethane. J. E. Leffler. Am Chem Soc J 72: 4817-18 O '50

Oxidation of iodide to iodine by dilute solutions of organic peroxides. R. D. Cadle and H. Huff. bibliog diag J Phys & Colloid Chem 54:1191-5 N '50

Peroxide bleaching. L. A. Pierce. diag Paper Tr J 131:203-4+ N 30 '50

Peroxides from turpentine as catalysts for 5° C. GR-S polymerization. G. S. Fisher and others. bibliog Ind & Eng Chem 43:671-4 Mr '51

Peroxides of tetrahydrocarbazole and related compounds. R. J. S. Beer, L. McGrath and A. Robertson. Chem Soc J p3283-6 N '50

Peroxides of tetrahydrocarbazole and related compounds; tetrahydrocarbazolyl hydroperoxide. R. J. S. Beer, L. McGrath and A. Robertson. Chem Soc J p2118-26 Ag '50

Preparation and properties of some allylic peroxides. T. W. Campbell and G. M. Coppinger. bibliog Am Chem Soc J 73:1788-9 Ap '51

Reaction between ferrous iron and peroxides; reaction with potassium persulfate. I. M. Kolthoff, A. I. Medalia and H. P. Raaen. bibliog diags Am Chem Soc J 73:1733-9 Ap '51

Reactions of organic peroxides; oxidation of methyl*cyclo*pentane and methyl*cyclo*hexane. E. J. Gasson and others. Chem Soc J p2798-801 O '50

Reactions of organic peroxides; reaction of ferrous sulphate with methyl*cyclo*pentyl and methyl*cyclo*hexyl hydroperoxides. E. G. E. Hawkins and D. P. Young. Chem Soc J p2804-8 O '50

Reactions of organic peroxides; reactions of αα-dimethylbenzyl hydroperoxide (*iso*propylbenzene hydroperoxide). E. G. E. Hawkins. Chem Soc J p2169-73 Ag '50

Reactions of organic peroxides; reactions of methyl*cyclo*pentyl and methyl*cyclo*hexyl hydroperoxides. E. G. E. Hawkins. Chem Soc J p2801-4 O '50

PEROXIDES—*Continued*

Relation of peroxide decomposition to rubber degradation. C. E. Kendall. bibliog Ind & Eng Chem 43:452-5 F '51

Role of peroxides in the corrosion of lead by lubricating oils. B. S. Wilson and F. H. Garner. bibliog pl Inst Pet J 37:225-38 My '51

Analysis

Determination of organic peroxides by reaction with ferrous iron. I. M. Kolthoff and A. I. Medalia. bibliog Anal Chem 23:595-603 Ap '51

PEROXYCARBONATES

Inorganic per-acids; the alkali percarbonates. J. R. Partington and A. H. Fathallah. Chem Soc J p 1934-43 Jl '50

PEROXYDISULFATES. See Persulfates

PEROXYVANADIC acid

Ultraviolet spectrophotometric determination of vanadium. G. Telep and D. F. Boltz. bibliog Anal Chem 23:901-3 Je '51

PERRHENIC acid

Oxidation levels of rhenium; polarographic and coulometric reduction of perrhenate. C. L. Rulfs and P. J. Elving. bibliog Am Chem Soc J 73:3284-6 Jl '51

Salts of perrhenic acid; the group II cations, copper(II) and lead(II). W. T. Smith, jr. and G. E. Maxwell. bibliog Am Chem Soc J 73:658-60 F '51

Salts of perrhenic acid; univalent heavy metals. W. T. Smith, jr. bibliog Am Chem Soc J 73:77-9 Ja '51

PERSIA. See Iran

PERSONAL effects insurance. See Insurance Personal effects

PERSONAL injuries

Dodgers lose in New York liability contest; Philpot et al. v. Brooklyn National league baseball club, inc. Weekly Underw 165:855 O 6 '51

Neurologist's information held privileged under attorney-client relationship in California personal injury action. Weekly Underw 165:440 Ag 25 '51

See also

Manufacturers' liability

PERSONAL property tax. See Taxation of personal property

PERSONALITY

Study of personality traits may be the key to choosing the valuable accounting junior. R. N. McMurry. J Account 91:604-9 Ap '51

PERSONALITY tests

Atlas for the clinical use of the MMPI. S. R. Hathaway and P. E. Meehl. 799p bibliog(p xxxvii-xliv) $9.75 Univ. of Minnesota press, Minneapolis. '51

Industrial use of personality tests. W. E. Henry and H. B. Moore. il Advanced Management 15:16-20 N '50

Temperament tests. L. L. Thurstone. Safety Maint & Prod 101:60+ F '51

PERSONNEL administration, Society for. See Society for personnel administration

PERSONNEL associations. See Employment management associations

PERSONNEL departments. See Employment departments

PERSONNEL management. See Employment management

PERSPECTIVE

Perspective distortion in tv pictures. E. C. Lloyd. il diag Tv Eng 2:12-15 Ja; 18-22 F '51

Perspective drawing made easy; Perspecta-Guide. diag Am Bld 72:146 N '50

PERSPIRATION

Ersatz sweat fights metal corrosion. il Bsns W p 50-2 Je 16 '51

Evaluation of four laboratory and two wear test methods for measuring perspiration colorfastness in rayon fabrics. P. B. Mack and others. il Textile Res J 20:862-9 D '50

PERSPIRATION glands. See Sweat glands

PERSULFATES

Chemistry of persulfate; the kinetics and mechanism of the decomposition of the persulfate ion in aqueous medium. I. M. Kolthoff and I. K. Miller. bibliog Am Chem Soc J 73:3055-9 Jl '51

Elbs persulfate oxidation. S. M. Sethna. bibliog(47 ref) Chem R 49:91-101 Ag '51

New observations on the Elbs persulphate oxidation. J. Forrest and V. Petrow. Chem Soc J p2340-2 S '50

Oxidation of oxalate ion by peroxydisulfate. T. L. Allen. bibliog Am Chem Soc J 73:3589-93 Ag '51

PERTUSSIS. See Whooping cough

PERU

Contract in Peru. Mrs H. T. Heard. il Min Eng 3:576-7 Jl '51

See also

Engineering—Peru
Geology—Peru
Paper mills—Peru
Petroleum laws and regulations—Peru
Roads—Peru

Antiquities

Lost cities of Peru. R. P. Schaedel. il plan Sci Am 185:18-23 Ag '51

Commercial policy

General agreement on tariffs and trade; Peru signs Torquay protocol. For Comm W 44:28 S 24 '51

Regulations governing liquidation of the government's portion of recognized commercial arrearages. For Comm W 43:15 My 7 '51

Economic conditions

News by countries. For Comm W 41:15-16 N 6; 14-15 D 11 '50; 42:17 Ja 15; 16 F 12; 18-19 Mr 19; 43:20 Ap 16; 17-18 My 14; 44:16 Jl 16; 14 S 17; 45:13-14 O 15 '51

Peru today. G. T. Marquez. il For Comm W 44:3+ Ag 13 '51

PEST control association, National. See National pest control association

PESTICIDES

Big potential market for pesticide makers. M. W. Schwarz. Barron's 31:22 Jl 9 '51

Pesticide field surveyed by A.C.S. Agriculture and food division. Chem & Eng N 29:3810-11 S 17 '51

Sober viewpoint. J. A. Woods. Chem W 69:15 S 15 '51

Physiological effect

Organic pesticides; new health hazards. J. C. Ward. A M A Archives Ind Hygiene & Occup Med 4:152-5 Ag '51

PET shops

Pets; they're big business. il Sales Management 67:129 S 1 '51

PETERBOROUGH, Ontario

Water supply

River undercrossing. R. L. Dobbin. il Am Water Works Assn J 42:1083-6 N '50

PETERSEN earth coil

Application of resonant grounding in power systems in the United States. E. T. B. Gross and E. W. Atherton. Elec Eng 70:808 S '51

Power network capacitance current; calculator used in the Isle of Wight. J. A. Fox. map diag Elec R (Lond) 147:893-5 D 1 '50

Tuning arc suppression coils. A. Salzmann. diags Elec R (Lond) 148:779-83 Ap 20 '51

PETERSON, Jahn Jean, 1915-

Recipient of president's award. A. H. Bell. por Am Assn Pet Geologists Bul 35:1700-2 Jl '51

PETHIDINE

Synthetic analgesics; compounds related to pethidine. A. L. Morrison and H. Rinderknecht. Chem Soc J p 1467-9 Je '50

Synthetic analgesics; metadine and related 3-phenylpiperidine derivatives. A. W. D. Avison and A. L. Morrison. Chem Soc J p 1471-4 Je '50

PETRIFIED wood. See Trees, Fossil

PETRILLO, James Caesar, 1892-

Petrillo revisited. por Fortune 44:48a-48b Ag '51

PETROCHEMICALS. See Petroleum chemicals

PETROFINA (Compagnie financiere Belge des petroles)

Western oil eyed; Petrofina looks to Latin American and other western hemisphere operations. Oil & Gas J 50:70 My 31 '51

PETROLEUM

Clay mineralogy and the petroleum industry. R. E. Grim. bibliog il World Oil 132: 61-2+ Mr '51

Highlights on 1950 developments in foreign petroleum fields. R. C. Kerr. Am Assn Pet Geologists Bul 35:1529-31 Jl '51

Hydrogenation of petroleum nitrogen bases. R. J. Miller. bibliog Ind & Eng Chem 43: 1410-14 Je '51

Research progress emphasized at 3d World petroleum congress, The Hague, May 28-June 7. Chem & Eng N 29:2742+ Jl 2 '51

Symposium on standardization. Inst Pet J 37:349-64; Discussion. 364-72 Jl '51

Synthetic liquid fuels; annual report of the Secretary of the interior for 1950; oil from secondary recovery and refining. 5pls U S Bur Mines Rep of Invest 4773:1-16 '51

Vanadium in crude oils. W. L. Nelson. bibliog Oil & Gas J 49:88 N 30; 105+ D 7; 330 D 21; 83 D 28 '50; 65 Ja 4 '51

World petroleum congress, 3d, The Hague, May 28-June 7; digests of technical proceedings. Oil & Gas J 50:95-6+ My 31; 90-9 Je 7 '51

See also

Gas, Natural
Gasoline
Hydrocarbons
Kerosene
Liquefied petroleum gas
Liquid fuel
Oil fuel
Oil lands
Oil reserves (United States navy)
Oil sand
Oil shales
Petroleum distillation and other headings beginning Petroleum

Acidation of wells

Acidizing practices in Canyon Reef section, Scurry county. G. D. Simon. World Oil 132:100+ Mr '51

Atoms help cure failing oil wells. Bsns W p69 S 29 '51

Corrosion and scale control. E. N. Jones. il World Oil 133:204+ Ag '51

Developments in the chemical treatment of wells in the Permian basin. R. S. Ousterhout. il World Oil 133:236+ S '51

Radioactive acidizing; new process using isotopes of iodine to control oil-well acid treatments. K. B. Barnes. Oil & Gas J 50: 55-6 S 6 '51

Radioactive isotopes find use in oil well acidizing. diag Chem & Eng N 29:3858+ S 17 '51

Value of agents to control silicate swelling in acidizing. P. H. Cardwell. bibliog il World Oil 133:159-62+ Jl '51; Same abr. Oil & Gas J 50:134-7+ My 24 '51

Analysis

Analytical research; summaries of papers. Am Pet Inst Proc 31 M(3):17-21 '51

Bureau of mines routine method for the analysis of crude petroleum; analytical method. N. A. C. Smith and others. il diags U S Bur Mines Bul 490:1-82 bibliog(p48-55); pa 50c Supt. of doc. '51

Characteristics of crude oils currently produced in the United States. H. M. Smith. bibliog Oil & Gas J 49:308-10+ Mr 29 '51

Crude oil of Sudr, Egypt. I. Youssef. diag Inst Pet J 36:684-92 N '50

Determination of aromatics and olefins in wide boiling petroleum fractions. A. E. Spakowski, A. Evans and R. R. Hibbard. Anal Chem 22:1419-22 N '50

Determination of sulfur in petroleum fractions by X-ray absorption. S. W. Levine and A. H. Okamoto. bibliog il diag Anal Chem 23:699-704 My '51

Distribution and type of sulfur compounds in straight-run naphthas. J. H. Hale and others. bibliog diag Anal Chem 23:287-93 F '51

Evaluation of crude oil. Inst Pet J 36:693-704 N '50

Investigation into the olefinic components of a Pennsylvanian crude oil. F. A. Haak and K. van Nes. bibliog Inst Pet J 37:245-54 My '51

Materials adsorbed at crude petroleum-water interfaces; isolation and analysis of normal paraffins of high molecular weight. M. O. Denekas and others. bibliog il diags Ind & Eng Chem 43:1165-9 My '51

Properties of high boiling petroleum products; physical and chemical characterization studies with relation to polynuclear aromatic components. G. G. Wanless, L. T. Eby and J. Rehner, jr. bibliog Anal Chem 23:563-71 Ap '51

Recovery of inorganic ash from petroleum oils; radiochemical evaluation. L. O. Morgan and S. E. Turner. Anal Chem 23:978-9 Jl '51

Refining properties of new crudes; characteristics of crude oils from the Golden Trend in Oklahoma. N. A. C. Smith and others. bibliog map Pet Processing 6:987-90 S '51

Third annual review of analytical chemistry. H. Levin. Anal Chem 23:231-7 bibliog(173 ref, p235-7) F '51

Vanadium in crude oils; ash analysis. W. L. Nelson. bibliog Oil & Gas J 49:105+ D 7 '50

Bibliography

Abstracts. Published in monthly numbers of Journal of the Institute of petroleum

Books, government publications. Pet Processing 6:73-4 Ja '51

Classified list of important papers for 1949-1950. Pet Eng 22:E15+ S; E13+ O; E15+ N; E15+ D '50; 23:E19+ Ja; E17+ F; E15+ Mr; E17+ Ap; E15+ My; E17+ Je; E11+ Jl; E11+ Ag '51

Classified list of important papers for 1950-1951. Pet Eng 23:E15+ S; E15+ O '51

Chemical treatment of wells

Corrosion and scale control. E. N. Jones. il World Oil 133:204+ Ag '51

Chemistry

Alkylnaphthalenes; 1 : 3-dimethylnaphthalene. R. F. Evans and J. C. Smith. bibliog Inst Pet J 37:80-90 F '51

A.C.S. Division of petroleum chemistry jubilee meeting, New York. Chem & Eng N 29:3836-7 S 17 '51

American chemical society symposium on composition of petroleum and its hydrocarbon derivatives, Cleveland, April 8-12; abstracts of papers. Oil & Gas J 49:91-2+ Ap 12 '51

Chemical progress during the 75 years of the American chemical society; petroleum chemistry. G. Egloff and M. L. Alexander. bibliog il Ind & Eng Chem 43:809-19 Ap '51

Formation of cycloparaffins in petroleums. B. T. Brooks. bibliog Science 114:240-1 Ag 31 '51

Industrial applications of absorption spectroscopy. bibliog Inst Pet J 37:109-25; Discussion. 3pls diags 135-46 Mr '51

Reaction mechanisms of aliphatic hydrocarbons postulated; petroleum composition studies, etc. il Chem & Eng N 29:1629-31 Ap 23 '51

Thermochemistry for the petrochemical industry (cont). K. A. Kobe and others. bibliog Pet Refiner 29:93-6 D '50; 30:123-4 Ap; 143-4 Je; 119-22 Ag '51

Urea extractive crystallization of straight-chain hydrocarbons. W. A. Bailey, jr. and others. bibliog flow diag Ind & Eng Chem 43:2125-9 S '51

Bibliography

Chemistry; nonbenzenoid hydrocarbons. W. L. Nelson. Oil & Gas J 50:106 Ag 9 '51

Concessions

Concession agreement; Colombia's De Mares concession. D. M. Duff. Oil & Gas J 49: 35-6 Ja 4 '51

Santander, Colombia, the De Mares concession. D. Donoghue. bibliog il map Pet Eng 23:A39-45+ Mr '51

Conservation

Conservation and property rights. G. W. Hazlett. bibliog Am Pet Inst Proc 30(4):13-19; Discussion. 19-23 '50

Fifty years of oil and gas conservation. il Oil & Gas J 50:supp 292+ My 31 '51

Improved proration would expand reserves. P. Jones. World Oil 133:68 Jl '51

Oil conservation in California. Oil & Gas J 49:A65-6 N 9 '50

Texas continues conservation progress. J. K. Baumel and J. A. Hall. Oil & Gas J 50:116-19+ Ag 16 '51

PETROLEUM—Conservation—*Continued*

27-billion bbl. to go; current recoverable oil reserves. il diag Bsns W p56+ F 17 '51

Drilling muds

See Petroleum—Mud fluids

Electrolytic well models

Electrolytic model studies as applied to water-flooding a shoestring sand. W. E. Eckard and J. A. Mason. 17pls U S Bur Mines Rep of Invest 4778:1-18 '51

Emulsions

Continuous electronic recording of the water content of oil field emulsions. P. O. Engelder. il diag Instruments 24:335-7 Mr '51; Same. Pet Eng 23:B28+ Ap '51

Materials adsorbed at crude petroleum-water interfaces; isolation and analysis of normal paraffins of high molecular weight. M. O. Denekas and others. bibliog il diags Ind & Eng Chem 43:1165-9 My '51

Signal treats hydraulic oil. J. C. Albright. il diag Pet Eng 23:C107-8+ Jl '51

Testing crude-oil emulsions for selection of an adequate demulsifying agent. C. M. Davis and R. G. Crippen. Oil & Gas J 50:64 Jl 5 '51

Bibliography

References to crude-oil emulsions. W. L. Nelson. Oil & Gas J 50:349 Jl 26 '51

Evaporation losses

Evaporation losses held near zero; Moorhead, Minn., products pipe-line terminal. R. N. Creek. il diag Oil & Gas J 50:129-30+ My 10 '51

Standing evaporation losses for different liquids. W. L. Nelson. Oil & Gas J 49:202 F 22 '51

See also

Petroleum storage—
Vapor recovery

Gas mixtures

Conservation of lease-tank vapors. D. H. Stormont. il Oil & Gas J 50:93-4+ My 17; 98-9+ My 24; 85-7 My 31 '51

Gas and water coning. J. C. Calhoun, jr. diags Oil & Gas J 49:87 D 28 '50

Surface and reservoir gas-oil ratios. J. C. Calhoun, jr. Oil & Gas J 50:113 Je 14 '51

Geology

A.A.P.G. Rocky Mountain section 1st annual meeting, Denver, March 1-2; abstracts of papers. Oil & Gas J 49:114-16+ Mr 22 '51

A.A.P.G., S.E.G., S.E.P.M. joint annual meeting, St Louis, April 23-26; abstracts of papers. Oil & Gas J 49:124+ Ap 26 '51

Avenues for progress in geology and geophysics. P. Weaver. World Oil 132:102+ Ap '51

Cumarebo oil field, Falcón, Venezuela. A. L. Payne. maps diags Am Assn Pet Geologists Bul 35:1850-78 Ag '51

Discovery heightens interest in North Dakota geology. W. M. Laird. map diag World Oil 132:73-5+ Je; 133:83-4+ Jl '51

Drainage across a reservoir. J. C. Calhoun, jr. diags Oil & Gas J 49:179 N 9 '50

Exploration and drilling activity at all-time high in San Juan basin. P. C. Ingalls. maps diag Oil & Gas J 50:62-4+ Ag 2 '51

Geology and the petroleum engineer with special reference to western Canada. H. H. Beach. diags World Oil 131:250-2+ D '50

Geology of Delaware basin. B. R. Haigh. maps diags Oil & Gas J 49:149-51+ F 22 '51

Geology of Eola area, Garvin county, Okla. R. M. Swesnik and T. H. Green. bibliog maps diags Am Assn Pet Geologists Bul 34:2176-99 N '50

Geology of Turner Valley oil and gas field, Alberta, Canada. W. B. Gallup. bibliog maps diags Am Assn Pet Geologists Bul 35:797-821 Ap '51

Lithologic criteria of Arbuckle in western Kansas. J. R. Clair and F. C. Edson. diag World Oil 131:83-4+ D '50

New method logs dip and strike of subsurface formations. il diag World Oil 132:57-8+ F '51

Northeastern Pennsylvania and central New York petroleum probabilities. B. Willard and R. E. Stevenson. bibliog map diag Am Assn Pet Geologists Bul 34:2269-83 D '50

Oil and gas traps. K. K. Landes. bibliog Oil & Gas J 49:83+ F 8 '51

Oil possibilities of Niagaran reefs in Illinois. A. H. Bell. maps World Oil 132:74+ Ja '51

Pennsylvanian reef and non-reef development in west Texas. J. H. Bartley. map World Oil 133:142+ S '51

Petroleum geology, 1951. C. L. Moody. Am Assn Pet Geologists Bul 35:1499-504 Jl '51

Petroleum geology pioneered in Tennessee; Gerard Troost, first geologist. il World Oil 132:66+ F '51

Photogeologic study in Kent county, Tex. C. De Blieux; G. F. Shepherd. il maps Oil & Gas J 50:86+ Jl 12 '51

Possible future petroleum provinces of North America. M. W. Ball; A. I. Levorsen and others. bibliog maps diags Am Assn Pet Geologists Bul 35:141-498 F '51

Regional aspects of Silurian and Devonian subsurface stratigraphy in Kentucky. L. B. Freeman. bibliog maps diags Am Assn Pet Geologists Bul 35:1-61 Ja '51

Regional study reveals Colorado oil prospects. C. F. Barb. World Oil 132:72+ F '51

Reservoir data on the Redwater field. J. E. Baugh. il diags World Oil 131:260-1+ D '50

Sedimentary basins and oil occurrence. L. G. Weeks. diags World Oil 132:71+ Mr '51

Significant developments in the Four Corners area. J. L. Tatum. il maps World Oil 133:73-6 Jl '51

Southwest Texas faults. H. N. Lyle. map diag Oil & Gas J 49:108+ Mr 22 '51

Spraberry drilling activity exceeds all previous plays in west Texas area. J. H. Bartley. map diag Oil & Gas J 50:126-8+ Ag 16 '51

Stettler oil field, Alberta, Canada. R. P. Lockwood and O. A. Erdman. il maps diags Am Assn Pet Geologists Bul 35:865-84 Ap '51

Strat trap search need shown by Wyoming basin. H. C. Rea. maps World Oil 131:75-6+ N '50

Structural interpretation of loci of petroliferous parts of Devonian reefs in Edmonton area, Alberta, Canada. R. L. Rutherford. map Am Assn Pet Geologists Bul 35:844-53 Ap '51

Types of hydrocarbon accumulation and geology of South Liberty salt dome, Liberty county, Tex. M. T. Halbouty and G. C. Hardin, jr. maps diags Am Assn Pet Geologists Bul 35:1939-77 S '51

Types of oil and gas traps in southern Oklahoma. E. L. Selk. maps diags Am Assn Pet Geologists Bul 35:582-606 Mr '51

Well spacing from a geologist's viewpoint. J. G. Bartram. maps Oil & Gas J 50:301+ Jl 26 '51

Western Kansas' Mississippian. P. C. Ingalls. diag Oil & Gas J 50:137 S 27 '51

Williston Basin oil possibilities. G. W. Smith. bibliog map diag World Oil 133:78-80 Jl '51

Wyoming correlations; penetration chart for Big Horn basin. map diag Oil & Gas J 49:358-9 Ja 25 '51

Wyoming correlations; penetration chart for Julesburg, Hanna, and Laramie basin. map diag Oil & Gas J 49:76 N 23 '50

Wyoming correlations; penetration chart for Powder River basin. map diag Oil & Gas J 49:178 N 9 '50

Wyoming correlations; penetration chart for Rawlins Uplift, Great Divide, and Washakie basins. diag Oil & Gas J 49:105 O 26 '50

Wyoming correlations; penetration chart for Wind River basin fields. map diag Oil & Gas J 49:81 N 30 '50

See also

American association of petroleum geologists
Petroleum—Prospecting
Salt domes

Hydrocarbon well logging

See Petroleum—Well logging

PETROLEUM—*Continued*

Measurement

How API code 25 can be improved. G. H. Supple and R. C. Nicholson. Am Pet Inst Proc 30(5):71-3 '50; Same abr. Oil & Gas J 49:346 N 16 '50
Push button tank gauging; Cities service pipe line co. il World Oil 132:214 My '51

Mud fluids

Continuous flow, high temperature viscosimeter for drilling muds. R. W. Hoeppel. bibliog il diag R Sci Instr 22:248-53 Ap '51
Down the hole pressure surges and their effect on loss of circulation. W. C. Goins, jr. and others. diags World Oil 132:107-10+ Je '51; Same. Pet Eng 23:B73-4+ S '51; Excerpts. Oil & Gas J 49:86-7+ Ap 12 '51
Educated mud aids oil well drillers. il Chem & Eng N 29:1026-7 Mr 12 '51
Effect of mud filtrates and mud particles upon the permeabilities of cores. T. J. Nowak and R. F. Krueger. bibliog il World Oil 133:125-6+ Jl; 152+ Ag '51
Effect of mud pump surges. H. C. Wachtman, jr. bibliog diag World Oil 132:94-6+ Ja '51
Effect of oil emulsion mud on drilling. J. P. Weichert and O. W. Van Dyke. il Pet Eng 22:B16+ N '50
Electric log invasion of filtrate into water, oil and gas sandstone beds. P. J. Jones. bibliog World Oil 132:204+ Ap '51
Flatboat bases for mud pumps. il World Oil 131:114 N '50
Here are the details of a mud system of unusual design. il Oil & Gas J 50:77-8 Ag 30 '51
Horizontal centrifuge desands contaminated mud. A. Gibbon. plan World Oil 132:99+ Mr '51
Investigation of torque-converter drives on mud pump. D. F. Toomey and E. G. Chilton. bibliog Pet Eng 23:B45-6+ S '51; Same. World Oil 133:189-90+ S '51; Same abr. Oil & Gas J 50:101+ Jl 19 '51; Discussion. Pet Eng 23:B56+ S '51
Kellogg develops novel mud-mixing idea. il Oil & Gas J 50:317 S 20 '51
Lost-circulation fight. Oil & Gas J 50:206 S 20 '51
Lost-circulation materials and mud additives. R. F. Carlson. diags Oil & Gas J 49:64+ D 28 '50
Mud-bug problem; Shell finds bacteria causing casing corrosion at Ventura. D. H. Stormont. Oil & Gas J 49:131 Ap 19 '51
Mud development. il Oil & Gas J 50:203+ S 20 '51
Oil-emulsion drilling fluids. H. W. Perkins. bibliog Pet Eng 23:B60+ Ap '51; Same abr. Oil & Gas J 49:95-8 Ap 5 '51
Oil emulsion drilling mud. O. W. Van Dyke. il diags World Oil 131:101-4+ N '50
Stability of mud in high-temperature holes shown by surface tests. G. R. Gray and others. il World Oil 133:149-50 Ag '51
Unitized flow line aids rigging-up and handling of drilling fluid. W. B. Colvin. il World Oil 132:119-20 Je '51
Unitized mud pumps increase flexibility. A. W. Shaw. il diags World Oil 133:107-10 Jl '51

Nitrogen content

Abundance of N^{15} in the nitrogen present in crude oil and coal. P. V. Smith, jr. and B. E. Hudson, jr. Science 113:577 My 18 '51

Paraffin problem

Electric heater cuts paraffin. O. C. Dunn, jr. diag World Oil 131:152-4 D '50
Heater for lead line paraffin removal. il World Oil 132:140 Ja '51
Paraffin control system uses parallel strings. K. M. Fagin. il Pet Eng 22:B14 N '50
Producing high-pour-point oil in Brace field, Texas. U. S. Branson, jr. il diag Oil & Gas J 50:208+ Je 21 '51
Solid crude; Uinta tertiary production solidifies at well head. il Oil & Gas J 50:61 Ag 9 '51
Soluble plug systems used to control paraffin deposition. K. M. Fagin. il Pet Eng 23:B54+ Je '51
Studies and experiments with paraffin prevention and removal in wells in southeastern Ohio. J. C. Wright. bibliog plan Pet Eng (Ref annual) 23:B3+ Jl 15 '51

Patents

Effect of patents on petroleum production, operation, and development. P. F. Hawley. diags Pet Eng 23:B13-14+ Ja '51

Prices

Buyers should get discounts and allowances in effect on Dec. 18. O. D. Judd. Nat Pet N 43:27-8 Ja 3 '51
Crude price ceiling; OPS establishes Jan. 25 as control date. Oil & Gas J 50:81 My 10 '51
Crude-price hike? increases to July 26 in production costs must be recognized. R. B. Brown. Oil & Gas J 50:62 Ag 9 '51
ESA clarifies its pricing standards. Nat Pet N 43:28-9 Ja 3 '51
Flexible controls urged. D. M. Duff. Oil & Gas J 49:24 Ja 4 '51
Jobbers say ESA froze unfair prices, should have consulted independents. Nat Pet N 43:29-30 Ja 3 '51
Mandatory ESA order freezes oil, TBA prices; revisions sought to adjust unfair ceilings. Nat Pet N 43:13-14 Ja 31 '51
Middle East importance in world oil prices increases with crude posting. J. P. Mosher, jr. Nat Pet N 42:30-1 D 6 '50
Middle East postings. D. M. Duff. Oil & Gas J 49:67-8 D 7 '50
NOJC asks ESA to ease margin squeeze by lifting lid on tank wagon prices. Nat Pet N 43:27-8 F 7 '51
OPS issues special order for crude prices. Nat Pet N 43:17 My 9 '51
Oil costs more; producers prepare to counter price freeze with data on rising costs. H. D. Ralph. Oil & Gas J 49:32 D 28 '50
Oil price pattern shifting. W. J. Levy. Nat Pet N 43:33-5 Je 6 '51
Petroleum prices under pressure of demand, costs. World Oil 132:60-2 F 15 '51
Price attack; new efforts of ECA against prevailing price structure in Persian Gulf area. D. M. Duff. Oil & Gas J 49:62 Mr 8 '51
Price compliance. D. M. Duff. Oil & Gas J 49:31-2 D 28 '50
Price freeze. B. F. Linz. Oil & Gas J 49:31 D 28 '50
Price raise; Union advances postings for heavy-type crudes. Oil & Gas J 49:63-4 O 26 '50
Sidon crude price. Oil & Gas J 49:68 D 14 '50
U.S. requests refiners to freeze Dec. 8 east-of-Rockies oil prices. Nat Pet N 42:23 D 20 '50

Production costs

Present worth of profits for constant percentage decline. R. W. Woods. Oil & Gas J 49:107 Ap 5; 113 Ap 12 '51

Production estimates

Applications of the productivity index to oilfield problems. J. A. Kornfeld. Oil & Gas J 50:236-7+ Jl 26 '51
Dependence of flooding on relative permeability. J. C. Calhoun, jr. Oil & Gas J 50:137 S 13 '51
Effect of connate water on flood calculations. J. C. Calhoun, jr. Oil & Gas J 50:333-4 S 20 '51
Effect of viscosity on flood advance. J. C. Calhoun, jr. Oil & Gas J 50:115 S 6 '51
Empirical method of measuring oil pool performance. C. Beal. bibliog World Oil 131:168-9+ N '50
Gas-cap expansion and calculation. J. C. Calhoun, jr. Oil & Gas J 49:117 O 26 '50
Graphical method for calculation of recovery from constant percentage decline curves. R. W. Woods. Oil & Gas J 49:103 Mr 15 '51
Reservoir voidage. J. C. Calhoun, jr. Oil & Gas J 50:123 My 31 '51
Summary of gas-drive predictions. J. C. Calhoun, jr. Oil & Gas J 49:97 N 2 '50
Variations of material balance. J. C. Calhoun, jr. Oil & Gas J 49:335 D 21 '50
Water-flood prediction chart. J. C. Calhoun, jr. Oil & Gas J 49:365 Ja 25 '51
Wettability and flood calculations. J. C. Calhoun, jr. Oil & Gas J 50:117 S 27 '51

PETROLEUM—*Continued*

Production methods

Additional oil production through flooding with carbonated water. J. W. Martin. Pet Eng 23:B58+ Ag '51; Same. World Oil 133: 179-80+ Ag '51; Same abr. Oil & Gas J 50: 70-1+ Ag 30 '51

Applications and results of the Hydrafrac process. W. E. Hassebroek. World Oil 132: 133-6+ F '51

Automatic production of a marine oil field. J. R. Copeland. il plan diags Oil & Gas J 50:179-80+ Je 21 '51

Average completion cost is 20 per cent of total well cost. T. A. Huber and others. bibliog diags Oil & Gas J 49:234+ N 16 '50; Same. Pet Eng 23:B36+ Ap '51; Same. Am Pet Inst Proc 30(4):24-34; Discussion. 34-6 '50

Bradford practices in California water-flooding. W. H. Somerton. World Oil 132:135-6 Mr '51

Bureau of mines role in secondary recovery; excerpted from Bur. of mines information circ. 7551 and Bur. of mines rep. of invest. 4654. R. A. Cattell. il diag World Oil 132: 56-8 Ja; 50+ F '51

Calculation of magnitude of water drive between original and saturation pressures. J. A. Kornfeld. Oil & Gas J 50:97 Je 28 '51

Corrosion control in water-flooding. F. Latter. bibliog World Oil 132:141-2+ Ja '51

Criteria for determining rock wettability. J. C. Calhoun, jr. diag Oil & Gas J 50:151 My 10 '51

Deep zone flooding in Arkansas. S. S. Lacy, jr. il map World Oil 133:192-3+ Ag '51

Dual completion practices in Alberta. P. C. Evans. diags Pet Eng 23:B60+ S '51

Effect of formation-volume factor on waterflood recovery. J. C. Calhoun, jr. Oil & Gas J 50:117 Jl 19 '51

Electrolytic model studies as applied to water-flooding a shoestring sand. W. E. Eckard and J. A. Mason. 17pls U S Bur Mines Rep of Invest 4778:1-18 '51

Engineering study report; Worsham-Steed field, Jack county, Tex. map Oil & Gas J 50:107-8+ S 13 '51

Evaluation of zonal damage. N. Johnston and N. Van Wingen. bibliog World Oil 131: 156+ D '50

Field results from increased flooding pressures. E. T. Heck and J. C. Vaughn. Oil & Gas J 50:94+ Je 14 '51

Five years of gas injection. F. J. Neslage. Oil & Gas J 50:58-9+ Ag 2 '51

Flooding increases unit output from 34 to 1600 barrels oil per day. J. F. Adkisson, jr. flow chart il map World Oil 131:177-8+ N '50

Formation-sand exclusion by Hydrafrac sandpack sand consolidation. B. W. Aulick and H. A. Engel, jr. diags Oil & Gas J 50:213+ Je 21 '51

Fracture contact affects energy behavior between wells. F. R. Cozzens. Pet Eng 23: B35-6+ Jl '51

Fracture sludge, a basic factor in sand plugging. F. R. Cozzens. World Oil 131: 126+ N '50

Fracture spacing in recovery of repressured oil. F. R. Cozzens. World Oil 132:159-60+ Mr '51

Gas injection at Buena Vista Hills. E. W. Brubaker and H. J. Stutsman. maps diags Oil & Gas J 50:116-20+ Ag 23 '51

Gas-injection method. Oil & Gas J 49:131 F 22 '51

Gulf oil corp. annual production-engineering conference. Oil & Gas J 50:45 Je 28 '51

Helium tracer gas studies; Shuler field, Ark. E. M. Frost, jr. maps diags Pet Eng 23: B7-12+ Mr '51

History of water-flooding. H. H. Power. bibliog Pet Eng 23:A33-6+ Jl '51

Hot-water injection. G. Weber. Oil & Gas J 50:38-9 Jl 5 '51

How to do it! production hints. il Published in monthly numbers of World oil

How to get more oil; increased recovery from limestone is subject of Texas conference. L. S. McCaslin, jr. Oil & Gas J 49:80+ Ap 26 '51

Hydrafrac and acidizing for processing limestones. C. E. Clason. il World Oil 132:144 Mr '51

Illinois water-flood plant uses closed water system. C. A. Hamman. flow plan il Oil & Gas J 50:114+ S 13 '51

Illinois water floods. maps diags Oil & Gas J 49:42-8+ Mr 1 '51

Influence of clay in oil production. B. B. Cox. bibliog World Oil 131:174+ D '50

Injection success; water flooding of Pettit lime in Southwest Lisbon field. Oil & Gas J 50:56-7 S 6 '51

Kansas water floods. K. B. Barnes. map Oil & Gas J 49:30-1 Ja 4 '51

Keystone field operating problems. W. D. Powers. il World Oil 133:226-8 S '51

Louisiana's secondary-recovery operations will add 90 million barrels to production. E. A. Albares. Oil & Gas J 50:256+ Je 21 '51

Maintenance of water-flood meters. H. O. Proske. il World Oil 132:156-7 Mr '51

Nature of residual oil. J. C. Calhoun, jr. il Oil & Gas J 49:137 My 3 '51

New and suggested techniques for improving the recovery of oil. P. D. Torrey. bibliog Pet Eng (Ref annual) 23:E2+ Jl 15 '51

New kickoff bomb. R. F. Carlson. diags Oil & Gas J 49:27-8 Mr 1 '51

New methods and equipment in production. H. E. Treichler, jr. diags Oil & Gas J 49:77+ F 15 '51; il World Oil 132:163-4+ F 15 '51

New recovery technique, utilizes carbon dioxide; Orco process. G. Weber. Oil & Gas J 49:171-2 Ja 25 '51

New recovery tool; use of carbon dioxide in water-flood operations. J. W. Martin. Oil & Gas J 49:53-4 My 3 '51

Oil displacement calculations. J. W. LaRue and D. A. Wilson. World Oil 132:146-8+ Ja '51

Oil recovery by directional air drive. F. R. Cozzens. il diag Comp Air Mag 56:98-9 Ap '51

Orderly water-flood program for Mid-Burbank unit, Osage county, Okla. K. B. Barnes. maps Oil & Gas J 49:78-82+ Mr 15 '51

Petroleum engineering study of Weber pool, Washington county, Oklahoma. K. H. Johnston and J. A. West. il map diags Oil & Gas J 49:78-80+ D 7; 90+ D 14; 57-8+ D 28 '50

Plant begins operation; pressure-maintenance project now under way in Willamar West field. F. L. Resen. il Oil & Gas J 50:84-5 S 13 '51

Practices and equipment through the years since 1901. il Oil & Gas J 50:supp 279-80+ My 31 '51

Pressure maintenance in Block 31 field. R. C. Hartman. il World Oil 133:223-5 S '51

Producing high-pour-point oil in Brace field, Texas. U. S. Branson, jr. il diag Oil & Gas J 50:208+ Je 21 '51

Production time decline curve for a gas drive. J. C. Calhoun, jr. Oil & Gas J 50: 355 Jl 26 '51

Redwater flood talked. K. B. Barnes. il Oil & Gas J 50:57 Ag 9 '51

Results from increased flooding pressures. E. T. Heck and J. C. Vaughn. Pet Eng (Ref annual) 23:B64+ Jl 15 '51; Same abr. Oil & Gas J 50:94+ Je 14 '51

Salt water injection projects in Oklahoma. K. M. Fagin. Pet Eng 23:B72 Ap '51

Secondary oil recovery; various methods, including use of a new surface-active chemical. J. H. Prusick. Oil & Gas J 50: 97-8+ Ag 9 '51

Secondary operations and reserves in the eastern states. P. J. Torrey. bibliog Pet Eng 23:B36+ Ja '51

Secondary recovery for Turner valley? J. A. Harvie. il map Oil & Gas J 49:246-8 D 21 '50

Secondary recovery; improved methods are reported in Pennsylvania. Oil & Gas J 49: 195 N 16 '50

Secondary recovery in Louisiana. J. H. Tillery. il map World Oil 131:155-8 N '50

Selection and evaluation of wells for Hydrafrac treatment. J. W. Maly and T. E. Morton. Oil & Gas J 49:126-8 My 3 '51; Same. Pet Eng 23:B28+ Je '51

Some operating problems in old limestone reef fields. K. M. Fagin. il Pet Eng 23: B62+ Ja '51

PETROLEUM—Production methods—*Cont.*

Sound engineering practices increase recovery efficiency in Cole Creek's Shannon sand reservoir. E. J. Whitaker and D. T. Hoenshell. map Oil & Gas J 50:95-6+ Jl 19 '51; Same. Pet Eng (Ref annual) 23:B42+ Jl 15 '51

Special compound proves effective water conditioner. F. Latter and C. Parke. bibliog diag Oil & Gas J 49:72-4+ Mr 8 '51

Supply, sources and treatment of flood water. H. S. Barger. World Oil 133:213-14+ Ag '51

Theoretical aspects of water flooding. J. C. Calhoun, jr. bibliog diags Oil & Gas J 50:308+ S 20 '51

Thermal method for tertiary recovery of oil. C. M. Davis and H. Coffer. diags Oil & Gas J 49:84-5 Mr 22 '51

Thin oil-column completions in Louisiana-Mississippi Gulf Coast area. R. G. Loper. Oil & Gas J 50:110+ My 10 '51; Same. World Oil 132:99-102+ My '51

Todd Deep Crinoidal unit to get secondary-recovery facilities; Texas' new unitization law. R. F. Carlson. il map diag Oil & Gas J 49:94+ O 26 '50

27-billion bbl. to go; current recoverable oil reserves. il diag Bsns W p56+ F 17 '51

Waste makes oil; water-disposal backfire lifts reservoir pressure. map Oil & Gas J 50:51-2 S 27 '51

Water conditioning for oil-field flooding operations. N. A. Voss and E. Nordell. il diags Oil & Gas J 49:174-7 N 9 '50

Water drive reservoir performance Vedder pool, Wasco field. N. Van Wingen. bibliog maps Pet Eng (Ref annual) 23:B11-12+ Jl 15 '51; Same. Oil & Gas J 50:90+ S 6 '51

Water-flood oil recovery in Washington county, Okla. C. H. Riggs and W. C. Smith. flow diag plan Oil & Gas J 50:117-18 My 31; 88-9 Je 7; 103-4 Je 14; 78-9 Je 28; 78-9 Jl 5 '51

Water-flood problems as experts see them; questions and answers. A. Gibbon. World Oil 132:183-4 Ap '51

Water-flood success; North Burbank pilot project. K. B. Barnes. il map Oil & Gas J 49:132-3 Ap 19 '51

Water-flood success; Oklahoma stripper operators now producing 4,000 bbl. daily. W. P. Sterne. map Oil & Gas J 50:84 My 24 '51

Water flooding pays off in South Ward, Texas field. G. L. Buckles. flow diag plan diag Oil & Gas J 50:91-6 Ag 9 '51

Water-flooding tests. J. C. Calhoun, jr. Oil & Gas J 50:149 My 24 '51

Water injection boosts Wesson pool's recovery an estimated 150 per cent. V. J. Turner. il Oil & Gas J 49:97+ Mr 8 '51

Water jets hike yield; lifting heavy crude with hot water under pressure in Placerita canyon. D. H. Stormont. il Oil & Gas J 50:153-4 Je 21 '51

Well completion practices in Oklahoma. K. M. Fagin. diag Pet Eng 23:B54+ Mr '51

Wettability in oil recovery. P. T. Kinney and R. F. Nielsen. bibliog diags World Oil 132:145-6+ Mr '51

Worland, Wyoming field. J. I. Morris. Pet Eng (Ref annual) 23:B77-8+ Jl 15 '51; Same abr. il map diags Oil & Gas J 50:133-4+ Ag 23 '51

See also

Petroleum—Acidiation of wells
Petroleum—Chemical treatment of wells
Petroleum—Mud fluids
Petroleum—Pumping
Petroleum—Well drilling

Production rate

Calculation of flood advance. J. C. Calhoun, jr. Oil & Gas J 50:111 Ag 9; 93 Ag 30 '51

Gas drive in a nonuniform bed. J. C. Calhoun, jr. Oil & Gas J 50:97 Ag 2 '51

Graphical method for solution of rate-time problems involving constant percentage decline. R. W. Woods. Oil & Gas J 49:125 Mr 22 '51

Proration

Calculation method for Canadian proration. Pet Eng 23:B92 Je '51

Improved proration would expand reserves. P. Jones. World Oil 133:68 Jl '51

Prospecting

All-time records established by 1950 exploratory drilling. P. C. Ingalls. Oil & Gas J 49:188-9 Ja 25 '51

A.A.P.G., S.E.G., S.E.P.M. joint annual meeting, St Louis, April 23-26; abstracts of papers. Oil & Gas J 49:124+ Ap 26 '51

American concern planning an active drilling campaign in Ecuador. C. V. Hagen. il maps Oil & Gas J 49:270-4 D 21 '50

Basins of the Southwest. P. C. Ingalls. map Oil & Gas J 49:133 D 7 '50

California exploratory drilling marked by a succession of high points. il Oil & Gas J 49:A41-2+ N 9 '50

Compressed air aids oil-field prospectors. P. Shannon. il Comp Air Mag 56:11-13 Ja '51

Coring, electric logging, and other testing methods in exploratory wells. J. E. Walstrom. bibliog(34 titles) Oil & Gas J 49:298+ N 16 '50; Same. Pet Eng 23:B52-4+ F; B35-6+ Mr '51

Excuses to drill. I. H. Cram. il World Oil 132:73-5 Ap '51

Exploration conclave; meeting, Fort Worth. Oil & Gas J 49:58-9 D 7 '50

Exploratory drilling in 1950. F. H. Lahee. maps Am Assn Pet Geologists Bul 35:1123-41 Je '51; Same abr. Oil & Gas J 49:108-10+ Ap 26 '51

Half century of exploration in the Southwest. J. A. Kornfeld. il diag Oil & Gas J 50:supp 186-90+ My 31 '51

Helicopter surveys northern Canada. il map World Oil 132:264-5 Ap '51

Helicopters speed Humble's exploratory operations. il Oil & Gas J 50:95-6 Jl 12 '51

Imagination needed; abstract. I. H. Cram. Oil & Gas J 49:34-5 Ja 18 '51

Let's drill some wildcats! I. H. Cram. Oil & Gas J 49:97-8 D 14 '50; Abstract. World Oil 132:68 Ja '51

Mexican American completes 18 months of operations. B. W. Gillespie and J. R. Coleman. il map Oil & Gas J 49:261-2+ D 21 '50

More U.S. oil finding needed. World Oil 132:70 Ap '51

New method logs dip and strike of subsurface formations. il diag World Oil 132:57-8+ F 1 '51

1950 exploration 13 percent above record; results of exploratory drilling in Dec. and twelve months, 1950-1949, by districts. World Oil 132:76+ F '51

Oil; before you pump it you have to find it. il Bsns W p22-4 O 13 '51

Oil hunt; science, new technology cutting gamble in exploration. D. Marshall. Barron's 30:13-14 N 13 '50

Pemex's exploration plans for 1951. P. C. Ingalls. map Oil & Gas J 49:95 Ja 4 '51

Prospecting outlook. World Oil 132:79-82+ F 15 '51

Sand and gravel in deep-water deposits. F. P. Shepard. bibliog il maps World Oil 132:61-2+ Ja '51

Southwest exploration personalities. Oil & Gas J 50:supp 217-18+ My 31 '51

Strat trap search need shown by Wyoming basin. H. C. Rea. maps World Oil 131:75-6+ N '50

Stratigraphic analysis in oil exploration. L. L. Sloss. bibliog maps Oil & Gas J 50:102-4+ S 13 '51

Swamp buggy in prospecting; illustrations with text. World Oil 132:71-2 Ja '51

Types of oil and gas traps in southern Oklahoma. E. L. Selk. maps diags Am Assn Pet Geologists Bul 35:582-606 Mr '51

Wildcatting success; many wells that find some oil are financial failures. F. H. Lahee. Oil & Gas J 49:22-3 Ja 4 '51; Discussion (Risk ratios in wildcat drilling). V. D. Martin. 49:74-5 F 15 '51

Williston wildcats. P. C. Ingalls. map Oil & Gas J 50:135 Je 14 '51

Your tax liability and wildcat oil wells. J. Boyd. il Am Bsns 21:26 Mr '51

See also

Petroleum—Geology

Cost

One-third of income for exploration. H. J. Struth. Pet Eng 23:A49-54+ My '51

PETROLEUM—Prospecting—*Continued*

Finance

Credit problems peculiar to the oil field. O. E Wynn. Credit & Fin Management 53: 23-5+ Ag '51

Geophysical methods

Accuracy factors in geophysical prospecting. N. J. Smith. il map diags World Oil 132: 84-6+ Ap; 73-6+ My '51

Alberta flying magnetometer survey completed. T. M. O'Malley. il World Oil 132: 235-7 My '51

Avenues for progress in geology and geophysics. P. Weaver. World Oil 132:102+ Ap '51

Benefits derived from cooperative well velocity surveys. J. Daly. World Oil 131:81+ N '50

Better geophysical interpretations; whose responsibility? R. F. Beers. il World Oil 132:80-2+ Ap '51

Canada's progress in 1950. L. O. Rowland. il Pet Eng 23:B51-2+ Ja '51

Evaluation of magnetics in the Delaware basin. H. W. Hoylman. il maps diags World Oil 133:91-4+ Ag '51

Exploration geophysics, yesterday, today, tomorrow. W. M. Rust, jr. il World Oil 132: 76-8 Ap '51

Explosives for seismograph prospecting. L. W. Braniff. il World Oil 131:73-5+ D '50

Flying magnetometer survey near Gulf of Venezuela. il Pet Eng 23:B70+ My '51

Gammatron surveys. B. Lang. World Oil 131: 86+ N '50

Geophysical activity in 1950. E. A. Eckhardt. Oil & Gas J 49:106-7+ Ap 26 '51

Geophysical costs outrun prices. J. E. Kastrop. il World Oil 132:55-8 My '51

Geophysical crews more active during 1950. World Oil 132:78 F 15 '51

Geophysical frontiers. G. E. Wagoner. map Oil & Gas J 49:119+ Ap 26 '51; Same. Am Assn Pet Geologists Bul 35:1523-8 Jl '51

Gravity exploration for reefs and other porosity maxima. H. Klaus and J. C. Hughes. bibliog World Oil 132:78-80+ Je '51

Gravity operations in water-covered areas. L. L. Nettleton. il Oil & Gas J 50:235+ Je 21 '51

Institute of inventive research announces issuance of patent covering basic features of Poulter method of seismic exploration. Oil & Gas J 49:77 Ap 12 '51

Local oil finders societies; use of a seismograph for locating sandbars; South Ceres pool. P. C. Ingalls. Oil & Gas J 49:351 D 21 '50

Miniature seismograph features performance plus portability. H. J. Girard. il Oil & Gas J 50:96-7+ My 24 '51

New developments in geophysical prospecting. L. J. Neuman. il World Oil 132:90+ Ap '51

New exploratory tool; Magnolia's new device logs magnetic susceptibility. P. C. Ingalls. Oil & Gas J 50:145 My 31 '51

New seismic test; oil companies to resume offshore exploration; develop black-powder method to reduce fish kill. D. H. Stormont. il Oil & Gas J 50:40 Ag 2 '51

Radio wave prospecting for structure. R. Mann and E. Schmidt. il World Oil 131:92 N '50

Regional stratigraphic analysis as a guide to geophysical exploration. W. C. Krumbein. World Oil 132:99-100 Ap '51

Sand bar located by seismograph. P. C. Ingalls. Oil & Gas J 49:141 O 26 '50

Shot hole drilling in Canada. W. A. Burggren. il World Oil 132:217-18 F '51

Socony's divining rod helps locate oil. Bsns W p97 My 12 '51

Some relations among sedimentation, stratigraphy, and seismic exploration. W. C. Krumbein. bibliog map diags Am Assn Pet Geologists Bul 35:1505-22 Jl '51

Two-level aeromagnetic profile across western Texas. H. W. Hoylman. World Oil 132:62-4 F '51

Velocity information needed for seismic interpretation. J. W. Daly. diags World Oil 132:86-8 Je '51

Weathering and other surface shooting problems. N. Clayton. World Oil 132:57-8 Mr '51

Pumping

Design of oil well pumps. M. C. Turner. diag Pet Eng 23:B35-6+ Ag '51

Elements of dynamometer tests. D. S. Stear. diag World Oil 132:160+ F '51

Estimating and measuring pumping unit peak torque loads. K. N. Mills. il diag World Oil 132:185-6+ Ap '51

Gas lift operations and problems. C. V. Kirkpatrick. il diags Pet Eng 22:B7-12 N '50

Gas lift practices in west Texas; with cost data. J. R. Hamilton. World Oil 133:250+ S '51

Gas lifting by continuous flow. C. D. Fletcher and M. M. Livingston. diags Pet Eng 23:B42+ Ag '51

Installation of pumping units; an outline of foundation construction problems and standards. K. N. Mills. il diags Pet Eng 23:B14+ F '51

Intermitter installation conserves low-pressure fuel gas. il World Oil 133:220 Ag '51

It's time to counterbalance beam-pumping units. D. O. Johnson. bibliog diags Oil & Gas J 49:78-9+ Ap 12 '51; Same. Pet Eng (Ref annual) 23:B48+ Jl 15 '51

New gas-lift method. F. L. Resen. il diag Oil & Gas J 50:100-1 Ag 16 '51

On the beam pumping. J. S. Fuller. il Pet Eng 22:B27-8+ D '50

Practical application of rod, pump production, load tables. D. M. Jones. World Oil 132:194+ Ap '51

Pumping-problem study; electronic analyzer seen as valuable aid. E. N. Kemler. Oil & Gas J 50:49-50 S 27 '51

Sand and gas control in pumping wells. N. C. Wells. il Pet Eng 23:B48+ My '51

Simplified pumping well calculations. A. A. Hardy. World Oil 132:162-4+ My '51

Tapered sucker rod strings. A. Quayle. il World Oil 131:186+ N '50

Three pumping units operated by one engine. J. C. Albright. il Pet Eng 23:B32+ F '51

Trinidad utilizes waste gas for pumping power. il World Oil 131:300 N '50

23,600 wells scheduled for artificial lift during 1951. K. B. Barnes. Oil & Gas J 49: 314 Ja 25 '51

24,944 oil wells to get pumping equipment. E. Sterrett. World Oil 132:137-8 F 15 '51

Pumping, Electric

A-c motors for oil-well pumping. M. H. Halderson. il Elec Eng 70:598-601 Jl '51

Capacitors in oil-field pumping. W. B. Helms and W. R. Horrigan. Oil & Gas J 49:159-60+ F 22 '51

Development and operation of small-diameter submergible pumps. J. Carle. il Elec Eng 70:242-4 Mr '51

Humble field electrified. J. A. Kornfeld. il Oil & Gas J 50:279+ Je 21 '51

Push-button, time-clock setup pumps gravity flow field. World Oil 132:202 Ap '51

Stanolind electrifies Cedar Lake field. R. F. Carlson. il map Oil & Gas J 50:82+ Jl 12 '51

Well pump control center. E. H. Hulse. il Pet Eng 23:B12 F '51

See also

Petroleum pipe lines
—Pumping stations, Electric

Sampling

Portable automatic sampler. W. E. Roads. diags Pet Eng (Ref annual) 23:D42+ Jl 15 '51; Same abr. Oil & Gas J 49:89+ D 7 '50

Secondary recovery

See Petroleum—Production methods

Statistics

Data on important oil fields of the United States, 1942-1947; table. Pet Eng 23:A 16g Ap '51

Demand forecast for 1951. Oil & Gas J 50: 57 Je 7 '51

Exports rise due to turbulent conditions in Middle East, reversing former trend. H. D. Ralph. Oil & Gas J 50:202 Jl 26 '51

Last-half demands will continue to exceed those previously forecast. E. T. Knight. Oil & Gas J 50:196-9 Jl 26 '51

PETROLEUM—Statistics—*Continued*

New high in U.S. crude production likely for 1951; with tabulated data of production, 1859-1950. World Oil 132:140-2+ F 15 '51
Oils in strong demand; statistics for first quarter of 1951. L. J. Logan and C. W. Smith. World Oil 132:61-2 My '51
Producing oil wells register gain of 18,472. World Oil 132:172+ F 15 '51
Production and proved remaining reserves, by fields; tabulation. Oil & Gas J 49:254+ Ja 25 '51
Production continues up and up. P. C. Ingalls. Oil & Gas J 50:194-5 Jl 26 '51
Production jumps another 20 per cent in countries outside United States. D. M. Duff. Oil & Gas J 50:205-6 Jl 26 '51
Reserves lag behind rising use of petroleum. L. J. Logan. Pet Refiner 30:129-30 Ap '51
World crude oil production, by countries, by years, 1857-1950; tables. World Oil 133:58+ Jl 15 '51
World crude production, 1950. World Oil 133: 52+ Jl 15 '51
World crude production tops record by 350 million barrels; with tabulated statistics of production, 1857-1950. M. Olson. il World Oil 132:236-40+ F 15 '51
World producing wells, 1950. World Oil 133: 76+ Jl 15 '51

Sulfur content

Determination of sulfur in petroleum fractions by X-ray absorption. S. W. Levine and A. H. Okamoto. bibliog il diag Anal Chem 23:699-704 My '51
Distribution and type of sulfur compounds in straight-run naphthas. J. H. Hale and others. bibliog diag Anal Chem 23:287-93 F '51
Hydrogen sulfide in west Texas. W. A. Cunningham. map Ind & Eng Chem 42:2238-41 N '50
Inhibitor control for sulfide corrosion. J. A. Caldwell. World Oil 132:191-2 Ap '51; Same abr. il Oil & Gas J 49:95+ F 8 '51; Same. Pet Eng 23:B58+ Mr '51
Separation of sulfur and aromatics from petroleum with boron fluoride and hydrogen fluoride. E. C. Hughes and others. bibliog Ind & Eng Chem 43:750-3 Mr '51
Sulfur content of petroleum products. W. L. Nelson. bibliog Oil & Gas J 50:135 S 13 '51

See also
Petroleum refining—
Sulfur removal

Testing

How API code 25 can be improved. G. H. Supple and R. C. Nicholson. Am Pet Inst Proc 30(5):71-3 '50; Same abr. Oil & Gas J 49:346 N 16 '50
Standardization committee; work and programme of sub-committee number two; crude oil. H. Jagger. Inst Pet J 37:349-52 Jl '51

Tideland development

Automatic production of a marine oil field. J. R. Copeland. il plan diags Oil & Gas J 50:179-80+ Je 21 '51
Concrete platforms solve water-location problems; interview with M. B. Willey. il Oil & Gas J 50:289-90 Je 21 '51
Deep water pipe line design and construction in Gulf of Mexico. E. Sterrett. il World Oil 131:199-206 N '50
Electrification of a marine oil field. F. S. Bird. il Oil & Gas J 50:184+ Je 21 '51
Gravity operations in water-covered areas. L. L. Nettleton. il Oil & Gas J 50:235+ Je 21 '51
Gulf Coast hurricane design data. A. H. Glenn. bibliog World Oil 131:101-2+ D '50
New seismic test; oil companies to resume offshore exploration; develop black-powder method to reduce fish kill. D. H. Stormont. il Oil & Gas J 50:40 Ag 2 '51
Offshore oil in Persian gulf. map Oil & Gas J 50:68 Je 14 '51
Oil beneath troubled waters; Persian gulf. map Economist 161:512 S 1 '51
Oil-drainage question; Long Beach harbor operations getting too close to tidelands reserve area, Justice department charges. D. H. Stormont. map Oil & Gas J 50:81-2 S 13 '51
Oil in troubled waters. E. Adams. il diag Pet Eng 23:A39-45 S '51
Practical offshore production practices at Bay Marchand. J. E. Kastrop. flow diag il map diags World Oil 132:167-72+ Je '51
Sand and gravel in deep-water deposits. F. P. Shepard. bibliog il maps World Oil 132: 61-2+ Ja '51
States seek tidal oil through quit-claim. Eng N 146:24 Ja 11 '51
Striking it rich in oil and fish; dealers demonstrating value of seaplanes to tidewater oil men and tuna fishers. E. J. Bulban. il Aviation W 53:39 O 30 '50
30 dailies use tidelands story by Dallas news. Ed & Pub 84:8 Mr 24 '51
Tidelands accord seen. Oil & Gas J 50:52 S 27 '51
Tidelands fight; common course sought by Texans to acquire areas. Oil & Gas J 49:58 Ja 11 '51
Tidelands hearings. B. F. Linz. Oil & Gas J 49:133 F 22 '51
Tidelands impasse. Bsns W p44+ Jl 21 '51
Tidelands opposition; three states oppose O'Mahoney resolution for tidelands interim management. Oil & Gas J 49:22 Mr 1 '51
Tidelands refunds; payments to U.S. by Gulf operators will be refunded if Congress fails to provide for federal control of areas. Oil & Gas J 49:62-3 F 8 '51
Tidelands truce. Bsns W p 102-3 F 10 '51
Tidelands windup; legal proceedings ended by U.S. Supreme court. Oil & Gas J 49: 63-4 D 14 '50
Weather radar and offshore operations. W. W. Hildreth, jr. bibliog il diags Pet Eng 23: B7-10+ Jl '51

Transportation

'49 movement of U.S. crude, products by water shown. Nat Pet N 42:62 N 15 '50
Oil bargemen battle gorging ice to keep river supply lines open. D. Warren. il Nat Pet N 43:58+ Mr 14 '51
Oil transportation is in good shape for near future, NPC survey shows. Nat Pet N 42:27 D 6 '50
Survey of oil transportation planned. Nat Pet N 43:25 Ja 10 '51
Ten per cent increase in river oil shipments is forecast for 1951 by bargemen. D. Warren. il Nat Pet N 43:49-50 My 30 '51

See also
Petroleum pipe lines
Petroleum shipping terminals
Tank barges
Tank cars
Tank ships
Tank trucks

Unit operation of pools

Cooperative oil and gas operations. W. Hawkins. Pet Eng 22:B68+ N '50
Poor-boy pool in shallow Willow Springs field of California. D. H. Stormont. il map Oil & Gas J 49:128 F 22 '51
Scurry conservation plans envisage billion barrel payoff. il maps World Oil 133:100-2+ S '51
Scurry unit pushed. map Oil & Gas J 50:150-1 Je 21 '51
Todd Deep Crinoidal unit to get secondary-recovery facilities; Texas' new unitization law. R. F. Carlson. il map diag Oil & Gas J 49:94+ O 26 '50
Unit law validated by Oklahoma Supreme court. Oil & Gas J 49:68-9 Mr 22 '51
Unitization problems. H. H. Kaveler. Oil & Gas J 50:77-8 S 13 '51

Water flooding

See Petroleum—Production methods

Water problem

Calcareous depositions from formation waters. Z. V. Morgan. il Oil & Gas J 49: 102-3+ Mr 22 '51
Chart for conversion of capillary pressure to height above free water table. J. C. Calhoun, jr. Oil & Gas J 49:87 Ja 18 '51
Connate water determinations and utilization of such data. E. J. Simmons. Pet Eng 23:B68 Mr '51
Continuous electronic recording of the water content of oil field emulsions. P. O. Engelder. Pet Eng 23:B28+ Ap '51
Estimation of water influx. J. C. Calhoun, jr. Oil & Gas J 49:113 D 7 '50

PETROLEUM—Water problem—*Continued*

Gas and water coning. J. C. Calhoun, jr. diags Oil & Gas J 49:87 D 28 '50

Linear-flow saturation gradients. J. C. Calhoun, jr. Oil & Gas J 49:119 F 15 '51

Linear steady-state flow of oil and water. J. C. Calhoun, jr. diags Oil & Gas J 49:73 Ja 4 '51

Reservoir water. J. C. Calhoun, jr. Oil & Gas J 49:367 N 16 '50

Treatment of produced salt water prior to underground disposal in sand formations. J. V. Blair. bibliog il Oil & Gas J 49:176-9+ F 22 '51

Water encroachment. J. C. Calhoun, jr. diag Oil & Gas J 49:91 N 30 '50

Water-oil ratios. J. C. Calhoun, jr. Oil & Gas J 49:97 N 23 '50

Water saturation distribution in linear flow. J. C. Calhoun, jr. Oil & Gas J 49:99 Ja 11 '51

Well blasting

Developments in oil well explosives. A. Gibbon. il World Oil 131:121-2 N '50

Well casing

Allowable loads on an unsupported casing column under action of horizontal wave forces and vertical well-head loading. J. A. Reed, 2d and H. H. Meredith, jr. diag Oil & Gas J 49:80-2 O 19 '50; Same. World Oil 132:137-9 Ja '51; Same. Pet Eng (Ref annual) 23:B32+ Jl 15 '51

Casing failures traced to bacterial action. R. Sneddon. il plan diag Pet Eng 23:B7-12 Ag '51

Casing string design principles and practices. J. O. Hills. bibliog diags Pet Eng 23:B70+ Je; B42+ Jl '51; Same. Oil & Gas J 50:240-1+ Jl 26 '51; Same. il World Oil 133:113-14+ Jl; 141-2+ O '51

Collar type elevator in deep casing operations. W. A. Wilson. il Pet Eng 23:B76-8+ My '51

External corrosion of gas and oil well casings. C. I. Sims. World Oil 133:262+ S '51

Full-hole gravel pack, a new completion technique. R. L. O'Shields and M. F. Hawkins. il diag World Oil 133:185-6+ Ag '51

How engineers solved Ventura's leaking-well case. H. D. Ralph. il Oil & Gas J 50:69-70 Je 14 '51

Inserted key-stud strainer. C. H. Biedendieck. il diags Oil & Gas J 49:62-3 Ja 4 '51

Organic corrosion preventive. C. M. Blair, jr. il diags World Oil 131:159-60+ N '50

Protection of well casings against external corrosion. R. E. Hammond and S. P. Ewing. il World Oil 132:154-6+ F '51

Surface casing failures. B. B. Smith. World Oil 131:129-30 D '50; Same abr. Oil & Gas J 49:78+ O 26 '50

Thread compounds; new agents for casing. Oil & Gas J 49:45 N 23 '50

Union Pacific studies methods of designing wells to prevent or minimize damage from earthquakes. D. L. Roberts. il Oil & Gas J 49:62-3+ N 23 '50; Same. Pet Eng 22: B11-14 D '50; Same. World Oil 132:83-6 F '51

What causes tubular failures? D. C. Neely. il Oil & Gas J 50:78-9 My 31 '51

Wire-line pressure-setting assembly as used to set tools having opposed slips. C. A. Greve. diags Oil & Gas J 49:123-4 My 3 '51; Same abr. Pet Eng (Ref annual) 23:B72+ Jl 15 '51

Well cementing and plugging

Average completion cost is 20 per cent of total well cost. T. A. Huber and others. bibliog diags Oil & Gas J 49:234+ N 16 '50; Same. Pet Eng 23:B36+ Ap '51; Same. Am Pet Inst Proc 30(4):24-34; Discussion. 34-6 '50

Cementing practices. Oil & Gas J 50:206+ S 20 '51

Effects of sodium chloride on setting properties of oil-well cements. N. C. Ludwig. bibliog Oil & Gas J 50:125-6+ My 24 '51

New cementing rule; Texas commission adopts order to conserve pipe. Oil & Gas J 49:49 N 23 '50

Physical properties of gel-cement. D. K. Smith. il Pet Eng 23:B7-12+ Ap '51

Primary cementing of casing in rotary-drilled wells. W. L. Grossman. il World Oil 132:153+ Ap '51

Thin oil-column completions in Louisiana-Mississippi Gulf Coast area. R. G. Loper. Oil & Gas J 50:110+ My 10 '51; Same World Oil 132:99-102+ My '51

Well drilling

Adjustable measuring line supports. G. M. Wilson. il World Oil 132:119 Ja '51

Air drilling the Spraberry sand. O. H. Berry. il diag World Oil 133:169-72 S '51

Air drilling tried; using compressed air instead of mud. il Oil & Gas J 50:152 Je 21 '51

All previous records broken in number of rotary rigs operating. N. Williams. Oil & Gas J 49:212 Ja 25 '51

Average completion cost is 20 per cent of total well cost. T. A. Huber and others. bibliog diags Oil & Gas J 49:234+ N 16 '50; Same. Pet Eng 23:B36+ Ap '51; Same. Am Pet Inst Proc 30(4):24-34; Discussion. 34-6 '50

California's San Ardo field again active. D. H. Stormont. il map Oil & Gas J 50:260+ S 20 '51

Canadian drilling; conditions and practices. il Oil & Gas J 50:227-8+ S 20 '51

Completion practices in the Spraberry. H. E. Legendre. il diags World Oil 133:230-2+ S '51

Completions and footage at highest levels. World Oil 132:94-6+ F 15 '51

Denver-Julesburg basin scene of active drilling, with 36 rigs operating. J. A. Kornfeld. il map Oil & Gas J 50:247-8+ S 20 '51

Diesel-electric drilling rig. D. H. Stormont. il diags Oil & Gas J 49:224-5+ Ap 19 '51

Diesel electric rig designed for medium or deep drilling. G. M. Wilson. il World Oil 132:111-14+ My '51

Directionally-drilled well cheats blaze, produces oil. G. E. Justice. il diag World Oil 133:309-11 S '51

Down the hole pressure surges and their effect on loss of circulation. W. C. Goins, jr. and others. diags World Oil 132:107-10+ Je '51; Same. Pet Eng 23:B73-4+ S '51; Excerpts. Oil & Gas J 49:86-7+ Ap 12 '51

Drilling and completion practices at Church Buttes. W. C. Dinger. map Oil & Gas J 50: 86+ S 6 '51

Drilling and production practices in west Texas Spraberry fields. R. F. Carlson. il map diags Oil & Gas J 49:197+ F 22 '51

Drilling de luxe; unusual practices incorporated in drilling program of Union Oil in elite residential area, La Habra Heights, Calif. D. H. Stormont. il Oil & Gas J 49:60-1 F 15 '51

Drilling depth records bested in eight areas. World Oil 132:122+ F 15 '51

Drilling efficiency up. A. W. Thompson. Oil & Gas J 50:80 My 24 '51

Drilling forecast is for four percent more wells. E. Sterrett. World Oil 132:91-2 F 15 '51

Drilling; 1950 developments in the United States. W. S. Crake. bibliog il diag Oil & Gas J 49:76+ F 15 '51

Drilling operating ideas. il Oil & Gas J 49: 100-1 F 8 '51

Drilling research, inc. devotes its time in search of ways and means to cut the cost of contract drilling. diag Oil & Gas J 50: 193+ S 20 '51

Drilling through bentonitic shale. il Oil & Gas J 50:288-90 S 20 '51

Effect of oil emulsion mud on drilling. J. P. Weichert and O. W. Van Dyke. il Pet Eng 22:B16+ N '50

Efficient techniques used in Dollarhide completions. G. M. Wilson. il World Oil 133: 246+ S '51

Enlarging rotary drilling rope reduces ton-mile costs. L. C. Torell. World Oil 132:151-2 Ap '51

Experimental rig; California research corp. investigating completion methods, drilling-fluid effects. D. H. Stormont. il Oil & Gas J 49:61 D 14 '50

Exploration record set in drilling 8745 tests. C. W. Smith. World Oil 132:73-6 F 15 '51

Exploratory and development drilling, where it occurred and the results; tabulations. Oil & Gas J 49:315-16+ Ja 25 '51

PETROLEUM—Well drilling—*Continued*

Exploratory drilling in 1950. F. H. Lahee. maps Am Assn Pet Geologists Bul 35:1123-41 Je '51; Same abr. Oil & Gas J 49:108-10+ Ap 26 '51

Fast drilling record broken; Humble's research pays off. Oil & Gas J 50:216+ S 20 '51

First half ends with more than 2,700 rotaries busy in U.S. and Canada. N. Williams. Oil & Gas J 50:193 Jl 26 '51

Fluid drives for drilling rigs. K. N. Mills. il diags World Oil 132:87-90+ Ja '51

Fracture sludge, a basic factor in sand plugging. F. R. Cozzens. World Oil 131:126+ N '50

Gas and air drilling. il diag Oil & Gas J 50:219-20+ S 20 '51

Gas speeds drilling; use as circulating fluid. diag Oil & Gas J 50:56-7 Jl 12 '51

Getting most from d.c. drilling motors. L. J. Murphy. il World Oil 132:118-19 My '51

Gulf Coast operators break record again; drill 133 wells below 12,000 ft.; tables. L. D. Owen. il Oil & Gas J 50:240+ Je 21 '51

Handy drilling chart. Oil & Gas J 50:222 S 20 '51

How to do it! drilling hints. il Published in monthly numbers of World oil

How to produce a thin oil column. il map diag Oil & Gas J 50:238-9 S 20 '51

How two-way radio aids in drilling. P. A. Greenmeyer. il Pet Eng 23:B40+ Je '51

Influence of hole size in shot-hole drilling. E. Weaver. il Oil & Gas J 50:88+ Jl 19 '51

I.P. safety codes; application to drilling and production. H. de Wilde. Inst Pet J 37:181-5; Discussion. 197-208 Ap '51

Jacket-water temperature control; Signal Oil & Gas uses vapor-phase cooling on drilling engines. il Oil & Gas J 50:88-9 Ag 2 '51

Locating physical failures in drill pipe. P. D. Shaffer. il World Oil 133:196+ S '51

Lost-circulation fight. Oil & Gas J 50:206 S 20 '51

Lost-circulation materials and mud additives. R. F. Carlson. diags Oil & Gas J 49:64+ D 28 '50

Making hole through thick conglomerate. J. A. Kornfeld. il map diag Oil & Gas J 50:72-5+ S 27 '51

Manitoba's role in Williston basin's drilling program. P. DeArmond. maps diag Oil & Gas J 50:281+ S 20 '51

Methods of drilling for gas or oil. diags Am Gas J 174:27-30 Mr '51

Mexican American completes 18 months of operations. B. W. Gillespie and J. R. Coleman. il map Oil & Gas J 49:261-2+ D 21 '50

More time on bottom with new power-operated pipe-handling equipment. il Oil & Gas J 50:102-4 Jl 12 '51

Mousehole speeds running singles. il World Oil 132:146 Ap '51

New drilling method; shot-hole unit utilizes air instead of mud, water. il Oil & Gas J 49:60 D 7 '50

New fishing technique developed for wire line devices. R. R. Rieke. il diags World Oil 133:132-3 Jl '51

1950 looms as best drilling year in the industry's history. P. DeArmond. Oil & Gas J 49:122 D 28 '50

Oil hunt; science, new technology cutting gamble in exploration. D. Marshall. Barron's 30:13-14 N 13 '50

Old records fall as operators foresee 23,863 wells drilled in last half. J. C. Casper. Oil & Gas J 50:188-9 Jl 26 '51

Operating guide for a.c. drilling rig motors. L. J. Murphy. il World Oil 132:89-90+ Mr '51

Operators drill nearly 80,000,000 ft. of hole during first half. P. De Armond. Oil & Gas J 50:190-2 Jl 26 '51

Power equipment revolutionizes drilling operation. il Pet Eng 23:B67+ Ag '51

Producing depth records shattered in seven areas. World Oil 132:168+ F 15 '51

Progress report; Portilla field. J. A. Kornfeld. il map Oil & Gas J 49:54-6+ Ja 4 '51

Reverse circulating of drill-stem tests in open hole. J. E. Smith. diags World Oil 132:102+ F '51

Review and forecast. J. C. Casper and others. Oil & Gas J 49:182-91 Ja 25 '51

Rich reef; Wellman pool, Terry county, Tex. maps diag Oil & Gas J 50:292-3+ S 20 '51

Rigs in operation. World Oil 132:100-1 F 15 '51

Safety first in oil well drilling. Oil & Gas J 50:189 S 20 '51

Southwest, U.S.A., birthplace of rotary drilling. L. S. McCaslin, jr. il diags Oil & Gas J 50:supp 222-6+ My 31 '51

Spraberry drilling activity exceeds all previous plays in west Texas area. J. H. Bartley. map diag Oil & Gas J 50:126-8+ Ag 16 '51

Straight-hole drilling. diag Oil & Gas J 50:208+ S 20 '51

Straight-hole drilling in crooked-hole country. G. C. MacDonald and A. Lubinski. diags Pet Eng 23:B54+ My '51; Same abr. Oil & Gas J 49:118-22 My 3 '51

Structure test hole drilling, central Alberta. A. E. Campbell. Pet Eng 23:B64+ Mr '51

Substantial increase shown in foreign rotary rigs operating. D. M. Duff. Oil & Gas J 49:294 D 21 '50

Supervisory training in the drilling industry. A. L. Franzolino. World Oil 131:99-100 D '50

Teamwork pays off. Oil & Gas J 50:190+ S 20 '51

Thermal stresses around an uncased hole. K. D. Saunders and A. D. Topping. bibliog World Oil 131:167-8+ D '50; 132:155+ Ja '51

Time-dependent strains around uncased holes. A. D. Topping. bibliog diags World Oil 133:134+ Jl '51

Tough drilling in fractured tertiary rocks; Uinta basin of northeastern Utah. il map diag Oil & Gas J 50:299-301 S 20 '51

Tough drilling in the Gulf Coast area. L. S. McCaslin, jr. il Oil & Gas J 50:66-7+ Jl 5 '51

Treasure in the depths. E. Adams. il Pet Eng 22:A33-8+ D '50

Tubular-goods care. il diags Oil & Gas J 50:198+ S 20 '51

Uinta Basin development activity. E. A. Polumbus, jr. map diag Oil & Gas J 50:78-80+ Je 7 '51

Ultra-modern Diesel electric rig combines flexibility and portability. R. Sneddon. il diags Pet Eng 23:B13-14+ My '51

Union Pacific studies methods of designing wells to prevent or minimize damage from earthquakes. D. L. Roberts. il Oil & Gas J 49:62-3+ N 23 '50; Same. Pet Eng 22:B11-14 D '50; Same. World Oil 132:83-6 F '51

Water tank makes engine foundation. G. M. Wilson. il World Oil 133:124 Jl '51

Well blowouts in California drilling. A. J. Horn. bibliog World Oil 131:99-102+ O; 132+ N '50

Wells and footage drilled first nine months reflect gains over last year. P. DeArmond. Oil & Gas J 49:159 O 26 '50

West Sinton; south Texas' most active drilling area. J. A. Kornfeld. il map diags Oil & Gas J 49:54-6+ Ja 18 '51

West Texas preview of tomorrow's oil well rigs and drilling methods. R. Sneddon. il Pet Eng 233:B60+ Jl '51

Worland, Wyoming field. J. I. Morris. Pet Eng (Ref annual) 23:B77-8+ Jl 15 '51; Same abr. il map diags Oil & Gas J 50:133-4+ Ag 23 '51

World completions and footage; drilling activities, 1949-1950, by countries. World Oil 133:72+ Jl 15 '51

See also

American association of oilwell drilling contractors

Derricks, Oil well

Drills, Oil well

Petroleum—Mud fluids

Contracts

Contractors and operators enjoy harmonious relationship. R. B. McCloy. il Oil & Gas J 50:302-3+ S 20 '51

Contractors' profits? financial statements of 27 drilling firms. Oil & Gas J 50:187-8 S 20 '51

Current problems of the drilling contractor. A. W. Thompson. World Oil 132:83-6 Mr '51

Expenses skyrocket; revenue per foot falls in contractor's battle for existence. W. B. Colvin. il World Oil 133:179-80 S '51

PETROLEUM—Well drilling—Contracts—*Continued*

Getting to location sometimes is as expensive as drilling the well. il map Oil & Gas J 50:210+ S 20 '51

Journal's census of rotary drilling contractors. map Oil & Gas J 50:232-3 S 20 '51

Southwest drilling personalities. Oil & Gas J 50:supp 252+ My 31 '51

Cost

Application of drilling cost analysis. G. C. MacDonald. World Oil 132:160+ Ap '51

Contract-drilling prices; costs up 180 per cent and more over 1941 base. R. F. Carlson. Oil & Gas J 49:121 Mr 22 '51

Drilling-price survey. il map Oil & Gas J 50:182-9 S 20 '51

Hazards in outdated drilling equipment costs. F. W. Brigance. il World Oil 132:98 Mr '51

Mounting costs eyed. il Oil & Gas J 50:180-2 S 20 '51

Estimates

Contractor figures his costs. J. H. Abernathy. World Oil 131:125-6+ D '50

History

Rotary system of drilling pioneered at Spindletop. J. E. Kastrop. il diags World Oil 132:233-4+ Ja '51

Insurance aspects

See also
Petroleum—Well drilling, Subaqueous —Insurance aspects

Records

Performance records guide contractors. Oil & Gas J 50:273-4+ S 20 '51

Sampling

Cable tool coring. R. C. Glover. il World Oil 132:147-8+ Ap '51

Capillary properties of some limestone cores. R. L. Whiting and E. T. Guerrero. bibliog diags Oil & Gas J 50:272-3+ Jl 26 '51

Coring, electric logging, and other testing methods in exploratory wells. J. E. Walstrom. bibliog(34 titles) Oil & Gas J 49: 298+ N 16 '50; Same. Pet Eng 23:B52-4+ F; B35-6+ Mr '51

Correlation of basic core measurement. J. C. Calhoun, jr. Oil & Gas J 50:141 My 17 '51

Diamond coring in western Canada. J. F. Langston. il World Oil 131:266-8 D '50

Effect of mud filtrates and mud particles upon the permeabilities of cores. T. J. Nowak and R. F. Krueger. bibliog il World Oil 133:125-6+ Jl; 152+ Ag '51

Latest application of diamond coring. R. W. Stuart. il World Oil 133:173-6 S '51

Measurement and use of relative permeability data. U. S. Branson, jr. bibliog diag World Oil 133:184+ Jl '51

New developments in diamond coring. R. A. Watson. il Pet Eng 23:B63-4+ Je '51

Permeability constancy range of a porous medium. R. F. Nielsen. bibliog World Oil 132:188+ My '51

Sampling and examination of well cuttings. J. M. Hills. diags Oil & Gas J 49:134-9 Ap 26 '51

Study and teaching

More efficiency; training aids in faster drilling. Oil & Gas J 50:189-90 S 20 '51

Well drilling, Subaqueous

Allowable loads on an unsupported casing column under action of horizontal wave forces and vertical well-head loading. J. A. Reed, 2d and H. H. Meredith, jr. diag Oil & Gas J 49:80-2 O 19 '50; Same. World Oil 132:137-9 Ja '51; Same. Pet Eng (Ref annual) 23:B32+ Jl 15 '51; Abstract. Mech Eng 72:1006-7 D '50

Aramco spuds first offshore test. H. Ozanne. il World Oil 132:216 F '51

Barge buildup; seventeen bay wells now being drilled in two south Texas counties. F. L. Resen. il map Oil & Gas J 50:99-100 Ag 23 '51

Development of a marine oil field. J. W. Pittman. il Oil & Gas J 50:230+ Je 21 '51

Development problem; San Pedro Bay reserves. D. H. Stormont. map plan diag Oil & Gas J 50:58-9 S 6 '51

Drilling barge launched at Avondale. il Marine Eng 56:67-8 Jl '51

Humble making hole with world's most powerful barge-mounted rig. L. S. McCaslin, jr. il diag Oil & Gas J 49:66-7+ N 30 '50

Marine platforms for offshore drilling; caisson-pier type construction. C. A. Trexel. diags Oil & Gas J 49:76-7+ D 7 '50; Same cond. Eng N 145:46-7 D 7 '50

Mushrooming Mustang; new extensions to oil and gas-distillate field in Corpus Christi bay. J. A. Kornfeld. il map Oil & Gas J 49: 49-50 N 23 '50

Offshore equipment; Gulf Refining to use new submersible tank battery. il Oil & Gas J 49:62 D 7 '50

Offshore test planned by Arabian American oil co. D. M. Duff. il Oil & Gas J 49:42+ Ja 18 '51

Protective coatings aid search for oil; Humble Oil uses zoned system for metal paints. il Safety Maint & Prod 100:23+ D '50

Queen Mary sold; Aramco buys barge for Persian Gulf drilling. Oil & Gas J 50:48 Ag 2 '51

Southwest, U.S.A., birthplace of rotary drilling. L. S. McCaslin, jr. il Oil & Gas J 50:supp 243+ My 31 '51

Submersible 1800-hp drilling barge operates in Corpus Christi bay. G. O. Danielson. il plans Pet Eng 23:B14+ Je '51

Toughest drilling location; cost of building access road equal to cost of drilling the wildcat well. L. S. McCaslin, jr. il map Oil & Gas J 49:42-3+ Ja 4 '51

See also
Petroleum—Tideland development

Insurance aspects

Possibilities for insurance in Gulf oil drilling; Cravens, Dargan & co. review. Nat Underw 54:8 O 19 '50

Well logging

Application and interpretation of hydrocarbon well logging. J. E. Bliss. diag Oil & Gas J 50:76-9 Ag 9 '51

Cooperative log exchanges increase Nation's petroleum reserves. C. Hoot. il maps Oil & Gas J 50:72+ Ag 30 '51

Coring, electric logging, and other testing methods in exploratory wells. J. E. Walstrom. bibliog(34 titles) Oil & Gas J 49: 298+ N 16 '50; Same. Pet Eng 23:B52-4+ F; B35-6+ Mr '51

Drill-hole logging. Oil & Gas J 50:225 S 20 '51

Electric-log interpretation test. P. C. Ingalls. Oil & Gas J 49:149 Mr 22 '51

Electric log invasion of filtrate into water, oil and gas sandstone beds. P. J. Jones. bibliog World Oil 132:204+ Ap '51

Electric log resistivity, porosity and water saturation for clean and shaly sandstones. P. J. Jones. bibliog diags World Oil 132: 140-2+ F '51

Gamma-ray logging. F. P. Kokesh. diag Oil & Gas J 50:284+ Jl 26 '51

Log analyzer simplifies electric log quantitative calculations. R. G. Hamilton. bibliog World Oil 133:143-4+ Ag '51

New exploratory tool; Magnolia's new device logs magnetic susceptibility. P. C. Ingalls. Oil & Gas J 50:145 My 31 '51

New log interpreter. K. B. Barnes. il Oil & Gas J 50:55-6 Jl 12 '51

Nomograms for quantitative analysis of electrical logs. bibliog World Oil 132:131-4 Ap '51

Practical application of micrologging in the northeastern United States. C. A. Doh. diags Oil & Gas J 49:80+ D 14 '50

Quantitative log interpretation of the San Andres dolomite. C. B. Scotty. bibliog World Oil 133:166-8+ Jl '51

Radioactivity well logging anomalies. J. L. P. Campbell. diags Pet Eng 23:B7-12 Je '51

Review of quantitative methods of electrical-log interpretation. S. J. Pirson. diag Oil & Gas J 50:102+ My 24 '51

Subsurface logging methods; published by special permission from the Colorado school of mines' monumental symposium entitled Subsurface geologic methods (1950). J. M. Hills and others. diags Oil & Gas J 49: 134-9+ Ap 26 '51

PETROLEUM—Well logging—*Continued*

Underground magnetic logging device. il Pet Eng 23:B87+ Je '51

Well-site interpretation of electric logs. H. N. Lyle. diags Oil & Gas J 49:77-80+ N 23 '50

Well packers

Compounding neoprene products for resistance to petroleum gases. H. G. Bimmerman and R. E. Shrader. il Rubber Age 68:183-7 N '50

Full-hole gravel pack, a new completion technique. R. L. O'Shields and M. F. Hawkins. il diag World Oil 133:185-6+ Ag '51

Packers for dual completions. R. D. McBrian. diags Oil & Gas J 50:68+ Ag 2 '51

Well pressure

Applications of bottom-hole-pressure surveys to reservoir engineering. J. A. Kornfeld. Oil & Gas J 50:93 Jl 5 '51

Cableless electronic bottom-hole pressure measurement. C. H. Biedendieck. il diag Oil & Gas J 49:104+ F 8 '51

Calibration characteristics of subsurface pressure gages. R. V. Smith and others. bibliog Pet Eng 23:B7-12 Ja '51

Definition and distribution of pressure regions for properties of reservoir oil. J. A. Kornfeld. Oil & Gas J 50:343 Je 21 '51

Role of bottom-hole pressure surveys in field performance. J. A. Kornfeld. Oil & Gas J 50:163 Ag 16 '51

Well spacing

Factors involved in forming spacing units. C. B. Caruthers. World Oil 132:48+ Mr '51

Well interference supports wide spacing. G. R. Elliott. bibliog diags World Oil 132:174-6+ My '51; Same cond. Oil & Gas J 50:102-5 My 10 '51

Well spacing from a geologist's viewpoint. J. G. Bartram. maps Oil & Gas J 50:301+ Jl 26 '51

Well temperature

New survey tool; used to conduct ultrasensitive temperature surveys in a well. R. F. Carlson. Oil & Gas J 50:74-5 My 24 '51

Well testing

Portable tank farm for gauging wildcat wells. G. M. Wilson. il World Oil 131:149-51 D '50

Thief strata analyses reveal energy losses. F. R. Cozzens. World Oil 132:162-4+ Ja '51

Well tubing

Air-powered tubing slips for oil wells. il Comp Air Mag 56:22 Ja '51

Development of the Spangseal tubing joint. J. L. Holmquist. il diags Pet Eng 23:B54+ Jl '51

Paraffin control system uses parallel strings. K. M. Fagin. il Pet Eng 22:B14 N '50

Africa

Petroleum developments in Africa in 1950. H. D. Hedberg. maps Am Assn Pet Geologists Bul 35:1597-628 Jl '51

Alaska

Alaska search to end. Oil & Gas J 50:58 Ag 9 '51

Developments in Alaska in 1950. R. L. Miller. maps Am Assn Pet Geologists Bul 35:1369-79 Je '51

Possible future petroleum provinces. G. Gryc and others. bibliog maps diag Am Assn Pet Geologists Bul 35:151-68 F '51

Alberta

Geology and the petroleum engineer with special reference to western Canada. H. H. Beach. diags World Oil 131:250-2+ D '50

Geology of Turner Valley oil and gas field, Alberta, Canada. W. B. Gallup. bibliog maps diags Am Assn Pet Geologists Bul 35:797-821 Ap '51

Leduc D-2 zone pool. J. E. Baugh. bibliog il diags World Oil 132:210-11+ F '51

Leduc D-3 zone pool. J. E. Baugh. diags World Oil 132:210-11+ Mr '51

New technique taps Athabaska tar sands. K. A. Clark. il diag World Oil 132:205-8 F '51

Oil from Alberta bituminous sand; pilot plant for studying application of fluidized solids technique. W. S. Peterson and P. E. Gishler. bibliog il plan diag Pet Eng 23:C66-70+ Ap '51

Reef developments south of Leduc. P. C. Ingalls. map Oil & Gas J 50:157 S 13 '51

Reservoir data on the Redwater field. J. E. Baugh. il diags World Oil 131:260-1+ D '50

Source of oil in tar sands of Athabaska river, Alberta, Canada. T. A. Link. bibliog maps diags Am Assn Pet Geologists Bul 35:854-64 Ap '51

Stettler oil field, Alberta, Canada. R. P. Lockwood and O. A. Erdman. il maps diags Am Assn Pet Geologists Bul 35:865-84 Ap '51

Structural interpretation of loci of petroliferous parts of Devonian reefs in Edmonton area, Alberta, Canada. R. L. Rutherford. map Am Assn Pet Geologists Bul 35:844-53 Ap '51

Appalachian region

Possible future petroleum provinces. maps diags Am Assn Pet Geologists Bul 35:438-57 F '51

Arizona

Developments in Arizona, western New Mexico, and northern New Mexico in 1950. P. H. Umbach and F. C. Barnes. maps Am Assn Pet Geologists Bul 35:1266-73 Je '51

Arkansas

Developments in Arkansas and north Louisiana in 1950. L. D. Collier. map Am Assn Pet Geologists Bul 35:1345-51 Je '51

Northwest Arkansas test. P. C. Ingalls. map Oil & Gas J 49:105 D 28 '50

Atlantic coast

Developments in Atlantic coastal states between New Jersey and South Carolina in 1950. H. G. Richards. Am Assn Pet Geologists Bul 35:1366-8 Je '51

Borneo

World's largest single oilfield; developments at Seria. Chem Age (Lond) 64:469 Mr 24 '51

British Honduras

British Honduras oil exploration encouraging. M. F. Bannell. Barron's 31:28 O 1 '51

California

Calder field, Kern county, Calif. F. B. Carter. maps diag Am Assn Pet Geologists Bul 35:1070-3 My '51

Developments in West Coast area in 1950. G. B. Moody. bibliog maps Am Assn Pet Geologists Bul 35:1142-59 Je '51

Does war drain peril California oil? R. L. Minckler. Nat Pet N 42:28 N 15 '50

Pleasant Valley oil field, Fresno county, Calif. H. W. Weddle. maps diags Am Assn Pet Geologists Bul 35:619-23 Mr '51

Possible future petroleum provinces. G. C. Gester and others. bibliog maps diags Am Assn Pet Geologists Bul 35:200-69 F '51

Canada

Developments in eastern Canada in 1950. W. A. Roliff. bibliog maps diags Am Assn Pet Geologists Bul 35:1380-7 Je '51

Developments in western Canada in 1950. J. O. Galloway. maps Am Assn Pet Geologists Bul 35:1388-403 Je '51

Possible future petroleum provinces. bibliog maps diags Am Assn Pet Geologists Bul 35:169-84, 458-85 F '51

Caribbean region

Petroleum developments in South America and Caribbean area in 1950. J. F. Mason. maps Am Assn Pet Geologists Bul 35:1532-62 Jl '51

Colorado

Exploration and drilling activity at all-time high in San Juan basin. P. C. Ingalls. maps diag Oil & Gas J 50:62-4+ Ag 2 '51

New trends in Julesburg basin. P. C. Ingalls. map Oil & Gas J 50:187 Ag 23 '51

Regional study reveals Colorado oil prospects. C. F. Barb. World Oil 132:72+ F '51

PETROLEUM—Colorado—*Continued*

Variance in characteristics of the oil in the Weber sandstone reservoir, Rangely field, Colo. C. Q. Cupps and others. 34pls U S Bur Mines Rep of Invest 4761:1-68 '51

Egypt

Crude oil of Sudr, Egypt. I. Youssef. diag Inst Pet J 36:684-92 N '50

Europe

Petroleum developments in Europe in 1950. F. E. Von Estorff. maps Am Assn Pet Geologists Bul 35:1563-96 Jl '51

Far East

Petroleum developments in Far East in 1950. G. F. Barnwell. map Am Assn Pet Geologists Bul 35:1652-9 Jl '51

Guatemala

British Honduras oil exploration encouraging; activities in nearby Guatemala. M. F. Bannell. Barron's 31:28 O 1 '51

Gulf Coast region

Possible future petroleum provinces. map diags Am Assn Pet Geologists Bul 35:385-98 F '51

Idaho

Recent test drilling, Snake River plains, southwestern Idaho. W. Youngquist and T. H. Kiilsgaard. bibliog Am Assn Pet Geologists Bul 35:90-6 Ja '51

Illinois

Developments in Illinois and Indiana in 1950. A. H. Bell and R. C. Cooper. map Am Assn Pet Geologists Bul 35:1206-18 Je '51

Oil possibilities of Niagaran reefs in Illinois. A. H. Bell. maps World Oil 132:74+ Ja '51

Petrology of Fredonia oölite in southern Illinois. D. L. Graf and J. E. Lamar. bibliog il map Am Assn Pet Geologists Bul 34:2318-36 D '50

Possible future petroleum provinces. D. H. Swann, comp. bibliog maps diags Am Assn Pet Geologists Bul 35:486-98 F '51

Indiana

Developments in Illinois and Indiana in 1950. A. H. Bell and R. C. Cooper. map Am Assn Pet Geologists Bul 35:1206-18 Je '51

Possible future petroleum provinces. D. H. Swann, comp. bibliog maps diags Am Assn Pet Geologists Bul 35:486-98 F '51

Iran

Setback in Iran; Anglo-Iranian oil co. il Fortune 43:80-1+ Mr '51

Italy

Oil and gas in Italy. maps Pet Eng 23:A50+ F '51

Kansas

Lithologic criteria of Arbuckle in western Kansas. J. R. Clair and F. C. Edson. diag World Oil 131:83-4+ D '50

Western Kansas' Mississippian. P. C. Ingalls. diag Oil & Gas J 50:137 S 27 '51

Kentucky

Oil and gas developments in Kentucky in 1950. E. B. Wood. map Am Assn Pet Geologists Bul 35:1195-201 Je '51

Possible future petroleum provinces. D. H. Swann, comp. bibliog maps diags Am Assn Pet Geologists Bul 35:486-98 F '51

Regional aspects of Silurian and Devonian subsurface stratigraphy in Kentucky. L. B. Freeman. bibliog maps diags Am Assn Pet Geologists Bul 35:1-61 Ja '51

Louisiana

Developments in Arkansas and north Louisiana in 1950. L. D. Collier. map Am Assn Pet Geologists Bul 35:1345-51 Je '51

Developments in Louisiana Gulf coast in 1950. E. A. Murchison, jr. and J. L. Patton. map Am Assn Pet Geologists Bul 35:1338-44 Je '51

Manitoba

Oil show in Manitoba. J. P. deWet. Can Min J 71:64 D '50

Mexico

Developments in Mexico in 1950. E. J. Guzmán and F. Mina U. maps Am Assn Pet Geologists Bul 35:1404-22 Je '51

Possible future petroleum provinces. M. Alvarez, jr.; F. Mina. bibliog maps Am Assn Pet Geologists Bul 35:361-84 F '51

Michigan

Developments in Michigan in 1950. W. A. Sanger. map Am Assn Pet Geologists Bul 35:1219-26 Je '51

Mid-continent region

Developments in north Mid-continent in 1950. A. N. Sharrick. map Am Assn Pet Geologists Bul 35:1227-34 Je '51

Possible future petroleum provinces. bibliog maps diags Am Assn Pet Geologists Bul 35:316-43 F '51

Mississippi

Mississippi story; deposits of oil and gas provide abundance of fuel. il Manuf Rec 120:88-9 Je '51

Montana

Eastern Montana's paleozoic tests. P. C. Ingalls. map Oil & Gas J 50:139 Jl 19 '51

Variable characteristics of the oil in the Tensleep sandstone reservoir, Elk Basin field, Wyoming and Montana. R. H. Espach and J. Fry. 13pls U S Bur Mines Rep of Invest 4768:1-24 '51

Near East

Center of Soviet aspirations; an informal briefing on the American interest in the Middle East; with Harrison maps. Fortune 44:93-8 Ag '51

Europe's oil is in danger; maps. Fortune 43:82-3 Mr '51

Middle East importance in world oil prices increases with crude posting. J. P. Mosher, jr. Nat Pet N 42:30-1 D 6 '50

Middle East oil; the lifeblood of Europe. J. F. Dorsey. Comm & Fin Chr 172:2437+ D 21 '50

Middle East postings. D. M. Duff. Oil & Gas J 49:67-8 D 7 '50

Middle East reserves. R. I. Brougham. Oil & Gas J 49:55-6 Mr 15 '51

Petroleum developments in Middle East and adjacent countries in 1950. R. C. Kerr. bibliog maps Am Assn Pet Geologists Bul 35:1629-51 Jl '51

Nebraska

New trends in Julesburg basin. P. C. Ingalls map Oil & Gas J 50:187 Ag 23 '51

New Mexico

Developments in Arizona, western New Mexico, and northern New Mexico in 1950. P. H. Umbach and F. C. Barnes. maps Am Assn Pet Geologists Bul 35:1266-73 Je '51

Developments in west Texas and southeast New Mexico in 1950. H. A. Miller, jr. and others. bibliog map Am Assn Pet Geologists Bul 35:1254-65 Je '51

Devonian discoveries in Lea county. P. C. Ingalls. map Oil & Gas J 50:115 Ag 30 '51

Exploration and drilling activity at all-time high in San Juan basin. P. C. Ingalls. maps diag Oil & Gas J 50:62-4+ Ag 2 '51

Geology of Delaware basin. B. R. Haigh. maps diag Oil & Gas J 49:149-51+ F 22 '51

San Juan Basin surprise. P. C. Ingalls. map Oil & Gas J 50:133 Jl 12 '51

What new reserves can we expect to find in the Permian basin? S. Harris. il map World Oil 133:91+ S '51

New York (state)

Developments in New York in 1950. E. R. McAuslan. map Am Assn Pet Geologists Bul 35:1173-6 Je '51

Northeastern Pennsylvania and central New York petroleum probabilities. B. Willard and R. E. Stevenson. bibliog map diag Am Assn Pet Geologists Bul 34:2269-83 D '50

North America

Possible future petroleum provinces of North America. M. W. Ball; A. I. Levorsen and others. bibliog maps diags Am Assn Pet Geologists Bul 35:141-498 F '51

PETROLEUM—*Continued*

North Dakota

Discovery heightens interest in North Dakota geology. W. M. Laird. map diag World Oil 132:73-5+ Je; 133:83-4+ Jl '51

North Dakota's first oil well. P. C. Ingalls. map Oil & Gas J 49:137 Ap 12 '51

Williston Basin oil possibilities. G. W. Smith. bibliog map diag World Oil 133:78-80 Jl '51

Northeastern states

Possible future petroleum provinces. J. L. Anderson. bibliog maps diags Am Assn Pet Geologists Bul 35:421-37 F '51

Ohio

Developments in Ohio in 1950. R. L. Alkire. Am Assn Pet Geologists Bul 35:1188-91 Je '51

Oklahoma

Another Beckham bonanza? P. C. Ingalls. map Oil & Gas J 49:129 Mr 15 '51

Developments in Oklahoma in 1950. R. Engleman. map Am Assn Pet Geologists Bul 35: 1235-46 Je '51

Geology of Eola area, Garvin county, Okla. R. M. Swesnik and T. H. Green. bibliog maps diags Am Assn Pet Geologists Bul 34: 2176-99 N '50

Interest in McAlester basin revives. P. C. Ingalls. map Oil & Gas J 50:119 Jl 5 '51

Local oil finders societies; use of a seismograph for locating sandbars; South Ceres pool. P. C. Ingalls. Oil & Gas J 49: 351 D 21 '50

Oklahoma's Springer sands. P. C. Ingalls. map Oil & Gas J 50:137 S 6 '51

Petroleum engineering study of the Weber pool, Washington county, Okla. K. H. Johnston and C. W. Moot, jr. 38pls U S Bur Mines Rep of Invest 4740:1-47 '50

Refining properties of new crudes; characteristics of crude oils from the Golden Trend in Oklahoma. N. A. C. Smith and others. bibliog map Pet Processing 6:987-90 S '51

Types of oil and gas traps in southern Oklahoma. E. L. Selk. maps diags Am Assn Pet Geologists Bul 35:582-606 Mr '51

Pacific coast

Possible future petroleum provinces. bibliog maps diags Am Assn Pet Geologists Bul 35:185-273 F '51

Pennsylvania

Developments in Pennsylvania in 1950. C. R. Fettke. bibliog map Am Assn Pet Geologists Bul 35:1177-87 Je '51

Northeastern Pennsylvania and central New York petroleum probabilities. B. Willard and R. E. Stevenson. bibliog map diag Am Assn Pet Geologists Bul 34:2269-83 D '50

Rocky Mountain region

Developments in Rocky Mountain region in 1950. C. L. Severy and D. M. E. McLarty. bibliog map Am Assn Pet Geologists Bul 35:1160-72 Je '51

Possible future petroleum provinces. bibliog maps diags Am Assn Pet Geologists Bul 35:274-315 F '51

Rockies' stature grows. P. C. Ingalls. Oil & Gas J 49:127 Mr 8 '51

Significant developments in the Four Corners area. J. L. Tatum. il maps World Oil 133: 73-6 Jl '51

Types of oil and gas traps in Rocky Mountain region. A. W. McCoy, 3d and others. maps diags Am Assn Pet Geologists Bul 35: 1000-37 My '51

Saskatchewan

Southern Saskatchewan summary. P. C. Ingalls. map Oil & Gas J 50:185 Ag 16 '51

South America

Petroleum developments in South America and Caribbean area in 1950. J. F. Mason. maps Am Assn Pet Geologists Bul 35:1532-62 Jl '51

Southeastern states

Developments in southeastern states in 1950. F. T. Holden. bibliog map Am Assn Pet Geologists Bul 35:1352-65 Je '51

Possible future petroleum provinces. bibliog maps diags Am Assn Pet Geologists Bul 35:399-420 F '51

Southwestern states

Basins of the Southwest. P. C. Ingalls. map Oil & Gas J 49:133 D 7 '50

Future oil provinces, southwestern United States; digests of papers presented at regional exploration meeting, Fort Worth, Nov. 30-Dec. 1. Oil & Gas J 49:102-3 D 14 '50

Tennessee

Oil and gas developments in Tennessee in 1950. H. C. Milhous. map Am Assn Pet Geologists Bul 35:1202-5 Je '51

Texas

Developments in east Texas in 1950. M. Hays, jr. map diag Am Assn Pet Geologists Bul 35:1313-21 Je '51

Developments in north Texas in 1950. H. H. Bradfield. map Am Assn Pet Geologists Bul 35:1274-93 Je '51

Developments in south Texas in 1950. B. Scrafford and N. Jenswold. map Am Assn Pet Geologists Bul 35:1300-12 Je '51

Developments in Texas Panhandle in 1950. W. J. Vaughn, jr. map Am Assn Pet Geologists Bul 35:1247-53 Je '51

Development in upper Gulf Coast district of Texas in 1950. H. H. Allen. bibliog map Am Assn Pet Geologists Bul 35:1322-37 Je '51

Developments in west-central Texas in 1950. R. H. Martin. maps Am Assn Pet Geologists Bul 35:1294-9 Je '51

Developments in west Texas and southeast New Mexico in 1950. H. A. Miller, jr. and others. bibliog map Am Assn Pet Geologists Bul 35:1254-65 Je '51

Engineering study report; Worsham-Steed field, Jack county, Tex. map Oil & Gas J 50:107-8+ S 13 '51

Geology of Delaware basin. B. R. Haigh. maps diag Oil & Gas J 49:149-51+ F 22 '51

Hydrogen sulfide in west Texas. W. A. Cunningham. map Ind & Eng Chem 42:2238-41 N '50

Midland Basin's Spralberry. P. C. Ingalls. map Oil & Gas J 50:163 My 17 '51

Now it's Martin county. P. C. Ingalls. map Oil & Gas J 50:129 Ag 9 '51

Pennsylvanian reef and non-reef development in west Texas. J. H. Bartley. map World Oil 133:142+ S '51

Photogeologic study in Kent county, Tex. C. De Blieux; G. F. Shepherd. il maps Oil & Gas J 50:86+ Jl 12 '51

Possible future petroleum provinces. T. S. Jones and others. bibliog maps diags Am Assn Pet Geologists Bul 35:344-60 F '51

Quantitative log interpretation of the San Andres dolomite. C. B. Scotty. bibliog World Oil 133:166-8+ Jl '51

South Texas' lower eocene. P. C. Ingalls. map Oil & Gas J 50:359 Je 21 '51

Southwest Texas faults. H. N. Lyle. map diag Oil & Gas J 49:108+ Mr 22 '51

Spraberry and Dean sandstones of west Texas. L. McLennan, jr. and H. W. Bradley. map diags Am Assn Pet Geologists Bul 35:899-908 Ap '51

Two-level aeromagnetic profile across western Texas. H. W. Hoylman. World Oil 132: 62-4 F '51

Types of hydrocarbon accumulation and geology of South Liberty salt dome, Liberty county, Tex. M. T. Halbouty and G. C. Hardin, jr. maps diags Am Assn Pet Geologists Bul 35:1939-77 S '51

What new reserves can we expect to find in the Permian basin? S. Harris. il map World Oil 133:91+ S '51

United States

Characteristics of crude oils currently produced in the United States. H. M. Smith. bibliog Oil & Gas J 49:308-10+ Mr 29 '51

Utah

Reef limestones of Hermosa formation, San Juan canyon, Utah. S. A. Wengerd. bibliog il maps diags Am Assn Pet Geologists Bul 35:1038-51 My '51

PETROLEUM—Utah—*Continued*

Solid crude; Uinta tertiary production solidifies at well head. il Oil & Gas J 50:61 Ag 9 '51

Uinta basin's activity climbs. P. C. Ingalls. map Oil & Gas J 50:357 S 20 '51

Venezuela

Cumarebo oil field, Falcón, Venezuela. A. L. Payne. maps diags Am Assn Pet Geologists Bul 35:1850-78 Ag '51

West Virginia

Early Devonian gas in northern West Virginia and pre-Devonian oil prospects. F. Reeves and P. H. Price. maps diags Am Assn Pet Geologists Bul 34:2095-132 bibliog(p2131-2) N '50

Oil and gas developments in West Virginia in 1950. R. C. Tucker. Am Assn Pet Geologists Bul 35:1192-4 Je '51

Wyoming

Eager Beaver creek. P. C. Ingalls. map Oil & Gas J 49:129 Ap 5 '51

Possible lower cretaceous uplifting of Black Hills, Wyoming and South Dakota. A. J. Crowley. bibliog map Am Assn Pet Geologists Bul 35:83-90 Ja '51

Strat trap search need shown by Wyoming basin. H. C. Rea. maps World Oil 131:75-6+ N '50

Variable characteristics of the oil in the Tensleep sandstone reservoir, Elk Basin field, Wyoming and Montana. R. H. Espach and J. Fry. 13pls U S Bur Mines Rep of Invest 4768:1-24 '51

Wyoming correlations; penetration chart for Big Horn basin. map diag Oil & Gas J 49:358-9 Ja 25 '51

Wyoming correlations; penetration chart for Julesburg, Hanna, and Laramie basin. map diag Oil & Gas J 49:76 N 23 '50

Wyoming correlations; penetration chart for Powder River basin. map diag Oil & Gas J 49:178 N 9 '50

Wyoming correlations; penetration chart for Rawlins Uplift, Great Divide, and Washakie basins. diag Oil & Gas J 49:105 O 26 '50

Wyoming correlations; penetration chart for Wind River basin fields. map diag Oil & Gas J 49:81 N 30 '50

Wyoming possibilities enhanced by variety of oil traps. H. D. Thomas. bibliog maps World Oil 132:80-2+ My '51

PETROLEUM administration for defense

Agency accord; PAD, NPA reach agreement on scope of PAD's activities. Oil & Gas J 49:40 N 23 '50

Answers on materials; PAD lists most commonly asked questions on use of its forms for obtaining assistance. Oil & Gas J 50:51-2 Je 28 '51

Bureaucratic barricades still block path to independent status. H. A. Yocum. Nat Pet N 43:11 Ja 10 '51

Chapman moves to save PAD from bureaucrats; editorial. Nat Pet N 43:17-18 Ja 10 '51

Controls agreement; PAD, NPA reach accord on authority over oil, gas. Oil & Gas J 49:163-4 Ja 25 '51

Gas industry council assumes PAD advisory post. Gas Age 107:59 Mr 15 '51

How to get materials. Oil & Gas J 49:58-9 Ap 12 '51

Materials muddle; PAD seeking to aid industry in securing supplies. B. F. Linz. Oil & Gas J 49:55 F 15 '51

NPA and PAD reach agreement on handling petroleum chemicals. Oil Paint & Drug Rep 159:4 Ja 22 '51

Organization and administrative personnel. Pet Processing 6:144-5 F '51; Nat Pet N 43:21 F 14 '51

Personnel directory. Iron Age 168:insert Ag 30 '51

PAD appointment; Bruce Brown named deputy petroleum administrator. Oil & Gas J 49:38 N 30 '50

PAD authority; original order setting up agency gets revisions. Oil & Gas J 49:58 F 8 '51

PAD busy despite uncertain status. Nat Pet N 42:26 D 20 '50

PAD designed to protect industry's free competition; interview with J. R. Parten. Pet Refiner 29:92 N '50; Same. World Oil 131:59 N '50

PAD explains; touring agency answers oil men's questions on materials controls. Oil & Gas J 50:158 Je 21 '51

PAD gets green light to proceed under government-industry control. Nat Pet N 42:29-30 N 29 '50

PAD given authority over petrochemicals. Oil Paint & Drug Rep 159:3 Ap 23 '51

PAD has rocky road to PAW freedom. Nat Pet N 43:19 Ja 24 '51

PAD lists staff on call in materials emergencies. Nat Pet N 43:23-4 Ap 11 '51

PAD moves to complete organization of three units, natural gas by Dec. 1. Nat Pet N 42:40 N 15 '50

PAD rolls up its sleeves. B. K. Brown. Pet Processing 6:19-21 Ja '51; Abstract. Nat Pet N 42:26-7 D 20 '50

PAD sparks defense programs of Nation's oil and gas industries. Chem & Eng N 29:1118+ Mr 19 '51

PAD wins fight to run war-oil show. Nat Pet N 43:16 Ja 31 '51

PAD's future looks good as organizing continues. Nat Pet N 42:34 D 27 '50

Priorities help; PAD now able to provide priorities assistance for all U.S., Canadian operators. Oil & Gas J 50:60 Je 7 '51

Report on the progress of oil and gas defense controls. B. K. Brown. Pub Util 47:445-8 Mr 29 '51

Supply-demand balance is PAD goal as industry, Nation prepare for war. Nat Pet N 42:34 D 13 '50

PETROLEUM associations

Organizations, associations and societies in Southwest. Oil & Gas J 50:supp 456-8+ My 31 '51

PETROLEUM chemicals

Amyl compounds from pentane. R. L. Kenyon and others. bibliog flow sheets il diag Ind & Eng Chem 42:2388-401 D '50

Benzene from petroleum, how and how much. G. Egloff. Can Chem Process 35:573-7 Jl '51; Same. Pet Refiner 30:127-9 Jl '51; Same. Oil & Gas J 50:96+ S 6 '51

Big future ahead; abstract. W. E. Kuhn and J. W. Hutcheson. Oil & Gas J 50:164-5 S 20 '51

Big increase in chemical materials from oil and gas. Barron's 31:21-2 S 10 '51

Chemicals from natural gas and petroleum. G. Egloff. Oil & Gas J 49:69-72+ N 2 '50

Chemicals from oil. Economist 161:522-3, 579-81 S 1-8 '51

Commemorative section to mark fiftieth anniversary of M. W. Kellogg co. il Pet Eng 23:C23+ Jl '51

Ethylene chemicals; the next decade; with graphs and tables. W. E. Kuhn and J. W. Hutcheson. bibliog Chem W 69:19-34 S 29 '51

Fertilizer from petroleum. G. W. McCullough and others. flow diags map Pet Processing 6:380-7 Ap '51

Five problems and five answers at Shell Chemical. J. A. Parker. il diag Chem Eng 57:109-11 D '50

Hydrocarbon jugglers. Comp Air Mag 55:280 D '50

I.C.I. Wilton works to make petroleum-derived terylene. V. S. Swaminathan. il Oil & Gas J 50:86-7+ Je 7 '51

Integrated operation; six-plant settlement starts with crude oil, winds up with rubber, plastics, petrochemicals, and more. F. L. Resen. diag Oil & Gas J 50:58 Jl 12 '51

Lion Chemical produces 1,200 tons daily of petrochemicals from natural gas. F. L. Resen. il diag Oil & Gas J 50:76-9 Jl 12 '51

Magic of petrochemistry opens new horizons for oil and gas. flow chart il diag Oil & Gas J 49:50-68 N 2 '50

Outstanding petrochemical plant in England; Shell plant at Stanlow. V. S. Swaminathan. il Pet Eng 23:C5-8 F '51

Petrochem plant; first major installation planned by Celanese corp. Oil & Gas J 49:61-2 F 15 '51

Petrochemical activity; more than 25 oil companies are engaged in various phases. G. Weber. Oil & Gas J 49:47 N 23 '50

PETROLEUM chemicals—*Continued*

Petrochemical engineer looks at rocket fuels. M. Sittig. Pet Refiner 30:114-16 My '51

Petrochemical manufacture. W. L. Nelson. Oil & Gas J 50:145 My 24; 111+ My 31 '51

Petrochemical output; preliminary 1950 production figures. G. Weber. Oil & Gas J 49:70-1 Mr 22 '51

Petrochemicals. J. V. Sherman. Barron's 30:11-12 N 13 '50

Petrochemicals' gain. Oil & Gas J 50:55-6 Je 14 '51

Petrochemicals have their heyday still ahead. Bsns W p 130+ S 22 '51

Petrochemicals in synthetic rubber production. R. R. Emmerson. Can Chem & Process Ind 35:288-90+ Ap '51

Petrochemicals in the Southwest. G. Weber. il Oil & Gas J 49:112-17+ My 3 '51

Petrochemicals production gained 40 per cent in 1950. Oil Paint & Drug Rep 159:49 Je 25 '51

Petrochemistry's widening horizon. G. Weber. il Oil & Gas J 50:supp 346-7+ My 31 '51

Petroleum chemicals; abstract. F. Roffey. Chem Age (Lond) 65:217 Ag 18 '51; Same. Chem & Ind p734-5 S 1 '51

Production of ethylene from petroleum sources. P. W. Sherwood. Pet Refiner 30:220-2+ S '51 (to be cont)

Progress in petrochemistry, a technical report; important chemical building blocks are ethylene, propylene, and the butylenes. W. J. Sweeney. Oil & Gas J 49:74-5+ N 2 '50

Pulsating petrochemicals. il Chem Ind W 68:7+ Mr 10 '51

Some aspects of the U.K. petroleum chemicals industry. J. M. Butler and H. L. Bennister. bibliog Chem & Ind p638-44 Jl 28 '51

Surfactants from petroleum; abstract. R. Leslie. Soap & San Chem 26:73 D '50

Vast expansion forecast; abstract. W. E. Kuhn. Comm & Fin Chr 174:1067 S 20 '51

Testing

Standardization committee; work and programme of sub-committee number nine; derived chemicals. P. J. Garner. Inst Pet J 37:357-8 Jl '51

PETROLEUM coke

Coker solves heavy fuel problems; Pan-Am uses delayed coking. A. L. Foster. flow diag il Pet Eng 23:C53-5+ Ap '51

Continuous contact coking. flow diag Oil & Gas J 49:190-1 Mr 29 '51; Same. Pet Refiner 30:218 S '51

Delayed coking improvements; technical problems and costs. Chem Age (Lond) 64:305-6 F 24 '51

Delayed coking process. flow diag Oil & Gas J 49:190-1 Mr 29 '51

Economics of petroleum coking for cat cracking feed preparation. J. W. Jewell, jr. and J. P. Connor. flow diag Pet Processing 5:1199-201 N '50; Same. Oil & Gas J 49:64-5+ N 23 '50; Same. Pet Refiner 30:75-7 F '51

New 420 ton/day delayed coking unit. O. A. Fuchs. flow diag il diag Pet Processing 5:1058-62 O '50; Same. Oil & Gas J 49:76-7+ O 26 '50

Petroleum-coke study; firing spreader-stoker type boiler units. G. Weber. Oil & Gas J 49:64+ D 14 '50

PETROLEUM congress, World. See World petroleum congress

PETROLEUM cooperative associations

Big co-op distributes no savings, pays no taxes. Nat Pet N 43:34 Ja 3 '51

Co-op comeback. B. F. Linz. Oil & Gas J 49:47-8 N 30 '50

Co-ops out to beat majors, jobbers at own game; marketing efficiency. L. Castle. Nat Pet N 43:29 Ja 17 '51

PETROLEUM distillation

Aromatizing cracking of hydrocarbon oils; influence of the nature of charging stock. C. Weizmann and others. bibliog Ind & Eng Chem 43:2322-5 O '51

Aromatizing cracking of hydrocarbon oils; process data and mechanism. C. Weizmann and others. bibliog diag Ind & Eng Chem 43:2312-18 O '51

Asphalt by vacuum distillation. W. L. Nelson. bibliog Oil & Gas J 49:76 F 1 '51

Big crude unit at Bahrein refinery. il Oil & Gas J 50:67 Ag 9 '51

Catalytic cracking. M. Sittig. bibliog and patent list flow diags il diags Pet Refiner 29:91-5 Je; 99-104 Ag; 130-6 O; 125-32 N '50

Catalytic cracking and solvent refining feature 1930-50 period in refining. W. L. Nelson. il Oil & Gas J 50:supp 340+ My 31 '51

Catalytic cracking more attractive than ever with new design improvements; Socony-Vacuum airlift TCC unit. flow diag il Pet Refiner 30:164-5+ S '51

Chemical engineering unit processes fourth annual review; pyrolytic and catalytic decomposition of hydrocarbons. V. Haensel and M. J. Sterba. bibliog(86 ref) il Ind & Eng Chem 43:2016-22 S '51

Cracker catalysts. il Chem Ind W 68:16 Ja 27 '51

Development of wide range radiation type level control for the Houdriflow catalytic cracking process. E. J. Grace and O. W. Graham. il Instruments 23:1074-6 O '50

Distribution and type of sulfur compounds in straight-run naphthas. J. H. Hale and others. bibliog diag Anal Chem 23:287-93 F '51

Economics of petroleum coking for cat cracking feed preparation. J. W. Jewell, jr. and J. P. Connor. flow diag Pet Processing 5:1199-201 N '50; Same. Oil & Gas J 49:64-5+ N 23 '50; Same. Pet Refiner 30:75-7 F '51

Equilibrium flash vaporization of petroleum crude oils or fractions; method and apparatus for determination. D. F. Othmer, E. H. Ten Eyck and S. Tolin. bibliog diags Ind & Eng Chem 43:1607-13 Jl '51

Factors affecting throughput in cat cracking. P. M. Reynolds. diag Oil & Gas J 50:95 Je 28; 95 Jl 5; 107 Jl 12; 115 Jl 19; 353 Jl 26 '51

Factors controlling aging of cracking catalysts. G. A. Mills and H. A. Shabaker. Pet Refiner 30:97-102 S '51

Fluid catalyst-gas mixing in commercial equipment. J. W. Askins, G. P. Hinds, jr. and F. Kunreuther. diags Chem Eng Prog 47:401-4 Ag '51

Fluid catalytic cracking. flow diags Oil & Gas J 49:178-9 Mr 29 '51

Gas radiant heaters revive interest in thermal cracking. K. W. Fleischer. il diag Am Gas J 174:35-6 My '51

High destruction thermal cracking of catalytic cycle oil. D. M. Little and G. E. Merryfield. diags Oil & Gas J 49:242+ Mr 29 '51

Houdriflow catalytic cracking. flow diag il diag Pet Refiner 30:168+ S '51

Kitten cracker. il Oil & Gas J 50:152-3 Je 21 '51

Modernized refinery keeps pace with technology; Ohio oil company plant at Robinson, Ill. A. L. Foster. flow charts il plan Pet Eng 23:C27-30+ Ja '51

Moving bed recycle catalytic cracking correlations; product distribution and process variables. J. B. Maerker, J. W. Schall and J. C. Dart. Chem Eng Prog 47:95-101 F '51

New cat cracking record; Sunray's catalytic cracking unit runs 677 continuous days. R. L. Johnson. il Pet Eng 23:C50-1 Ap '51; Same cond. Oil & Gas J 49:92+ Mr 15 '51

New development in radiant heating for the petroleum industry. C. C. Tate. il diags Oil & Gas J 50:106+ My 10 '51; Same. Pet Refiner 30:103-6 My '51

Noncondensable gases handled during vacuum distillation. W. L. Nelson. Oil & Gas J 49:100 Ap 5 '51

Olefin, diolefin yields high in non-catalytic process; patent. P. J. Gaylor. flow diag Pet Processing 6:173-4 F '51

Orthoflow fluid catalytic cracker, Edmonton. il diag Chem Age (Lond) 65:431-2 S 29 '51; Pet Refiner 30:178+ S '51

Particle size analysis of fluid cracking catalysts. F. E. Ivey, jr. bibliog Pet Refiner 30:99-103 Je; 141-5 Jl; 127-32 S '51

Properties of high boiling petroleum products; distillation studies with relation to polynuclear aromatic components. L. T. Eby, G. G. Wanless and J. Rehner, jr. bibliog il Ind & Eng Chem 43:954-60 Ap '51

PETROLEUM distillation—*Continued*

Properties of high boiling petroleum products; physical and chemical characterization studies with relation to polynuclear aromatic components. G. G. Wanless, L. T. Eby and J. Rehner, jr. bibliog Anal Chem 23:563-71 Ap '51

Skelly manufactures close-boiling products at El Dorado plant. flow diag il Oil & Gas J 49:86+ Ja 11 '51

Skelly Oil successfully treats 600° end point distillate with cupric chloride slurry. flow diag il Oil & Gas J 49:107-8 D 14 '50

Spray dryer speeds up process; Davison Chemical catalyst processing. il Chem Eng 58:186 Je '51

Standardization committee; work and programme of sub-committee number two; crude oil. H. Jagger. Inst Pet J 37:349-52 Jl '51

Studies in fluidization. H. L. Olin and J. S. Patterson. bibliog diags Pet Eng 23:C5-12 Je '51

TCC cracking of Rocky Mountain crudes. A. L. Foster. il diags Pet Eng 22:C7-12 N '50

39 per cent benzene yields from a C_6 straight-run fraction. flow diag Pet Processing 6:249-50 Mr '51

Twin air-lift Thermofor cat cracking units on stream. flow charts il Pet Eng 23:C 11-14+ Ap '51

Two new petroleum advances; super high vacuum distillations and mild thermal cracking of high vacuum residuum. J. G. Allen. diag Chem Eng 58:196+ Jl '51

UOP fluid catalytic cracking process. flow diag Pet Refiner 30:175+ S '51

See also

Houdry process

Oil shales—Distillation

Bibliography

Packed columns for multicomponent absorbers and fractionators. W. C. Edmister. bibliog (86 titles) Pet Eng 23:C25-6 Ja '51

Residuum

Coker solves heavy fuel problems; Pan-Am uses delayed coking. A. L. Foster. flow diag il Pet Eng 23:C53-5+ Ap '51

Proper price for straightrun residuum. W. L. Nelson. Oil & Gas J 49:109-10 F 8 '51

Two new petroleum advances; super high vacuum distillations and mild thermal cracking of high vacuum residuum. J. G. Allen. diag Chem Eng 58:196+ Jl '51

Visbreaking high-vacuum residuum. J. G. Allen and others. flow sheet Oil & Gas J 50:78-80+ Je 14 '51; Pet Processing 6:612-15 Je '51; Pet Refiner 30:107-14 Jl '51

Tables, calculations, etc.

Direct method for solving flash equilibrium calculations. P. M. Reilly. bibliog Pet Refiner 30:132-6 Jl '51

Estimating pour points of petroleum distillate blends. E. B. Reid and H. I. Allen. Pet Refiner 30:93-5 My '51

How to estimate plate efficiency. Ju Chin Chu. bibliog Pet Processing 6:39-45+ Ja; 154-7 F '51

Method of calculation for high purity fractionation. F. C. Fowler. Pet Eng 23:C35+ Ja '51

Pressure drop calculation in bubble plate columns. Ju Chin Chu. bibliog diags Pet Eng 23:C9-12+ Mr '51

Pressure drop through bubble caps. J. L. Huitt and R. L. Huntington. bibliog il diags Pet Refiner 30:131-4 Je; 111-18 Ag; 153-4 O '51

Process variables in furnace operations. P. Buthod. Oil & Gas J 50:79-81+ Ag 30 '51; Same. Pet Refiner 30:77-82 Ag '51

PETROLEUM engineering

Applications of the productivity index to oil-field problems. J. A. Kornfeld. Oil & Gas J 50:236-7+ Jl 26 '51

Average completion cost is 20 per cent of total well cost. T. A. Huber and others. bibliog diags Oil & Gas J 49:234+ N 16 '50; Same. Pet Eng 23:B36+ Ap '51; Same. Am Pet Inst Proc 30(4):24-34; Discussion. 34-6 '50

Centrifugal compressors in petroleum engineering. il diags Pet Eng 23:C32-6 Mr; C18+ Ap '51

High-speed electronic reservoir analyzer. O. L. Patterson and others. il diags Oil & Gas J 49:87-8+ Ap 5 '51

New pool analyzer; electronic reservoir device predicts future behavior of oil fields. L. S. McCaslin, jr. il Oil & Gas J 49:49-50 Mr 15 '51

Petroleum engineering study of the Weber pool, Washington county, Okla. K. H. Johnston and C. W. Moot, jr. 38pls U S Bur Mines Rep of Invest 4740:1-47 '50

Petroleum mechanical engineering conference widely supported. Mech Eng 72:943-4 N '50

Plymouth's operations at Benedum. R. F. Carlson. il map diag Oil & Gas J 49:66-7+ N 23 '50

Progress report; Fordoche field, Lottie, La. J. A. Kornfeld. il maps diags Oil & Gas J 50:70-2+ Je 28 '51

Reservoir engineering. N. J. Clark. diags World Oil 132:157-60 My; 184+ Je '51

See also

Petroleum—Prospecting

Petroleum—Production methods

Petroleum—Pumping

Petroleum—Well drilling

Petroleum distillation

Petroleum pipe lines

Petroleum refineries—Equipment

Petroleum refining

Water supply for petroleum industry

Bibliography

Classified list of important papers for 1949-1950. Pet Eng 22:E15+ S; E13+ O; E15+ N; E15+ D '50; 23:E19+ Ja; E17+ F; E15+ Mr; E17+ Ap; E15+ My; E17+ Je; E11+ Jl; E11+ Ag '51

Classified list of important papers for 1950-1951. Pet Eng 23:E15+ S; E15+ O '51

Electric analogies

New electrical analyzer for study of oil-field behavior can be used to study gas fields. R. G. Nisle. diags Oil & Gas J 50:76+ S 27 '51

Power

Convertible rig. J. A. Kornfeld. il Oil & Gas J 50:142 My 10 '51

Diesel-electric drilling rig. D. H. Stormont. il diags Oil & Gas J 49:224-5+ Ap 19 '51

Diesel electric rig designed for medium or deep drilling. G. M. Wilson. il World Oil 132:111-14+ My '51

Engine shelter supports speed disassembly. il World Oil 132:115+ F '51

Engineered power units simplify setup. il World Oil 132:132+ Je '51

First rig equipped with dynamatic couplings being used on deep test. K. M. Fagin. il Pet Eng 22:B39+ N '50

Installation, operation, maintenance of mechanical drive steam turbines. W. B. Yard. il diags Pet Refiner 30:104-8 Ap '51; Excerpt. Oil & Gas J 49:92+ Mr 22 '51

Modern rig powered by steam engine. K. M. Fagin. il Pet Eng 23:B38+ My '51

New skid-mounted rig offers compactness. il Pet Eng 23:B81 My '51

Power equipment revolutionizes drilling operation. il Pet Eng 23:B67+ Ag '51

Shop-made preheater cuts fuel costs, aids boiler efficiency. C. W. Alcorn. il World Oil 133:125-7 Ag '51

Ultra-modern Diesel electric rig combines flexibility and portability. R. Sneddon. il diags Pet Eng 23:B13-14+ My '51

See also

Electricity in the petroleum industry

Petroleum—Pumping, Electric

Petroleum pipe lines—Pumping stations, Electric

Safety measures

I.P. safety codes; application to drilling and production. H. de Wilde. Inst Pet J 37:181-5; Discussion. 197-208 Ap '51

See also

Petroleum industry and trade—Safety measures

Study and teaching

Analysis of petroleum engineering curricula, and recommendations for elective sequences. H. H. Power. J Eng Educ 41:300-7 Ja '51

Foreign students fewer in U.S. petroleum colleges. World Oil 132:279-80 Ap '51

PETROLEUM engineering—*Continued*

Tables, calculations, etc.

Conversion factors; crude oil; conversion factors for lengths, areas, weight and volumes. World Oil 133:92 Jl 15 '51

Graphical solution of single phase flow problems. E. R. Brownscombe and L. R. Kern. bibliog Pet Eng 23:B7-10+ F '51

How to estimate crude oil reserves by decline trend method. R. W. Clark, jr. Pet Eng 23:B7-12+ S '51

Oil displacement calculations. J. W. LaRue and D. A. Wilson. World Oil 132:146-8+ Ja '51

Thermal stresses around an uncased hole. K. D. Saunders and A. D. Topping. bibliog World Oil 131:167-8+ D '50; 132:155+ Ja '51

PETROLEUM equipment industries

European oil equipment. D. M. Duff. Oil & Gas J 49:69-70 F 8 '51

Oil marketing equipment jobbers form National association of oil equipment jobbers. Nat Pet N 43:35-8 My 23 '51

Your partner in drilling and producing operations; oil-equipment manufacture and supply. il Oil & Gas J 50:266-70 S 20 '51

Advertising

Industrial advertiser starts second half-century with hard-hitting copy; four-page inserts sell products and reputation; Kellogg refinery equipment. N. Kelne. il Ptr Ink 234:31 F 23 '51

Directories

California is headquarters for important oil-country equipment suppliers. il Oil & Gas J 49:A67-8+ N 9 '50

PETROLEUM geologists, American association of. See American association of petroleum geologists

PETROLEUM industry and trade

Continued growth of oil industry depends on unencumbered economy; interview with A. E. Bradshaw. World Oil 133:89-90 S '51

Cooperative oil and gas operations. W. Hawkins. Pet Eng 22:B68+ N '50

Maps of oil-producing countries. il World Oil 133:115+ Jl 15 '51

No substitute for free enterprise. J. E. Pogue. World Oil 132:261-2+ Je '51

Oil industry expecting another year of peaks. Chem & Eng N 28:4264-5 D 4 '50

Oil industry looks back to Spindletop; illustrations with text. Chem & Eng N 29:394-5 Ja 29 '51

Oil use jump puts pressure on industry. Nat Pet N 43:35 Mr 28 '51

Petroleum and natural gas industries sound; report of oil and natural gas securities committee of IBA. Comm & Fin Chr 172:2299+ D 14 '50

Petroleum industry has definite role in synthetics development. J. Boyd. bibliog flow diags il Pet Refiner 29:77-85 D '50

Petroleum industry prospects. T. W. Phelps. Comm & Fin Chr 172:2084 N 30 '50

Petroleum industry shifts into high; C&EN annual review. R. W. Thomas and P. M. Arnold. Chem & Eng N 29:22-3 Ja 1 '51

Russia trails in oil output; U.S. energy demand will rise; A.P.I. annual meeting. Bsns W p24 N 25 '50

Spirit of Spindletop. B. B. Jennings. Pet Eng (Ref annual) 23:E27-32 Jl 15 '51

12,000,000 barrels a day; Shell annual report. Chem Age (Lond) 64:921-2 Je 16 '51

What's ahead in '51? opinions of presidents of oil companies. World Oil 132:43-4 Ja '51

What's wrong with being an oil company? E. Adams. Pet Eng 23:A58+ Ap '51

Why forecast? R. L. Erion. Oil & Gas J 49:64+ Ja 18 '51

Your business and mine; the petroleum industry is assured of resources by the steel industry. B. F. Fairless. Midwest Eng 3:6-7+ Ja '51; Same. Am Pet Inst Proc 30(1):31-5 '50

See also

Burmah oil company, limited
Gasoline industry
Lion oil company
Oil companies
Oil fuel industry
Phillips petroleum company
Royal Dutch-Shell group
Sinclair oil corporation
Standard oil company (New Jersey)

Accidents

Safety record best in industry history. World Oil 133:66 Jl '51

Accounting

How a large oil company adjusted its accounts during postwar inflation behind the Iron Curtain; American company in Hungary. L. Paxton. J Account 92:190-7 Ag '51

Advertising

Cartoon strip was good but photographs better. il Ptr Ink 235:43 Ap 20 '51

Jobber story presented to public through OIIC ad. il Nat Pet N 43:20 Je 27 '51

New technique for institutional advertisers; develop copy themes from letters of inquiry and feature the letter writers. L. F. Thomann. il Ptr Ink 236:40+ Ag 24 '51

Equipment and supplies

Adjustable measuring line supports. G. M. Wilson. il World Oil 132:119 Ja '51

Ammonia controls corrosion of oil field equipment. il Safety Maint & Prod 101:21+ Ja '51

Better designed pipe rack speeds rigging-up. G. M. Wilson. il World Oil 132:139+ Je '51

Cantilever shelter protects rig power plant. J. C. Albright. il World Oil 132:142+ Je '51

Cardwell reaches silver anniversary; pioneer oil-field manufacturing firm. J. A. Kornfeld and others. il Oil & Gas J 50:sup A14-17+ Je 28 '51

Care and maintenance of slush pumps. W. J. Redman. Pet Eng 22:B47-50+ N '50; Same. Oil & Gas J 49:84+ N 2 '50; Same. World Oil 131:118-20+ D '50

Care and maintenance of wire rope. R. D. McNutt. il World Oil 132:108+ F '51

Compounding neoprene products for resistance to petroleum gases. H. G. Bimmerman and R. E. Shrader. il Rubber Age 68:183-7 N '50

Corrosion and its control. M. E. Parker. diags Oil & Gas J 49:111 F 8; 116-17 F 15; 194+ F 22; 65-6 Mr 1; 95+ Mr 8; 85 Mr 15 '51

Corrosion fundamentals in field application. A. Chatenever. diags World Oil 133:194+ Jl '51

Diesels in the oil industry. G. W. Grupp. il Diesel Power 29:76-7+ Ap '51

Engine shelter supports speed disassembly. il World Oil 132:115+ F '51

Equipment answers; fair treatment to industry promised by PAD officials. D. M. Duff. Oil & Gas J 49:63-4 Ap 12 '51

Equipment outlook. Oil & Gas J 49:60 F 8 '51

Factors in well-serving costs. W. E. Best. il World Oil 132:133-4 Mr '51

Flatboat bases for mud pumps. il World Oil 131:114 N '50

Gaskets for the oil industry. H. H. Dunkle. diags Oil & Gas J 49:194+ O 5 '50; Same. Pet Refiner 29:135-9 N '50

Hardships mount as steel shortage worsens; an interview with Russel B. Brown. World Oil 132:45+ Ja '51

Helicopters, a versatile oil-field tool. F. W. Lee and B. M. Tinder. il Oil & Gas J 50:225+ Je 21 '51

How Atlantic refining co.'s oil-producing department functions in planning corrosion studies. J. A. Kornfeld. Oil & Gas J 49:186+ F 22 '51

How to get materials. Oil & Gas J 49:58-9 Ap 12 '51

How to recondition pipe. R. Sneddon. il Pet Eng 23:B37-8+ S '51

Inhibitor control for sulfide corrosion. J. A. Caldwell. World Oil 132:191-2 Ap '51; Same abr. il Oil & Gas J 49:95+ F 8 '51; Same. Pet Eng 23:B58+ Mr '51

Lubricated plug valves for drilling and wellhead services. E. E. Hedene. il Pet Eng 22:B59+ D '50

Materials control practices. J. L. Stackpole. World Oil 133:61-2+ Jl '51

Metals allocation; copper, steel, aluminum to be allotted directly to oil industry manufacturers. B. F. Linz. Oil & Gas J 49:127 Ap 19 '51

NPA lists new allotment symbols for ordering controlled materials. Nat Pet N 43:19-20 Jl 4 '51

PETROLEUM industry and trade—Equipment and supplies—*Continued*

New drilling equipment offered industry in 1950. W. S. Crake. bibliog il diag World Oil 132:105-6+ F 15 '51
New equipment. il Published in monthly numbers of World oil
New truss-type engine substructure. il diag Oil & Gas J 50:242+ S 20 '51
No more steel? DPA official says small third-quarter steel allotment for oil needs, no mistake. Oil & Gas J 50:178 Jl 26 '51
Oil country tubular goods. H. J. Wallace. Pet Eng 22:B54+ D '50
Oil-industry steel; PAD tells NPA oil industry must have 1,947,000 tons of tubular goods. B. F. Linz. Oil & Gas J 49:189-91 N 16 '50
Oil men can use new NPA priority in orders for maintenance needs. Nat Pet N 43:24-5 F 28 '51
Order M-46 issued operators now have priority system for tubular goods; with text of order. B. F. Linz. Oil & Gas J 49:41-4 Mr 15 '51
Package pipe rack. il Oil & Gas J 49:88+ Mr 22 '51
Plymouth's operations at Benedum. R. F. Carlson. il map diag Oil & Gas J 49:66-7+ N 23 '50
Pontoon ferry eliminates expensive bridging operation. E. Sterrett. il World Oil 132:98-9 F '51
Portability and compactness feature generator house and mud tank units. G. M. Wilson. il World Oil 132:96-7 F '51
Portable tank farm for gauging wildcat wells. G. M. Wilson. il World Oil 131:149-51 D '50
Prediction of corrosion in oil and gas wells. D. A. Shock and J. D. Sudbury. bibliog il Pet Eng (Ref annual) 23:B86+; Discussion. B98 Jl 15 '51
Priorities help; PAD now able to provide priorities assistance for all U.S., Canadian operators. Oil & Gas J 50:60 Je 7 '51
Sand and gas control in pumping wells. N. C. Wells. il Pet Eng 23:B48+ My '51
Servicing mast storage racks. il World Oil 132:161 My '51
Special NPA order lets oil industry write out own maintenance priorities. Nat Pet N 43:26-7 Mr 14 '51
Steel for oil; NPA lays basis for priorities on steel for oil industry. B. F. Linz. Oil & Gas J 49:35-6 N 2 '50
Steel shortage to restrict industry operations. R. E. Spann. World Oil 133:71-2 Ag '51
Trailer-mounted power pump has varied oil field uses. il World Oil 132:196-7 Je '51
Welding in the oil fields. il Welding J 29:1002-4 N '50
What's needed in equipment? drilling contractors voice their needs. Oil & Gas J 50:240-1 S 20 '51
Why the supply of gas and oil depends on the supply of steel. O. L. Chapman. Gas Age 108:33-5+ Ag 16 '51
Wire-line pressure-setting assembly as used to set tools having opposed slips. C. A. Greve. diags Oil & Gas J 49:123-4 My 3 '51; Same abr. Pet Eng (Ref annual) 23:B72+ Jl 15 '51
Wire-line repair and uses in the oil industry. R. F. Carlson. il Oil & Gas J 49:80+ Mr 1 '51

See also
Derricks, Oil well
Drills, Oil well
Motor trucks in the petroleum industry
Petroleum—Well casing
Petroleum engineering—Power

Finance

Capital investments; U.S. oil industry spending two billion dollars this year for expansion and new equipment. Oil & Gas J 49:29 N 2 '50
Increased earnings; net earnings of 30 companies. F. G. Coqueron and J. E. Pogue. Oil & Gas J 50:48 Je 28 '51
Nine months' earnings foreshadow big oil year; with comparison of company earnings to Sept. 30. J. S. Bowen. Barron's 30:7-8 N 13 '50
Oil, gas, and the banker. F. F. Florence. Am Pet Inst Proc 30(4):51-4 '50; Same cond. Oil & Gas J 49:348-9+ N 16 '50
Oil now $32 billion industry. L. J. Logan. World Oil 131:56-8 D '50
Petroleum holding company eventually may dissolve; Mission corp. Barron's 31:30 Jl 30 '51
Petroleum industry earnings in 1951 forecast at new peak; Chase national bank survey. Comm & Fin Chr 174:873 S 6 '51
Petroleum industry; investment for development, modernization and expansion. F. M. Porter. Mech Eng 73:140 F '51
$32.9 billion investment makes oil fourth largest industry in the United States. Pet Refiner 30:67-8 Ag '51; Same. World Oil 133:73-4+ Ag '51

Fires and fire protection

Directionally-drilled well cheats blaze, produces oil. G. E. Justice. il diag World Oil 133:309-11 S '51
Firefighter's diary. M. M. Kinley. il World Oil 133:264-5 Ag '51

History

Captain Lucas, titan of Spindletop. World Oil 132:254 Ja '51
Chemical progress during the 75 years of the American chemical society; petroleum chemistry. G. Egloff and M. L. Alexander. bibliog il Ind & Eng Chem 43:809-19 Ap '51
Historian looks at oil. C. C. Rister. Pet Eng (Ref annual) 23:A29-32 Jl 15 '51
Oil and gas journal golden anniversary number. il maps diags Oil & Gas J 50:supp 109-463 My 31 '51
Spindletop anniversary. Oil & Gas J 49:53-5 Ja 11; 33-5 Ja 18 '51
Spindletop first and among best of Gulf Coast fields. L. J. Logan. il diag World Oil 132:228-30 Ja '51
Spindletop given high place in history of industry. World Oil 132:225-7 Ja; 41-2 F '51
Spindletop's production peaks; 1902 and 1927. il World Oil 132:232 Ja '51

See also
Petroleum—Well drilling—History

International aspects

Adequate protection now of strategic oil supplies urged. G. Egloff. il Pet Refiner 29:104-6 D '50; Same abr. Nat Pet N 42:26-8 N 15 '50; Same cond. Oil & Gas J 49:277+ N 16 '50
Agreements on dollar oil. Economist 160:394-5 F 17 '51
Britain ends discrimination against U.S. companies. Nat Pet N 43:22 F 14 '51
Center of Soviet aspirations; an informal briefing on the American interest in the Middle East; with Harrison maps. Fortune 44:93-8 Ag '51
Cooperative supply; government asks oil companies to cooperate in replacing Iranian oil. Oil & Gas J 50:41-2 Jl 5 '51
Dollar-oil problem; Jersey Standard, British reach long-term agreement. D. M. Duff. Oil & Gas J 49:66 F 15 '51
East-West struggle for oil. H. M. Tremaine. map Mag of Wall St 88:288-90+ Je 16 '51
Eastern hemisphere oil; five U.S. firms have a major stake in a troubled area. R. Bing. Barron's 31:5-6 Jl 16 '51
Failure of Iran talks perils supply-demand balance. World Oil 133:246 Jl '51
Fiasco in Iran. F. Morley. Barron's 31:3 O 8 '51
How important is Persian oil? Economist 160:1244-6 My 26 '51
If Iran is lost. D. M. Duff. Oil & Gas J 50:68+ Jl 12 '51
Imports attacked; I.P.A.A. counsel asks end of trade agreement. Oil & Gas J 49:32 F 1 '51
Iran-Britain oil dispute remains unsettled. Nat Pet N 43:28-9 S 5 '51
Iran the loser? World Oil 133:330+ S '51
Iranian sidelights; repercussions from nationalization of industry continue to crop out all over the world. Oil & Gas J 50:65-6 S 6 '51
Iran's oil could be replaced. il Bsns W p23 Je 30 '51
Joint oil action; government, foreign-operating firms set up four-point plan for pooling facilities to replace Iranian crude. Oil & Gas J 50:59 Ag 9 '51
Long haul to Russia; Iran's best bet, Britain. World Oil 132:257 Je '51

PETROLEUM industry and trade—International aspects—*Continued*

Middle East importance in world oil prices increases with crude posting. J. P. Mosher, jr. Nat Pet N 42:30-1 D 6 '50

Middle East oil developments. C. L. Harding. Pet Eng (Ref annual) 23:E33-4+ Jl 15 '51

Oil and world problems. F. J. Fohs. World Oil 132:249-50+ My '51

Oil in emergency. Economist 161:172-3 Jl 21 '51

Our ability to meet new oil demand; importance of Iran nationalization. T. W. Phelps. Comm & Fin Chr 173:2252 My 31 '51

Setback in Iran; Anglo-Iranian oil co. il Fortune 43:80-1+ Mr '51

West could lose Iran's oil. il Bsns W p 145-6 Mr 17 '51

World oil control; proposals for eventual internationalization of global oil supply. B. F. Linz. Oil & Gas J 49:39-40 F 1 '51

See also

Petroleum industry and trade—Iran

Public relations

API agriculture committee's grassland program improves oil-farmer relations. L. Castle. Nat Pet N 43:33 Jl 18 '51

API agriculture group keeps finger on farmer pulse for oil industry. Nat Pet N 43:51-3 Je 27 '51

Dealer initiative provides spark in oil progress display experiment. F. C. Sturtevant. il Nat Pet N 42:58-9 N 15 '50

High profits headlines give public damaging impression of oil industry. R. E. Bjorkback. Nat Pet N 43:25-6 Mr 21 '51

Industry's forceful leaders tell public some amazing facts about oil. Oil & Gas J 49:210-13 N 16 '50

Nation hears how free competition has written story of oil progress; Oil progress week. il Nat Pet N 42:29-30 O 25 '50

Oil company's speaker's panel keeps finger on pulse of public opinion. R. E. Bjorkback. Nat Pet N 42:27 N 29 '50

OIIC appoints oil men to 1951 subcommittees. Nat Pet N 43:25 Ja 17 '51

OIIC '51 program to be guided by results of opinion survey. Nat Pet N 42:39 N 15 '50

Oil's story told to youngsters; API's program takes petroleum industry facts to school room. R. E. Bjorkback. il Nat Pet N 43:61+ S 12 '51

Oil's tractor maintenance contest saves fuel, hikes farm production. L. Castle. Nat Pet N 42:25-6 D 6 '50

Opinion poll; public thinks more of oil industry. Oil & Gas J 49:185-6 N 16 '50

Publicity venture; Houston teachers told how oil, gas business operates. L. S. McCaslin, jr. il Oil & Gas J 49:50-1 N 23 '50

Small oil company builds good will by being good neighbor to school. L. R. Kamperman. Nat Pet N 42:27 N 22 '50

Socony invites public to open house on new 3,200 h.p. flagship towboat, La Crosse. D. J. Warren. Nat Pet N 43:57-8 Ag 8 '51

Radio communication

Cost and operating characteristics of microwave systems. E. B. Dunn. il World Oil 132:223-4+ Je '51

How two-way radio aids in drilling. P. A. Greenmeyer. il Pet Eng 23:B40+ Je '51

Humble uses microwave. H. Clark. il map Pet Eng 23:D49-50 My '51

Microwave communications systems. W. T. Bulla. il map Pet Eng 23:D13+ Je '51

New microwave relay system; Mid-Valley Pipeline's 1000-mile installation. D. Samuelson. il map diags Pet Eng 23:D123-6 My '51

Oil field communications in Venezuela. F. V. Long. il map World Oil 133:254-6 Jl '51

Tide Water Associated inaugurates radio truck control. R. Beattie. il Oil & Gas J 49:236+ Mr 29 '51

Two-way radio expedites Colorado Interstate operations. W. I. Blount. il Oil & Gas J 49:235-6 Ap 19 '51

Regulation

Controls agreement; PAD, NPA reach accord on authority over oil, gas. Oil & Gas J 49:163-4 Ja 25 '51

Effect of government regulations on commercial chemical development; pattern for cooperation. B. B. Biggs. Chem & Eng N 29:1721-3 Ap 30 '51

Price-wage controls cut production. L. J. Logan. World Oil 132:32 Mr '51

See also

Petroleum—Unit operation of pools

Safety measures

Automatic surface safety valve. C. A. Kizer. il Pet Eng 22:B16+ D '50

Changing positive chokes on high-pressure wells. H. S. Baird. il World Oil 132:152 Ja '51

Drilling safety factors cited; abstract. W. W. Duncan. World Oil 132:104 F '51

Safety first in oil well drilling. Oil & Gas J 50:189 S 20 '51

Safety in color. D. A. Klemme. World Oil 131:115-16+ N '50

Safety on the rig; meeting of safety clinic of American association of drilling contractors, Dallas. Oil & Gas J 50:92 My 10 '51

Symposium on the Institute of petroleum safety codes. E. J. Sturgess and others. plans Inst Pet J 37:163-97; Discussion. 197-208 Ap '51

Two-way channels; Shell Pipe Line's safety program. D. M. Farrell. il Nat Safety N 63:30-1+ Je '51; Same abr. World Oil 133:55-7 Jl '51

Venezuelans learn fast. A. R. Taylor. il Nat Safety N 64:22-3+ S '51

Securities

Oil industry in a changing economy; with statistics on leading companies. G. L. Merton. Mag of Wall St 88:21-3+ Ap 7 '51

Oil industry under mobilization; with data on leading companies. G. L. Merton. Mag of Wall St 88:610-12+ S 8 '51

Oil stocks let the theorists down; 1950 performance and 1951 showing; table. Bsns W p 123 Je 2 '51

Oil stocks shatter records; table. Bsns W p 142 S 8 '51

Re-appraising the oil industry under defense economy; with comprehensive statistics analyzing position of leading companies. G. L. Merton. il Mag of Wall St 87:125-7+ N 4 '50

Standard Oil of California has enjoyed a striking growth in investment prestige. P. J. Fitzgerald. Barron's 31:11-12 My 21 '51

Statistics

American petroleum institute; annual report of American oil and gas operations. Oil & Gas J 49:200-9 N 16 '50

Annual review and forecast. map Oil & Gas J 49:181-216+ Ja 25 '51

Company operations reflect competition. L. J. Logan. World Oil 132:61-2+ Je '51

Completions and footage at highest levels. World Oil 132:94-6+ F 15 '51

Drilling forecast is for four percent more wells. E. Sterrett. World Oil 132:91-2 F 15 '51

Exports and imports to be in sharp contrast. R. E. Spann. World Oil 132:55-6 F 15 '51

44,965 new wells this year. W. L. Baker and C. W. Smith. World Oil 133:65+ Ag '51

Midyear report. Oil & Gas J 50:187-202+ Jl 26 '51

Near-term availability of gas and oil is on the increase. L. F. McCollum. Gas Age 108:30-1+ Ag 30 '51

1950 completions hit record 43,939; well completions in the United States during Dec. 1950, and cumulative for year. World Oil 132:34 F '51

Oil; tankfuls by the barrel; ABC of what's behind some key statistics. il Bsns W p98-100 Ap 7 '51

One-third of income for exploration. H. J. Struth. Pet Eng 23:A49-54+ My '51

Petroleum demand to require record U.S. production. World Oil 132:42-4+ F 15 '51

Petroleum world output up 11.5 percent in 1950. Oil Paint & Drug Rep 160:57 Ag 20 '51

Record year; 1950 set new highs for oil industry. F. M. Porter. Oil & Gas J 49:37 D 28 '50

PETROLEUM industry and trade—Statistics—*Continued*

Salient annual statistics of the United States; tabulation. World Oil 132:40-1 F 15 '51

Stocks of oils need expansion. World Oil 132:64-5 F 15 '51

World production resumes upward trend. D. M. Duff. Oil & Gas J 49:204+ D 21 '50

World supply-demand situation now viewed with more optimism. A. D. Stewart. Oil & Gas J 49:192-3+ D 21 '50

Taxation

Cut in depletion allowance would limit new oil finds. E. R. Abrams. Barron's 31:6 My 21 '51

Depletion stalemate. L. S. McCaslin, jr. Oil & Gas J 49:54-5 N 9 '50

Industry leaders offer views on rapid write-off on defense units. Pet Refiner 30:58+ F '51

Industry needs depletion allowance to keep oil flowing. R. B. Brown. Nat Pet N 43:35-8 Ap 4 '51

New Aramco tax. Oil & Gas J 49:36 Ja 4 '51

Tax policy and petroleum supplies. H. H. Baker. Am Pet Inst Proc 30(4):43-50 '50; Same. Pet Eng (Ref annual) 23:A35-6+ Jl 15 '51

Tax problems in the oil and gas industry. J. R. Felt. World Oil 132:48+ Ja '51

Texas oil taxes. L. S. McCaslin, jr. Oil & Gas J 49:61 Mr 8 '51

War problems

Adequate defense calls for industry-military coordination. B. B. Jennings. Pet Refiner 29:85+ N '50

Digest of week's orders and reports on oil defense mobilization. Nat Pet N 42:29 D 27 '50 [cont weekly]

Fuels for our fighting forces; number of types of fuels and lubes supplied to combat areas should be kept low. B. S. Mesick. Oil & Gas J 49:283+ N 16 '50

Gulf Coast oil defenses stress protection against fifth column. M. C. Reid. il Nat Pet N 43:20-1 Mr 28 '51

Industry still has tough job ahead to meet military oil requirements. Nat Pet N 42:34 O 25 '50

Message to petroleum refiners. B. K. Brown. Oil & Gas J 49:217 Mr 29 '51

NPA restricts service station construction; bulk plant, terminal building can go ahead. Nat Pet N 43:17-18 Ja 17 '51

Oil-industry controls. O. L. Chapman. Am Pet Inst Proc 30(2):21-3 '50; Same cond. Oil & Gas J 49:181-2 N 16 '50

Oil prepares bomb defenses, fight on sabotage. L. Castle and others. il Nat Pet N 43:21-7 F 21 '51

Oil projects that help military most have best chance for materials. Nat Pet N 43:25 Je 13 '51

Oil's role in bomb defense is local job. A. R. Patla. il Nat Pet N 43:17-21 F 28 '51

Orders and reports on oil defense mobilization. Nat Pet N 43:22 Ja 17 '51

Organize plant protection now. F. V. Martinek. il Pet Processing 5:1173-5 N '50

Sabotage and espionage are top means Communists would use to hurt oil. L. Castle. Nat Pet N 42:27-8 O 25 '50

Troubles ahead; shortages, changes, problems, face all branches of the industry in coming months PAD men say. Oil & Gas J 49:62 Ap 12 '51

See also
Petroleum administration for defense

Africa

World-wide oil report. Oil & Gas J 49:159-60 D 21 '50

Alberta

Acheson-Stony Plain field is important 1950 discovery. map World Oil 131:248 D '50

Alberta activity. K. B. Barnes. il Oil & Gas J 49:192-3 N 16 '50

Alberta flying magnetometer survey completed. T. M. O'Malley. il World Oil 132:235-7 My '51

Alberta; its booming oil industry. N. E. Tanner. Comm & Fin Chr 173:6+ sec 2 Je 28 '51

Campbell field produces from lower cretaceous. map World Oil 131:246 D '50

Canada's progress in 1950. L. O. Rowland. il Pet Eng 23:B51-2+ Ja '51

Devon, Alberta; Canada's model boom town. B. Shiels. il World Oil 133:260-2 Ag '51

Diamond coring in western Canada. J. F. Langston. il World Oil 131:266-8 D '50

Dual completion practices in Alberta. P. C. Evans. diags Pet Eng 23:B60+ S '51

Excelsior field has high potential development. map World Oil 131:240 D '50

Geophysical activity in Alberta. Oil & Gas J 49:64 Ap 5 '51

Joseph Lake field discovers Viking production. map World Oil 131:244 D '50

Leduc-Woodbend field was first major find in area. il map World Oil 131:238-9 D '50

Redwater field is Canada's largest producer. map World Oil 131:236-7 D '50

Redwater flood talked. K. B. Barnes. il Oil & Gas J 50:57 Ag 9 '51

Secondary recovery for Turner valley? J. A. Harvie. il map Oil & Gas J 49:246-8 D 21 '50

Stettler field has production from three zones. map World Oil 131:242 D '50

Structure test hole drilling, central Alberta. A. E. Campbell. Pet Eng 23:B64+ Mr '51

Arabia

Arabian report. Oil & Gas J 50:56+ Je 28 '51; World Oil 133:258+ Jl '51

Aramco-Arab agreement. D. M. Duff. Oil & Gas J 49:60+ Ja 11 '51

Aramco contributes to Saudi Arabian private enterprise; illustrations with text. World Oil 132:206-7 Mr '51

Aramco field; Ain Dar, found in 1948, to be brought in next year. map Oil & Gas J 49:68 D 7 '50

Aramco has two discoveries. World Oil 133:282 Ag '51

Offshore oil in Persian gulf. map Oil & Gas J 50:68 Je 14 '51

Offshore test planned by Arabian American oil co. D. M. Duff. il Oil & Gas J 49:42+ Ja 18 '51

Oil beneath troubled waters; Persian gulf. map Economist 161:512 S 1 '51

Saudi Arabia-Bahrein, 1950 activities. map (p 142) World Oil 133:236+ Jl 15 '51

World-wide oil report. Oil & Gas J 49:157-8 D 21 '50

Argentina

Argentina, 1950 activities. maps(p 122-3) World Oil 133:171-2+ Jl 15 '51

Fuel price boosted. Oil & Gas J 49:68 F 15 '51

World-wide oil report. Oil & Gas J 49:185 D 21 '50

Arkansas

Deep zone flooding in Arkansas. S. S. Lacy, jr. il map World Oil 133:192-3+ Ag '51

Kingdoms of oil; El Dorado, Ark. A. Gibbon. il World Oil 133:242-5 Jl '51

Water injection boosts Wesson pool's recovery an estimated 150 per cent. V. J. Turner. il Oil & Gas J 49:97+ Mr 8 '51

Australia

Australia, 1950 activities. World Oil 133:254 Jl 15 '51

Austria

Austria, 1950 activities. map(p 132) World Oil 133:198+ Jl 15 '51

Austrian production; reports indicate output is higher than credited. Oil & Gas J 49:70 F 8 '51

Report from Austria. World Oil 132:268+ Je '51

Bahrein island

Saudi Arabia-Bahrein, 1950 activities. map (p 142) World Oil 133:236+ Jl 15 '51

Belgium

Belgium refinery. D. M. Duff. il Oil & Gas J 49:33 Mr 1 '51

Bolivia

Bolivia, 1950 activities. World Oil 133:175+ Jl 15 '51

Bolivian hopes; mixed-company plan used to woo foreign capital. Oil & Gas J 50:83 My 17 '51

PETROLEUM industry and trade—Bolivia—*Continued*

Bolivian refineries. D. M. Duff. il map Oil & Gas J 49:69-70 N 9 '50

World-wide oil report. Oil & Gas J 49:185 D 21 '50

Borneo, British

Borneo production mounts. il World Oil 132:256 Je '51

Indonesia and British Borneo, 1950 activities. map(p 144) World Oil 133:242+ Jl 15 '51

World-wide oil report. Oil & Gas J 49:163 D 21 '50

Brazil

Brazil, 1950 activities. World Oil 133:178+ Jl 15 '51

Brazilian discovery. Oil & Gas J 49:34+ Mr 1 '51

Brazilian expansion. Oil & Gas J 50:96-7 My 10 '51

Brazil's first complete refinery. il Pet Processing 6:629-30 Je '51

Oil in Brazil. J. E. Pogue. maps Pet Eng 23:A43-8 Ag; A46+ S '51

Reserves in three Brazilian fields set at 18 million. World Oil 132:284 Ap '51

U.S. money for oil in Brazil? Fortune 44:128 O '51

World-wide oil report. Oil & Gas J 49:187+ D 21 '50

Burma

Burma, 1950 activities. World Oil 133:240 Jl 15 '51

California

Ace-in-the-hole; California's Elk Hills naval reserve offers means for rapidly increasing daily output of crude. D. H. Stormont. map Oil & Gas J 49:33 F 1 '51

Bradford practices in California water-flooding. W. H. Somerton. World Oil 132:135-6 Mr '51

California crude; day may come when it needs an outside boost. L. J. Zitnik. Barron's 31:7-8 S 17 '51

California exploratory drilling marked by a succession of high points. il Oil & Gas J 49:A41-2+ N 9 '50

California hot spot; wildcatting activity increasing in Castaic Junction area. D. H. Stormont. Oil & Gas J 49:25 Mr 1 '51

California newcomer; Humble now a full-fledged West Coast operator. D. H. Stormont. il Oil & Gas J 50:60 Je 14 '51

California oil. R. L. Minckler. Am Pet Inst Proc 30(4):39-42 '50; Same. Pet Eng (Ref annual) 23:A33-4 Jl 15 '51; Abstract. Oil & Gas J 49:187 N 16 '50

California petroleum wholesalers organize new trade association. Nat Pet N 43:22-3 Jl 4 '51

California's prolific Potrero oil field. O. A. Greybeal. il map diag Oil & Gas J 50:80-1+ Jl 12 '51

California's San Ardo field again active. D. S. Stormont. il map Oil & Gas J 50:260+ S 20 '51

Coalinga Nose unit; one of California's largest unitized pressure-maintenance projects. D. H. Stormont. Oil & Gas J 49:51 N 23 '50

Companies being sold. D. H. Stormont. Oil & Gas J 49:39 D 28 '50

Crude-supply problem; proposed pipe lines from Texas to California. D. H. Stormont. Oil & Gas J 49:173 Ja 25 '51

Development problem; San Pedro Bay reserves. D. H. Stormont. map plan diag Oil & Gas J 50:58-9 S 6 '51

Drilling de luxe; unusual practices incorporated in drilling program of Union Oil in elite residential area, La Habra Heights. D. H. Stormont. il Oil & Gas J 49:60-1 F 15 '51

Gas injection at Buena Vista Hills. E. W. Brubaker and H. J. Stutsman. maps diags Oil & Gas J 50:116-20+ Ag 23 '51

Heavy crudes play heavy role in reversing California's production trend. il Oil & Gas J 49:A28-32+ N 9 '50

Heavy demand boosts California refining. il Oil & Gas J 49:A46+ N 9 '50

Journal-guide to California; refineries, natural-gasoline plants, oil and gas fields; map. Oil & Gas J 49:supp N 9 '50

Look at the California oil industry. R. Sneddon. il Pet Eng 22:A37-8 N '50

New seismic test; oil companies to resume offshore exploration; develop black-powder method to reduce fish kill. D. H. Stormont. il Oil & Gas J 50:40 Ag 2 '51

Oil-drainage question; Long Beach harbor operations getting too close to tidelands reserve area, Justice department charges. D. H. Stormont. map Oil & Gas J 50:81-2 S 13 '51

Poor-boy pool; in shallow Willow Springs field of California. D. H. Stormont. il map Oil & Gas J 49:128 F 22 '51

Richfield modernizing leases in California's Long Beach field. il Oil & Gas J 49:102-3 Mr 8 '51

Water drive reservoir performance Vedder pool, Wasco field. N. Van Wingen. bibliog maps Pet Eng (Ref annual) 23:B11-12+ Jl 15 '51; Same. Oil & Gas J 50:90+ S 6 '51

Who's who in California oil; brief historical sketches of oil companies on the West coast. D. H. Stormont. il Oil & Gas J 49:A21-7 N 9 '50

Canada

Canada developing recently discovered reserves. map Oil & Gas J 49:169-70 D 21 '50

Canada, 1950 activities. maps(p 117-18) World Oil 133:149-50+ Jl 15 '51

Canada's Lloydminster area. S. P. King. il Oil & Gas J 50:81-2+ My 31 '51

Canadian drilling conditions and practices. il Oil & Gas J 50:227-8+ S 20 '51

Canadian refiners spending $75,000,000 in plant-building and modernizing projects. G. Weber. il map Oil & Gas J 49:44-6+ Ja 4 '51

Dominion oil outlook. C. O. Wilson. il Oil & Gas J 50:55-6 Ag 9 '51

First tanker; Sarnia refinery gets first Alberta crude. Oil & Gas J 49:55 My 3 '51

Helicopter surveys northern Canada. il map World Oil 132:264-5 Ap '51

Importance of recent Canadian oil developments. J. F. Fairlie. il maps World Oil 132:207-10 Ja '51

New markets needed; pipe line to Montreal would be justified if other markets cannot be developed for Alberta oil. G. L. Stewart. Oil & Gas J 49:39 N 2 '50

New oil strikes may shift Canada's markets. W. Wells. Barron's 31:20 O 1 '51

1950, Canada's big development year. M. Olson. il map World Oil 131:221-6+ D '50

Oil strengthens prairie economy. B. MacKinnon. il World Oil 132:253-5 Je '51

Progress report on prairie petroleum. il Oil & Gas J 49:285+ D 21 '50

Significance of Canada's oil resources. G. W. Auxier. World Oil 131:271-2+ D '50

Chile

Chile, 1950 activities. map(p 124) World Oil 133:180 Jl 15 '51

World-wide oil report. Oil & Gas J 49:187 D 21 '50

China

China, 1950 activities. World Oil 133:242 Jl 15 '51

Colombia

Colombia, 1950 activities. map(p 125) World Oil 133:185-6 Jl 15 '51

Colombian accord; I.P.C., government agree on operation of refinery. Oil & Gas J 50:183 Jl 26 '51

Colombian activity. Oil & Gas J 49:141 Ap 19; 50:65 Je 14 '51

Concession agreement; Colombia's De Mares concession. D. M. Duff. Oil & Gas J 49:35-6 Ja 4 '51

De Mares agreement; concession reverts to Colombia Aug. 25. Oil & Gas J 50:69 My 31 '51

Empresa takes over De Mares concession. World Oil 133:338 S '51

International accepts DeMares proposal. World Oil 133:278 Ag '51

Santander, Colombia, the De Mares concession. D. Donoghue. bibliog il map Pet Eng 23:A39-45+ Mr '51

State takes over; De Mares concession dies. Oil & Gas J 50:109 Ag 23 '51

Tropical bows out; De Mares concession returned to government. Oil & Gas J 50:66 S 6 '51

PETROLEUM industry and trade—Colombia— *Continued*

World-wide oil report. map Oil & Gas J 49:174+ D 21 '50

See also

Petroleum laws and regulations—Colombia

Colorado

Denver-Julesburg basin scene of active drilling, with 36 rigs operating. J. A. Kornfeld. il map Oil & Gas J 50:247-8+ S 20 '51

Denver-Julesburg play. Oil & Gas J 50:65 Jl 12 '51

Rich field; Yenter recovery forecast at 600 bbl. per acre-foot. Oil & Gas J 50:61 Ag 9 '51

East Indies

World-wide oil report. map Oil & Gas J 49:162-3 D 21 '50

Eastern states

Secondary operations and reserves in the eastern states. P. J. Torrey. bibliog Pet Eng 23:B36+ Ja '51

Ecuador

American concern planning an active drilling campaign in Ecuador. C. V. Hagen. il maps Oil & Gas J 49:270-4 D 21 '50

Ecuador, 1950 activities. World Oil 133:186+ Jl 15 '51

Ecuadorean sale. Oil & Gas J 49:64 Ja 11 '51

World-wide oil report. map Oil & Gas J 49:178 D 21 '50

Egypt

Egyptian exploration. Oil & Gas J 49:44 Ja 18 '51

World-wide oil report. Oil & Gas J 49:159 D 21 '50

Europe

Europe's crude source. G. Egloff. il Oil & Gas J 50:62+ S 27 '51

Petroleum and European recovery. V. Smith. maps diags Inst Pet J 37:2-16; Discussion. 16-24 Ja '51

Refinery plan successful; OEEC reports establishment of major European refining industry. Oil & Gas J 50:93 S 13 '51

Far East

Far East, still undergoing rehabilitation. map Oil & Gas J 49:160-3 D 21 '50

Oil in the Far East. W. E. V. Abraham. maps Am Pet Inst Proc 30 (4):55-60 '50; Same. Oil & Gas J 49:226+ N 16 '50; Same, without maps. Pet Eng 23:A56+ Mr '51

France

Expansion program of two French refineries. D. M. Duff. il Oil & Gas J 50:86 My 24 '51

France, 1950 activities. map(p 133) World Oil 133:200+ Jl 15 '51

France's Lacq field. il map Oil & Gas J 49:283-4 D 21 '50

French exploration. Oil & Gas J 49:69 Ap 5 '51

French refinery quotas. Oil & Gas J 49:70 D 7 '50

Société générale des huiles de pétrole's new Dunkirk refinery. J. Andrault. il Oil & Gas J 49:242-4 D 21 '50

World-wide oil report. Oil & Gas J 49:167 D 21 '50

Germany

Germany, 1950 activities. maps(p 134-5) World Oil 133:204+ Jl 15 '51

Modernization completed at Anglo-Iranian oil co. Eurotank refinery. il Oil & Gas J 49:300-1 D 21 '50

Refinery spurt; relaxed controls expected to enable west Germany to almost double annual output. Oil & Gas J 50:106+ Ag 16 '51

World-wide oil report; west Germany. Oil & Gas J 49:165 D 21 '50

Great Britain

Great Britain, 1950 activities. World Oil 133:210+ Jl 15 '51

Refinery expansion in England. V. S. Swaminathan. il Pet Eng 23:C13-14+ Ja '51

Shell's U.K. refinery program. V. S. Swaminathan. il Pet Eng 23:C5-8 Mr '51

World-wide oil report. Oil & Gas J 49:166-7 D 21 '50

Gulf Coast region

Annual Gulf Coast section. flow diags il maps plan diags Oil & Gas J 50:166-80+ Je 21 '51

Gulf Coast expansion. G. Weber. Oil & Gas J 49:64+ My 3 '51

Gulf Coast operators break record again; drill 133 wells below 12,000 ft.; tables. L. D. Owen. il Oil & Gas J 50:240+ Je 21 '51

Tough drilling. L. S. McCaslin, jr. il Oil & Gas J 50:66-7+ Jl 5 '51

Idaho

Wildcat ventures. P. DeArmond. map Oil & Gas J 49:63 D 14 '50

Illinois

Illinois water floods. maps diags Oil & Gas J 49:42-8+ Mr 1 '51

India

India, 1950 activities. World Oil 133:242 Jl 15 '51

Indonesia

Indonesia and British Borneo, 1950 activities. World Oil 133:242+ Jl 15 '51

Indonesian repair work still under way but nears its economic limit. il Oil & Gas J 49:275-7+ D 21 '50

Indonesia's oil at full flow. il World Oil 133:267-8 Ag '51

World-wide oil report. map Oil & Gas J 49:162-3 D 21 '50

Iran

Abadan halves output. il Oil & Gas J 50:47 Jl 5 '51

Breakdown in Persia. map Economist 160:1487-8 Je 23 '51

Britain, Persia and oil. Economist 160:670-1 Mr 24 '51

Britain prepares new bid in Iran. R. E. Spann. World Oil 132:245+ My '51

Can Persia refine? Economist 160:1567-8 Je 30 '51

Concession history. D. M. Duff. Oil & Gas J 50:60 Je 28 '51

Failure of Iran talks perils supply-demand balance. World Oil 133:246 Jl '51

Fiasco in Iran. F. Morley. Barron's 31:3 O 8 '51

Harriman optimistic; American mission to Iran reports some progress made. il Oil & Gas J 50:181-3 Jl 26 '51

Harriman settles oil crisis. Bsns W p21-3 Ag 4 '51

Hope renewed; British study Iran's bid to reopen oil negotiations. D. M. Duff. Oil & Gas J 50:47-8 Ag 2 '51

How important is Persian oil? Economist 160:1244-6 My 26 '51

How much does Persian opinion matter? Economist 160:1301-2 Je 2 '51

If Iran is lost. D. M. Duff. Oil & Gas J 50:68+ Jl 12 '51

Iran-Britain oil dispute remains unsettled. Nat Pet N 43:28-9 S 5 '51

Iran holds out. Oil & Gas J 50:106+ Ag 23 '51

Iran may eject British. Oil & Gas J 50:66 S 27 '51

Iran, 1950 activities. map(p 139) World Oil 133:228+ Jl 15 '51

Iran oil settlement prospects dim as Britain finds supplies elsewhere. Nat Pet N 43:28 S 19 '51

Iran refuses compromise in drive for full nationalization of oil. Nat Pet N 43:24-5 Jl 11 '51

Iran roundtable; Thornburg blames British for nationalization trouble. Oil & Gas J 50:68 Jl 19 '51

Iran slows up. Oil & Gas J 50:89+ My 24 '51

Iran the loser? World Oil 133:330+ S '51

Iran to sell oil; contract with Afghanistan. T. A. Armstrong. Oil & Gas J 50:174 S 20 '51

Iranian crisis. Oil & Gas J 49:85-6 Ap 26 '51

Iranian crisis grows. Oil & Gas J 50:92-3 S 13 '51

Iranian oil; chance for amicable settlement of dispute. E. Hughes. Barron's 31:5 Je 4 '51

Iranian outlook. Oil & Gas J 50:94 My 10 '51

PETROLEUM industry and trade—Iran—*Cont.*

Iranian sidelights; repercussions from nationalization of industry continue to crop out all over the world. Oil & Gas J 50:65-6 S 6 '51

Iranian workers strike. D. M. Duff. Oil & Gas J 49:67-8 Ap 5 '51

Iran's oil could be replaced. il Bsns W p23 Je 30 '51

Look here, Dr Mossadegh; Iranian oil dispute. Barron's 31:1 Jl 23 '51

Middle East airing; British officials discuss situation. Oil & Gas J 49:71 Ap 12 '51

Middle East expropriation; Iranian Parliament votes to take over Anglo-Iranian properties. D. M. Duff. Oil & Gas J 49:71 My 3 '51

Mission to Teheran. il Oil & Gas J 50:67-8 Jl 19 '51

Nationalization turmoil. Oil & Gas J 49:138-9 Ap 19 '51

Nationalizers become nationalized in Iran. R. S. Byfield. Comm & Fin Chr 173:2143+ My 24 '51; Same cond. Manuf Rec 120:54 Je '51

Negotiation; Anglo-Iranian officials arrive for talks. D. M. Duff. Oil & Gas J 50:66+ Je 14 '51

New deal for Persian oil. map Economist 160:899-900 Ap 21 '51

Oil nationalization. D. M. Duff. il Oil & Gas J 49:75-7 Mr 22 '51

Oil nationalization; Iranian group recommends taking over Anglo-Iranian. Oil & Gas J 49:56 Mr 15 '51

Oil talks resumed. D. M. Duff. Oil & Gas J 50:66-7 Ag 9; 104 Ag 16 '51

Optimism in Iran. D. M. Duff. Oil & Gas J 50:65 Je 7 '51

Persia in trouble; roots of agitation. Economist 160:802+ Ap 7 '51

Persia's road to ruin. Economist 160:1017-19 My 5 '51

Prosperity or ruin; second attempt to settle dispute fails. Oil & Gas J 50:58+ Ag 30 '51

Showdown looms. D. M. Duff. Oil & Gas J 50:68 My 31 '51

Shutdown in Iran. il Oil & Gas J 50:66+ Jl 12 '51

Stalemate in Iran. Oil & Gas J 50:58 Je 28 '51

Still a chance for oil peace. Bsns W p 125-6 S 1 '51

Talks break off. Oil & Gas J 50:382-3+ Je 21 '51

Troubles in Iran hit oil for the West. il Bsns W p22-3 Ap 28 '51

Unique operations; field procedures in Iran. il Oil & Gas J 50:48-9 Jl 5 '51

Waiting game in Iran. D. M. Duff. Oil & Gas J 50:64 S 6 '51

West could lose Iran's oil. il Bsns W p 145-6 Mr 17 '51

World-wide oil report. Oil & Gas J 49:156-7 D 21 '50

Iraq

Baghdad and the oil talks. map Economist 160:865-6 Ap 14 '51

Concession revision; I.P.C. makes offer to Iraq government. D. M. Duff. Oil & Gas J 49:70 Ap 12 '51

Iraq agreement. Oil & Gas J 50:70 Jl 19 '51

Iraq hits jackpot; government-I.P.C. oil pact. D. M. Duff. Oil & Gas J 50:105-6 Ag 23 '51

Iraq, 1950 activities. map(p 140) World Oil 133:232+ Jl 15 '51

Iraq's oil wealth; terms of new agreement. map Economist 161:406 Ag 18 '51

U.S. group ready to take Basrah oil concession if Iraq ends agreement. Nat Pet N 43:36 Ap 18 '51

World-wide oil report. Oil & Gas J 49:157 D 21 '50

Italy

Azienda generale Italiana petroli accelerates petroleum activities in Italy. il map Oil & Gas J 49:280-2 D 21 '50

Expansion program doubles Italy's refining capacity. F. Kind. map Oil & Gas J 49:79-80 Ja 11 '51

Italy, 1950 activities. World Oil 133:214+ Jl 15 '51

Oil-refining capacity in Italy. il Engineering 172:108-9 Jl 27 '51

World-wide oil report. Oil & Gas J 49:168 D 21 '50

Japan

Japan, 1950 activities. map(p 143) World Oil 133:246+ Jl 15 '51

Japanese industry takes another step toward self support. il Pet Refiner 30:100 Ap '51

Japanese mining and petroleum industries; programs under the occupation. R. Y. Grant. Science 112:577-88 N 17 '50

Nippon's refineries. B. F. Linz. Oil & Gas J 49:67 O 26 '50

Petroleum and natural gas in Japan. L. W. Stach. Pet Eng 23:A48+ Je '51

Production rising. Oil & Gas J 50:66 Je 7 '51

World-wide oil report. Oil & Gas J 49:161 D 21 '50

Kansas

Anadarko area heats up again. P. C. Ingalls. map Oil & Gas J 50:173 My 24 '51

Eastern Kansas developments and prospects. J. M. Jewett. bibliog maps World Oil 133:100+ Ag '51

Kansas water floods. K. B. Barnes. map Oil & Gas J 49:30-1 Ja 4 '51

Way out west in Kansas. P. C. Ingalls. map Oil & Gas J 49:107 N 30 '50

Kuwait

Kuwait, 1950 activities. map(p 141) World Oil 133:234 Jl 15 '51

Kuwait 1951 output expected to set new record. H. Nicholson. Nat Pet N 43:18 Ag 29 '51

Kuwait oil progress. V. S. Swaminathan. il Pet Eng 22:A46-8+ D '50

Mena al Ahmadi, Kuwait oil company's port. il World Oil 132:212-13 Ja '51

World-wide oil report. Oil & Gas J 49:158-9 D 21 '50

Latin America

Outlook for Latin American oil development. L. C. Uren. il map Pet Eng 23:A47-8+ Ja '51

Louisiana

Gathering system features Lake St John. L. S. McCaslin, jr. flow diag il Oil & Gas J 50:190+ Je 21 '51

Gulf Coast oil centers. il Oil & Gas J 50:172-3 Je 21 '51

Louisiana's secondary-recovery operations will add 90 million barrels to production. E. A. Albares. Oil & Gas J 50:256+ Je 21 '51

Multistate fields; Louisiana shares oil pools now with Texas and Arkansas, may find it also holds part of Mississippi field. P. DeArmond. map Oil & Gas J 50:98 Ag 23 '51

Natchez area, scene of active oil search. G. W. Gulmon and N. W. Johns. il map diags Oil & Gas J 50:200+ Je 21 '51

Progress report; Fordoche field, Lottie, La. J. A. Kornfeld. il maps diags Oil & Gas J 50:70-2+ Je 28 '51

Progress report; Romere Pass field. J. A. Kornfeld. il maps diags Oil & Gas J 49:50-3+ F 1 '51

Secondary recovery in Louisiana. J. H. Tillery. il map World Oil 131:155-8 N '50

Manitoba

Manitoba's role in Williston basin's drilling program. P. DeArmond. maps diag Oil & Gas J 50:281+ S 20 '51

Rumblings from Manitoba. P. C. Ingalls. Oil & Gas J 49:133 F 8 '51

Mexico

Free enterprise oil greases wheels of Mexican monopoly. R. E. Spann. World Oil 133:257-9 Ag '51

Gulf sale; Mexican Gulf oil co. to be purchased by Pemex. Oil & Gas J 49:177 Ja 25 '51

Mexican American completes 18 months of operations. B. W. Gillespie and J. R. Coleman. il map Oil & Gas J 49:261-2+ D 21 '50

Mexican oil equipment; government oil agency taking steps to ease impact of possible shortages. D. M. Duff. Oil & Gas J 49:63-4 Ja 11 '51

Mexican petroleum since expropriation. map Economist 161:165+ Jl 21 '51

Mexico, attention focused on Isthmus. map Oil & Gas J 49:170-1 D 21 '50

Mexico heads for drilling record. J. J. Slattery. World Oil 131:303-4 N '50

PETROLEUM industry and trade—Mexico— *Continued*

Mexico, 1950 activities. maps(p 119-20) World Oil 133:158+ Jl 15 '51

Northeast Mexico vast oil frontier. M. Olson. il map World Oil 132:266-8+ Ap '51

Pemex discoveries; three oil areas opened in Mexico during Oct. Oil & Gas J 49:71 D 7 '50

Pemex goes West. D. M. Duff. map Oil & Gas J 50:64 Je 14 '51

Pemex produces. Bsns W p 150-1 Ag 11 '51

Pemex' program; Mexican government oil agency plans. D. M. Duff. Oil & Gas J 49:40+ F 1 '51

Pemex's exploration plans for 1951. P. C. Ingalls. map Oil & Gas J 49:95 Ja 4 '51

Tampico embayment; Mexico's fabulous area of oil production. C. Millison. map World Oil 132:214-16 Ja '51

Mississippi

Deep basin; Mississippi wildcat. map Oil & Gas J 50:88 My 10 '51

Mystery well; Mississippi wildcat within 85 ft. of new world's record depth. L. S. McCaslin, jr. il Oil & Gas J 49:68 Ap 12 '51

Natchez area, scene of active oil search. G. W. Gulmon and N. W. Johns. il map diags Oil & Gas J 50:200+ Je 21 '51

Montana

Shell strike important. map Oil & Gas J 50:171-2 Jl 26 '51

Williston Basin test. map Oil & Gas J 50:67 My 17 '51

Morocco

Morocco, 1950 activities. map(p 137) World Oil 133:226+ Jl 15 '51

Near East

East-West struggle for oil. H. M. Tremaine. map Mag of Wall St 88:288-90+ Je 16 '51

Middle East, a region of superlatives. map Oil & Gas J 49:154-60 D 21 '50

Middle East oil developments. C. L. Harding. Pet Eng (Ref annual) 23:E33-4+ Jl 15 '51

Middle East pattern changed; Aramco makes deal, Iran talks fail. World Oil 132:226 F '51

Oil-area protection; how to hold Middle East discussed by U.S., British. Oil & Gas J 49:66 F 15 '51

Oil of Araby. V. L. Horoth. map Mag of Wall St 87:499-500+ F 10 '51

Price attack; new efforts of ECA against prevailing price structure in Persian Gulf area. D. M. Duff. Oil & Gas J 49:62 Mr 8 '51

Russian bottleneck; if Reds took over Middle East oil they couldn't utilize it for several years. B. B. Jennings. map Oil & Gas J 49:66 F 8 '51

Who owns what, where; map. Bsns W p 142 Ag 18 '51

See also

Petroleum pipe lines
—Trans-Arabian line

Nebraska

Denver-Julesburg basin scene of active drilling, with 36 rigs operating. J. A. Kornfeld. il map Oil & Gas J 50:247-8+ S 20 '51

Several favorable economic factors spur current play in Julesburg basin. J. A. Kornfeld. il maps diag Oil & Gas J 49:68-70 Ja 11 '51

Netherlands

Netherlands, 1950 activities. map(p 135) World Oil 133:216 Jl 15 '51

World-wide oil report. Oil & Gas J 49:167-8 D 21 '50

Nevada

Wildcat ventures. P. DeArmond. map Oil & Gas J 49:63 D 14 '50

New Guinea

New Guinea program. D. M. Duff. il maps Oil & Gas J 49:139+ F 22 '51

New Mexico

Permian basin maintains position as drilling leader. C. W. Smith. World Oil 133:106 S '51

Permian basin yields fifth of U.S. oil production. L. J. Logan. World Oil 133:107-8+ S '51

Pre-Permian pays productive in New Mexico's new fields. G. Staley. il World Oil 133:146+ S '51

North Dakota

Dakota play widens. K. B. Barnes. map Oil & Gas J 50:37-8 Jl 5 '51

Leases upheld; North Dakota ruled able to issue school-land oil leases. Oil & Gas J 50:101 Ag 16 '51

North Dakota strike; Amerada's rank wildcat in Williston basin. P. C. Ingalls. map Oil & Gas J 49:69-70 Ap 12 '51

North Dakota wildcat grows wilder. P. C. Ingalls. map Oil & Gas J 49:383 Ja 25 '51

Oklahoma

Anadarko area heats up again. P. C. Ingalls. map Oil & Gas J 50:173 My 24 '51

Kingdoms of oil; Seminole, Okla. L. N. Unsell. il World Oil 132:238-40+ My '51

Orderly water-flood program for Mid-Burbank unit, Osage county, Okla. K. B. Barnes. maps Oil & Gas J 49:78-82+ Mr 15 '51

Petroleum engineering study of Weber pool, Washington county, Oklahoma. K. H. Johnston and J. A. West. il map diags Oil & Gas J 49:78-80+ D 7; 90+ D 14; 57-8+ D 28 '50

Progress at Elk City. J. A. Kornfeld. Oil & Gas J 50:58 Je 14 '51

Ringwood proves major Oklahoma strike. H. E. Lillibridge. World Oil 131:77+ D '50

Salt water injection projects in Oklahoma. K. M. Fagin. Pet Eng 23:B72 Ap '51

Water-flood oil recovery in Washington county, Okla. C. H. Riggs and W. C. Smith. flow diag plan Oil & Gas J 50:117-18 My 31; 88-9 Je 7; 103-4 Je 14; 78-9 Je 28; 78-9 Jl 5 '51

Water-flood success; North Burbank pilot project. K. B. Barnes. il map Oil & Gas J 49:132-3 Ap 19 '51

Wildcats attack Beckham area puzzle. P. C. Ingalls. Oil & Gas J 49:137 D 14 '50

Pakistan

Pakistan activity quickens. il World Oil 132:208-9 Mr '51

Pakistan, 1950 activities. World Oil 133:252 Jl 15 '51

Prospect licenses; four firms take permits for Pakistan exploration. Oil & Gas J 49:71 Ap 5 '51

Pennsylvania

Pennsylvania surprise; leasing and exploration boom. D. M. Duff. map Oil & Gas J 49:58+ N 9 '50

Peru

Peru, 1950 activities. map(p 126) World Oil 133:188+ Jl 15 '51

World-wide oil report. maps Oil & Gas J 49:182+ D 21 '50

Philippine Islands

Philippines look to increased oil activity. D. Andres. World Oil 132:220+ F '51

Philippines, 1950 activities. World Oil 133:252+ Jl 15 '51

Rocky Mountain region

Growing reserves. J. C. Donnell. Oil & Gas J 49:72 Ap 26 '51

Rush for leases. diag Oil & Gas J 49:71-2 Ap 26 '51

Rumania

Romanian production. B. F. Linz. Oil & Gas J 49:65 F 15 '51

Russia

Baku below quota. M. D. Bagirov. Oil & Gas J 50:68 Ag 9 '51

Is petroleum a Soviet weakness? D. B. Shimkin. bibliog map Oil & Gas J 49:214-15+ D 21 '50

Report sheds light on Russian output. World Oil 133:274+ Ag '51

Russia and satellites, 1950 activities. World Oil 133:218+ Jl 15 '51

Study of Soviet oil industry, by H. Hassman; review. A. L. Foster. map Pet Eng 23:B88 S '51

PETROLEUM industry and trade—*Continued*

Scotland

Refining developments in Scotland. E. N. Tiratsoo. il Pet Refiner 30:138-9 Je '51

South America

South America, one of world's major oil areas. maps Oil & Gas J 49:171-4+ D 21 '50

Southeastern states

Gulf Coast oil centers; southeastern United States. il Oil & Gas J 50:174-5 Je 21 '51

Southwestern states

Half century of exploration in the Southwest. J. A. Kornfeld. il diag Oil & Gas J 50:supp 186-90+ My 31 '51
Journal-log of southwestern oil. il Oil & Gas J 50:supp 164-72+ My 31 '51
Southwest production personalities. Oil & Gas J 50:supp 306+ My 31 '51
Southwest quickly dominated Nation's petroleum supply. L. S. McCaslin, jr. il map Oil & Gas J 50:supp 258-62+ My 31 '51

Spain

Cartagena expansion. D. M. Duff. il Oil & Gas J 49:52-3 N 30 '50
Spanish refinery to be expanded. il Pet Eng 22:C48 N '50

Sumatra

Jungle operations; oil-development program by Caltex affiliate in Sumatra. D. M. Duff. il Oil & Gas J 49:65-6 O 26 '50
U.S. firm finishes Sumatra soil studies for Caltex Pacific Petroleum. Eng N 147:85-6 Ag 16 '51

Texas

Acidizing practices in Canyon Reef section, Scurry county. G. D. Simon. World Oil 132:100+ Mr '51
Active area; Spraberry sand undergoing rapid development. R. F. Carlson. map Oil & Gas J 50:149 Je 21 '51
Barge buildup; seventeen bay wells now being drilled in two south Texas counties. F. L. Resen. il map Oil & Gas J 50:99-100 Ag 23 '51
Blue Ridge field stages comeback. J. A. Kornfeld. il map diags Oil & Gas J 49:52-5+ D 28 '50
Bold stepout opens new area at Hull. P. C. Ingalls. Oil & Gas J 49:201 N 9 '50
Canyon reef problems. Oil & Gas J 49:65-6 N 9 '50
Deep Pennsylvanian reef discoveries spur exploration. K. M. Fagin. maps Pet Eng 22:B7-10 D '50
Deep structures and multi-pay fields offer significant developments in west Texas. J. C. Ryan and H. L. Fisher. map World Oil 133:138-40 S '51
Development report; Scurry reef fields. R. F. Carlson. map diags Oil & Gas J 49:58-9+ Ja 18 '51
Drilling and production practices in west Texas Spraberry fields. R. F. Carlson. il map diags Oil & Gas J 49:197+ F 22 '51
Drilling hot spot in four-county Spraberry play. Oil & Gas J 50:49 Ag 30 '51
Good drilling-activity potential at Sandusky, Grayson county, Texas. C. Hoot. map diag Oil & Gas J 49:106-7 F 8 '51
Gulf Coast oil centers. il Oil & Gas J 50:166-71+ Je 21 '51
Humble field electrified. J. A. Kornfeld. il Oil & Gas J 50:279+ Je 21 '51
Kingdoms of oil; Kilgore, Texas. J. P. Ellis. il World Oil 132:201-4 F '51
Kingdoms of oil; Midland, Texas. J. C. Watson. il World Oil 133:316+ S '51
Kingdoms of oil; Ranger, Texas. R. B. Pruet. il World Oil 132:272-3+ Ap '51
Kingdoms of oil; Snyder, Texas. M. Olson. il World Oil 132:201-4 Mr '51
Moss Bluff revived. J. A. Kornfeld. map Oil & Gas J 49:45-6 N 30 '50
Mushrooming Mustang; new extensions to oil and gas-distillate field in Corpus Christi bay. J. A. Kornfeld. il map Oil & Gas J 49:49-50 N 23 '50
Mustang island has yielded ten pay sands. W. P. Sterne. il map Oil & Gas J 50:194+ Je 21 '51
New Ellenburger area excites Texans. P. C. Ingalls. Oil & Gas J 49:117 N 2 '50
Oil aplenty; California agency opposes plans for lines from Texas. Oil & Gas J 50:57 Jl 12 '51
Oil field revived; Green's Lake pool yields new pays. J. A. Kornfeld. Oil & Gas J 49:36 F 1 '51
Permian basin maintains position as drilling leader. C. W. Smith. World Oil 133:106 S '51
Permian basin yields fifth of U.S. oil production. L. J. Logan. World Oil 133:107-8+ S '51
Plymouth's operations at Benedum. R. F. Carlson. il map diag Oil & Gas J 49:66-7+ N 23 '50
Progress report; Midland county. R. F. Carlson and P. C. Ingalls. map Oil & Gas J 49:117 N 23 '50
Progress report; Portilla field. J. A. Kornfeld. il map Oil & Gas J 49:54-6+ Ja 4 '51
Progress report; southwest Texas' Helen Gohlke field. il map Oil & Gas J 50:334 Je 21 '51
Rich reef; Wellman pool, Terry county, Tex. maps diag Oil & Gas J 50:292-3+ S 20 '51
Scurry conservation plans envisage billion barrel payoff. il maps World Oil 133:100-2+ S '51
Scurry field has 2½ billion barrels. il map Oil & Gas J 49:88-9 N 23 '50
Scurry unit pushed. map Oil & Gas J 50:150-1 Je 21 '51
Some operating problems in old limestone reef fields. K. M. Fagin. il Pet Eng 23:B62+ Ja '51
Spindletop celebration. Oil & Gas J 49:38-9 D 28 '50
Spindletop first and among best of Gulf Coast fields. L. J. Logan. il diag World Oil 132:228-30 Ja '51
Spindletop given high place in history of industry. World Oil 132:225-7 Ja '51
Spraberry drilling activity exceeds all previous plays in west Texas area. J. H. Bartley. map diag Oil & Gas J 50:126-8+ Ag 16 '51
Spraberry play in west Texas. R. C. Senning. il maps diags World Oil 133:125-6+ S '51
Swan Lake still a real Gulf Coast hot spot. maps Oil & Gas J 50:307 S 20 '51
Texas continues conservation progress. J. K. Baumel and J. A. Hall. Oil & Gas J 50:116-19+ Ag 16 '51
Texas oil taxes. L. S. McCaslin, jr. Oil & Gas J 49:61 Mr 8 '51
Texas production; commissioner predicts it will set record in 1951. J. A. Kornfeld. Oil & Gas J 49:40 D 28 '50
Up-an'-comin' Upton. P. C. Ingalls. map Oil & Gas J 49:363 Mr 29 '51
Water flooding pays off in South Ward, Texas field. G. L. Buckles. flow diag plan diag Oil & Gas J 50:91-6 Ag 9 '51
West Sinton; south Texas' most active drilling area. J. A. Kornfeld. il map diags Oil & Gas J 49:54-6+ Ja 18 '51
West Texans attack new area. P. C. Ingalls. maps Oil & Gas J 50:139 Je 7 '51

See also
Petroleum laws and regulations—Texas

Trinidad

Offshore well; directional hole extends Trinidad field seaward. Oil & Gas J 49:140 Ap 19 '51
Trinidad, 1950 activities. map(p 121) World Oil 133:166+ Jl 15 '51
Wildcatting and refinery modernization highlight activity in Trinidad. il map Oil & Gas J 49:296-9 D 21 '50
World-wide oil report. Oil & Gas J 49:187 D 21 '50

Turkey

Turkey, 1950 activities. World Oil 133:240 Jl 15 '51

United States

Employment outlook in petroleum production and refining. C. R. Winegarden and S. Swerdloff. il maps U S Bur Labor Statistics Bul 994:1-52; pa 30c Supt. of doc. '50; Excerpts. Mo Labor R 70:374-8 Ap '50
Expansion urged. B. K. Brown. Oil & Gas J 50:97 Ag 16 '51

PETROLEUM industry and trade—United States—*Continued*

Independent looks at today's oil economy; interview with T. H. Barton. World Oil 131:55+ D '50
Industry smoothly meets record demand. E. Adams. il Pet Eng 23:A39-45 Je '51
Justice department drops ten-year suit against US oil industry. Oil Paint & Drug Rep 159:5 Je 11 '51
Key to survival; petroleum one of most important factors. F. M. Porter. Oil & Gas J 49:182 N 16 '50
New oil, distillate and gas fields and new pay horizons discovered in United States in Nov. 1950; also important extensions to established fields; tabulations. World Oil 132:82+ Ja '51 [cont monthly]
Observations of a WOC; what helps and what hurts the government-industry relationship. A. P. Frame. Pet Eng 23:A53-4+ Ag '51
Oil industry would aid U.S. in safeguarding its freedom. D. F. Benton. Pet Refiner 29:71-2+ D '50
Oil joins other industries in upholding free enterprise. H. Ozanne. World Oil 132:44+ F '51
Our responsibility to the American people in peace and in war. B. L. Majewski. Am Pet Inst Proc 30(2):16-20 '50
Petroleum and the national emergency. H. G. Vesper. maps Pet Eng 23:A64-5+ My '51
Production forecast; PAD predicts daily crude production at about 8,000,000 bbl. in 1955. Oil & Gas J 50:101 Ag 23 '51
Report on the progress of oil and gas defense controls. B. K. Brown. Pub Util 47:445-8 Mr 29 '51
Synthetics in defense. J. Boyd. bibliog flow diags il Am Pet Inst Proc 30(3):6-19 '50; Same. Pet Refiner 29:77-85 D '50; Abstract. Oil & Gas J 49:184 N 16 '50
United States, 1950 activities. World Oil 133:164 Jl 15 '51

Anti-trust suit

API Mother Hubbard antitrust suit dismissed. Nat Pet N 43:21-2 Je 13 '51
Antitrusters cease fire on API. Bsns W p88 Je 16 '51
Mother Hubbard; Justice department drops 11-year-old antitrust action. Oil & Gas J 50:63 Je 14 '51

Foreign properties

Foreign steel setup. B. F. Linz. Oil & Gas J 50:62-3 Jl 19 '51
Maximum restrictions mean minimum oil. J. R. Suman. World Oil 132:222-3 Mr '51

Government relations

Effect of government regulations on commercial chemical development; pattern for cooperation. B. B. Biggs. Chem & Eng N 29:1721-3 Ap 30 '51

Uruguay

World-wide oil report. Oil & Gas J 49:191 D 21 '50

Utah

Northeastern Utah wildcats. P. C. Ingalls. map Oil & Gas J 49:99 F 1 '51
Tough drilling in fractured tertiary rocks; Uinta basin of northeastern Utah. il map diag Oil & Gas J 50:299-301 S 20 '51
Uinta Basin development activity. E. A. Polumbus, jr. map diag Oil & Gas J 50:78-80+ Je 7 '51
Uinta development. Oil & Gas J 50:37 Ag 2 '51

Venezuela

Boom in Venezuela. R. E. Spann. il World Oil 133:239-41 Jl '51
Creole to test its Guanoco concession; will seek production downdip from asphalt seep. il map Oil & Gas J 49:238-9+ D 21 '50
How Socony-Vacuum conducts transport in Venezuelan operations. G. F. Kendall. il plans Oil & Gas J 49:76-9+ D 14 '50
Labor talks; Venezuelan negotiations. Oil & Gas J 49:67 F 8 '51
National petroleum convention, Caracas, Sept. 9-17. Nat Pet N 43:24 S 12 '51
New Punta Cardon refinery will be second largest in Venezuela. V. S. Swaminathan. flow diag il Oil & Gas J 49:54-5+ F 1 '51
Oil congress meets; National petroleum convention, 1st, Caracas. Oil & Gas J 50:88+ S 13 '51
Oil field communications in Venezuela. F. V. Long. il map World Oil 133:254-6 Jl '51
Petroleum history of eastern Venezuela. E. E. Barberii. il World Oil 131:288-90+ N '50
Problems in Venezuela. W. J. Levy. Oil & Gas J 50:105-6 Ag 16 '51
Production increases made by most firms in Venezuela. World Oil 132:258 My '51
Refinery dedicated; Sinclair completes new Puerto La Cruz plant. D. M. Duff. Oil & Gas J 49:68 O 26 '50
Royal Dutch-Shell group nearly doubles Venezuelan production since 1945. il Oil & Gas J 49:102-3 F 8 '51
Trinidad utilizes waste gas for pumping power. il World Oil 131:300 N '50
Venezuela, 1950 activities. maps(p 127-31) World Oil 133:190+ Jl 15 '51
Venezuelan decree; government terminates company-union deadlock. Oil & Gas J 49:139 Ap 19 '51
Venezuelan optimism. D. M. Duff. il Oil & Gas J 49:44-5 N 2 '50
Venezuelan upswing. Oil & Gas J 50:67-8 Je 7 '51
Venezuelans learn fast. A. R. Taylor. il Nat Safety N 64:22-3+ S '51
Venezuela's production up as exports to U.S. hiked. World Oil 132:286+ Ap '51
Way is clear for continued high production in Venezuela; interview with Dr A. M. Araujo. World Oil 133:324+ S '51
World-wide oil report. map Oil & Gas J 49:172-4 D 21 '50

Wales

Anglo-Iranian's Llandarcy refinery expands. il Oil & Gas J 49:253-4+ D 21 '50
Llandarcy refinery expansion work now in second phase. V. S. Swaminathan. il Pet Refiner 30:96-7 My '51

Western states

Anti-trust suit

Antitrust case; seven West Coast firms ask postponement of suit. Oil & Gas J 49:61 F 15 '51
Antitrust suit victory for government would endanger West Coast operations; an interview with T. S. Petersen. World Oil 131:58+ N '50
Disposal of old API antitrust suit asked before trying West Coast case. Nat Pet N 43:21-2 Ap 25 '51

Wyoming

Denver-Julesburg basin scene of active drilling, with 36 rigs operating. J. A. Kornfeld. il map Oil & Gas J 50:247-8+ S 20 '51
Drilling and completion practices at Church Buttes. W. C. Dinger. map Oil & Gas J 50:86+ S 6 '51
Sound engineering practices increase recovery efficiency in Cole Creek's Shannon sand reservoir. E. J. Whitaker and D. T. Hoenshell. map Oil & Gas J 50:95-6+ Jl 19 '51; Same. Pet Eng (Ref annual) 23:B42+ Jl 15 '51
Worland investment; firms to increase return by $2,500,000 per year. O. L. Chapman. Oil & Gas J 49:47-8 N 23 '50
Worland, Wyoming field. J. I. Morris. Pet Eng (Ref annual) 23:B77-8+ Jl 15 '51; Same abr. il map diags Oil & Gas J 50:133-4+ Ag 23 '51
Wyoming's Nugget. P. C. Ingalls. map Oil & Gas J 49:269 Ap 19 '51

PETROLEUM laboratories

Improved testing, research methods featured in Pure Oil's new labs. il Pet Processing 6:268-71 Mr '51
Laboratory testing controls. il Pet Eng 23:C43 Ag '51
Shell laboratory proves its worth. il World Oil 132:219-22 Je '51
Shell opens modern research building at Emeryville, Calif. il Pet Refiner 29:86-7 D '50
Sinclair plan offers unusual opportunity to inventors. Chem & Eng N 29:1848-9 My 7 '51; il Pet Refiner 30:104-5 Je '51; Product Eng 22:176 Je '51

PETROLEUM laboratories—*Continued*

Equipment

Design of bench-scale units; abstract. B. M. Wedner and others. Oil & Gas J 50:50 S 27 '51
Some instruments in the oil laboratory. R. J. S. Pigott. il Instruments 23:1240-3+ D '50
Useful laboratory cycling pump. flow diag il Pet Processing 6:753+ Jl '51

Safety measures

Automatic safety shut-off valve. R. L. Patton. diag Pet Processing 6:639 Je '51
Safe laboratory practices. B. L. MacKusick. Am Pet Inst Proc 31 M(3):22-3 '51
Sinclair plans for tomorrow; Sinclair research laboratories, Harvey, Ill. il Safety Maint & Prod 102:22-4+ Jl '51

PETROLEUM laws and regulations
Conservation and property rights. G. W. Hazlett. bibliog Am Pet Inst Proc 30(4):13-19; Discussion. 19-23 '50
Oil development slowed by government operation; world survey. R. E. Spann. bibliog World Oil 133:96-8+ Jl 15 '51

Arabia

New Aramco tax. Oil & Gas J 49:36 Ja 4 '51

Bolivia

Oil bill signed; Bolivia relaxes ban on mixed-company operations. Oil & Gas J 49:42 F 1 '51

California

Oil conservation in California. Oil & Gas J 49:A65-6 N 9 '50

Colombia

Colombia plans to encourage increased foreign oil participation. H. Ozanne. World Oil 132:220 Ja '51
New Colombian oil law. Oil & Gas J 49:53+ N 30 '50

Iran

Iran nationalizes oil. World Oil 132:263 Ap '51

Italy

New law hastens Italian nationalization. World Oil 133:280 Ag '51

Oklahoma

Unit law validated by Oklahoma Supreme court. Oil & Gas J 49:68-9 Mr 22 '51

Peru

Peruvian oil law. D. M. Duff. Oil & Gas J 49:67 D 14 '50

Saskatchewan

New oil regulations for Saskatchewan adopted. World Oil 133:262 Jl '51

Texas

Order upheld; Col-Tex must buy oil from fields ratably, court says. Oil & Gas J 49:40 D 28 '50
Production tests ordered; pressure drop in parts of Canyon reef fields prompts Commission action. H. D. Ralph. Oil & Gas J 50:168 S 20 '51
Todd Deep Crinoidal unit to get secondary-recovery facilities; Texas' new unitization law. R. F. Carlson. il map diag Oil & Gas J 49:94+ O 26 '50

United States

Legislative outlook poses problems for oil industry. L. D. Jones. World Oil 132:67-8+ F 15 '51
Oil in troubled waters. E. Adams. il diag Pet Eng 23:A39-45 S '51
States seek tidal oil through quit-claim. Eng N 146:24 Ja 11 '50
Tidelands accord seen. Oil & Gas J 50:52 S 27 '51
Tidelands hearings. B. F. Linz. Oil & Gas J 49:133 F 22 '51
Tidelands opposition; three states oppose O'Mahoney resolution for tidelands interim management. Oil & Gas J 49:22 Mr 1 '51
Tidelands refunds; payments to U.S. by Gulf operators will be refunded if Congress fails to provide for federal control of areas. Oil & Gas J 49:62-3 F 8 '51
Tidelands windup; legal proceedings ended by U.S. Supreme court. Oil & Gas J 49:63-4 D 14 '50

PETROLEUM libraries
Services in petroleum libraries. A. B. Johnson. bibliog Special Lib 41:312-17+ N '50
See also
Oil companies—Libraries

PETROLEUM patents. See Petroleum—Patents; Petroleum refining—Patents

PETROLEUM pipe lines
Big-Inchers. il Fortune 43:66-73+ Ja '51
Crude line finished; Richfield now using new carrier. il Oil & Gas J 49:63 F 8 '51; Pet Eng 23:D44 Mr '51
Crude-oil and refined products pipe-line mileage in the United States, Jan. 1, 1950. A. T. Coumbe and I. F. Avery. U S Bur Mines Information Circ 7585:1-8 '50; Same. Pet Eng 22:D9-10+ D '50
Crude oil pipe line activity in 1950, by states. World Oil 132:210 F 15 '51
Crude-supply problem; proposed pipe lines from Texas to California. D. H. Stormont. Oil & Gas J 49:173 Ja 25 '51
Flow-metering practices on crude-oil and products pipe lines. C. D. Walker. il diag Oil & Gas J 50:80 Je 28 '51
How to do it! pipe line hints. il Published in monthly numbers of World oil
Measurement of the thermal conductivities of soils, and the calculation of oil temperatures in buried pipelines. K. G. Brummage. maps diag Inst Pet J 36:575-92 S '50
New method for bulk-modulus determinations. S. L. Kerr and others. bibliog il diags A S M E Trans 72:1143-54 N '50; Same. Pet Eng 22:D11-12+ S; D14+ N '50
New pipe-line company; Sinclair pipe line co. P. Reed. map Oil & Gas J 49:49-50 Ja 11 '51
Pipe line construction. S. Lillie. Published in monthly numbers of World oil
Pipe-line construction; tabulation of projects, domestic and foreign, planned or under construction. Oil & Gas J 49:109-10+ Ja 11 '51 [cont twice a month]
Pipe-line survey; Bureau of mines survey of lines operating Jan. 1, 1950. Oil & Gas J 49:32 N 2 '50
Pipe liners set record-breaking pace in 1950; build 20,000 miles. P. Reed. Oil & Gas J 49:219+ Ja 25 '51
Prediction of surge pressures in long oil-transmission lines. M. Ludwig and S. P. Johnson. Am Pet Inst Proc 30(5):62-70 '50
Projects completed and under way total 18,480 miles of pipe line. P. Reed. Oil & Gas J 50:226+ Jl 26 '51
17,000 miles of new U.S. pipe lines expected during 1951; with tabulated mileage of crude oil, products and natural gas lines as of Jan. 1, 1950. S. Lillie. World Oil 132:205-6+ F 15 '51
Shell laboratory proves its worth. il World Oil 132:219-22 Je '51
Sinclair pipe line company formed. map Pet Eng 23:D60-1 F '51
Southwest is hub of the pipe-line industry. C. O. Willson. il map Oil & Gas J 50:supp 400-4+ My 31 '51
Southwest pipe line personalities. Oil & Gas J 50:supp 429-30 My 31 '51
38-year-old pipe reclaimed. J. Joseph. il World Oil 133:220-2 Jl '51
Union Oil loads 105,000-bbl. tanker in 5 3/4 hours with twin pipe lines. il Oil & Gas J 49:85+ Mr 8 '51
Unique building; public views new home of Service pipe line co. P. Reed. Oil & Gas J 49:60-1 O 26 '50
West Coast line will transport viscous crude. Pet Eng 23:D128 My '51
See also
Petroleum products pipe lines

Construction

Canada's Big-Inch now operating. A. Gibbon. il World Oil 131:195-8+ D '50
Cuyama to Los Angeles line now in operation. R. Sneddon. il map Pet Eng 23:D52+ My '51
Machine welding in the field; internal clamp for large diameter pipe. W. R. Harper. il diags Pet Eng 22:D36-8 N '50

PETROLEUM pipe lines—Construction—*Cont.*

New submarine oil line takes an 8,400-ft. sleigh ride. J. Joseph. il Oil & Gas J 49:90+ Mr 8 '51
Pipeline pushed across Minnesota muskeg. il Constr Methods 33:58 Ja '51
Story of Tapline. map Nat Pet N 42:17-18+ D 20 '50
TAPline completed. H. Ozanne. il World Oil 131:285-7 N '50
Year's longest crude oil pipe line; Mid-Valley pipe line company's system. F. H. Love. il Pet Eng 22:D7-12 N '50

Finance

Economics of the pipe line industry. Pet Eng 23:D20+ Ja '51

Gathering lines

Gathering system features Lake St John. L. S. McCaslin, jr. flow diag il Oil & Gas J 50:190+ Je 21 '51

Maintenance and repair

Ideas in mobile pipe-line transportation and maintenance equipment. T. L. Opie. il Oil & Gas J 49:108+ F 8 '51

Protection

Concrete-coated pipe for swampy terrain. A. Gibbon. il World Oil 131:247-8+ N '50
Corrosion and its control. M. E. Parker. Oil & Gas J 49:111 F 8; 116-17 F 15; 65-6 Mr 1; 95+ Mr 8; 85 Mr 15; 106 Ap 5 '51
Corrosion study; Tulsa short course for pipe liners. P. Reed. il Oil & Gas J 49:26-7 Mr 1 '51
Developments in internal pipe-coating techniques. J. K. Alfred. plans diags Am Pet Inst Proc 30(5):36-43 '50; Same. Oil & Gas J 49:266+ N 16 '50; Same. Pet Eng 23:D26+ Ja '51; Same. World Oil 132:181-4+ Ja '51
New developments in coatings and cathodic protection. C. L. Goodwin. Am Pet Inst Proc 30(5):33-5 '50; Same. Oil & Gas J 49:355-6+ N 16 '50; Same. Pet Eng 22:D35-7 D '50

Pumping stations

Analyzers guard pumping stations, save space. il Power 95:103 F '51
Crankcase explosions. F. V. Cook. diags World Oil 131:213-14+ N '50; Same. Oil & Gas J 49:291+ N 16 '50; Same. Pet Eng 22:D15-16+ D '50; Same cond. Pet Processing 5:1304-5 D '50; Discussion. World Oil 131:201-2+ D '50; Pet Processing 5:1305-6 D '50
Design of Mid-Valley stations. F. H. Love. il map Pet Eng 23:D5-14 Ja '51
Diesel stations lift oil over ridge route. J. Joseph. il World Oil 132:209-12 My '51
Good operational record leads to a pipeline Diesel expansion program. W. H. Gottlieb. il Diesel Power 29:42-3 My '51
Mid-Valley pipeline boosts capacity with additional pumping power. M. D. Pugh. il map Diesel Power 29:64-7 Je '51
Recent developments in products pipe-line technology. H. E. Fisher. bibliog flow diag il diags Am Pet Inst Proc 30(5):53-61 '50; Abstract. Oil & Gas J 49:186 N 16 '50
Remote tank gaging; New Shell system at Bakersfield station. D. H. Stormont. il Oil & Gas J 49:62-3 F 1 '51
Richfield's new pipeline traverses extremes of elevation. flow diag il map Diesel Power 29:106-7 Je '51
Safety device for pipeline pumping. il Diesel Power 29:50 My '51
Station automatically heats and ships crude, telemeters data. G. M. Wilson. il World Oil 133:213-14+ Jl '51
Subsidence phenomenon pesters pipeliners. R. Sneddon. il map plan diags Pet Eng 23:D24-8 Jl '51
Tapline's pump stations. P. Reed. il map Oil & Gas J 49:71-3+ D 28 '50
Trans-Arabian line in operation. Pet Eng 23:D16+ Ja '51
World's largest pipeline system; Tapline depends on Diesels. il map Diesel Power 29:70-4 Ap '51

Ventilation

Ventilation system lessens H_2S vapor hazard. H. P. Bradley. il plan World Oil 132:219+ My '51

Pumping stations, Electric

Biggest U.S. oil pipeline pump. il Pet Eng 23:D38 S '51
Design of oil pumping stations. F. H. Love. il Pet Eng 23:D40+ My '51
Design of unattended booster station. J. P. Hedlin. flow diag map World Oil 132:188-90 Ja '51; Same. Pet Eng (Ref annual) 23:D49-50+ Jl 15 '51; Same cond. Instruments 24:884-5 Ag '51
Remotely controlled pipe-line stations. S. S. Smith. diags Oil & Gas J 49:82+ O 26 '50; Same. Pet Eng 22:D19-20+ D '50

Statistics

Economics of the pipe line industry. Pet Eng 23:D20+ Ja '51
Number of miles of oil pipe line in operation in the United States, 1900-1947; table. Pet Eng 23:A 16f Ap '51
Oil pipe lines. Mech Eng 72:1002 D '50

Terminals

Flood victim recovers; Great Lakes' Kansas City terminal operating. Oil & Gas J 50:96 Ag 23 '51

Trans-Arabian line

Story of Tapline. map Nat Pet N 42:17-18+ D 20 '50
TAPline completed. H. Ozanne. il World Oil 131:285-7 N '50
Tapline throughput. P. Reed. Oil & Gas J 49:176-7 Ja 25 '51
Tapline's pump stations. P. Reed. il map Oil & Gas J 49:71-3+ D 28 '50
Transarabia pipeline is completed. Eng N 145:57+ N 16 '50
Trans-Arabian line in operation. Pet Eng 23 D16+ Ja '51
World's largest pipeline system; Tapline depends on Diesels. il map Diesel Power 29:70-4 Ap '51

Canada

Canada's Big-Inch now operating. A. Gibbon. il World Oil 131:195-8+ D '50
Canada's progress in 1950. L. O. Rowland. il Pet Eng 23:B51-2+ Ja '51
Crude-line hearing. Oil & Gas J 50:62 Je 7 '51
Crude line planned. D. M. Duff. map Oil & Gas J 49:56 Ja 11 '51
New markets needed; pipe line to Montreal would be justified if other markets cannot be developed for Alberta oil. G. L. Stewart. Oil & Gas J 49:39 N 2 '50

Iraq

Progress on new Iraq pipe line. E. Updale. il Pet Eng 23:D9-10+ Ag '51

Mexico

Mexican pipe line to be completed this spring. Oil & Gas J 49:44 F 1 '51
Mexico's coast-to-coast line to be ready in May. World Oil 132:220 Mr '51

Near East

Pipe-export protests; first shipments of steel pipe for I.P.C. project in Middle East bring sharp protests. Oil & Gas J 49:73 N 9 '50

Venezuela

Steep-Inch line meets increased products demand in Caracas. il Oil & Gas J 49:99 Ap 5 '51

PETROLEUM products

Continuous measurement of vapor pressures of petroleum products. R. B. Jacobs. il diags Instruments 24:468-70 Ap '51
Contributions of petroleum to textile processing. W. A. Beman. Rayon 32:84+ Ap '51
Drive planned to reduce obstacles to roadside sale of oil products. F. Breese. Nat Pet N 42:28 N 22 '50
Hydrogenation of petroleum nitrogen bases. R. J. Miller. bibliog Ind & Eng Chem 43:1410-14 Je '51
Nitriles as selective solvents; extraction of aromatics from petroleum hydrocarbons. K. W. Saunders. bibliog Ind & Eng Chem 43:121-6 Ja '51
Petroleum products packaging; panel discussion; abstract. R. C. Reed and others. Mod Packaging 24:124-6 D '50

PETROLEUM products—*Continued*

Petroleum solvents, and the supply problem. E. M. Toby, jr. Paint Oil & Chem R 113:33 N 9 '50

Properties of high boiling petroleum products; physical and chemical characterization studies with relation to polynuclear aromatic components. G. G. Wanless, L. T. Eby and J. Rehner, jr. bibliog Anal Chem 23:563-71 Ap '51

Refinery operations reach new all-time high in 1950. J. C. Casper. map Oil & Gas J 49: 206-7 Ja 25 '51

Stability of mineral oils in toilet and cosmetic preparations. W. W. Myddleton. bibliog 2pls Inst Pet J 37:45-58; Discussion. 59-66 F '51

Sweetening and desulfurization of light petroleum products. V. A. Kalichevsky. bibliog and patent list il Pet Refiner 29:97-100 N; 113-15 D '50; 30:129-35 Ja; 95-6 F; 122-5 Mr; 111-18 Ap; 117-22 My; 135-7 Je '51

You'll play a major role in mobilization if you're a small refiner, and here's why. Pet Processing 6:486-7 My '51

See also

Butadiene
Cresol
Gasoline
Hydrocarbons
Kerosene
Liquefied petroleum gas
Lubricating greases
Lubricating oils
Naphtha
Oil fuel
Paraffin
Petroleum distillation
Toluene

Analysis

Analytical research highlights petroleum refiners' meeting, 16th, Tulsa; 16-paper symposium. Chem & Eng N 29:1956-7 My 14 '51

Analytical research; summaries of papers. Am Pet Inst Proc 31 M(3):17-21 '51

Improved procedure for Karl Fischer microtitrations. J. S. Wiberley. bibliog diags Anal Chem 23:656-9 Ap '51

Industrial applications of absorption spectroscopy. bibliog Inst Pet J 37:109-25; Discussion. 3pls diags 135-46 Mr '51

Third annual review of analytical chemistry. H. Levin. Anal Chem 23:231-7 bibliog(173 ref, p235-7) F '51

Prices

Buyers should get discounts and allowances in effect on Dec. 18. O. D. Judd. Nat Pet N 43:27-8 Ja 3 '51

ESA clarifies its pricing standards. Nat Pet N 43:28-9 Ja 3 '51

ESA plans compulsory price freeze. Nat Pet N 43:17-18 Ja 24 '51

Freeze oil product prices as of Dec. 18. Nat Pet N 42:27-8 D 27 '50

Jobbers protest inequities arising from ESA's oil product price freeze. Nat Pet N 42:28-30 D 27 '50

Jobbers say ESA froze unfair prices, should have consulted independents. Nat Pet N 43:29-30 Ja 3 '51

Lube prices curbed; new orders place wholesale prices of all petroleum products under formula controls. Oil & Gas J 50:63 Ag 9 '51

Mandatory ESA order freezes oil, TBA prices; revisions sought to adjust unfair ceilings. Nat Pet N 43:13-14 Ja 31 '50

Most jobber groups want rollback to Dec. 1 oil prices, survey shows. Nat Pet N 43:23 Ja 10 '51

OPS gives industry rules for retail pricing; with text. Nat Pet N 43:17-18, 23-7+ Mr 28 '51

OPS issues new wholesale oil price order to remove distortions of earlier ceilings; with text of order. Nat Pet N 43:21-2, 53+ Ap 11 '51

OPS tailored oil orders to allow seasonal changes in products prices. Nat Pet N 43:22 F 28 '51

Petroleum derivatives; 1950 market trends. Oil Paint & Drug Rep 159:57-8 sec 2 Ja 29 '51

Price freeze. B. F. Linz. Oil & Gas J 49:31 D 28 '50

Products price order. B. F. Linz. Oil & Gas J 49:57-8 Ap 12 '51

Proper price for straightrun residuum. W. L. Nelson. Oil & Gas J 49:109-10 F 8 '51

Refiners' margin, California area, 1928-1947; tabulation. Pet Eng 23:A 16g Mr '51

Suppliers say they will hold prices, but doubt wisdom of ESA's freeze. Nat Pet N 42:30-1 D 27 '50

U.S. requests refiners to freeze Dec. 8 east-of-Rockies oil prices. Nat Pet N 42:23 D 20 '50

Wholesale, retail oil price orders ready; some flexibility provided. Nat Pet N 43:23-4 Mr 14 '51

Standards

A.S.T.M. standards on petroleum products and lubricants (with related information); methods of testing, specifications, definitions, charts and tables. 764p $6.15; pa $5.50 Am. soc. for testing materials, 1916 Race st, Philadelphia 3 '50 [issued annually]

Statistics

Census bureau sets '48 bulk product storage at 7,766 million gallons. Nat Pet N 43:24 My 23 '51

Demand for oil products sets record in 1950, exceeds domestic supply. Nat Pet N 43:44-5 Ja 10 '51

Industry can meet 1951 demands, barring restrictive regulations. E. T. Knight. Oil & Gas J 49:200-4 Ja 25 '51

Oils in strong demand; statistics for first quarter of 1951. L. J. Logan and C. W. Smith. World Oil 132:61-2 My '51

Petroleum demand to require record U.S. production. World Oil 132:42-4+ F 15 '51

Petroleum derivatives. Published in weekly numbers of Oil, paint and drug reporter

Summary of statistics on crude petroleum and petroleum products for 1949 and 1948 reported by Bureau of mines. Oil Paint & Drug Rep 159:45 F 26 '51

Testing

Accelerated aging test limitations. C. A. Duval. Pet Refiner 30:85-6 F '51

Gravity determination of heavy petroleum products. H. G. Smith. Oil & Gas J 50:111 Je 14; 341 Je 21 '51

Packaged acid number tests. M. R. Beychok and P. McGinnis. Pet Processing 6:639-40 Je '51

Transportation

Ice will not close Illinois waterway this winter, coast guard promises. D. J. Warren. il Nat Pet N 42:57+ N 8 '50

Industry matches busy barge year by building new river facilities. D. Warren. Nat Pet N 43:66-7 F 14 '51

Oil barging grows with industry in efficiency, size, importance. C. C. Thompson. il Nat Pet N 43:56-7 Ag 8 '51

Shortage of steel containers grows despite production hikes in 1950. Nat Pet N 43:31 Ja 3 '51

See also

Petroleum products pipe lines
Tank barges

PETROLEUM products pipe lines

Atoms trace pipeline flow. W. Rutledge, 3d. il Mill & Factory 47:86 N '50

Converting crude lines to products service. E. W. Unruh. il map diag Pet Eng (Ref annual) 23:D3+ Jl 15 '51

Crude-oil and refined products pipe-line mileage in the United States, Jan. 1, 1950. A. T. Coumbe and I. F. Avery. U S Bur Mines Information Circ 7585:1-8 '50; Same. Pet Eng 22:D9-10+ D '50

Design of unattended booster station. J. P. Hedlin. flow diag map World Oil 132:188-90 Ja '51; Same. Pet Eng (Ref annual) 23: D49-50+ Jl 15 '51; Same cond. Instruments 24:884-5 Ag '51

Economics of a products pipe line; study of a hypothetical artery. R. H. Lynch. diag Oil & Gas J 49:214+ N 16 '50; Same. map Pet Eng 22:D24+ N '50

Ecuadorian government to build steepest inch products pipe line. il map Oil & Gas J 50: 82+ Ag 30 '51

Mechanical seals effective on main-line pumps. M. J. Dabney and W. W. Holt, jr. diag Oil & Gas J 49:57-8 Ja 4 '51

PETROLEUM products pipe lines—*Continued*
New corrosion inhibitor gets job done; RD-119 to prevent corrosion in products pipe lines. K. T. Feldman and F. M. Watkins. Oil & Gas J 49:340-4 N 16 '50
New products line; Buckeye pipe line co. G. Weber. map Oil & Gas J 49:51-2 Mr 15 '51
Oil product pipe line mileage gains 3.2 per cent in '49; volume moved rises eight per cent. Nat Pet N 43:63+ F 14 '51
Pipe liners set record-breaking pace in 1950; build 20,000 miles. P. Reed. Oil & Gas J 49: 219+ Ja 25 '51
Product line planned; Trans-Northern completing design for line from Montreal to Hamilton. C. O. Wilson. map Oil & Gas J 50:38-9 Ag 2 '51
Products pipe line a 20-year development. il Oil & Gas J 50:supp 425-6 My 31 '51
Products pipe line activity in 1950, by states. World Oil 132:212 F 15 '51
Products pipe line mileage doubles in last decade, Bureau of mines says. Nat Pet N 42:22 N 29 '50
Products pipe lines in transportation. J. E. Boice. Pet Eng 23:D27-8 Ag '51
Proposed line would link eastern Canadian cities. map World Oil 133:328 S '51
Radioactive tracers in products handling. R. P. Howell and R. K. Bond. il World Oil 131:208-10 N '50
Recent developments in products pipe-line technology. H. E. Fisher. bibliog flow diag il diags Am Pet Inst Proc 30(5):53-61 '50
Remotely controlled pipe-line stations. S. S. Smith. diags Oil & Gas J 49:82+ O 26 '50; Same. Pet Eng 22:D19-20+ D '50
Rules tightened for Illinois emergency line. Nat Pet N 42:35 N 29 '50
Sampling and analyzing units check combustible concentrations. il World Oil 132: 248+ Ap '51
Sarnia-Toronto pipe line. H. C. Plummer. map Pet Eng 23:D32 S '51
Tacagua products pipe line. H. C. Plummer. il map Pet Eng 23:D5-8 Jl '51

PETROLEUM refineries
API sees U.S. refinery capacity up 3.9 per cent in 1951. Pet Processing 6:487 My '51
Anglo-Iranian building 40,000-bbl. daily plant in England. il Oil & Gas J 49:97 Ja 11 '51
Anglo-Iranian's Llandarcy refinery expands. il Oil & Gas J 49:253-4 D 21 '50
Belgian refinery. D. M. Duff. il Oil & Gas J 49:33 Mr 1 '51
Bolivian refineries. D. M. Duff. il map Oil & Gas J 49:69-70 N 9 '50
California comes east. D. M. Duff. il Oil & Gas J 49:42-3 N 30 '50
Canadian refiners spending $75,000,000 in plant-building and modernizing projects. G. Weber. il map Oil & Gas J 49:44-6+ Ja 4 '51
Capacity must be expanded; PAD study sets timetable. B. K. Brown. Pet Processing 6:485-6 My '51
Cartagena expansion. D. M. Duff. il Oil & Gas J 49:52-3 N 30 '50
Cat cracker, other construction progressing at Wilton; illustrations with text. Pet Refiner 30:136-7 Ja '51
Coastal refinery expansion. Pet Eng 23:C44 Ag '51
Combination processing plant built at Edmonton. diag Chem & Eng N 29:1232 Mr 26 '51
Current building projects will boost refinery output 500,000 bbl. daily. R. B. Tuttle. Oil & Gas J 50:212+ Jl 26 '51
East St Paul refinery. J. P. de Wet. il Can Min J 72:73-4 Jl '51
Europe's largest refinery scheduled for initial operation within a year at Fawley, south England. G. Weber. il Oil & Gas J 49: 82-3+ Mr 22 '51
Eurotank modernized refinery now on stream. il Pet Refiner 30:112 S '51
Expansion program doubles Italy's refining capacity. F. Kind. map Oil & Gas J 49:79-80 Ja 11 '51
Expansion program of two French refineries. D. M. Duff. il Oil & Gas J 50:86 My 24 '51
Fast tax write-off approval resumed for refining projects after delay. Nat Pet N 43:20 Ap 25 '51
Fawley, new era in refining in Europe. V. B. Guthrie. il diag Pet Processing 6:992-6 S '51; Excerpts. Nat Pet N 43:33-5 S 12 '51
Fawley on stream. il Oil & Gas J 50:104 Ag 23 '51
Good progress being made on Isle of Grain refinery. V. S. Swaminathan. il Pet Refiner 30:109-10 Ag '51
Grangemouth refinery continues two-stage expansion. il Pet Refiner 30:118 S '51
Heavy demand boosts California refining. il Oil & Gas J 49:A46+ N 9 '50
Indonesian repair work still under way but nears its economic limit. il Oil & Gas J 49: 275-7+ D 21 '50
Integrated operation; six-plant settlement starts with crude oil, winds up with rubber, plastics, petrochemicals, and more. F. L. Resen. diag Oil & Gas J 50:58 Jl 12 '51
Laws, morals, and manners; air pollution problems of refineries. W. L. Stewart, jr. Am Pet Inst Proc 31 M(3):11-13 '51
Llandarcy refinery expansion work now in second phase. V. S. Swaminathan. il Pet Refiner 30:96-7 My '51
Lubricants for Italy. il Chem Eng 58:214 Je '51
Modernization completed at Anglo-Iranian oil co. Eurotank refinery. il Oil & Gas J 49: 300-1 D 21 '50
New British American refinery is complete combination plant. diag Pet Refiner 30:128 Ap '51
New refinery in operation at Shell Haven, Essex. V. S. Swaminathan. il Pet Refiner 30:78-80 F '51
New units; cat cracker, gas-recovery units at Abadan. il Oil & Gas J 50:94+ My 10 '51
Nippon's refineries. B. F. Linz. Oil & Gas J 49:67 O 26 '50
Oil refineries in 1950. Engineer 191:75, pl 11 Ja 12 '51
Oil refinery development at Fawley. il Engineering 170:563-4, 566 D 29 '50
Oil-refining capacity in Italy. il Engineering 172:108-9 Jl 27 '51
Orthoflow fluid catalytic cracker, Edmonton. il diag Chem Age (Lond) 65:431-2 S 29 '51; Pet Refiner 30:178+ S '51
Pan-Am begins construction of fluid hydroformer. Chem & Eng N 29:3854+ S 17 '51
Prime minister opens Fawley, Europe's largest refinery. il Chem Age (Lond) 65:385-90 S 22 '51
Refinery and other plant construction; tabulated information. Published in monthly numbers of Petroleum refiner
Refinery expansion in England. V. S. Swaminathan. il Pet Eng 23:C13-14+ Ja '51; Excerpts. Oil & Gas J 50:318 S 20 '51
Refinery is advanced example of combination oil processing; British-American co. Edmonton refinery. il Pet Refiner 30:146 Jl '51
Refinery opening at Edmonton. K. B. Barnes. Oil & Gas J 50:49 Je 28 '51
Refinery operations reach new all-time high in 1950. J. C. Casper. map Oil & Gas J 49: 206-7 Ja 25 '51
Refinery progress in Europe. Economist 161: 530+ S 1 '51
Refinery project; Kent, England. Oil & Gas J 49:68-9 D 14 '50
Refining developments in Scotland. E. N. Tiratsoo. il Pet Refiner 30:138-9 Je '51
Refining expansion; accelerated amortization granted for 122 projects. Oil & Gas J 50: 76-7 My 24 '51
Refining expansion program growing. Pet Processing 6:836 Ag '51
Refining industry's expansion plans; list of 122 projects. Pet Processing 6:607-10 Je '51
Research, processing, engineering take shape on construction lot; Kellogg refinery and chemical plant erection; illustrations with text. Pet Eng 23:C100-2+ Jl '51
Second distillation unit trebles output; Shell Stanlow (Cheshire) refinery. il Pet Refiner 30:90 Ag '51
Second large postwar refinery opened in Europe by Shell. il Pet Refiner 29:116 D '50
Sharp upward trend in refinery construction; active refinery-building projects list. R. B. Tuttle. Oil & Gas J 49:343-4+ Mr 29 '51

PETROLEUM refineries—*Continued*

Shell's Montreal-East model refinery. A. W. J. Dyck. il Can Chem Process 35:552-5 Jl '51

Shell's U.K. refinery program. V. S. Swaminathan. il Pet Eng 23:C5-8 Mr '51

Slowdown on tax relief; quick amortization of new refineries criticized. Oil & Gas J 49:60 Ap 12 '51

Small refineries, they have big place in fuels plan. R. Brazell. Oil & Gas J 49:66 Ap 12 '51

Small refiners gaining. G. Weber. Oil & Gas J 50:58 My 31 '51

Société générale des huiles de pétrole's new Dunkirk refinery. J. Andrault. il Oil & Gas J 49:242-4 D 21 '50

Southwest refining personalities. Oil & Gas J 50:supp 352+ My 31 '51

Sun Oil sums up $40 million expansion plans. Chem & Eng N 29:3538-9 Ag 27 '51

Sun to build at Sarnia. G. Weber. Oil & Gas J 50:172 Jl 26 '51

Trend in refinery use of natural gas liquids. Pet Processing 5:1264 D '50

28 oil company projects win DPA approval for fast tax write-offs. Nat Pet N 43:20 Mr 21 '51

U.S. refining centered in Southwest. C. O. Willson. il Oil & Gas J 50:supp 312-16+ My 31 '51

Venice refinery undergoing expansion. V. S. Swaminathan. il Oil & Gas J 50:104+ S 27 '51

Wilshire enlarging, modifying refinery at Norwalk, Calif. il Oil & Gas J 49:77 Mr 1 '51

Winnipeg refinery begins operations. H. C. Plummer. il Pet Eng 23:C5-8 Ag '51

Work progresses on Europe's largest oil refinery; Fawley, England. il Pet Refiner 29:107-8 D '50

You'll play a major role in mobilization if you're a small refiner, and here's why. Pet Processing 6:486-7 My '51

Accounting

Bibliography

Refinery accounting references. W. L. Nelson. Oil & Gas J 49:100+ Ap 5 '51

Control equipment

Air-driven unit operates catalyst slide valves. diag Pet Processing 6:909 Ag '51

Centralized control in industries furthered by monitoring systems. E. J. Grace. il diags Pet Refiner 30:107-10 Ja '51

Controller action on startup. Oil & Gas J 49:365 N 16 '50

Easier control by graphic panel. J. Stackner. il Pet Processing 6:626-8 Je '51

Gadgeteering with process control instruments. J. M. Jones, jr. diags Pet Processing 6:275-8 Mr '51

Graphic instrumentation. W. S. Bowers. il Oil & Gas J 49:115 O 26; 95 N 2; 181 N 9 '50

Instrument department grows up. R. F. Angell and R. Tobi. il Pet Eng 23:C23-4+ Je '51

Keeping control valves on stream at Esso's Bayway refinery. E. Lehman and R. A. Rowe. il diags Oil & Gas J 50:60-1+ Ag 2 '51

Process monitoring systems. E. J. Grace. diags Oil & Gas J 49:202+ O 5 '50; Same. il Pet Processing 5:1188-91 N '50

Questions and answers on instrumentation. Pet Processing 5:1318-19 D '50

Refinery instruments; what makes them tick? C. E. Shannahan. il diags Pet Processing 6:730-3, 848-53, 983-6 Jl-S '51

Thermal cracker coil release valves operated remotely from control room. diag Pet Processing 5:1326 D '50

Tri-act control; a new concept. R. E. Claridge. diags Oil & Gas J 49:95 N 23; 89 N 30; 115 D 7; 111 D 14; 333 D 21 '50

Tuning automatic control systems. J. L. Serrill and L. E. Jewett. diags Pet Refiner 30:89-94 Ja '51

Unusual control valve practices in a petroleum refinery. C. W. Bates and J. R. Martin. il diag Pet Refiner 30:111-18 Ja '51

Corrosion

Corrosion hazards. J. B. DeLaune. Am Pet Inst Proc 31 M(3):134 '51

Corrosion-prevention in a TCC gas plant. C. A. Murray and M. A. Furth. bibliog flow diag il diags Pet Eng (Ref annual) 23:C3+ Jl 15 '51; Same abr. Am Pet Inst Proc 31 M(3):99-105 '51; Same abr. Oil & Gas J 50:112+ My 24 '51; Same cond. Pet Processing 6:504-6 My '51; Discussion. Am Pet Inst Proc 31 M(3):105-6 '51

Duplex tubing for use in the petroleum industry. C. L. Bulow. il diags Pet Eng 23:C5-8 S '51

Easily made test probe for hydrogen attack. il diag Pet Processing 6:877+ Ag '51

Fight corrosion with plastics. R. B. Seymour and E. A. Erich. bibliog Pet Processing 6:861-2 Ag '51

Metals and alloys for high-sulfur, high-temperature processes. B. B. Morton. Oil & Gas J 50:146 My 10 '51

New flash tower resists high sulfur corrosion. L. W. Williams. il Pet Refiner 30:144 Ja '51

Practical and relative simple corrosion tests found effective. F. L. La Que. il diags Pet Refiner 30:120-2 F '51

Use of aluminum in petroleum refinery equipment. E. E. Kerns and W. E. Baker. il Am Pet Inst Proc 31 M(3):89-98 '51; Same. Pet Refiner 30:123-9 My '51; Excerpts. Oil & Gas J 50:87+ Jl 19 '51

Costs

Current itemized cost indexes. W. L. Nelson. Oil & Gas J 49:69 Ja 4; 109 Ap 12; 50:88 Jl 5 '51

Directories

North American operating refineries; United States, Canada and Mexico. Oil & Gas J 49:330-1+ Mr 29 '51

Survey of oil refineries. Oil & Gas J 49:322-9 D 21 '50

Electric equipment

Control and switchgear for the oil industry. B. M. Mills. bibliog il Am Pet Inst Proc 31 M(3):141-54; Discussion. 164-7 '51

Electrical capacitance measures catalyst level in hoppers; patent. Pet Processing 6:651 Je '51

Electrical redistribution in an oil refinery. G. D. Arden. diags Inst E E Proc 98 pt 1:81-3 Mr '51

Electricity in the oil industry. il diag Elec R (Lond) 147:771-4, 947-50, 963-8, 1089-93; 148:10-14 N 17, D 8-15, 29 '50-Ja 5 '51

Explosion-proof motors; design and application to the petroleum industry. J. Z. Linsenmeyer and C. R. Olson. il diags Am Pet Inst Proc 31 M(3):155-63; Discussion. 164-7 '51

Motor selection for hazardous locations. J. C. Linsenmeyer. il diag Pet Eng 23:C20-2+ Ja '51

Selection of electric motor controls. J. Benish. diags Pet Eng 23:C5-10 Jl '51

Selection of electric motors. J. Benish. il diags Pet Eng 22:C7-12 D '50

Stanlow oil refinery. il Elec R (Lond) 148:1019-23 My 18 '51

Employees

Indoctrination programs for technical personnel. F. C. Cutting. Am Pet Inst Proc 31 M(3):178-82; Discussion. 182-3 '51

Industry pleased with technical classrooms of Humble oil & refining co. H. D. Wilde. il Pet Refiner 30:77+ My '51; Same. Am Pet Inst Proc 31 M(3):184-8; Discussion. 189-90 '51

Industry practice in training technical personnel. H. G. Vesper and D. H. Etzler. bibliog Am Pet Inst Proc 31 M(3):171-5; Discussion. 175-7 '51

Occupational outlook handbook; petroleum production and refining occupations. il map U S Bur Labor Statistics Bul 998:331-41 '51

Plan your personnel requirements. R. F. Welch. Oil & Gas J 50:77+ Je 28 '51

Technical training in industry. H. D. Wilde. Chem Eng Prog 47:sup 17-18 S '51

Equipment

Aircomatic welding refinery components and pressure vessels. S. A. Yaczko. il diags Welding J 30:903-7 O '51

PETROLEUM refineries—Equipment—*Cont.*

Alkylation plant improvements. D. H. Putney. diags Pet Eng 23:C27-8+ Je '51; Same. Pet Refiner 30:89-94 Je '51; Same abr. Pet Processing 6:744-8 Jl '51

Atlas processing co. installs benzene extraction and platforming units. flow diags il Oil & Gas J 50:120+ S 13 '51

Baytown improvement. il Oil & Gas J 49:56-7 N 9 '50

Big crude unit at Bahrein refinery. il Oil & Gas J 50:67 Ag 9 '51

Brazil's first complete refinery. il Pet Processing 6:629-30 Je '51

Charts simplify refinery piping design. diags Pet Eng 23:C16-18+ Jl '51

Coker solves heavy fuel problems; Pan-Am uses delayed coking. A. L. Foster. flow diag il Pet Eng 23:C53-5+ Ap '51

Concrete condenser box skims cooling water. il Oil & Gas J 49:102 D 7 '50

Continuous moulding of paraffin wax. L. H. Jennings and others. il plan diags Pet Eng (Ref annual) 23:C42+ Jl 15 '51; Same. Pet Processing 6:840-3 Ag '51; Same. Pet Refiner 30:97-100 Ag '51; Same cond. Oil & Gas J 50:238-9 Jl 26 '51

Cracked-cracker study of graphitization. G. Weber. Oil & Gas J 50:57 Jl 19 '51

Creole's new atmospheric-vacuum unit is one of world's largest. flow sheet il Oil & Gas J 49:78-80 Ap 5 '51

Deep Rock builds today for tomorrow. W. T. Ziegenhain. flow charts il Pet Eng 22:C29-30+ D '50

Differential-pressure instruments for improving refinery processing. W. Kaplan and D. J. Bellman. il diags Oil & Gas J 50:319+ S 20 '51

Economic line sizing for plant piping. H. B. Manley. Pet Refiner 30:151-2 Jl '51

Effect of temperature on carbon steel in refinery vessels being surveyed; occurrence of graphitization of steels. V. B. Guthrie. il Pet Processing 6:719-21 Jl '51

Equipment patents. Published in monthly numbers of Petroleum processing

Erosion-control materials installed in Wilshire Oil's Norwalk refinery. il Oil & Gas J 50:100+ Je 7 '51

Experience with austenitic steels in high-temperature service in petroleum industry. M. E. Holmberg. il diags A S M E Trans 73:733-9 Ag '51; Same. Pet Processing 6:256-61 Mr '51; Discussion. A S M E Trans 73:739-42 Ag '51

First air-lift TCC unit. D. P. Thornton, jr. il Pet Processing 6:146-9 F '51

First electric-welded high-pressure vessels ever fabricated complete 25 years of refining service. il Oil & Gas J 49:101 D 14 '50

Fractionating unit stabilizes crude oil natural gasoline. flow sheet il Pet Refiner 29:151-2 N '50

Gas-lift moving bed cracker constructed in single vessel; patent. diag Pet Processing 6:415 Ap '51

Gaskets for the oil industry. H. H. Dunkle. diags Oil & Gas J 49:194+ O 5 '50; Same. Pet Refiner 29:135-9 N '50

Gladewater adds Perco reforming unit. H. A. Grebe and others. il Pet Refiner 30:156-7 My '51; Same. flow diag Oil & Gas J 49:80-1 Ap 12 '51

Graphical methods aid in stack foundation design. C. H. Fork. diags Pet Refiner 30:81-5 Mr '51

Gravity separation of inactive catalyst. C. K. Viland. flow diag il Oil & Gas J 49:74-5+ N 30 '50

Gun-applied refractory linings. Pet Processing 6:1000+ S '51

How Deep Rock went about solving catalytic cracking unit problems. J. Beam. diags Oil & Gas J 50:105-6 S 6 '51

How self-adjusting skimmers improve operation of waste separators. W. O. Small. il diags Pet Processing 5:1300-3 D '50

How Standard of Indiana achieves stabilization of cooling-tower water at its Sugar Creek refinery. H. Shields and L. V. Sorg. il diag Oil & Gas J 49:52+ Mr 1 '51

How to dry process steam. C. D. Crawford. il diags Pet Processing 6:734-5 Jl '51

How to get MRO, construction materials. Pet Processing 6:725-7 Jl '51

How to get MRO materials. W. F. Bland. Pet Processing 6:365-7 Ap '51

How to order equipment. D. P. Thornton, jr. Pet Processing 6:722-4, 844-7, 974-7, 1128-32 Jl-O '51 (to be cont)

Hydrogen attack of steel in refinery equipment. R. T. Effinger and others. bibliog flow diags il diag Am Pet Inst Proc 31 M(3): 107-30 '51; Same. Pet Refiner 30:132-44 My '51; Same abr. Oil & Gas J 50:99-100+ My 15 '51; Excerpts. Pet Processing 6:500-4 My '51; Discussion. Am Pet Inst Proc 31 M(3):130-3 '51

Lubrication of refinery equipment. C. M. Larson. il diags Pet Eng 23:C5-12 Ja; C19-20+ F '51

Magnolia relocates loading lines. H. T. Fort. il Oil & Gas J 50:216+ Je 21 '51

Magnolia's Beaumont T.C.C. units employ catalyst air-lift system. F. L. Resen. il diag Oil & Gas J 50:66-7+ Je 28 '51

Mechanical seals for centrifugal pumps. D. R. Rankin. il diags Pet Eng 23:C13+ S '51

Mechanical shaft seals for general refinery service. A. Fanestiel. il diags Oil & Gas J 49:56+ F 1 '51

Mechanized handling increases and decreases space; Philadelphia refinery of Gulf oil corp. il Safety Maint & Prod 101:16-17+ Mr '51

Methods of absorbing expansions of long-range transmission piping. F. E. Wolosewick. diags Pet Refiner 30:69-74 F '51

Modernized refinery keeps pace with technology; Ohio oil company plant at Robinson, Ill. A. L. Foster. flow charts il plan Pet Eng 23:C27-30+ Ja '51

Montreal East refinery includes unique cat cracker. flow diag il Pet Refiner 30:130-1 Jl '51

New cat cracking record; Sunray's catalytic cracking unit runs 677 continuous days. R. L. Johnson. il Pet Eng 23:C50-1 Ap '51; Same cond. Oil & Gas J 49:92+ Mr 15 '51

New crude topper, cracker expand independent refiner's facilities. D. P. Thornton, jr. flow diag il diags Pet Processing 5:1176-9 N '50

New development in radiant heating for the petroleum industry. C. C. Tate. il diags Oil & Gas J 50:106+ My 10 '51; Same. Pet Refiner 30:103-6 My '51; Same. Pet Eng 23: C14-16+ Je '51; Abstract. Pet Processing 6:616-17 Je '51

New 420 ton/day delayed coking unit. O. A. Fuchs. flow diag il diag Pet Processing 5: 1058-62 O '50; Same. plan Oil & Gas J 49: 76-7+ O 26 '50

New method of slabbing wax. D. P. Thornton, jr. il diags Pet Processing 6:963-7 S '51

New Platforming units for Wood River, Houston refineries. G. Weber. Oil & Gas J 49:43 N 23 '50

New Punta Cardon refinery will be second largest in Venezuela. V. S. Swaminathan. flow diag il Oil & Gas J 49:54-5+ F 1 '51

New-type crackers; modified air-lift Thermofor catalytic cracking units at Magnolia's Beaumont refinery. L. S. McCaslin, jr. il Oil & Gas J 49:168-9 Ja 25 '51

Newest solvent lube plant. G. L. Lupfer. il Pet Processing 6:34-8, cover Ja '51

Pan-Am Southern accelerates expansion. J. W. Bertetti. il diag Oil & Gas J 50:100-1+ S 13 '51

Pan American expands from within. F. L. Resen. il Oil & Gas J 50:176-7+ Je 21 '51

Planning refinery heat transfer equipment. T. G. Hicks. il diags Pet Refiner 29:97-101 S; 95-8 O; 113-15 N '50

Practical calculations for shell-and-tube heat exchangers. G. L. Farrar. Pet Eng 23:C11-12+ Ag '51

Pre-fab coils eliminate repair headaches. il Pet Processing 6:165 F '51

Radiant heater cuts costs. il diag Chem Eng 58:200 Je '51

Refinery installs cat cracking capacity; Shell oil co. of Canada limited. H. C. Plummer. flow diag il Pet Eng 23:C31-2+ S '51

Reforming, LPG recovery units installed in Trieste refinery. il Pet Processing 5:1187 N '50

Refrigeration in the petroleum industry. J. Charls, jr. flow diags il diags Pet Eng 23: C40+ Ap; C11-12+ My '51

PETROLEUM refineries—Equipment—*Cont.*

Refrigeration in the refining industry. T. G. Hicks. il Pet Refiner 30:88-90 Mr; 145-6 Je; 147-9 Jl '51

Shell's building program at Montreal east refinery ups input to 25,000 bbl. daily. diag Oil & Gas J 50:74+ Jl 5 '51

Skelly manufactures close-boiling products at El Dorado plant. flow diag il Oil & Gas J 49:86+ Ja 11 '51

Slanting bubble caps improve fractionator tower efficiency; patent. diag Pet Processing 6:293 Mr '51

Small refinery becomes competitive with cat reformer, poly units. G. T. Granger and others. flow sheet il Pet Processing 6:374-7 Ap '51

Sunray cat-cracker sets world record. il Pet Eng 22:C46 D '50

Sun's new Houdriflow unit. P. D. Barton. flow diag il diag Oil & Gas J 49:232+ Mr 29 '51

Supply and distribution of utilities at Cit-Con's lubricating-oil plant. A. Sherman. il Oil & Gas J 49:250+ Mr 29 '51

Supports for vertical pressure vessels. F. E. Wolosewick. bibliog diags Pet Refiner 30: 137-40 Jl; 101-8 Ag; 143-5 O; 151-3 D '51

Teamwork accomplishes worthy results in Sohio's refinery-construction program. E. M. Salathe. il diags Oil & Gas J 49:222-5+ Mr 29 '51

TCC cracking of Rocky Mountain crudes. A. L. Foster. il diags Pet Eng 22:C7-12 N '50

Twin air-lift Thermofor cat cracking units on stream. flow charts il Pet Eng 23:C11-14+ Ap '51

Two new air-lift type TCC units put into operation. il diag Pet Refiner 30:95-6 Mr '51

Two reaction chambers in series increase refinery charge rate. il Oil & Gas J 49:94+ Mr 8 '51

Two ways to insulate flanges, valves, and fittings. R. L. Davis. il diag Pet Eng (Ref annual) 23:C54 Jl 15 '51

Wax and lube-oil manufacture at Sinclair's East Chicago plant. flow diags il Oil & Gas J 49:50-3 Ja 18 '51

Experimental plants

High pressure fixed-bed catalytic unit. G. B. Arnold, F. P. Frascati and N. D. Carter. flow sheet il diags Ind & Eng Chem 43: 1013-18 Ap '51

Kitten cracker. il Oil & Gas J 50:152-3 Je 21 '51

Midget fluid catalytic cracking units. H. W. Grote, J. Hoekstra and G. T. Tobiasson. flow sheet il Ind & Eng Chem 43:545-50 F '51

Short cuts in pilot plant engineering; abstract. J. B. Rearick. Oil & Gas J 50:50 S 27 '51

Fires and fire protection

Safe handling of volatile materials; Esso standard oil co. training program. il Pet Processing 6:378-9 Ap '51

Tank bottom connections improve fixed fire protection installations; patent. Pet Processing 6:649+ Je '51

Flare stacks

Flare stack ignition devices. O. L. Clevenger and W. A. McElhannon. il diag Pet Eng 23:C21-2 My '51

Smokeless flare stacks. W. H. Smolen. bibliog il diags Pet Processing 6:978-82 S '51

Flood damage

Plant rehabilitation; procedure at Phillips refinery after the Kansas City flood. il Oil & Gas J 50:63+ S 6 '51

Fuel

Oxygen measurement as a guide to combustion efficiency. L. D. Cipriano and O. W. Riggs. il diags Oil & Gas J 50:90-2+ Jl 12 '51

Maintenance and repair

Better method for maintenance of wax filter drums saves 500 man-hours. diags Pet Processing 6:517 My '51

Chemical circulation cleaning of towers. V. E. Bowes. il diag Pet Eng 23:C5-8+ My '51

Giant stacks changed in three hours. il Oil & Gas J 50:108-9 S 6 '51

Globe refining solves some operating problems. R. B. Pierce and J. M. Lawson. diags Oil & Gas J 49:56+ D 28 '50

Gold in the plant scrap pile. D. P. Thornton, jr. il Pet Processing 6:251-3 Mr '51

High pressure water + blasting sand = cleaner heat exchangers. W. C. Uhl. flow diag il Pet Processing 6:22-5 Ja '51

How to control leaks in hand holes in cat cracker flue gas coolers. E. G. Woolman. diags Pet Processing 5:1325-6 D '50

How to control welding quality in a petroleum refinery. A. F. Blumer. diags Oil & Gas J 49:94+ O 19 '50; Same. il Pet Refiner 29:101-8 N '50; Same. il Welding J 30:235-43 Mr '51; Same cond. Pet Processing 5: 1192-5 N '50

Is your problem cleaning exchangers? il diags Pet Processing 6:370-3 Ap '51

Keep your pumps on stream. L. J. Dawson. il diag Pet Eng 22:C13-14+ N '50

Keeping control valves on stream at Esso's Bayway refinery. E. Lehman and R. A. Rowe. il diags Oil & Gas J 50:60-1+ Ag 2 '51

Metallizing, to prolong life of refinery equipment. J. E. Young, jr. il Pet Refiner 30: 118-20 Jl '51

Performance of cooling equipment. H. A. Dresser. il diag Pet Refiner 30:110-13 My '51

Shell redesigns coastal reconditioning shops. il Oil & Gas J 49:A91-2 N 9 '50

Special jig aids in salvaging welded fittings and other piping connections. il Oil & Gas J 49:A94-5 N 9 '50

Three ways to clean exchangers. C. J. Wenger. il diag Pet Processing 6:150-3 F '51

Valve salvage pays when it's part of routine maintenance. W. C. Uhl. il plan Pet Processing 6:388-92 Ap '51

Models

Taking the Greek out of blueprints by use of scale models. H. J. Bowen. il Oil & Gas J 49:226+ Mr 29 '51

Power

Steam and power plant economy and capability at Louisiana station; abstract. R. J. Robertson and W. B. Gurney. Mech Eng 72:1006 D '50

Utilization of purchased electric power in an oil refinery. A. J. Claes. diag Oil & Gas J 49:90+ F 15 '51

Waste heat boiler improves refinery's operation and maintenance of steam plant. il Pet Refiner 30:109-10 Ap '51

Protection

Gulf Coast oil defenses stress protection against fifth column. M. C. Reid. il Nat Pet N 43:20-1 Mr 28 '51

Organize plant protection now. F. V. Martinek. il Pet Processing 5:1173-5 N '50

Quality control

Statistical analysis aids quality control. P. C. White and W. B. Traver. Oil & Gas J 50: 250+ Jl 26 '51

Safety measures

Electrical hazards. H. W. Boggess. Am Pet Inst Proc 31 M(3):138-40 '51

Esso cracks its safety problems. W. Naden. il Safety Maint & Prod 101:87-90 Je '51

I.P. safety codes; application to refining. F. Mayo. Inst Pet J 37:186-92; Discussion. 197-208 Ap '51

Motor selection for hazardous locations. J. C. Linsenmeyer. il diag Pet Eng 23:C20-2+ Ja '51

Oil refinery reduces accidents 65 per cent. il Safety Maint & Prod 101:21+ My '51; Same. Oil & Gas J 50:68-9 Je 28 '51; Excerpt. Mill & Factory 49:102 Ag '51; Abstract. Pet Refiner 30:130-1 My '51

Operation safety; cartoons. W. A. Sullender. Pet Refiner 30:143 Ja; 92 F; 118 Mr; 122 Je; 121 Jl; 96 Ag '51

PETROLEUM refineries—Safety measures—*Continued*

Safety, a part of the technical man's training. L. A. Martin. Am Pet Inst Proc 31 M(3):191-3 '51

Safety from explosive gases. O. C. Haier. Chem Eng 58:268 Jl '51

See also

Petroleum refineries
—Fires and fire protection

Shops

See Petroleum refineries—Maintenance and repair

Statistics

Census of plant-capacity distribution and manpower in the United States refining industry. Oil & Gas J 49:220-1 Mr 29 '51

Lube refining capacity 177,000; survey of National petroleum association. il Pet Eng 23:C9-10 Ag '51

New construction to boost refining capacity 110,000 bbl. daily. R. B. Tuttle. Oil & Gas J 49:244+ Ja 25 '51

Refinery operations to continue at record levels. Pet Refiner 30:71+ Mr '51; Same abr. World Oil 132:178+ F 15 '51

Refinery runs exceed 6.4 million barrels daily during first half. Oil & Gas J 50:200 Jl 26 '51

Refining jump; capacity of 5,048,000 bbl. daily outside United States by end of 1953 indicated. D. M. Duff. il Oil & Gas J 50:78+ My 17 '51

Summary of refineries in the United States; tabulation. Oil & Gas J 49:329 Mr 29 '51

World refining, 1950. World Oil 133:82+ Jl 15 '51

Waste

Automatic samplers help check waste contaminants in various plant areas. il diag Pet Processing 6:49 Ja '51

Dissolved-air flotation separates oil from waste water. N. A. D'Arcy, jr. il Am Pet Inst Proc 31 M(3):34-42; Discussion. 42-4 '51

Fundamentals and performance of gravity separation. A. C. Ingersoll. il diags Am Pet Inst Proc 31 M(3):45-62 bibliog (p58-62) '51; Same. Pet Refiner 30:106-18 Je '51

How self-adjusting skimmers improve operation of waste separators. W. O. Small. il diags Pet Processing 5:1300-3 D '50

How waste disposal is supervised in a 260,000 b/d refinery; Humble oil & refining co., Baytown. il Pet Processing 6:254-5 Mr '51

Hydraulic characteristics of gravity-type oil-water separators. G. A. Rohlich. il diags Am Pet Inst Proc 31 M(3):63-84; Discussion. 84-5 '51

More refiners describe their waste disposal program. Pet Processing 5:1196-8 N '50

Performance of a gravity-type oil-water separator on petroleum refinery wastes. R. N. Giles and others. bibliog il plan diag Sewage & Ind Wastes 23:281-91 Mr '51; Abstract. Water & Sewage Works 98:36 Ja '51; Discussion. G. A. Rohlich. Sewage & Ind Wastes 23:291-4 Mr '51

Reducing water pollution for oil refineries. W. H. Redlien, jr. and J. H. McClintock. il Pet Refiner 30:123-6 Je '51

Safety in handling wastes. S. L. Rankin. Am Pet Inst Proc 31 M(3):27-8 '51

Spent acid recovery offers solution for tight sulfur supply. F. J. Bartholomew. il plan Pet Refiner 30:101-3 Ap '51

Treating refinery chemical waste. H. Schindler. flow diag il Pet Processing 6:492-5 My '51; Same. Pet Eng (Ref annual) 23:C36+ Jl 15 '51; Same. Am Pet Inst Proc 31 M(3):29-33 '51; Same cond. Oil & Gas J 50:92+ My 31 '51

Treatment plant for wastes from refining of white oils and petroleum sulfonates; abstract. H. Schindler. Water & Sewage Works 98:326 Jl '51

Union of California salvages oil from waste-water conditioning system. il Oil & Gas J 49:A92+ N 9 '50

PETROLEUM refining

Adsorbing aromatics; chromatography separates xylenes, toluene and benzene; Arosorb process. diags Chem Eng 58:234+ S '51

Capacity expansion main job of refining industry. A. L. Foster. Pet Eng 23:C39-40 My '51

Catalytic cracking and solvent refining feature 1930-1950 period in refining. W. L. Nelson. il Oil & Gas J 50:supp 340+ My 31 '51

Chemical engineering unit processes fourth annual review; pyrolytic and catalytic decomposition of hydrocarbons. V. Haensel and M. J. Sterba. bibliog(86 ref) il Ind & Eng Chem 43:2016-22 S '51

Chemical progress during the 75 years of the American chemical society; petroleum chemistry. G. Egloff and M. L. Alexander. bibliog il Ind & Eng Chem 43:809-19 Ap '51

Commemorative section to mark fiftieth anniversary of M. W. Kellogg co. il Pet Eng 23:C23+ Jl '51

Delayed coking improvements; technical problems and costs. Chem Age (Lond) 64:305-6 F 24 '51

From pilot plant to payoff; Kellogg's new Fluid Hydroforming. il Chem Eng 58:244+ S '51

How to conserve sulfuric acid. W. F. Bland. Pet Processing 6:865-6+ Ag '51

Integrated processing; keynote of a modern refinery. W. T. Ziegenhain. il diag Pet Eng 23:C9-10+ S '51

Middle of the barrel comes of age. A. L. Nickerson. Pet Refiner 30:71+ Jl '51

More high octane and benzene promised by new process; catalytic reforming process. il diag Chem & Eng N 29:761-2 F 26 '51; flow diag Pet Refiner 30:86-7 Mr '51

Needed; more refining. J. C. Casper. Oil & Gas J 50:57-8 My 31 '51

New Arosorb process; Sun makes available commercial method for purifying aromatics. G. Weber. flow diag Oil & Gas J 50:58-9 Jl 19 '51

New refining process; Atlantic Refining introduces method which promises high octane yield. G. Weber. flow chart il Oil & Gas J 49:129-31 F 22 '51

1950-1951 make great strides in technology. A. L. Foster. il Pet Eng 23:A41-5+ Ap '51

1951 refining processes with flow diagrams. Oil & Gas J 49:178-216 Mr 29 '51

Platinum catalysts in petroleum refining; three major types of chemical reaction. Chem Age (Lond) 64:749-50 My 12 '51

Progress reports on activities of API refining division committees. Pet Processing 6:507-9 My '51

Refining industry well prepared to conform to wartime program. G. Weber. Oil & Gas J 49:215-16 Ja 25 '51

Refining properties of new crudes; characteristics of crude oils from the Golden Trend in Oklahoma. N. A. C. Smith and others. bibliog map Pet Processing 6:987-90 S '51

Refining symposium; American chemical society's Division of petroleum. Oil & Gas J 50:78-9 S 13 '51

Synthetic liquid fuels; annual report of the Secretary of the interior for 1950; oil from secondary recovery and refining. 5pls U S Bur Mines Rep of Invest 4773:1-16 '51

Technical forum; questions on the petroleum and natural gas industries' technology, chemistry, engineering, and operating problems. Pet Eng 22:C38+ N '50 [cont monthly]

U.S. refining centered in Southwest. C. O. Willson. il Oil & Gas J 50:supp 312-16+ My 31 '51

Volumetric and phase behavior of propene-propane system. H. H. Reamer and B. H. Sage. bibliog Ind & Eng Chem 43:1628-34 Jl '51

What's your R.I.Q. (refining information quotient)? Journal-prepared refresher course on refining. il diags Oil & Gas J 49:283-9+ Mr 29 '51

World petroleum congress, 3d, The Hague, May 28-June 6; digests of technical proceedings. Oil & Gas J 50:90-9 Je 7 '51

See also

Gasoline—Manufacture
Lubricating oils—Manufacture
Petroleum distillation

Bibliography

Science and technology abstracts. E. H. Leslie and H. B. Coats, comp. Published in monthly numbers of Petroleum refiner

PETROLEUM refining—*Continued*

By-products

See also
Petroleum coke

Edeleanu process

Edeleanu process. flow diag Oil & Gas J 49: 214-15 Mr 29 '51

Patents

Details on reforming with platinum revealed in new Atlantic patent. Pet Processing 6: 887+ Ag '51

Digest of recent U.S. patents pertaining to petroleum refining. H. Heinemann, comp. Published in monthly numbers of Petroleum refiner

Processing patents. P. J. Gaylor. Published in monthly numbers of Petroleum processing

20-year-old litigation of patents continues in Whitman-UOP lawsuit. R. E. Bjorkback. Nat Pet N 43:28-9 Mr 14 '51

Salt removal

Desalting crude oil. il diags Pet Eng 23:C34-8 Ag '51

Study and teaching

Industry pleased with technical classrooms of Humble oil & refining co. H. D. Wilde. il Pet Refiner 30:77+ My '51; Same. Am Pet Inst Proc 31 M(3):184-8; Discussion. 189-90 '51

Petroleum engineering schools; Los Angeles Harbor junior college. il Oil & Gas J 49: A90-1 N 9 '50

Sulfur removal

Catalytic hydro-desulphurization of gas oil; analysis of the kinetics of the reaction. H. Hoog. bibliog diag Inst Pet J 36:738-51 D '50

Desulphurization; low boiling fractions; abstract. E. F. Schwarzenbek and others. Chem Eng 58:260-1 Ag '51

Extraction of mercaptans by means of adsorption. W. E. Voreck, jr. and others. bibliog diag Pet Refiner 30:126-9 Mr '51

New caustic regeneration process improves mercaptan sulfur removal. O. J. Zandona and C. W. Rippie. flow diag il Pet Processing 6:136-7 F '51

New sulfur process. F. L. Resen. flow diag Oil & Gas J 50:59 My 31 '51

Separation of sulfur and aromatics from petroleum with boron fluoride and hydrogen fluoride. E. C. Hughes and others. bibliog Ind & Eng Chem 43:750-3 Mr '51

Shell phosphate desulfurization. flow diag Oil & Gas J 49:198-9 Mr 29 '51

Sources of hydrogen sulfide in Wyoming. R. H. Espach. map Ind & Eng Chem 42: 2235-7 N '50

Sweetening and desulfurization of light petroleum products. V. A. Kalichevsky. bibliog and patent list il Pet Refiner 29:97-100 N; 113-15 D '50; 30:129-35 Ja; 95-6 F; 122-5 Mr; 111-18 Ap; 117-22 My; 135-7 Je '51

Tables, calculations, etc.

Introduction to chemical reaction calculations. A. M. Platt and G. L. Farrar. il Pet Refiner 30:83-9 Ag; 147-52 O; 137-42 D '51

Material and heat balance calculations. G. L. Farrar. diags Pet Eng 22:C20+ D '50

Vapor recovery

Modern trends in gas plants for catalytic cracking units. F. E. Gilmore and R. D. Bauer. flow diags diags Pet Refiner 30:196+ S '51

Wax removal

Dewaxing. P. Zurcher. il diag Pet Refiner 30:119-24 S '51 (to be cont)

Mill makes flights for dewaxing unit screw conveyors in single operation. diags Pet Processing 6:165-6 F '51

Propane dewaxing. flow diag Oil & Gas J 49: 208-9 Mr 29 '51

Solvent dewaxing. flow diag Oil & Gas J 49: 214-15 Mr 29 '51

Wax and lube-oil manufacture at Sinclair's East Chicago plant. flow diags il Oil & Gas J 49:50-3 Ja 18 '51

PETROLEUM research

Analytical research; summaries of papers. Am Pet Inst Proc 31 M(3):17-21 '51

Aviation gasoline and its component hydrocarbons; wartime research (1940-45). H. M. Smith and others. 19pls[in pocket] diags U S Bur Mines Bul 497:1-79; pa $1.50 Supt. of doc. '51

Bacteria serve as catalysts in forming hydrocarbons; abstract. C. E. ZoBell. Oil & Gas J 50:56 Je 14 '51

Brain at work; Magnolia finds added chores for electronic calculator. C. Hoot. il Oil & Gas J 50:82-3 S 13 '51

Editors scan a piece of the future; Kellogg petroleum and chemical research laboratories. il Pet Eng 23:C96-9 Jl '51

New research lab; final unit in Humble's extensive refining-research center. L. S. McCaslin, jr. il Oil & Gas J 49:54 Mr 8 '51

New research techniques, equipment reported to API; titles of papers and brief abstracts. Pet Processing 6:611 Je '51

Oil-shale research and process development; Petroleum and oil-shale experiment station, Laramie, Wyo. K. E. Stanfield and H. M. Thorne. bibliog il Ind & Eng Chem 43: 16-20 Ja '51

Purification, purity, and freezing points of twenty-nine hydrocarbons of the API-Standard and API-NBS series. A. J. Streiff and others. J Res Nat Bur Stand 45:173-91 Ag '50

Radioactivity studies; origin of petroleum; abstract. I. A. Breger. Oil & Gas J 50:56 Je 14 '51

Radioisotopes in the petroleum industry. P. H. Emmett. bibliog diags Oil & Gas J 50: 82+ S 27 '51

Radioisotopes; widespread uses in industry and scientific research reviewed at symposium by New York section of A.C.S. Oil & Gas J 49:172 Ja 25 '51

Research in the modern manner; Shell research plant. R. Sneddon. il Pet Eng 23:E1-2 Ja '51

Selecting research projects; rating system. W. W. Scheumann and H. L. Malakoff. il Oil & Gas J 49:264+ Mr 29 '51

Symposium on spectroscopic methods in the petroleum industry. bibliog Inst Pet J 37: 93-134; Discussion. 3pls diags 135-46 Mr '51

Texas research center aids oil industry; Off-campus research center of the University of Texas. F. D. Thompson. il World Oil 133:69-70 Jl '51; Same cond. Pet Eng 23: B50+ Je '51

See also
Petroleum laboratories

PETROLEUM shipping terminals

British oil dock incorporates unusual fenders, foundations. il Eng N 146:42 My 24 '51

Complete remote control of truck rack; Esso standard oil co.'s new Lake Charles, La. river terminal. il Nat Pet N 43:60-2+ Je 13 '51

Fight against flood damage. L. Castle. il Nat Pet N 43:72-5+ S 19 '51

Mena al Ahmadi, Kuwait oil company's port. il World Oil 132:212-13 Ja '51

New Pacific Coast deep water terminal. A. L. Piper. Pet Eng 23:D102+ My '51

New river terminal at St Louis. C. Boyd, jr. il map Nat Pet N 43:34-6 Ap 25 '51

New submarine oil line takes an 8,400-ft. sleigh ride. J. Joseph. il Oil & Gas J 49: 90+ Mr 8 '51

Oil terminal sales volume, number up sharply in ten years, census says. Nat Pet N 43: 23 F 14 '51

Reconstruction after a flood; how oil facilities were rebuilt in record time. L. Castle. il Nat Pet N 43:52-5 S 12 '51

Union Oil loads 105,000-bbl. tanker in 5¾ hours with twin pipe lines. il Oil & Gas J 49:85+ Mr 8 '51

Work begins on Britain's largest oil tanker dock; completion set for 1952. il map World Oil 132:218 Mr '51

PETROLEUM storage

Collapsible storage tank holds oil products. il Nat Pet N 43:48-9 Ja 31 '51

Evaporation losses held near zero; Moorhead, Minn., products pipe-line terminal. R. N. Creek. il diag Oil & Gas J 50:129-30+ My 10 '51

PETROLEUM storage—*Continued*

Oil-storage capacity. B. F. Linz. Oil & Gas J 49:53-4 D 14 '50

Submersible tank-battery barge stores 4,800 bbl. of crude. il diag Oil & Gas J 49:146-7 F 22 '51; Same, with additional il. Pet Eng 23:D26-8+ Mr '51

26 million bbls. since 1948; oil industry has built this amount of primary storage. il Nat Pet N 42:22-4 D 13 '50

Vapor recovery

Conservation of lease-tank vapors. D. H. Stormont. il Oil & Gas J 50:93-4+ My 17; 98-9+ My 24; 85-7 My 31 '51

Recording tank-vapor recovery. il Oil & Gas J 50:78 Ag 30 '51

PETROLEUM supply

How much oil in 1955? Oil & Gas J 50:43-4 Ag 2 '51

Oil, are we running out of it? G. Egloff. Mid-west Eng 3:6-9+ My '51

Russia trails in oil output; U.S. energy demand will rise; A.P.I. annual meeting. Bsns W p24 N 25 '50

Strategic oil supplies. G. Egloff. Am Pet Inst Proc 30(2):32-5 '50; Same. Pet Refiner 29:104-6 D '50; Same abr. Nat Pet N 42:26-8 N 15 '50; Same abr. Pet Eng (Ref annual) 23:E44+ Jl 15 '51; Same cond. Oil & Gas J 49:277+ N 16 '50

Survey of oil fields. Oil & Gas J 49:304-6+ D 21 '50

World crude reserves. World Oil 133:67-8 Jl 15 '51

World crude reserves up 41 percent in five years. World Oil 132:233-4 F 15 '51

World production headed for 12 million barrels daily. D. M. Duff. Oil & Gas J 49: 210-11 Ja 25 '51

World supply and demand continue upsurge. World Oil 132:231-2 F 15 '51

World supply and demand, 1950; by areas, 1947-1950. World Oil 133:50-1 Jl 15 '51

World supply-demand situation now viewed with more optimism. A. D. Stewart. Oil & Gas J 49:192-3+ D 21 '50

Canada

Canada's new oil resources. O. P. Hopkins. Comm & Fin Chr 173:8+ sec 2 Je 28 '51

Europe

Middle East oil; the lifeblood of Europe. J. F. Dorsey. Comm & Fin Chr 172:2437+ D 21 '50

North America

Possible future petroleum provinces of North America. M. W. Ball; A. I. Levorsen and others. bibliog maps diags Am Assn Pet Geologists Bul 35:141-498 F '51

United States

Big future discovery task. W. L. Baker. World Oil 132:55-7+ Je '51; Abstract. Pet Refiner 30:59+ Ag '51

Crude-stock level; opinions differ on the desirable figure. J. C. Casper. Oil & Gas J 49:61-2 N 9 '50

Discovery and development data for 1950's new pools and new pays. Oil & Gas J 49: 261-7+ Ja 25 '51

Enough oil? Mod Ind 21:56-9 My '51

Estimates of proven reserves. P. C. Ingalls. Oil & Gas J 49:107 Ja 18 '51

Imports show big jump in 1950, particularly in residual fuels. H. D. Ralph. Oil & Gas J 49:205 Ja 25 '51

Locations and results of wells drilled below 12,500 ft. Oil & Gas J 49:310-11+ Ja 25 '51

NPC forecasts plenty of oil ahead if industry left free to operate. Nat Pet N 43:35-7 Ag 1 '51

Needed: more wells. J. C. Casper. Oil & Gas J 50:73-4 My 24 '51

Oil-storage capacity. B. F. Linz. Oil & Gas J 49:53-4 D 14 '50

Oil supply; military demands mounting but no big shortages seen. J. V. Sherman. Barron's 31:9-10 Ja 22 '51

136 fields account for 60 per cent of oil found so far. P. C. Ingalls. Oil & Gas J 49:194-6 Ja 25 '51

Opportunities for petroleum in the energy markets of the future. C. F. Smith. Am Pet Inst Proc 30(3):28-32 '50; Same cond. Nat Pet N 42:29+ N 15 '50; Same cond. Pet Processing 5:1297-9 D '50

Our ability to meet new oil demand. T. W. Phelps. Comm & Fin Chr 173:2252 My 31 '51

Our oil and gas reserves. F. H. Lahee. Oil & Gas J 49:69+ N 30 '50

Petroleum reserves pass 30 billion mark. World Oil 132:158-60 F 15 '51

Production and proved remaining reserves, by fields; tabulation. Oil & Gas J 49:254+ Ja 25 '51

Proven reserves of crude and other liquids continue climb. P. C. Ingalls. Oil & Gas J 49:197-9 Ja 25 '51

Reserves lag behind rising use of petroleum. L. J. Logan. Pet Refiner 30:129-30 Ap '51

Seven-billion-kwhr week big news of 1950. Elec World News ed 135:4-5 Ja 8 '51

Stocks of oils need expansion. World Oil 132:64-5 F 15 '51

Synthetics in defense. J. Boyd. bibliog flow diags il Am Pet Inst Proc 30(3):6-19 '50; Same. Pet Refiner 29:77-85 D '50; Abstract. Oil & Gas J 49:184 N 16 '50

27-billion bbl. to go; current recoverable oil reserves. il diag Bsns W p56+ F 17 '51

26 million bbls. since 1948; oil industry has built this amount of primary storage. il Nat Pet N 42:22-4 D 13 '50

U.S. crude production narrowly misses setting a new record. P. DeArmond. Oil & Gas J 49:192-3 Ja 25 '51

See also

Oil reserves (United States navy)

PETROLEUM waste

How the petroleum industry controls pollution caused by oil wastes. A. D. McRae. map diags Munic Util 89:56+ S '51

Organizing, designing, and operating a salt-water-disposal system. I. M. Rice. flow chart plan diags Oil & Gas J 50:80-2+ Jl 19 '51

Treatment of produced salt water prior to underground disposal in sand formations. J. V. Blair. bibliog il Oil & Gas J 49:176-9+ F 22 '51

Water drained automatically from lube oil reservoir. J. C. Albright. il Pet Eng 23: B84+ S '51

PETROLEUM wax. See Paraffin

PETROLEUM workers

Driver tests as training aids. G. Miller. il World Oil 131:226-8 N '50

Employer should report on essentiality of reservists. Nat Pet N 43:30 F 28 '51

Employment outlook in petroleum production and refining. C. R. Winegarden and S. Swerdloff. il maps U S Bur Labor Statistics Bul 994:1-52; pa 30c Supt. of doc. '50; Excerpts. Mo Labor R 70:374-8 Ap '50

Junior college graduates; oil technicians. J. O. Nigra. World Oil 131:60-2 N '50

Labor talks; Venezuelan negotiations. Oil & Gas J 49:67 F 8 '51

No troubled waters. A. Glenn. Barron's 30:5 N 13 '50

Occupational outlook handbook; petroleum production and refining occupations. il map U S Bur Labor Statistics Bul 998:331-41 '51

Plenty of jobs; Bureau predicts substantial opportunities for workers in oil production and refining in next five to ten years. Oil & Gas J 49:42 N 23 '50

Report for 1950 of the central committee on vocational training. Am Pet Inst Proc 30(4):74-80 '50

So you want a foreign job? illustrations with text. World Oil 133:312-14 S '51

Southwest drilling personalities. Oil & Gas J 50:supp 252+ My 31 '51

Spare-time courses benefit employes and company; Socony-Vacuum oil co. A. F. Grant. World Oil 131:65-6 N '50

Supervisory training in the drilling industry. A. L. Franzolino. World Oil 131:99-100 D '50

Teamwork pays off. Oil & Gas J 50:190+ S 20 '51

See also

Oil workers international union

Petroleum refineries—Employees

Arabia

U.S. oil improves Nation's foreign relations; educational, health and housing facilities provided by Arabian American oil co. il Nat Pet N 43:64-7 S 12 '51

PETROLEUM workers—*Continued*

Near East

Labour in the middle eastern oilfields. Economist 160:1380, 1446+ Je 9-16 '51

Venezuela

Labor discussions; oil industry hopes for settlement in Venezuela. Oil & Gas J 49: 34 Mr 1 '51

PFEIFFER, Paul, 1875-

Paul Pfeiffer. R. E. Oesper. por J Chem Educ 28:62 F '51

PFIZER, Charles, and company

Pfizer put an old name on a new drug label; terramycin. il Bsns W p 130-1+ O 13 '51

Preferred stock offering. Comm & Fin Chr 174:8-9 Jl 2 '51

PFUND gage. See Gages

PHAGOCYTOSIS

Fate of vertebrate erythrocytes and hemoglobin injected into the blood of the American cockroach, (periplaneta americana L.). S. Bettini and others. il Science 113:9-10 Ja 5 '51

White blood cells v. bacteria. W. B. Wood, jr. il Sci Am 184:48-52 F '51

PHARMACEUTICAL laboratories

Laboratory for medicinal research; Sterling-Winthrop research institute, East Greenbush, N.Y. il plans Arch Rec 110:128-33 Jl '51

Many sciences, many skills to produce new drug; Lederle laboratories of American Cyanamid. il Chem W 69:22-3 O 6 '51

Superdruggist. Chem Ind W 68:26 Mr 3 '51

PHARMACEUTICAL libraries

Pharmaceutical libraries; service and cooperation. W. A. Southern. Special Lib 41:350-1+ D '50

PHARMACEUTICAL manufacturers association, American. See American pharmaceutical manufacturers association

PHARMACEUTICAL research

Microbiological institute awards research grants. Chem & Eng N 29:3718 S 10 '51

Radioisotope use grows in pharmaceutical research. Chem & Eng N 29:556 F 12 '51

Research yields understanding of stimulants, antispasmodics; abstract. A. M. Lands. Chem & Eng N 29:3467-8 Ag 20 '51

PHARMACEUTICAL workers

See also

Drug factories—Employees

PHARMACOPOEIAS

Drug groups debate international nomenclature. Chem & Eng N 29:54-5 Ja 1 '51

USP third supplement makes many revisions. Oil Paint & Drug Rep 160:62 Ag 13 '51

PHARMACY

Dictionaries

Potter's cyclopedia of botanical drugs and preparations. R. C. Wren. 6th ed rev 415p 10s 6d Potter & Clarke, 60 Artillery lane, London, E.1 '50

Laws and regulations

See also

Drugs—Laws and legislation

PHASE adjusters

Networks shift phase without attenuation. diags Elec World 136:148+ S 10 '51

Thyratron control circuits for over 180-degree phase shift. C. F. Spitzer. diags Electronics 23:222+ D '50

Wide-range phase control with constant attenuation by adjustable impedance in a resistance-loaded bridged-tee network. M. G. Pawley. bibliog diags J Res Nat Bur Stand 45:193-200 S '50

PHASE contrast microscope. See Microscope and microscopy

PHASE indicators

Simple phase-sequence indicator. A. B. Kaufman. il diag Electronics 24:172+ My '51

Varley phase sequence test; conditions for maximum and minimum lamp voltages. G. W. Stubbings. diags Elec R (Lond) 148:225-6 F 2 '51

PHASE meters

Precision calibrator for l.f. phase-meters. M. F. Wintle. bibliog il diags Wireless Eng 28: 197-208 Jl '51

PHASE rule and equilibrium

Algebraic representation of vapor-liquid equilibria. W. H. Prahl. bibliog Ind & Eng Chem 43:1767-70 Ag '51

Analysis of binary and ternary mixtures; system acetone-chloroform-methyl isobutyl ketone. A. E. Karr, W. M. Bowes and E. G. Scheibel. bibliog diag Anal Chem 23: 459-63 Mr '51

Aqueous solubility of silver molybdate and the ternary systems Ag_2MoO_4-$AgNO_3$-H_2O and Ag_2MoO_4-Na_2MoO_4-H_2O at 25°. J. E. Ricci and W. F. Linke. Am Chem Soc J 73:3601-3 Ag '51

Binary systems of water with dodecylammonium chloride and its N-methyl derivatives. F. K. Broome, C. W. Hoerr and H. J. Harwood. Am Chem Soc J 73:3350-2 Jl '51

Chemistry of aqueous uranium(V) solutions; the uranium(IV)-(V)-(VI) equilibrium in perchlorate and chloride solutions. F. Nelson and K. A. Kraus. Am Chem Soc J 73: 2157-61 My '51

Composition of vapors from boiling solutions; systems containing acetone, chloroform, and methyl isobutyl ketone. A. E. Karr and others. bibliog Ind & Eng Chem 43:961-8 Ap '51

Compositions of vapors from boiling solutions; equilibria under pressure of systems; ethyl ether-ethyl alcohol and ethyl ether-water-ethyl alcohol. W. P. Moeller and others. bibliog Ind & Eng Chem 43:711-17 Mr '51

Contribution to the interpretation of phase diagrams by ceramists. W. R. Foster. bibliog Am Cer Soc J 34:151-60 My 1 '51

Correct application of the Gibbs-Helmholtz equation to reversible galvanic cells in which several phases are in equilibrium at one of the electrodes. R. E. Barieau. bibliog Am Chem Soc J 72:4023-6 S '50

Critical behavior and liquid-vapor equilibrium in mixtures of fluids. C. A. Boyd. bibliog il diag J Phys & Colloid Chem 54:1347-57 D '50

Determination of hydrocarbon liquid-vapor equilibria. G. L. Farrar. diag Pet Eng 23: C41+ Je '51

Direct method for solving flash equilibrium calculations. P. M. Reilly. bibliog Pet Refiner 30:132-6 Jl '51

Effect of particle size and deuterium substitution on the λ-point in ammonium chloride. D. G. Thomas and L. A. K. Staveley. diag Chem Soc J p 1420-5 Je '51

Eight liquid phases in stable equilibrium. S. L. Kittsley and H. A. Goeden. il Am Chem Soc J 72:4841-2 O '50

Empirical equation for thermodynamic properties of light hydrocarbons and their mixtures; fugacities and liquid-vapor equilibria. M. Benedict, G. B. Webb and L. C. Rubin. bibliog Chem Eng Prog 47:449-54 S '51

Equilibrium and thermodynamic relation in the vapour-phase catalytic dehydration of ethyl alcohol to ethyl ether. F. H. H. Valentin. Chem Soc J p498-500 F '50

Equilibrium flash vaporization of petroleum crude oils or fractions; method and apparatus for determination. D. F. Othmer, E. H. Ten Eyck and S. Tolin. bibliog diags Ind & Eng Chem 43:1607-13 Jl '51

Equilibrium relations in magnesium-aluminum-manganese alloys. B. J. Nelson. bibliog il diag J Metals 3:Trans 797-9 S '51

Equilibrium relations of two methane-aromatic binary systems at 150° F. M. Elbishlawi and J. R. Spencer. bibliog Ind & Eng Chem 43:1811-15 Ag '51

α-Halo ketones; solid-liquid equilibrium in the system 2-chloro-3-heptanone and 4-chloro-3-heptanone. J. D. Newkirk and J. G. Aston. Am Chem Soc J 73:3898-900 Ag '51

Liquid-vapour equilibrium as a function of temperature for the system arsenic trichloride-germanium tetrachloride. F. Sebba. diag Chem Soc J p 1975-7 Ag '51

Liquid-vapor equilibrium of the system tungsten hexafluoride-perfluorocyclopentane. G. H. Rohrback and G. H. Cady. Am Chem Soc J 73:4250-1 S '51

Liquid-vapor equilibrium of the system tungsten hexafluoride-perfluoro-*n*-pentane. E. J. Barber and G. H. Cady. bibliog diag Am Chem Soc J 73:4247-50 S '51

PHASE rule and equilibrium—*Continued*

Low temperature vapor-liquid equilibria in hydrogen-*n*-butane system. H. L. Aroyan and D. L. Katz. bibliog flow sheet Ind & Eng Chem 43:185-9 Ja '51

Melting and glassy state transitions in cellulose esters and their mixtures with diluents. L. Mandelkern and P. J. Flory. bibliog Am Chem Soc J 73:3206-12 Jl '51

Melting point-composition diagram of the zirconium-oxygen system. D. Cubicciotti. Am Chem Soc J 73:2032-5 My '51

Oxides of uranium. K. B. Alberman and J. S. Anderson. Chem Soc J supp no 2:S303-11 '49

Oxides of uranium; the binary system UO_2-CaO. K. B. Alberman, R. C. Blakey and J. S. Anderson. diag Chem Soc J p 1352-6 My '51

Phase behavior of hydrocarbon systems. M. R. Dean and F. H. Poettmann. bibliog diags Pet Eng 23:C18+ S '51

Phase boundary potentials of nickel in foreign ion solutions. D. MacGillavry, J. J. Singer, jr. and J. H. Rosenbaum. Am Chem Soc J 73:1388 Mr '51

Phase diagram of the BaO-TiO_2 system. W. O. Statton. bibliog il diag J Chem Phys 19:33-40 Ja '51

Phase equilibria between fluorothene and solvents. R. E. McHenry and others. bibliog Ind & Eng Chem 42:2317-19 N '50

Phase equilibria in an ordering alloy system. J. B. Newkirk and others. bibliog il diags J Ap Phys 22:290-8 Mr '51

Phase equilibria in hydrocarbon systems; volumetric and phase behavior of the methane-*n*-butane-decane system. H. H. Reamer, B. H. Sage and W. N. Lacey. bibliog Ind & Eng Chem 43:1436-44 Je '51

Phase equilibria in hydrocarbon systems; volumetric and phase behavior of the methane-hydrogen sulfide system. H. H. Reamer, B. H. Sage and W. N. Lacey. bibliog Ind & Eng Chem 43:976-81 Ap '51

Phase equilibrium relationships in a portion of the system MgO-Al_2O_3-2CaO·SiO_2. A. T. Prince. bibliog Am Cer Soc J 34:44-51 F 1 '51

Phase studies on the binary systems of tin tetrabromide, tin tetraiodide and trichlorosilane with some aliphatic ethers. H. H. Sisler, E. E. Schilling and W. O. Groves. Am Chem Soc J 73:426-9 Ja '51

Phase system BaO-NiO. J. J. Lander. bibliog il Am Chem Soc J 73:2450-2 Je '51

Quaternary system $MgMoO_4$-Na_2SO_4-H_2O at 25° and its related ternary systems. J. E. Ricci and W. F. Linke. Am Chem Soc J 73:3607-12 Ag '51

Reactions in the system TiO_2-SiO_2; revision of the phase diagram. R. W. Ricker and F. A. Hummel. bibliog Am Cer Soc J 34:271-9 S 1 '51

Role of heterogeneous equilibria in analytical chemistry. P. J. Elving. bibliog Anal Chem 23:1202-9 S '51

Salt effect in vapor-liquid equilibria; ethanol-water saturated with inorganic salts. R. R. Tursi and A. R. Thompson. bibliog diag Chem Eng Prog 47:304-8 Je '51

Solid-state reactions in phase equilibrium research. W. R. Foster. bibliog Am Cer Soc Bul 30:267-70, 291-6 Ag 15-S 15 '51

Some aqueous salt systems involving fluosilicates. J. E. Ricci and J. A. Skarulis. bibliog Am Chem Soc J 73:3618-27 Ag '51

Some aqueous ternary systems involving univalent iodates. J. E. Ricci and I. Amron. bibliog Am Chem Soc J 73:3613-18 Ag '51

Study of heterogeneous equilibria in aqueous solutions of the nickel selenates at 30°. C. S. Rohrer and H. R. Froning. bibliog Am Chem Soc J 72:4656-9 O '50

Study of the chromous-chromic iodide equilibrium. L. L. Handy and N. W. Gregory. bibliog Am Chem Soc J 72:5049-51 N '50

System ammonium nitrate-lithium nitrate. E. O. Holmes, jr., E. O'Connell and F. Hankard. Am Chem Soc J 73:2885-6 Je '51

System $Ba(IO_3)_2$-$BaCl_2$-H_2O at 25°. J. E. Ricci. Am Chem Soc J 73:1375-6 Mr '51

System magnesium molybdate-water and the 25° isotherm of the system $MgMoO_4$-$MgCl_2$-H_2O. J. E. Ricci and W. F. Linke. Am Chem Soc J 73:3603-7 Ag '51

System methyl ethyl ketone-*sec*-butyl alcohol; vapor-liquid equilibria. E. H. Amick, jr., M. A. Weiss and M. S. Kirshenbaum. bibliog diag Ind & Eng Chem 43:969-73 Ap '51

System Na_2O-SiO_2-H_2O at 50, 70 and 90°. C. L. Baker, L. R. Jue and J. H. Wills. bibliog il Am Chem Soc J 72:5369-82 D '50

System of process calculations for light hydrocarbons; equilibrium considerations. A. J. L. Hutchinson. il diag Pet Refiner 29:117-22 N '50

Systems zinc oxide-phosphoric oxide-water and manganous oxide-phosphoric oxide-water at temperatures between 25° and 100°. J. E. Salmon and H. Terrey. Chem Soc J p2813-24 O '50

Thermal analysis of the system sodium stearate-cetane. F. H. Stross and S. T. Abrams. Am Chem Soc J 73:2825-8 Je '51

Use of equilibrium constants to calculate thermodynamic quantities; equilibria in the system *tert.*-butyl chloride, *iso*butene, hydrogen chloride. K. E. Howlett. diag Chem Soc J p 1409-12 Je '51

Vapor-liquid equilibria at subatmospheric pressures; trichloroethylene-tetrachloroethylene and ethyl phenyl acetate-ethyl *α*-phenyl butyrate. K. C. Bachman, A. Zimmerli and E. L. Simons. bibliog Ind & Eng Chem 42:2569-71 D '50

Vapor-liquid equilibria in binary systems. N. Alpert, P. J. Elving and D. G. Flom. bibliog diag Ind & Eng Chem 43:1174-86 My '51

Vapor-liquid equilibrium of antimony pentafluoride-hydrogen fluoride; properties of antimony pentafluoride. R. C. Shair and W. F. Schurig. bibliog diag Ind & Eng Chem 43:1624-7 Jl '51

Vapor-liquid relation; system *n*-butane-*cis*-2-butene-furfural-water. F. Weity, J. A. Gerster and A. P. Colburn. bibliog Ind & Eng Chem 43:162-72 Ja '51

Volumetric and phase behavior in the ethane-propene system. R. A. McKay and others. bibliog Ind & Eng Chem 43:2112-17 S '51

Volumetric and phase behavior of propene-propane system. H. H. Reamer and B. H. Sage. bibliog Ind & Eng Chem 43:1628-34 Jl '51

See also

Critical point

PHEASANTS

Effects of different preincubation temperatures on the hatchability of pheasant eggs. R. E. Yeatter. bibliog Science 112:529-30 N 3 '50

PHELPS Dodge corporation

Companies which should maintain their dividends in 1951; with comparative balance sheet items. Mag of Wall St 87:385 Ja 13 '51

Continued heavy demand for copper, higher prices improve outlook. E. W. Binshadler. Barron's 30:21-2 D 18 '50

PHENACETIN

Analysis

Infrared analysis of pharmaceutical products; acetylsalicylic acid, phenacetin, and caffeine, and combinations of these with codeine or thenylpyramine. T. V. Parke and others. bibliog Anal Chem 23:953-7 Jl '51

Spectrophotometric determination of aspirin, phenacetin, and caffeine in mixtures. M. Jones and R. L. Thatcher. Anal Chem 23:957-60 Jl '51

PHENACETURIC acid

Phenyl phenaceturate from the decomposition of penicillin in the presence of phenol. S. F. Kern and others. Science 112:787 D 29 '50

PHENANTHRENE

Aromatic cyclodehydration; 9-*p*-(hydroxyphenyl)-10-alkylphenanthrenes. C. K. Bradsher and W. J. Jackson, jr. Am Chem Soc J 73:3235-7 Jl '51

Internuclear cyclisation; modifications and extensions of the Pschorr reaction. D. H. Hey and J. M. Osbond. Chem Soc J p3164-71 D '49

Internuclear cyclisation; the application of the Pschorr reaction to some substituted derivatives of *o*-amino-*α*-phenylcinnamic acid. D. H. Hey and J. M. Osbond. Chem Soc J p3172-7 D '49

PHENANTHRENE—*Continued*

Phenanthrene cyclisation of dibenzyl-type derivatives. N. P. Buu-Hoï, N. Hoán and P. Jacquignon. Chem Soc J p 1381-4 Je '51

Purification and freezing point of phenanthrene. J. Feldman, P. Pantages and M. Orchin. bibliog Am Chem Soc J 73:4341-3 S '51

Reduction by dissolving metals; some hydronaphthalene derivatives. A. J. Birch, A. R. Murray and H. Smith. Chem Soc J p 1945-50 Ag '51

Reduction of *o*-quinones with lithium aluminium hydride. J. Booth, E. Boyland and E. E. Turner. Chem Soc J p 1188-90 Ap '50

Stereochemistry of catalytic hydrogenation; the hydrogenation of *trans-as*-octahydrophenanthrene derivatives; a new form of the perhydrophenanthrene ring and a model for the inversion of the 6-keto-steroids. R. P. Linstead and R. R. Whetstone. Chem Soc J p 1428-32 Je '50

Syntheses in the phenanthrene series; 1-methyl-8-*iso*propylphenanthrene. W. F. Short and H. Wang. Chem Soc J p991-4 Mr '50

Synthesis of some 2-methoxy-8-keto-4a-methylperhydrophenanthrenes. W. B. Renfrow and others. bibliog Am Chem Soc J 73:317-19 Ja '51

PHENANTHRIDINE

Contributions to the chemistry of phenanthridine; the preparation of 2 : 7-diamino-9-3′-pyridylphenanthridine 1′ : 10-dimethiodide. V. Petrow and W. R. Wragg. Chem Soc J p3516-18 D '50

Potential trypanocides of the *N*-heterocyclic series; 9-benzoyl- and 9 : 10-dihydrophenanthridines. A. G. Caldwell, F. C. Copp and L. P. Walls. Chem Soc J p2698-704 O '50

Potential trypanocides of the *N*-heterocyclic series; structural conditions for activity against trypanosoma cruzi in the phenanthridine series. L. P. Walls. Chem Soc J p3511-16 D '50

Some heterocyclic *N*-oxides. P. Mamalis and V. Petrow. Chem Soc J p703-11 F '50

Studies in phenanthridine chemistry. J. Finkelstein and S. M. Linder. Am Chem Soc J 73:302-4 Ja '51

PHENANTHRIDINIUM compounds

Potential trypanocides of the *N*-heterocyclic series; alkoxy- and hydroxy- phenanthridinium salts. F. C. Copp and L. P. Walls. Chem Soc J p311-17 Ja '50

Potential trypanocides of the *N*-heterocyclic series; analogues of dimidium bromide. L. P. Walls and N. Whittaker. Chem Soc J p41-7 Ja '50

PHENANTHRIDONE

Studies in phenanthridine chemistry. J. Finkelstein and S. M. Linder. Am Chem Soc J 73:302-4 Ja '51

PHENANTHROIN

Photochemistry and structure of 9,9′-phenanthroin and *sym*-di-(9-phenanthryl)-ethylene. Y. Hirshberg and F. Bergmann. Am Chem Soc J 72:5118-20 N '50

PHENANTHROLINE

Configuration of 2 : 2′-dipyridyl. P. E. Fielding and R. J. W. Le Fèvre. Chem Soc J p 1811-14 Jl '51

Determination of formal oxidation potentials of ferric-ferrous and dichromate-chromic systems; selection of substituted 1,10-phenanthroline indicators for determination of iron at low acidity. G. F. Smith. bibliog Anal Chem 23:925-7 Je '51

Determination of mercury and bromides with 1,10-phenanthroline ferrous sulfate. M. E. Hall and G. M. Smith. bibliog Anal Chem 23:1181-3 Ag '51

Evaluation of three iron methods using a factorial experiment; phenanthroline. L. K. Reitz, A. S. O'Brien and T. L. Davis. Anal Chem 22:1470-3 D '50

Polarography of copper complexes; dipyridyl, orthophenanthroline and thiourea complexes; a double complex system. E. I. Onstott and H. A. Laitinen. bibliog Am Chem Soc J 72:4724-8 O '50

Reaction of ferrous and ferric iron with 1,10-phenanthroline; application to investigation of zinc phenanthroline complexes. I. M. Kolthoff, D. L. Leussing and T. S. Lee. bibliog Am Chem Soc J 73:390-4 Ja '51

Structural studies on polynuclear pyridine compounds. P. Krumholz. bibliog Am Chem Soc J 73:3487-92 Jl '51

PHENANTHRYL ethylene. See Vinyl phenanthrene

PHENAZINE

Phenazine series; the constitution of the pigment of chromobacterium iodinum. G. R. Clemo and A. F. Daglish. Chem Soc J p 1481-5 Je '50

PHENETHYLAMINE

Preparation of some aryl aminoalkyl sulfides and sulfones. L. F. Cason and C. C. Wanser. bibliog Am Chem Soc J 73:142-5 Ja '51

PHENETOLE

Anomalous reactions of phenetole halides. M. Gordon. Chem Soc J p 1931 Jl '51

PHENOL

Acid-catalyzed reaction of styrene oxide with phenol and with 2-naphthol. C. O. Guss, H. R. Williams and L. H. Jules. bibliog Am Chem Soc J 73:1257-60 Mr '51

Alkylation of phenol with ethyl 6-bromosorbate. H. E. Ungnade and T. R. Hopkins. Am Chem Soc J 73:3091-3 Jl '51

Anaerobic persistence of phenol and *o*-cresol. M. B. Ettinger, W. A. Moore and R. J. Lishka. bibliog diag Ind & Eng Chem 43:1132-5 My '51

β-Aroylpropionic acids; the mechanism of interaction between phenol and succinic anhydride in presence of aluminium chloride; the nature of the Fries reaction. F. G. Baddar and L. S. El-Assal. Chem Soc J p3606-8 D '50

Condensation of *o*- and *p*-bromobenzyl alcohols with phenol and 2,6-dibromophenol in the presence of aluminum chloride. D. Y. Wu, R. L. Guile and R. C. Huston. bibliog Am Chem Soc J 73:3443-4 Jl '51

Fractional solvent extraction between immiscible solvents; graphical calculation. E. L. Compere and A. Ryland. bibliog Ind & Eng Chem 43:239-41 Ja '51

Kinetics of the iodination of phenol. E. Berliner. bibliog Am Chem Soc J 73:4307-11 S '51

More phenol new process. Chem W 68:11 Je 23 '51

Phenol and cresols in coal tar from coals carbonized at 800° and 900°C. E. Bengtsson. U S Bur Mines Rep of Invest 4755:1-10 bibliog(p9-10) '50

Reaction between phenol and ethylene oxide. S. A. Miller, B. Bann and R. D. Thrower. diag Chem Soc J p3623-8 D '50

Role of phenol in the reaction of 4,7-dichloroquinoline with novol diamine. A. R. Surrey and R. A. Cutler. Am Chem Soc J 73:2623-6 Je '51

Toxicity of some related halogenated derivatives of phenol. E. F. Stohlman. bibliog Pub Health Rep 66:1303-12 O 12 '51

Analysis

Chromatographic separation of phenol from cresylic acids. R. J. Zahner and W. B. Swann. diag Anal Chem 23:1093-5 Ag '51

Manufacture

Materials of construction vs. phenol. W. Z. Friend and others. Chem Eng 58:222+ Ag '51

Now, phenol from cumene. Chem W 69:23-4 Ag 25 '51

PHENOL condensation products

Chemistry of phenolic resins and the processes leading to their formation. A. Zinke. bibliog J Ap Chem 1:257-66 Je '51

Formaldehyde condensations with phenol and its homologues; condensation of 3 : 4-dimethylphenol with formaldehyde (with a note on the determination of molecular weight in phenol). S. R. Finn. bibliog diag Soc Chem Ind J 69(sup no 1):S7-9 '50

Formaldehyde condensations with phenol and its homologues; condensation of 2 : 4 : 6-trimethylphenol with formaldehyde. S. R. Finn and J. W. G. Musty. bibliog Soc Chem Ind J 69(sup no 1):S3-7 '50

Formaldehyde condensations with phenol and its homologues; the effect of *p*H on the yields of isomeric dihydroxydiphenylmethanes. S. R. Finn and J. W. G. Musty. bibliog Soc Chem Ind J 69(sup no 2):S49-51 '50

PHENOL condensation products—*Continued*

Formaldehyde condensations with phenol and its homologues; the mixed melting points of mixtures of the isomeric dihydroxydiphenylmethanes. S. R. Finn, G. J. Lewis and N. J. L. Megson. bibliog Soc Chem Ind J 69(sup no2):S51-3 '50

Formaldehyde condensations with phenol and its homologues; the preparation of 2-hydroxymethyl-3 : 5-dimethylphenol by a new general method. S. R. Finn and J. W. G. Musty. bibliog J Ap Chem 1:182-4 Ap '51

Melt-viscosity of some phenol-formaldehyde novolac resins; abstract and discussion. T. T. Jones. Chem & Ind p 127-8 F 17 '51

Oil-soluble phenolic resins. R. N. Shreve and B. Golding. bibliog(84 ref) il Ind & Eng Chem 43:134-41 Ja '51

Recent progress in the chemistry of phenolic resins. S. R. Finn and others. bibliog Chem & Ind sup S849-53 D 30 '50

Resorcinol-formaldehyde reaction observed by ultraviolet absorption measurements. P. J. Stedry. bibliog Ind & Eng Chem 43:2372-5 O '51

Rosin-modified phenolic resins. P. O. Powers. bibliog Ind & Eng Chem 43:1770-4 Ag '51

Synthesis of molecular units for rational synthesis of phenol-formaldehyde and allied resins; synthesis of resoles, dihydroxydiphenylethanes, and dihydroxydiphenylpropanes. A. T. Carpenter and R. F. Hunter. bibliog J Ap Chem 1:217-26 My '51

PHENOLDISULFONIC acid

Determination of nitrate in plant material. C. M. Johnson and A. Ulrich. bibliog Anal Chem 22:1526-9 D '50

PHENOLPHTHALEIN

See also
Tetrabromophenolphthalein

PHENOLS

Action of *t*-butyl hypochlorite on organic compounds; phenols. D. Ginsburg. bibliog Am Chem Soc J 73:2723-5 Je '51

Alkylation with long chain *p*-toluenesulfonates; alkylation of phenols with *n*-octadecyl *p*-toluenesulfonate. D. A. Shirley and W. H. Reedy. bibliog Am Chem Soc J 73:458-9 Ja '51

Bromination of 3-(trifluoromethyl)-phenol. E. T. McBee and E. Rapkin. bibliog Am Chem Soc J 73:1325-6 Mr '51

Characterization of the phenolic fraction of coal-hydrogenation asphalt. R. Husack and C. Golumbic. bibliog Am Chem Soc J 73:1567-71 Ap '51

Condensation products of phenols and ketones. W. Baker and others. Chem Soc J p76-87 Ja '51

Deviations from Beer's law in the ultraviolet absorption spectra of some organic compounds. H. E. Ungnade and others. bibliog Science 113:601 My 25 '51

Effect of ascorbic acid on the enzymatic oxidation of monohydric and *o*-dihydric phenols. R. C. Krueger. bibliog Am Chem Soc J 72:5582-7 D '50

Effect of stepwise chlorination on taste- and odor-producing intensity of some phenolic compounds. M. B. Ettinger and C. C. Ruchhoft. bibliog Am Water Works Assn J 43:561-7 Jl '51

Elbs persulfate oxidation. S. M. Sethna. bibliog(47 ref) Chem R 49:91-101 Ag '51

Infrared spectra of phenols. R. A. Friedel. bibliog Am Chem Soc J 73:2881-4 Je '51

Intramolecular displacement of carboxylate ion; the effect of some variations in structure of phenol-alcohols. C. O. Guss. bibliog Am Chem Soc J 73:608-11 F '51

Kinetics and mechanism of aromatic nitration; the nitration of phenols and phenolic ethers; the concomitant dealkylation of phenolic ethers; the role of nitrous acid. C. A. Bunton and others. Chem Soc J p2628-56 O '50

Method for preparing secondary amines and Schiff's bases from phenols and hexamine. J. C. Duff and V. I. Furness. Chem Soc J p 1512-15 Je '51

New observations on the Elbs persulphate oxidation. J. Forrest and V. Petrow. Chem Soc J p2340-2 S '50

New synthesis of hordenine and other *p*-dialkylaminoethylphenols and some of their derivatives. C. Cheng and others. bibliog Am Chem Soc J 73:4081-4 S '51

Ortho alkylated phenols; 2,6-di-*t*-butylphenol. H. Hart and F. A. Cassis, jr. bibliog Am Chem Soc J 73:3179-82 Jl '51

ortho-Hydroxylation of phenols; a new case of the Smiles rearrangement. J. D. Loudon and others. Chem Soc J p55-8 Ja '50

Oxidation of phenols with benzoyl peroxide. S. L. Cosgrove and W. A. Waters. Chem Soc J p3189-94 D '49; p388-91 F '51

Ozone kills phenols in waste. il Chem Eng 58:224+ S '51

Phenols in industrial wastes can be destroyed chemically. Eng N 147:43 Ag 16 '51

Reaction of phenols with phenyl and 1-naphthyl isocyanate. J. M. Lyons and R. H. Thomson. Chem Soc J p 1971-2 Jl '50

Reactions of ethylenimines; with phenols. L. B. Clapp. Am Chem Soc J 73:2584-6 Je '51

Reactions of halogens with phenols. K. Bowden and C. H. Reece. Chem Soc J p 1686-91 Jl '50

Reactions of iodine monohalides in different solvents. F. W. Bennett and A. G. Sharpe. Chem Soc J p 1383-4 My '50

Reactions of the alkyl-sulphate ion; kinetics and mechanism of the reaction with phenoxide ion and the polar effects of substituents in the phenol nucleus. G. H. Green and J. Kenyon. Chem Soc J p 1589-96 Je '50

Silver nitrate as a test for ortho and para dihydric phenols. B. S. Wildi. Science 113:188 F 16 '51

Structural aspects of the color reaction of lignin with phenols. J. C. Pew. bibliog Am Chem Soc J 73:1678-85 Ap '51

Vapor phase alkylation of phenols and thiophenols. C. Hansch and D. N. Robertson. Am Chem Soc J 72:4810-11 O '50

Analysis

Analysis of alkyl phenols by infra-red spectroscopy. A. B. Densham and W. E. Armstrong. diags Chem & Ind p776 D 2 '50

Ionophoretic analyses in agar gels. Q. P. Peniston, H. D. Agar and J. L. McCarthy. bibliog diags Anal Chem 23:994-9 Jl '51

Paper partition chromatography of simple phenols. R. L. Hossfeld. il Am Chem Soc J 73:852-4 F '51

Paper partition chromatography of some simple phenols. R. F. Riley. Am Chem Soc J 72:5782-3 D '50

Photometric determination of phenols; application to blending of new lubricating oils. R. E. Snyder and R. O. Clark. bibliog Anal Chem 22:1428-31 N '50

Simple methylol determination. R. W. Martin. bibliog Anal Chem 23:883-4 Je '51

PHENOTHIAZINE

Aldehyde of the phenothiazine series. N. P. Buu-Hoï and N. Hoán. Chem Soc J p 1834-6 Jl '51

Mode of action of phenothiazine-type antioxidants. C. M. Murphy, H. Ravner and N. L. Smith. bibliog Ind & Eng Chem 42:2479-89 D '50

PHENYLACETIC acid

Crystal structures of the acid salts of some monobasic acids; potassium hydrogen bisphenylacetate. J. C. Speakman. il Chem Soc J p3357-65 D '49

Phenylacetic acid (α-toluic acid). D. G. Garbar and W. C. McCrone. il diags Anal Chem 22:1338-9 O '50

p-Phenylphenacyl ester of phenylacetic acid. E. Erickson and I. M. Hunsberger. Am Chem Soc J 72:5766 D '50

α-(*p*-Toluenesulfonamido)-phenylacetic and α-(benzenesulfonamido)-phenylacetic acids. R. H. Wiley and H. L. Davis. Am Chem Soc J 73:494 Ja '51

PHENYLACETONITRILE

Antispasmodics; substituted α-(β-aminoethyl)-phenylacetonitriles and 3-phenylpropylamines. A. W. Ruddy. bibliog Am Chem Soc J 73:4096-8 S '51

4-Benzoyl*meso*benzanthrone. H. G. Rule and others. Chem Soc J p 1816-19 Jl '50

Kinetics of halogen substitution; halogen addition; benzyl and allyl chloride, bromide, and cyanide. L. D. Swindale, B. E. Swedlund and P. W. Robertson. Chem Soc J p812-14 Mr '50

PHENYLACETYLENE
Condensation of acetylenes with esters; 3-dialkylamino-1-propynes with alkyl carbonates and alkyl benzoates and phenylacetylene with methyl oxalate. W. J. Croxall, J. O. Van Hook and H. J. Schneider. Am Chem Soc J 73:2713-16 Je '51
Molecular orbital theory and spectra of monosubstituted benzenes. J. F. Music, F. A. Matsen and W. W. Robertson. bibliog il Am Chem Soc J 72:5256-63 N '50

PHENYLACRYLONITRILE
Dimer of α-phenylacrylonitrile. H. A. Newey and J. G. Erickson. Am Chem Soc J 72:5645-7 D '50

PHENYLALANINE
Enzymatic resolution of DL-phenylalanine. H. T. Huang and C. Niemann. Am Chem Soc J 73:475-6 Ja '51
Papain-catalyzed synthesis of acyl-D- and L-phenylalanylphenylhydrazides from a series of enantiomorphic pairs of acylated phenylalanines. W. H. Schuller and C. Niemann. bibliog Am Chem Soc J 73:1644-6 Ap '51
Resolution of amino acids; phenylalanine and valine. L. R. Overby and A. W. Ingersoll. bibliog Am Chem Soc J 73:3363-6 Jl '51
Several derivatives of acetyl-*dl*-phenylalanine. V. Goldenberg, H. Goldenberg and A. D. McLaren. Am Chem Soc J 72:5317 N '50
Synthesis of peptides and esters of phenylalanine as chromogenic substrates for chymotrypsin. A. M. Seligman and G. Wolf. bibliog Am Chem Soc J 73:2086-9 My '51
Synthesis of phenylalanine and tyrosine in yeast. C. Gilvarg and K. Bloch. Am Chem Soc J 72:5791-2 D '50

PHENYLALANINE, Analogs of
Phenylalanine analogs. J. H. Burckhalter and V. C. Stephens. Am Chem Soc J 73:3502-3 Jl '51
Synthesis of phenylalanine analogs as antimetabolites. J. H. Burckhalter and V. C. Stephens. Am Chem Soc J 73:56-8 Ja '51

PHENYLBENZOATE
Binary systems between phenyl benzoate derivatives; the formation of molecular compounds. G. Cilento. J Phys & Colloid Chem 55:716-18 My '51

PHENYLBICYCLOPROPANE
Cyclopropanes; 2-phenylbicyclopropyl. L. I. Smith and E. R. Rogier. Am Chem Soc J 73:3840-2 Ag '51

PHENYL bromide. See Bromobenzene

PHENYLBUTADIENE
Cyclic polyolefins; isolation of vinylcyclooctatetraene and *cis*-1-phenyl-1,3-butadiene from acetylene polymers. A. C. Cope and S. W. Fenton. bibliog Am Chem Soc J 73:1195-8 Mr '51
Geometric isomers of 1-phenyl-1,3-butadiene. O. Grummitt and F. J. Christoph. bibliog Am Chem Soc J 73:3479-84 Jl '51

PHENYL butenone
Spectroscopic evidence for the sunlight conversion of *trans* to *cis*-benzalacetone. R. E. Lutz, C. R. Bauer and R. H. Jordan. Am Chem Soc J 72:4300-1 S '50

PHENYLCARBONYL compounds
Ultraviolet absorption spectra of α-phenylcarbonyl compounds. E. L. Alpen, W. D. Kumler and L. A. Strait. bibliog Am Chem Soc J 72:4558-61 O '50

PHENYLCYCLOALKANES
Molecular orbital theory and spectra of monosubstituted benzenes; styrene, phenylacetylene and phenylcycloalkanes. W. W. Robertson, J. F. Music and F. A. Matsen. Am Chem Soc J 72:5260-3 N '50

PHENYLCYCLOHEPTATRIENE
Cyclic polyolefins; phenylcycloheptatriene and phenylcyclooctatriene. A. C. Cope and A. A. D'Addieco. bibliog Am Chem Soc J 73:3419-24 Jl '51

PHENYLCYCLOHEXENONE
Reactions of 2-arylcyclohexanones; Michael addition of malonic ester to 2-phenyl-Δ^2-cyclohexenone. W. E. Bachmann and E. J. Fornefeld. Am Chem Soc J 72:5529-30 D '50
Use of 2-phenylcyclohexenone in experiments on the synthesis of morphine. C. F. Koelsch. Am Chem Soc J 73:2951-2 Je '51

PHENYLCYCLOÖCTATRIENE
Cyclic polyolefins; phenylcycloheptatriene and phenylcyclooctatriene. A. C. Cope and A. A. D'Addieco. bibliog Am Chem Soc J 73:3419-24 Jl '51

PHENYLCYCLOPROPANE
Molecular orbital theory and spectra of monosubstituted benzenes; styrene, phenylacetylene and phenylcyclopropane. J. F. Music and F. A. Matsen. bibliog il Am Chem Soc J 72:5256-9 N '50

PHENYLDICHLOROARSINE. See Dichlorophenyl arsine

PHENYLDIMETHYLCYCLOHEXENONE
Aromatization and rearrangement of cyclic ketones; 3-phenyl-5,5-dimethylcyclohexenone. M. Beringer and I. Kuntz. bibliog Am Chem Soc J 73:364-6 Ja '51

PHENYLDIOXANE
Hydrogenolysis of 4-phenyl-1,3-dioxanes. W. S. Emerson and others. Am Chem Soc J 72:5314-15 N '50

PHENYL disulfide
o-Mercapto-azo-compounds; the coupling of tetrazotised 2 : 2′-diaminodiphenyl disulphide with β-naphthol. A. Burawoy and C. Turner. Chem Soc J p469-77 F '50

PHENYL ether
Calorimetric properties of diphenyl ether from 0° to 570°K. G. T. Furukawa and others. bibliog diag J Res Nat Bur Stand 46:195-206 Mr '51
Dependence of optical rotatory power on chemical constitution; (-)-1-chloro-3-phenoxypropan-2-ol and (-)-glycide phenyl ether. M. P. Balfe, M. K. Hargreaves and J. Kenyon. Chem Soc J p 1861-6 Jl '50
Physiologically active substituted α-glyceryl phenyl ethers. J. P. Lambooy. Am Chem Soc J 73:349-50 Ja '51
Studies on the mechanism of the Claisen rearrangement; the ortho rearrangement of (—)α,γ-dimethylallyl phenyl ether and the para rearrangement of (—)α,γ-dimethylallyl 2,6-xylyl ether. E. R. Alexander and R. W. Kluiber. bibliog Am Chem Soc J 73:4304-6 S '51
Synthesis of thyroxine and related substances; the preparation of diphenyl ethers from 2 : 6-di-iodophenols. J. H. Barnes and others. Chem Soc J p2824-33 O '50

PHENYLETHYL bromide. See Bromophenyl ethane

PHENYLGLYOXYLIC acid
Chemistry of fungi; 2 : 4 : 5-trihydroxyphenylglyoxylic acid from polyporus tumulosus Cooke. B. J. Ralph and A. Robertson. Chem Soc J p3380-3 D '50
Photochemical reactions in sunlight; photoreduction of phenylglyoxylic acid; photoreactions between aldehydes and *o*-quinones; reactions between *o*-quinones and ethylenes in the dark and in the light. A. Schönberg and others. Chem Soc J p 1364-8 My '51

PHENYL group
Synthesis of phenyl-substituted triazole analogs of histamine. J. C. Sheehan and C. A. Robinson. bibliog Am Chem Soc J 73:1207-10 Mr '51

PHENYL halides
Molecular orbital theory and the near ultraviolet absorption spectrum of monosubstituted benzenes; the phenyl halides and the inductive effect. W. W. Robertson and F. A. Matsen. bibliog Am Chem Soc J 72:5252-6 N '50

PHENYLHEXADIENOL
Studies in molecular rearrangement; the five-carbon oxotropic rearrangement of 1-phenylhexa-2 : 4-dien-1-ol. H. C. Barany, E. A. Braude and J. A. Coles. Chem Soc J p2093-7 Ag '51
Studies on the pinacol rearrangement; competition between dehydration and pinacol rearrangement in the reactions of the isomeric 3,4-bis-(*p*-acetoxyphenyl)-3,4-hexanediols with acidic reagents. J. F. Lane and L. Spialter. Am Chem Soc J 73:4411-14 S '51
Studies on the pinacol rearrangements; the determination of products resulting from the dehydration of 3,4-bis-(*p*-acetoxyphenyl)-3,4-hexanediol. J. F. Lane and L. Spialter. bibliog Am Chem Soc J 73:4408-10 S '51

PHENYLHEXENE
Oxidation of olefins representing some structural units of GR-S. W. C. Warner and J. R. Shelton. bibliog il Ind & Eng Chem 43:1160-4 My '51

PHENYLHYDRAZINE
Action of phenylhydrazine on the periodate degradation products of phenyl β-D-glycopyranosyl sulfones. W. A. Bonner and R. W. Drisko. Am Chem Soc J 73:3701-3 Ag '51
Ethylene imine ketones; stereochemical configurations, absorption spectra and reactions with phenylhydrazine. N. H. Cromwell and others. bibliog Am Chem Soc J 73:1044-51 Mr '51
Reaction of phenylhydrazine with α-haloacetophenones. D. Y. Curtin and E. W. Tristram. bibliog Am Chem Soc J 72:5238-42 N '50
Some reactions of *p*-tolyl toluene-*p*-thiolsulphonate. H. T. Hookway. Chem Soc J p 1932-4 Jl '50

PHENYLHYDRAZINE hydrochloride
Spectrophotometric determination of molybdenum with phenylhydrazine hydrochloride. G. H. Ayres and B. L. Tuffly. bibliog Anal Chem 23:304-8 F '51

PHENYLHYDRAZONE. See Hydrazones

PHENYLHYDROXYBENZOATE. See Salol

PHENYLISOCYANATE
Reaction of phenols with phenyl and 1-naphthyl *iso*cyanate. J. M. Lyons and R. H. Thomson. Chem Soc J p 1971-2 Jl '50

PHENYLLITHIUM
Investigation of the reactions of phenyl-lithium with some methylpyrimidines. T. D. Heyes and J. C. Roberts. Chem Soc J p328-31 F '51

PHENYLMAGNESIUM bromide
β-Aroylpropionic acids; the action of *o*- and *p*-methyoxyphenylmagnesium bromide on succinic anhydride. F. G. Baddar and L. S. El-Assal. Chem Soc J p431-3 F '51
1,3-Diketo-2,2-diphenylhydrindene. R. Moubasher. Am Chem Soc J 73:3245-6 Jl '51
Synthetic application of phenylarsinebis (magnesium bromide); the preparation and properties of 4-substituted tetrahydro-1 : 4-oxarsines and of 1 : 4-disubstituted hexahydro-1 : 4-azarsines. M. H. Beeby and F. G. Mann. Chem Soc J p886-91 Ap '51
Synthetic application of phenylarsinebis (magnesium bromide); the synthesis and properties of 6-substituted 6-arsa-1 : 2 : 3 : 4-dibenz*cyclo*hepta-1 : 3-dienes. M. H. Beeby, F. G. Mann and E. E. Turner. Chem Soc J p 1923-5 Jl '50
Synthetic application of phenylarsinebis (magnesium bromide); the synthesis of *iso*arsindolines, tetrahydro*iso*arsinolines, and 2-arsaperinaphthanes. M. H. Beeby, G. H. Cookson and F. G. Mann. Chem Soc J p 1917-22 Jl '50

PHENYLMALEIC anhydride
Phenylmaleic anhydride as a diene in the Diels-Alder reaction. L. E. Miller and D. J. Mann. bibliog Am Chem Soc J 73:45-8 Ja '51

PHENYL mercuric compounds. See Mercury compounds

PHENYL methylcarbinol
Dehydration of phenylmethylcarbinol with iodine. A. J. Castro. bibliog Am Chem Soc J 72:5311-12 N '50

PHENYLPENTITOL
Stereochemical configurations of the 1-C-phenyl-D-pentitols. W. A. Bonner. bibliog Am Chem Soc J 73:3126-32 Jl '51

PHENYL phenaceturate
Phenyl phenaceturate from the decomposition of penicillin in the presence of phenol. S. F. Kern and others. Science 112:787 D 29 '50

PHENYL phenetole
Studies in the biphenyl series; orientation in bromination of 4-ethoxybiphenyl and bromo-4-ethoxybiphenyls. J. L. Abernethy and H. Pollock. Am Chem Soc J 73:1514-16 Ap '51

PHENYLPHENOL
Mannich reaction with *o*-phenylphenol. J. H. Burckhalter. Am Chem Soc J 72:5309-10 N '50
Measurement of large partition coefficients by interchange extraction. C. Golumbic and S. Weller. bibliog Anal Chem 22:1418-19 N '50

PHENYL phthalate
Pyrolysis of phenyl phthalate. R. P. Zelinski and H. M. Andersen. Am Chem Soc J 73: 4405-7 S '51

PHENYLPIPERIDINE
Synthetic analgesics; further attempts to prepare 3-phenylpiperidine derivatives. A. W. D. Avison and A. L. Morrison. Chem Soc J p 1474-7 Je '50
Synthetic analgesics; metadine and related 3-phenylpiperidine derivatives. A. W. D. Avison and A. L. Morrison. Chem Soc J p 1471-4 Je '50

PHENYLPIPERIDOL
Synthesis of piperidine derivatives; 4-phenylpiperidols. G. M. Badger, J. W. Cook and G. M. S. Donald. Chem Soc J p 197-9 Ja '50

PHENYLPROPADIENE
Equilibrium between the *o*-allenylphenoxide and 2-benzofurylmethyl anions. R. Gaertner. bibliog Am Chem Soc J 73:4400-4 S '51

PHENYLPROPIOLIC acid
Phenylpropiolic acids; the effect of substituents on the mode of cyclisation of substituted phenylpropiolic anhydrides. F. G. Baddar and L. S. El-Assal. Chem Soc J p 1844-7 Jl '51

PHENYLPROPIONYL chloride
Reaction between aromatic compounds and derivatives of tertiary acids; the simultaneous formation of open-chain and cyclic ketones from some alkylated phenylpropionyl chlorides. E. Rothstein. Chem Soc J p 1459-61 Je '51

PHENYLPROPYLAMINE
Antispasmodics; substituted α-(β-aminoethyl)-phenylacetonitriles and 3-phenylpropylamines. A. W. Ruddy. bibliog Am Chem Soc J 73:4096-8 S '51

PHENYL pyridine
Some phenyl-pyridines and -quinolines. Mrs W. J. Adams and others. Chem Soc J p3181-5 D '49

PHENYLPYRROLINE
2-Phenylpyrrolines; a redetermination of the structures of the supposed-2-phenyl-Δ^3- and -Δ^4-pyrrolines. F. E. King, J. R. Marshall and P. Smith. Chem Soc J p239-43 F '51

PHENYLPYRUVIC acid
Reaction of phenylpyruvic acid and related compounds with ammonia. A. Galat. bibliog Am Chem Soc J 72:4436-9 O '50

PHENYLQUINOLINE
Some 4-(dialkylaminoalkylamino)-3-phenylquinolines. W. J. Adams and D. H. Hey. Chem Soc J p3254-9 N '50
Some phenyl-pyridines and -quinolines. Mrs W. J. Adams and others. Chem Soc J p3181-5 D '49
Some potential trypanocidal and antibacterial compounds in the heterocyclic series. J. D. Bower, F. F. Stephens and D. G. Wibberley. Chem Soc J p3341-4 N '50

PHENYL salicylate. See Salol

PHENYLSODIUM
Reactions of organometallic compounds; the reactions of phenylsodium with α- and γ-methylallyl chlorides. S. J. Cristol and W. C. Overhults. bibliog Am Chem Soc J 73: 2932-3 Je '51

PHENYL sulfides
Absorption spectra of some phenyl sulfides, sulfoxides and sulfones containing nitro and amino groups. H. H. Szmant and J. J. McIntosh. bibliog Am Chem Soc J 73:4356-9 S '51
Cyclization of a diiodinated diphenyl sulfide. P. Block, jr. bibliog Am Chem Soc J 72: 5641-3 D '50
Oxidation of a di-*o*-substituted diphenyl sulfide. P. Block, jr. and J. L. Balmat. Am Chem Soc J 72:5638-40 D '50

PHENYLSYDNONE
1 : 4-Diaryl-1 : 4-dihydro-1 : 2 : 4 : 5-tetrazines and derived substances. W. Baker, W. D. Ollis and V. D. Poole. Chem Soc J p3389-94 D '50

PHENYLTETRAZOLE
Methylation of 5-phenyltetrazole. R. A. Henry. Am Chem Soc J 73:4470 S '51

PHENYL valeric acid
Rotatory dispersion and circular dichroism of (—)-γ-chloro-γ-nitroso-δ-phenylvaleric acid. S. Mitchell and W. E. F. Naismith. Chem Soc J p3116-19 D '49

PHENYLENEDIAMINE
Experiments on the preparation of indolocarbazoles. P. V. Clifton and S. G. P. Plant. Chem Soc J p461-6 F '51
Reaction of *o*-phenylenediamines with carbonyl compounds; aliphatic ketones. R. C. Elderfield and J. R. McCarthy. bibliog diag Am Chem Soc J 73:975-84 Mr '51

PHENYLENE oxide. See Dibenzofuran

PHILADELPHIA
Philadelphia's planners report on industrial land. Eng N 146:50+ Je 21 '51
Philly tells the marines, we need our new pier. Bsns W p36 Mr 10 '51
Plan vast developments. Eng N 145:41 D 28 '50
See also
Wages—Philadelphia

Bridges

Prototype prestressed beam justifies Walnut Lane Bridge design. G. Magnel. diags Am Concrete Inst J 22:301-16 D '50

Libraries

Origin and influence of major technical libraries. J. R. Skeen. Franklin Inst J 250: 381-90 N '50

Public works

Philadelphia's six-year program for public works. il Pub Works 82:46-7+ Ag '51

Sewerage

Automatic devices protect aeration system for Philadelphia sewage works. J. R. Grandinetti. il diags Civil Eng 21:28-32 Ja '51

Water supply

Changes in the Schuylkill river; abstract. S. Crawford and W. C. Ringer. Water & Sewage Works 98:448-9 O '51

PHILADELPHIA and Reading coal and iron company
Notice to bondholders. Comm & Fin Chr 174: 902 S 10 '51

PHILADELPHIA company
SEC recommends rejection of plan. Comm & Fin Chr 174:547 Ag 13 '51

PHILADELPHIA electric company
Further growth ahead. Barron's 31:15-16 Jl 23 '51

PHILADELPHIA inquirer
Annenberg policies advance Inquirer. J. W. Dragonetti. Ed & Pub 84:14 Ag 4 '51
Inquirer names two managing editorships; Fitzpatrick retires. Ed & Pub 84:10 Ag 25 '51

PHILADELPHIA quartz company
120th anniversary. il Water & Sewage Works 98:307 Jl '51; Soap & San Chem 27:33 Jl '51

PHILANTHROPY
Satisfaction guaranteed. C. R. Smith. Ptr Ink 236:126 S 28 '51
See also
Charities
Foundations, Charitable and educational

PHILBRICK, Eugene Patrick, 1897-1951
Memorial. E. A. Koester. Am Assn Pet Geologists Bul 35:1710-11 Jl '51

PHILIPPINE air lines
Out of the red, but in trouble; top brass resigns. Aviation W 54:60-2 My 7 '51

PHILIPPINE ISLANDS
Progress in the Philippines. map Economist 161:633-4 S 15 '51

Commerce

Free trade zone in Philippines. F. Ortigas, jr. Comm & Fin Chr 174:418+ Ag 2 '51

Commercial policy

New import-control bill passed. For Comm W 43:17 Je 25 '51
Price stabilization corporation stockpiling and procurement policy; import regulations. For Comm W 42:16 F 12 '51
Tariffs and trade controls. For Comm W 43: 14-15 Je 18; 44:16 S 17 '51

Economic conditions

Economic rampart of freedom. E. Abello. Ann Am Acad 276-1-5 Jl '51
News by countries. For Comm W 41:18 O 9; 14 O 30; 16 N 27 '50; 42:18-19 Ja 29; 18 Mr 5; 43:15-16 Ap 2; 17-18 Ap 30; 16-17 My 28; 44:14-15 Jl 23; 12-13 Ag 27; 14-16 S 17 '51
Plain speaking to spendthrifts; Bell report on Philippine economy. Economist 159:686 N 4 '50
Prescription for the Philippines; Bell report. Bsns W p 140-1 N 4 '50

Economic policy

Foreign-exchange position improved; prices rising; tax bills signed. For Comm W 41:16-17 N 13 '50

Economic relations

United States

Promise of Point four. F. Morley. Barron's 30:5 N 6 '50
U.S.-Philippine aid agreement signed. For Comm W 41:28 D 25 '50

PHILIPPINE sea, Battle of, 1944
Battle of the Philippine sea. A. O. Van Wyen. il U S Naval Inst Proc 77:156-69 F '51

PHILLIPS, Bessie I.
New York Times staffer lauds society editor. Ed & Pub 83:20 N 11 '50

PHILLIPS, Willard, 1784-1873
Willard Phillips, a predecessor of Paasche in index number formulation. R. W. Jastram. Am Stat Assn J 46:124-6 Mr '51

PHILLIPS chemical company
Accent on the future. Chem W 69:13 Ag 11 '51

PHILLIPS Exeter academy
Ex-carriers rate well as scholars. G. A. Brandenburg. Ed & Pub 83:44 N 4 '50

PHILLIPS petroleum company
Arranges bank credit. Comm & Fin Chr 174:997-8 S 17 '51
FPC announces no jurisdiction over Phillips Petroleum. Am Gas J 175:26+ Ag '51
FPC disclaimer in controversy may not be permanent policy. J. E. Finley. il Am Gas J 175:10-11+ S '51
Milestone in gas; Federal power commission has decided that Phillips petroleum co. is not subject to regulation under the Natural gas act. Oil & Gas J 50:177 Jl 26 '51
Milestone reached; FPC's decision in Phillips case is a turning point in history of oil, gas regulation. H. D. Ralph. Oil & Gas J 50:77 S 13 '51
Petroleum company exempted from federal regulation under Natural gas act. Pub Util 48:389-90 S 13 '51
Phillips case goes the limit. Pub Util 48:361-2 S 13 '51
Phillips Petroleum splits oil profits in return for Barium pipe. Iron Age 167:119 Je 21 '51
Probe narrowed; FPC to decide if Phillips is a natural-gas company. Oil & Gas J 49:69 Ap 12 '51
Security I like best. W. A. Klees. Comm & Fin Chr 174:1074 S 20 '51

PHILOSOPHY
See also
Knowledge, Theory of
Law—Philosophy
Political philosophy

PHLOROGLUCINOL
Quantitative phloroglucinol-HCL test in the evaluation of lignin preparations. R. M. De Baun and F. F. Nord. bibliog Tappi 34:71-3 F '51
Spectrophotometric examination of some derivatives of pyrogallol and phloroglucinol. T. W. Campbell and G. M. Coppinger. bibliog Am Chem Soc J 73:2708-12 Je '51

PHLYCTENULAR keratoconjunctivitis. See Conjunctivitis

PHOENIX, Arizona

Water supply

City plans water supply for 50 years ahead. Eng N 147:55 S 13 '51

PHOENIX industries corporation
Mack's plans. Bsns W p 155 Je 16 '51

PHOENIX iron and steel company
Rags to riches history of Phoenixville mill. G. Sullivan. Iron Age 167:92 Je 28 '51

PHOENIX mutual life insurance company

100th anniversary. East Underw 52:3-4+ Je 1 '51

100th anniversary. I. Davis. il Spectator (Life ed) 158:14-15 Je '51

PHONETICS

Phoneme detector. C. P. Smith. il diags Acoustical Soc Am J 23:446-51 Jl '51

Relation of phonetics and linguistics to communication theory. O. H. Straus. Acoustical Soc Am J 22:709-11 N '50

Reversed speech and repetition systems as means of phonetic research. W. Meyer-Eppler. il diags Acoustical Soc Am J 22: 804-6 N '50

Typology of languages. P. Menzerath. diags Acoustical Soc Am J 22:698-701 N '50

See also

Speech

Vowels

PHONEVISION. See Television broadcasting—Phonevision

PHONOGRAPH

Flexible record-reproduce system. O. Read. il Radio & Tv N 44:42-3+ N '50

Improved equalizer-preamp. C. P. Boegli. il diags Radio & Tv N 45:46-7 Ap '51

Problems in phonograph record reproduction. J. D. Goodell. il diag Radio & Tv N 44:39-41+ N '50

Selecting your high-fidelity system. J. F. Becker. il Radio & Tv N 44:80-1+ N '50

See also

Radio receiving apparatus—Phonograph combination

Television receiving apparatus—Radio and phonograph combination

History

Practical sound engineering; brief history of early experiments in reproducing sound as compared with modern systems. H. M. Tremaine. il diags Radio & Tv N 46:60-2+ Jl '51

Pickup

There's money in cartridge replacements. J. D. Harper. il diags Radio & Tv N 45: 51+ F '51

Record changers

More phenolic in record changer. il Mod Plastics 28:130 Mr '51

Special setups aid accurate machining; producing record changer spindles. F. C. Schwietert. il diag Iron Age 167:93-5 Mr 29 '51

Testing

Auditioner. L. M. Dezettel. il diags Radio & Tv N 44:50-1+ N '50

Turntables

Adapt two-speed tables to three-speed operation. L. A. Wortman. diag Electronics 23: 179+ D '50

PHONOGRAPH records

Armistice in record scrap. N. Kelne. Ptr Ink 233:113-14 N 10 '50

Bank personnel training through recordings; EnterTrainment, inc. il Burroughs Clearing House 35:20+ S '51

Colombia's output of phonograph records to increase. For Comm W 43:22 My 14 '51

Methods of calibrating frequency records. R. C. Moyer and others. bibliog il diags Inst Radio Eng Proc 38:1306-13 N '50

Problems in phonograph record reproduction. J. D. Goodell. il diag Radio & Tv N 44:39-41+ N '50

Recording of popular radio star is effective promotional come-on; records offered free at Western-Holly dealers. il Ptr Ink 234: 34-5 Mr 2 '51

Advertising

How to move a collectors' item quick; Bach festival phonograph records. Ptr Ink 234: 45 F 16 '51

Sale I never forgot; he refused my solo, but sold himself a symphony; radio advertising for Decca records. I. Hirschmann. Ptr Ink 234:90 Mr 23 '51

Manufacture

Infrared aids handling and improves quality of records. F. C. Neal. il Elec World 136: 138 Jl 16 '51

Phonograph records are made on schedule. T. J. Davis. N A C A Bul 32:710-16 F '51

Plating and electroforming at Muzak, Elizabethtown, Ky. W. M. Warner. il Metal Finishing 49:66-8 Ag '51

Rating

Phonograph records. Published in monthly numbers of Consumers' research bulletin

PHONOGRAPH records, Plastic

Eight phonograph records per cycle; injection molding challenges compression in speed and cost. C. F. Galehouse and H. W. Moss. il diags Mod Plastics 28:84+ F '51

PHONOGRAPH styluses. See Styluses, Phonograph

PHORMIUM

Phormium gum. R. J. McIlroy. Chem Soc J p 1372-3 My '51

PHOSGENE

Generation of phosgene during operation of trichloroethylene degreaser. L. W. Spolyar and others. il A M A Archives Ind Hygiene & Occup Med 4:156-60 Ag '51

Kinetics of the catalytic formation of phosgene. C. Potter and S. Baron. bibliog flow sheet diag Chem Eng Prog 47:473-80 S '51

Vapor phase reaction between phosgene and alcohols. J. H. Saunders, R. J. Slocombe and E. E. Hardy. Am Chem Soc J 73:3796-7 Ag '51

PHOSPHATASES

Effect of magnesium sulfate on acid inactivation of renal and intestinal alkaline phosphatase. V. M. Emmel. bibliog Science 113:267-8 Mr 9 '51

Nondiffusibility of alkaline phosphatase in fixed tissue. F. Moog. Science 114:109 Jl 27 '51

Screening effect of vitamin C on the inactivation of leaf phosphatase by ultraviolet light. R. Das and K. V. Giri. Science 114:131-2 Ag 3 '51

Theory of tastes and odors. A. F. El-Baradi and G. H. Bourne. il Science 113:660-1 Je 8 '51

Validity of histochemical phosphatase methods on the intracellular level. A. B. Novikoff. bibliog il Science 113:320-5 Mr 23 '51

PHOSPHATE coating

Cold extrusion of steel. H. Hauttmann. diags Iron Age 167:99-104 Mr 15 '51

Corrosion protection by cold phosphating; Russians claim to have improved process. V. S. Lapatukin. bibliog Chem Age (Lond) 65:295-6+ S 1 '51

Corrosion-resistant paint base for metals. Chem Eng 58:198-9 S '51

Integrated phosphatizing system brings economies in cold drawing, stamping, cold heading, etc. il Steel 129:71-2 Jl 23 '51

New metal treating process speeds cold working, cold extrusion of steel; Pennsylvania salt manufacturing co. il Materials & Methods 34:68-9 Ag '51; Same. Product Eng 22:172-3 Ag '51; Abstract. Chem Eng 58:162 Ag '51

Paint failures cleaned away; Ironrite inc. il Steel 128:109-10 Mr 26 '51

Phosphate coat speeds cold working of steel. il Am Mach 95:174-5 Jl 23 '51

Phosphate coatings in defense production. A. Douty. il Metal Finishing 49:105-8+ Jl '51

Phosphate lubricant aids cold extrusion of steel. il Iron Age 168:76-7 Jl 26 '51

PHOSPHATE rock

Compound fertilizers from rock phosphate, nitric and phosphoric acids, and ammonia. E. C. Houston, T. P. Hignett and R. E. Dunn. flow diag diag Ind & Eng Chem 43: 2413-18 O '51

Fertiliser manufacture; the nitric acid treatment of phosphate rock; abstracts. M. H. R. J. Plusjè. diags Chem Age (Lond) 64: 309-10 F 24 '51; Chem Eng 58:169 My '51

History and development of phosphate rock mining. R. B. Fuller. il Min Eng 3:Trans 708-12 Ag '51

Nitric acidulation of rock phosphate. T. P. Hignett. Chem Eng 58:166-9 My '51

Phosphate, 1950. J. A. Barr. il Eng & Min J 152:98-100 F '51

Phosphate rock industry. J. L. Weaver. il Min Cong J 37:99-101 F '51

PHOSPHATE rock—*Continued*

Phosphate rock pumped five miles to hold down transport costs. H. L. Pascoe. il plan Eng & Min J 152:104-7 Ap '51

Florida

Latest recovery methods highlight Florida phosphate plant. W. B. Lenhart. flow sheet il Rock Prod 54:74-81 Mr '51

Pleistocene shore lines in Florida and Georgia. F. S. MacNeil. bibliog U S Geol S Professional Pa 221-F:95-107, pl 19-25; pa $1 Supt. of doc. '50

Rock fluorine. il Chem Ind W 68:27 Ja 27 '51

Three new steps in treating Florida phosphate rock. A. Crago. flow sheet il Eng & Min J 151:78-83 N '50

PHOSPHATES

Adsorption of tagged phosphate ions on glass surfaces as related to alkaline attack. J. W. Hensley. bibliog il Am Cer Soc J 34:188-92 Je 1 '51

Biological and therapeutic significance of naturally occurring organic phosphates; abstract and discussion. F. Bergel. Chem & Ind p788-9 D 9 '50

Bringing up poly. il Chem W 69:31+ Ag 25 '51

High energy phosphate bonds of biochemical interest. T. L. Hill and M. F. Morales. bibliog Am Chem Soc J 73:1656-60 Ap '51

High-lime refractory resistant to phosphate melts; studies in the system $CaO-TiO_2$. H. G. Fisk. bibliog il Am Cer Soc J 34:9-13 Ja 1 '51

Investigation of the forms of phosphorus in neutron-bombarded phosphates; role of hypophosphate. J. G. A. Fiskell. bibliog Science 113:244-6 Mr 2 '51

Pest control in Germany; Schrader's work on insecticides. Chem Age (Lond) 64:813-16 My 26 '51

Phosphate chemicals industry; abstract. C. H. Aall. Chem & Eng N 29:3957 S 24 '51

Phosphates of pantothenic acid. T. E. King and F. M. Strong. bibliog Science 112:562-5 N 10 '50

Phosphates of the vitamin B_6 group. D. Heyl and others. bibliog Am Chem Soc J 73:3430-9 Jl '51

Pyridoxal phosphate, the coenzyme of thioether-cleavage. F. Binkley and G. M. Christensen. Am Chem Soc J 73:3535 Jl '51

Radiotracer studies on the interaction of dithiophosphate with galena; the depressant action of phosphate. G. L. Simard and others. Min Eng 190:Trans 39-44 Ja '51

Synthetic ribonucleoside-2′ phosphates. D. M. Brown, L. J. Haynes and A. R. Todd. Chem Soc J p408 Ja '50

See also

Alkaline earth pyrophosphates

Analysis

Analysis of phosphate fertilizers. E. M. Crowther. bibliog Chem & Ind p763-6 D 2 '50

Determination of available phosphoric acid. J. H. Hamence and G. Taylor. Chem & Ind p799-801 D 16 '50

Inorganic phosphates and phosphate esters in tissue extracts. B. L. Griswold, F. L. Humoller and A. R. McIntyre. Anal Chem 23:192-4 Ja '51

Manufacture

Britain's £4,500,000 superphosphate factory; a visit to the Immingham works of Fisons, ltd. il Chem & Ind p330-1 Ap 28 '51; flow diag Chem Age (Lond) 64:701-4 My 5 '51

Continuous triple superphosphate; pictured flow sheet. Chem Eng 58:208-11 My '51

Fertiliser manufacture; further research on sulphurless processes. F. M. Reynolds. Chem Age (Lond) 64:585-7 Ap 21 '51

Fluoride scrubbers. A. B. Pettit. diags Chem Eng 58:250+ Ag '51

Improved fertilizer plant design produces more than twice as much calcium metaphosphate. L. D. Yates and others. bibliog il diag Chem Eng 58:135-7 Je '51

Latest recovery methods highlight Florida phosphate plant. W. B. Lenhart. flow sheet il Rock Prod 54:74-81 Mr '51

Nitric acidulation of rock phosphate. T. P. Hignett. Chem Eng 58:166-9 My '51

Phosphate production without sulfuric acid. J. W. Turrentine. il Chem & Eng N 29:3454-6 Ag 20 '51

Three new steps in treating Florida phosphate rock. A. Crago. flow sheet il Eng & Min J 151:78-83 N '50

PHOSPHATES in the body

Multienzyme systems. J. E. Bacher. Science 112:601 N 17 '50

PHOSPHATIDES

Chromatographic separation of choline-containing phospholipids from phospholipid mixtures. T. H. Bevan and others. Chem Soc J p841-2 Mr '51

PHOSPHIDES

Alkali metal phosphides; reaction of alkali metals and white phosphorus in liquid ammonia. E. C. Evers. bibliog Am Chem Soc J 73:2038-40 My '51

PHOSPHINE

Microwave spectrum of phosphine, arsine, and stibine. C. C. Loomis and M. W. P. Strandberg. bibliog diags Phys R 81:798-807 Mr 1 '51

Nature of the co-ordinate link; the non-ionic complex compounds of tri-*n*-propylphosphine with platinic and platinous chlorides. J. Chatt. Chem Soc J p2301-10 S '50

Synthesis of 1-substituted phosphindolines. F. G. Mann and I. T. Millar. Chem Soc J p2205-6 Ag '51

PHOSPHINIC acid

Anhydrides of di-*n*-propyl- and di-*n*-butylphosphinic acids. G. M. Kosolapoff and R. M. Watson. bibliog Am Chem Soc J 73:4101-2 S '51

New synthesis of phosphinic acids. G. M. Kosolapoff. bibliog Am Chem Soc J 72:4292-3 S '50

Some variations of the Grignard synthesis of phosphinic acids. G. M. Kosolapoff. bibliog Am Chem Soc J 72:5508-9 D '50

PHOSPHINOLINES

Preparation of 1-substituted 1 : 2 : 3 : 4-tetrahydrophosphinolines and 2-substituted 1 : 2 : 3 : 4-tetrahydro*iso*phosphinolines. M. H. Beeby and F. G. Mann. Chem Soc J p411-15 F '51

PHOSPHINYL chlorides

Action of Grignard reagents on diaryl phosphinyl chlorides. D. C. Morrison. Am Chem Soc J 72:4820-1 O '50

PHOSPHITES

Cyclic phosphites of some aliphatic glycols. H. J. Lucas, F. W. Mitchell, jr. and C. N. Scully. bibliog diag Am Chem Soc J 72:5491-7 D '50

Phosphite debut. Chem Ind W 68:20 Mr 3 '51

Phosphonation with a phosphite ester of propanediol. F. W. Mitchell, jr. and H. J. Lucas. Am Chem Soc J 72:5779 D '50

PHOSPHOCREATINE. See Creatine phosphoric acid

PHOSPHOGLYCERIC acid. See Glyceric acid

PHOSPHOLIPIDES. See Phosphatides

PHOSPHOMOLYBDIC acid

Phosphomolybdic acid as a catalyst for the bulk polymerization of styrene. J. H. Day and T. A. Solak. bibliog Am Chem Soc J 73:469 Ja '51

PHOSPHONATES

Nucleotides; analogues of adenosine-5′ phosphate and uridine-5′ phosphate containing phenylphosphonate and ethylphosphonate groups. N. Anand and A. R. Todd. Chem Soc J p 1867-72 Jl '51

PHOSPHONIC acid

Studies on phosphorylation; the action of salts on neutral benzyl esters of the oxyacids of phosphorus; a new method of selective debenzylation. V. M. Clark and A. R. Todd. Chem Soc J p2030-4 Ag '50

PHOSPHONIUM compounds

Alkylation of triethyl phosphonoacetate and related esters. G. M. Kosolapoff and J. S. Powell. bibliog Am Chem Soc J 72:4198-200 S '50

PHOSPHOR bronze. See Bronze

PHOSPHORIC acid

Compound fertilizers from rock phosphate, nitric and phosphoric acids, and ammonia. E. C. Houston, T. P. Hignett and R. E. Dunn. flow diag diag Ind & Eng Chem 43:2413-18 O '51

PHOSPHORIC acid—*Continued*

Condensed phosphoric acids and their salts; dissociation constants of some tetrametaphosphates. H. W. Jones and C. B. Monk. Chem Soc J p3475-8 D '50

Deoxy-sugars; a study of the stabilities of some phosphoric acid derivatives of D-galactose and 2-deoxy-D-galactose. A. B. Foster, W. G. Overend and M. Stacey. Chem Soc J p987-91 Ap '51

Deoxy-sugars; D-galactose-3 and -6 phosphoric acids and their 2-deoxy-analogues. A. B. Foster, W. G. Overend and M. Stacey. Chem Soc J p980-7 Ap '51

Determination of available phosphoric acid. J. H. Hamence and G. Taylor. Chem & Ind p799-801 D 16 '50

Determination of quartz in presence of silicates using phosphoric acid. N. A. Talvitie. bibliog il Anal Chem 23:623-6 Ap '51

First dissociation constant of phosphoric acid from 0° to 60° C; limitations of the electromotive force method for moderately strong acids. R. G. Bates. bibliog J Res Nat Bur Stand 47:127-34 S '51

Fixed-up phosphoric; ion exchange lowers cost of phosphoric acid pickling. Chem Ind 67:880 D '50

Furanization and cleavage of 1,4-diketones by use of polyphosphoric acid. G. Nowlin. bibliog Am Chem Soc J 72:5754-6 D '50

Iridium in perchloric, phosphoric, and nitric acid mixtures; a spectrophotometric study. G. H. Ayres and Q. Quick. bibliog Anal Chem 22:1403-8 N '50

Materials of construction report. il diags Chem Eng 57:129-32 N '50

New process slashes cost of phosphoric acid pickling; reclaims the acid for reuse. C. F. Paulson and M. E. Gilwood. flow sheet il Iron Age 166:97-9 D 14 '50

Phosphoric-acid-cleaning of boilers. T. E. Purcell and S. F. Whirl. diags A S M E Trans 73:135-9 F '51; Same abr. Power Eng 54:72-3+ Ag '50; Excerpt. Chem Eng 57: 268+ Jl '50

Some *p*-nitrophenyl derivatives of *o*-phosphoric and *o*-thiophosphoric acid. J. A. A. Ketelaar and H. R. Gersmann. Am Chem Soc J 72:5777 D '50

Standard laboratory corrosion test for metals in phosphoric-acid service. H. F. Ebling and M. A. Scheil. il A S M E Trans 73:975-87 O '51

Studies on phosphorylation; the action of salts on neutral benzyl esters of the oxy-acids of phosphorus; a new method of selective debenzylation. V. M. Clark and A. R. Todd. Chem Soc J p2030-4 Ag '50

Studies on phosphorylation; the reaction between organic bases and esters of the oxy-acids of phosphorus; an interpretation based on a comparison of certain aspects of the chemistry of sulphur and phosphorus. V. M. Clark and A. R. Todd. Chem Soc J p2023-30 Ag '50

Vapor pressure of water over phosphoric acids. B. J. Fontana. bibliog Am Chem Soc J 73:3348-50 Jl '51

Analysis

Separation of mixtures of mono- and disubstituted alkyl phosphoric acids. D. C. Stewart and H. W. Crandall. Am Chem Soc J 73:1377-8 Mr '51

PHOSPHOROUS acid

Studies on phosphorylation; the action of salts on neutral benzyl esters of the oxy-acids of phosphorus; a new method of selective debenzylation. V. M. Clark and A. R. Todd. Chem Soc J p2030-4 Ag '50

Studies on phosphorylation; the reaction between organic bases and esters of the oxy-acids of phosphorus; an interpretation based on a comparison of certain aspects of the chemistry of sulphur and phosphorus. V. M. Clark and A. R. Todd. Chem Soc J p2023-30 Ag '50

PHOSPHORUS

Alkali metal phosphides; reaction of alkali metals and white phosphorus in liquid ammonia. E. C. Evers. bibliog Am Chem Soc J 73:2038-40 My '51

Crystallization velocity of liquid phosphorus. R. E. Powell, T. S. Gilman and J. H. Hildebrand. diag Am Chem Soc J 73:2525-6 Je '51

Eight liquid phases in stable equilibrium. S. L. Kittsley and H. A. Goeden. il Am Chem Soc J 72:4841-2 O '50

Excited states of Si^{29} from an investigation of the $P^{31}(d,\alpha)Si^{29}$ and $Si^{28}(d,p)Si^{29}$ reactions. P. M. Endt and others. bibliog Phys R 83: 491-4 Ag 1 '51

Gamma-ray yield of phosphorus bombarded with protons. G. R. Grove and J. N. Cooper. Phys R 82:505-7 My 15 '51

Infrared spectrum of P_4. H. S. Gutowsky and C. J. Hoffman. bibliog diag Am Chem Soc J 72:5751-2 D '50

Investigation of the forms of phosphorus in neutron-bombarded phosphates; role of hypophosphate. J. G. A. Fiskell. bibliog Science 113:244-6 Mr 2 '51

Neutron depolarization on scattering from carbon, paraffin, and phosphorus. W. E. Meyerhof and D. B. Nicodemus. bibliog diags Phys R 82:5-12 Ap 1 '51

Perturbations in the ultraviolet band spectrum of the phosphorus molecule P_2. S. M. Naudé and H. Verleger. bibliog Phys R 80:432-5 N 1 '50

Phosphorus and its derivatives. Chem Age (Lond) 64:129-31 Ja 20 '51

Phosphorus metabolism of bact. lactis aerogenes. P. C. Caldwell and C. Hinshelwood. Chem Soc J p 158-66 Ja '51

Proton groups from the deuteron bombardment of F^{19} and P^{31}. R. C. Allen and W. Rall. bibliog Phys R 81:60-2 Ja 1 '51

Rotational structure of the ultraviolet band system of the P_2 molecule. E. J. Marais and H. Verleger. bibliog Phys R 80:429-31 N 1 '50

Solubility of mercury in liquid phosphorus. G. J. Rotariu and others. il Am Chem Soc J 73:2527-8 Je '51

Storing, handling, and shipping elemental yellow phosphorus. R. E. Wright. Ind & Eng Chem 43:sup89A-90A+ F '51

Studies on phosphorylation; the reaction between organic bases and esters of the oxy-acids of phosphorus; an interpretation based on a comparison of certain aspects of the chemistry of sulphur and phosphorus. V. M. Clark and A. R. Todd. Chem Soc J p2023-30 Ag '50

Supercooling of liquid phosphorus. J. H. Hildebrand and G. J. Rotariu. Am Chem Soc J 73:2524-5 Je '51

See also

Steel—Phosphorus content

Analysis

Analytical chemistry of phosphorus; Midlands analytical methods discussion group. Chem Age (Lond) 64:197-9 F 3 '51

Determination of phosphorus in deoxypentose nucleic acids. A. S. Jones, W. A. Lee and A. R. Peacocke. Chem Soc J p623-4 F '51

Determining phosphorus in organic substances; micro-Lorenz method. Y. Tsuzuki, M. Miwa and E. Kobayashi. Anal Chem 23: 1179-80 Ag '51

Microdetermination of total phosphorus by amperometric titration. R. N. Boos and J. B. Conn. Anal Chem 23:674-5 Ap '51

Spectrographic determination of phosphorus in lubricating oil by solution excitation. J. P. Pagliassotti and F. W. Porsche. bibliog diag Anal Chem 23:198-200 Ja '51

Isotopes

Beta-spectrum of P^{32}. S. D. Warshaw and others. Phys R 80:288 O 15 '50

Determination of the photo-nuclear cross sections $S^{32}(\gamma,d)P^{30}$, $S^{32}(\gamma, np)P^{30}$, and $P^{31}(\gamma,n)P^{30}$. L. Katz and A. S. Penfold. bibliog Phys R 81:815-19 Mr 1 '51

Esters containing phosphorus; radioactive di*iso*propyl fluorophosphonate (D.F.P.). B. C. Saunders and T. S. Worthy. diag Chem Soc J p 1320-2 My '50

Experiments on the emission of neutrinos from P^{32}. C. W. Sherwin. bibliog plan diag Phys R 82:52-7 Ap 1 '51

Geigered hay. il Chem Ind W 68:9-10 Mr 10 '51

Growth of human leukemic leucocytes in vitro and in vivo as measured by uptake of P^{32} in desoxyribose nucleic acid. E. E. Osgood and others. bibliog Science 114:95-8 Jl 27 '51

PHOSPHORUS—Isotopes—*Continued*

Masses of Al, Si, P, and S isotopes. H. T. Motz. diag Phys R 81:1061-2 Mr 15 '51

Nuclide P^{33} and the P^{32} spectrum. R. K. Sheline and others. bibliog Phys R 83:919-23 S 1 '51

Organic phosphorus insecticides; synthesis of bisdimethylaminophosphonous anhydride containing ^{32}P. J. E. Gardiner and B. A. Kilby. diags Chem Soc J p 1769-72 Jl '50

Preparation of carrier-free ^{32}P from pile-irradiated sulphur; adsorption of ^{32}P on ferric hydroxide and dialysed iron. A. W. Kenny and W. T. Spragg. Chem Soc J supp no 2: S326-30 '49

Problem of radiation damage when radioactive phosphorus is used in fertiliser experiments. R. S. Russell. Chem Soc J supp no 2:S416 '49

Studies on the effect of radioactive phosphorus on the biochemical oxidation of sewage. W. N. Grune and R. Eliassen. bibliog flow diag il Sewage & Ind Wastes 23: 141-54 F '51

Study of fertiliser uptake using radio-phosphorus. J. W. T. Spinks and G. Dion. Chem Soc J supp no 2:S410-15 '49

Tracer studies with phosphate fertilizers. H. G. Dion and others. bibliog Can Chem & Process Ind 34:905-9 N '50

Vacuum evaporation of radioactive materials. C. W. Sherwin. diag R Sci Instr 22:339-41 My '51

Manufacture

How Virginia-Carolina makes phosphorus; sound engineering, one unit process, four unit operations. J. R. Callaham. il diag Chem Eng 58:102-6 Ap '51

Phosphorus moves west. il Chem Ind W 68: 11-12 My 19 '51

This phosphorus furnace rotates. M. M. Striplin, jr. and others. il diag Chem Eng 58:108-11 Jl '51

Why use a rotating furnace? TVA's unit rotating phosphorus furnace. il Chem Eng 58:204 Je '51

PHOSPHORUS alloys

Electric forming in *n*-germanium transistors using phosphorus-alloy contacts. J. P. Stelmak. Phys R 83:165 Jl 1 '51

PHOSPHORUS chlorides

Addition reactions in phospho-organic syntheses; the addition of phosphorus pentachloride to normal olefins. G. M. Kosolapoff and J. F. McCullough. Am Chem Soc J 73:855-6 F '51

Phosphonate key. Chem Ind W 68:28+ Ja 20 '51

PHOSPHORUS compounds

Association phenomena in some organophosphorus compounds. G. M. Kosolapoff and J. S. Powell. Am Chem Soc J 72:4291-2 S '50

Chemistry of the vitamin B_{12} group; acid hydrolysis studies; isolation of a phosphorus-containing degradation product. J. G. Buchanan and others. Chem Soc J p2845-55 O '50

Determination of association of several organophosphorus acids. G. M. Kosolapoff and J. S. Powell. Chem Soc J p3535-8 D '50

Esters containing phosphorus; radioactive di*iso*propyl fluorophosphonate (D.F.P.). B. C. Saunders and T. S. Worthy. diag Chem Soc J p 1320-2 My '50

Nature of the phosphorus compounds present in cells of bact. lactis aerogenes. P. C. Caldwell. Chem Soc J p 166-72 Ja '51

Organic phosphorus insecticides; recent German investigations; abstract. G. Schrader. Chem Age (Lond) 63:742 N 25 '50

Organic phosphorus insecticides; synthesis of bisdimethylaminophosphonous anhydride containing ^{32}P. J. E. Gardiner and B. A. Kilby. diags Chem Soc J p 1769-72 Jl '50

Organophosphorus compounds; alkyldichlorophosphines. R. B. Fox. bibliog Am Chem Soc J 72:4147-9 S '50

Phosphorus and its derivatives. Chem Age (Lond) 64:129-31 Ja 20 '51

Preparation and properties of tetrakistrichlorophosphine nickel. J. W. Irvine, jr. and G. Wilkinson. bibliog Science 113:742-3 Je 29 '51

Raman spectra of several compounds containing phosphorus. T. J. Hanwick and P. O. Hoffmann. diag J Chem Phys 19:708-11 Je '51

Ultraviolet absorption spectra of some heterocyclic phosphorous compounds. A. Furst and R. J. Horvat. Science 114:330 S 28 '51

Vibrational spectra of alkyl esters of phosphorus oxy-acids. C. I. Meyrick and H. W. Thompson. Chem Soc J p225-9 Ja '50

See also
Fluorophosphates
Phosphates

Analysis

Infrared spectra of phosphorus compounds. L. W. Daasch and D. C. Smith. bibliog Anal Chem 23:853-68 Je '51

Physiological effect

Insecticidal phosphorus compounds. B. Topley. Chem & Ind sup S859-68 D 30 '50

PHOSPHORUS halides

Experiments on the interaction of hydroxy-compounds and phosphorus and thionyl halides in the absence and in the presence of tertiary bases. K. H. V. French and others. Chem Soc J p3326-30 D '49; p2088-92 Ag '50

PHOSPHORUS oxides

Synthesis of octahydrocoumarins and their reaction with phosphorus pentoxide. R. L. Frank and R. C. Pierle. bibliog Am Chem Soc J 73:724-30 F '51

Systems zinc oxide-phosphoric oxide-water and manganous oxide-phosphoric oxide-water at temperatures between 25° and 100°. J. E. Salmon and H. Terrey. Chem Soc J p2813-24 O '50

PHOSPHORUS oxychloride

Phosphorus oxychloride in the preparation of ketimines. A. W. Weston and R. J. Michaels, jr. Am Chem Soc J 73:1381-2 Mr '51

PHOSPHORUS pentachloride

α-Halogenation of secondary nitriles. C. L. Stevens and T. H. Coffield. bibliog Am Chem Soc J 73:103-5 Ja '51

PHOSPHORUS trichloride

Investigations in the acetylene series; the reactions of 3-methyl-1-butyne-3-ol with phosphorus trichloride and of 3-methyl-3-buten-1-yne with hydrochloric acid. E. D. Bergmann and D. Herrman. Am Chem Soc J 73:4013-15 Ag '51

PHOSPHORYLASES

Enzymic synthesis and degradation of starch; the phosphorylase and *Q*-enzyme of broad bean; the *Q*-enzyme of wrinkled pea. P. N. Hobson, W. J. Whelan and S. Peat. Chem Soc J p3566-73 D '50

PHOSPHORYLATION

Phosphorylation of starch. R. Lohmar, J. W. Sloan and C. E. Rist. bibliog Am Chem Soc J 72:5717-20 D '50

Studies on phosphorylation; the action of salts on neutral benzyl esters of the oxy-acids of phosphorus; a new method of selective debenzylation. V. M. Clark and A. R. Todd. Chem Soc J p2030-4 Ag '50

Studies on phosphorylation; the reaction between organic bases and esters of the oxy-acids of phosphorus; an interpretation based on a comparison of certain aspects of the chemistry of sulphur and phosphorus. V. M. Clark and A. R. Todd. Chem Soc J p2023-30 Ag '50

PHOSPHOTUNGSTIC acid

Preparation of phosphotungstic acid and of sodium and barium phosphotungstates. M. A. Phillips. Soc Chem Ind J 69:282-4 S '50

PHOTOANGULATOR. See Photography, Aerial

PHOTOCHEMISTRY

Bromination of hydrocarbons; photochemical and thermal bromination of neopentane in the gas phase; the C—H bond strength in neopentane. E. I. Hormats and E. R. Van Artsdalen. bibliog J Chem Phys 19:778-83 Je '51

Decomposition of radicals produced by mercury photo-sensitization. A. F. Trotman-Dickenson. J Chem Phys 19:261 F '51

Effect of temperature on the photolysis of methylamine. C. I. Johnson and H. A. Taylor. J Chem Phys 19:613-17 My '51

Efficiency of the primary photochemical process for halogens in water; the photochemical reaction of Mn(II) and Br_2. A. C. Rutenberg and H. Taube. Am Chem Soc J 73:4426-31 S '51

PHOTOCHEMISTRY—*Continued*

Efficiency of the primary photochemical process for halogens in water; the photochemical reaction of Mn(II) and Cl_2. A. C. Rutenberg and H. Taube. Am Chem Soc J 72:5561-4 D '50

Elementary reactions in the gas phase involving excited electronic states. K. J. Laidler and K. E. Shuler. diags Chem R 48:153-224 bibliog(231 ref, p219-24) Ap '51

Formation of methylketene in the photolysis of diethyl ketone. W. S. Haynes and P. D. Gardner. bibliog Am Chem Soc J 73:3065-7 Jl '51

Free radicals, activated molecules, and wall effects in photochemical systems. W. A. Noyes, jr. bibliog J Phys & Colloid Chem 55:925-39 Je '51

Free radicals in the photolysis and pyrolysis of acetaldehyde. P. D. Zemany and M. Burton. bibliog diag J Phys & Colloid Chem 55:949-64 Je '51

Hot radical reactions in the photolysis of methyl and ethyl iodides in the liquid phase. W. H. Hamill and R. H. Schuler. bibliog Am Chem Soc J 73:3466-70 Jl '51

Isomerization of saturated hydrocarbons; the effect of light upon the isomerization of methylcyclopentane in the presence of aluminum bromide-hydrogen bromide. H. Pines, E. Aristoff and V. N. Ipatieff. Am Chem Soc J 72:4055-6 S '50

Isomerization of saturated hydrocarbons; the effect of oxygen and light upon the isomerization of methylcyclopentane in the presence of aluminum bromide. H. Pines, E. Aristoff and V. N. Ipatieff. Am Chem Soc J 72:4304 S '50

Kinetics of the photolysis of acetaldehyde; the determination of ethane and hydrogen in the reaction products by the use of a mass spectrometer. C. J. Danby, A. S. Buchanan and I. H. S. Henderson. Chem Soc J p 1426-30 Je '51

Mechanism of photolysis of acetaldehyde. P. D. Zemany and M. Burton. Am Chem Soc J 73:499-500 Ja '51

Mechanisms of chain termination in chlorine atom reactions. R. M. Noyes and L. Fowler. bibliog Am Chem Soc J 73:3043-5 Jl '51

Mercury photo-sensitized decomposition of methyl chloride. C. R. Masson and E. W. R. Steacie. bibliog J Chem Phys 19:183-9 F '51

Mercury ($^3P_1$) photo-sensitized decomposition of propane at high temperatures. S. Bywater and E. W. R. Steacie. bibliog J Chem Phys 19:319-25 Mr '51

Mercury ($^3P_1$) photo-sensitized reaction of ethane at high temperatures. S. Bywater and E. W. R. Steacie. J Chem Phys 19:326-9 Mr '51

Mercury ($^3P_1$) sensitized decomposition of normal and iso-butane at high temperatures. S. Bywater and E. W. R. Steacie. bibliog J Chem Phys 19:172-5 F '51

Photochemical decomposition of gaseous di-*t*-butyl peroxide. L. M. Dorfman and Z. W. Salsburg. bibliog Am Chem Soc J 73:255-7 Ja '51

Photochemical exchange reaction between tin(II) and tin(IV) in hydrochloric acid solution. R. P. Craig and N. Davidson. diag Am Chem Soc J 73:1951-4 My '51

Photochemical reactions between bromine and 1,2-dichloroethylene; the relation between addition and isomerization. J. A. A. Ketelaar and others. bibliog diag J Phys & Colloid Chem 55:987-1012 Je '51

Photochemical reaction between ozone and hydrogen peroxide. D. H. Volman. bibliog diag Am Chem Soc J 73:1018-22 Mr '51

Photochemical reactions in sunlight; photoreduction of phenylglyoxylic acid; photoreactions between aldehydes and *o*-quinones; reactions between *o*-quinones and ethylenes in the dark and in the light. A. Schönberg and others. Chem Soc J p 1364-8 My '51

Photochemical reactions of diazomethane with carbon tetrachloride and bromotrichloromethane. W. H. Urry and J. R. Eiszner. Am Chem Soc J 73:2977 Je '51

Photochemical reactions; photopolymerisation of coumarins and related substances; photoaddition and -reduction processes of aromatic ketones. A. Schönberg and others. Chem Soc J p374-9 Ja '50

Photochemical studies; propiolactone. R. H. Linnell and W. A. Noyes, jr. bibliog Am Chem Soc J 72:3863-5 S '50

Photochemical studies; pyridine and mixtures of acetone and pyridine. R. H. Linnell and W. A. Noyes, jr. bibliog Am Chem Soc J 73:3986-8 Ag '51

Photochemistry and structure of 9,9′-phenanthroin and *sym*-di-(9-phenanthryl)-ethylene. Y. Hirshberg and F. Bergmann. Am Chem Soc J 72:5118-20 N '50

Photochemistry of proteins; a contribution to the photochemistry of amino acids. I. Mandl and A. D. McLaren. bibliog Am Chem Soc J 73:1826-9 Ap '51

Photochemistry of proteins; the influence of reagents and conditions on the quantum yield for the inactivation-denaturation of chymotrypsin. A. D. McLaren and P. Finkelstein. bibliog Am Chem Soc J 72:5423-6 D '50

Photochlorination. M. Ritchie and W. I. H. Winning. Chem Soc J p3579-89 D '50

Photolysis of acetone; diffusion of methyl radicals from the light beam and the activation energy of hydrogen abstraction. A. J. C. Nicholson. bibliog Am Chem Soc J 73:3981-6 Ag '51

Photolysis of aliphatic aldehydes; acetaldehyde-*d*. F. E. Blacet and R. K. Brinton. bibliog Am Chem Soc J 72:4715-19 O '50

Photolysis of the aliphatic aldehydes. F. E. Blacet and J. G. Calvert. bibliog Am Chem Soc J 73:661-74 F '51

Reaction of methyl radicals with olefins; the reaction with tetrafluoroethylene and vinyl fluoride. F. A. Raal and C. J. Danby. Chem Soc J p 1596-9 Je '50

Reactions in sunlight of certain diketones with ethylenes and aromatic aldehydes; photopolymerisation of 9-anthraldehyde. A. Mustafa. Chem Soc J p 1034-7 Ap '51

Reactions of methyl radicals; abstraction of hydrogen atoms from olefins. A. F. Trotman-Dickenson and E. W. R. Steacie. bibliog J Chem Phys 19:169-71 F '51

Reactions of methyl radicals; abstraction of hydrogen atoms from paraffins. A. F. Trotman-Dickenson and others. J Chem Phys 19:163-8 F '51

Reactions of methyl radicals; the abstraction of hydrogen atoms from cyclic hydrocarbons, butynes, amines, alcohols, ethers, and ammonia. A. F. Trotman-Dickenson and E. W. R. Steacie. bibliog J Chem Phys 19:329-36 Mr '51

Reactions of the perfluoroalkyl radicals. J. Banus, H. J. Emeléus and R. N. Haszeldine. Chem Soc J p3041-5 N '50

Spectroscopic evidence for the sunlight conversion of *trans* to *cis*-benzalacetone. R. E. Lutz, C. R. Bauer and R. H. Jordan. Am Chem Soc J 72:4300-1 S '50

Studies in photochemistry and radiation chemistry of *i*-propylbenzene and *t*-butylbenzene. T. J. Sworski, R. R. Hentz and M. Burton. Am Chem Soc J 73:1998-2001 My '51

Studies in photochemistry and radiation chemistry of toluene, mesitylene and ethylbenzene. R. R. Hentz and M. Burton. bibliog Am Chem Soc J 73:532-6 F '51

Vapor phase photolysis of formaldehyde at wavelength 3130A. J. G. Calvert and E. W. R. Steacie. bibliog J Chem Phys 19:176-82 F '51

Wall effects in photochemically induced chain reactions. R. M. Noyes. bibliog Am Chem Soc J 73:3039-43 Jl '51

See also
Adsorption
Beer's law
Bleaching
Chlorophyl
Ionization, Gaseous
Photographic chemistry
Photosynthesis
Polymerization
Ultraviolet rays
X rays

PHOTOCONDUCTIVITY. See Electric conductivity

PHOTODISINTEGRATION. See Atoms—Disintegration

PHOTOELASTICITY

Analytical investigation of certain types of machine frames cut from steel plate, and experimental verification of some of the results by photo-elasticity. N. Sag. diags Inst Mech Eng Proc 163(W.E.P. no 62):311-16, pl 3-6; Discussion. 316-27 '50

PHOTOELASTICITY—*Continued*

Elementary photoelasticity experiment. R. T. Liddicoat. diags J Eng Educ 42:36-42 S '51

Loading machine provides for adjustment of photoelastic specimens. W. B. Stiles and A. White, jr. il Civil Eng 21:217 Ap '51

New equipment for photoelastic studies. il Product Eng 22:176 Ag '51

Photoelastic laboratory at the National physical laboratory. A. F. C. Brown and V. M. Hickson. il plan diag Engineering 171:701-4 Je 8 '51

Photoelastic stress analysis useful in design of metal parts. M. M. Leven. il diags Materials & Methods 33:70-3 Mr; 89-92 Ap '51

Photoelasticity; a powerful educational tool. E. Chapman. J Eng Educ 41:610-14 Je '51

Three-dimensional photoelastic stress analysis of a threaded drill pipe joint. W. F. Franz. il diags Pet Eng 23:B60-2+ F '51

Three-dimensional photoelasticity. R. C. O'Rourke. bibliog il diags J Ap Phys 22:872-8 Jl '51

Three-dimensional photoelasticity; new creeping method. A. J. Durelli and R. L. Lake. il diags Machine Design 22:122-5 D '50; Discussion. 23:208+ F '51

PHOTOELECTRIC cells

Germanium trigger photocells. F. A. Stahl. il diags Elec Eng 70:518-20 Je '51

Method of sealing sapphire to glass and its application to infra-red photocells. R. P. Chasmar and others. diag J Sci Instr 28:206-7 Jl '51

New uses for germanium photocells. il diag Product Eng 22:144 My '51

Photo-conductivity of thallous sulfide cells. A. W. Ewald. bibliog Phys R 81:607-11 F 15 '51

p-n Junction rectifier and photo-cell. W. J. Pietenpol. bibliog Phys R 82:120-1 Ap 1 '51

Rapid and sensitive spectrophotometry. B. Chance and V. Legallais. bibliog il diags R Sci Instr 22:619-38 Ag '51

Sb-Cs, $Ag\text{-}Cs_2O\text{-}Cs$ phototube characteristics. diag Electronics 24:126+ Ja '51

Use of image phototube as a high-speed camera shutter. A. W. Hogan. bibliog il diags Soc Motion Picture & Tv Eng J 56:635-41 Je '51

Control uses

Analyzer controls gas cleaning equipment at blast furnaces. diags Steel 129:90+ Ag 27 '51

Automatic sheet folding. Elec R (Lond) 148:1179 Je 8 '51

Automatic sheet-folding machine. R. C. Walker. il Electronics 24:138 Ag '51

Batch integrator. diag Electronics 24:178+ Ja '51

Broadcast tape speed control. D. R. Andrews il diags Electronics 24:120-3 Jl '51

Electric eye milling machine translates drawing to finished part. il Steel 128:86 My 28 '51

Electronic instruments and controls. K. Steiner and W. G. Carter. il diags Heating-Piping 23:96-9 Jl; 77-9 S '51

Electronic press guard. il diag Engineer 192:279-80 Ag 31 '51; Same. Metallurgia 44:151-2 S '51

GE photoelectric control levels ram on Verson press brake. il Am Mach 95:143 Ag 20 '51; Mach 58:200 S '51

New photoelectric register controls. G. M. Chute. il diags Electronics 24:92-7 My '51

New type of controlled wave shape generator. W. D. Williams and R. D. Robinson. il diags Gen Elec R 53:47-50 D '50

Photoelectric control circuits for the ion source of a pressure-type electrostatic generator. L. O. Herwig. diags R Sci Instr 22:668-72 S '51

Photoelectric controls for regulating schoolroom lighting. il Gen Elec R 54:50 Jl '51

Press guards. Automobile Eng 41:170 My '51

Seeing eye oil heating system. il Dom Eng 177:141+ Ap '51

Servo guider for solar telescopes. F. E. Fowler and D. S. Johnson. il diags Electronics 24:118-22 My '51

Web guiding control. S. E. Amos. il diags Machine Design 23:159-62 S '51

Industrial applications

Electric eye accurately locates work in riveting operations. H. L. Hubbard. il Mach 57:192-5 Jl '51

Electronic protection for war plants. R. Y. Atlee. il diag Electronics 24:96-101 Ag '51

From assembly to storage automatically; telephone sets segregated by electronic selectors; Western Electric's Indianapolis plant. il diag Factory Management 109:80-1 Mr '51

New electro-mechanical system provides fast access to punched card data file. J. H. Drillick. diags Product Eng 22:176-8 O '51

Photocell speeds testing of watthour meters. H. F. Robinson and W. H. Wickham. il Elec World 134:116+ N 6 '50

Photoelectric recorder speeds yarn testing. il Elec World 136:158 S 10 '51

Tire tread noise analyzer. S. A. Lippmann and K. A. Ferguson. il diags Electronics 23:84-7 N '50

Tracing devices in shape flame cutting. R. O. Fish. il diags Welding J 29:1059-64 D '50

Measurement uses

Automatic calibration of radiosonde baroswitches. S. S. Haynes. il diags Electronics 24:126-9 My '51

Averaged measurement of optical transmission. E. E. Miller. diags R Sci Instr 22:56-7 Ja '51

Engine indicating; C.A.V.-Ricardo photoelectric pressure and movement gauges. il diags Automobile Eng 41:341-3 S '51

Improved null-point variable aperture photoelectric absorptiometer. J. W. Nicholas. bibliog il diags Metallurgia 43:95-8 F '51

Industrial tristimulus color matcher. G. P. Bentley. diags Electronics 24:102-3 Ag '51

Instrumentation studies; photoelectric instruments for measurement of color; reflectance and transmittance; photovolt photoelectric reflection meter, Model 610. L. R. Dearth and others. bibliog il diag Tappi 33:sup85A-9A O '50

Instrumentation studies; study of photoelectric instruments for the measurement of color; reflectance and transmittance; Densichron as a reflection meter. L. R. Dearth and others. bibliog il Tappi 34:sup 126A-32A Ag '51

Instrumentation studies; study of photoelectric instruments for the measurement of color; reflectance and transmittance; Hunter color and color-difference meter. J. A. Van den Akker and others. bibliog il Tappi 34:sup 143A-58A S '51

Measuring muzzle velocity. diag Electronics 24:180+ Jl '51

Photo-cell type flow meter compensates for square root; patent. diags Pet Processing 5:1217 N '50

Photo-electric instrument for measuring tippiness in wool staples. H. Goot and R. E. Belin. bibliog diags Textile Inst J Trans 41:T455-65 D '50

Photoelectric measurement of dust and smoke density. J. E. Coolidge and G. J. Schulz. diags Instruments 24:534+ My '51

Photoelectric measurement of fluorescence spectra of highly colored liquids. J. L. Lauer and E. J. Rosenbaum. il diag Opt Soc Am J 41:450-3 Jl '51

Photoelectric polarimeter. D. H. Rank and others. bibliog diags R Sci Instr 27:270-1 O '50

Photoelectric recording interferometer for measurement of dimensional changes. R. N. Work. diags J Res Nat Bur Stand 47:80-6 Ag '51

Photoelectric setting device for a spectrum plate comparator. F. S. Tomkins and M. Fred. diags Opt Soc Am J 41:641-3 S '51

Photoelectronic method for evaluating steadiness of motion picture film images. R. W. Lavender. il diags Soc Motion Picture & Tv Eng J 57:124-30 Ag '51

Semi-automatic device for analyzing events in nuclear emulsions. M. Blau and others. il diags R Sci Instr 21:978-85 D '50

Thyratron-controlled photoelectric umpire; detects passage of baseball through strike zone and indicates speed of ball. R. F. Shea. il diags Electronics 23:74-7 D '50

PHOTOELECTRIC cells—Measurement uses—*Continued*

Use of a photo-tube to correlate contact separation with electrical transients. O. E. Berg and H. E. Stauss. il diag R Sci Instr 22:153-5 Mr '51

See also

Photometers, Photoelectric

Spectroradiometers

Multiplier tubes

Delayed coincidence circuit for scintillation counters. A. Lundby. diags R Sci Instr 22:324-7 My '51

Measurement of Faraday effect and Cotton-Mouton effect using transient magnetic fields and a photo-multiplier-type compensator. M. J. Walker and R. C. Raymond. il diags Opt Soc Am J 40:766-8 N '50

Multiplier photocell attachment for use with prism spectrographs. J. M. Naish. il diags J Sci Instr 28:138-40 My '51

New image-converter-type tubes for use with standard electron multiplier photocells. M. E. Amdursky and others. Opt Soc Am J 41:361-2 My '51

Scintillation counting with an EMI 5311 photomultiplier tube. J. S. Allen and T. C. Engelder. R Sci Instr 22:401-2 Je '51

Scintillation pulse sizes of solid noncrystalline-type phosphors. M. G. Schorr and E. C. Farmer. Phys R 81:891 Mr 1 '51

Scientific applications

Complex wave synthesizer; abstract. G. Ferrara and R. L. Nadeau. il Elec Eng 70:585 Jl '51

Electric analogue computer using the photo cells as nonlinear element; abstracts. E. C. Koenig. diag Elec Eng 69:1063 D '50; Electronics 23:124+ D '50

Phototube improves nuclear scintillation counter. il Product Eng 21:176 D '50

PHOTOELECTRIC constant

New evaluation of *h/e* by X-rays. J. A. Bearden and others. diag Phys R 81:70-2 Ja 1 '51

PHOTOELECTRIC effect

Angular correlation of photo-electrons ejected by annihilation quanta. F. L. Hereford. diags Phys R 81:482 F 1 '51

Directional distribution of photo-electrons ejected by polarized quanta. F. L. Hereford. bibliog Phys R 81:627-8 F 15 '51

Energy distribution of external photoelectrons from *F*-centers in RbI. L. Apker and E. Taft. bibliog diag Phys R 82:814-19 Je 15 '51

Enhanced photoelectric emission effect in barium oxide. B. D. McNary. bibliog Phys R 81:631-2 F 15 '51

Exciton-enhanced photoelectric emission from *F*-centers in RbI near 85° K. L. Apker and E. Taft. bibliog diags Phys R 81:698-701 Mr 1 '51

External photoelectrons from E′-centers in RbI. E. Taft and L. Apker. Phys R 83:479-80 Jl 15 '51

Mechanism of exciton-enhanced photoelectric emission in alkali halides. M. H. Hebb. Phys R 81:702-5 Mr 1 '51

New aspects of the photoelectric emission from Na and K. J. Dickey. bibliog diags Phys R 81:612-16 F 15 '51

Novel application for neon diodes. I. Gottlieb. diags Electronics 24:180+ Ja '51

Photoconductivity and photoelectric emission of barium oxide. H. B. DeVore and J. W. Dewdney. bibliog diags Phys R 83:805-11 Ag 15 '51

Photoelectric changes induced in SrO and BaO by ultraviolet irradiation. J. E. Dickey and E. A. Taft. Phys R 80:308 O 15 '50

Recovery of selenium rectifiers after a voltage pulse in the blocking direction. K. Lehovec. bibliog diags J Ap Phys 22:934-9 Jl '51

Surface photoelectric effect. M. J. Buckingham. bibliog diag Phys R 80:704-8 N 15 '50

PHOTOELECTRIC fluorometer. See Fluorometers

PHOTOELECTRIC photometers. See Photometers, Photoelectric

PHOTOELECTRICITY

See also

Photoelectric cells

PHOTO-ENGRAVERS' union of North America, International. See International photo-engravers' union of North America

PHOTOENGRAVING

Wild light seen as engraver's foe. D. C. Donaldson. Ed & Pub 84:52 F 10 '51

PHOTOGEOLOGY (term)

Photogeologic study in Kent county, Tex. C. De Blieux; G. F. Shepherd. il maps Oil & Gas J 50:86+ Jl 12 '51

Techniques in photogeology. L. Desjardins. bibliog il map diags Am Assn Pet Geologists Bul 34:2284-317 D '50

PHOTOGRAMMETRY. See Photographic surveying

PHOTOGRAPHIC association, Biological. See Biological photographic association

PHOTOGRAPHIC chemicals

Bulk for bullets; SAT photographic fixer. Chem Ind W 68:12 F 3 '51

Standards

Use of American standards in federal specifications. F. S. Schmitt. il Standardization 21:312-14+ D '50

PHOTOGRAPHIC chemistry

Chromatographic technique used in photographic process studies. Chem & Eng N 29:1501 Ap 16 '51

See also

Photographic emulsions

PHOTOGRAPHIC emulsions

Activation of photographic emulsions by ultrasonic waves. G. S. Bennett. bibliog il Acoustical Soc Am J 23:478-80 Jl '51

Alpha-particle range-energy curve for Kodak NTA emulsions. F. E. Steigert and others. bibliog Phys R 83:474 Jl 15 '51

Analysis of high energy proton spectra by means of a stack of photographic plates. D. Walker. R Sci Instr 22:607-11 Ag '51

Autoradiography as a science project. W. S. Huber. bibliog il J Chem Educ 28:226-9 Ap '51

Capture and decay of mesons in photographic emulsions. W. F. Fry. bibliog il Phys R 83:594-7 Ag 1 '51

Cascade processes recorded in an emulsion chamber exposed in the stratosphere. H. Yagoda. diags Phys R 80:753-4 N 15 '50

Cosmic-ray nucleon-nucleon collisions in photographic emulsions. E. Pickup and L. Voyvodic. Phys R 82:265 Ap 15 '51

Densitometer which records directly in units of emulsion exposure. W. N. Brown, jr. and W. B. Birtley. il diags R Sci Instr 22:67-72 F '51

Diffusion of thoron atoms through photographic gelatin. G. G. Eichholz and F. C. Flack. bibliog il J Chem Phys 19:363-6 Mr '51

Double development of nuclear emulsions. Č. Jech. il Phys R 80:759-60 N 15 '50

Effect of gradual light absorption in a film of non-negligible thickness. L. Silberstein. diags Franklin Inst J 252:33-42 Jl '51

Emulsion studies of cosmic-ray stars produced in metal foils. I. Barbour. Phys R 82:280-1 Ap 15 '51

Energy transfer in the photo-sensitization of silver halide photographic emulsions; optical sensitization, supersensitization, and antisensitization. W. West and B. H. Carroll. bibliog J Chem Phys 19:417-27 Ap '51

Eradication of unwanted electron tracks in electron-sensitive nuclear emulsions without loss of sensitivity. G. Albouy and H. Faraggi. bibliog il R Sci Instr 22:532-3 Jl '51

Goodness of fit and the distribution of particle sizes. F. Kottler. bibliog Franklin Inst J 251:499-514, 617-41 My-Je '51

High energy cosmic-ray showers in nuclear emulsions. L. S. Osborne. bibliog Phys R 81:239-44 Ja 15 '51

Latent image fading in nuclear emulsions. A. Beiser. bibliog Phys R 81:153 Ja 1 '51

Macroscopic sensitometry, opacity and photographic density, specular and diffuse. L. Silberstein. Franklin Inst J 251:359-83 Mr '51

Multiple coulomb scattering of high energy protons in photographic emulsions. M. J. Berger and others. Phys R 83:850 Ag 15 '51

Multiple scattering of electron pairs from (Li,*p*) gamma-rays in photographic emulsions. L. Voyvodic and E. Pickup. bibliog Phys R 81:471-2 F 1 '51

PHOTOGRAPHIC emulsions—*Continued*

Multiple scattering of fast particles in photographic emulsions. L. Voyvodic and E. Pickup. bibliog Phys R 81:890 Mr 1 '51

Nuclear emulsion scanning mechanism. A. V. Masket and L. B. Williams. il diags R Sci Instr 22:113-14 F '51

Nuclear multiple plate camera. J. C. Allred and others. il diag R Sci Instr 22:191-4 Mr '51

Oxidation-reduction theory of latent image formation; abstract. W. G. Lowe. Science 113:479-80 Ap 27 '51

Particle-size determination in radioactive aerosols by radioautograph. J. A. Leary. il Anal Chem 23:850-3 Je '51

Paucity of quanta rendering a silver halide grain developable; uniqueness of quantic representation of a simple sensitometric curve. L. Silberstein. Franklin Inst J 251: 263-8 F '51

Photo-disintegration of the deuteron by lithium and fluorine γ-rays. P. V. C. Hough. bibliog diags Phys R 80:1069-75 D 15 '50

Photographic emulsions used to identify alpha isotopes; abstract. H. Yagoda. Chem & Eng N 29:1005 Mr 12 '51

Photographic film dosimeter. Franklin Inst J 252:345-7 O '51

Photographic sharpness and resolving power; the resolving-power cameras in the Kodak research laboratory. F. H. Perrin and J. H. Altman. bibliog il diag Opt Soc Am J 41:265-72 Ap '51

Photographic study of the $\pi^+ \rightarrow \mu^+ \rightarrow \beta^+$ decay process and the energy spectrum of the β^+. H. Bramson and W. H. Havens, jr. bibliog il Phys R 83:861-2 Ag 15 '51

Photography of atomic particles. il Chem Age (Lond) 63:676-8 N 11 '50

Photography of high altitude aerial objects from the ground. C. N. Nelson and D. H. Hamsher. Opt Soc Am J 40:863-77 D '50

Photonuclear stars in emulsions. R. D. Miller. bibliog Phys R 82:260-1 Ap 15 '51

Proton range-energy relation for Eastman NTA emulsions. H. T. Richards and others. bibliog Phys R 83:994-5 S 1 '51

Q-values for (α,p) reactions on aluminum and boron by means of photographic emulsions. H. Slätis and others. diags Phys R 81:641-2 F 15 '51

Semi-automatic device for analyzing events in nuclear emulsions. M. Blau and others. il diags R Sci Instr 21:978-85 D '50

Sensitivity of photographic grains to electrons. D. Okrent and A. K. Solomon. bibliog diag Phys R 83:826-33 Ag 15 '51

Slide rule for nuclear emulsion calculations. A. Beiser. diag R Sci Instr 21:933-4 N '50

Stars in photographic emulsions initiated by protons. L. S. Germain. Phys R 82:596-7 Je 1 '51

Stars produced in nuclear emulsions by carbon ions from the cyclotron. J. F. Miller. bibliog il Phys R 83:1261-2 S 15 '51

Superposition or mixture of simple quantic characteristic curves of photographic emulsion layers; the corresponding relative contrast. L. Silberstein. Franklin Inst J 252: 309-25 O '51

Synthetic color-forming binders for photographic emulsions. A. B. Jennings and others. bibliog il diag Soc Motion Picture & Tv Eng J 55:455-76 N '50

Three-line method of obtaining characteristic curves for heterochromous photometry. M. Green. Opt Soc Am J 40:842-4 D '50

Ultrasonography. P. J. Ernst. bibliog il Acoustical Soc Am J 23:80-3 Ja '51

Varying nuclear emulsion sensitivity with altitude. A. Beiser. R Sci Instr 21:1025-6 D '50

PHOTOGRAPHIC filters. See Light filters

PHOTOGRAPHIC lenses. See Lenses, Photographic

PHOTOGRAPHIC optics

Effect of gradual light absorption in a film of non-negligible thickness. L. Silberstein. diags Franklin Inst J 252:33-42 Jl '51

Macroscopic sensitometry, opacity and photographic density, specular and diffuse. L. Silberstein. Franklin Inst J 251:359-83 Mr '51

Mechanism of optical sensitization; abstract. B. H. Carroll and W. West. Science 113: 480 Ap 27 '51

Photographic granularity and graininess; a microphotometer for the measurement of granularity. L. A. Jones and G. C. Higgins. il diag Opt Soc Am J 41:192-200 Mr '51

Photographic granularity and graininess; a variable-magnification instrument for measuring graininess. L. A. Jones and G. C. Higgins. il diags Opt Soc Am J 41:41-52, 64-75 Ja-F '51

See also

Lenses, Photographic

PHOTOGRAPHIC records

Photographic reproduction of laboratory records directly on printing paper. J. L. Nickerson and V. V. Glaviano. il Science 113:334 Mr 23 '51

See also

Microfilm records

PHOTOGRAPHIC reproduction and projection

Optical layout system adopted at Götaverken. il diag Marine Eng 56:65-6 Je '51

PHOTOGRAPHIC supplies industry

Developments in various countries. For Comm W 42:30+ F 19; 19 F 26; 21-2 Mr 5; 24 Mr 19; 43:24 Ap 9; 22-4 My 14; 20-1 My 21; 21-2 My 28; 20 Je 18; 44:19-21 Jl 2; 45: 20 O 1 '51

FR's improvements; refinements in packaging of well-designed photo-supply family. il Mod Packaging 24:96-7 Ag '51

Summary of United States imports of photographic goods, first six months, 1950 and 1951; table. For Comm W 45:20 O 8 '51

Advertising

How newspaper ads built Peerless Camera. R. B. McIntyre. Ed & Pub 84:18 S 15 '51

PHOTOGRAPHIC surveying

Photogrammetry and photo interpretation in geology curricula. B. A. Tator. Am Assn Pet Geologists Bul 34:2351-6 D '50

Photogrammetry locates 208 miles of Pennsylvania Turnpike extensions. F. J. Williams. il plan Civil Eng 20:761-3 D '50

Techniques in photogeology. L. Desjardins. bibliog il map diags Am Assn Pet Geologists Bul 34:2284-317 D '50

See also

Mapping, Aerial
Surveying, Aerial

PHOTOGRAPHS

See also

News photographs
Picture collections
War photographs

PHOTOGRAPHY

Energy transfer in the photo-sensitization of silver halide photographic emulsions; optical sensitization, supersensitization, and antisensitization. W. West and B. H. Carroll. bibliog J Chem Phys 19:417-27 Ap '51

Influence of plastic flow on the electrical and photographic properties of the alkali halide crystals. F. Seitz. bibliog Phys R 80:239-43 O 15 '50

Photography of high altitude aerial objects from the ground. C. N. Nelson and D. H. Hamsher. Opt Soc Am J 40:863-77 D '50

Tone rendition in photography. W. T. Wintringham. Inst Radio Eng Proc 38:1284-7 N '50

See also

Cameras
Color photography
Microfilms
Moving picture photography
Photographic surveying
Photomicrography
Radiography
Shadowgrams
Slide films
Spectrography

Apparatus and supplies

Air conditioning cuts losses in photo supplies. il Heat & Ven 48:90 Jl '51

Cameras for connoisseurs; Busch Verascope and equipment. il Mod Packaging 24:96-7 Je '51

Densitometer which records directly in units of emulsion exposure. W. N. Brown, jr. and W. B. Birtley. il diags R Sci Instr 22: 67-72 F '51

Light meter for that darkroom. S. Becker. il diag Radio & Tv N 46:60-1 Ag '51

Macro-photographic apparatus. J Sci Instr 28:156 My '51

PHOTOGRAPHY—Apparatus and supplies—*Continued*

Synchronized high voltage pulse generator. C. F. Johnson. diag R Sci Instr 22:541 Jl '51; Abstract. Electronics 24:164+ O '51

See also

Densitometers

Huggins masks

Photography—Films

Developing and developers

Chemical constitution, electrochemical, photographic and allergenic properties of *p*-amino-N-dialkylanilines. R. L. Bent and others. bibliog il Am Chem Soc J 73:3100-25 Jl '51

Cooling and film drying system for a developing machine. J. E. Schechter and G. Marcus. diags Heat & Ven 48:72-3 S '51

Developer activity of di- and trihydroxybenzoic acids. T. H. James. bibliog J Phys & Colloid Chem 55:563-9 Ap '51

High-temperature film processing; its effect on quality. R. Hodgson and J. Hammer. il Soc Motion Picture & Tv Eng J 56:261-3; Discussion. 275-9 Mr '51

New method eliminates water for processing. J. L. Collings. Ed & Pub 84:51 Je 23 '51

Rating

Developing and developers. Consumers Res Bul 27:13-15 F '51

Exposure

American standard photographic exposure computer. il Consumers Res Bul 27:25 Ap '51

Intermediate intensity reciprocity-law failure at and near the optimum in photographic exposure. S. Fujisawa and E. Mizuki. bibliog Opt Soc Am J 41:560-1 Ag '51

Films

Ansco's triple threat; new three-roll film package. il Mod Packaging 24:88-9 Jl '51

See also

Moving picture films

High speed

Camera design based on slit principle; Beckman & Whitley slit type camera. il diags Machine Design 22:120-1 N '50

High-speed photography of underwater explosions. P. M. Fye. bibliog il diags Soc Motion Picture & Tv Eng J 55:414-24 O '50

Iconoscope electro-optical shutter for high-speed photography. H. A. Prime and R. C. Turnock. bibliog il diag Inst E E Proc 97 pt 2:793-6 D '50

Microsecond photography. il diag Tech R 53:138-9 Ja '51

Use of image converter tube for high-speed shutter action. A. W. Hogan. il diags Inst Radio Eng Proc 39:268-70 Mr '51

Use of image phototube as a high-speed camera shutter. A. W. Hogan. bibliog il diags Soc Motion Picture & Tv Eng J 56:635-41 Je '51

Versatility feature of new camera; 35-mm. unit for flight testing. diag Aviation W 54:48-9 Ja 15 '51

See also

Moving picture photography—High speed

Bibliography

Bibliography on high-speed photography; including Schlieren and cathode-ray oscillograph photography. Soc Motion Picture & Tv Eng J 56:93-111 Ja '51

Industrial applications

Camera; a useful foundry tool. B. Melnitsky. il Foundry 78:108-13+ N '50

Camera frames low-level flight data. il Aviation W 54:25 Ja 1 '51

Cameras aid in flight testing. il diag Aviation W 54:26 Ja 8 '51

Focusing on safety; photographic style; cameras help safety men keep records at Davis Chemical. A. B. Pettit. il Mill & Factory 47:92-4 D '50

Magic lantern lofting cuts shipbuilding time; Swedish method. Bsns W p72 Ja 20 '51

Photograph the what-you-may-call-it; simple system of parts identification. E. K. Langille. il Mill & Factory 49:128 S '51

Photographic standards for dirt control. W. F. Cyrus. Tappi 34:335-6 Jl '51

Progress photos aid in construction and equipping of new plant of Electric storage battery co. il Factory Management 109:84-5 F '51

See also

Moving picture photography—Industrial applications

Latent image

Latent image fading in nuclear emulsions. A. Beiser. bibliog Phys R 81:153 Ja 1 '51

Lighting

Bouncing your lighting creates natural effects. J. L. Collings. Ed & Pub 84:28 Mr 3 '51

Use of exploding wires as a light source of very high intensity and short duration. W. M. Conn. bibliog il diag Opt Soc Am J 41:445-9 Jl '51

See also

Electric lamps, Photoflash

Photography, Flashlight

Scientific applications

Deterioration and breakdown of dielectrics resulting from internal discharges. J. H. Mason. bibliog il diags Inst E E Proc 98 pt 1:44-59 Ja '51

New cameras developed by CAA for studying aeronautical problems. CAA J 11:134 D 15 '50

Photo radiation patterns. G. W. Goebel. il diags Electronics 24:89 My '51

Photographic method for displaying sound wave and microwave space patterns. W. E. Kock and F. K. Harvey. il diag Bell System Tech J 30:564-87 Jl '51

Photographic study of surface-boiling heat transfer to water with forced convection. F. C. Gunther. il diags A S M E Trans 73:115-23 F '51

Photography in electrophoresis of hemolyzed sera. G. Kegeles and F. J. Gutter. il Am Chem Soc J 73:3539-40 Jl '51

Photography in the service of the scientist. H. Baines. il diags Chem & Ind p 136-41 F 24 '51

Photography of atomic particles. il Chem Age (Lond) 63:676-8 N 11 '50

Simultaneous photography of self-luminous and non-self-luminous effects. J. S. Rinehart. il diag R Sci Instr 21:939-40 N '50

See also

Biological photographic association

Moving picture photography—Scientific applications

Sensitometry

Current problems in the sensitometry of color materials and processes. F. C. Williams. il Soc Motion Picture & Tv Eng J 56:1-12 Ja '51

Macroscopic sensitometry, opacity and photographic density, specular and diffuse. L. Silberstein. Franklin Inst J 251:359-83 Mr '51

Paucity of quanta rendering a silver halide grain developable; uniqueness of quantic representation of a simple sensitometric curve. L. Silberstein. Franklin Inst J 251:263-8 F '51

Superposition or mixture of simple quantic characteristic curves of photographic emulsion layers; the corresponding relative contrast. L. Silberstein. Franklin Inst J 252:309-25 O '51

Study and teaching

Army's photo school gives full treatment. J. L. Collings. Ed & Pub 84:48 F 17 '51

PHOTOGRAPHY, Aerial

Aerial stockpile inventory cuts costs 25 percent. E. F. Sheehan. il map Civil Eng 21:157 Mr '51

Air mapping of coal piles saves cash. il map Power 95:107 Ja '51; Am Gas J 174:35-6 Ja '51; Eng & Min J 152:107 Ja '51; Gas Age 107:30+ Ja 18 '51

Aircraft camera mounts; their design and testing. P. D. Carman and R. A. F. Carruthers. diag Opt Soc Am J 41:311-14 My '51

Brightnesses of fine detail in air photography. P. D. Carman and R. A. F. Carruthers. il Opt Soc Am J 41:305-10 My '51

PHOTOGRAPHY, Aerial—*Continued*
Camera sees like moving eye; rotating prism feature of Perkin-Elmer's panoramic camera. il diag Aviation W 54:32+ Mr 26 '51
Fuel stockpiles inventoried by air at saving of 25 per cent, using modern three dimension aerial photography; Philadelphia electric co. E. A. Schuch. il map diag Elec World 134:88-90 D 18 '50
Lost cities of Peru. R. P. Schaedel. il plan Sci Am 185:18-23 Ag '51
Magic in photographs. Comp Air Mag 55:252 N '50
Panoramic camera has electronic controls. il diags Product Eng 22:124-6 Je '51
Photo interpretation of the terrain along the southern part of the Alaska highway. H. M. Raup and C. S. Denny. il U S Geol S Bul 963-D:95-135, pl 9-16[in pocket]; pa 55c Supt. of doc. '50
Photoangulator fixes the slant. il Aviation W 55:43 Ag 27 '51; Franklin Inst J 252:370-1 O '51
Recording camera withstands high G. Aviation W 54:41-2 Mr 12 '51
See also
Mapping, Aerial
Surveying, Aerial

PHOTOGRAPHY, Astronomical. See Astronomical photography

PHOTOGRAPHY, Ballistic. See Photography of projectiles

PHOTOGRAPHY, Flashlight
Infrared photography with electric-flash. F. E. Barstow. bibliog il diag Soc Motion Picture & Tv Eng J 55:485-95 N '50
New flash illumination unit for ballistic photography. H. F. Quinn and O. J. Bourque. bibliog il diags R Sci Instr 22:101-5 F '51
See also
Electric lamps, Photoflash

PHOTOGRAPHY, High speed. See Photography—High speed

PHOTOGRAPHY, Infrared
Infrared photography with electric-flash. F. E. Barstow. bibliog il diag Soc Motion Picture & Tv Eng J 55:485-95 N '50

PHOTOGRAPHY, Journalistic
Ingenious darkroom set up for train trip; Wichita Chamber of commerce trade trip. J. L. Collings. Ed & Pub 84:44 Jl 7 '51
N.Y. Times man outlines points on printing. M. A. Castellano. Ed & Pub 84:50 Ja 27 '51
Newsday's Hathway plays pictures big. J. L. Collings. Ed & Pub 84:54 Je 9 '51
Rx for sick pix. J. W. Lemen. Ed & Pub 84:42 Ap 7 '51

Study and teaching

Britannica offers dollar aid for three NPPA courses. J. L. Collings. Ed & Pub 84:44 Je 30 '51
Six suggest subjects for short courses. J. L. Collings. Ed & Pub 84:36 Jl 21 '51
Survey shows need for photo training. D. Bentel. Ed & Pub 84:40 Je 30 '51

PHOTOGRAPHY, Medical
See also
Biological photographic association

PHOTOGRAPHY, Military
Jap lenses superior, Korea photog finds. J. L. Collings. Ed & Pub 84:36 Jl 14 '51
See also
War photographs

PHOTOGRAPHY, Naval
Origins of American naval photography. N. T. Kirk. il U S Naval Inst Proc 77:638-53 Je '51

PHOTOGRAPHY, Night
Photographic representation of street lighting. il diag Illum Eng 46:104-8 F '51

PHOTOGRAPHY, Streak
Simultaneous photography of self-luminous and non-self-luminous effects. J. S. Rinehart. il diag R Sci Instr 21:939-40 N '50

PHOTOGRAPHY, Submarine
High-speed photography of underwater explosions. P. M. Fye. bibliog il diags Soc Motion Picture & Tv Eng J 55:414-24 O '50; Abstract. Mech Eng 73:26 Ja '51
Underwater photography. A. Ivanoff. il diags Opt Soc Am J 41:645-6 S '51
Wide-angle, underwater camera lens. E. M. Thorndike. il diag Opt Soc Am J 40:823-4 D '50
See also
Moving picture photography, Submarine

PHOTOGRAPHY in industry
Faces, by Karsh, peddle publicity photographs of Atlas Steel's workers. Bsns W p44-5 O 21 '50; Ind Marketing 36:50 Ja '51
Idea far removed from shoes; Health spot shoe co. R. Conover. il Sales Management 66:58+ Ja 1 '51
See also
Lantern slides

PHOTOGRAPHY of explosions
High-speed photography of underwater explosions. P. M. Fye. bibliog il diags Soc Motion Picture & Tv Eng J 55:414-24 O '50; Abstract. Mech Eng 73:26 Ja '51
Kerr cell photography of high speed phenomena. E. M. Pugh and others. il diag J Ap Phys 22:487-93 Ap '51

PHOTOGRAPHY of projectiles
High-speed photography of reflection-lighted objects in transonic wind tunnel testing. E. R. Hinz and others. il diags Soc Motion Picture & Tv Eng J 55:613-26 D '50
Kerr cell photography of high speed phenomena. E. M. Pugh and others. il diag J Ap Phys 22:487-93 Ap '51
New flash illumination units for ballistic photography. H. F. Quinn and O. J. Bourque. bibliog il diags R Sci Instr 22:101-5 F '51

PHOTOGRAPHY of sound
Activation of photographic emulsions by ultrasonic waves. G. S. Bennett. bibliog il Acoustical Soc Am J 23:478-80 Jl '51
Photographic method for displaying sound wave and microwave space patterns. W. E. Kock and F. K. Harvey. il diag Bell System Tech J 30:564-87 Jl '51
Ultrasonography. P. J. Ernst. bibliog il Acoustical Soc Am J 23:80-3 Ja '51

PHOTOGRAPHY of wells
Photographing water wells. C. Laval, jr. il Am Water Works Assn J 43:378-82 My '51

PHOTOGRAPHY on ceramics
New process yields photos on ceramics. A. E. Charlton. il diag Cer Ind 56:127+ Ap '51

PHOTOGRAPHY on metals
Photographic reproductions on aluminum; Aluphoto process. il Product Eng 22:163 Jl '51

PHOTO-LITHOGRAPHERS, National association of. See National association of photolithographers

PHOTOLYSIS. See Photochemistry

PHOTOMECHANICAL processes
Selecting printmaking equipment. G. Moody. il Product Eng 22:137-9 Ap '51
Simplified reproduction of drawings for small lab or home shop; Autopositive process. W. S. Rogers. il diag Radio & Tv N 45:44+ F '51
See also
Photoengraving
Rotogravure
Xerography

PHOTOMETERS
Accuracy of polarization photometers. W. H. Steel. bibliog diags Opt Soc Am J 41:223-8 Ap '51
Automatically-recording photometer for the measurement of scattered light. E. P. Clancy and J. T. Fitzgerald. R Sci Instr 22:213-14 Mr '51
Designs of photometer units for infrared spectrographs. R. A. Oetjen and L. C. Roess. diags Opt Soc Am J 41:203-8 Mr '51
Determination of sodium and potassium in lithium metal by flame photometer. W. R. Inman, R. A. Rogers and J. A. Fournier. bibliog Anal Chem 23:482-3 Mr '51
Flame-photometer determination of sodium and potassium in soils and other siliceous materials. W. J. Halstead and B. Chaiken. bibliog Pub Roads 26:99-104+ D '50
Flame photometer techniques; determining typical additives in petroleum oils. A. L. Conrad and W. C. Johnson. bibliog Anal Chem 22:1530-3 D '50
Improved slit for a projection microphotometer. J. H. Altman. il Opt Soc Am J 41:56-7 Ja '51

PHOTOMETERS—*Continued*

Instrument for internal standard flame photometry; application to determination of calcium in rare earths. R. H. Heidel and V. A. Fassel. bibliog diags Anal Chem 23:784-8 My '51

Integrating flame photometer for small quantities. J. A. Ramsay and others. bibliog diags J Sci Instr 28:75-80 Mr '51

Method of keeping the luminance of a lamp constant without the use of an electric meter. R. W. G. Hunt. diag J Sci Instr 28:180-1 Je '51

Microphotometric area determinator. H. Walker, jr. and Q. Van Winkle. il R Sci Instr 22:604-6 Ag '51

New photometric device. J. E. Tyler. diags Opt Soc Am J 40:693-4 O '50

Photographic granularity and graininess; a microphotometer for the measurement of granularity. L. A. Jones and G. C. Higgins. il diag Opt Soc Am J 41:192-200 Mr '51

Photometric separator for precision visual spectrophotometry. J. Terrien and F. Desvignes. il diags Opt Soc Am J 40:845-8 D '50

Simple automatic recording microphotometer. R. M. Fisher and D. S. Miller. diag R Sci Instr 21:938-9 N '50

Stable internal standard flame photometer for potassium and sodium analyses. C. L. Fox, jr. bibliog il diags Anal Chem 23:137-42 Ja '51

Symposium sheds light on use of flame photometer. Chem & Eng N 29:2824+ Jl 9 '51

See also

Goniophotometers

Reflectometers

Spectrophotometers

PHOTOMETERS, Photoelectric

Combination of wool with acid dyes; an automatic photometer for the measurement of rates of dyeing. N. H. Chamberlain and G. H. Lister. il diags Soc Dyers & Col J 67:176-87 My '51

Direct-reading light flux meter; will measure total lumens output of the projector and light distribution over the screen. G. Gagliardi and A. T. Williams. il Soc Motion Picture & Tv Eng J 57:28-30; Discussion. 31-2 Jl '51

Illumination recorder. A. H. Taylor and W. G. Pracejus. il diags Illum Eng 46:310-13 Je '51

Instrument quickly and accurately measures color; tristimulus photometer. il Product Eng 22:170 F '51

Measurement of light and colour. G. T. Winch. il diags Inst E E Proc 96 pt 2:452-66 bibliog(52 titles, p464-6) Je '49; Discussion. 96 pt 2:466-70; 97 pt 2:821-6 Je '49, D '50

New electronic device facilitates color measurement. G. C. Sziklai. Franklin Inst J 251:207-8 Ja '51

Photoelectric light-scattering photometer for determining high molecular weights. B. A. Brice and others. bibliog il diags Opt Soc Am J 40:768-78 N '50

Recording chlorine analyzer. J. F. Arbogast and R. H. Osborn. bibliog flow diag il diags Anal Chem 23:950-3 Jl '51

Recording daylight illuminometer. N. B. Foster. il diag Illum Eng 46:59-62 F '51

Series-aiding phototube bridge. L. G. Glasser. Science 114:360-1 O 5 '51

Simple daylighting survey technique. R. W. McKinley. bibliog diags Illum Eng 46:172-4 Ap '51

Tristimulus photometer. G. C. Sziklai. il diag Opt Soc Am J 41:321-3 My '51

PHOTOMETRY

ASTM symposium on flame photometry, Atlantic City. Anal Chem 23:1053-4 Jl '51

Balance indicator with high input impedance using a cathode follower. D. T. R. Dighton. diag J Sci Instr 28:101-2 Ap '51

I.E.S. guide for outdoor illumination tests. bibliog il plans Illum Eng 46:425-30 Ag '51

I.E.S. guide for the photometric testing of floodlights of 10 to 160 degrees total beam spread. bibliog Illum Eng 46:163-8 Mr '51

Illumination recorder. A. H. Taylor and W. G. Pracejus. il diags Illum Eng 46:310-13 Je '51

More precise method of computing zonal lumens. D. A. Toenjes. diag Illum Eng 46:335-7 Jl '51

Photometric and electrical units established by law. Opt Soc Am J 40:663 O '50

Photometry. M. H. Gabriel and others. il diags Gen Elec R 54:30-7 S; 23-9 O '51

Quantitative determination of sugars on filter paper chromatograms by direct photometry. E. F. McFarren, K. Brand and H. R. Rutkowski. bibliog Anal Chem 23:1146-9 Ag '51

Three-line method of obtaining characteristic curves for heterochromous photometry. M. Green. Opt Soc Am J 40:842-4 D '50

See also

Brightness

Reflection (optics)

Standards

Electrical and photometric units redefined by Congress. Standardization 21:286 N '50; Elec Eng 69:1042-3 N '50

PHOTOMICROGRAPHY

Approach to the microscopy of molecules. M. S. Blois, jr. il Science 114:175-7 Ag 17 '51

PHOTONEPHELOMETER

Photo-nephelometer spotlights impurities in serums and beverages. Franklin Inst J 252:279-80 S '51

PHOTONEUTRONS. See Neutrons

PHOTONS

Absorption of 280-Mev photons. J. W. DeWire and others. bibliog plan diags Phys R 83:505-9 Ag 1 '51

Angular distribution of photons in showers in lead. J. W. Rose. diag Phys R 82:747-8 Je 1 '51

Cloud-chamber study of nuclear interactions in lead and aluminum. B. P. Gregory and J. H. Tinlot. bibliog il diags Phys R 81:675-82 Mr 1 '51

Contribution of the Pauli moment to π-meson production by photons. M. F. Kaplon. bibliog Phys R 83:712-15 Ag 15 '51

Distribution of recoil nucleus in pair production by photons. R. Jost and others. bibliog Phys R 80:189-96 O 15 '50

Effective photon energies of high energy photo-nuclear reactions. L. Eyges. Phys R 81:981-7 Mr 15 '51

Experimental evidence for the three-photon annihilation of an electron-positron pair. J. A. Rich. bibliog Phys R 81:140-1 Ja 1 '51

Gamma-neutron cross sections. H. E. Johns and others. bibliog diag Phys R 80:1062-8 D 15 '50

High energy bremsstrahlung and pair production. J. W. DeWire and L. A. Beach. Phys R 83:476-7 Jl 15 '51

High energy photo-nuclear reactions. K. Strauch. diags Phys R 81:973-81 Mr 15 '51

Photo-activation of bismuth. N. Sugarman and R. Peters. Phys R 81:951-2 Mr 15 '51

Photo-mesons from carbon. J. M. Peterson and others. diags Phys R 81:1003-11 Mr 15 '51

Photo-production of neutral mesons in nuclear electric fields and the mean life of the neutral meson. H. Primakoff. bibliog Phys R 81:899 Mr 1 '51

Production of mesons by photons on nuclei. M. Lax and H. Feshbach. Phys R 81:189-96 Ja 15 '51

Production of positive mesons by photons on hydrogen. A. S. Bishop and others. Phys R 80:291 O 15 '50

Properties of (γ,n) cross sections. L. Marshall. bibliog Phys R 83:345-8 Jl 15 '51

Quantum electrodynamics with nonvanishing photon mass. F. Coester. Phys R 83:798-800 Ag 15 '51

Soft photon emission in radiation processes. H. Primakoff and F. Villars. bibliog Phys R 83:686 Ag 1 '51

Ultraviolet photon counting with an electron multiplier. A. H. Morrish and others. bibliog R Sci Instr 21:884-5 O '50

PHOTOPERIODISM

Analysis of the responses of plants to the length of day; abstract. J. Bonner. Science 113:475 Ap 27 '51

Light and agriculture. J. P. Ditchman. il diags Illum Eng 46:276-9 Je '51

PHOTOPLASTICITY (term). See Deformation (mechanics)

PHOTOREDUCTION. See Reduction, Chemical

PHOTOSENSITIVE glass. See Glass, Photosensitive

PHOTOSYNTHESIS
- Averaged measurement of optical transmission. E. E. Miller. diags R Sci Instr 22:56-7 Ja '51
- Identification of ribulose in $C^{14}O_2$ photosynthesis products. A. A. Benson. Am Chem Soc J 73:2971-2 Je '51
- Light on photosynthesis. Chem W 69:19 Ag 25 '51
- Path of carbon in photosynthesis; photosynthesis, photoreduction and the hydrogen-oxygen-carbon dioxide dark reaction. E. J. Badin and M. Calvin. bibliog Am Chem Soc J 72:5266-70 N '50
- Path of oxygen in photosynthesis. G. D. Dorough and M. Calvin. diags Am Chem Soc J 73:2362-5 My '51
- Phosphoglyceric acid in photosynthesis. E. W. Fager and J. L. Rosenberg. bibliog Science 112:617-18 N 24 '50
- Photosynthesis without cells. Sci Am 185: 52+ S '51
- Sedoheptulose in photosynthesis by plants. A. A. Benson, J. A. Bassham and M. Calvin. Am Chem Soc J 73:2970 Je '51

PHOTOTELEGRAPHY
- Portable picture transmitter. il Engineering 171:303 Mr 9 '51

PHOTOTYPESETTING machines
- Composing machine employs photographic principle; Fotosetter. il diag Machine Design 23:122-3 Ja '51
- Dick buys Lithomat. Bsns W p20 O 21 '50
- Graphic show spots new equipment trends. il Ind Marketing 35:140 O '50
- Lumitype makeup device in works. Ed & Pub 84:74 My 12 '51
- Mergenthaler linofilm at Graphic arts exhibit. il Inland Ptr 126:83-4 O '50

PHTHALATES
- Alkyl-oxygen fission in carboxylic esters; esters of *p*-methylthio- and *p*-methylsulphonyl-diphenylcarbinols. M. P. Balfe, R. E. Dabby and J. Kenyon. Chem Soc J p382-5 F '51
- Alkyl-oxygen fission in carboxylic esters; hydrolysis of methyl-β-naphthylcarbinyl hydrogen phthalate. M. P. Balfe, J. Kenyon and C. E. Searle. Chem Soc J p380-1 F '51
- Alkyl-oxygen fission in carboxylic esters; methyl-2-thienylcarbinol. I. G. Anderson, M. P. Balfe and J. Kenyon. Chem Soc J p385-6 F '51
- Alkyl-oxygen fission in carboxylic esters; phthalates of di-*p*-methoxyphenylcarbinol and of *tert.*-alcohols. M. P. Balfe, J. Kenyon and E. M. Thain. Chem Soc J p386-8 F '51

PHTHALAZONE
- Rowe rearrangement. W. R. Vaughan, D. I. McCane and G. J. Sloan. bibliog Am Chem Soc J 73:2298-301 My '51

PHTHALIC acid
- Esters of tetraphenylphthalic acid. E. C. Schreiber and E. I. Becker. Am Chem Soc J 72:4829-30 O '50
- Properties of polyvinyl chloride compounds; effect of phthalate ester structure. P. V. Smith, jr., R. G. Newberg and D. W. Young. bibliog il Ind & Eng Chem 42:2576-9 D '50

PHTHALIC anhydride
- Action of alcohol on phthalic anhydrides. Y. Hirshberg, D. Lavie and E. D. Bergmann. Chem Soc J p 1030-4 Ap '51
- New synthesis of glutamine and of γ-dipeptides of glutamic acid from phthalylated intermediates. F. E. King and D. A. A. Kidd. Chem Soc J p3315-19 D '49
- Short wait for phthalic. il Chem Ind W 68: 9+ Mr 3 '51
- Syntheses from phthalimido-acids; further reactions of phthalylglutamic anhydride. F. E. King, B. S. Jackson and D. A. A. Kidd. Chem Soc J p243-6 F '51
- Syntheses with *cis*-hexahydrophthalic anhydride. F. C. Novello and M. E. Christy. bibliog Am Chem Soc J 73:1267-70 Mr '51

Analysis
- Spectrophotometric determination of total phthalic anhydride in alkyd resins and other phthalate esters. O. D. Shreve and M. R. Heether. bibliog Anal Chem 23:441-5 Mr '51

PHTHALIDE
- Action of phthalide on toluene-*p*-sulphonamide and its derivatives. D. H. Peacock. Chem Soc J p891-3 Ap '51
- New route to the phthalide-*iso*quinoline bases, and a synthesis of (-)-hydrastine. R. D. Haworth and A. R. Pinder. Chem Soc J p 1776-80 Jl '50

PHTHALIMIDE
- Syntheses from phthalimido-acids; further reactions of phthalylglutamic anhydride. F. E. King, B. S. Jackson and D. A. A. Kidd. Chem Soc J p243-6 F '51
- Synthesis of substituted penicillins and simpler structural analogs; phthalimido β-lactam-thiazolidines derived from penicillamine. J. C. Sheehan, H. W. Hill, jr. and E. L. Buhle. Am Chem Soc J 73:4373-5 S '51

PHTHALOCYANINES
- Phthalocyanines and related compounds; further investigations on tetrabenzporphin and allied substances. R. P. Linstead and F. T. Weiss. Chem Soc J p2975-81 N '50
- Phthalocyanines and related compounds; the oxidation of phthalocyanine, tetrabenzporphin, and allied substances. R. P. Linstead and F. T. Weiss. Chem Soc J p2981-7 N '50

PHTHIOIC acid
- Structural features of an acid of the phthioic type. J. Cason and G. Sumrell. Am Chem Soc J 72:4837-8 O '50

PHYLLITE
- Structure of the Sugarloaf Mountain area, Maryland, as a key to Piedmont stratigraphy. D. M. Scotford. bibliog maps diags Geol Soc Bul 62:45-75, pl 1-7 Ja '51
- Structure of the Sugarloaf Mountain area, Maryland, as a key to Piedmont stratigraphy. A. J. Stose and G. W. Stose. bibliog map diag Geol Soc Bul 62:697-9 Je '51

PHYLLOCLADENE
- Diterpenes; the diterpenes from podocarpus ferrugineus. L. H. Briggs and others. Chem Soc J p955-8 Mr '50
- Diterpenes; the isolation of phyllocladene from the essential oil of podocarpus spicatus grown in the North Island of New Zealand. L. H. Briggs and J. A. Loe. Chem Soc J p958-9 Mr '50

PHYSICAL constants
- Analysis of binary and ternary mixtures; system acetone-chloroform-methyl isobutyl ketone. A. E. Karr, W. M. Bowes and E. G. Scheibel. bibliog diag Anal Chem 23:459-63 Mr '51
- Physical properties of some aliphatic compounds. S. A. Mumford and J. W. C. Phillips. Chem Soc J p75-84 Ja '50
- Physical properties of some 1,1-difluoro-2,2-dichloroethyl alkyl ethers. J. D. Park, C. M. Snow and J. R. Lacher. Am Chem Soc J 73:861-2 F '51
- Physical properties of some triazo compounds; molar refractions and parachors. H. O. Spauschus and J. M. Scott. bibliog Am Chem Soc J 73:208-10 Ja '51
- Preparation and physical properties of a series of *n*-alkanes. A. K. Doolittle and R. H. Peterson. Am Chem Soc J 73:2145-51 My '51
- Refrachor; a new physical constant. S. S. Joshi and G. D. Tuli. Chem Soc J p837-8 Mr '51
- Some physical properties of pure benzene. S. M. Rybicka and W. F. K. Wynne-Jones. Chem Soc J p3671-3 D '50

See also

Boiling points
Dielectric constants
Freezing points
Melting points
Osmotic pressure
Photoelectric constant
Refractive index
Specific gravity
Specific heat
Specific volume
Viscosity

PHYSICAL examinations
- Making safe jobs safer; periodic checkups can help remove accident causes. M. B. Andrews. Textile World 101:192+ O '51
- Meeting the shortcomings of the periodic physical examination. S. C. Franco. Ind Med 20:113-14 Mr '51
- Multiple screening and specialized programs. J. W. Mountin. bibliog Pub Health Rep 65: 1359-68 O 20 '50

PHYSICAL examinations—*Continued*

Physical examination in industry as a cancer case-finding procedure. C. D. Selby. Ind Med 20:284-5 Je '51

Physical status of men examined through selective service in World war II. M. S. Goldstein. map Pub Health Rep 66:587-609 bibliog(p608-9) My 11 '51

See also

Chest

Eye—Examinations

PHYSICAL geography

Physiologic limits of vision in physiographic observation. E. W. Olmsted and E. P. Olmsted. il Science 113:176-7 F 16 '51; Discussion. 114:19-20, 505 Jl 6, N 9 '51

See also

Glaciers

Shore lines

PHYSICAL instruments

Comprehensive counting system for nuclear physics research. N. F. Moody and others. bibliog il diags R Sci Instr 22:439-61, 551-63 Jl-Ag '51

Gem-testing laboratory of Tiffany & co. A. E. Alexander. il J Chem Educ 28:128-33 Mr '51

New instruments and apparatus; notable developments shown by DSIR. il diag Chem Age (Lond) 64:659-62 Ap 28 '51

Some recent instrument research. J. R. Majer. Chem Age (Lond) 64:669-72 Ap 28 '51

Symposium of papers on radiation monitoring apparatus. bibliog il diags Inst E E Proc 98 pt 2:174-251 Ap '51; Abstract. Electrician 145:1240-2 D 1 '50; Discussion. Inst E E Proc 98 pt 2:204-8, 252-5 Ap '51

See also

Balances

Chemical apparatus

Cyclotron

Electric apparatus and appliances

Electric instruments

Geophysical instruments

Mass spectrometers

Optical instruments

Photometers

Pressure gages

Radio instruments

Scientific apparatus and instruments

Sound—Apparatus

Stroboscopic instruments

Exhibitions

National physical laboratory's jubilee exhibition. il Engineering 171:652-4, 714 Je 1, 15 '51

Physical society exhibition, London, April 6-11. Elec R (Lond) 148:739-43 Ap 13 '51; Electrician 146:1111-17 Ap 6 '51

Physical society exhibition, 35th, London, April 6-11. il Chem Age (Lond) 64:621-6 Ap 28 '51; Chem & Ind p305-6 Ap 21 '51

Physical society's exhibition, 1951. E. J. Harris. il diag J Sci Instr 28:193-9 Jl '51

Physical society's exhibition, 35th, London, April 6-11. il diags Engineer 191:442-5, 473-5, 505-6 Ap 6-20 '51; Engineering 171:409-11, 425-6, 457-9 Ap 6-20 '51

Physical society's exhibition, 35th, London, April 6-11. il Wireless Eng 28:156-61 My '51

PHYSICAL laboratories

B.I.S.R.A. physics laboratories. il diags Engineer 190:458-9 N 17 '50; Engineering 170:374-5 N 17 '50

See also

Electric laboratories

also Great Britain—National physical laboratory, Teddington

PHYSICAL measurements

Automatic operations in analytical chemistry. G. D. Patterson, jr. and M. G. Mellon. Anal Chem 23:101-15 bibliog(483 ref, p 111-15) Ja '51

Information, measurement, and quantum mechanics. J. Rothstein. bibliog diag Science 114:171-5 Ag 17 '51

See also

Electric measurements

Magnetic measurements

Photometry

Physical constants

Pressure gages

Pressure measurement

Radio measurements

Sound—Measurement

Temperature—Measurement

Vibration—Measurement

Viscosity—Measurement

PHYSICAL research

AEC fellows in radiological physics appointed for 1950-51. Chem & Eng N 29:207 Ja 15 '51

Fifty years of quantum theory. A. Sommerfeld; F. Bopp. Science 113:85-92 Ja 26 '51

See also Great Britain—National physical laboratory, Teddington

PHYSICIANS

Doctors; medical manpower situation. A. Gregg. il Sci Am 185:79-84 S '51

Income of physicians, 1929-49; with tabulations by region and state. W. Weinfeld. map Survey of Cur Bsns 31:9-26 Jl '51

Medical care team. F. G. Dickinson. bibliog Ann Am Acad 273:25-33 Ja '51

Mobilization of scientific, engineering, and medical manpower; an interim report. C. V. Kidd. bibliog Science 113:737-41 Je 29 '51

See also

Advertising—Physicians, Appeal to

Holmblad, Edward Charles

Medical advertising

Medicine—Group practice

Radio communication—Physicians' use

PHYSICIANS, Industrial. See Medical service, Industrial

PHYSICIANS, Osteopathic

Occupational outlook handbook. U S Bur Labor Statistics Bul 998:72-3 '51

PHYSICIANS' and surgeons' equipment floater insurance. See Insurance, Physicians' and surgeons' equipment floater

PHYSICIANS as witnesses

Medical testimony from an attorney's standpoint. J. V. Donadio. Ind Med 20:264-6 Je '51

PHYSICIANS' offices

Design and utility in medical center, Minneapolis. il plan Am Bld 72:134-5 D '50

Doctor's house-and-office; Lake Placid, N.Y. il plans Arch Forum 93:132-5 N '50

Medical arts building, Honolulu. il plan Arch Rec 108:116-17 N '50

Medical building at Hartford hospital for staff doctors' offices. il plans Arch Rec 108:132-7 D '50

Physicians' offices; thirteen type plans prepared by architects of U.S. Public health service. plans Arch Rec 108:118-31 D '50

Small clinic for suburban area. il plan Am Bld 73:103 Mr '51

PHYSICISTS

See also

Planck, Max

PHYSICS

International nuclear physics conference, Oxford, Sept. 7-13. Science 113:107-8 Ja 26 '51

Nuclear data; a collection of experimental values of half-lives, radiation energies, relative isotopic abundances, nuclear moments, and cross sections. K. Way and others, comps. U S Nat Bur Stand Circ 499:1-309 bibliog(p278-309); pa $4.25 Supt. of doc. '50

Proceedings of American physical society meeting, Chicago, Nov. 24-25; with abstracts of papers. Phys R 81:292-330 Ja 15 '51

Proceedings of American physical society meeting, Los Angeles, Dec. 28-30; with abstracts of papers. Phys R 81:646-64 F 15 '51

Proceedings of American physical society meeting, New York, Feb. 1-3; with abstracts of papers. Phys R 82:291-346 Ap 15 '51

Proceedings of American physical society meeting, Pittsburgh, March 8-10; with abstracts of papers. Phys R 82:761-76 Je 1 '51

Proceedings of American physical society meeting, Schenectady, N.Y. June 14-16; abstracts of papers. Phys R 83:868-82 Ag 15 '51

Proceedings of American physical society meeting, Washington, April 26-28; with abstracts of papers. Phys R 83:194-246 Jl 1 '51

Proceedings of American physical society Southeastern section meeting, Chattanooga, April 5-7; with abstracts of papers. Phys R 83:481-90 Jl 15 '51

PHYSICS—*Continued*

Progress of the physics of solids. F. Seitz. Franklin Inst J 251:156-66 Ja '51

Structure of matter. J. Cockcroft. Engineering 171:544-5 My 4 '51; Abstracts. Elec R (Lond) 148:949 My 4 '51; Electrician 146: 1541-2 My 4 '51

Twentieth century physics. I. I. Rabi. Franklin Inst J 251:44-7 Ja '51

See also

Astrophysics
Atoms
Biological physics
Chemistry, Physical and theoretical
Compressibility
Cosmic rays
Cyclotron
Diffusion
Dynamics
Elasticity
Electric conductivity
Electricity
Electrons
Evaporation
Expansion (heat)
Fluids
Fluorescence
Free energy
Friction
Gases
Geophysics
Heat
Heat transmission
Hydraulics
Hydrodynamics
Ionization, Electrolytic
Ionization, Gaseous
Ions
Light
Liquids
Mathematical physics
Mechanics
Meteorology
Molecules
Neutrons
Optics
Particles
Pauli exclusion principle
Photoelasticity
Physical measurements
Physical research
Plasticity
Pressure
Quantum theory
Radiation
Radioactivity
Reflection (optics)
Relativity (physics)
Sound
Statistical mechanics
Steam
Strains and stresses
Temperature
Thermodynamics
Thermometers and thermometry
Unified field theory
Velocity
Vibration
Viscosity
Wave mechanics
Weights and measures

Bibliography

French bibliographical digest, no. 7, physics. 87p Cultural division of the French embassy, 934 Fifth av, New York 21 '51

International physics abstracting service. E. Hutchisson. Science 112:635 N 24 '50

Methodology

Role of mathematical methods in physical theories. E. P. Wigner. Franklin Inst J 250:477-9 D '50

Nomenclature

Agenda for symbols, units and nomenclature commission (I.U.P.A.P.), July 1951. F. G. Brickwedde. Science 113:213-15 F 23 '51

Symbols, signs, and abbreviations recommended for British scientific publications. Chem Soc J p 1677-92 Je '51

PHYSICS, Astronomical. See Astrophysics

PHYSIOLOGICAL apparatus

Chronic remote nerve stimulation technique in physiological investigation; abstract. J. J. Farrell and J. M. Lafferty. Science 112: 422 O 13 '50

Engineering, surgery combine to develop heart-lung machine. il diag Chem & Eng N 29:1412+ Ap 9 '51

Improved apparatus for measuring the electrogastrogram. E. N. Goodman and others. diags Science 113:682-3 Je 15 '51

Method of intravenous injection of drugs from a distance in conditional reflex studies. H. A. Teitelbaum and W. H. Gantt. diags Science 113:603-5 My 25 '51

New electronic apparatus for the measurement of the fusion frequency of flicker. C. Fritze and E. Simonson. bibliog diags Science 113:547-9 My 11 '51

Special instrumentation problems encountered in physiological research concerning the heart and circulation in man. E. H. Wood. bibliog il diag Science 112:707-15 D 15 '50

Ultrafilter developed to supplement the mechanical kidney; abstract. L. T. Skeggs. Chem & Eng N 29:1621 Ap 23 '51

Wide range mechano-electronic transducer for physiological application. S. A. Talbot and others. il diag R Sci Instr 22:233-6 Ap '51

See also

Biological apparatus
Cannulas
Catheters
Electrophysiology—Apparatus
Micromanipulators
Oxygen apparatus
Respiratory apparatus
Respirometers

PHYSIOLOGICAL chemistry

Biochemistry and human behavior discard idea of average man; 6th Southwest regional ACS meeting, San Antonio, Dec. 7-9. Chem & Eng N 28:4552+ D 25 '50

Biochemistry and sulphur; abstract. R. A. Peters. Chem Age (Lond) 64:783-4 My 19 '51

In vitro production of cortisone by mammalian cells. H. Seneca and others. bibliog Science 112:524-5 N 3 '50

Synthetic polymers provide models of body compounds. Chem & Eng N 29:4170+ O 8 '51

See also

Anesthetics
Biological chemistry
Blood—Analysis
Calcium in the body
Carbohydrates
Chemistry, Medical and pharmaceutical
Cholesterol
Enzymes
Fat
Hemolysis
Histochemistry
Hormones
Immunity
Metabolism
Nutrition
Oxidation, Physiological
Perspiration
Poisons
Poisons, Industrial
Potassium in the body
Proteins
Urine
Vitamins

PHYSIOLOGICAL congress, International. See International physiological congress

PHYSIOLOGICAL oxidation. See Oxidation, Physiological

PHYSIOLOGICAL psychology. See Psychology, Physiological

PHYSIOLOGICAL research

Ernest Starling. R. Colp, jr. il Sci Am 185: 56-61 O '51

Mathematical basis of the interpretation of tracer experiments in closed steady-state systems. C. W. Sheppard and A. S. Householder. bibliog diags J Ap Phys 22:510-20 Ap '51

Microphonics produced by touching the cochlear partition with a vibrating electrode. G. v. Békésy. il diags Acoustical Soc Am J 23:29-35 Ja '51

PHYSIOLOGICAL society, American. See American physiological society

PHYSIOLOGISTS, Russian

Soviet physiologists at the 18th International congress, Copenhagen, Aug. 15-18. Science 112:768-9 D 22 '50

PHYSIOLOGY

Maximum oxygen consumption for work periods of six minutes duration in normal and pathological subjects; abstract. G. W. Wright. Science 112:423-4 O 13 '50

See also

Absorption (physiology)
Blood
Cells
Diet
Electrophysiology
Fatigue
Fertilization (biology)
Homeostasis
International physiological congress
Light—Physiological effect
Longevity
Metabolism
Muscles
Nervous system
Nutrition
Old age
Radioactivity—Physiological effect
Respiration
Shock
Temperature—Physiological effect
Tissues
Weight (physiology)

PHYSOSTIGMINE

Use of physostigmine in industrial injuries. A. H. Stahmer. bibliog Ind Med 20:337-8 Jl '51

PHYTATES

See also

Calcium phytate

PHYTIC acid

For phytic acid, a future. diag Chem Eng 58:182+ Ag '51

PIANO

Acrylic piano and chair. il Mod Plastics 28: 154 N '50

How to select a piano. Consumers Res Bul 28:12 S '51

Iron, steel in a piano; tabulation. Iron Age 167:325 Ja 4 '51

PIASECKI, Frank N. 1919-

Lawrence Sperry award, Institute of the aeronautical sciences. por Aeronautical Eng R 10:9+ Mr '51

PIASECKI helicopter corporation

Copters lure speculating public. S. Altschul. Aviation W 54:61-2 Je 18 '51

PICK, Lewis Andrew, 1890-

Sketch. por Explosives Eng 28:168-9 N '50

PICKARD, Robert, 1874-1949

Sketch. J. Kenyon. Chem Soc J p2253-7 Ag '50

PICKERINGITE

Pickeringite and the system $MgSO_4$-$Al_2(SO_4)_3$-H_2O. H. Bassett and W. Watt. Chem Soc J p 1408-14 My '50

PICKETING

Picket lines no longer sacred; decision of the U.S. Court of appeals. N. C. Rockwood. Rock Prod 54:43+ Jl '51

PICKLING (metals)

Acid pickle doubles tool life on CI. J. Datsko. il Am Mach 95:140-1 Je 11 '51

Acid recovery from continuous strip-pickling lines. J. Pearson and W. Bullough. bibliog flow sheet diag Iron & Steel Inst J 167:439-45 Ap '51

Continuous cascade pickling. W. H. Stuck and J. H. Abrams. il Iron & Steel Eng 28:101-6+ F '51

Corrosion-proof cements extend pickling tank life. C. F. Sauereisen. il diags Iron Age 168:66-8 Ag 23 '51

Disposal of waste pickling liquors; abstract. T. F. Reed. Steel 128:75 Ap 9 '51

Fixed-up phosphoric; ion exchange lowers cost of phosphoric acid pickling. Chem Ind 67:880 D '50

How to reduce pickling brittleness in stainless steels. C. A. Zapffe. Materials & Methods 32:74-7 N '50

New process slashes cost of phosphoric acid pickling; reclaims the acid for reuse. C. F. Paulson and M. E. Gilwood. flow sheet il Iron Age 166:97-9 D 14 '50

Pickle liquor disposal can pay off. F. D. Jones. il Iron Age 167:88-91 Mr 8 '51

Pickle liquor may yield cheaper iron powder. Iron Age 167:112 My 3 '51

Pickling agent displays high inhibiting action. Product Eng 22:190+ F '51

Pickling and pickling acids; abstract. W. Savelsberg. Metal Finishing 49:71 Ap '51

PICKUP. See Phonograph—Pickup

PICOLINE

Convenient synthesis of the monoalkylpyridines; a new prototropic reaction of 3-picoline. H. C. Brown and W. A. Murphey. bibliog Am Chem Soc J 73:3308-12 Jl '51

Preparation of some 2-picolyl ketones using phenyllithium. R. P. Zelinski and M. Benilda. bibliog Am Chem Soc J 73:696-7 F '51

Synthesis of heterocyclic nitrogen-containing ketones; ketones derived from 2-picoline. N. N. Goldberg, L. B. Barkley and R. Levine. bibliog Am Chem Soc J 73:4301-3 S '51

PICRATES

Decomposition of amine picrates with ethanolamine. I. A. Kaye, I. C. Kogon and W. Burlant. Am Chem Soc J 72:5752 D '50

PICRIC acid

Interaction between polynitro-compounds and aromatic hydrocarbons and bases; picric acid and alkylated benzene derivatives in chloroform solution. H. D. Anderson and D. L. Hammick. Chem Soc J p 1089-94 Ap '50

Treatment and disposal of waste waters containing picric acid and dinitrophenol abstract. R. Wilkinson. Sewage & Ind Wastes 23:1211-12 S '51

PICROPODOPHYLLIN

Podophyllotoxin and picropodophyllin; their reduction by lithium aluminum hydride. N. L. Drake and E. H. Price. bibliog Am Chem Soc J 73:201-5 Ja '51

PICROTOXININ

Skeleton of picrotoxinin. H. Conroy. Am Chem Soc J 73:1889 Ap '51

Structure of picrotoxinin. H. Conroy. Am Chem Soc J 73:1889-91 Ap '51

PICTURE collections

We set up our picture file for fast turnover. A. Grant. il Ptr Ink 233:34-5 N 24 '50

PICTURE transmission. See Phototelegraphy

PIECE work

Piece-work incentive with day rate guarantee. H. B. Young. N A C A Bul 32:556-67 Ja '51

PIEDMONT plains. See Plains

PIERCE, Curtis W.

Retires as head of F.I.A. East Underw 52:16 Ja 12 '51; por Nat Underw 55:1 Ja 11 '51

PIERRE shale

Revision of Pierre shale of central South Dakota. D. R. Crandell. bibliog maps Am Assn Pet Geologists Bul 34:2337-46 D '50

PIERS

Bulkhead, dike for pier, Long Beach, Calif.; unit prices. Eng N 147:78 Jl 26 '51

Buoyant-box foundations to carry New York pier. il plans diag Eng N 146:46-8 Ja 11 '51

War-harbor caissons towed to Stockholm for a pier. P. Leimdorfer. il diag Eng N 146:46 My 3 '51

PIERS (foundations)

Marine platforms for offshore drilling; caisson-pier type construction. C. A. Trexel. diags Oil & Gas J 49:76-7+ D 7 '50; Same cond. Eng N 145:46-7 D 7 '50

See also

Bridges—Foundations and piers

PIERS, Concrete

Ship terminal for fast cargo handling, port of La Guaira, Venezuela. A. D. Quinn. il plan diag Eng N 146:32-4 My 31 '51

PIES

Engineering pegs popular price; new streamlined process economizes mass output of fried pies. G. W. Massey. il plan Food Eng 23:86-7+ S '51

Wagner's low cost packaging brings back five cent pies. D. Copell. il Food Ind 22:1883-4+ N '50

PIEZOELECTRIC crystals. See Crystals, Piezoelectric

PIEZOELECTRICITY

Piezo-electric disease, a new theory of silicosis. Can Min J 72:64-5 Ja '51

Piezoelectric effect in lead zirconate. S. Roberts. Phys R 83:1078 S 1 '51

See also

Oscillators, Crystal

PIG iron

Desulphurization of pig iron with pulverized lime. B. Kalling and others. bibliog il diag J Metals 3:Trans 732-8 S '51

Germans make pig iron without coking coal; Humboldt distillation process. B. M. Pearson. Iron Age 167:71-2 Ja 11 '51

History of pig iron manufacture in Alabama. B. C. Colcard. Blast F & Steel Pl 39:223-6+ F '51

Kinetics of the reduction of iron oxide above 1400°C. T. E. Dancy. bibliog il diags Iron & Steel Inst J 169:17-24 S '51

Modern coal preparation cuts Inland's pig iron costs. il Steel 128:74+ Ja 29 '51

White coal pig iron; tests to determine the properties of castings. E. K. Smith. il Foundry 79:90-3+ Ja '51

Prices

Average monthly quotations in 1950; tabulation. Steel 128:128 Ja 1 '51

Basic pig iron, malleable, and foundry pig iron composite; tabulations. Steel 128:127 Ja 1 '51

Composite pig iron prices; basic, foundry, and charcoal iron; tabulations. Iron Age 167:312-13 Ja 4 '51

Statistics

Pig iron production and capacity, 1935-1950; tabulation. Steel 128:121 Ja 1 '51

Production in 22 countries; U.S. imports and exports and production; tabulations. Iron Age 167:310-11 Ja 4 '51

Steel industry statistics blast furnace capacity. Steel 129:122-3 O 1 '51

Steel ingot and castings, pig iron and ferroalloys output by countries, 1943-1950; tabulations. Steel 128:120-1 Ja 1 '51

PIGEONS

Preliminary study of a physical basis of bird navigation; (experiments VI through XI). H. L. Yeagley. diags J Ap Phys 22:746-60 Je '51

PIGMENTS

Accelerated yellowing on white enamels, by the Baltimore club. Paint Oil & Chem R 113:79-80+ N 23 '50

Ancient pigments; particularly second century B.C. pigments from Corinth. M. Farnsworth. bibliog il J Chem Educ 28:72-6 F '51

Anti-corrosive pigments; coated granular materials described in German literature; abstracts. Chem Age (Lond) 63:772 D 2 '50

Color reactions between silica pigments and certain accelerators and antioxidants. R. F. Wolf and others. bibliog(p 104) Rubber Age 69:55-6 Ap '51

Determination of relative specific surface of zinc oxide pigments. W. W. Ewing and R. N. Rhoda. bibliog Anal Chem 22:1453-5 N '50

Earth pigment sales, 1949 and 1950; table. Oil Paint & Drug Rep 160:63 S 3 '51

Effect of colloidal noncarbon pigments on elastomer properties. E. Schmidt. bibliog il Ind & Eng Chem 43:679-83 Mr '51

Evaluation of fineness gage and paint film characteristics based on particle size distributions on pigment dispersions. C. Baker and J. F. Vozzella. bibliog il Paint Oil & Chem R 113:109-20 N 23 '50

Glow that sells. Chem W 69:36 S 29 '51

Hiding power by Hunter reflectometer of synthetic iron oxides, by the Toronto club. il diag Paint Oil & Chem R 113:70-3 N 23 '50

Inks, vinyls and pigment properties featured on A.C.S. fall program; abstracts of papers. Paint Oil & Chem R 114:12+ Ag 16 '51

NPA sets up five pigment task groups. Oil Paint & Drug Rep 159:3 Ja 15 '51

Particle size and state of dispersion of paint pigments; abstract and discussion. D. R. Duncan. Chem & Ind p793-4 S 22 '51

Properties of anticorrosive pigments and their vehicles. M. Ragg. Paint Oil & Chem R 114:16-17+ Ap 12 '51

Routine measurement of surface of paint pigments and other fine powders. P. C. Carman and P. L. Malherbe. bibliog J Ap Chem 1:105-8 Mr '51

Study of pigment dispersion by the New York club. bibliog il Paint Oil & Chem R 109:76-81 N 14 '46; 111:57-8+ N 11 '48; 113:88-90+ N 23 '50

See also

Carbon black
Carotene
Cyanines
Dyes and dyeing
Lead oxides
Paint
Phthalocyanines
Pterins
Titanium oxides
Visual purple
Zinc oxide

Statistics

Lead and zinc pigment shipments higher in 1950. Oil Paint & Drug Rep 159:71 Mr 12 '51

US lakes and toners '50 output, sales up. Oil Paint & Drug Rep 159:5 Je 11 '51

PIGMENTS, Biological

Anthochlor pigments; the pigments of coreopsis stillmanii. M. K. Seikel and T. A. Geissman. bibliog Am Chem Soc J 72:5720-4 D '50

Anthochlor pigments; the pigments of yellow antirrhinum majus. M. K. Seikel and T. A. Geissman. bibliog Am Chem Soc J 72:5725-30 D '50

Colouring matters of the aphididæ; a general survey of the occurrence of the aphins. H. Duewell and others. Chem Soc J p3304-9 N '50

Colouring matters of the aphididæ; colouring matters from aphis fabæ. J. P. E. Human and others. Chem Soc J p477-85 F '50

Colouring matters of the aphididæ; colouring matters from tuberolachnus salignus. H. Duewell and others. Chem Soc J p485-90 F '50

Green pigment and physiology of guard cells. R. O. Freeland. Science 114:94-5 Jl 27 '51

Heredity and environment. W. D. Bancroft. bibliog J Phys & Colloid Chem 54:1269-77 D '50

Osage orange pigments; synthesis of dihydro-iso-osajin and of dihydro-isopomiferin. M. L. Wolfrom and B. S. Wildi. bibliog il Am Chem Soc J 73:235-41 Ja '51

Phenazine series; the constitution of the pigment of chromobacterium iodinum. G. R. Clemo and A. F. Daglish. Chem Soc J p 1481-5 Je '50

Photolabile pigments in invertebrates. J. C. Peskin. bibliog Science 114:120-1 Ag 3 '51

Pigments of allescheria boydii. G. G. Villela and A. Cury. il Science 112:430-1 O 13 '50

See also

Carotene
Chlorophyl
Dracorhodin
Dracorubin
Rhizocarpic acid
Visual purple

PIKE, Sumner Tucker, 1891-

Portrait. Bsns W p 103 Jl 28 '51

PILE fabrics

Finishing of face cloths, pile fabrics, etc. A. I. Read. Textile Inst J 42:P205-8 My '51

PILES and pile driving

Big-end-down piles in Jersey meadows save half-million cost for warehouse. il Eng N 146:30 Je 21 '51

Electronic plumb bob demonstrated; yields data on pile's out-of-plumb. il Eng N 146:39 F 8 '51

Ground conditions vary all over site for foundations on this relocation job. il plan diag Eng N 147:42-3 S 6 '51

How gyro-compass is used to set batter piles. il Eng N 145:34 O 26 '50

New Orleans hospital foundations designed to end settlement trouble. R. P. Linfield and H. M. Favrot. il map diags Eng N 147:40-2 S 13 '51

New tool for pile driving; pneumatic mandrel gets test. il Eng N 146:35-6 Ja 11 '51

Pile cluster design using approximations. diag Eng N 147:47 Jl 5 '51

Piledriving leads go modern, with pipe. il diags Constr Methods 33:51-3 Je '51

Repairing a bridge by driving piling under it. C. C. Washington. Pub Works 81:77 D '50

See also

Concrete piling
Sheet piling

PILOT plants. See Chemical plants—Experimental plants; Petroleum refineries—Experimental plants

PILOTLESS airplanes. See Airplanes, Pilotless

PILOTS and pilotage

New pilot boat for Tampa bay. il Marine Eng 56:68-9 My '51

PIMLOTT, John Alfred Ralph, 1909-

How not to write a book on business; review of Public relations and American democracy, by J. A. R. Pimlott. E. L. Bernays. Ptr Ink 236:52+ Ag 24 '51

PINACOL rearrangement. See Molecular rearrangements

PINCHIN, Johnson and associates, limited

Statement by the chairman. G. R. T. Taylor. Economist 161:657 S 15 '51

PINE

Effect of bark in the neutral sulphite semichemical pulping of aspen, hickory, and slash pine. E. L. Keller. bibliog Tappi 33:556-60 N '50

Effect of storage of southern pine on pulp yield and quality. H. L. Keaton and W. F. Gillespie. Tappi 34:21-4 Ja '51

Extractives from ponderosa pine bark. E. F. Kurth and J. K. Hubbard. il Ind & Eng Chem 43:896-900 Ap '51

Jack pine pulpwood deterioration in yard storage. T. A. Pascoe and T. C. Scheffer. bibliog Paper Tr J 131:16-18+ Jl 13 '50; Same cond. Pulp & Pa of Can 52:184+ Je '51

Phenols in Swedish pine heartwoods; abstract. H. Erdtman and others. Paper Ind 33:440 Jl '51

Pine wood lignin as a ceramic deflocculant. L. R. Lawson, jr. and J. J. Keilen. Am Cer Soc Bul 30:143-7 Ap 15 '51

Progress report; mechanical thinning experiment in jackpine on the Mosinee industrial forest. F. N. Fixmer. Pulp & Pa of Can 51:120+ D '50

Pulpwoods, with special reference to the silviculture of spruce and lodgepole pine; abstract. A. F. von der Schulenburg. il Paper Ind 33:76 Ap '51

Southern pine; tree farming in Dixie promises good capital growth. J. L. Hopkins. Barron's 31:7 Jl 30 '51

PINE—*Continued*

Southern yellow pine pole data; tables; engineering reference sheet. Elec World 136:110 S 24 '51

Sulphite cooking control based on liquor viscosities of pine or spruce; abstract. J. Marchlewska-Szrajerowa and W. Surewicz. Paper Ind 32:1000 D '50

PINEAPPLE juice

Individual variation of the fruits of the pineapple (ananas comosus I. Merr.) in regard to certain constituents of the juice; abstract. E. V. Miller and E. E. Schaal. Food Eng 23:169 S '51

PINEAPPLES

Cuban pineapple industry declined in 1950; prospect for 1951 better. For Comm W 41:16 D 25 '50; 43:20 Je 11 '51

PINENE

Mechanism of the pyrolyses of pinenes. R. L. Burwell, jr. Am Chem Soc J 73:4461-2 S '51

Rates of the thermal isomerization of α-pinene and β-pinene in the liquid phase. H. G. Hunt and J. E. Hawkins. bibliog Am Chem Soc J 72:5618-20 D '50

PINIONS. See Gearing

PINS, Machinery

Many doweling problems solved use of the Rollpin. Steel 129:74 O 1 '51

PIONS. See Mesotrons

PIPE bending

Pipe bending chart. W. F. Schaphorst. Pet Eng 23:D53 S '51

12in. hydraulic pipe bending machine. il Engineer 192:61 Jl 13 '51

PIPE bends

Properties of thin-walled curved tubes of short-bend radius. T. E. Pardue and I. Vigness. bibliog il diags A S M E Trans 73:77-84; Discussion. 84-7 Ja '51

PIPE coating

Barytes in continuous weighting of river-crossing pipe. il World Oil 132:245-6 Ap '51

Coating field joints and repairing coatings. W. E. Huddleston. il diags Pet Eng 23: D82-4 My '51

Coating inspection in the field. M. E. Parker. Oil & Gas J 50:111 S 6 '51

Concrete-coated pipe for swampy terrain. A. Gibbon. il World Oil 131:247-8+ N '50

Continuous dip system improves tar coating. F. R. Adams and G. E. Loftin. diag Iron Age 168:92-4 Ag 2 '51

Corrosion control program; natural gas transmission line, Niagara Mohawk power corp. L. A. Kellogg. il map Gas Age 107:11-13 Mr 1 '51

Development in coating and wrapping pipe; portable machine devised to apply No-Ox-Id materials. H. T. Burrows. il Pet Eng 23:D25-6 Ag '51

Hot applied coal tar coatings. N. T. Shideler. il Pet Eng 23:D5-8+ F; D 18+ Mr '51

How coal tar tape solved distribution problems. M. G. Markle. il Gas Age 108:13-14+ Ag 2 '51

Inspection of pipe coating. M. E. Parker. il World Oil 132:178+ Mr '51

New developments in coatings and cathodic protection. C. L. Goodwin. Am Pet Inst Proc 30(5):33-5 '50; Same. Oil & Gas J 49:355-6+ N 16 '50; Same. Pet Eng 22:D35-7 D '50

Pipe-line crossing uses jacketing of barytes-laden cement. J. A. Kornfeld. il Oil & Gas J 49:82-3 Ap 12 '51

United coats 150 miles of line in south Louisiana. il map Oil & Gas J 50:274+ Je 21 '51

Use of barytes on pipe lines. F. H. Love. il Pet Eng 23:D26+ Je '51

Testing

Electrical resistivity of coatings. W. F. Rogers. bibliog diags Pet Eng 23:D5-12+ Mr '51

Proposed method for measuring electrical resistance of coatings. W. F. Rogers and others. diags Gas Age 108:31-5+ S 27 '51

PIPE coverings

Development in coating and wrapping pipe; portable machine devised to apply No-Ox-Id materials. H. T. Burrows. il Pet Eng 23:D25-6 Ag '51

Efficiency in pipe insulation means economy in use. il Heating-Piping 23:92 Je '51

Reflective-type pipe insulation tested at navy station. R. B. Plate. Heat & Ven 48:101-2 O '51

PIPE cutting

Hybrid lathe cuts pipe lengths. B. A. Lee. diag Am Mach 95:172 Jl 9 '51

PIPE cutting machines

Portable pipe-sawing and thread-milling machine. il Engineer 191:267 F 23 '51

PIPE elbows

Use of cascades at sharp elbows in water pipes. A. M. Binnie and D. P. Harris. il diags Engineer 190:232-3+ S 1 '50; Abstract. Product Eng 22:150-1 F '51

PIPE fitting

Piping pointers. diags Dom Eng 178:93+ Jl; 158 Ag '51

Refresher course on pipe welding and cutting. il diags Dom Eng 177:96-7+ My; 98-9+ Je; 178:114+ Jl; 116+ Ag; 157-8+ S '51

Standard cast iron pipe fitting allowances. R. Irmiter. diags Heat & Ven 48:66-7 Ja '51

Steel pipe and brains cut heating-job costs; illustrations with text. Constr Methods 33: 60-1 Mr '51

See also

Plumbing

PIPE fittings

Gray iron castings specifications; pipe, fittings, valves, and flanges; tabulation. Oil & Gas J 49:109 D 14 '50

Keep them working; proper valve installation. il diags Dom Eng 177:108+ F; 104-5+ Mr '51

Review of new plant equipment; piping, valves, fittings, and accessories. il Power 95:164-7 Mid-Je '51

See also

Pipe joints

Standards

Standardized fittings. il Dom Eng 178:146-7+ Ag '51

PIPE handling

Loads two tons of pipe every 17 seconds. il Iron Age 167:104 Ap 26 '51

More time on bottom with new power-operated pipe-handling equipment. il Oil & Gas J 50:102-4 Jl 12 '51

New facilities for stocking and shipping pipe at Lorain works. C. C. Wales. il plans diag Iron & Steel Eng 28:71-5; Discussion. 75-6 Ag '51

PIPE hangers

How to space pipe supports. il Mill & Factory 47:80 D '50; Same, with chart. Power Eng 54:82-3 D '50

How to space supports for large diameter thin wall pipe. T. E. Bridge. diags Heating-Piping 23:90-5 S '51

Methods of supporting pipe. J. E. York. diags Heat & Ven 47:57-60 My; 92-4 Je; 79-82 Jl; 90-3 Ag; 91-2 S; 83-6 O; 89-91 N; 81-2 D '50: 48:68-70 Ja; 116-18 F '51

Proper spacing of hangers to support insulated piping; data sheet. S. C. Martin. diag Heating-Piping 23:107-8 Jl '51

Support unit for steam pipe lines. il Engineer 192:280 Ag 31 '51

•Ten easy steps for selecting pipe hangers. F. Kamarck. diags Power 95:75-7 Ja '51

Use of welding to facilitate piping suspension and support. G. W. Hauck. il diags Heating-Piping 23:83-7 Mr '51

PIPE joints

Automatic welding on pipe-line right-of-way demonstrated. P. Reed. il Oil & Gas J 50: 148+ Ag 16 '51

Backhand welding of pipe. J. W. Carrier. il diags Welding J 30:54-5 Ja '51

Bonding nonconductive pipe joints. M. E. Parker. Oil & Gas J 50:327 S 20 '51

Clamp for pipe welding. diags Pet Eng 23: D36 S '51

Coating field joints and repairing coatings. W. E. Huddleston. il diags Pet Eng 23: D82-4 My '51

Design and installation of large-diameter long-span welded pipe. H. Jackson. il diags Welding J 29:957-61 N '50

Development of the Spangseal tubing joint. J. L. Holmquist. il diags Pet Eng 23:B54+ Jl '51

PIPE joints—*Continued*

Installation, maintenance facilities influence piping joint selection. G. W. Hauck. plans Heating-Piping 23:74-8 Ag '51

Insulated joints in cathodic protection. M. E. Parker. Oil & Gas J 50:81 Jl 5 '51

Jointing compounds for sewer pipe. R. B. Seymour. Pub Works 82:74-6 Ag '51

Joints for high-pressure high-temperature piping. I. H. Carlson and W. S. Black. il diags A S M E Trans 73:237-43 Ap '51; Abstract. Mech Eng 72:913 N '50; Discussion. A S M E Trans 73:243-6 Ap '51

Laying and jointing sewer pipes. F. C. Palmer. diags Water & Sewage Works 98: R120-2 Ap '51

Making lead pipe joints. L. S. Bowser. il diags Welding J 30:362-3 Ap '51; Same. Paper Ind 33:435 Jl '51

New threadless pipe joint good to 3500 psi. diags Iron Age 167:104 My 3 '51

Pipe joints for hydraulic power transmission. B. Cooke. il diags Engineering 171:413-16 Ap 6 '51; Excerpts. Engineer 191:382-3 Mr 23 '51

Pipe joints sealed under water with canvas diapers. il Constr Methods 33:109-10 Mr '51

Recent research in the performance of sulphur jointing compounds; abstract. R. B. Seymour and W. Pascoe. Munic Util 89: 36 My '51

Streamlining the treatment of mains with anti-leak; use of Carboseal. K. D. Knoblock. il Gas Age 107:48-50 Mr 15 '51

Submerged arc welding of pipe on the line. F. H. Love. il Pet Eng 23:D7-8 Ag '51

Tips on valve piping; data sheet. diags Heating-Piping 23:106 S '51

Use and abuse of insulated joints. M. E. Parker. il diags Oil & Gas J 49:70-2+ F 1 '51

Welding costs reduced one-fourth using mobile unit for right-of-way double jointing. R. L. Looney. il Oil & Gas J 50:149-50 Ag 16 '51

Testing

Fatigue testing and development of drill pipe-to-tool joint connections. W. S. Bachman. bibliog il Pet Eng 23:B36+ F '51; Same. World Oil 132:104+ Ja '51

Three-dimensional photoelastic stress analysis of a threaded drill pipe joint. W. F. Franz. il diags Pet Eng 23:B60-2+ F '51

PIPE laying

Assembly line technique used in building New England line. T. H. Hester. il Gas Age 107:51-3+ Ap 26 '51

Automatic welder zips up Transcontinental pipeline sections. il Constr Methods 32: 44-9 D '50

Automatic welding on pipe-line right-of-way demonstrated. P. Reed. il Oil & Gas J 50: 148+ Ag 16 '51

Backhoe, tractor shovel and derrick speed up work and reduce costs. T. L. Cate. Pub Works 82:44+ S '51

Big-Inchers. il Fortune 43:66-73+ Ja '51

Bringing natural gas to the metropolitan New York area. F. G. Sandstrom. il map diag Am Gas Assn Proc 1950:825-30

Colorado Interstate's third line pushes rapidly over flat terrain; illustrations with text. Gas Age 108:42-3 S 27 '51

Compressed air drilling replaces trench work in laying services. E. C. Powers. il Am Gas J 175:15-16 Jl '51

Design and installation of large-diameter long-span welded pipe. H. Jackson. il diags Welding J 29:957-61 N '50

5700 miles of controlled energy; El Paso natural gas co. J. C. Pierce. il map Comp Air Mag 56:228-34 S '51

Gas distribution construction costs can be reduced. R. E. Haun. Am Gas J 175:23+ S '51

High speed laying of 78-inch pipe. il Pub Works 82:39 My '51

How Charley Ice and his line gang laid pipe over the mountains. il Gas Age 108:31-4+ S 13 '51

How Southern California gas co. won national public relations prize. J. T. Van Rensselaer. il Gas Age 106:13-15+ D 21 '50

How we solved our digging problems. H. A. Gilbert. il Pub Works 82:50 Jl '51

Keeping ahead of accelerated demand; new 24-in. loop around Houston, Tex. il Gas Age 107:22-3 Mr 29 '51

Laying and jointing sewer pipes. F. C. Palmer. diags Water & Sewage Works 98: R120-2 Ap '51

Longer pipes + fewer joints = better sewers. il Eng N 145:45-7 D 21 '50

Mechanizing underground piping construction; abstract. A. Douglas. il Heating-Piping 23:88-9 Jl '51

Mud Lake pipe line project completed; United gas pipe line co. il Gas Age 107:20-2 Mr 1 '51

Multiple welded pipeline. il Engineer 191:878-9 Je 29 '51

Natural gas line reaches New England. il maps Constr Methods 33:82-4+ S '51

Northern and central California now using Texas-New Mexico gas. il map Gas Age 107:25-8+ F 15 '51

Peoples Gas completes 30-in. main. il Gas Age 107:37+ F 1 '51

Sewer and water crossings for rivers and ravines; guided discussion. Munic Util 89: 76-8+ S '51

Sheeting jig insures fast sewer job. il Constr Methods 33:54-7 Ap '51

Slack loop practice in lowering-in procedure. T. B. LaRock. il World Oil 131:220-2+ N '50; Same abr. Oil & Gas J 49:99-101 Jl 13 '50

Sound practices in sewer construction. F. S. Cresswell. il Water & Sewage Works 98: 192-4 Ap '51

Special backhoes on odd pipeline ditching. il Constr Methods 33:103 Je '51

Stringer beads run by four welders. S. L. Pound. il Oil & Gas J 50:110 My 31 '51

Submerged arc unit welds pipe line on right-of-way. C. A. Renton. il World Oil 133:211-12+ Jl '51

Submerged arc welding of pipe on the line. F. H. Love. il Pet Eng 23:D7-8 Ag '51

Super Inch gas line is completed. D. H. Stormont. il map Oil & Gas J 49:A54-6 N 9 '50

Super Inch pipe line is ready to serve. il map Am Gas J 173:13-16 D '50

Supplying industrial water to Tacoma. A. R. MacPherson. il Pub Works 82:33+ My '51

Tale of two pipelines, parallel but 28 years apart; contrast in pipe laying methods. il map Eng N 146:34-6 Je 28 '51

Tampa solves a paradox; how to dig up $12 million for sewers and how then to bury it in the ground; with cost data. D. Newton. il plan Eng N 146:28-30 My 31 '51

Texas Illinois pipe-laying methods. R. G. Strong and M. J. Paul. il Oil & Gas J 49: 88-9 My 3 '51

Topock-Milpitas gas pipeline, California. il map Engineering 171:614-15 My 25 '51

Transcontinental, longest gas line. F. H. Love. il map plan Pet Eng 23:D12+ F '51

Underground piping problems solved; installation at University of Texas. W. J. Whatley. il diags Power 95:102-3 My '51

Welding costs reduced one-fourth using mobile unit for right-of-way double jointing. R. L. Looney. il Oil & Gas J 50:149-50 Ag 16 '51

World's biggest gas line. R. Finnie. il map Pet Eng 23:D86+ My '51

See also

Petroleum pipe lines—Construction
Pipe lines
Sewerage
Trenching machinery
Water distribution

Cost

Water supply pipe line for Wilmington, N.C.; unit prices. Eng N 147:75 Ag 23 '51

Safety measures

Safety rules for pipe-liners. B. G. Pierce. il World Oil 133:239-40+ Ag '51

PIPE laying, Subaqueous

Deep water pipe line design and construction in Gulf of Mexico. E. Sterrett. il World Oil 131:199-206 N '50

Double-ramp method used in laying pipe-line river crossing. N. A. Saigh, jr. il Oil & Gas J 50:100 My 24 '51

How marshy can a pipe-line route get? P. Reed. il Oil & Gas J 50:76-7 Je 14 '51

Jumbo places ocean outfall for Honolulu sewage. il Eng N 146:32 My 17 '51

PIPE laying, Subaqueous—*Continued*

Laying pipe in delta swampland. il Pet Eng 23:D40+ S '51

New submarine oil line takes an 8,400-ft. sleigh ride. J. Joseph. il Oil & Gas J 49: 90+ Mr 8 '51

Pioneer submarine gas line project completed. W. C. Grant. il Gas Age 107:56-7+ Mr 15 '51

River undercrossing at Peterborough. R. L. Dobbin. il Am Water Works Assn J 42: 1083-6 N '50

Sewer and water crossings for rivers and ravines; guided discussion. Munic Util 89: 76-8+ S '51

Underwater conduit pipe is floated into position. il Eng N 145:51 N 16 '50

See also

Pipe lines—River crossing

Pipe lines, Subaqueous

PIPE line contractors association

Annual meeting, 3d, Houston, Jan. 9-10. Oil & Gas J 49:29-31 Ja 18 '51; Pet Eng 23: D50+ F '51

PIPE lines

Belt conveyors, coal pipelines; a start in 1951? Steel 128:41 F 19 '51

Big-Inchers. il Fortune 43:66-73+ Ja '51

Coal pipeline. Heat & Ven 48:124+ Ap '51; diag Coal Age 56:127 Mr '51

Control of tailings from washing plants; asbestos-cement pipe sections provide disposal line. W. B. Lenhart. il plan diag Rock Prod 54:124-6 Je '51

Conveying viscous liquids through pipelines. T. W. Rodes. Ind & Eng Chem 43:sup 101A-2A+ Ap '51

Moving coal by pipeline; Pittsburgh Consol will build demonstration line. Bsns W p25 F 17 '51

Pipe line industry's greatest year. W. C. Kinsolving. Pet Eng 23:D7 My '51

Pipe line movement of LPG. D. A. Roach. il diag Pet Eng (Ref annual) 23:D11-14 Jl 15 '51

Production line methods speed large Australian water pipeline. map Eng N 147:48 Jl 19 '51

Transportation of coal by pipeline studied. Chem & Eng N 29:3469 Ag 20 '51

Water-jet eductors perform mixing function in addition to conveying solids in suspension. T. W. Rodes. diags Ind & Eng Chem 43:sup97A-8A My '51

Why the supply of gas and oil depends on the supply of steel. O. L. Chapman. Gas Age 108:33-5+ Ag 16 '51

See also

Aqueducts

Electric conduits

Gas, Natural—Pipe lines

Gas distribution

Gasoline pipe lines

Petroleum pipe lines

Petroleum products pipe lines

Pipe joints

Pipe laying

Piping (power plants)

Sewer pipes

Sewerage

Underground structures

Water pipes

Communication systems

Communication is nerve center of natural gas pipe lines. H. A. Rhodes. Gas Age 108: 32-5 Jl 19 '51

Cost and operating characteristics of microwave systems. E. B. Dunn. il World Oil 132:223-4+ Je '51

Humble uses microwave. H. Clark. il map Pet Eng 23:D49-50 My '51

Microwave communications systems. W. T. Bulla. il map Pet Eng 23:D13+ Je '51

New microwave relay system; Mid-Valley Pipeline's 1000-mile installation. D. Samuelson. il map diags Pet Eng 23:D123-6 My '51

Second longest microwave system; installation to serve 1300-mile Trunkline gas supply co. map Pet Eng 22:D38 D '50

Southern California expands radio facilities to link entire transmission system. H. J. Keeling. il Am Gas J 175:13-14 Ag '51

Texas Illinois communications; microwave facilities adopted to handle pipe-line traffic. W. T. Bulla and C. E. Upson. il Oil & Gas J 49:94+ My 3 '51

Triple-method communications tailored for Super-Inch pipe line. L. L. Creighton. il diag Gas Age 108:72-6+ O 11 '51

Two-way radio expedites Colorado Interstate operations. W. I. Blount. il Oil & Gas J 49:235-6 Ap 19 '51

Useful dispatching tools. E. D. Nuttall. bibliog diags Pet Eng (Ref annual) 23:D31-4 Jl 15 '51

Corrosion

Corrosion and its control. M. E. Parker. Oil & Gas J 49:111 F 8; 116-17 F 15; 65-6 Mr 1; 95+ Mr 8; 85 Mr 15; 106 Ap 5 '51

Taking corrosion measurements; Susquehanna electrolysis meter and vacuum tube voltmeter. F. Ringer. il Pet Eng 23:D115-16+ My '51

See also

Gas pipes—Corrosion

Pipe lines—Protection

Design

Design and installation of large-diameter long-span welded pipe. H. Jackson. il diags Welding J 29:957-61 N '50

Economics of increasing capacity of pipeline systems. N. B. Mavris. Oil & Gas J 50:118-21 My 17 '51

How to space supports for large diameter thin wall pipe. T. E. Bridge. diags Heating-Piping 23:90-5 S '51

Transmission of natural gas. C. R. Bellamy. Am Gas J 175:29-32 Jl '51

Detection

Locating underground pipes. H. Eggleston, jr. diags Instruments 24:105-8+ Ja '51

Location

Texas Illinois route of system selected after careful study of the terrain. M. V. Burlingame. il map Oil & Gas J 49:97+ My 3 '51

Maintenance and repair

Gas transmission-line maintenance. L. W. Curfman. diag Oil & Gas J 49:84-5 N 30 '50

How soil conservation pays off in pipe line maintenance. A. W. Emerson. il Gas Age 108:26-8+ Jl 5 '51

Portable air tools for maintenance work on gas and oil pipe lines. C. T. Chapman. il Am Gas Assn Proc 1950:741-3

Saving time and manpower on a short installation line. il Gas Age 108:29-30 Jl 5 '51

Use of permanent pipe repair clamps. il Pet Eng 23:D128 My '51

Protection

Bonding nonconductive pipe joints. M. E. Parker. Oil & Gas J 50:327 S 20 '51

Cathodic protection of line. G. L. Doremus. World Oil 131:206 N '50

Cathodic protection on the 840-mile Texas gas transmission corporation 26-inch pipe line from Texas to Ohio. R. J. Kuhn. Am Gas Assn Proc 1950:831-40

Cathodic protection technical practices. bibliog(56 titles) Pet Eng 23:D9-12+ Jl '51

Corrosion by stray currents. N. P. Peifer. diags Am Gas Assn Mo 33:24-6 F '51

Corrosion program for a pipe line. M. E. Parker. Pet Eng 23:D68+ My '51

Current requirements for cathodic protection. M. E. Parker. Oil & Gas J 50:85 Je 7; 109 Je 14 '51

Determination of current requirements for cathodic protection. M. E. Parker. bibliog diags World Oil 131:253+ N '50

Graphite rod and ground beds. M. E. Parker. Oil & Gas J 50:344 Jl 26 '51

Ground beds. M. E. Parker. Oil & Gas J 50: 100 Jl 19 '51

Installation and comparative costs given for steel vs graphite anodes. J. S. Dorsey. plan diags Am Gas J 175:27-8 Jl '51

Insulated joints in cathodic protection. M. E. Parker. Oil & Gas J 50:81 Jl 5 '51

Interference effects in cathodic protection. M. E. Parker. Oil & Gas J 50:113 S 27 '51

Joint cathodic protection systems. Pet Eng 23:D53-5 F '51

Magnesium anodes for hot spot protection. M. E. Parker. Oil & Gas J 50:136 My 17; 144 My 24; 119 My 31 '51

Measurements of line currents. M. E. Parker. Oil & Gas J 50:89 Ag 30 '51

New corrosion inhibitor gets job done; RD-119 to prevent corrosion in products pipe lines. K. T. Feldman and F. M. Watkins. Oil & Gas J 49:340-4 N 16 '50

PIPE lines—Protection—*Continued*

New developments in coatings and cathodic protection. C. L. Goodwin. Am Pet Inst Proc 30(5):33-5 '50; Same. Oil & Gas J 49:355-6+ N 16 '50; Same. Pet Eng 22:D35-7 D '50

Performance of magnesium anodes under actual service conditions. T. H. Gilbert. Gas Age 106:40-1+ N 23 '50

Proposed method for measuring electrical resistance of coatings. W. F. Rogers and others. diags Gas Age 108:31-5+ S 27 '51

Rational approach to cathodic protection. M. E. Parker. Pet Eng 23:D14+ S '51

Rectifiers for cathodic protection. M. E. Parker. diags Oil & Gas J 50:110 Jl 12 '51

Underground pipelines corrosion mitigated by proper design and protection. M. G. Fontana. Ind & Eng Chem 43:sup69A-70A+ My '51

Use and abuse of insulated joints. M. E. Parker. il diags Oil & Gas J 49:70-2+ F 1 '51

Use of magnesium ribbon for cathodic protection. T. W. O'Brien. il diag Am Gas Assn Proc 1950:819-22

See also

Petroleum pipe lines
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Pipe coating

River crossing

Automatic welding for the Transcontinental Hudson River crossing. il Welding J 29:1100-1 D '50

Barytes in continuous weighting of river-crossing pipe. il World Oil 132:245-6 Ap '51

Developments in large-diameter river-crossing construction. F. H. Sanders, jr. il plan Am Pet Inst Proc 30(5):44-52 '50; Same, without il. Oil & Gas J 49:329-30+ N 16 '50; Same. Pet Eng 23:D20+ S '51

Difficult pipe-line river crossing. P. R. Hammond. il diags Explosives Eng 28:139-43+ S '50; Same. World Oil 132:238-40+ Ap '51

Double-ramp method used in laying pipe-line river crossing. N. A. Saigh, jr. il Oil & Gas J 50:100 My 24 '51

Lone Star completes Red River crossing. W. C. Grant. il Gas Age 107:40+ Ja 18 '51

Multiple welded pipeline. il Engineer 191:878-9 Je 29 '51

Nautical pipe lining across spongy Mississippi River delta. Oil & Gas J 50:99 Ag 16 '51

Pipe-line crossing uses jacketing of barytes-laden cement. J. A. Kornfeld. il Oil & Gas J 49:82-3 Ap 12 '51

Raising 735 ft. suspension bridge over Santa Ana river. il Gas Age 106:21+ N 9 '50

River crossing; Greenville bridge used. il Oil & Gas J 49:46 N 23 '50

River crossing span lifted as single unit. G. M. Wilson. il World Oil 132:180-1 F '51

Sweat fell on Alabama; pipe line goes through the solid granite river bed of the Tallapoosa. il Pet Eng 22:D29-31 D '50

Texas Illinois river crossings. K. Bentz. il Oil & Gas J 49:90-1+ My 3 '51

Three-rig circus sets 568-ft pipe crossing. il Constr Methods 32:44 N '50

Tough job; Hudson pipeline crossing. R. H. Dodds. il diags Eng N 146:32-5 Ap 19 '51

Transco river crossings; laying of pipe under Hudson and Harlem rivers. il map Oil & Gas J 49:52-3 N 9 '50; Civil Eng 20:799 D '50; Gas Age 106:31-2 D 7 '50

Transcontinental, longest gas line. F. H. Love. il Pet Eng 23:D21-2+ F '51

See also

Pipe lines, Subaqueous

Stresses

Measurement of stresses in buried pipe lines. J. C. Warren. plan diags Gas Age 107:28-30+ Ap 12 '51

Slack in buried gas pipe lines. G. M. McClure and L. R. Jackson. il diag Oil & Gas J 49:86-7+ Mr 22 '51

Tables, calculations, etc.

Cut out trial-and-error. J. F. Heiss and H. C. Bramer. diags Chem Eng 58:112-14+ Je '51

Prediction of surge pressures in long oil-transmission lines. M. Ludwig and S. P. Johnson. Am Pet Inst Proc 30(5):62-70 '50

Simplified direct method of pressure drop calculations for viscous fluids. C. A. Kershaw. Power Eng 55:78-80+ Ja '51; Discussion. 55:55+ S '51

Testing

Installation and use of test leads on pipe lines. M. E. Parker. diag Oil & Gas J 50:339 Je 21 '51

Measurement of electrical constants of a pipe line. M. E. Parker. diags Oil & Gas J 50:94 Je 28 '51

Retesting big gas pipeline, a hectic operation. J. M. Connolly. il Constr Methods 33:52-5 Ja '51

PIPE lines, Military. See Military pipe lines

PIPE lines, Subaqueous

Aluminum marine pipe line. E. T. Wanderer. il Oil & Gas J 50:58-9+ Jl 5 '51

First submarine pipe line gets separation, dehydration, and metering facilities. R. C. Ledford. flow diag il Oil & Gas J 50:220+ Je 21 '51

Leak detection on sub-aqueous raw water intake line; Wyandotte, Mich. G. Hazey. il diag Water & Sewage Works 98:382-4 S '51

Marine studies for off-shore pipe lines. il Pet Eng 23:D38+ Mr '51

Oceanographic considerations in marine pipe line construction. R. O. Reid. bibliog il Gas Age 107:46-9+ Ap 26 '51

Use of barytes on pipe lines. F. H. Love. il Pet Eng 23:D26+ Je '51

PIPE lines as common carriers

Functions of common carrier pipe lines. A. Gibbon. World Oil 132:64+ My '51

PIPE lining

Developments in internal pipe-coating techniques. J. K. Alfred. plans diags Am Pet Inst Proc 30(5):36-43 '50; Same. Oil & Gas J 49:266+ N 16 '50; Same. Pet Eng 23:D26+ Ja '51; Same. World Oil 132:181-4+ Ja '51

Erosion-control materials installed in Wilshire Oil's Norwalk refinery. il Oil & Gas J 50:100+ Je 7 '51

Internal pipe-coating techniques. J. K. Alfred. diags Oil & Gas J 49:266+ N 16 '50; Same. Pet Eng 23:D26+ Ja '51; Same. World Oil 132:181-4+ Ja '51

Operating precautions to be taken with rubber lined pipe and valves. Heat & Ven 48:98+ S '51

See also

Cement lined pipe
Water pipes—Lining

PIPE organ. See Organ

PIPE scrapers. See Scrapers, Pipe

PIPE threading machines

Portable pipe-sawing and thread-milling machine. il Engineer 191:267 F 23 '51

PIPE threads

Cut-thread blanks for Dryseal parts; reference book sheet. diag Am Mach 95:129 Ja 8 '51

Thread compounds; new agents for casing. Oil & Gas J 49:45 N 23 '50

Standards

American standard taper pipe threads; data sheet. Mach 57:235 N '50

PIPE tongs

Multiply spring life without changing design; Web Wilson oil drill pipe tong. C. W. Oicles and F. K. Landecker. il diag Iron Age 166:80-2 D 21 '50

PIPER nigrum

Piperettine from piper nigrum; its isolation, identification, and synthesis. F. S. Spring and J. Stark. Chem Soc J p 1177-80 Ap '50

PIPERAZINE

Crystallization in high polymers; heat of fusion of poly-(N,N′-sebacoylpiperazine) and its interaction with diluents. P. J. Flory, L. Mandelkern and H. K. Hall. bibliog Am Chem Soc J 73:2532-8 Je '51

N,N′-dialkylmonoketopiperazines. W. B. Martin, jr. and A. E. Martell. Am Chem Soc J 72:4301-2 S '50

Pungency taste characteristics of some piperazine derivatives. T. Hasselstrom and others. Science 112:626-7 N 24 '50

PIPERETTINE

Piperettine from piper nigrum; its isolation, identification, and synthesis. F. S. Spring and J. Stark. Chem Soc J p 1177-80 Ap '50

PIPERIDINE

Compounds related to thiosemicarbazide; 5-amino-3-phenyl-1 : 2 : 4-triazoles. E. Hoggarth. Chem Soc J p612-14 F '50

Effects of substituents on the rate of hydrolysis of triarylsilanes in wet piperidine. H. Gilman and G. E. Dunn. bibliog Am Chem Soc J 73:3404-7 Jl '51

Piperidine derivatives; 1-methyl-4-phenyl-3-piperidone and related products. S. M. McElvain and P. M. Laughton. Am Chem Soc J 73:448-52 Ja '51

Preparation of quinuclidines. S. Wawzonek, M. F. Nelson, jr. and P. J. Thelen. Am Chem Soc J 73:2806-8 Je '51

Quaternary ammonium salts as germicides; quaternary ammonium salts derived from substituted piperidines. G. H. Harris and others. Am Chem Soc J 73:3963-5 Ag '51

Reactivity of halonitrobenzenes and of 1-fluoro-2 : 4-dinitrobenzene. N. B. Chapman and others. Chem & Ind p 148 F 24 '51

Salts of substituted piperidines and pyrrolidines. C. T. Bahner and others. Am Chem Soc J 73:4455-6 S '51

Studies of coal tar bases; by-products of the hydrogenation of pyridine with Raney nickel. J. I. Jones. Chem Soc J p 1392-7 My '50

Synthesis of piperidine derivatives; decahydro*iso*quinolines. G. M. Badger, J. W. Cook and G. M. S. Donald. Chem Soc J p 1392-7 Je '51

Synthesis of piperidine derivatives; 4-phenylpiperidols. G. M. Badger, J. W. Cook and G. M. S. Donald. Chem Soc J p 197-9 Ja '50

1 : 2 : 5 : 6-Tetrahydropyridine; isolation from technical piperidine by efficient fractional distillation. W. H. Davies and L. L. McGee. Chem Soc J p678-80 F '50

PIPERIDONE

Some reactions of thia*cyclo*hexan-4-one and 1-alkyl-4-piperidones. H. M. E. Cardwell. Chem Soc J p 1059-62 Ap '50

PIPERIDYL compounds

Some β-(2-pyridyl)- and β-(2-piperidyl)-propionamides. F. H. McMillan and J. A. King. bibliog Am Chem Soc J 73:3165-8 Jl '51

PIPERINE

Piperettine from piper nigrum; its isolation, identification, and synthesis. F. S. Spring and J. Stark. Chem Soc J p 1177-80 Ap '50

PIPERITONE

Reactions of αβ-unsaturated cyclic aldehydes and ketones; alcohols derived from (—)-piperitone. C. S. Barnes, L. M. Jackman and A. K. Macbeth. Chem Soc J p 1848-51 Jl '51

PIPERONYL butoxide

Synergists widen scope of non-toxic insecticides. M. Goldberg. il Chem Ind 67:578-81 O '50

PIPERYLENE

Thermal dissociation of methyldihydrothiophene-1-dioxides. O. Grummitt, A. E. Ardis and J. Fick. bibliog Am Chem Soc J 72:5167-70 N '50

PIPES

Duct system for recirculating hot brick kiln gases. il Sheet Metal Worker 42:80+ Mr '51

Friction pressure drop in the flow of paper pulp stock. T. E. Guenter and N. H. Ceaglske. bibliog plan diag Tappi 34:140-4 Mr '51

Heat transfer to a fluid flowing turbulently in a smooth pipe with walls at constant temperature. R. A. Seban and T. T. Shimazaki. bibliog A S M E Trans 73:803-7; Discussion. 807-9 Ag '51

How segmental dies can slit pipes. R. J. Gould. il diags Am Mach 95:127 O 15 '51

How to recondition pipe. R. Sneddon. il Pet Eng 23:B37-8+ S '51

Leak location by radioactive gases in buried pipes. A. Gemant and others. bibliog diags J Ap Phys 22:460-4 Ap '51

What causes tubular failures? D. C. Neely. il Oil & Gas J 50:78-80+ My 31 '51

See also

Air pipes
Electric conduits
Gas pipes
Heating pipes
Oil pipes
Petroleum—Well casing
Petroleum pipe lines
Pipe fittings
Pipe joints
Pipe laying
Pipe lines
Piping
Piping (power plants)
Plumbing
Sewer pipes
Steam pipes
Tubes
Water pipes

Protection

See also
Pipe coating

Standards

How to use schedule numbers in power piping design. S. Crocker. Heating-Piping 23:73-6 My '51; Same, without table. Standardization 22:173-5+ Je '51

Tables, calculations, etc.

Allowable pipe velocities for liquids; chart; data sheet. J. D. Constance. Power 95:103 O '51

Allowable spaces for pipes. G. Jankauskas. diags Heat & Ven 48:102-3 Ap '51

Calculating the strength of pipe for columns. W. F. Schaphorst. Heat & Ven 48:70 Ag '51

Conduction of current in a metallic pipe filled with a conducting liquid. H. Poritsky and H. Weil. diags J Ap Phys 22:1002-5 Ag '51

Diameter of pipes for transmitting blast from blower to cupola; air pressure and velocity through pipes; tabulations and charts; data sheet. Foundry 79:157-8 Ja '51

Droplet transfer from suspending air to duct walls. L. G. Alexander and C. L. Coldren. bibliog il diags Ind & Eng Chem 43:1325-31 Je '51

Duct sizing easy as ABC! for ducts carrying dry air, moist air, flue gas. A. B. Stickney. Power Eng 54:64-5 N '50

Effect of ethylene glycol on pipe friction and heat transfer. F. H. Bridgers and J. Bricker. bibliog Heat & Ven 48:61-4 Jl '51

Equation of pipes. Water & Sewage Works 98:R36 Ap '51

Formula for pipe thickness. W. J. Buxton and W. R. Burrows. bibliog A S M E Trans 73:575-81; Discussion. 581-7 Jl '51

How to size piping for antifreeze solutions; data sheet. W. P. Armstrong and C. J. Kippenhan. Heating-Piping 22:104-6 N '50

Pipe fluid flow friction loss determination. E. M. De Forest. bibliog Pet Refiner 30:97-106 Mr '51

Relative carrying capacities of pipe lines of equal smoothness; tables. E. L. Neubling. Water & Sewage Works 98:R177 Ap '51

Report of progress on measurements of friction coefficients, recovery factors, and heat-transfer coefficients for supersonic flow of air in a pipe. J. Kaye and others. bibliog il diags A S M E Trans 73:267-77; Discussion. 277-9 Ap '51

Sliding curve quickly solves partly full pipe problems. H. J. Miles. Pub Works 82:48-9 S '51

Testing

Ultrasonic flaw detection in pipes by means of shear waves. C. D. Moriarty. bibliog il diags A S M E Trans 73:225-9; Discussion. 229-35 Ap '51

PIPES, Aluminum

Aluminum marine pipe line. E. T. Wanderer. il Oil & Gas J 50:58-9+ Jl 5 '51

Aluminum pipe in low coal. il Coal Age 56:81 Je '51

How to weld aluminum piping. il Power 95:142 Ap '51

Tests show invasion pipe suitable for field operations. Iron Age 168:110 Jl 5 '51

PIPES, Asbestos cement

Control of tailings from washing plants; asbestos-cement pipe sections provide disposal line. W. B. Lenhart. il plan diags Rock Prod 54:124-6 Je '51

Corrosion of cement-bonded sewer pipes by acid and alkaline solutions. H. F. Ludwig and R. G. Ludwig. il Water & Sewage Works 98:404-7 S '51

Freeport solves its water loss problem. G. V. Maurer. il Water & Sewage Works 98:380-1 S '51

Longer pipes + fewer joints = better sewers. il Eng N 145:45-7 D 21 '50

PIPES, Cast iron

Cast iron water main cut in close quarters. il Eng N 146:46 My 17 '51

PIPES, Cast iron—*Continued*

Cast iron water pipe prices, 1929-1950; tabulation. Iron Age 167:294 Ja 4 '51

Centrifugal casting of pipe in sand-lined molds. K. R. Daniel. il plans diags Mech Eng 73:644-8 Ag '51

Gray iron castings specifications; pipe, fittings, valves, and flanges; tabulation. Oil & Gas J 49:109 D 14 '50

New cast-iron pipe plant is born; will serve the Southwest and Midwest in particular. L. D. Webster. il Water & Sewage Works 97:462-3 N '50

Pipe molding methods. P. Dwyer. diags Foundry 79:88-9+ Ja '51

Service connections from cast iron mains. J. E. O'Brien. Gas Age 107:21+ Mr 29 '51

Standard cast iron pipe fitting allowances. R. Irmiter. diags Heat & Ven 48:66-7 Ja '51

PIPES, Concrete

Concrete pipelines for United nations. Eng N 146:30 Mr 22 '51

See also

Culverts, Concrete

Sewer pipes, Concrete

Water pipes, Concrete

Manufacture

Concrete-pipemaking method gets first use on sewer job. il Eng N 147:45-6 S 13 '51

Impermeable concrete pipe. M. W. Loving. il diag Rock Prod 54:131-6 My '51

Manufacture of pipe in Australia. F. L. Fitzpatrick. il Rock Prod 54:149+ F '51

Price Brothers pipe-plant in full production. il Concrete 59:6-7 F '51

PIPES, Fiber

Fiber tubing, economical substitute for metal duct work in warm air heating; Sonoairduct. il diag Arch Forum 94:206 Je '51

PIPES, Glass

Industrial glass piping. E. B. Shand. bibliog il diags Heat & Ven 47:67-82 N '50

PIPES, Lead

Making lead pipe joints. L. S. Bowser. il diags Welding J 30:362-3 Ap '51

New developments expand use of lead construction. K. H. Roll. il Materials & Methods 33:73 My '51

PIPES, Plastic

Plastic pipes. il Arch Rec 108:155+ D '50

Plastic piping guides coolant. N. Palmer. Am Mach 95:172 Ap 16 '51

PIPES, Steel

Arc welding of carbon-molybdenum steel pipe. F. J. Winsor. bibliog Welding J 30:817-27 S '51

Continuous heat treatment improves pipe physical properties. C. A. Turner, jr. il diag Steel 129:97-8+ S 17 '51

Corrosion resistance of wrought iron and steel pipe. S. L. Case. il diags Metal Prog 59:378-84 Mr '51

Free market ends; after July 1 mills must hold tubular goods for sale to priority holders. B. F. Linz. Oil & Gas J 50:155 Je 21 '51

New pipe conserves stainless. Steel 128:120 Je 25 '51

Oil country tubular goods. H. J. Wallace. Pet Eng 22:B54+ D '50

Oil-industry steel; PAD tells NPA oil industry must have 1,947,000 tons of tubular goods. B. F. Linz. Oil & Gas J 49:189-91 N 16 '50

Order M-46 issued; operators now have priority system for tubular goods; with text of order. B. F. Linz. Oil & Gas J 49:41-4 Mr 15 '51

Phillips Petroleum splits oil profits in return for Barium pipe. Iron Age 167:119 Je 21 '51

Plates steel pipe, doubles for nickel; Electro Clad process. Bsns W p 136 S 22 '51

Residual stresses in welded mild-steel pipe. L. J. Privoznik. bibliog Welding J 30:sup422-8 S '51

Steel industry statistics; finished steel. Steel 129:130-5 O 1 '51

Welding high yield pipe. C. J. Coulter. il Pet Eng 23:D52+ My '51

Welding of high-temperature, high-pressure piping. L. C. McNutt. il diags Welding J 30:325-30 Ap '51

Why the supply of gas and oil depends on the supply of steel. O. L. Chapman. Gas Age 108:33-5+ Ag 16 '51

Graphitization

See also

Piping (power plants)—Graphitization

Manufacture

Continuous seamless pipe mill; National tube co.'s Lorain plant. J. L. Young. il Iron & Steel Eng 28:53-8 Ap '51; Excerpts. Steel 127:78+ O 30 '50; Discussion. Iron & Steel Eng 28:59-61 Ap '51

Design and operation of high-speed production tube mills. D. H. Fleig. il Welding J 30:589-96 Jl '51

Manufacture of electric fusion welded pipe. J. H. Middleton. il Iron & Steel Eng 28:66-9 Mr '51; Same. Steel 128:80+ Ap 23 '51

Mass production of 2½ miles of pipe daily; National tube co. D. A. Evans. il diags Iron Age 166:68-73 D 28 '50

Operation of new 16-in. electric-weld pipe mill. C. W. Morehead. il diags Iron & Steel Eng 27:111-15 D '50

Topock-Milpitas gas pipeline, California. il Engineering 171:613-14 My 25 '51

20 miles of pipe per day; plant of Basalt rock co. il Steel 128:78-80 My 28 '51

Testing

Nondestructive test for corrosion-fatigue cracks in drill pipe; Magnaglo dry fluorescent magnetic powder and technique. S. A. Wenk and H. M. Banta. il Oil & Gas J 50:90-2+ My 17 '51

PIPES, Vitrified clay

Around and about the clay pipe plants. il Brick & Clay Rec 118:35-6+ Mr '51

See also

Sewer pipes, Vitrified clay

PIPETS

Particle size determination by centrifugal pipet sedimentation. H. J. Kamack. bibliog il diag Anal Chem 23:844-50 Je '51

PIPING

Broader horizons for glass-lined piping. il diags Chem Eng 58:144-6+ Mr '51

Built-in pulsation dampener provided in compressor piping system at Richfield's new Cuyama plant. D. H. Stormont. il Oil & Gas J 49:172-3 F 22 '51

Central oxygen, anesthetic piping, important services in hospitals. il Heating-Piping 22:84-7 D '50

Charts simplify refinery piping design. diags Pet Eng 23:C16-18+ Jl '51

Chemical plant frame pierced for piping; Hoffman-LaRoche, inc. il plan diag Eng N 147:39 Ag 23 '51

Drafting room symbols for piping. diags Heat & Ven 48:65 Ja '51

Economic line sizing for plant piping. H. B. Manley. Pet Refiner 30:151-2 Jl '51

Hidden arc welding of high pressure piping. C. G. Herbruck. il Pet Eng 23:D20+ Ap '51

High temperature liquid process piping systems; installation utilizing tetra cresyl silicate. W. F. Moore. diags Heating-Piping 23:100-2 My '51

Hot water piping systems. W. F. Schaphorst. diags Pet Eng 23:C49 S '51

Manifolding oxygen, acetylene cylinders cuts piping costs. il Heating-Piping 23:73 Je '51

Methods of absorbing expansions of long-range transmission piping. F. E. Wolosewick. diags Pet Refiner 30:69-74 F '51

Methods of making piping flexibility analyses. L. E. Partch; T. E. Bridge. plan diags Heating-Piping 22:92-5 Jl; 94-7 O; 94-7+ N; 92-5 D '50; 23:136-9 Ja; 107-9 F '51

New low-cost jacketing cuts maintenance on insulated lines. il Pet Eng 23:E18 F '51

Overcoming some common difficulties with pipe and valve systems. B. Hornung. diags Chem Eng 58:124 Mr '51

Oxygen piping systems an important hospital service. il diags Heating-Piping 23:94-6 Mr '51

Piping system maintenance at Western Electric plant. A. H. Gipson and D. C. Gerloff. il Heating-Piping 23:73-6 Mr '51

Resonant vibrations in a water-filled piping system. D. B. Callaway and others. Acoustical Soc Am J 23:550-3 S '51

PIPING—*Continued*

Simple design of Coalinga Nose compressor plant provides vibration-free compressor piping. il diags Oil & Gas J 50:82+ Jl 5 '51

Suggest ways to solve shampoo piping problem. diag Heating-Piping 22:101-2 D '50

Tips on valve piping; data sheet. diags Heating-Piping 23:106 S '51

Use of welding to facilitate piping suspension and support. G. W. Hauck. il diags Heating-Piping 23:83-7 Mr '51

Using oxyacetylene processes for fabricating piping. E. P. Auler. il Heating-Piping 23:102-5 Jl '51

Workmanship in welding industrial piping. Heating-Piping 22:98-9 N '50; 23:121-2 Ja; 96-7+ F '51

See also

Oil pipes

Ships—Piping

Estimates

How to figure pipe costs. R. A. Dickson. Power 94:80-3 N '50

Identification

Power piping identification; stencil labels. il Heating-Piping 23:106 Jl '51

Standards

American standards association new piping code, aid to gas transmission. Gas Age 108:5 Jl 5 '51

Code for pressure piping. il Heating-Piping 23:92-5 My '51; Same abr. Standardization 22:150-3 My '51

Welding

Arc welding of carbon-molybdenum steel pipe. F. J. Winsor. bibliog Welding J 30:817-27 S '51

Heat treatment of welds in pipelines. A. H. Goodger. il Engineering 172:125-7, 157-8, 191 Jl 27-Ag 10 '51

Revolutionary advance in dairy engineering; permanent welded pipelines. C. R. Havighorst. il plan diags Food Eng 23:74-9 S '51

PIPING (power plants)

Charts aid selection of pipe wall thickness; data sheet. Heating-Piping 23:97-9 Ag '51

Design and fabrication of steam piping. A. W. Rankin and R. W. Clark. bibliog il Welding J 30:508-22 Je '51

Film produced by contractor shows power piping installation; Phillips, Getschow co. il Heating-Piping 23:73-6 S '51

Flow of a flashing mixture of water and steam through pipes and valves. W. F. Allen, jr. bibliog A S M E Trans 73:257-63; Discussion. 263-5 Ap '51

Four-pipe main steam line for new central station. W. M. McKee. il Heating-Piping 22:78-9 N '50

Four techniques used to insulate hospital piping. il diags Heating-Piping 23:140-1 Ja '51

Good pipe labeling aids operation at Edgar station; illustrations with text. Power Eng 55:61 Mr '51

High-temperature properties and characteristics of a ferritic steam-piping steel. A. W. Rankin and W. A. Reich. il A S M E Trans 73:891-8; Discussion. 898-904 O '51

How to space your pipe supports correctly; with chart. Power Eng 54:82-3 D '50

How to use schedule numbers in power piping design. S. Crocker. Heating-Piping 23:73-6 My '51; Same, without table. Standardization 22:173-5+ Je '51

Ingenuity solves piping problem. J. A. Kelleher. plan Heating-Piping 23:102 S '51

Installation, maintenance facilities influence piping joint selection. G. W. Hauck. plans Heating-Piping 23:74-8 Ag '51

Joints for high-pressure high-temperature piping. I. H. Carlson and W. S. Black. il diags A S M E Trans 73:237-43 Ap '51; Abstract. Mech Eng 72:913 N '50; Discussion. A S M E Trans 73:243-6 Ap '51

Plant stops return line corrosion; saves $14,200 a year; use of Permacol; Glenn L. Martin co. E. Elliott and P. J. Gaughan. il diag Power Eng 55:104+ Ag '51

Power handbook; piping, flow and tanks. P. Swain and W. Arrott. diags Power 95:101-4 Mr '51

Purging gas piping at Hell Gate station; Consolidated Edison co. C. J. Smith. plan Am Gas Assn Mo 33:19-20 Mr '51

Review of new plant equipment; piping, valves, fittings, and accessories. il Power 95:164-7 Mid-Je '51

To know your plant, use diagrams. T. H. Carr. diags Power 94:109 N '50

Unit piping fabrications save space, time, money. G. W. Hauck. il Heating-Piping 23:94-5 Jl '51

Universal joints needed in extension stems for valves. G. W. Hauck. diags Heating-Piping 23:124-5 Ja '51

Graphitization

Graphitization appraised. G. V. Smith. Pet Processing 6:997 S '51

Investigation of the role of aluminum in the graphitization of plain carbon steel. A. M. Hall and E. E. Fletcher. bibliog il A S M E Trans 73:743-50 Ag '51

Tables, calculations, etc.

Easier way to find hot-pipe movement. F. Kamarck. il diags Power 95:91-3 Ap '51

Welding

Design and fabrication of steam piping. A. W. Rankin and R. W. Clark. bibliog il Welding J 30:517-22 Je '51

Effect of prior treatment of precipitation of sigma phase. G. V. Smith and others. bibliog il Welding J 30:sup385-96 Ag '51

Welding high-temperature austenitic steel piping. R. W. Emerson and M. Morrow. bibliog(38 titles) il Welding J 30:sup 15-33; Discussion. sup33-9 Ja '51

Welding of high-temperature, high-pressure piping. L. C. McNutt. il diags Welding J 30:325-30 Ap '51

Welding procedures for high-pressure, high-temperature steam piping. N. L. Navarre. il diags Welding J 30:sup 1-9 Ja '51

PIPING (refrigerating plants)

Corrosion of ice rink piping. F. W. Knowles. il Refrig Eng 59:370-1 Ap '51

Low temperature piping and air conditioning essential in testing equipment for the air force. il diag Heating-Piping 23:80-3 Je '51

PIRIE, John Taylor, 1903-

Portrait. Fortune 44:124 S '51

PISTOLS

Testing

Measuring muzzle velocity. diag Electronics 24:180+ Jl '51

PISTON rings

Cylinder, ring and valve wear; abstract. A. M. Brenneke and A. J. Weigand. Automotive Ind 105:136+ S 15 '51

Design features affecting wear. H. G. Braendel. diags S A E J 58:29-32 N '50

Further study of metal transfer between sliding surfaces; abstract. J. T. Burwell and C. D. Strang. Aviation W 54:27-8 Ap 9 '51

Increased efficiency for Diesels provided by sealing rings. Pet Refiner 30:113-14 F '51

Late developments in piston ring design. H. G. Braendel. diags World Oil 133:234-6 Ag '51

Metal transfer from piston rings to cylinders during run-in. C. D. Strang and J. T. Burwell. bibliog Inst Mech Eng Proc (Auto div pt4):169-72, pl 1-2; Discussion. 173-5 '49-50

Oil-control piston ring. il Automotive Ind 104:62 Ja 15 '51

Piston assemblies for road transport oil engines. J. L. Hepworth. diags Inst Mech Eng Proc (Auto div pt2):69-76, pl 1-2 '49-50; Same. Automobile Eng 39:528-34 D '49; Same abr. Engineering 168:629-32 D 9 '49; Discussion. diags Inst Mech Eng Proc (Auto div pt2):76-87 '49-50

Stop wasting oil! choosing piston rings for your engine. R. W. Hoyt. il diags Power 95:118-19 Je '51

Advertising

How to make chronic procrastinators buy now; convince them it's cheaper; Hastings piston rings. H. E. Green. il Ptr Ink 233:32-3 O 27 '50

PISTON rings—*Continued*

Manufacture

People, piston rings, and quality control. C. E. Hoover. Automotive Ind 104:126+ Je 15 '51

PISTON rods

Special scale aids piston rod balancing. il Iron Age 167:115-16 F 1 '51

PISTONS

Bi-metallic pistons; abstract. C. E. Stevens, jr. il S A E J 58:80 N '50

Pack pump pistons right. diags Power 95:120-1 O '51

Piston assemblies for road transport oil engines. J. L. Hepworth. diags Inst Mech Eng Proc (Auto div pt2):69-76, pl 1-2 '49-50; Same. Automobile Eng 39:528-34 D '49; Same abr. Engineering 168:629-32 D 9 '49; Discussion. diags Inst Mech Eng Proc (Auto div pt2):76-87 '49-50

Piston cooling and ring groove wear. F. Jardine. il diags S A E J 58:52-5 D '50

Piston developments. P. B. Jackson. Diesel Power 29:50 Ag '51

Some interesting experiments with bi-metallic piston skirts, municipal Diesel station, Freeport, Long Island. il Diesel Power 29:40-1 Jl '51

Synchronizing piston movement in hydraulic cylinders. diags Product Eng 22:156-7 Jl '51

See also
Dashpots

Manufacture

Automatic sorting speeds piston and wrist-pin production; refrigerator compressor parts. il Steel 127:91-2 D 11 '50

Chrysler V-8 pistons, rods and crankshafts in production. J. Geschelin. il Automotive Ind 104:46-9+ My 15 '51

New piston grinding unit. il Steel 127:123 D 18 '50

Testing

How Chrysler builds quality into the fire-power engine; cam-turned piston inspected in constant-temperature room. R. Le Grand. il diags Am Mach 95:144-7 S 17 '51

PITCH

Pitch and pitch mastics as colloidal systems; abstract and discussion. L. J. Wood. Chem & Ind p669 Ag 4 '51

PITCH (term)

Use of the terms pitch and plunge. R. H. Clark and D. B. McIntyre. bibliog diag Am J Sci 249:591-9 Ag '51

PITCHBLENDE. See Uraninite

PITOT tubes

Pitot-Venturi flow element. H. W. Stoll. il diags A S M E Trans 73:963-8 Discussion. 968-9 O '51

Three-quarter radius pitot tube flow meter. J. H. Preston. diags Engineer 190:400-2 O 27 '50

Use of a pitot tube in a dust-laden gas stream. T. H. Hughes and C. P. Sayles. il diags Engineer 191:503-5 Ap 20 '51

PITTSBURGH

Capital of steel and America's largest inland river port. il Eng N 145:47 N 30 '50

Pittsburgh cleans up for company. il Bsns W p22-3 Ja 6 '51

Pittsburgh promotes Pittsburgh with steamer race. il Bsns W p24-5 Je 9 '51

See also
Newspapers—Pittsburgh

Sanitary affairs

Air pollution in Pittsburgh. S. B. Ely. A M A Archives Ind Hygiene & Occup Med 3:44-7 Ja '51

Sewerage

Letter from Pittsburgh. Eng N 146:80 Mr 22 '51; Reply, with editorial comments. J. F. Laboon. 146:96 My 31 '51

PITTSBURGH and Lake Erie railroad

Equipment trust certificates offered. Comm & Fin Chr 173:763 F 19 '51

PITTSBURGH coke and chemical company

Offers common stock. Comm & Fin Chr 174:368 Jl 30 '51

PITTSBURGH consolidation coal company

In coal; it pays to be big and smart. Bsns W p79-80 Mr 24 '51

PITTSBURGH steel company

Capital reshuffle. Bsns W p 123-4 Mr 17 '51

Reduces arrears. Barron's 31:20 Ja 15 '51

Security I like best. M. L. Heine. Comm & Fin Chr 174:346-7 Jl 26 '51

PITTSBURGH university. Mellon institute of industrial research

Annual report, 38th; summary. Oil Paint & Drug Rep 160:7+ Jl 9 '51

Mellon institute research; many fields investigated. Chem Age (Lond) 65:221-4+ Ag 18 '51

Pittsburgh's temple of research. W. A. Hamor. il Instruments 24:891-4 Ag '51

PITUITARY body

Direction of flow in the blood vessels of the infundibular stalk. R. J. Barrnett and R. O. Greep. bibliog Science 113:185 F 16 '51

Preparation of nonprotein fractions possessing adrenocorticotropic activity from fresh sheep pituitary glands. I. I. Geschwind and others. bibliog diag Science 112:436-7 O 13 '50

See also
Adrenocorticotropic hormone

PIVALOPHENONE

Pivalophenones from Friedel-Crafts and Grignard reactions. D. E. Pearson. bibliog Am Chem Soc J 72:4169-70 S '50

PLAGUE

Double infection of the rat fleas X. cheopis and N. fasciatus with pasteurella and salmonella. C. R. Eskey and others. Pub Health Rep 66:1318-26 O 12 '51

Plague in the territory of Hawaii. B. Gross and D. D. Bonnet. maps Pub Health Rep 66:209-14 F 16 '51

PLAINS

Piedmont plains of India and Pakistan. H. L. Chhibber. Science 114:204 Ag 24 '51

PLANCK, Max, 1858-1947

Advent of the quantum theory. A. Einstein. por Science 113:82-4 Ja 26 '51

Fifty years of quantum theory. A. Sommerfeld; F. Bopp. Science 113:85-92 Ja 26 '51

Max Planck, the man and his work. W. Meissner. Science 113:75-81 Ja 26 '51

PLANCK'S constant

Conceptual foundations of the quantum theory. H. Margenau. Science 113:95-101 Ja 26 '51

PLANETARY gearing. See Gearing, Planetary

PLANETS

Evolution of the protoplanets; abstract. G. P. Kuiper. Science 113:482 Ap 27 '51

High temperature stage in the evolution of the terrestrial planets; abstract. H. C. Urey. Science 112:451-2 O 20 '50

Origin of planets and comets; abstract. F. L. Whipple. Science 112:454 O 20 '50

Shortwave radio propagation correlation with planetary positions. J. H. Nelson. RCA R 12:26-34 Mr '51

See also
Mars (planet)

PLANIMETERS

Calculation of orifice meter charts by the square-root planimeter method. J. T. Cortelyou. Instruments 23:1081 O '50

PLANING machines

Christmas tree slotting job calls back old planer. S. K. Rudorf. il diags Am Mach 94:85-8 D 25 '50

Curvilineal machining now in bailiwick of planers, shapers; application of hydraulic tracer controlled tooling. G. Hubbard. il Steel 127:94-7 N 13 '50

Hugo Hypro combination planer and miller with three planing and two milling heads. il Mach 57:205-6 Mr '51

Magnetic chucks halve planing time. W. M. Stockel, jr. il Am Mach 95:100-1 My 28 '51

1951 production preview. il Am Mach 95:177-8 Ja 22 '51

PLANKTON

Deep-sea layer of life. L. A. Walford. il Sci Am 185:24-8 Ag '51

PLANNING

How flexible shall we make our plant and facilities? R. P. Neuschel. Advanced Management 16:16-18 Ja '51

PLANNING—*Continued*

Master schedule guides production planning at Saco-Lowell. W. B. Lund. il Am Mach 95:108-12 Ag 6 '51

Planning and aircraft development. F. O. Thornton. diag Roy Aeronautical Soc J 55:303-22 My '51

Production planning boosts department efficiencies. C. R. Wulffsohn. il Automotive Ind 104:46+ Ap 1 '51

Production planning speeds military orders; Sperry gyroscope co. il Electronics 24:82-5 Jl '51

Split-second planning; what the air force and key aviation planners decided they would need in case of an emergency; Fairchild plan. W. L. Landers. il Aero Digest 61:20-2+ D '50

See also

Advertising—Planning

Schedules

PLANNING, Regional. See Regional planning

PLANOGRAPHING (term)

Planographing. C. F. King. Inland Ptr 127:40 My '51

PLANT breeding

Cataclysmic evolution. G. L. Stebbins, jr. il diags Sci Am 184:54-9 Ap '51

PLANT cells and tissues

Contradictory data on spiral structures in the secondary cell wall of fibers of flax, hemp, and ramie. P. S. Roelofsen. il diags Textile Res J 21:412-18 Je '51

Green pigment and physiology of guard cells. R. O. Freeland. Science 114:94-5 Jl 27 '51

Microscopic structure of carrot chromoplasts. W. Straus. bibliog il Science 112:745-8 D 22 '50

Persistence of 2,4-D in plant tissues. A. J. Eames. bibliog Science 112:601-2 N 17 '50

Recovery of tumor cells from effects of the tumor-inducing principle in crown-gall. A. C. Braun. bibliog Science 113:651-3 Je 8 '51

Survey of factors responsible for reduction of 2,3,5-triphenyltetrazolium chloride in plant meristems. L. W. Roberts. bibliog Science 113:692-3 Je 15 '51

Toward a clearer concept of osmotic quantities in plant cells. J. Levitt. bibliog Science 113:228-31 Mr 2 '51

Use of oxalate to produce free-living cells from carrot tissue cultures. R. D. Northcraft. bibliog Science 113:407-8 Ap 13 '51

See also

Galls (botany)

PLANT food council, American. See American plant food council

PLANT growth

Growth of peanut plants at various diurnal and nocturnal temperatures. W. P. Jacobs. bibliog Science 114:205-6 Ag 24 '51

How does the ivy grow? S. Zacks. Science 114:332 S 28 '51

Plant-growth inhibitors from red kidney bean seeds. S. M. Siegel. Science 112:754-5 D 22 '50

See also

Growth inhibiting substances

Hormones, Plant

PLANT guards. See Factory guards

PLANT hormones. See Hormones, Plant

PLANT lice

Colouring matters of the aphididæ; a general survey of the occurrence of the aphins. H. Duewell and others. Chem Soc J p3304-9 N '50

Colouring matters of the aphididæ; colouring matters from aphis fabæ. J. P. E. Human and others. Chem Soc J p477-85 F '50

Colouring matters of the aphididæ; colouring matters from tuberolachnus salignus. H. Duewell and others. Chem Soc J p485-90 F '50

PLANT location. See Factories—Location

PLANT tumors. See Plants—Diseases and pests

PLANT viruses. See Viruses, Plant

PLANTAGO ovata. See Psyllium

PLANTATION workers

First session of the I.L.O. committee on work on plantations. Int Labour R 63:657-76 Je '51

International enquiry into conditions of life and work on plantations. Int Labour R 62:291-9 S-O '50

PLANTATIONS

See also

Rubber plantations

Sugar plantations

PLANTERS (machinery)

Tire for corn planters. il India Rubber World 123:600 F '51

PLANTS

See also

Botany

Dyes and dyeing—Natural dyes

Rubber plants and planting

Weeds

Chemical analysis

Determination of citric and *d*-isocitric acids. C. A. Hargreaves, 2d, M. D. Abrahams and H. B. Vickery. bibliog Anal Chem 23:467-70 Mr '51

Determination of glutamine and asparagine in plant tissue extracts. G. W. Butler. bibliog Anal Chem 23:1300-4 S '51

Determination of magnesium in plant tissue with thiazole yellow. H. Y. Young and R. F. Gill. bibliog Anal Chem 23:751-4 My '51

Determination of nitrate in plant material. C. M. Johnson and A. Ulrich. bibliog Anal Chem 22:1526-9 D '50

Determination of organic nitrogen; control of variables in the use of Nessler's reagent. J. F. Thompson and G. R. Morrison. bibliog Anal Chem 23:1153-7 Ag '51

Geochemical field method for determination of nickel in plants. L. E. Reichen. bibliog diag Anal Chem 23:727-9 My '51

Rapid micromethod for alkaline nitrobenzene oxidation of lignin and determination of aldehydes. J. E. Stone and M. J. Blundell. bibliog il diag Anal Chem 23:771-4 My '51

Volumetric determination of calcium and magnesium in leaf tissue. A. E. Willson. bibliog Anal Chem 22:1571-2 D '50

See also

Algae—Analysis

Cellulose—Analysis

Lignin—Analysis

Copper content

Further biogeochemical data from the San Manuel copper deposit, Pinal county, Ariz. H. V. Warren and others. bibliog maps Geol Soc Bul 62:919-29 Ag '51

Diseases and pests

Contaminating bacteria in plant tumor tissues. W. J. Robbins and A. Hervey. Science 114:322-3 S 28 '51

Replacement control and biological control. R. L. Piemeisel and E. Carsner. Science 113:14-15 Ja 5 '51

Root disease of plants caused by a nematode of the genus trichodorus. J. R. Christie and V. G. Perry. il Science 113:491-3 Ap 27 '51

See also

Tobacco mosaic virus

Plant cells and tissues

Viruses, Plant

Evolution

Are there vestigial structures in plants? I. W. Knobloch. Science 113:465 Ap 20 '51

Fluorine content

Crop and soil reactions to applications of hydrofluoric acid. W. H. MacIntire and others. bibliog il Ind & Eng Chem 43:1800-3 Ag '51

Effect of fluorine carriers on crops and drainage waters. W. H. MacIntire and others. bibliog Ind & Eng Chem 43:1797-9 Ag '51

Magnesium content

Magnesium as a plant nutrient; abstract and discussion. H. T. Jones. Chem & Ind p 107 F 10 '51

Phosphorus content

Study of fertiliser uptake using radio-phosphorus. J. W. T. Spinks and G. Dion. Chem Soc J supp no 2:S410-15 '49

Sulfur content

Sulfur metabolism of plants; effect of sulfur dioxide on vegetation. M. D. Thomas, R. H. Hendricks and G. R. Hill. bibliog Ind & Eng Chem 42:2231-5 N '50

PLANTS, Effect of climate on
Caltech's weather factory depends on instrumentation. F. W. Went. Instruments 23:1018-20 O '50
Response of plants to climate. F. W. Went. il diag Science 112:489-94 O 27 '50; Abstract. Refrig Eng 58:1189-90 D '50

PLANTS, Effect of light on
Light and agriculture. J. P. Ditchman. il diags Illum Eng 46:276-9 Je '51
Obligate autotrophy in chlamydomonas moewusii Gerloff. J. C. Lewin. bibliog Science 112:652-3 D 1 '50
See also
Photoperiodism

PLANTS, Effect of radioactivity on
Problem of radiation damage when radioactive phosphorus is used in fertiliser experiments. R. S. Russell. Chem Soc J supp no 2:S416 '49

PLANTS, Effect of sulfur dioxide on
Sulfur metabolism of plants; effect of sulfur dioxide on vegetation. M. D. Thomas, R. H. Hendricks and G. R. Hill. bibliog Ind & Eng Chem 42:2231-5 N '50

PLANTS, Effect of temperature on
Ecological use of meteorological temperatures. W. A. Baum. Science 113:333-4 Mr 23 '51
Response of plants to climate. F. W. Went. il diag Science 112:489-94 O 27 '50; Abstract. Refrig Eng 58:1189-90 D '50

PLANTS, Effect of X rays on
Effect of X-irradiation in oxygen and in hydrogen at normal and positive pressures on chromosome aberration frequency in tradescantia microspores. N. H. Giles, jr. and A. V. Beatty. bibliog Science 112:643-5 D 1 '50

PLANTS, Flowering of
Induction and blossoming of xanthium. R. H. Roberts. bibliog il Science 113:726-8 Je 22 '51

PLASKON
Case histories of alkyd molding. H. W. De Vore and H. C. Murray. il Mod Plastics 28:88-90 Ap '51
Industrial salesman is jack-of-all-trades; selling Plaskon glue. il Bsns W p54-6 Ja 27 '51
New silicone alkyld resins; Plaskon ST-856, ST-873 and ST-881. Oil Paint & Drug Rep 159:5 F 26 '51
Plastics molding shop visits you; Plaskon's trailer demonstrates Alkyd. il Bsns W p 112-15 Mr 24 '51

PLASMATRON. See Vacuum tubes

PLASMODIUM
Transmission of plasmodium relictum Grassi and Feletti by anopheles freeborni Aitken. F. F. Mok. Science 113:485 Ap 27 '51

PLASTER and plastering
Bureau of standards' remedy for plaster failures. il Am Bld 73:186+ Ag '51
Corrosion tests with zinc alloy die castings in damp gypsum plaster. L. A. J. Lodder and S. Baumgarten. il Metallurgia 43:273-9 Je '51
Hung fireproofing; ceilings of lightweight aggregate plaster. il diags Arch Forum 95:184 Ag '51
Improved plaster prevents blister-type failures. Eng N 146:34 My 31 '51
See also
Stucco

PLASTIC boats. See Boats, Plastic

PLASTIC bottles. See Bottles, Plastic

PLASTIC boxes. See Boxes, Plastic

PLASTIC coating
Air-drying plastic coating. Automotive Ind 104:78 Ap 15 '51
Bakers' aid. il Mod Plastics 28:144 My '51
Cocoon house uses navy's moth-balling material to weatherproof catenary curved roof. R. S. Twitchell and P. Rudolph. il plan diag Arch Forum 94:156-9 Je '51
Fight corrosion with plastics. R. B. Seymour and E. A. Erich. bibliog Pet Processing 6:861-2 Ag '51
Formulation studies of vinyl resin organosols. G. M. Powell and others. bibliog il Mod Plastics 28:129-30+ Je '51
New roof applied by spraying; use of plastic spray coating, Cocoon. Am Bld 73:202+ F '51
Packaging turbojet engine parts. A. F. Hinett. il Aero Digest 62:26-8+ Ap '51
Plastic-surfaced plywood cuts matchboard cost 84 per cent. il Steel 129:108 S 24 '51
Plastics for protective coatings and linings of chemical plant. E. E. Halls. Metallurgia 42:376-81 D '50
St Regis operates second polyethylene coating machine. il Paper Ind 32:840 N '50
Thermosetting coating for wood surfaces. Chem Ind 67:743-4 N '50
Vinyl-coated fabric plane shelter. il Mod Plastics 28:57 Ja '51
Vinyl-coated fabrics are not hard to process continuously. E. D. White. il Textile World 101:135+ Je '51

PLASTIC containers. See Containers, Plastic

PLASTIC fastenings. See Fastenings, Plastic

PLASTIC films
Air losses cut and roof and ribs protected by sealing with plastic film. O. C. Prickett. il Coal Age 56:98-100 Mr '51
Color problems in vinyl film and sheeting. F. G. Clark. il India Rubber World 123:571-3 F '51
Cryovac goes retail; vacuumized shrink-wrap process adopted in pre-packaging of meats. il Mod Packaging 24:110-11 N '50
Embedments sealed in flexible film; process by Transeal, ltd., Plainfield, N.J. il Mod Plastics 28:82-3 Jl '51
Factors in nitrogen packaging; requirements for successful flexible packs and a control test method for spotting leakers. W. S. Walker. il Mod Packaging 24:136-40+ D '50
Liquids in film-lined fibre; fibre-plastic envelope-boot drum package. E. S. Schneider. il Mod Packaging 24:181-5 Ap '51
Military status of flexible packaging; new materials and new requirements indicate changes in government demands on industry. C. A. Southwick, jr. il diags Mod Packaging 24:121-4 N '50
New data on cherries; Department of agriculture compares various films in prepackaging. F. Gerhardt and G. Lindell. il Mod Packaging 24:116-19+ Mr '51
Permeation of vapors through polyethylene. J. A. Cutler and others. bibliog Tappi 34:404-7 S '51
Plastics-foil collapsible tubes. il Mod Plastics 28:70-1 Mr '51
Pre-packaged for the surgeon; vinyl surgical drapes. il Mod Packaging 24:96-9 Mr '51
Protective coatings; plasticoating. Inland Ptr 126:85 F '51
Sealing roof and stoppings; plastic film applied with spray gun. F. R. Zachar. il Coal Age 56:90-2 Ap '51
S.P.I. plastics film, sheeting, and coated fabrics division 2d conference, New York, Dec. 14-15. Mod Plastics 28:61+ F '51
Solution, cast film; manufacture, properties, and applications. W. J. Jebens and H. Lee. bibliog flow diag il diag Mod Plastics 28:104-7+ Je '51
Vinyl in the greenhouse; gardening process which uses film extensively in bags, coverings, and linings. il Mod Plastics 28:160 Jl '51
Vinyl plastics gain in textile field. il Bsns W p35-6 D 23 '50
Vinyl surgical drapes. il Mod Plastics 28:61 My '51
Visible spuds; transparent bags for ten-lb. quantities. il Mod Packaging 24:164-5+ Ap '51

Manufacture

Calenders for rubber and plastics. E. J. Johnson. il India Rubber World 123:318-20 D '50
Plasticizers for vinyl film and sheeting. M. C. Reed. il India Rubber World 123:322-3 D '50

PLASTIC handles. See Handles, Plastic

PLASTIC industries
Effect of government regulations on commercial chemical development; chemicals and plastics. F. H. Carman. Chem & Eng N 29:1719-21 Ap 30 '51
How plastics are growing to meet war needs. Chem Eng 58:274 Ag '51

PLASTIC industries—*Continued*

Occupational outlook handbook; plastics products manufacturing occupations. il map U S Bur Labor Statistics Bul 998:293-8 '51

Plastic producers face material shortages. M. W. Schwarz. Barron's 31:13-14 Ja 8 '51

Plastics and the growth prospects of the industry. P. J. Weber. Comm & Fin Chr 173:2549+ Je 21 '51

Plastics in defense; military orders are taking up slack in civilian demand. A. Glenn. Barron's 31:11-12 S 10 '51

Plastics men quake at rubber plans; shortage of styrene monomer and benzene. Bsns W p68+ N 4 '50

Plastics production reaches new highs despite shortages; C&EN annual review. P. O. Powers. il Chem & Eng N 29:15-16 Ja 1 '51

Shortages threaten plastics. Bsns W p48+ Je 9 '51

SPI considers plastics relation to Nation's mobilization program. Oil Paint & Drug Rep 158:5+ O 23 '50

Some problems in the plastics industry. H. V. Potter. bibliog Chem & Ind p656-65 Ag 4 '51

Styrene diversion to synthetic rubber hits plastics industry. Oil Paint & Drug Rep 159:4+ Ja 22 '51

What could CMP mean to plastics? Mod Plastics 28:72a-72b Ag '51

Year 1950 in review. il Mod Plastics 28:97-8+ bibliog(496 titles, p 108+) Ja '51

See also

Formica company

Society of the plastics industry

Accounting

Estimated standard costs in a plastics company. W. F. Grady. N A C A Bul 32:1359-64 Jl '51

Directories

Directory of materials; plastics for chemical manufacture. Chem Eng 57:151-2 N '50

Who's who in plastics. 244p Society of the plastics industry, 295 Madison av, New York 17 '49

Exhibitions

British plastics exhibition and convention, London, June 6-16. Engineer 191:802 Je 15 '51; Elec R (Lond) 148:1267 Je 15 '51; Electrician 146:1927 Je 8 '51

British plastics exhibition; items of interest for the automobile engineer. il Automobile Eng 41:273-4 Jl '51

British plastics exhibition, London, June 6-16. il Chem Age (Lond) 64:907-10 Je 16 '51

History

Chemical progress during the 75 years of the American chemical society; paint, varnish, and plastics chemistry. C. R. Bragdon and M. M. Renfrew. bibliog il Ind & Eng Chem 43:1272-82 Je '51

Statistics

Production of plastics materials; tabulations. Published in monthly numbers of Modern plastics

Use of plastics by the metalworking industry; future trend in use; tabulations. Iron Age 167:354 Ja 4 '51

Australia

Rubber and plastics industries gaining in Australia. India Rubber World 124:187 My '51

Canada

Capacity and material shortages will hamper plastics expansion; abstract. A. Smith. Chem & Eng N 29:1112-13 Mr 19 '51

Germany

German plastics industry. India Rubber World 123:449 Ja '51

Plastics in western Germany. Chem Age (Lond) 63:579-80 O 21 '50

Great Britain

British to lift plastics capacity to 340,000 tons. Chem & Eng N 29:2904-5 Jl 16 '51

Engineering outlook. Engineering 171:364-6 Mr 30 '51

Plastics industry convention and exhibition, London, June 6-16. Elec R (Lond) 148:1197-8 Je 8 '51

Netherlands

Origin, purposes, and organization of the Plastics research institute T.N.O. Mod Plastics 28:149 N '50

Norway

Fish-protein plastic powder developed in Norway; Monoplast. For Comm W 42:20 Mr 12 '51

PLASTIC materials

Acrylic piano and chair. il Mod Plastics 28:154 N '50

Application trends in 1950. il Mod Plastics 28:65-70 Ja '51

Applications and physical characteristics of typical plastics; table. Machine Design 23:334-5 O '51

Castor oil for plastics. R. L. Van Boskirk. Mod Plastics 28:210+ Je '51

Compressibility of natural and synthetic high polymers at high pressures. C. E. Weir. bibliog J Res Nat Bur Stand 46:207-12 Mr '51

Cutting board for trimming and boning meat is made of new plastic compound. il Mod Plastics 28:158 Jl '51

Defense machine tools up for plastics. il Mod Plastics 28:87-93+ Je '51

Designing with modern materials; survey of latest developments in engineering materials. il Machine Design 23:331-45 O '51

Direct forming of rubber and plastic products from dispersions. K. Rose. il Materials & Methods 34:64-7 Ag '51

Effect of chemicals on fluorothene. S. E. Frey, J. D. Gibson and R. H. Lafferty, jr. bibliog Ind & Eng Chem 42:2314-17 N '50

Electrical and allied developments during 1950; chemical; plastics for electric equipment. G. Bartlett. il Gen Elec R 54:59 Ja '51

Extensive utilization of rubber and plastic elastomers in the U.S. navy. T. A. Werkenthin. il Rubber Age 68:435-42 Ja '51

House that plastics built. il Bsns W p56+ S 8 '51

Internal pipe-coating techniques. J. K. Alfred. diags Oil & Gas J 49:266+ N 16 '50; Same. Pet Eng 23:D26+ Ja '51; Same. World Oil 132:181-2 Ja '51

Jobs cast plastics can do. il Mod Plastics 28:59-63 D '50

Materials casebook; versatility of plastics draws industry's interest. il Product Eng 22:134-7 O '51

Materials in 1950 and the future. Mod Plastics 28:55-64+ Ja '51

Mechanism of the degradation of polyamides. B. G. Achhammer and others. il diags J Res Nat Bur Stand 46:391-421 bibliog(67 titles, p420-1) My '51

Molding the specialized plastics. il Mod Plastics 28:83-6+ D '50

New materials for industry; third Chance memorial lecture. P. C. Allen. Chem & Ind p344-50 My 5 '51

New plastic developed with improved flotation qualities. Elec Eng 70:617 Jl '51

Place of plastics in industry; abstract. B. Lockspeiser. Chem Age (Lond) 64:915-17 Je 16 '51; Engineer 191:829 Je 22 '51

Plastics aid diamond studies. R. S. Young. il Mod Plastics 28:162-3 My '51

Plastics and paper chemists combine forces in new trend. Chem & Eng N 28:3874+ N 6 '50

Plastics from acetylene on increase; may lead to its manufacture from natural gas. R. S. Aries and R. M. Cziner. Oil & Gas J 50:122+ My 17 '51

Plastics in the construction of experimental apparatus. Chem Age (Lond) 64:655-7 Ap 28 '51

Plastics in the electrical industry. il Elec R (Lond) 148:1344-6 Je 29 '51

Plastics industry during 1950. E. L. Kropscott and F. J. Mac Rae. India Rubber World 124:62-3 Ap '51

Polyethylene-nylon on assault wire. il Mod Plastics 28:63 Ja '51

Polymer chemistry as applied to plastics. E. K. Rideal. Chem & Ind p818-20 D 23 '50

PLASTIC materials—*Continued*

Potted amplifier in hearing aid; polyester resin seals printed circuits; other plastics parts. il Mod Plastics 28:78-9 Ja '51

Proper use of plastics; warning of raw material shortages. D. S. Frederick. Chem Age (Lond) 64:788 My 19 '51

Properties and average values of some thermoplastic materials; tabulation; data sheet. Tool Eng 26:48 Ap '51

Properties of new synthetic rubbers and plastics. G. B. Bachman and others. bibliog Ind & Eng Chem 43:997-1002 Ap '51

Raw materials for electric cable making. V. H. Wentworth. il Electrician 146:797-800, 1197-207 Mr 9, Ap 13 '51

Reciprocal paper-plastics developments. E. C. Jahn. bibliog Tappi 34:sup8A+ Ag '51

Review of materials engineering developments in 1950. T. C. Du Mond. il Materials & Methods 33:91-2 Ja '51

Rubber-resin blends allow new tailor-made plastics. Chem & Eng N 29:467 F 5 '51

Shortcuts in plastics calculations. P. H. Seckel. Mod Plastics 28:126-7+ Je '51

So you're going to use plastics. il Mod Ind 21:44-8 F '51

Society of plastics engineers 7th national technical conference, New York, Jan. 18-20, 1951; abstracts of papers. India Rubber World 123:324-5 D '50; Mod Plastics 28:67+ F '51

Some problems in the plastics industry. H. V. Potter. bibliog Chem & Ind p656-65 Ag 4 '51

Soundscriber uses more plastics. il Mod Plastics 28:60-1 Mr '51

Specialization, large size are trends in plastics. il Product Eng 22:154-7 My '51

Stabilization of polyvinyl chloride-type plastics. J. G. Hendricks and E. L. White. Ind & Eng Chem 43:2335-8 O '51

Static dust collection on plastics. J. C. Woodland and E. E. Ziegler. il Mod Plastics 28:95-6+ My '51

Static neutralizer for plastics. il diag Mod Plastics 28:115 Ap '51

Structural plastic for tanks, valves, ducts; Lucoflex. il Mod Ind 20:83 N '50

Supply-demand outlook; abstract. H. McCann. Chem & Eng N 29:1113+ Mr 19 '51

TAPPI plastics committee, Paper-plastics conference, Syracuse, N.Y. Oct. 19-20; abstracts of papers. Paper Tr J 131:19-21 N 9 '50; Paper Ind 32:986+ D '50; Pulp & Pa of Can 51:103-5 D '50; Tappi 33:sup60A+ D '50

Year 1950 in review. il Mod Plastics 28:97-8+ bibliog(496 titles, p 108+) Ja '51

See also

Airplanes—Materials—Plastics
Automobiles—Materials—Plastics
Bakelite
Casein
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Cellulose acetate
Cellulose acetate butyrate
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Color in plastic materials
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Gums and resins
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Molding
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Plastic films
Plasticizers
Polyethylene
Printing on plastics
Resinous products
Rubber
Rubber, Artificial
Saran
Silicones
Styrene (and polymers)
Teflon

Analysis

Sodium-fusion tests on plastics. H. Nechamkin. J Chem Educ 28:97-8 F '51

Bibliography

Plastics literature references, selected for the Mechanical engineer, July, 1949-June, 1950. H. M. Richardson. Mech Eng 73:211-15 Mr '51

Year 1950 in review. il Mod Plastics 28:108+ Ja '51

Coloring

See Color in plastic materials

Crazing

Crazing of linear high polymers. C. C. Hsiao and J. A. Sauer. bibliog il J Ap Phys 21:1071-83 N '50

Cutting

Fabricating reinforced plastics. R. B. White. il Mod Plastics 28:103-6+ Ap '51

Fluteless drill cuts plastics faster. R. Double. il diags Steel 129:80 Jl 30 '51

292,200 holes per shift per machine; Bakelite panels at IBM's Endicott plant. M. J. Rowan. il Am Mach 95:168-9 Ap 16 '51

Electric properties

Intrinsic electric strength of polyvinyl alcohol and its temperature variation. I. D. L. Ball. bibliog Inst E E Proc 98 pt 1:84-6 Mr '51

Fillers

Radiographic testing of filled plastics. F. B. Shaw, jr. il Mod Plastics 28:123+ N '50

Uses of graphite-filled phenolic. il Mod Plastics 28:156 Jl '51

Finishing

Flame polishing with oxy-hydrogen torch. il Mod Plastics 28:155 Jl '51

Liquid impact blasting; time-saver in mold finishing work proves useful in maintenance operations. B. H. Marks. il diag Mod Plastics 28:115-16+ Je '51

Masking problems in manual and automatic spray painting in molded plastic parts. H. E. MacArthur. il India Rubber World 124:451-3 Jl '51

Silvering plastics. I. Cross. il diags Metal Finishing 48:77-81 D '50

Fire hazards

Hazards of synthetic plastics. J. V. Grimaldi. Mech Eng 72:987-9 D '50

Glass reinforcement

Fabricated reinforced-plastic boxes. il Mod Plastics 28:74-5 Mr '51

Fabricating reinforced plastics. R. B. White. il Mod Plastics 28:103-6+ Ap '51

Fiberglas cloth and resin make biggest plastic boat. il Bsns W p47 Je 30 '51

Glass-plastic. Chem Ind W 68:10 Mr 10 '51

Glass reinforced plastics. I. Yassin. Aero Digest 63:44-6+ Ag '51

Heat sealed lamp shades; Polyplastex, a combination of fiber glass and vinyl resin. il Mod Plastics 28:87-9 Ag '51

New techniques in reinforced plastic; fiberglas-polyester molded housings for photoelectric engraving machines. il Mod Plastics 28:89+ D '50

Reinforced plastic ketch. il Mod Plastics 28:92-3 Ag '51

Reinforced plastics have high impact and tensile strengths. Iron Age 167:110 Mr 15 '51

Tough new plastics for tough new jobs; glass fibers and polyester resins; illustrations with text. Mod Ind 20:52-3 D '50

Joining

Adhesives may be the answer to problems inherent in the design and assembly of plastics products. G. P. Hollingsworth. il Mod Plastics 28:79-81 Jl '51

Easy welding techniques applied to plastic processing. diag Mill & Factory 47:130 N '50

Heat sealed lamp shades. il Mod Plastics 28:87-9 Ag '51

Hot gas welding of plastics. J. A. Neumann. il diags Mod Plastics 28:97-102 N '50

Plastics can be joined by several welding methods. L. M. Jaroff. il diags Materials & Methods 33:74-8 F '51

Manufacture

Compounding of polyvinyl chloride. H. M. Zimmerman and P. J. Weaver. il Rubber Age 68:311-18 D '50

Extrusion compounding. il Mod Plastics 28:95-6+ Jl '51

Fire hazards in plastics industry. Chem Age (Lond) 63:675 N 11 '50

Plastics from natural rubber. G. Salomon and others. bibliog Ind & Eng Chem 43:315-19 F '51

PLASTIC materials—Manufacture—*Continued*

Preplasticization in the machine. il diags Mod Plastics 28:99+ Jl '51

Patents

U.S. plastics patents. Mod Plastics 28:116+ Ja '51 [cont monthly]

Plating

Decorating plastic parts by metallizing. il Automotive Ind 104:54+ My 1 '51
High vacuum metallizing of metals and plastics. A. H. Hartman and M. Schneider. flow diag il diags Metal Finishing 49:64-70 S '51
Production plating of plastics. W. A. Raymond. il Metal Finishing 49:55-7 Je '51
Vacuum plating of metals and plastics. T. M. Navoy. Metal Finishing 48:58-60 N '50

Rain erosion

Erosion protection. Mech Eng 73:327-8 Ap '51

Reinforcement

Beefed-up plastics move in on metals. il Bsns W p88+ Mr 17 '51
Interest in reinforced plastics soars to new high. il Chem & Eng N 29:1106 Mr 19 '51
Reinforced plastics. L. S. Meyer. Mech Eng 73:418 My '51
Reinforced plastics, structural materials to watch. il Chem Eng 58:198-9 My '51

Spraying

Electroforming for plastics; spray masks and specialized molds. il diags Mod Plastics 28:81-4+ Mr '51
Flame spraying plastics. J. Starr. il diags Comp Air Mag 56:209-11 Ag '51
Fritted fluorothene filters. W. H. Reysen and others. il Mod Plastics 28:102+ F '51

Strength

Cracking of stressed polyethylene; effect of chemical environment. J. B. DeCoste, F. S. Malm and V. T. Wallder. bibliog il diags Ind & Eng Chem 43:117-21 Ja '51

Temperature effect

Intrinsic electric strength of polyvinyl alcohol and its temperature variation. I. D. L. Ball. bibliog Inst E E Proc 98 pt 1:84-6 Mr '51

Testing

ASTM committee D-20 annual meeting, Atlantic City, June 19-21. India Rubber World 124:583-4 Ag '51
Effect of orientation on the mechanical properties of polystyrene. R. G. Cheatham and A. G. H. Dietz. il diags Mod Plastics 29:113-16+ S '51
How to interpret property values of plastics. W. Schack. bibliog il diag Materials & Methods 33:66-9 Ap '51
Impact resilience as a brittleness test for polyvinyl plastics. G. Friedlander. bibliog il diags Anal Chem 22:1545-51 D '50
Low temperature flexibility tester. M. A. Pollack and others. il Rubber Age 69:713-17 S '51
Measurement of dynamic internal dissipation and elasticity of soft plastics. H. C. Rorden and A. Grieco. il diags J Ap Phys 22:842-5 Je '51
Method for determining the propagation constants of plastics at ultrasonic frequencies. H. J. McSkimin. diags Acoustical Soc Am J 23:429-34 Jl '51
Recording torsion pendulum for the measurement of the dynamic mechanical properties of plastics and rubbers. L. E. Nielsen. bibliog diags R Sci Instr 22:690-3 S '51
Sound approach in plastics. Tech R 53:467 Jl '51

Water absorption

Effect of absorbed water on physical properties of molded phenolics. H. M. Quackenbos, jr. Mod Plastics 28:107-8+ Jl '51

PLASTIC materials, Cellular

Battle suit of flexible expanded plastic for the navy; Ensolite. il Mod Plastics 28:160 Ag '51
Expanded Royalite can be used in life rafts, and other flotation equipment. il Mod Plastics 28:186 Je '51
Thermal decomposition products and burning characteristics of some synthetic low-density cellular materials. H. A. Watson and others. bibliog 6pls U S Bur Mines Rep of Invest 4777:1-16 '51

PLASTIC materials, Decorative

Colorful new surface effects are achieved in Vinylite plastic film and sheeting. Rubber Age 68:477 Ja '51; il India Rubber World 123:456 Ja '51; Mod Plastics 28:72-3 F '51
Deep embossing with controlled heat. il Mod Plastics 28:62 Mr '51
Embossing process gives new effects; Echolux. il Mod Plastics 28:72-3 D '50
Glue is on the back; Satusply, decorative laminate. il diag Mod Plastics 28:81-3 Ag '51
Iridescence built into plastics with flake-like particles of natural shells; Irilite. il Mod Plastics 28:71-3 Ja '51
Vinyl plants are true to life. il Mod Plastics 28:94 Je '51
Vinyl plastics gain in textile field. il Bsns W p35-6 D 23 '50

PLASTIC materials, Expanded. See Plastic materials, Cellular

PLASTIC materials, Laminated

Bearing shoes of fabric-base laminated phenolic. il Mod Plastics 28:152 F '51
Embedments sealed in flexible film; process by Transeal, ltd., Plainfield, N.J. il Mod Plastics 28:82-3 Jl '51
Formica is on top. il Fortune 44:116-18+ O '51
Glue is on the back; Satusply, decorative laminate. il diag Mod Plastics 28:81-3 Ag '51
Graphic laminate door liner in lid of self-service frozen food cabinets. il Mod Plastics 28:162 Ag '51
Industrial applications of thermosetting laminated plastic tubing. D. E. Roland. il Materials & Methods 32:64-6 D '50
Laminated-molded plastics; covers and end bells on propulsion gears for naval vessels. H. J. Stark and J. W. Sawyer. il Machine Design 23:120-2 Jl '51
Laminates unlimited; new horizons for industrial high pressure laminates. il Mod Plastics 28:73-9+ Ag; 29:87-91 S '51
Military status of flexible packaging; new materials and new requirements indicate changes in government demands on industry. C. A. Southwick, jr. il diags Mod Packaging 24:121-4 N '50
New laminate will reduce LCR equipment failures. M. L. Manning and others. il Elec World 135:93+ Je 4 '51
Plastic-impregnated honeycomb panels used in new partition line; Korweld. il Arch Forum 95:290 S '51
Plastic landing; laminated plastics in aircraft landing mats. Bsns W p59-60 N 18 '50
Postforming thermosetting laminated plastics. W. I. Beach. il diags Mach 57:163-6 F; 170-2 Mr; 185-7 My; 58:160-6 S '51 (to be cont)
Printed circuits on foil-clad plastics. R. L. Swiggett. il diags Mod Plastics 28:99-100+ Ag '51
Redwood plastic pulp for phenolic resin laminates. T. A. Howells and R. H. Goms. il Tappi 34:121-5 Mr '51
Reinforced plastics. R. J. Francis. il diags Product Eng 22:85-108 F '51
Skiing on plastics. il diag Mod Plastics 28:82-3 N '50
Void free laminates; abstract. B. D. Raffel and E. Duplaga. Product Eng 22:151 F '51

See also

Micarta

Glass reinforcement

Collapsible tanks under development; new type seal makes them possible. il Nat Pet N 42:56+ D 27 '50
Compression molded reinforced plastics now finding industrial applications. T. C. Du Mond. il Materials & Methods 33:60-1 F '51
Epoxy resins in glass-cloth laminates. I. Silver and H. B. Atkinson, jr. diags Mod Plastics 28:113-14+ N '50
Fabricating reinforced plastics. R. B. White. il Mod Plastics 28:103-6+ Ap '51

PLASTIC materials, Laminated—Glass reinforcements—*Continued*

Glass-fiber laminates simplify jig-making. C. D. Birmingham. il Am Mach 95:131-3 Je 11 '51

Glass fiber polyester laminates having high resistance to moisture; abstract. L. L. Yaeger. Product Eng 22:284-5 My '51

Glass reinforced plastics. I. Yassin. Aero Digest 63:44-6+ Ag '51

Laminates; fiberglas, plastic parts have many ballistic and dielectric uses. R. Temple. Aviation W 54:43-4+ Mr 19 '51

Molded plastic and fiberglass conserve metals in washing machines; Apex electrical mfg. co. il Steel 128:120+ My 7 '51

New high-strength laminate treatment. Aviation W 55:28 Jl 2 '51

New insulating materials and coatings extend electric motor life. R. L. Custis. il Materials & Methods 33:74-5 Mr '51

Promise of reinforced plastics in defense. il Mod Plastics 28:55-9+ Mr; 91-5 Ap; 64-7 My '51

Reinforced plastic core driers developed for electronic baking. F. A. Vainosky. il Foundry 79:144+ O '51

Reinforced-plastic life boat. il Mod Plastics 28:58 Ja '51

Tough new plastics for tough new jobs; glass fibers and polyester resins; illustrations with text. Mod Ind 20:52-3 D '50

Manufacture

Cost cut by materials positioning at machine; Formica co. il Iron Age 167:98 Ap 26 '51

Fire protection in laminate plant; carbon dioxide installation. il Mod Plastics 28:142 F '51

Laminated plastics for industry; use of compressed air in their production. C. C. Porter. il Comp Air Mag 56:38-41 F '51

Reinforcement

Beefed-up plastics move in on metals. il Bsns W p88+ Mr 17 '51

Reinforced laminate. Chem Eng 58:184-5 F '51

Strength

Mechanical and permanence properties of laminates. G. M. Kline. bibliog il Mod Plastics 28:113-14+ Ag '51

Testing

Mechanical and permanence properties of laminates. G. M. Kline. bibliog il Mod Plastics 28:113-14+ Ag '51

PLASTIC materials, Porous

Electric control of porosity. J. J. Suran. diags Mod Plastics 28:97-8+ F '51

Fritted fluorothene filters. W. H. Reysen and others. il Mod Plastics 28:102+ F '51

PLASTIC materials, Translucent

Acrylic plastic for light control. O. L. Pierson. il Illum Eng 45:615-16 O '50

Flexible corrugated ceiling. il Mod Plastics 29:83 S '51

Translucent porch roof of corrugated sheets of fiber glass mat and polyester resin; illustrations with text. Mod Plastics 28:87 Ap '51

PLASTIC materials, Transparent

Acrylic plastic for light control. O. L. Pierson. il Illum Eng 45:615-16 O '50

Battery caps of transparent polyethylene. il Mod Plastics 28:132 Mr '51

Brush in a blister; spherical acetate dome in paperboard set-up box displays English hair brush. il Mod Packaging 24:77 N '50

Helmet visor. il Mod Plastics 28:157 My '51

Plastics in a mechanical heart. il diags Mod Plastics 28:166 Ap '51

Plexiglas dome cuts glare. il Eng N 146:55 Ja 18 '51; Safety Maint & Prod 101:60 Ap '51

See-through chassis; Plymouth motor corp. acrylic full-scale model. il Mod Plastics 28:90 Ag '51

Vinyl and acrylic in fabulous lab; S. C. Johnson & son, inc. il Mod Plastics 28:76-7 My '51

See also

Containers, Transparent

Testing

Creep properties of lucite and plexiglas for tension, compression, bending, and torsion. J. Marin and others. bibliog il diags A S M E Trans 73:705-18; Discussion. 718-19 Jl '51

Plastic data charts evaluate wind deflection of sheet acrylic used as glazing; Plexiglas. il Arch Forum 95:194+ Ag '51

PLASTIC models. See Models, Plastic

PLASTIC name plates. See Name plates, Plastic

PLASTIC phonograph records. See Phonograph records, Plastic

PLASTIC pipes. See Pipes, Plastic

PLASTIC printing plates. See Printing plates, Plastic

PLASTIC sheeting

Color problems in vinyl film and sheeting. F. G. Clark. il India Rubber World 123:571-3 F '51

Compression molding thermoplastics. D. L. Stanley. il Mod Plastics 28:107+ N '50

Electric control of porosity. J. J. Suran. diags Mod Plastics 28:97-8+ F '51

Filters for color television. J. W. Christensen. il Mod Plastics 28:85-6 Ag '51

Heat sealed lamp shades. il Mod Plastics 28:87-9 Ag '51

Literature display rack of copolymer sheet. il Mod Plastics 28:168 Ag '51

Radiant heaters dry plastics faster. il Elec World 135:133 Ap 9 '51

Transparent can; frozen oysters and fish in acetate-bodied cans. il Mod Packaging 24:83 D '50

Manufacture

Acrylic fabricating demonstrator; illustrations with text. Mod Plastics 28:143 D '50

Improved transfer method in manufacture of Formica sheets. J. Schinner. il Mill & Factory 48:102-3 My '51

Modernization of a casein sheet plant; installation of Electraulic pump system. il Mod Plastics 28:94-5 D '50

Plasticizers for vinyl film and sheeting. M. C. Reed. il India Rubber World 123:322-3 D '50

PLASTIC tableware. See Tableware, Plastic

PLASTIC toys. See Toys, Plastic

PLASTIC upholstery. See Upholstery, Plastic

PLASTIC wall coverings. See Wall coverings, Plastic

PLASTICITY

Classification of thermoplastic resins from their plasticity curves. W. H. Willert. India Rubber World 124:324-6 Je '51

Effect of internal stresses on the behaviour of members in the plastic range. J. F. Baker and M. R. Horne. diags Engineering 171:212-13 F 23 '51

Influence of plastic flow on the electrical and photographic properties of the alkali halide crystals. F. Seitz. bibliog Phys R 80:239-43 O 15 '50

Nonclassical reaction kinetics. H. Eyring and P. Gibbs. Science 113:104-5 Ja 26 '51

Plastic behavior of high-purity aluminum single crystals at various temperatures. F. D. Rosi and C. H. Mathewson. bibliog il diags J Metals 188:Trans 1159-67 S '50; Discussion. 3:Trans 545-7 Jl '51

Plastic buckling of plates and a theory of plastic slip. P. Cicala. J Aeronautical Sci 18:285-6 Ap '51

Plastic deformation of pure single crystals of lead and copper. P. W. Neurath and J. S. Koehler. diags J Ap Phys 22:621-6 My '51

Plastic flow of platinum wires. R. P. Carreker, jr. bibliog diags J Ap Phys 21:1289-96 D '50

Plastic strain and hysteresis in drawn steel wire. R. S. Brown. il pl Iron & Steel Inst J 162:189-200 Je '49; Discussion. 166:319-20 D '50

Plasticity and conductivity, analogous flow phenomena in copper alloys. R. S. French. J Ap Phys 22:105-6 Ja '51

Plasticity of metals; mathematical theory and structural applications. D. C. Drucker. bibliog Am Soc C E Proc 76[no 27]:1-14 Ag '50; Discussion. 77 [no D-27-D]:1-10 My '51

PLASTICITY—*Continued*
Plasticity of wool. O. Ripa and J. B. Speakman. bibliog diag Textile Res J 21:215-21 Ap '51
Some extensions of elementary plasticity theory. F. Edelman and D. C. Drucker. bibliog diags Franklin Inst J 251:581-605 Je '51
Theory of the dynamic plastic deformation of a thin diaphragm. G. E. Hudson. diags J Ap Phys 22:1-11 Ja '51
Work of the plasticity committee of the Welding research council. Welding J 30: sup39-41 Ja '51
See also
Creep of materials
Deformation (mechanics)

PLASTICIZERS
Application of fungicides to rubberlike polymers and related materials. R. Treichler. Rubber Age 69:579-80 Ag '51
Chemical engineering unit processes fourth annual review; esterification. E. E. Reid. il Ind & Eng Chem 43:1942-7 bibliog(189 ref, p 1946-7) S '51
Co-coagulation of rubbers and extenders; use of petroleum products. F. S. Rostler. Rubber Age 69:559-78 bibliog(86 titles, p577-8) Ag '51
Effect of plasticizers on some physical properties of polymers. R. F. Boyer. bibliog diag Tappi 34:357-62 Ag '51
Effect of urea and related compounds on the mechanical properties of paper. H. D. Fisher. bibliog(42 titles) diag Tappi 34: 276-88 Je '51
Electron-microscope study of plasticized nitrocellulose. J. Ames and A. M. D. Sampson. bibliog il J Ap Chem 1:337-41 Ag '51
Ester plasticizers for low temperature rubber compounding. W. A. Woodcock. bibliog(p 104) Rubber Age 69:51-3 Ap '51
Film-forming properties of cellulose acetate propionates; effect of solvents, diluents, and plasticizers. A. G. Roberts and S. G. Weissberg. bibliog Ind & Eng Chem 43: 2088-98 S '51
Formulation studies of vinyl resin organosols. G. M. Powell and others. bibliog il Mod Plastics 28:129-30+ Je '51
Low cost plasticizer; Sovaloid. C. R. L. Van Boskirk. Mod Plastics 28:168 Ja '51
Plasticizer production in 1950 gained 46 per cent. Oil Paint & Drug Rep 159:73 Je 25 '51
Plasticizers for vinyl film and sheeting. M. C. Reed. il India Rubber World 123:322-3 D '50
Plasticizers from lactic acid; *n*-alkyl carbonates of various esters of lactic acid. C. E. Rehberg and others. bibliog Ind & Eng Chem 42:2374-5 N '50
Promising vinyl plasticizers derived from itaconic acid; abstract. P. E. Bruins and C. J. Knuth. Chem & Eng N 29:1308 Ap 2 '51
Properties of polyvinyl chloride compounds; effect of phthalate ester structure. P. V. Smith, jr., R. G. Newberg and D. W. Young. bibliog il Ind & Eng Chem 42:2576-9 D '50
Relation of tensile strength to brittle temperature in plasticized polymers. R. F. Boyer. bibliog diag J Ap Phys 22:723-9 Je '51
Softens oxidized rubber; rubber plasticizer; Rub-R-Vive. Chem Eng 58:165 Mr '51
Some terpene carboxy esters from turpentine; their synthesis from crude sulphate turpentine and other sources and their preliminary evaluation as plasticizers. T. Hasselstrom and others. bibliog Tappi 33: 538-41 N '50
Study of plasticized high Mooney viscosity synthetic rubbers. G. H. Swart and others. India Rubber World 124:309-19 Je '51
Vinyl plasticizers; effect on processing polyvinyl chloride in Banbury mixers. H. S. Bergen and J. R. Darby. bibliog il Ind & Eng Chem 43:2404-12 O '51

Analysis

Analytical examination of plasticizers obtained from polyvinyl chloride compositions. J. Haslam, W. Soppet and H. A. Willis. bibliog diags J Ap Chem 1:112-24 Mr '51

Testing

Elasticity of soft polymers; constant-stress elongation tests. C. A. Dahlquist, J. O. Hendricks and N. W. Taylor. bibliog il Ind & Eng Chem 43:1404-10 Je '51

PLASTICS engineering
Engineering progress in 1950. flow sheet il diags Mod Plastics 28:81-2+ Ja '51

PLASTICS engineers, Society of. See Society of plastics engineers

PLASTICS research
See also
Hyatt award

PLASTOMETERS
Rheometric tests and extrusion. S. Eccher. bibliog il diags Ind & Eng Chem 43:479-87 F '51
See also
Consistometers

PLATE glass

Manufacture

Solves glass grinding waste dilemma; Pittsburgh plate glass co.'s Creighton plant. il Cer Ind 55:66-7 D '50

PLATELETS. See Blood

PLATES
Analyzing stress and deflection for plates of three types; data sheet. H. D. Conway. diags Machine Design 23:163-7 S '51
Anticlastic curvature of rectangular beams and plates. D. G. Ashwell. diags Roy Aeronautical Soc J 54:708-15 N '50
Buckling stresses for flat plates and sections. E. Z. Stowell and others. bibliog(65 titles) il diags Am Soc C E Proc 77[no 77]:1-31 Jl '51
Calculating deflection in circular plates. W. A. Nash. il diags Machine Design 23:145-8 Jl '51
Thickness-shear and flexural vibrations of crystal plates. R. D. Mindlin. bibliog J Ap Phys 22:316-23 Mr '51

PLATFORMING process. See Gasoline—Manufacture; Gasoline, Natural—Manufacture

PLATFORMS, Portable
Above-ground safety. il Safety Maint & Prod 100:16-17+ D '50; 101:18-20+ Ja; 14-16+ F '51

PLATING
Ersatz plating for cars not around corner. W. G. Patton. Iron Age 167:106 Je 14 '51
pH and buffering; values for various acids and bases commonly used in metal cleaning and plating operations; engineering data sheet. Metal Finishing 49:80 Je '51
NPA rulings affecting the plating industry. Metal Finishing 49:74-5+ My '51
Plating in the re-armament program. S. Senderoff. il Metal Finishing 49:86-8+ Jl '51
Vacuum plating of metals and plastics. T. M. Navoy. Metal Finishing 48:58-60 N '50
See also
Chromium plating
Copper plating
Electroplating
Gold plating
Nickel plating
Silver plating
Water supply for plating
Zinc plating

PLATING machinery
Automatic plating meets stiff defense production standards. J. V. Davis. il Steel 128:63-6 Ja 29 '51

PLATING shops
Design of exhaust systems to overcome complaints in a plating establishment. F. H. Stebbins. diags Sheet Metal Worker 42:42-4 Ag '51

Layout

Production upstairs, maintenance downstairs; Federal telephone & Radio corp., Clifton, N.J. il Factory Management 109:74-5 My '51

PLATINUM
Annealing of platinum for thermometry. R. J. Corruccini. bibliog diag J Res Nat Bur Stand 47:94-103 Ag '51
Dissociation of beryllium iodide in platinum containers. B. Kopelman and H. Bender. bibliog diag Electrochem Soc J 98:89-93 Mr '51
Electrical resistance of platinum at high temperatures. H. E. Bennett. R Sci Instr 21:1029 D '50

PLATINUM—*Continued*

Evaporation products of barium oxide from various base metals and of strontium oxide from platinum. L. T. Aldrich. bibliog diag J Ap Phys 22:1168-74 S '51

High temperature structure and thermal expansion of some metals as determined by X-ray diffraction data; platinum, tantalum, niobium, and molybdenum. J. W. Edwards and others. bibliog J Ap Phys 22:424-8 Ap '51

Investigation of possible interactions between palladium(II) and -(IV) and between palladium(II) and platinum(IV) in hydrochloric acid solutions and in the crystalline state. A. J. Cohen and N. Davidson. bibliog diag Am Chem Soc J 73:1955-8 My '51

Kinetics of the catalytic hydrogenation of the nitro group on platinum. H. A. Smith and W. C. Bedoit, jr. bibliog J Phys & Colloid Chem 55:1085-104 Je '51

Plastic flow of platinum wires. R. P. Carreker, jr. bibliog diags J Ap Phys 21:1289-96 D '50

Platinum catalysts in petroleum refining; three major types of chemical reaction. Chem Age (Lond) 64:749-50 My 12 '51

Polymerization induced by catalytic decomposition of formic acid at platinum surfaces. G. Parravano. Am Chem Soc J 72:5546-9 D '50

Reference tables for thermocouples. H. Shenker and others. U S Nat Bur Stand Circ 508:1-71; pa 35c Supt. of doc. '51

Use of the stationary platinum microelectrode in the determination of half-wave potentials. D. B. Julian and W. R. Ruby. bibliog Am Chem Soc J 72:4719-24 O '50

X-ray spectrum produced by 322-Mev electrons striking a platinum target. W. M. Powell and others. il Phys R 81:213-18 Ja 15 '51

Analysis

Polarographic determination of platinum. F. L. English. bibliog Anal Chem 22:1501-3 D '50

Spectrographic study of platinum and palladium in common sulphides and arsenides of the Sudbury district, Ontario. J. E. Hawley and others. bibliog il Econ Geol 46:149-62 Mr '51

Spectrophotometric study of the platinum (IV)-tin(II) chloride system. G. H. Ayres and A. S. Meyer, jr. bibliog Anal Chem 23: 299-304 F '51

Prices

Nonferrous prices; tabulation. Steel 128:129 Ja 1 '51

PLATINUM alloys

Annealing of platinum for thermometry. R. J. Corruccini. bibliog diag J Res Nat Bur Stand 47:94-103 Ag '51

Phase equilibria in an ordering alloy system. J. B. Newkirk and others. bibliog il diags J Ap Phys 22:290-8 Mr '51

PLATINUM chlorides

Nature of the co-ordinate link; halogen-bridged, binuclear platinous complexes; the co-ordinating affinity of the tertiary alkyls of group V elements for platinous chloride. J. Chatt. Chem Soc J p652-8 Mr '51

Nature of the co-ordinate link; the non-ionic complex compounds of tri-*n*-propylphosphine with platinic and platinous chlorides. J. Chatt. Chem Soc J p2301-10 S '50

PLATINUM compounds

Organic compounds of platinum; the preparation and constitution trimethylplatinum compounds. M. E. Foss and C. S. Gibson. Chem Soc J p299-302 F '51

Researches on dichroism of planar complexes; the color and the structure of $[Pt(NH_3)_4][PtCl_4]$ and $[Pt(NH_3)_4](PtBr_4)$. S. Yamada. bibliog Am Chem Soc J 73:1579-80 Ap '51

Simple and complex fluorides of some noble metals. A. G. Sharpe. Chem Soc J p3444-50 D '50

Structure of olefin co-ordination compounds; abstract. Chem & Ind p311 Ap 21 '51

Studies in co-ordination chemistry. R. S. Nyholm. Chem Soc J p843-51 Mr '50

PLATINUM metals

Creep characteristics of some platinum metals at 1382°F. R. H. Atkinson and D. E. Furman. il J Metals 3:Trans 806-8 S '51

Platinum-group metals, 1950. H. W. Davis. Eng & Min J 152:92-3 F '51

See also

Iridium

Osmium

Palladium

Rhenium

Rhodium

Ruthenium

Analysis

Spectrophotometric study of the platinum (IV)-tin(II) chloride system. G. H. Ayres and A. S. Meyer, jr. bibliog Anal Chem 23: 299-304 F '51

See also

Iridium—Analysis

PLATINUM oxide

Crystal structure of $NaPt_3O_4$. J. Waser and E. D. McClanahan, jr. bibliog diags J Chem Phys 19:413-16 Ap '51

Preparation of a platinum oxide catalyst of reproducible activity. V. L. Frampton, J. D. Edwards, jr. and H. R. Henze. diag Am Chem Soc J 73:4432-4 S '51

PLATTIN group

Stratigraphy of Plattin group, southeastern Mo. E. R. Larson. bibliog il map diags Am Assn Pet Geologists Bul 35:2041-75 S '51

PLAYBILL, inc.

Playbill of Broadway show business is study in production and management. R. Savery. il Inland Ptr 127:39-41 Ap '51

PLAYROOMS

This playroom was unfinished attic. il Am Bld 73:230 S '51

PLEOCHROISM

Near infrared pleochroism; the 0.8—2.5μ region of some linear polymers. L. Glatt and J. W. Ellis. bibliog J Chem Phys 19: 449-57 Ap '51

PLEVEN, Rene, 1901-

Portrait. Bsns W p 144 Ag 25 '51

PLEXIGLAS. See Plastic materials, Transparent

PLOUGH, inc.

Plough plows it back; cultivated little dealers in smaller towns. L. M. Hughes. il Sales Management 66:37-9+ Je 1 '51

PLOWS

Manufacture

Plowshares welded faster. Steel 128:119+ My 14 '51; il Iron Age 167:98 Je 21 '51; Mach 57:184 Ag '51; Welding J 30:745 Ag '51

PLUG gages. See Gages

PLUMBAGIN

Naturally occurring quinones; a new synthesis of plumbagin and a note on the structure of β-hydroplumbagin. R. H. Thomson. Chem Soc J p 1237-9 My '51

PLUMBING

Keep them working; proper valve installation. il diags Dom Eng 177:108+ F; 104-5+ Mr '51

Piping pointers. diags Dom Eng 178:93+ Jl; 158 Ag '51

Refresher course on pipe welding and cutting. il diags Dom Eng 177:96-7+ My; 98-9+ Je; 178:114+ Jl; 116+ Ag; 157-8+ S '51

Round table report of home building experts. Arch Forum 94:126-8 F '51

Ways to simplify water supply pipe sizing. diags Dom Eng 177:88-9+ My; 102-3+ Je '51

See also

Drinking water systems

Heating

Hot water supply

Lavatories

Pipes

Plumbing fixtures

Plumbing shops

Plumbing trade

Sanitary engineering

Sewerage

Solder and soldering

Ventilation

Wet venting of plumbing fixtures. diags Dom Eng 177:92-3+ Mr; 116+ Ap '51

PLUMBING fixtures

See also

Bathroom fixtures

Manufacture

Electric heaters cut production costs, save materials; chrome plated plumbing fixtures and fittings. R. I. Lavelle. il Elec World 136:123 S 24 '51

PLUMBING laws and regulations

According to law; review of legal decisions which will help plumbing and heating contractors to avoid law suits. Dom Eng 176:115-16+ D '50; 177:112+ Ja; 95+ Ap; 123+ Je; 178:114+ Ag; 130+ S; 114-15+ O '51 (to be cont)

National plumbing code issued. diag Arch Rec 110:162 Jl '51

Plumbing; conflicting codes have prevented the design of a simple universal unit. il plan diags Arch Forum 93:117 D '50

Waste vs. health; American public health association joins attack on code-enforced waste. Arch Forum 94:112+ My '51

PLUMBING shops

Henry Ford is in the news again; Philadelphia contractor hires house-to-house salesmen. il Dom Eng 178:93 S '51

How to make displays that sell. il Dom Eng 177:86-7+ My; 96-7+ Je; 178:100-1 Jl; 102-3 Ag; 106-7+ S '51

How to put silent salesmen to work. il Dom Eng 178:94-5+ Ag '51

Ten-point guide to successful retailing. il Dom Eng 176:114-15+ N; 110-13+ D '50

Tips on store layout. il plan Dom Eng 178: 92-3+ Jl '51

With his own hands he became a merchandiser. il Dom Eng 177:102-3 F '51

Equipment

Efficiency and ingenuity are the order of the day! illustrations with text. Dom Eng 177: 98-9 Ja '51

Get the most out of power machines. il Dom Eng 178:108 Jl '51

Simplified system for tool control. il Dom Eng 178:84-5 Ag '51

Lighting

Good lighting, the way to profit! il Dom Eng 177:100-2+ F '51

Management

Accessory items pay the overhead; tie-in sales pay the profit! il Dom Eng 176:92-3+ D '50

Four-way showroom; W. R. O'Rourke co. il Dom Eng 177:104-5 F '51

Management methods for contractor-dealers Dom Eng 177:98-9+ My; 92-3 Je; 178:82-3+ Jl; 98-9+ S '51

Some tips on good management. Dom Eng 176:90-1+ D '50; 177:104-6+ Ja '51

These six steps keep salesmen selling; Chapman-Valle co. il Dom Eng 177:96-7+ Ja '51

Two time winner tells all! Bell plumbing and heating co. il Dom Eng 177:99+ F '51

Water heater is king! at Deacon plumbing & heating co. il Dom Eng 176:98-9 D '50

You don't have to lose money; examples of collection letters. Dom Eng 178:104-5 Ag '51

Records

Management methods for contractor-dealers; what's your real profit? Dom Eng 177:98-9+ My '51

Showrooms

Four-way showroom; W. R. O'Rourke co. il Dom Eng 177:104-5 F '51

PLUMBING supplies

Exhibitions

Get ready for customer traffic at the county fair. il Dom Eng 178:106-8 Ag '51

NAMP convention and exposition, 69th, Chicago. Dom Eng 178:145-6+ Jl '51

PLUMBING supplies industry

Chicken feed stuff the dealer despises; what we do about it; screws, washers, rubber plugs, etc. for plumbing replacement. J. P. Holm. il Sales Management 67:96+ O 1 '51

Every plumber a retailer; program of American-Standard. Bsns W p94-6 Mr 10 '51

Wholesalers take a look at the future; meetings of Mid-Atlantic wholesalers and Central supply association. Dom Eng 177: 108+ My '51

PLUMBING trade

Contract forms. Dom Eng 176:112-13+ N '50

Contractor conventions; meetings held in several states. Dom Eng 177:106+ Je '51

Contractor looks at national defense. il Dom Eng 177:84-5 F '51

CMP pie is ready for cutting; how much for plumbing and heating. Dom Eng 177: 82-4 My '51

Doorbell pushing still pays; David Madsen tells how promotional program helped him to build plumbing business. il Dom Eng 178:104-5+ Jl '51

Everybody gets ideas! contest winners get good publicity. il Dom Eng 176:103-5 D '50

Everybody sells! at Benedict's. il Dom Eng 176:102 D '50

Five contractors take over defense jobs. il Dom Eng 177:82-3+ Mr; 88-9+ Ap; 106-7 My; 108+ Je '51

Guns or plumbing and heating? Dom Eng 177:84-6 Je '51

Here's how to get defense contracts. Dom Eng 177:83+ F '51

How do you rate? checklist. Dom Eng 178: 105+ Jl '51

How P-H contractors can use the MRO program to obtain vital supplies; questions and answers. Dom Eng 177:86 Je '51

Indict union, employers on anti-trust charge; United association of plumbers and pipefitters, Local 525, two Nevada trade associations and seven Las Vegas plumbing contractors. Eng N 146:24 Ap 12 '51

Kansas City, 1951; contractors work to rehabilitate plumbing and heating systems in flood stricken areas. il Dom Eng 178: 102-4+ S '51

Mr Cummings had a problem maintaining good customer relations; Clinton plumbing & heating co. il Dom Eng 177:96-9 Ap '51

More good ideas from contest winners. il Dom Eng 177:110-11 Ja '51

181 get prizes, everybody gets ideas! All-industry merchandising contest. il Dom Eng 176:90-2+ N '50

Plumbing-heating surveys are good business. E. Phillips. Dom Eng 177:100-1 Mr '51

Sell the gifts that keep on giving; suggestions for Christmas business. il Dom Eng 176:86-8+ D '50

Should you hire an engineer? here's how an engineer pays-out at the Home improvement co. il Dom Eng 176:94-5+ D '50

Some tips on good management. Dom Eng 176:90-1+ D '50; 177:104-6+ Ja '51

Strategy guide for doing business in a mobilization economy. il Dom Eng 177:106-7 Mr '51

Strategy guide for 1951. il Dom Eng 177:86-8 Ja '51

Three ways to meet competition from the cut-rate store. L. P. Hudson. il Dom Eng 177:94-5+ F '51

2,001 sales promotion ideas push plumbing and heating; Domestic Engineering's contest. B. Aitchison. il Ind Marketing 36:37-9 S '51

Washington authority analyzes the CMP program and its likely affect on our industry. P. B. B. Andrews. Dom Eng 177: 81+ My '51

Washington report; brief review of the mobilization program and its likely effect on our industry. Dom Eng 176:84-5 D '50

Water conservation is in the spotlight! how plumbing contractors can play a leading role. il Dom Eng 176:110-11 N '50

Ways to get free publicity. Dom Eng 177: 98-9 Mr; 107-8 Ap '51

What makes a top merchandiser? success story of Robert Schaefer's Home improvement co. il Dom Eng 176:94-8+ N '50

What wage controls mean to the plumbing-heating contractor. Dom Eng 178:94+ S; 123+ O '51

When the load goes up, the cost comes down! Garfield plumbing and heating co. equipped their trucks with hydraulic lift gates. il Dom Eng 177:92-3 F '51

Why not plumbing surveys too. il Dom Eng 177:88-9+ F '51

Accounting

Balance sheet. Dom Eng 177:92-3 Je '51

Cost control is good business. Dom Eng 178: 98-9+ S '51

Is your business in the black or in the red? Dom Eng 178:82-3+ Jl '51

Tax saving tips for plumbing-heating contractors. Dom Eng 178:94-5+ S '51

PLUMBING trade—Accounting—*Continued*

Turning the spotlight on turnover. Dom Eng 178:90-1 Ag '51

Advertising

Are your customers in hot water? worthwhile ideas to increase water heater business. il Dom Eng 178:108-9+ S '51

How much should I budget for advertising? Dom Eng 177:112+ F '51

How to make satisfied customers your best salesmen! Detweiler brothers, of Twin Falls, Idaho. il Dom Eng 176:98-9 N '50

Jimmie West puts his business on a mobilization footing. Dom Eng 177:90-1 Ja '51

Let's analyze the benefits of price advertising. il Dom Eng 177:88-9+ Je '51

Mobilize for merchandising. Dom Eng 178:90-2+ S '51

Only 55 more days until Christmas! il Dom Eng 176:104-5+ N '50

Walter F. Cobb, stages a lively promotion. il Dom Eng 177:86-8+ Mr '51

Ways to keep sales letters out of the wastebasket. il Dom Eng 178:90-1 Jl; 98-100 Ag '51

Farm market

Comic books sell water systems. il Dom Eng 178:112-13 S '51

From red barn to Main Street! Red & white plumbing co. il Dom Eng 176:114+ D '50

National water systems month; a sales opportunity. Dom Eng 177:82-4 Ap '51

To beat the fire hazard, your rural customers need a water system. il plan Dom Eng 177:96-8+ F; 102-3+ Mr; 84-5+ Ap '51

Insurance requirements

How's your coverage? J. F. Van Vechten. Dom Eng 178:105+ S; 120 O '51 (to be cont)

Public relations

Chicago contractors work for better public relations. Dom Eng 177:94-5 Ja '51

Four ways to keep customers coming back. Dom Eng 178:109+ Ag '51

Public relations first class; Milwaukee plumbing contractors' assn. back siphonage exhibit. il Dom Eng 178:102-3+ Jl '51

Remodeling

Refresher course on laundry layout. il plans Dom Eng 178:98-9+ Jl '51

This idea sells complete kitchens! Zien plumbing and heating company uses three-dimensional color film slides. il Dom Eng 176:101+ N '50

Trend is to remodeling! il Dom Eng 177:90-1 Mr; 92-3+, 94 Ap '51

X-ray bathroom; display of Mort co. il plan Dom Eng 178:100-1 Jl '51

Your customers can still finance eight-ways. Dom Eng 178:106-7 Jl '51

Service

Six-point guide to good service. il Dom Eng 177:92-3+ Ja '51

PLUNGE (term)

Use of the terms pitch and plunge. R. H. Clark and D. B. McIntyre. bibliog diag Am J Sci 249:591-9 Ag '51

PLUTONIUM

AEC considers Monsanto proposal to make plutonium, develop atomic power. Chem & Eng N 28:3883-4 N 6 '50

Hydrolytic behavior of metal ions; the acid constants of uranium(IV) and plutonium (IV). K. A. Kraus and F. Nelson. bibliog Am Chem Soc J 72:3901-6 S '50

Laboratory studies on removal of plutonium from laundry wastes. J. F. Newell and others. bibliog flow diag Ind & Eng Chem 43:1516-19 Jl '51

Oxidation potentials of the Pu(III)-Pu(IV) and Fe(II)-Fe(III) couples in perchloric acid solution; heat content and entropy changes. R. E. Connick and W. H. McVey. Am Chem Soc J 73:1798-804 Ap '51

Potential of the Pu(III)-Pu(IV) couple and the equilibrium constants for some complex ions of Pu(IV). S. W. Rabideau and J. F. Lemons. bibliog Am Chem Soc J 73:2895-9 Je '51

Removal of plutonium from laboratory wastes. C. W. Christenson and others. flow diags Ind & Eng Chem 43:1509-15 Jl '51

Analysis

Isolation of microgram quantities of naturally-occurring plutonium and examination of its isotopic composition. D. F. Peppard and others. Am Chem Soc J 73:2529-31 Je '51

Occurrence of plutonium in nature. C. A. Levine and G. T. Seaborg. bibliog Am Chem Soc J 73:3278-83 Jl '51

Isotopes

Half-life of plutonium-240 by determination of its uranium-236 daughter. M. G. Inghram and others. bibliog Phys R 83:1250 S 15 '51

New isotope Pu^{242} and additional information on other plutonium isotopes. S. G. Thompson and others. bibliog Phys R 80:1108-9 D 15 '50

Properties of plutonium-243. J. C. Sullivan and others. Phys R 83:1267-8 S 15 '51

Specific alpha-radioactivity of Pu^{240}. E. F. Westrum, jr. bibliog Phys R 83:1249-50 S 15 '51

PLUTONIUM chlorides

Magnetochemistry of the heaviest elements; plutonium trifluoride and trichloride. J. K. Dawson, C. J. Mandleberg and D. Davies. Chem Soc J p2047-50 Ag '51

PLUTONIUM fluorides

Magnetochemistry of the heaviest elements; plutonium trifluoride and trichloride. J. K. Dawson, C. J. Mandleberg and D. Davies. Chem Soc J p2047-50 Ag '51

Melting point and the heat of sublimation of plutonium trifluoride. E. F. Westrum, jr. and J. C. Wallmann. diag Am Chem Soc J 73:3530-1 Jl '51

PLYMOUTH cordage company

Security I like best. C. A. Taggart. Comm & Fin Chr 173:854 F 22 '51

PLYMOUTH oil company

Security I like best. J. P. Satterfield. Comm & Fin Chr 174:709 Ag 23 '51

PLYWOOD

Absorption coefficients of fir plywood panels. R. W. Kenworthy and T. D. Burnam. Acoustical Soc Am J 23:531-2 S '51

Cashing the chips. Chem Ind W 68:8-9 F 3 '51

Enter Georgia-Pacific; number one producer of Douglas-fir plywood. il Fortune 43:99-101+ My '51

House design competition; plywood built-in features prize winners. plans diags Arch Forum 94:144-51 Mr '51

Increase of ingot mold life versus surface quality of billets; use of plywood in mold. L. A. Boldizar. il Blast F & Steel Pl 39:74-7 Ja '51

Like a plane, not a ship; Pressed Steel's Unicel car. il Bsns W p76-8+ O 21 '50

Plastic-surfaced plywood cuts matchboard cost 84 per cent. il Steel 129:108 S 24 '51

Plywood form details on Tacoma Narrows bridge. il diags Concrete 59:28-30 Mr '51

Plywood freight car may relieve shortage; illustration with text. Mod Ind 20:114 N '50

Plywood tobacco hogsheads fold away. il Bsns W p98-101 Jl 14 '51

Race boat hull; plywood hull is reinforced with fiberglas and polyester resin. il Mod Plastics 28:75 D '50

Sheets stored in plywood books. H. A. Lessard. il Steel 128:84+ My 21 '51

Worker-owned plants; Northwest plywood industry facing more competition from them. R. H. Syring. Barron's 31:17 Ja 22 '51

Manufacture

Electronic control of veneer-peeling lathes. il Engineering 171:97 Ja 26 '51; Elec R (Lond) 147:1125-6 D 29 '50; Electrician 146:479-80 F 9 '51

New industrial use of co-ordinated control; amplidyne and electronic control on a veneer lathe, pressure roll, tipple, and trays for a western plywood factory. Gen Elec R 54:41 Mr '51

PLYWOOD, inc.

Debentures offered. Comm & Fin Chr 173:1795 Ap 30 '51

PNEUMATIC control

Air actuation cuts time in manipulating drilling jig. R. Mawson. diags Steel 129:77 Jl 2 '51

Air-controlled drum filler measures fluid content. il Comp Air Mag 56:51 F '51

Air feed equips screw machine for long bars. J. Starr. il diag Am Mach 94:95 O 30 '50

Counterbalances for press rams; reference book sheet. D. A. Rogers. diags Am Mach 95:139, 141 Je 25 '51

Hydropneumatic tank operation. H. Nickelsporn. diags Power Eng 55:88-90 Ap '51

Improved pneumatic control system. R. E. Clarridge. diags A S M E Trans 73:297-305 Ap '51

Instrumentation and automatic reversal system of open hearth furnaces. C. E. Mortensen. il diags Blast F & Steel Pl 39:533-9 My '51

Instruments for chemical plant; telemetering, control panels and graphic control desks. il diags Chem Age (Lond) 65:121-5+ Jl 28 '51

Kent air-operated receiver-recorder. il Engineer 191:770 Je 8 '51; Engineering 171:667 Je 1 '51; Metallurgia 43:302 Je '51

New development in consistency control of paper stocks; Spruce Falls power & paper co. D. B. Scrivens. il diags Pulp & Pa of Can (Convention no) 52:236-42 [F] '51

No-load pneumatic transients in air blast circuit breakers. K. K. Schiller. bibliog il diags Engineer 192:200-3 Ag 17 '51

Overload safety device for presses; Clearing machine corp. il Comp Air Mag 56:76 Mr '51

Piston-type pneumatic operators have fast response. il diag Product Eng 22:194 Je '51

Pneumatic actuators for remote control systems. D. P. Eckman and R. B. Werey. il diags Product Eng 22:151-5 S '51

Pneumatic governor design for high rotational speeds. P. M. Mueller. diags Product Eng 22:170-5 O '51

Pneumatic mechanism works manual collet closer. G. Hirsch. diags Am Mach 95:173 Ap 16 '51

Pneumatic power; design and application fundamentals for machine drives and controls. J. A. Campbell. il plan diags Machine Design 23:175-80 Ap; 141-6 My; 149-54 Jl '51

Pneumatic servomechanisms in the iron and steel industry. A. A. Markson. il diags Instruments 24:647-9+ Je '51

Pneumatic-toggle die cushion; reference book sheet. D. A. Rogers. diag Am Mach 94:125 O 30 '50

Principles of automatic control. M. B. Hall. Pulp & Pa of Can 52:82-6 Mr '51

Tri-act control; a new concept. R. E. Claridge. diags Oil & Gas J 49:95 N 23; 89 N 30; 115 D 7; 111 D 14; 333 D 21 '50

PNEUMATIC conveying

Air conveyor handles material in batches. il Comp Air Mag 56:160 Je '51

Air conveyors do versatile job at corn and soybean plant of A. E. Staley, Decatur, Ill. E. O. Crawford. il diags Food Ind 23:76-80+ F '51; Abstract. Comp Air Mag 56:127 My '51

Automatic dispatching for message tube. Bsns W p67 F 3 '51

Automatic switching in pneumatic-tube systems. W. Stieber. il Elec Com 27:260-1 D '50

Interplant tube speeds ready mix orders. il Concrete 58:8-9 D '50

Material handling; pneumatic conveyors for pulverized and granular materials; abstract. G. K. Englehart. Rock Prod 53:77-8 N '50

Mechanical brain directs pneumatic tube traffic. il Comp Air Mag 55:277 D '50

Pipe conveyor wins battle against abrasion; McKee glass co. flow chart Heating-Piping 23:123 Ja '51

Pneumatic conveying clean, convenient, flexible. E. L. Cady. il diags Mill & Factory 49:96-100 Jl '51

Pneumatic tube system speeds blueprint handling. il Iron Age 167:94 My 24 '51

Pressure drop in flow of dense coal-air mixtures. C. W. Albright and others. bibliog diag Ind & Eng Chem 43:1837-40 Ag '51

Raw cotton preparation; pneumatic handling of materials. il Elec R (Lond) 148:651-5 Mr 30 '51

Six ways to use pneumatic conveyors. W. G. Hudson. il diags Paper Ind 33:178-9 My '51

Tough pipe ends McKee problem. diag Cer Ind 56:87 Je '51

Tube system speeds reports. Steel 129:109 S 17 '51

Venturi blowers handle crushed chips rapidly; Chicago screw co. F. W. Creager. il diag Am Mach 94:96-8 O 30 '50

PNEUMATIC gages. See Gages, Pneumatic

PNEUMATIC machinery

Air can clamp small parts, too; illustrations and drawings with text. C. Sanvenero. Am Mach 95:113-16 Ap 2 '51

Air-clamping arrangement that solved a troublesome drilling problem. R. W. Newton. il diag Mach 57:195-6 Ap '51

Air-operated slitter for rolled material. il Comp Air Mag 55:282 D '50

Crusher removes carbon from cloth. il Comp Air Mag 56:249 S '51

How compressed air serves Nation's first small auto assembly plant; Kaiser-Frazer's plant. J. A. Newton. il Comp Air Mag 56:206-7 Ag '51

Ironing shirts by assembly-line method. A. M. Hoffmann. flow chart il Comp Air Mag 56:68-9 Mr '51

One machine does the work of three. il Comp Air Mag 56:102 Ap '51

Pneumatic deflashing jig speeds core flash removal. J. Starr. il diag Tool Eng 26:29 Ja '51

Pneumatic press drives two nails at a time. il diag Comp Air Mag 56:159 Je '51

Power flexibility for aircraft production; Long Beach plant of Douglas aircraft co. il Automotive Ind 105:49+ Ag 1 '51

Running two to eight nuts at a time; multiple-tool machines. C. H. Vivian. il Comp Air Mag 56:235-8 S '51

Spray equipment, adaptable for numerous materials, priced for small builder; Bondactor. il Arch Forum 94:228 Ap '51

Suction turns socks in hosiery mill; Unique knitting co., Acworth, Ga. il Comp Air Mag 56:214 Ag '51

Standards

JIC pneumatic standards; reference book sheet. diag Am Mach 94:125, 127, 129 D 25 '50; 95:125, 127 Ja 8 '51; Same. Machine Design 23:199-205 Ap '51; Same abr. Tool Eng 26:50-1 Je; 27:51-2 Jl; 50-1 Ag; 58 S '51

PNEUMATIC placing of concrete. See Concrete placing

PNEUMATIC tools

Air consumption of various pneumatic tools; table; data sheet. Foundry 79:168 S '51

Air-operated tools reduce pump manufacturing costs. il Mach 57:178-80 Ap '51

Air power gives Crosley a helping hand. il Comp Air Mag 56:92 Ap '51

Compressed air drilling replaces trench work in laying services. E. C. Powers. il Am Gas J 175:15-16 Jl '51

Factory air power pays off; Food machinery & chemical corporation's Packing equipment division. K. Dawson. il Comp Air Mag 56:187-8 Jl '51

How to get top efficiency from compressed air power. E. C. Powers. il diag Heating-Piping 23:88-91 My '51

Inserts extend tool life. Steel 129:112 S 3 '51

Maintenance reduced by air impact tools. il Rock Prod 54:160+ Ag '51

Peg-leg drill machines this turbine. S. K. Rudorf. il diags Am Mach 95:140-1 Jl 9 '51

Twenty miles of air lines; North American aviation company plants. il Comp Air Mag 56:239-40 S '51

Watch air pressure. E. C. Powers. Am Mach 95:162-3 S 3 '51

PNEUMATIC tools, Portable

How to cut power maintenance time in half. A. R. Ringer. il Power Eng 54:76-8 D '50

Portable air tools for maintenance work on gas and oil pipe lines. C. T. Chapman. il Am Gas Assn Proc 1950:741-3

Portable countersink tool developed at Boeing. il Automotive Ind 105:56+ Jl 1 '51

Portable upside-down drill works beneath giant scroll cases. S. K. Rudorf. il diags Am Mach 95:164-5 Je 11 '51

PNEUMATIC transmission

Controller makes possible automatic start up without overspeeding. il Product Eng 22:186+ Mr '51

High speed pneumatic circuits. R. J. Cameron. il diags Product Eng 21:132-5 D '50

Hydraulics and pneumatics; progress evaluation. Product Eng 22:195 My '51

Pneumatic power; design and application fundamentals for machine drives and controls. J. A. Campbell. il plan diags Machine Design 23:175-80 Ap; 141-6 My; 149-54 Jl '51

Pneumatics powers new plane systems. G. L. Christian. il Aviation W 54:28-9 Ja 1 '51

Screw slotter goes versatile; pneumatic and hydraulic hookups. C. Kazek. il diags Am Mach 95:110-11 Ja 8 '51

PNEUMATIC weighing. See Weighing

PNEUMOCOCCI

White blood cells v. bacteria. W. B. Wood, jr. il Sci Am 184:48-52 F '51

PNEUMONIA

Effect of aluminum dust on susceptibility to lobar pneumonia; animal experiments. F. J. Vintinner. A M A Archives Ind Hygiene & Occup Med 4:217-20 S '51

Effect of bituminous coal dust and smoke on the lungs; animal experiments; effects on susceptibility to pneumonia. F. J. Vintinner and A. M. Baetjer. A M A Archives Ind Hygiene & Occup Med 4:206-216 S '51

PODOCARPUS

Diterpenes; the diterpenes from podocarpus ferrugineus. L. H. Briggs and others. Chem Soc J p955-8 Mr '50

Diterpenes; the isolation of phyllocladene from the essential oil of podocarpus spicatus grown in the North Island of New Zealand. L. H. Briggs and J. A. Loe. Chem Soc J p958-9 Mr '50

PODOPHYLLIN

Components of podophyllin; the constitution of podophyllotoxin. J. L. Hartwell and A. W. Schrecker. bibliog Am Chem Soc J 73:2909-16 Je '51

PODOPHYLLOTOXIN

Components of podophyllin; the constitution of podophyllotoxin. J. L. Hartwell and A. W. Schrecker. bibliog Am Chem Soc J 73:2909-16 Je '51

Podophyllotoxin and picropodophyllin; their reduction by lithium aluminum hydride. N. L. Drake and E. H. Price. bibliog Am Chem Soc J 73:201-5 Ja '51

Synthesis of some isoquinoline derivatives related to podophyllotoxin. W. Reeve and W. M. Eareckson, 3d. bibliog Am Chem Soc J 72:5195-7 N '50

POE, E. Holley, 1894-1951

Sketch. por Am Gas J 174:20 Ap '51

POINT four. See Backward regions; Investments, Foreign—United States

POINT-of-sale advertising. See Advertising, Point-of-sale

POISON ivy

Precipitated itch; a new poison ivy remedy. TAM. Chem Ind W 68:43 Ja 27 '51

POISONS

H_2SO_4, poisons covered in ICC regulations changes. Chem Ind 67:618+ O '50

Pharmacologic action and acute toxicity of glucuronic acid lactone. W. B. Deichmann and B. Hopfenspirger. bibliog Ind Med 20:417-22 S '51

Possible hazards from chemical contamination in water supplies. C. W. Muehlberger. bibliog Am Water Works Assn J 42:1027-33; Discussion. R. L. Derby. 1033-4 N '50

Preparation of some cytotoxic epoxides. J. L. Everett and G. A. R. Kon. Chem Soc J p3131-5 N '50

Toxic factor from agenized proteins; infrared measurements. L. N. Short and H. W. Thompson. Chem Soc J p 1746-9 Jl '51

Toxicity of some related halogenated derivatives of phenol. E. F. Stohlman. bibliog Pub Health Rep 66:1303-12 O 12 '51

Toxicologic studies of compounds investigated for use as inhibitors of biologic processes; toxicity of 1,3-dimethyl-4,6-bis(chloromethyl)benzene. A. M. Ambrose. A M A Archives Ind Hygiene & Occup Med 3:52-6 Ja '51

Toxicological studies of compounds investigated for use as inhibitors of biological processes. A. M. Ambrose. bibliog diag A M A Archives Ind Hygiene & Occup Med 2:582-97; 3:48-51 N '50, Ja '51

See also

Arsenic
Arsine
Beryllium poisoning
Carbon monoxide poisoning
Carbon tetrachloride poisoning
DDT—Physiological effect
Fish poisons
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Gases, Asphyxiating and poisonous
Hexamethylenetetramine
Hydrocyanic acid
Insecticides
Lead poisoning
Pentachlorophenol
Pyrethrins
Radioactivity—Physiological effect
Trichloroethylene
Venom
Vinyl propionate

POISONS, Industrial

Chronic toxicity of the methylpolysiloxane DC antifoam A in dogs. G. P. Child and others. A M A Archives Ind Hygiene & Occup Med 3:479-82 My '51

Clinical observations on the toxicology of boron hydrides. H. M. Rozendaal. A M A Archives Ind Hygiene & Occup Med 4:257-60 S '51

Comparative toxicity of five glycerol ethers. C. H. Hine and others. bibliog A M A Archives Ind Hygiene & Occup Med 2:574-81 N '50

Engineering phases of plant health control. W. A. Cook. il Chem & Eng N 29:1517-18 Ap 16 '51

Field of chemical hygiene. H. F. Smyth, jr. Chem & Eng N 29:1196-7 Mr 26 '51

How to get rid of toxic industrial wastes. il Eng N 146:30-1 Je 14 '51

Industrial intoxication due to pentachlorophenol. E. W. Baader and H. J. Bauer. bibliog il diag Ind Med 20:286-90 Je '51

Influence of dietary factors on susceptibility to toxic substances. Ind & Eng Chem 43: sup89A-90A+ Ag '51

Medical aspects of the industrial hygiene program. J. H. Sterner. Chem & Eng N 29:1399-401 Ap 9 '51

Newer occupational diseases; parathion, coccidioidomycosis, tetryl poisoning, shoe fitting fluoroscopes. J. B. Skinner. bibliog Ind Med 20:133-4 Mr '51

Norisodrine sulfate (N-isopropylarterenol), toxicity in industrial use. R. M. Watrous and H. N. Schulz. bibliog il Ind Med 20:305-7 Jl '51

Prevention of accidents when handling chemicals. R. Winderlich. bibliog J Chem Educ 27:670-3 D '50; Abstract. Chem Age (Lond) 64:135-6 Ja 20 '51

Range-finding toxicity data; list IV. H. F. Smyth, jr. and others. A M A Archives Ind Hygiene & Occup Med 4:119-22 Ag '51

Relation of nutrition to susceptibility to toxic substances; abstract. M. E. Shils. Nat Safety N 63:84-6 Je '51

Sulfuric acid; hazards and precautions; data sheet. Nat Safety N 63:39-40+ My '51

Toxic effects of exposure to vapors of aliphatic amines. H. Brieger and W. A. Hodes. bibliog il A M A Archives Ind Hygiene & Occup Med 3:287-91 Mr '51

Toxic substances; their properties, effects, and controls; management data sheet. Factory Management 108:136, 138, 140 D '50; 109:142, 144 Ja '51

Toxicological study of some polypropylene (polyoxypropylene) glycols. C. B. Shaffer and others. bibliog A M A Archives Ind Hygiene & Occup Med 3:448-53 My '51

Ventilation and operation of open-surface tanks; American standard safety code Z 9.1-1951. diags Metal Finishing 49:64-73+ Je '51

See also

Arsine
Beryllium poisoning
Cadmium poisoning
Carbon disulfide—Physiological effect
Carbon tetrachloride poisoning
Chromium poisoning
Hydrogen sulfide—Physiological effect
Lead poisoning
Methyl bromide poisoning
Trichloroethylene
Vanadium poisoning

POISSON'S ratio

Poisson's ratio for cast iron used for ingot moulds. J. Woolman. 2pls diag Iron & Steel Inst J 168:273-7 Jl '51

POKER

Red dog, blackjack and poker. R. Bellman and D. Blackwell. diags Sci Am 184:44-7 Ja '51

POLAND

See also
Agriculture—Poland
Chemical industries—Poland
Public health—Poland

Commerce

Foreign-trade developments. For Comm W 41:13 D 25 '50

Economic conditions

Economic life in Russia's orbit. S. K. Margold. Harvard Bsns R 28:65-78 S; 86-113 N '50

Industries and resources

Industrial output in 1950; with tabulation of output, 1937, 1949-50, and planned output for 1955. For Comm W 43:18 Ap 9 '51

POLAR warfare

Our vulnerable flank; the Arctic. C. W. Thomas. il U S Naval Inst Proc 77:146-51 F '51

POLARISCOPE

Automatic measurement of optical rotation. G. B. Levy. bibliog Anal Chem 23:1089-92 Ag '51
Inexpensive fluid polariscope built at Lehigh university. M. B. McPherson and R. E. Nece. il diag Civil Eng 21:93 F '51
Photoelectric polarimeter. D. H. Rank and others. bibliog diags R Sci Instr 27:270-1 O '50
Polarimeter for the study of low frequency radio echoes. A. H. Benner and H. J. Nearhoof. bibliog il diags R Sci Instr 21:830-4 O '50
Polariscope measures dynamic stress. il Product Eng 22:176 F '51

POLARITY

Apparent induction of polarity in non-polar solutes by polar solvents. H. G. Holland and R. J. W. Le Fèvre. Chem Soc J p2166-9 Ag '50
Averaged field calculation of the polarity of the carbon-hydrogen bond. C. R. Mueller and H. Eyring. bibliog J Chem Phys 19:193-6 F '51

POLARIZATION (electricity)

Effect of the Lorentz polarization term on the vertical incidence absorption in a deviating ionosphere layer. J. M. Kelso. bibliog Inst Radio Eng Proc 39:412-19 Ap '51
Overvoltage at oxidation-reduction electrodes. J. V. Petrocelli and A. A. Paolucci. bibliog Electrochem Soc J 98:291-5 Jl '51
Studies of time-potential changes on an electrode surface during current interruption; zinc-steel couple in synthetic sea water. S. Schuldiner and R. E. White. bibliog il diags Electrochem Soc J 97:433-47 D '50
Studies on galvanic couples; polarization and cathodic protection. H. D. Holler. diags Electrochem Soc J 97:453-61 D '50

POLARIZATION (light)

Accuracy of polarization photometers. W. H. Steel. bibliog diags Opt Soc Am J 41:223-8 Ap '51
Brightness and polarization of the daylight sky at altitudes of 18,000 to 38,000 feet above sea level. D. M. Packer and C. Lock. il diag Opt Soc Am J 41:473-8 Jl '51
Polarization figures and rotation properties in reflected light and their application to the identification of ore minerals. E. N. Cameron and L. H. Green. diags Econ Geol 45:719-54; 46:337-40 D '50, My '51

See also
Kerr effect
Photoelasticity

POLARIZATION, Dielectric

Apparent polarisations of paraldehyde in non-polar solvents measured at 10 and 25 cm. R. J. W. Le Fèvre and J. W. Mulley. diag Chem Soc J p295-7 Ja '50
Atom polarisation; relationships between molecular dimensions and boiling points for branched-chain paraffins. A. Audsley and F. R. Goss. Chem Soc J p 120-6 Ja '51
Atom polarisation; the solvent-effect theory and its application to the molecular refraction and polarisation of *n*-paraffins in the liquid state. A. Audsley and F. R. Goss. Chem Soc J p2989-97 N '50
Dielectric polarisation of gaseous sulphur dioxide. R. J. W. Le Fèvre, I. G. Ross and B. M. Smythe. diags Chem Soc J p276-83 Ja '50
Dielectric polarisations of liquid, dissolved, and gaseous paraldehyde. R. J. W. Le Fèvre, J. W. Mulley and B. M. Smythe. diag Chem Soc J p290-5 Ja '50
Electrolytic dissociation processes; the dielectric polarisation of iodine cyanide and the ionisation of the cyanogen halides. F. Fairbrother. Chem Soc J p 180-5 Ja '50
Molecular polarisation and molecular interaction; the molecular polarisation of diphenylamine in solution in benzene, dioxan, and mixtures of benzene with nitrobenzene, triethylamine, and pyridine. J. W. Smith. Chem Soc J p3532-5 D '50
Revised dielectric parameters of alkali and halide ions. S. Roberts. Phys R 81:161 Ja 1 '51
Transient method for measurement of dielectric polarization. D. W. Davidson and others. bibliog diags R Sci Instr 22:678-82 S '51

See also
Electrets

POLARIZATION, Electrolytic

Cathode polarization potential during electrodeposition of copper; nonreproducibility in acid copper sulfate solutions. L. L. Shreir and J. W. Smith. bibliog il Electrochem Soc J 98:193-202 My '51

POLARIZATION of particles

Polarization effects in (n—γ) reactions. O. Halpern. Phys R 82:753 Je 1 '51
Production of highly polarized neutron beams by Bragg reflection from ferromagnetic crystals. C. G. Shull. Phys R 81:626 F 15 '51

POLARIZATION of radio waves. See Radio waves—Polarization

POLARIZATION of rays

Detection of gamma-ray polarization by pair production. G. C. Wick. bibliog Phys R 81:467-8 F 1 '51
Polarization correlation of mixed multipoles. I. Zinnes. bibliog Phys R 80:386-91 N 1 '50
Polarization of gamma-radiation following capture of polarized neutrons. L. C. Biedenharn and others. Phys R 83:683 Ag 1 '51
Production of polarized high energy X-rays. M. May and G. C. Wick. Phys R 81:628 F 15 '51

POLAROGRAPH

Direct-reading polarograph; for determination of tetraethyllead in gasoline. E. B. Offutt and L. V. Sorg. bibliog il diag Anal Chem 22:1234-7 O '50
Direct-writing polarograph for chemical analysis. il Engineering 171:88 Ja 19 '51
Manual polarograph for rapid determinations of lead and cadmium in zinc. L. C. Copeland and F. S. Griffith. bibliog il diag Anal Chem 22:1269-71 O '50
New polarograph design. il Chem Age (Lond) 64:70 Ja 13 '51
Polarographic diffusion current and the height of the mercury reservoir. D. Spencer. diag J Chem Educ 28:495 S '51

POLAROGRAPHIC analysis

Aeration of culture media; a comparison of the sulphite and polarographic methods. W. S. Wise. bibliog Soc Chem Ind J 69(sup no 1):S40-1 '50
Amperometric titrations of Sn^{IV} and Hg^{II} with tetraphenylarsonium chloride. I. M. Kolthoff and R. A. Johnson. Electrochem Soc J 98:231-3 Je '51
Cell for rapid polarographic analysis. L. Meites and T. Meites. diag Anal Chem 23:1194 Ag '51
Chemistry of aqueous uranium(V) solutions; the uranium(IV)-(V)-(VI) equilibrium in perchlorate and chloride solutions. F. Nelson and K. A. Kraus. Am Chem Soc J 73:2157-61 My '51
Derivative polarographic titrations. C. N. Reilley, W. D. Cooke and N. H. Furman. bibliog diag Anal Chem 23:1223-6 S '51

POLAROGRAPHIC analysis—*Continued*

Determination of dissolved oxygen in industrial wastes by the Winkler and polarographic methods. M. C. Rand and H. Heukelekian. bibliog Sewage & Ind Wastes 23:1141-9 S '51

Determination of free sulphur in vulcanizates by a polarographic method. F. C. J. Poulton and L. Tarrant. J Ap Chem 1:29-33 Ja '51

Determination of titanium in rocks and minerals; mercury cathode polarographic method. R. P. Graham and J. A. Maxwell. bibliog Anal Chem 23:1123-6 Ag '51

Direct-reading polarograph; for determination of tetraethyllead in gasoline. E. B. Offutt and L. V. Sorg. bibliog il diag Anal Chem 22:1234-7 O '50

Glycol ethers as nonaqueous solvents in polarographic analysis. T. D. Parks and K. A. Hansen. bibliog Anal Chem 22:1268-9 O '50

Manual polarograph for rapid determinations of lead and cadmium in zinc. L. C. Copeland and F. S. Griffith. bibliog il diag Anal Chem 22:1269-71 O '50

Millicoulometry; the purported reduction of nitrate at the dropping mercury electrode. L. Meites. bibliog Am Chem Soc J 73:4115-19 S '51

Oxygen removal in the polarography of biological solutions. C. Tanford and J. Epstein. diags Anal Chem 23:802-3 My '51

Polarographic behavior of organic compounds; analysis of mixtures of dichloroacetic and trichloroacetic acids. P. J. Elving and C. Tang. Anal Chem 23:341-3 F '51

Polarographic behavior of organic compounds; effect of ionic strength, buffer nature and concentration, and pH. P. J. Elving and others. bibliog Anal Chem 23:1218-23 S '51

Polarographic determination of aluminum; use of an organic reagent. H. H. Willard and J. A. Dean. bibliog Anal Chem 22:1264-7 O '50

Polarographic determination of cadmium in aluminium alloys. W. Stross. diags Metallurgia 43:145-7 Mr '51

Polarographic determination of cobalt as trioxalatocobaltate(III). I. M. Kolthoff and J. I. Watters. bibliog Anal Chem 22:1422-6 N '50

Polarographic determination of dimethylamine. F. L. English. bibliog Anal Chem 23:344-6 F '51

Polarographic determination of metals in industrial wastes. P. G. Butts and M. G. Mellon. Sewage & Ind Wastes 23:59-63 Ja '51

Polarographic determination of mono- and dinitroxylenes. C. H. Hale. bibliog Anal Chem 23:572-3 Ap '51

Polarographic determination of platinum. F. L. English. bibliog Anal Chem 22:1501-3 D '50

Polarographic study of chromium(III) chloride solutions. R. E. Hamm and C. M. Shull, jr. bibliog Am Chem Soc J 73:1240-3 Mr '51

Polarographic theory, instrumentation, and methodology; review of 1950. J. J. Lingane. bibliog(61 ref) il diags Anal Chem 23:86-97 Ja '51

Polarography of tin(IV) in presence of traces of tetraphenylarsonium chloride. I. M. Kolthoff and R. A. Johnson. Anal Chem 23:574-6 Ap '51

Potentiometric, amperometric, and polarographic methods for microanalysis. T. D. Parks and L. Lykken. bibliog diags Anal Chem 22:1444-6 N '50

Rapid polarographic determination of tetraethyllead in gasoline. K. A. Hansen, T. D Parks and L. Lykken. bibliog Anal Chem 22:1232-3 O '50

Rapid polarographic determination of zinc in copper-base alloys. M. Sherman. il Foundry 78:94-5 N '50

Selection of capillaries with predetermined characteristics for the dropping mercury electrode; nomogram and directions. O. H. Müller. Anal Chem 23:1175-7 Ag '51

Trace metals in biology; polarographic methods of analysis. bibliog Chem Age (Lond) 65:227-9+ Ag 18; 247-9 Ag 25 '51

Versatile cell for routine polarographic analysis. L. D. Frederickson, jr. diag Anal Chem 23:813 My '51

Vibrating dropping mercury electrode for polarographic analysis of agitated solutions. D. A. Berman, P. R. Saunders and R. J. Winzler. bibliog diag Anal Chem 23:1040-1 Jl '51

Bibliography

Radiometer polarographics. Published quarterly by Radiometer, 72, Emdrupvej, Copenhagen NV, Denmark

POLAROGRAPHY

Adsorption and reduction of tetrachloroplatinate(II) ion at the dropping mercury electrode. H. A. Laitinen and E. I. Onstott. bibliog Am Chem Soc J 72:4565-70 O '50

Catalytic polarographic waves of hydrogen peroxide; the kinetic wave for the ferric iron-hydrogen peroxide system. I. M. Kolthoff and E. P. Parry. bibliog Am Chem Soc J 73:3718-23 Ag '51

Determination and significance of polarographic critical micelle concentrations. E. L. Colichman. bibliog Am Chem Soc J 72:4036-42 S '50

Effect of ionic strength on polarographic half-wave potentials. D. D. DeFord and D. L. Andersen. bibliog Am Chem Soc J 72:3918-20 S '50

Effect of serum albumin on the polarographic diffusion current of cadmium. C. Tanford. bibliog Am Chem Soc J 73:2066-70 My '51

International polarographic conference, Prague, Feb. 4-8. Anal Chem 23:685-6 Ap '51

Millicoulometry; the polarographic reduction of copper(II) from thiocyanate solutions. L. Meites. bibliog Am Chem Soc J 73:4479-81 S '51

Oscillographic polarography. P. Delahay and G. Perkins. J Phys & Colloid Chem 55:586-91 Ap '51

Oscillographic polarography; improved method of measurement and causes of errors. P. Delahay and G. L. Stiehl. bibliog il diag J Phys & Colloid Chem 55:570-85 Ap '51

Oxidation levels of rhenium. C. L. Rulfs and P. J. Elving. bibliog Am Chem Soc J 73:3284-92 Jl '51

Polarographic behaviour of iodo-compounds. E. Gergely and T. Iredale. Chem Soc J p 13-15 Ja '51

Polarographic behavior of organic compounds; iodoacetic acid and the bromoacetic acids. P. J. Elving, I. Rosenthal and M. K. Kramer. bibliog Am Chem Soc J 73:1717-22 Ap '51

Polarographic behavior of organic compounds; kinetics in a system nitroester-nitroölefin-nitroalcohol. W. J. Seagers and P. J. Elving. Am Chem Soc J 73:947-8 Mr '51

Polarographic behavior of organic compounds; some ethers and esters of 2-nitro-1-butanol. W. J. Seagers and P. J. Elving. bibliog Am Chem Soc J 72:5183-5 N '50

Polarographic behavior of organic compounds; the system *meso*-α,α′-dibromosuccinic acid-fumaric acid. I. Rosenthal and P. J. Elving. Am Chem Soc J 73:1880-1 Ap '51

Polarographic characteristics of +2 and +3 vanadium; polarography in complexing solutions. J. J. Lingane and L. Meites. Am Chem Soc J 73:2165-70 My '51

Polarographic investigation of iron-sulfosalicylate complex ions. C. V. Banks and J. H. Patterson. bibliog Am Chem Soc J 73:3062-4 Jl '51

Polarographic investigation of the alkaline decomposition of streptomycin. C. E. Bricker and W. A. Vail. Am Chem Soc J 73:585-9 F '51

Polarographic investigations of reactions in aqueous solutions containing copper and cysteine (cystine). W. Stricks and I. M. Kolthoff. bibliog Am Chem Soc J 73:1723-33 Ap '51

Polarographic investigations of reactions in aqueous solutions containing copper and cysteine (cystine); amperometric titration of traces of cysteine and cystine with cupric copper as reagent. I. M. Kolthoff and W. Stricks. bibliog Anal Chem 23:763-8 My '51

POLAROGRAPHY—*Continued*

Polarographic reduction of some heterocyclic molecules; the reduction of cinchoninic acid. D. J. Casimir and L. E. Lyons. Chem Soc J p783-6 Mr '50

Polarographic studies of metal complexes; the cadmium(II), zinc(II) and iron(III) citrates. L. Meites. Am Chem Soc J 73:3727-31 Ag '51

Polarographic studies of metal complexes; the lead(II) tartrates and oxalates. T. Meites and L. Meites. bibliog Am Chem Soc J 73:1161-4 Mr '51

Polarographic studies of organic mercury compounds. R. Benesch and R. E. Benesch. bibliog Am Chem Soc J 73:3391-6 Jl '51

Polarographic study of the electroreduction of acridine. R. C. Kaye and H. I. Stonehill. pl diags Chem Soc J p27-38 Ja '51

Polarographic study of the oxalato complexes of titanium. R. L. Pecsok. bibliog Am Chem Soc J 73:1304-8 Mr '51

Polarographic theory, instrumentation, and methodology; review of 1950. J. J. Lingane. bibliog(61 ref) il diags Anal Chem 23:86-97 Ja '51

Polarography in liquid ammonia; the polarography of thallium(I), copper(II), and ammonium ions and of molecular oxygen. H. A. Laitinen and C. E. Shoemaker. bibliog Am Chem Soc J 72:4975-7 N '50

Polarography of benzophenone. H. J. Gardner. bibliog Chem & Ind p819-20 S 29 '51

Polarography of copper complexes; dipyridyl, orthophenanthroline and thiourea complexes; a double complex system. E. I. Onstott and H. A. Laitinen. bibliog Am Chem Soc J 72:4724-8 O '50

Polarography of copper complexes; pyrophosphate complexes. H. A. Laitinen and E. I. Onstott. bibliog Am Chem Soc J 72:4729-33 O '50

Polarography of ruthenium(IV) in perchloric acid solutions. L. W. Niedrach and A. D. Tevebaugh. bibliog Am Chem Soc J 73:2835-7 Je '51

Polarography of the bis-(diethylthiocarbamyl) disulfide-diethyldithiocarbamate ion oxidation-reduction system. E. C. Gregg and W. P. Tyler. bibliog Am Chem Soc J 72:4561-5 O '50

Polarography of the nickel cyanide complexes and the solubility and constitution of nickel cyanide. D. N. Hume and I. M. Kolthoff. bibliog Am Chem Soc J 72:4423-6 O '50

Some polarographic effects of gelatin and other maximum suppressors. L. Meites and T. Meites. bibliog Am Chem Soc J 73:177-83 Ja '51

Studies in the theory of the polarographic diffusion current; diffusion current constants of some ions in solutions containing gelatin; a critique of the Strehlow-von Stackelberg equation. L. Meites and T. Meites. Am Chem Soc J 73:395-8 Ja '51

Studies in the theory of the polarographic diffusion current; diffusion current constants of some ions in the absence of gelatin. L. Meites. bibliog Am Chem Soc J 73:1581-3 Ap '51

Studies in the theory of the polarographic diffusion current; effects of certain variables on *m* and the residual current. L. Meites. Am Chem Soc J 73:2035-7 My '51

Studies in the theory of the polarographic diffusion current; the effect of drop weight on the relationship between the diffusion current constant of lead and the drop time. L. Meites. Am Chem Soc J 73:3724-7 Ag '51

Studies in the theory of the polarographic diffusion current; the effect of ionic strength on the diffusion current constant in the absence of gelatin. L. Meites. Am Chem Soc J 73:4257-9 S '51

Studies in the theory of the polarographic diffusion current; the instantaneous diffusion current and the Strehlow-von Stackelberg equation. L. Meites and T. Meites. Am Chem Soc J 72:4843-4 O '50

Study of indium(III) chloride complexes by polarographic methods. J. A. Schufle, M. F. Stubbs and R. E. Witman. bibliog Am Chem Soc J 73:1013-15 Mr '51

Study of the polarographic behavior of dropping amalgam electrodes. N. H. Furman and W. C. Cooper. bibliog diags Am Chem Soc J 72:5667-76 D '50

Uranyl; citrate system; polarographic studies of the 1:1 complex. W. F. Neuman, J. R. Havill and I. Feldman. Am Chem Soc J 73:3593-5 Ag '51

Variations of the wave height with the rate of potential change in oscillographic polarography; single-sweep vs. multisweep method. P. Delahay and G. Perkins. bibliog J Phys & Colloid Chem 55:1146-51 O '51

POLE setting

Flexible steel tubing derrick sets 90-ft poles. F. E. Reinhart. il Elec World 135:164 My 21 '51

Hydraulic boom and puller combined with earthborer. F. L. Goss and E. W. Templing. il Elec World 134:100 D 18 '50

Jetting power-line poles in place with air. Comp Air Mag 55:254 N '50

POLES

See also

Electric lines—Poles and towers

POLICE

Great Britain

On the beat; advantages of Salford system. Economist 160:415-16 F 24 '51

Police squads; Aberdeen system. Economist 160:12 Ja 6 '51

New York (city)

Brother cop; New York police want more money. Fortune 42:48+ N '50

POLICYHOLDERS' service bureau. See Metropolitan life insurance company—Policyholders' service bureau

POLIO insurance association

Annual meeting, Dallas, Feb. 27. East Underw 52:42 Mr 9 '51; Nat Underw 55:28 Mr 8 '51; Nat Underw (Life ed) 55:24 Mr 9 '51

POLIOMYELITIS. See Infantile paralysis

POLISHING

Applications of polystyrene particles in conjunction with shadow casting to the study of polished metallic surfaces. I. Feng. bibliog il diags J Ap Phys 22:820-4 Je '51

Fast abrasive belt finishing lops off costs. il Steel 127:88-90 D 11; 100-2 D 18 '50

Impact polishing produces mirror finishes. il Machine Design 23:116-17 Je '51

Improving Bendix airplane landing wheels by burnishing. W. H. DuBois. il diags Metal Prog 60:55-9 S '51

Liquid blasting trims die polishing time ten per cent. il Steel 128:77 Ja 22 '51

Mechanical finishing of metals. J. B. Campbell. il Materials & Methods 32:81-96 N '50

New methods reduce cost of polishing die castings; Ternstedt div., General motors corp. J. Geschelin. il Automotive Ind 104:49+ Ja 1 '51

Polishing-grain sizes; reference book sheet. Am Mach 94:169 N 13 '50

Portable machine for honing and polishing calender stock base rolls. F. Lindberg and H. Fish. diags Pulp & Pa of Can 52:101 Mr '51

Retail distribution follows mail-order success; Toolzon polisher attachment for electric kitchen mixer. L. F. Thomann. il Ptr Ink 235:41-2 Ap 6 '51

Simple instrument for evaluating polished or buffed surfaces. G. E. Gardam. il Metal Finishing 49:61-3 Ap '51

Thermal polishing and etching of nickel. G. W. Wensch. il Metal Prog 57:488 Ap '50; Discussion. 58:733-4 N '50

To reduce polishing costs, polish flat; abstract. H. J. McVey and V. M. Darsey. Iron Age 166:111 D 14 '50

Turning and polishing Rocket engine crankshafts; Oldsmobile's plant at Lansing, Mich. H. Chase. il diags Automotive Ind 103:34-7 D 1 '50

See also

Tumbling barrels

POLISHING, Electrolytic

Bridge method for the control of electrolytic polishing. L. F. Bates and C. D. Mee. diags J Sci Instr 27:317-18 N '50

Electrolytic polishing and etching of uranium. B. W. Mott and H. R. Haines. il Metallurgia 43:255-7 My '51

POLISHING, Electrolytic—*Continued*
Electrolytic polishing of nickel. G. W. Wensch. il Metal Prog 58:735-6 N '50
Electrolytic polishing of zirconium and its application to a study of the effects of abrasion upon the structure of the metal. P. A. Jacquet. il Metallurgia 42:268-70 O '50
Metallography of zirconium. H. P. Roth. il Metal Prog 58:709-11 N '50
New universal electropolishing bath; abstract. M. J. Estruch Battle. Metal Finishing 49:86-7 S '51
Preparation of very fine wire by electropolishing. W. H. Colner and others. il Metal Prog 59:795-7 Je '51

POLISHING machines
Abrasive belts for polishing. J. F. Whitcomb. il diag Metal Finishing 49:46-8 Ag '51
High-speed polishing machine employs centerless taper feed. il Am Mach 95:190 Mr 19 '51

POLISHING materials
Easy on the finish; fine-mesh uniform grain silica cleans but doesn't grind. il Chem W 69:30-1 S 1 '51
New sell in polishes. il Chem Ind W 68:16 Mr 10 '51
Removal of stearic acid from surfaces by alkaline detergents. F. Hazel and W. Stericker. bibliog il Ind & Eng Chem 43:919-25 Ap '51
Stabilization of wax aerosols. B. J. Eiseman, jr. il Soap & San Chem 27:106-9+ My '51
See also
Floor finishes
Floor wax
Stove polish

POLISHING wheels
Dressing, heading and care of polishing wheels. A. M. Brown. il Metal Finishing 48:64-7 N '50

POLITICAL advertising
Discriminating rates hit in politics survey. Ed & Pub 84:51 Ja 27 '51
Political rate limit raises utility question. A. W. Gray. Ed & Pub 84:55 Jl 14 '51

POLITICAL conventions
See also
Television broadcasting—Political conventions

POLITICAL crime
See also
Subversive activities

POLITICAL parties

Publicity

Tells why he ducked GOP public relations job. B. Andrews. Ed & Pub 83:39 N 25 '50

Czechoslovakia

See also
Communist party (Czechoslovakia)

Great Britain

See also
Labor party (Great Britain)
Liberal party (Great Britain)

Italy

See also
Communist party (Italy)

United States

Political parties. il Fortune 43:84-9 F '51
See also
Republican party

POLITICAL philosophy
Schumpeter's political philosophy. D. M. Wright. R Econ & Stat 33:152-7 My '51

POLITICAL psychology
Votes in the making; what are the factors that influence voters and decide elections? P. F. Lazarsfeld. Sci Am 183:11-13 N '50

POLITICAL science
See also
Administration, Public
Civil service
Commercial policy
Conservatism
Democracy
Economic policy
Government regulation of industry
Industry and state
Law
Municipal government
Railroads and state
Science and state
State governments
Taxation

POLITICS, Practical
See also
Voting

POLLEN
Purification of the active principle of short ragweed pollen. T. B. Bernstein and others. Science 113:377-8 Ap 6 '51

POLLEN, Fossil
Late-glacial and postglacial pollen diagrams from Maine. E. S. Deevey, jr. bibliog map Am J Sci 249:177-207 Mr '51
Peat samples for radiocarbon analysis; problems in pollen statistics. E. S. Deevey, jr. and J. E. Potzger. bibliog Am J Sci 249:473-511, pl 1 Jl '51

POLONIUM
Catalytic properties of element 84 (polonium 210). P. Bonet-Maury and M. Lefort. Chem Soc J supp no 2:S322-3 '49
Comparison of several nuclear absolute voltage determinations. W. J. Sturm and V. Johnson. bibliog diags Phys R 83:542-7 Ag 1 '51
New experiments on the cathodic deposition of radio-elements. M. Haissinsky and A. Coche. Chem Soc J supp no 2:S397-400 '49

Isotopes

Alpha-decay energies of polonium isotopes. D. G. Karraker and others. bibliog Phys R 83:390-3 Jl 15 '51
Polonium isotopes produced with high energy particles. D. G. Karraker and D. H. Templeton. bibliog Phys R 81:510-16 F 15 '51

POLYAMIDES. See Amides

POLYENES
Concerning cyclic polyenes. J. F. Tinker. bibliog J Chem Phys 19:981-2 Jl '51
Cyclic conjugated polyenes; attempted synthesis of 6-methyl-4 : 5-benzazulene. J. R. Nunn. Chem Soc J p 1352-3 My '50
Studies in light absorption; the relation between absorption intensities and molecular dimensions, and its application to the electronic spectra of polyenes and polycyclic benzenoid hydrocarbons. E. A. Braude. diags Chem Soc J p379-84 Ja '50
Studies in the polyene series; a new method for the synthesis of some acetylenic acids related to vitamin A. J. B. Toogood and B. C. L. Weedon. Chem Soc J p3123-6 D '49
Studies in the polyene series; further syntheses of acetylenic acids related to vitamin A. T. Bruun and others. Chem Soc J p633-7 F '50
Studies in the polyene series; preparation of 3-dehydro-β-ionone and some 3-substituted β-ionones. H. B. Henbest. Chem Soc J p 1074-8 Ap '51
Studies in the polyene series; the synthesis of a C_{17} alcohol related to vitamin A. G. W. H. Cheeseman and others. Chem Soc J p3120-3 D '49
Theoretical treatment of the Diels-Alder reaction; polyenes, arylpolyenes, and related molecules. R. D. Brown. Chem Soc J p2730-5 O '50

POLYETHYLENE
Attention to details pays off in polyethylene cable installation. P. N. Lubke. il Elec World 136:130-2 Ag 13 '51
Chemical packaging in polythene. J. H. Childs. Can Chem & Process Ind 35:236-7 Mr '51
Competition for glass; polyethylene bottles. il Chem W 69:26 Ag 11 '51
Diamagnetic anisotropy of polyethylene, polystyrene and poly-2,5-dichlorostyrene. E. M. Weir and P. W. Selwood. Am Chem Soc J 73:3484-7 Jl '51
Effect of electric stress on the life of cables incorporating a polythene dielectric. P. R. Howard. il Inst E E Proc 98 pt 2:365-70 Je '51
Liquids in film-lined fibre; fibre-plastic envelope-boot drum package. E. S. Schneider. il Mod Packaging 24:181-5 Ap '51
Mechanized squeeze-bottling; Ciba's improved nebulizer. il diag Mod Packaging 24:68-70+ Ag '51
Method for determining the propagation constants of plastics at ultrasonic frequencies. H. J. McSkimin. diags Acoustical Soc Am J 23:429-34 Jl '51

POLYETHYLENE—*Continued*

Near infrared pleochroism; the 0.8—2.5μ region of some linear polymers. L. Glatt and J. W. Ellis. bibliog diags J Chem Phys 19:449-57 Ap '51

Packaging possibilities broadened by the use of polyethylene linings and containers. R. E. Wright. bibliog il Ind & Eng Chem 42:sup 123A-4A N '50

Permeation of vapors through polyethylene. J. A. Cutler and others. bibliog Tappi 34:404-7 S '51

Plastic-lined drum takes 55-gal. loads. il Iron Age 167:67 My 31 '51

Polyethylene containers good for small quantities of corrosives. T. P. Callahan. il Chem Ind 67:944 D '50

Polyethylene in car spring liners. il diag Mod Plastics 28:64-5 F '51

Polyethylene on allocation. Mod Plastics 28:86a-86b Je '51

Polyethylene on paper; extrusion coating process. il Mod Plastics 28:67-71 D '50

Polyethylene; structure, crystallinity and properties. R. B. Richards. bibliog il J Ap Chem 1:370-6 Ag '51

Polymerization recipes for 41°F. sugar-free redox systems. V. C. Neklutin, C. B. Westerhoff and L. H. Howland. bibliog Ind & Eng Chem 43:1246-52 My '51

Raw materials for electric cable making. V. H. Wentworth. il Electrician 146:797-800 Mr 9 '51

Spillproof nail polish; polyethylene-plug valve in neck of Cutex bottle. il Mod Packaging 24:175 Ap '51; Mod Plastics 28:171 Ag '51

Squeeze that pleases. il Chem W 69:29-30 S 1 '51

Static electrification of solid particles by spraying. S. J. Czyzak and D. T. Williams. Science 114:66-8 Jl 20 '51

Test report on revolutionary tapes; adhesive-backed, pressure-sensitive oriented polyethylene tapes and films. W. J. Miller. il Mod Plastics 28:74-6 Ja '51

Total neutron cross sections of several nuclei at 14 Mev. A. H. Lasday. bibliog Phys R 81:139 Ja 1 '51

Utility extras; Max Factor's new signature line; polyethylene squeeze bottles. il Mod Packaging 24:75-7 Ag '51

Weathering studies on polyethylene; wire and cable applications. V. T. Wallder and others. il diag Ind & Eng Chem 42:2320-5 N '50

Testing

Cracking of stressed polyethylene; effect of chemical environment. J. B. DeCoste, F. S. Malm and V. T. Wallder. bibliog il diags Ind & Eng Chem 43:117-21 Ja '51

POLYGONS

Null polygons; abstract. E. Kasner. Science 112:450 O 20 '50

POLYMERIZATION

Acetylene reactions; trimerisation of ethynyl compounds. J. D. Rose and F. S. Statham. Chem Soc J p69-70 Ja '50

Acid-catalyzed reactions of nitriles; polyamides from formaldehyde and dinitriles. E. E. Magat and others. Am Chem Soc J 73:1031-5 Mr '51

Addition of free radicals to unsaturated systems. R. N. Haszeldine and B. R. Steele. Chem & Ind p684-5 Ag 11 '51

Alfin-catalyzed GR-S type polymers. W. K. Taft and H. Goldsmith. bibliog Ind & Eng Chem 42:2542-6 D '50

Apparatus for turbidimetric study of polymerization activators. T. W. Sarge. il diag Anal Chem 22:1435-8 N '50

Association of polystyrene in toluene indicated; radioactive tracer techniques. Chem & Eng N 29:1623 Ap 23 '51

Biological polymerization with reference to polysaccharide synthesis. M. Stacey. bibliog Chem & Ind p727-9 N 11 '50

Butadiene-styrene resinous copolymers. J. D. D'Ianni, L. D. Hess and W. C. Mast. bibliog(37 ref) Ind & Eng Chem 43:319-24 F '51

Butylene from ethylene; cobalt-carbon catalyst; pilot plant. H. A. Cheney and others. bibliog il diags Ind & Eng Chem 42:2580-6 D '50

Catalyst specificity in Friedel-Crafts copolymerization. R. E. Florin. Am Chem Soc J 73:4468-70 S '51

Chain length and chain-length distribution of wood cellulose as compared with cotton. E. Heuser and L. Jörgensen. bibliog Tappi 34:57-67 F '51

Chain reactions induced by enzymic systems. G. Parravano. bibliog Am Chem Soc J 73:183-4 Ja '51

Chain transfer in the polymerization of styrene; chain transfer with styrene and benzoyl peroxide; the efficiency of initiation and the mechanism of chain termination. F. R. Mayo, R. A. Gregg and M. S. Matheson. bibliog Am Chem Soc J 73:1691-700 Ap '51

Chemical effects produced by ultrasonic waves. O. Lindström and O. Lamm. bibliog diag J Phys & Colloid Chem 55:1139-46 O '51

Chemical engineering unit processes fourth annual review. C. C. Winding. Ind & Eng Chem 43:1997-2006 bibliog(377 ref, p2002-6) S '51

Copolymerization. H. W. Melville, E. P. Bonsall and L. Valentine. J Ap Chem 1:249-53 Je '51

Copolymerization; abstract and discussion. G. M. Burnett. Chem & Ind p252-3 Mr 31 '51

Copolymerization; copolymerization of acetylene derivatives with olefins; retardation by radicals from acetylenes. K. W. Doak. bibliog Am Chem Soc J 72:4681-6 O '50

Copolymerization in emulsion. F. T. Wall, R. E. Florin and C. J. Delbecq. bibliog Am Chem Soc J 72:4769-73 O '50

Copolymerization of butyl vinylsulfonate; comments on sulfur shell expansion. C. G. Overberger, D. E. Baldwin and H. P. Gregor. bibliog Am Chem Soc J 72:4864-6 N '50

Copolymerization of 2-chloroallyl linoleate with styrene. E. Dyer and W. C. Meisenhelder. bibliog Am Chem Soc J 73:1434-7 Ap '51

Copolymerization; reactivity of fumaronitrile in vinyl copolymerization. R. G. Fordyce and G. E. Ham. Am Chem Soc J 73:1186-9 Mr '51

Copolymerization; the copolymerization of 2-chlorobutadiene, 2,3-dichlorobutadiene and 1,1-diphenylethylenes with olefins. K. W. Doak and D. L. Dineen. Am Chem Soc J 73:1084-7 Mr '51

Copolymerization; the over-all rate of copolymerization of styrene-diethyl fumarate. C. Walling and E. A. McElhill. Am Chem Soc J 73:2819-21 Je '51

Cyclic sulfones; the polymerization of styrene in the presence of 3,4-diphenylthiophene-1-dioxide and 3,4-di-(*p*-chlorophenyl)-thiophene-1-dioxide. C. G. Overberger, H. J. Mallon and R. Fine. bibliog Am Chem Soc J 72:4958-61 N '50

Degree of polymerisation of cellulose; causes of errors in determinations by the viscosimetric method. A. Parisot and J. Cyrot. bibliog diags Textile Inst J 42:P783-95; Discussion. P795-7 Ag '51

Developments in low-temperature polymerization of GR-S latex. H. S. Smith and others. bibliog il diags Ind & Eng Chem 43:212-16 Ja '51

Developments in the theory of cationic polymerization. P. H. Plesch. bibliog J Ap Chem 1:269-72 Je '51

Dimer acids. D. T. Moore. bibliog Paint Oil & Chem R 114:13-14+ Ja 4 '51

Dimerization of cyclopentadienones. C. F. H. Allen and J. A. VanAllan. bibliog Am Chem Soc J 72:5165-7 N '50

Fractionation of starch; the fractionation of amyloses. D. Goodison and R. S. Higginbotham. bibliog diags Textile Inst J Trans 42:T249-73 Je '51

Hydrolysis and polymerization of zirconium in perchloric acid solution. R. E. Connick and W. H. Reas. Am Chem Soc J 73:1171-6 Mr '51

Influence of oxygen upon polymerization reactions. J. Abere, H. Mark and W. P. Hohenstein. bibliog J Ap Chem 1:363-70 Ag '51

Inhibition of Friedel-Crafts polymerization. J. George, H. Wechsler and H. Mark. bibliog diag Am Chem Soc J 72:3891-901 S '50

POLYMERIZATION—*Continued*

Initiation of vinyl polymerization by means of high-energy electrons; tetraethyleneglycol dimethylacrylate (TEGMA). J. V. Schmitz and E. J. Lawton. bibliog Science 113:718-19 Je 22 '51; Abstract. Mech Eng 73:745-6 S '51

Ionic telomerization of butadiene. E. L. Jenner and R. S. Schreiber. bibliog Am Chem Soc J 73:4348-52 S '51

Kinetics of continuous reaction processes; application to polymerization. K. G. Denbigh. bibliog J Ap Chem 1:227-36 My '51

Light scattering as a means of following the rate of polymerization. D. Cleverdon. bibliog Chem & Ind p559 Je 30 '51

Low-temperature polymerisation of *iso*butene. P. H. Plesch. Chem Soc J p543-56 F '50

Methyl alcohol; the entropy, heat capacity and polymerization equilibria in the vapor, and potential barrier to internal rotation. W. Weltner, jr. and K. S. Pitzer. bibliog Am Chem Soc J 73:2606-10 Je '51

Methyl radical induced polymerization of gaseous butadiene. D. H. Volman. bibliog J Chem Phys 19:668-70 Je '51

α-Methylenic reactivity in olefinic systems; the structure of the dimeride formed by the stannic chloride-catalysed polymerisation of trimethylethylene; synthesis and characterisation of isomeric methyl hexyl ketones. J. W. Baker. Chem Soc J p 1302-9 My '50

Noncatalytic polymerization of olefins to lubricating oils. F. M. Seger, H. G. Doherty and A. N. Sachanen. bibliog Ind & Eng Chem 42:2446-52 D '50

Particle size in suspension polymerization. F. H. Winslow and W. Matreyek. bibliog il diags Ind & Eng Chem 43:1108-12 My '51

Permanganate oxidation of polybutadiene rubbers. F. J. Naples and J. D. D'Ianni. bibliog Ind & Eng Chem 43:471-5 F '51

Peroxides from turpentine as catalysts for 5° C. GR-S polymerization. G. S. Fisher and others. bibliog Ind & Eng Chem 43:671-4 Mr '51

Phosphomolybdic acid as a catalyst for the bulk polymerization of styrene. J. H. Day and T. A. Solak. bibliog Am Chem Soc J 73:469 Ja '51

Photochemical reactions; photopolymerisation of coumarins and related substances; photo-addition and -reduction processes of aromatic ketones. A. Schönberg and others. Chem Soc J p374-9 Ja '50

Polyalkylene sulfides; the rate of formation in emulsion. C. S. Marvel and A. H. Markhart, jr. Am Chem Soc J 73:1064-5 Mr '51

Polymerization induced by catalytic decomposition of formic acid at platinum surfaces. G. Parravano. Am Chem Soc J 72:5546-9 D '50

Polymerization induced by catalytic decomposition of hydrazine at palladium surfaces. G. Parravano. bibliog Am Chem Soc J 72:3856-60 S '50

Polymerization induced by hydrogen in metals. G. Parravano. diag Am Chem Soc J 73:628-30 F '51

Polymerization of 3-chloro-chloromethyl-1-propene. W. S. Ropp and others. Am Chem Soc J 73:3024-7 Jl '51

Polymerization of *p*-chlorostyrene in the presence of polymethylacrylate. R. B. Carlin and D. L. Hufford. Am Chem Soc J 72:4200-3 S '50

Polymerization of 2,3-difluorobutadiene and 2-chloro-3-fluorobutadiene. L. B. Wakefield. bibliog Ind & Eng Chem 43:2363-6 O '51

Polymerization of *iso*butene by boron trifluoride. A. G. Evans. bibliog J Ap Chem 1:240-2 Je '51

Polymerization of olefins with Friedel-Crafts catalysts. R. L. Meier. diag Chem Soc J p3656-71 D '50

Polymerization of styrene with drying oils in aqueous emulsion. I. I. Bezman and D. D. Browning. bibliog il Paint Oil & Chem R 114:10B-14+ S 27 '51

Polymerization of 3,3,3-trifluoropropene and 2-methyl-3,3,3-trifluoropropene. A. Goldschmidt. Am Chem Soc J 73:2940 Je '51

Polymerization of vinyl and allyl esters of fatty acids. S. A. Harrison and D. H. Wheeler. bibliog Am Chem Soc J 73:839-42 F '51

Polymerisation of vinyl compounds by the sulphite radical. B. D. Sully. diags Chem Soc J p 1498-505 Je '50

Polymerization recipes for 41°F. sugar-free redox systems. V. C. Neklutin, C. B. Westerhoff and L. H. Howland. bibliog Ind & Eng Chem 43:1246-52 My '51

Polymolecularity of viscose rayon and rayon-grade pulps. W. E. Davis. bibliog flow sheets Ind & Eng Chem 43:516-21 F '51

Polysulfide polymers. E. M. Fettes and J. S. Jorczak. bibliog(69 ref) Ind & Eng Chem 42:2217-23 N '50

Preparation and polymerization of cycloalkyl acrylates. C. E. Rehberg and W. A. Faucette. Am Chem Soc J 72:4307 S '50

Preparation and polymerization of trifluoromethyl- and chloro-(trifluoromethyl)-substituted styrenes. E. T. McBee and R. A. Sanford. bibliog Am Chem Soc J 72:4053-5 S '50

Preparation and polymerization of unsaturated quaternary ammonium compounds; halogenated allyl derivatives. G. B. Butler and F. L. Ingley. Am Chem Soc J 73:895-6 Mr '51

Properties and reactions of free alkyl radicals in solution; some reactions of 2-cyano- and 2-carbomethoxy-2-propyl radicals with quinones. A. F. Bickel and W. A. Waters. Chem Soc J p 1764-9 Jl '50

Rates, heats, and entropies of polymerization. F. S. Dainton. bibliog Can Chem & Process Ind 35:36-9+ Ja '51

Reaction of methyl radicals with olefins; the reaction with tetrafluoroethylene and vinyl fluoride. F. A. Raal and C. J. Danby. Chem Soc J p 1596-9 Je '50

Reactions in sunlight of certain diketones with ethylenes and aromatic aldehydes; photopolymerisation of 9-anthraldehyde. A. Mustafa. Chem Soc J p 1034-7 Ap '51

Some disubstituted α-methylstyrenes and their polymerization characteristics and a comparative study of the refractive indexes of substituted styrenes and α-methylstyrenes. G. H. Stempel, jr. and others. bibliog Am Chem Soc J 73:455-6 Ja '51

Some factors affecting the useful rates of reaction in the industrial polymerization of styrene. J. Elly, R. N. Haward and W. Simpson. bibliog J Ap Chem 1:347-53 Ag '51

Spectroscopic evidence of the dimerization of NO in the gaseous state. L. D'Or and others. J Chem Phys 19:1064 Ag '51

Statistical design in chemical experimentation. W. L. Gore. Ind & Eng Chem 43:2327-8 O '51

Structure and mechanical behavior of cellulose fibers. P. Herrent and A. Lude. diags Textile Res J 21:137-43 Mr '51

Study of the polymerisation of methacrylamide in wool. N. K. Boardman and M. Lipson. bibliog Soc Dyers & Col J 67:271-4 Jl '51

Sulphonated cross-linked polystyrene; a monofunctional cation-exchange resin. K. W. Pepper. bibliog J Ap Chem 1:124-32 Mr '51

Synthetic polypeptides. W. E. Hanby, S. G. Waley and J. Watson. Chem Soc J p3009-13 N '50

Synthetic polypeptides; initiators for the copolymerisation of oxazolid-2 : 5-diones. D. Coleman. Chem Soc J p3222-9 N '50

Two stage polymerizations; preparation and polymerization of substituted allyl phenyl ethers. G. B. Butler and F. L. Ingley. bibliog Am Chem Soc J 73:1512-13 Ap '51

Two stage polymerizations; preparation and polymerization of vinyl ethers of unsaturated alcohols. G. B. Butler and J. L. Nash, jr. Am Chem Soc J 73:2538-9 Je '51

Unit processes; Chemical Engineering report, March 1951. H. Mark and W. P. Hohenstein. diag Chem Eng 58:140 Mr '51

POLYMERIZATION, Heat of

Heat of polymerization of alpha-methylstyrene from heats of combustion of monomer and four polymer fractions. D. E. Roberts and R. S. Jessup. bibliog J Res Nat Bur Stand 46:11-17 Ja '51

POLYMERIZATION, Heat of—*Continued*

Rates, heats, and entropies of polymerization. F. S. Dainton. bibliog Can Chem & Process Ind 35:36-9+ Ja '51

POLYMERS

Acrylic esters of some substituted alkanols. C. E. Rehberg, M. B. Dixon and W. A. Faucette. Am Chem Soc J 72:5199-200 N '50

Addition polymers; abstract. H. Zumstein. Paint Oil & Chem R 114:32+ Ag 2 '51

Aging studies on redox polymers; effect of iron. C. R. Parks, J. O. Cole and J. D. D'Ianni. bibliog Ind & Eng Chem 42:2553-7 D '50

A.P.S. Division of high polymer physics meeting, Washington, April 26-27; abstracts of papers. Rubber Age 69:59-61 Ap '51

APS Division of high polymer physics meeting, Washington; titles and authors of papers. India Rubber World 124:79 Ap '51

Apparatus for the study of creep of dielectric polymers and their dynamic rheological properties. W. Lethersich. il diags J Sci Instr 27:303-6 N '50

Bound metal in ethyl cellulose effect on dilute solution properties. E. F. Evans and H. M. Spurlin. bibliog Am Chem Soc J 72:4750-6 O '50

Branched-chain super-esters. G. W. Youngson and H. W. Melville. diag Chem Soc J p 1613-22 Je '50

Calculation of degree of crystallinity in polymers from density measurements. F. P. Price. J Chem Phys 19:973 Jl '51

Chemical attack on polymeric materials as modified by diffusion. S. M. Katz and others. bibliog Textile Res J 20:754-60 N '50

Chlorotrifluoroethylene polymers; physical properties. W. H. Reysen and J. D. Gibson. bibliog Ind & Eng Chem 42:2468-71 D '50

Compressibility of natural and synthetic high polymers at high pressures. C. E. Weir. bibliog J Res Nat Bur Stand 46:207-12 Mr '51

Compressibility studies on polymers at National bureau of standards. il Rubber Age 68:443-4 Ja '51; Same. Franklin Inst J 251: 467-9 Ap '51

Concentration dependence of the rates of diffusion of macromolecules in solution; an investigation of fractions of polystyrene. A. F. Schick and S. J. Singer. bibliog J Phys & Colloid Chem 54:1028-44 O '50

Continuous polycondensation; the development of a practical method. E. Sunderland. J Ap Chem 1:360-3 Ag '51

Crazing of linear high polymers. C. C. Hsiao and J. A. Sauer. bibliog il J Ap Phys 21: 1071-83 N '50

Crystallization in high polymers; heat of fusion of poly-(N,N′-sebacoylpiperazine) and its interaction with diluents. P. J. Flory, L. Mandelkern and H. K. Hall. bibliog Am Chem Soc J 73:2532-8 Je '51

Crystallization phenomena in fibre-forming synthetic polymers; abstract and discussion. L. B. Morgan. Chem & Ind p796 S 22 '51

Dependence of the diffusion coefficient on concentration in dilute polymer solutions. L. Mandelkern and P. J. Flory. bibliog J Chem Phys 19:984-5 Jl '51

Dipole moments and structures of a series of alkyl polysulfides. C. C. Woodrow and others. bibliog diags J Chem Phys 19:951-4 Jl '51

Dynamic properties of raw and vulcanized polymers. R. S. Enabnit and S. D. Gehman. bibliog diags Ind & Eng Chem 43:346-51 F '51

Dynamic shear properties of rubberlike polymers. I. L. Hopkins. il diags A S M E Trans 73:195-203; Discussion. 203-4 F '51

Effect of plasticizers on some physical properties of polymers. R. F. Boyer. bibliog Tappi 34:357-62 Ag '51

Effect of rate of shear on the viscosity of dilute solutions of polyisobutylene. T. G. Fox, jr., J. C. Fox and P. J. Flory. diag Am Chem Soc J 73:1901-4 My '51

Effect of structure on the fiber properties of linear polymers; the orientation of side chains. J. H. Brewster. bibliog Am Chem Soc J 73:366-70 Ja '51

Elasticity of soft polymers; constant-stress elongation tests. C. A. Dahlquist, J. O. Hendricks and N. W. Taylor. bibliog il Ind & Eng Chem 43:1404-10 Je '51

Electric moments of polar polymers in relation to their structure. P. Debye and F. Bueche. bibliog diags J Chem Phys 19:589-94 My '51

Electrical properties of solids; polytrifluoromonochloroethylene as a polyphase dielectric. S. I. Reynolds and others. bibliog il Am Chem Soc J 73:3714-17 Ag '51

Electrolytic transference properties of polymeric acids. F. T. Wall, G. S. Stent and J. J. Ondrejcin. bibliog diag J Phys & Colloid Chem 54:979-90 O '50

Experiments with high polymer rayon staple; Toramomen. S. Tachikawa. il Rayon 32: 32-3+ Jl '51

Heat transfer; processing viscous materials. E. Perry and F. E. Reese. bibliog Chem Eng Prog 47:354-62 Jl '51

Hermann Staudinger, thirty years of macromolecules. W. Quarles. J Chem Educ 28: 120-2 Mr '51

High polymer approach proves profitable in protein study; American association of cereal chemists 36th annual meeting, Minneapolis, May 21-25; discussion. Chem & Eng N 29:2272 Je 4 '51

High-polymer physics; abstracts of papers at American physical society meeting. Phys R 81:302-4, 327-8 Ja 15 '51

Intermolecular and intramolecular crosslinking in concentrated polymer solutions. D. B. Fordyce and J. D. Ferry. Am Chem Soc J 73:62-5 Ja '51

Intramolecular reaction in polycondensations; ring-chain equilibrium in polydecamethylene adipate. H. Jacobson and others. bibliog J Chem Phys 18:1607-12 D '50

Intramolecular reaction in polycondensations; the theory of linear systems. H. Jacobson and W. H. Stockmayer. bibliog diags J Chem Phys 18:1600-6 D '50

Intrinsic viscosity relationships for polystyrene. T. G. Fox, jr. and P. J. Flory. bibliog Am Chem Soc J 73:1915-20 My '51

Intrinsic viscosity-temperature relationships for polyisobutylene in various solvents. T. G. Fox, jr. and P. J. Flory. bibliog Am Chem Soc J 73:1909-15 My '51

Investigations on proteins and polymers; critical phenomena in polyvinyl alcohol-acetate copolymer solutions. F. F. Nord, M. Bier and S. N. Timasheff. bibliog Am Chem Soc J 73:289-93 Ja '51

Ion charge and exchange rates with ion-exchange polymers. G. E. Boyd, A. W. Adamson and L. S. Myers, jr. Am Chem Soc J 72:4807-8 O '50

Light scattering by concentrated polymer solutions. P. Debye and A. M. Bueche. J Chem Phys 18:1423-5 N '50

Light scattering studies on coiling polyelectrolytes. F. T. Wall and others. bibliog J Chem Phys 19:585-8 My '51

Macromolecules; Flory-Huggins lattice model theory on defensive; papers before International congress of pure and applied chemistry. Chem & Eng N 29:3959-61 S 24 '51

Mechanical properties of substances of high molecular weight; rigidities of polyvinyl acetate solutions in various solvents. W. M. Sawyer and J. D. Ferry. Am Chem Soc J 72:5030-4 N '50

Mechanism of the degradation of polyamides. B. G. Achhammer and others. il diags J Res Nat Bur Stand 46:391-421 bibliog(67 titles, p420-1) My '51; Abstract. J Ap Chem 1:301-20 Jl '51

Melville's degradation mechanism theories; light scattering measurements on large molecules. il Chem & Eng N 29:1502-4 Ap 16 '51

Monomers and polymers; syntheses with the aid of metallostyrenes. G. B. Bachman, C. L. Carlson and M. Robinson. bibliog Am Chem Soc J 73:1964-5 My '51

Near infrared pleochroism; the 0.8—2.5μ region of some linear polymers. L. Glatt and J. W. Ellis. bibliog J Chem Phys 19:449-57 Ap '51

POLYMERS—*Continued*

Nuclear resonance offers key to phase transitions; symposium on mechanical behavior and molecular structure. Chem & Eng N 29:1014 Mr 12 '51

Organosilicon syntheses; abstract. L. H. Sommer. Chem & Eng N 29:3841 S 17 '51

Osmometry of high polymers. D. Cleverdon and D. Laker. bibliog J Ap Chem 1:2-13 Ja '51

Polyalkylene sulfides; the effect of *p*H on polymer size. C. S. Marvel and G. Nowlin. Am Chem Soc J 72:5026-9 N '50

Polyarylene-alkylene sulfides. C. S. Marvel and P. D. Caesar. bibliog Am Chem Soc J 73:1097-9 Mr '51

Polymer chemistry as applied to plastics. E. K. Rideal. Chem & Ind p818-20 D 23 '50

Polymer corporation develops new polymeric material; Polysar Krynol. Can Chem Process 35:555+ Jl '51

Polymeric additives for synthetic ester lubricants. F. J. Glavis. bibliog Ind & Eng Chem 42:2441-6 D '50

Polymers of α-acetamidoacrylic acid and its methyl ester. R. Adams, J. L. Johnson and B. Englund. Am Chem Soc J 72:5080-2 N '50

Polysulfide polymers. E. M. Fettes and J. S. Jorczak. bibliog(69 ref) Ind & Eng Chem 42:2217-23 N '50

Polythiolesters. C. S. Marvel and A. Kotch. bibliog Am Chem Soc J 73:1100-2 Mr '51

Practice of osmometry; its contribution to the characterization of a high polymer. D. Cleverdon. bibliog il diags J Ap Chem 1:272-80 Je '51

Properties and molecular weights of some silicone polymers. E. G. Rochow and T. G. Rochow. il J Phys & Colloid Chem 55:9-16 Ja '51

Recent developments in *X*-ray diffraction studies of high polymers. C. W. Bunn. bibliog J Ap Chem 1:266-8 Je '51

Some problems in the structure and physical properties of industrial high polymers; abstract. P. D. Ritchie. Chem & Ind p 187 Mr 10 '51

Sorption of water vapor by proteins and polymers. B. Katchman and A. D. McLaren. bibliog Am Chem Soc J 73:2124-7 My '51

Special issue on high polymer physics. bibliog il diags J Ap Phys 22:689-739 Je '51

Statistical mechanics of reversible reactions of neighboring pairs of substituents in linear polymers. P. J. Flory. bibliog Am Chem Soc J 72:5052-5 N '50

Stress relaxation and dynamic properties of polymers. A. V. Tobolsky and others. bibliog diag Textile Res J 21:404-11 Je '51

Structure of butadiene-styrene type copolymers; the butadiene-*o*-chlorostyrene copolymer. C. S. Marvel and R. E. Light, jr. Am Chem Soc J 72:3887-91 S '50

Surface activity of polymeric acids in aqueous solutions. A. Katchalsky and I. Miller. bibliog J Phys & Colloid Chem 55:1182-94 O '51

Synthetic polymers; abstracts. J. C. Swallow. Chem Age (Lond) 65:216-17 Ag 18 '51; Chem & Ind p735 S 1 '51

Synthetic polymers provide models of body compounds. Chem & Eng N 29:4170+ O 8 '51

Synthetic polypeptides; properties of oxazolid-2 : 5-diones and an initial study of the preparation of polypeptides therefrom. D. Coleman and A. C. Farthing. diag Chem Soc J p3218-22 N '50

Theory of high polymer solutions (the dumbbell model). A. Isihara. bibliog diags J Chem Phys 19:397-403 Ap '51

Theory of the high polymer solution. H. Ichimura. J Chem Phys 19:516-17 Ap '51

Thermal conductivity of liquids and polymers and its relation to the pressure coefficient of viscosity. A. Bondi. bibliog J Chem Phys 19:128-9 Ja '51

Treatment of intrinsic viscosities. P. J. Flory and T. G. Fox, jr. bibliog Am Chem Soc J 73:1904-8 My '51

Treatment of osmotic and light scattering data for dilute solutions. T. G. Fox, jr., P. J. Flory and A. M. Bueche. bibliog Am Chem Soc J 73:285-9 Ja '51

Treatment of osmotic data on high polymers. D. Cleverdon and D. Laker. Chem & Ind p272-3 Ap 7 '51

Ultra-violet absorption spectra of 2 : 2′-, 2 : 4′-, 4 : 4′-dihydroxydiphenylmethanes, 2 : 2′-dihydroxy-5 : 5′-dimethyldiphenylmethane and its 3-, 4-, and 5-ring polymers, and of 4 : 4′-dihydroxydiphenylethane. R. F. Hunter, R. A. Morton and A. T. Carpenter. Chem Soc J p441-4 F '50

Viscoelastic properties of several high polymers. M. Horio and others. bibliog diag J Ap Phys 22:966-70 Jl '51

X-ray investigation of 2 : 2′-dihydroxy-5 : 5′-dimethyldiphenylmethane and its 3-, 4-, and 5-ring polymers and *p*-cresol novolak resins. R. F. Hunter and V. Vand. bibliog il J Ap Chem 1:298-300 Jl '51

See also

Cellulose
Cuprene
Gasoline
Molded products
Nylon
Plastic materials
Polyethylene
Polysaccharides
Rayon
Resinous products
Rubber—Chemistry
Rubber, Artificial
Silicones
Styrene (and polymers)

POLYMETHYLENES. See Cycloparaffins

POLYMORPHISM

Crystal chemistry in ceramics; polymorphism. W. E. Hauth, jr. Am Cer Soc Bul 30:165-7 My 15 '51

High-temperature X-ray diffraction study of the polymorphism of $MgSiO_3$. W. R. Foster. bibliog Am Cer Soc J 34:255-9 S 1 '51

Microscopic appearance of polymorphic forms of one-acid triglycerides. O. T. Quimby. bibliog 2pls Am Chem Soc J 72:5064-8 N '50

Polymorphism in tetraethyl-tin and -lead. L. A. K. Staveley and others. diag Chem Soc J p2290-301 S '50

Polymorphism of 2-acetyl-, 2-butyryl-and 2-caproyldistearin and -dipalmitin. F. L. Jackson, R. L. Wille and E. S. Lutton. bibliog il Am Chem Soc J 73:4280-4 S '51

Polymorphism of certain behenyl mixed triglycerides; a new metastable crystalline form of triglycerides. F. L. Jackson and E. S. Lutton. bibliog Am Chem Soc J 72:4519-21 O '50

Polymorphism of 17-ethinylestradiol. R. Pheasant. Am Chem Soc J 72:4303-4 S '50

Polymorphism of pregnenolone acetate. D. H. Gould and W. Tarpley. bibliog Science 113:417 Ap 13 '51

Polymorphism of RbBr. L. G. Schulz. J Chem Phys 19:504 Ap '51

Studies in polymorphism; a further investigation of the linear rate of transformation of monoclinic into rhombic sulphur. N. H. Hartshorne and M. H. Roberts. 2pls diags Chem Soc J p 1097-114 Ap '51

POLYMYXIN

Synthesis and configuration of (+)-6-methyloctanoic acid, a degradation product of the polymyxins. L. Crombie and S. H. Harper. Chem Soc J p2685-9 O '50

POLYNOMIALS

Generalization of S. Bernstein's polynomials to the infinite interval. O. Szasz. bibliog J Res Nat Bur Stand 45:239-45 S '50

POLYOLS. See Alcohols

POLYOXYETHYLENE stearate

Analysis

Polyoxyethylene stearate; colorimetric determination in dilute solutions. R. V. MacAllister and R. J. Lisk. Anal Chem 23:609-10 Ap '51

POLYPEPTIDES. See Peptides

POLYPORUS

Eburicoic acid. F. N. Lahey and P. H. A. Strasser. Chem Soc J p873-7 Ap '51

POLYSACCHARIDES

Amylopectin-type polysaccharide synthesised from sucrose by Cl. butyricum. P. N. Hobson and H. Nasr. Chem Soc J p 1855-7 Jl '51

Biological polymerization with reference to polysaccharide synthesis. M. Stacey. bibliog Chem & Ind p727-9 N 11 '50

POLYSACCHARIDES—*Continued*

Composition of the polysaccharide synthesised by polytomella cœca. E. J. Bourne, M. Stacey and I. A. Wilkinson. Chem Soc J p2694-8 O '50

Demonstration of the presence of a galactoaraban in raw cotton fiber. J. D. Guthrie and W. A. Reeves. bibliog Textile Res J 20:859-61 D '50

Determination of carbonyl groups by reaction with radioactive cyanide, and a simple means for estimation of molecular weight in polysaccharides. H. S. Isbell. Science 113:532-3 My 4 '51

Methods for measuring the retention of polysaccharide beater additives. E. H. Shriver, 2d and others. bibliog Tappi 33:578-86 D '50

Mucopolysaccharides of the ground substance of connective tissue. K. Meyer and M. M. Rapport. bibliog Science 113:596-9 My 25 '51

Polysaccharide hydrolysis during the sulphite cook; abstracts. J. Sundman. Paper Ind 32:1000 D '50; Pulp & Pa of Can 51:94 D '50

Polysaccharides of carragheen; confirmation of the 1 : 3 -linkage in carragheenin, and the isolation of L-galactose derivatives from a resistant fragment. R. Johnston and E. G. V. Percival. Chem Soc J p 1994-8 Ag '50

Structure of a cell-wall polysaccharide of Baker's yeast. D. J. Bell and D. H. Northcote. Chem Soc J p 1944-7 Jl '50

Structure of an antigenic polysaccharide isolated from tuberculin. P. W. Kent. Chem Soc J p364-8 F '51

Structure of crown-gall polysaccharide. E. W. Putman and others. bibliog Am Chem Soc J 72:5024-6 N '50

Structure of the starch-type polysaccharide synthesised from sucrose by neisseria perflava. S. A. Barker, E. J. Bourne and M. Stacey. Chem Soc J p2884-7 O '50

Studies of seed mucilages; examination of a polysaccharide extracted from the seeds of plantago ovata Forsk by hot water. R. A. Laidlaw and E. G. V. Percival. Chem Soc J p528-34 F '50

Analysis

Qualitative analysis of capsular polysaccharides from cryptococcus neoformans by filter paper chromatography. E. E. Evans and J. W. Mehl. bibliog Science 114:10-11 Jl 6 '51

POLYSTYRENE. See Styrene (and polymers)

POLYTETRAFLUOROETHYLENE. See Teflon

POLYTHENE. See Polyethylene

POLYTOMELLA cœca

Composition of the polysaccharide synthesised by polytomella cœca. E. J. Bourne, M. Stacey and I. A. Wilkinson. Chem Soc J p2694-8 O '50

POLYVINYL alcohol. See Vinyl alcohol

POLYVINYL chloride. See Vinyl chloride

POMERANTZ, Abraham L.

Sues Hancock, Massachusetts Mutual directors for role in Texmass loan. Nat Underw (Life ed) 54:5 D 1 '50

POMIFERIN

Silver nitrate as a test for ortho and para dihydric phenols. B. S. Wildi. Science 113:188 F 16 '51

See also

Isopomiferin

PONDS

Life in the depths of a pond. E. S. Deevey, jr. il diags Sci Am 185:68-72 O '51

PONTAMINE sky blue

Use and toxicity of pontamine sky blue. J. Weinberg and others. Science 114:41-2 Jl 13 '51

PONTOONS

Buoyant-box foundations to carry New York pier. il plans diag Eng N 146:46-8 Ja 11 '51

Pontoon ferry eliminates expensive bridging operation. E. Sterrett. il World Oil 132:98-9 F '51

Seabee pontoons had new test at Inchon. Eng N 145:25 O 26 '50

POOLING of government contracts. See Contracts, Government—Pooling

POOLS

Suggestions for the merchant builder; reflecting pools. il Arch Forum 94:123 Ja '51

POOR and company

Heavy rail traffic spurs sales. Barron's 31:16 Jl 23 '51

POOR laws

Great Britain

Assistance and welfare. Economist 160:118-19 Ja 20 '51

POOR relief

Medical care for the needy and medically needy. M. Terris. Ann Am Acad 273:84-92 Ja '51

POPCORN

Insulation blower now handles corn. L. C. Pogel. il diag Food Eng 23:5 Jl '51

Pack in popcorn? proposed use as package cushioning material. Mod Packaging 24:170 Ja '51

Popcorn packing. il Chem Ind W 68:41 Ja 20 '51

POPULATION

Population trends and investment. J. J. Spengler. Comm & Fin Chr 174:247+, 331+, 511+ Jl 19, 26, Ag 9 '51

See also

Immigration and emigration

Sex ratio

Statistics

Changes in rural and urban America; the new urbanized areas. V. D. Reed. map Adv Agency 44:58-9+ Je '51

Concentration of American market in metropolitan areas. W. Alderson. Ptr Ink 233:27-31+ O 27 '50

Joe Doakes goes to big town. map Ptr Ink 235:46+ My 25 '51

Major American markets. W. Alderson and L. Kent. map Ptr Ink 235:31-5 My 25 '51

Metropolitan America; how it's changed since '39. Sales Management 65:136+ N 10 '50

Population shifts in metropolitan areas, 1940-1950. Sales Management 66:70+ Ja 1 '51

Sales Management survey of buying power, May 10, 1951; population estimates, effective buying income, retail sales, farm market data, etc. Sales Management 66:1-604 My 10 '51

Standard breakdowns for population data. J Marketing 15:476-8 Ap '51

Three associations recommend standards for media market data; A.A.A.A., A.N.A., and A.M.A. collaborate in sponsoring uniform population breakdowns. W. C. Barber. Ptr Ink 234:25-6 Ja 12 '51

Australia

See also

Immigration and emigration—Australia

Brazil

Preliminary census figures show trends in Brazilian population. For Comm W 42:28 Mr 12 '51

Germany

Problem of the German refugees. Economist 161:630+, 690+ S 15-22 '51

Great Britain

Fifty million; figures from preliminary report on the census. Economist 161:78 Jl 14 '51

India

Birth control for India. Economist 161:97-8 Jl 14 '51

Poland

See also

Census—Poland

United States

Census. P. M. Hauser. map Sci Am 184:15-17 Ap '51

Human resources of the U.S. F. W. Notestein and others. il map Sci Am 185:27-46+ S '51

More booms ahead. Fortune 43:81 Ap '51

Population trends and management policy. P. F. Drucker. Harvard Bsns R 29:73-8 My '51; Excerpts. Management R 40:318-19 Je '51

POPULATION—United States—*Continued*

Population; uptrend with a hollow spot. Bsns W p25-6 N 11 '50

Too young or too old; U.S. population jumps in under-ten, over-65 groups. Mod Ind 21:66 Mr '51

PORCELAIN, Insulating

Ceramic materials for industrial and electrical use. H. B. Michaelson. il diags Product Eng 22:145-51 Jl '51

Study of conduction phenomena near current zero for an a-c arc adjacent to refractory surfaces. T. E. Browne, jr. and A. P. Strom. il Elec Eng 70:331 Ap '51

Manufacture

New methods speed insulator output at Jeffery-Dewitt. E. Mosthaf. il diags Cer Ind 56:80-1+ My '51

PORCELAIN, Refractory

Porcelains within the beryllia field of the system beryllia-alumina-zirconia. S. M. Lang and others. bibliog diags J Res Nat Bur Stand 45:366-73 N '50

PORCHES

Heating enclosed porch area. S. R. Lewis. Heating-Piping 22:103 N '50

PORK

Packer comes up with seven better practices; Tobin co., Rochester, N.Y. il Food Ind 22:1873-5+ N '50

POROSITY

Analogy between diffusion and electrical conductivity in porous rocks. L. J. Klinkenberg. bibliog Geol Soc Bul 62:559-63 Je '51

Apparatus and procedure for rapid automatic adsorption, surface area, and pore volume measurement. W. B. Innes. bibliog diags Anal Chem 23:759-63 My '51

Determination of nitrogen adsorption-desorption isotherms; estimation of total pore volumes of porous solids. E. P. Barrett and L. G. Joyner. Anal Chem 23:791-2 My '51

Electric control of porosity. J. J. Suran. diags Mod Plastics 28:97-8+ F '51

Examination of components of limestone porosity by Chalkley method. W. S. Chin and W. Rose. Am Assn Pet Geologists Bul 35:615-18 Mr '51

Gravity exploration for reefs and other porosity maxima. H. Klaus and J. C. Hughes. bibliog World Oil 132:78-80+ Je '51

Pressure drop through stacked spheres; effect of orientation. J. J. Martin, W. L. McCabe and C. C. Monrad. il diags Chem Eng Prog 47:91-4 F '51

See also

Permeability

Porous materials

Textile fabrics—Porosity

Measurement

Apparatus for determining gas permeability of carbon and graphite. S. D. Fulkerson and F. J. Lambert. diags Anal Chem 22:1310-12 O '50

Determination of pore volume and area distributions in porous substances; comparison between nitrogen isotherm and mercury porosimeter methods. L. G. Joyner, E. P. Barrett and R. Skold. Am Chem Soc J 73:3155-8 Jl '51

Determination of pore volume and area distributions in porous substances; computations from nitrogen isotherms. E. P. Barrett, L. G. Joyner and P. P. Halenda. diags Am Chem Soc J 73:373-80 Ja '51

Pore-size distribution in a selected series of closely woven fabrics. E. Honold and E. L. Skau. diag Textile Res J 21:419-27 Je '51

POROUS concrete. See Concrete, Porous

POROUS materials

Convection currents in porous media; extended theory of the critical gradient. F. T. Rogers, jr. and H. L. Morrison. J Ap Phys 21:1177-80 N '50

Determination of particle density of crushed porous solids; gas flow method. S. Ergun. bibliog Anal Chem 23:151-6 Ja '51

Diffusion rates in extraction of porous solids; single phase extractions. E. L. Piret and others. bibliog(30 ref) diags Chem Eng Prog 47:405-14 Ag '51

Flow of gases in porous media. L. H. Wilson and others. bibliog diag J Ap Phys 22:1027-30 Ag '51

Joining porous metal parts to other metals. H. W. Greenwood. Metallurgia 44:141-3 S '51

Permeability constancy range of a porous medium. R. F. Nielsen. bibliog World Oil 132:188+ My '51

Permeability of glass wool and other highly porous media. A. S. Iberall. bibliog J Res Nat Bur Stand 45:398-406 N '50

Pressure drop through porous media. M. Leva; L. E. Brownell. bibliog Chem Eng Prog 47:314-16 Je '51

Surface area of porous adsorbents. Ying Fu and F. E. Bartell. bibliog J Phys & Colloid Chem 55:662-75 My '51

See also

Permeability

PORPHINS

Exchange and replacement reactions of α,β,γ,δ-tetraphenyl-metalloporphins. J. W. Barnes and G. D. Dorough. diags Am Chem Soc J 72:4045-50 S '50

See also

Tetrabenzoporphin

PORPHYRINS

Absorption spectra of chlorophyll and related compounds. S. Aronoff. bibliog Chem R 47:175-95 O '50

Appraisal of a urinary porphyrin test in detection of a lead absorption. A. L. Brooks. Ind Med 20:390-2 S '51

Porphyrins; the significance of porphyrins in occupational diseases. C. P. McCord. bibliog Ind Med 20:185-90 Ap '51

Spectroscopic study on N-H isomerism in porphyrin free bases. G. D. Dorough and K. T. Shen. bibliog diag Am Chem Soc J 72:3939-44 S '50

PORT ARTHUR, Ontario

Water supply

How zone pumping effects saving in power costs. R. B. Chandler. il plan Munic Util 89:21-4+ Jl '51

PORT of New York authority

Annual report for 1950. Eng N 146:24 My 17 '51

PORT SAID, Egypt

Sewerage

New compressors serve sewage system. il Comp Air Mag 55:246-7 N '50

PORT terminals. See Terminals

PORTABLE boilers. See Boilers, Portable

PORTABLE hangars. See Hangars, Portable

PORTABLE pumping machinery. See Pumping machinery, Portable

PORTABLE radio telephone. See Radio telephone, Portable

PORTABLE repair shops. See Repair shops, Portable

PORTABLE television transmitters. See Television transmitters, Portable

PORTABLE tools. See Electric tools, Portable; Pneumatic tools, Portable

PORTLAND, Oregon

Portland engineers survey buildings for air-raid shelter use. R. E. Kennedy. Civil Eng 21:336 Je '51

Portland pushes solution of many municipal problems. il Eng N 145:56 N 2 '50

Sewerage

Digester cover has center support; sewage treatment plant. il diag Eng N 145:47 N 9 '50

Trials develop best way to line three-mile sewer tunnel. il Eng N 145:36 N 9 '50

PORTLAND cement association

A. J. R. Curtis appointed consultant; Le Gore will head safety bureau. Concrete 59:16+ S '51

PORTLAND general electric company

Security I like best. R. K. Daugherty. Comm & Fin Chr 173:810 F 22 '51

PORTRAITS

Credit where credit is due; sources of portraits for "Women are here to stay". A. Rogers. Special Lib 42:56-7+ F '51

PORTRAITS—*Continued*

Indexes

Yale university portrait index, 1701-1951, 185p $5 Yale univ. press, New Haven, Conn. '51

PORTS

Gulf of Mexico's man-made ports. map Economist 160:372-3 F 17 '51
New York; a magnificent harbor; its port is slipping. il Bsns W p94-6 Ap 21 '51
Port development and construction in 1950 W. F. Heavey. Eng N 145:120 O 26 '50
Ports and harbours; abstract and discussion. L. Leighton. Engineering 171:748 Je 22 '51
Study for an ideal port facility. J. A. Merz and R. Corbellatti. il plans Arch Rec 109: 167-70 Ap '51
See also
Free ports and zones
Harbors
also names of ports, e.g.
Baltimore—Harbor
New York (city)—Harbor

PORTUGAL

See also
Hydroelectric plants—Portugal

Economic conditions

News by countries. For Comm W 41:18-19 O 9; 17 N 13; 16 D 18 '50; 42:16-17 Ja 22; 26 F 19; 43:16-17 Ap 2; 15-16 Ap 23; 17 Je 4; 17-18 Je 25; 44:15-16 Jl 23; 15+ Ag 20; 45:14-15 O 8 '51

Economic policy

Commission of economic coordination created. For Comm W 41:17 N 20 '50

Politics and government

Portugal; the benevolent dictatorship. A. W. May. Comm & Fin Chr 174:861 S 6 '51
Which president for Portugal? Economist 161: 163-4 Jl 21 '51

POSITEX. See Rubber latex

POSITIONERS, Welding

Positioner sales mount. il Steel 129:63 S 3 '51
Simple positioner for small welding jobs. diags Welding J 30:176 F '51

POSITIONING equipment

Cost cut by materials positioning at machine; Formica co. il Iron Age 167:98 Ap 26 '51
Giddings & Lewis electrically operated positioning equipment for horizontal boring machine. il Mach 57:210-11 F '51; Tool Eng 25:60 D '50
Grinding costs reduced by sheet-positioning device. il Mach 57:172 Ap '51
Improved transfer method in manufacture of Formica sheets. J. Schinner. il Mill & Factory 48:102-3 My '51
Remote control of positioning motors. G. M. Chute. diags Electronics 24:92-3 Jl '51

POSITRONS

Alternative covariant formulation of the electron-positron theory. O. C. de Beauregard. bibliog Phys R 83:182 Jl 1 '51
Bound states and scattering in positron theory. W. H. Furry. bibliog Phys R 81: 115-24 Ja 1 '51
Evidence for the formation of positronium in gases. M. Deutsch. bibliog Phys R 82: 455-6 My 1 '51
Existence of Wheeler-compounds. A. Ore. bibliog Phys R 83:665 Ag 1 '51
Experimental evidence for the three-photon annihilation of an electron-positron pair. J. A. Rich. bibliog Phys R 81:140-1 Ja 1 '51
Fredholm structures in positron theory. M. Neuman. Phys R 83:1258 S 15 '51
Mathematical formulation of the quantum theory of electromagnetic interaction. R. P. Feynman. bibliog Phys R 80:440-57 N 1 '50
Positron activity of K^{40}. S. A. Colgate. diag Phys R 81:1063-4 Mr 15 '51
Positron search in K^{40}. M. L. Good. bibliog Phys R 81:1058-9 Mr 15 '51
Positron to γ-ray ratio in Zn^{65}. G. M. Griffiths. Phys R 83:852 Ag 15 '51
Relative back-scattering of electrons and positrons. W. Miller. Phys R 82:452-3 My 1 '51
Three-quantum decay of positronium. M. Deutsch. Phys R 83:866-7 Ag 15 '51

POST exchanges

Operation PX is big business. il Bsns W p92+ Mr 10 '51
Your market's in the army now! L. M. Hughes. il Sales Management 66:37-40+ Mr 15; 88+ Ap 1 '51
See also
Veterans canteen service

POST hole augers. See Drilling and boring (earth and rocks)

POST offices

Equipment

See also
Mail handling

POSTAGE stamps

Issuance of commemorative stamp draws public attention to A.C.S. jubilee. il Chem & Eng N 29:3806-7 S 17 '51

POSTAL life insurance company

Cullen group wins final round in suit to control Postal. Nat Underw (Life ed) 55: 9 F 16 '51; East Underw 52:5+ F 9 '51
Postal Life, New York, well ahead of schedule in completing conversion to agency basis. R. A. Foan. Nat Underw (Life ed) 55:4 Ja 5 '51

POSTAL rates

Congress asked to double newspapers' postal bill; text of bill. J. J. Butler. Ed & Pub 84:11 Mr 3 '51
Mail users ask equitable increases in postal rates. Ptr Ink 235:79+ Ap 13 '51
New postal bill to aim at reducing deficit; excerpts of budget message. H. S. Truman. Ed & Pub 84:10 Ja 20 '51
30 per cent postage increase voted for newspapers. J. J. Butler. Ed & Pub 84:8 S 22 '51

Great Britain

Publishes new external postal rates. For Comm W 41:23 O 30 '50

POSTAL savings banks

Postal savings system, assets and depositors' balances, yearly 1943-1948 and monthly June 1949-November 1950. Fed Res Bul 37: 53 Ja '51 [cont monthly]

POSTAL service

See also
Motor trucks in postal service

Money orders

New money orders coming July 1. M. C. Miller. il Banking 43:116 Je '51
New postal money order procedure. Fed Res Bul 37:806 Jl '51
Simpler money orders; Federal reserve banks will pay off. il Bsns W p96 Je 30 '51

United States

Post office lacks business methods. Ed & Pub 84:104 Ap 28 '51
See also
Air mail service
Railway mail service

POSTAL service workers

Conditions of employment in postal, telegraph and telephone services. Int Labour R 63: 537-70 My '51

POSTERS

Handy kit of facts about outdoor advertising. il Adv Agency 43:59+ D '50
How tv aids poster remembrance. M. Harper. Adv Agency 44:82+ My '51
New England electric system posters proclaim private enterprise. O. Van Rye. il Edison Elec Inst Bul 19:296-7 S '51
People see posters in winter, too. M. Harper. il Adv Agency 43:66+ D '50
Some of 1950's most successful posters. M. Harper. il Adv Agency 44:90+ Ja '51
What poster techniques are best-remembered? M. Harper. il Adv Agency 43:74-5+ N '50
What's wrong with U.S. poster art? P. van Scozza. Adv Agency 44:74 S '51
See also
Billboards

Rating

Best outdoor posters; jury vs. the public. M. Harper. il Adv Agency 44:82+ Ap '51

POSTERS—Rating—*Continued*

Don't belittle median rated posters. M. Harper. il Adv Agency 44:78+ Ag '51

Good copy is worth more than high poster intensity. M. Harper. il Adv Agency 44:80+ Jl '51

Readership

How posters register with drivers. M. Harper. il Adv Agency 44:72+ O '51

Is poster readership declining? M. Harper. il Adv Agency 44:82+ S '51

Projectable measurement for poster readership. M. Harper. Adv Agency 44:78+ Mr '51

What poster readership data mean. M. Harper. Adv Agency 44:82+ Je '51

Why aren't food posters better read? M. Harper. il Adv Agency 44:76+ F '51

POSTURE

This engineer travels in comfort. F. N. Severud. Arch Rec 108:152-3 D '50

POTASH

Potash deliveries hit peak total in 1950-51. Oil Paint & Drug Rep 160:7 Jl 30 '51

Potash; new production planned as present operations modernize. G. F. Coope. il map Min Cong J 37:74-6 F '51

Statistics

Potash '50 deliveries reported at new high. Oil Paint & Drug Rep 159:3+ Mr 5 '51

Great Britain

Deposits of potassium salts in north-east Yorkshire. A. Fleck. bibliog il maps diags Chem & Ind Extra no p S1-15 O 17 '50; Abstract. Chem Age (Lond) 63:604-8 O 28 '50

POTASH industry and trade

Fertilizer growth brings a potash boom. il Bsns W p84-6 Je 9 '51

Potash, 1950. G. T. Harley. Eng & Min J 152:102-3 F '51

Potash salts output, sales at record in '50. Oil Paint & Drug Rep 160:5 Jl 23 '51

POTASSIUM

Action of liquid ammonia solutions of potassium and potassium amide upon iron(II) bromide. G. W. Watt and W. A. Jenkins, jr. Am Chem Soc J 73:3275-6 Jl '51

Beta-activity of potassium. C. F. G. Delaney. Phys R 81:158 Ja 1 '51

Determination of the ratio of the $gJ(^2S_{1/2})$ values for potassium and hydrogen; the gyromagnetic ratio of the electron. W. B. Pohlman and others. bibliog Phys R 83:475 Jl 15 '51

Flame-photometer determination of sodium and potassium in soils and other siliceous materials. W. J. Halstead and B. Chaiken. bibliog Pub Roads 26:99-104+ D '50

Heat production in potassium. D. E. Alburger. bibliog Phys R 81:888 Mr 1 '51

New aspects of the photoelectric emission from Na and K. J. Dickey. bibliog diags Phys R 81:612-16 F 15 '51

Paramagnetic resonance absorption in potassium dissolved in liquid ammonia. C. A. Hutchison, jr. and R. C. Pastor. bibliog Phys R 81:282 Ja 15 '51

Radioactivity of potassium. M. Ceccarelli and others. bibliog diags Phys R 80:909-10 D 1 '50

Relationship of muscle potassium to the melanophore-concentrating effect of pressure on the trout. O. H. Robertson. Science 114:11-12 Jl 6 '51

Some physical properties associated with aromatic electrons; the pseudo-metallic properties of potassium-graphite and graphite-bromine. F. R. M. McDonnell, R. C. Pink and A. R. Ubbelohde. diags Chem Soc J p 191-7 Ja '51

Uptake of alkali metals by bacteria. T. C. N. Carroll and others. Chem Soc J p946-9 Mr '50

Viscosity of the sodium-potassium system. C. T. Ewing, J. A. Grand and R. R. Miller. diag Am Chem Soc J 73:1168-71 Mr '51

Analysis

Analysis of the alkali metals. Chem Age (Lond) 63:684-5 N 11 '50

Determination of sodium and potassium in clays. B. B. Osthaus. bibliog Am Cer Soc J 33:377 D 1 '50

Determination of sodium and potassium in lithium metal by flame photometer. W. R. Inman, R. A. Rogers and J. A. Fournier. bibliog Anal Chem 23:482-3 Mr '51

Modified method for potassium; removal of fluoride and sulfate ions by chromatographic ion exchange. J. A. Dean. bibliog Anal Chem 23:202-4 Ja '51

Stable internal standard flame photometer for potassium and sodium analyses. C. L. Fox, jr. bibliog il diags Anal Chem 23:137-42 Ja '51

Isotopes

Beta-ray spectrum of K^{40}. M. L. Good. Phys R 83:1054-5 S 1 '51

Branching ratio of K^{40} radioactive decay. M. G. Inghram and others. bibliog Phys R 80:916-17 D 1 '50

Gamma-ray spectrum of K^{40}. M. L. Good. bibliog diag Phys R 81:891-2 Mr 1 '51

Interpretation of the decay scheme of K^{40}. P. Morrison. bibliog Phys R 82:209-11 Ap 15 '51

K^{40} and the age of the atmosphere. K. F. Chackett. bibliog Phys R 81:1057 Mr 15 '51

Positron activity of K^{40}. S. A. Colgate. diag Phys R 81:1063-4 Mr 15 '51

Positron search in K^{40}. M. L. Good. bibliog Phys R 81:1058-9 Mr 15 '51

Use of K^{42}-tagged erythrocytes in blood volume determinations. R. S. Yalow and S. A. Berson. Science 114:14-15 Jl 6 '51

POTASSIUM alloys

See also

Sodium potassium alloys

POTASSIUM amide

Action of liquid ammonia solutions of potassium and potassium amide upon iron(II) bromide. G. W. Watt and W. A. Jenkins, jr. Am Chem Soc J 73:3275-6 Jl '51

Rearrangement of benzyl ethers to carbinols by potassium amide; mechanism of isomerization of carbanions involving 1,2-shifts. C. R. Hauser and S. W. Kantor. bibliog Am Chem Soc J 73:1437-41 Ap '51

POTASSIUM bromate

Determination of saturation temperatures of inorganic salt solutions; refractive index measurements. C. R. Parkerson. diags Anal Chem 23:610-13 Ap '51

POTASSIUM bromide

Decays of luminescent KBr and LiF. A. H. Morrish and A. J. Dekker. Phys R 80:1030-4 D 15 '50

POTASSIUM bromorhenate

Crystal structure of potassium bromorhenate(IV). D. H. Templeton and C. H. Dauben. Am Chem Soc J 73:4492-3 S '51

POTASSIUM butoxide

Cleavage and rearrangement of ethers with bases; the reaction of dibenzyl and related ethers with potassium *t*-butoxide. D. Y. Curtin and S. Leskowitz. bibliog Am Chem Soc J 73:2630-3 Je '51

POTASSIUM butylperoxide

Kinetics of the reaction between potassium *t*-butylperoxide and organic halides. G. M. Coppinger and T. W. Campbell. Am Chem Soc J 73:1789-91 Ap '51

POTASSIUM chlorate

Chlorate candles as a source of oxygen. W. H. Schechter and others. bibliog diag Ind & Eng Chem 42:2348-53 N '50

Osmium tetroxide catalyzed oxidation of fumaric and maleic acids. M. Zelikoff and H. A. Taylor. Am Chem Soc J 72:5039-42 N '50

POTASSIUM chloride

Absorption spectrum of thallium-activated potassium chloride phosphor at low temperatures. P. D. Johnson and F. J. Studer. diag Phys R 82:976 Je 15 '51

Calculation of the absorption and emission spectra of the thallium-activated potassium chloride phosphor. F. E. Williams. bibliog Phys R 80:306-7 O 15 '50

Chemical identity of the sulphur formed by the slow neutron bombardment of alkali chlorides. U. Croatto and A. G. Maddock. Chem Soc J supp no 2:S351-5 '49

POTASSIUM chloride—*Continued*

Color centers in additively colored alkali halide crystals containing alkaline earth ions. F. Seitz. Phys R 83:134-40 Jl 1 '51

Deposits of potassium salts in north-east Yorkshire. A. Fleck. bibliog il maps diags Chem & Ind Extra no p S1-15 O 17 '50; Abstract. Chem Age (Lond) 63:604-8 O 28 '50

Determination of saturation temperatures of inorganic salt solutions; refractive index measurements. C. R. Parkerson. diags Anal Chem 23:610-13 Ap '51

Equivalent and ionic conductances for sodium and potassium chlorides in anhydrous methanol at 25°C. J. P. Butler and others. bibliog J Chem Phys 19:752-4 Je '51

Integral diffusion coefficients of potassium chloride solutions for calibration of diaphragm cells. R. H. Stokes. Am Chem Soc J 73:3527-8 Jl '51

Interaction of slow electrons and surface films of ionic crystals. H. Jacobs and D. Dobischek. diags Phys R 81:1019-22 Mr 15 '51

Luminescence of K_4MnCl_6 and KCl (Pb + Mn). R. J. Ginther. bibliog diag Electrochem Soc J 98:74-81 F '51

Macroscopic space charge in a potassium chloride solution during electrolysis. W. Schriever and E. E. Ferguson. J Chem Phys 19:609-12 My '51

Study of the diffusion of potassium chloride in water at 25° with the Gouy interference method. L. J. Gosting. bibliog diags Am Chem Soc J 72:4418-22 O '50

Theoretical low temperature spectra of the thallium activated potassium chloride phosphor. F. E. Williams. Phys R 82:281-2 Ap 15 '51

Thermal stability of *F*-centers in alkali halides. A. B. Scott and W. A. Smith. bibliog Phys R 83:982-6 S 1 '51

Transference numbers for sodium and potassium chlorides in anhydrous methanol at 25°C. J. A. Davies and others. bibliog J Chem Phys 19:749-51 Je '51

Trona process and its unique features; with flow sheets. J. V. Hightower. Chem Eng 58:104-6 Ag '51

POTASSIUM chlorochromate

Crystal structure of potassium chlorochromate, $KCrO_3Cl$. L. Helmholz and W. R. Foster. bibliog diags Am Chem Soc J 72:4971-4 N '50

POTASSIUM chromium sulfate

Spin relaxation time of chromium alum. E. Ishiguro and others. bibliog Phys R 82:680-3 Je 1 '51

POTASSIUM cobaltinitrite

Precipitation of cobalt as potassium cobaltinitrite. S. Kallmann. bibliog Anal Chem 22:1519-21 D '50

POTASSIUM columbates

Dielectric properties of sodium and potassium niobates. B. T. Matthias and J. P. Remeika. il Phys R 82:727-9 Je 1 '51

POTASSIUM compounds

Reactions of some triarylsilanes with methyllithium and phenylisopropylpotassium. R. A. Benkeser and F. J. Riel. Am Chem Soc J 73:3472-4 Jl '51

Reduction by dissolving metals; the reactivity of mesomeric anions in relation to the reduction of benzene rings. A. J. Birch. Chem Soc J p 1551-6 Je '50

POTASSIUM cyanate

Crabgrass massacre means dollars; potent crabgrass killers. il Chem W 69:28-9 Ag 25 '51

POTASSIUM dichromate

Determination of formal oxidation potentials of ferric-ferrous and dichromate-chromic systems; selection of substituted 1,10-phenanthroline indicators for determination of iron at low acidity. G. F. Smith. bibliog Anal Chem 23:925-7 Je '51

Dichromate reduction rate at a steel surface in air-free, acetic acid solution. N. Hackerman and R. M. Hurd. bibliog diag Electrochem Soc J 98:51-6 F '51

POTASSIUM dinitromethane

New preparation of potassium dinitromethane and its conversion to 2,2-dinitro-1,3-propanediol. H. Feuer, G. B. Bachman and J. P. Kispersky. Am Chem Soc J 73:1360 Mr '51

POTASSIUM dinitrososulfite

Structure of the dinitrososulphite and sulphamate ions. G. A. Jeffrey and H. P. Stadler. Chem Soc J p 1467-74 Je '51

POTASSIUM ethyl xanthate

Contact angle and surface coverage for potassium ethyl xanthate on galena according to free acid collector theory. M. E. Wadsworth, R. G. Conrady and M. A. Cook. bibliog J Phys & Colloid Chem 55:1219-30 O '51

POTASSIUM ferrate

Preparation and purification of potassium ferrate. G. W. Thompson, L. T. Ockerman and J. M. Schreyer. bibliog Am Chem Soc J 73:1379-81 Mr '51

Stability of the ferrate(VI) ion in aqueous solution. J. M. Schreyer and L. T. Ockerman. bibliog Anal Chem 23:1312-14 S '51

Analysis

Oxidation of chromium(III) with potassium ferrate(VI). J. M. Schreyer, G. W. Thompson and L. T. Ockerman. Anal Chem 22:1426-7 N '50

POTASSIUM ferricyanide

Diffusion-controlled electrode reactions. C. S. Lin and others. bibliog diags Ind & Eng Chem 43:2136-43 S '51

POTASSIUM ferrocyanide

Decomposition reactions of the aromatic diazo-compounds; the reaction between diazo-compounds and potassium ferrocyanide. M. C. Ford, W. A. Waters and H. T. Young. Chem Soc J p833-40 Mr '50

Diffusion-controlled electrode reactions. C. S. Lin and others. bibliog diags Ind & Eng Chem 43:2136-43 S '51

Effect of topically applied zinc chloride and potassium ferrocyanide on dental caries experience. R. W. Anderson and J. W. Knutson. bibliog Pub Health Rep 66:1064-6 Ag 17 '51

Stannous chloride-iodine and zinc-ferrocyanide titrations; application of the dead-stop end point. D. F. Swinehart. bibliog Anal Chem 23:380-1 F '51

Analysis

Amperometric titrations with hexammine-cobalt(III) chloride. H. A. Laitinen and L. W. Burdett. bibliog Anal Chem 23:1265-7 S '51

POTASSIUM fluoride

Infrared spectrum of KHF_2. J. A. A. Ketelaar and W. Vedder. J Chem Phys 19:654 My '51

System ammonium fluoride-potassium fluoride-water at 25°. H. M. Haendler and A. W. Jache. Am Chem Soc J 72:4137-8 S '50

POTASSIUM germanyl

Compounds of germanium and hydrogen; monoalkylgermanes; potassium germanyl; electrolysis of sodium germanyl. G. K. Teal and C. A. Kraus. Am Chem Soc J 72:4706-9 O '50

POTASSIUM gluconate

Use of potassium gluconate in hypopotassemia. A. Bernhard. Science 113:751 Je 29 '51

POTASSIUM hydroxide

Action of alcoholic potassium hydroxide on Δ^{16}-20-ketosteroids. D. K. Fukushima and T. F. Gallagher. bibliog Am Chem Soc J 73:196-201 Ja '51

Chemistry of indanthrone; the mode of formation of indanthrone from 2-aminoanthraquinone and potassium hydroxide. W. Bradley and E. Leete. Chem Soc J p2129-46 Ag '51

Cleavage and rearrangement of ethers with base; reaction of the benzhydryl and trityl ethers of benzoin with potassium hydroxide. D. Y. Curtin and S. Leskowitz. bibliog Am Chem Soc J 73:2633-6 Je '51

Isomerization of berberine and cotarnine bases in presence of alkali. B. Skinner. Chem Soc J p823-7 Mr '50

POTASSIUM in the body

Hypotension in the rat following limitation of potassium intake. S. C. Freed and M. Friedman. Science 112:788-9 D 29 '50

New developments in potassium and cell physiology, 1940-50. C. W. Sheppard. bibliog Science 114:85-91 Jl 27 '51

POTASSIUM in the body—*Continued*

Potassium excretion in rats. S. E. Dicker. bibliog Science 113:187-8 F 16 '51

Use of potassium gluconate in hypopotassemia. A. Bernhard. Science 113:751 Je 29 '51

POTASSIUM iodate

Oxidation of di- and triaminoguanidine with potassium iodate. G. I. Keim, R. A. Henry and G. B. L. Smith. bibliog Am Chem Soc J 72:4944-6 N '50

POTASSIUM iodide

Conductances of potassium iodide, silver nitrate and some alkaline earth halides in methanol at 20° and 0°. L. R. Dawson and W. M. Keely. Am Chem Soc J 73:3783-5 Ag '51

Enhancement of the action of streptomycin. R. J. W. Rees and J. M. Robson. bibliog Science 112:790-1 D 29 '50

Kinetics of the dissolution of zinc in aqueous iodine solutions. L. L. Bircumshaw and A. C. Riddiford. Chem Soc J p 1490-3 Je '51

New type of short wavelength absorption band in alkali halides containing color centers. C. J. Delbecq and others. bibliog J Chem Phys 19:574-7 My '51

Oxidation of iodide to iodine by dilute solutions of organic peroxides. R. D. Cadle and H. Huff. bibliog diag J Phys & Colloid Chem 54:1191-5 N '50

Scintillation counter for the relative determination of X-ray intensities in radiological work. M. Ter-Pogossian and W. B. Ittner, 3d. diags R Sci Instr 22:646-8 Ag '51

POTASSIUM laurate

Cosolubilization in solutions of potassium laurate; effect of cosolubilized alcohols and hydrocarbons on the solubilization of several aromatic compounds in potassium laurate solutions. I. M. Kolthoff and W. F. Graydon. bibliog J Phys & Colloid Chem 55:699-712 My '51

Influence of soaps on gelling characteristics of hevea latices. D. J. McKeand. Ind & Eng Chem 43:415-20 F '51

Solubilization of four typical hydrocarbons in aqueous solution by three typical detergents. J. W. McBain and K. J. Lissant. bibliog J Phys & Colloid Chem 55:655-62 My '51

POTASSIUM manganese chloride

Luminescence of K_4MnCl_6 and KCl (Pb + Mn). R. J. Ginther. bibliog diag Electrochem Soc J 98:74-81 F '51

POTASSIUM nitrate

Crystal growth and direction of solution flow. R. M. Garrels. il diags Econ Geol 46:228-30 Mr '51

Differential diffusion coefficient of potassium nitrate in dilute aqueous solutions at 25°. H. S. Harned and R. M. Hudson. bibliog Am Chem Soc J 73:652-4 F '51

Effect of 2,4-D on potassium nitrate levels in leaves of sugar beets. L. M. Stahler and E. I. Whitehead. bibliog Science 112:749-51 D 22 '50

POTASSIUM oxide

System K_2O-MgO-SiO_2. E. W. Roedder. Am J Sci 249:81-130, 224-48 bibliog(p244-8) F-Mr '51

POTASSIUM perchlorate

Aromatization of cyclic compounds by solid potassium perchlorate. S. Patai and L. Rajbenbach. Am Chem Soc J 73:862-3 F '51

Oxidation of carbon black by solid potassium perchlorate. S. Patai and E. Hoffmann. bibliog Am Chem Soc J 72:5098-101 N '50

POTASSIUM permanganate

Analysis by permanganate titrations of 8-quinolinols. J. P. Phillips and F. J. O'Hara. Anal Chem 23:535-6 Mr '51

Crystallographic data. W. C. McCrone. il Anal Chem 22:1459 N '50

Permanganate oxidation of polybutadiene rubbers. F. J. Naples and J. D. D'Ianni. bibliog Ind & Eng Chem 43:471-5 F '51

POTASSIUM persulfate

Chemistry of persulfate; the kinetics and mechanism of the decomposition of the persulfate ion in aqueous medium. I. M. Kolthoff and I. K. Miller. bibliog Am Chem Soc J 73:3055-9 Jl '51

Reaction between ferrous iron and peroxides; reaction with potassium persulfate. I. M. Kolthoff, A. I. Medalia and H. P. Raaen. bibliog diags Am Chem Soc J 73:1733-9 Ap '51

POTASSIUM phosphates

Birth of a new phosphate builder; KTPP. il Chem W 69:24-5 S 15 '51

Bringing up poly. il Chem W 69:31+ Ag 25 '51

Reinvestigation of the kinetics of the urease-catalyzed hydrolysis of urea; the activity of urease in the presence of sodium and potassium phosphate. G. D. Fasman and C. Niemann. bibliog Am Chem Soc J 73:1646-50 Ap '51

POTASSIUM phthalate

Acid-base titrations in glacial acetic acid; acid potassium phthalate as primary standard and behavior of crystal violet indicator. W. Seaman and E. Allen. bibliog Anal Chem 23:592-4 Ap '51

POTASSIUM ruthenocyanide

Studies on the oxidation of potassium ruthenocyanide. D. D. DeFord and A. W. Davidson. bibliog Am Chem Soc J 73:1469-74 Ap '51

POTASSIUM sodium tartrate

Ferroelectricity. B. T. Matthias. bibliog il diag Science 113:591-6 My 25 '51

New ferroelectric tartrates. B. T. Matthias and J. K. Hulm. bibliog Phys R 82:108-9 Ap 1 '51

POTASSIUM sulfamates

Structure of the dinitrososulphite and sulphamate ions. G. A. Jeffrey and H. P. Stadler. Chem Soc J p 1467-74 Je '51

POTASSIUM sulfate

Salt effect in vapor-liquid equilibria; ethanol-water saturated with inorganic salts. R. R. Tursi and A. R. Thompson. bibliog diag Chem Eng Prog 47:304-8 Je '51

POTASSIUM sulfonates

Tripotassium 1,3,5-triazacyclohexane-1,3,5-trisulfonate. W. P. Binnie, H. L. Cohen and G. F. Wright. bibliog Am Chem Soc J 72:4457-9 O '50

POTASSIUM superoxide

Analysis

Determination of superoxide oxygen. E. Seyb, jr. and J. Kleinberg. bibliog diag Anal Chem 23:115-17 Ja '51

POTASSIUM tartrates

Mold growth and the pH of tartrate buffer solutions. R. G. Bates. Anal Chem 23:813-14 My '51

POTASSIUM thioacetate

Dithiols; the reaction of toluene-*p*-sulphonates and methanesulphonates with potassium thiolacetate; a new method for the preparation of thiols. J. H. Chapman and L. N. Owen. Chem Soc J p579-85 F '50

POTASSIUM thiocyanate

Colorimetric determination of tungsten; study of variables involved in stannous chloride-thiocyanate method. H. Freund, M. L. Wright and R. K. Brookshier. bibliog Anal Chem 23:781-4 My '51

Evaluation of three iron methods using a factorial experiment; phenanthroline. L. K. Reitz, A. S. O'Brien and T. L. Davis. Anal Chem 22:1470-3 D '50

Printing acrylonitrile fabrics; vat dyes plus potassium thiocyanate; patent. Am Dyestuff Rep 40:490 Ag 6 '51

POTATO amyloses

Enzymic synthesis and degradation of starch: methylation and end-group assay of some synthetic polysaccharides. S. A. Barker, E. J. Bourne and I. A. Wilkinson. pl Chem Soc J p3027-30 N '50

POTATO chips

Double shelf life? it's in the bag; potato chips stay fresh when packet of absorbing and drying agents is slipped into the sack. R. N. Miller and W. E. Robertson. il Food Eng 23:38-9+ Jl '51

Potato chips; Blue Star uses glassine bags, semi-automatic packaging equipment. il Mod Packaging 24:110-13+ Ja '51

Advertising

These simple displays are lifting sales 37.7 per cent; L. A. nut house and Tom Sawyer potato chips. il Ptr Ink 236:34-5 Jl 27 '51

POTATO starch

Enzymic synthesis and degradation of starch; improved methods for the fractionation of potato starch. P. N. Hobson and others. Chem Soc J p801-3 Mr '51

POTATO starch—*Continued*

Potato starch in papermaking processes. E. E. Stephenson, jr. bibliog il diags Paper Ind 33:288-91, 413-16 Je-Jl '51

POTATOES

Enzymic synthesis and degradation of starch; isophosphorylase. J. M. Bailey and W. J. Whelan. Chem Soc J p3573-9 D '50

Fenced-in lift truck does big job; moving potatoes. I. C. Miller. il Food Eng 23:133+ My '51

Free amino acids in potato tubers altered by 2,4-D treatment of plants. M. G. Payne and others. bibliog Science 114:204-5 Ag 24 '51

Infrared and germicidal lamps aid in potato conditioning. H. E. Rucks. il Elec World 135:174 My 21 '51

Potato paper; mixture of potatoes and wood pulp. Chem Ind W 68:16-17 F 24 '51

Potato prices climb without federal aid. Barron's 31:28 O 8 '51

Tar oils for potato spraying; substitute for sulphuric acid. Chem Age (Lond) 64:776 My 19 '51

Tissue culture from potato tuber; the synergistic action of 2,4-D and of coconut milk. F. C. Steward and S. M. Caplin. bibliog il Science 113:518-20 My 4 '51

Visible spuds; transparent bag for ten-lb. quantities. il Mod Packaging 24:164-5+ Ap '51

Western Germany's potato trade. For Comm W 43:21 My 14 '51

Advertising

Idaho potato ads scheduled in January. C. E. Hayden. Ed & Pub 83:13 D 30 '50

POTATOES, Dried

Western regional research laboratory puffs potatoes; pillow-shaped tidbits have snack appeal. W. O. Harrington and F. P. Griffiths. il Food Ind 22:1872+ N '50

POTENTIAL, Electric

Bipolar expansion of coulombic potentials. R. J. Buehler and J. O. Hirschfelder. Phys R 83:628-33 Ag 1 '51

Cathode polarization potential during electrodeposition of copper; nonreproducibility in acid copper sulfate solutions. L. L. Shreir and J. W. Smith. bibliog il Electrochem Soc J 98:193-202 My '51

Chemical constitution, electrochemical, photographic and allergenic properties of *p*-amino-N-dialkylanilines. R. L. Bent and others. bibliog il Am Chem Soc J 73:3100-25 Jl '51

Concept of critical zeta potential for hydrophobic sols. H. B. Weiser and P. Merrifield. bibliog diag J Phys & Colloid Chem 54:990-8 O '50

Concerning the measurement of pH, ion activities, and membrane potentials in colloidal systems. H. Jenny and others. diags Science 112:164-6 Ag 11 '50; Discussion. C. E. Marshall. 113:43-4 Ja 12 '51

Concerning the temperature coefficient of the emf of reversible galvanic cells operated at variable concentration. J. C. M. Li. J Chem Phys 19:1059-60 Ag '51

Conduction of current in a metallic pipe filled with a conducting liquid. H. Poritsky and H. Weil. diags J Ap Phys 22:1002-5 Ag '51

Contact potential differences. I. F. Patai and M. A. Pomerantz. diags Franklin Inst J 252:239-60 bibliog(p257-60) S '51

Determination of dissociation constants in a mixture of two weak acids by electromotive force measurements. R. G. Bates. Am Chem Soc J 73:2259-61 My '51

Device for maintaining a constant potential for electro-chemical work. F. W. Chambers. bibliog diags J Sci Instr 27:292-4 N '50

Effect of ionic strength on polarographic half-wave potentials. D. D. DeFord and D. L. Andersen. bibliog Am Chem Soc J 72:3918-20 S '50

Effect of time and temperature on potentials measured with the glass electrode. H. Irving and R. J. P. Williams. Chem Soc J p2890-2 O '50

Electromotive force studies in aqueous solutions of hydrochloric acid and *d*-fructose at 25°. H. D. Crockford and A. A. Sakhnovsky. Am Chem Soc J 73:4177-9 S '51

Electronic instrumentation for overvoltage measurements. D. Staicopoulos and others. il diags Electrochem Soc J 98:68-73 F '51

Experiment on the determination of formal oxidation potentials. A. E. Harvey, jr. and D. L. Manning. J Chem Educ 28:527-8 O '51

First dissociation constant of phosphoric acid from 0° to 60°C; limitations of the electromotive force method for moderately strong acids. R. G. Bates. bibliog J Res Nat Bur Stand 47:127-34 S '51

Formal potential of the bromoperosmite-bromoösmate electrode in hydrobromic acid solutions. R. W. Mertes, W. R. Crowell and R. K. Brinton. diags Am Chem Soc J 72:4218-21 S '50

Heat of oxidation of manganous ion to permanganate and the manganese potentials. Z. Z. Hugus, jr. and W. M. Latimer. bibliog Electrochem Soc J 98:296-8 Jl '51

Hydrogen-calomel cell; the standard e.m.f. at 25° c. G. J. Hills and D. J. G. Ives. Chem Soc J p318-23 F '51

Ionization constant of sulfanilic acid from 0 to 50° by means of e.m.f. measurements. R. O. MacLaren and D. F. Swinehart. bibliog Am Chem Soc J 73:1822-4 Ap '51

Kinetics of oxidation-reduction electrode reactions. J. V. Petrocelli. bibliog Electrochem Soc J 98:187-92 My '51

Lord Kelvin's contributions to surface chemistry. E. K. Rideal. diag Inst E E Proc 97 pt 1:273-8 N '50; Abstract. Engineer 189:580-1 My 12 '50; Same. Elec R (Lond) 146:819-20 Ap 28 '50; Same. Electrician 145:1369-70 Ap 28 '50

Method of measuring the absolute potential of aqueous half-cells. W. A. Patrick and C. L. Littler. bibliog diags J Phys & Colloid Chem 54:1016-27 O '50

Micro solution-potential measuring technique. L. W. Smith and V. J. Pingel. il Electrochem Soc J 98:48-50 F '51

Oxidation potential-free energy diagrams. A. A. Frost. Am Chem Soc J 73:2680-2 Je '51

Oxidation potentials of the Pu(III)-Pu(IV) and Fe(II)-Fe(III) couples in perchloric acid solution; heat content and entropy changes. R. E. Connick and W. H. McVey. Am Chem Soc J 73:1798-804 Ap '51

Oxide film formation on the surface of metals in aqueous solutions and the evaluation of their standard potentials. S. E. S. El Wakkad and T. M. Salem. bibliog diags J Phys & Colloid Chem 54:1371-83 D '50

Polarography of the bis-(diethylthiocarbamyl) disulfide-diethyldithiocarbamate ion oxidation-reduction system. E. C. Gregg and W. P. Tyler. bibliog Am Chem Soc J 72:4561-5 O '50

Potential and current requirements for the cathodic protection of steel in soils. W. J. Schwerdtfeger and O. N. McDorman. bibliog il diag J Res Nat Bur Stand 47:104-12 Ag '51

Potential-pH diagram of lead and its applications to the study of lead corrosion and to the lead storage battery. P. Delahay and others. bibliog Electrochem Soc J 98:57-64 F '51

Potential-pH diagram of silver. P. Delahay and others. bibliog Electrochem Soc J 98:65-7 F '51

Potential-*p*H diagram of zinc and its applications to the study of zinc corrosion. P. Delahay and others. bibliog Electrochem Soc J 98:101-5 Mr '51

Potential of the Pu(III)-Pu(IV) couple and the equilibrium constants for some complex ions of Pu(IV). S. W. Rabideau and J. F. Lemons. bibliog Am Chem Soc J 73:2895-9 Je '51

Significance of pH, ion activities, and membrane potentials in colloidal systems. E. Eriksson. bibliog Science 113:418-20 Ap 13 '51

Solution of some potential problems in the theory of electrolytes. F. Booth. bibliog J Chem Phys 19:821-6 Jl '51

Starting potentials of positive and negative coronas with coaxial geometry in pure N_2, pure O_2, and various mixtures at pressures from atmospheric to 27 mm. C. G. Miller and L. B. Loeb. J Ap Phys 22:740-1 Je '51

POTENTIAL, Electric—*Continued*

Studies of time-potential changes on an electrode surface during current interruption; zinc-steel couple in synthetic sea water. S. Schuldiner and R. E. White. bibliog il diags Electrochem Soc J 97:433-47 D '50; Discussion. 98:259 Je '51

Studies on galvanic couples; polarization and cathodic protection. H. D. Holler. diags Electrochem Soc J 97:453-61 D '50

System of balancing oxidation-reduction equations. J. F. Thomas. Water & Sewage Works 97:511-12 D '50

Thermogalvanic potentials; the application of thermodynamics to thermogalvanic data (a study of the silver chloride electrode from 25° to 90°C). H. Levin and C. F. Bonilla. bibliog diag Electrochem Soc J 98:388-94 O '51

Use of the stationary platinum micro-electrode in the determination of half-wave potentials. D. B. Julian and W. R. Ruby. bibliog Am Chem Soc J 72:4719-24 O '50

Vibrating probe electrometer for the measurement of bioelectric potentials. O. Blüh and B. I. H. Scott. il diag R Sci Instr 21:867-8 O '50

Wide-range instrument for controlled potential electrolysis. R. W. Lamphere. il diags Anal Chem 23:258-60 F '51

POTENTIOMETERS

Axial-flow compressors guarded by potentiometer watchdogs; Westinghouse electric corp. Aviation gas turbine development laboratory. R. N. Grassi and W. H. Wannamaker. il diags Power 95:90-1+ Je '51

Instrumentation. R. H. Muller. il Anal Chem 22:sup25A-6A D '50

Micropotentiometer can aid standardization of radio sensitivity. Iron Age 167:108 Ap 5 '51

New r-f micropotentiometer. F. Loomis. il diag Tele-Tech 10:37 My '51

Operation and maintenance of electronically operated instrument equipment. J. R. Green. il diags Iron & Steel Eng 28:102-7 My '51

Radio-frequency micropotentiometer. il Electronics 24:230+ Je '51; Instruments 24:572+ My '51

POTENTIOMETRIC titrations. See Volumetric analysis

POTOMAC Edison company

Bonds offered. Comm & Fin Chr 173:1481-2 Ap 9 '51

POTOMAC electric power company

High per capita income of customers helps keep earnings record stable. E. M. Haller. Barron's 30:16 D 4 '50

POTTERIES

Casting system ups output 30 percent; Roseland Pottery. il diag Cer Ind 57:66-7+ S '51

Hardie and Arnita set a fast pace. il Cer Ind 57:89+ Ag '51

Electric equipment

Pottery firing; twin-tunnel combined biscuit and glost kiln. il Elec R (Lond) 147:823-4 N 24 '50

Pottery kiln developments. il diag Elec R (Lond) 148:542-4 Mr 16 '51

Pottery kilns; advantages of the electric tunnel types. W. L. German. Elec R (Lond) 148:599-601 Mr 23 '51

Equipment

Adapts automatic jigger to diverse production. il diags Cer Ind 57:67 Jl '51

Base your decisions to mechanize solely on the needs of your plant. W. C. Miller. Cer Ind 56:123-4+ Ap '51

Design, color pay off in production; Santa Anita potteries. il Cer Ind 55:78-9+ N '50

Modern wareboard for the ceramic industry. C. E. Hendricks. diags Am Cer Soc Bul 30:78 Mr 15 '51

Precision hydraulics in jiggering operations. W. C. Miller. il Am Cer Soc Bul 29:444-6 D 15 '50

Stresses initial quality to get top product; Flintridge china co. il Cer Ind 56:64-5+ F '51

West Coast pottery cuts costs with ram pressing; Weil in dinnerware forming method. il Cer Ind 57:68-9+ Ag '51

Heating and ventilation

Scrapbook of exhaust hood design; local exhaust ventilation in the pottery industry. J. M. Kane. il Heat & Ven 48:81-3 Mr '51

POTTERS association, United States. See United States potters association

POTTERY

Half-century review of style trends and conditions in the pottery industry. B. Kogan. Am Cer Soc Bul 30:201-2 Je 15 '51

Laboratory course in pottery (cont). il Cer Ind 55:93 N; 83 D '50; 56:79 F; 96-7 Mr; 135 Ap; 109 Je; 57:73 Jl; 87 Ag; 85 S '51

New Jersey ceramists discuss fast slip making methods; mechanized pottery production, ceramic uses of lithium. Cer Ind 56:75+ Ja '51

Studio potter can learn from industry. P. Pastre. Am Cer Soc Bul 29:446-7 D 15 '50

See also

Ceramic materials	Glazes
Ceramics	Kilns
Clay	Potteries
Cooking ware	Tableware
Enamel and enameling	Tiles

Decoration

Applying decals. il Cer Ind 55:83 D '50; 56:79 F '51

Lenox builds a dinnerware tradition. il Cer Ind 55:70-3, cover D '50

New process yields photos on ceramics. A. E. Charlton. il diag Cer Ind 56:127+ Ap '51

Raised paste decorating. il Cer Ind 55:93 N '50

Design

Design; the role of the small pottery. J. Albert. il Am Cer Soc Bul 29:419-20 N 15 '50

Development of Wedgwood design. H. C. Wedgwood. il Am Cer Soc Bul 30:258-9 Ag 15 '51

Exhibitions

Rita Sargen tops Chicago potters guild in special show. il Cer Ind 56:110+ Je '51

Inspection

Nondestructive testing of green ware; filtered-particle method. H. N. Staats. il Am Cer Soc Bul 29:411-15 N 15 '50

Manufacture

Adventures in ceramics. H. Bollman. Cer Ind 57:84 Ag; 89+ S '51

Catalytic effect of kiln atmosphere on adsorption and moisture expansion of fired whiteware bodies. F. Sandford. Am Cer Soc J 34:179-83 Je 1 '51

Individuality with mass output; Sascha Brastoff products. il Cer Ind 56:102+ Je '51

Lenox builds a dinnerware tradition. il Cer Ind 55:70-3, cover D '50

Lines were jumping and we managed to trip 'em. R. W. Cline. Cer Ind 57:77+ Ag '51

Pottery bodies; recipes. Cer Ind 56:154+ Ja '51

Quenching vitreous body adds strength. F. A. Hummel and H. E. Lowery. bibliog Cer Ind 56:93-4 Je '51

Watt cuts clay preparation costs. il Cer Ind 56:90-1 Je '51

Testing

See also
Tableware—Testing

Transportation

New rail car cuts shipping losses of damageable products. il Cer Ind 56:77+ F '51

POTTERY research

Effect of grinding and firing treatment on the crystalline and glass content and the physical properties of whiteware bodies. S. C. Sane and R. L. Cook. bibliog Am Cer Soc J 34:145-51 My 1 '51

New Hampshire pair explores vast frontiers in technology. il Cer Ind 57:83+ S '51

POTTS medal

Presentation of the Potts medal to Merle A. Tuve. Franklin Inst J 250:563-4 D '50

POULTRY
Embryonic death rate and sex ratio in chicks. F. A. Hays and E. W. Spear. Science 112:792 D 29 '50
Hormone debate. Chem W 69:14-15 Jl 28 '51
See also
Turkeys

Diseases and pests

Poultry diseases as public health problems. C. A. Brandly. bibliog Pub Health Rep 66:668-72 My 25 '51
Sex-linked lethal gene in the fowl. K. Goodwin and others. Science 112:460-1 O 20 '50

Feeding

Cow feces and chick development. H. W. Marlow. bibliog Science 113:326-7 Mr 23 '51

POULTRY as food
New packaged goods success rung up by bulk food processor; Swanson brothers packaged poultry. H. E. Green. il Ptr Ink 234:25-7 Mr 2 '51

POULTRY brooders, Electric
Heated floor for chicken brooding. il Elec World 135:178 Ja 29 '51

POULTRY food
Effect of aureomycin and vitamins on the growth rate of chicks. J. Biley and B. March. Science 114:330-1 S 28 '51

POULTRY industry and trade
Science rules the roost on booming poultry farms. il Bsns W p 106-7+ S 15 '51

Finance

How one bank handles poultry loans. S. Ford. Banking 43:58+ Mr '51

Mexico

Mexico's foreign trade in poultry and egg products. For Comm W 44:21-2 Jl 30 '51

POULTRY processing plants
Home-made electric scalder eliminates hot-foot. L. L. Koontz. il Elec World 135:92 Ja 15 '51
Mechanizing clinches quality of fresh-frozen chicken; J. D. Jewell, inc. A. V. Gemmill. il plan Food Eng 23:120-2+ Ap '51

POUND, Grellet C.
Pound of Kraft cheese. por Sales Management 67:40 O 1 '51

POWDER, Smokeless. See Smokeless powder

POWDER metallurgy. See Metal powders

POWDERED aluminum. See Aluminum, Powdered

POWDERED beryllium. See Beryllium, Powdered

POWDERED brass. See Brass, Powdered

POWDERED copper. See Copper, Powdered

POWDERED cotton. See Cotton, Powdered

POWDERED iron. See Iron, Powdered

POWDERED metals. See Metal powders

POWDERED zinc. See Zinc, Powdered

POWDERS
Measurement and control of bulk density. W. T. Rawles. Gen Elec R 53:48-9 N '50
Measurement of specific surface areas of nonporous powders by a pressure-decline liquid-permeability method. C. G. Dodd, J. W. Davis and F. D. Pidgeon. bibliog diags J Phys & Colloid Chem 55:684-98 My '51
Powder-size measurement by a combination of the methods of nephelometry and photo-extinction. H. E. Rose. bibliog diags Soc Chem Ind J 69:266-72 S '50
Storage and handling of pulverized materials. F. Silver. bibliog Mech Eng 73:730-4 S '51
Technique for entraining fine powders in an air stream at a constant rate. B. R. Atkins. diag J Sci Instr 28:221 Jl '51
See also
Metal powders
Particles

POWDERS, Metal. See Metal powders

POWELL, Cecil Frank, 1903-
Nobel prize in physics. por Chem & Eng N 28:4104 N 20 '50

POWELL, Oliver Stanley, 1896-
Portrait. Bsns W p 150 O 6 '51

POWELL, Ray E. 1887-
Portrait. Fortune 43:96 Je '51

POWER, Donald Clinton, 1899-
Portrait. Fortune 44:24 Jl '51

POWER (mechanics)
Energy; choose it wisely today for safety tomorrow. G. W. Gleeson. bibliog Heating-Piping 23:107-14 Ag '51
Energy uses and supplies, 1939, 1947, 1965. H. J. Barnett. 6pls U S Bur Mines Information Circ 7582:1-53 '50
Exhibition of industrial power at Kelvin hall. il Engineer 191:728-9, 752-4, 797-8, 832-4, 856-9; 192:6-8, 42-5 Je 1-Jl 13 '51
Industrial power exhibition, Glasgow. il Elec R (Lond) 148:1201-3 Je 8 '51
Need for development of continuous energy sources. Can Chem Process 35:566+ Jl '51
Power calculations for chain and cable pulpwood conveyors. R. E. Kirkpatrick. diags Pulp & Pa of Can 51:130+ O '50; Correction. 51:147 N '50
Power handbook. P. Swain and W. Arrott. plan diags Power 95:73-104 Mr; 81-112 Jl '51
See also
Airplanes—Auxiliary power
Atomic power
Chemical plants—Power
Coal mines and mining—Power
Compressed air
Dynamometers
Electric power
Hydroelectric power
Machinery
Petroleum engineering—Power
Power factor
Power plants
Power transmission
Pumping stations—Power
Servomechanisms
Ship propulsion
Steam
Steel works—Power
Tidal power
Wind power

POWER cartridge
Cartridge turbo-starters for aeronautical gas turbines. il diag Engineer 190:635-6 D 22 '50
Cordite-charge starter for aircraft gas turbines. il Engineering 171:31 Ja 5 '51
How Vesta uses powder-power; installation of anchors for hanging wire, cable, pipe and equipment with powder-powered tool for shooting studs. il Coal Age 56:98-9 Je '51
New muscle for British jets; Rotax ltd. cartridge starter. il Aviation W 54:31 Ja 8 '51
Powder actuated tools cut costs. T. W. Reynolds. il diags Heat & Ven 48:93-5 Ap '51
Remington portable power tool shoots stud into steel, concrete. il Arch Forum 95:230 Jl '51; Arch Rec 110:180 Jl '51
Stud driver cartridges; color coded ethyl cellulose heel caps. il Mod Plastics 29:84-5 S '51

POWER conference, Midwest. See Midwest power conference

POWER contracts
BPA, five utilities discuss long-standing disputes. Elec World News ed 136:11 Ag 20 '51
Idaho Power, four federal projects integrated; Chapman ok's contract. Elec World News ed 135:11 Ja 8 '51
Public power's revolving door to the U.S. Treasury; controversy in the Southwest. F. M. Wilkes. Pub Util 47:737-43 Je 7 '51
PUD offers Port Angeles lower rate agreement. Elec World 135:96 Ap 23 '51
17 private companies form pools to supply power for two AEC plants. Elec World News ed 136:13 S 3 '51
Sherman act invalidates three-party power contract. Elec World News ed 135:12 My 14 '51
Significance of the Soper decision; contract between hydroelectric power producer and utility company. S. H. Crosby. Pub Util 47:825-32 Je 21 '51
Utility signs USBR wheeling contract; Public service co. of Colorado to wheel electric power from generating plant at Green Mountain dam. Elec West 106:140+ F '51
Wheeling power in California. Pub Util 47:558-9 Ap 26 '51

POWER cost
Annual power costs for various head losses. Water & Sewage Works 98:R173 Ap '51
Census data expose fallacy of cheap power. J. A. Whitlow. Elec World 134:84-5 N 6 '50
Chart for determination of pumping costs. Water & Sewage Works 98:R181 Ap '51
Why multiply your utility bills by a waste factor? J. D. Leonard. Chem Eng 58:112-13+ Ap '51

POWER cost—*Continued*

Accounting

Pro-rating electricity costs on light and motor hours. F. C. Laird. N A C A Bul 32:1501-4 Ag '51

POWER export. See Electric power—International aspects

POWER factor

Are today's higher system power factors a threat to generator stability? W. G. Dempler. Elec World 134:117-22 N 20 '50

Economic limit of capacitor application for load relief. G. Stangland. Power Eng 54:78-80+ N '50

Hook-on power factor meter. A. J. Corson and A. L. Nylander. diag Elec Eng 70:523 Je '51

Relation of kilowatts, kilovars and power factors for circuit studies; tabulation; engineering reference sheet. R. W. Burrell. Elec World 134:130 N 20 '50

Why did his power factor change? Power Eng 55:92 Mr '51

POWER factor, Dielectric

Measuring power factor of low-loss dielectrics. J. L. Dalke and R. C. Powell. diag Electronics 24:224+ Ag '51

POWER gas corporation

Power-Gas celebrates its golden jubilee. Chem Age (Lond) 65:85-7 Jl 21 '51

POWER of appointment

New rules on powers of appointment. R. J. Turk, jr. Trusts & Estates 90:428-30+ Jl '51

Powers of appointment; joint holders and adverse interests. M. T. Brunner. Trusts & Estates 90:584-8 S '51

Trusts under powers of appointment; legal theories create practical problems. J. S. Montgomery and A. M. Suchin. Trusts & Estates 90:162-4 Mr '51

POWER plants

Could this happen in your plant? certain aspects of human relationships that can cause considerable damage. G. Lindgren. Power Eng 55:80-1 My '51

Electric power distribution system for typical power plant. S. L. Chapin. diags Blast F & Steel Pl 38:1454-6+ D '50

How to make your plant a show place. il Power 95:84-5 S '51

How today's power plant trends are geared to power mobilization. C. R. Earle. flow diag il diags Power Eng 55:60-5 Ja '51

Industrial plant power sources. R. T. Woodruff. flow diag diag Power Eng 55:86+ S '51

Mike's got a sweet-running power plant! Cleveland graphite co.; illustrations with text. diags Power 95:108-11 My '51

Mobilizing power; here we go again! Power Eng 55:77-8 My '51

1950 modern plant survey. Power 94:83-108 D '50

Paper mill power. D. M. Myers. Paper Ind 33:167, 295, 416, 518-19, 668-9 My-S '51

Technical aid for foreign power projects; operations of the Kuljian corp. in carrying out some objectives of Point Four program. il diags Power Eng 55:64-7 Je '51

Technical briefs. Published in monthly numbers of Power

See also

Boiler plants	Hydroelectric plants
Electric plants	Steam plants

Costs

Waterworks power-plant practice; the comparative costs of steam-, Diesel- and electrically-operated machinery. T. P. Wakeford. Inst E E Proc 96 pt 2:203-22 Ap '49; Discussion. 96 pt 2:222-7; 97 pt 2:67-76; 98 pt 2:69-73 Ap '49, F '50, F '51

What will future steam power plants cost? W. C. Rowse. Power Eng 55:78-81 F '51

Diesel engine auxiliaries

What we have learned about Diesel engines. S. E. Tomczak. Paper Tr J 130:83-4 Je 15 '50; Same. Pulp & Pa of Can 51:158+ N '50; Same abr. Paper Ind 32:1109-10 Ja '51

Diesel engine plants

Central station operation with portability. il Diesel Power 29:32-4+ F '51

Diesel instruments and controls. E. J. Kates. il diags Power 94:89-91 Je; 98-101+ S; 92-6 O; 90-3 N; 114-16 D '50; 95:98-101 Ja; 94-6+ Je; 82-5+ O; 74-7 D '51

Diesel lube filters save man-hours. J. Kapla. il diag Power 95:96-7 F '51

Dual-fuel engines power Texas cement plant; Halliburton portland cement co. il Power Eng 55:60-2 S '51

French underground Diesel power station. il Diesel Power 29:53 Ag '51

Halliburton cement plant powered by four dual-fuel engines. il Diesel Power 29:70-2 Je '51; Same. Power Eng 55:60-2 S '51; Abstract. Mill & Factory 48:111 Je '51

Maintenance costs and considerations of large engines in power generation. J. B. Sims. il Diesel Power 29:42-5, 108-12 Mr-Ap '51

New York's latest sewage treatment works; use of dual-fuel engines for power plant. flow diag il map diags Diesel Power 28:44-9 N '50

Standby Diesel power for Ontario. il Diesel Power 29:35 F '51

Using cooling water waste heat to heat and air condition a plant; Western blue print co. M. D. Pugh. il diags Diesel Power 29:50-2 Mr '51

Efficiency

Power station efficiencies. F. Stevenson. Elec R (Lond) 148:1025-6 My 18 '51

Employees

Does unskilled help save money? il Power 95:115 Je '51

Hand of the power plant worker. W. Schweisheimer. il Power Eng 54:83-4 D '50

How can we set up a work schedule? il Power 95:132-4 O '51

More power at Dunwoody; graduates qualify as assistant plant operators. il Power 95:116-17 Je '51

Equipment

Annual new bulletin review, 1951; more than 500 items covering equipment and supplies used by power engineers. Power 95:177-86+ Mid-Je '51

Colliery generating plant; Kingsbury colliery. il Elec R (Lond) 147:636 O 27 '50

Design trends in key industries; power generation and distribution. il Product Eng 22:112-13 My '51

Dewey modernizes electrical distribution system; Dewey portland cement co. C. E. Kietzman. il plan Rock Prod 54:165-8 Ag '51

Diesel engine directory; manufacturers of engines and plant accessories. Diesel Power 29:49-72 Ja '51

Directory of manufacturers; buyers' guide of over 1000 manufacturers of power field products; with directory of former manufacturers. Power 95:35-142 Mid-Je '51

Electrical and allied developments during 1950; power. G. Bartlett. il Gen Elec R 54:22-6 Ja '51

Engineering highlights of 1950; power plants. il Westinghouse Eng 11:2-5 Ja '51

Engineering in the Festival of Britain; exhibition of industrial power, Glasgow. il Engineering 172:106-8, 133-6, pl 12-13 Jl 27-Ag 3 '51

Exhibition of industrial power at Kelvin hall. il Engineer 191:832-4, 856-7+ Je 22-29 '51

50 years of progress; New York subway system's 59th street station; 1902 power practice compared with today's. il diags Power 95:71-6 S '51

Formula for paper-mill power economy; plant of Fibreboard products. H. J. Byrne. il Power 95:71-4 Ap '51

How modernized power plant can utilize existing equipment. D. M. Myers. Paper Ind 33:668-9 S '51

How one plant serves 40 industries; East Newark industrial center. W. J. Roth, jr. flow diag il Power 94:120-2+ N '50

How to buy power equipment and materials under today's controls. Power 95:76-7 O '51

Instrumentation and control for small power plants. P. S. Dickey. il diags Blast F & Steel Pl 39:694-6+ Je '51; Same. Gen Elec R 54:37-41 Jl '51; Same cond. Power Eng 55:78-9+ Je '51

POWER plants—Equipment—*Continued*

Meters guide steam plant and substation operations. F. A. Hinchcliffe. il Power 95:86-9 Je '51

National Container installs 625 lb plant at Tomahawk. J. E. Hoeft. il plan diags Power Eng 54:54-7+ D '50

National exposition of power and mechanical engineering, 19th, New York, Nov. 27-Dec. 2 will feature advanced power plant design standards; with list of exhibitors. il Power Eng 54:98+ N '50

1950 design survey of typical industrial and institutional power plants; tabulations. Power 94:92-100 D '50

Now hear this! modern power plant communication. W. B. Jarzembski. il Power Eng 55:58-9 S '51

Oakley colony power house; central power house serves seven industrial plants with steam, d-c power and other services. H. B. McDermid. il diag Power Eng 54:74-5 N '50

Over 300 manufacturers display equipment at National power show. il Elec World (News ed) 134:13, 16-17 D 11 '50

Panoma plant achieves low maintenance-operation costs. I. E. Nutter and C. D. Van Vliet. il Pet Refiner 30:98-102 My '51

Power and heat in textile mills. il Rayon 32:95+ Ja '51

Power station at a large steelworks; Consett iron co. il Elec R (Lond) 149:263-9 Ag 10 '51

Rehabilitation and extension of the Narrows power plant of the Virginian railway co. C. O. Lenz. il plans diag Power Eng 55:68-72+ Ap '51

Review of new plant equipment. il diags Power 95:143-174+ Mid-Je '51

Scientific discoveries aid power plant engineering; power show. Steel 127:124 D 18 '50

See also
Condensers (steam)

Fires and fire protection

Will mixing sawdust with coal in bunker increase fire danger? Power Eng 55:85-6 Jl; 93-4 Ag '51

Fuel

Basic power plant figuring; how to buy the best coal for your power plant. W. H. Engleman. Power Eng 54:85-6 D '50

Comparative tests of different fuels. C. T. Baker. Power Eng 55:86-7 Ag '51

Converting proximate to ultimate analysis; coals used in steam generation; data sheet. E. O. Smith. Power 95:152 Jl '51

Industry seeks fuel flexibility. Power 94:90-1 D '50

Lignite-fired plant to be built, run by Texas power & light co. for Alcoa smelter. Elec World News ed 136:11 Ag 6 '51

Now blast-furnace gas is base-load boiler fuel. il diags Power 95:96-8 S '51

Power handbook: fuels and combustion. P. W. Swain, comp. Power 95:86-9 Jl '51

Reveals new slants on burning wet salt-laden bark. S. B. Roberts. il diags Power 95:92-5+ S '51

Study of coal analyses from the standpoint of the user. F. M Reiter. il diag Power Eng 55:68-73+ F '51

Western lignite upgraded to power aluminum smelter. il Coal Age 56:127 S '51

Gas engine plants

Engines for new aluminum plant; Reynolds metals works. il Diesel Power 29:90 Ap '51

More natural gas makes more power for more aluminum for defense; Aluminum co. of America. A. Q. Smith. il Gas Age 107:35-7+ Ap 12 '51; Same abr. Light Metal Age 9:8-10 Ap '51

Gas turbine plants

Few problems are now standing in way of gas turbine technical supremacy. C. T. Konecny. flow diag diags Am Gas J 174:14-16+ Ap '51

New wet process mill in Venezuela. H. Thielen. plan Rock Prod 54:171-2 Ag '51

Power generation by gas turbines. A. G. Mellor. bibliog il Blast F & Steel Pl 39:566-70 My '51; Same. Gen Elec R 54:21-4 Jl '51

Regenerative heat exchanger for gas-turbine power-plant. M. Cox and R. K. P. Stevens. diags Inst Mech Eng Proc 163 (W.E.P. no 60):193-205, pl 1-2 '50

Laboratories

Another power plant laboratory. D. Rushmore. diags Power Eng 55:93-4 Je '51

Power plant laboratory. S. M. Sperry. il plan diags Power Eng 55:64-7+ Ap '51

Maintenance and repair

Acid cleaning; power-plant maintenance tool. S. T. Powell. il Power 95:89-91+ Ja '51

Aim your sights at upkeep in the power plant; Forstmann woolen co. F. L. Bradley. diags Textile World 101:141+ My '51

How to cut power maintenance time in half. A. R. Ringer. il Power Eng 54:76-8 D '50

Maintenance inspection and testing of large rotating machines. J. S. Johnson. il Power Eng 55:70-2+ Je '51

Man of action, Wayne Farrell, briefs his power team to keep their Hawk-Eye plant modern, shipshape; illustrations with text. Power 95:107-11 Ag '51

Obscure oil leak. D. Swift. il Power 95:97 Je '51

Put these seven tested ideas to work for you. il diags Power 95:107-9 O '51

Some maintenance jobs you can do with cold pressure welding. il Power Eng 55:95-6 F '51

Sound management perks up Columbia's 54-year-old steam-Diesel power plant; interview with C. H. Holz. J. O'Connor. il Power 95:96-8 Ap '51

Ten tested maintenance hints. il diags Power 95:108-11 Ap '51

Models

Models cut power plant design costs. il Power Eng 55:77 Je '51

Piping

See Piping (power plants)

POWER plants, Floating

Humble making hole with world's most powerful barge-mounted rig. L. S. McCaslin, jr. il diag Oil & Gas J 49:66-7+ N 30 '50

Submersible 1800-hp drilling barge operates in Corpus Christi bay. G. O. Danielson. il plans Pet Eng 23:B14+ Je '51

POWER plants, Outdoor

See also
Steam plants, Outdoor

POWER plants, Portable

Central station operation with portability. il Diesel Power 29:32-4+ F '51

Engineered power units simplify setup. il World Oil 132:132+ Je '51

How the Texas & Pacific uses steam generator cars. il Ry Age 131:59-60 S 3 '51

If bombs wreck our power plants, will we have portable units to take over? Power 95:82-3 F '51

Jeep power plant to energize military planes. il Mech Eng 72:994 D '50

LeTourneau puts power at the wheels; vehicle can also be used as a portable or standby electric generator. H. W. Richardson. il diags Constr Methods 32:88-90 D '50

Mobile power plant to supply starting current for jet and large reciprocating engines. il Machine Design 23:120 Mr '51

Mobile power units fulfill system need. il Elec World 135:51 Ja 1 '51

New skid-mounted rig offers compactness. il Pet Eng 23:B81 My '51

Skid-based Diesel central stations. il Power 95:103+ Ja '51

Standby Diesel power for Ontario. il Diesel Power 29:35 F '51

POWER systems engineering course. See General electric company—Power systems engineering course

POWER transmission

Ball-type transmission is self-governing; Gerritsen transmission. il diags Product Eng 22:126-7 Ag '51

Effect of oil viscosity on the power-transmitting capacity of spur gears. V. N. Borsoff and others. bibliog il diag A S M E Trans 73:687-94; Discussion. 694-6 Jl '51

Efficient power transmission vital to production costs. il Rayon 31:85-7 N '50

POWER transmission—*Continued*

Flexible shafting solves drive problems. il Machine Design 23:126 My '51

Flexible worm drives. il diag Machine Design 23:108 O '51

Friction drive prevents stripping fine threads. B. P. Fortin. diags Am Mach 94:116 D 25 '50

Helicopter drives; mechanical transmission system. D. W. Botstiber. il diags Machine Design 23:185-91 Ap '51

Hybrid belt has teeth; Gilmer's power-transmission and timing belt. il Bsns W p82-3 F 10 '51

Magnetic-drive control. F. A. Annett. diags Power 94:123-4+ N; 123-4+ D '50

Overriding spring mechanisms for low-torque drives. H. L. Milo, jr. diags Product Eng 22:168-9 O '51

Present use and future trend; tabulation. Iron Age 167:353 Ja 4 '51

Push-pull and torque tubes. J. J. Sloan. il diags Machine Design 23:143-7 Ap '51

Reversing Magneclutch transmission by Vickers. il diag Tool Eng 26:74 Ja '51

Review of new plant equipment; mechanical transmission. il diag Power 95:160-1 Mid-Je '51

What's ahead in mechanized drives for machines. il diags Product Eng 22:172-83 My '51

See also

Automobiles—Transmission
Bearings
Belting
Chain gear
Clutches
Coupling
Electric distribution
Electric driving
Gearing
Gearmotors
Hydraulic transmission
Joints, Universal
Machinery
Pneumatic transmission
Power (mechanics)
Pulleys
Servomechanisms
Shafting
Speed variation
Torque converters

POYNTER, C. W. M. 1875-1950

C. W. M. Poynter. J. S. Latta. Science 113: 310 Mr 23 '51

POYNTING'S theorem

Poynting's theorem. G. W. O. Howe. diag Wireless Eng 28:259-60 S '51

POZZOLANS. See Pozzuolana

POZZUOLANA

Fly ash; a pozzolanic material of great usefulness. M. Palmieri. Concrete 59:20-2 Je '51

Natural pozzolans for concrete. R. C. Mielenz and others. il Econ Geol 46:311-28 My '51

What you should know about pozzolans. R. E. Davis. Eng N 146:37-40 Ap 5 '51

PRANDTL number

Effect of Prandtl number on the theoretical shock-wave thickness. P. A. Libby. J Aeronautical Sci 18:286-7 Ap '51

PRASEODYMIUM

Heat of reaction of americium metal with 1.5 *M* hydrochloric acid and a note on the heats of formation of La^{+3}(aq.) and Pr^{+3}(aq.). H. R. Lohr and B. B. Cunningham. bibliog diag Am Chem Soc J 73:2025-8 My '51

Nuclear magnetic moment of praseodymium. D. Williams. Phys R 83:858-9 Ag 15 '51

Isotopes

Disintegration of Ce^{143} and Pr^{143}. E. Kondaiah. diag Phys R 83:471 Jl 15 '51

Disintegration of praseodymium 142. E. N. Jensen and others. bibliog Phys R 80:862-5 D 1 '50

PRASEODYMIUM oxides

Higher oxides of the lanthanide elements: terbium dioxide. D. M. Gruen, W. C. Koehler and J. J. Katz. bibliog diags Am Chem Soc J 73:1475-9 Ap '51

Magnetic susceptibilities of praseodymium oxides. S. W. Rabideau. bibliog diag J Chem Phys 19:874-6 Jl '51

PRATT, Haraden, 1891-

H. Pratt becomes top radio figure in federal government. por Tele-Tech 10:155 S '51

Named telecommunications adviser to Truman. por Inst Radio Eng Proc 39:1101 S '51

PRATT and Whitney aircraft division of the United aircraft corporation

Formula for flexibility; subcontracting. il Bsns W p72-4+ Je 30 '51

PRECIOUS metals

Annual bullion review, 1950. Can Min J 72: 79-82 My '51

Precious-metal industry, Netherlands. For Comm W 41:17 D 25 '50

Progress in the precious metals. J. C. Chaston. il Metallurgia 42:310-13 N '50

PRECIOUS stones

See also

Rubies
Sapphires

PRECIPITATION

Anelastic effects arising from precipitation in aluminum-zinc alloys. A. S. Nowick. bibliog il J Ap Phys 22:925-33 Jl '51

Effect of coprecipitation conditions on filtration and properties of lignin reinforced GR-S. J. J. Keilen and others. diag India Rubber World 124:178-81 My '51

Kinetics of precipitation in supercooled solid solutions. G. Borelius. il diags J Metals 3: Trans 477-84 Je '51

New precipitation plant at Butte; Anaconda recovers copper from mine water. A. C. Bigley and others. il diag Min Cong J 37: 48-53 Mr '51

Precipitation in homogeneous solution; separation and determination of barium, strontium, and calcium. P. J. Elving and R. E. Van Atta. bibliog Anal Chem 22:1375-8 N '50

Precipitation of carbon and nitrogen in cold-worked alpha-iron. S. Harper. bibliog Phys R 83:709-12 Ag 15 '51

Separation by precipitation from homogeneous solution. H. H. Willard. bibliog Anal Chem 22:1372-4 N '50

Substituted benzidines and related compounds as reagents in analytical chemistry; the precipitation of tungsten. R. Belcher and A. J. Nutten. Chem Soc J p 1516-19 Je '51

Thermodynamics of coherent precipitation; abstract. J. G. Leschen and J. C. Fisher. Science 112:448-9 O 20 '50

PRECIPITATION, Electric. See Electric precipitation

PRECISION casting. See Lost wax process

PREFABRICATED bridges. See Bridges, Prefabricated

PREFABRICATED houses. See Houses, Prefabricated

PREFERRED accident insurance company of New York

Insurance failure. Bsns W p 140-1 My 12 '51

PREFERRED numbers

Another viewpoint on preferred numbers. V. M. Graham. Inst Radio Eng Proc 39:467 My '51

Preferred numbers. A. Van Dyck. Inst Radio Eng Proc 39:115 F '51

Propose preferred number system for metal strip and sheet gage. J. Gurski and W. Wiers. S A E J 59:80-1 Ja '51

PREFERRED stocks. See Stocks, Preferred

PREGNADIENEDIOL

Steroids and related compounds; the preparation of pregna-5 : 17-diene-3β : 21-diol. D. Magrath and others. Chem Soc J p2393-6 S '50

PREGNADIENETHIOLATE

Ethyl 3β-acetoxy-5,17(20)-pregnadiene-21-thiolate. R. W. Jeanloz. Am Chem Soc J 73:1862 Ap '51

PREGNANOLONE

Steroids; the synthesis of adrenal corticosteroids and analogs from allopregnan-3β-ol-20-one. G. Rosenkranz and others. bibliog Am Chem Soc J 72:4081-5 S '50

PREGNANONE

Formation of an acrylal in side chain degradation of the bile acids. T. F. Gallagher and E. Elisberg. Am Chem Soc J 73:194-6 Ja '51

PREGNATRIENE

3 : 5 : 20-Pregnatriene as a degradation product of conessine. R. D. Haworth and J. McKenna. bibliog Chem & Ind p312 Ap 21 '51

PREGNATRIENONE

Pregna-4 : 16 : 20-trien-3-one. J. K. Norymberski. Chem Soc J p847-8 Mr '51

PREGNENEDIOL

Pregn-5-ene-3β : 20β-diol. W. Klyne and E. Miller. Chem Soc J p 1972-3 Jl '50

PREGNENEDIONE. See Progesterone

PREGNENETETROLONE
Partial synthesis of Reichstein's substance E. L. H. Sarett, M. Feurer and K. Folkers. bibliog Am Chem Soc J 73:1777-9 Ap '51
Sterols; the partial synthesis of 4-pregnene-17α,20,21-triol-3-ones and Reichstein's substance E. P. L. Julian and others. bibliog Am Chem Soc J 73:1982-5 My '51

PREGNENETRIOLONE
Sterols; the partial syntheses of 4-pregnene-17α,20,21-triol-3-ones and Reichstein's substance E. P. L. Julian and others. bibliog Am Chem Soc J 73:1982-5 My '51

PREGNENOLONE
Lead tetraacetate oxidation of pregnenolone benzoate. O. Mancera. Am Chem Soc J 72:5752-3 D '50
Polymorphism of pregnenolone acetate. D. H. Gould and W. Tarpley. bibliog Science 113:417 Ap 13 '51
Sterols; 17 α-hydroxy-11-desoxycorticosterone (Reichstein's substance S). P. L. Julian and others. bibliog Am Chem Soc J 72:5145-7 N '50
Symposium on steroids in clinical and experimental practice. R. I. Dorfman. Science 113:467-8 Ap 20 '51

PREGNENONE
Chemical actions of ionising radiations in solution; radiation chemistry of sterols; the action of X-rays on cholesterol and 3β-hydroxypregn-5-en-20-one. M. Keller and J. Weiss. Chem Soc J p2709-14 O '50

PREMAKEREADY. See Printing, Practical—Presswork

PREMIUM pay. See Wage payment plans

PREMIUMS (merchandizing)
Defective premiums? these companies make quick amends to save customers; how Brown & Williamson, General Foods and Colgate-Palmolive-Peet handle complaints. Ptr Ink 234:37-8 Mr 23 '51
Early soap giveaways shown at 18th National premium buyers exposition, Chicago, April 2-5. Soap & San Chem 27:39 My '51
How a free premium proved the effectiveness of a dealer magazine. A. I. Glazier. il Ptr Ink 236:44+ Ag 3 '51
How advertisers are using premiums; Printers' Ink special study. Ptr Ink 235:84+ Je 29 '51
Premium industry optimistic despite shortages; 1½ billion volume expected this year. M. F. Harris. Ptr Ink 235:80+ Ap 13 '51
Premium subscription results for 47 dailies. Ed & Pub 84:78+ Ap 21 '51
Premium with the premature pop-up; electric toaster. R. W. Hoover. Ptr Ink 234:94 F 2 '51
Premiums and contests in 1951. il Ptr Ink 233:31 D 29 '50
Self liquidating premiums are better. il Ptr Ink 236:29 Jl 20 '51
Some facts about premiums; abstract. J. M. Davidson. Management R 40:294-5 My '51
What do you think will be the importance of premiums and contests in the period of national mobilization? Adv Agency 44:53+ My '51
What women like and dislike about packages today; new survey on grocery store products. A. R. Hahn. il Sales Management 67:50-2+ Jl 15 '51
Why Babbitt is as firmly wedded to premiums today as it was in 1851. R. Brenner. il Ptr Ink 235:80-2 Je 29 '51
See also
Advertising copy—Premium offers

La PRENSA
Archie Burns helps modernize La Prensa of Lima, Peru. F. G. Walker. il Ed & Pub 84:45 S 8 '51
Blood flows as La Prensa fights for press freedom. Ed & Pub 84:7-8 Mr 3 '51
Gainza Paz sees La Prensa gaining in popular esteem. Ed & Pub 84:7-8 Ap 7 '51
General labor ban keeps La Prensa quiet. Ed & Pub 84:13 Mr 17 '51
Law 14021 dooms independent La Prensa. Ed & Pub 84:16 Ap 21 '51
Peron seeks all assets of seized paper. Ed & Pub 84:32 Je 23 '51
Peron to pay mere $1,300,000 for La Prensa. Ed & Pub 84:47 Jl 21 '51
Prensa is mortgaged to meet staff payroll. Ed & Pub 84:9 Mr 31 '51
La Prensa is silenced but Peron takes rap. Ed & Pub 84:9 F 3 '51
La Prensa under seizure. Ed & Pub 84:5-6 Mr 24 '51
Reds go full blast in Argentina while anti-Peron press is gagged. R. Erwin. Ed & Pub 84:9-10 S 8 '51

PREPACKAGING
Flowers, an every-day luxury; Floral packages, inc. il Bsns W p 150-1 S 15 '51
See also
Fruit—Prepackaging
Meat—Prepackaging
Vegetables—Prepackaging

PREPAKT concrete. See Concrete

PRESCOTT, Samuel Cate, 1872-
A. E. Stevenson and Samuel Cate Prescott. por(cover) Chem & Eng N 29:2820 Jl 9 '51

PRESCRIPTIONS
Off the editor's chest; prescription refilling. Consumers Res Bul 27:2+ Je '51

PRESERVATION of flowers. See Flowers

PRESIDENTIAL candidates
1952 politicking has a five-star issue. Bsns W p 19-20 Ap 14 '51
Politicos start moves to make next president. il Bsns W p22-3 S 1 '51
With no holds barred; Republicans are lining up, either for Taft or Eisenhower. F. Morley. Barron's 31:3 S 3 '51

PRESIDENTS (United States)

Term of office

Twenty-second amendment. F. Morley. Barron's 31:3 Mr 5 '51

PRESIDENTS, Company. See Corporations—Presidents

PRESS
See also
Inter-American press congress
Journalism
Newspapers
Periodicals
Publicity

PRESS agencies. See News agencies

PRESS agents, Government
Albany press agent procedures assailed. Ed & Pub 84:35 F 3 '51
Official press agent activity is debated by A.S.N.E. Ed & Pub 84:18+ Ap 28 '51
See also
Government publicity

PRESS associations
See also
Associated press
Pan-Asia newspaper alliance
United press

PRESS conferences
Press selection also followed at Pentagon. Ed & Pub 83:18 N 25 '50
State department to bar foreign press if it pleases. J. J. Butler. Ed & Pub 83:6 N 18 '50

PRESS dispatches. See Newspapers—Telegraph service

PRESS institute, American. See American press institute

PRESS parties. See Publicity

PRESS photographers association, National. See National press photographers association

PRESS tools
Press tools for screw holes in sheet metal; reference book sheet. Am Mach 95:169, 171 My 14 '51

PRESS wireless, inc.
Press wireless gets approval for debt plan Ed & Pub 84:11 F 10 '51

PRESSED steel company, limited
Statement by the chairman. A. Pam. Economist 160:1344 Je 2 '51

PRESSES
Aircraft parts stretch-formed on conventional mechanical presses; Rohr aircraft corp., Chula Vista, Calif. B. F. Raynes. il Steel 129:76-7 Ag 27 '51
Aluminum cone clutch put in press line. il Am Mach 94:148 N 27 '50
Belt handling moves press blanks. E. B. Fassel. il Am Mach 95:146 Ap 16 '51
Big press; it is carrying American industry into a wholly new dimension. J. C. Perham. Barron's 31:7-8 Ag 20 '51

PRESSES—*Continued*

Counterbalances for press rams; reference book sheet. D. A. Rogers. diags Am Mach 95:139, 141 Je 25 '51

Experimental crank press. E. C. Seed and H. W. Swift. diags Inst Mech Eng Proc 163 (W.E.P. no 58):125-32; Discussion. 132-4 '50

Forming washing machine legs on a transfer type press. A. E. Sweet. il Mach 57:177-80 N '50

Improved Clearing press. il Engineer 191:331 Mr 9 '51

Iron-Hand press unloaders have jaw to fit the job. il diags Am Mach 95:142 Ap 30 '51

Multiple slide press easy to set up. W. P. Powers and A. Melnick. Steel 128:99 Ap 2 '51

1951 production preview. il diags Am Mach 95:235-53 Ja 22 '51

Open back inclinable press. il Automotive Ind 103:56+ D 1 '50; Mach 57:204-5 D '50

Optimum use of power presses. S. D. Brootzkoos. diags Tool Eng 26:48-52 Mr '51

Press-Rite open-back inclinable press. Mach 57:203 D '50

Shafts are easily dropped in Bliss underdriven presses. il Am Mach 94:139 O 30 '50; Mach 57:199 N '50

Small foot-operated press. il Engineer 192:30 Jl 6 '51

Transfer press positions work at high speed. J. M. Delfs. il diags Iron Age 167:99-102 Ap 26 '51

See also

Dies
Hydraulic presses
Printing presses
Punching machinery

Maintenance and repair

Inspection and maintenance of power presses; data sheet. diag Nat Safety N 63:39-40+ Ap '51

Safety devices

Design your dies for safety. F. Strasser. diags Am Mach 95:134 Jl 23 '51

Electronic press guard. il diag Engineer 192: 279-80 Ag 31 '51; Same. Metallurgia 44:151-2 S '51

Overload safety device for presses; Clearing machine corp. il Comp Air Mag 56:76 Mr '51

Press guards. Automobile Eng 41:170 My '51

Safety, the keynote in new Oldsmobile press set-up. R. E. Hansen. il diags Mach 57:137-43 Ag '51

PRESSURE

Calculating air pressure drop of heat exchangers. R. E. Shafer. il Machine Design 23:124 Ag '51

Catalytic reactions at high pressures and temperatures; decomposition of butanol-1 over an alumina-silicate catalyst investigated. C. M. Sliepcevich and G. G. Brown. bibliog flow sheet il Chem Eng Prog 46: 556-62 N '50

Change of free energy with pressure of the reaction, nepheline + albite = 2 jadeite. H. S. Yoder and C. E. Weir. bibliog Am J Sci 249:683-94 S '51

Effect of high pressures on the explosibility of mixtures of ethane, air, and carbon dioxide and of ethane, air, and nitrogen. R. E. Kennedy and others. bibliog 6pls U S Bur Mines Rep of Invest 4751:1-11 '50

Effect of internal pressure on stresses and strains in bolted-flanged connections. D. B. Wesstrom and S. E. Bergh. bibliog diags A S M E Trans 73:553-62; Discussion. 562-8 Jl '51

Effect of pressure in azeotropy. H. Skolnik. bibliog Ind & Eng Chem 43:172-6 Ja '51

Effect of pressure on the melting of several methyl siloxanes. P. W. Bridgman. diag J Chem Phys 19:203-7 F '51

Effect of pressure on thermal diffusion in gases. E. W. Becker. bibliog J Chem Phys 19:131-2 Ja '51

Effects of pressure and other variables on determinations of octane number. W. J. Levedahl. J Res Nat Bur Stand 45:148-53 Ag '50

High pressure metal-to-glass fitting. P. C. Davis, T. L. Gore and F. Kurata. il diag Ind & Eng Chem 43:1826-7 Ag '51

How to seal rotating shafts against high pressures. W. Coopey. diags Chem Eng 58:116-17 Jl '51

Interfacial tension at elevated pressure and temperature; interfacial properties of hydrocarbon-water systems. A. S. Michaels and E. A. Hauser. bibliog il J Phys & Colloid Chem 55:408-21 Mr '51

Interfiber stress and its transmission; measurement and theory of the contact area between fibers under pressure. R. B. Finch. bibliog il diags Textile Res J 21:375-92 Je '51

Lack of empirical knowledge hindering high pressure work; abstracts. C. O. Strother. Chem & Eng N 29:2378 Je 11 '51; Steel 128: 112 Je 11 '51; Chem Eng 58:260-1 Jl '51

Limiting negative pressure of acetic acid, benzene, aniline, carbon tetrachloride, and chloroform. L. J. Briggs. J Chem Phys 19: 970-2 Jl '51

Pressure drop in fluidization beds. O. P. Agarwal and J. A. Storrow. bibliog diag Chem & Ind p278-86 Ap 14 '51

Pressure drop through bubble caps. J. L. Huitt and R. L. Huntington. bibliog il diags Pet Refiner 30:131-4 Je; 111-18 Ag; 153-4 O '51

Pressure drop through porous media. M. Leva; L. E. Brownell. bibliog Chem Eng Prog 47:314-16 Je '51

Pressure drop through stacked spheres; effect of orientation. J. J. Martin, W. L. McCabe and C. C. Monrad. il diags Chem Eng Prog 47:91-4 F '51

Pressure-temperature relations in gas-filled (class III) thermometers. E. E. Modes. diag A S M E Trans 73:957-62 O '51

Pressures developed by viscous materials in the screw extrusion machine. W. T. Pigott. bibliog diag A S M E Trans 73:947-54; Discussion. 954-5 O '51

Pressures in a shallow rectangular bin. R. L. Moore and J. R. Shaw. diags Am Soc C E Proc 77[no 82]:1-13 Ag '51

Pressures in ounces per square inch; table; data sheet. Foundry 79:168 S '51

Properties of materials under superindustrial stresses. P. W. Bridgman. Machine Design 23:210+ Jl '51; Abstract. Iron Age 167:71 My 31 '51

Simplified direct method of pressure drop calculations for viscous fluids. C. A. Kershaw. Power Eng 55:78-80+ Ja '51

Some implications for geophysics of high-pressure phenomena. P. W. Bridgman. Geol Soc Bul 62:533-5 My '51

Spherical shells subjected to internal pressure and low temperatures. J. L. Walmsley. bibliog il diag Welding J 30:sup 153-67 Mr '51

Variations of tank pressure with transformer loading in sealed transformers. E. W. Tipton. Elec Eng 70:149 F '51

Versatile chart aids Δp calculations. J Happel and N. Epstein. Chem Eng 57:137-8 D '50

See also

Blood pressure
Compressed air
Compressibility
Compressors
Earth pressure
Equation of state
Gases, Compressed
Osmotic pressure
Phase rule and equilibrium
Spectrum—Pressure effect
Vacuum
Vapor pressure
Wind pressure

PRESSURE, Osmotic. See Osmotic pressure

PRESSURE cookers

Rating

Pressure saucepans. il Consumers Res Bul 26: 5-10 N '50

PRESSURE gages

Application of Bourdon tubes to pressure indicating devices. M. P. White. Instruments 23:1068-70 O '50

Calibration characteristics of subsurface pressure gages. R. V. Smith and others. bibliog Pet Eng 23:B7-12 Ja '51

Deformations and stresses in Bourdon tubes. R. A. Clark and E. Reissner. bibliog J Ap Phys 21:1340-1 D '50

Dynamic pressure-measuring system. il R Sci Instr 22:63 Ja '51

How to use bottles in constructing sensitive draft gages. L. Silverman. diags Chem Eng 57:134 D '50

PRESSURE gages—*Continued*

McLeod gauge with an electrical contact. C. Kenty. diag R Sci Instr 22:217-18 Mr '51

New peak pressure indicator. diag Automobile Eng 41:191 My '51

See also

Anemometers

Indicators (for internal combustion engines)

Manometers

Vacuum gages

PRESSURE measurement

Base pressure measurements. D. R. Chapman. bibliog J Aeronautical Sci 17:812-13 D '50

Design of a device for measurement of free-stream static pressure at supersonic speeds. M. V. Morkovin. diags Aeronautical Eng R 9:25-8 D '50

Development of a high-speed, multi-point indicator. J. C. Morrison. diags Engineer 191:178-80 F 9 '51

Differential-pressure instruments for improving refinery processing. W. Kaplan and D. J. Bellman. il diags Oil & Gas J 50:319+ S 20 '51

Dynamic flow-field measurement. A. Perone. il diags Aero Digest 62:50+ Je '51

Engine oil pressure. P. A. Binda. il diags Ry Mech & Elec Eng 125:49-52 My; 61-7 Je '51; Same abr. Diesel Power 29:58-64 Mr '51

Experimental investigation of supersonic lattice flow. J. E. O'Neill. il diag Aeronautical Eng R 10:28-32 Ja '51

Improved spreading apparatus for the measurement of film pressures. J. W. Y. Heynis and L. Maaskant. il diags J Phys & Colloid Chem 54:1222-7 N '50

Measurement of velocity and pressure of gases in rocket flames by spectroscopic methods. F. P. Bundy and others. il diags J Ap Phys 22:1069-77 Ag '51

Modern differential pressure transmitters; advantages over recording mercury manometers. R. H. Munch. il diag Ind & Eng Chem 43:sup63A-4A+ My '51

Novel method for the estimation of very low pressures. R. Gomer. il J Chem Phys 19:1072-3 Ag '51

Novel pressure-measuring method. diag Electronics 24:190+ Ja '51

Piezoelectric crystal as sensing elements of pressure, temperature, and humidity. E. A. Roberts and P. Goldsmith. il diags Elec Eng 70:776-80 S '51

Pressure losses of take-offs for extended-plenum duct systems. J. W. Holl and others. bibliog diags Heating-Piping 23:117-24 S '51

Pressure measurement in superflow. R. Bowers and others. bibliog diags Phys R 80:856-8 D 1 '50

Refinery instruments; what makes them tick? C. E. Shannahan. il diags Pet Processing 6:730-3 Jl '51

Simplified direct method of pressure drop calculations for viscous fluids. C. A. Kershaw. Power Eng 55:78-80+ Ja '51; Discussion. 55:55+ S '51

Some measurements of thermal transpiration. S. Chu Liang. J Ap Phys 22:148-53 F '51

Transmittal of pressure data from various remote locations. il diag Machine Design 23:100-1 Ja '51

See also

Manometers

Pressure gages

PRESSURE pattern flying. See Air navigation

PRESSURE regulators

Automatic pressure control; patent. diag Pet Processing 6:893 Ag '51

Design and operational characteristics of Cartesian manostats. R. Gilmont. bibliog diags Anal Chem 23:157-62 Ja '51

Elements of gas pressure regulators. R. C. Lisk. il diags Am Gas J 175:27-30 Ag '51

How to control gas supply pressures. J. M. Jones, jr. diag Pet Processing 6:633 Je '51

Laboratory pressure regulator. G. G. Lowry. diag J Chem Educ 28:535 O '51

Manostat gives close control of pressure in vacuum pan. A. W. Werry. diag Chem Eng 58:138 Ag '51

Save refrigeration condensing water with proper control. diags Power 94:100-1+ N '50

Why pressure regulators help domestic gas appliances. J. M. Pommersheim. diags Gas Age 108:31-4+ Jl 5 '51

See also

Barostats

PRESSURE vessels

Design trends in key industries; chemical industry. il diags Product Eng 22:107-8 My '51

Effect of fabrication processes on steels used in pressure vessels. S. S. Tör and others. il diag Welding J 30:sup446-50 S '51

First electric-welded high-pressure vessels ever fabricated complete 25 years of refining service. il Oil & Gas J 49:101 D 14 '50

Interpretive report, Fabrication division, Pressure vessel research committee. H. C. Boardman. diags Welding J 29:sup422-32 S '50; Discussion. 30:sup291-302 Je '51

Laboratory hydrostatic pressing chamber. L. R. McCreight. bibliog il diag Am Cer Soc Bul 30:127-9; Discussion. D. G. Bennett. 129 Ap 15 '51

Materials for fluorine control equipment. G. E. Zima and R. N. Doescher. il diags Metal Prog 59:660-3 My '51

Properties of materials under superindustrial stresses. P. W. Bridgman. Machine Design 23:210+ Jl '51

Steel for welded pressure vessels; requirements of new BSI specification. Chem Age (Lond) 63:565-6 O 21 '50

Strain aging of pressure vessel steels. H. Thielsch. bibliog(45 titles) Welding J 30:sup283-90 Je '51

Stress analysis of a hemispherical pressure vessel head under concentric line loads. I. Malkin. diags Franklin Inst J 251:247-61 F '51

Supports for vertical pressure vessels. F. E. Wolosewick. bibliog diags Pet Refiner 30:137-40 Jl; 101-8 Ag; 143-5 O; 151-3 D '51

See also

Air compressors

Air receivers

Ammonia compressors

Autoclaves

Boilers

Caissons

Dust collectors

Evaporators

Gas, Natural—Storage

Gas holders

Design

All-welded pressure vessels; abstract. A. Flindle. diag Product Eng 22:151 Ja '51

Design closed vessels to withstand internal explosions. E. W. Cousins and P. E. Cotton. diags Chem Eng 58:133-7 Ag '51

Design procedure for integral flanges with tapered hubs. W. F. Jaep. diag A S M E Trans 73:569-71; Discussion. 572-4 Jl '51

Effect of internal pressure on stresses and strains in bolted-flanged connections. D. B. Wesstrom and S. E. Bergh. bibliog diags A S M E Trans 73:553-62; Discussion. 562-8 Jl '51

Formula for pipe thickness. W. J. Buxton and W. R. Burrows. bibliog A S M E Trans 73:575-81; Discussion. 581-7 Jl '51

Higher design stresses for pressure vessels. P. R. Cassidy. Welding J 30:sup 123-4 Mr '51

Pressure vessel design effects of pressurizing. R. E. Cecil. il diags Welding J 30:424-34 My '51

Stresses in large horizontal cylindrical pressure vessels on two saddle supports. L. P. Zick. bibliog il diags Welding J 30:sup435-45 S '51

Manufacture

Aircomatic welding refinery components and pressure vessels. S. A. Yaczko. il diags Welding J 30:903-7 O '51

General procedures for fabrication of pressure vessels. S. V. Williams. Welding J 30:26-32 Ja '51

King size welding at Foster Wheeler; illustrations with text. Welding J 30:931-2 O '51

Multiple layer submerged-arc welding of pressure vessels. L. C. Stiles and D. H. Curry il Welding J 29:1065-8 D '50

Plug welding shortcuts jacketed vessel production. il Steel 127:89 N 6 '50

Stainless orange peel holds nitrogen; illustrations with text. Am Mach 95:129 Je 25 '51

PRESSURE vessels—Manufacture—*Continued*

Steel ball holds nitrogen at 5500 psi.; Nitro-Sphere for servicing AF rocket-powered craft. il Aviation W 54:28+ Mr 26 '51; Steel 128:82 Mr 26 '51; Metal Prog 59:516-17 Ap '51; Mech Eng 73:374, 415 My '51; Mach 57:187 Je '51; Welding J 30:538-9 Je '51

Welded spheres solve liquid nitrogen storage. J. A. Toland. il Iron Age 167:86-8 Mr 29 '51

Standards

General rules for selection of specifications for ferritic plates and tubular products for boilers and pressure vessels constructed under ASME codes. Mech Eng 73:249-52 Mr '51

Testing

Pressure vessel design effects of pressurizing. R. E. Cecil. il diags Welding J 30:424-34 My '51

Pulsating-pressure testing plant for pressure vessels. il diag Engineering 170:384-5 N 17 '50

Spherical shells subjected to internal pressure and low temperatures. J. L. Walmsley. bibliog il diag Welding J 30:sup 153-67 Mr '51

PRESTRESSED concrete. See Concrete—Prestressing

PRESUMPTION of survivorship. See Survivorship, Presumption of

PRETZELS

If its volume you want; continuous straight-line production of Halter's pretzels. J. L. Dooley. il Food Eng 23:56-7+ Jl '51

PREVENTIVE war. See War

PRICE cutting

Cutting off price-cutters; the coming battle. G. H. Weil. Ptr Ink 236:46+ Ag 17 '51

Loss-leader selling, the enemy of successful retailing. Mrs R. M. Kiefer. J Retailing 26:158-61 Winter '50

Price war in New York, and points west. il Bsns W p23 Je 9 '51

Underselling ad claims make retailers boil. R. B. McIntyre. Ed & Pub 84:16 Je 23 '51

See also

Gasoline—Price cutting

Price fixing, Resale

PRICE discrimination

Champion case; what is competition? H. L. Hansen and M. N. Smith. Harvard Bsns R 29:89-103 My '51

Confusion is outcome of FTC hearings on spark plug discrimination charge. Nat Pet N 42:54 D 13 '50

FTC faces ticklish decision in spark plug case. Automotive Ind 104:24 Ja 1 '51

Patman law

Detroit case ruling backs good faith, has no joker, oil counsel advises. Nat Pet N 43:26 Ja 17 '51

Doing business, Robinson-Patman act; Sun cosmetic shoppe, inc. vs. Elizabeth Arden sales corp. Credit & Fin Management 52:23 D '50

Legal notes; decision of Supreme court in Standard oil co. case. Credit & Fin Management 53:30 Jl '51

Legal price discrimination; Supreme court upsets FTC ruling; good faith clause. Bsns W p26 Ja 13 '51

New try on delivered prices; proposed legislation. Bsns W p26 Jl 28 '51

Price discrimination allowed in oil case. Oil Paint & Drug Rep 159:3+ Ja 15 '51

Price reduction made in good faith approved in Supreme court's FTC-Detroit case decision. Nat Pet N 43:21-2 Ja 10 '51

Senators driving for law to protect Supreme court Detroit case ruling. Nat Pet N 43:15 Ja 31 '51

Some reflections on discrimination in sales transactions. D. L. Miller. Credit & Fin Management 52:4-6+ D '50

PRICE fixing

Antitrust loophole; agreements to prevent a price rise are legal; Kiefer-Stewart case. Bsns W p72-3 D 9 '50

Supreme court rules on gypsum pricing. Eng N 145:26 D 7 '50

See also

Gasoline—Price fixing

PRICE fixing, Resale

Body blow to fair trade law; Supreme court decision in Schwegmann case. il Bsns W p25 My 26 '51

Cutting off price-cutters, the coming battle. G. H. Weil. Ptr Ink 236:46+ Ag 17 '51

Don't let price copy obscure brand linage. T. S. Irvin. Ed & Pub 84:54 Je 2 '51

Fair trade; actions before Supreme court may limit its sway. E. M. Haller. Barron's 31:7-8 Ap 16 '51

Fair trade fights for life. Bsns W p99-100+ Mr 24 '51

Fair trade fracas. il Chem W 69:35-6 O 6 '51

Fair trade support grows. Mod Ind 22:73 Jl '51

Fair trade supporters to ask Congress to tighten US law. Oil Paint & Drug Rep 159:4+ My 28 '51

Fair trade victory; injunction against Macy's in GE appliances case. Bsns W p56-8 Ja 27 '51

Fair trade; what's it to you? Mod Ind 22:62-5 S '51

Fair traders seek way out. Bsns W p44 Je 2 '51

Fair trade's legacy. Bsns W p 122 Jl 7; 106 Jl 14; 99 Jl 21 '51

High court calls maximum resale price-fixing illegal; Kiefer-Stewart case. Oil Paint & Drug Rep 159:3 Ja 8 '51

Man who beat fair trade; John Schwegmann, New Orleans supermarket operator. il Bsns W p 120-1 Je 9 '51

Manufacturers watch for retailer reaction as Macy's slashes fair trade items six per cent. N. Keine. Ptr Ink 235:67+ Je 1 '51

Price setting upset; Supreme court decision hits fair trade pricing. il Chem W 68:27-8 Je 2 '51

Reason for fair-trade laws and the possibilities for enacting a new federal fair trade enabling act. Ptr Ink 235:30-2 Je 1 '51

State trends since Schwegmann. G. H. Weil. Ptr Ink 236:48 S 28 '51

Supreme court, Macy loose N.Y. price war. R. B. McIntyre. Ed & Pub 84:58 Je 2 '51

Test for fair trade; are nonsigner clauses in state laws valid? Bsns W p46 F 10 '51

What to do now under fair trade. I. W. Digges. Ptr Ink 235:29-30 Je 1 '51

PRICE policies

Agreement ends pricing suit against steel. Eng N 146:66-7 Je 28 '51

Avoid violation of government regulations; watch your selling under price control. A. C. Kiechlin. Inland Ptr 126:37-8 Ja '51

Champion case; what is competition? H. L. Hansen and M. N. Smith. Harvard Bsns R 29:89-103 My '51

Development and pricing of a new product; Kelley Island acoustical tile. J. O. Kamm. J Marketing 15:343-7 Ja '51

Indiana Standard council cites shift in court definition of conspiracy. L. E. Castle. Nat Pet N 43:31+ F 28 '51

Markup ceilings. Bsns W p23 F 10 '51

More freedom for steel pricing. Steel 128:47-8 Je 25 '51

Preparing for price control; abstract. Management R 39:665-6 N '50

Present status of geographic pricing. D. F. Pegrum. J Marketing 15:425-35 Ap '51

Pricing policies for new products. J. Dean. Harvard Bsns R 28:45-53 N '50

Steel settles with FTC on pricing. Bsns W p20 Je 23 '51

Ten ways distributors rate your pricing policies. L. H. Brendel. Sales Management 67:136+ O 15 '51

Time has come for suppliers selling below jobber price to explain why. L. Castle. Nat Pet N 43:25-6 Ag 29 '51

Try the realistic method of pricing if profits are going down. M. D. Binford. Inland Ptr 127:53-4 Ap '51

When should you switch from list to net prices? W. A. Marsteller. Ind Marketing 36:56+ Ag '51

Why Gotham is bringing out a low-priced line in a rising market. V. J. Dallaire. Ptr Ink 236:32 Ag 24 '51

Why Personna is cutting its price in half; doubled ad budget will help capture the broad, low-priced market. M. Beuick. il Ptr Ink 234:31-3 Ja 26 '51

PRICE policies—*Continued*

Your right to lower your prices. S. D. Rose. Harvard Bsns R 29:90-8 S '51

See also

Discount, Trade
Price fixing, Resale
Trade-in policies

PRICE policies, Retail

Retail prices patterned after utility rates. J. A. Bliss. J Marketing 15:348-53 Ja '51

PRICE quoting. See Advertising copy—Price quoting

PRICE stabilization, Office of. See United States—Price stabilization, Office of

PRICES

Present status of geographic pricing. D. F. Pegrum. J Marketing 15:425-35 Ap '51

See also

Advertising—Rates
Cost of living
Electric rates
Gas rates
Index numbers (economics)
Money
Price fixing
Railroads—Rates
Stocks—Price indexes and averages
Wages

also subdivision Prices under various subjects, e.g.

Farm produce—Prices
Stocks—Prices

Economic aspects

Justice and the price system. E. W. Eckard. Comm & Fin Chr 172:2095 N 30 '50

Other side of the coin; there are powerful deterrents to further price rises. R. M. Bleiberg. Barron's 31:9-10 F 26 '51

Price system and national income and product. H. Oshima. bibliog R Econ & Stat 33:248-54 Ag '51

Relations between prices, consumption, and production. K. A. Fox. Am Stat Assn J 46:323-33 bibliog(p332-3) S '51

Why prices will keep on rising. Bsns W p 19-20 Mr 24 '51

See also

Inflation (finance)

Law

Your right to lower your prices. S. D. Rose. Harvard Bsns R 29:90-8 S 1 '50

Regulation

Another year of price controls in prospect. Bsns W p26 My 26 '51

Answers to pricing problems. Bsns W p 128 Ag 18 '51

Arms and the price system. Fortune 42:80-3+ D '50

Avoid violation of government regulations; watch your selling under price control. A. C. Kiechlin. Inland Ptr 126:37-8 Ja '51

Business week reports to executives on how to live with controls. Bsns W p77-8+ F 24 '51 (reprints 20c)

Case for immediate wage-price controls. E. A. Krauss. il Mag of Wall St 87:312-14+ D 30 '50

Case study in controls; automobile industry. Bsns W p22 D 23 '50

Ceiling pitfalls; payments made in violation of rules cannot be deducted. Bsns W p44+ Ap 21 '51

CPR 22; prices via costs. S. Nakasian. Chem W 68:17-22 Je 23 '51

Ceiling price regulations, 2-54. Mo Labor R 72:410, 542-3, 663-4; 73:58-9, 163-4 Ap-Ag '51

Ceilings set for station services; OPS rolls back used drum prices. Nat Pet N 43:27 My 16 '51

Checklist of defense regulation; material and price orders. Bsns W p 103-4 Mr 31 '51 [cont weekly]

Chemical pricing order in effect; other OPS actions. Oil Paint & Drug Rep 160:3+ Ag 6 '51

Confused, indignant, and bereft; manufacturers near deadline. Bsns W p 19-20 My 19 '51

Controls are trying to check this rise; meat prices. Bsns W p26 F 24 '51

Conversion from oil to coal; OPS aim in hoisting ceiling price of oil. Bsns W p 135 Je 9 '51

Current price controls threaten disastrous import decline. A. M. Strong. Comm & Fin Chr 173:918 Mr 1 '51

DiSalle's Sunday punch. Bsns W p25 Mr 31 '51

Does CPR 22 restrict sales and advertising expenditures? Sales Management 67:46+ Jl 1 '51

Early price control patterns. Bsns W p78 D 23 '50

ESA plans compulsory price freeze. Nat Pet N 43:17-18 Ja 24 '51

Economic unsoundness of price controls. A. Valentine. Comm & Fin Chr 173:1754+ Ap 26 '51

Emergency price controls and their effect on marketing. G. Ackley. J Marketing 16:183-6 O '51

Fallacies of price and credit controls. E. A. Dauer. Comm & Fin Chr 173:1023 Mr 8 '51

Fallacies of price control. D. Paarlberg. Comm & Fin Chr 173:814+ F 22 '51

Few Midwest suppliers heed rollback order. G. Beaudet. Iron Age 167:78-9 Ja 11 '51

Food markups set. Bsns W p20 Mr 31 '51

Food prices won't change much; OPS' stopgap controls. Bsns W p 106-7 Ap 7 '51

Frozen ferns; ceilings allow no seasonal variations in prices paid to pickers. Bsns W p32 Mr 24 '51

Garment switch; industry asks for price controls. Bsns W p62 Ja 20 '51

Gas utility rates exempt from price freeze. Gas Age 107:46+ F 15 '51

How CPR 22 affects you. Paper Tr J 132:12 My 4 '51

How do you figure prices? questions and answers on General manufacturers regulation CPR-22. Bsns W p 144 My 19 '51

How to comply with CPR 34. L. D. Farrar. Adv Agency 44:61+ S '51

Index control for wages; price control on items in cost-of-living index. Bsns W p25 D 30 '50

Industry takes disapproval of pricing amendment to Senate. Chem & Eng N 29:3992 S 24 '51

Inflation and price controls in a war-peace economy. J. Hirsch. Comm & Fin Chr 173:1231+ Mr 22 '51

Letting prices spur production. Bsns W p21 F 3 '51

Mail order catalogs caught by voluntary price freeze. Bsns W p21 Ja 20 '51

Mandatory ESA order freezes oil, TBA prices; revisions sought to adjust unfair ceilings. Nat Pet N 43:13-14 Ja 31 '50

Manufacturers unfrozen; General manufacturers' regulation designed as stopgap. Bsns W p 134 Ap 28 '51

Markup ceilings. Bsns W p23 F 10 '51

Meat controls test DiSalle. Bsns W p21 My 5 '51

Meat; the battle over prices. il Bsns W p 19-20 My 12 '51

New price law; boon or bane? Chem W 69:12 Ag 11 '51

New price regulation directs companies to absorb ad and sales cost increases. R. Y. Giles. Ptr Ink 235:81+ My 4 '51

New slant in OPS ceilings. Bsns W p23 O 6 '51

Now; painless price controls. Bsns W p 111-12 Ag 18 '51

OPS ceiling price regulation for imported materials issued. Oil Paint & Drug Rep 159:3 My 7 '51

OPS eases up. Bsns W p 124 Je 2 '51

OPS interpretations covering increases in transportation costs. Concrete 59:36 Je '51

OPS jigsaw pieces falling into place. Bsns W p25 Mr 10 '51

OPS plans profits squeeze. Bsns W p27 Je 9 '51

OPS to consider price hikes covering increases in advertising and sales cost. R. Y. Giles. Ptr Ink 236:28 Ag 10 '51

OPS to ease up. Bsns W p 122 Jl 14 '51

Order may not fit; CPR-22X. Bsns W p24 S 8 '51

Our crumbling price control. A. L. Gitlow. Comm & Fin Chr 173:1142 Mr 15 '51

Parity outrage. Fortune 43:77-9 Ap '51

Percentages to rule prices; OPS retail margins order. Bsns W p24 Mr 3 '51

Price and wage freeze; aims and limitations. Nat City Bank p 13-16 F '51

Price control. Barron's 30:1 D 18 '50

Price control; excerpts from the regulations affecting accounts. J Account 91:447-8 Mr '51

PRICES—Regulation—*Continued*

Price control, first round. K. Bloch. Barron's 30:5-6 D 25 '50

Price control in a less-than-all-out-war situation. C. F. Phillips. J Marketing 16:187-91 O '51

Price control is justified. M. V. DiSalle. Comm & Fin Chr 173:1542 Ap 12 '51

Price control staff set up by DiSalle. Oil Paint & Drug Rep 159:3+ Ja 29 '51

Price controllers get tougher; with graphs showing general price trends and trends for selected commodities during 1950. Bsns W p 19-21 Ja 27 '51

Price controls are frozen, too. Bsns W p24 Jl 7 '51

Price controls begin. Nat City Bank p2-4 Ja '51

Price controls blanket almost all industry. Bsns W p60-1 My 26 '51

Price controls; Congress should take the albatross off industry's neck. Barron's 31:1 Je 25 '51

Price controls; how adequate are the present federal orders? Rayon 32:36+ Mr '51

Price controls vs. inflation? A. L. Gitlow. Comm & Fin Chr 172:1992 N 23 '50

Price curbs? Bsns W p34 O 28 '50

Price deadline put off for manufacturers' ceilings. Bsns W p 110 Je 9 '51

Price lid balks expansion. Chem Ind W 68:14-15 My 5 '51

Price order for machines. Bsns W p 144 My 5 '51

Price regulation affects materials and equipment. Eng N 146:23-4 My 3 '51

Price rollbacks ahead? J. C. Clifford. Mag of Wall St 88:186-7+ My 19 '51

Price rule enforcement aimed at basic raw materials levels. Oil Paint & Drug Rep 159:3+ F 5 '51

Price stability, an urgent and difficult task. R. Blough. Comm & Fin Chr 172:2177+ D 7 '50

Retailers suspect a hook; joy over OPS margin system fades. Bsns W p98+ Mr 10 '51

Selective price-wage freeze; new business-market factor. E. A. Krauss. Mag of Wall St 87:540-2 F 24 '51

Stopgap wage-price frost falls on industry. G. Hardy. Iron Age 167:128-31 F 1 '51

Strategy of direct control in economic mobilization. J. K. Galbraith. R Econ & Stat 33:12-17 F '51

Strategy of limited control. J. K. Galbraith. Fortune 43:66-7 Mr '51

Textile ceilings. Bsns W p 146 My 19 '51

Thawing frozen prices. Fortune 43:17-18 Mr '51

Truman signs defense act allowing rollbacks. Oil Paint & Drug Rep 160:3+ Ag 6 '51

Wage and price freezes and thaws. N. C. Rockwood. Rock Prod 54:77+ Ap '51

Wage-price control unnecessary under wise fiscal policies. A. H. Hansen. Comm & Fin Chr 173:1645 Ap 19 '51

Wage-price pegs put brakes on rising construction costs. Eng N 146:23 F 1 '51

Wage-price policy and inflation; with tabulations. J. Backman. Comm & Fin Chr 173:914+ Mr 1 '51

What have we learned about price control? L. C. Lockley. J Retailing 27:19-21+ Spring '51

What is a price? Barron's 31:5 Ja 22 '51

What the war taught us about price controls. J. A. Perkins. il Dun's R 59:16-18+ Ja '51

What's ahead on price control. Bsns W p24-5 Ap 7 '51

Wrong war; price control, not credit restraint, should go. Barron's 31:1 Je 11 '51

X plus Y equals Z; price formula OPS prescribes for manufacturers. J. C. Perham. Barron's 31:5 Ap 23 '51

See also

Farm produce—Prices

United States—Price stabilization, Office of

Germany

Fixing of cost prices; an experiment of World war II. A. Schweitzer. bibliog J Bsns 23:219-37 O '50

Great Britain

Resort to price control. Economist 161:299-301 Ag 4 '51

Right road for prices. Economist 160:1485-7 Je 23 '51

Mexico

Bureau of price control established. For Comm W 43:16 My 14 '51

Russia

Price system in socialized agriculture. V. Katkoff. J Marketing 16:43-50 Jl '51

Stabilization

Price-level stabilization and full employment as objectives of monetary policy. D. A. Fergusson. J Bsns 24:220-31 Jl '51

Statistics

Consumers' price index, 1945-1950; tabulation. Steel 128:141 Ja 1 '51

Effects of outlet type and location on price; revision of Consumers' price index. R. Rosakrans. Mo Labor R 73:63-7 Jl '51

Explanatory notes on the tables on unemployment and employment, consumer prices, wages and hours of work [tabulations cont monthly]. Int Labour R 63:79-113 Ja '51

Interim adjustment of consumers' price index. D. P. Rothwell. Mo Labor R 72:421-9 Ap '51

Price developments in 1950; with figures for other years. Survey of Cur Bsns 31:10-12 F '51

Price movements in two months following GCPR. L. J. Mack. Mo Labor R 72:540-2 My '51

Prices and cost of living. Published in Monthly labor review

Retail price rises lag far behind wholesale. Bsns W p44+ D 16 '50

Retail prices in certain countries in Oct. 1949. Int Labour R 63:328-38 Mr '51

Retail prices in certain countries in Oct. 1950. Int Labour R 63:723-32 Je '51

See also

Index numbers (economics)

Great Britain

Problem of prices. Economist 159:700-1 N 4 '50

Prospect for prices. Economist 160:1454-6 Je 16 '51

Russia

Russia cuts some prices. il Bsns W p24 Mr 10 '51

United States

Aspects of recent price changes. Survey of Cur Bsns 31:8-10 Ap '51

Current market quotations; chemicals and related materials. Published in weekly numbers of Oil, paint and drug reporter

Price movements during a year of Korean hostilities. L. J. Mack. Mo Labor R 73:141-3 Ag '51

Soft goods lead in decade of inflation; with graph showing price trends for hard goods, soft goods and services, 1929-1950. Bsns W p93 Mr 3 '51

Supply and price situation at the beginning of 1951. Fed Res Bul 37:1-12 Ja '51

PRICES, Retail

See also

Price policies, Retail

PRICES, Wholesale

Commodities slide but metals hold like rocks. Bsns W p 156-7 S 22 '51

Commodity price movements. Nat City Bank p 100-1 S '51

Commodity price toboggan. Bsns W p 108 S 1 '51

Commodity prices high or low? J. D. C. Weldon. Mag of Wall St 88:489-91+ Ag 11 '51

Wholesale commodity price outlook. H. Downward. Comm & Fin Chr 174:863 S 6 '51

Statistics

Aspects of recent price changes. Survey of Cur Bsns 31:8-10 Ap '51

Cautious commodity markets; with table. Economist 161:528-9 S 1 '51

Indexes of wholesale prices. Published in Monthly labor review

PRICES, Wholesale—Statistics—*Continued*

Price developments in 1950; with figures for other years. Survey of Cur Bsns 31:10-12 F '51

Price movements in principal countries; wholesale prices, all commodities, yearly 1926, 1937-1949 and monthly Nov. 1949-Nov. 1950. Fed Res Bul 37:118 Ja '51 [cont monthly]

Retail price rises lag far behind wholesale. Bsns W p44+ D 16 '50

Wholesale price indexes, 1945-1950; tabulation. Steel 128:141 Ja 1 '51

Wholesale prices, groups of commodities in United States, Canada, United Kingdom and Netherlands; yearly 1926, 1937-1949 and monthly Nov. 1949-Nov. 1950. Fed Res Bul 37:118 Ja '51 [cont monthly]

Wholesale prices, 1949; including index numbers of 900 different commodities. U S Bur Labor Statistics Bul 1007:1-60; pa 30c Supt. of doc. '51

Great Britain

Higher prices and larger sales; with tabulation of wholesale prices and retail sales, Sept. 1949-Oct. 1950. Economist 159:836 N 18 '50

United States

Wholesale prices, by groups of commodities, yearly 1929-1949, monthly Nov. 1949-Nov. 1950 and weekly Nov. 7-Dec. 26, 1950. Fed Res Bul 37:89 Ja '51 [cont monthly]

PRIESTLEY medal

Top chemical abstractor receives top chemical award; E. J. Crane. Chem & Eng N 29:4272 O 15 '51

PRIMAQUINE

Malaria cure? Sci Am 185:36 O '51

Primaquine proof. Chem W 69:28 S 8 '51

PRIME movers. See Diesel engines; Gas turbines; Internal combustion engines; Steam engines; Steam turbines

PRINCE RUPERT, British Columbia

City of Prince Rupert. T. M. Fortune. il Pulp & Pa of Can 52:125-6 Je '51

PRINTED circuits. See Electric circuits—Printed circuits

PRINTERS

1951 album of presidents. Inland Ptr 127:62-7 Ag '51

Tribute to achievement; district representatives named to select recipient of the Inland Printer Oscar. pors Inland Ptr 127:60-1 Ag '51

Union wages and hours; printing industry, July 1, 1950. J. F. Laciskey. U S Bur Labor Statistics Bul 1018:1-33; pa 20c Supt. of doc. '51; Excerpts. Mo Labor R 72:167-70 F '51

Wage chronology; Chicago printing, 1939-50. J. P. Corkery. Mo Labor R 73:49-56 Jl '51

Wage chronology no. 15; New York City printing, 1939-50. J. P. Corkery. Mo Labor R 72:555-61 My '51

See also

Bentley, William
Goudy, Frederick William
Kibbee, Wallace

also International association of printing house craftsmen; International typographic composition association; International typographical union

PRINTERS' clubs

New England clubs play major role in craftsmen's accomplishments. P. Long. Inland Ptr 127:58-9+ Ag '51

PRINTERS' rollers. See Rollers, Printers'

PRINTING

Introduction to printing methods and paper. R. A. Day. Paper Tr J 131:316+ N 30 '50

See also

Book industry and trade
Calendars
Covers (printing)
Engravings—Printing
Forms and blanks, Business—Printing
Ink
Letterheads
Newspapers—Printing
Newsprint paper
Packaging materials—Printing
Paper
Paper boxes—Printing
Photography
Photomechanical processes
Posters
Printers
Printing offices
Printing presses
Printing trade
Proofreading
Publishing
Rotogravure
Silk screen printing
Stereotyping
Textile printing

Design

But is it typography? L. B. Siegfried. Inland Ptr 126:37 F '51

Important role of the vertical rule in design. M. McGee. diags Inland Ptr 126:66 O '50

Printing for commerce; 1951 exhibit emphasizes design. R. Savery. il Inland Ptr 126:36-7 Mr '51

Dictionaries

Bookman's glossary. 3d ed rev & enl 198p $2.50 R. R. Bowker co, 62 W. 45th st, New York 19 '51

Exhibitions

Kurt Volk, famous New York typographer; printing progress through eight centuries is shown in permanent exhibition at his commercial shop. il Inland Ptr 126:45-8 N '50

Historiography

Printing historians lacked technical training. J. S. Thompson. Inland Ptr 127:34 My '51

History

Angles in case of Gutenberg versus Coster. J. S. Thompson. Inland Ptr 126:70 D '50

History of graphic arts obscured because printers deliberately mystified their work. J. S. Thompson. Inland Ptr 126:44 N '50

Kurt Volk, famous New York typographer; printing progress through eight centuries is shown in permanent exhibition at his commercial shop. il Inland Ptr 126:45-8 N '50

Thompson builds Gutenberg mold and disputes movable type theory. G. M. Todd. Ed & Pub 83:51 D 9 '50

Prices

See Printing trade—Rates

Prize contests

Blotter contest winners chosen. il Inland Ptr 127:59-61 S '51

First offset lithography awards exhibit covers diversified uses. Inland Ptr 126:45-6 Mr '51

Salute to the winners! il Inland Ptr 127:70-1 Je '51

Winners of the Inland Printer letterhead contest. Inland Ptr 126:59-60 F '51

Purchasing

Help for a young agency head; printer is best friend. R. Hostetter. Adv Agency 44:77+ Ja '51

How to get your money's worth from the printer. J. D. Samter. Ptr Ink 233:41-3 N 10 '50

Salesmen's corner; printing buyer for an advertising agency. F. Rundell. Inland Ptr 126:74-6 O '50

Specimens

Specimen review. J. L. Frazier. Published in monthly numbers of Inland printer

PRINTING, Offset

Answer in the book. C. F. King. Inland Ptr 126:67-9 F '51

Deep-etch coatings cracking during periods of high humidity. Inland Ptr 127:67 S '51

Dry offset. Inland Ptr 127:78 Ap '51

Instruments are made to be used. C. F. King. Inland Ptr 126:79-82 O '50

Lithography and contemporary color reproduction by offset. J. T. Morgan, jr. il Inland Ptr 127:37-9+ S '51

Measuring rate of ink penetration. C. F. King. Inland Ptr 126:61-3 N '50

New York letterpress printers try offset to develop combination plant. R. Savery. il Inland Ptr 127:45-7 Ag '51

Offset; questions and answers. C. F. King. Inland Ptr 126:42-3 Ja '51 [cont monthly]

Offset racing-amusement daily has 20-minute production schedule. A. M. Widem. Ed & Pub 84:52 Ja 13 '51

Offset weekly makes friends and money. Ed & Pub 83:20 N 18 '50

PRINTING, Offset—*Continued*

Some little case histories; importance of little things. C. F. King. Inland Ptr 127:37-9 My; 53-5 Je '51

Twelve advantages of dry offset method and problems the process presents. O. E. Freedman. Inland Ptr 126:67-9 D '50

Two Canada weeklies use offset process. Ed & Pub 84:52 Ja 13 '51

Water as substitute for alcohol. C. F. King. Inland Ptr 126:41-3 Mr '51

What agencies should know about lithography. H. C. Latimer. diags Adv Agency 43:68+ N; 72+ D '50; 44:76-7+ Ja '51

PRINTING, Practical

International printing craftsmen convene; consider industry trends and future. Inland Ptr 126:47-9 O '50

See also

Advertising cutouts
Color printing
Ink
Letterheads
Newspapers—Printing
Paper—Printing properties
Printing plates
Printing presses
Printing trade
Proofreading
Stereotyping
Type and type founding
Typesetting

Copy preparation

How copyfitting pays off at Popular Mechanics plant. J. Dalen. il Inland Ptr 126:43-4 Ja '51

Estimates

Buyer complains that job estimates are shoddy, incomplete, and poorly organized. L. J. Willy. Inland Ptr 126:41-2 N '50

Five danger spots in estimating. M. J. Browning. Inland Ptr 127:40-1 Jl '51

Standards for estimating ink coverage. E. St John. Inland Ptr 126:49-50 F '51

Job work

Employers much divided on holding and storing type forms. P. R. Russell. Inland Ptr 127:44-5 S '51

Presswork

Careful makeready pays off. J. Kovec. Inland Ptr 127:37 Jl '51

Don't know and not tell. J. Kovec. Inland Ptr 126:54 N '50

High precision presswork result of care. E. St John. il Inland Ptr 127:30-2 Jl '51

How to correct sheet wrinkles in pressroom. E. St John. Inland Ptr 127:46-7 S '51

Lithographic technical foundation report on acidity of fountain. il Inland Ptr 127:41 My '51

Minneapolis printer adopts premakeready to keep his presses rolling along. H. Annis. il Inland Ptr 126:39-42 O '50

Pressroom. E. St John. Published in monthly numbers of Inland printer

Pressroom speaks up; about color, newsprint, cuts and stereos. P. Tanner. Ed & Pub 84:64 Mr 10 '51

Sandpaper effect from spray. E. St John. Inland Ptr 127:81 Ag '51

Some more about premakeready. J. Kovec. Inland Ptr 126:58 Mr '51

Wrinkle loses the round. J. Kovec. Inland Ptr 126:44 D '50

See also

Rollers, Printers'

Ruling

How to make a panel of separate rules. H. E. Jackson. diag Inland Ptr 126:76 O '50

Study and teaching

Saskatchewan training plan solves printer shortage. E. L. Pulford. Inland Ptr 126:39-40 N '50

Style manuals

American institute of physics style manual. Opt Soc Am J 41:567-96 S '51

Preparing technical material for publication; a manual for authors of college and station publications. L. A. Rose and others. bibliog Ill U Eng Exp Sta Circ 62:1-39 '51 (pa 60c)

Style book of the New York times. R. E. Garst, ed. rev ed 102p New York times, Times square, New York 18 '51 ($1)

PRINTING, Public

Conference in Washington on defense problems of industry, April 30. Inland Ptr 127:67 Jl '51

PRINTING associations

See also

International typographic composition association
Lithographers national association

PRINTING house craftsmen, International association of. See International association of printing house craftsmen

PRINTING industry of America

Annual convention, 64th, Chicago, Sept. 18-22. Inland Ptr 126:43-6 O '50

PRINTING ink. See Ink

PRINTING machinery

Circuit printers for flat and cylindrical surfaces. il Electronics 24:178+ Ag '51; Same. Tv Eng 2:8 Ag '51; Same cond. Instruments 24:898+ Ag '51

Contemporary design; new equipment for the printing industry. il diags Machine Design 23:122-30 Ja '51

See also

Justigraph
Phototypesetting machines
Rollers, Printers'
Textile printing machines
Typewriters (composing machines)
Whiteprint machines

Exhibitions

ATF show exhibit capitalizes on some new opportunities. F. C. Gerhart. il Ind Marketing 36:36-7 Je '51

Printing and allied machinery at the International printing and paper fair, Düsseldorf, May 26-June 10. D. Eyre. il Engineering 172:37-9 Jl 13 '51

PRINTING machinery industry

What's a cartel? R. Hoe & co. faces antitrust suit. Bsns W p 159 My 26 '51

PRINTING offices

Busy Butler; teaching Northwestern's magazine production course while operating Wayside press. H. D. Bump. il Inland Ptr 127:40-3 S '51

Art departments

Would your plant benefit by adding art department? advantages outlined. P. R. Russell. Inland Ptr 127:36-7 Jl '51

Cleanliness

Order brings profit, disorder, loss. R. Savery. Inland Ptr 127:37-8 Ap '51

Employees

Hats off to good workers; Jensen printing company bulletin board. W. J. Henretty. Personnel J 29:333-5 F '51; Same. il Inland Ptr 127:47+ Jl '51

Equipment

Instruments are made to be used. C. F. King. Inland Ptr 126:79-82 O '50

Two hobbies turn into big business; Kalmbach publishing co. G. Parker. il Inland Ptr 127:50-2 Ag '51

What's new in equipment and supplies? il Published in monthly numbers of Inland printer

Layout

Plans for new building. E. St John. Inland Ptr 127:73 Je '51

Lighting

Light; vital link between mechanical and human elements. G. Eaton. il Inland Ptr 126:44-6+ F '51

Management

Job tickets, properly made out, should be easily accessible in each plant department. Inland Ptr 127:53 Ag '51

One Chicago printing plant makes human relations pay. Inland Ptr 126:35-6 Ja '51

Printers can insure profits by controlling efficiency. Inland Ptr 127:41+ Jl '51

Production around the clock no guarantee of minimum trouble and maximum profit. R. Savery. Inland Ptr 126:41-4 D '50

Profit and quality are dependent on smooth departmental co-operation. G. H. Petty. Inland Ptr 127:27-9 Jl '51

PRINTING offices—Management—*Continued*
Some little case histories; importance of little things. C. F. King. Inland Ptr 127:37-9 My; 53-5 Je '51

Schedules

Playbill of Broadway show business is study in production and management. R. Savery. il Inland Ptr 127:39-41 Ap '51

Standing type forms

Employers much divided on holding and storing type forms. P. R. Russell. Inland Ptr 127:44-5 S '51

PRINTING on metal
Matthews coil and sheet printer. il Blast F & Steel Pl 39:467 Ap '51

PRINTING on plastics
Graphic laminate door liner in lid of self-service frozen food cabinets. il Mod Plastics 28:162 Ag '51
Printing on plastic cards. E. St John. Inland Ptr 127:58 Jl '51
Printing on vinyl film. R. W. Riedel and others. il diags Mod Plastics 28:81-6, 189-90+ Ap '51

PRINTING plates
End cost of wood base. E. St John. Inland Ptr 126.44-5 Mr '51
Making good deep-etch plates. C. F. King. Inland Ptr 127:49-51 Ap '51
Obsolete plate regulation may be boon for printing salesmen to promote business. F. Rundell. Inland Ptr 127:53 Ag '51
Temperature and plate coatings. C. F. King. Inland Ptr 126:39-41 Ja '51
Vandercook research develops new metal base, easily cast, and plate-mounting method. il Inland Ptr 127:69 S '51
See also
Stereotyping

PRINTING plates, Plastic
Fairchild engraver does quality work utilizing plastic cuts. R. Savery. il Inland Ptr 126:35-7 F '51

PRINTING plates, Rubber
Storing rubber plates. Inland Ptr 127:59 Jl '51

PRINTING presses
Careful attention to details insures most from any press. J. Kovec. Inland Ptr 126:64-6 Ja '51
Design modification or new machine? C. F. Keas. il diags Machine Design 23:106-10 Mr '51
Look into die-cutting as real sales builder. M. L. Scott. il diags Inland Ptr 126:38-40 Mr '51
New York news buys $1,000,000 presses to conserve newsprint in comics. Ed & Pub 84:57 Jl 14 '51
Packing on cylinder presses. E. St John. Inland Ptr 127:80 Ag '51
Press bed driven by eccentric gearing. il Machine Design 23:124 Ja '51
Press drive permits higher speeds. il diag Machine Design 23:126-7 Ja '51
Proof press uses continuous motion. il diag Machine Design 23:128-9 Ja '51
Two-color press produces admirable work when proper procedure is followed. E. St John. il Inland Ptr 127:43-5 Ap '51

Manufacture

Industrial trucks speed production, plant maintenance; plant of American Type Founders. il Steel 128:115 Je 25 '51

PRINTING pressmen and assistants' union, International. See International printing pressmen and assistants' union

PRINTING rates. See Printing trade—Rates

PRINTING research
Competition aids research on various processes. Inland Ptr 126:78-9 F '51

PRINTING supplies industry
Salesmen's corner; paper type metal, sulfur. F. Rundell. Inland Ptr 127:56-7 Jl '51
See also
Printing trade—Purchasing

Directories

Inland Printer's 1951 directory of equipment and supplies. Inland Ptr 126:87-130 D '50

PRINTING trade
Business volume up, profits down, in 1951 printing industry leaders forecast. Inland Ptr 126:29-33 Ja '51
Contract plan of New York printers group builds income from waste paper. R. Savery. Inland Ptr 126:33-4 N '50
Graphic arts industries eastern seaboard conference, Atlantic City, May 3-5. Inland Ptr 127:49-51 Je '51
I've watched printing business grow better. J. L. Frazier. Inland Ptr 127:72 Je '51
Krueger offset plant began on shoestring. G. Eaton. Inland Ptr 127:42+ Jl '51
Leaders of printing industry talk of problems, methods and prepare for emergency. Inland Ptr 126:43-6 O '50
Lithographers meet to study controls, trends and goals. Inland Ptr 126:49-50 O '50
Motel industry is a good field to cultivate. H. J. Ashe. Inland Ptr 126:52 O '50
New England conference for graphic arts studies various aspects of productivity. R. Savery. Inland Ptr 127:31-3 My '51
Printers' position is good in an expanding economy. L. Strick. Barron's 30:13 D 18 '50
Spending on sales promotion may increase profit and reduce overhead ratio to sales. A. C. Kiechlin. Inland Ptr 126:55-6 D '50
See also
Printers
Printing industry of America, inc.

Accounting

Are your profit and loss figures accurate? monthly statements give true picture. A. C. Kiechlin. Inland Ptr 127:75-6 Ap '51
Break-even point chart is a barometer of profits. M. D. Binford. Inland Ptr 126:65-6 O '50
Easy direct costing method gives operating picture. M. D. Binford. Inland Ptr 126:30-1 Mr '51
How charts can help lower your variable hour costs. M. D. Binford. Inland Ptr 126:34-5 Ja '51
Time for realistic appraisals of reserves as protection against invisible losses. A. C. Kiechlin. Inland Ptr 126:73-4 N '50
Try the realistic method of pricing if profits are going down. M. D. Binford. Inland Ptr 127:53-4 Ap '51

Advertising

Graphic artisans speak up in form; house magazine by Kurt H. Volk, inc. il Inland Ptr 126:53 O '50
How history sells; American printing and lithograph co., Seattle. Inland Ptr 127:54 Ap '51
Institutional advertising needed for the printing industry. P. Fisher. Inland Ptr 126:29 Mr '51
Printer's promotion hits buyer's target. il Inland Ptr 127:42-3 My '51
Sterling attributes rapid growth to telephone book advertising. W. L. Coburn. il Inland Ptr 127:38-9 Jl '51

Estimates

See Printing, Practical—Estimates

Exhibitions

First offset lithography awards exhibit covers diversified uses. Inland Ptr 126:45-6 Mr '51

Finance

Take good look before you leap into debt. R. F. Welch. Inland Ptr 126:77 F '51
Try the sales-to-assets ratio yardstick. A. C. Kiechlin. Inland Ptr 127:35-6 My '51

Laws and regulations

Obsolete plate regulation may be boon for printing salesmen to promote business. F. Rundell. Inland Ptr 127:53 Ag '51

Purchasing

Capital expenditure budget is a safety valve. M. D. Binford. Inland Ptr 126:34 N '50
How do you rate with suppliers? now is the time to find out. R. F. Welch. Inland Ptr 127:29-30 My '51

PRINTING trade—*Continued*

Rates

Avoid violation of government regulations; watch your selling under price control. A. C. Kiechlin. Inland Ptr 126:37-8 Ja '51

Salesmen

How much should a salesman know about production? F. Rundell. Inland Ptr 126:52-4 N '50

Salesmen's corner. F. Rundell. Inland Ptr 126:48-50 Ja '51 [cont monthly]

Star salesman makes specialty of service; methods used by Nolan Bourgeois of New Orleans. il Inland Ptr 127:46-7 Je '51

Canada

Printers and early Canadian papermakers. N. L. Edwards. bibliog Pulp & Pa of Can 51:77-8 D '50

Great Britain

Productivity and print. Economist 160:765 Mr 31 '51

PRINTING week

Printing week across the continent. il Inland Ptr 126:38-41 F '51

PRIORE, Philip J. 1896-

Sketch. por East Underw 51:67 D 15 '50

PRIORITIES and allocations, Industrial

Agricultural products allocation jurisdiction agreement reached. Oil Paint & Drug Rep 159:3+ Ap 23 '51

Aluminum; stiffest control yet. Bsns W p34 N 18 '50

Answers on materials; PAD lists most commonly asked questions on use of its forms for obtaining assistance. Oil & Gas J 50:51-2 Je 28 '51

Checklist of defense regulation; material and price orders. Bsns W p 103-4 Mr 31 '51 [cont weekly]

Checklist on controls. Steel 128:30-1 Ja 8 '51 [cont weekly]

Chemical allocation machinery set. Oil Paint & Drug Rep 159:3 Mr 19 '51

Chemical byproducts distribution control powers given to NPA. Oil Paint & Drug Rep 158:4+ O 16 '50

Chemical DOs to get equitable distribution. Oil Paint & Drug Rep 159:3 My 7 '51

Civilian bite. Bsns W p89+ N 25 '50

Civilian goods face new cut. Bsns W p 162 O 6 '51

Complete text of NPA's M-45 allocating chemicals and allied products. Chem & Eng N 29:1225-8 Mr 26 '51

CMP for aluminum. Light Metal Age 9:19 Je '51

CMP; the paper work starts. Bsns W p21 F 17 '51

CMP timetable. Factory Management 109:64F Mr '51

Controlled materials plan II. Bsns W p31-2 F 3 '51

Controlled materials plan will be back by July. Bsns W p26 Ja 20 '51

Controls bite deeper. Bsns W p32+ O 28 '50

Copper-aluminum snafu; NPA modifies cutbacks. Bsns W p75 D 9 '50

Copper; new stopper in CMP? Steel 129:61 S 10 '51

Criteria for pulp allocations. L. K. Larson. Paper Tr J 132:86+ F 23 '51

Cutback day. Bsns W p21 Ap 7 '51

DO rating for maintenance supplies; questions and answers. Mill & Factory 48:266-7+ Ap '51

DO system gets wobbles. il Bsns W p30+ F 24 '51

DO's for airlines. Bsns W p27-8 Ja 13 '51

Effect of government regulations on commercial chemical development; NPA's role in defense. F. R. Creedon. Chem & Eng N 29:1822-3 My 7 '51

Few shortages, so DO-numbers are few; rating system. Bsns W p 106 N 11 '50

Free market ends; after July 1 mills must hold tubular goods for sale to priority holders. B. F. Linz. Oil & Gas J 50:155 Je 21 '51

Future controls; the pattern emerges. Bsns W p 19-20 N 25 '50

GSA, NPA act on aluminum, copper and cobalt consumption. Oil Paint & Drug Rep 158:5 D 4 '50

Get ready now for a new controlled materials plan. C. W. Boyce. Factory Management 109:68-71 Ja '51

Government plans industry support. W. B. Whichard, jr. Electronics 24:82-3 Je '51

Guide to CMP. Steel 128:57-86 Je 25 '51

How everyone can get priorities for maintenance, repair, operating supplies. Factory Management 109:64A-64C Mr '51

How NPA plans to allocate materials. A. McSurely. Aviation W 54:13-14 F 5 '51

How P-H contractors can use the MRO program to obtain vital supplies; questions and answers. Dom Eng 177:86 Je '51

How to buy power equipment and materials under today's controls. Power 95:76-7 O '51

How to get MRO, construction materials. Pet Processing 6:725-7 Jl '51

How to get MRO materials. W. F. Bland. Pet Processing 6:365-7 Ap '51

How to get scarce materials; demand for MRO exceeds supply. Factory Management 109:48D-48E Ap '51

How to pick sales opportunities under new defense set-up; five-year amortization; revived V-loans; priorities. Sales Management 65:42-4 N 1 '50

How to postpone pulp allocations. R. H. Evans. Paper Tr J 132:90-2 D 23 '51

Industry's switch to DO work requires careful planning. S. Fish. Manuf Rec 120:56-7 F '51

It will pay business to study government controls, buying methods. S. Fish. Manuf Rec 120:40-1 Ap; 44-5 My '51

Line-up of government agencies to control the American economy; organization chart. Mill & Factory 47:82-3 N '50

MRO DO's o.k.'d; maintenance, repair, and operating supplies. Bsns W p26 Mr 3 '51

Maintenance, repair and operation materials placed under priorities plan. Oil Paint & Drug Rep 159:5+ Mr 5 '51

MRO plan runs into snags; maintenance, repairs, and operating supplies. Bsns W p30 Mr 10 '51

Material shortages and controls and their effect on railroads. W. H. Ruskaup, jr. il Ry Age 130:23-4 My 28 '51

Metal allocation. L. E. Hill, jr. Paper Tr J 133:68+ Jl 13 '51

More for defense. Bsns W p34+ F 10 '51

NPA allocates materials to industry. Elec World 135:64-5 F 26 '51

NPA backs down on building. Bsns W p 106-7 N 11 '50

NPA gives carte blanche on MRO. Steel 128:51 Mr 5 '51

National production authority inventory control; Regulation one; text. Manuf Rec 119:36-7 N '50

NPA plan threatens civil planes. F. L. Moore. Aviation W 54:13-14 My 14 '51

NPA spanks power producers. Bsns W p 160-1 Je 16 '51

New metal curbs on copper, aluminum and cobalt. Bsns W p32+ D 30 '50

No real superpriority in sight. Bsns W p 155 O 13 '51

Oil men can use new NPA priority in orders for maintenance needs. Nat Pet N 43:24-5 F 28 '51

Operation priority; effects of restrictions on availability of equipment and materials for food processors. Food Eng 23:119+ Ap '51

Order M-46 issued; operators now have priority system for tubular goods; with text of order. B. F. Linz. Oil & Gas J 49:41-4 Mr 15 '51

Priorities plan recognizes small-plane manufacturers. C. F. Horne. CAA J 12:73+ Jl 20 '51

Priority plan complex but clearing. F. L. Moore. diag Aviation W 54:56-8 Ja 15 '51

Priority rules; good and bad. Aviation W 55:220 S 24 '51

Priority with punch; DO vs. directive. Bsns W p 135-6 Ap 28 '51

Quiet retreat; controllers backtrack. R. M. Bleiberg. Barron's 31:5-6 Mr 12 '51

Ready mixed industry asks reconsideration of cement allocation. Concrete 58:15 N '50

Red tape in tools; separate DO rating needed for new hobs or taps. Bsns W p92 D 2 '50

PRIORITIES and allocations, industrial—*Cont.*

Regulations for allocation of maintenance, repair and operating supplies. Rock Prod 54:95+ Ap '51

Sales managers adopt new allocation policies. Ptr Ink 235:29-31 My 18 '51

Senate subcommittee on rubber opens hearings on allocation. Rubber Age 69:64-6 Ap '51

Special NPA order lets oil industry write out own maintenance priorities. Nat Pet N 43: 26-7 Mr 14 '51

Squeeze on consumers begins. Bsns W p38+ N 4 '50

Steel alloys cut. Bsns W p32 Ja 27 '51

Steel for oil; NPA lays basis for priorities on steel for oil industry. B. F. Linz. Oil & Gas J 49:35-6 N 2 '50

Step up your dealer promotion to overcome fickle buying moods; Mirro Aluminum. R. L. Pritchard. il Ptr Ink 236:34-5 Jl 13 '51

Sulphur international allocation planned: NPA order M-69. Oil Paint & Drug Rep 159:3+ Je 11 '51

Supply supplier; Ansul Chemical acts as middleman and expediter for its own parts suppliers. Bsns W p62 Mr 24 '51

That's all there is to it; mechanics of DO priority rating. il Bsns W p 138-40 Ap 7 '51

Tin conservation and diversion to necessities ordered by NPA. Oil Paint & Drug Rep 159: 4+ F 5 '51

To get repairs; new MRO priority; maintenance, repair, and operating supplies. Bsns W p34-5 F 24 '51

Too many MRO's. Bsns W p34 Mr 24 '51

Too much gravy in MRO order. Bsns W p 142 Ap 7 '51

Top management forum; seven executives tell how they're handling allocations. Ind Marketing 36:42-3 My '51

Tungsten order mild; NPA order M-30 limiting end uses. il Steel 128:48-9 F 5 '51

U.S. can't relax now; interview with Secretary Sawyer. Bsns W p30+ O 21 '50

US orders curb on rare metals; names RFC sole importer of tin. Oil Paint & Drug Rep 159:4+ Mr 19 '51

Use of production controls for mobilization. H. Stein. Comm & Fin Chr 173:1656 Ap 19 '51

Using NPA's DO-97 ratings for maintenance, repair, operation. Heating-Piping 23:118-20 Ap '51

Whacking up the pie of scarce materials. B. Smith and A. S. Hewitt. il Dun's R 59:19-20+ My '51

What did we learn about materials controls? F. Eberstadt. Advanced Management 16: 10-12 Ja '51; Same. Dun's R 59:13-15+ Ja '51

What government control of materials means to you. C. W. Boyce. Factory Management 108:68-73 N '50

See also

National production authority—Controlled materials plan

PRISMS

Algebraic prism formula applicable to lenses. F. Mooney. diag Opt Soc Am J 41:644-5 S '51

Angle prism and its application to highway surveying work. H. S. Wahlen. il diags Roads & Sts 94:48-9+ Jl '51

Design of rotating prisms for high-speed cameras. J. H. Waddell. bibliog diag Soc Motion Picture Eng J 53:496-501 N '49; Discussion. J. Kudar. Soc Motion Picture & Tv Eng J 57:80-1; Reply. 82-3 Jl '51

Diffraction pattern deterioration by roof prisms. A. I. Mahan and E. E. Price. bibliog il diags Opt Soc Am J 40:664-86 O '50

New constant-deviation prism arrangement. S. Makishima, Z. Koana and K. Oshima. diags Opt Soc Am J 41:249-52 Ap '51

Prism reflections aiding index measurements. F. Mooney. diag Opt Soc Am J 41:247-8 Ap '51

Transmittance of a prism. H. F. Weaver. diags Opt Soc Am J 41:331-5 My '51

PRITCHARD, John Laurence, 1885-

Visitor of the week. por Aeronautical Eng R 10:28-9 Mr '51

PRIVACY, Right of

Accident victims' pix don't violate privacy. A. W. Gray. Ed & Pub 84:44 Jl 28 '51

Right of privacy damage involves trade benefit. A. W. Gray. Ed & Pub 84:49 My 19 '51

PRIVAT-EAR corporation

Stock offered. Comm & Fin Chr 173:106 Ja 8 '51

PRIVATE brands

New battle of the brands; national brands and distributors' own brands. E. B. Weiss. il Ptr Ink 233:27-30+ O 13; 32-4+ O 20; 34-5+ O 27; 46+ N 3; 45-6+ N 10; 44-6+ N 17; 36-8+ N 24; 38-40+ D 1; 36-8+ D 8; 35-6+ D 15; 33-4 D 22 '50

PRIVATE secretaries. See Secretaries, Private

PRIVATE wire systems. See Telegraph—Private wire systems

PRIVILEGED communications

Editorial hits confidence law for reporters; Chicago tribune. Ed & Pub 84:13 Je 9 '51

Lyons faces order to divulge tip source. Ed & Pub 84:8 My 12 '51

Neurologist's information held privileged under attorney-client relationship in California personal injury action. Weekly Underw 165:440 Ag 25 '51

San Francisco call-bulletin writer refuses to give sources. Ed & Pub 84:28 Ag 18 '51

PRIZE contests

Fun salts crisis when Pillsbury gives its all to giant bake-off. P. S. Gerot. il Sales Management 65:54+ D 1 '50

See also

Advertising—Prize contests
Newspapers—Prize contests

PRIZES. See Rewards, prizes, etc.

PROBABILITIES

Determination of reserve capacity by the probability method; effect of interconnections. G. Calabrese. Elec Eng 70:876-8 O '51

Distribution of blocks in an uncongested stream of automobile traffic. M. S. Raff. diag Am Stat Assn J 46:114-23 Mr '51

Estimating parameters of logarithmic-normal distributions by maximum likelihood. A. C. Cohen, jr. bibliog Am Stat Assn J 46:206-12 Je '51

First passage time probability problem. A. J. F. Siegert. bibliog Phys R 81:617-23 F 15 '51

Graphical approach to statistics; its use in sanitary engineering. C. J. Velz. Water & Sewage Works 97:195-200, 309-14, 393-400; 98:66-73, 262-5, 289-93 My, Ag, O '50, F, Je-Jl '51

Logical foundations of probability, by R. Carnap. Review, by H. Margenau. Am J Sci 249:459-62 Je '51

Mean duration of random walks. W. Wasow. bibliog J Res Nat Bur Stand 46:462-71 Je '51

Operations analysis and the theory of games; an advertising example. L. Gillman. Am Stat Assn J 45:541-5 D '50

Probability theory of wet ball milling and its application. E. J. Roberts. bibliog diag Min Eng 187:Trans 1267-72 D '50; Discussion. 3:Trans 988-90 N '51

Sampling with probabilities proportional to size; adjustment for changes in the probabilities. N. Keyfitz. Am Stat Assn J 46: 105-9 Mr '51

Scientific research vs. the theory of probabilities. A. G. Huntsman. Science 110:566 N 25 '49; Discussion. 112:233-4 Ag 25 '50; Reply. 113:729-30 Je 22 '51

Statistical aids for tool engineering; probability and the accumulation of tolerances. L. E. Doyle. diags Tool Eng 26:38-41 Ja '51

Stochastic processes and dispersion of configurations of linked events. C. Tchen. bibliog J Res Nat Bur Stand 46:480-8 Je '51

Theoretical backgrounds of the statistical methods; some basic concepts of probability and statistics. H. Scheffe. Ind & Eng Chem 43:1292-4 Je '51

See also

Chance
Chi square test
Sampling (statistical methods)

PROBABILITY charts

Distribution of particle sizes. F. Kottler. bibliog Franklin Inst J 250:419-41 N '50

PROBATE law

Trust and probate decisions; A.B.A. committee report. Trusts & Estates 89:690-7 O '50

PROBATE law—*Continued*

Bibliography

Trust and probate literature; A.B.A. committee report. Trusts & Estates 89:698-704 O '50

PROCAINE

Chemical kinetics of procaine and chloroprocaine hydrolysis. M. Aven and F. F. Foldes. Science 114:206-8 Ag 24 '51

Modified method for the determination of total penicillin in procaine penicillin. A. M. Wild. J Ap Chem 1:329-32 Ag '51

Ortho-alkoxy derivatives of procaine as local anesthetics; abstract. R. O. Clinton and F. P. Luduena. Science 112:423 O 13 '50

PROCESS steam. See Steam plants—Process steam

PROCTER and Gamble company

Procter & Gamble; with financial data, 1941-1950. M. H. Zink. Barron's 31:13-14 Ap 23 '51

Shirt-sleeve training for P&G bosses. il Bsns W p31-2+ N 4 '50

PROCTOR, Carlton Springer, 1893-

Nominated for ASCE president in 1952. por Civil Eng 21:221 Ap '51

PRODUCT differentiation (term)

Product differentiation and demand for marketing services. G. Black. J Marketing 16:73-9 Jl '51

PRODUCTION

Britain's battle for productivity. H. L. Waddell. Factory Management 108:68-71 D '50

Creation of wealth; increasing productivity; American views and British problems. Economist 161:605-7 S 15 '51

Defense demands; outlook for civilian supplies. Nat City Bank p98-100 S '51

Emergency is in production; abstract. E. Johnston. Management R 40:2-3 Ja '51

Engineering production. T. U. Matthew. Engineering 170:486 D 8 '50

Gearing production to the demands ahead; abstract. R. S. Reynolds, jr. Management R 40:77-8 F '51

Illusion of scarcities. W. Gates. Mag of Wall St 87:595-7+ Mr 10 '51

Marks of war on the U.S. economy. Bsns W p22-3 Ag 4 '51

Measurement of productivity; abstract. T. E. Easterfield. Engineering 171:568; Discussion. 569-70 My 11 '51

Object and use of productivity measurement; abstract. J. E. Widdowson. Engineering 171:569; Discussion. 569-70 My 11 '51

Output shifts to defense; gross national product; where it went; graph. Fortune 44:19 Jl '51

Over the hump of production in two years. E. A. Johnston. Comm & Fin Chr 173:1949+ My 10 '51

Problems in production race with Russia. S. H. Slichter. Comm & Fin Chr 172:1681+ N 2 '50

Problems of detailed measurement of productivity; abstract. T. U. Matthew. Engineering 171:568-9; Discussion. 569-70 My 11 '51

Production can be increased but inflation may go on. E. P. Schmidt. Comm & Fin Chr 172:1896-7 N 16 '50

Production, not inflation, our serious problem. L. H. Keyserling. Comm & Fin Chr 173:2048+ My 17 '51

Production techniques as defence reserves. D. F. Galloway. il Engineer 191:639-44 My 18 '51

Productivity catches up. Bsns W p24 F 10 '51

Productivity; the key to national security. H. G. Moulton. Comm & Fin Chr 173:1847+ My 3 '51

Six experts tell how we can boost productivity. C. F. Rassweiler and others. Factory Management 108:68-73 O '50; Excerpt. Bsns W p81-2 O 21 '50

Strength and weakness of our enormous productive capacity. E. A. Krauss. Mag of Wall St 88:124-6+ My 5 '51

This is the year. Fortune 43:53-60 Ja '51

Using mathematics for design, research and production; use of computing machines; interview with J. H. Curtiss. il Product Eng 22:156-9 Je '51

What ails productivity; interview with Solomon Fabricant. Bsns W p64+ My 5 '51

What is the productivity of industrial workers? Mill & Factory survey. Mill & Factory 49:67-70 Ag '51

What makes America's industry strong; analysis based on reports of British teams' observations. H. L. Waddell. Factory Management 109:80-3 F '51

Work together for full production. F. W. Abrams. il Advanced Management 15:2-4 N '50

See also

American management association—Production conference
Economics
Efficiency, Industrial
Factory management
Labor productivity
Manufactures
Orders, Unfilled
Planning
Supply and demand

Statistics

Appraisal of productivity measures at Washington conference. H. J. Greenspan. Mo Labor R 72:313-16 Mr '51

Business indexes; industrial production, construction contracts, employment, etc.; index totals 1919-1949, monthly Dec. 1948-Dec. 1950. Fed Res Bul 37:75 Ja '51 [cont monthly]

Continued high civilian output; is there a market for it? with graphs. Bsns W p 101-2+ Ap 14 '51

Engineering in Europe; summary of study by Economic commission for Europe. Economist 160:1194 My 19 '51

Estimates of gross national product in constant dollars, 1929-49. G. Jaszi and J. W. Kendrick. Survey of Cur Bsns 31:6-11 Ja '51

Federal reserve index of industrial production; durable and nondurable manufactures, fuels, metals; 1935-1950; tabulation. Iron Age 167:329 Ja 4 '51

Gross national product, national income, and personal income, annual totals, selected years, 1929-1949 and by quarters for 1950. Fed Res Bul 37:90-1 Ja '51 [cont monthly]

How are controls affecting civilian production? Mill & Factory survey. Mill & Factory 48:67-8 Mr '51

In goods and capacity, we're readier than we think; with pictograph of inventory and production; 1940 and now. Bsns W p22-3 Ja 20 '51

Indexes of industrial production; chart and tables. Automotive Ind 104:78 Mr 15 '51

Industrial production, by industries (adjusted and unadjusted indexes) Nov. 1949-Nov. 1950. Fed Res Bul 37:76-9 Ja '51 [cont monthly]

Industrial production in 1950; with figures for other years. Survey of Cur Bsns 31:13-15 F '51

National income and national product in 1950; with figures for other years. Survey of Cur Bsns 31:4-10 F '51

National income and product in the second quarter of 1951; with charts and table. Survey of Cur Bsns 31:3-9 Ag '51

National product and income in the third quarter of 1950. Survey of Cur Bsns 30:4-10 N '50

National product and income in the first quarter of 1951; with table. Survey of Cur Bsns 31:6-11 My '51

New production index for Soviet industry. D. R. Hodgman. R Econ & Stat 32:329-38 N '50

Output rise matches military program; graph. Bsns W p20 S 1 '51

Production and employment trends. Survey of Cur Bsns 31:3-5+ Mr '51

Production in 1950. Economist 160:705 Mr 24 '51

Productivity ratio; some analytical limitations on its use. P. O. Steiner. R Econ & Stat 32:321-8 N '50

Transformation functions in the theory of production indexes. P. B. Simpson. bibliog Am Stat Assn J 46:225-32 Je '51

Whopping gain in '50, holding in '51; summary of BLS study of 26 industries. Bsns W p 19-20 Ag 25 '51; Correction. p 122-3 O 13 '51

Yardstick for production; Commerce dept.'s gross national product figures. Bsns W p26 Ja 27 '51

PRODUCTION, Limitation of

Eliminate? simplify? who, me? survey finds product line reduction lagging. il Mod Ind 22:52-4 Jl '51

PRODUCTION control

Flow-line production. F. G. Woollard. Engineering 170:334, 421-2 N 3, 24 '50

Hidden costs exposed by production and inventory control. S. A. Peck. Steel 129: 74-6+ Jl 2 '51

How to control production elements. G. P. Muir and others. il diags Tool Eng 25: 17-20+ O; 38-40 N '50

Keeping an eye on production progress. il Mill & Factory 48:118-19 Je '51

Keeping tabs on production at General Electric Everett aircraft gas turbine factory. R. L. Grunewald. Mill & Factory 48:124-6 Ja '51

Modern production-control methods; Dayton pump and manufacturing co. L. Wozar and C. Rike. il Am Mach 95:129-31 My 14 '51

Office-plant integration brings production benefits. P. Schneider. Advanced Management 16:21-3 Ag '51

Phonograph records are made on schedule. T. J. Davis. N A C A Bul 32:710-16 F '51

Procedures and forms for control in tool and die production. L. E. Wells. N A C A Bul 32:839-49 Mr '51

Productigraph; it tells who should be doing what where. H. G. Weber. il Factory Management 108:78-80 N '50

Production control in a small foundry. W. Brooke. N A C A Bul 32:956-60 Ap '51

Production-control in shipbuilding. J. E. Gordon. diag Marine Eng 55:38-43 N; 55-9 D '50; 56:71-3 F; 73-5 Ap; 74-6 My; 62-4 Je; 62-4 Jl; 65-7 Ag '51

Production control is the answer; variety sausage packer. W. C. Zinck. il Food Eng 23:141-3 S '51

Production control made easier; Burroughs adding machine co. D. G. Baird. il Mill & Factory 48:98-101 Mr '51

Tool for management control; combining operational review meetings with series of status and trend charts and graphs at RCA. J. R. Curley. Harvard Bsns R 29: 45-59 Mr '51

Workers clip coupons to control production; Cherry rivet co., Los Angeles. il Factory Management 109:107 Ag '51

See also

Factories—Records
Factory management
Schedules

PRODUCTION engineering research association

Production engineering research association; its growing importance to industry. D. F. Galloway. il Metallurgia 42:239-44 O '50

PRODUCTION standards

Can you sell speed-up? H. R. Nissley. Mill & Factory 47:128 N '50

Eager beaver O.K.; can't discharge employee because he works too hard. Bsns W p40+ Ap 28 '51

Some practical aspects of the time standards problem. H. K. Keever. Tool Eng 26:38-40 Je '51

PRODUCTIVITY. See Production

PRODUCTS, Certification of

Watthour-meter certification. F. H. Busch and J. C. Garrett. il Gen Elec R 54:10-15 Mr '51

PRODUCTS, Diversified

Obtaining and circulating company information. R. D. Goodall. Ind & Eng Chem 43: 838-40 Ap '51

Product diversification and the public interest. K. R. Andrews. Harvard Bsns R 29: 91-107 Jl '51

See also

Diversification in industry

PRODUCTS, Identification of

Builds campaign around localized outdoor postings; hidden product advertised to consumers; Reeves army twill. il Ptr Ink 234: 36-7 Ja 12 '51

Component parts supplier uses seven-step promotional package; Lorentzen Hardware helps venetian blind manufacturer-customers help their retailers. H. K. Lorentzen. il Ptr Ink 233:32-4 N 3 '50

Dual purpose ads create immediate demand and build future acceptance; hidden product force-fed to consumers through promotion of finished goods; Boltaflex. S. Sackel. il Ptr Ink 234:36-7 Mr 9 '51

Sales cues for products lost in manufacture. il Sales Management 66:46+ Je 15 '51

PRODUCTS, Improved

Design makes the difference. S. Baur. il Iron Age 166:61-5 O 26 '50

How to stretch a small budget; heavy merchandising of a campaign for Nirenberg shirts. V. J. Dallaire. il Ptr Ink 234:32-4 F 23 '51

Refining methods save 45 per cent; Audograph office dictation machine. H. E. Linsley. il Am Mach 95:110-12 Mr 5 '51

PRODUCTS, New

Can your new product pass these tests? Ansul Chemical. Sales Management 66:45-6 My 20 '51

Checklist; 11 ways to get new product ideas. W. J. Joyce, jr. Ind Marketing 36:108 Ag '51

Coffee time is a smash hit; national distribution coming; new carbonated coffee beverage. B. G. Priestley. il Sales Management 67:56+ O 15 '51

Development and pricing of a new product; Kelley Island acoustical tile. J. O. Kamm. J Marketing 15:343-7 Ja '51

Distribution in jig time; the story of terramycin. T. Armstrong. il Sales Management 66:74+ Mr 1 '51

Industry to introduce new products in old markets; spot check by Industrial marketing. Ind Marketing 36:44+ S '51

Information please; symposium. M. H. Baker and others. maps Ind & Eng Chem 43: 831-59 Ap '51 (reprints 50c)

Management and employees in chemical industry should share equally, responsibility of making product development programs a sucess. W. von Pechmann. Ind & Eng Chem 43:sup93A-4A+ Je '51

New product procedures in a small company; American sterilizer co. S. L. Page. N A C A Bul 32:1485-9 Ag '51

Pile on the benefits to introduce new product today; Hudson paper napkins. E. J. Dever, jr. il Ptr Ink 235:33-5 Je 15 '51

Piloting a new product? A. J. Alton and others. il diag Food Eng 23:102-4+ Ag '51

Pricing policies for new products. J. Dean. Harvard Bsns R 28:45-53 N '50

Product-line policy. J. Dean. J Bsns 23:248-58 O '50; Excerpts. Management R 40:33-4 Ja '51

Production planning time cut when one man chaperons pilot runs; DeVilbiss co. W. J. Tillman. il Factory Management 109:72-3 Jl '51

Retail distribution follows mail-order success; Toolzon polisher attachment for electric kitchen mixer. L. F. Thomann. il Ptr Ink 235:41-2 Ap 6 '51

What kind of product preview when top brass prospects come? Shakeproof pre-assembled nut and lock washer. J. O'Connor and J. S. Hawley. il Sales Management 66:64+ Mr 1 '51

What to look for before leaping at new products. Mod Ind 22:113-14+ Ag '51

Advertising

Campaign lifts sales index curve 200 per cent higher than industry level; direct mail follows through on trade-paper ads; Yale & Towne electric cable hoist. Ptr Ink 234:35 F 23 '51

How Pass & Seymour cut costs of a three-media campaign; using business paper inserts. W. D. Molitor. il Ind Marketing 35: 36-7+ D '50

How six industrial advertisers introduce new products. W. A. Marsteller. il Ind Marketing 36:40-1+ My '51

How to get distributors on the new product band wagon; Mullins Jet-Tower dishwasher. M. Adams. il Ptr Ink 235:27-9 Je 8 '51

How to use a contest to build more interest in your ads. N. Keine. il Ptr Ink 236:48-50 Ag 10 '51

Low price alone won't sell a new product; Hero fire extinguishers. il Ptr Ink 233:35 N 10 '50

PRODUCTS, New—Advertising—*Continued*

Mail-order ads power new products into big seller; community rat kills prove product's worth. il Ptr Ink 235:40 Je 29 '51

New competitor of old material has to tell why it's better. N. Keine. il Ptr Ink 235: 46-7 Je 15 '51

New national advertiser, after 140 years in business; Sloane-Blabon introduces new products. E. J. Dever, jr. il Ptr Ink 233:34-5 D 1 '50

New national advertiser sprouting in Midwest; Grand duchess steaks, inc. il Ptr Ink 234:26 F 9 '51

New product reaches 92 per cent of year's quota in ten months; Houghto-Solv new fuel oil additive for sludge removal. il Ptr Ink 233:36-7 D 1 '50

Promoting a new product; agency and sales staff increased sales of Carvel Hall cutlery. D. J. Loden. il Adv Agency 44:75+ F '51

We sold the doctors first; now to consumers with new name and guarantee; Univis lens co. R. O. Barber. il Ptr Ink 235:34-5 Ap 6 '51

Testing

Why it took a year and a half to write this ad; Gladding Cilesto fly line advertisement. L. L. Witherill. il Ptr Ink 235:36 Je 22 '51

PRODUCTS liability. See Manufacturers' liability

PRODUCTS liability insurance. See Insurance, Products liability

PROFANITY. See Swearing

PROFESSIONAL education

See also

Chemical education
Engineering education
Legal education
Medical education
Mining schools and education
Scientific education

PROFESSIONAL ethics

Philosophy of supplementary treatment of public water supplies in the interest of group health. A. P. Black. Am Water Works Assn J 43:11-15; Discussion. J. L. T. Appleton. 15-16 Ja '51

See also

Accounting ethics
Business ethics
Engineering ethics
Journalism ethics
Newspaper ethics

PROFESSIONAL workers

Careers in chemistry and chemical engineering; professional relations; American chemical society committee. Chem & Eng N 28: 4535-8 D 25 '50

Industrial relations. J. W. Irwin. Chem & Eng N 28:4110-11 N 20 '50

What are the prerogatives of professional employees under the Taft-Hartley act? Civil Eng 21:474 Ag '51

See also

Accountants
Architects
Chemists
Engineers
Librarians, Special
Nurses and nursing
Physicians
Research workers
Teachers

PROFESSIONS

Development of engineering as a profession. R. D. Henson. bibliog Elec Eng 70:213-17 Mr '51

See also

Advertising as a profession
Engineers
Occupations

PROFIT

Companies with big earnings cushions; with tabulation of companies' earnings. J. C. Clifford. Mag of Wall St 87:163-5+ N 18 '50

Curb on profits. Bsns W p 134 Ap 21 '51

Defence of profits and dividends. E. Benn. Chem Age (Lond) 65:193-4 Ag 11 '51

Efficiency and profitability in relation to size. R. C. Osborn. bibliog Harvard Bsns R 29: 82-94 Mr '51

Figures don't lie, but liars can figure; a program for improvement. N. J. Gulski. Credit & Fin Management 53:24-7 Jl '51

Financing expansion; retained profits made possible bulk of postwar improvements; dividends low. Steel 127:82-3 D 4 '50

High-profit claims fade under probe of canners. J. A. J. Jones. Food Eng 23:112-13 Ag '51

How is business doing profit-wise? Mill & Factory survey. Mill & Factory 48:87-8 Je '51

Management methods for contractor-dealers; what's your real profit? Dom Eng 177:98-9+ My '51

Manufacturers' profits lower in first quarter. Comm & Fin Chr 174:172 Jl 12 '51

Measures of reasonableness of manufacturing profits. B. F. Magruder. Comm & Fin Chr 172:2287+ D 14 '50

National income and corporate profits in the second quarter of 1950. Survey of Cur Bsns 30:4-7 O '50

National income and corporate profits in the third quarter of 1950. Survey of Cur Bsns 31:5+ Ja '51

1950 corporate earnings; with tabulation of net income of leading corporations by industrial groups for 1949 and 1950. Nat City Bank p43-6 Ap '51

1950 industry profits hit all-time peak. Bsns W p 114-16 F 10 '51

Organized profit improvement program. C. H. Gleason. N A C A Bul 32:123-31 O '50

Paradoxes in applying profit planning doctrines. N. A. Coan. N A C A Bul 32:1179-92 Je '51

Profits and replacement in last quarter of 1950; with tabulation. Economist 160:212-13 Ja 27 '51

Profits have not risen despite official figures. K. Bloch. Barron's 30:18 N 20 '50

Profits under the last defense program, 1940-1943; tabulation by company. Bsns W p89 Ja 13 '51

Slicing the corporate income pie; with tabulations. W. Gates. Mag of Wall St 88:70-2+ Ap 21 '51

Some realistic observations on recent corporate profits. A. W. Miller. Comm & Fin Chr 172:2196 D 7 '50

Taxes bite into profits; with data on first-quarter earnings and sales of 50 companies. Bsns W p 125-7 Ap 28 '51

Third-quarter profits; a gloomy preview; table. Bsns W p 145 O 13 '51

Today's teen-agers off the beam on corporation profit picture. Ptr Ink 236:75 S 28 '51

What are fair profits? L. P. Hammond. Dun's R 59:16-17+ Je '51

What is a fair return? Nat City Bank p 128-31 N '50

See also

Excess profits tax
War profits

Statistics

See Corporations—Finance—Statistics

PROFIT and loss statements

How direct costing can work for management; Dewey and Almy chemical co. W. W. Neikirk. N A C A Bul 32:523-35 Ja '51

Is your business in the black or in the red? Dom Eng 178:82-3+ Jl '51

PROFIT sharing

Branch expenses shrink when Clary gives managers a share in profits. M. S. Bandoli. Sales Management 66:56-8+ Je 1 '51

Co-partnership and profit-sharing. Electrician 145:1523-4 D 22 '50

Employes learn facts about dollar distribution at profit sharing meeting; Porter-Cable machine co. il Mill & Factory 48:146 Ap '51

Experiment in profit sharing; Gallagher transfer and storage co., Denver; abstract. R. E. Hallock. Management R 39:651-3 N '50

Firms slice profit melon; Procter & Gamble and Minnesota mining and manufacturing co. il Chem Ind W 68:12 My 26 '51

How profit sharing plan solves labor problems at Michigan tank & furnace corp. D. G. Baird. il Am Bsns 20:12-13+ N '50

Importance of being important together; American velvet co. C. A. Wimpfheimer. il Advanced Management 16:8-10 Mr '51

Incentive management and profit sharing. T. P. Pike. Advanced Management 15:11-13 O '50

Motorola profit-sharing plan paid $4.41 for each employee dollar. il Am Bsns 21:10-11+ Ap '51

Partners in velvet; American velvet co.; abstract. C. Wimpfheimer. Management R 39: 656-7 N '50

Partnership through profit-sharing. J. J. Morrow. Personnel J 30:51-4 Je '51

PROFIT sharing—*Continued*

Pitfalls of profit sharing. Fortune 44:104-5+ Ag '51

Profit sharing; a review. P. S. Narasimhan. bibliog Int Labour R 62:469-99 D '50

Profit sharing for pensions. R. W. Babson. Comm & Fin Chr 172:1696 N 2 '50

Profit sharing for wage earners and executives. B. M. Stewart and W. J. Couper. (Industrial relations monograph no. 15) 122p bibliog(p121-2) pa $2 Industrial relations counselors, 1270 Sixth av, New York 20 '51

Profit sharing proves its value to management and labor. W. Loeb. Inland Ptr 127: 41-3 Je '51

Profit sharing really works at American velvet co. E. H. Helliwell. Textile World 100: 124-5 D '50

Should ad agencies share their profits? Ptr Ink 236:62-3 Jl 27 '51

Sincerity of purpose means good labor-management relations. C. A. Wimpfheimer. Textile World 101:178+ Mr '51

62 years of profit sharing at Procter & Gamble; abstract. W. C. Werner. Management R 39:601-2 O '50

See also

Employees as stockholders

Bibliography

Pension and profit-sharing plan; a bibliography prepared by Financial division, Special libraries association. Bankers Mo 67: 48-9 N '50

PROFIT sharing trusts. See Employees' trusts

PROFITEERING

Gray market returns. Fortune 43:14-15+ Ja '51

Salesmen stuck; government can recapture excessive commissions; Armstrong case. Bsns W p56-7 D 2 '50

PROGESTERONE

Partial synthesis of compounds related to adrenal cortical hormones; preparation of the dihydroxyacetone side chain; 17α-hydroxyprogesterone and substances L and P. T. H. Kritchevsky and T. F. Gallagher. bibliog Am Chem Soc J 73:184-9 Ja '51

Partial synthesis of compounds related to adrenal cortical hormones; 17α, 21-dihydroxy-Δ^4-pregnene-3,20-dione (Reichstein's substance S). B. A. Koechlin, T. H. Kritchevsky and T. F. Gallagher. bibliog Am Chem Soc J 73:189-94 Ja '51

Preparation of radioactive progesterone and desoxycorticosterone labeled in ring A. R. D. H. Heard and P. Ziegler. Am Chem Soc J 72:4328 S '50

Steroids; aromatization experiments in the progesterone series. C. Djerassi and others. bibliog Am Chem Soc J 73:1523-7 Ap '51

Steroids; the synthesis of 19-norprogesterone. L. Miramontes, G. Rosenkranz and C. Djerassi. bibliog Am Chem Soc J 73:3540-1 Jl '51

PROGRAMS (printing)

Playbill of Broadway show business is study in production and management. R. Savery. il Inland Ptr 127:39-41 Ap '51

PROGRESS

Look ahead for economic progress. J. P. Wernette. Comm & Fin Chr 172:1886+ N 16 '50

Tradition and progress. S. Lovett. Tech R 53:479-80+ Jl '51

PROJECTILES

Impact flash at high speed water entry. J. H. McMillen and others. il J Ap Phys 22: 360-1 Mr '51

Shadowgrams of spherical missiles entering water at supersonic speeds. J. H. McMillen and others. il J Ap Phys 21:1341-2 D '50

Manufacture

Royal ordnance factory, Radway Green. il Engineer 191:732-3 Je 1 '51

PROJECTION apparatus

Form grinding by mechanical and optical methods. E. A. Cooke. diags Inst Mech Eng Proc 163 (W.E.P. no 61):265-78, pl 1-2 '50; Same abr. Engineer 190:443-6, 476-8 N 10-17 '50; Discussion. Inst Mech Eng Proc 163 (W.E.P. no 61):278-80 '50; Engineer 190:431-2 N 10 '50

Images are projected on drawing board for copying. il Product Eng 21:178 D '50

Inspection by optical projection methods. E. C. Polidor. il diags Tool Eng 27:43-6 Ag; 52-4 S '51

Multiple projector for the Huggins masks. D. McLachlan, jr. and R. H. Woolley. il diags R Sci Instr 22:423-7 Je '51

New microprojector. M. A. Salzenstein and W. C. McCrone. il diag J Chem Educ 28: 184-5 Ap '51

Rotavisor, automatic loop diascope. il Engineer 192:61 Jl 13 '51

Three view screen aligns type faces. il diags Product Eng 22:116 Ja '51

Workshop projector. il Engineer 191:330-1 Mr 9 '51

See also

Photographic reproduction and projection

Slide films—Projectors

Television projection

PROJECTORS, Moving picture. See Moving picture machines

PROLINE

Alanine, glycine and proline contents of casein and its components. W. G. Gordon, W. F. Semmett and M. Bender. Am Chem Soc J 72:4282 S '50

In vivo conversion of glutamic acid into proline and arginine. H. J. Sallach, R. E. Koeppe and W. C. Rose. Am Chem Soc J 73:4500-1 S '51

Rates of absorption of and the formation of liver glycogen by L-proline and L-hydroxyproline. W. C. Hess and I. P. Shaffran. Am Chem Soc J 73:474-5 Ja '51

PROMETHIUM

Absorption and emission spectra of promethium. W. F. Meggers and others. bibliog il J Res Nat Bur Stand 46:85-98 F '51

Element no. 61. bibliog Chem Age (Lond) 64: 777-80+ My 19 '51

Magic numbers and the missing elements technetium and promethium. H. E. Suess. Phys R 81:1071-2 Mr 15 '51

Two new chemical elements confirmed; properties revealed by optical spectra. Chem Age (Lond) 64:423-4 Mr 17 '51; Excerpts. Elec Eng 70:431 My '51; Materials & Methods 33:152+ Ap '51

PROMISSORY notes

Note not dependent on conveyance of real estate; Lambright vs. Heck et al. C. R. Rosenberg, jr. Burroughs Clearing House 35:66+ D '50

PROMOTION of employees. See Employees—Promotion

PROOFREADING

Proofroom. H. D. Bump. Inland Ptr 126:45-6 Ja '51 [cont monthly]

PROPAGANDA

Russia is beating us at our own game. W. A. Peterson. Adv Agency 44:70 Ja '51

PROPAGANDA, Russian

Soviet moral-political unity and the military press. C. P. Lemieux. U S Naval Inst Proc 77:29-33 Ja '51

PROPANE

Blowoff of flames from short burner ports. C. W. Wilson and N. J. Hawkins. bibliog diags Ind & Eng Chem 43:2129-35 S '51

Comparison of quenching distance and inflammability limit data for propane-air flames. D. M. Simon. J Ap Phys 22:103 Ja '51

Design closed vessels to withstand internal explosions. E. W. Cousins and P. E. Cotton. diags Chem Eng 58:133-7 Ag '51

Dry chemical system passes propane fire test. M. E. Keefe, jr. il Safety Maint & Prod 101:25-6 Ap '51

Economics of propane as an engine fuel. A. T. Browne. Automotive Ind 104:42-5+ F 15 '51

Efficiency characteristics of commercial absorbers. E. G. Ragatz. Pet Refiner 29:117-24 D '50

Experiences with complete replacement of natural gas sendouts. F. D. Howell. map Am Gas Assn Proc 1950:647-51; Same. Gas Age 105:21-2+ Je 8 '50; Same. Am Gas J 173:23+ Jl '50

PROPANE—*Continued*

Experiments on the catalytic exchange of acetone and propane with deuterium. L. N. Kauder and T. I. Taylor. bibliog Science 113:238-41 Mr 2 '51

Flame propagation; the effect of initial temperature on flame velocities of propane-air mixtures. G. L. Dugger. bibliog diag Am Chem Soc J 72:5271-4 N '50

Fluorinated derivatives of propane containing a $-CHF_2$ group. H. W. Davis and A. M. Whaley. bibliog Am Chem Soc J 72:4637-8 O '50

Graphs show vaporization of liquids in propane tanks. A. E. Wastie. Am Gas J 174: 21+ Je '51

Heat capacities, dielectric constants and molecular rotational freedom in solid trichloroethanes and disubstituted propanes. R. W. Crowe and C. P. Smith. bibliog Am Chem Soc J 72:4009-15 S '50

How the propane fuel system operates. C. Abell. il diags Bus Transportation 30:77-9 Je '51

Improved meat smoking reported with propane. P. Melchert. il diags Food Ind 22: 2087 D '50

Infrared and mass spectra of some deuterium-containing derivatives of propane. F. E. Condon and others. bibliog J Chem Phys 19: 1010-13 Ag '51

Infra-red spectra of propane and 2,2-dideuteropropane. H. L. McMurry and V. Thornton. J Chem Phys 18:1515-16 N '50

Infrared spectra of propane and its symmetrical deuterium substituted analogs. H. L. McMurry and V. Thornton. bibliog J Chem Phys 19:1014-18 Ag '51

Kermit plant built for present and future. il Pet Eng 23:C24-6+ Ap '51

Mass spectra of propanes and butanes containing C^{13}. D. P. Stevenson. bibliog J Chem Phys 19:17-21 Ja '51

Mercury ($^3P_1$) photo-sensitized decomposition of propane at high temperatures. S. Bywater and E. W. R. Steacie. bibliog J Chem Phys 19:319-25 Mr '51

Mixed hydrocarbon solvents for fatty acids and their triglycerides. R. Bogash and A. N. Hixson. bibliog il Chem Eng Prog 47: 347-53 Jl '51

Modern trends in gas plants for catalytic cracking units. F. E. Gilmore and R. D. Bauer. flow diags diags Pet Refiner 30:196+ S '51

More autos turn to propane. Bsns W p69-70+ Ja 27 '51

Peak shaving at Lincoln, Nebr. M. G. Cook. il Gas Age 106:38-9 D 7 '50

Percentage calculations butane-propane. A. M. Platt and G. L. Farrar. Pet Eng 23: C46 S '51

Preparation of propane-1-C^{18}; electroreduction of acetone to propane. A. S. Gordon and S. Heimel. Am Chem Soc J 73:2942-3 Je '51

Production of ethylene by autothermic cracking. R. M. Deanesly and C. H. Watkins. flow diag Chem Eng Prog 47:134-40 Mr '51

Propane as an automotive fuel. D. C. Ferguson. Pulp & Pa of Can 52:72-3+ F '51

Propane buses invade Chicago. S. D. Forsythe. il Midwest Eng 3:10+ Mr '51

Propane deasphalting. flow diag Oil & Gas J 49:208-9 Mr 29 '51

Propane dewaxing. flow diag Oil & Gas J 49: 208-9 Mr 29 '51

Propane story. R. S. Lee. il diag Am Pet Inst Proc 31 M(3):252-8; Discussion. 258-61 '51

Pyrolysis of propane gives unsaturates suitable for synthetic drying oils; patent. diag Pet Processing 6:1009 S '51

Short Way experiments with propane-powered buses. il Bus Transportation 29:30-1 D '50

Solubility of propane and the butanes in ethanol. C. B. Kretschmer and R. Wiebe. bibliog diag Am Chem Soc J 73:3778-81 Ag '51

Sulfur-resistant catalysts for reforming propane; method for rating catalytic activity and sulfur resistance. J. J. S. Sebastian and C. H. Riesz. bibliog flow diag Ind & Eng Chem 43:860-6 Ap '51

Texas natural gasoline corp. obtains over 90 per cent propane recovery from 50,000-bbl. salt reservoir. J. C. Reidel. il diags Oil & Gas J 49:167-8+ Ap 19 '51

Thermodynamic properties of propane. Ju Chin Chu and others. bibliog Pet Processing 5:1202-4 N '50

Underground storage of a propane-air and natural gas mixture. H. L. Fruechtenicht and J. B. Simpson. diag World Oil 132:183-4+ F '51

Volumetric and phase behavior of propene-propane system. H. H. Reamer and B. H. Sage. bibliog Ind & Eng Chem 43:1628-34 Jl '51

PROPANEDIOL. See Propylene glycol

PROPANOL. See Propyl alcohol

PROPARGYL alcohol. See Propynol

PROPARGYLIC bromide. See Bromopropyne

PROPELLANTS

Analog computer for flame gas composition. W. S. McEwan and S. Skolnik. diags R Sci Instr 22:125-32 Mr '51

Combustion profiles of a double-base nitrocellulose propellant. S. Patai and J. Jordan. il J Ap Chem 1:179-82 Ap '51

Ozone handling technique studied. Aviation W 54:32-3 My 21 '51

Petrochemical engineer looks at rocket fuels. M. Sittig. Pet Refiner 30:114-16 My '51

PROPELLER club of the United States

Annual convention, 25th, New York, Oct. 17-19; program. Marine Eng 56:65-6 O '51

PROPELLERS

Approximate theory of heavily loaded free-running propellers in optimum condition; abstract and discussion. H. Lerbs. Marine Eng 56:54-6 Ja '51

Five-blade propeller installed on Isthmian's Steel Recorder. il Marine Eng 56:73 F '51

Gear shift gives ships more power; Ampower's Schelde propeller. il Bsns W p87 O 21 '50

General Electric marine shaft horsepower-hour meter. A. V. Merchon and A. L. Ruiz. il diag Marine Eng 56:45-7 Je '51

Lips propeller for liberty ships. il Marine Eng 56:48-50 Je '51

Stresses in propellers and propeller shafting under service conditions; abstracts and discussion. S. F. Dorey. Engineer 192:111 Jl 27 '51; Engineering 172:228-9 Ag 24 '51

PROPELLERS, Airplane. See Airplane propellers

PROPENE

Aminoalkyl tertiary carbinols and derived products; 3-tertiary-amino-1-aryl-1-(2-pyridyl)-propan-1-ols and -prop-1-enes. D. W. Adamson and J. W. Billinghurst. Chem Soc J p 1039-45 Ap '50

Volumetric and phase behavior in the ethane-propene system. R. A. McKay and others. bibliog Ind & Eng Chem 43:2112-17 S '51

Volumetric and phase behavior of propene-propane system. H. H. Reamer and B. H. Sage. bibliog Ind & Eng Chem 43:1628-34 Jl '51

PROPERTY

See also

Community property

PROPERTY, Intellectual. See Intellectual property

PROPERTY and liability underwriters, American institute for. See American institute for property and liability underwriters

PROPIOLACTONE

Modification of wool with *beta*-propiolactone. H. W. Jones and H. P. Lundgren. bibliog il Textile Res J 21:620-34 S '51

Photochemical studies; propiolactone. R. H. Linnell and W. A. Noyes, jr. bibliog Am Chem Soc J 72:3863-5 S '50

β-Propiolactone; mechanisms involved in the reaction of β-propiolactone with acids and bases. P. D. Bartlett and P. N. Rylander. Am Chem Soc J 73:4273-4 S '51

β-Propiolactone; reactions with ammonia and amines. T. L. Gresham and others. Am Chem Soc J 73:3168-71 Jl '51

β-Propiolactone; reactions with compounds containing active methylenic hydrogen. T. L. Gresham and others. Am Chem Soc J 73: 2345-7 My '51

β-Propiolactone; the kinetics of attack by nucleophilic reagents upon the alcoholic carbon of β-propiolactone. P. D. Bartlett and G. Small, jr. bibliog Am Chem Soc J 72:4867-9 N '50

PROPIOLIC acid

Olefinic acids; the addition of thiols to propiolic and acetylenedicarboxylic acid. L. N. Owen and M. U. S. Sultanbawa. Chem Soc J p3109-13 D '49

Perhydroindanes; some products from 1-hydroxy*cyclo*hexylpropiolic acid. D. W. Mathieson. Chem Soc J p 177-81 Ja '51

PROPIONALDEHYDE

Acetaldehyde, propionaldehyde, and *n*-butyraldehyde; some physical properties. T. E. Smith and R. F. Bonner. bibliog diag Ind & Eng Chem 43:1169-73 My '51

Free radicals in pyrolysis of propionaldehyde. T. J. Sworski and M. Burton. bibliog Am Chem Soc J 73:3194-5 Jl '51

Propionic acid by the air oxidation of propionaldehyde. W. K. Langdon and E. J. Schwoegler. Ind & Eng Chem 43:1011-12 Ap '51

PROPIONATES

Chemical oxidation of organic acids; some observations on the oxidation of propionate by alkaline permanganate. H. R. Mahler and A. Roberts. bibliog Am Chem Soc J 72:5095-8 N '50

PROPIONIBACTERIUM

Formation of formaldehyde from glycerol-C^{14} by propionibacterium. F. W. Leaver. Am Chem Soc J 73:2974-5 Je '51

Utilization of formaldehyde by propionic acid bacteria. F. W. Leaver. Am Chem Soc J 72:5326-7 N '50

PROPIONIC acid

Action of sodium cyanide on β-hydroxypropionitrile and β-hydroxypropionic acid. L. Ts'ai. Am Chem Soc J 73:1886-7 Ap '51

β-Aroylpropionic acids; the action of *o*- and *p*-methoxyphenylmagnesium bromide on succinic anhydride. F. G. Baddar and L. S. El-Assal. Chem Soc J p431-3 F '51

β-Aroylpropionic acids; the mechanism of interaction between phenol and succinic anhydride in presence of aluminum chloride; the nature of the Fries reaction. F. G. Baddar and L. S. El-Assal. Chem Soc J p3606-8 D '50

Distribution of the lower fatty acids between water and a variety of solvents. M. Davies and others. Chem Soc J p 1249-52 My '51

Preparation and properties of some N,N'-disubstituted-ethylenediaminedipropionic acids. A. E. Martell and S. Chaberek, jr. Am Chem Soc J 72:5357-61 D '50

Propionic acid by the air oxidation of propionaldehyde. W. K. Langdon and E. J. Schwoegler. Ind & Eng Chem 43:1011-12 Ap '51

Synthesis of α-amino-β-3-indenylpropionic acid. L. H. Groves and G. A. Swan. Chem Soc J p 1142 Ap '51

Synthesis of compounds related to equilenin. W. E. Bachmann and R. E. Holmen. bibliog Am Chem Soc J 73:3660-5 Ag '51

Synthesis of β-(6-methoxy-1-naphthoyl)-propionic acid. W. G. Dauben and K. A. Saegebarth. bibliog Am Chem Soc J 73:1853-4 Ap '51

Use of C^{14} in mechanism studies of methane fermentation; propionic acid. A. M. Buswell and others. bibliog Am Chem Soc J 73:1809-11 Ap '51

Utilization of formaldehyde by propionic acid bacteria. F. W. Leaver. Am Chem Soc J 72:5326-7 N '50

PROPIONITRILE

Formation of ββ'-thiodipropionitrile (di-2-cyanoethyl sulphide) and a study of its derivatives. J. H. MacGregor and C. Pugh. Chem Soc J p736-8 F '50

Some long chain β-alkylmercaptopropionitriles and their derivatives. D. A. Shirley and J. W. Alsobrook. Am Chem Soc J 73:2963-4 Je '51

PROPIOPHENONE

Hydrogenation of some *iso*oxazolones. G. Shaw. Chem Soc J p720-3 F '50

Indoles; the preparation and oxidation of the *Bz*-nitro-2-methyl-3-ethyl-, -2 : 3-diphenyl-, and -2-methyl-3-phenyl-indoles. K. Schofield and R. S. Theobald. Chem Soc J p 1505-9 Je '50

PROPORTIONING equipment

Batch integrator. diag Electronics 24:178+ Ja '51

Fluoride chemical feeding; with cost data. L. E. Harper. il diags Am Water Works Assn J 43:744-62 S '51

Non-stop liquid blending; flow control system at Minneapolis Brewing. D. Kiewal and L. Slater. il diag Food Eng 23:58-9+ Jl '51

Proportioning controls. diag Engineer 190:539 D 1 '50

PROPRIETARY association of America

Annual meeting, New York, May 14-16. Chem & Eng N 29:2148 My 28 '51

Annual meeting, 69th, New York, May 14-16, with abstracts of papers. Oil Paint & Drug Rep 159:7+ My 21 '51

Midyear meeting, New York. Oil Paint & Drug Rep 158:5+ D 11 '50

PROPRIETARY medicines. See Medicines, Proprietary

PROPYL alcohol

Aminoalkyl tertiary carbinols and derived products; 3-tertiary-amino-1-aryl-1-(2-pyridyl)-propan-1-ols and -prop-1-enes. D. W. Adamson and J. W. Billinghurst. Chem Soc J p 1039-45 Ap '50

Dependence of optical rotatory power on chemical constitution; (-)-1-chloro-3-phenoxypropan-2-ol and (-)-glycide phenyl ether. M. P. Balfe, M. K. Hargreaves and J. Kenyon. Chem Soc J p 1861-6 Jl '50

Electrolyte effect upon the kinetics of the bromoacetate-thiosulfate reaction in *n*-propyl alcohol-water solutions. F. G. Ciapetta and H. M. Tomlinson. bibliog J Phys & Colloid Chem 55:429-39 Mr '51

Estimation of surface tensions; ternary liquid mixtures. A. S. Michaels, R. S. Alexander and C. L. Becker. bibliog Ind & Eng Chem 42:2332-6 N '50

Reaction of diazomethane with stilbœstrol in the presence of propanol. A. Mustafa. Chem Soc J p 1369-70 My '51

Thermochemistry for the petrochemical industry; some C_3 oxygenated hydrocarbons. K. A. Kobe and others. bibliog Pet Refiner 30:119-22 Ag '51

PROPYLAMINE

Preparation of some di-(2) : 3-epoxy-*n*-propyl)amines. R. F. Homer. Chem Soc J p3690-1 D '50

PROPYL benzene

Studies in photochemistry and radiation chemistry of *i*-propylbenzene and *t*-butylbenzene. T. J. Sworski, R. R. Hentz and M. Burton. Am Chem Soc J 73:1998-2001 My '51

PROPYL chloride

Effect of aluminum chloride on *n*-propyl chloride. T. I. Crowell and G. L. Jones, jr. Am Chem Soc J 73:3506-7 Jl '51

Kinetics of the dehydrochlorination of substituted hydrocarbons; the mechanisms of the thermal decompositions of *n*-propyl and *n*-butyl chloride and 2 : 2'-dichlorodiethyl ether. D. H. R. Barton, A. J. Head and R. J. Williams. Chem Soc J p2039-46 Ag '51

PROPYL gallate

Estimation of antioxidants in lard and shortening. J. H. Mahon and R. A. Chapman. bibliog Anal Chem 23:1116-20 Ag '51

PROPYLENE

Chlorination of ethylene and propylene; the chlorination of propylene. E. Galitzenstein and C. Woolf. bibliog Soc Chem Ind J 69:292-4 O '50

Compressibility of ethane-propylene vapor mixtures. H. W. Prengle, jr. and H. Marchman. bibliog Ind & Eng Chem 42:2371-4 N '50

Deuterium tracers in the pyrolysis of butane and propylene. C. D. Hurd and J. L. Azorlosa. Am Chem Soc J 73:33-7 Ja '51

Effect of propylene and triethylene glycol on atomized E. coli. R. Nagy and G. Mouromseff. bibliog Science 112:593-5 N 17 '50; Discussion. 113:698; Reply. 698-9 Je 15 '51

Geometrical isomerism of propylene acetals. H. J. Lucas and M. S. Guthrie. bibliog Am Chem Soc J 72:5490-1 D '50

Hydrolysis of propylene-sulfuric acid solutions to isopropyl alcohol. R. W. Schrage and E. H. Amick, jr. bibliog Ind & Eng Chem 42:2550-3 D '50

Kinetics of the thermal decomposition of olefins; propylene. K. U. Ingold and F. J. Stubbs. Chem Soc J p 1749-55 Jl '51

PROPYLENE—*Continued*

Modern trends in gas plants for catalytic cracking units. F. E. Gilmore and R. D. Bauer. flow diags diags Pet Refiner 30: 196+ S '51

Progress in petrochemistry, a technical report; important chemical building blocks are ethylene, propylene, and the butylenes. W. J. Sweeney. Oil & Gas J 49:74-5+ N 2 '50

Thermal decomposition of ethylene oxide. K. H. Mueller and W. D. Walters. bibliog Am Chem Soc J 73:1458-61 Ap '51

Thermodynamic properties of propylene. L. N. Canjar, M. Goldman and H. Marchman. bibliog Ind & Eng Chem 43:1186-93 My '51

PROPYLENE chloride

Dehydrochlorination of propylene dichloride. E. Galitzenstein and C. Woolf. bibliog Soc Chem Ind J 69:298-304 O '50

Energy difference between the two rotational isomers of propylene dichloride. Y. Morino and others. bibliog J Chem Phys 19:791-2 Je '51

PROPYLENE dichloride. See Propylene chloride

PROPYLENE glycol

3-(Alkoxyphenoxy)-1,2-propanediols. R. I. Meltzer and J. Doczi. bibliog Am Chem Soc J 72:4986-8 N '50

Electrodeposition of germanium. G. Szekely. bibliog diag Electrochem Soc J 98:318-24 Ag '51

Isomeric benzoate-toluene-*p*-sulphonates of propylene glycol. G. A. Haggis and L. N. Owen. Chem Soc J p2250-2 Ag '50

Limitations of propylene glycol anti-freeze. Consumers Res Bul 27:25 F '51

Phosphonation with a phosphite ester of propanediol. F. W. Mitchell, jr. and H. J. Lucas. Am Chem Soc J 72:5779 D '50

Solubility of sucrose in aqueous glycerol and propylene glycol. M. W. Fey, C. M. Weil and J. B. Segur. bibliog Ind & Eng Chem 43:1435-6 Je '51

Toxicological study of some polypropylene (polyoxypropylene) glycols. C. B. Shaffer and others. bibliog A M A Archives Ind Hygiene & Occup Med 3:448-53 My '51

Toxicology of two butoxypolypropylene glycol fly repellents. C. P. Carpenter and others. A M A Archives Ind Hygiene & Occup Med 4:261-9 S '51

Analysis

Densities and refractive indexes for propylene glycol-water solutions. G. MacBeth and A. R. Thompson. bibliog Anal Chem 23:618-19 Ap '51

PROPYLENE glycol dipropionate

Toxicologic studies of compounds investigated for use as inhibitors of biologic processes; toxicity of propylene glycol dipropionate. A. M. Ambrose. A M A Archives Ind Hygiene & Occup Med 3:48-51 Ja '51

PROPYLENE oxide

Allyl alcohol; isomerization of propylene oxide over a chromic oxide catalyst. L. G. Lundsted and others. bibliog Ind & Eng Chem 43:728-30 Mr '51

Reaction of propylene oxide with thiophenol. R. D. Schuetz. Am Chem Soc J 73:1881-3 Ap '51

PROPYLENE sulfide

Reactions of propylene sulphide with acetyl chloride and related compounds. W. Davies and W. E. Savige. Chem Soc J p317-22 Ja '50

PROPYNE

Microwave spectrum and structure of methyl acetylene. R. Trambarulo and W. Gordy. bibliog J Chem Phys 18:1613-16 D '50

Photographic infrared spectrum of CD_3CCH and the structure of methyl acetylene. G. Herzberg and others. bibliog J Chem Phys 19:136-7 Ja '51

PROPYNOL

Infrared spectra of propargylic alcohols and bromides. J. H. Wotiz, F. A. Miller and R. J. Palchak. Am Chem Soc J 72:5055-8 N '50

PROSPECT lists

Developing prospects; market research and advertising method. R. S. Aries and W. Copulsky. bibliog Ind & Eng Chem 43: 852-5 Ap '51

Sale I never forgot; selling the impossible. F. C. Wheeler. Ptr Ink 235:51+ My 11 '51

Sale I never forgot; unlikely prospect for postage meter. W. H. Wheeler, jr. Ptr Ink 235:56+ Je 22 '51

Sales letters to dealers' prospects increase independent jobber's TBA, oil product volume. F. C. Sturtevant. il Nat Pet N 42:54+ D 6 '50

PROSPECTING

Determination of molybdenum in soils and rocks; geochemical semimicro field method. F. N. Ward. bibliog Anal Chem 23:788-91 My '51

Exploration for lead and zinc; procedures used in the Illinois-Wisconsin district. H. B. Ewoldt and R. R. Reynolds. il diag Min Eng 3:230-1 Mr '51

Further biogeochemical data from the San Manuel copper deposit, Pinal county, Ariz. H. V. Warren and others. bibliog maps Geol Soc Bul 62:919-29 Ag '51

Geochemical prospecting in the Park City district. R. E. Gilbert. Min Cong J 37:58-61 S '51

Geochemistry offers new aid to mineral prospectors. Franklin Inst J 252:367-8 O '51

Geology is still the key to mineral supplies; annual review. R. H. McConnel. il Min Eng 190:113-17 F '51

Improved dithizone field test for heavy metals in water. H. V. Warren and others. bibliog map Geol Soc Bul 62:609-17 Je '51

Mining geology and exploration. F. S. Turneaure. bibliog(34 titles) il map Min Cong J 37:93-5 F '51

Prospecting for zinc using semiquantitative chemical analyses of soils. R. B. Fulton. bibliog map diags Econ Geol 45:654-70 N '50

Prospecting gets government aid. G. C. Cross. Can Min J 72:82 Je '51

Search for new mining districts. T. B. Nolan. bibliog Econ Geol 45:601-8 N '50

Sensitive field test for detecting heavy metals in soil or sediment. L. C. Huff. bibliog diags Econ Geol 46:524-40 Ag '51

Structure of East tintic district modified. T. S. Lovering. Min Cong J 37:61+ S '51

Survey equipment using low-voltage halogen-quenched Geiger-Müller counters; for use by prospector in location and assay of radioactive ores. E. Franklin and W. R. Loosemore. bibliog diags Inst E E Proc 98 pt 2:237-44; Discussion. 252-5 Ap '51

Tectonic analysis of a mining district; Pachuca, Mexico. E. Wisser. bibliog maps diags Econ Geol 46:459-77 Ag '51

Use of sensitive gamma ray detectors in prospecting. W. L. Russell and S. A. Scherbatskoy. il diag Econ Geol 46:427-46 Je '51

What geochemistry is and what it can do. H. E. Hawkes. il diags Min Cong J 37:55-8 S '51

Electric methods

Bath tub for prospectors; electromagnetic model laboratory, University of California. Product Eng 22:180 Je '51

Integrated geophysical and geological investigation of aquifers in glacial drift near Champaign-Urbana, Ill. J. W. Foster and M. B. Buhle. bibliog il maps diags Econ Geol 46:367-97 Je '51

Geophysical methods

Aerial exploration; airborne magnetometer extends mineral reserves. H. Jensen. il diag Min Cong J 37:106-7 F '51

Airborne geophysical methods make further strides in 1950. H. Lundberg and B. T. Wilson. map Eng & Min J 152:106-7 F '51

Airomagnetic survey helps find new Pennsylvania iron orebody. H. Jensen. il Eng & Min J 152:56-9 Ag '51

Geophysics; annual review. S. F. Kelly. il Min Eng 190:136-40 F '51

Geophysics pays off. S. F. Kelly. il Min Eng 3:498-500 Je '51

Magnetic base stations in Lake Superior iron districts. G. D. Bath. bibliog 16pls U S Bur Mines Rep of Invest 4804:1-16 '51

Magnetic exploration for chromite. H. E. Hawkes. maps U S Geol S Bul 973-A:1-21 bibliog(p18-19); pa 15c Supt. of doc. '51

PROSPECTING—Geophysical methods—*Cont.*
Magnetic fields associated with igneous pipes in the central Ozarks. C. R. Holmes. maps Min Eng 187:Trans 1143-6 N '50
New exploration methods have a great future, but need support. il map diag Eng & Min J 152:88-91 Jl '51

See also
Petroleum—Prospecting—Geophysical methods

Bibliography

Geophysical abstracts 141, April-June 1950 (numbers 11908-12125). M. C. Rabbitt and S. T. Vesselowsky. U S Geol S Bul 976-B:71-139; pa 25c Supt. of doc. '50
Geophysical abstracts 142, July-September 1950 (numbers 12126-12339). M. C. Rabbitt and S. T. Vesselowsky. U S Geol S Bul 976-C:141-209; pa 25c Supt. of doc. '50
Geophysical abstracts 143, Oct.-Dec. 1950 (numbers 12340-12513) M. C. Rabbitt and S. T. Vesselowsky. U S Geol S Bul 976-D:211-66; pa 20c Supt. of doc. '51
Geophysical abstracts 144 January-March, 1951 (numbers 12514-12700). M. C. Rabbitt and S. T. Vesselowsky. U S Geol S Bul 981-A:1-54; pa 25c Supt. of doc. '51

Engineering uses

Choosing a tunnel route with dynamite. il Comp Air Mag 55:251 N '50
Geophysics on the Pennsylvania turnpike. H. L. Scharon and A. B. Cleaves. maps diags Min Eng 3:Trans 351-5 Ap '51

Study and teaching

Prospecting classes, Ontario Department of mines. W. D. Harding. il Can Min J 71:179-82 N '50

PROSPECTORS
Grubstakes for B.C. prospectors. J. P. Gillese. Can Min J 72:62-3 Ja '51
Southwest exploration personalities. Oil & Gas J 50:supp 217-18+ My 31 '51

PROSPECTORS and developers association
Annual meeting, 19th. Can Min J 72:171-2 Ap '51

PROSPERITY
Engineering approach to stabilized prosperity. E. G. Nourse. Mech Eng 72:870-2+ N '50

PROSTHESIS
See also
Artificial limbs
Hand, Artificial

PROTACTINIUM
Adsorption of protactinium from hydrochloric acid solutions by anion exchange resins. K. A. Kraus and G. E. Moore. Am Chem Soc J 72:4293-4 S '50
New valency of protoactinium. G. Bouissières and M. Haïssinsky. diag Chem Soc J supp no 2:S256-8 '49
Separation of protoactinium. A. G. Maddock and G. L. Miles. Chem Soc J supp no 2:S253-6 '49
Solvent extraction of protoactinium. A. G. Maddock and L. H. Stein. Chem Soc J supp no 2:S258-9 '49
Tetravalent and pentavalent states of protactinium. R. Elson and others. bibliog Am Chem Soc J 72:5791 D '50
Tracer study of the chemistry of protoactinium. A. G. Maddock and G. L. Miles. Chem Soc J supp no 2:S248-53 '49

Analysis

Analysis of ore residues for ionium and protactinium. L. I. Katzin, Q. Van Winkle and J. Sedlet. bibliog Am Chem Soc J 72:4815-17 O '50
Anion exchange studies; protactinium in some HCl-HF mixtures; separation of niobium, tantalum and protactinium. K. A. Kraus and G. E. Moore. Am Chem Soc J 73:2900-2 Je '51

Isotopes

Preparation of Th^{233} and Pa^{233}. B. G. Harvey and B. I. Parsons. Phys R 80:1098-9 D 15 '50
Study of low energy gamma-radiations emitted from Pa^{234} and U^{234}. G. Scharff-Goldhaber and M. McKeown. bibliog il Phys R 82:123-5 Ap 1 '51

PROTECTIVE clothing. See Clothing, Protective

PROTEINS
Action of formaldehyde on proteins. R. D. Haworth, R. MacGillivray and D. H. Peacock. Chem Soc J p 1493-8 Je '50
Applications of amino acids and protein hydrolysates in the food industries. H. G. Rees. Chem & Ind sup S875-7 D 30 '50
Binding of organic ions by proteins; optical evidence of coöperative interactions with hydrogen ions. I. M. Klotz and J. M. Urquhart. Am Chem Soc J 73:3182-6 Jl '51
Combination of organic anions with serum albumin; the protein sites involved in the combination. J. D. Teresi. bibliog Am Chem Soc J 72:3972-8 S '50
Corkscrews and pleated sheets. L. Pauling and R. B. Corey. Sci Am 185:32+ Ag '51
Density correction of sedimentation constants. H. K. Schachman and M. A. Lauffer. bibliog Am Chem Soc J 72:4266-8 S '50
Effect of sensitization and X-radiation on the metabolism of I^{131} labeled proteins. F. J. Dixon and others. bibliog Science 113:274-6 Mr 9 '51
Electrophoresis as a criterion of purity in proteins. E. L. Hess. bibliog Science 113:709-12 Je 22 '51
Fractionation of blood plasma proteins using ion exchange resins. A. F. Reid and F. Jones. bibliog Ind & Eng Chem 43:1074-5 My '51
High polymer approach proves profitable in protein study; American association of cereal chemists 36th annual meeting, Minneapolis, May 21-25; discussion. Chem & Eng N 29:2272 Je 4 '51
Homogeneity and the electrophoretic behavior of some proteins; a general method for the determination of mobility distributions. R. L. Baldwin, P. M. Laughton and R. A. Alberty. bibliog J Phys & Colloid Chem 55:111-25 Ja '51
Hygroscopicity of amino acids and its relationship to the vapor phase water absorption of proteins. E. F. Mellon and S. R. Hoover. bibliog Am Chem Soc J 73:3879-82 Ag '51
Influence of protein depletion on the DNA content of nuclei of the pancreas and small intestines of the rat. J. O. Ely and M. H. Ross. Franklin Inst J 252:277-8 S '51
Investigations on proteins and polymers; critical phenomena in polyvinyl alcohol-acetate copolymer solutions. F. F. Nord, M. Bier and S. N. Timasheff. bibliog Am Chem Soc J 73:289-93 Ja '51
Molecular weight of a protein; a student determination of osmotic pressure. S. Peterson. J Chem Educ 28:486-7 S '51
New developments in protein chemistry; ACS Minnesota section, annual symposium. Chem & Eng N 29:1524-5 Ap 16 '51
Peanut protein fibers; pilot scale plant. J. C. Arthur, jr. and H. G. Many. bibliog il diag Am Dyestuff Rep 39:719-22 O 30 '50
Peptide structure and denaturation of proteins. A. R. Goldfarb. Science 114:177-8 Ag 17 '51
Photochemistry of proteins; the influence of reagents and conditions on the quantum yield for the inactivation-denaturation of chymotrypsin. A. D. McLaren and P. Finkelstein. bibliog Am Chem Soc J 72:5423-6 D '50
Preparation and properties of serum and plasma proteins; an optical and morphological study of some crystalline human serum albumin preparations and of their derivatives. B. W. Low and E. J. Weichel. bibliog diags Am Chem Soc J 73:3911-16 Ag '51
Preparation and properties of serum and plasma proteins; crystalline derivatives of human serum albumin and of certain other proteins. J. Lewin. bibliog 2pls Am Chem Soc J 73:3906-11 Ag '51

PROTEINS—*Continued*

Protein and nucleic acid conference, New Hampton, N.H. Aug. 28-Sept. 1. Science 112:639-43 D 1 '50

Protein evaluations of yeast grown on wood hydrolyzate. E. E. Harris, G. J. Hajny and M. C. Johnson. bibliog Ind & Eng Chem 43:1593-6 Jl '51

Proteins of liver and hepatoma mitochondria. G. H. Hogeboom and W. C. Schneider. bibliog il Science 113:355-8 Mr 30 '51

Quantum yields, ionic yields, and molecular weights of proteins. A. D. McLaren. bibliog Science 113:716-17 Je 22 '51

Solubility of groundnut protein and fibre formation; abstract. R. H. K. Thomson. Chem & Ind p796-7 S 22 '51

Some azoproteins and their isoelectric points. R. L. McGeachin and B. D. Ashley. Am Chem Soc J 73:1366-7 Mr '51

Some considerations on autosynthesis in bacteria. P. C. Caldwell and C. Hinshelwood. Chem Soc J p3156-9 N '50

Some trials by ingenious inquisitive persons; regenerated protein fibres. D. Traill. bibliog(71 ref) diag Soc Dyers & Col J 67:257-70 Jl '51

Sorption of water vapor by proteins and polymers. B. Katchman and A. D. McLaren. bibliog Am Chem Soc J 73:2124-7 My '51

Stimulation by the adenylic acid system of amino acid incorporation into protein of liver granules. E. A. Peterson, T. Winnick and D. M. Greenberg. Am Chem Soc J 73:503-4 Ja '51

Study of protein binding by partition analysis; the effect of protein charge. F. Karush. Am Chem Soc J 73:1246-52 Mr '51

Symposium on complex ions and polyelectrolytes, Ithaca, N.Y. June 18-21. Chem & Eng N 29:2746-7 Jl 2 '51

Symposium on structure of protein chains; A.C.S. Division of polymer chemistry. Chem & Eng N 29:3840-1 S 17 '51

Synthesis of protein-like substances by chymotrypsin. H. Tauber. bibliog il Am Chem Soc J 73:1288-90 Mr '51

Thermodynamics of metalloprotein combinations; buffer effects in copper-albumin complexes. I. M. Klotz and H. A. Fiess. J Phys & Colloid Chem 55:101-11 Ja '51

Ultraviolet absorption spectra of proteins. A. R. Goldfarb and L. J. Saidel. Science 114:156-7 Ag 10 '51

Water absorption of proteins; effect of guanidino groups in casein. E. F. Mellon and others. Am Chem Soc J 73:1870-1 Ap '51

See also

Albumin
Amino acids
Casein
Collagen
Flavoproteins
Gelatin
Globulins
Lipoproteins
Nucleoproteins
Tryptophan
Zein

Analysis

Chromatography of proteins; ribonuclease. C. H. W. Hirs, W. H. Stein and S. Moore. Am Chem Soc J 73:1893 Ap '51

Experimental investigation of conditions of transport in the electrophoresis-convection apparatus. R. A. Brown and others. Am Chem Soc J 73:4420-2 S '51

System for the separation of the protein components of human plasma; the components of the clotting process. D. M. Surgenor and others. bibliog J Phys & Colloid Chem 55:94-101 Ja '51

Denaturation

Deamination of crystalline egg albumin. P. H. Maurer, M. Heidelberger and D. H. Moore. bibliog Am Chem Soc J 73:2070-80 My '51

Effect of *p*H on the denaturation of β-lactoglobulin and its dodecyl sulfate derivative. M. L. Groves, N. J. Hipp and T. L. McMeekin. bibliog Am Chem Soc J 73:2790-3 Je '51

Streaming birefringence of denatured ovalbumin. J. F. Foster and E. G. Samsa. bibliog Science 112:473-4 O 20 '50

Streaming orientation studies on denatured proteins; heat denaturation in 85 per cent aqueous glycerol. E. G. Samsa and J. F. Foster. Am Chem Soc J 73:3190-3 Jl '51

Streaming orientation studies on denatured proteins; heat denaturation of ovalbumin in acid media. J. F. Foster and E. G. Samsa. bibliog Am Chem Soc J 73:3187-90 Jl '51

PROTEOSES

Chemistry of allergens; properties and composition of natural proteoses isolated from oilseeds and nuts by the CS-1A procedure. J. R. Spies and others. bibliog Am Chem Soc J 73:3995-4001 Ag '51

PROTEUS

Alteration of immunological response in malignancy; decline of proteus agglutinin. I. A. Parfentjev and others. bibliog Science 113:523-4 My 4 '51

PROTOACTINIUM. See Protactinium

PROTOANEMONIN

Unsaturated lactones and related substances; dihydro-β-ketomuconic acid and carboxylactones of the protoanemonin type. U. Eisner, J. A. Elvidge and R. P. Linstead. Chem Soc J p 1501-12 Je '51

PROTOCATECHUIC acid

Developer activity of di- and trihydroxybenzoic acids. T. H. James. bibliog J Phys & Colloid Chem 55:563-9 Ap '51

Effect of ascorbic acid on the enzymatic oxidation of monohydric and *o*-dihydric phenols. R. C. Krueger. bibliog Am Chem Soc J 72:5582-7 D '50

PROTON accelerator

Magnet tested at 40,000 kw. Steel 129:124+ Ag 6 '51

Proton deuteron rf system for the Berkeley synchrocyclotron. K. R. MacKenzie. il diags R Sci Instr 22:302-9 My '51

Silver brazing used on billion-volt machine; cosmotron, at the Brookhaven national lab. E. W. Moles. il diag Welding J 30:456-7 My '51

PROTONS

Absolute energy loss of 18-Mev protons in various materials. D. C. Sachs and J. R. Richardson. bibliog diags Phys R 83:834-7 Ag 15 '51

Analysis of charged meson production by protons. S. Passman and others. bibliog Phys R 83:167-8 Jl 1 '51

Analysis of high energy proton spectra by means of a stack of photographic plates. D. Walker. diag R Sci Instr 22:607-11 Ag '51

Angular distribution of high energy neutrons from targets bombarded by 330-Mev protons. R. D. Miller and others. bibliog diag Phys R 81:374-8 F 1 '51

Angular distribution of 3.1-Mev neutrons scattered by protons. Y. Oda and others. Phys R 80:469 N 1 '50

Angular distribution of neutrons from the bombardment of Be by 340-Mev protons. J. DeJuren. Phys R 81:458 F 1 '51

Angular distribution of photo-protons from deuterium. G. Goldhaber. bibliog diag Phys R 81:930-5 Mr 15 '51

Angular distribution of the π^+ mesons from 341-Mev protons on protons. M. N. Whitehead and C. Richman. bibliog Phys R 83:855-6 Ag 15 '51

Angular distributions of (d,p) reactions using 14-Mev deuterons. H. E. Gove. bibliog diag Phys R 81:364-73 F 1 '51

Angular distributions of the alpha-particles and of the gamma-rays from the disintegration of fluorine by protons. C. Y. Chao. bibliog Phys R 80:1035-42 D 15 '50

Angular yield of both proton groups from $Li^6(d,p)Li^7$. R. W. Krone and others. bibliog diags Phys R 80:603-7 N 15 '50

Angular yield of deuterons and alphas from the proton bombardment of beryllium. J. A. Neuendorffer and others. bibliog diag Phys R 82:75-80 Ap 1 '51

Angular yield of protons, tritons, and alphas from the deuteron bombardment of beryllium. I. Resnick and S. S. Hanna. bibliog Phys R 82:463-7 My 15 '51

Breakdown of a proton. Sci Am 184:32 Je '51

Cloud-chamber study of nuclear interactions in lead and aluminum. B. P. Gregory and J. H. Tinlot. bibliog il diags Phys R 81:667-75 Mr 1 '51

Coulomb functions for reactions of protons and alpha-particles with the lighter nuclei. I. Bloch and others. Rs Mod Phys 23:147-82 Ap '51

PROTONS—*Continued*

Cross section for production of charged π-mesons in C and H at 90° to a 381-Mev proton beam. M. M. Block and others. Phys R 83:167 Jl 1 '51

Cross sections of gamma-proton reactions. J. Halpern and A. K. Mann. bibliog diag Phys R 83:370-3 Jl 15 '51

Deuteron-proton scattering at 10.0 Mev by a coincidence method. H. J. Karr and others. diags Phys R 81:37-48 Ja 1 '51

Development of the nucleon component of the cosmic radiation in air when ionization losses are accounted for. H. Messel. bibliog Phys R 83:26-30 Jl 1 '51

Diamagnetic correction for protons in water and mineral oil. H. A. Thomas. Phys R 80:901-2 D 1 '50

Direct determination of the magnetic moment of the proton in nuclear magnetons. F. Bloch and C. D. Jeffries. il diag Phys R 80:305-6 O 15 '50

Direct determination of the magnetic moment of the protons in units of the nuclear magneton. C. D. Jeffries. bibliog il diags Phys R 81:1040-55 Mr 15 '51

Electron capture cross sections for protons passing through hydrogen gas. F. L. Ribe. bibliog diags Phys R 83:1217-25 S 15 '51

Emission of protons from the compound nucleus F^{19}. R. R. Roy. diags Phys R 82:227-9 Ap 15 '51

Energy level at 31 kev in Al^{28} from $Al^{27}(d,p)Al^{28}$ reaction. H. Enge and others. bibliog Phys R 83:31-3 Jl 1 '51

Energy levels of B^{11} from the $B^{10}(d,p)B^{11}$ reaction. D. M. Van Patter and others. bibliog diag Phys R 82:248-57 Ap 15 '51

Entry into the earth's atmosphere of 37-kev protons during auroral activity. A. B. Meinel. Phys R 80:1096-7 D 15 '50

Evidence concerning the reaction $p + p \to \pi^{+} + d$. F. S. Crawford, jr. and others. diag Phys R 82:97-8 Ap 1 '51

Evidence for the entry into the upper atmosphere of high-speed protons during auroral activity. A. B. Meinel. Science 112:590 N 17 '50

Excitation curve for the $H^{3}(p,\gamma)He^{4}$ reaction. C. E. Falk and G. C. Phillips. bibliog Phys R 83:468-9 Jl 15 '51

Excitation functions for proton reactions with sodium and magnesium. J. W. Meadows and R. B. Holt. diags Phys R 83:47-9 Jl 1 '51

Excitation functions with an internal cyclotron beam. N. M. Hintz. diags Phys R 83:185-6 Jl 1 '51

Fermi's theory of the origin of cosmic radiation. C. Fan. bibliog Phys R 82:211-16 Ap 15 '51

Gamma-ray yield of phosphorus bombarded with protons. G. R. Grove and J. N. Cooper. Phys R 82:505-7 My 15 '51

Goldberger model for the interaction of high energy nucleons with heavy nuclei. G. Bernardini and others. Phys R 83:669-71 Ag 1 '51

High energy photo-protons from carbon. D. Walker. Phys R 81:634-5 F 15 '51

High energy protons emitted from carbon at 90° to a 240-Mev proton beam. G. M. Temmer. bibliog Phys R 83:1067-8 S 1 '51

Lithium and beryllium nuclei ejected from heavy nuclei by high energy particles. L. Marquez and I. Perlman. bibliog Phys R 81:953-7 Mr 15 '51

Long range protons from the disintegration of carbon by deuterons and a study of the competing reactions. G. C. Phillips. bibliog Phys R 80:164-70 O 15 '50

Magnetic analyzer for charged particles from nuclear reactions. C. W. Snyder and others. bibliog diags R Sci Instr 21:852-66 O '50

Magnetic moments of the proton and neutron. R. K. Wangsness. Phys R 80:769 N 15 '50

Magnetic shielding of the proton resonance in H_2, H_2O, and mineral oil. H. S. Gutowsky and R. E. McClure. bibliog il diag Phys R 81:276-7 Ja 15 '51

$Mn^{55}(p,n)Fe^{55}$ neutron spectrum. P. H. Stelson and W. M. Preston. bibliog diag Phys R 82:655-7 Je 1 '51

Measurement of *e/M* by cyclotron resonance. H. Sommer and others. bibliog diags Phys R 82:697-702 Je 1 '51

Measurement of the magnetic moment of the proton in Bohr magnetons. J. H. Gardner. bibliog il diags Phys R 83:996-1004 S 1 '51

Meson to proton mass ratios. W. H. Barkas and others. Phys R 82:102-3 Ap 1 '51

Neutron binding energies from (*d,p*) reactions and nuclear shell structure. J. A. Harvey. bibliog Phys R 81:353-64 F 1 '51

Neutron-deuteron scattering at high energy. R. L. Gluckstern and H. A. Bethe. bibliog diags Phys R 81:761-81 Mr 1 '51

Neutron energy distribution in proton bombardment of beryllium. D. Bodansky. Phys R 80:481 N 1 '50

Neutron energy distributions in proton bombardment of Be and C at 100 Mev. D. Bodansky and N. F. Ramsey. diags Phys R 82:831-6 Je 15 '51

Neutron-proton scattering at 27 Mev. J. E. Brolley, jr. and others. bibliog diag Phys R 82:190-3 Ap 15 '51

Neutron spectra from nuclear reactions induced by 16-Mev protons. P. C. Gugelot. bibliog diag Phys R 81:51-60 Ja 1 '51

Nuclear magnetic moments and similarity between neutron and proton states in the nucleus. A. L. Schawlow and C. H. Townes. Phys R 82:268-9 Ap 15 '51

Nuclear proton resonance in related liquid hydrocarbons. R. Bradford and others. Phys R 83:656-7 Ag 1 '51

Nuclear reactions resulting from the proton bombardment of aluminum. F. C. Shoemaker and others. bibliog diag Phys R 83:1011-17 S 1 '51

Nucleon cascade with ionization loss. H. Messel. bibliog Phys R 83:21-5 Jl 1 '51

Nucleon-nucleon interaction. R. Jastrow. bibliog Phys R 81:165-70 Ja 15 '51

Photoproton emission. A. Lundby and L. Marshall. bibliog diag Phys R 83:323-5 Jl 15 '51

Photoproton reactions in lead. A. G. W. Cameron and others. bibliog Phys R 83:1264-5 S 15 '51

Photoprotons from magnesium. M. E. Toms and W. E. Stephens. diags Phys R 82:709-14 Je 1 '51

Production of a π^{+} meson beam using the deflected proton beam of the 184-inch synchro-cyclotron. C. Richman and others. diag Phys R 80:900 D 1 '50

Production of mesons by protons on deuterons. H. P. Noyes. Phys R 81:924-9 Mr 15 '51

Production of π-mesons in proton-proton collisions. J. C. Dunn and others. bibliog Phys R 81:377-8 Ja 15 '51

Production of protons by high energy γ-rays. C. Levinthal and A. Silverman. bibliog diags Phys R 82:822-6 Je 15 '51

Protochemical cells. T. Shedlovsky. diag Science 113:561-2 My 11 '51

Proton component of the cosmic radiation at sea level. E. L. Goldwasser and T. C. Merkle, jr. bibliog diags Phys R 83:43-6 Jl 1 '51

Proton-gamma-ray coincidence study of Si^{30} and B^{11}. H. H. Landon. diag Phys R 83:1081-4 S 15 '51

Proton groups from the deuteron bombardment of boron. W. O. Bateson. bibliog diag Phys R 80:982-4 D 15 '50

Proton groups from the deuteron bombardment of F^{19} and P^{31}. R. C. Allen and W. Rall. bibliog Phys R 81:60-2 Ja 1 '51

Proton groups from the $N^{14}(d,p)N^{15}$ and $N^{15}(d,p)^{16}$ reactions. R. Malm and W. W. Buechner. bibliog Phys R 80:771-4 D 1 '50

Proton magnetic resonance absorption in hydrogen perchlorate monohydrate and the structure of oxonium ion. Y. Kakiuchi and others. bibliog J Chem Phys 19:1069 Ag '51

(*p,n*) Reaction on scandium and vanadium; energy levels of Ti^{45} and Cr^{51}. W. D. Baker and others. Phys R 81:48-50 Ja 1 '51

Proton-neutron reactions and thresholds. H. T. Richards and others. bibliog Phys R 80:524-30 N 15 '50

Proton range-energy relation for Eastman NTA emulsions. H. T. Richards and others. bibliog Phys R 83:994-5 S 1 '51

Protons and deuterons ejected from nuclei by 90-Mev neutrons. J. Hadley and H. York. bibliog diags Phys R 80:345-54 N 1 '50

PROTONS—*Continued*

Protons and the aurora. C. W. Gartlein. Phys R 81:463-4 F 1 '51

Protons from the deuteron bombardment of enriched silicon and related atomic masses. H. T. Motz and R. F. Humphreys. bibliog diags Phys R 80:595-602 N 15 '50

Q-values for (α,p) reactions on aluminum and boron by means of photographic emulsions. H. Slätis and others. diags Phys R 81:641-2 F 15 '51

Range and straggling of protons between 35 and 120 Mev. N Bloembergen and P. J. van Heerden. bibliog diags Phys R 83:561-6 Ag 1 '51

Relative high energy neutron yields from targets bombarded with protons and deuterons. W. J. Knox. bibliog diag Phys R 81:687-92 Mr 1 '51

Relative probabilities and absolute cross sections of the D-D reactions. K. G. McNeill and G. M. Keyser. bibliog diag Phys R 81: 602-6 F 15 '51

Response of an anthracene scintillation counter to protons. H. B. Frey and others. bibliog Phys R 82:372-3 My 1 '51

Scattering of gamma-rays by nucleons. R. G. Sachs and L. L. Foldy. bibliog Phys R 80: 824-31 D 1 '50

Some excitation functions for protons on magnesium. J. W. Meadows and R. B. Holt. Phys R 83:1257 S 15 '51

Spectroscopic evidence for the proton conductivity through solid alcohols. Y. Kakiuchi and others. bibliog il diag J Chem Phys 19:132-3 Ja '51

Spin-orbit interactions and nucleon-nucleon scattering. K. M. Case and A. Pais. Phys R 80:203-11 O 15 '50

Spinless mesons and nucleons in the electromagnetic field. P. T. Matthews. bibliog Phys R 80:292-3 O 15 '50

Stars in photographic emulsions initiated by protons. L. S. Germain. Phys R 82:596-7 Je 1 '51

Stars induced by 350- to 400-Mev protons. G. Bernardini and others. Phys R 80:905 D 1 '50

Stopping power and energy loss for ion pair production for 340-Mev protons. C. J. Bakker and E. Segrè. bibliog diag Phys R 81: 489-92 F 15 '51

Total cross section of π-mesons on protons and several other nuclei. C. Chedester and others. bibliog diag Phys R 82:958-9 Je 15 '51

Transmutation of N^{14} by protons. D. B. Duncan and J. E. Perry. bibliog diag Phys R 82:809-13 Je 15 '51

Yields of α-, n-, and γ-radiation from chlorine bombarded with protons. K. J. Brostrøm and others. bibliog Phys R 83:1265-6 S 15 '51

Yields of photoprotons from twenty elements. A. K. Mann and J. Halpern. bibliog diags Phys R 82:733-8 Je 1 '51

Scattering

Angular distribution of protons from $Li^6(d,p)Li^{7*}$, Li^7. D. N. F. Dunbar and F. Hirst. bibliog Phys R 83:164-5 Jl 1 '51

Angular distribution of protons from the $D(d,p)T$ reaction at 10.3-Mev bombarding energy. J. C. Allred and others. bibliog Phys R 82:782-5 Je 15 '51

Angular distributions of protons from the reaction $O^{16}(d,\ p)O^{17}$. H. B. Burrows and others. Phys R 80:1095 D 15 '50

Elastic *d-p* scattering at 190 Mev. M. O. Stern and A. L. Bloom. bibliog Phys R 83:178 Jl 1 '51

Elastic proton-deuteron scattering at 240 Mev. R. D. Schamberger. Phys R 83:1276 S 15 '51

Elastic scattering of 340-Mev protons. R. E. Richardson and others. Phys R 83:859-60 Ag 15 '51

Elastically scattered protons from carbon. G. Goldhaber and R. M. Williamson. diag Phys R 82:495-8 My 15 '51

Energy dependence of proton-proton scattering, 18.8 to 31.8 Mev. B. Cork. bibliog diag Phys R 80:321-5 N 1 '50

Experiments on elastic *p—p* scattering in the energy range 120 to 345 Mev. O. Chamberlain and others. Phys R 81:284-5 Ja 15 '51

Experiments on proton-proton scattering from 120 to 345 Mev. O. Chamberlain and others. bibliog diags Phys R 83:923-32 S 1 '51

Multiple coulomb scattering of high energy protons in photographic emulsions. M. J. Berger and others. Phys R 83:850 Ag 15 '51

Neutron-proton scattering in the energy range of 18 to 21 Mev. E. M. Baldwin. bibliog diags Phys R 83:495-9 Ag 1 '51

90-Mev neutron-proton scattering at large proton angles. R. Wallace. diags Phys R 81:493-7 F 15 '51

Proton-proton scattering at 5 Mev. K. B. Mather. bibliog diags Phys R 82:133-40 Ap 15 '51

Proton-proton scattering at 105 Mev and 75 Mev. R. W. Birge and others. bibliog diags Phys R 83:274-80 Jl 15 '51

Proton-proton scattering at 100 Mev. R. W. Birge. Phys R 80:490 N 1 '50

Proton-proton scattering at 3.4, 6.8, and 7.5 Mev. J. Rouvina. bibliog diags Phys R 81:593-601 F 15 '51

Proton-proton scattering near 30 Mev. F. L. Fillmore. Phys R 83:1252-3 S 15 '51

Scattering of protons by tritons. R. S. Claassen and others. bibliog diags Phys R 82: 589-96 Je 1 '51

PROTOTROPY. See Isomerism

PROTOZOA

Electron microscopy of thin-sectioned spirostomum. H. E. Finley. il Science 113:362-3 Mr 30 '51

Influence of amount of food on the reproduction rate and longevity of a suctorian (tokophrya infusionum). M. A. Rudzinska. Science 113:10-11 Ja 5 '51

Mass mortality of fish associated with the protozoan gonyaulax in the Gulf of Mexico. C. H. Connell and J. B. Cross. bibliog il maps Science 112:359-63 S 29 '50; Discussion. 113:250-2 Mr 2 '51

See also

Ameba

Flagellata

Foraminifera

PROTRACTORS

Know your measuring tools; squares and protractors. H. E. Linsley. diags Am Mach 95:108-9 Ap 2 '51

PROVIDENCE, Rhode Island

Providence pushes court test on law allowing land condemnation for resale. Eng N 147:55+ Jl 26 '51

Industries

U.K. likes R.I.; Bentley sets up firm to make knitting machinery. Bsns W p 141-2 N 18 '50

Streets

Providence may spend $8 million for parking. il Eng N 145:56 N 9 '50

PROXIES

Swift makes friends by thanking stockholders for proxies. Am Bsns 21:30 F '51

PRUDENTIAL assurance company, limited

Statement of the chairman. G. L. Barstow. Economist 160:1129-31 My 12 '51

PRUDENTIAL insurance company of America

Prudential's Toronto head office opens; Canadian employees go to Newark for training period. J. Jenkins. East Underw 51:43+ D 15 '50

Seventy-fifth anniversary celebration. East Underw 51:3 O 20 '50; Nat Underw (Life ed) 54:2+ O 20 '50

PSCHORR reaction

Internuclear cyclisation; modifications and extensions of the Pschorr reaction. D. H. Hey and J. M. Osbond. Chem Soc J p3164-71 D '49

Internuclear cyclisation; the application of the Pschorr reaction to some substituted derivatives of *o*-amino-α-phenylcinnamic acid. D. H. Hey and J. M. Osbond. Chem Soc J p3172-7 D '49

PSEUDO acids. See Acids

PSEUDOKRYPTOGENIN

Steroidal sapogenins; oxidation of $\Delta^{5,16,20(22)}$-furostatriene-3β,26-diol. A. Sandoval and others. Am Chem Soc J 73:3820-4 Ag '51

PSEUDOPELLETIERINE

Preparation of glutaraldehyde and pseudopelletierine. A. C. Cope and others. bibliog Am Chem Soc J 73:3416-18 Jl '51

PSEUDOSANTONIN
Constitution of ψ-santonin; some dimethylethylnaphthols. W. Cocker and others. Chem Soc J p 1781-94 Jl '50
Constitution of ψ-santonin; some synthetical experiments. W. Cocker and C. Lipman. Chem Soc J p533-9 Ap '47; Correction. p 1519-20 Je '50
Constitution of ψ-santonin; synthesis of 6-ethyl-2 : 4-dimethyl-1-naphthol. W. Cocker, A. K. Fateen and C. Lipman. Chem Soc J p929-31 Ap '51

PSEUDOSTRYCHNINE
Strychnine and brucine; oxy*pseudo*strychnine. C. A. Friedmann. Chem Soc J p 1585-9 Je '50

PSYCHIATRIC social work. See Social work, Psychiatric

PSYCHIATRY, Industrial
Psychiatric approach to the problem of human relations in industry. L. A. Cantow and others. bibliog Personnel 27:431-9 Mr '51
Psychosis as a side door out of industry. F. Tallman. Ind Med 20:212-14 My '51
Round table on industrial psychiatry conducted by the committee on industrial psychiatry of the American psychiatric association. Ind Med 20:65-7 F '51
Seminars in industrial psychiatry. W. D. Ross and D. J. Lauer. Ind Med 20:119-20 Mr '51
Symposium on how industrial medicine can meet the needs of the American worker; viewpoint of the psychiatrist. K. M. Bowman. A M A Archives Ind Hygiene & Occup Med 3:181-4 F '51

PSYCHOLOGICAL research
Contemporary psychology in the Soviet Union. I. D. London. bibliog(104 ref) Science 114:227-33 Ag 31 '51
See also
Neuroses, Experimental

PSYCHOLOGISTS
Occupational outlook handbook. U S Bur Labor Statistics Bul 998:108-11 '51

Directories

American psychological association, 1950 directory. 262p pa $2 American psychological assn, 1515 Massachusetts av, N.W. Washington 5, D.C. '50

PSYCHOLOGY
Security vs. venture. Chem Eng 58:224+ Mr '51
See also
Ability tests
Advertising—Psychology
Dreams
Intellect
Knowledge, Theory of
Learning, Psychology of
Mental hygiene
Perception
Personality tests
Security (psychology)
Worry

Periodicals

Handlist of psychology periodicals in the learned libraries of Great Britain. J. W. Scott and F. V. Smith, comps. J Doc 6: 152-66 S '50

Russia

Contemporary psychology in the Soviet Union. I. D. London. bibliog(104 ref) Science 114:227-33 Ag 31 '51

PSYCHOLOGY, Applied
How to size people up. D. A. Laird. Banking 43:40-1+ Ja '51
Human relations and the industrial scientist; a teacher's view. H. J. Leavitt. Chem & Eng N 29:1727-8 Ap 30 '51

PSYCHOLOGY, Industrial
Can we measure attitude? J. V. Waits. Nat Safety N 63:76-7+ Ja '51
Cause of industrial unrest. F. Peterson. Ann Am Acad 274:25-31 Mr '51
Communication in the work group. H. O. Ronken. Harvard Bsns R 29:108-14 Jl '51
Historic forces on the march. F. Hooson. J Retailing 26:174-6+ Winter '50
Management and the community. R. H. Rich. Advanced Management 16:5-6 F '51
Understanding group thinking in business. D. A. Laird. Personnel J 29:211-15 N '50
Work psychology and time and motion study. J. J. Gillespie. bibliog Advanced Management 16:4-6 Ap '51
See also
Ability tests
Buying motives
Personality tests
Safety devices and measures—Psychological aspects

PSYCHOLOGY, Pathological
See also
Neuroses, Experimental

PSYCHOLOGY, Physiological
Effect of reinforcement history on extinction after reconditioning. P. J. Bersh and others. bibliog Science 112:743-5 D 22 '50
Human engineering. Mech Eng 73:226 Mr '51
Some engineering aspects of the mechanism of body control. R. Mayne. diags Elec Eng 70:207-12 Mr '51
See also
Color sense
Optical illusions
Senses and sensation
Space perception

Apparatus

Universal motion analyzer applied to psychomotor performance. K. U. Smith and R. Wehrkamp. diags Science 113:242-4 Mr 2 '51

PSYCHOLOGY, Political. See Political psychology

PSYCHOLOGY, Social. See Social psychology

PSYCHOLOGY of learning. See Learning, Psychology of

PSYCHOTHERAPY
Group psychotherapy. S. R. Slavson. il Sci Am 183:42-5 D '50
Sound recording and the problem of evidence in psychiatry. E. B. Brody and others. bibliog Science 113:379-80 Ap 6 '51

PSYLLIUM
Studies of seed mucilages; examination of a polysaccharide extracted from the seeds of plantago ovata Forsk by hot water. R. A. Laidlaw and E. G. V. Percival. Chem Soc J p528-34 F '50

PTERIDINE
Analogs of pteroylglutamic acid; 2-alkylamino derivatives. B. Roth, J. M. Smith, jr. and M. E. Hultquist. bibliog Am Chem Soc J 73:2864-8 Je '51
Antibacterial pteridines; 6 : 7-dialkyl derivatives of 2 : 4-diaminopteridine. N. R. Campbell, J. H. Dunsmuir and M. E. H. Fitzgerald. Chem Soc J p2743-5 O '50
Pteridine studies; 2-methylpteridines. E. M. Gal. Am Chem Soc J 72:5315-16 N '50
Pteridine studies; pteridine, and 2- and 4-amino- and 2- and 4-hydroxy-pteridines. A. Albert, D. J. Brown and G. Cheeseman. Chem Soc J p474-85 F '51
Pteridines; abstract. A. Albert and others. bibliog Chem & Ind p 187-8 Mr 10 '51
Pteridines; an unambiguous synthesis of 7 : 8-dihydro-6-hydroxypteridines. W. R. Boon, W. G. M. Jones and G. R. Ramage. Chem Soc J p96-102 Ja '51
Pteridines; replacement reactions of amino, hydroxyl and mercapto groups in the pteridine series. E. C. Taylor, jr. and C. K. Cain. Am Chem Soc J 73:4384-7 S '51
Pteridines; the synthesis of some α-(5-nitro-4-pyrimidylamino)-ketones and their conversion into 7 : 8-dihydropteridines and pteridines. W. R. Boon and W. G. M. Jones. Chem Soc J p591-6 F '51
Pteridines; unambiguous syntheses of xanthopterin and 2-amino-4-hydroxy-6-methylpteridine. W. R. Boon and T. Leigh. Chem Soc J p 1497-501 Je '51
Synthesis of 8-substituted pteridine derivatives. H. S. Forrest and others. Chem Soc J p 1-7 Ja '51

PTEROYLGLUTAMIC acid. See Folic acid

PUBERULIC acid
Puberulic and puberulonic acids; the molecular formula of puberulonic acid and consideration of possible benzenoid structures for the acids. R. E. Corbett and others. Chem Soc J p 1-9 Ja '50
Puberulic and puberulonic acids; the structure of puberulonic acid. A. W. Johnson, N. Sheppard and A. R. Todd. Chem Soc J p 1139-40 Ap '51
Stipitatic, puberulic and puberulonic acids; abstract. A. R. Todd and A. W. Johnson. bibliog Chem & Ind p 13 Ja 6 '51

PUBLIC address systems. See Loud speaking apparatus

PUBLIC administration. See Administration, Public

PUBLIC buildings

Germany's up-to-date Parliament lets light into politics. il Arch Forum 95:181 Jl '51

War memorial to serve many purposes; Onondaga County war memorial; with cost data. F. S. Merritt. il plan diags Eng N 145:39-43 N 16 '50

See also

County buildings

Municipal centers

School buildings

Air conditioning

Engineering features of the new House of commons. il plans diags Engineering 170: 393-7, 408, pl 31-3 N 24 '50

Electric equipment

House of lords; electrical installation. il Elec R (Lond) 148:1132-4 Je 1 '51; Abstract. Electrician 146:1860 Je 1 '51

New House of commons; electric equipment. il Elec R (Lond) 147:579-84 O 20 '50; Electrician 145:926-8 N 10 '50

Lighting

Engineering features of the new House of commons. diags Engineering 170:396-7 N 24 '50

Lighting in the Lords. il Elec R (Lond) 149:123-4 Jl 20 '51; Electrician 147:267-8 Jl 27 '51

Public buildings. D. L. Tabraham. il Elec R (Lond) 147:1046-51 D 22 '50

Special lighting in new Capitol building. il Elec West 107:78-80 Ag '51

PUBLIC contracts. See Contracts, Government

PUBLIC health

Acceptable standards for natural waters used for bathing. C. R. Cox. Am Soc C E Proc 77 [no 74]:1-7 Je '51

Arthritis as a public health problem. L. A. Scheele. Pub Health Rep 65:1351-8 O 20 '50

Conference report of the southern branch of the American public health association. Pub Health Rep 66:1107-26 Ag 31 '51

Cooperation between health and welfare agencies. L. A. Scheele. Pub Health Rep 66:163-6 F 9 '51

Engineering and public health. A. J. S. Pippard. Engineering 171:493 Ap 27 '51

Environmental health; a critique. M. D. Hollis. Pub Health Rep 66:400-9 Mr 30 '51

Health implications of air pollution. J. J. Bloomfield. bibliog Am Soc C E Proc 77 [no 73]:1-7 Je '51

Health resources in defense of the Nation. F. Feiman and others. Pub Health Rep 65: 1493-528 N 17 '50

Microscopes and telescopes; address as retiring president of Minnesota public health conference. F. W. Behmler. Nat Safety N 63:38-9+ Ja '51

Philosophy of supplementary treatment of public water supplies in the interest of group health. A. P. Black. Am Water Works Assn J 43:11-15; Discussion. J. L. T. Appleton. 15-16 Ja '51

Poultry diseases as public health problems. C. A. Brandly. bibliog Pub Health Rep 66: 668-72 My 25 '51

Public health in municipal engineering; abstracts. Engineering 172:6 Jl 6 '51; Engineer 191:799 Je 15 '51; Discussion. Engineering 172:6-8 Jl 6 '51

Public health; 1950; a topical and selective report of the 78th annual meeting of the American public health association and related organizations, St Louis, Mo. Oct. 30-Nov. 3, 1950. Pub Health Rep 65:1609-49, 1657-700 D 8-15 '50

Water fluoridation; a sound public health practice. C. R. Cox and D. B. Ast. bibliog Am Water Works Assn J 43:641-8 Ag '51

See also

Air pollution

City planning

Diseases—Statistics

Disinfection and disinfectants

Dust removal

Factory sanitation

Food supply

Hospitals

Hygiene, Industrial

Infectious diseases

Influenza

Insurance, Health

Medical service

Milk supply

Mortality

Mosquitoes—Extermination

Nurses and nursing, Industrial

Nurses and nursing, Public health

Nutrition

Physical examinations

Refuse disposal

Safety devices and measurements

Sanitary engineering

Sanitation

Sewage disposal

Sickness

Smoke prevention

Social hygiene

Tuberculosis

Ventilation

Water pollution

Water purification

Water supply

also subdivision Sanitary affairs under names of countries, cities, etc., e.g. Chicago—Sanitary affairs; New York (city)—Sanitary affairs

also National institutes of health, Bethesda, Maryland

Bibliography

Keep up to date. Munic Ref Lib Notes [N.Y. Pub. Lib.] 31:109-16 D '50 (pa 25c)

Public health service publications, January-June 1950. Pub Health Rep 65:1722-8 D 22 '50

Public health service publications, July-December 1950. Pub Health Rep 66:1091-8 Ag 24 '51

International aspects

Defense and world health. Pub Health Rep 65:1611-19 D 8 '50

International co-operation in the service of health. C.-E. A. Winslow. Ann Am Acad 273:192-200 Ja '51

Statistics

See also

Infectious diseases—Statistics

Alaska

Hydatid disease (echinococcosis) in Alaska and the importance of rodent intermediate hosts. R. Rausch and E. L. Schiller. il Science 113:57-8 Ja 19 '51

Public health problems in Alaska. J. C. Haldeman and others. bibliog Pub Health Rep 66:911-44 Jl 20 '51

California

Q fever studies in southern California; aureomycin treatment of dairy cattle naturally infected with coxiella burnetii. L. Luoto and others. bibliog Pub Health Rep 66: 19-204 F 16 '51

Germany

Industrial hygiene in the western zone of Germany. I. R. Tabershaw. A M A Archives Ind Hygiene & Occup Med 3:298-315 Mr '51

Great Britain

Poliomyelitis, hospital inquiry, England and Wales, 1949. W. H. Bradley and A. H. Gales. Pub Health Rep 66:740-8 Je 8 '51

Hawaiian Islands

Plague in the territory of Hawaii. B. Gross and D. D. Bonnet. maps Pub Health Rep 66:209-14 F 16 '51

Kentucky

Industrial health in Kentucky. W. W. Stalker. Ind Med 20:129-32 Mr '51

Liberia

Liberia health campaign. Chem & Eng N 28:4470 D 18 '50

North Dakota

Encephalitis in the Missouri River basin; studies on a focal outbreak of encephalitis in North Dakota. H. A. Wenner and others. bibliog map Pub Health Rep 66: 1075-85 Ag 24 '51

Poland

BCG vaccination in Poland. Pub Health Rep 66:873-4 Jl 6 '51

PUBLIC health—*Continued*

Somaliland

Progress in public health in Somaliland. For Comm W 43:19 Je 11 '51

United States

Challenge to voluntary health agencies. Pub Health Rep 66:823-33 Je 29 '51

Medical care for Americans. F. Goldmann and H. R. Leavell, eds. bibliog Ann Am Acad 273:1-200 Ja '51

Physical status of men examined through selective service in World war II. M. S. Goldstein. map Pub Health Rep 66:587-609 bibliog(p608-9) My 11 '51

Yugoslavia

Outbreak of Q fever in Sokol, Yugoslavia, Aug. 1950. E. S. Murray and others. Pub Health Rep 66:1032-7 bibliog(p 1036-7) Ag 10 '51

PUBLIC health administration

Activities of medical administrators in state health departments. H. M. Graning and others. map Pub Health Rep 66:619-29 My 18 '51

Activities of state and local agencies in industrial health. V. M. Trasko. A M A Archives Ind Hygiene & Occup Med 3:483-94 My '51

Multiple screening and specialized programs. J. W. Mountin. bibliog Pub Health Rep 65:1359-68 O 20 '50

Planning for a broad health program. E. S. Rogers. Ann Am Acad 273:176-84 Ja '51

Public health practice. Pub Health Rep 65:1620-33 D 8 '50

Rehabilitation; the role of the Health department. A. L. Chapman and J. H. Gerber. Pub Health Rep 66:529-34 Ap 27 '51

Résumé of public health service grant-in-aid programs providing medical services. E. F. Warner and E. Flook. Pub Health Rep 66:167-82 F 9 '51

Use of state advisory councils in the hospital survey and construction program. L. S. Reed. Pub Health Rep 66:487-500 Ap 20 '51

See also

Medical service—Socialization

Public health departments

Tuberculosis—Case reporting

PUBLIC health departments

Activities of medical administrators in state health departments. H. M. Graning and others. map Pub Health Rep 66:619-29 My 18 '51

Essential local public health services. H. Emerson. Ann Am Acad 273:19-24 Ja '51

PUBLIC health laboratories

Facilities and opportunities for research at the Arctic health research center. J. C. Haldeman. Pub Health Rep 66:941-4 Jl 20 '51

Rickettsialpox case due to laboratory infection. M. H. Sleisenger and others. bibliog Pub Health Rep 66:311-16 Mr 9 '51

PUBLIC health laws

Medical care for public assistance recipients. W. P. Dearing. Pub Health Rep 66:89-97 Ja 26 '51

Medical services and the Social security act amendments of 1950. S. J. Mushkin. bibliog Pub Health Rep 66:98-114 Ja 26 '51

Present laws protect health of public, House group hears. Chem & Eng N 28:4350 D 11 '50

PUBLIC health nurses and nursing. See Nurses and nursing, Public health

PUBLIC health research

Public health study section meeting, Pittsburgh, May 10-11; an evaluation of study methods. Pub Health Rep 66:883-97 Jl 13 '51

PUBLIC health surveys

Age incidence of specific causes of illness found in monthly canvasses of families; sample of the eastern health district of Baltimore, 1938-43. S. D. Collins and others. Pub Health Rep 66:1227-45 S 28 '51

Health and air pollution; a study on a limited budget. H. Heimann and others. map A M A Archives Ind Hygiene & Occup Med 3:399-407 Ap '51

Study of the cost of medical care; note on survey methodology. I. Altman and R. Wadman. Pub Health Rep 66:1019-31 Ag 10 '51

PUBLIC health workers

See also

Sanitary engineers

PUBLIC housing administration

Housing activities of the federal government. map Am Bld 73:sup 17-18 S '51

PUBLIC lands

Minerals production and the public domain; abstract. C. G. Davidson. Min Cong J 36:79 O '50

Proposed changes in public land laws; abstract. C. F. Willis. Min Cong J 36:80 O '50

See also

Mineral lands

Oil reserves (United States navy)

PUBLIC officials

Celler will probe dollar-a-year men. Bsns W p 134 Je 9 '51

Gulliver goes to Washington. R. Sheehan. Fortune 43:101-3+ Je '51

$1 year? yes, but. Bsns W p89-90 D 2 '50

These recruiters are bringing businessmen like these to Washington. Bsns W p76+ My 12 '51

WOC who's who; businessmen serving without compensation. Bsns W p39-40 F 24 '51

Directories

Directory of government construction officials. Arch Rec 109:16a-16d Mr '51

Government officials in charge of Canadian public water supplies and sewerage systems. Munic Util 88:8 D '50

Who's who in the defense organization. Steel 128:54-5 F 26; 49-51 Ap 23; 129:45-7 O 1 '51

Salaries

Statesmanship on the cheap; problem of parliamentary salaries. Economist 161:196-8 Jl 28 '51

PUBLIC opinion

Public relations and public opinion. C. M. Hackett. Min Cong J 36:34-6 N '50

What the public thinks about the electric companies. Elec World 135:75-8 Je 4 '51

PUBLIC opinion polls

Today's teen-agers off the beam on corporation profit picture. Ptr Ink 236:75 S 28 '51

PUBLIC printing. See Printing, Public

PUBLIC relations

Are you getting your money's worth out of public relations? N. Odell. Adv Agency 43:73+ D '50

College professors go to business! summer sessions at company plants. N. Keine. il Ptr Ink 236:31-2 Jl 20 '51

Contact man for GE's publics; Chester H. Lang. Bsns W p58 Je 30 '51

Difference between good and bad public relations today is sales; fuel oil truck driver and the contract. G. Morris. Ptr Ink 236:39 Ag 31 '51

Does the public believe it? abstract. C. Robinson. Management R 40:392-3 Jl '51

Get thee behind me, reporters tell public relations men. W. McMillen. Ed & Pub 83:12 D 9 '50

Getting a good press from bad news; preplanned public relations has enabled firms to triumph over adversity. il Mod Ind 22:64+ Jl '51

Good public relations aid wage negotiations. J. G. Mapes. Iron Age 166:79-81 N 16 '50

How do you rate on your community relations? pointers for the supervisor. H. Nix. Textile World 100:118-19 O '50

How not to write a book on business; review of Public relations and American democracy, by J. A. R. Pimlott. E. L. Bernays. Ptr Ink 236:52+ Ag 24 '51

How to reach future employees today; work with local school groups, use comics; Industrial information institute, Youngstown. R. B. Collins. il Ptr Ink 235:35-7 Je 1 '51

How to train men to sell good will; Standard Oil's adpreps. Sales Management 66:62+ My 20 '51

Importance of public relations. H. J. Johnson. Comm & Fin Chr 172:2296 D 14 '50

PUBLIC relations—*Continued*

Industrial public relations and the secondary schools; abstract. T. L. Taylor. Management R 39:644-5 N '50

Industry gets farm-minded; exchange of visits between farmers and industrialists in Winnebago county, Ill. R. Newcomb and M. Sammons. il Mill & Factory 49:109 S '51

Is anybody listening? business must start doing more listening itself. il Fortune 42: 77-83+ S '50; Same cond. Management R 39:574-7 O '50

It pays to be a good neighbor; community relations program of United specialties co., Chicago. A. C. Norris. il Mill & Factory 47:111-12 N '50

Jersey company; public relations for the long pull. G. Burck. il Fortune 44:108-13 O '51

Language of business. Fortune 42:113-17+ N '50

Let your employes sell you to the community; illustrations with text. Mill & Factory 49:116-17 Ag '51

Lifting the ticker tape curtain in colleges; New York stock exchange's public relations program. R. B. Menschel. Comm & Fin Chr 173:924 Mr 1 '51

Lynchburg turns a page; public opinion survey by Central Virginia industries. G. B. Arthur. il Dun's R 59:30-1+ F '51

Marquette's public relations program; Marquette cement manufacturing co. H. C. Persons. il Rock Prod 54:136-43 Ag '51

New technique for institutional advertisers; develop copy themes from letters of inquiry and feature the letter writers. L. F. Thomann. il Ptr Ink 236:40+ Ag 24 '51

New tv show is public relations man's dream come true; Richfield Oil gives television tour of plants to potential customers. L. F. Thomann. il Ptr Ink 235:44-5 Je 22 '51

Perfection a liability? L. McCracken. Ptr Ink 233:104 D 15 '50

Pigmobiles, and silo signs teach communications; Honeggers' & co. il Ind Marketing 35:62+ D '50

Planning a public information program; Weyerhaeuser timber co. A. Arnst. il Paper Tr J 132:19-20+ F 9 '51

Public gets better view of industry; Emil Krejci is one-man chamber of commerce. R. Newcomb and M. Sammons. il Ind Marketing 36:64+ Je '51

Public relations; a newspaperman's view; abstract. D. Moody. Chem Eng 58:253-5 Mr '51

Public relations and public opinion; analysis of the average American's view of his employer. C. M. Hackett. Min Cong J 36:34-6 N '50

Public relations and training programs in financial industry. W. H. Smith. Comm & Fin Chr 172:1086+ S 21 '50; Abstract. Trusts & Estates 89:785-7 N '50

Public relations begins at home for Ceco corp. Mod Ind 21:125-6 Je '51

Public relations can pay off too; Hollinger consolidated gold mines. N. Greene. il Eng & Min J 152:102 Ap '51

Public relations in 1951. Ptr Ink 233:28 D 29 '50

Public relations men call article on ads unFortune-ate; panel discussion at annual meeting of the Public relations society of America. Ed & Pub 83:12 D 9 '50

Public relations that doesn't sell. M. Hess, jr. Ed & Pub 84:28 Jl 28 '51

Public relations; why, how. L. Bodine. Pulp & Pa of Can 52:105-7, 111 My '51

Research, backbone of sound public relations. F. Lang. J Marketing 16:192-7 O '51

Southern business will profit from good public relations, now. S. Fish. Manuf Rec 120: 31-2 Ja '51

Speaking of coal; how New England goes about the job; Speakers' bureau of the Bituminous coal institute. J. L. Johnson. il Coal Age 55:88-9 N '50

Use of opinion research. L. Bogart. Harvard Bsns R 29:113-24 Mr '51

Weston's youth tours; new wrinkle in public relations; visits to England for 50 Canadian youngsters, and exchange group visits Canada. F. Bell. il Sales Management 67:156+ S 15 '51

What Mother Aldrich might have sold; opportunities lost General Foods, A.&P. and others. L. Galantière. Fortune 42:76-7+ N '50

See also

Advertising, Educational
Advertising, Institutional
Commercial correspondence
Publicity
Visitors

also subdivision Public relations under special headings, e.g.

Banks and banking
Chemical industries
Electric utilities
Engineers
Hospitals
Insurance companies
Motor bus lines
Paper industry and trade
Petroleum industry and trade
Plumbing trade
Telephone companies

PUBLIC relations association, Financial. See Financial public relations association

PUBLIC relations counselors

Case histories abound in first annual report by a public relations firm; Newsome & co. il Ptr Ink 235:52+ Ap 20 '51

PUBLIC service company of Colorado

Bond offering oversubscribed. Comm & Fin Chr 174:1300-1 O 8 '51

Denver utility in step with industry. map Elec World News ed 135:5-6 My 28 '51

Stock offering underwritten. Comm & Fin Chr 173:2498-9 Je 18 '51

PUBLIC service company of New Hampshire

Bonds offered. Comm & Fin Chr 173:2499 Je 18 '51

PUBLIC service company of Oklahoma

Bonds offered. Comm & Fin Chr 173:1796 Ap 30 '51

PUBLIC service electric and gas company

Public utility securities. O. Ely. Comm & Fin Chr 173:1965 My 10 '51

PUBLIC speaking

Don't pass up that chance to talk. H. W. Seinwerth. Chem Eng 58:232+ Jl '51

How to address a professional society. K. K. Darrow. Soc Motion Picture & Tv Eng J 56:423-8 Ap '51

So you have to make a speech? E. W. Fair. Pub Works 82:59 Ag '51

Speech training equips sales force for group selling. il Ptr Ink 233:40 N 10 '50

PUBLIC utilities

Steel output and the utilities. T. N. Sandifer. Pub Util 47:92-7 Ja 18 '51

See also

Airlines
Carriers
Corporation law
Corporations
Electric utilities
Gas, Natural—Pipe lines
Gas companies
Motor bus lines
Motor trucks in freight service
Petroleum pipe lines
Pipe lines as common carriers
Public utility districts
Railroads
Railroads and state
Street railroads
Telegraph
Telegraph companies
Telephone
Waterworks

Accounting

Accelerated amortization accounting. O. Ely. Pub Util 48:367-8+ S 13 '51

British transport commission's adoption of depreciation accounting. J Account 92:91-2 Jl '51

Depreciation or depredation. H. W. Coil. Pub Util 48:492-9 O 11 '51

Is the retirement reserve method still generally accepted? J Account 91:840-1 Je '51

New book a unique contribution to public utility accounting; review of Public utility accounting, by J. R. Foster and B. S. Rodey, jr. Edison Elec Inst Bul 19:254-5 Jl '51

Rôle of accounting in public utility regulation. J. R. Foster and B. S. Rodey, jr. Pub Util 46:553-60, 663-72, 753-60 O 26-N 23 '50

Thoughts on depreciation accounting. J. R. Foster and B. S. Rodey, jr. Pub Util 47: 224-33 F 15 '51

Utility accounting to serve the citizens. E. Hardy. il Munic Util 89:25-7+ Ja '51

PUBLIC utilities—*Continued*

Advertising

How about video for utility companies? T. Armstrong. il Sales Management 65: 84+ N 1 '50

See also

Railroads—Advertising

Consolidation

Planning a modern utility merger; Niagara Mohawk power corp. E. J. Machold. Pub Util 47:747-57 Je 7 '51

Costs

Public utility construction cost index. Eng N 146:129 Mr 29 '51

Development work

Utility teamwork; virgin industrial district in Fontana. J. H. Collins. Pub Util 47:611-18 My 10 '51

Employees

Advantages of utility employment. M. Hammett. Pub Util 48:223-8 Ag 16 '51

Federal labor legislation to govern public utility strikes. R. S. Bessey. Land Econ 27: 182-6 My '51

Fringe benefits in utilities. M. Hammett. Pub Util 47:344-50 Mr 15 '51

Ivory tower; huckster hookup; utility management has to drive technical and sales minds together. J. H. Collins. Pub Util 48: 99-106 Jl 19 '51

Jersey's utility antistrike law. Pub Util 48: 123-4 Jl 19 '51

Man power, the industry's no. 1 problem. C. Furcolowe. Pub Util 48:32-7 Jl 5 '51

Outlook for regulation of utility strikes. P. B. Willauer. Pub Util 47:619-26 My 10 '51

People will listen; developing channels of communication for better industrial relations. J. E. Boulet. Pub Util 48:94-8 Jl 19 '51

Planning now for man-power shortages. E. W. Fair. Pub Util 47:152-5 F 1 '51

Public utilities compulsory arbitration law invalid. Mo Labor R 72:567-8 My '51

Public utility anti-strike laws declared invalid. A. W. Gray. Power Eng 55:87-8 S '51

Soldiers of public service; heroism of utility employees; Carnegie medal awards. H. F. Unger. Pub Util 48:477-85 O 11 '51

Supreme court's Wisconsin ruling; does it end anti-strike laws? R. B. Temple. Bus Transportation 30:38-9 Ap '51

Utility antistrike laws. Pub Util 48:379-81 S 13 '51

Utility executive development program; School of business administration of the University of Michigan. H. C. Thuerk. il Edison Elec Inst Bul 19:293-5+ S '51

Utility executives go back to school; special course at University of Michigan. il Elec World 136:64-6 Jl 30 '51

Wisconsin utility anti-strike law violates T-H act, high court rules. Elec World News ed 135:6 Mr 5 '51

See also

Gas companies—Employees

Railroads—Employees

Equipment and supplies

Utilities have an enormous equipment maintenance job. J. Connolly. il Constr Methods 33:78-9+ Jl '51

Finance

Amortization of emergency facilities. O. Ely. Pub Util 47:567 Ap 26 '51

Analysis of 1950 financing; tabular data and charts from Ebasco Services booklet. O. Ely. Pub Util 47:240, 241-2, 244 F 15 '51

Depreciation or depredation. H. W. Coil. Pub Util 48:492-9 O 11 '51

Forecasting utility earnings. O. Ely. Comm & Fin Chr 173:463 Ja 25 '51

Industrialist looks at the public utility industry. H. A. Bullis. Pub Util 47:744-6 Je 7 '51

Municipal financing of utilities. L. E. Caffall. Comm & Fin Chr 172:1598 O 26 '50

New look at rate of return. C. Tatham, jr. Pub Util 46:867-72 D 21 '50

Operating revenue, profits and dividends of public utility corporations, yearly, 1939-1949 and quarterly, 1948-1950. Fed Res Bul 37:69 Ja '51 [cont monthly]

Outlook for utilities. C. A. O'Neil. Comm & Fin Chr 173:439+ Ja 25 '51

Outlook for utility financing in 1951-53; abstract. Busch. Pub Util 46:835-6 D 7 '50

Utility construction and finance policies. O. Ely. Pub Util 47:240+ F 15 '51

Welfare theory, technological change and public utility investment. Y. Brozen. Land Econ 27:67-75, 123-32 F-My '51

What's the right equity ratio? Pub Util 47: 634-6 My 10 '51

See also

Electric utilities—Finance

Gas companies—Finance

Public utilities—Securities

Public utilities—Taxation

Railroads—Finance

Law

Legislative outlook in the 44 states; with special reference to public utility interest. A. Haines. Pub Util 47:286-91 Mr 1 '51

New public utility laws coming up in 1951. B. Jones. Pub Util 46:567-74 O 26 '50

Roundup of law review articles on public utilities; abstracts from March, 1951, issue of the Nebraska law review. Pub Util 48: 244-50 bibliog(p249-50) Ag 16 '51

Significance of the Soper decision; contract between hydroelectric power producer and utility company. S. H. Crosby. Pub Util 47:825-32 Je 21 '51

See also

Gas, Natural—Laws and regulations

Holding companies—Laws and regulations

Public utilities—Regulation

Public utilities commissions

Railroad law

Management

Ivory tower; huckster hookup; utility management has to drive technical and sales minds together. J. H. Collins. Pub Util 48: 99-106 Jl 19 '51

Men who direct; stock ownership by directors. H. E. Dickhuth. Pub Util 47:833-8 Je 21 '51

Municipal ownership

Diversion and regulation of public utility funds. R. E. McDonnell. Water & Sewage Works 98:387-91 S '51

Hidden gold in municipal utilities; exemption from regulation, taxation, and other controls. J. C. Poindexter. Pub Util 48: 81-93 Jl 19 '51

Public relations

Consumer's interest in utilities' success. R. L. Rosenthal. Comm & Fin Chr 172:999 S 14 '50; Same. Am Water Works Assn J 43:121-3 F '51

Junior achievement; important key to an important age group. A. B. Marvin. il Gas Age 107:37-9+ My 24 '51

Public utility sight-seeing technique; tours of plant facilities; Pacific gas and electric co. J. E. Conant. Pub Util 46:735-43 N 23 '50

Utility holds open lobby to assist various civic, educational, and other projects in Cincinnati. G. W. Keith. Pub Util 47:839-48 Je 21 '51

Utility public relations and the press. D. Markstein. Pub Util 48:153-63 Ag 2 '51

See also

Electric utilities—Public relations

Motor bus lines—Public relations

Railroads—Public relations

Waterworks—Public relations

Rates

California's progress in public utility regulation. R. E. Mittelstaedt. Pub Util 48:340-6 S 13 '51

Compensating for dollar inflation in rate regulation. C. H. Ross. Pub Util 47:663-73 My 24 '51

PUBLIC utilities—Rates—*Continued*

Development of rate regulation in Canada. H. E. O'Donnell. Pub Util 46:654-62, 744-52 N 9-23 '50

Public utility rate control in a period of price inflation. J. C. Bonbright. bibliog Land Econ 27:16-23 F '51; Excerpts. Pub Util 47:642-4 My 10 '51

Welfare theory, technological change and public utility investment. Y. Brozen. Land Econ 27:67-75, 123-32 F-My '51

See also

Electric rates
Gas rates
Railroads—Rates
Telephone—Rates
Water rates

Regulation

American bar association Section of public utility law annual meeting, Washington, Sept. 18-19; addresses on questions of public interest. Pub Util 46:603-41 O 26 '50

Federal power commission has jurisdiction over out-of-state energy notwithstanding voltage change. Pub Util 48:257-8 Ag 16 '51

Hidden gold in municipal utilities. J. C. Poindexter. Pub Util 48:81-93 Jl 19 '51

Proper spheres of state and federal regulation of public utilities. R. M. Besse. Pub Util 46:706-14 N 9 '50; Same abr. Edison Elec Inst Bul 18:405-8+ N '50

Public utilities under the Defense production act; with organization chart of Defense production act administration. F. X. Welch. Pub Util 46:720-4 N 9 '50

Regulation versus federal competition; abstract. H. R. O'Conor. Pub Util 47:710-14 My 24 '51

Regulatory rules reappraised. B. L. Overcash. Pub Util 47:578-9 Ap 26 '51

Rôle of accounting in public utility regulation. J. R. Foster and B. S. Rodey, jr. Pub Util 46:553-60, 663-72, 753-60 O 26-N 23 '50

State and federal regulation; their proper spheres. H. M. Miller. Pub Util 46:632-41 O 26 '50

See also

Airlines—Regulation
Gas, Natural—Laws and regulations
Public utilities commissions
Water companies—Regulation

Reports

Should annual reports be glamourized? O. Ely. Pub Util 47:564-7 Ap 26 '51

Safety measures

Brazil utilities make safety gains. Nat Safety N 63:74-5 Ja '51

Ebasco services and New York university safety conference, 4th, New York. Gas Age 107:40-1 Ap 12 '51; Same. Safety Maint & Prod 101:20+ My '51; Same cond. Nat Safety N 63:118-20 My '51

Securities

Brokers' analyses of utility stock. O. Ely. Pub Util 47:174-7; 48:240 F 1, Ag 16 '51

Irving trust company's analysis of 1950 utility financing. O. Ely. Pub Util 47:171-3 F 1 '51

Is there a limit to stockholder offerings? W. F. Stanley. Pub Util 48:201-6 Ag 16 '51

Market break in underpricing utility shares. J. F. Childs. Pub Util 47:472-8 Ap 12 '51

New annual statistical report for utility analysts. O. Ely. Pub Util 47:306-8 Mr 1 '51

Principal public offerings of utility securities; quarterly data; tabulations. Pub Util 46:769 N 23 '50

Selection of public utility stocks by formula. E. B. Barrett. Comm & Fin Chr 173:61 Ja 4 '51

Stockholder organizations and the utility companies. M. H. Frank. Pub Util 47:779-83 Je 7 '51

Utilities handicapped by rapid rise in cost of financing. O. Ely. Pub Util 48:44-5 Jl 5 '51

Utilities need aid to stimulate preferred stock financing. O. Ely. Pub Util 48:45-7 Jl 5 '51

Utility outlook. E. Etherington. Comm & Fin Chr 174:153+ Jl 12 '51

See also

Electric utilities—Securities
Railroads—Securities

Taxation

Excess profits tax bill to contain relief provision for utility industry. Elec World (News ed) 134:14 D 11 '50

Impact of federal taxes on utilities. C. P. Crane. Comm & Fin Chr 173:1765 Ap 26 '51

Importance of utility taxes. S. P. Allen. Pub Util 46:547-52 O 26 '50

Is retroactive taxation valid? R. L. Rosenthal. Pub Util 48:275-83 Ag 30 '51

New EPT law; probable small effect on utility earnings. Pub Util 47:105-10 Ja 18 '51

New House bill may ease EPT burden. O. Ely. Pub Util 46:887-9 D 21 '50

Should an excess profits tax be applied to public utilities? E. M. Stark. Pub Util 46:651-3 N 9 '50

Showdown on EPT? O. Ely. Pub Util 46:830-5 D 7 '50

Tax situation hinting at more utility extra dividends. Barron's 30:25 D 18 '50

Utility tax is a consumer tax. R. L. Rosenthal. Pub Util 47:545-51 Ap 26 '51

See also

Railroads—Taxation

Valuation

Valuation and depreciation related to income tax. M. R. Scharff. Am Soc C E Proc 77 [no 69]:1-7 My '51

War problems

Civil defense begins at home; Florida's program. C. E. Wright. Pub Util 47:218-23 F 15 '51

New Jersey men blueprint plan for civil defense corporation. Gas Age 107:66+ My 24 '51

Public utilities and civil defense. B. F. Feinberg. Pub Util 46:727-34 N 23 '50

Utilities are mobilized for disaster relief. Elec West 106:67-8 My '51

Brazil

Brazil utilities make safety gains. Nat Safety N 63:74-5 Ja '51

California

California's progress in public utility regulation. R. E. Mittelstaedt. Pub Util 48:340-6 S 13 '51

Utility families; California bill would give state commission wide powers over contracts between parent companies and affiliates. Bsns W p 138 My 26 '51

Canada

Canada needs bolder development of roads, power, railroads and other utilities. C. S. Eaton. Roads & Eng Constr 89:36+ Ja '51

Canadian utilities; a parade of rate increase offsets upswing in costs. N. Willatt. Barron's 31:19-20 S 10 '51

Florida

Florida's new full-powered commission. C. E. Wright. Pub Util 47:674-7 My 24 '51

United States

Utility industry. H. E. Dickhuth. Banking 43:88 O '50

Washington outlook for public utilities, 1951. F. X. Welch. Pub Util 47:3-12 Ja 4 '51

Virginia

Hidden gold in municipal utilities. J. C. Poindexter. Pub Util 48:81-93 Jl 19 '51

PUBLIC utilities advertising association

Annual meeting, 30th, New York, May 17-19. Elec World News ed 135:13 My 28 '51; Am Gas Assn Mo 33:34-5 Je '51

PUBLIC utilities commissions

Federal and state regulation; the proper scope of each. T. C. Buchanan. Pub Util 46:620-32 O 26 '50

Florida's new full-powered commission. C. E. Wright. Pub Util 47:674-7 My 24 '51

Lady commissioner looks at regulation; interview with the Honorable Hortense Fuld Kessler. Pub Util 48:465-76 O 11 '51

Territorial aspects of electric rate making by the Public utilities commission of California. W. F. Kennedy. bibliog Land Econ 26:325-36 N '50

PUBLIC utilities commissions—*Continued*

Utility families; California bill would give state commission wide powers over contracts between parent companies and affiliates. Bsns W p 138 My 26 '51

What a state commission does and why. J. C. Doerfer. Pub Util 47:771-8 Je 7 '51

PUBLIC utility districts

Court decision clears way for sale of Puget Power facilities to PUD's. Elec World 135: 46 Ja 15 '51

Court turns down public utility deal; Washington Water Power case. Bsns W p 128-9 Ap 28 '51

Injunction against sale of Washington Water Power is issued on Coast; SEC bows out. Elec World News ed 135:14 Mr 5 '51

Power fight dumped on SEC; future of Washington water power co. Bsns W p 151 S 22 '51

Private vs. PUD in state of Washington. Bsns W p 104 Mr 10 '51

Protecting home rule over utility service. M. Smith. Pub Util 47:465-71 Ap 12 '51

Public utility condemnation cases in the state of Washington. H. L. Gray. map Am Soc C E Proc 76 [no 2]:1-13 F '50; Discussion. 76 [no D-2]:1-2 D '50

Sale of Washington Water Power stock to Chelan PUD is opposed. Elec World 135: 44 Ja 1 '51

State auditors criticize Wasco PUD practices. Elec World 135:72 Je 4 '51

PUBLIC utility holding companies. See Holding companies

PUBLIC welfare

Medical care for public assistance recipients. W. P. Dearing. Pub Health Rep 66:89-97 Ja 26 '51

Medical services and the Social security act amendments of 1950. S. J. Mushkin. bibliog Pub Health Rep 66:98-114 Ja 26 '51

See also

Day nurseries
Social work

PUBLIC works

Aerial surveys save time and money in public works planning. il plan Pub Works 82:31-4 Ja '51

Engineering planning for disaster. il Pub Works 82:62-3 Ap '51

When public works are being planned, the courts advise; get engineering advice first. P. J. Smith. Pub Works 82:66+ Je '51

See also

Aqueducts
Bridges
Flood control
Highway departments
Hydroelectric plants
Irrigation
Municipal improvement
Pavements
Public buildings
Refuse disposal
Roads
Sewage disposal
Sewerage
Streets

Cost

Public works costs lower. J. E. Hubel. Pub Works 81:59-60 N '50

Finance

Federal construction plan revealed. Eng N 146:27 Ja 25 '51

Reclamation Bureau budget high spots. Eng N 146:31 Ja 25 '51

Seek four billion dollars for nonmilitary building as record budget goes to Congress. V. B. Smith. Eng N 146:25-7 Ja 18 '51

States set $2 billion goal for construction, 1951-1953. D. E. Reilly. Eng N 146:23-4 Mr 15 '51

See also

Special assessments

Italy

Italian public works in review. Eng N 147:50-1 Ag 2 '51

New Jersey

New Jersey has big development plans. Eng N 146:24 My 17 '51

United States

Emergency civil works. C. H. Chorpening. Mech Eng 73:413-14 My '51

How pork fattens the federal budget; spending for public projects of strictly local benefit. M. R. Kynaston. Pub Util 47:688-94 My 24 '51

Preparedness seen top public works job. Eng N 145:26 O 26 '50

PUBLICITY

Across the street and into the saloon. S. Warren. Adv Agency 44:68 O '51

Better press relations for industry; abstract. Management R 39:642-3 N '50

Do's and don'ts of industrial publicity. T. Campbell. Ind Marketing 36:39 Jl '51

Editor looks at your news releases. R. H. La Bonte. Ind Marketing 36:36-7 Ag '51

Free publicity items become linage leads. G. A. Lessig. Ed & Pub 84:24 Jl 28 '51

Handouts are helpful to press. R. Early. Ed & Pub 84:22 Je 9 '51

Highbrows; bait for top business brass; Corning Glass sponsors conference on Living in industrial civilization. Bsns W p22-3 My 26 '51

How to administer industrial publicity. H. W. Smith, jr. Ind Marketing 36:38-9+ Jl '51

How to use the Big Three to get industrial publicity; news wire services, what they are and where. R. McDevitt and J. D. Waugh. Ind Marketing 35:40-1+ D '50

Is publicity from technical societies tabu? no, if. B. C. Hutchins and H. W. Smith, jr. Ind Marketing 35:44+ O '50

New chemical products data for publication. J. C. Vaaler. Ind & Eng Chem 43:858-9 Ap '51

New York editors riled by too much public relations; New York telephone co. Ed & Pub 84:6+ F 17 '51

News hopper must be fed. Chem Eng 58:229-30 Ja '51

Pith, pap, or purple passion? prelude to a press release. Chem Eng 57:203-4+ D '50

Politics and the how of industrial publicity. W. K. Harriman. Sales Management 67:102+ O 1 '51

Publicizing the plating industry. W. M. Phillips. il Metal Finishing 49:62+ My '51

Put your publicity list on cards. F. I. Jewell. Ptr Ink 235:38-9 My 18 '51

See-for-yourself press junket gets publicity results. C. T. Slote. il Ind Marketing 36: 38-9 My '51

30 do's and don'ts on publicity. F. Howe. Ptr Ink 235:30-1 My 4 '51

Ways to get free publicity. Dom Eng 177: 98-9 Mr; 107-8 Ap '51

We set up our picture file for fast turnover. A. Grant. il Ptr Ink 233:34-5 N 24 '50

What the free-lancer offers to industrial publicity. C. G. Cleveland. Ind Marketing 35: 72+ D '50

You and the newspapers; suggestions for getting publicity for safety. S. Ingham. Nat Safety N 64:102-3+ O '51

See also

Advertising
Government publicity
Political parties—Publicity
Public relations

PUBLISHERS

Writer's market. R. A. Jones and A. M. Mathieu, eds. 13th ed 515p $3.50 Writer's digest, 22 E. 12th st, Cincinnati 10 '50

See also

Newspapers—Publishers
Technical publishers association
Women as publishers

Directories

Literary market place; the directory of American book publishing. A. J. Richter, comp. v 11 rev 296p $4.25 R. R. Bowker co, 62 W. 45th st, New York 19 '51

Writers' and artists' year book, 1951; a directory for writers, artists, playwrights, film writers, photographers and composers. 44th ed 386p A. & C. Black, 4-6 Soho square, London, W.1 '51 ($2.50)

PUBLISHERS' libraries

Curtis information section. J. P. Wood. Special Lib 42:58-61+ F '51

Reference publisher's reference collection. A. Rothe. Special Lib 42:51-5+ F '51

PUBLISHING

Books, civilization, and science. W. Guthrie. Science 113:429-31 Ap 20 '51

PUBLISHING—*Continued*

Two hobbies turn into big business; Kalmbach publishing co. G. Parker. il Inland Ptr 127:50-2 Ag '51

See also

Book industry and trade
House organs
Newspapers
Periodicals
Textbooks

Accounting

Controlling costs in the publishing industry. W. T. Gayle. N A C A Bul 33:66-78 S '51

Ireland

Ireland's 1950 trade in printed matter; with table. For Comm W 44:17 Ag 27 '51

PUBLISHING buildings

See also

Newspaper offices

PUCKETT, B. Earl, 1897-

Stern's is what Allied's waited for. pors Bsns W p78+, cover Mr 31 '51

PUERTO PEÑASCO, Mexico

Recurrent mirages. R. L. Ives. bibliog il map diags Franklin Inst J 252:285-95 O '51

PUERTO RICO

School for Point Four engineers. A. J. Fox, jr. il Eng N 146:32-5 F 15 '51

See also

Finance—Puerto Rico
Immigration and emigration—Puerto Rico

Industries and resources

Desocialized; EDA sells four government plants to private firm. Bsns W p 142-3 N 4 '50

Puerto Rico's Operation bootstrap is beginning to pay both island and industry. il Mod Ind 21:74-5 Mr '51

PUGET sound

Puget Sound bridge reported feasible. C. E. Andrew. Eng N 146:30 Mr 15 '51

PUGET sound power and light company

City Light to take over Puget property March 1. Elec World 135:94 F 12 '51

Court decision clears way for sale of Puget Power facilities to PUD's. Elec World 135: 46 Ja 15 '51

Final chapter opening in break-up. E. R. Abrams. Barron's 31:6 Mr 26 '51

Public utility securities. O. Ely. Comm & Fin Chr 173:85 Ja 4 '51

Security I like best. B. A. Selzer. Comm & Fin Chr 173:2442+ Je 14 '51

PULLEYS

Adaptor bushed pulleys. il Engineer 190:475 N 17 '50

Automatic self-centering rolls and pulleys. E. T. Lorig. diags Iron & Steel Eng 27: 57-67 N '50

Cable-pulley friction. W. E. Schorr. il diags A S M E Trans 72:1173-8; Discussion. 1178-80 N '50

Expanding vee pulley. il diag Engineer 191: 486 Ap 13 '51

Four pulley grooves machined simultaneously. il Steel 127:102 D 18 '50

Overhung driving pulley cuts conveyor maintenance costs. il Steel 128:72 F 19 '51

Pressed steel grooved pulleys. il Engineer 190: 538 D 1 '50

Spend less money for power transmission. diag Brick & Clay Rec 119:28 S '51

PULLMAN cars. See Sleeping cars

PULLMAN companies

Brighter prospects. Barron's 30:18 D 11 '50

Five companies with big order backlogs; with comparative balance sheet items. Mag of Wall St 88:303 Je 16 '51

Five well situated stocks offering good yields; with comparative balance sheet items. Mag of Wall St 87:124 N 4 '50

New line for new earnings; purchase of Trailmobile. il Bsns W p 114+ Jl 28 '51

Pullman inc. expands; will acquire business of Isaacson iron works. Welding J 30:184 F '51

Strikes close three plants of Pullman-Standard. Ry Age 131:43-4 Jl 30 '51

PULP and paper industry, Technical association of the. See Technical association of the pulp and paper industry

PULP and paper research institute of Canada

Progress in re-organization. L. R. Thiesmeyer. Pulp & Pa of Can (Convention no) 52:118-21 [F] '51

PULPSTONES

Effect of pulpstone grit distribution on groundwood quality control. E. P. Walsh. bibliog Pulp & Pa of Can 52:76-81+ Mr '51

PULPWOOD. See Wood pulp

PULSE analyzers

Comprehensive counting system for nuclear physics research; pulse amplitude analyzers. N. F. Moody and others. bibliog il diags R Sci Instr 22:551-63 Ag '51

PULSE generators

Clipper for deluxe pulse generator. L. E. Garner. il diag Radio & Tv N 46:64-5+ O '51

Deluxe pulse generator. L. E. Garner, jr. il diags Radio & Tv N 46:40-2+ S '51

Digital computer timing unit. R. M. Goodman. diags Inst Radio Eng Proc 39:1051-4 S '51

High-voltage pulse power supply. H. E. Brown. diag Electronics 24:164+ My '51

Incremental delay pulse generator. G. F. Montgomery. il diags Electronics 24:218+ F '51

Inexpensive pulse generator. L. E. Garner, jr. il diags Radio & Tv N 45:36-7+ F '51

Multi-channel measurement of physical effects by confluent pulse technique, with particular reference to the analysis of strain. J. G. Yates and others. bibliog il diags Inst E E Proc 98 pt 2:109-21; Discussion. 121-4 Ap '51

Narrow-pulse generator for calibrating noise-measuring sets. C. S. Fowler. il diags Wireless Eng 27:265-9 O-N '50; Discussion. 28:225-6 Jl '51

Pulse-former. L. E. Garner, jr. il diags Radio & Tv N 46:57-9 Ag '51

Pulse generator for the millimicrosecond range. R. L. Garwin. diags R Sci Instr 21:903-4 N '50

Pulse generator of fixed repetition rate; with sine-wave control. F. A. Benson and R. M. Pearson. il diags Wireless Eng 27:285-8 D '50

Research pulse counter. il Tv Eng 2:7-8 Ja '51

Television waveform display. K. R. Sturley. il diags Wireless Eng 28:261-5 S '51

Tube characteristic tracer using pulse techniques. H. M. Wagner. bibliog il diags Electronics 24:110-14 Ap '51

Use of saturable reactors as discharge devices for pulse generators. W. S. Melville. diags Inst E E Proc 98 pt 3:185-204; Discussion. 204-7 My '51

Variable pulse delay for radar ranging. J. F. Gordon. bibliog il diags Electronics 24:100-3 O '51

PULSE time modulation. See Radio pulse time modulation

PULSES. See Legumes

PULVERIZERS

Carriage moves, stores pulverizer assembly. K. Young. il Elec World 135:128 My 7 '51

Fluid energy mill now available on outright purchase arrangement. diag Paint Oil & Chem R 114:11 S 13 '51

Fluid energy pulverizer and its application to steam generation. L. D. Bechtel and G. M. Croft. il Blast F & Steel Pl 38: 1190-2+, 1332-5 O-N '50; Same cond. Mech Eng 72:742-4 S '50

Hardfacing alfalfa pulverizing hammers. il Welding J 30:741 Ag '51

Studwelding slashes fabrication time; Combustion engineering-superheater, inc. C. H. Creasser. il Iron Age 167:110-11 Ap 12 '51

See also

Ball mills

PULVERIZING

Better impact pulverization achieved by new process; uses liquid nitrogen. Rubber Age 68:318 D '50; Excerpts. Mach 57:169 N '50

Calorimetric method for studying grinding in a tumbling medium. A. K. Schellinger. bibliog diags Min Eng 3:Trans 518-22 Je '51

PULVERIZING *Continued*

New nitrogen technic assures fine grinding, in only one pass. G. Miller. il diags Food Eng 23:36-7 Jl '51

Superfine grinding of coke and other materials. R. A. Mott. Soc Chem Ind J 69: 346-9 N '50

Truckloads of powder; Micronised products department of Corona Chemical. il Chem Ind W 68:26-7 F 24 '51

PUMICE

Color glamorizes concrete units; plant of H. A. Von Loon, Bishop, Calif. W. B. Lenhart. il Rock Prod 53:181-3+ D '50

Confinement of transformer noise; enclosure of pumice blocks filled with sand. C. McLean. il diag Elec Eng 70:325-30 Ap '51; Abstract. Elec World 134:114-16 N 20 '50

Dimensional changes in unit masonry; abstract. J. J. Wegner. Rock Prod 54:88-9 Jl '51

Pumice, lightweight aggregate. L. I. Neher. bibliog Am Concrete Inst J 23:65-75 S '51

PUMMERER, Rudolf, 1882-

Rudolf Pummerer. R. E. Oesper. por(front) J Chem Educ 28:243-4 My '51

PUMPING

Effect of mud pump surges. H. C. Wachtman, jr. bibliog diag World Oil 132:94-6+ Ja '51

Power handbook; hydraulics and pumping. P. Swain and W. Arrott. diags Power 95: 98-100 Mr '51

See also

Mine pumping — Pumps

Petroleum—Pumping — Sewage pumping

Pumping stations

Tables, calculations, etc.

Centrifugal pumps; factors involved in pump calculations. I. J. Karassik and R. Carter. diags Paper Ind 33:669-71 S '51

Chart for determining head, capacity, efficiency, horse power with any three conditions known. Water & Sewage Works 98: R184 Ap '51

How system head curves solve pump buying problems. T. F. Keating. il Pub Works 82: 48-50+ Mr '51

How to calculate piston pumps; displacement, capacity, slippage. W. H. Engelman. Power Eng 55:78-80 S '51

Simplified pumping well calculations. A. A. Hardy. World Oil 132:162-4+ My '51

PUMPING machinery

Diesel-pump team cuts drainage cost; Missouri Drainage district; with cost data. il Diesel Power 29:42-3 F '51

Flatboat bases for mud pumps. il World Oil 131:114 N '50

Installation of pumping units; an outline of foundation construction problems and standards. K. N. Mills. il diag Pet Eng 23:B14+ F '51

Investigation of torque-converter drives on mud pump. D. F. Toomey and E. G. Chilton. bibliog World Oil 133:189-90+ S '51; Same. Pet Eng 23:B45-6+ S '51; Same abr. Oil & Gas J 50:101+ Jl 19 '51; Discussion. Pet Eng 23:B56+ S '51

It's time to counterbalance beam pumping units. D. O. Johnson. bibliog diags Oil & Gas J 49:78-9+ Ap 12 '51; Same. Pet Eng (Ref annual) 23:B48+ Jl 15 '51

Mechanical shaft seals for general refinery service. A. Fanestiel. il diags Oil & Gas J 49:56+ F 1 '51

On the beam pumping. J. S. Fuller. il Pet Eng 22:B27-8+ D '50

Tanker facilities; station at Piney Point, Maryland. C. Stempf. il plan Pet Eng 23: D26+ Ap '51

See also

Gasoline pumps — Pumps

Petroleum—Pumping — Sewage pumping

Pumping stations

Testing

Elements of dynamometer tests. D. S. Stear. diag World Oil 132:160+ F '51

PUMPING machinery, Electric

Draining the Fens; gradual change-over to electric pumping. il map Elec R (Lond) 148:421-5 Mr 2 '51

Electric pumps reclaim Ohio marshland. V. Marvin. il Elec World 135:104 Ap 23 '51

Growing city electrifies water supply, replaces steam-powered pump plant, Moline, Ill. il Eng N 146:35 F 22 '51

Isolated-phase bus serves Coulee pumps. R. G. Lockett. il diag Elec West 106:68-9 Ap '51

Motor-driven pump brings Phoenix more water. il Elec World 136:100 Jl 2 '51

National water systems month; a sales opportunity. Dom Eng 177:82-4 Ap '51

Power from pumped storage in Texas. il diags Eng N 146:37-8 Je 21 '51

Pump at Buchanan dam adds peak capacity to power system. C. L. Dowell. il diags Power 95:95-7 Ag '51

Pump speed can be varied to fit capacity. il Product Eng 22:221 My '51

Rural load building campaign emphasizes water systems. L. L. Koontz. il Elec World 134:120 D 18 '50

65,000-hp Grand Coulee pumps begin operation. il Power Eng 55:66-7 S '51

65,000-hp Grand Coulee pumps put into operation. il diags Power 95:96-9 My '51

To beat the fire hazard, your rural customers need a water system. il plan Dom Eng 177:96-8+ F; 102-3+ Mr; 84-5+ Ap '51

Troubles with irregularly used wells and pumps. W. B. Kennedy. Power Eng 55:86-7 Ap '51

What motor for what pump? G. L. Oscarson. il Power Eng 55:74-6 S '51

World's largest motors drive world's largest pumps for irrigation in the Columbia Basin project. S. E. Hutton. il maps Gen Elec R 54:39-44 My '51

World's largest pumping plant begins operation at Grand Coulee dam. S. J. Bohman. il diag Civil Eng 21:330-5 Je '51

World's largest pumps begin operation at Grand Coulee dam. il Elec World 136:84-6 Jl 30 '51

World's largest pumps go into operation; Grand Coulee pumping plant. il Elec West 106:78-9 My '51

See also

Mine pumping, Electric — Petroleum pipe lines—Pumping stations, Electric

Petroleum—Pumping, Electric

Advertising

Use these sales ideas during water systems month. il Dom Eng 177:94 My '51

Control

Automatic pump control. M. E. Rogers. il diag Am Water Works Assn J 43:383-90 My '51

Pumping plant is mechanical brain; unattended plant built by the Lindsay-Strathmore irrigation district in California. A. C. Bardin. il diags Eng N 147:37-9 S 20 '51

Switches replace relays in pump control. F. J. Ardolino. diags Power 95:122-3 Ap '51

Well pump control center. E. H. Hulse. il Pet Eng 23:B12 F '51

PUMPING machinery, Portable

Portable unit to service and pump rig water wells. G. M. Wilson. il World Oil 131:124+ N '50

Trailer-mounted power pump has varied oil field uses. il World Oil 132:196-7 Je '51

PUMPING stations

Automatic pump control. M. E. Rogers. il diag Am Water Works Assn J 43:383-90 My '51

Builder readies tap on Hudson. il Eng N 145: 32-4 N 16 '50

Centrifugal pumps; selection of pumps and checking efficiencies. H. E. Beckwith. Water & Sewage Works 98:R73-6 Ap '51

Greater Winnipeg water district's new booster pumping station. N. S. Bubbis and H. Shand. il plans Munic Util 89:25-30+ Jl '51

Growing city electrifies water supply, replaces steam-powered pump plant; Moline, Ill. il Eng N 146:35 F 22 '51

How zone pumping in Port Arthur, Ont. effects saving in power costs. R. B. Chandler. il plan Munic Util 89:21-4+ Jl '51

Louisville storm-water pumping station designed for surges. R. L. Irwin. map Civil Eng 21:392-3 Jl '51

PUMPING stations—*Continued*

Remodelling Winnipeg pumping station to meet increased demands. F. L. Morton. il plan Munic Util 89:25-7+ Ap '51

Sink inside-out condenser in canal; pumping plant for irrigation. B. S. Nelson. il diags Power 94:119 N '50

World's largest turbine pumps installed in New York city. il Munic Util 89:25+ Ag '51

See also
Petroleum pipe lines
—Pumping stations
Sewage pumping

Costs

Annual power costs for various head losses. Water & Sewage Works 98:R173 Ap '51

Chart for determination of pumping costs. Water & Sewage Works 98:R181 Ap '51

Power

Diesel power for pumping and civil defense; Park Ridge, Ill. il Pub Works 82:49 Ag '51

World's largest pumps begin operation at Grand Coulee dam. il Elec World 136:84-6 Jl 30 '51

PUMPS

Adjustable displacement pump improves precision of injection. diag Pet Processing 6: 530 My '51

Air pump handles suspended solids. il diags Product Eng 22:132-3 Ag '51

Corrosion-resistant pump. Mech Eng 73:19-20 Ja '51

Designing a vane pump for high-viscosity service. W. E. Wilson. diags Machine Design 23:157-61 Ap '51

Diecasting machines fed automatically by electromagnetic molten metal pumps; production of electrical connectors, Scintilla magneto div., Bendix aviation corp. H. Chase. il plan diags Iron Age 167:100-3 F 15 '51

High pressure pump maintains constant delivery; Oilgear type HG-830. il diag Product Eng 22:204-5 S '51

Homogenizer pump isolates liquid. il diag Machine Design 23:124 O '51

How system head curves solve pump buying problems. T. F. Keating. il Pub Works 82: 48-50+ Mr '51

How to get what you need when you order a pump. D. P. Thornton, jr. Pet Processing 6: 974-7 S '51

Hydraulic pumps. il Automobile Eng 41:36-7 Ja '51

Hydropneumatic tank operation. H. Nickelsporn. diags Power Eng 55:88-90 Ap '51

Influence of Reynolds number on the performance of turbomachinery. H. Davis and others. bibliog A S M E Trans 73:499-503; Discussion. 503-9 Jl '51

Interchangeable heads on metering pumps. il diags Product Eng 22:208-9 O '51

Modernization of a casein sheet plant; installation of Electraulic pump system. il Mod Plastics 28:94-5 D '50

Most persistent pumping problems for chemical plant designers. I. Taylor. il diags Chem Eng Prog 46:637-42 D '50

Natural gasoline; today's equipment; pumping trends. P. Armstrong. Pet Processing 5:1321 D '50

Nearly 90 per cent man-hours saved; removing sludge from normalizing tanks. il Mill & Factory 49:132 S '51

New Venturi booster prevents cavitation. diag Aviation W 53:50 D 18 '50

Pack pump pistons right. diags Power 95: 120-1 O '51

Positive displacement, axial flow screw type compression blower, or gas pump. R. R. Newquist. il diags Am Gas Assn Proc 1950: 749-52

Pressure pumps proved in use. il Aviation W 54:53-4+ Mr 26 '51

Properly proportioned sumps essential to pump efficiency. R. H. Bird. diags Eng N 147:32 Ag 30 '51

Pump housings molded of urea. il Mod Plastics 28:79 Ap '51

Pump that lost its prime. D. Swift. diags Power 95:77 S '51

Review of new plant equipment; centrifugal, rotary, reciprocating, special purpose, vacuum pumps. il diag Power 95:169-71 Mid-Je '51

Romec expanding line of aircraft pumps. G. L. Christian. il Aviation W 53:38-9 N 6 '50

Rubber lined pump. il Engineer 191:491 Ap 13 '51

Steam jacketed pump handles viscous liquids. il Product Eng 22:194 Ap '51

Unitized mud pumps increase flexibility. A. W. Shaw. il diags World Oil 133:107-10 Jl '51

Unusual causes of steam pump troubles. R. E. Edwards. diags World Oil 132:89-90+ F '51

Useful laboratory cycling pump. flow diag il Pet Processing 6:753+ Jl '51

Venturi booster increases pump efficiency. F. W. Davis. Machine Design 23:156 Mr '51

Wafer licks hydraulic pulsation. G. L. Christian. il Aviation W 53:31-2+ N 27 '50

What control for condensate pumps? P. Nardone. il diag Power 95:75-7 F '51

See also
Gasoline pumps
Heat pump
Mine pumps
Oil pumps
Pumping machinery
Pumps, Centrifugal
Pumps, Fuel
Sewage pumps
Vacuum pumps

Control

Electronics for the power engineer; liquid-level and pump controls. F. A. Annett. diags Power 95:124+ Mr '51

Throttle control regulates condenser hotwell level. P. Nardone. il diag Power 95: 120-1 Mr '51

Design

Spur gear rotary pump design. T. F. Fitzgibbon. il diags Product Eng 22:101-5 Ja; 129-31 Mr '51

Maintenance and repair

Care and maintenance of slush pumps. W. J. Redman. Pet Eng 22:B47-50+ N '50; Same. Oil & Gas J 49:84+ N 2 '50; Same. World Oil 131:118-20+ D '50

Deep well pump maintenance. H. W. Thomas. Am Water Works Assn J 43:638-40 Ag '51

Do's and don'ts of packing practice. J. W. Hemphill. diags Paper Ind 32:1080-3 Ja '51

For the pump operator. B. Richards and others. diag Power Eng 55:87-8+ Mr '51

Hot maintenance tips for propeller pumps. L. J. Dawson. il diags Power 95:126-7 Jl '51

Keep your pumps on stream. L. J. Dawson. il diag Pet Eng 22:C13-14+ N '50

Pumps and vibrators; forgotten equipment. il Constr Methods 33:91-2 Jl '51

Recent developments in pump maintenance. E. G. Landberg. il Paper Tr J 132:24+ My 18 '51

Smart maintenance keeps wells on the job. J. B. Murphy. il diags Power 95:120-3 Ag '51

Manufacture

Air-operated tools reduce pump manufacturing costs. il Mach 57:178-80 Ap '51

Welded pump rotor saves machining. B. J. Rosen. il Iron Age 166:78-9 D 21 '50

Testing

Testing wells and well pumps in the field; data sheet. J. B. Murphy. diag Power 95: 150 Ag '51

PUMPS, Centrifugal

Application of centrifugal pumps. A. E. Harnsberger. diags Pet Refiner 30:119-28 Ja '51

Automatic control of small centrifugal pumps. W. H. Lesser. il diags Coal Age 56:94-7 My '51

Basic factors in centrifugal pump application. R. Carter and I. J. Karassik. diags Water & Sewage Works 98:11-16, 74-9, 212-18, 335-40, 434-7 Ja-F, My, Ag, O '51 (to be cont)

Biggest U.S. oil pipeline pump. il Pet Eng 23:D38 S '51

Centrifugal pump primes itself. il diags Product Eng 21:173 N '50

PUMPS, Centrifugal—*Continued*

Centrifugal pumps in the paper industry. B. R. Burland. diags Pulp & Pa of Can (Convention no) 52:192-8 [F] '51

Centrifugal pumps; selection of pumps and checking efficiencies. H. E. Beckwith. Water & Sewage Works 98:R73-6 Ap '51

Do you know pump metals and why each is used? J. J. Coffey. diags Power 95:112-13 S '51

Evaluation of a two-dimensional centrifugal-pump impeller; abstract. J. H. Beveridge and D. A. Morelli. diag Mech Eng 73:151-2 F '51

Ever have centrifugal pump troubles? W. F. Schaphorst. Marine Eng 56:54 Ap '51

How centrifugal boiler feed pumps work. I. J. Karassik. il Power Eng 54:60-3+ N '50

How to keep centrifugal pumps going. L. J. Murphy. il diag Mill & Factory 49:84-6 Ag '51

How to lay out centrifugal pump impellers. E. G. Hilficker. il diags Machine Design 22:137-42 N '50

How to lay out centrifugal pump volute casings. E. G. Hilficker. il diags Machine Design 23:129-32 Ag '51

How wearing rings are selected for centrifugal pumps. H. E. Tracy. diags Power 95:101-3+ Je '51

Ingersoll-Rand centrifugal pumps. il Blast F & Steel Pl 38:1471-2 D '50

Mechanical seals effective on main-line pumps. M. J. Dabney and W. W. Holt, jr. diag Oil & Gas J 49:57-8 Ja 4 '51

Mechanical seals for centrifugal pumps. D. R. Rankin. il diags Pet Eng 23:C13+ S '51; Same cond. Heating-Piping 23:102-5 O '51

Multi-stage centrifugal pumps developed for high pressures and temperatures. il Chem Eng 57:140 D '50

Nonreversing coupling. E. L. Thearle. diags Machine Design 23:181-4 Ap '51

Preventive maintenance of centrifugal pumps. I. J. Karassik. il diags Power 94:102-3 N '50

Pumps and how they work (cont). I. J. Karassik and R. Carter. il diags Paper Ind 32:972-3, 1282-4; 33:55-6, 170-2+, 297-8, 411-12, 669-71 D '50, Mr-Jl, S '51

Pumps for army pipe lines. il Pet Eng 22:D13 D '50

Round-trip pumping cycle rehabilitates filter media. il diags Eng N 145:33-5 N 30 '50

Selection, application and installation of circulating pumps. il Dom Eng 177:142-4+ Je '51

Selection of well pumps. G. E. Hubbell. Am Water Works Assn J 43:453-8 Je '51

Should we open pumps for inspection? il diags Power 95:134-6 My '51

Use of two pumps in series speeds up interaction of gases and liquids. diag Chem & Eng N 29:2856 Jl 9 '51

Vacuum pumps prime 'em; here's how to use vacuum pumps to prime centrifugal types. B. A. Briggs. diags Power 95:122-3 My '51

With system-head curves you can pick your pump to fit the load. T. F. Keating. Factory Management 109:118-20+ F '51

Bearings

Lubrication of centrifugal pump bearings. I. J. Karassik and R. Carter. diags Paper Ind 32:972-3 D '50

Testing

Investigations concerning flow conditions in a centrifugal pump, and the effect of blade loading on head slip. J. F. Peck. bibliog plan diags Inst Mech Eng Proc 164 no 1:1-15, pl 1-2; Discussion. 15-30 '51

PUMPS, Feed water

Booster brings pump to capacity. S. Martinez, jr. diag Power 95:128 Ag '51

Control pump from water level to improve boiler operation. J. W. James. diags Heating-Piping 22:77-9 D '50

Fuel economy in steam plant; use of special condensate pumps. diags Chem Age (Lond) 63:869-70 D 23 '50

How centrifugal boiler feed pumps work. I. J. Karassik. il Power Eng 54:60-3+ N '50

PUMPS, Fuel

Fuel flow; works trial of a metering pump. A. L. Cude and J. Stringer. flow diag diags Iron & Steel Inst J 168:46-51 My '51

Fuel pump for air sampling. H. G. Bourne, jr. and R. D. Schafer. il Heat & Ven 48:74 Je '51

Helical-wire thread inserts permit salvage of fuel pumps. il Mach 57:165 Je '51; Same cond. Steel 129:87 Ag 6 '51

Injector maintenance is tricky. J. Hawthorn. il diags Power 95:114-15 My '51

Oil burner servicing; operating and servicing of fuel pumps. F. Feigenbaum. diags Dom Eng 177:110+ Ap '51

Solenoid fuel pump. Aviation W 54:33 F 19 '51

Wide application for automatic fuel pump. il diag Product Eng 22:175 Ap '51

PUMPS, Gasoline. See Gasoline pumps

PUMPS, Sewage. See Sewage pumps

PUMPS, Submergible

Development and operation of small-diameter submergible pumps. J. Carle. il Elec Eng 70:242-4 Mr '51

Nonreversing coupling. E. L. Thearle. diags Machine Design 23:181-4 Ap '51

PUMPS, Turbine

Deep well pump maintenance. H. W. Thomas. Am Water Works Assn J 43:638-40 Ag '51

Deepwell-turbine pumping. R. D. Norton. il diag Coal Age 56:83-5 Jl '51

Turbine-pump installation slashes mine-drainage costs; New river co. il map diag Coal Age 56:84-8 Ag '51

Turbine-type pump occupies little space. il diag Product Eng 21:194 N '50

World's largest turbine pumps installed in New York city. il Munic Util 89:25+ Ag '51; Abstracts. Water & Sewage Works 98:352 Ag '51; Pub Works 82:66+ S '51

PUMPS, Vacuum. See Vacuum pumps

PUNCHED card system

Accounting device speeds road survey. Eng N 145:36 N 2 '50

American practice in documentation; microfilm, offset lithography, punched cards. H. Coblans. J Doc 6:206-12 D '50

Business machines keep Los Angeles Transit's stock room coordinated. J. Joseph. il Bus Transportation 30:31-3 Ja '51

Cuts paperwork-preparation time from six weeks to fifteen hours; Douglas Aircraft's new factory tabulating group. H. A. Stewart. il Factory Management 109:72-3 Mr '51

Easy buying; automatic business machines are used for material requisitioning at Douglas. J. Joseph. il Aero Digest 62:19+ F '51

Handling 200,000 mailing pieces a season; Keysort cards used at Northwestern university for handling football ticket orders. il Am Bsns 20:14-15+ N '50

Here's how you can mechanize for CMP; Caterpillar's inventory control procedures. C. W. Boyce. Factory Management 109:70-1 Ap '51

Library use of new indexing system; Division of metallurgical research of Kaiser aluminum and chemical corp. D. L. Edelman. il Metal Prog 59:526-8 Ap '51

Machines slash office turnover; Lit bros. department store uses high-speed accounting machines. L. Bolger. il Am Bsns 21:24+ Jl '51

Mechanism design; analytical solution and punched-card calculating machines offer fast method of constructing numerical tables of displacement, velocity and acceleration. E. N. Kemler and R. J. Howe. diag Machine Design 23:148-52 S '51

Modern office machines speed Pennsylvania railroad freight billing. J. L. Webb. il Ry Age 130:42-4 My 7 '51

Modern punched card equipment used by insurance companies. P. C. Coulter and C. H. Mahan. il East Underw 51:28+ N 17 '50

New electro-mechanical system provides fast access to punched card data file. J. H. Drillick. diags Product Eng 22:176-8 O '51

Office-plant integration brings production benefits. P. Schneider. Advanced Management 10:21-3 Ag '51

PUNCHED card system—*Continued*

Orders are shipped day of receipt; streamlined system of order writing and billing; John Morrell & co. C. F. Johnson. il Am Bsns 20:12-13+ D '50

Organizing an engineering data file. A. F. Gagne, jr. bibliog il Machine Design 23:110-16+ S '51

Punched card devices for distillation calculations. A. Rose and T. J. Williams. il diag Ind & Eng Chem 42:2494-7 D '50

Punched cards; their applications to science and industry. R. S. Casey and J. W. Perry, eds. 506p bibliog(276 titles, p460-88) $10 Reinhold pub. corp, 330 W. 42d st, N.Y. 18 '51

Rapid method for calculating and using platinum thermohm tables. R. A. Buerschaper. R Sci Instr 21:996-8 D '50

Simpler money orders. il Bsns W p96 Je 30 '51

Study of 20 motor carriers shows how punch-card acounting equipment is installed and used. E. W. Goode. J Account 91:434-8 Mr '51

Tabulation machines simplify stockroom control; Douglas aircraft co. J. Joseph. Am Mach 95:93 My 28 '51

Use of punched cards in molecular structure determinations; approximations to the temperature factor. M. E. Jones and V. Schomaker. J Chem Phys 19:511-12 Ap '51

PUNCHES

Calculation of small punches; reference book sheet. F. Strasser. diags Am Mach 94:177 D 11 '50

Considerations in designing tools for powder metallurgy. I. J. Donahue. diags Mech Eng 72:886-9 N '50

Designing carbide dies. M. J. Blackstrom and E. J. Reitler. il diags Mach 57:170-6 Ag '51

Inexpensive blanking punch and die. P. D'Agostine. il diags Mach 57:192-4 Ja '51

New punch does better job, slashes cost. J. R. Reinertson. il diags Iron Age 167:55-8 Ja 11 '51

Precise methods make punches with no expensive equipment. W. S. Gilbert. il diag Am Mach 95:117 Ja 8 '51

Precision form-grinding of punches and dies. G. H. DeGroat. il diag Mach 57:159-64 N '50

Retractable punches work on alternate jobs. F. A. Adams. diags Am Mach 94:122 O 30 '50

Six side-cutting punches pierce beaded sleeve. N. Bonamini. diags Am Mach 95:172 S 3 '51

Spindle for grinding punches having various sized threads. L. Kasper. diags Mach 57:193 Mr '51

PUNCHING

Hole maker stays out of the hole; Harrington & King perforating co. il Bsns W p48+ Je 30 '51

Punching data; reference book sheet. W. C. Tucker. Am Mach 95:143 Ag 6 '51

Selecting and processing steels for lamination dies. L. F. Spencer. il Tool Eng 26:25-7 My; 42-4 Je '51

PUNCHING machinery

Beatty guillotine punch for beam flanges and webs. il Am Mach 95:204 Ap 16 '51

Maust punch presses have two adjustable-stroke ranges. il Am Mach 95:186 F 5 '51

Punch press feed increased by the use of a sliding pilot. L. Kasper. diags Mach 57:186-7 Ag '51

Wales twin-column punch presses eliminate die sets. il Am Mach 95:176 O 15 '51

See also

Dies

PURCHASING

Advantages of standards in purchasing; abstract. G. M. Rice. Management R 40:551 S '51

Benefits of standards in purchasing. G. M. Rice. il Standardization 22:76-9 Mr '51

CMRA role in aiding purchasing functions of a company. L. J. Finnan, jr. Oil Paint & Drug Rep 158:4+ D 11 '50

Do they love us? Pillsbury's supplier attitude survey. Bsns W p78 S 15 '51

Evaluation of forward buying. H. T. Lewis. Harvard Bsns R 29:37-44 Mr '51

How industry buys; an important study and its implications for advertising. J. H. Platten. Ind Marketing 35:38-9+ O '50

How to evaluate a crane proposal. F. M. Blum. il Iron & Steel Eng 27:125-30+ D '50

How to save money, speed delivery of equipment. W. W. DaLee. Chem Ind 67:732-3+ N '50

Industrial distributor is an aid to plant operations. E. E. Holrod. Mill & Factory 47:126-7 D '50

National association of purchasing agents standardization committee annual meeting, June 4; with abstracts of papers. Standardization 22:241-3+ Ag '51

New purchasing system operates with fewer errors and delays; Grove laboratories, inc., St Louis. il Am Bsns 21:12-13+ Ja '51

Procurement of scarce materials. E. A. Moss. Can Chem & Process Ind 35:52-5 Ja '51

Purchase for performance. E. S. Page. Iron Age 168:109-11 Ag 16 '51

Standards; a procurement tool. Standardization 21:293 N '50

Standards; a procurement tool; abstracts of papers at the National standardization conference. Standardization 22:18-19+ Ja '51

Wartime procurement. E. J. Wain. Paint Oil & Chem R 114:18+ Mr 15 '51

See also

Airlines—Purchasing
Banks and banking—Purchasing
Consumers
Consumption (economics)
Instalment plan
Library purchasing
Machinery, Replacement of
Merchandizing
Purchasing agents
Purchasing departments
Railroads—Purchasing
Retail trade—Purchasing

Treatment of salesmen

Booklet welcomes salesmen, tells them whom to see. Ptr Ink 233:68 D 1 '50

Guide for callers; information folder for media reps. J. M. Royal. Ptr Ink 236:90+ S 7 '51

How four companies help salesmen to make quick, profitable calls. il Ptr Ink 235:36 Ap 6 '51

How to win friends and influence suppliers; General Cable's party. il Bsns W p22-3 Jl 7 '51

PURCHASING, Cooperative

Grocer's bid in wholesaling; Certified grocers of California, ltd. Bsns W p66+ N 11 '50

PURCHASING, Government

Air force invitations. Aviation W 53:17 O 30 '50 [cont weekly]

AF procurement districts ease problems. Aviation W 55:31 S 24 '51

Air materiel command buyers. Aviation W 55:32+ S 24 '51

All government purchases of agstone may come under Public contracts act. N. C. Rockwood. Rock Prod 54:51+ My '51

Armed services rely on industry. il diag Mill & Factory 48:75-82 Mr '51

Centralized procurement responsibility. F. M. Folsom. Advanced Management 15:6 D '50

Cost of government trading. Economist 160:392+ F 17 '51

Defense prices too high? Uncle Sam is often played for a sucker. Mod Ind 21:73 Je '51

Doing business with Uncle Sam; Business Week reports to executives. Bsns W p93-100 My 26 '51 (reprints 20c)

Don't forget the quartermaster. il Steel 129:54-5 Ag 6 '51

Government planning for standardization. W. S. MacLeod. Standardization 22:48-51+ F '51

Government purchasing muddle begins to clear. Mod Ind 21:66+ Ja '51

How to find your role in military production. W. Lord. Factory Management 109:284+ Je '51

How to sell to government. Chem Ind W 68:8-9 Mr 24 '51

How to sell to Uncle Sam. Iron Age 167:269-71 Ja 4 '51

How to tool-up for technical manuals; guide for manufacturers preparing manuals for air force, navy, Signal corps. S. Gerstin. flow chart Tele-Tech 10:52-3 Je '51

PURCHASING, Government—*Continued*

Major metal products bought by the armed forces and where they are bought. Iron Age 167:371-3 Ja 4 '51

Metalworking guide to defense business. Am Mach 95:150-64 Ja 22 '51

Military procurement today. V. C. Searle. Am Dyestuff Rep 40:283-5 Ap 30 '51

Military purchasing offices; military supplies and who buys them. map Product Eng 22:100a-100b Ja '51

New look on Washington's five per centers. Sales Management 66:89-91 Ja 1 '51

Questions you'll have to answer if your agents sell to government. Sales Management 66: 48+ Ja 1 '51

Selling to U.S.; more "fedspecs" make it easier now. il Mod Ind 21:67+ F '51

Specifications and purchasing. W. S. MacLeod. Paint Oil & Chem R 113:42+ N 23 '50

Standards agency for the armed forces; Munitions board. A. E. Mickelsen. il Standardization 22:211-13+ Jl '51

Standards in national defense; the Munitions board. M. L. Ring. il Standardization 22:10-12+ Ja '51

Washington directory; key contacts in defense agencies. Mod Ind 21:36+ Ap '51

What the war taught us about military procurement. F. M. Folsom. il Dun's R 59:22-3+ Ja '51

Where buying feeds production; Air materiel command quickens its pace. B. C. Dempsey. Aviation W 55:21-2+ S 24 '51

See also

Contracts, Government

Paper, Government

Bibliography

Procurement by the government. Cleveland Pub Lib Business Information Bur Bul v 21, no 4:15-18 N '50

PURCHASING agents

Envy not the purchasing agent. Mod Ind 21: 64-6 Ap '51

How to live in peace with vendors. il Mod Ind 21:71-2+ Ja '51

National association of purchasing agents' business survey committee, monthly report. Comm & Fin Chr 172:2545; 173:537, 942, 1442-3; 174:73, 874, 1264 D 28 '50, F 1, Mr 1, Ap 5, Jl 5, S 6, O 4 '51

Now chemical buyers must sell. H. Jones. Chem Ind W 68:13-14 Ap 14 '51

Purchasing agent's eye view of business. Oil Paint & Drug Rep 159:5+ Ja 29 '51 [cont monthly]

Purchasing agents liable for pricing violations, OPS declares. Oil Paint & Drug Rep 160:5 Jl 23 '51

12 pet hates of purchasing agents. Ptr Ink 236:62-3 Ag 24 '51

Western Union phone survey finds an elusive market; materials handling periodical builds circulation list of purchasing agents. N. L. Cahners. Ind Marketing 35:44+ N '50

PURCHASING departments

New purchasing system operates with fewer errors and delays; Grove laboratories, inc., St Louis. il Am Bsns 21:12-13+ Ja '51

Records

Traveling requisition does work of 27 separate purchase orders. P. Eastman. il Am Bsns 21:14-15 S '51

PURCHASING power. See Consumption (economics)

PURDUE university

CAB looks into MWA stock buy. Aviation W 55:16 Ag 13 '51

Purdue university's new student foundry will be equipped with modern facilities. plans Foundry 79:148 S '51

PURDY, Louis J.

Portrait. Fortune 44:132 O '51

PURE and applied chemistry, International union of. See International union of pure and applied chemistry

PURINES

C^{14} labeled 4(5)-amino-5(4)-imidazole-carboxamide in the biosynthesis of purines. C. S. Miller and others. bibliog Science 112:654-5 D 1 '50

Experiments on the synthesis of purine nucleosides; 1 : 2 : 3 : 5-tetra-acetyl D-xylofuranose and the D-xylofuranosides of theophylline and adenine. P. Chang and B. Lythgoe. Chem Soc J p 1992-3 Ag '50

Improved preparation of 2,6,8-trichloropurine. J. Davoll and B. A. Lowy. Am Chem Soc J 73:2936 Je '51

New synthesis of purine nucleosides; the synthesis of adenosine, guanosine and 2,6-diamino-9-β-D-ribofuranosylpurine. J. Davoll and B. A. Lowy. bibliog Am Chem Soc J 73:1650-5 Ap '51

Observations on purine metabolism. M. Gordon. bibliog Science 114:110 Jl 27 '51

Purine and pyrimidine content of three strains of escherichia coli. A. Marshak. bibliog Science 113:181-2 F 16 '51

Purine synthesis in a purine-requiring yeast mutant. R. Abrams. Am Chem Soc J 73: 1888-9 Ap '51

Studies in the azole series; the preparation of some natural xanthines and related purines. A. H. Cook and G. H. Thomas. Chem Soc J p 1884-8 Jl '50

Synthesis of potential purine antagonists; 2,6-diamino[3′ 2′-h]-thiazolinopurines. M. Gordon. bibliog Am Chem Soc J 73:984-6 Mr '51

Analysis

Use of silver nitrate and sodium dichromate in the detection of purines by paper partition chromatography. R. M. Reguera and I. Asimov. Am Chem Soc J 72:5781-2 D '50

PURPUROGALLIN

Purpurogallin and some degradation products; abstract. R. D. Haworth. Chem & Ind p28 Ja 13 '51

Purpurogallin; constitution of purpurogallin-carboxylic acid. W. D. Crow and R. D. Haworth. Chem Soc J p 1325-7 My '51

Purpurogallin; mechanism of the oxidation of pyrogallol. A. Critchlow, R. D. Haworth and P. L. Pauson. Chem Soc J p 1318-25 My '51

Purpurogallin; nitration and nitrosation of β-methyltropolone. R. D. Haworth and P. R. Jefferies. Chem Soc J p2067-71 Ag '51

Purpurogallin; some improvements in synthetical methods. D. Caunt, W. D. Crow and R. D. Haworth. Chem Soc J p 1313-18 My '51

Purpurogallin; some properties of tropolones. R. D. Haworth and J. D. Hobson. Chem Soc J p561-8 F '51

Purpurogallin; synthesis of purpurogallin and some analogues. D. Caunt and others. Chem Soc J p 1631-5 Je '50

Purpurogallin; synthesis of purpurogallone. R. D. Haworth, B. P. Moore and P. L. Pauson. Chem Soc J p3271-8 D '49

PURPUROGALLONE

Purpurogallin; synthesis of purpurogallone. R. D. Haworth, B. P. Moore and P. L. Pauson. Chem Soc J p3271-8 O '49

PUSH money. See Salesmen, Retail—Bonuses (manufacturers')

PUTMAN, Russell Lorain, 1895-

National business publications' new head. por Ptr Ink 233:116 N 24 '50

Portrait. Sales Management 65:40 D 1 '50

PUTNAM, Mark Edson, 1886-

Portrait. Fortune 44:132 O '51

PUTS and calls

Puts and calls; hedge for the market. Bsns W p 120+ Ag 25 '51

PYCNOMETERS

Measurement of density of hydrocarbon liquids by the pycnometer. H. M. Smith and others. diag Anal Chem 22:1452-3 N '50

PYRAN

Some adsorption colors and their significance for tautomeric and thermochromic effects. A. Schönberg and W. Asker. bibliog Science 113:56-7 Ja 19 '51

Some adsorption colors and their significance for thermochromic and tautomeric effects; experiments with spiropyrans and with 1,3-diketohydrindene. A. Schönberg, A. Mustafa and W. Asker. bibliog diag Am Chem Soc J 73:2876-9 Je '51

Synthesis of substituted pyrans. P. H. Williams, G. G. Ecke and S. A. Ballard. bibliog Am Chem Soc J 72:5738-43 D '50

PYRANOL. See Pentachlorobiphenyl

PYRANOSIDES

Periodate oxidations of phenyl β-D-thioglycopyranosides, phenyl β-D-glucopyranosyl sulfones and related compounds. W. A. Bonner and R. W. Drisko. Am Chem Soc J 73:3699-701 Ag '51

PYRAZINE

Near ultraviolet solution spectra of the diazines. F. Halverson and R. C. Hirt. J Chem Phys 19:711-18 Je '51

1 : 4-Oxazines; synthesis of hydroxy-1 : 4-oxazines. G. T. Newbold, F. S. Spring and W. Sweeny. Chem Soc J p909-11 Mr '50

Preparation of pyrazinoyldiazomethane and α-chloromethylpyrazinoyl ketone. M. D. Glantz and P. E. Spoerri. Am Chem Soc J 72:4282 S '50

Pyrazine derivatives; synthesis of 2-aminopyrazine 1-oxides by the condensation of α-amino-nitriles with oximinomethyl ketones. W. Sharp and F. S. Spring. Chem Soc J p932-4 Ap '51

Pyrazine derivatives; synthesis of homologues of aspergillic acid. D. W. C. Ramsay and F. S. Spring. Chem Soc J p3409-11 D '50

Sulphanilyl derivatives of 2-amino-3 : 6-di-*sec.*-butylpyrazine. G. T. Newbold. Chem Soc J p2905-6 O '50

Synthesis in the pyrazine series; synthesis of 2,5-diaminopyrazine. D. M. Sharefkin and P. E. Spoerri. Am Chem Soc J 73:1637-8 Ap '51

PYRAZOLE

Reactions of diazo compounds with nitroölefins; the preparation of pyrazoles. W. E. Parham and J. L. Bleasdale. bibliog Am Chem Soc J 72:3843-6 S '50

PYRAZOLONE

Azomethine dyes; color and constitution of pyrazolone azomethine dyes. G. H. Brown and others. bibliog Am Chem Soc J 73:919-26 Mr '51

Formation of azomethine dyes from 4-anisylidene- and 4,4′-anisylidene-bispyrazolones. G. W. Sawdey, M. K. Ruoff and P. W. Vittum. bibliog Am Chem Soc J 72:4947-9 N '50

PYRENE

Eight- and higher-membered ring compounds; di-*m*-xylylene, tri-*p*-xylylene, and new syntheses of pyrene and of coronene. W. Baker, J. F. W. McOmie and J. M. Norman. Chem Soc J p 1114-18 Ap '51

Properties of high boiling petroleum products; distillation studies with relation to polynuclear aromatic components. L. T. Eby, G. G. Wanless and J. Rehner, jr. bibliog il Ind & Eng Chem 43:954-60 Ap '51

PYRETHRINS

Experiments on the synthesis of the pyrethrins; synthesis of cinerone, cinerolone, and cinerin-I. L. Crombie and S. H. Harper. Chem Soc J p 1152-60 Ap '50

Experiments on the synthesis of the pyrethrins; synthesis of dihydrocinerin-I and tetrahydropyrethrin-I; a study of the action of *N*-bromosuccinimide on 3-methyl-2-*n*-alkyl (and alkenyl)-*cyclo*pent-2-en-1-ones. L. Crombie, M. Elliott and S. H. Harper. Chem Soc J p971-8 Mr '50

Experiments on the synthesis of the pyrethrins; synthesis of side-chain isomers and analogues of cinerone, cinerolone, and cinerin-I. L. Crombie and others. Chem Soc J p3552-63 D '50

Experiments on the synthesis of the pyrethrins; synthesis of *trans*-pyrethrone and *trans*-pyrethrolone; abstract. L. Crombie and others. Chem & Ind p253-4 Mr 31 '51

Further studies on aerosol formulations with lethane and other toxicants. F. B. Maughan and others. Soap & San Chem 27:125+ F '51

PYRETHRONE

Experiments on the synthesis of the pyrethrins; synthesis of trans-pyrethrone and *trans*-pyrethrolone; abstract. L. Crombie and others. Chem & Ind p253-4 Mr 31 '51

PYRETHRUM

Pyrethrum-in-oil insecticides; abstract. E. A. Parkin. Chem Age (Lond) 63:773-4 D 2 '50

Pyrethrum outlook, and where increased output of allethrin will fit into the picture. il Soap & San Chem 27:114-15 Mr '51

Pyrethrum shortage acute. Soap & San Chem 27:145 Jl '51

Synergists widen scope of non-toxic insecticides. M. Goldberg. il Chem Ind 67:578-81 O '50

What's ahead for pyrethrum? Soap & San Chem 26:127+ O '50

Analysis

Analysis of pyrethrum. Chem Age (Lond) 64: 335-6 Mr 3 '51

PYREX

Glass solves delicate coring problems; production of radar tube-feed antenna units by investment casting. D. D. Malcomb. il diags Iron Age 167:107-9 Ap 12 '51

PYRIDAZINE

Conversion of sucrose into pyridazine derivatives. W. G. Overend, L. M. Turton and L. F. Wiggins. Chem Soc J p3500-11 D '50

Conversion of sucrose into pyridazine derivatives; the nitration of pyridazine derivatives. S. Dixon and L. F. Wiggins. Chem Soc J p3236-9 N '50

Near ultraviolet solution spectra of the diazines. F. Halverson and R. C. Hirt. J Chem Phys 19:711-18 Je '51

Synthesis in the pyridazine series; pyridazine and 3,6-dichloropyridazine. R. H. Mizzoni and P. E. Spoerri. Am Chem Soc J 73: 1873-4 Ap '51

PYRIDAZONE

Conversion of sucrose into pyridazine derivatives; the properties and structure of 3-methyl-6-pyridazone, 1 : 3-dimethyl-6-pyridazone, and some derivatives of pyridazine. W. G. Overend, L. M. Turton and L. F. Wiggins. Chem Soc J 3500-5 D '50

Conversion of sucrose into pyridazine derivatives; the stability of tetrahydro-6-ketopyridazine and 6-pyridazone derivatives towards acidic reagents. W. G. Overend and L. F. Wiggins. Chem Soc J p3508-11 D '50

Conversion of sucrose into pyridazine derivatives; the ultra-violet absorption spectra of substituted 1-phenyl-6-pyridazones and related substances. W. G. Overend, L. M. Turton and L. F. Wiggins. Chem Soc J p3505-8 D '50

PYRIDINDOLE

Sulfur analogs of β-carbolines. W. Herz. bibliog Am Chem Soc J 72:4999-5001 N '50

Synthesis of heterocyclic compounds from aryl azides; carbolines and thienoindole. P. A. S. Smith and J. H. Boyer. bibliog Am Chem Soc J 73:2626-9 Je '51

PYRIDINE

Action of pyridine and iodine upon two *o*-phenolic-1,4-diketones; 4,6,7-trimethylcoumarandione and its 5-hydroxy derivative. L. I. Smith and R. R. Holmes. bibliog Am Chem Soc J 73:4294-7 S '51

Alpha-oxygenated pyridines; the synthesis of an isomer of 4-desoxypyridoxin. R. P. Mariella and E. P. Belcher. Am Chem Soc J 73:2616-18 Je '51

Anhydro-compounds from nitrogen-containing derivatives of thioglycollic acid; pyridine and quinoline compounds. G. F. Duffin and J. D. Kendall. Chem Soc J p734-9 Mr '51

Chemical constitution and surface-active properties; 2-alkylpyridines and 2-alkyl-1-methylpyridinium iodides. M. J. Birchenough. Chem Soc J p 1263-6 My '51

Convenient synthesis of the monoalkylpyridines; a new prototropic reaction of 3-picoline. H. C. Brown and W. A. Murphey. bibliog Am Chem Soc J 73:3308-12 Jl '51

Cyanamides; the interaction of arylthioureas and aromatic sulphonyl chlorides. F. Kurzer. Chem Soc J p3269-76 N '50

Determination of free sulphur in vulcanizates by a polarographic method. F. C. J. Poulton and L. Tarrant. J Ap Chem 1:29-33 Ja '51

Evidence for the existence of unipositive iodine ion in solutions of iodine in pyridine. R. A. Zingaro, C. A. VanderWerf and J. Kleinberg. Am Chem Soc J 73:88-90 Ja '51

Exchange between radioactive iodine and derivatives of monopyridine iodine(I) in pyridine. J. Kleinberg and J. Sattizahn. Am Chem Soc J 73:1865-6 Ap '51

Fluorination of organic compounds containing nitrogen. R. N. Haszeldine. Chem Soc J p 1966-8 Jl '50

PYRIDINE—*Continued*

ω-Halogenomethyl-pyridines, -quinolines, and -*iso*quinolines. B. R. Brown and others. Chem Soc J p 1145-50 My '51

Liquid-liquid equilibria in system benzene-pyridine-water. J. C. Smith, V. D. Stibolt and R. W. Day. bibliog diag Ind & Eng Chem 43:190-4 Ja '51

Lithium aluminum hydride reduction of pyridine carboxylic esters; synthesis of vitamin B_6. R. G. Jones and E. C. Kornfeld. bibliog Am Chem Soc J 73:107-9 Ja '51

Manganohalides of pyridine. W. S. Fyfe. Chem Soc J p790-3 Mr '50

Mannich bases derived from a Hantzsch pyridine synthesis product. A. P. Phillips. Am Chem Soc J 73:3522-3 Jl '51

5-Methyl-2-nitraminopyridine. L. A. R. Hall and C. A. VanderWerf. Am Chem Soc J 73:4466 S '51

Multiplicity forbidden absorption bands in the spectrum of pyridine. C. Reid. il J Chem Phys 18:1673-5 D '50

New therapeutic agents of the quinoline series; 2-, 3-, and 4-pyridylquinolines, 4-pyridylquinaldines, and 2-pyridyl-lepidines. D. H. Hey and J. M. Williams. Chem Soc J p 1678-83 Jl '50

Phosphorylation of starch. R. Lohmar, J. W. Sloan and C. E. Rist. bibliog Am Chem Soc J 72:5717-20 D '50

Photochemical studies; pyridine and mixtures of acetone and pyridine. R. H. Linnell and W. A. Noyes, jr. bibliog Am Chem Soc J 73:3986-8 Ag '51

Properties of electrolytic solutions; conductance of some salts in ethylene chloride and pyridine. E. J. Bair and C. A. Kraus. Am Chem Soc J 73:2459-61 Je '51

Pyridine syntheses; some reactions of ene amines with 1,3-dicarbonyl derivatives. E. M. Bottorff and others. bibliog Am Chem Soc J 73:4380-3 S '51

Pyridines; conversion of 2-cyclohexenones to pyridines. R. L. Frank and R. W. Meikle. bibliog Am Chem Soc J 72:4184-5 S '50

Pyridines; polypyridyls by the Chichibabin synthesis. R. L. Frank and E. F. Riener. bibliog Am Chem Soc J 72:4182-3 S '50

Quaternary ammonium salts as germicides; quaternary ammonium salts derived from substituted pyridines. G. H. Harris and others. bibliog Am Chem Soc J 73:3959-63 Ag '51

Quaternary salts of halogenated pyridines and quinolines. C. T. Bahner and others. Am Chem Soc J 73:3499-501 Jl '51

Quaternary salts of styryl pyridines and quinolines. C. T. Bahner, E. S. Pace and R. Prevost. Am Chem Soc J 73:3407-8 Jl '51

Reaction of some sulphonazides with pyridine. G. L. Buchanan and R. M. Levine. Chem Soc J p2248-9 Ag '50

Reactions of naphthoquinones with malonic ester and its analogs; reactions with malonic ester. E. F. Pratt and W. E. Boehme. bibliog Am Chem Soc J 73:444-8 Ja '51

Recent pyridine research; investigation of hydrogenation by-products. Chem Age (Lond) 64:551-2 Ap 14 '51

Some new pyridine compounds of cobalt(II) salts. L. I. Katzin, J. R. Ferraro and E. Gebert. bibliog Am Chem Soc J 72:5471-4 D '50

Stability of fuel oils in storage; effect of some nitrogen compounds. R. B. Thompson and others. bibliog Ind & Eng Chem 43:935-9 Ap '51

Structural studies on polynuclear pyridine compounds. P. Krumholz. bibliog Am Chem Soc J 73:3487-92 Jl '51

Studies of coal tar bases; by-products of the hydrogenation of pyridine with Raney nickel. J. I. Jones. Chem Soc J p 1392-7 My '50

Substituted dihydropyridines related to Hantzsch's pyridine synthesis. A. P. Phillips. Am Chem Soc J 73:2248 My '51

Synthesis of some pyridocarbazoles. R. H. F. Manske and M. Kulka. bibliog Am Chem Soc J 72:4997-9 N '50

Analysis

Determination of water in pyridine homologues by the use of infra-red spectroscopy. E. A. Coulson, J. L. Hales and E. F. G. Herington. diag Chem Soc J p2125-8 Ag '51

PYRIDINETHIONE

Structure of 4-pyridthione. I. G. Ross. Chem Soc J p 1374-5 My '51

PYRIDINIUM cholesteryl sulfate

Cholesterol in blood serum; studies of microestimation as the pyridinium cholesteryl sulfate. A. E. Sobel, J. Goodman and M. Blau. bibliog Anal Chem 23:516-19 Mr '51

PYRIDINIUM compounds

Chemical constitution and surface-active properties; 2-alkylpyridines and 2-alkyl-1-methylpyridinium iodides. M. J. Birchenough. Chem Soc J p 1263-6 My '51

Condensation of ketones with acylpyridinium salts. W. V. Doering and W. E. McEwen. bibliog Am Chem Soc J 73:2104-9 My '51

Mechanism of the hydrolytic cleavage of carbon-carbon bonds; alcoholysis of acetylacetone and some 2-ketoalkylpyridinium salts. R. G. Pearson and A. C. Sandy. Am Chem Soc J 73:931-4 Mr '51

Oximes of β-naphthacyl halides and their pyridinium salts. C. T. Bahner and others. Am Chem Soc J 73:4013 Ag '51

PYRIDINIUM halides

Electrodeposition of metals from fused quaternary ammonium salts. F. H. Hurley and T. P. Wier, jr. bibliog Electrochem Soc J 98:203-6 My '51

PYRIDOL

Some derivatives of 3-pyridol with parasympathomimetic properties. H. M. Wuest and E. H. Sakal. bibliog Am Chem Soc J 73:1210-16 Mr '51

PYRIDOXAL

Phosphates of the vitamin B_6 group; 3-pyridoxalphosphoric acid. D. Heyl and S. A. Harris. Am Chem Soc J 73:3434-6 Jl '51

PYRIDOXAMINE

Phosphates of the vitamin B_6 group; pyridoxamine phosphate. D. Heyl and others. Am Chem Soc J 73:3436-7 Jl '51

PYRIDOXINE

Thiazole analogs of pyridoxine. L. H. Conover and D. S. Tarbell. bibliog Am Chem Soc J 72:5221-5 N '50

PYRIDTHIONE. See Pyridinethione

PYRIDYL compounds

Muscular relaxant drugs; some substituted pyridyl ketones. V. Boekelheide and J. H. Mason. Am Chem Soc J 73:2356-7 My '51

Pyridyl-aryloxy alkamine ethers as histamine antagonists. D. Papa, N. Sperber and M. Sherlock. Am Chem Soc J 73:1279-80 Mr '51

1-Pyridyl*iso*quinolines. D. H. Hey and J. M. Williams. Chem Soc J p 1527-32 Je '51

Some β-(2-pyridyl)- and β-(2-piperidyl)-propionamides. F. H. McMillan and J. A. King. bibliog Am Chem Soc J 73:3165-8 Jl '51

Some reactions of 3-pyridyllithium. H. E. French and K. Sears. bibliog Am Chem Soc J 73:469-70 Ja '51

PYRIMIDINE

Analogs of pteroylglutamic acid; 4-alkoxy derivatives. B. Roth, J. M. Smith, jr. and M. E. Hultquist. Am Chem Soc J 73:2869-71 Je '51

Analogs of pteroylglutamic acid; 2-alkylamino derivatives. B. Roth, J. M. Smith, jr. and M. E. Hultquist. bibliog Am Chem Soc J 73:2864-8 Je '51

Arylaminoheterocycles; trisubstituted pyrimidines. M.-J. Langerman and C. K. Banks. Am Chem Soc J 73:3011-12 Jl '51

Biological precursors of the pyrimidines. L. D. Wright and others. Am Chem Soc J 73:1898-9 Ap '51

Chloroaminopyrimidines. S. J. Childress and R. L. McKee. Am Chem Soc J 72:4271-2 S '50

Contributions to the chemistry of synthetic antimalarials; some pyrimidine derivatives. J. S. Moffatt. Chem Soc J p 1603-6 Je '50

Dehalogenation of 2-amino-4-methyl-6-chloropyrimidine. D. Shapiro. Am Chem Soc J 73:3526-7 Jl '51

Experimental study of some potentially tautomeric 2- and 4(6)-substituted pyrimidines. J. R. Marshall and J. Walker. Chem Soc J p1004-17 Ap '51; Abstract. Chem & Ind p76 Ja 27 '51

PYRIMIDINE—*Continued*

Further observations on the alcoholysis of diethyl diiminomalonate monohydrochloride; some new pyrimidines. S. M. McElvain and B. E. Tate. Am Chem Soc J 73:2760-4 Je '51

Improved syntheses in the pyrimidine series; the use of pyrimidine-thiols. D. J. Brown. bibliog Soc Chem Ind J 69:353-6 D '50

Infra-red spectroscopic measurements of substituted pyrimidines; the absorption spectra of di-, tri-, and tetra-substituted pyrimidines. I. A. Brownlie. Chem Soc J p3062-72 N '50

Monosubstituted pyrimidines, and the action of thiourea on chloropyrimidines. M. P. V. Boarland and J. F. W. McOmie. Chem Soc J p 1218-21 My '51

Near ultraviolet solution spectra of the diazines. F. Halverson and R. C. Hirt. J Chem Phys 19:711-18 Je '51

Preparation of some substituted 2-thiouracils and 2,4-dimercaptopyrimidines. E. A. Falco, P. B. Russell and G. H. Hitchings. Am Chem Soc J 73:4466-8 S '51

Purine and pyrimidine content of three strains of escherichia coli. A. Marshak. bibliog Science 113:181-2 F 16 '51

Studies on condensed pyrimidine systems; some 2-aminothiazolo[4,5-d]-pyrimidines. A. Maggiolo and G. H. Hitchings. bibliog Am Chem Soc J 73:4226-8 S '51

Syntheses of certain thiazolopyrimidines (4 : 5 : 6 : 9-tetrahydro-1 - thia-7 : 9-diazaindanes). P. J. Heald and T. K. Walker. Chem Soc J p 1127-9 Ap '50

Thiazolopyrimidines. S. J. Childress and R. L. McKee. bibliog Am Chem Soc J 73:3862-4 Ag '51

PYRITE

High-temperature heat contents of manganous sulfide, ferrous sulfide and pyrite. J. P. Coughlin. bibliog Am Chem Soc J 72:5445-7 D '50

PYRITES

Dorr FluoSolids reactor for roasting sulphides. J. N. Franklin. il Pulp & Pa of Can 52:140-1+ Je '51

From pyrites; cheaper sulfuric; FluoSolids roaster. Chem Ind W 68:22 Ap 7 '51; il Chem Eng 58:186 Ap '51; Paper Tr J 132:32 Je 8 '51

Manufacture of sulphur from pyrites. R. Aries and R. M. Cziner. Pulp & Pa of Can 52:70-2 Mr '51

Metallurgy of cobalt production from cupriferous pyrite. S. Nakabe. flow sheet J Metals 3:Trans 445-51 Je '51

Opening pyrite deposit in Sweden. Can Min J 72:85 Je '51

Practical burning of pyrites for sulphite pulping; Nichols Freeman flash roaster. E. P. McGinn and others. flow chart il maps diag Paper Tr J 132:21-2+ My 25 '51

Pyrites supplies. Economist 161:48+ Jl 7 '51

PYRITHIAMINE

Pyrithiamine and neopyrithiamine. D. W. Woolley. Am Chem Soc J 72:5763-5 D '50

PYROGALLOL

How to obtain accurate analyses of oxygen using alkaline pyrogallol. diag Pet Processing 6:169 F '51

Purpurogallin; mechanism of the oxidation of pyrogallol. A. Critchlow, R. D. Haworth and P. L. Pauson. Chem Soc J p 1318-25 My '51

Spectrophotometric examination of some derivatives of pyrogallol and phloroglucinol. T. W. Campbell and G. M. Coppinger. bibliog Am Chem Soc J 73:2708-12 Je '51

PYROLUSITE

Analysis

Precision colorimetry; application to determination of manganese. I. G. Young and C. F. Hiskey. bibliog Anal Chem 23:506-8 Mr '51

PYROLYSIS

Chemical engineering unit processes fourth annual review; pyrolysis of coal and shale. C. H. Prien. il Ind & Eng Chem 43:2006-15 bibliog(277 ref, p2013-15) S '51

Deuterium tracers in the pyrolysis of butane and propylene. C. D. Hurd and J. L. Azorlosa. Am Chem Soc J 73:33-7 Ja '51

Free radicals in pyrolysis of propionaldehyde. T. J. Sworski and M. Burton. bibliog Am Chem Soc J 73:3194-5 Jl '51

Free radicals in the photolysis and pyrolysis of acetaldehyde. P. D. Zemany and M. Burton. bibliog diag J Phys & Colloid Chem 55:949-64 Je '51

Isomerism of the oximes; the kinetics of the pyrolysis of acyl derivatives. D. Ambrose and O. L. Brady. Chem Soc J p 1243-9 My '50

Kinetics of pyrolysis of diborane. J. K. Bragg, L. V. McCarty and F. J. Norton. Am Chem Soc J 73:2134-40 My '51

Mechanism of the pyrolyses of pinenes. R. L. Burwell, jr. Am Chem Soc J 73:4461-2 S '51

New ethylene process uses naphtha pyrolysis. il Pet Refiner 30:122-3 Jl '51

Preliminary study of the kinetics of pyrolysis of diborane. R. P. Clarke and R. N. Pease. Am Chem Soc J 73:2132-4 My '51

Pyrolysis of diborane and the synthesis of pentaborane. L. V. McCarty and P. A. Di Giorgio. diag Am Chem Soc J 73:3138-43 Jl '51

Pyrolysis of isobutylene. F. O. Rice and L. A. Wall. bibliog Am Chem Soc J 72:3967-8 S '50

Pyrolysis of methyl phthalate. R. P. Zelinski, J. T. Siedlecki and A. L. Andersen, jr. bibliog Am Chem Soc J 72:5503-5 D '50

Pyrolysis of mixtures of ethane and ethane-d_6. L. A. Wall and W. J. Moore. bibliog Am Chem Soc J 73:2840-4 Je '51

Pyrolysis of perfluoro-*n*-pentane. G. C. Rogers and G. H. Cady. Am Chem Soc J 73:3523-4 Jl '51

Pyrolysis of phenyl phthalate. R. P. Zelinski and H. M. Andersen. Am Chem Soc J 73:4405-7 S '51

Pyrolysis of propane gives unsaturates suitable for synthetic drying oils; patent. diag Pet Processing 6:1009 S '51

Stereochemistry of catalytic hydrogenation; pyrolysis of the six perhydrodiphenic acids; limitations of the Blanc rule. S. B. Davis and others. Chem Soc J p 1423-5 Je '50

Structure of benzilide. H. H. Wasserman and H. E. Zimmerman. Am Chem Soc J 72:5787 D '50

PYROMETERS and pyrometry

Automatic controls increase openhearth tonnage. A. Robinson and J. H. Chester. il diag Iron Age 167:92-6 Mr 8 '51

Calibration furnaces for total-radiation pyrometers. E. J. Burton and R. Mayorcas. bibliog diags Iron & Steel Inst J 168:151-5 Je '51

High speed infrared pyrometer. il Product Eng 22:168 Ja '51

Immersion thermocouple pyrometer. il Blast F & Steel Pl 39:836 Jl '51

Instantaneous and continuous sodium-line reversal pyrometer; abstract. M. M. El Wakil and others. diag Mech Eng 73:235 Mr '51

Open hearth bath pyrometers. H. B. Emerick. il diag Blast F & Steel Pl 38:1425-7 D '50

Pyrometry in the nonferrous foundry. R. A. Colton. il Foundry 79:98-100+ F; 88-9+ Mr '51

Radiation pyrometers control new high-gradient heating process. H. W. Cox. il diags Instruments 24:878-9 Ag '51

Radiation pyrometry in the steel industry. D. Robertson. il diags Mech Eng 73:198-202 Mr '51

Sonic-flow pyrometer for measuring gas temperatures. G. T. Lalos. bibliog il diags J Res Nat Bur Stand 47:179-90 S '51

Two-colour infra-red radiation pyrometer. A. F. Gibson. diags J Sci Instr 28:153-5 My '51

See also

Temperature—Measurement

Thermocouples

PYRONE

Antibacterial properties of compounds containing the tricarbonylmethane group; syntheses of 3-alkylated or 3-acylated 4-hydroxycoumarins and of a related pyrone. T. Ukita, S. Nojima and M. Matsumoto. bibliog Am Chem Soc J 72:5143-4 N '50

PYRONE—*Continued*

Effect of bond structure on the transformation of *o*-aroyloxy-acetoarones into *o*-hydroxydiaroylmethanes; Baker-Venkataraman transformation. N. V. Nowlan, P. A. Slavin and T. S. Wheeler. Chem Soc J p340-4 Ja '50

PYROPHOSPHATASES

Isolation of crystalline pyrophosphatase from baker's yeast. M. Kunitz. Am Chem Soc J 73:1387 Mr '51

PYROPHOSPHATES

Polarography of copper complexes; pyrophosphate complexes. H. A. Laitinen and E. I. Onstott. bibliog Am Chem Soc J 72:4729-33 O '50

Raman spectra of several compounds containing phosphorus. T. J. Hanwick and P. O. Hoffmann. diag J Chem Phys 19:708-11 Je '51

Analysis

Amperometric titrations with hexamminecobalt(III) chloride. H. A. Laitinen and L. W. Burdett. bibliog Anal Chem 23:1265-7 S '51

PYROPHOSPHORIC acid

Studies on phosphorylation; the reaction between organic bases and esters of the oxy-acids of phosphorus; an interpretation based on a comparison of certain aspects of the chemistry of sulphur and phosphorus. V. M. Clark and A. R. Todd. Chem Soc J p2023-30 Ag '50

PYROTECHNICS, Military. See Military fire works

PYRROCOLINE

Cyanine dyes containing the pyrrocoline nucleus. F. G. Holliman and H. A. Schickerling. Chem Soc J p914-20 Ap '51

PYRROLE

Isolation and identification of pyrrole and 2-methylpyrrole from shale oil. A. G. Janssen and others. Am Chem Soc J 73:4040-1 Ag '51

Novel sulfidation reaction and its application to some indoles and pyrroles. R. G. Woodbridge, 3d and G. Dougherty. bibliog Am Chem Soc J 72:4320-2 S '50

Stability of fuel oils in storage; effect of some nitrogen compounds. R. B. Thompson and others. bibliog Ind & Eng Chem 43:935-9 Ap '51

Studies in the azole series. A. H. Cook and A. L. Levy. Chem Soc J p637-45 F '50

Studies in the azole series; a new method of peptide synthesis; alanyl-peptides. A. H. Cook and A. L. Levy. Chem Soc J p651-6 F '50

Studies in the azole series; a new method of peptide synthesis; glycyl peptides. A. H. Cook and A. L. Levy. Chem Soc J p646-51 F '50

Studies in the azole series; new syntheses of 2- and 8-aminopurines. A. H. Cook and G. H. Thomas. Chem Soc J p 1888-91 Jl '50

Studies in the azole series; syntheses of peptides of substituted cysteines. A. H. Cook and J. R. A. Pollock. Chem Soc J p 1898-902 Jl '50

Studies in the azole series; the interaction of amines and 2-mercapto-4-alkylidene- or -arylidene-5-thiazolinones. A. H. Cook, G. D. Hunter and J. R. A. Pollock. Chem Soc J p 1892-8 Jl '50

Studies in the azole series; the preparation of some natural xanthines and related purines. A. H. Cook and G. H. Thomas. Chem Soc J p 1884-8 Jl '50

Synthesis of pyrroles related to the uroporphyrins. S. F. MacDonald. Chem & Ind p759-60 S 8 '51

PYRROLIDINE

Alkyl-β-cyano-α-hydroxycinnamates and pyrrolidinetriones. G. S. Skinner, J. A. Gladner and R. F. Heitmiller. Am Chem Soc J 73:2230-3 My '51

Cyclopropanes; the configuration and reduction of the stereoisomers of cyclopropyl 3-phenyl-2-nitro-1-cyclopropyl ketone. L. I. Smith and E. R. Rogier. Am Chem Soc J 73:3837-40 Ag '51

Salts of substituted piperidines and pyrrolidines. C. T. Bahner and others. Am Chem Soc J 73:4455-6 S '51

Trialkylpyrrolidinetriones. G. S. Skinner and J. F. Perkins, jr. bibliog Am Chem Soc J 72:5569-73 D '50

See also

Vinyl pyrrolidone

PYRROLIDIONE

Geometrical isomerism of 2,4-dibenzylidene-3-phenyl-5-oxazolidones; their rearrangement to 1,4-diphenyl-2-benzylidene-3,5-pyrrolidiones. S. Larsen and J. Bernstein. Am Chem Soc J 72:4447-52 O '50

PYRROLIDONE

Reactions of 1,4-diphenyl-1-bromo-3-butene-2-one; a synthesis of 1-aryl-2,5-diphenyl-3-pyrrolidones. P. L. Southwick, D. I. Sapper and L. A. Pursglove. bibliog Am Chem Soc J 72:4940-4 N '50

PYRROLINE

Action of methylmagnesium iodide on substituted pyrrolines and related substances. P. M. Maginnity and J. B. Cloke. bibliog Am Chem Soc J 73:49-51 Ja '51

Cyclopropanes; the configuration and reduction of the stereoisomers of cyclopropyl 3-phenyl-2-nitro-1-cyclopropyl ketone. L. I. Smith and E. R. Rogier. Am Chem Soc J 73:3837-40 Ag '51

PYRROLINONE

Synthetical experiments in the B group of vitamins; pyrrolinones derived from the condensation products of primary amino-esters and formyl- or acetyl-succinic acid derivatives. A. Cohen. Chem Soc J p3005-9 N '50

PYRROLONE

Dimethin*mero*cyanines derived from 2-substituted azol-5-ones. P. Aubert, E. B. Knott and L. A. Williams. Chem Soc J p2185-95 Ag '51

PYRYLIUM compounds

Benzopyrylium salts; preparation and properties of substituted 2,3-diphenyl-benzopyrylium perchlorates. R. R. Otter and R. L. Shriner. bibliog Am Chem Soc J 73:887-91 Mr '51

Preparation of substituted mercaptopyrylium salts. L. C. King, F. J. Ozog and J. Moffat. bibliog Am Chem Soc J 73:300-2 Ja '51

PYTHAGOREAN proposition

Solving the Pythagorean principle on the slide rule. H. W. D'Entremont. diags Product Eng 21:155 N '50; Discussion. 22:210+, 218+ Ja '51

Q

Q enzyme. See Enzymes

Q fever

Occupational diseases transmitted via contact with animals and animal products. H. K. Abrams and P. Warr. Ind Med 20:344-5 Ag '51

Outbreak of Q fever in Sokol, Yugoslavia, Aug. 1950. E. S. Murray and others. Pub Health Rep 66:1032-7 bibliog(p 1036-7) Ag 10 '51

Q fever studies in southern California; aureomycin treatment of dairy cattle naturally infected with coxiella burnetii. L. Luoto and others. bibliog Pub Health Rep 66:199-204 F 16 '51

QUALITY control. See Concrete plants—Quality control; Factory management—Quality control; Food factories—Quality control; Metallurgical plants—Quality control; Petroleum refineries—Quality control

QUALITY control, American society for. See American society for quality control

QUALITY of products

Consumer knowledge; its measurement and extent. A. R. Oxenfeldt. R Econ & Stat 32:300-14 N '50

Scott Paper distributes a carload of help with every carton. C. J. Swan. il Ptr Ink 236:42-4+ Jl 27 '51

Why professors are suspicious of business. B. DeVoto. Fortune 43:114-15+ Ap '51; Discussion. R. Weil, jr. 43:99-100+ Je '51

See also

Advertising copy—Quality appeal
Factory management—Quality control
Products, Certification of

QUANTOMETER

Analysis of aluminum and aluminum alloys using pin samples; direct-reading spectrochemical methods. R. W. Callon and L. P. Charette. bibliog il Anal Chem 23:960-6 Jl '51

QUANTUM electrodynamics

Anomalous spin gyromagnetic ratio of the electron. S. Koenig and others. bibliog Phys R 83:687-8 Ag 1 '51

Boson current corrections to second order. D. C. Peaslee. bibliog Phys R 81:94-106 Ja 1 '51

Bound states and scattering in positron theory. W. H. Furry. bibliog Phys R 81: 115-24 Ja 1 '51

Calculation of matrix elements. J. S. R. Chisholm. Phys R 82:448 My 1 '51

Charge renormalization in the Hartree approximation. H. S. Snyder. Phys R 82:279 Ap 15 '51

Consequences of gauge invariance for radiative transitions. R. G. Sachs and N. Austern. Phys R 81:705-9 Mr 1 '51

Diverging integrals in the self-charge problem. J. McConnell. Phys R 81:275 Ja 15 '51

Formulation of quantum electrodynamics. J. G. Valatin. Phys R 83:850-1 Ag 15 '51

Fourth-order contribution to the self-energy of the electron. R. M. Frank. bibliog diags Phys R 83:1189-93 S 15 '51

Gauge invariance and vacuum polarization. J. Schwinger. Phys R 82:664-79 Je 1 '51

Heisenberg operators in quantum electrodynamics. F. J. Dyson. Phys R 82:428-39; 83:608-27 My 1, Ag 1 '51

Infinite integrals in quantum electrodynamics. D. C. Peaslee. Phys R 81:107-9 Ja 1 '51

Mathematical formulation of the quantum theory of electromagnetic interaction. R. P. Feynman. bibliog Phys R 80:440-57 N 1 '50

Non-linear interactions between electromagnetic fields. R. Karplus and M. Neuman. bibliog Phys R 80:380-5 N 1 '50

Note on the *U* operator. M. Neuman. Phys R 83:671-2 Ag 1 '51

Overlapping divergences and the *S*-matrix. A. Salam. diags Phys R 82:217-27 Ap 15 '51

Quantum effects in the interaction between free electrons and electromagnetic fields. C. Shulman. diag Phys R 82:116-17 Ap 1 '51

Quantum electrodynamics of charged particles without spin. F. Rohrlich. bibliog diags Phys R 80:666-87 N 15 '50

Quantum electrodynamics with nonvanishing photon mass. F. Coester. Phys R 83: 798-800 Ag 15 '51

Quantum theory of the longitudinal electromagnetic field. S. T. Ma. bibliog Phys R 80:729-32 N 15 '50

Regarding covariant subtraction of infinities. G. Breit. bibliog Science 113:103-4 Ja 26 '51

Relativistic quantum mechanics and the mass operator. W. Wessel. bibliog Phys R 83: 1031-7 S 1 '51

Restriction of possible interactions in quantum electrodynamics. A. Petermann and E. C. G. Stueckelberg. bibliog Phys R 82:548-9 My 15 '51

Schrödinger equation in quantum electrodynamics. F. J. Dyson. Phys R 83:1207-16 S 15 '51

Self-energies of quantum field theory. G. Snow and H. S. Snyder. Phys R 80:987-9 D 15 '50

Theory of quantized fields. J. Schwinger. Phys R 82:914-27 Je 15 '51

QUANTUM theory

Advent of the quantum theory. A. Einstein. Science 113:82-4 Ja 26 '51

Atomic spectra for the astrophysicist. C. E. Moore. bibliog Science 113:669-73 Je 15 '51

Coherent scattering processes arising from quantum correlations. L. Goldstein. bibliog Phys R 83:289-98 Jl 15 '51

Conceptual foundations of the quantum theory. H. Margenau. Science 113:95-101 Ja 26 '51

Fifty years of quantum theory. A. Sommerfeld; F. Bopp. Science 113:85-92 Ja 26 '51

Mathematical formulation of the quantum theory of electromagnetic interaction. R. P. Feynman. bibliog Phys R 80:440-57 N 1 '50

Photochemistry of proteins; the influence of reagents and conditions on the quantum yield for the inactivation-denaturation of chymotrypsin. A. D. McLaren and P. Finkelstein. bibliog Am Chem Soc J 72: 5423-6 D '50

Quantum statistics of fields. A. E. Scheidegger and C. D. McKay. bibliog Phys R 83: 125-31 Jl 1 '51; Correction. 83:1263 S 15 '51

Quantum theory and chemistry. L. Pauling. Science 113:92-4 Ja 26 '51

Quantum theory of non-local fields; irreducible fields and their interaction. H. Yukawa. bibliog Phys R 80:1047-52 D 15 '50

Relativistic quantum theory for finite time intervals. E. C. G. Stueckelberg. bibliog Phys R 81:130-3 Ja 1 '51

See also

Dirac's equation	Relativity (physics)
Pauli exclusion principle	Thermodynamics
Photoelectric effect	Wave mechanics

QUARRIES and quarrying

Brownstone era. C. H. Vivian. il diag Comp Air Mag 56:198-205 Ag '51

Experimental mine and quarries, Missouri School of mines and metallurgy. J. D. Forrester. il maps Min Cong J 37:45-7+ Jl '51

Millisecond delays tame Buggs Island quarry. flow sheet il diags Constr Methods 33:46-51 Ap '51

National Gypsum's quarrying and mining practices. il diags Rock Prod 53:112-15 D '50

Plug and feather; few changes made in ancient method of splitting stone. T. Slager. il Comp Air Mag 56:70-1 Mr '51

Quarrying hard, tough rock at Swampscott, Mass. J. I. Horty. il Explosives Eng 28: 179-83 N '50

Stripping and quarrying limestone in Poland township, Ohio. R. S. Siegrist. il diag Explosives Eng 29:45-6+ Mr '51

Directories

Directory of quarries, clayworks, sand and gravel pits, etc. 1950-1951. 12th ed 428p 15s Quarry managers' journal, Salisbury square house, Fleet st, London, E.C. 4 '51

Equipment

Belt conveyors at Bull Shoals dam prove their economy. flow sheet il diag Rock Prod 54:78-83 S '51

Diesels in the pit and quarry industries. G. W. Grupp. il Diesel Power 29:77-80 Je '51

Harbison-Walker's Mt Union plant uses mechanized mining to assure high quality quartzite. flow chart il Brick & Clay Rec 118:75+ Ap '51

Mechanical handling of riprap; Big rock stone and material co. flow diag il Rock Prod 54:174-6 Ag '51

Shale planer eliminates blasting. il Brick & Clay Rec 119:28 Jl '51

Twenty thousand tons of stone daily! Inland lime and stone co. il plans Rock Prod 54:64-70 My '51

Safety measures

Logical approach to accident prevention; New York producers safety program. C. A. Gustafson. Rock Prod 54:80-1+ My '51

National crushed stone association safety award winners. Rock Prod 53:164-5 D '50

National safety competition of 1950; list of winners, 1925-1950; awards of certificates. F. T. Moyer. il Explosives Eng 29:71-85+ My '51

Quarry superintendent cooperates with school to promote safety among children. P. Sturtevant and G. Sturtevant. il Explosives Eng 29:113 Jl '51

Safety program kept on rolling; Funkhouser co. H. F. Johnston. il Nat Safety N 63:38+ Ap '51

TCI's Dolonah quarry honored for safety achievements. il Explosives Eng 28:148-9 S '50

Wet drilling to control quarry dust. H. B. Ashe. il Safety Maint & Prod 101:58-9+ Mr '51

QUARTERMASTER food and container institute for the armed forces

How QM maps the food acceptance salient. D. R. Peryam. il Food Ind 22:1910-13+, 2049-51+ N-D '50

Quartermaster packaging, 1951. il Mod Packaging 24:59-65+ Jl '51

QUARTZ

Absorption spectra of samples of quartz and corundum in ultraviolet; electric and thermic treatment of quartz. A. Bauple and others. bibliog Opt Soc Am J 40:788-9 N '50

Cathode luminescence of crystalline quartz. D. D. Saksena and L. M. Pant. bibliog diag J Chem Phys 19:134-5 Ja '51

Growing quartz crystals for military needs. A. C. Walker. bibliog il diags Electronics 24:96-9 Ap '51

Growth of quartz in alkali halide solutions. J. F. Corwin and A. C. Swinnerton. bibliog Am Chem Soc J 73:3598-601 Ag '51

Loading quartz crystals to improve performance. Instruments 23:1020-2 O '50

Magnetically controlled quartz fiber microbalance. F. C. Edwards and R. R. Baldwin. bibliog diags Anal Chem 23:357-61 F '51

Measurements of the underwater sound field generated by quartz transducers. W. Keck and others. bibliog il diags Acoustical Soc Am J 23:168-72 Mr '51

Optical rotation of quartz in the infrared to 9.7μ. H. S. Gutowsky. bibliog J Chem Phys 19:438-40 Ap '51

Piezoelectric constants of alpha- and beta-quartz at various temperatures. R. K. Cook and P. G. Weissler. bibliog il diags Phys R 80:712-16 N 15 '50

Size of cuttings produced by pneumatic drilling with different kinds of detachable bits. C. E. Brown. bibliog diags A M A Archives Ind Hygiene & Occup Med 4:103-18 Ag '51

Solubility of quartz and some other substances in superheated steam at high pressures. G. W. Morey and J. M. Hesselgesser. bibliog diags A S M E Trans 73:865-72; Discussion. 872-5 O '51

Spectroscopy in infrared by reflection and its use for highly absorbing substances. I. Šimon. bibliog il diags Opt Soc Am J 41:336-45 My '51

Study of color centers produced in quartz by X-radiation. G. Forman. Opt Soc Am J 41:377-80 Je '51

See also

Crystals, Piezoelectric

Silica

Analysis

See Silica—Analysis

QUARTZITE

Harbison-Walker's Mt Union plant uses mechanized mining to assure high quality quartzite. flow chart il Brick & Clay Rec 118:75+ Ap '51

Structure of the Sugarloaf Mountain area, Maryland, as a key to Piedmont stratigraphy. A. J. Stose and G. W. Stose. bibliog map diag Geol Soc Bul 62:697-9 Je '51

Structure of the Sugarloaf mountain area, Maryland, as a key to Piedmont stratigraphy. D. M. Scotford. bibliog maps diags Geol Soc Bul 62:45-75, pl 1-7 Ja '51

QUASSIN

Quassin and neoquassin. E. London, A. Robertson and H. Worthington. Chem Soc J p3431-40 D '50

QUATERNARY ammonium compounds. See Ammonium compounds

QUEBEC (province)

See also

Forests and forestry—Quebec (province)

Iron mines and mining—Quebec (province)

Mines and mineral resources—Quebec (province)

Paper industry and trade—Quebec (province)

Railroads—Quebec (province)

Technical education—Quebec (province)

Industries and resources

Quebec's industry and labor progress. Comm & Fin Chr 173:8+ sec 2 Je 28 '51

QUEBRACHITOL

Quebrachitol; cyclic polyalcohol from natural rubber latex. J. van Alphen. bibliog(42 ref) Ind & Eng Chem 43:141-5 Ja '51

QUEENSLAND nuts. See Macadamia nuts

QUEENY, Edgar Monsanto, 1897-

Portrait. Bsns W 114 My 5 '51

QUENCHING

New quenching process for aluminum. G. Close. il diag Light Metal Age 8:6-7+ O '50

QUENCHING of fluorescence. See Fluorescence

QUENCHING of steel. See Steel, Quenching of

QUERCETIN

Flavonols from the bark of melicope ternata; a synthesis of quercetin 3 : 3′-dimethyl ether, quercetin 3 : 7 : 3′-trimethyl ether, quercetin 3 : 5 : 7 : 3′-tetramethyl ether, ternatin, and related benzyl ethers. L. H. Briggs and R. H. Locker. Chem Soc J p864-7 Mr '50

QUERCITRIN

Isolation of quercitrin from peanut hulls. C. D. Douglass, W. L. Howard and S. H. Wender. bibliog Am Chem Soc J 72:4177-8 S '50

QUESADA, Elwood Richard, 1904-

Quesada quitting in policy squabble. por Aviation W 55:15 Jl 30 '51

QUESTIONNAIRES

Are mail surveys a reliable marketing tool? P. L. Erdos; R. O. Eastman. Ptr Ink 236:34-5 Ag 24 '51

Depth questioning. L. M. Paradise and A. B. Blankenship. bibliog J Marketing 15:274-88 Ja '51

Mail surveys are valid and inexpensive. P. L. Erdos. Adv Agency 44:68-9+ Je '51

Making mail surveys more reliable. R. A. Robinson and P. Agisim. J Marketing 15:415-24 Ap '51

Response errors in surveys. M. H. Hansen and others. Am Stat Assn J 46:147-90 Je '51

Way to get extra pull from your mail surveys. Sales Management 66:94 My 1 '51

QUICK (periodical)

Smaller and smaller; shorter and shorter. il Bsns W p54+ O 21 '50

QUICKLIME. See Lime

QUILL, Michael Joseph, 1905-

Fighting Irish; Mike Quill's transport workers. Fortune 44:58+ S '51

QUILON

Complex surface. Chem Ind W 68:12-13 Mr 24 '51

QUINACRINE hydrochloride. See Atebrin

QUINALDEHYDE

Benzoin condensation of quinaldehyde. C. A. Buehler and J. O. Harris. bibliog Am Chem Soc J 72:5015-17 N '50

QUINALDINE

Arylamino-(dialkylaminoalkylamino)-derivatives of quinaldine and lepidine. A. Adams and D. H. Hey. Chem Soc J p3185-9 D '49

Mechanism of the molecular rearrangement produced by the action of alkali on chloralquinaldine [2-(3 : 3 : 3-trichloro-2-hydroxypropyl)-quinoline]. B. R. Brown, D. L. Hammick and R. Robinson. Chem Soc J p780-3 Mr '50

New therapeutic agents of the quinoline series; 2-, 3-, and 4-pyridylquinolines, 4-pyridylquinaldines, and 2-pyridyl-lepidines. D. H. Hey and J. M. Williams. Chem Soc J p 1678-83 Jl '50

QUINALIZARIN

Transmission characteristics in the visible spectral region of the quinalizarin and beryllium-quinalizarin complex in N/4 sodium hydroxide solution. G. W. Marks and H. T. Hall. 3pls U S Bur Mines Rep of Invest 4741:1-5 '50

QUINAMINE

Quinamine; *epi*quinamine and *epi*cinchonamine. C. C. J. Culvenor and others. Chem Soc J p 1485-93 Je '50

Quinamine; sulphobenzeneazoquinamine and nitration and oxidation of quinamine to 3 : 6 : 8-trinitro-4-hydroxyquinoline. G. Bendz and others. Chem Soc J p 1130-8 Ap '50

QUINAZOLINE

Chemistry of simple heterocyclic systems; a comparative study of some 4-substituted cinnolines, quinazolines, and quinolines. J. R. Keneford and others. Chem Soc J p 1104-11 Ap '50

Quinazolines; a study of an unusual reaction of 5-diazoacetyl-1,3-dimethyl-2,4-quinazolinedione. C. H. Wang, T. C. Feng and B. E. Christensen. bibliog Am Chem Soc J 72:4887-90 N '50

Quinazolines; synthesis of several aminoquinazolines and their sulfa derivatives. M. B. Naff and B. E. Christensen. Am Chem Soc J 73:1372-3 Mr '51

Quinazolines; the synthesis of methyl 2,4-dimethyl-6-quinazolyl ketone. J. Siegle and B. E. Christensen. Am Chem Soc J 72:4186-7 S '50

QUININE

Absorption of quinine by a carboxylic acid ion-exchange resin. L. Saunders and R. Srivastava. Chem Soc J p2915-19 N '50

QUINN, Edward C.

Chrysler vice-president and general manager. por Sales Management 67:41 O 1 '51

Portrait. Bsns W p69 S 15 '51

Portrait. Fortune 44:132 O '51

QUINOL

Structure of molecular compounds; a compound of xenon and quinol. H. M. Powell. Chem Soc J p468-9 F '50

Structure of molecular compounds; compounds formed by the inert gases. H. M. Powell. pl Chem Soc J p298-300 Ja '50

Structure of molecular compounds; the compound of krypton and quinol. H. M. Powell. Chem Soc J p300-1 Ja '50

QUINOLINE

Anhydro-compounds from nitrogen-containing derivatives of thioglycollic acid; pyridine and quinoline compounds. G. F. Duffin and J. D. Kendall. Chem Soc J p734-9 Mr '51

Attempts to find new antimalarials; the synthesis of derivatives of quinolino(4′ : 3′-2 : 3)quinoline. W. O. Kermack and N. E. Storey. Chem Soc J p 1389-92 Je '51

Catalytic synthesis of heterocycles; dehydrocyclization of anils to nitrogen heterocycles. C. Hansch and others. bibliog Am Chem Soc J 73:704-6 F '51

Chemistry of simple heterocyclic systems; a comparative study of some 4-substituted cinnolines, quinazolines, and quinolines. J. R. Keneford and others. Chem Soc J p 1104-11 Ap '50

Cinnolines; some 4-cinnolylhydrazines, their preparation and oxidation; miscellaneous quinoline derivatives. K. Schofield and T. Swain. Chem Soc J p392-5 Ja '50

Crossroads for quinoline. il Chem W 69:47-8 O 13 '51

Cyclic meso-ionic compounds derived from quinoline. B. R. Brown and D. L. Hammick. Chem Soc J p628-33 F '50

Displacement of nuclear hydroxyl in quinoline series by aryl-S group. G. Illuminati and H. Gilman. Am Chem Soc J 72:4288-9 S '50

ω-Halogenomethyl-pyridines, -quinolines, and -*iso*quinolines. B. R. Brown and others. Chem Soc J p 1145-50 My '51

New therapeutic agents of the quinoline series; 2-, 3-, and 4-pyridylquinolines, 4-pyridylquinaldines, and 2-pyridyl-lepidines. D. H. Hey and J. M. Williams. Chem Soc J p 1678-83 Jl '50

Quaternary salts of halogenated pyridines and quinolines. C. T. Bahner and others. Am Chem Soc J 73:3499-501 Jl '51

Quaternary salts of styryl pyridines and quinolines. C. T. Bahner, E. S. Pace and R. Prevost. Am Chem Soc J 73:3407-8 Jl '51

Reactions of some organometallic compounds with 2-substituted quinolines. H. Gilman and J. A. Beel. bibliog Am Chem Soc J 73:774-7 F '51

Structure and properties of certain polycyclic indolo- and quinolino-derivatives. F. G. Mann and others. Chem Soc J p 1898-914 Jl '51

Structure of the isomeric quinoline dicyanides. M. G. Seeley, R. E. Yates and C. R. Noller. bibliog Am Chem Soc J 73:772-4 F '51

Study of the alkylation of active methylene compounds using 2-(β-dimethylaminoethyl)-quinoline. V. Boekelheide and G. Marinetti. Am Chem Soc J 73:4015-16 Ag '51

Synthesis of some glyoxalino(1′ : 2′-1 : 2) quinolines. J. M. Osbond. Chem Soc J p 1853-7 Jl '50

QUINOLINIUM compounds

Reactions of quinolinium compounds with nitromethane. N. J. Leonard, H. A. DeWalt, jr. and G. W. Leubner. bibliog Am Chem Soc J 73:3325-9 Jl '51

QUINOLINOL

Analysis by permanganate titrations of 8-quinolinols. J. P. Phillips and F. J. O'Hara. Anal Chem 23:535-6 Mr '51

Chelate formation between copper and 8-quinolinols. J. P. Phillips and F. J. O'Hara. Am Chem Soc J 73:583-5 F '51

Determination of scandium with 8-quinolinol. L. Pokras and P. M. Bernays. bibliog Anal Chem 23:757-9 My '51

Rapid 8-quinolinol procedures for determination of magnesium. A. E. Willson. Anal Chem 23:754-7 My '51

Some 7-substituted derivatives of 8-quinolinol. J. P. Phillips and S. Price. Am Chem Soc J 73:1875-6 Ap '51

Ultraviolet absorption spectra of 2-substituted 8-quinolinols. J. P. Phillips and others. Am Chem Soc J 73:630-2 F '51

Analysis

Coulometric titration of 8-quinolinol. W. N. Carson, jr. bibliog diags Anal Chem 22:1565-8 D '50

Spectrophotometric determination of 8-quinolinol and some of its halogenated derivatives. W. T. Haskins and G. W. Luttermoser. bibliog Anal Chem 23:456-8 Mr '51

QUINOLIZIDINE

Curariform activity and chemical structure; lactones derived from quinolizidine. V. Boekelheide and E. J. Agnello. bibliog Am Chem Soc J 72:5005-9 N '50

Rearrangement of α-aminoketones during Clemmensen reduction; the rearrangement of 3-ketoquinolizidine. N. J. Leonard and S. H. Pines. bibliog Am Chem Soc J 72:4931-4 N '50

QUINOLIZONE

Study of some quinolizone derivatives. V. Boekelheide and J. P. Lodge, jr. bibliog Am Chem Soc J 73:3681-4 Ag '51

QUINONE

Action of stilbene on tetrachloro-*o*-benzoquinone. A. Schönberg and N. Latif. Am Chem Soc J 72:4828-9 O '50

Chemistry of the melanins; the synthesis of hydroxyindoles from *p*-benzoquinones. R. J. S. Beer and others. Chem Soc J p2029-32 Ag '51

Diffusion-controlled electrode reactions. C. S. Lin and others. bibliog diags Ind & Eng Chem 43:2136-43 S '51

Experiments with diazomethane and its derivatives; action of diazomethanes on perbenzoic acid and benzoquinone derivatives. A. Schönberg, W. I. Awad and N. Latif. Chem Soc J p 1368-9 My '51

Quinone-hydroquinone exchange reactions; non-exchange in duroquinhydrone. A. A. Bothner-By. bibliog Am Chem Soc J 73:4228-30 S '51

Quinone imides; addition of dienes to *p*-quinone sulfonimides. R. Adams and C. R. Walter, jr. Am Chem Soc J 73:1152-5 Mr '51

Quinone imides; aluminum chloride-catalyzed arylations of *p*-quinone dibenzenesulfonimides. R. Adams and K. R. Eilar. Am Chem Soc J 73:1149-52 Mr '51

Quinone imides; 1-4-naphthoquinone disulfonimides. R. Adams and R. A. Wankel. Am Chem Soc J 73:131-4 Ja '51

Quinone imides; *p*-quinone diacyl and diaroylimides. R. Adams and J. L. Anderson. bibliog Am Chem Soc J 72:5154-7 N '50

Quinone imides; *p*-quinone disulfonimides. R. Adams and A. S. Nagarkatti. bibliog Am Chem Soc J 72:4601-6 O '50

Quinone imides; *p*-quinone monosulfonimides. R. Adams and J. H. Looker. Am Chem Soc J 73:1145-9 Mr '51

QUINONES
Absorption spectra of some substituted benzoquinones. C. M. Martini and F. C. Nachod. Am Chem Soc J 73:2953-4 Je '51
Experiments with diazomethane and its derivatives; action of diazomethane on o-quinone monoximes. A. Schönberg and W. I. Awad. Chem Soc J p72-5 Ja '50
Melanin and its precursors; model experiments on the reactions between quinones and indoles, and consideration of a possible structure for the melanin polymer. J. D. Bu'Lock and J. Harley-Mason. Chem Soc J p703-12 Mr '51
Naturally occurring quinones; a new synthesis of plumbagin and a note on the structure of β-hydroplumbagin. R. H. Thomson. Chem Soc J p 1237-9 My '51
Photochemical reactions in sunlight; photoreduction of phenylglyoxylic acid; photoreactions between aldehydes and o-quinones; reactions between o-quinones and ethylenes in the dark and in the light. A. Schönberg and others. Chem Soc J p 1364-8 My '51
Polycyclic aromatic hydrocarbons; synthesis of the metabolic oxidation products of 3 : 4-benzpyrene. J. W. Cook, R. S. Ludwiczak and R. Schoental. Chem Soc J p 1112-21 Ap '50
Preparation of some alkylbenzoquinones. W. M. McLamore. bibliog Am Chem Soc J 73:2221-5 My '51
Preparation of some naphthofluoranthenes and their quinones. N. Campbell, A. Marks and D. H. Reid. Chem Soc J p3466-70 D '50
Properties and reactions of free alkyl radicals in solution; some reactions of 2-cyano- and 2-carbomethoxy-2-propyl radicals with quinones. A. F. Bickel and W. A. Waters. Chem Soc J p 1764-9 Jl '50
Quinolinequinones; quinones and hydroquinones related to pentaquine. N. L. Drake and Y. T. Pratt. bibliog Am Chem Soc J 73:544-50 F '51
Reduction of o-quinones with lithium aluminium hydride. J. Booth, E. Boyland and E. E. Turner. Chem Soc J p1188-90 Ap '50
Reduction of p-quinones with lithium aluminium hydride. E. Boyland and D. Manson. Chem Soc J p 1837-40 Jl '51
Synthesis of some hydroxy alkylbenzoquinones. W. M. McLamore. bibliog Am Chem Soc J 73:2225-30 My '51

QUINOXALINE
2-Hydroxy-3-alkylquinoxalines. Y. J. L'Italien and C. K. Banks. Am Chem Soc J 73:3246-7 Jl '51
Quinoxaline studies; the preparation of 2-hydroxy-3,6-dimethylquinoxaline and 2-hydroxy-3,7-dimethylquinoxaline. B. Marks and H. P. Schultz. bibliog Am Chem Soc J 73:1368-70 Mr '51

QUINUCLIDINE
Preparation of quinuclidines. S. Wawzonek, M. F. Nelson, jr. and P. J. Thelen. Am Chem Soc J 73:2806-8 Je '51
Synthesis of possible antimalarials; compounds with the isoquinoline ring attached to the quinuclidine system. G. R. Clemo and S. P. Popli. Chem Soc J p 1406-9 Je '51

QUONSET construction
Umbrella house in Aurora, Ill. has Quonset ribs and coal walls. il plan diag Arch Forum 94:118-21 Ap '51

QUOTATIONS
Businessman's book of quotations. R. L. Woods, ed. 303p $4 McGraw-Hill book co, 330 W. 42d st, New York 18 '51

R

R enzyme. See Enzymes

RABAUL
Rise and ruin of Rabaul. J. C. Shaw. il U S Naval Inst Proc 77:624-9 Je '51

RABBITS as carriers of infection
Isolation and characterization of Rocky Mountain spotted fever rickettsiae from the rabbit tick haemaphysalis leporis-palustris Packard. R. R. Parker and others. bibliog Pub Health Rep 66:455-63 Ap 13 '51

RABIES
Cautions care in antirabic vaccine use. T. F. Sellers. Pub Health Rep 66:1117-18 Ag 31 '51

RACE
Race and humanity. T. Dobzhansky. Science 113:264-6 Mr 9 '51

RACE discrimination
Discrimination; a dead-end street; abstract. J. J. Morrow. Management R 40:127-8 Mr '51
Discriminatory practices; letter to mathematics organizations. E. Boyd and others. Science 114:161-2 Ag 10 '51
Fair educational practices legislation. E. N. Saveth. Ann Am Acad 275:41-6 My '51
Legislation guaranteeing equality of access to places of public accommodation. M. R. Konvitz. Ann Am Acad 275:47-52 My '51
Prejudice, discrimination, and the law. W. Maslow. bibliog Ann Am Acad 275:9-17 My '51
Supreme court as protector of civil rights; equal protection of the laws. T. Marshall. bibliog Ann Am Acad 275:101-10 My '51
Union fights discrimination; United packinghouse workers. il Bsns W p40+ O 6 '51
See also
Discrimination in employment
Negroes—Employment

RACE tracks

Lighting

Floodlighting a quarter-mile auto race track; Brewerton speedway, Brewerton, N.Y. R. H. Goodman. il plan Illum Eng 46:420-1 Ag '51

RACEMIZATION
Heterogeneous catalysis of the racemisation of (+)-1-phenyl-ethyl bromide. C. L. Arcus and G. V. Boyd. Chem Soc J p 1580-5 Je '51
Interaction of boron trichloride with optically active alcohols and ethers. W. Gerrard and M. F. Lappert. Chem Soc J p 1020-4 Ap '51
Ionization of amino acids in the solvent sulfuric acid. J. L. O'Brien and C. Niemann. bibliog Am Chem Soc J 73:4264-7 S '51
Optical activation by asymmetric solvent action. C. Buchanan and S. H. Graham. Chem Soc J p500-7 F '50
Partial resolution of racemic compounds. M. D. Armstrong. Am Chem Soc J 73:4456-7 S '51
Racemization of alkyl hydrogen sulfates in sulfuric acid. N. C. Deno and M. S. Newman. bibliog Am Chem Soc J 73:1920-3 My '51
Racemization of the dimethyl ester of l-bromosuccinic acid by lithium bromide in acetone. A. R. Olson, L. D. Frashier and F. J. Spieth. bibliog J Phys & Colloid Chem 55:860-73 Je '51

RACKS
Manual handling eliminated in ferroalloy plant. L. C. Hopper. il Iron Age 167:96-7 Ap 26 '51

RADAR
Combined search and automatic frequency control of mechanically tuned oscillators. J. G. Stephenson. diag Inst Radio Eng Proc 38:1314-17 N '50
Diffraction of electromagnetic waves by two conducting parallel half-planes. M. G. Cheney, jr. and R. B. Watson. diags J Ap Phys 22:675-9 My '51
Faster radar switching tubes. Tele-Tech 10:60 Mr '51
Magnetostrictive delay line. E. M. Bradburd. il diags Elec Com 28:46-53 Mr '51
Radar test generator. K. S. Stull. il diags Electronics 24:93-5 Ap '51
Resolution in radar systems. J. Freedman. bibliog Inst Radio Eng Proc 39:813-18 Jl '51
Statistical properties of noise applied to radar range performance. S. M. Kaplan and R. W. McFall. Inst Radio Eng Proc 39:56-60 Ja '51
Storage devices for communications. A. J. Lephakis. diags Electronics 23:69-73 D '50
Switch and storage tubes. L. S. Allard and R. T. Hill. il diags Wireless Eng 28:187-91 Je '51
Variable pulse delay for radar ranging. J. F. Gordon. bibliog il diags Electronics 24:100-3 O '51

RADAR—*Continued*

Visibility of radar echoes. A. W. Ross. bibliog diags Wireless Eng 28:79-92 Mr '51

See also

Graphechon

Radar aids to aviation

Radar aids to navigation

Antenna and scanning mechanism

Cheese aerials for marine navigational radar. D. G. Kiely and others. diags Inst E E Proc 98 pt 3:37-45 Ja '51

Glass solves delicate coring problems; production of radar tube-feed antenna units by investment casting. D. D. Malcomb. il diags Iron Age 167:107-9 Ap 12 '51

Microwave aerial-radiation patterns. D. G. Kiely and A. E. Collins. il diags Wireless Eng 28:23-9 Ja '51

Microwave radar antenna. H. N. Chait. il diags Electronics 24:103-5 Mr '51

Parabolic cylinder aerials. D. G. Kiely. il diags Wireless Eng 28:73-8 Mr '51

Surveillance radar gets unique antenna. il Aviation W 53:36 N 6 '50

Meteorological use

Circuit for simultaneously recording the range, amplitude, and duration of radar-type reflections. V. C. Pineo and R. C. Peck. il diag R Sci Instr 22:112 F '51

Cloud base and top indicator. il Electronics 23:190+ D '50

Deceleration and ionizing efficiency of radar meteors. D. W. R. McKinley. bibliog il J Ap Phys 22:202-13 F '51

High weather; science discovers that the apparent calm at great altitudes is a myth. P. M. Gormley. diags Aero Digest 61:30-1+ N '50

Meteors can now be perceived by radio echo. F. G. Watson. il diag Sci Am 184:22-8 Je '51

Radar, tomorrow's rain gage. H. E. Hudson, jr. and others. maps Civil Eng 21:151 Mr '51

Weather radar and offshore operations. W. W. Hildreth, jr. bibliog il diags Pet Eng 23:B7-10+ Jl '51

Military use

Angular jitter in conventional conical-scanning, automatic-tracking radar systems. C. E. Brockner. il diags Inst Radio Eng Proc 39:51-5 Ja '51

Minimum radar screen complete this year. Aviation W 54:13-14 Mr 12 '51

New radar trainers for USAF. il diags Aviation W 54:57-9 Je 18 '51

Radio, radar, sonar in naval applications. S. Freedman. il diag Radio & Tv N 45:31-4+ Ap '51

Shoran, precision bombing aid, now in use. Franklin Inst J 251:564-5 My '51

Study and teaching

Kelvin-Hughes marine radar school, Southend-on-Sea. il Engineering 172:255 Ag 24 '51

Surveying use

Datum stabilizer for radar-altimeter surveying. B. I. McCaffrey. il diag Electronics 24:100-3 F '51

New uses of radar; obtaining elevations for aeronautical charts. S. Jowitt. Roads & Eng Constr 88:106-7 N '50

Testing

Optimum operation of echo boxes. W. M. Hall and W. L. Pritchard. diags Inst Radio Eng Proc 39:680-4 Je '51

RADAR aids to aviation

Applications of radar to aeronautical operations. J. H. Battison. il Tele-Tech 10:50-1 My '51

Automatic GCA. J. T. McNaney. il diags Electronics 24:82-7 F '51

British report on airborne radar. Aviation W 53:38 D 4 '50

CAA announces avionics program. Aviation W 54:72-3 Ap 23 '51

Electronics in aviation. S. B. Spangler. il Aeronautical Eng R 10:8-10 My '51

15 tough minutes; easier by radar. il Bsns W p24-5 Ag 11 '51

High altitude unit pressurizes radar. Aviation W 54:37 F 12 '51

Jets in traffic; Dayton tests check radar ability to merge jets and piston craft in pattern. Aviation W 53:48-50 N 6 '50

Miniature radar transponder beacon; azimuth, range and identification of a pilotless plane. R. S. Butts. il diags Electronics 24:104-7 S '51

Modernizing the federal airways. R. Battle. il Tele-Tech 10:30-2+ My '51

New uses of radar; obtaining elevations for aeronautical charts. S. Jowitt. Roads & Eng Constr 88:106-7 N '50

Radar control; LaGuardia test operation. Aviation W 53:56 N 13 '50

Radar landing systems. P. H. Kreager. il Aero Digest 63:34+ Jl '51

Raydist, new position-measuring device. diags Aviation W 54:43-4 Mr 5 '51

Shoran; invaluable aid to navigation. il Tele-Tech 10:42 Je '51

Study and teaching

Reactions studied in radar reading. Aviation W 54:39 Mr 19 '51

RADAR aids to navigation

Cheese aerials for marine navigational radar. D. G. Kiely and others. diags Inst E E Proc 98 pt 3:37-45 Ja '51

Kelvin-Hughes marine radar school, Southend-on-Sea. il Engineering 172:255 Ag 24 '51

Los Angeles harbor is protected by radar-radiotelephone system. Marine Eng 56:48 O '51

Matson lines' radar program largest on the Pacific coast. Marine Eng 56:60-1 Ap '51

New crystal-controlled radar beacon. J. W. Busby. il map diag Tele-Tech 10:24-6+ Ja '51

New developments in radar for merchant marine service. C. E. Moore. il diags RCA R 11:465-81 D '50

New harbor radar for LeHavre, France, demonstrated at Boston harbor. il Elec Eng 70:939 O '51; Electronics 24:148+ S '51; Marine Eng 56:70 O '51

Radar aid for New York harbor. il Marine Eng 56:60-1 Jl '51; Excerpts. Tele-Tech 10:82-3 Jl '51

Radar keeps tabs on ship arrivals. il Westinghouse Eng 10:255 N '50

Radio, radar, sonar in naval applications. S. Freedman. il diag Radio & Tv N 45:31-4+ Ap '51; Correction. 46:112 Jl '51

Raytheon harbor radar system for Le Havre. il map Marine Eng 55:61-2 N '50

Some adverse influences of meteorological factors on marine navigational radar. J. A. Saxton and H. G. Hopkins. bibliog Inst E E Proc 98 pt 3:26-36 Ja '51

RADAR beacons

New crystal-controlled radar beacon. J. W. Busby. il map diag Tele-Tech 10:24-6+ Ja '51

RADAR receiving apparatus

Mixer crystal checker. P. D. Strum. il diag Electronics 23:94-7 D '50

Simple logarithmic receiver. J. Croney. diag Inst Radio Eng Proc 39:807-13 Jl '51

Visibility of radar echoes. A. W. Ross. bibliog diags Wireless Eng 28:79-92 Mr '51

Noise

Statistical properties of noise applied to radar range preformance. S. M. Kaplan and R. W. McFall. Inst Radio Eng Proc 39:56-60 Ja '51

Protection

Electrode deterioration in transmit-receive tubes. J. C. French. diags J Res Nat Bur Stand 45:310-15 O '50

RADAR research

Spiral time base; magnetic and electric deflection. il diags Wireless Eng 27:224-6 Ag-S '50

RADIATION

Action of ionizing radiations and of radiomimetic substances on deoxyribonucleic acid. J. A. V. Butler and others. pl diag Chem Soc J p3411-25 D '50

Applications of the radiation from fast electron beams. H. Motz. diags J Ap Phys 22:527-35 My '51; Correction. 22:1217 S '51

Attempt to detect μ-meson pairs from 322-Mev bremsstrahlung. J. W. Mather and others. diags Phys R 82:973-5 Je 15 '51

Chemical actions of ionising radiations in solution; radiation chemistry of sterols; the action of X-rays on cholic acid in aqueous solution. M. Keller and J. Weiss. Chem Soc J p25-6 Ja '51

RADIATION—*Continued*

Chemical action of ionising radiations in solution; radiation chemistry of sterols; the action of X-rays on (+)-œstrone-b in aqueous solution. M. Keller and J. Weiss. Chem Soc J p 1247-9 My '51

Discrepancy in the energy of annihilation radiation and the possibility of electron-positron mass difference. A. Hedgran and D. A. Lind. bibliog Phys R 82:126-7 Ap 1 '51

Effect of radiations on galactozymase formation in yeast. C. L. Brandt and others. bibliog Science 113:383-4 Ap 6 '51

Effects of radiation on materials. J. C. Slater. J Ap Phys 22:237-56 Mr '51

Energy-angle distribution of thin target bremsstrahlung. L. I. Schiff. bibliog Phys R 83:252-3 Jl 15 '51

Fluorescence of solutions bombarded with high energy radiation (energy transport in liquids). H. Kallmann and M. Furst. bibliog il diag Phys R 79:857-70; 81:853-64 S 1 '50, Mr 1 '51

Gravitational transverse-transverse waves. A. E. Scheidegger. Phys R 82:883-5 Je 15 '51

High energy bremsstrahlung and pair production. J. W. DeWire and L. A. Beach. Phys R 83:476-7 Jl 15 '51

Imprisonment of resonance radiation in gases. T. Holstein. bibliog Phys R 72:1212-33; 83:1159-68 D 15 '47, S 15 '51

Introduction to radiation chemistry. M. Burton. bibliog(69 ref) il diags J Chem Educ 28:404-20 Ag '51

Investigation of bremsstrahlung by means of the nuclear isomerism of indium. E. J. Schillinger, jr. and others. bibliog diag Phys R 83:320-3 Jl 15 '51

Photonuclear stars in emulsions. R. D. Miller. bibliog Phys R 82:260-1 Ap 15 '51

Photoproton emission. A. Lundby and L. Marshall. bibliog diag Phys R 83:323-5 Jl 15 '51

Polarization correlation of mixed multipoles. I. Zinnes. bibliog Phys R 80:386-91 N 1 '50

Quenching of mercury resonance radiation; the effective cross sections of paraffin hydrocarbons. B. D. Darwent. diags J Chem Phys 18:1532-7 D '50

Radiation chemistry of ferrous sulfate solutions. E. J. Hart. Am Chem Soc J 73:1891-2 Ap '51

Radiation from a reactor. W. H. Jordan. il diags Sci Am 185:54-5 O '51

Radiative processes in the presence of heavy nuclei. G. Parzen. Phys R 81:808-14 Mr 1 '51

Relative photoneutron yields from the 330-Mev bremsstrahlung. K. M. Terwilliger and others. bibliog diag Phys R 82:820-2 Je 15 '51

Soft photon emission in radiation processes. H. Primakoff and F. Villars. bibliog Phys R 83:686 Ag 1 '51

Sources of radiation. W. C. Parkinson. bibliog il diags Ind Med 20:175-84 Ap '51

Studies in photochemistry and radiation chemistry of *i*-propylbenzene and *t*-butylbenzene. T. J. Sworski, R. R. Hentz and M. Burton. Am Chem Soc J 73:1998-2001 My '51

Theory of steady forces caused by sound waves. P. J. Westervelt. bibliog Acoustical Soc Am J 23:312-15 My '51

What is radiation? H. J. Gomberg. Ind Med 20:169-74 Ap '51

Z dependence and angular distribution of bremsstrahlung from 17-Mev electrons. L. H. Lanzl and A. O. Hanson. bibliog diag Phys R 83:959-74 S 1 '51

See also

Absorption of rays
Alpha rays
Beta rays
Coincidence counting
Cosmic rays
Diffraction
Gamma rays
Heat radiation
Infrared rays
Irradiation
Light
Luminescence
Radioactivity
Radiography
Relativity (physics)
Quantum theory
Scattering of particles and rays
Solar radiation
Sound
Spectrum
Ultraviolet rays
X rays

Biological effect

Symposium on radiobiology. J. J. Nickson. Science 113:339 Mr 23 '51

Protection

MD's ignore radiation hazards; abstract. W. LaRocque. Chem & Eng N 29:1835 My 7 '51

RADIATION, Scattering of. See Scattering of particles and rays

RADIATION, Solar. See Solar radiation

RADIATION protection. See Radioactivity—Protection

RADIATORS

Cast iron radiator shipments; tabulation. Iron Age 167:340 Ja 4 '51

RADICALS (chemistry)

Addition of free radicals to unsaturated systems. R. N. Haszeldine and B. R. Steele. Chem & Ind p684-5 Ag 11 '51

Chemical actions of ionising radiations on aqueous solutions; hydroxylation of benzoic acid by free radicals produced by X-rays. H. Loebl, G. Stein and J. Weiss. Chem Soc J p405-7 F '51

Chemical actions of ionising radiations on aqueous solutions; hydroxylation of nitrobenzene by free radicals produced by X-rays. H. Loebl, G. Stein and J. Weiss. Chem Soc J p2704-9 O '50

Chemical actions of ionising radiations on aqueous solutions; introductory remarks and description of irradiation arrangements. F. T. Farmer, G. Stein and J. Weiss. diags Chem Soc J p3241-5 D '49

Chemical actions of ionising radiations on aqueous solutions; the formation of free radicals; the action of X-rays on benzene and benzoic acid. G. Stein and J. Weiss. diag Chem Soc J p3245-54 D '49

Concerning the steric factor of free radical reactions. R. Gomer and L. M. Dorfman. bibliog J Chem Phys 19:136 Ja '51; Reply. M. Szwarc. 19:380 Mr '51

Decomposition of radicals produced by mercury photo-sensitization. A. F. Trotman-Dickenson. J Chem Phys 19:261 F '51

Dehydrogenation reactions by the action of free radicals. A. Schönberg and A. Mustafa. Am Chem Soc J 73:2401 My '51

Diamagnetic correction for free radicals. P. W. Selwood and R. M. Dobres. bibliog diag Am Chem Soc J 72:3860-3 S '50

Direction of addition to $CFl{=}CF_2$ under free radical conditions. A. L. Henne and D. W. Kraus. Am Chem Soc J 73:1791-2 Ap '51

Formation of free alkoxy (RO·) radicals in solution. M. S. Kharasch and others. Science 113:392 Ap 6 '51

Formation of thianthrene by a free radical mechanism. D. A. Shirley and P. A. Roussel. Science 113:208-10 F 23 '51

Free radicals. R. A. Marcus and others. bibliog diags J Phys & Colloid Chem 55:894-1012 Je '51

Free radicals in pyrolysis of propionaldehyde. T. J. Sworski and M. Burton. bibliog Am Chem Soc J 73:3194-5 Jl '51

Ions and radicals in biochemical processes. W. A. Mosher. bibliog Franklin Inst J 251:665-74 Je '51

Possible free radical oxidation would have industrial importance; first William Albert Noyes lecture. Chem & Eng N 28:4074 N 20 '50

Radical mechanisms in saturated and olefinic systems. E. H. Farmer and C. G. Moore. Chem Soc J p 131-53 Ja '51

Rate constant of ethane formation from methyl radicals. R. Gomer and G. B. Kistiakowsky. bibliog J Chem Phys 19:85-91 Ja '51

Reactions of atoms and free radicals in solution; the peroxide-induced addition of sulfuryl chloride to 1-alkenes. M. S. Kharasch and A. F. Zavist. bibliog Am Chem Soc J 73:964-7 Mr '51

Reactions of atoms and free radicals in solution; the reactions of acetyl peroxide with chloro- and dichloroalkanes. M. S. Kharasch and G. Buchi. bibliog Am Chem Soc J 73:632-42 F '51

Reactions of radicals produced by the action of sodium on alkyl iodides. A. A. Comstock and G. K. Rollefson. bibliog diags J Chem Phys 19:441-6 Ap '51

RADICALS (chemistry)—*Continued*

Recombination of methyl radicals. D. M. Miller and E. W. R. Steacie. bibliog diag J Chem Phys 19:73-7 Ja '51

Use of a low temperature bolometer for detecting a beam of free radicals. C. A. Reilly and B. S. Rabinovitch. J Chem Phys 19:248-9 F '51

RADIO advertising

Advertiser turns sports patron; Miller brewing company campaign regains area support for Green Bay Packers. V. S. Mullen, jr. il Ptr Ink 234:36-7 F 16 '51

ANA's new radio data. Ptr Ink 234:104+ Mr 23 '51

Beam New England Mutual workers' message to world. Nat Underw (Life ed) 55:11 Jl 20 '51

Buying productive radio time. J. R. English. Adv Agency 44:58-60 Mr '51

Invincible role of radio. M. Woods. Adv Agency 43:76 D '50

Mail-order ads power new product into big seller; community rat kills prove product's worth. il Ptr Ink 235:40 Je 29 '51

New look in radio, low cost and flexibility. C. H. Wolfe. Adv Agency 44:20+ O '51

Radio and subversive talent; review of Troubled air, by I. Shaw. Ptr Ink 236:56+ Jl 6 '51

Radio campaign is door-opener for industrial salesmen; Sunbury wire rope. Ptr Ink 236:36 Ag 31 '51

Radio comeback; top talent, split sponsorships, client service. D. Bruner. il Ptr Ink 233:87+ D 1 '50

Radio or television? E. E. Sundquist. Adv Agency 44:56-7+ Jl '51

Sale I never forgot; he refused my solo, but sold himself a symphony; radio advertising for Decca records. I. Hirschmann. Ptr Ink 234:90 Mr 23 '51

Six Rochester radio stations promoting AM's values. Ptr Ink 234:65+ Mr 2 '51

Talk of ad rationing speeds radio to stores. H. N. Neubert. Ed & Pub 84:42 My 19 '51

Television and radio; $120 million for tv, $600 million for radio in '51. il Ptr Ink 233:37 D 29 '50

What kind of sales control system in selling intangibles? CBS' sales control system. il Sales Management 65:102+ D 15 '50

Who's getting a free ride on your program? R. D. Stuart. Adv Agency 44:61 Ag '51

Wise use of radio can be valuable sales aid, jobbers, dealers told. Nat Pet N 43:56 Mr 28 '51

Dealer cooperation

How to bring your best customers into the act; tradesmen and wives are guests at radio party. D. B. Scully. Ptr Ink 236:38-9 Ag 24 '51

Local radio show builds prestige for dealers. R. Latimer. Ptr Ink 235:36-7 Ap 27 '51

Measurement

Hooper starts new survey service on brand use with city-by-city index among radio and television homes. D. Bruner. Ptr Ink 234:69 Ja 5 '51

How to get the most out of network radio; facts on coverage, best frequency, and market opportunities revealed by Nielsen radio index. E. Sundquist. Adv Agency 43:56-7+ N '50

How well does your program hold its audience? H. W. Bussman. Adv Agency 44:52-3+ O '51

Let's end the confusion in radio and tv audience research; ratings laboratory proposed. E. L. Deckinger. Adv Agency 44:64-5+ S '51

Squeezing extra value from broadcast advertising; placement of commercials; program type comparisons. T. R. Shearer. Adv Agency 44:62-3+ Ap '51

Who will pick a basic measurement for radio and tv? S. E. Gill. Ptr Ink 236:48+ S 14 '51

Rates

Execs deny ANA study is designed to slash AM rates. Ptr Ink 235:77+ Ap 6 '51

Network and affiliate heads hold meeting to discuss thorny radio rate picture. V. J. Dallaire. Ptr Ink 235:63 Ap 27 '51

Radio rates start to crack. Bsns W p84-5 Ap 28 '51

Radio's second wind; rate hike blows hot. Ed & Pub 84:13 Ja 6 '51

Rate cut spurs radio to compete with tv. Ed & Pub 84:62 Ap 21 '51

Transit radio

Captive audience. D. B. Arnold. Adv Agency 44:122 S '51

Court liberates captive audiences. Bsns W p 121-2 Je 9 '51

Some facts about captive audience. E. B. Weiss. Ptr Ink 236:37+ Jl 27 '51

RADIO advertising, Cooperative

Why advertisers clamor for time on Owl Drug's Want ad of the air. il Sales Management 65:52+ D 15 '50

RADIO aids to aviation

ACC approves decommissioning policy for four-course l/mf radio ranges. CAA J 12:86+ Ag 20 '51

Air force tests new navigation system; Rho-Theta system. il diag Aviation W 54:26+ Mr 12 '51

All-weather era here, say experts. Aviation W 55:59-60 Jl 9 '51

Avionics gets own AIA technical group. A. McSurely. Aviation W 54:13 Ap 9 '51

Avionics navigation work spurred. Aviation W 54:40-1 F 12 '51

CAA approves omnirange flying. Electronics 23:134 D '50

CAA communicators avert crashes by skill in handling emergency calls. CAA J 12:48 Ap 20 '51

Communication by radio vital in aerial rescues. CAA J 12:96 Ag 20 '51

Course line computer, new navigational aid. diags Aero Digest 61:70+ N '50

Delay seen in switch to omni. Aviation W 55:53-4 Jl 2 '51

Description and evaluation of 100-channel distance-measuring equipment. R. C. Borden and others. bibliog il diags Inst Radio Eng Proc 39:612-18 Je '51

Distance-measuring equipment for the terminal area. J. Lyman and G. B. Litchford. il diags Aeronautical Eng R 10:48-55 My '51

Emergency keyer unit for installation on USAF aircraft. Aviation W 53:22 N 27 '50

First airways based on omnirange in operation. CAA J 11:121 N 15 '50

Flight and radio services of CAA gaining in use. CAA J 11:133 D 15 '50

Flight navigational radio aids at the South Bank exhibition. il Engineer 191:851-3 Je 29 '51

Forty years' progress in air radio; abstracts. C. S. Cadell and B. J. O'Kane. Engineering 172:151-2 Ag 3 '51; Engineer 191:838 Je 22 '51; Discussion. Engineering 172:152 Ag 3 '51

Frequency allocation for aviation electronics. E. L. White. Aeronautical Eng R 10:38-41 My '51

Ground trainer for new airways. il Aero Digest 61:44+ D '50

High-purity polarization for VOR. il Aviation W 54:34-5 Ap 23 '51

Information theory applied to system design. W. G. Tuller. diags Elec Eng 70:124-6 F '51

Low-frequency radio-wave propagation by the ionosphere, with particular reference to long-distance navigation. C. Williams. bibliog diags Inst E E Proc 98 pt 3:81-99; Discussion. 99-103 Mr '51

Modernizing the federal airways. R. Battle. il Tele-Tech 10:30-2+ My '51

New picture aid for ILS-omnirange; Collins system graphically displays position; combines attitude and steering information. S. H. Reiniger. il plan Aviation W 55:43-4+ Jl 2 '51

New push given all-weather plans. F. L. Moore. Aviation W 55:65-6 S 10 '51

New vhf airway starts operations about July 1. il CAA J 12:47 Ap 20 '51

OBD; its errors, coverage, reliability. D. A. Anderton. il Aviation W 53:21-6 N 20 '50

100-ft. minimums now in sight; combination of approach light system and electronic aids make lower ceilings practical. F. L. Moore. diag Aviation W 54:48-9 Ja 8 '51

Radio telemetry. M. H. Nichols and L. L. Rauch. bibliog diag R Sci Instr 22:1-29 Ja '51

RADIO aids to aviation—*Continued*

Raydist; new navigation and tracking system. C. E. Hastings and A. L. Comstock. il Aero Digest 63:24-5+ Jl '51

Rho-theta system of air navigation. P. C. Sandretto. il diags Elec Com 27:268-76 D '50

Snow has little effect on improved landing aid. CAA J 11:133 D 15 '50

Transition program developed by CAA for change-over to common system. CAA J 12: 99+ S 20 '51

Why, strategic air communications. F. L. Ankenbrandt. il Radio & Tv N 44:63-5+ D '50

Work pushed on high-frequency VOR airways net. map Aviation W 54:61 Je 4 '51

See also

Airlines—Radio communication
Airways—Traffic control
Direction finding apparatus
Loran system
Radar aids to aviation
Radio apparatus on aircraft
Radio meteorographs
Radio stations, Airline

Bibliography

Radio progress during 1950; navigation aids. Inst Radio Eng Proc 39:383 Ap '51

RADIO aids to navigation

Radio, radar, sonar in naval applications. S. Freedman. il diag Radio & Tv N 45:31-4+ Ap '51

Source of error in radio phase measuring systems. R. Bateman and others. diags Inst Radio Eng Proc 38:612-14 Je '50; Discussion. 39:436-8 Ap '51

See also

Direction finding apparatus
Loran system
Radar aids to navigation
Radio apparatus on ships

Bibliography

Radio progress during 1950; navigation aids. Inst Radio Eng Proc 39:383 Ap '51

RADIO amplifiers. See Amplifiers, Vacuum tube

RADIO and television broadcasters, National association of. See National association of radio and television broadcasters

RADIO antennas

Achromatic microwave antenna. N. I. Korman and J. R. Ford. diags Inst Radio Eng Proc 38:1455-6 D '50

Air-borne antenna problems. H. Schutz. diags Aeronautical Eng R 10:32-6 My '51

Antenna systems for multichannel mobile telephony. W. C. Babcock and H. W. Nylund. il diags Inst Radio Eng Proc 38:1324-9 N '50

Aperiodic aerials; use with vertical-incidence ionospheric recorders. R. Bailey. bibliog diags Wireless Eng 28:208-14 Jl '51

Checking calibration of loop antennas. P. C. Gardiner. il diags Electronics 24:140+ O '51

Clemens match; balanced feed with coaxial line. J. F. Clemens. diag Q S T 35:26-8 F '51

Current and charge distributions on antennas and open-wire lines. D. J. Angelakos. il diags J Ap Phys 22:910-15 Jl '51

Current distributions on helical antennas. J. A. Marsh. il diag Inst Radio Eng Proc 39:668-75 Je '51

Design trends in buried antennas. Aviation W 55:34+ Jl 16 '51

Dielectric aerials with shaped radiation pattern. D. G. Kiely. diags Wireless Eng 28: 177-8 Je '51

Diffraction errors in an optical measurement at radio wavelengths. G. A. Woonton and others. diag J Ap Phys 22:390-7 Ap '51

Disguised antenna design for police car radio. diag Electronics 23:188+ N '50

Diversity effects in spaced-aerial reception of ionospheric waves. E. N. Bramley. bibliog Inst E E Proc 98 pt 3:19-25 Ja '51

Duo-band ham antenna. C. L. Buchanan. il diags Radio & Tv N 44:66-8+ D '50

Easily-adjusted low-frequency mobile antenna. J. P. Saunders. il diags Q S T 35:37-9 Ag '51

Effect of a metal mast and guy wires on the performance of the 600-ohm multiple-wire delta antenna. H. N. Cones. diags J Res Nat Bur Stand 46:113-20 F '51

Effect of a periodic variation in the field intensity across a radiating aperture. J. Brown. bibliog diags Inst E E Proc 97 pt 3: 419-24 N '50

Electric dipoles in the presence of elliptic and circular cylinders. W. S. Lucke. diags J Ap Phys 22:14-19 Ja '51

Elliptically polarized waves. L. Hatkin. Inst Radio Eng Proc 38:1455 D '50

Experimental determination of the reflection coefficient of metal-plate media. J. Ruze and M. Young. il J Ap Phys 22:277-8 Mr '51

Four bands with a flat line; single wire antenna to cover 80, 40, 20, and ten meter bands. A. Meadows. diags Radio & Tv N 45:116+ Ap '51

General formulation for calculation of shaped-beam antennas. A. S. Dunbar. J Ap Phys 22:1217 S '51

Glide path cavity antenna for jet fighter aircraft. L. E. Raburn. il diags Tele-Tech 10: 32-3+ S; 50-1+ O '51

High-purity polarization for VOR. il Aviation W 54:34-5 Ap 23 '51

Horizontally-polarized omnidirectional antenna. C. Brasse, jr. and R. Thomas. il diags Electronics 24:86-7 Jl '51

Houston hayrake; a compact 12-element array. W. E. Leverkuhn. diag Q S T 34:43 D '50

Impedance of an antenna over a large circular screen. J. E. Storer. diags J Ap Phys 22:1058-66 Ag '51

Improved antenna pattern measurement facilities. M. W. Scheldorf. diag Electronics 24:138+ Mr '51

Lightweight flopover array. W. F. Bain. il diags Q S T 34:42-3 D '50

Loop-type antennas for 75-meter mobile. H. L. Mitchell. il diag Q S T 35:18+ F '51

Mutual impedance of parallel aerials. R. G. Medhurst and S. D. Pool. Wireless Eng 28: 67 F '51

New principle in two-band rotary-beam design; abstract. A. M. Pichitino. il diags Franklin Inst J 250:448-52 N '50

Path-length microwave lens. D. G. Kiely. diags Wireless Eng 28:248-50 Ag '51

Patterns of antennas located near cylinders of elliptical cross section. G. Sinclair. bibliog diags Inst Radio Eng Proc 39:660-8 Je '51

Performance of diversity receiving systems. S. H. Van Wambeck and A. H. Ross. Inst Radio Eng Proc 39:256-64 Mr '51

Preventing breakdown with antenna change-over relays. T. A. Consalvi. diag Q S T 35:28 S '51

Problems of submerged antennas. il Aviation W 54:26-7 Ja 1 '51

Radiation from wide-angle conical antennas fed by a coaxial line. C. H. Papas and R. King. diag Inst Radio Eng Proc 39:49-50 Ja '51

Radiation patterns of dielectric rods of circular cross section; the $TM_{0,1}$ mode. C. W. Horton and others. J Ap Phys 21:1279-83 D '50

Radiation properties of spherical antennas as a function of the location of the driving force. P. R. Karr. bibliog diags J Res Nat Bur Stand 46:422-36 My '51

Radio-frequency current distributions on aircraft structures. J. V. N. Granger and T. Morita. diags Inst Radio Eng Proc 39:932-8 Ag '51

Reflecting surface to simulate an infinite conducting plane. S. J. Raff. diags J Ap Phys 22:610-13 My '51

Reflection and transmission at the surface of metal-plate media. B. A. Lengyel. diags J Ap Phys 22:265-76 Mr '51

Simplified approach to rotary-beam construction. E. P. Bonner. il diags Q S T 34:34-6 N '50

Siting microwave antennas by helicopter. B. I. McCaffrey. il diag Electronics 24:82-4 S '51

Slot radiators. N. A. Begovich. bibliog diags Inst Radio Eng Proc 38:803-6 Jl '50; Correction. 39:508 My '51

Techniques for handling elliptically polarized waves with special reference to antennas. V. H. Rumsey and others. bibliog il diags Inst Radio Eng Proc 39:533-52 My '51

RADIO antennas—*Continued*

Theory of axially slitted circular and elliptic cylinder antennas. D. R. Rhodes. diags J Ap Phys 21:1181-8 N '50

Theory of collinear antennas. R. King. diags J Ap Phys 21:1232-51 D '50

Theory of parallel-plate media for microwave lenses. E. A. N. Whitehead. diags Inst E E Proc 98 pt 3:133-40 Mr '51

Theory of V-antennas. R. King. bibliog diags J Ap Phys 22:1111-21 S '51

Transforming impedance with folded dipoles. E. R. Thomas. Q S T 35:52-3 O '51

Two-band operation with folded dipole and ribbon. W. S. Rogers. il diags Radio & Tv N 45:98+ Ja '51

Using the pi-section antenna coupler. J. T. McWatters. diags Q S T 35:58-60 Mr '51

Very-high-frequency, ultra-high-frequency tail-cap antenna. L. E. Raburn. bibliog il diags Inst Radio Eng Proc 39:656-9 Je '51

Wide-angle metal-plate optics. J. Ruze. diags Inst Radio Eng Proc 38:53-9 Ja '50; Correction. 39:697 Je '51

Wide-band aerial system for circularly polarized waves, suitable for ionospheric research. G. J. Phillips. diags Inst E E Proc 98 pt 3:237-9 My '51

Wide-band amplifier for central antenna installations. J. B. Crawley. diags Electronics 24:210+ F '51

Wide-band folded-slot aerials. G. D. Monteath. bibliog diags Inst E E Proc 97 pt 3: 414-18 N '50

Yagi-Dagi; high-gain rotary for ten meters. A. J. F. Clement. il diags Q S T 35:11-13 S '51

See also
Radio towers
Television antennas

Bibliography

Radio progress during 1950; antennas and waveguides. Inst Radio Eng Proc 39:359-61 Ap '51

Directional antennas

Applications of potential theory to the design of linear arrays. T. T. Taylor and J. R. Whinnery. diags J Ap Phys 22:19-29 Ja '51

Approximation methods in radial transmission line theory with application to horns. A. E. Laemmel and others. diags Inst Radio Eng Proc 39:959-65 Ag '51

Biconical electromagnetic horns. W. L. Barrow and others. il diags Inst Radio Eng Proc 27:769-79 D '39; Corrections and additions. 39:434-5 Ap '51

Compact 20-meter beam. H. J. Gruber. il diags Radio & Tv N 46:63+ O '51

Directional patterns of polystyrene rod antennas. R. B. Watson. diags J Ap Phys 22: 154-6 F '51

Electric and magnetic constants of metallic delay media containing obstacles of arbitrary shape and thickness. S. B. Cohn. bibliog diags J Ap Phys 22:628-34 My '51

Gain of electromagnetic horns. W. C. Jakes, jr. diags Inst Radio Eng Proc 39:160-2 F '51

Pattern calculator for a-m. G. R. Mather. diags Electronics 24:100-1 Ap '51

Radiation field of helical antennas with sinusoidal current. E. T. Kornhauser. bibliog diags J Ap Phys 22:887-91 Jl '51

Radiation patterns of arrays on a reflecting cylinder. J. E. Walsh. bibliog Inst Radio Eng Proc 39:1074-81 S '51

Response of a directive antenna to incoherent radiation. F. W. Schott. diags Inst Radio Eng Proc 39:677-80 Je '51

Super-gain antenna arrays. N. Yaru. bibliog diag Inst Radio Eng Proc 39:1081-5 S '51

Theory of the circular diffraction antenna. H. Levine and C. H. Papas. diag J Ap Phys 22:29-43 Ja '51

Vertical nonrotating directional antenna system. J. K. Chapman. il diags Q S T 35: 20-3 Jl '51

RADIO apparatus

Band-Edger; frequency measuring test unit. R. Pickett. il diags Radio & Tv N 45:48-9 Ap '51

Crystal diodes in modern electronics. D. T. Armstrong. il diags Radio & Tv N 46:47-50+ O; 66-8 N '51 (to be cont)

Defense demands huge effort in new ceramics for electronics. A. Gunzenhauser and H. N. Norton. bibliog il Cer Ind 57:60-1+ Jl '51

Electrical and allied developments during 1950; electronics. G. Bartlett. il Gen Elec R 54:47-9 Ja '51

Ferromagnetic spinels for radio frequencies. R. L. Harvey and others. bibliog il diags RCA R 11:321-63 S '50

New radio-tv and communications products at IRE show. il Tele-Tech 10:44-7, 56+ Ap '51

Radio progress during 1950. bibliog(1084 titles) Inst Radio Eng Proc 39:359-96 Ap '51

Versatile crystal probe. J. T. Frye. il diags Radio & Tv N 45:43-5 Ap '51

See also
Amplifiers, Vacuum tube
Direction finding apparatus
Microphones
Oscillators
Oscillators, Crystal
Radar
Radio antennas
Radio apparatus industry
Radio circuits
Radio coils
Radio communication
Radio condensers
Radio control
Radio facsimile
Radio generators
Radio instruments
Radio loud speakers
Radio meteorographs
Radio receiving apparatus
Radio transformers
Radio transmitters
Vacuum tubes

Bibliography

Abstracts and references. Published in monthly numbers of Wireless engineer; reprinted in Institute of radio engineers proceedings

Electronics cumulative index, covering volumes I-XII, April 1930 through December 1939. Electronics 24:C 1-35 Mid-Je '51 (reprints $1)

Exhibitions

Radio and electronic component manufacturers' exhibition, 8th, London. il Electrician 146:1217-19 Ap 13 '51

Technical services; Radio show, London, Aug. 28-Sept. 8. Engineer 192:269 Ag 31 '51

Manufacture

Auto-sembly of miniature military equipment; production of wiring by acid etching of copper-faced insulating laminates. S. F. Danko and S. J. Lanzalotti. il Electronics 24:94-8 Jl '51

Practical design for effective production and high quality. J. Manuele. Inst Radio Eng Proc 38:1385-7 D '50

Stamped circuits take perspiring out of wiring. W. Bossert. il Am Mach 95:142-4 Jl 9 '51

Vhf/uhf insulation production and application techniques. R. G. Peters. il Tv Eng 2:10-12 Mr '51

Military use

Auto-sembly of miniature military equipment; production of wiring by acid etching of copper-faced insulating laminates. S. F. Danko and S. J. Lanzalotti. il Electronics 24:94-8 Jl '51

Defense department plans for basic research. H. A. Zahl and others. il Electronics 24:82-7 Ag '51

Electronic research in the emergency program. W. C. White. il Electronics 24:82-5 My '51

Military requirements for subminiature tubes. J. D. Fahnestock. il Electronics 24:108-9 Ap '51

New military aids. il Electronics 24:87 Mr '51

New ratings for components in military specifications. E. F. Seaman and P. D. Bell. diag Tele-Tech 10:22-3+ Ja '51

Relation between production, operation and maintenance of service radio equipment; discussion. Inst E E Proc 98 pt 3:68 Ja '51

Power supply

All about the PE-103A dynamotor. R. Shongut. diag Q S T 35:44-5 Ap '51

A. c. power test panel. J. M. Heinrich. il diag Radio & Tv N 46:41+ Jl '51

RADIO apparatus—Power supply—*Continued*

Methods of increasing the power rating of vibratory converters. K. H. Dixey and C. V. Wilman. bibliog diags Inst E E Proc 98 pt 3:105-11 Mr '51

Mobile radio power-packs; discussion. Inst E E Proc 97 pt 3:458-9 N '50

Vibrator power supplies for railroads. L. R. Thomas. diag Electronics 24:215+ Mr '51

Zero-impedance power supply termination. J. J. Baruch. diags Electronics 24:240+ Ag '51

Safety measures

Ground resistance and its measurement. J. M. Bruning. diags Q S T 35:22-5 My '51

Standards

Problems of standardizing electronic equipment for aircraft. C. R. Banks. Aeronautical Eng R 10:24-7+ My '51

Testing

Equipment alignment; technique has been developed by the Naval research laboratory. il Tv Eng 1:10 N '50

Novel tester for checking radio control equipment. G. Dexter. il diag Radio & Tv N 45: 42-3+ F '51

Shock testing of airborne electronic equipment. C. E. Crede. il diag Tele-Tech 10: 36-8+ Jl; 36-7+ Ag '51

RADIO apparatus industry

Conservation of critical materials. il Electronics 24:84-7 Ap '51

Defense contracts; how to sell to the air force. S. Gerstin. Tele-Tech 10:33-6 My '51

Defense contracts; how to sell to the navy. S. Gerstin. Tele-Tech 10:30-3+ Mr '51

Defense contracts; who gets the business? S. Gerstin. Tele-Tech 10:28-9+ S '51

Developments in various countries. For Comm W 42:24+ Mr 19; 43:25 Ap 9; 21 My 7; 22 My 21; 21-2 Je 11; 21 Je 18; 23 Je 25; 44:21-2 Jl 2; 21-2 Jl 23; 22 Ag 20; 20 Ag 27; 24 S 24; 45:21+ O 1 '51

Government plans industry support. W. B. Whichard, jr. Electronics 24:82-3 Je '51

How to set up an instruction manual department. E. Anthony. Electronics 24:100-4 Je '51

How to tool-up for technical manuals; guide for manufacturers preparing manuals for air force, navy, Signal corps. S. Gerstin. flow chart Tele-Tech 10:52-3 Je '51

Military contract awards; manufacturers who have received contract awards for production of radio-radar-electronic equipment for the armed services. Tele-Tech 10:87-91 My; 72-3 Ag; 66+ S '51

New industry, new problems; avionic equipment industry. W. Kroger. il Aviation W 55:101-2+ S 24 '51

Preferred numbers. A. Van Dyck. Inst Radio Eng Proc 39:115 F '51

What's the score on defense contracts? S. Gerstin. Tele-Tech 10:24-5+ Jl '51

See also
Radio stores

Advertising

Ad-viser; advertising can build your radio and television business. I. Settel. Radio & Tv N 44:37+ S; 108+ O; 178-9 N; 74+ D '50; 45:112+ Ja; 144-6 F; 164-6 Mr '51

Do you want more business? advertising novelties. H. E. Kranhold. il Radio & Tv N 46:35-7 S '51

Sales aids. H. Becker. il Radio & Tv N 46: 68-9+ O '51

Starch reports best-read advertisements. il Adv Agency 44:66-7 Ag '51

Which of these ads will RCA use again? il Ptr Ink 236:48-9+ Jl 20 '51

Directories

Electronics buyers' guide. Electronics 24:D 1-168 Mid-Je '51

Station and studio equipment directory. Tele-Tech 10:85-8+ S '51

Finance

Radio-tv manufacturers' profits 1946-1950. R. C. Sprague. Tele-Tech 10:50 Ja '51

Securities

Radio-tv stock price analysis; price ranges of 115 radio-tv and communications stocks 1945-1951, with dividends paid and per cent yield; tabulation. Tele-Tech 10:80-1 F '51

Statistics

Radio and television statistics of the U.S.; world; tabulations, map, chart. Tele-Tech 10:20-1 Ja '51

Radio-tv civilian and military production; tabulations and chart. Tele-Tech 10:18-19 Ja '51

Canada

Canadian defense; aircraft and electronics companies step up production. J. Montagnes. Barron's 31:9 My 28 '51

Great Britain

Radio awaits rearmament. Economist 160: 1578+ Je 30 '51

Radio show; its significance for the industry. Economist 161:529 S 1 '51

Sharp rise in radio exports. Economist 161: 368 Ag 11 '51

RADIO apparatus on aircraft

Air-borne antenna problems. H. Schutz. diags Aeronautical Eng R 10:32-6 My '51

Aircraft communication system. diags Electronics 24:210+ Ag '51

Avionics gets own AIA technical group. A. McSurely. Aviation W 54:13 Ap 9 '51

Commercial pilot written test now to include radio. CAA J 12:37+ Ap 20 '51

Compact Omnihomer. il Aviation W 54:50 Je 11 '51

Design trends in buried antennas. Aviation W 55:34+ Jl 16 '51

Design trends in military airborne communication equipment. G. H. Scheer, jr. il Tele-Tech 10:40-2+ Je '51

Electronics for aircraft illustrated. W. A. Shrader. Aeronautical Eng R 10:12-13+ My '51

Electronics in aviation. S. B. Spangler. il Aeronautical Eng R 10:8-10 My '51

Electronics in aviation; summary of session on electronics at I.A.S. 19th annual meeting, Feb. 1. Aeronautical Eng R 10:14-15 My '51

Estimating temperature rise in electronic equipment cases. R. J. Bibbero. Inst Radio Eng Proc 39:504-8 My '51

Glide path cavity antenna for jet fighter aircraft. L. E. Raburn. il diags Tele-Tech 10: 32-3+ S; 50-1+ O '51

Ground test for omni equipment. S. H. Reiniger. Aviation W 53:33-4 D 4 '50

High-reliability miniature tubes. G. Gage. il diags Electronics 23:66-8 D '50

Institute of radio engineers forms new avionics group at 2d annual airborne electronics conference, Dayton. Aviation W 55: 33 Jl 2 '51

Mobile radio power-packs; discussion. Inst E E Proc 97 pt 3:458-9 N '50

NBS develops tiny range receiver. il Aviation W 54:38-9 My 7 '51

New industry, new problems; avionic equipment industry. W. Kroger. il Aviation W 55:101-2+ S 24 '51

Packaging of air-borne electronic equipment. O. M. Dunning. Aeronautical Eng R 10: 29-30+ My '51

Patterns of antennas located near cylinders of elliptical cross section. G. Sinclair. bibliog diags Inst Radio Eng Proc 39:660-8 Je '51

Plants and equipment for avionics expansion; table. Aviation W 55:122-3 S 24 '51

Problems of standardizing electronic equipment for aircraft. C. R. Banks. Aeronautical Eng R 10:24-7+ My '51

Problems of submerged antennas. il Aviation W 54:26-7 Ja 1 '51

Radio-frequency current distributions on aircraft structures. J. V. N. Granger and T. Morita. diags Inst Radio Eng Proc 39:932-8 Ag '51

Radio noise filters made smaller. il Aviation W 54:39 Ja 15 '51

Shock testing of airborne electronic equipment. C. E. Crede. il diag Tele-Tech 10: 36-8+ Jl; 36-7+ Ag '51

Tests plane omni. il Aviation W 53:52 D 18 '50

RADIO apparatus on aircraft—*Continued*

Tracking radio noise on aircraft. T. B. Owen. il diags Elec Eng 69:1019 N '50

TWA orders Collins radio units. S. Reiniger. il Aviation W 54:34+ Ja 22 '51

TWA shifts radio repair to New York firm. Aviation W 55:57 Ag 27 '51

Very-high-frequency, ultra-high-frequency tail-cap antenna. L. E. Raburn. bibliog il diags Inst Radio Eng Proc 39:656-9 Je '51

See also

Television apparatus on aircraft

RADIO apparatus on ships

Applications of electricity to sea transport; abstract. A. Gill. Engineering 171:717; Discussion. 717-18 Je 15 '51

RADIO artists, American federation of. See American federation of radio artists

RADIO attenuators

Cascade-connected attenuators. R. W. Beatty. diags J Res Nat Bur Stand 45:231-5 S '50

New microwave attenuator. il Tele-Tech 10:43+ S '51; Excerpt. Tv Eng 2:7 Ag '51

Single-input attenuators with multiple outputs. C. W. Ulrich. diag Electronics 24:200+ F '51

RADIO broadcasting

Five reasons why radio isn't dead. C. H. Wolfe. Adv Agency 44:16+ Ag '51

Handbook of broadcasting; the fundamentals of am, fm, fax, and tv. W. Abbot. 3d ed rev & enl 494p $5 McGraw-Hill book co, 330 W. 42d st, New York 18 '50

See also

Radio advertising

Radio broadcasting stations

Radio communication—Interference elimination

Television broadcasting

Awards

Radio checkup articles win Peabody award; special award to American broadcasting co. for faith in performers. Ed & Pub 84:46 Ap 28 '51

Educational programs

Mutual Life offers radio program to fight inflation. Nat Underw (Life ed) 55:16 S 14 '51

Finance

ABC sale off. Bsns W p26 My 19 '51

Revolutionizing radio; CBS wants to buy ABC and Hytron. Bsns W p21 My 12 '51

Frequency standards

See also

Radio stations, Standard frequency

Multiplex system

Fm multiplexing tests. Tele-Tech 10:64 My '51

Multiplex facsimile broadcasting. Radio & Tv N 46:120-1 Jl '51

Multiplexed broadcast facsimile. J. V. L. Hogan and J. W. Smith. il diags Electronics 24:97-9 O '51

Three-in one broadcast. diags Electronics 23:174+ N '50

Performers

Red-proof radio is AFRA's aim. Bsns W p40+ Ag 25 '51

See also

Muir, Jean

Phonograph programs

Broadcast tape speed control. D. R. Andrews. il diags Electronics 24:120-3 Jl '51

Scientific programs

On the air; leave putting on radio shows to those trained to do so. F. H. Garrigus. Chem & Eng N 29:2265-8 Je 4 '51

Sports

Gentleman's agreement covers ringside rights. J. Walker. Ed & Pub 84:50 S 29 '51

Time signals

See Time signals, Radio

United nations program

United Nations radio. K. R. Boord, comp. Radio & Tv N 45:55+ Mr '51

War uses

Defense communications in New York city. plan diag Electronics 24:74-5 F '51

Radio's job in civil defense. J. H. Battison. il diags Tele-Tech 10:36-8+ Ap '51

War-emergency operation of broadcast stations; how to prevent their being used as targets for enemy missiles. il diag Electronics 24:94-5 Ag '51

Canada

Canadian broadcasting corp. K. R. Board, comp. il Radio & Tv N 46:67+ S '51

Great Britain

A-m or f-m for British vhf broadcasting. E. Updale. il Electronics 24:158+ Ag '51

Future of broadcasting; government proposals. Elec R (Lond) 149:147 Jl 20 '51

Improvement of home service coverage. Engineer 191:842 Je 22 '51

Monopoly in radio? comments on the Beveridge committee report. Economist 160:115-16 Ja 20 '51

Report of Broadcasting committee. map Wireless Eng 28:54-5 F '51

Storm over broadcasting; comment on White Paper policy. Economist 161:148 Jl 21 '51

Third programme transmitter at Daventry. il Engineer 191:476-7 Ap 13 '51; Engineering 171:506-7 Ap 27 '51

Italy

Radio Roma, Rome, Italy. K. R. Boord, comp. il Radio & Tv N 46:71+ O '51

Switzerland

Mike on Matterhorn; unique broadcast by Swiss broadcasting corporation. K. J. Henderson. il Radio & Tv N 44:106 N '50

United States

See also

Columbia broadcasting system

RADIO broadcasting stations

Broadcast station construction practices. Q. G. Cumeralto. bibliog il plan diags Tele-Tech 10:34-6+ Je '51

Fishing spree sponsored by WBAY. il Bsns W p70-4 Je 9 '51

General Tire pension trust buys radio network. Bsns W p 112+ N 4 '50

International short-wave; foreign stations, call letters, time schedules. K. R. Boord, comp. Published in monthly numbers of Radio and television news

Radio has close ties to ANPA convention. J. Walker. Ed & Pub 84:40 My 5 '51

Wrotham transmitting station; experimental v.h.f. broadcasting. il Elec R (Lond) 148:357-8 F 16 '51; Engineer 191:221-2 F 16 '51; Engineering 171:158 F 9 '51

See also

Columbia broadcasting system

Advertising

Four foes join hands to capture the mystery market; radio, books, movies and magazines. il Ptr Ink 235:44 Ap 20 '51

Program promotion gets good cooperation from newspapers. J. Walker. Ed & Pub 83:46 O 28 '50

Costs

F-m and tv station costs. R. C. Singleton. il Electronics 24:114-16 Mr '51

Coverage

Optimum spacing of broadcast transmitters. D. C. Espley. Wireless Eng 28:37-9 F '51

Plotting aural coverage by ear. H. G. Eidson, jr. il Tv Eng 1:11+ O '50

Equipment

Automatic audio level riding. T. K. Abernethy. diags Electronics 24:190+ Ag '51

Automatic broadcast program monitor. il diags Electronics 24:124-7 O '51

Automatic monitoring of broadcast programmes; discussion. Electrician 146:1123-4 Ap 6 '51

Cues for broadcasters; practical ways of improving station operation and efficiency (cont). il diags Tele-Tech 9:49-50 D '50; 10:38+ Ja; 40-1 F; 48-9 Mr; 50-1 Ap; 52-3 My; 48-9 Je; 40-1 Jl; 40-1 Ag; 46+ S '51

RADIO broadcasting stations—Equipment—*Continued*

Electronic loss compressor. E. C. Miller and T. Jones. il diags Radio & Tv N 44:64+ N '50

Improving program limiter performance. D. W. Howe, jr. il diags Electronics 24:108-11 S '51

KFAB's Magnecorder modifications. V. Wight. diags Tele-Tech 10:37 Je '51

Line monitoring amplifier. R. Finkbeiner. diag Tele-Tech 9:50 D '50

Reducing transmitter out time at WCAE. J. H. Greenwood. diag Electronics 24:158+ Jl '51

Remote control system for fm broadcast stations. P. Whitney. diags Tele-Tech 10:32-5+ Ag; 44-5+ S '51

Remote pickup broadcast receiver. A. A. Kelley. il diag Electronics 24:102-3 S '51

Small battery remote amplifier. R. Grambsch. il diag Tele-Tech 10:54+ Ag '51

Station and studio equipment directory. Tele-Tech 10:85-8+ S '51

Supervisory instrument for standard broadcast stations. E. D. Cook and H. R. Summerhayes, jr. il diags Gen Elec R 54:29-36 Jl '51

Tricks in tape recording. H. G. Eidson, jr. il diag Tv Eng 2:14+ Mr '51

Useful mixing circuit. R. S. Houston. Tele-Tech 9:49-50 D '50

See also
Radio transmitters

Protection

War-emergency operation of broadcast stations; how to prevent their being used as targets for enemy missiles. il diag Electronics 24:94-5 Ag '51

RADIO broadcasting stations, Newspaper

Atlantic City stock control cost $920,000. Ed & Pub 84:70 Ja 13 '51

Defeated solon wants press-radio-tv divorce. J. Walker. Ed & Pub 83:42 D 2 '50

Newhouse buys KGW; FCC approval is asked. J. Walker. Ed & Pub 83:38 D 23 '50

Newhouse tells assets in data filed with FCC. Ed & Pub 84:69 Ja 13 '51

Tv and AM compete in Detroit news setup. G. W. Parker. il Ed & Pub 84:46 Ja 20 '51

RADIO broadcasting studios

Practical sound engineering; architectural acoustics as they affect broadcast and recording studios. H. M. Tremaine. il diags Radio & Tv N 45:53-5+ Ap '51

Electric equipment

Lime Grove studios. il Electrician 146:1687-8 My 18 '51

Equipment

Accurate time for broadcast studios. J. H. Greenwood. il diags Electronics 24:97-9 Je '51

Amplified cueing for remotes. A. Vaccaro. diags Electronics 23:120+ D '50

Station and studio equipment directory. Tele-Tech 10:85-8+ S '51

RADIO circuits

Approach to steady state of a linear variable network containing one reactance. A. A. Grometstein. diags Inst Radio Eng Proc 38:1349-51 N '50

Band-pass low-pass transformation in variable networks. L. A. Zadeh. diags Inst Radio Eng Proc 38:1339-41 N '50

Boucherot compensation. H. E. Hollmann. il diags Electronics 24:206+ My '51

Bridged-T network. P. G. Sulzer. diags Inst Radio Eng Proc 39:819-21 Jl '51

Cathode-follower input impedance; effect of capacitive load. J. E. Flood. bibliog diags Wireless Eng 28:231-9 Ag '51

Circuit analysis of linear varying-parameter networks. L. A. Zadeh. bibliog J Ap Phys 21:1171-7 N '50

Constant-resistance networks of the linear varying-parameter type. L. A. Zadeh. diags Inst Radio Eng Proc 39:688-91 Je '51

Correlation functions and power spectra in variable networks. L. A. Zadeh. Inst Radio Eng Proc 38:1342-5 N '50

Design of broad-band transformers for linear electronic circuits. H. W. Lord. bibliog diags Elec Eng 69:1020-5 N '50

Design of exponential-line pulse transformers. E. M. Williams and E. R. Schatz. il diag Inst Radio Eng Proc 39:84-6 Ja '51

Direct-coupled amplifier starvation circuits. W. K. Volkers. il diags Electronics 24:126-9 Mr '51

Distortion in linear passive networks. L. Riebman. diags Inst Radio Eng Proc 39:692-7 Je '51

Electronic loss compressor. E. C. Miller and T. Jones. il diags Radio & Tv N 44:64+ N '50

Improved pulse stretcher. J. F. Craib. il diags Electronics 24:129-31 Je '51

Improving program limiter performance. D. W. Howe, jr. il diags Electronics 24:108-11 S '51

Initial conditions in linear varying-parameter systems. L. A. Zadeh. bibliog J Ap Phys 22:782-6 Je '51

Internal resonance in circuits containing nonlinear resistance. R. E. Fontana. diags Inst Radio Eng Proc 39:945-51 Ag '51

LR load circuit. W. T. Cocking. diag Wireless Eng 28:229-30 Ag '51

Mixer harmonic chart; reference sheet. T. T. Brown. Electronics 24:132, 134 Ap '51

Negative-feedback circuits. W. T. Cocking. diags Wireless Eng 28:165-7 Je '51

Network design charts; reference sheet. T. U. Foley. diags Electronics 24:132+ S '51

Network theorem and its application. F. W. Bubb, jr. diags Inst Radio Eng Proc 39:685-8 Je '51

Nyquist diagrams and the Routh-Hurwitz stability criterion. F. E. Bothwell. bibliog diags Inst Radio Eng Proc 38:1345-8 N '50

Properties of some wide-band phase-splitting networks. D. G. C. Luck. diags Inst Radio Eng Proc 37:147-51 F '49; Discussion 39:285-7 Mr '51

Putting the clamp tube to work. F. R. Canning. diag Radio & Tv N 46:58+ O '51

Realization of a transfer ratio by means of a resistor-capacitor ladder network. J. T. Fleck and P. F. Ordung. diags Inst Radio Eng Proc 39:1069-74 S '51

Response characteristics of resistance-reactance ladder networks. R. R. Kenyon. diags Inst Radio Eng Proc 39:557-9 My '51

Simplified Q multiplier. H. E. Harris. diags Electronics 24:130-2+ My '51

Simplifying assumptions. W. T. Cocking. diags Wireless Eng 27:217-19 Ag-S '50

Sinusoidal variation of inductance in a linear series *RLC* circuit. E. I. Hawthorne. bibliog Inst Radio Eng Proc 39:78-81 Ja '51

Solution of transients in active four-terminal networks. H. Epstein. bibliog diags Franklin Inst J 251:607-16 Je '51

Some studies of pulse transformer equivalent circuits. C. K. Hadlock and D. Lebell. diags Inst Radio Eng Proc 39:81-3 Ja '51

Some transistor trigger circuits. P. M. Schultheiss and H. J. Reich. diags Inst Radio Eng Proc 39:627-32 Je '51

Spectrum analysis of transient response curves. H. A. Samulon. Inst Radio Eng Proc 39:175-86 F '51

Speech clipping circuit. H. Cross. diags Q S T 35:61 Jl '51

Splitting pads. H. C. Carmichael. diags Radio & Tv N 45:56+ Ap '51

Stability of linear varying-parameter systems. L. A. Zadeh. diag J Ap Phys 22:402-5 Ap '51

Standards on circuits; definitions of terms in network topology, 1950. diags Inst Radio Eng Proc 39:27-9 Ja '51 (reprints 50c)

Synchrodyne as a precision demodulator. D. G. Tucker and R. A. Seymour. bibliog diags Wireless Eng 27:227-37 Ag-S '50

Synthesis of passive rc networks with gains greater than unity. H. Epstein. diags Inst Radio Eng Proc 39:833-5 Jl '51

Synthesis of resistor-capacitor networks. C. Belove. diags Inst Radio Eng Proc 38:1453-4 D '50

Synthesis of *RC* networks to have prescribed transfer functions. H. J. Orchard. diags Inst Radio Eng Proc 39:428-32 Ap '51

Synthesis of wideband two-phase networks. H. J. Orchard. diags Wireless Eng 27:72-81 Mr '50; Discussion. N. O. Johannesson. 27:237-8 Ag-S '50

RADIO circuits—*Continued*

Theoretical limitations to impedance matching. R. L. Tanner. diags Electronics 24: 234+ F '51

Theory of biconjugate networks. L. J. Cutrona. bibliog diags Inst Radio Eng Proc 39:827-32 Jl '51

Transfer properties of simple- and coupled-circuit stages with and without feedback. J. W. Muehlner. diags Inst Radio Eng Proc 39:939-45 Ag '51

Transistor frequency modulator circuit. L. L. Koros and R. F. Schwartz. il diags Electronics 24:130-2+ Jl '51

Transition of an Eccles-Jordan circuit. J. R. Tillman. diag Wireless Eng 28:101-10 Ap '51

Traveling-wave amplification by means of coupled transmission lines. W. E. Mathews. Inst Radio Eng Proc 39:1044-51 S '51

Triode transmission networks under linear negative-grid conditions. A. W. Keen. bibliog diags Wireless Eng 28:56-66 F '51

Tuned absorption circuits. R. E. Spencer. diags Wireless Eng 27:219-24 Ag-S '50

Vacuum-tube transformer. R. H. Dorf. diags Radio & Tv N 45:112 F '51

Waveform systems and time equalizers; their transmission characteristics. D. C. Espley. diags Wireless Eng 28:251-8 Ag '51

Wide band two-phase networks. H. J. Orchard; W. Saraga. Wireless Eng 28:30-1 Ja '51

Wide-range phase control with constant attenuation by adjustable impedance in a resistance-loaded bridged-tee network. M. G. Pawley. bibliog diags J Res Nat Bur Stand 45:193-200 S '50

See also

Radio receiving apparatus

Bibliography

Radio progress during 1950; circuit theory. Inst Radio Eng Proc 39:366-8 Ap '51

Tuning

General design of triple- and quadruple-tuned circuits. T. C. G. Wagner. Inst Radio Eng Proc 39:279-85 Mr '51

Tuning systems employing feedback amplifiers. P. G. Sulzer. diags Electronics 24: 252+ Mr '51

RADIO coils

Characteristic impedance of shielded coils. C. Susskind. Tv Eng 2:26-7+ Mr '51

Eddy-current and screen losses of a screened single-layer solenoid. F. M. Phillips. bibliog diag Inst E E Proc 97 pt 3:77-87 Mr '50; Discussion. 98 pt 3:248-9 My '51

Inductance chart for solenoid coil. H. A. Wheeler. bibliog diags Inst Radio Eng Proc 38:1398-400 D '50

Number 11 r-f solenoid design chart. P. G. Sulzer. Tele-Tech 10:45 My '51

Powdered iron core dimensions standardized. Electronics 24:148 Jl '51

Manufacture

Planning coil production. C. E. Sullivan, jr. il Electronics 24:117-19 Mr '51

RADIO communication

Aurora and magnetic storms; their effect on radio communication. R. K. Moore. il map Q S T 35:14-19+ Je '51

Half century. L. de Forest. Inst Radio Eng Proc 38:1379 D '50

Radio telemetry. M. H. Nichols and L. L. Rauch. bibliog diag R Sci Instr 22:1-29 Ja '51

Scientific and technical progress of radio; abstract. E. Appleton. Engineer 192:263 Ag 31 '51

Storage devices for communications. A. J. Lephakis. diags Electronics 23:69-73 D '50

See also

Airlines—Radio communication

Electric communication

Electric utilities—Radio communication

Gas companies—Radio communication

Petroleum industry and trade—Radio communication

Radio aids to navigation and other headings beginning Radio

Railroads—Radio communication

Railroads, Industrial—Radio communication

Waterworks—Radio communication

Beam system

Field testing a microwave channel for voice communication, relaying, telemetering, and supervisory control. D. R. Pattison and others. bibliog il diags Elec Eng 69:1092-7 D '50

Bibliography

Abstracts and references. Published in monthly numbers of Wireless engineer; reprinted in Institute of radio engineers proceedings

Cost

Wire line, carrier or microwave? economic consideration; cost data. R. H. Miller. Elec West 105:74 D '50

Emergency use

Amateur radio in Detroit civil defense. F. Gary. il Q S T 35:52-3+ S '51

Civil defense club project; Tri-county radio association program provides emergency stations and promotes v.h.f. activity in northern New Jersey. M. P. Rehm. il Q S T 35:15-17+ O '51

Civil defense communications. Electronics 24: 94-6 Je '51

Civilian defense station. F. Heubner. il diag Radio & Tv N 45:42-3+ My '51

Community civil defense communications plan; Onondaga county, N.Y. N. F. Harmon. il Electronics 24:88-91 Jl '51; Same. Pub Works 82:31-3 Jl '51

Defense communications in New York city. plan diag Electronics 24:74-5 F '51

Disaster communications service rules finalized. Q S T 35:38-41 Ap '51

Emergency wire-line to radio circuits. D. Talley. diags Electronics 24:195+ Mr '51

Mobile converter for civil defense. R. M. Smith. il diag Q S T 35:46-9 S '51

New civil defense communications system. Safety Maint & Prod 101:62 Ap '51

Radio's job in civil defense. J. H. Battison. il diags Tele-Tech 10:36-8+ Ap '51

Radio's place in civil defense. D. E. Noble. il Pub Works 82:50-1 S '51

Transit's powder is dry! transit radio as aid in civilian defense. G. W. Keith. Pub Util 48:407-12 S 27 '51

Washington adopts automatic c-d warning system. H. A. Friede. il map Electronics 24:90-1 My '51

History

Dunlap's radio and television almanac. O. E. Dunlap, jr. 211p $4 Harper & brothers, 49 E. 33d st, New York 16 '51

Monument honors historic 1BCG; commemorates transmission of first message across Atlantic on short waves. il Q S T 34:20 D '50

Wrong roads and missed chances; some ancient radio history. E. H. Armstrong. il Midwest Eng 3:3-5+ Mr '51

Interference

Analysis of audio-frequency atmospherics. R. K. Potter. il Inst Radio Eng Proc 39:1067-9 S '51

Atmospherics waveform receiver. W. J. Kessler and S. E. Smith. il Inst Radio Eng Proc 39:676 Je '51

Curing rf heater television interference; F.C.C. rules and regulations. P. S. Rand and others. il plans diags Mod Plastics 29: 101-2+ S '51

Interference effects in pulse-width modulation; television sync-pulse sound system. W. E. Ingham. bibliog plans diags Wireless Eng 27:241-56 O-N '50

Interference in multi-channel circuits. L. Lewin. Wireless Eng 27:294-304 D '50; Same. Elec Com 28:142-55 Je '51

Ionospheric cross modulation; Luxemburg effect. G. R. Mather. diags Electronics 24: 252+ S '51

Methods of measuring adjacent-band radiation from radio transmitters. N. Lund. diags Inst Radio Eng Proc 39:653-6 Je '51

Open-field test facilities for measurement of incidental receiver radiation. C. G. Seright. il RCA R 12:45-52 Mr '51

Oscillator radiation; letter from E. H. Armstrong to W. R. G. Baker. Electronics 23:136+ D '50

RADIO communication—Interference—*Cont.*

Radio influence tests in field and laboratory; 500-kv test project of the American gas and electric co. G. D. Lippert and others. bibliog diag Elec Eng 70:481-6 Je '51

Similarity of certain atmospherics waveforms. W. F. Zetrouer and W. J. Kessler. il Franklin Inst J 252:137-41 Ag '51

Standards on radio receivers; open field method of measurement of spurious radiation from frequency modulation and television broadcast receivers, 1951. diag Inst Radio Eng Proc 39:803-6 Jl '51 (reprints 50c)

Theory of random noise; phenomenological models. D. Middleton. bibliog J Ap Phys 22:1143-63 S '51

Interference elimination

Army signal corps perfects new type noise meter. Elec Eng 69:1135-6 D '50

Car ignition radiation. C. C. Eaglesfield. diags Wireless Eng 28:17-22 Ja '51

Distributed resistance ignition cable. diag Electronics 24:204+ Jl '51

Instantaneous compandors. C. O. Mallinckrodt. bibliog diags Bell System Tech J 30:706-20 Jl '51

Radio communications. W. Shaughnessy. Pulp & Pa of Can 52:106 Jl '51

Reflected ray suppression in line-of-sight microwave communications. H. E. Bussey. Inst Radio Eng Proc 38:1453 D '50

Tracking radio noise on aircraft. T. B. Owen. il diags Elec Eng 69:1019 N '50

Wide-band amplifier for central antenna installations. J. B. Crawley. diags Electronics 24:210+ F '51

Physicians' use

Radio brings the doctor; Telanserphone's radio-signals received by portable device. il Bsns W p 104-5 N 11 '50

Radio-doctor's advice from Clova saves lives in Quebec hinterland. Pulp & Pa of Can 52:84 F '51

Ship-to-shore service

Los Angeles harbor is protected by radar-radiotelephone system. Marine Eng 56:48 O '51

Short wave

Application of microwave channels. R. C. Cheek. bibliog diag Elec Eng 70:500-3 Je '51

BPA completes 200-mile microwave link. R. F. Stevens. il map Elec West 105:82-3 O '50

Comparison of tropospheric reception at 44.1 mc with 92.1 mc over the 167-mile path of Alpine, N.J. to Needham, Mass.; abstract. G. W. Pickard and H. T. Stetson. Inst Radio Eng Proc 38:1450 D '50

Design factors of the Bell telephone laboratories 1553 triode. J. A. Morton and R. M. Ryder. il diags Bell System Tech J 29:496-530 O '50

Economic and engineering aspects of microwave and carrier. F. C. Krings. il diags Elec World 136:99-102 Jl 16 '51; Same. Gen Elec R 54:25-8 Jl '51

Flat reflector for uhf system; passive repeaters in microwave relay systems; power company installation. T. Roylston. il plan diag Electronics 24:130-2 Mr '51

For industry talk; microwave. diags Bsns W p84+ Jl 28 '51

Four bands with a flat line; single wire antenna to cover 80, 40, 20, and ten meter bands. A. Meadows. diags Radio & Tv N 45:116+ Ap '51

International short-wave; foreign stations, call letters, time schedules. K. R. Boord, comp. Published in monthly numbers of Radio and television news

Microwave communication; abstract. L. G. Sands. Mech Eng 73:422 My '51

New microwave triode; its performance as a modulator and as an amplifier. A. E. Bowen and W. W. Mumford. bibliog il diags Bell System Tech J 29:531-52 O '50

940-960-megacycle communications equipment for industrial applications. F. B. Gunter. bibliog il diags Elec Eng 70:573-8 Jl '51

Over the hills and far away; v.h.f. propagation by tropospheric scattering. R. K. Moore. diags Q S T 35:13-15 F '51

Overtone crystal oscillator design. G. H. Lister. bibliog il diags Electronics 23:88-93 N '50

Predicting performance of uhf and shf systems. E. A. Slusser. Electronics 24:116-21 Je '51

Radio committee report shows 62 highway departments now served by two-way radiotelephone. il Roads & Sts 94:48+ Ag '51

Reflected ray suppression in line-of-sight microwave communications. H. E. Bussey. Inst Radio Eng Proc 38:1453 D '50

Test of 450-megacycle urban area transmission to a mobile receiver. A. J. Aikens and L. Y. Lacy. maps Inst Radio Eng Proc 38:1317-19 N '50

Texas Illinois communications; microwave facilities adopted to handle pipe-line traffic. W. T. Bulla and C. E. Upson. il Oil & Gas J 49:94+ My 3 '51

V.h.f.; why, how, when? E. P. Tilton. Q S T 35:40-1+ Ja; 46-9 F '51

See also

Radio receiving apparatus—Short wave

Radio transmitters—Short wave

Wire line connections

Emergency wire-line to radio circuits. D. Talley. diags Electronics 24:195+ Mr '51

Caribbean area

Florida; communication gateway to the Caribbean. I. S. Coggeshall. bibliog map Elec Eng 70:847-51 O '51

RADIO communication, Military

Army walkie-talkie in mass production. il diag Electronics 24:98-100 My '51

Design trends in military airborne communication equipment. G. H. Scheer, jr. il Tele-Tech 10:40-2+ Je '51

Diesels behind Korea; Funabashi transmitting station in Japan. D. LaCoste. il Power Eng 55:84 Je '51

Engineering the integrated communications system. E. R. Petzing. il Radio & Tv N 44:38-9+ D '50

Naval communications. J. R. Redman. il diag Radio & Tv N 44:47-9+ D '50

Planning integrated signal communications; Signal corps achievement. W. T. Guest. il Radio & Tv N 44:36-7+ D '50

Technical aspects of naval communications. J. A. Morrison. il Radio & Tv N 44:50-1+ D '50

Why, strategic air communications. F. L. Ankenbrandt. il Radio & Tv N 44:63-5+ D '50

Wireless in warfare, 1885-1914. R. P. Bigelow. il U S Naval Inst Proc 77:116-27 F '51

See also

Military amateur radio system

RADIO communication, Naval. See Radio communication, Military

RADIO condensers

Adjustable temperature coefficient capacitor. il diags Electronics 24:218+ Ap '51

By-passing for harmonic reduction. G. Grammer. il Q S T 35:14-17 Ap '51

Factors affecting the life of impregnated-paper capacitors. H. F. Church. bibliog il Inst E E Proc 98 pt 3:113-22 Mr '51

Floating-core capacitor AFC system. diag Electronics 24:270+ O '51

Mathematical data for electron drain on positive ion sources. S. E. Rauch. bibliog diags J Ap Phys 22:1128-32 S '51

R-f standard capacitors for minute increments. J. A. Conner. il diags Electronics 24:250+ O '51

Temperature-compensating capacitor nomograph; reference sheet. T. T. Brown. Electronics 24:132+ O '51

RADIO conductors

Effects of anisotropy in a three-dimensional array of conducting disks. G. Estrin. diags Inst Radio Eng Proc 39:821-6 Jl '51

See also

Radio lines

Wave guides

RADIO control

Field testing a microwave channel for voice communication, relaying, telemetering, and supervisory control. D. R. Pattison and others. bibliog il diags Elec Eng 69:1092-7 D '50

Novel tester for checking radio control equipment. G. Dexter. il diag Radio & Tv N 45:42-3+ F '51

RADIO control—*Continued*

Proportional radio control. H. G. McEntee. il diags Radio & Tv N 46:58-62+ S '51

Proportional radio control. G. R. Urquhart. diags Aero Digest 62:20-1+ F '51

Radio control of model aircraft. W. A. Good and W. E. Good. il diags Q S T 35:12-14+ Ag '51

Radio controlled lighthouse lamp at the South Bank exhibition. il Engineer 192:3-4 Jl 6 '51

Radio-controlled ship models. S. G. Lankester and S. G. Dreier. diags Engineer 191:319 Mr 9 '51; Same. Engineering 171:480 Ap 20 '51

Radio to save lives; air force's lifeboat, dropped by parachute in air-sea rescue operations, will have radio control. il Electronics 24:136+ Ag '51

Receivers for radio-controlled models. W. A. Good and W. E. Good. il diags Q S T 35:22-5 S '51

Remote control for safer test flying. G. L. Christian. il diag Aviation W 53:44+ N 20 '50

Six foot radio-controlled model boat. W. B. Ford. il diags Radio & Tv N 46:49-53+ Jl '51

See also

Carrier current control

RADIO corporation of America

Annual report, 31st. Comm & Fin Chr 173:966 Mr 5 '51

RADIO detectors

Automatic noise limiters with biased detectors. C. E. Cohn. diags Radio & Tv N 46:46 O '51

Getting a.v.c. from a biased detector. C. E. Cohn. diag Radio & Tv N 46:150 S '51

Self-tracking bridge detector for audio-frequency bridges. J. L. Upham, jr. diags R Sci Instr 22:659-64 S '51

RADIO echoes

Meteors can now be perceived by radio echo. F. G. Watson. il diag Sci Am 184:22-8 Je '51

Moon echoes and transmission through the ionosphere. F. J. Kerr and C. A. Shain. bibliog il diags Inst Radio Eng Proc 39:230-42 Mr '51

Polarimeter for the study of low frequency radio echoes. A. H. Benner and H. J. Nearhoof. bibliog il diags R Sci Instr 21:830-4 O '50

RADIO engineering

Institute of radio engineers national convention, New York, March 19-22; with program and summaries of technical papers. Inst Radio Eng Proc 39:292-315 Mr '51

Radio progress during 1950. bibliog(1084 titles) Inst Radio Eng Proc 39:359-96 Ap '51

Scientific and technical progress of radio; abstract. E. Appleton. Engineer 192:263 Ag 31 '51

See also

Direction finding apparatus
Loud speaking apparatus
Microphones
Radar
Radio apparatus and other headings beginning Radio
Sound—Recording and reproducing
Television
Vacuum tubes

Bibliography

Abstracts and references. Published in monthly numbers of Wireless engineer; reprinted in Institute of radio engineers proceedings

RCA technical papers, second quarter, 1950. RCA R 11:446-7 S '50

RCA technical papers, third quarter, 1950. RCA R 11:565-7 D '50

RCA technical papers; fourth quarter, 1950. RCA R 12:150-3 Mr '51

RCA technical papers, first quarter, 1951. RCA R 12:282-3 Je '51

Study and teaching

B.B.C. engineering training school. il Engineer 191:510-11 Ap 20 '51

Training radio engineers; college at Evesham. il Elec R (Lond) 148:691-2 Ap 6 '51; Electrician 146:1109-10 Ap 6 '51; Engineering 171:494 Ap 27 '51

Tables, calculations, etc.

Component theory of calculating radio spectra with special reference to frequency modulation. N. L. Harvey and others. diags Inst Radio Eng Proc 39:648-52 Je '51

Field-power conversion; reference sheet. R. E. Perry. Electronics 24:134 Ag '51

Impedances in parallel. L. Batchelder. Wireless Eng 28:128 Ap '51

Predicting performance of uhf and shf systems. E. A. Slusser. Electronics 24:116-21 Je '51

Reactance chart. H. A. Wheeler. bibliog diags Inst Radio Eng Proc 38:1392-7 D '50

Remainder theorem and its application to operational calculus techniques. A. S. Richardson, jr. Inst Radio Eng Proc 38:1336-9 N '50; Correction. 39:287 Mr '51

Spectrum analysis of transient response curves. H. A. Samulon. Inst Radio Eng Proc 39:175-86 F '51

See also

Radio antennas

Terminology

Standards on abbreviations of radio-electronic terms, 1951. Inst Radio Eng Proc 39:397-400 Ap '51 (reprints 50c)

Standards on circuits; definitions of terms in network topology, 1950. diags Inst Radio Eng Proc 39:27-9 Ja '51 (reprints 50c)

Standards on pulses; definitions of terms, part one, 1951. Inst Radio Eng Proc 39:624-6 Je '51 (reprints 50c)

Standards on transducers; definitions of terms, 1951. Inst Radio Eng Proc 39:897-9 Ag '51 (reprints 50c)

Standards on wave propagation; definitions of terms, 1950. Inst Radio Eng Proc 38:1264-8 N '50 (reprints 60c)

RADIO engineers

Civilian engineers needed by armed services. Electronics 23:132+ N '50

IRE awards, 1951. Inst Radio Eng Proc 39:570-5 My '51

RADIO engineers, British institution of. See British institution of radio engineers

RADIO engineers, Institute of. See Institute of radio engineers

RADIO facsimile

Diversity receiving system for radio frequency carrier shift radiophoto signals. J. B. Atwood. il diags RCA R 12:177-90 Je '51

Facsimile much faster, but slow to catch on. J. Walker. Ed & Pub 84:49 Mr 17 '51

Facsimile reproduction for AEC library service. il Electronics 24:222+ Mr '51

Facsimile test model goes on trial at Oak Ridge. il Chem & Eng N 29:58-60 Ja 1 '51; Same abr. Elec Eng 70:177-8 F '51; Same abr. Mech Eng 73:145 F '51; Excerpt. Product Eng 22:155 F '51

High-speed, long-distance facsimile system. Franklin Inst J 251:384 Mr '51

Miami students work out new fax techniques. C. M. Chuckrow. Ed & Pub 84:94 Ap 28 '51

Modern telegraphic communication systems; fm carrier transmission, microwave radio relay and facsimile. I. S. Coggeshall and A. E. Frost. il map Tele-Tech 10:40-2+ Ap '51

Multiplex facsimile broadcasting. Radio & Tv N 46:120-1 Jl '51

Multiplexed broadcast facsimile. J. V. L. Hogan and J. W. Smith. il diags Electronics 24:97-9 O '51

New high-speed facsimile system. il Electronics 24:160+ My '51

RADIO filters

Band-pass low-pass transformation in variable networks. L. A. Zadeh. diags Inst Radio Eng Proc 38:1339-41 N '50

Coaxial-stub filter; reference sheet. J. A. Craig. diag Electronics 24:132+ Je '51

Corrugated-waveguide band-pass filters. J. C. Greene. bibliog il diags Electronics 24:117-19 Jl '51

Crystal filter for 'phone reception. W. E. Good. diags Q S T 35:56-8+ O '51

Crystal-filter s.s.b. exciter. F. E. Edmunds. il diags Q S T 34:11-15 N '50

Crystal lattice filters for transmitting and receiving. C. E. Weaver and J. N. Brown. il diags Q S T 35:48-51 Je; 52-6 Ag '51

RADIO filters—*Continued*

Design of high-pass, low-pass and band-pass filters using R-C networks and direct-current amplifiers with feedback. C. C. Shumard. diags RCA R 11:534-64 D '50

Lattice-type crystal filter. R. Lowrie. il diags Electronics 24:129-31 Ap '51

Low-pass filter for high power. R. C. Fosberg. il diags Q S T 35:28-9+ O '51

Microwave filters employing a single cavity excited in more than one mode. W. Lin. bibliog il diags J Ap Phys 22:989-1001 Ag '51

Offset wave-guide junction as a reactive element. L. D. Smullin and W. G. Glass. diags J Ap Phys 22:1124-7 S '51

Resistance and capacitance twin-T filter analysis. L. G. Gitzendanner. diags Tele-Tech 10:46-8+ F '51

Transient response of filters. M. S. Corrington. bibliog diags RCA R 10:397-429 S '49; Correction. 12:284 Je '51

Tunable waveguide filters. W. Sichak and H. Augenblick. diags Inst Radio Eng Proc 39: 1055-9 S '51

RADIO frequency

Proposed numbered frequency band subdivision plan. C. W. Young. Tv Eng 2: 24-5+ Mr '51

Radio-frequency representation of the solar atmosphere. S. F. Smerd. bibliog diag Inst E E Proc 97 pt 3:447-52 N '50

See also

Radio stations,
Standard frequency

Allocation

Frequency allocation for aviation electronics. E. L. White. Aeronautical Eng R 10:38-41 My '51

See also

Television transmission—Frequency allocation

Control

Evolution of frequency control. C. F. Booth. il diags Inst E E Proc 98 pt 3:1-10 Ja '51; Abstract. Elec R (Lond) 147:703 N 3 '50

Floating-core capacitor AFC system. diag Electronics 24:270+ O '51

Crystal control

Stabilized master oscillator for multichannel communication. E. W. Pappenfus. il diags Electronics 23:108-13 D '50

RADIO frequency modulation

Accurate instantaneous frequency comparison. R. M. Wilmotte. diag Electronics 24: 140+ My '51

Bandwith of a sinusoidal carrier wave, frequency-modulated by a rectangular wave with half-sine-wave build-up. W. A. Cawthra and W. E. Thomson. Inst E E Proc 98 pt 3:69-74 Ja '51

Complex tone generator for deviation tests. F. A. Bramley. il diag Electronics 24:184+ F '51

Component theory of calculating radio spectra with special reference to frequency modulation. N. L. Harvey and others. diags Inst Radio Eng Proc 39:648-52 Je '51

Distortion in multichannel frequency-modulation relay systems. L. E. Thompson. RCA R 11:453-64 D '50

F-m and tv station costs. R. C. Singleton. il Electronics 24:114-16 Mr '51

Fm multiplexing tests. Tele-Tech 10:64 My '51

Fm terminals for the *TD*-2 radio system. J. G. Chaffee and J. B. Maggio. il diags Elec Eng 70:880-3 O '51

Linear discriminator for f-m telemetering. G. S. Sloughter and R. T. Ellis. il diags Electronics 24:113-15 Je '51

Modern telegraphic communication systems; fm carrier transmission, microwave radio relay and facsimile. I. S. Coggeshall and A. E. Frost. il map Tele-Tech 10:40-2+ Ap '51

Multiplex facsimile broadcasting. Radio & Tv N 46:120-1 Jl '51

Nation-wide frequency-modulated telegraph network. F. B. Bramhall and L. A. Smith. bibliog maps diags Elec Eng 70:338-42 Ap '51

Plotting aural coverage by ear. H. G. Eidson, jr. il Tv Eng 1:11+ O '50

Remote control system for fm broadcast stations. P. Whitney. diags Tele-Tech 10:32-5+ Ag; 44-5+ S '51

Some experiments on the use of frequency modulation in electrical measurements. D. M. Tombs and J. F. Ward. bibliog diags Inst E E Proc 97 pt 2:645-50 O '50

Test of 450-megacycle urban area transmission to a mobile receiver. A. J. Aikens and L. Y. Lacy. maps Inst Radio Eng Proc 38: 1317-19 N '50

Three-in one broadcast. diags Electronics 23: 174+ N '50

Transistor frequency modulator circuit. L. L. Koros and R. F. Schwartz. il diags Electronics 24:130-2+ Jl '51

Universal design curves for intermediate-frequency amplifiers with particular reference to phase and amplitude distortion and their compensation. W. Hackett. Inst Radio Eng Proc 38:1408-17 D '50

See also

Radio receiving apparatus—Frequency modulation receivers
Radio transmitters—Frequency modulation transmitters

RADIO generators

Low cost square-wave generator. S. Harris. il diag Radio & Tv N 45:44-5 Ja '51

Methods to extend the frequency range of untuned diode noise generators. H. Johnson. diags RCA R 12:251-7 Je '51

Microwave sweep generator; permits oscilloscope indication of match between wide-band traveling-wave tubes and transmission lines. L. C. Eisaman. il diags Electronics 23:101-3 N '50

Simple trigger generator. R. S. Richards. diag Electronics 24:198+ Ap '51

Sine and square-wave generator selective amplifier. G. L. Jones, jr. diag Electronics 23:120 D '50

Square-wave generator using gated-beam tube. L. E. Garner, jr. il diag Electronics 24:128-9 Jl '51

See also

Pulse generators

RADIO instruments

Atmospherics waveform receiver. W. J. Kessler and S. E. Smith. il Inst Radio Eng Proc 39:676 Je '51

Audio modulation tests. G. Southworth. il diag Radio & Tv N 45:52-3+ Je '51

Auditory test equipment; measurement techniques for the blind amateur. R. W. Gunderson. il diags Q S T 35:27-30+ Ap '51

Deluxe signal tracer. R. H. Krueger. il diags Radio & Tv N 45:64-6 Ja '51

Direct reading electronic audio frequency meter. R. P. Turner. il diags Radio & Tv N 45:54-5+ F '51

Direct-reading noise-factor measuring systems. R. W. Peter. bibliog il diags RCA R 12:269-81 Je '51

Distortion measurement device. P. W. Klipsch. diag Electronics 24:173+ S '51

Distortion measurements without tubes. L. Fleming. il diags Radio & Tv N 45:46-7+ Mr '51

Double super-heterodyne principle applied to dielectric measurements; receiver converted to serve simultaneously as generator and detector. E. B. Baker. diags R Sci Instr 22:34-6 Ja '51

Electronic instrumentation; cathode-ray tubes as metering devices. M. H. Dunbrack and R. A. Bradbury. il diag Q S T 35:16-17 F '51

Electronic lightning calculator. P. S. Rand. il diags Q S T 35:17-23 Mr '51

Emergency test instrument. F. A. Orth. il diags Radio & Tv N 45:46-7+ My '51

Extending multimeter utility. R. P. Turner. il diags Radio & Tv N 44:55+ D '50

Inexpensive diode probe. S. T. Walton. diags Radio & Tv N 45:146 Ja '51

Methods of developing sweep and marker generator signals. C. H. Brown. il diags Radio & Tv N 46:48-9+ Ag '51

Mixer crystal checker. P. D. Strum. il diag Electronics 23:94-7 D '50

Novel tester for checking radio control equipment. G. Dexter. il diag Radio & Tv N 45: 42-3+ F '51

Power level and volume indicator meters. H. M. Tremaine. il diags Radio & Tv N 44: 84-6+ N '50

RADIO instruments—*Continued*

Power meter and mismatch indicator. A. F. Boff. il diags Wireless Eng 28:278-81 S '51

Practical crystal noise generator. W. I. Orr. il diags Radio & Tv N 45:46-7 Je '51

Practical hamwavemeter. W. S. Rogers. il diags Radio & Tv N 46:52-3 O '51

Precision calibrator for l.f phase-meters. M. F. Wintle. bibliog il diags Wireless Eng 28:197-208 Jl '51

Push buttons tune distortion-noise meter. il Product Eng 21:180 N '50

Radio-frequency micropotentiometer. il Electronics 24:230+ Je '51

Radio-frequency wave analyzer. C. H. Bredall. il diags Tele-Tech 9:37-40 D '50

Sensitive field-strength meter. B. Goodman. il diags Q S T 35:24-5 Ja '51

Signal strength analyzer. R. W. George. il diags Electronics 24:75-7 Ja '51

Square-wave generator using gated-beam tube. L. E. Garner, jr. il diag Electronics 24:128-9 Jl '51

V-o-m (volt-ohm-milliammeter) and grid-dip oscillator. M. White. il diags Radio & Tv N 45:45-7+ F '50

V.t. voltmeter/S-meter for the ham shack. P. S. Rand. il diag Q S T 35:48-51 Ag '51

See also

Direction finding apparatus
Oscillators
Radio meteorographs
Raydist

RADIO interference. See Radio communication—Interference

RADIO-KEITH-ORPHEUM theatres corporation

Who'll get Hughes' stock? scramble for his holdings in RKO Theatres. Bsns W p 121-3 F 17 '51

RADIO laboratories

B.B.C. Research department. il Elec R (Lond) 148:1341-3 Je 29 '51

Control chart as a tool for analyzing experimental data. E. B. Ferrell. Inst Radio Eng Proc 39:132-7 F '51

Steel frame of 22-story laboratory tower designed to minimize vibrations; Federal telecommunications laboratory, Nutley, N.J. il Arch Forum 94:159 My '51

RADIO laws and regulations

Disaster communications service rules finalized. Q S T 35:38-41 Ap '51

New FCC ham rules. R. Frank. Radio & Tv N 45:38+ Ap '51

We have new regulations. Q S T 35:26-31+ Mr '51

See also

Radio frequency—Allocation

Canada

Canadian broadcaster charges CBC news gag. Ed & Pub 84:48 Ag 25 '51

RADIO lines

Approximate theory of the directional coupler. F. Bolinder. Inst Radio Eng Proc 39:291 Mr '51

Approximation methods in radial transmission line theory with application to horns. A. E. Laemmel and others. diags Inst Radio Eng Proc 39:959-65 Ag '51

Clemens match; balanced feed with coaxial line. J. F. Clemens. diag Q S T 35:26-8 F '51

Coaxial-stub filter; reference sheet. J. A. Craig. diag Electronics 24:132+ Je '51

Current and charge distributions on antennas and open-wire lines. D. J. Angelakos. il diags J Ap Phys 22:910-15 Jl '51

Design of transmission-line tuning elements for minimum dissipation. R. W. Klopfenstein. bibliog Inst Radio Eng Proc 39:1089-94 S '51

Discontinuity tuning charts for resonant coax lines. J. G. Stephenson. diags Tv Eng 1:30-2 N '50; 2:24-5+ F '51

Evaluation of coaxial slotted-line impedance measurements. H. E. Sorrows and others. bibliog Inst Radio Eng Proc 39:162-8 F '51

Fourier transforms in the theory of inhomogeneous transmission lines. F. Bolinder. Inst Radio Eng Proc 38:1354 N '50

Load-matching dielectric heaters. R. H. Hagopian. diags Electronics 23:98-101 D '50

Manufacture of coaxial cables; illustrations with text. Elec Com 28:83-9 Je '51

Microwave sweep generator; permits oscilloscope indication of match between wideband traveling-wave tubes and transmission lines. L. C. Eisaman. il diags Electronics 23:101-3 N '50

New microwave attenuator. il Tele-Tech 10:43+ S '51

Phase distortion in feeders; effect of mismatching on long lines. L. Lewin and others. Wireless Eng 27:143-5 My '50; Same. Elec Com 27:320-3 D '50

Radiation from resonant quarter-wave transmission lines. F. M. Leslie. diag Wireless Eng 28:70-2 Mr '51

Radiation from wide-angle conical antennas fed by a coaxial line. C. H. Papas and R. King. diag Inst Radio Eng Proc 39:49-50 Ja '51

Single-conductor surface-wave transmission lines. G. Goubau. bibliog diags Inst Radio Eng Proc 39:619-24 Je '51

Study of single-surface corrugated guides. W. Rotman. bibliog il diags Inst Radio Eng Proc 39:952-9 Ag '51

Transmission-line balance indicator for transmitters. G. T. Royden. il diag Elec Com 28:110-11 Je '51

Transmission line equivalent circuit. L. A. Ware. diags Wireless Eng 28:287-8 S '51

Transmission-line impedance curves. H. A. Wheeler. bibliog Inst Radio Eng Proc 38:1400-3 D '50

Traveling-wave amplification by means of coupled transmission lines. W. E. Mathews. Inst Radio Eng Proc 39:1044-51 S '51

Variable-length radio-frequency transmission-line section. K. R. McAlister. il diags J Sci Instr 28:142-3 My '51

See also

Television cables
Wave guides

RADIO loud speakers

Amplitude and phase measurements on loudspeaker cones. M. S. Corrington and M. C. Kidd. bibliog diags Inst Radio Eng Proc 39:1021-6 S '51

Nondirectional corner speaker. D. Post. il diags Radio & Tv N 45:55+ Ja '51

See also

Loud speaking apparatus

Repair

Repair that speaker. W. E. LaFarra. il Radio & Tv N 46:38-9 S '51

Testing

Audio modulation tests. G. Southworth. il diag Radio & Tv N 45:52-3+ Je '51

Automatic nonlinear distortion analyzer. H. F. Olson and D. F. Pennie. il diags RCA R 12:35-44 Mr '51

RADIO masts

Insulating a radio mast. C. J. Clackett. il Elec R (Lond) 149:305-7 Ag 10 '51

Radio masts and towers; abstracts. C. O. Boyse. Engineering 172:168 Ag 10 '51; Engineer 191:837 Je 22 '51; Discussion. Engineering 172:168-9 Ag 10 '51

RADIO measurements

Bolometer amplifier for microwave measurements. il diag Electronics 24:136+ Mr '51

Conference on high-frequency measurements, Washington, Jan. 10-12; summaries of technical papers. Inst Radio Eng Proc 39:208-11 F '51

Diffraction errors in an optical measurement at radio wavelengths. G. A. Woonton and others. diag J Ap Phys 22:390-7 Ap '51

Electronic lightning calculator. P. S. Rand. il diags Q S T 35:17-23 Mr '51

Evaluation of coaxial slotted-line impedance measurements. H. E. Sorrows and others. bibliog Inst Radio Eng Proc 39:162-8 F '51

Experimental determination of the reflection coefficient of metal-plate media. J. Ruze and M. Young. il J Ap Phys 22:277-8 Mr '51

H.f. resistance standards and their use in the calibration of an admittance bridge up to 60 mc/s. W. H. Ward and others. bibliog diags Inst E E Proc 97 pt 3:438-46 N '50

Impedance measurement at audio frequencies. P. W. Klipsch. diag Electronics 24:138+ Ag '51

RADIO measurements—*Continued*

Impedance of an antenna over a large circular screen. J. E. Storer. diags J Ap Phys 22:1058-66 Ag '51

Interelectrode impedances in triodes and pentodes. E. E. Zepler and S. S. Srivastava. bibliog diags Wireless Eng 28:146-50 My '51

Measure coupling coefficient in tuned r-f transformers. S. G. Feldman and M. Goldstein. diags Electronics 23:232+ D '50

Measurement of the electrical behaviour of piezo-electric resonators. C. F. Floyd and R. L. Corke. il diags Inst E E Proc 98 pt 3:123-32 Mr '51

Measurements on elliptically polarized antennas. J. I. Bohnert. il Inst Radio Eng Proc 39:549-52 My '51

Methods of measuring adjacent-band radiation from radio transmitters. N. Lund. diags Inst Radio Eng Proc 39:653-6 Je '51

Open-field test facilities for measurement of incidental receiver radiation. C. G. Seright. il RCA R 12:45-52 Mr '51

Radiation from resonant quarter-wave transmission lines. F. M. Leslie. diag Wireless Eng 28:70-2 Mr '51

Radio-frequency current distributions on aircraft structures. J. V. N. Granger and T. Morita. diags Inst Radio Eng Proc 39:932-8 Ag '51

Receiver for measuring angle-of-arrival in a complex wave. F. E. Brooks, jr. bibliog il diags Inst Radio Eng Proc 39:407-11 Ap '51

Response of a directive antenna to incoherent radiation. F. W. Schott. diags Inst Radio Eng Proc 39:677-80 Je '51

Second AIEE-IRE-NBS conference on high-frequency measurements, Washington, Jan. 10-12. Elec Eng 70:262-6 Mr '51

Self-balancing microwave power measuring bridge. L. A. Rosenthal and J. L. Potter. bibliog diags Inst Radio Eng Proc 39:927-31 Ag '51

Source of error in radio phase measuring systems. R. Bateman and others. diags Inst Radio Eng Proc 38:612-14 Je '50; Discussion. 39:436-8 Ap '51

Standards on radio receivers; open field method of measurement of spurious radiation from frequency modulation and television broadcast receivers, 1951. diag Inst Radio Eng Proc 39:803-6 Jl '51 (reprints 50c)

Test of 450-megacycle urban area transmission to a mobile receiver. A. J. Aikens and L. Y. Lacy. maps Inst Radio Eng Proc 38:1317-19 N '50

Time-delay measurements on radio transmissions. R. Naismith and E. N. Bramley. map Wireless Eng 28:271-7 S '51

Universal s.w.r. measurements with a coaxial bridge. G. Grammer. diags Q S T 34:27-9+ D '50

See also

Multivibrators
Radio echoes
Radio instruments
Radio standards
Voltmeters, Vacuum tube

RADIO meteorographs

Automatic calibration of radiosonde baroswitches. S. S. Haynes. il diags Electronics 24:126-9 My '51

Cosmic-ray radiosonde and telemetering system. M. A. Pomerantz. il diags Electronics 24:88-92 Ap '51

Expendable plastic weatherman; ethyl cellulose housing for radiosonde. il Mod Plastics 28:62 Ja '51

Recirculating apparatus for testing hygrometers. A. Wexler. il diags J Res Nat Bur Stand 45:357-62 N '50

RADIO modulation

Bridged-tee phase modulators. diags Electronics 24:268+ S '51

Constant modulation of the 813. G. R. Lippert. il diags Q S T 34:48-9 N '50

Correlation functions and spectra of phase- and delay-modulated signals. L. A. Zadeh. bibliog Inst Radio Eng Proc 39:425-8 Ap '51

Design limits for high-output grid modulation. Q S T 35:40-1 F '51

Distortion in linear passive networks. L. Riebman. diags Inst Radio Eng Proc 39:692-7 Je '51

Ionospheric cross modulation; Luxemburg effect. G. R. Mather. diags Electronics 24:252+ S '51

Magnetic modulator; even-harmonic modulation theory. R. Feinberg. il diags Wireless Eng 28:281-6 S '51

New microwave triode; its performance as a modulator and as an amplifier. A. E. Bowen and W. W. Mumford. bibliog il diags Bell System Tech J 29:531-52 O '50

Premodulation clipping and filtering; their effects on the intelligibility of speech. S. E. Stuntz. bibliog Q S T 34:22-4 N '50

Screen modulation with limited carrier control. diag Q S T 35:64-5+ Ap '51

Some facts of modulation. Q S T 35:49-51+ Mr '51

Supermodulation; an evaluation and explanation. O. G. Villard, jr. bibliog diags Q S T 34:33-40+ D '50

Synchrodyne as a precision demodulator. D. G. Tucker and R. A. Seymour. bibliog diags Wireless Eng 27:227-37 Ag-S '50

Transient response of asymmetrical carrier systems. G. M. Anderson and E. M. Williams. diags Inst Radio Eng Proc 39:1064-6 S '51

See also

Radio frequency modulation
Radio pulse time modulation

Bibliography

Radio progress during 1950; modulation systems. Inst Radio Eng Proc 39:382 Ap '51

RADIO noise. See Radio communication—Interference elimination

RADIO noise, Cosmic

New navy radio telescope nears completion. il Electronics 24:140 Ap '51; Mech Eng 73:330 Ap '51

Radio astronomy. A. C. B. Lovell. Elec R (Lond) 148:694 Ap 6 '51

Radio telescope at the South Bank exhibition. il diag Engineer 192:2-3 Jl 6 '51

Relativistic theory of electro-magneto-ionic waves. V. A. Bailey. bibliog Phys R 83:439-54 Jl 15 '51

RADIO noise, Solar

Radio-frequency representation of the solar atmosphere. S. F. Smerd. bibliog diag Inst E E Proc 97 pt 3:447-52 N '50

Radio wave generation by multistream charge interaction. J. Feinstein and H. K. Sen. bibliog Phys R 83:405-12 Jl 15 '51

Solar atmosphere and the origin of radio-frequency radiation. S. A. Korff and Y. Beers. Phys R 80:489-90 N 1 '50

RADIO operators, Amateur

Amateur bands for civil defense. Electronics 24:148 Mr '51

Amateur radio in civil defense; editorial. Q S T 34:9-12 D '50

Amateur radio in Detroit civil defense. F. Gary. il Q S T 35:52-3+ S '51

ARRL wins Pennsylvania antenna mast case. Q S T 35:13-14 O '51

Auditory test equipment; measurement techniques for the blind amateur. R. W. Gunderson. il diags Q S T 35:27-30+ Ap '51

Burton, new director, Civil defense communications. R. R. Burton. Q S T 34:25 D '50

Civil defense club project; Tri-county radio association program provides emergency stations and promotes v.h.f. activity in northern New Jersey. M. P. Rehm. il Q S T 35:15-17+ O '51

Dallas plan for tvi. J. F. Skelton and E. M. Shook. Q S T 35:26-8 Je '51

Dayton plan for tvi. Q S T 35:34-5 S '51

DX-ing, mobile; D. and E. Hauck's mobile ham shack. il Radio & Tv N 45:57 Je '51

DX-pedition to Guadeloupe. W. W. Richard. il Q S T 35:44-5 Jl '51

Ham license renewals. Radio & Tv N 46:93 S '51

Hamming by the touch system; R. W. Gunderson teaches radio techniques and operating to the blind. il Q S T 35:10-12 Mr '51

Hams aid Korean war effort. il Q S T 35:40-1+ Mr '51

How to pass the novice examination. Q S T 35:42+ Je '51

New adventure in ham radio. G. D. Ipock. Q S T 35:21+ Ja '51

New FCC ham rules. R. Frank. Radio & Tv N 45:38+ Ap '51

Numerology and amateur radio. E. Leigh-Falcon. Q S T 35:48-9 Ap '51

RADIO operators, Amateur—*Continued*

Operation Andorra; the story of 7B4QF. W. I. Orr. il Q S T 35:34-7 O '51

V.h.f.; why, how, when? E. P. Tilton. Q S T 35:40-1+ Ja; 46-9 F '51

We have new regulations. Q S T 35:26-31+ Mr '51

Wright vs. Vogt; Supreme court of New Jersey okays 60-foot amateur tower despite restrictions in zoning ordinance. Q S T 35:39 Je '51

See also

Military amateur radio system

Radio stations, Amateur

RADIO oscillators. See Oscillators

RADIO performers. See Radio broadcasting—Performers

RADIO pulse code modulation

Interference effects in pulse-width modulation; television sync-pulse sound system. W. E. Ingham. bibliog plans diags Wireless Eng 27:241-56 O-N '50

Pulse-width discriminator. A. A. Gerlach and D. S. Schover. il diags Electronics 24:105-7 Je '51

Quantization distortion in pulse-count modulation with nonuniform spacing of levels. P. F. Panter and W. Dite. Inst Radio Eng Proc 39:44-8 Ja '51; Same. Elec Com 28:121-6 Je '51

Television by pulse code modulation. W. M. Goodall. il diags Bell System Tech J 30: 33-49 Ja '51

RADIO pulse time modulation

BPA completes 200-mile microwave link. R. F. Stevens. il map Elec West 105:82-3 O '50

Cross-talk considerations in time-division multiplex systems. S. Moskowitz and others. bibliog diags Inst Radio Eng Proc 38:1330-6 N '50; Same. Elec Com 28:209-16 S '51

Fault location by pulse time modulation. R. W. Hughes and N. Weintraub. map diags Elec Eng 69:1009-11 N '50; Same. il Elec Com 28:90-4 Je '51

RADIO receiving apparatus

Adjacent-channel rejection receiver. H. Magnuski. il diags Electronics 24:101-4 Ja '51

Cheap British radio tunes in on U.S. stores; Murphy radio. Bsns W p 138-9 D 16 '50

Custom-built for profit. D. Ellis. il Radio & Tv N 45:46 Ja '51

Direct-coupled amplifier starvation circuits. W. K. Volkers. il diags Electronics 24:126-9 Mr '51

Diversity receiving system for radio frequency carrier shift radiophoto signals. J. B. Atwood. il diags RCA R 12:177-90 Je '51

Dual-diversity frequency-shift receiver. D. G. Lindsay. bibliog diags Inst Radio Eng Proc 39:598-612 Je '51

Gain-doubling frequency converters. V. H. Aske. il diags Electronics 24:92-6 Ja '51

Have post-war broadcast receivers taken full advantage of war-time development? discussion. R. B. Armstrong. Inst E E Proc 98 pt 3:184 My '51

Improved communication equipment for mobile use. D. E. Noble. il Tele-Tech 10: 36-9+ F '51

Low-cost single-tube am receiver. C. E. Cohn. diag Radio & Tv N 46:154 S '51

Oscillation in phase inverters. L. Fleming. diags Radio & Tv N 44:124 N '50

Oscillator radiation; letter from E. H. Armstrong to W. R. G. Baker. Electronics 23: 136+ D '50

Performance of diversity receiving systems. S. H. Van Wambeck and A. H. Ross. Inst Radio Eng Proc 39:256-64 Mr '51

Receiver for measuring angle-of-arrival in a complex wave. F. E. Brooks, jr. bibliog il diags Inst Radio Eng Proc 39:407-11 Ap '51

Receivers for radio-controlled models. W. A. Good and W. E. Good. il diags Q S T 35: 22-5 S '51

Remote pickup broadcast receiver. A. A. Kelley. il diag Electronics 24:102-3 S '51

6BN6 gated-beam tube. J. Kauke. il diags Radio & Tv N 46:42 O '51

Subminiature components reduce size of radio receiver by 80 per cent. il diag Product Eng 22:112-13 Jl '51

Subminiature low-frequency receiver. il diag Electronics 24:138+ Jl '51

Tube substitutions in home receivers. M. Chertock. il diag Radio & Tv N 45:38+ Mr '51

See also

Radio loud speakers

Television receiving apparatus

Television receiving apparatus—Radio and phonograph combination

Control

Combined search and automatic frequency control of mechanically tuned oscillators. J. G. Stephenson. diag Inst Radio Eng Proc 38:1314-17 N '50

Independent control of selectivity and bandwidth. O. G. Villard, jr. diags Electronics 24:121-3 Ap '51

Fidelity

Selecting your high-fidelity system. J. F. Becker. il Radio & Tv N 44:80-1+ N '50

Frequency modulation receivers

Build this low-cost fm receiver. J. F. Clemens. il diag Radio & Tv N 46:50-1 Ag '51

New fm communications tuner. W. Smith. il diag Radio & Tv N 46:46-7 S '51

Open-field test facilities for measurement of incidental receiver radiation. C. G. Seright. il RCA R 12:45-52 Mr '51

Plotting aural coverage by ear. H. G. Eidson, jr. il Tv Eng 1:11+ O '50

Installation on automobiles

Compact three-band mobile converter. R. Lewis. il diag Radio & Tv N 45:48-9+ Mr '51

Installation on motor buses

They shall have music; two years of fm transit radio have proved that car card of the air is useful as well as profitable. F. Otwell. Bus Transportation 29:66-7 N '50

Noise

Application of correlation analysis to the detection of periodic signals in noise. Y. W. Lee and others. il diags Inst Radio Eng Proc 38:1165-71 O '50; Discussion. 39:1094-6 S '51

Automatic noise limiters with biased detectors. C. E. Cohn. diags Radio & Tv N 46:46 O '51

Gaseous discharge super-high-frequency noise sources. H. Johnson and K. R. Deremer. bibliog il diags Inst Radio Eng Proc 39:908-14 Ag '51

Noise figure standards. Franklin Inst J 251: 539-40 My '51; Same. Electronics 24:214+ My '51

Perturbation and correlation methods for enhancing the space resolution of directional receivers. F. V. Hunt. Inst Radio Eng Proc 39:840 Jl '51

Practical crystal noise generator. W. I. Orr. il diags Radio & Tv N 45:46-7 Je '51

Radio noise filters made smaller. il Aviation W 54:39 Ja 15 '51

Phonograph combinations

Rating

Two radio-phonograph high-fidelity combinations. il Consumers Res Bul 27:20-1 Je '51

Rating

Table-model radios. il Consumers Res Bul 27:12-13 My '51

Repair

Helpful hints on servicing a.c.-d.c. sets. J. J. Lucas. diags Radio & Tv N 45:60-1+ Ap '51

Radio-tv service industry news. il Radio & Tv N 44:128+ D '50; 45:160-5 Ja; 150-6 F; 158-63 Mr; 140-3 Ap; 104+ My '51

Sweep alignment in am receiver servicing. P. F. Rhodes. il diags Radio & Tv N 45: 40-2 Je; 46:43-5+ Jl '51

See also

Radio service shops

Short wave

Bandswitching converter for 144 to 21 mc. F. E. Ladd. il diag Q S T 35:22-5+ Ap '51

Bandswitching v.h.f. converter and harmonic checker. E. P. Tilton. il diag Q S T 35: 33-6+ Jl '51

RADIO receiving apparatus—Short wave—*Continued*

Calibrating the 3-30 mc. Gonset converter. H. L. Ulyat. Radio & Tv N 46:36 Jl '51

Case for homemade receivers. il diags Q S T 35:17-20 Ja '51

C.w. man's Selectoject. O. G. Villard, jr. diags Q S T 35:54-7 My '51

Crystal controlled two-meter converter. H. G. Pratt. il diags Radio & Tv N 45:52-4 Ja '51

Crystal filter for 'phone reception. W. E. Good. diags Q S T 35:56-8+ O '51

First receiver for the novice. R. L. Baldwin. il diags Q S T 35:24-6 Ag '51

Ham converter for 2-6-10-15 meters. H. J. Harris. il diag Radio & Tv N 45:48-50 F '51

High-frequency double conversion superhet for i.f. frequencies above 500 kc. F. J. Lingel. diag Radio & Tv N 46:82 S '51

Mixer crystal checker. P. D. Strum. il diag Electronics 23:94-7 D '50

Mobile converter for civil defense. R. M. Smith. il diag Q S T 35:46-9 S '51

Monitone; Model 1951B. C. V. Chambers. il diag Q S T 35:29-31 My '51

New life for the Q5-er. D. R. Jordan. il diags Q S T 35:37-9+ F '51

Series-tuned grounded-grid preamplifier. il diag Q S T 35:54-5 O '51

Sharp i.f. amplifier for phone or c.w. B. Goodman. il diags Q S T 34:13-17 D '50

Transceiver for the novice ham. C. E. Jackson. il diags Radio & Tv N 45:58-9+ Ap '51

Two meter transmitter-receiver for civil defense operation. M. Kirchhoff and D. D. Bulkley. il diag Radio & Tv N 46:45-7 Ag '51

Using the 6BQ7 on 220 and 144 mc. E. P. Tilton and C. V. Chambers. il diag Q S T 35:41-3 S '51

WWV-er; a one-tube converter for 5 and 10 mc. C. V. Chambers. il diag Q S T 35:24-5+ Mr '51

Standards

Standards on radio receivers; open field method of measurement of spurious radiation from frequency modulation and television broadcast receivers, 1951. diag Inst Radio Eng Proc 39:803-6 Jl '51 (reprints 50c)

Superheterodyne

Double super-heterodyne principle applied to dielectric measurements; receiver converted to serve simultaneously as generator and detector. E. B. Baker. diags R Sci Instr 22:34-6 Ja '51

Lattice-type crystal filter. R. Lowrie. il diags Electronics 24:129-31 Ap '51

Superregenerative

Low cost vest pocket radio receiver. M. A. Coppin. il diag Radio & Tv N 45:43+ Mr '51

Tuning

Discontinuity tuning charts for resonant coax lines. J. G. Stephenson. diags Tv Eng 1:30-2 N '50; 2:24-5+ F '51

RADIO receiving apparatus, Portable

Low cost vest pocket radio receiver. M. A. Coppin. il diag Radio & Tv N 45:43+ Mr '51

Pick up those profits from portables. A. W. Bernsohn. il Radio & Tv N 45:35-8+ Je '51

Pocket receivers introduced for radio call system; Telanserphone corp. Tele-Tech 10:91 Mr '51

RADIO reception

Air force aids radio reception studies. Electronics 24:274+ Je '51

Comparison of tropospheric reception at 44.1 mc with 92.1 mc over the 167-mile path of Alpine, N.J. to Needham, Mass.; abstract. G. W. Pickard and H. T. Stetson. Inst Radio Eng Proc 38:1450 D '50

Diversity effects in spaced-aerial reception of ionospheric waves. E. N. Bramley. bibliog Inst E E Proc 98 pt 3:19-25 Ja '51

Experimental evaluation of diversity receiving systems. J. L. Glaser and S. H. Van Wambeck. diag Inst Radio Eng Proc 39:252-5 Mr '51

Performance of diversity receiving systems. S. H. Van Wambeck and A. H. Ross. Inst Radio Eng Proc 39:256-64 Mr '51

RADIO recorders

Aperiodic aerials; use with vertical-incidence ionospheric recorders. R. Bailey. bibliog diags Wireless Eng 28:208-14 Jl '51

Automatic ionospheric recorder for the frequency range 0.55 to 17 mc/s. R. Naismith and R. Bailey. il diags Inst E E Proc 98 pt 3:11-18 Ja '51

Mobile ionospheric station. Franklin Inst J 252:65-7 Jl '51; Same cond. Electronics 24:140+ Je '51

Single-band 0-20-mc/s ionosphere recorder embodying some new techniques. T. L. Wadley. bibliog il diag Inst E E Proc 96 pt 3:483-6 N '49; Discussion. diags 98 pt 3:45-6 Ja '51

RADIO rectifiers

Characteristics and some applications of varistors. F. R. Stansel. bibliog il diags Inst Radio Eng Proc 39:342-58 Ap '51

Selenium rectifiers for tv applications. R. P. Turner. il diags Tv Eng 2:14-15+ Ap '51

RADIO relay stations

Bell System opens transcontinental radio-relay. W. Alberts. il Radio & Tv N 46:40-1 O '51

BPA completes 200-mile microwave link. R. F. Stevens. il map Elec West 105:82-3 O '50

Broad-band transcontinental radio relay system. T. J. Grieser and A. C. Peterson. il map diags Elec Eng 70:810-15 S '51

Design factors of the Bell telephone laboratories 1553 triode. J. A. Morton and R. M. Ryder. il diags Bell System Tech J 29:496-530 O '50

Flat reflector for uhf system; passive repeaters in microwave relay systems; power company installation. T. Roylston. il plan diag Electronics 24:130-2 Mr '51

Fm terminals for the *TD*-2 radio system. J. G. Chaffee and J. B. Maggio. il diags Elec Eng 70:880-3 O '51

Longest microwave relay system opened for transcontinental telephone service. il Elec Eng 70:940 O '51

New microwave triode; its performance as a modulator and as an amplifier. A. E. Bowen and W. W. Mumford. bibliog il diags Bell System Tech J 29:531-52 O '50

Radio relay design data 60 to 600 mc. R. Guenther. bibliog diag Inst Radio Eng Proc 39:1027-34 S '51

Tv sound diplexer for studio-transmitter links. L. Staschover and H. G. Miller. il diag Tele-Tech 10:34-5+ Mr '51

Location

Siting microwave antennas by helicopter. B. I. McCaffrey. il diag Electronics 24:82-4 S '51

RADIO research

Automatic ionospheric recorder for the frequency range 4.55 to 17 mc/s. R. Naismith and R. Bailey. il diags Inst E E Proc 98 pt 3:11-18 Ja '51

Cast aluminum saucer used in radio research. il Foundry 79:167 O '51

Comparison of ionospheric radio transmission forecasts with practical results. A. F. Wilkins and C. M. Minnis. Inst E E Proc 98 pt 3:209-20 My '51

Engineering research of the British broadcasting corporation. il Engineering 171:793-5 Je 29 '51

Ionospheric propagation of low- and very-low-frequency radio waves over distances less than 1 000 km. R. N. Bracewell and others. diags Inst E E Proc 98 pt 3:221-36 bibliog(54 ref, p235-6) My '51

Management's role in research and development of electronic systems. R. I. Cole. Inst Radio Eng Proc 38:1252-3 N '50

Moon echoes and transmission through the ionosphere. F. J. Kerr and C. A. Shain. bibliog il diags Inst Radio Eng Proc 39:230-42 Mr '51

Shortwave radio propagation correlation with planetary positions. J. H. Nelson. RCA R 12:26-34 Mr '51

Statistical methods in research and development. L. Lutzker. Inst Radio Eng Proc 38:1253-7 N '50

Wide-band aerial system for circularly polarized waves, suitable for ionospheric research. G. J. Phillips. diags Inst E E Proc 98 pt 3:237-9 My '51

See also

Radio laboratories

RADIO resistors

Applications for Thyrite resistors. R. P. Turner. bibliog il diags Radio & Tv N 45:50-1+ Ja '51

Frequency characteristics of woven resistors. L. E. Williams and E. J. Robb. il diags Electronics 24:260+ S '51

Splitting pads. H. C. Carmichael. diags Radio & Tv N 45:56+ Ap '51

RADIO resonators

Measurement of the electrical behaviour of piezo-electric resonators. C. F. Floyd and R. L. Corke. il diags Inst E E Proc 98 pt 3:123-32 Mr '51

Microwave filters employing a single cavity excited in more than one mode. W. Lin. bibliog il diags J Ap Phys 22:989-1001 Ag '51

Multiplexing klystrons. W. L. Firestone. bibliog diags Electronics 24:112-16 S '51

New centimetre-wave discriminator and its application to a frequency-stabilized oscillator. K. C. Johnson. diags Inst E E Proc 98 pt 3:77-80 Mr '51

Offset wave-guide junction as a reactive element. L. D. Smullin and W. G. Glass. diags J Ap Phys 22:1124-7 S '51

Wide-range resonators for vhf and uhf. G. F. Montgomery and P. G. Sulzer. il diags Electronics 24:200+ My '51

RADIO schools and training

Naval reserve offers new electronic training opportunities. E. L. Battey. il Radio & Tv N 45:35-8+ My '51

RADIO service shops

How do you figure your service charges? H. J. Ashe. Radio & Tv N 45:48+ My '51

Mac's radio service shop. J. T. Frye. Published in monthly numbers of Radio and television news

Sales aids. H. Becker. il Radio & Tv N 46:68-9+ O '51

See also

Television service shops

RADIO signals

Accurate instantaneous frequency comparison. R. M. Wilmotte. diag Electronics 24:140+ My '51

Attenuation of radio signals caused by scattering. A. H. LaGrone and others. diag J Ap Phys 22:672-4 My '51; Discussion. 22:1386; Reply. 1386-7 N '51

Correlation functions and spectra of phase- and delay-modulated signals. L. A. Zadeh. bibliog Inst Radio Eng Proc 39:425-8 Ap '51

Phase distortion in feeders; effect of mismatching on long lines. L. Lewin and others. Wireless Eng 27:143-5 My '50; Same. Elec Com 27:320-3 D '50

See also

Radio echoes
Time signals, Radio
Weather signals, Radio

RADIO standards

H.f. resistance standards and their use in the calibration of an admittance bridge up to 60 mc/s. W. H. Ward and others. bibliog diags Inst E E Proc 97 pt 3:438-46 N '50

R-f standard capacitors for minute increments. J. A. Connor. il diags Electronics 24:250+ O '51

Standards on circuits; definitions of terms in network topology, 1950. diags Inst Radio Eng Proc 39:27-9 Ja '51 (reprints 50c)

Standards on pulses; definitions of terms, part one, 1951. Inst Radio Eng Proc 39:624-6 Je '51 (reprints 50c)

Standards on transducers; definitions of terms, 1951. Inst Radio Eng Proc 39:897-9 Ag '51 (reprints 50c)

Standards on wave propagation; definitions of terms, 1950. Inst Radio Eng Proc 38:1264-8 N '50 (reprints 60c)

See also

Radio apparatus—Standards
Radio stations, Standard frequency
Television—Standards

RADIO stations

Civilian defense station. F. Heubner. il diag Radio & Tv N 45:42-3+ My '51

See also

Radio broadcasting stations
Radio transmitters

Frequency measuring service

Modern frequency measuring installation; Riverhead equipment is prototype of commercial service available to fulfill legal requirements of FCC. H. A. Taylor and E. C. Rundquist. il diags Electronics 24:98-102 Mr '51

Protection

Good grounding thwarts lightning at base radio stations. Elec World 135:53 Ja 15 '51

RADIO stations, Airline

Round-the-world voice radio system; Pan American world airways. W. W. Lynch. il map Radio & Tv N 46:36-7+ Ag '51

See also

Airlines—Radio communication

RADIO stations, Amateur

Duo-band ham antenna. C. L. Buchanan. il diags Radio & Tv N 44:66-8+ D '50

Monument honors historic 1BCG; commemorates transmission of first message across Atlantic on short waves. il Q S T 34:20 D '50

Planned station, for convenience and appearance. H. G. Eidson, jr. il diags Q S T 35:58-61 My '51

Rackabinet; shielded rack construction for the 1951 rig. M. W. Thompson. il diags Q S T 35:37-40 S '51

See also

Television stations, Amateur

RADIO stations, Government

MARS' Pentagon headquarters. il Radio & Tv N 46:57 S '51

Saga of the armed forces radio service. G. Marakas. il Radio & Tv N 46:29-31 Jl '51

RADIO stations, Portable

All-band mobile station. W. H. Rawson. il diags Q S T 35:34-7 Mr '51

Deluxe fixed-portable package; a complete 40-meter c.w. station. G. L. Countryman. il diags Q S T 35:42-6 Mr '51

RADIO stations, Standard frequency

Measuring time and frequency in Hawaii. V. E. Heaton. bibliog il Tele-Tech 10:36-8+ Mr '51

RADIO stores

Clever idea promotes dealer's sales; Shobe, inc. il Radio & Tv N 44:35 D '50

Pick up those profits from portables. A. W. Bernsohn. il Radio & Tv N 45:35-8+ Je '51

Ten tips to tax thrifts. F. Merish. Radio & Tv N 45:65+ F '51

RADIO telegraph

Automatic spacing of letters and words for the electronic key. J. W. Herbstreit. diags Q S T 35:46-7 Ap '51

C.w. man's Selectoject. O. G. Villard, jr. diags Q S T 35:54-7 My '51

Corkey, a tubeless automatic key. G. F. Montgomery. il diags Q S T 34:44-5+ N '50

Dual-diversity frequency-shift receiver. D. G. Lindsay. bibliog diags Inst Radio Eng Proc 39:598-612 Je '51

How's your fist, old man? automatic code recorder. S. Becker. il diag Radio & Tv N 45:50-1 Je '51

In search of the ideal electronic key. R. E. Brann. il diags Q S T 35:33-6+ F '51

Keying the BC-696. H. M. Carter. il diags Q S T 35:41-3 Jl '51

Modern telegraphic communication systems; fm carrier transmission, microwave radio relay and facsimile. I. S. Coggeshall and A. E. Frost. il map Tele-Tech 10:40-2+ Ap '51

New v.f.o. keying method. E. Miller. diags Radio & Tv N 45:69 Mr '51

Putting the clamp tube to work. F. R. Canning. diag Radio & Tv N 46:58+ O '51

Transmitter diversity applied to machine telegraph radio circuits. G. E. Hansell. il diags RCA R 11:508-16 D '50

Vacuum tube keying simplified. G. L. Countryman. il diag Radio & Tv N 46:51+ O '51

Multiplex system

Four/two-channel time-division-multiplex telegraph system for long-distance radio circuits. W. C. Peterman and A. Minc. il diags Elec Com 28:127-41 Je '51

RADIO telemetry. See Telemetering

RADIO telephone

Bell System opens transcontinental radio-relay. W. Alberts. il Radio & Tv N 46:40-1 O '51

Broad-band transcontinental radio relay system. T. J. Grieser and A. C. Peterson. il map diags Elec Eng 70:810-15 S '51

Crystal-filter s.s.b. exciter. F. E. Edmunds. il diags Q S T 34:11-15 N '50

Cut-off frequencies and audio quality. J. P. Neil. Q S T 34:25+ N '50

Double-sideband reduced carrier radiotelephony. G. Grammer. il diags Q S T 35:11-16 My '51

Frequency response and intelligibility. Q S T 34:26+ N '50

Instantaneous compandors. C. O. Mallinckrodt. bibliog diags Bell System Tech J 30:706-20 Jl '51

Long lines microwave system. Pub Util 48:364-5 S 13 '51; il Elec Eng 70:940 O '51

PAA radio telephone girdles the globe. G. L. Christian. il map Aviation W 53:37-8 D 11 '50

Phone man's vfo. C. A. Dene. il diag Q S T 35:18-19 Jl '51

Premodulation clipping and filtering; their effects on the intelligibility of speech. S. E. Stuntz. bibliog Q S T 34:22-4 N '50

Radio communication and selective dispatching. il Gen Elec R 54:34 Ag '51

Round-the-world voice radio system; Pan American world airways. W. W. Lynch. il map Radio & Tv N 46:36-7+ Ag '51

Speech compressor and modulation monitor. L. C. Watkins, jr. il diags Radio & Tv N 45:40-3 Ja '51

Triple your phone power for five dollars. F. F. Everett. diag Radio & Tv N 46:56+ S '51

Voice-controlled break-in and a loudspeaker. E. F. Nowak. diag Q S T 35:64+ My '51

Engineering use

Radio use open to ready mix operators. Concrete 59:24-6 Je '51

Two radio cars plot road sufficiency. Roads & Sts 94:52-3 Ag '51

Two-way radio found useful for city street work. H. F. Goodnow. Roads & Sts 93:39 N '50

Forestry service

Radio communications. W. Shaughnessy. Pulp & Pa of Can 52:106 Jl '51

Highway department use

Indispensable is the word for two-way radio in District of Columbia Highway department. J. N. Robertson. Roads & Sts 93:44 D '50

Radio committee report shows 62 highway departments now served by two-way radiotelephone. il Roads & Sts 94:48+ Ag '51

Multiplex system

Cross-talk considerations in time-division multiplex systems. S. Moskowitz and others. bibliog diags Inst Radio Eng Proc 38:1330-6 N '50; Same. Elec Com 28:209-16 S '51

Low noise and distortion audio multiplexing equipment with high stability carrier. F. S. Beale. bibliog diags Elec Eng 69:968-73 N '50

Multiplexing klystrons. W. L. Firestone. bibliog diags Electronics 24:112-16 S '51

Police uses

Disguised antenna design for police car radio. diag Electronics 23:188+ N '50

RADIO telephone, Portable

Army walkie-talkie in mass production. il diag Electronics 24:98-100 My '51

Civil defense portable. E. P. Tilton. il diag Q S T 35:35-8+ My '51

Miniature h-f portable transmitter-receiver. M. Kirchhoff and D. D. Bulkley. il diag Radio & Tv N 46:52-5 S '51

Two meter transmitter-receiver for civil defense operation. M. Kirchhoff and D. D. Bulkley. il diag Radio & Tv N 46:45-7 Ag '51

RADIO telephone in factories

Plant radio speeds stock control at Weatherhead co., Cleveland. il Bsns W p96-7 Mr 17 '51

Radio instead of paperwork to speed production; camera tour of Weatherhead co. Cleveland plant. Factory Management 109:102-7 Jl '51

Two-way radio boosts lift truck efficiency; Johnson & Johnson's new Metuchen shipping center. il Chem Eng 58:142 Ja '51; Elec Eng 70:70 Ja '51; Am Bsns 20:30-1 D '50; Paper Ind 32:1281 Mr '51; Mill & Factory 48:87 My '51

Two-way radio cuts truck idle time. il Steel 128:117 Je 18 '51

Two-way radio for yard vehicles keeps 'em rolling at Eastman Kodak. il Factory Management 108:84-8 N '50

RADIO telephone in mines

Selecting two-way radio communication. Min Eng 3:582-3 Jl '51

Trolley phone in coal mining. E. Adams. il Min Cong J 37:35-7+ Mr '51

Two-way radio speeds open-pit work. H. L. Burr. il Eng & Min J 152:90-1 My '51

RADIO telephone on automobiles

All-band mobile station. W. H. Rawson. il diags Q S T 35:34-7 Mr '51

Amateur mobile power sources. J. H. Pirtle. diag Q S T 35:42-5 Ag '51

Antenna systems for multichannel mobile telephony. W. C. Babcock and H. W. Nylund. il diags Inst Radio Eng Proc 38:1324-9 N '50

Bandswitching mobile converter. D. Mix and J. Galin. il diag Q S T 34:18-21 N '50

Compact ten meter mobile. R. J. Garon. il diag Radio & Tv N 46:46-8+ Jl '51

Converting RCA M1-7800 police transmitters for 28-mc mobile use. W. Chase. il diags Q S T 35:17-21+ S '51

Crowded-band mobile equipment. H. H. Davids and T. J. Foster. il diags Electronics 24:102-5 Jl '51

Disguised antenna design for police car radio. diag Electronics 23:188+ N '50

DX-ing, mobile; D. and E. Hauck's mobile ham shack. il Radio & Tv N 45:57 Je '51

Easily-adjusted low-frequency mobile antenna. J. P. Saunders. il diags Q S T 35:37-9 Ag '51

Improved communication equipment for mobile use. D. E. Noble. il Tele-Tech 10:36-9+ F '51

Loop-type antennas for 75-meter mobile. H. L. Mitchell. il diag Q S T 35:18+ F '51

Mobile radio communications in California. M. J. Shelton; N. J. Kendall. Am Water Works Assn J 43:367-72 My '51

New airport radio. il Aviation W 54:40+ My 21 '51

Operational study of a highway mobile telephone system. L. A. Dorff. il maps Elec Eng 70:236-41 Mr '51

Plugging power leaks in the mobile rig. W. B. Ford. il Radio & Tv N 45:65+ Je '51

Six-system urban mobile telephone installation with 60-kilocycle spacing. R. C. Shaw and others. il diags Inst Radio Eng Proc 38:1320-3 N '50

Ten-meter mobile tips. G. Bonadio. diag Q S T 35:62-3 O '51

Test of 450-megacycle urban area transmission to a mobile receiver. A. J. Aikens and L. Y. Lacy. maps Inst Radio Eng Proc 38:1317-19 N '50

Using the Motorola T-69-20A on ten and six. L. W. May, jr. il diags Q S T 35:40-1 Ag '51

Bibliography

Radio progress during 1950: mobile radio. Inst Radio Eng Proc 39:381 Ap '51

RADIO telephone on motor trucks

Radio communications in water works. J. G. Copley. Pub Works 81:65-6 D '50

Radio use open to ready mix operators. Concrete 59:24-6 Je '51

Tide Water Associated inaugurates radio truck control. R. Beattie. il Oil & Gas J 49:236+ Mr 29 '51

Two way radio in Water department operation; San Angelo. J. E. Williams. il Pub Works 82:50 S '51

RADIO telephone on motor trucks—*Continued*

Two-way radio problems important to fleet operation. W. C. Baylis. Edison Elec Inst Bul 19:267-8+ Ag '51

RADIO telephone on railroads

Experimental radio-telephone service for train passengers. N. Monk. il map diags Inst Radio Eng Proc 39:873-81 Ag '51

Railroad radio takes a new step. C. London. il Westinghouse Eng 11:47-9 Mr '51

See also

Railroads—Radio communication

RADIO telephone on ships

Carroll tugs equipped with Raytheon's two-way radiophone. il Marine Eng 55:54 N '50

RADIO telescope. See Astronomical instruments

RADIO towers

How to select antenna towers and masts. W. Schwartz. map diags Electronics 23:78-83 D '50

No program break as radio tower is lifted. Eng N 146:42 My 24 '51

Radio masts and towers; abstracts. C. O. Boyse. Engineering 172:168 Ag 10 '51; Engineer 191:837 Je 22 '51; Discussion. Engineering 172:168-9 Ag 10 '51

Tower carrier alarm. K. Neuwirth. diag Electronics 23:182+ N '50

Wright vs. Vogt; Supreme court of New Jersey okays 60-foot amateur tower despite restrictions in zoning ordinance. Q S T 35:39 Je '51

RADIO transformers

Design of broad-band transformers for linear electronic circuits. H. W. Lord. bibliog diags Elec Eng 69:1020-5 N '50; Discussion. R. Guertler. 70:944 O '51

Measure coupling coefficient in tuned r-f transformers. S. G. Feldman and M. Goldstein. diags Electronics 23:232+ D '50

Vacuum-tube transformer. R. H. Dorf. diags Radio & Tv N 45:112 F '51

RADIO transmission

Comparison of ionospheric radio transmission forecasts with practical results. A. F. Wilkins and C. M. Minnis. Inst E E Proc 98 pt 3:209-20 My '51

Ionospheric propagation of low- and very-low-frequency radio waves over distances less than 1 000 km. R. N. Bracewell and others. diags Inst E E Proc 98 pt 3:221-36 bibliog(54 ref, p235-6) My '51

Ionospheric storms and radio circuit disturbances. C. M. Minnis. bibliog Wireless Eng 28:43-51 F '51

Low-frequency radio-wave propagation by the ionosphere, with particular reference to long-distance navigation. C. Williams. bibliog diags Inst E E Proc 98 pt 3:81-99; Discussion. 99-103 Mr '51

Moon echoes and transmission through the ionosphere. F. J. Kerr and C. A. Shain. bibliog il diags Inst Radio Eng Proc 39:230-42 Mr '51

Radio relay design data 60 to 600 mc. R. Guenther. bibliog diag Inst Radio Eng Proc 39:1027-34 S '51

Shortwave radio propagation correlation with planetary positions. J. H. Nelson. RCA R 12:26-34 Mr '51

Test of 450-megacycle urban area transmission to a mobile receiver. A. J. Aikens and L. Y. Lacy. maps Inst Radio Eng Proc 38:1317-19 N '50

Time-delay measurements on radio transmissions. R. Naismith and E. N. Bramley. map Wireless Eng 28:271-7 S '51

Transmission between elliptically polarized antennas. V. H. Rumsey. diags Inst Radio Eng Proc 39:535-40 My '51

Vertical incidence ionosphere absorption at 150 kc. A. H. Benner. bibliog Inst Radio Eng Proc 39:186-90 F '51

Waveform systems and time equalizers; their transmission characteristics. D. C. Espley. diags Wireless Eng 28:251-8 Ag '51

See also

Newspapers—Radio transmission
Radio antennas
Radio broadcasting
Radio communication
Radio lines
Radio pulse time modulation
Radio relay stations
Radio telephone
Radio transmitters
Radio waves
Television transmission

Bibliography

Radio progress during 1950; wave propagation. Inst Radio Eng Proc 39:391-6 Ap '51

Fading

Aurora and magnetic storms; their effect on radio communication. R. K. Moore. il map Q S T 35:14-19+ Je '51

Experimental evaluation of diversity receiving systems. J. L. Glaser and S. H. Van Wambeck. diag Inst Radio Eng Proc 39:252-5 Mr '51

Performance of diversity receiving systems. S. H. Van Wambeck and A. H. Ross. Inst Radio Eng Proc 39:256-64 Mr '51

RADIO transmitters

Economical 5-kw a-m transmitter. N. D. Webster. il diags Electronics 24:115-17 My '51

Carrier current transmitter. J. Gort. il diags Radio & Tv N 45:39-41+ Ap '51

Methods of measuring adjacent-band radiation from radio transmitters. N. Lund. diags Inst Radio Eng Proc 39:653-6 Je '51

New transmitter at Daventry. il Electrician 146:1193+ Ap 13 '51; Elec R (Lond) 148:755 Ap 13 '51

Reducing transmitter out time at WCAE. J. H. Greenwood. diag Electronics 24:158+ Jl '51

Suppression of harmonics in radio transmitters. G. T. Royden. bibliog(35 titles) il diags Elec Com 28:112-20 Je '51

Third programme transmitter at Daventry. il Engineer 191:476-7 Ap 13 '51; Engineering 171:506-7 Ap 27 '51

Transmission-line balance indicator for transmitters. G. T. Royden. il diag Elec Com 28:110-11 Je '51

Transmitter diversity applied to machine telegraph radio circuits. G. E. Hansell. il diags RCA R 11:508-16 D '50

Bibliography

Radio progress during 1950; radio transmitters. Inst Radio Eng Proc 39:386-8 Ap '51

Control

Novel unit for voice controlled operation will turn on your transmitter. E. A. Anderson. il diag Radio & Tv N 45:57+ My '51

Remote control system for fm broadcast stations. P. Whitney. diags Tele-Tech 10:32-5+ Ag; 44-5+ S '51

Frequency modulation transmitters

Audio-input limiter for mobile f-m. L. C. Fuller, jr. diags Electronics 23:184+ N '50

Simple crystal discriminator for fm oscillator stabilization. J. Ruston. diags Inst Radio Eng Proc 39:783-8 Jl '51

Power supply

Diesels behind Korea; Funabashi transmitting station in Japan. D. LaCoste. il Power Eng 55:84 Je '51

Plugging power leaks in the mobile rig. W. B. Ford. il Radio & Tv N 45:65+ Je '51

Short wave

Bandswitching multiplier-exciter. C. A. Dene. il diag Q S T 35:64-6+ O '51

Building an 813 transmitter; modern style; simplified tvi treatment. R. M. Smith. il diags Q S T 35:11-17 Jl '51

By-passing for harmonic reduction. G. Grammer. il Q S T 35:14-17 Ap '51

Chasing the Tennessee Valley Indians out of the BC-610 transmitter. L. C. Harlow. il diag Q S T 35:65-7+ My '51

Coaxial-tank amplifier for 220 and 420 mc. R. D. Brayley. il diags Q S T 35:39-43 My '51

Compact 40 watt rig for car or field. R. F. Lewis. il diag Radio & Tv N 46:56-7+ Jl '51

Compact 100-watt am-nbfm transmitter. H. H. Patterson and A. D. Middelton. il diags Radio & Tv N 44:59-62+ D '50

Constant modulation of the 813. G. R. Lippert. il diags Q S T 34:48-9 N '50

Converting RCA M1-7800 police transmitters for 28-mc mobile use. W. Chase. il diags Q S T 35:17-21+ S '51

RADIO transmitters—Short wave—*Continued*

Design for communication; a speech amplifier and class B driver built for cutting through QRM. A. M. Pichitino and F. J. Pichitino. il diag Q S T 34:21-4 D '50

Don't pamper your harmonics! P. S. Rand. il diags Q S T 35:24-5 F '51

Easy-to-build ten meter rig. S. Johnson. il diag Radio & Tv N 45:56-7 Ja '51

Eliminating tvi caused by the BC-610. R. H. Mitchell. Radio & Tv N 45:132-4 Ap '51

How to lay out a transmitter. B. Goodman. il diags Q S T 35:38-40+ Jl '51

Keying the BC-696. H. M. Carter. il diags Q S T 35:41-3 Jl '51

Low-drain two-meter mobile transmitter. E. P. Tilton. il diags Q S T 35:60-1 Je '51

Low-pass filter for high power. R. C. Fosberg. il diags Q S T 35:28-9+ O '51

Miniature transmitter for 220mc. C. C. Rodimon and J. Farago, jr. il diag Q S T 35:42-3 Ap '51

Novice one-tuber. D. Mix. il diags Q S T 35:18-21+ My; 32-5 Je '51

100 watts on the table; single-dial control transmitter. D. V. R. Drenner. il diag Radio & Tv N 45:43-5+ Je '51

160 meter rig using clamp tube modulator. S. Johnson. il diags Radio & Tv N 46:41-3 Ag '51

Practical double-sideband reduced carrier transmitter design. G. Grammer. il diags Q S T 35:20-5 Je '51

Premodulation clipping and filtering; their effects on the intelligibility of speech. S. E. Stuntz. bibliog Q S T 34:22-4 N '50

Pulsed r-f tetrode amplifier for 1,000 mc band. D. H. Preist. il diags Tele-Tech 10:48-9+ My '51

Screen-grid modulation of the modern-style 813 transmitter. R. M. Smith. il diags Q S T 35:38-40+ O '51

Seven bands at low cost. C. V. Chambers. il diags Q S T 35:15-19+ Ag '51

75-watt transmitter for three bands. D. H. Mix. il diag Q S T 35:18-21+ O '51

Single-control low-power transmitter. R. M. Smith. il diags Q S T 35:11-16 Ja '51

Small rig with plenty of power. L. A. Wortman. il diags Radio & Tv N 45:58-9+ My '51

Sugar-coated linear-amplifier theory. R. E. Long. diags Q S T 35:22-7+ O '51

Tvi-proofing the ARC-5 v.h.f. transmitter. O. W. H. Johnson. il Q S T 34:50-1 N '50

Tvi-proofing the ten-meter transmitter. P. S. Rand. il diags Q S T 35:31-5 Ap '51

Ten-meter mobile with remotely-tuned vfo. E. C. Harrington. il diags Q S T 35:28-32 Ag '51

Transceiver for the novice ham. C. E. Jackson. il diags Radio & Tv N 45:58-9+ Ap '51

Triple your phone power for five dollars. F. F. Everett. diag Radio & Tv N 46:56+ S '51

Tuned-line amplifier for 144 and 220 mc. R. W. Burhans. il diag Q S T 35:32-3 O '51

Two-band operation with folded dipole and ribbon. W. S. Rogers. il diags Radio & Tv N 45:98+ Ja '51

Two meter transmitter-receiver for civil defense operation. M. Kirchhoff and D. D. Bulkley. il diag Radio & Tv N 46:45-7 Ag '51

Two-stage linear r.f. amplifier. B. Goodman. il diags Q S T 35:13-16 Mr '51

Unitized band-switching transmitter. C. V. Hays. il diags Radio & Tv N 45:56-9+ Mr '51

Unusual phone transmitter. B. Perthel. il diags Radio & Tv N 46:54-5+ Ag '51

V.h.f. transmitting station at Wrotham. il Engineer 191:221-2 F 16 '51

Testing

Adjustable dummy antennas. G. Grammer. il diag Q S T 35:32-3 Mr '51

RADIO transmitters, Portable

Mobile low-power ten meter rig. H. G. Stratman. il diag Radio & Tv N 45:49-51 My '51

RADIO waves

Bandwidth of a sinusoidal carrier wave, frequency-modulated by a rectangular wave with half-sine-wave build-up. W. A. Cawthra and W. E. Thomson. Inst E E Proc 98 pt 3:69-74 Ja '51

Diversity effects in spaced-aerial reception of ionospheric waves. E. N. Bramley. bibliog Inst E E Proc 98 pt 3:19-25 Ja '51

Effect of the Lorentz polarization term on the vertical incidence absorption in a deviating ionosphere layer. J. M. Kelso. bibliog Inst Radio Eng Proc 39:412-19 Ap '51

Effective earth's radius for radiowave propagation beyond the horizon. W. Miller. bibliog diags J Ap Phys 22:55-62 Ja '51

Electron beams and electromagnetic waves. R. Warnecke and others. bibliog diag Wireless Eng 28:167-76 Je '51

Elliptically polarized waves. L. Hatkin. Inst Radio Eng Proc 38:1455 D '50

Ionospheric propagation of low- and very-low-frequency radio waves over distances less than 1 000 km. R. N. Bracewell and others. diags Inst E E Proc 98 pt 3:221-36 bibliog(54 ref, p235-6) My '51

Low-frequency radio-wave propagation by the ionosphere, with particular reference to long-distance navigation. C. Williams. bibliog diags Inst E E Proc 98 pt 3:81-99; Discussion. 99-103 Mr '51

Magneto-ionic triple splitting of ionospheric waves. O. E. H. Rydbeck. bibliog il diags J Ap Phys 21:1205-14 D '50

Methods of radio astronomy used to study total eclipse. il Elec Eng 70:463 My '51

Millimeter waves; need for tubes and circuits that will operate in the wavelength region between microwaves and the infrared. J. R. Pierce. diags Electronics 24:66-9 Ja '51

Motion in the solar atmosphere as deduced from radio measurements. G. Reber. bibliog Science 113:312-14 Mr 23 '51

Optics of radio waves. O. Halpern. Phys R 82:971-2 Je 15 '51

Photo radiation patterns. G. W. Goebel. il diags Electronics 24:89 My '51

Photographic method for displaying sound wave and microwave space patterns. W. E. Kock and F. K. Harvey. il diag Bell System Tech J 30:564-87 Jl '51

Radio wave generation by multistream charge interaction. J. Feinstein and H. K. Sen. bibliog diags Phys R 83:405-12 Jl 15 '51

Radio wave prospecting for structure. R. Mann and E. Schmidt. il World Oil 131:92 N '50

Receiver for measuring angle-of-arrival in a complex wave. F. E. Brooks, jr. bibliog il diags Inst Radio Eng Proc 39:407-11 Ap '51

Reflection and refraction of microwaves at a set of parallel metallic plates. F. Berz. bibliog diags Inst E E Proc 98 pt 3:47-55 Ja '51

Single-conductor surface-wave transmission lines. G. Goubau. bibliog diags Inst Radio Eng Proc 39:619-24 Je '51

Standards on wave propagation; definitions of terms, 1950. Inst Radio Eng Proc 38:1264-8 N '50 (reprints 60c)

Vertical incidence ionosphere absorption at 150 kc. A. H. Benner. bibliog Inst Radio Eng Proc 39:186-90 F '51

See also

Radio echoes

Raydist

Wave guides

Bibliography

Radio progress during 1950; wave propagation. Inst Radio Eng Proc 39:391-6 Ap '51

Polarization

Elliptically polarized waves. L. Hatkin. Inst Radio Eng Proc 38:1455 D '50

Polarization errors of radio direction finders, a proposed classification. P. G. Hansel. Inst Radio Eng Proc 39:970 Ag '51

Synthesis and analysis of elliptic polarization loci in terms of space-quadrature sinusoidal components. M. G. Morgan and W. R. Evans, jr. diags Inst Radio Eng Proc 39:552-6 My '51

Techniques for handling elliptically polarized waves with special reference to antennas. V. H. Rumsey and others. bibliog il diags Inst Radio Eng Proc 39:533-52 My '51

RADIO waves—Polarization—*Continued*

Wide-band aerial system for circularly polarized waves, suitable for ionospheric research. G. J. Phillips. diags Inst E E Proc 98 pt 3:237-9 My '51

Scattering

Attenuation of radio signals caused by scattering. A. H. LaGrone and others. diag J Ap Phys 22:672-4 My '51; Discussion. 22:1386; Reply. 1386-7 N '51

Over the hills and far away; v.h.f. propagation by tropospheric scattering. R. K. Moore. diags Q S T 35:13-15 F '51

Study of tropospheric scattering of radio waves. A. W. Straiton and others. diags Inst Radio Eng Proc 39:643-8 Je '51

RADIO workers

Hamming by the touch system; R. W. Gunderson teaches radio techniques and operating to the blind. il Q S T 35:10-12 Mr '51

Radio broadcasting industry; earnings in Oct. 1949. L. E. Lewis. Mo Labor R 71:582-3 N '50

Work-factor analysis saves money, time, complaints at Sylvania radio and television division, Buffalo. P. J. Brady. il Factory Management 109:110-12 Je '51

RADIOACTIVE indicators

Radiometric titration with radioactive silver as end-point indicator. A. Langer. bibliog diags Anal Chem 22:1288-90 O '50

RADIOACTIVE substances

Fission product uses. Mech Eng 73:501-2 Je '51

Natural radioactivity of In^{115}. E. A. Martell and W. F. Libby. bibliog Phys R 80:977-82 D 15 '50

New experiments on the cathodic deposition of radio-elements. M. Haissinsky and A. Coche. Chem Soc J supp no 2:S397-400 '49

Radioactive sources assist in studies of industrial applications of radiation. Materials & Methods 34:11+ S '51

Radioactivity of the Bourlamaque, Elzevir, and Cheddar batholiths, Canada. W. N. Ingham and N. B. Keevil. bibliog maps diag Geol Soc Bul 62:131-48 F '51

Relative photo-fission cross sections of several fissionable materials. J. McElhinney and W. E. Ogle. diags Phys R 81:342-4 F 1 '51

Survey equipment using low-voltage halogen-quenched Geiger-Müller counters; for use by prospector in location and assay of radioactive ores. E. Franklin and W. R. Loosemore. bibliog diags Inst E E Proc 98 pt 2:237-44; Discussion. 252-5 Ap '51

See also

Actinium
Curium
Polonium
Radium
Thorium
Uraninite
Uranium

Analysis

Spectrochemical analysis of radioactive solutions. C. Feldman and others. bibliog il Anal Chem 22:1400-3 N '50

See also

Uranium—Analysis

By-products

Bargain-counter radiation. diag Chem Ind W 68:15-16 Mr 24 '51

RADIOACTIVE tracers

Apparatus for determining bone density by means of radioactive strontium (Sr^{90}). F. G. Evans and others. diag Science 114:182-5 Ag 17 '51

Application of radioactive indicators in biochemistry. G. C. Hevesy. bibliog(58 refs) Chem Soc J p 1618-39 Je '51

Application of radioactive tracer techniques to the study of the movement of oil in sands. S. E. Coomber and E. N. Tiratsoo. 3pls diags Inst Pet J 36:543-58; Discussion. 558-60 S '50

Application of radioactive tracers to measurements of fibre flow and distribution. C. A. Sankey and others. diags Pulp & Pa of Can (Convention no) 52:136-46 [F] '51

Appraisal of detergency through radioactive isotopes. C. P. McCord and R. L. Robertson. il Ind Med 19:554-7 D '50

Association of polystyrene in toluene indicated; radioactive tracer techniques. Chem & Eng N 29:1623 Ap 23 '51

Atomic byproducts for sale; just call AEC. il Bsns W p50-2+ Ap 21 '51

Atomic by-products for the foundry. T. A. Dickinson. bibliog il Foundry 79:188+ O '51

Atoms help cure failing oil wells. Bsns W p69 S 29 '51

Atoms trace pipeline flow. W. Rutledge, 3d. il Mill & Factory 47:86 N '50

C^{14} tracer studies in the rearrangement of unsymmetrical α-diketones; the alkaline rearrangement of benzylideneacetophenone oxide. C. J. Collins and O. K. Neville. Am Chem Soc J 73:2471-3 Je '51

C^{14} tracer studies in the synthesis of malonic acid-2-C^{14} and diethyl malonate-2-C^{14}. G. A. Ropp. bibliog Am Chem Soc J 72:4459-61 O '50

Chemical oxidation of organic acids; some observations on the oxidation of propionate by alkaline permanganate. H. R. Mahler and A. Roberts. bibliog Am Chem Soc J 72:5095-8 N '50

Chemical preparation of asymmetrically labeled citric acid. P. E. Wilcox, C. Heidelberger and V. R. Potter. bibliog Am Chem Soc J 72:5019-24 N '50

Detection of soil removal in metal cleaning by the radioactive tracer technique. J. C. Harris and others. bibliog Electrochem Soc J 97:430-2 D '50

Determination of dissociation constants of complex ions by a radioactive indicator method. C. M. Cook, jr. and F. A. Long. Am Chem Soc J 73:4119-21 S '51

Determination of penicillin G using C^{13} isotope as a tracer. J. T. Craig, J. B. Tindall and M. Senkus. Anal Chem 23:332-3 F '51

Determination of serum iodine; evaluation by radioactive tracer technique of the alkaline fusion method. J. W. Decker and H. S. Hayden. bibliog Anal Chem 23:798-800 My '51

Development of metal cleaners using radioisotopic evaluation methods. J. C. Harris and R. E. Kamp. il Metal Finishing 48:75-8 N '50

Diffusion of ions in some simple glasses. J. R. Johnson and others. bibliog il diags Am Cer Soc J 34:165-72 Je 1 '51

Direct tissue radioautography technique applied to teeth. N. D. Martin and E. S. Slater. il Science 113:721-2 Je 22 '51

Effect of sensitization and X-radiation on the metabolism of I^{131} labeled proteins. F. J. Dixon and others. bibliog Science 113:274-6 Mr 9 '51

Emanation method. O. Hahn. diags Chem Soc J supp no 2:S259-74 '49

Establishing an industrial radioisotope program. J. R. Carlin and W. C. Nusbaum. bibliog il Chem Ind 67:886-9 D '50

Exchange studies with complex ions; the exchange of radiocyanide with certain heavy metal complex cyanides. A. W. Adamson, J. P. Welker and M. Volpe. bibliog Am Chem Soc J 72:4030-6 S '50

Incorporation of isotopic formate into the nucleotides of ribo- and desoxyribonucleic acids. J. R. Totter, E. Volkin and C. E. Carter. bibliog Am Chem Soc J 73:1521-2 Ap '51

Incorporation of isotopic phosphate in the mononucleotides of liver nucleic acids. E. Volkin and C. E. Carter. Am Chem Soc J 73:1519-20 Ap '51

Kinetics of the exchange reaction between the two oxidation states of cerium in acid solution. J. W. Gryder and R. W. Dodson. bibliog Am Chem Soc J 73:2890-5 Je '51

Labelled insecticides in pest research. Chem Age (Lond) 64:345-6+ Mr 3 '51

Leak location by radioactive gases in buried pipes. A. Gemant and others. bibliog diags J Ap Phys 22:460-4 Ap '51

Longitudinal mixing measured by radioactive tracers. H. A. Thomas, jr. and R. S. Archibald. Am Soc C E Proc 77[no 84]:1-12 Ag '51

Mathematical basis of the interpretation of tracer experiments in closed steady-state systems. C. W. Sheppard and A. S. Householder. bibliog diags J Ap Phys 22:510-20 Ap '51

Measuring the tungsten consumption in inert gas arc welding. G. Urbain. il diags Welding J 30:sup260-4 My '51

RADIOACTIVE tracers—*Continued*

- Mechanism of the chemical formation of lactic acid from glucose studied with C^{14} labeled glucose. M. Gibbs. bibliog Am Chem Soc J 72:3964-5 S '50
- Mechanism studies of the Fischer-Tropsch synthesis; the addition of radioactive alcohol. J. T. Kummer and others. Am Chem Soc J 73:564-9 F '51
- Micro syntheses with tracer elements; the synthesis of hexestrol labeled with tritium. D. L. Williams and A. R. Ronzio. diag Am Chem Soc J 72:5787-9 D '50
- Modification in aluminum-silicon alloys; abstract. B. M. Thall and B. Chalmers. Metal Prog 58:902+ D '50
- Observation of initial flow in a fluid obeying Darcy's law by radioactive-tracer techniques. F. T. Rogers, jr. and L. E. Schilberg. bibliog J Ap Phys 22:233-4 F '51
- Organic phosphorus insecticides; synthesis of bisdimethylaminophosphonous anhydride containing ^{32}P. J. E. Gardiner and B. A. Kilby. diags Chem Soc J p 1769-72 Jl '50
- Precautions taken in handling radio-active iodine at Quebec north shore paper company plant during tracer experiment. G. H. Guest and P. M. Bird. Pulp & Pa of Can (Convention no) 52:147-8 [F] '51
- Preparation of 6,7-d_2-estrone acetate. W. H. Pearlman and M. R. J. Pearlman. Am Chem Soc J 72:5781 D '50
- Preparation of radioactive progesterone and desoxycorticosterone labeled in ring A. R. D. H. Heard and P. Ziegler. Am Chem Soc J 72:4328 S '50
- Radiation counters aid brain tumor diagnosis. R. G. Davis. il diags Electronics 23: 72-5 N '50
- Radioactive acidizing; new process using isotopes of iodine to control oil-well acid treatments. K. B. Barnes. Oil & Gas J 50: 55-6 S 6 '51
- Radioactive indicators for blast-furnace refractory wear. E. W. Voice. Iron & Steel Inst J 167:157-61 F '51
- Radioactive isotopes find use in oil well acidizing. diag Chem & Eng N 29:3858+ S 17 '51
- Radioactive isotopes used in trial run of newsprint at Baie Comeau. Paper Ind 32: 1066 Ja '51
- Radioactive tracer studies on the fate of insecticides; abstract and discussion. F. P. W. Winteringham. Chem & Ind p405-6 My 26 '51
- Radioactive tracers aid blast furnace research. E. W. Voice. il diags Steel 129:102+ S 10 '51
- Radioactive tracers can solve many power system problems. H. S. Walker and A. Gemant. bibliog il diags Elec World 134: 92-4 D 18 '50
- Radioactive tracers detect soil on cleaned surfaces. R. E. Kamp and others. il diags Steel 128:102-3 Ja 15 '51
- Radioactive tracers in analysis. Chem Age (Lond) 64:876+ Je 9 '51
- Radioactive tracers in antisera. F. D. S. Butement. Chem Soc J supp no 2:S408-10 '49
- Radioactive tracers in products handling. R. P. Howell and R. K. Bond. il World Oil 131: 208-10 N '50
- Radioactive tracers in solid solution investigations. W. T. Foley and P. A. Giguere. bibliog Science 113:754-5 Je 29 '51
- Radioactive tracers reveal friction and wear of metals. J. T. Burwell and C. O. Strang. il diag Metal Prog 60:69-74 S '51
- Radio-autographic determination of lead in stainless. L. R. Standifer and M. G. Fontana. il diag Metal Prog 60:65-9 Jl '51
- Radioisotopes aid studies of high-temperature materials. W. E. Jones. il diags Steel 128: 78 Mr 26 '51
- Radioisotopes in the petroleum industry. P. H. Emmett. bibliog diags Oil & Gas J 50: 82+ S 27 '51
- Radiotracer studies on the interaction of dithiophosphate with galena; the depressant action of phosphate. G. L. Simard and others. Min Eng 190:Trans 39-44 Ja '51
- Radiotracer study of cationic surface-active agents by measurement of gegenion adsorption. C. M. Judson and others. bibliog J Chem Phys 19:378-9 Mr '51
- Recovery of inorganic ash from petroleum oils; radiochemical evaluation. L. O. Morgan and S. E. Turner. Anal Chem 23:978-9 Jl '51
- Review of tracer techniques in metallurgy. G. H. Guest. il Metal Prog 59:366-70 Mr '51
- Sales of radiopharmaceuticals double in last six months. il Chem & Eng N 29:3462-4 Ag 20 '51
- Self-diffusion in some solids. R. Lindner. diags Chem Soc J supp no 2:S395-6 '49
- Self-diffusion of silver and mercury in Ag_2HgI_4. K. E. Zimen, G. Johansson and M. Hillert. Chem Soc J supp no 2:S392-4 '49
- Separation of the stable isotope of sulfur 34. E. D. North and R. R. White. flow sheet Ind & Eng Chem 43:2390-7 O '51
- Simple and rapid biosynthesis of isotopically labeled succinic acid. S. J. Ajl and M. D. Kamen. Am Chem Soc J 73:2349-50 My '51
- Study of the carbon dioxide-carbon reaction using C^{14} as a tracer. F. Bonner and J. Turkevich. bibliog diag Am Chem Soc J 73:561-4 F '51
- S^{35}-glutathione preparation from yeast and tracer studies in cancerous and non-cancerous rats. G. E. Woodward. bibliog Franklin Inst J 251:557-62 My '51
- Syntheses with isotopic tracer elements. J. D. Cox, H. S. Turner and R. J. Warne. diags Chem Soc J p3167-80 N '50
- Syntheses with isotopic tracer elements; the preparation of ethylene oxide and ethanol labelled with carbon isotopes. J. D. Cox and R. J. Warne. diags Chem Soc J p 1893-6 Jl '51
- Syntheses with isotopic tracer elements; the preparation of methylamine and diazomethane labelled with carbon isotopes. J. D. Cox and R. J. Warne. diag Chem Soc J p 1896-7 Jl '51
- Tracer experiments with radioactive dicumarol. L. B. Jaques and others. Can Chem & Process Ind 34:821-3 O '50
- Tracer study of the chemistry of protoactinium. A. G. Maddock and G. L. Miles. Chem Soc J supp no 2:S248-53 '49
- Tracer techniques succeed in thyroid diagnoses. Chem & Eng N 28:4554 D 25 '50
- Treatment of radioactive waste by ion exchange. J. A. Ayres. bibliog Ind & Eng Chem 43:1526-31 Jl '51
- Uptake of alkali metals by bacteria. T. C. N. Carroll and others. Chem Soc J p946-9 Mr '50
- Use of ion exchangers for the determination of physical-chemical properties of substances, particularly radiotracers, in solution; activity coefficients of barium nitrate in uranyl nitrate. J. Schubert. Am Chem Soc J 73:4488-9 S '51
- Use of K^{42}-tagged erythrocytes in blood volume determinations. R. S. Yalow and S. A. Berson. Science 114:14-15 Jl 6 '51
- Use of positron-emitting radioisotopes for the localization of brain tumors. F. R. Wrenn, jr. and others. bibliog diags Science 113:525-7 My 4 '51
- Use of radioactive iodine in microdetermination of protein-bound blood iodine. F. Nesh and W. C. Peacock. Anal Chem 22:1573 D '50
- Use of radioactive isotopes in the study of the diffusion of ions in solution. J. S. Anderson and K. Saddington. diag Chem Soc J supp no 2:S381-6 '49
- Variables encountered in tracer experiments in metallurgy. C. D. Starr and others. bibliog il diag Metal Prog 59:673-80 My '51

RADIOACTIVE waste. See Sewage disposal—Radioactive waste disposal; Trade waste—Radioactive waste

RADIOACTIVITY

- Artificial chains collateral to the heavy radioactive families. W. W. Meinke and others. bibliog Phys R 81:782-98 Mr 1 '51
- Autoradiography as a science project. W. S. Huber. bibliog il J Chem Educ 28:226-9 Ap '51
- Beta-decay of F^{17}. H. T. Richards. bibliog Phys R 83:694 Ag 1 '51
- Beta-decay of 7.5-day Ag^{111} to a 0.1-microsecond excited state of Cd^{111}. D. Engelkemeir Phys R 82:552-3 My 15 '51

RADIOACTIVITY—*Continued*
Branching ratio of K^{40} radioactive decay. M. G. Inghram and others. bibliog Phys R 80:916-17 D 1 '50
Characteristics of Ni^{59} and Ni^{63}. A. R. Brosi and others. bibliog Phys R 81:391-5 F 1 '51
Comparison of weak neutron fluxes by use of organic bromides. P. F. D. Shaw and C. H. Collie. Chem Soc J p434-43 F '51
γ—γ-Correlation with higher multipoles. D. L. Falkoff. bibliog Phys R 82:98-9 Ap 1 '51
Cross-over transition in the decay of Tc^{99m}. J. W. Mihelich and others. bibliog il Phys R 82:972-3 Je 15 '51
Decay of I^{131}. S. Thulin. bibliog Phys R 83:860-1 Ag 15 '51
Decay of Np^{236}. D. A. Orth and G. D. O'Kelley. bibliog Phys R 82:758-9 Je 1 '51
Decay scheme of Cl^{39}. R. N. H. Haslam and others. bibliog diag Phys R 80:318-20 N 1 '50
Direct production of carrierless organic radio-halides. E. Glueckauf, R. B. Jacobi and G. P. Kitt. diag Chem Soc J supp no 2: S330-5 '49
Dual decay of Re^{186}. R. M. Steffen. bibliog Phys R 82:827-31 Je 15 '51
Effect of nuclear radiation on metal. D. S. Billington and S. Siegel. diag Metal Prog 58:847-52 D '50
Energy levels of light nuclei. W. F. Hornyak and others. diags Rs Mod Phys 22:291-372 bibliog(p364-72) O '50
Evidence of nuclear transmutation in the course of explosion of shaped charges with lined cavity. Z. Fonberg. il diag J Chem Phys 19:383 Mr '51
Excitation function of the reaction $C^{12}(\gamma p)B^{11}$. A. K. Mann and J. Halpern. diag Phys R 80:470-1 N 1 '50
4.4-minute radiations from Zr^{89}. F. J. Shore and others. bibliog Phys R 83:688-9 Ag 1 '51
Fundamentals of atomic radiation; abstract. G. J. Neary. Chem Age (Lond) 63:817 D 9 '50
Gammatron surveys. B. Lang. World Oil 131: 86+ N '50
Heat production in potassium. D. E. Alburger. bibliog Phys R 81:888 Mr 1 '51
Interpretation of the decay scheme of K^{40}. P. Morrison. bibliog Phys R 82:209-11 Ap 15 '51
Introduction to radiation chemistry. M. Burton. bibliog(69 ref) il diags J Chem Educ 28:404-20 Ag '51
Isomeric level of Cd^{111v}. C. L. McGinnis. bibliog Phys R 83:686-7 Ag 1 '51
Kinetics of the isotopic exchange reaction between carbon monoxide and carbon dioxide. T. H. Norris and S. Ruben. bibliog J Chem Phys 18:1595-600 D '50
L X-ray spectra from radioactive decay of transuranium elements. G. W. Barton, jr. and others. bibliog diags Phys R 81:208-13 Ja 15 '51
Low intensity radiations in I^{131} decay. H. Zeldes and others. bibliog Phys R 81:642 F 15 '51
Mass assignment of natural activity of samarium. B. Weaver. Phys R 80:301 O 15 '50
Mass assignments of alpha-active isotopes in the rare-earth region. J. O. Rasmussen and others. Phys R 80:475-6 N 1 '50
Mechanism of exchange between radioactive ions in solution and metal surfaces. M. T. Simnad and R. C. Ruder. bibliog il diag Electrochem Soc J 98:301-6 Ag '51
Natural radioactivity of water. S. K. Love. bibliog Ind & Eng Chem 43:1541-4 Jl '51
Neutron deficient radioactive isotopes of tantalum and wolfram. G. Wilkinson. bibliog Phys R 80:495-9 N 15 '50
Noncentral electric interaction in alpha-radioactivity. M. A. Preston. bibliog Phys R 82:515-20 My 15 '51
Nucleonics; review of 1950. C. L. Gordon. Anal Chem 23:81-6 bibliog(122 ref, p85-6) Ja '51
Nuclide P^{33} and the P^{32} spectrum. R. K. Sheline and others. bibliog Phys R 83:919-23 S 1 '51
Photo-activation of bismuth. N. Sugarman and R. Peters. Phys R 81:951-2 Mr 15 '51
Precise determination of the half-life and average energy of tritium decay. G. H. Jenks and others. bibliog diags Phys R 80: 990-5 D 15 '50
Precision determination of some half-lives. J. W. Cobble and R. W. Atteberry. Phys R 80:917 D 1 '50
Preparation of radioactive materials in a high degree of purity; abstract and discussion. W. J. Arrol. Chem & Ind p90-1 F 3 '51
Products of the high energy helium ion and deuteron bombardment of tungsten. S. E. Turner and L. O. Morgan. Phys R 81:881-2 Mr 1 '51
Radiation monitoring; symposium on nucleonic instrumentation. Electrician 145: 1240-2 D 1 '50
Radiations from Br^{77} and Ni^{57}. R. Canada and A. C. G. Mitchell. diags Phys R 83:955-9 S 1 '51
Radiations from F^{18}, Mo^{93}, Cl^{34}. L. Ruby and J. R. Richardson. bibliog Phys R 83:698-700 Ag 15 '51
Radiations from hafnium. S. B. Burson and others. bibliog diags Phys R 83:62-8 Jl 1 '51
Radiations from Mo^{99} and Tc^{99m}. M. E. Bunker and R. Canada. bibliog Phys R 80:961-5 D 15 '50
Radiations from Yb^{169}. D. S. Martin, jr. and others. bibliog diags Phys R 82:579-88 Je 1 '51
Radiations of Ag^{110}. M. Goodrich. Phys R 82: 759-60 Je 1 '51
Radioactive decay of Ca^{41}. V. L. Sailor and J. J. Floyd. bibliog Phys R 82:960 Je 15 '51
Radioactive decay of Cs^{137}. M. A. Waggoner. Phys R 82:906-9 Je 15 '51
Radioactive decay of I^{131}. J. M. Cork and others. bibliog il Phys R 81:482-3 F 1 '51
Radioactive decay of the neutron. J. M. Robson. bibliog plan diag Phys R 83:349-58 Jl 15 '51
Radioactive Hg^{203} and Hg^{205}. W. S. Lyon. bibliog Phys R 82:276 Ap 15 '51
Radioactive halogens and the mechanism of replacement reactions. E. D. Hughes. Chem Soc J supp no 2:S440-5 '49
Radioactive isotopes of Ag and Cd. J. R. Gum and M. L. Pool. bibliog Phys R 80: 315-17 N 1 '50
Radioactive nuclei emitted in cosmic-ray stars. E. Pickup and L. Voyvodic. diag Phys R 80:1100-1 D 15 '50
Radioactivities of Ru^{105}, Rh^{105}, Br^{84}, and Br^{83}. R. B. Duffield and L. M. Langer. diag Phys R 81:203-7 Ja 15 '51
Radioactivity induced in iridium by neutron capture. J. M. Cork and others. Phys R 82: 258-9 Ap 15 '51
Radioactivity of Ag^{111}, Cd^{111}, In^{111}, and Sn^{111}. C. L. McGinnis. bibliog Phys R 81:734-40 Mr 1 '51
Radioactivity of Am^{242}. G. D. O'Kelley and others. Phys R 80:293-4 O 15 '50
Radioactivity of astatine isotopes. G. W. Barton, jr. and others. bibliog Phys R 82:13-19 Ap 1 '51
Radioactivity of barium 140. J. M. Cork and others. diag Phys R 83:856 Ag 15 '51
Radioactivity of cerium. R. D. Hill. bibliog Phys R 82:449 My 1 '51
Radioactivity of F^{17}. V. Perez-Mendez and P. Lindenfeld. Phys R 80:1097-8 D 15 '50
Radioactivity of Ga^{66}. L. M. Langer and R. D. Moffat. bibliog Phys R 80:651-4 N 15 '50
Radioactivity of Hf^{181} and Hf^{175}. A. Hedgran and S. Thulin. Phys R 81:1072 Mr 15 '51
Radioactivity of nickel. H. W. Wilson. bibliog Phys R 82:548 My 15 '51
Radioactivity of potassium. M. Ceccarelli and others. bibliog diags Phys R 80:909-10 D 1 '50
Radioactivity studies; origin of petroleum; abstract. I. A. Breger. Oil & Gas J 50:56 Je 14 '51
Radioactivity well logging anomalies. J. L. P. Campbell. diags Pet Eng 23:B7-12 Je '51
Radiochemical and spectrometer studies of several neutron-deficient zirconium isotopes and their decay products. E. K. Hyde and G. D. O'Kelley. bibliog Phys R 82:944-51 Je 15 '51
Radioisotopes. L. B. Emlet. flow sheet diags Chem Eng Prog 46:591-4 N '50

RADIOACTIVITY—*Continued*

Ratio of *L* to *K* electron capture for Os^{185}. M. M. Miller and R. G. Wilkinson. bibliog diag Phys R 83:1050-1 S 1 '51

Recent investigation of the shapes of β-ray spectra. C. Wu. bibliog diag Rs Mod Phys 22:386-98 O '50

Science laboratory on wheels; equipped to prospect for uranium and to identify and measure radioactivity. il Nat Safety N 62:52 N '50; Safety Maint & Prod 100:32 D '50

Slow neutron-induced radioactivities of nuclear explosions. C. E. Mandeville. Franklin Inst J 252:297-308 O '51

Studies on the effect of radioactive phosphorus on the biochemical oxidation of sewage; abstract. W. N. Grune and R. Eliassen. Water & Sewage Works 98:38 Ja '51

Studies with radioactive penicillin. S. Rowlands, D. Rowley and E. L. Smith. Chem Soc J supp no 2:S405-7 '49

Symposium of papers on radiation monitoring apparatus. bibliog il diags Inst E E Proc 98 pt 2:174-251 Ap '51; Abstract. Electrician 145:1240-2 D 1 '50; Discussion. Inst E E Proc 98 pt 2:204-8, 252-5 Ap '51

Thickness gaging by radiation absorption methods. C. W. Clapp and S. Bernstein. il Gen Elec R 53:39-42 N '50

24-minute radiations from Ag^{106}. W. L. Bendel and others. bibliog Phys R 83:677 Ag 1 '51

See also

Alpha rays
Atoms—Disintegration
Beta rays
Cloud chambers
Electrons
Gamma rays
Ionization, Gaseous
Neutrons
Radioactive substances
Radioactive tracers
Radiography
Radium
X rays

Insurance aspects

Exposure to radiation seen as constant peril; report by Association of casualty and surety companies. East Underw 52:28+ S 7 '51; Same abr. Nat Underw 55:39 S 6 '51

Insurance problems in atomic energy use; abstract. J. D. Dorsett. Management R 40:98-100 F '51

Joint fire-marine report issued on radiation. Nat Underw 55:4 Mr 8 '51

Measurement

Absolute standardization of radioisotopes by 4π counting. bibliog il J Res Nat Bur Stand 47:41-4 Jl '51

Automatic plate counter. J. L. Lerner and D. F. Uecker. bibliog diags R Sci Instr 22:575-8 Ag '51

Auxiliary equipment to be used with a beta-ray spectrometer for the study of radioactive gases. M. Ter-Pogossian and others. il diags R Sci Instr 22:389-92 Je '51

Calculation of the Fermi function in the theory of beta-decay. J. Y. Mei. Phys R 81:287-8 Ja 15 '51

Coincidence methods of measuring disintegration rates of radioactive sources. J. Barnothy and M. Forro. bibliog R Sci Instr 22:415-23 Je '51

Comparison of several nuclear absolute voltage determinations. W. J. Sturm and V. Johnson. bibliog diags Phys R 83:542-7 Ag 1 '51

Comparison of two methods for correcting for self-absorption of beta particles, using sulfur. G. K. Schweitzer and J. T. Garrett. bibliog J Phys & Colloid Chem 55:195-9 F '51

Counting of radioactivity in liquid samples. R. F. Goddu and L. B. Rogers. Science 114:99-100 Jl 27 '51

Determination of radioactivity by solution in a liquid scintillator. M. S. Raben and N. Bloembergen. Science 114:363-4 O 5 '51

Direct reading meter for the measurement of highly active samples of gamma-emitting radioisotopes. W. K. Sinclair and S. F. Newbery. il diags J Sci Instr 28:234-6 Ag '51

Distribution of absorbed energy around a point source of β radiation. R. Loevinger. bibliog Science 112:530-1 N 3 '50

Electron-gamma-angular correlation measurements in radioactive decay. D. T. Stevenson and M. Deutsch. bibliog diags Phys R 83:1202-7 S 15 '51

Geiger-counter mounting for continuous counting of gas-phase radioactivity. F. Bonner and A. Weinstein. diag R Sci Instr 21:934 N '50

Internal conversion coefficients; the *K*-shell. M. E. Rose and others. Phys R 83:79-87 Jl 1 '51

Measurement of low level radiocarbon. E. C. Anderson and others. bibliog il diags R Sci Instr 22:225-30 Ap '51

New method of radioactive standard calibration. H. H. Seliger. J Res Nat Bur Stand 45:496-502 D '50

New type of high speed coincidence circuit. Z. Bay. diags R Sci Instr 22:397-400 Je '51

Nuclear particle and radiation detectors; ion chambers and ion-chamber instruments. D. Taylor and J. Sharpe. bibliog (41 titles) il diags Inst E E Proc 98 pt 2:174-90; Discussion. 204-8 Ap '51

Numerical evaluation of the Fermi beta-distribution function. D. G. E. Martin. Phys R 81:280-1 Ja 15 '51

Photographic emulsions used to identify alpha isotopes; abstract. H. Yagoda. Chem & Eng N 29:1005 Mr 12 '51

Precise determination of the Li^{7} (p, α)He^{4} and Be^{9} (d, α)Li^{7} *Q*-values. W. Whaling and C. W. Li. bibliog Phys R 81:150-1 Ja 1 '51

Precision method of counting radioactive liquid samples. A. J. Freedman and D. N. Hume. Science 112:461-3 O 20 '50

Radiations of UY. A. H. Jaffey and others. bibliog Phys R 82:498-501 My 15 '51

Rapid method for the measurement of carbon 14 in formamide solution. A. Schwebel and others. Science 113:465-6 Ap 20 '51

Scintillation detector for the localization of radioactive concentrations in vivo. W. B. Ittner, 3d and M. Ter-Pogossian. diags R Sci Instr 22:638-41 Ag '51

Scintillation studies of Os^{185}. M. M. Miller and R. G. Wilkinson. bibliog Phys R 82:981 Je 15 '51

Use of double dilution for the simultaneous determination of yield and activity of radioactive compounds. R. H. Mayor and C. J. Collins. Am Chem Soc J 73:471-2 Ja '51

Use of sintered-glass disk in preparation of radioactive precipitates. J. J. Pinajian and J. M. Cross. bibliog diags Anal Chem 23:1056 Jl '51

Physiological effect

Changes in the total circulating eosinophile count in cyclotron workers. C. Moses and M. Platt. bibliog Science 113:676 Je 15 '51

Experimental confirmation of a previously reported unusual finding in the blood of cyclotron workers. M. Ingram and S. W. Barnes. il Science 113:32-4 Ja 12 '51

Liver cirrhosis with ascites, induced in dogs by chronic massive hepatic irradiation with radioactive colloidal gold. P. F. Hahn and others. bibliog Science 114:303-5 S 21 '51

Radioactivity research at Richland. il Gen Elec R 54:55 S '51

Radiological health; the inservice training course at the University of Michigan, School of public health, Feb. 5-8, 1951. Ind Med 20:145-7 Ap '51

Protection

Atomic age services; Atomlab division of New York's atomic center. Safety Maint & Prod 101:50-1 Ap '51

AEC turns to walls of concrete, foam glass for Arco, Idaho reactor. il Bsns W p 138-40 S 22 '51

Atomic plant hazards reduced by automatic control of temperature, humidity and air movement; abstracts. J. A. Cutler. Heat & Ven 48:116+ Ja '51; Dom Eng 177:166 Ap '51

Barytes aggregates make heavy concrete for shielding. E. G. Tirpak. il Civil Eng 21:453-6 Ag '51

Biological hazards of atomic energy. Chem Age (Lond) 63:600-1 O 28 '50

Cleaning radioactive contaminated surfaces. D. H. Ross. bibliog il Soap & San Chem 27:30-2 Jl '51

RADIOACTIVITY—Protection—*Continued*

Decontaminable surfaces for millicurie-level laboratories; abstract. S. E. Eaton and R. J. Bowen. Eng N 146:39 Je 21 '51

Decontamination of radioactive water. Sewage & Ind Wastes 23:81 Ja '51

Fire problems of radioactive isotopes. Safety Maint & Prod 101:34-5 Ap '51

Historical sketch of radiation protection experience and increasing scope of radiation protection problems. K. Z. Morgan. il Ind Med 20:148-56 Ap '51

Hooded machines run toxic and radioactive jobs. S. S. Gold. il diags Am Mach 95:133-5 F 19 '51

Hot Lab at Brookhaven national laboratory. il Mech Eng 73:228-9 Mr '51; Heat & Ven 48:118 F '51

Instrumentation in civil defense. R. L. Butenhoff. il diag Elec Eng 70:287-90 Ap '51

Introduction to radioisotopes; data sheet of National safety council. M. Eisenbud. Nat Safety N 63:40+ Je '51

National committee on radiation protection; organization and activities of subcommittee on waste disposal and decontamination. J. H. Jensen. Ind & Eng Chem 43:1500-1 Jl '51

Nuclear shielding, a new engineering field. H. M. Glen. il Civil Eng 21:451-3 Ag '51

Planning a small radioisotope program. G. W. Reid and O. M. Bizzell. bibliog il plan diag Ind Med 19:549-53 D '50

Precautions taken in handling radio-active iodine at Quebec north shore paper company plant during tracer experiment. G. H. Guest and P. M. Bird. Pulp & Pa of Can (Convention no) 52:147-8 [F] '51

Prior planning saves lives in atomic disaster. J. S. Marsh. Civil Eng 21:155-7 Mr '51

Problems in radioisotope therapy nursing. P. Gazay. Ind Med 20:234-5 My '51

Protection for atomic laboratory workers; Neutron counter tube. Gen Elec R 53:51-2 N '50

Radiation-absorbing glass. Nat Safety N 63:40 Ja '51

Radiation detection device protects personnel. il Product Eng 22:168 Mr '51

Radiation hazards in the Atomic energy program. M. Eisenbud. Ind Med 20:7-11 Ja '51

Radiation protection from the industrial hygiene standpoint. J. C. Soet. Ind Med 20:227-33 My '51

Radioactive materials; you can use them safely; interview with H. E. Tebrock. Factory Management 109:82-5 Mr '51

Radioisotopes aid studies of high-temperature materials. W. E. Jones. il diags Steel 128:78 Mr 26 '51

Radiological monitoring. S. S. Friedland. il diags Q S T 35:10-13+ Ap; 29-31+ Je; 21-3+ Ag '51

Recommendations of the International commission on radiological protection and of the International commission on radiological units, 1950. U S Nat Bur Stand Handbook 47:1-29; pa 15c Supt. of doc. '51

Safety in atomic energy plants. G. G. Manov and D. O. Lintz. Safety Maint & Prod 102:56-8 Ag '51

Set of parts for the remote handling of radioactive substances. A. B. Ritchie and W. T. Spragg. bibliog il J Sci Instr 28:214-16 Jl '51

Small self-contained laboratory for radioisotope studies in experimental animals. R. F. Sognnaes and J. H. Shaw. il plan A M A Archives Ind Hygiene & Occup Med 3:316-22 Mr '51

Tongs for handling radioactive substances. O. Kantorowicz. diags J Sci Instr 28:220 Jl '51

Ventilation of an atomic energy laboratory. R. E. Holmes. il plan diags Refrig Eng 59:755-9+ Ag '51

Ventilation of survival areas for civil defense. H. C. Murphy. Heating-Piping 23:85-6+ Jl '51

See also

Atomic bombs—Protective measures

Study and teaching

Experiments on radioactivity in the first course in college chemistry. C. A. Brown and E. G. Rochow. il J Chem Educ 28:521-3 O '51

RADIOCHEMICAL analysis

Procedure for radiochemical determination of astatine in biological material. W. M. Garrison and others. bibliog Anal Chem 23:204-5 Ja '51

Techniques in radiochemical assay with Geiger-Müller counters. G. B. Cook and J. F. Duncan. diags Chem Soc J supp no 2:S369-81 '49

RADIOCHEMISTRY

Cobalt gamma-ray source used for studies in radiation chemistry. J. A. Ghormley and C. J. Hochanadel. il diags R Sci Instr 22:473-5 Jl '51

Elementary processes in radiation chemistry; negative ion formation by electron capture in neutral molecules. J. L. Magee and M. Burton. Am Chem Soc J 73:523-32 F '51

Elementary reactions in the gas phase involving excited electronic states. K. J. Laidler and K. E. Shuler. diags Chem R 48:153-224 bibliog(231 ref, p219-24) Ap '51

Paper chromatography of radioactive penicillin; abstract. E. L. Smith. Chem Age (Lond) 64:876+ Je 9 '51

Radiochemistry on the micro scale; techniques in micro-analysis; summary of papers by J. K. Dawson and others. Chem Age (Lond) 64:381-2 Mr 10 '51

Spectrophotometric and radiochemical investigation of the interaction between tin(II) and -(IV) in hydrochloric acid solutions. C. I. Browne, R. P. Craig and N. Davidson. bibliog Am Chem Soc J 73:1946-51 My '51

Studies in photochemistry and radiation chemistry of toluene, mesitylene and ethylbenzene. R. R. Hentz and M. Burton. bibliog Am Chem Soc J 73:532-6 F '51

Symposium on the teaching of nuclear chemistry. R. T. Overman and others. il J Chem Educ 28:2-20 Ja '51

Theory of radiation chemistry; some effects of variation in ionization density. J. L. Magee. bibliog Am Chem Soc J 73:3270-5 Jl '51

RADIOGRAPHY

Autoradiography as a science project. W. S. Huber. bibliog il J Chem Educ 28:226-9 Ap '51

Direct tissue radioautography technique applied to teeth. N. D. Martin and E. S. Slater. il Science 113:721-2 Je 22 '51

Effect of manganese segregations on machinability; an application of microradiography. K. J. B. Wolfe and I. R. Robinson. il Metallurgia 43:3-7 Ja '51

Electronic radiography by transmission using radioactive monolayers. D. E. Beischer. il diag Science 112:535-6 N 3 '50

Faster X-ray inspection by xeroradiography. Steel 129:105 Jl 9 '51

Gamma radiography in shipbuilding and engineering. J. D. Hislop. il Engineering 171:327-30 Mr 16 '51

How to identify stones in glass. H. E. Taylor and D. K. Hill. diags Cer Ind 56:56-8 F '51

Laboratory for radiographic research and inspection. il Engineer 190:508 N 24 '50

Method for embedding undecalcified bone for histologic sectioning, and its application to radioautography. J. S. Arnold. bibliog il diag Science 114:178-80 Ag 17 '51

Microradiography applied to leaded copper-base alloys. J. G. Kura and others. bibliog il Foundry 79:90-1+ S '51

New approach to high resolution radioautography. R. M. Fink. bibliog il Science 114:143-9 Ag 10 '51

New form of *f*/O·71 lens for 35 mm cineradiography. C. G. Wynne. diag J Sci Instr 28:172-3 Je '51

Photography of atomic particles. il Chem Age (Lond) 63:676-8 N 11 '50

Radiographic inspection of steel castings. J. M. Flanagan. il diag Instruments 24:655+ Je '51

Radiographic method of dilatometry. A. H. Smith and others. il diags R Sci Instr 22:138-40 Mr '51

RADIOGRAPHY—*Continued*

Radiographic testing of filled plastics. F. B. Shaw, jr. il Mod Plastics 28:123+ N '50

Selection of industrial radiographers. V. E. Pullin. Engineer 191:116-17 Ja 26 '51

Simple method of microradiography using ordinary diagnostic X-ray equipment. W. S. Tirman and H. W. Banker. il Science 113:530-1 My 4 '51

Study of the structure of paper by means of soft X-rays. J. D. Pelgroms. bibliog diags Pulp & Pa of Can 52:124-9 S '51

X-ray printing picks up speed; Polaroid's new unit. il Bsns W p46+ Jl 7 '51

X-ray study of the transition from water-cellulose to cellulose II in ramie, jute and sisal. R. R. Mukherjee and H. J. Woods. Textile Inst J Trans 42:T309-13 Jl-Ag '51

See also

Diagnosis, Radioscopic

Metals—X ray inspection

Welding—X ray inspection

RADIOISOTOPES. See Isotopes

RADIOLARIA

Strontium content of sea water, celestite radiolaria, and strontianite snail shells. H. T. Odum. bibliog Science 114:211-13 Ag 24 '51

RADIOSCOPIC diagnosis. See Diagnosis, Radioscopic

RADIOSONDE. See Radio meteorographs

RADIOTHERAPY

Medical applications of radiations and radioactivity. I. Lampe. Ind Med 20:221-6 My '51

Veterans administration 5th semiannual radioisotope conference, Framingham, Mass. Nov. 29-Dec. 1. Science 113:71 Ja 19 '51

Apparatus

Simple laboratory setup for rapid measurement of β-ray dosages above one rep-sec. J. S. Krohmer and W. A. McCarthy. il Science 113:360-1 Mr 30 '51

RADIUM

Gamma-radiation associated with radium and daughter products. J. M. Cork and others. bibliog Phys R 83:681-2 Ag 1 '51

Analysis

Determination of radon and radium in water. R. B. Jacobi. diags Chem Soc J supp no 2: S314-18 '49

Physiological effect

See also

Radium poisoning

RADIUM C

Comparison of several nuclear absolute voltage determinations. W. J. Sturm and V. Johnson. bibliog diags Phys R 83:542-7 Ag 1 '51

RADIUM poisoning

Method of obtaining reproducible breath radon samples. J. H. Harley and others. bibliog il A M A Archives Ind Hygiene & Occup Med 4:1-9 Jl '51

RADON

Emanation method. O. Hahn. diags Chem Soc J supp no 2:S259-74 '49

Leak location by radioactive gases in buried pipes. A. Gemant and others. bibliog diags J Ap Phys 22:460-4 Ap '51

Method of obtaining reproducible breath radon samples. J. H. Harley and others. bibliog il A M A Archives Ind Hygiene & Occup Med 4:1-9 Jl '51

System for the collection and purification of radon by remote control. C. H. Shiflett and others. il diags R Sci Instr 21:842-4 O '50

Analysis

Determination of radon and radium in water. R. B. Jacobi. diags Chem Soc J supp no 2: S314-18 '49

RAFFINOSE

Analysis

Simple technique for the identification of raffinose and sucrose by enzymatic hydrolysis on paper chromatograms and the subsequent separation of the hydrolyzed products by paper chromatography. K. T. Williams and A. Bevenue. Science 113:582 My 18 '51

RAFTERS

Radial arm saw techniques in rafter cutting. il diags Am Bld 73:50+ Ag '51

RAGS

From a consumer's viewpoint; cotton rag situation. C. Manning. Paper Tr J 132:16+ Ap 27 '51

Machine manufacturer looks at rag picking vs. picking and shredding. J. H. Senior. il Rayon 32:39+ S '51

Rag paper industry. L. B. Tucker. il diag Paper Tr J 131:226+ N 30 '50

RAGWEED

Purification of the active principle of short ragweed pollen. T. B. Bernstein and others. Science 113:377-8 Ap 6 '51

RAIL joints

International railway congress, 15th, Rome, Sept. 25-Oct. 4. Engineering 170:572; 171: 51 D 29 '50, Ja 12 '51

Welding

Long welded rails; reports at International railway congress. Engineering 171:22 Ja 5 '51

Rail joint welding for coal mine tracks. A. E. Belton and others. il diags Min Cong J 37:49-52 Je '51

Uneven hardness gradients in quenched steels. H. O'Neill. il Metallurgia 44:29-31 Jl '51

RAIL motor cars. See Motor cars (railroad)

RAILROAD associations

See also Association of American railroads; Car department officer's association

RAILROAD bridges. See Bridges, Railroad

RAILROAD engineering

Exhibition of industrial power at Kelvin hall. il Engineer 192:44-5 Jl 13 '51

Nationalisation and the railway mechanical engineer. R. A. Riddles. Engineering 170: 435, 484-5 D 1-8 '50; Same cond. Engineer 190:539-41 D 1 '50

Progress in railway mechanical engineering, 1949-1950. il diags Mech Eng 73:293-308 Ap '51

Railway mechanical engineering; abstracts. R. A. Riddles. Engineer 191:762 Je 8 '51; Engineering 171:716-17 Je 15 '51

See also

Bridges, Railroad

Cars

International railway congress

Locomotives

Railroad research

Railroads—Construction

Railroads—Earthwork

Railroads—Maintenance and repair

Railroads—Track

RAILROAD engineers

Chief engineers set pace for progress on the Milwaukee. il Ry Age 129:76-8 N 11 '50

RAILROAD law

New rail legislation proposed in Canada. Ry Age 130:52 Mr 26 '51

Railway labor act; administrative highlights, 1949-1950. Mo Labor R 72:416-19 Ap '51

See also

Interstate commerce commission

Railroads—Employees

Railroads—Rates

RAILROAD motor cars. See Motor cars (railroad)

RAILROAD research

Highlights of A.R.E.A. research activities; work of past year. G. M. Magee. il Ry Age 130:58-61 Mr 12 '51

RAILROAD shops. See Car shops; Locomotive shops; Railroads—Shops

RAILROAD stations. See Railroads—Stations

RAILROAD strikes

Airlines pinch-hit for railroads. il Aviation W 54:15-16 F 12 '51

B.R.T. fined $100,000 for sickness strikes. Ry Age 130:44 F 26 '51

Fiscal 1950 was year of many strike threats; Mediation Board annual report. Ry Age 130:37-8 Ja 29 '51

Mon-Con peace; army ends rail strike. Bsns W p37 Mr 31 '51

Occupational malady again hits switchmen. Ry Age 130:54-5 F 5 '51

Spreading sickness among B.R.T. switchmen halts many railroads, slows defense program. Ry Age 130:121-4 F 12 '51

Wildcat strike ties up Chicago terminal roads. Ry Age 129:51-2 D 16 '50

RAILROAD superintendents, American association of. See American association of railroad superintendents

RAILROAD supplies industry

Rail equipment makers; bulging order backlogs promise capacity output. G. Walsh. Barron's 31:11 Ja 15 '51

Railroad equipment employment; tabulation. Iron Age 167:326 Ja 4 '51

See also

New York air brake company
Standard railway equipment manufacturing company
Westinghouse air brake company

Securities

Another look at rail equipments; with position of leading companies. G. W. Mathis. Mag of Wall St 88:92-3+ Ap 21 '51

What's ahead for rail equipments; statistics of leading companies. P. Dobbs. Mag of Wall St 88:508-9+ Ag 11 '51

Great Britain

Engineering outlook; railway rolling stock industries. Engineering 171:278-81 Mr 9 '51

RAILROAD ties

Kraft pulp from old railroad cross ties; abstract. R. C. Sproull and others. Paper Ind 32:861 N '50

New car design speeds tie distribution. il Ry Age 130:42-3 My 28 '51

Norfolk & Western expects longer service life from crossties. il Ry Age 130:56-8 Ap 2 '51

Tie treatment and timber preservation. G. B. Shipley. il Ry Age 130:42-5 Ap 16 '51

Statistics

Tie-renewal decline stopped in 1950. il Ry Age 131:55-8 Ag 13 '51

RAILROAD ties, Steel

Corrosion of steel railway sleepers; final report. J. C. Hudson. il Iron & Steel Inst J 169:13-16 S '51

RAILROAD tracks. See Mine tracks; Railroads—Track

RAILROAD yards. See Railroads—Yards

RAILROADS

Future developments in transportation. C. F. Kettering. Franklin Inst J 251:115-19 Ja '51

See also

Air brakes
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Carriers
Cars
Electric railroads
Freight car service
Freight cars
Locomotives
Motor cars (railroad)
Railroad engineering
Railroad research
Railroad ties
Railroads and state
Rails
Railway mail service
Rapid transit
Ship railroads
Street railroads
Transportation

also Federation for railway progress; Pan-American railway congress association

Abandonment

Deny plea to abandon North Shore suburban route. Ry Age 130:99 Mr 12 '51

Accidents

Derailment of a train due to buckled track. Engineering 171:40-1 Ja 12 '51

Derailment of a train near Mansfield. Engineering 171:401 Ap 6 '51

Derailments due to coupler keys working out. Ry Age 130:36 F 19 '51

Eight killed, 63 injured, in wreck at Bryn Mawr, Pa. Ry Age 130:50+ My 28 '51

83 killed, hundreds hurt, in Woodbridge wreck. Ry Age 130:124-5 F 12 '51

Excessive speed, not trestle, blamed for P.R.R. wreck. Ry Age 130:34-5 F 19 '51

House group probes Long Island accident. Ry Age 129:56 D 16 '50

I.C.C. report on March 15 derailment at Trenton. Ry Age 130:72 Je 4 '51

I.C.C. would prohibit face babbitt on main rod ends; investigation of accident of Pennsylvania-Reading seashore lines near Delair, N.J. July 20. Ry Age 131:74 S 17 '51

Long Island crash claims swell to million dollar proportions. Nat Underw (Life ed) 54:1+ D 1 '50

Long Island told to install train-control system. il Ry Age 129:31-2 D 23 '50

Long Island wreck liability cost may exceed $2 million. Nat Underw 54:15 N 30 '50

New Jersey train wreck death claims to exceed $500,000. Nat Underw (Life ed) 55:3 F 16 '51

Passenger, troop trains collide; 13 dead near Simmesport, La. Ry Age 131:39 Ag 20 '51

Penmaenmawr railway collision report. Engineer 191:547 Ap 27 '51

Pennsylvania railroad may face $10 million bodily injury loss in wreck. Nat Underw 55:17 F 15 '51

Railroad wins injury case in Supreme court; estate of L. L. Moore, jr. vs. Chesapeake & Ohio. Ry Age 130:93 Mr 12 '51

Report on accident at Bryn Mawr, Pa. Ry Age 131:58-9 Jl 16 '51

Report on accident at Lucca, N.D. Ry Age 129:49-50+ D 9 '50

Report on derailment at Woodbridge, N.J. Ry Age 130:45-6 Ap 30 '51

78 killed, 203 injured, in collision on Long Island. Ry Age 129:72-4 D 2 '50

Three investigations of Canadian National crash. Ry Age 129:84 D 2 '50

Trestle not at fault in PRR wreck. Eng N 146:25 F 15 '51

Twelve killed, 44 injured, in Canadian collision. Ry Age 129:51 N 25 '50

Wife can sue in consortium loss, New York court holds; suit against Long Island railroad. Nat Underw 55:27 S 27 '51

Wreck starts LIRR shakeup. il Bsns W p93-4+ D 2 '50

See also

Grade crossing accidents
Locomotives—Failure
Railroads—Safety measures

Accounting

Equitable-plan rent will become operating expense. Ry Age 131:34 Jl 2 '51

Fast write-offs banned by I.C.C. Ry Age 131:38+ S 3 '51

Missouri Pacific office brain; new IBM electronic calculator. E. Whitmore. il Am Bsns 20:10-11 N '50

One machine does many accounting jobs; National cash register company's Class 31 (electric) typewriter-accounting machine. N. Garner. il Ry Age 130:30-2 Ap 30 '51

Railroads cut paper work costs. J. W. Milliken. il Ry Age 130:202-3 Ja 15 '51

Western Pacific offers wide educational program for accounting employees. L. J. Gosney. il Ry Age 130:44-6 Je 11 '51

Why the Canadian Pacific prefers user basis for depreciation. il Ry Age 130:50-1 Je 11; 50-2 Je 18 '51

See also

Association of American railroads—Accounting division
Railroads—Records
Waybills

Advertising

Going places, theme of railroad's advertising. W. A. Dietze. il Ed & Pub 84:51 Mr 3 '51

How Union Pacific answers the question; do public relations and advertising go together? il Ry Age 131:36-40 Ag 27 '51

Illinois Central centenary ads for large list. Ed & Pub 84:14 Ja 6 '51

Moral appeal is drawing heavy response. il Ptr Ink 236:54 S 28 '51

Papers on main line for railroad advertising. L. Farrant. Ed & Pub 84:14 Ja 6 '51

Pullman service ad objectives outlined. G. A. Kelly. Ed & Pub 83:55 N 25 '50

Railroad ad managers set promotion competition. Ptr Ink 234:65-7 F 2 '51

Railroad's meeting problems with public relations advertising. H. M. Sims. Ed & Pub 84:22 Mr 10 '51

Rock Island film promotes freight service. il Ry Age 131:70 Ag 6 '51

Selling tools are better now; radio and television increasingly important; timetables simplified and more colorful. il Ry Age 129:138-41 O 28 '50

Southern Pacific railroad to buy space in 900 papers. Ed & Pub 84:14 Ja 13 '51

Air brakes

See Air brakes

RAILROADS—*Continued*

Airline competition

Air lines reached new peak in passenger traffic for 1950. Ry Age 130:34 Ap 23 '51

Roads deny charges of high mail pay. Ry Age 131:35-6 Ag 13 '51

Automatic stop and train control

Long Island demonstrates automatic speed control. Ry Age 131:72 S 17 '51

Long Island told to install train-control system. il Ry Age 129:31-2 D 23 '50

Modern cab signaling and train control system for railroads. L. R. Allison. diags Elec Eng 70:311-17 Ap '51

Automobile rental service

After the passenger gets there. il Ry Age 130:98-9 My 21 '51

Bibliography

Bibliography of railway literature. 4th ed 48p Association of American railroads, Washington 6 '50

Boys' tours

Cubs study railroading; Railroad month for cub scouts; illustrations with text. Ry Age 131:52-3 Jl 16 '51

Brakes

See Air brakes

Braking

Brake beam with quick-removable heads. il Ry Mech & Elec Eng 125:90 Ag '51

Braking high-speed passenger trains. R. G. Webb. Ry Mech & Elec Eng 124:680-1 N '50

Controlling trains with the dynamic brake. P. A. Quarles. Ry Mech & Elec Eng 124:678-9 N '50

Development and testing of brakes for high-speed railroad equipment. C. E. Tack. bibliog il diags A S M E Trans 73:167-79; Discussion. 180-2 F '51

Freight car hand brake. il Ry Mech & Elec Eng 125:91 Ag '51

High-speed braking. C. L. Eksergian. A S M E Trans 73:935-46 O '51

Bridge crossing

See Bridges, Railroad

Buildings and structures

Improved grain shipping facility on Norfolk Southern; illustrations with text. Ry Age 130:42-3 Mr 5 '51

New buildings for Seattle coach yard. il Ry Age 130:21-3 Ja 22 '51

See also

Bridges, Railroad
Car shops
Freight houses
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Railroads—Office buildings
Railroads—Shops
Railroads—Stations
Railroads—Terminals

also American railway bridge and building association

Car departments

Milwaukee car-department progress. il Ry Age 129:68-9 N 11 '50

Selection of car department supervisors; report of Car department officer's association. Ry Mech & Elec Eng 124:656-7 N '50

See also

Car department officer's association

Cars

See Cars; Dining cars; Freight cars; Motor cars (railroad); Refrigerator cars; Sleeping cars

Centralized traffic control

See Railroads—Signals

Claims

Freight claim bill drops 29 per cent under 1949. Ry Age 129:81 N 4 '50

Freight loss from theft down from last year. Ry Age 129:80 D 2 '50

How package engineering has cut damage claims. il Ry Age 131:74+ Ag 6 '51

National Distillers means business about loss and damages; firm holds meeting for everybody concerned in transportation. diag Ry Age 131:60-1 Ag 6 '51

Scott Paper reduces damage claims; traffic department spearheads campaign. il Ry Age 130:48-50 Mr 5 '51

Union Pacific presses compaign to reduce livestock loss and damage. il Ry Age 131:41-2 Jl 30 '51

See also

Association of American railroads—Freight claim division

Commuter service

Railroad progress and regional transportation in New York. Ry Age 131:90-1 S 17 '51

Competitive transportation

Let's not let military traffic tempt us to forget our serious problems. P. B. McGinnis. il Ry Age 130:14-17 Ja 22 '51

Need is now for sound transport policies; Railway business association pamphlet. Ry Age 130:42+ F 19 '51

Railroads and national security. F. G. Gurley. Am Pet Inst Proc 30(5):16-20 '50; Same cond. Nat Pet N 42:53-4 N 22 '50

Subsidies; user charges and the national transportation policy. il Ry Age 130:48-50 F 5 '51

Truck, subsidies, unfair, divert traffic from rails. F. G. Gurley. Nat Pet N 42:53-4 N 22 '50

See also

Highway transportation
Railroads—Airline competition
Railroads—Motor vehicle competition
Railroads—Waterways competition

Congresses

See also

International railway congress

Consolidation

Merger of principal Cuban railroads urged by International Bank. il Ry Age 130:34-7 F 26 '51

Young's coast-to-coast rail deal still simmers. map Bsns W p88-90+ Mr 31 '51

Construction

Construction under way on 350-mile line to Canadian ore deposits. il map Ry Age 131:34-7 Jl 23 '51

Construction work still big business. H. E. Michael. il Ry Age 130:232-4+ Ja 15 '51

How Rock Island cutoff speeds transcontinental traffic at Denver. il plan Ry Age 131:47-9 S 3 '51

1950 railroad construction indices. Ry Age 131:50 S 10 '51

Operation railroad airlift; driving ore railroad into forest lands of Quebec and Labrador. il map Eng N 147:36-8 Jl 19 '51

Personal initiative builds 360-mi. railroad to Quebec-Labrador iron ore field; illustrations with text. Iron Age 167:83-6 F 8 '51

Railroads crash construction boom; Chicago, Burlington & Quincy and Union Pacific. il maps Bsns W p62-4 Ap 7 '51

Short-cut through Missouri; 71-mile cut-off being built by the C B & Q on its Chicago-Kansas City line. il map Eng N 145:32-5 N 9 '50

Stable roadbed is aim on big cutoff. il map Ry Age 130:113-16 F 12 '51

See also

Railroads—Earthwork
Railroads—Relocation
Railroads—Track

Costs

Canadian National has always met operating costs. D. Gordon. Ry Age 130:64-5 Ap 2 '51

Comparative transportation ratios; with table. Comm & Fin Chr 174:874 S 6 '51

Construction and maintenance expenditures heading for new highs. il Ry Age 130:62-4 Mr 12 '51

Maintenance indices show little change. M. H. Dick. il Ry Age 130:188-91 Ja 15 '51

1950 capital expenditures totaled $1.1 billion. W. J. Taft. il Ry Age 130:168-71 Ja 15 '51

RAILROADS—Costs—*Continued*

Package controls for Diesel-electric locomotives. M. D. Henshaw. il Ry Age 131:50-4 Ag 20 '51

Railroad cost index. map Eng N 146:129 Mr 29 '51

Railroads now see 1951's gross capital expenditures totaling $1,457 million. Ry Age 131:33-4 S 24 '51

Rate-case data show rise in railroad costs. J. H. Parmelee. Ry Age 130:69 My 7 '51

Relocation of railway, Boysen reservoir, Wyo.; unit prices. Eng N 147:90 S 13 '51

What about the passenger deficit? W. J. G. Quinn. il Ry Age 131:49-52 Ag 13 '51

Crossings

See also

Grade crossings

Curves and turnouts

Optical versine gauge for railway curves. il Engineering 171:367 Mr 30 '51

Damage from floods, storms, etc.

Kansas flood hits service on four roads. Ry Age 131:36-7 Jl 16 '51

Kaw river rages again. Ry Age 131:55 S 10 '51

Operation mop and shovel begins; Missouri-Mississippi flood. il Ry Age 131:23-5 Jl 30 '51

Radio helps Rock Island pull out of flood. il Ry Age 131:35 Ag 27 '51

Record Kansas flood. F. G. Gurley; W. N. Deramus. il Ry Age 131:53-4 Ag 13 '51

Severe storm hits trunk line railroads. Ry Age 129:71-2 D 2 '50

Tells why floods caught Rock Island. J. D. Farrington. Ry Age 131:58 Ag 20 '51

Development work

How the I.C.'s agricultural department helps the road and its customers. il Ry Age 130: 42-3 F 5 '51

Milwaukee plants a crop of future traffic; reforestation project. il map Ry Age 131:44-6 S 3 '51

Need high-calcium limestone? plenty along our line, says the B.&O. diag Ry Age 131: 61-2 S 3 '51

Ounce per train mile; work of Seaboard air line in developing paper industry in the South. il Paper Tr J 132:20-1 Mr 30 '51

Team work in developing new industries for new traffic; Chicago & North Western. il map Ry Age 131:104-6 O 1 '51

Earthwork

Controlled earthmoving on Burlington's 71-mile cutoff. il Constr Methods 33:70-1+ F '51

Stable roadbed is aim on big cutoff. il map Ry Age 130:113-16 F 12 '51

Electric equipment

Battery trucks in storehouse service. il Ry Mech & Elec Eng 125:65-7 Jl '51

Electrical trends and accomplishments. A. G. Oehler. il Ry Age 130:200-1 Ja 15 '51

Load tester for motor alternators. K. F. Gluesing. il diag Ry Mech & Elec Eng 125: 80-1 Ag '51

See also

Association of American railroads—Electrical sections

Railroads—Signals

Electrification

Economic factors which influence Dieselization and electrification. C. Kerr, jr. Elec Eng 70:867-9 O '51; Abstract and discussion. Ry Age 131:44-5 Jl 16 '51

Survey of existing railway electrification systems. Engineer 191:412-13 Mr 30 '51

Technical advances and trends in electric traction. Engineer 191:445-7 Ap 6 '51

See also

Electric locomotives

Australia

Australian electrification will use pumpless rectifiers. C. Lynch. Ry Mech & Elec Eng 125:87 Ag '51

Railway electrification in Australia. Electrician 146:796 Mr 9 '51

France

Development of electric traction on the French national railways. R. Dugas. il maps Inst E E Proc 97 pt 2:621-7 O '50

Great Britain

Electrification of railways in Great Britain. maps Engineering 171:386-8, 445-7 Mr 30, Ap 13 '51

Railways modernize with centralized supervisory control. C. G. White. il plans diags Elec Com 28:3-20 Mr '51

Report on railway electrification. Engineer 191:381-2 Mr 23 '51; Elec R (Lond) 148:639 Mr 30 '51; Electrician 146:974 Mr 23 '51

Transport commission's report; progress of electrification schemes. Elec R (Lond) 149: 125-7 Jl 20 '51

Employees

Calendar of labor and wage events, 1950. Ry Age 130:179 Ja 15 '51

Canadian non-ops win 40-hr. week, seven-cent rise. Ry Age 129:38 D 23 '50

Cheney announces awards in B.R.T. rules dispute. Ry Age 131:38 Ag 13 '51

Education of supervisors and maintenance of employee morale; American association of railroad superintendents committee report. il Ry Age 130:85-6 Je 25 '51

Employee morale; how can it be made an active factor in the Diesel shop? E. S. Lowe; H. C. Taylor. Ry Mech & Elec Eng 125:79-80 My; 83 Je '51

End of the middle way; unions' demands met. Economist 160:465-7 Mr 3 '51

Fiscal 1950 was year of many strike threats; Mediation Board annual report. Ry Age 130:37-8 Ja 29 '51

Holdouts; three railroad unions have been without new contracts or raises since 1948. Fortune 44:44-5 Jl '51

If you owned a railroad; novel approach to better employee understanding of railroad financial problems, reprinted from Boston & Maine railroad magazine. C. A. Somerville. il Ry Age 131:43-5 Jl 23 '51

Make-work rules must go, Senator Morse says; hearing in connection with investigation of failure to settle wage and rules disputes. Ry Age 130:57-8 Ap 9 '51

Making the salary fit the job; Western Pacific develops logical and equitable salary structure for supervisors and executives. G. H. Kneiss. Ry Age 129:28-31 N 25 '50

Mon-Con peace; army ends rail strike. Bsns W p37 Mr 31 '51

Morale off the rails. Economist 160:525-6 Mr 10 '51

Rail maintenance unions unite. Bsns W p 124 Mr 3 '51

Rail mess; a ten-year growth. Bsns W p 130-3 F 17 '51

Rail settlement; nonoperating unions sign. Bsns W p 118-19 Mr 10 '51

Rail settlement off again; turn down Steelman's terms. Bsns W p94 Ja 13 '51

Railroads, operating employees reach agreement in wage-rules cases. Ry Age 129:30-1 D 23 '50

Roads reject Senator Murray's plan for B.R.T. pact. Ry Age 130:50-1 Mr 26 '51

Seizure called no guarantee of settling labor disputes; abstract. D. P. Loomis. Ry Age 131:35 S 24 '51

Southern brakeman gets medal of honor; James E. Dowell. Ry Age 129:53 D 16 '50

Thirty thousand weapons against loss and damage; bimonthly magazine Union Pacific innovation in campaign for good shipping. O. J. Wullstein. il Ry Age 130:40-3 Ap 2 '51

Union ratifications of settlement in operating wage case expected next week. Ry Age 129:36-7 D 30 '50

U.S. Supreme court rules in St Louis case; holds states have right to decide on trying railroad workers' suits on injuries sustained in other states. East Underw 51:37 N 17 '50

Wages and work; British government trying to find basis for agreement. Economist 160: 409-10 F 24 '51

Where do good foremen come from? E. S. Lowe and others. Ry Mech & Elec Eng 125: 74-5 Jl; 83-4 S '51

See also

Locomotive engineers

Locomotive firemen

Railroad engineers

Railroad strikes

Railroads—Pensions

RAILROADS—Employees—*Continued*

Training

How the Alaska railroad trains shop apprentices. R. Perry. il Ry Age 131:42-4 S 24 '51

Instructing crews in Diesel locomotive operation. W. H. Fortney. Ry Mech & Elec Eng 124:674-5 N '50

Modern shop tools and visual instruction in their use. F. E. Molloy. il Ry Mech & Elec Eng 125:47-51 Ap '51

New uniform rules for Canada. il Ry Age 131:48-9 Ag 20 '51

Teaching teachers at Electro-Motive Diesel locomotive training center prepares railroad instructors to teach classes on individual lines. il Ry Age 130:41-4 Ap 9 '51

Training Diesel supervisors; report of Locomotive maintenance officers' association. Ry Mech & Elec Eng 124:689-90 N '50

Western Pacific offers wide educational program for acounting employees. L. J. Gosney. il Ry Age 130:44-6 Je 11 '51

Equipment and supplies

Carriers plan expanded mechanization program for stations and storehouses. J. W. Milliken. il Ry Age 130:186-7 Ja 15 '51

E.J.&E. Dieselizes wrecking crane. il Ry Age 130:38-9 Ap 16 '51

Maintenance machines consolidate gains. M. H. Dick. il Ry Age 130:184-5 Ja 15 '51

Material shortages and controls and their effect on railroads. W. H. Ruskaup, jr. il Ry Age 130:23-4 My 28 '51

New and improved products of the manufacturers; exhibit in print. il Ry Age 130:69-84 Mr 12 '51

Year's review of improvements in motive power and rolling stock products. il Ry Age 130:67-70 Je 25 '51

See also

Air brakes
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Railroad ties
Railroads—Electric equipment
Railroads—Ice supply
Railroads—Maintenance and repair
Railroads—Purchasing
Railroads—Rolling stock
Railroads—Shops—Equipment
Railroads—Signals
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Equipment finance

Equitable's equipment-leasing plan raises questions as to its merits, I.C.C. says. il Ry Age 130:16-18 Ja 29 '51

ICC hits leasing. Bsns W p 118+ F 24 '51

Recent developments in lease financing. A. Bornemann. bibliog Land Econ 27:225-34 Ag '51

Equipment trust certificates

Representative equipment trust issues sold in 1950; tabulation. Ry Age 130:175 Ja 15 '51

Excursions

Cold weather means cold cash for Boston & Maine; illustrations with text. Ry Age 130:24-5 Ja 22 '51

Fares

Business on Internationals better than expected; Seattle-Vancouver service. il Ry Age 130:34-5 Mr 26 '51

Western roads increase some round-trip fares. Ry Age 130:96 My 14 '51

Finance

Are the rails as healthy as they look? R. Carleson. Mag of Wall St 88:399-401+ Jl 14 '51

Brief look at Erie today. maps Ry Age 130:85-8 My 14 '51

Direct-deficit trains keep passenger loss up. Ry Age 130:75-6 Je 11 '51

Financial picture shows slight improvement. G. C. Hudson. il Ry Age 130:172-8 Ja 15 '51

Future of railways. F. Q. Den Hollander. Engineer 190:661-2 D 29 '50

Heavy burden; passenger service a drag on rail freight profits. A. Jansen. Barron's 31:13-14 Je 18 '51

How fixed charges have been cut. J. H. Parmelee. Ry Age 131:45-7 Ag 20 '51

How 1949 traffic paid overhead costs. Ry Age 131:31-2 Ag 27 '51

How the financial man can help management. J. E. Kusik. il Ry Age 131:49-53 Ag 27 '51

If you owned a railroad; novel approach to better employee understanding of railroad financial problems, reprinted from Boston & Maine railroad magazine. C. A. Somerville. il Ry Age 131:43-5 Jl 23 '51

Investment bankers look at the railroads. Ry Age 129:38-9 D 16 '50

Net income for first nine months of 1950. Ry Age 129:83 N 11 '50

Net income for 1950 reaches $575 million. Ry Age 129:43-4 D 9 '50

Net income for 1951 reaches $53 million. Ry Age 130:56 Ap 9 '51

Net income for 1951 reaches $104 million; class I railroads, first three months of 1951. Ry Age 130:92 My 14 '51

1950 deficit from passenger services was $508.5 million. Ry Age 130:165-6 My 21 '51

1950's net income totaled $786 million. Ry Age 130:33-4 F 19 '51

Passenger car utilization analyzed by I.C.C. bureau; other 1950 trends. Ry Age 130:33-4 Ja 29 '51

Profit margins, 1950, 1949 and 1941; with tabulation by companies. Comm & Fin Chr 173:1342 Mr 29 '51

Rail revenues reach new peak in first half of '51. Ry Age 131:35-7 Ag 20 '51

Railroad industry in unique position. H. E. Dickhuth. Banking 43:72 Ja '51

Railroads face war economy in excellent shape. A. Jansen. Barron's 31:5-6 Ja 1 '51

Railroads not so healthy as they look; with first quarter earnings figures for 1929, 1950-1951. Bsns W p 124-6+ My 19 '51

Railroads see this year's gross capital expenditures at all-time high. Ry Age 130:49-50 Mr 26 '51

Retroactive mail pay put last year's net operating income above $1 billion. Ry Age 130:39 F 26 '51

Revenues, expenses, and income of class one railroads; annual 1939-1949, monthly Oct. 1949-Oct. 1950. Fed Res Bul 37:84 Ja '51 [cont monthly]

225,000 miles of track; where's the mileage headed? I. U. Cobleigh. Comm & Fin Chr 173:2444 Je 14 '51

See also

Railroads—Equipment finance
Railroads—Fares
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Railroads—Securities
Railroads—Taxation

also names of railroads, e.g.

Atchison, Tokepa and Santa Fe railway
Atlantic coast line railroad
Baltimore and Ohio railroad
Boston and Maine railroad
Chicago, Indianapolis and Louisville railway
Chicago, Milwaukee, St Paul and Pacific railroad
Delaware, Lackawanna and western railroad
Gulf, Mobile and Ohio railroad
Illinois central railroad
Lehigh Valley railroad
Long Island railroad

also Association of American railroads—Treasury division

Fires and fire protection

Better fire protection for bridges. L. R. Morgan. il Ry Age 131:38-40 Jl 16 '51

Diesel-electric locomotives, committee report, A.A.R. Mechanical division. Ry Age 131:84-6 Jl 9 '51; Same. Ry Mech & Elec Eng 125:54-7 Ag '51

Fire, everyone's concern on a railroad. F. E. Martin. Ry Age 129:78+ N 4 '50

Fire in a passenger train near Beattock summit. Engineering 171:330 Mr 16 '51

Railroads list few fires on petroleum tank cars. Nat Pet N 43:41 Jl 18 '51

Food service

Pennsylvania railroad testing automatic food sales on trains. Ry Age 131:60 S 24 '51

Serving the inner man. il Ry Age 130:100-2 My 21 '51

Single entree service helps cut diner losses. il Ry Age 130:26-8 F 19 '51

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Forms and blanks

How the B.&O. reduces expense of form duplicating; use of Ozalid streamliner (whiteprinter). C. A. Strickland. il Ry Age 130: 47-9 Je 11 '51

Freight

Absolute necessity for performance as scheduled; phase one of second-morning delivery, New York to Chicago, via the Lackawanna. W. H. Schmidt, jr. il Ry Age 129:54-7 D 2 '50

Eastbound freight moves faster now on the New York Central. il map Ry Age 130:44-6 Je 4 '51

Fast billing for fast freight; teletypewriter communication of waybills. L. Mayrisch. il Ry Age 130:39-41 My 7 '51

Freight carloadings, by classes. Published in monthly numbers of Federal reserve bulletin

Handling freight trains with Diesel locomotives. Ry Mech & Elec Eng 124:676-8 N '50

How 1949 traffic paid overhead costs. Ry Age 131:31-2 Ag 27 '51

Jittery 1950 brought gains in freight traffic. il Ry Age 130:24-9 Ja 8 '51

Missouri Pacific offers merchandise-service package; newly designed freight cars, containers, known as Speedboxes, for handling of l.c.l freight, plus a proposed third class all commodity rate. il Ry Age 130:30-1 Ja 8 '51

Modern office machines speed Pennsylvania railroad freight billing. J. L. Webb. il Ry Age 130:42-4 My 7 '51

Outlook for the coal roads. H. G. Smyth. Comm & Fin Chr 174:1354 O 11 '51

Railroad freight data; revenue freight loaded, freight car carrying capacity; freight cars delivered; tabulations. Iron Age 167:328 Ja 4 '51

Railroads with a bonus feature; Toledo Peoria & Western. il map Ry Age 130:34-8 F 5 '51

Shippers want rail service; Eleven-county consolidated committee works to increase traffic, cut expenses and prevent abandonment of New York, Ontario & Western. il map Ry Age 130:49-52 Ap 2 '51

Southern weighing and inspection bureau; how it helps southeastern roads and shippers. Ry Age 131:56 Jl 16 '51

Tunnels by-passed to speed oversize cars. il map Ry Age 129:46-9 D 2 '50

Wabash fast freight. il map Ry Age 130:36-7 Ja 8 '51

Winter all-rail movement of iron ore. il Ry Age 130:40-1 F 5 '51

With the customer in mind; some of the things the Milwaukee is doing for shippers. il Ry Age 129:74-5 N 11 '50

See also

Freight car service
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also Association of American railroads—Freight station section

Freight cars

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Fuel

See also
Locomotives—Fuel

Government ownership

See Railroads and state

Grade crossings

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History

Growth of the railroad network in the United States. G. L. Wilson and E. H. Spencer. Land Econ 26:337-45 N '50

High and wides in the Milwaukee's first hundred years. il map Ry Age 129:53-8 N 11 '50

Illinois Central heritage, 1851-1951. W. A Johnston. il Ry Age 130:94-100 F 12 '51

1900 and 1950; passenger service then and now. il Ry Age 129:106-12 O 28 '50

One hundred years of Erie. il maps Ry Age 130:64-75 My 14 '51

See also

Locomotives—History
Sleeping cars—History

Ice supply

Machines ice two cars per minute. il Ry Age 129:48-51 S 16 '50; Same. Ry Mech & Elec Eng 124:728-31 D '50

Information service

Red Ball freight information service; Atchison, Topeka & Santa Fe. il Ry Age 130:41-3 Je 4 '51

Insurance requirements

Monon Diesels insured. Nat Underw 55:19 S 20 '51

Railroad insurance business cries for sales adrenalin. Nat Underw 55:7 Ja 4 '51

Law

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Lighting

See also
Railroads—Yards—Lighting

Loading rules

Loading rules; committee report, A.A.R. Mechanical division. Ry Age 131:95-6 Jl 9 '51; Same. Ry Mech & Elec Eng 125:60-1 Ag '51

Location

Short-cut through Missouri; 71-mile cut-off being built by the C B & Q on its Chicago-Kansas City line. il map Eng N 145: 32-5 N 9 '50

See also
Railroads—Relocation

Maintenance and repair

Burlington reclamation practice at Eola, Ill. W. G. Muschler. il Ry Mech & Elec Eng 125:56-8 Ja '51

Deferred maintenance reaches $950 million. il Ry Age 130:46 Mr 26 '51

Efficient handling of shop cars and car inspection; American association of railroad superintendents committee report. il Ry Age 130:86-7 Je 25 '51

Get the most for your maintenance dollar. A. L. Davis. il Ry Age 131:46-9 Jl 23 '51

How the Delaware Lackawanna & Western gets results from annual programming of maintenance work. il Ry Age 131:40-4 Ag 20 '51

How the Southern systematizes Diesel fleet maintenance at a central point. il map Ry Age 130:57-9 Je 4 '51

Increasing mileage of rolling stock between repairs; report of International railway congress. Engineering 171:136-7 F 2 '51

Maintenance indices show little change. M. H. Dick. il Ry Age 130:188-91 Ja 15 '51

Maintenance machines consolidate gains. M. H. Dick. il Ry Age 130:184-5 Ja 15 '51

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Car cleaning

Management

Building traffic all ways; Chicago & Eastern Illinois. il map Ry Age 131:48-51 Jl 2 '51

Development and growth of the Kansas City Southern. il map Ry Age 131:55-8 S 3 '51

Effect of Diesels on obsolescence. J. B. Akers. il Ry Age 130:45-9 Ap 9 '51

High speed and heavy loads; equipment problems that are confronting railroads. W. J. Patterson. Ry Mech & Elec Eng 125: 50-1 Ag '51

How the financial man can help management. J. E. Kusik. il Ry Age 131:49-53 Ag 27 '51

Managerial handicaps of 1903 and 1951 compared; editorial. Ry Age 131:27-8 Jl 23 '51

Men, money, materials, and management; policies, principles and practices which make Illinois Central a successful enterprise. il map Ry Age 130:101-12+ F 12 '51

Modern Erie. il map diag Ry Age 130:76-81 My 14 '51

RAILROADS—Management—*Continued*

New Milwaukee's first five years. il diag Ry Age 129:59-63 N 11 '50

Offsetting the high cost of maintenance-of-way labor. L. L. Adams. il Ry Age 130:23-6 Ja 29 '51

Private planes; will they have a place in railroad operation and maintenance? C. J. Miller. il Ry Age 131:74-7 Jl '51

Railroad with a bonus feature; Toledo Peoria & Western. il map Ry Age 130:34-8 F 5 '51

Short lines; dirty work done with the personal touch. il Ry Age 131:92-6 O 1 '51

Successful wartime railroad management; an appraisal based on World war II. D. S. Ballantine. il Ry Age 131:42-6 S 10 '51

Superintendent works long hours; a day in the life of Charles Morton. J. W. Milliken. il map Ry Age 130:36-40 Je 4 '51

What makes precision transportation? H. C. Wyatt. il Ry Age 130:31-3 My 28 '51

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Railroads—Stores systems
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Mechanical departments

See also

Association of American railroads—Mechanical division

Military use

Change expected in rail travel clause. Aviation W 54:46-7 F 5 '51

Importance of the railroads to the national defense. C. P. Gross. il Ry Age 130:18-20 Ja 22 '51

I.C.C. holds further hearing on reparations. Ry Age 130:47 Ja 29 '51

Joint highway-railway military planning should remain in state and private hands. J. W. Wheeler. il Civil Eng 21:400-1 Jl '51

Mains on the move again. il Ry Age 130:94-5 My 21 '51

Patrons in khaki. il Ry Age 129:152-3 O 28 '50

Models

$10-million worth of fun on model rails. il Bsns W p24-5 Ja 13 '51

Trains and toys for Christmas 1950. il Consumers Res Bul 26:10-15 D '50

Motor vehicle auxiliaries

Court upholds I.C.C. on rail-owned trucks. Ry Age 130:64+ Mr 5 '51

How versatile trucks solve many l.c.l. problems for the Milwaukee. il map Ry Age 130:36-8 My 7 '51

Real coordination in action; Texas & Pacific coordinated trucking service. il map Ry Age 130:49-52 Je 4 '51

Motor vehicle competition

Ever see a truck marked like this? il Ry Age 131:47 Jl 16 '51

Examiner Rice criticizes state's highway subsidies. Ry Age 131:70+ S 3 '51

G.T.T.M, the French system of winning truck traffic back to the rails. il Ry Age 130:46-8 Ap 2 '51

I.C.C. indicates concern about impact of long-haul trucking on the railroads. Ry Age 129:63-4 N 18 '50

Northwest shippers find grain trucking disruptive. Ry Age 131:44-5 Ag 6 '51

Railroad progress and regional transportation in New York. Ry Age 131:90-1 S 17 '51

Rogers' opposition calls truck regulation lax. Ry Age 130:65-6 Ap 2 '51

60 motor carriers seek to haul explosives. Ry Age 131:89-90 O 1 '51

Story of trucks should be told to combat rails; abstract. H. W. Dodge. Nat Pet N 43:31 Ap 25 '51

Train-truck trouble. L. K. Sillcox. Ry Age 130:29-30 Ja 22 '51

Transportation as an outlet for investment. J. S. Duncan. il Ry Age 129:32-4 D 9 '50

Trip-leasing of trucks banned by I.C.C. Ry Age 130:61 My 28 '51

Truck traffic selectivity evil. J. K. Knudson. Ry Age 130:60+ Je 18 '51

Truckers must lift rates on tobacco to rail level. Ry Age 131:70+ Jl 2 '51

Negro passengers

Negro complainant assails new Southern diner rules. Ry Age 129:47+ N 25 '50

New order on seating Negroes in dining cars. Ry Age 129:69 N 18 '50

Office buildings

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What! offices without windows? administrative offices, Toledo, Peoria & Western. il plan Ry Age 131:38-41 S 10 '51

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Officials

518 salaries of $20,000 or more reported in 1949. Ry Age 130:50 Ja 8 '51

Little red schoolhouse for railroad presidents; Erie men who have gone on to become presidents or chief executives of other railroads; list. Ry Age 130:89 My 14 '51

Superintendent works long hours; a day in the life of Charles Morton. J. W. Milliken. il map Ry Age 130:36-40 Je 4 '51

See also

American association of railroad superintendents

Operating rules

New uniform rules for Canada. il Ry Age 131:48-9 Ag 20 '51

Passenger service

Good things for the passenger. il Ry Age 130:89-90 My 21 '51

Heavy burden; passenger service a drag on rail freight profits. A. Jansen. Barron's 31:13-14 Je 18 '51

It happened in Galesburg, Ill., on a Wednesday in 1900; scenes on train photographed by Allen Ayrault Green. Ry Age 129:142-3 O 28 '50

1900 and 1950; passenger service then and now. il Ry Age 129:106-12 O 28 '50

Travel by train; where to go for recreation, how to go in comfort; brief descriptions of vacation resorts, national parks, historic attractions and larger cities of the United States and Canada. il Ry Age 130:131-64 My 21 '51

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Dining cars
Railroads—Food service
Railroads—Reservation systems

Passenger traffic

Passenger loss called an economic waste. F. K. Edwards. Ry Age 130:51-2 Mr 26 '51

Passenger traffic issue. il map Ry Age 130:70-102+ My 21 '51

What about the passenger deficit? W. J. G. Quinn. il Ry Age 131:49-52 Ag 13 '51

Pensions

Hearing on pension bills. Ry Age 130:72 My 7 '51

Longevity of railroad annuitants. Mo Labor R 72:420 Ap '51

Ops favor 25 per cent increase in retirement benefits. Ry Age 130:102+ My 14 '51

Roads see no funds for bigger pensions. Ry Age 130:170+ My 21 '51

Social security tie held costly to rail retirement. Ry Age 130:49-50 My 28 '51

$369 million paid out by retirement board; fiscal year ended June 30. Ry Age 131:37 Ag 20 '51

Police

See also

Association of American railroads—Protective section

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RAILROADS—*Continued*

Public relations

Getting public relations value from a centennial; Chicago, Milwaukee, St Paul & Pacific. il Ry Age 129:64-5 N 11 '50

How Union Pacific answers the question; do public relations and advertising go together? il Ry Age 131:36-40 Ag 27 '51

Public speaking, pageantry booms Illinois Central 100 years. B. Aitchison. il Ind Marketing 36:34-5+ Mr '51

Superintendent's responsibilities for shipper relations; American association of railroad superintendents committee report. Ry Age 130:87 Je 25 '51

See also

Railroads—Boys' tours

Purchasing

First-quarter purchases total $1,023,000,000. Ry Age 130:73-4 Je 11 '51

Five-months' purchases total $1,544,089,000. Ry Age 131:60+ Ag 13 '51

January purchases total $347,482,000. Ry Age 130:45-6 Ap 16 '51

Nine months' purchases are $2,150,664,000. Ry Age 129:41-2 D 9 '50

Purchases of class one roads in 1950 totaled $1,739,908,000. Ry Age 130:33 Ap 23 '51

Railroad purchases reach $2,065,770,000 in seven months. Ry Age 131:48-9 O 8 '51

Railway purchasing in 1950 hit new dollar peak. J. W. Milliken. il Ry Age 130:180-3 Ja 15 '51

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Association of American railroads—Purchases and stores division

Radio communication

Car handling expedited by radio. il Ry Age 130:38-9 Mr 5 '51

Erie completes main line radio. Ry Age 131:59-60 S 24 '51

From Morse to microwaves; modern railway communication facilities. il Ry Age 129:162-3 O 28 '50

Loudspeakers and radio hasten cars to consignees. il Ry Age 129:58-60 N 4 '50

More train communication in 1950. M. Peacock. il Ry Age 130:192-5 Ja 15 '51

1,540 miles of radio train communication on the Missouri Pacific. il Ry Age 130:20-2 Ja 29 '51

Radio expedites freight on the Green Bay & Western. il Ry Age 131:50-3 S 3 '51

Radio helps Rock Island pull out of flood. il Ry Age 131:35 Ag 27 '51

Radio on all through freights on 1,842 miles of the Rock Island. il map Ry Age 130:34-6 My 28 '51

Radio saves train time on coal line. il Ry Age 131:36 Jl 30 '51

Twelve-volt caboose power for radio. il Ry Mech & Elec Eng 125:73-4 Mr '51

Two-way radio ok'd for all Missouri Pacific Diesels. Ry Age 130:51+ F 26 '51

Vibrator power supplies for railroads. L. R. Thomas. diag Electronics 24:215+ Mr '51

Wrecks cited in plea for radio-rules act. Ry Age 129:56 D 9 '50

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Radio telephone on railroads

Railroads, Industrial—Radio communication

Rates

Baxter heads tariff study group. Ry Age 131:37 S 3 '51

Canadian National, Canadian Pacific file rate equalization plans. Ry Age 131:40 S 3 '51

Canadian rates raised in line with ex parte 175. Ry Age 131:32 Ag 27 '51

Canadian roads ask higher rates. Ry Age 130:39 Ap 30 '51

Changes some ex parte 166 and 168 increases. Ry Age 129:50 N 25 '50

Chicago & Eastern Illinois issues rate streamliner. map Ry Age 129:50-1 D 2 '50

Commodity rates on return pallets in Canada. il Ry Age 130:39 F 5 '51

Common sense supports law's call for simplified tariffs. J. H. Alldredge. il Ry Age 131:42-3 S 3 '51

Court upholds I.C.C. on rail-barge rates. Ry Age 130:46-7 Ja 8 '51

Ex parte 175 increase was insufficient; abstract. F. Carpi. Ry Age 131:35-6 S 24 '51

Fighting briefs filed in divisions cases. Ry Age 130:56+ My 7 '51

Freight-rate case argued before I.C.C. Ry Age 130:59-60 Mr 5 '51

Freight rate hearing opens before I.C.C. Ry Age 130:168+ My 21 '51

Freight rates increased again. Oil Paint & Drug Rep 160:4 Ag 13 '51

Freight tariffs can and must be simplified. J. R. Staley. Ry Age 130:47-9 Je 4 '51

How much freight tariff simplification? F. Carpi. il Ry Age 131:41-3 Jl 2 '51

Interim rate plea before the I.C.C. Ry Age 130:89-91 Mr 12 '51

I.C.C. approves Bulwinkle pact of Illinois railroads. Ry Age 131:41 S 3 '51

I.C.C. authorizes 2.4 per cent interim freight-rate increase. Ry Age 130:69-71 Mr 19 '51

I.C.C. gets plea for 15 per cent rate hike. Ry Age 130:63 Ap 2 '51

I.C.C. gets railroad freight-rate petition. Ry Age 130:31-2 Ja 22 '51

I.C.C. hears argument on 28300 rate scale. Ry Age 129:43-4 D 23 '50

Large increases in expenses forced railroads to file 15 per cent rate increase petition. Ry Age 131:31-3 Jl 16 '51

Let's not let military traffic tempt us to forget our serious problems. P. B. McGinnis. il Ry Age 130:14-17 Ja 22 '51

Missouri Pacific offers merchandise-service package; newly designed freight cars, containers, known as Speedboxes, for handling of l.c.l. freight, plus a proposed third class all commodity rate. il Ry Age 130:30-1 Ja 8 '51

New 6.6 per cent freight rate increase disappointing to carriers. il Ry Age 131:55-7 Ag 20 '51

OPS clarifies stand on freight increase. Oil Paint & Drug Rep 160:5 S 17 '51

One-rate freight; ICC orders uniformity east of Rockies. Bsns W p25 Ag 18 '51

Postwar railroad freight rate increases and agriculture. W. H. Thompson. J Marketing 15:298-306 Ja '51

Rail freight rate rise lower than requested. Comm & Fin Chr 174:609 Ag 16 '51

Rail rate bills proposed in Canada. Ry Age 130:88 Je 25 '51

Railroad carnivals face a rate problem. il Ry Age 130:24-5 F 19 '51

Railroad presidents urge favorable I.C.C. action on freight-rate plea. Ry Age 130:44-7 My 28 '51

Railroad rate increase imposes new hardship. Concrete 59:14 My '51

Railroads ask quick rate-increase action. Ry Age 131:32-3 Jl 23 '51

Railroads file motion for interim rate hike. Ry Age 130:35-6 Ja 29 '51

Railroads ordered to file uniform classification within four months. Ry Age 131:41+ Ag 6 '51

Railroads present their case for immediate rate increase. il Ry Age 130:40-2 F 26 '51

Rate case hearing set for Feb. 19. Ry Age 130:55-6 F 5 '51

Regional hearings in ex parte 175 concluded. Ry Age 130:88+ Je 25 '51

Research will improve freight tariffs. J. W. Peters. il Ry Age 130:44-7 Mr 5 '51

Roads ask ICC for general six per cent freight rate increase. Iron Age 167:82 Ja 25 '51

Southern roads file views in 28310 case. Ry Age 129:74 D 2 '50

U.S. and British freight rates. Ry Age 130:34-5 Ap 23 '51

Western roads file views on uniform classification. Ry Age 129:170 O 28 '50

Would have I.C.C. open Ogden gateway. Ry Age 129:50-1 N 25 '50

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Railroads—Fares

Automobiles

Auto freight row. Bsns W p20-1 D 2 '50

Chrysler and independents win rail freight fight. Automotive Ind 103:19 D 15 '50

Orders roads to adjust rates on new automobiles. Ry Age 129:52 N 25 '50

RAILROADS—Rates—*Continued*

Cement

U.S. assails freight charges for cement. il Eng N 147:26 S 13 '51

Livestock

Meat freight rate; new increases have wiped out western packers gains. Bsns W p62-3 Ja 13 '51

Receiverships

Financial picture shows slight improvement. G. C. Hudson. il Ry Age 130:172-8 Ja 15 '51

ICC pondering Florida railway reorganization. Barron's 31:19-20 F 26 '51

Reorganization battle of Missouri Pacific. R. Carleson. Mag of Wall St 87:386-8+ Ja 13 '51

Young challenges poll on reorganizing MOP. Bsns W p 136 My 26 '51

See also

New York, Susquehanna and western railroad

Records

Get the most for your maintenance dollar. A. L. Davis. il Ry Age 131:46-9 Jl 23 '51

Gulf Mobile & Ohio develops better icing record; five-part form moves with waybill. Ry Age 129:35 D 9 '50

How the Southern systematizes Diesel fleet maintenance at a central point. il map Ry Age 130:57-9 Je 4 '51

Motor shop records as kept by the Southern. il Ry Mech & Elec Eng 125:68-9 Jl '51

New machines fill car record gaps. il Ry Age 130:32 F 19 '51

Railroads cut paper work costs. J. W. Milliken. il Ry Age 130:202-3 Ja 15 '51

Wabash cuts waybill abstracting expense. W. R. Eastman. il Ry Age 129:27 N 25 '50

Relocation

Large N.&W. bore gives lift to operations. il plan diags Ry Age 129:46-50 N 18 '50

Moving roads and rails for McNary dam. il map Eng N 145:39-41 O 26 '50

Toledo, Peoria & Western moved for flood-control project. il map diag Ry Age 130:22-5 F 26 '51

Tunnels by-passed to speed oversize cars. il map Ry Age 129:46-9 D 2 '50

Unstable talus slopes complicate 86-mile railway relocation along the banks of the Columbia river. R. R. Garnett. il map Civil Eng 21:341-4 Je '51

Reorganization

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Reservation systems

Electric ticket-reserving system. W. R. Triem and J. S. Jammer. il diags Elec Eng 69:775-80 S '50; Same. Elec Com 27:250-9 D '50

New York Central improves reservation handling. il Ry Age 129:56-7 N 18 '50

Roadmasters

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Roadmasters and maintenance of way association

Rolling stock

Automotive and electric rolling stock; A.A.R. Electrical sections committee report. Ry Mech & Elec Eng 124:637-9 N '50

Engineering outlook; railway rolling stock industries. Engineering 171:278-81 Mr 9 '51

Increasing mileage of rolling stock between repairs; report of International railway congress. Engineering 171:136-7 F 2 '51

New locomotives placed in service by class one railroads, railroad passenger car shipments, freight car awards and shipments; tabulations and graph. Steel 128:137 Ja 1 '51

Progress in railway mechanical engineering, 1949-1950. il diags Mech Eng 73:293-308 Ap '51

Use of models in developing railway rolling stock. il Engineering 171:770 Je 22 '51

Whiting Trackmobile speeds car handling. il Ry Age 129:40 D 9 '50; Power Eng 54:81 D '50; Rock Prod 53:152 D '50; Machine Design 23:142 Mr '51; Bsns W p65-6 N 25 '50; Factory Management 109:146-7 Ja '51

Year's review of improvements in motive power and rolling stock products. il Ry Age 130:67-70 Je 25 '51

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Safety measures

Eye injuries; what one transportation department does about them. il Ry Age 131:45-6 S 24 '51

Long Island acts to install additional safety devices. Ry Age 130:247-9 Ja 15 '51

National safety congress, Railroad section meeting, Chicago, Oct. 17-19. Ry Age 129: 64-6 N 4 '50

Pennsylvania railroad schedules protection. J. T. Williams. il Safety Maint & Prod 101: 44+ Je '51

Pennsylvania railroad to spend millions on automatic speed control. J. M. Symes. Ry Age 130:93-4 Mr 12 '51

Rail safety; machines + men. il Bsns W p44-6+ Mr 10 '51

Railroads receive Harriman awards for 1950 safety performances. Ry Age 131:110-12 O 1 '51

Safety car on tour of Japanese railways. il Nat Safety N 64:42 Jl '51

Safety entails big responsibilities. W. J. Patterson. Ry Age 131:41-2 Jl 23 '51

Safety first on Long Island. W. H. Draper, jr. Ry Age 129:46+ D 30 '50

Safety for everyone on the Frisco. il Ry Age 131:50-1 Jl 23 '51

Train travel is safe travel. il Ry Age 130: 74-7 My 21 '51

Winners of 1950 railroad employees' safety contest. Nat Safety N 63:25 Je '51

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Air brakes
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Railroads—Automatic stop and train control
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also Association of American railroads—Safety section

Sanitation

Railroad industrial waste treatment plant; Pennsylvania railroad at Enola, Pa. R. Coltart. flow diag il Pub Works 82:57-8 S '51

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Freight cars—Insect infestation

Securities

Are railroad securities worthy of investor consideration? C. L. Bergmann. Comm & Fin Chr 173:2672-3+ Je 28 '51

Dividend changes, 1949-1950; tabulation. Ry Age 130:175 Ja 15 '51

Income bonds, for income. I. U. Cobleigh. Comm & Fin Chr 173:1327+ Mr 29 '51

Inflation and the railroads. W. Hahn. Comm & Fin Chr 174:242+ Jl 19 '51

Measuring quality factors in railroad bonds. J. W. Kress. Banking 43:76-7+ D '50

Outlook for railroad stocks. E. F. Uhrbrock, jr. Comm & Fin Chr 172:1883+ N 16 '50

Rail bonds and preferreds; with statistical data on leading railroads. R. Carleson. Mag of Wall St 87:454-5+ Ja 27 '51

Railroad equities look better to fund managers; an analysis of the holdings of 76 investment companies. H. A. Long. Ry Age 129:22-3 D 23 '50

Railroad problems, management and securities. P. B. McGinnis. Comm & Fin Chr 172:2443+ D 21 '50

Railroad securities. Published in weekly Thursday numbers of Commercial and financial chronicle

Railroad securities and the investor; IBA committee report. Comm & Fin Chr 172: 2300 D 14 '50

Railroad shares; or, trying to keep up with the Dow-Joneses. I. U. Cobleigh. Comm & Fin Chr 174:767+ Ag 30 '51

RAILROADS—Securities—*Continued*

Rails; war baby of the year. Bsns W p52-4 D 23 '50

Re-appraisal of the railroads; with statistical data on leading roads. R. Carleson. Mag of Wall St 87:556-8+ F 24 '51

Resume of 1950 market performance. Comm & Fin Chr 173:158 Ja 11 '51

Safety in guaranteed rail stocks. J. S. Williams. Mag of Wall St 88:410-11+ Jl 14 '51

Special appraisal of transportation companies; with charts and tables. J. C. Cresswill. Mag of Wall St 88:663-6 S 22 '51

Transportation and the investor. W. M. W. Splawn. Comm & Fin Chr 173:2054+ My 17 '51

Weather eye on rail bonds; Connecticut's method of determining legality of savings bank investments; with eligible list as of March 15, 1951. T. L. Nims. Banking 43: 52-3+ My '51

What's ahead for the rail investor? S. A. Smerling. Comm & Fin Chr 173:257+ Ja 18 '51

See also

Railroads—Equipment trust certificates

Service

From oil to grain; how the Katy assisted in creation of grain storage bins from an abandoned oil tank farm. il map Ry Age 129:58-9 D 2 '50

205 carloads of beets a day for one plant; how the Great Northern feeds three American Crystal Sugar plants on a highly specialized operating plan. il map Ry Age 130:38-41 Ja 8 '51

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Shops

Assembly line for repairing Diesel engines. il Ry Mech & Elec Eng 124:742-7 D '50

Design of spray paint shop for cars. il Ry Age 131:34-5 Jl 30 '51

Electric heat in shops saves railroad $10,000. A. C. Gibson and H. S. Evans, jr. il Elec World 135:128 Mr 12 '51

Milwaukee modernizes its wheel shop. il plan Ry Mech & Elec Eng 125:51-6 Je '51

Modern shop tools and visual instruction in their use. F. E. Molloy. il Ry Mech & Elec Eng 125:47-51 Ap '51

Wheel handling using elevated runway. il Ry Mech & Elec Eng 125:59-60 Ja '51

See also

Car shops

Locomotive shops

Locomotive terminals

Equipment

Car and locomotive ideas from the Chicago & Eastern Illinois; illustrations with text. Ry Mech & Elec Eng 125:54-5 S '51

Car wheels dynamically balanced at Burnside shops. il Ry Mech & Elec Eng 125:54-5 Ja '51

Side sheets without visible seams; Southern Pacific finds inert-arc welding advantageous. il diags Ry Mech & Elec Eng 125: 46-7 Ja '51

Signals

Automatic signals; recent installation in India. H. C. Towers. il Electrician 146:1851-4 Je 1 '51

Cab signaling system. diag Ry Age 130:39 Ap 16 '51

Electric signalling; abstract and discussion. H. H. Dyer and R. Dell. Engineering 171: 747-8 Je 22 '51

40 trains on single-track c.t.c. il plan Ry Age 130:28-9 Ap 30 '51

Frisco's light-traffic c.t.c. uses power switches and spring switches. il plans Ry Age 130:46-8 Je 18 '51

How the Boston & Maine eliminated 22 miles of second track; centralized traffic control, with long sidings and special signaling. il diags Ry Age 131:47-9 S 10 '51

I.C.C. denies signaling relief to three roads. Ry Age 131:39 Ag 13 '51

Modern cab signaling and train control system for railroads. L. R. Allison. diags Elec Eng 70:311-17 Ap '51

New c.t.c. allows Missouri Pacific to remove half the sidings in 82 miles. il Ry Age 129:28-9 D 9 '50

New signal box at Agecroft Junction. Engineer 190:supp6 N 3 '50

1950 sees new adaptations of signaling to save time and money. J. H. Dunn. il Ry Age 130:196-9 Ja 15 '51

Power railway signalling. H. C. Towers. il Electrician 145:1583-5 D 29 '50

Rail safety; machines + men. il Bsns W p44-6+ Mr 10 '51

Railway signaling. G. W. Baughman. il diags Instruments 24:96-101 Ja '51

Railway signalling; new installation at York. il Elec R (Lond) 48:1198-9 Je 8 '51

Resignalling at York. il maps plans diags Engineer 191:749-51, 783-7 Je 8-15 '51; Engineering 171:688-9 Je 8 '51

Safety improved, train time saved, by modern signaling. il Ry Age 129:160-1 O 28 '50

Signaling both tracks both ways on the Norfolk & Western. il plan Ry Age 130:46-7 Mr 19 '51

Signaling on the Milwaukee. il Ry Age 129: 72-3 N 11 '50

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Southern region colour-light signalling scheme. il plan Engineer 190:461-3 N 17 '50; Engineering 170:436-7 D 1 '50; Electrician 145:1033-5 N 17 '50

Tool developed for signal pipe. Steel 128:107 My 14 '51

With c.t.c., L.&N. uses fewer sidings on single track. il diags Ry Age 131:48-51 Jl 16 '51

See also

Railroads—Automatic stop and train control

also Association of American railroads—Signal section

Snow protection and removal

Electric snow plows. il Ry Age 130:45 Mr 26 '51

Electric track switch heater (snow melter) installations at Cumberland, Md., and Willard, Ohio; A.A.R. Electrical sections committee report. il Ry Mech & Elec Eng 124: 629-31 N '50

Two-way snow consumer developed on the Canadian Pacific. il Ry Age 131:72-3 Jl 9 '51

Standards

Nationalisation and the railway mechanical engineer. R. A. Riddles. Engineering 170: 435, 484-5 D 1-8 '50; Same cond. Engineer 190:539-41 D 1 '50

Stations

Burlington's Ottumwa station. il plan Ry Age 131:86-9 S 17 '51

Chicago extends subway under La Salle Street station. D. Van Gorp. il plan diag Civil Eng 20:705-7 N '50

Improvements at Euston station. Engineer 191:359 Mr 16 '51

Mechanized sweeping cuts housekeeping costs; power sweeper in the North Western's station, Chicago. il Ry Age 130:36-7 Ap 30 '51

Moving stairways for moving people. il Ry Age 130:91-3 My 21 '51

Railroad passenger stations keep pace with equipment; present-day structures in contrast with those of half-century ago. il Ry Age 129:156-9 O 28 '50

See also

Electric railroads—Stations

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Train announcing

Multi-lingual announcing equipment installed at the Parkeston Quay station of British railways. il Engineering 170:392 N 17 '50

Statistics

1950 deficit from passenger services was $508.5 million. Ry Age 130:165-6 My 21 '51

RAILROADS—Statistics—*Continued*

1950 railroad construction indices. Ry Age 131:50 S 10 '51

Railroad freight data; revenue freight loaded, freight car carrying capacity; freight cars delivered; tabulations. Iron Age 167:328 Ja 4 '51

See also
Cars—Statistics
Locomotives—Statistics
Railroads—Finance

Stores systems

Diesel parts stockbook system. il Diesel Power 29:114-15 Ap '51

How visible records improve stores control. A. G. Denham. il Ry Age 130:24-5 Ap 23 '51

See also
Railroads—Purchasing
also Association of American railroads—Purchases and stores division

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Switches, frogs, etc.

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How taxes affect class one railroads. il Ry Age 130:30-2 Ap 23 '51

Say excess profits come only after fair return. Ry Age 129:76-7 N 4 '50

Telegraph

How modern communications systems expedite operations at Toledo; New York Central's new Central union terminal. il Ry Age 131:70-1 Jl 9 '51

More train communication in 1950. M. Peacock. il Ry Age 130:192-5 Ja 15 '51

Telephone

More train communication in 1950. M. Peacock. il Ry Age 130:192-5 Ja 15 '51

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Toledo's new Central Union terminal. il plan Ry Age 129:67-71 N 4 '50

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Freight houses
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Testing

Instruments in rail transportation testing; testing car. D. E. Clifton. il Instruments 23:1307-9 D '50

Ticket agents

More passengers, from informed ticket agents. C. L. Shortridge. il Ry Age 129:144-5 O 28 '50

Tickets

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See also
Railroads—Reservation systems

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Time tables

Eye appeal, readability, information in new timetables. il Ry Age 130:96-7 My 21 '51

Track

Derailment of a train due to buckled track. Engineering 171:40-1 Ja 12 '51

Diesel electric cranes speeding up railway track relaying. il Elec R (Lond) 149:65 Jl 13 '51

Erie's tracks attain highest standards. il Ry Age 130:82-4 My 14 '51

Maintenance indices show little change. M. H. Dick. il Ry Age 130:188-91 Ja 15 '51

Motor thruways built over railroad tracks. A. Wilson. Comm & Fin Chr 174:872 S 6 '51

Offsetting the high cost of maintenance-of-way labor. L. L. Adams. il Ry Age 130:23-6 Ja 29 '51

Permanent-way developments in Great Britain; abstract. H. B. Everard. Engineering 171:685 Je 8 '51

Roadway and ballast; A.R.E.A. committee report. diag Ry Age 130:60-1 Mr 19 '51

Single track with c.t.c. replaces double track on the Milwaukee. il diag Ry Age 130:26-7 F 26 '51

Track; A.R.E.A. committee report. Ry Age 130:61-2 Mr 19 '51

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Track cleaning machinery

Ballast tampers and cleaners spruce up British railroads. il Product Eng 22:166 Ap '51

Machines clean two yard tracks a day. il Ry Age 129:35-6 N 25 '50

Track depression

Tracks at El Paso put in big ditch. il plan diag Ry Age 130:54-8 Mr 5 '51

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Offsetting the high cost of maintenance-of-way labor. L. L. Adams. il Ry Age 130:23-4 Ja 29 '51

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Traffic

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New c.t.c. allows Missouri Pacific to remove half the sidings in 82 miles. il Ry Age 129:28-9 D 9 '50

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Absolute necessity for performance as scheduled; phase one of second-morning delivery, New York to Chicago, via the Lackawanna. W. H. Schmidt, jr. il Ry Age 129:54-7 D 2 '50

British train speeds. Engineer 191:608-9 My 11 '51

Fast railcar services on the continent. Engineer 190:392-3 O 27 '50

Present speed level on British railways. Engineer 191:517 Ap 20 '51

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Route and timing of the Flèche D'Or. il Engineer 191:374-6 Mr 23 '51

Train performance calculator. S. V. Smith. il Ry Age 130:32-3 Mr 26 '51; Same. Ry Mech & Elec Eng 125:75-7 Mr '51; Abstract. Elec Eng 70:586 Jl '51

Wabash fast freight. il map Ry Age 130:36-7 Ja 8 '51

Trains

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Blue Bird brings happiness to the Wabash; introduction of St Louis-Chicago streamliner has resulted in improved net earnings. il map Ry Age 129:30-1 D 30 '50

Business on Internationals better than expected; Seattle-Vancouver service. il Ry Age 130:34-6 Mr 26 '51

Diesel electric trains for Egypt. il Engineer 190:592-3 D 15 '50

Diesel-electric trains; ten sets for Egyptian state railways. il Elec R (Lond) 147:981-2 D 15 '50; Electrician 145:1427-9 D 15 '50

Fifty years of thoroughbreds, 1900-1950; illustrations with text. Ry Age 129:113-37 O 28 '50

Handling freight trains with Diesel locomotives. Ry Mech & Elec Eng 124:676-8 N '50

Let the engineer do the driving! Milwaukee's speedliner passenger service. il map Ry Age 129:70-1 N 11 '50

Lots of streamliners; almost everywhere. il map Ry Age 130:78-85 My 21 '51

New equipment for the Super Chief includes dome cars. il Ry Age 130:14-17 F 19 '51; Ry Mech & Elec Eng 125:49-51 Mr '51

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Southern Pacific streamliner sets spring styles. il Ry Age 130:18-20 F 19 '51

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Wages

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Leiserson heads temporary railroad wage panel. Ry Age 131:32-3 Ag 27 '51

Loomis ends wage story; escalator clauses working. Ry Age 130:66+ Ap 2 '51

Non-op escalator wage increase delayed for stabilization test. Ry Age 130:47-8 Ap 16 '51

Op general chairmen reject wage proposal. Ry Age 131:33-4 Jl 2 '51

Ops wage case back at White House. Ry Age 130:34 Ja 22 '51

Railroad employment, earnings; wages for non-supervisory employees, 1947-1950; tabulation. Iron Age 167:328 Ja 4 '51

Senate group starts wage-case hearings. Ry Age 130:60+ Mr 5 '51

Stabilizer Johnston approves escalator raise for non-ops. Ry Age 130:38-9 Ap 30 '51

Three unions reject wage agreement. Ry Age 130:238 Ja 15 '51

Wage-case settlement with trainmen based on pact of Dec. 21, 1950. Ry Age 130:60+ Je 4 '51

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Waterways competition

Court upholds I.C.C. on rail-barge rates. Ry Age 130:46-7 Ja 8 '51

Weed removal

Battle of the weeds; special equipment helps railroads keep rights-of-way free. W. P. Gillingham. il Comp Air Mag 56:150-4 Je '51

Long-range weed control program gives clean track at diminishing annual costs. il Ry Age 130:43 Ap 23 '51

Winter operation

Winter all-rail movement of iron ore. il Ry Age 130:40-1 F 5 '51

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Locomotives, Diesel-electric—Winter operation

Yards

Diesel-electric yard operation. M. G. Stewart. Ry Mech & Elec Eng 124:675-6 N '50

How loudspeakers expedite yard operation on the Wabash at Moberly. il plan Ry Age 131:42-5 Ag 13 '51

Loudspeakers and radio hasten cars to consignees. il Ry Age 129:58-60 N 4 '50

Machines clean two yard tracks a day. il Ry Age 129:35-6 N 25 '50

Markham yards gets a face lifting. il diags Midwest Eng 3:6-8+ F '51

Marshalling yards; reports at International railway congress. Engineering 171:67-8 Ja 19 '51

New buildings for Seattle coach yard. il Ry Age 130:21-3 Ja 22 '51

Retarders and intensified supervision cut switching damage to equipment and lading at Potomac yard, Alexandria, Va. C. E. McCarty. il Ry Age 129:56-7 N 4 '50

Retarders are used in this small yard at Pueblo, Colo. O. F. Arthur and W. H. Clark. il Ry Age 130:52-5 Je 11 '51

St Luc marshalling yard of the Canadian Pacific railway. il plan Engineering 170: 553-6, pl 49 D 29 '50

Southern's John Sevier yard. il plan Ry Age 131:46-56 Ag 6 '51

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Austria

Operations of the Austrian railroads, 1950-51. For Comm W 43:28 My 14 '51

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Review of Bolivian railways in 1950. For Comm W 44:28 Jl 16 '51

Brazil

Brazilian railway developments, 1950. For Comm W 43:25 Ap 2 '51

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British Columbia

Esquimalt and Nanaimo railway. E. H. Livesay. il maps plan diags Engineer 190:422-6, 452-5, 484-7, 516-19, 554-6, 584-7, 620-3 N 10-D 22 '50

Canada

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Canadian National has always met operating costs. D. Gordon. Ry Age 130:64-5 Ap 2 '51

Canadian Pacific Dieselization program. H. G. Jarman. il Diesel Power 29:74-5 Ja '51

Canadian railroads making adjustments. il Ry Age 130:227-9 Ja 15 '51

Canadian rates raised in line with ex parte 175. Ry Age 131:32 Ag 27 '51

Canadian roads ask higher rates. Ry Age 130:39 Ap 30 '51

Cheap, fast service builds train traffic for Great Northern railway. Bsns W p70 Ap 7 '51

Commodity rates on return pallets in Canada. il Ry Age 130:39 F 5 '51

RAILROADS—Canada—*Continued*

Diesel equipment flown to Canadian iron ore fields; construction of Quebec, North Shore, and Labrador railway. il map Diesel Power 29:44-5 S '51

Effect of changing economic conditions in Canada on railway operations and equipment. W. A. Newman. Engineer 191:840-2 Je 22 '51

Electric motive power for the Canadian National. W. A. Bailey. il map diags Ry Age 129:46-9 D 16 '50

New uniform rules for Canada. il Ry Age 131:48-9 Ag 20 '51

Royal commission reports on Canadian transportation. il Ry Age 130:42-4 Mr 26 '51

St Luc marshalling yard of the Canadian Pacific railway. il plan Engineering 170:553-6, pl 49 D 29 '50

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Diesel-electric trains; ten sets for Egyptian state railways. il Elec R (Lond) 147:981-2 D 15 '50; Electrician 145:1427-9 D 15 '50

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Railroads—Electrification—France

Great Britain

British train speeds. Engineer 191:608-9 My 11 '51

Can transport pay? settlement of railway unions' wage claims. Economist 160:500-1 Mr 3 '51

First new British standard locomotive. E. C. Poultney. il Ry Age 130:85-8 Mr 12 '51

Improvements at Euston station. Engineer 191:359 Mr 16 '51

Present-day locomotive working in Great Britain. O. S. Nock. il Engineer 191:501-3, 535-9 Ap 20-27 '51

Present speed level on British railways. Engineer 191:517 Ap 20 '51

Resignalling at York. il maps plans diags Engineer 191:749-51, 783-7 Je 8-15 '51; Engineering 171:688-9 Je 8 '51

Some work on British railways in 1950. il Engineer 191:32-3 Ja 5 '51

Standard passenger cars in Britain. il Ry Age 131:29-31 Jl 30 '51

Standardisation of new coaching stock on British railways. S. G. Smith. Engineering 171:87, 113 Ja 19-26 '51

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Guatemala

Railway developments in Guatemala. For Comm W 42:21 Ja 15 '51

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India

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Japan

Postwar progress on Japanese railroads. For Comm W 42:20-1 Ja 15 '51

Safety car on tour of Japanese railways. il Nat Safety N 64:42 Jl '51

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South Korean railroads. A. E. Perlman. il map Ry Age 129:20-2 N 25 '50

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Mexican railway enjoyed record gross in 1950. J. M. Orozco Escobosa. Ry Age 130:230-1 Ja 15 '51

Mexican railways plan major improvements. Ry Age 131:38 Ag 20 '51

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Netherlands railway developments in 1950. For Comm W 42:28 Mr 5 '51

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Siam (Thailand)

Railway improvement in Thailand in 1950. For Comm W 44:28 S 3 '51

Study rehabilitation of Siamese state railways. Eng N 146:52+ Ja 4 '51

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Southern states

Southern is prepared for tough transportation job. il Manuf Rec 120:36 My '51

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Switzerland

Swiss railway notes. For Comm W 42:20 F 26 '51

United States

Growth of the railroad network in the United States. G. L. Wilson and E. H. Spencer. Land Econ 26:337-45 N '50

Investor's view of transportation. S. S. Hall, jr. il Ry Age 129:53-5 N 18 '50

Railroads' 1950 in pictures. Ry Age 130:155-67 Ja 15 '51

Review of railway operations in 1950. J. H. Parmelee. il Ry Age 130:134-54 Ja 15 '51

Transportation and industrial traffic management's new responsibility. E. B. Smith. il Ry Age 130:30-2 My 7 '51

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Western roads file views on uniform classification. Ry Age 129:170 O 28 '50

Yugoslavia

Yugoslav railroads and the Five-year plan. For Comm W 42:28 F 12 '51

RAILROADS, Cable

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San Francisco's famed cable cars may suspend; hard to get insurance. Nat Underw 55:28 Ag 9 '51

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Miniature cable car made for tired cliff dwellers; Dwan's Hill Climber. il Arch Forum 94:212 Ja '51

RAILROADS, Industrial
Diesels in the steel industry. G. W. Grupp. il Diesel Power 29:28-9+ Jl '51
Shipper solves a troublesome switching problem; Miller brewing company uses Payloader tractor. il Ry Age 129:60-1 D 2 '50
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RAILROADS, Short line
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Los Angeles transit authority set up, suspended overhead transportation seen. Bus Transportation 30:101 S '51
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Canada

Canada appoints bulk transport controller. Ry Age 131:35-7 S 10 '51
Development of rate regulation in Canada. H. E. O'Donnell. Pub Util 46:654-62, 744-52 N 9-23 '50
New rail legislation proposed in Canada. Ry Age 130:52 Mr 26 '51
Rail rate bills proposed in Canada. Ry Age 130:88 Je 25 '51

Great Britain

Nationalisation and the railway mechanical engineer. R. A. Riddles. Engineering 170: 435, 484-5 D 1-8 '50; Same cond. Engineer 190:539-41 D 1 '50

United States

Budget asks '52 funds for regulation, subsidies. Ry Age 130:33-4 Ja 22 '51
Georgia would drop anti-trust complaint; tells court it is willing to have case dismissed. Ry Age 129:169 O 28 '50
Many railroad customers do not favor a national l.c.l. agency. il Ry Age 129:62-3 D 2 '50
Railroads and national security. F. G. Gurley. Am Pet Inst Proc 30(5):16-20 '50; Same cond. Nat Pet N 42:53-4 N 22 '50; Excerpts. Comm & Fin Chr 172:1995 N 23 '50
Railroads should get government encouragement. W. S. Franklin. Ry Age 130:37 Ja 22 '51
Railway business association survey shows vigorous opposition to any nationalization of U.S. railroads. Ry Age 131:34-5 S 10 '51
Report declares seizure favors only the carriers. Ry Age 130:59 Je 18 '51
Seizure called no guarantee of settling labor disputes; abstract. D. P. Loomis. Ry Age 131:35 S 24 '51
U.S. assails freight charges for cement. il Eng N 147:26 S 13 '51
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RAILROADS in war
Chicago's railroads prepare for A bomb attacks. Ry Age 129:20-1 D 23 '50
Illinois roads map civil defense setup. Ry Age 130:40-1 Ja 29 '51
Railroads proved resilient under war shock. W. T. Faricy. Ry Age 130:57 F 5 '51
Successful wartime railroad management; an appraisal based on World war II. D. S. Ballantine. il Ry Age 131:42-6 S 10 '51
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International railway congress, 15th, Rome, Sept. 25-Oct. 4. Engineering 170:572 D 29 '50
Protection of rails from salt-air corrosion. il Ry Age 130:21-3 F 19 '51
Rail; A.R.E.A. committee report. il Ry Age 130:63-5 Mr 19 '51

Prices

Steel rails at Pittsburgh, number one OH, 1929-1950; tabulation. Iron Age 167:293 Ja 4 '51

Testing

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RAILWAY age (periodical)
Samuel O. Dunn becomes chairman emeritus of Simmons-Boardman; editorial consultant for Railway age. Ry Age 129:58 N 25 '50
Symposium on indexing. E. C. Stone. Special Lib 42:64-5 F '51

RAILWAY and light securities company
Stock offered. Comm & Fin Chr 173:384 Ja 22 '51

RAILWAY express agency
Board for ten-cent raise for New York expressmen. Ry Age 129:93 N 11 '50
End of Railway Express? Bsns W p59-60+ Ja 13 '51
Express agency gets interim rate increase. Ry Age 130:37 Ap 23 '51
Hearing off, argument on in express pooling case. Ry Age 129:38+ D 23 '50
I.C.C. approves R.E.A. exclusive-agency plan. Ry Age 130:42 F 26 '51
R.E.A. strikers may win unemployment pay. Ry Age 129:74 D 2 '50

RAILWAY fuel and traveling engineers' association
Annual meeting, Chicago, Sept. 18-20. Ry Mech & Elec Eng 124:671-87 N '50
Annual meeting, Chicago, Sept. 17-19. Ry Age 131:56-8 S 24 '51; Ry Mech & Elec Eng 125:59-62+ O '51

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RAILWAY mail service
I.C.C. hears railroads urge higher mail rates. Ry Age 130:62 Je 18 '51
Mail-pay agreement approved by I.C.C. Ry Age 129:51 D 16 '50
Mail-pay agreement submitted to I.C.C. Ry Age 129:84-5 N 11 '50
Mail pay case discussed at Congressional hearing. Ry Age 130:56+ Mr 26 '51
Mechanical handling of bulk storage mail. il Ry Age 129:40-3 D 16 '50
Post office maneuvers cut payments to railroads. Ry Age 130:92-3 Mr 12 '51
Railroad executives heard in mail-pay case. Ry Age 129:33-4 D 23 '50
R.E.A., clerks' union, urge higher parcel post rates. Ry Age 129:45-6 D 9 '50
Roads deny charges of high mail pay. Ry Age 131:35-6 Ag 13 '51
Star routes will replace rail-operated mail trucks. Ry Age 130:42-3 Ap 30 '51

RAILWAY passengers assurance company
How accident insurance started. East Underw 51:19 D 8 '50

RAIN and rainfall
Basic processes of erosion. N. L. Stoltenberg. Science 112:540-1 N 3 '50
Radar, tomorrow's rain gage. H. E. Hudson, jr. and others. maps Civil Eng 21:151 Mr '51
Widespread modifications of synoptic weather conditions induced by localized silver iodide seeding; abstract. I. Langmuir. Science 112:456 O 20 '50
See also
Droughts
Floods
Run-off

RAIN erosion of plastics. See Plastic materials—Rain erosion

RAIN gages
New recording raingauge. A. Hauer. il diag J Sci Instr 28:84-5 Mr '51
Radar, tomorrow's rain gage. H. E. Hudson, jr. and others. maps Civil Eng 21:151 Mr '51

RAIN making
Artificial rainmaking licensed in California. Elec West 107:112 Ag '51
Atmospheric control. W. J. Kotsch. il diag U S Naval Inst Proc 77:722-35 Jl '51

RAIN making—*Continued*

Heavy snows spur attack on rainmakers. Eng N 147:26 Jl 5 '51

Localized effects induced by seeding supercooled clouds with dry ice and silver iodide; abstract. V. J. Schaefer. Science 112:455-6 O 20 '50

Man-made rain. Comp Air Mag 56:20 Ja '51

Problems in rain making. T. H. Evans. il Pub Works 82:36-8+ Jl '51

Rainmaking; dust bowl O.K.'s it. Bsns W p88-9 Ag 11 '51

Rainmaking; new evidence; abstract. Chem Eng 58:258+ Ag '51

Weather to order. M. L. Kastens. il Chem & Eng N 29:1090-3 Mr 19 '51

Who'll get the rainmaker? federal vs state regulation. Bsns W p58-9 D 9 '50

Widespread modifications of synoptic weather conditions induced by localized silver iodide seeding; abstract. I. Langmuir. Science 112:456 O 20 '50

Writing the law on the weather. il Bsns W p22-3 Mr 24 '51

RAINEY, Joe

Citizen Rainey of Peg Leg Well. W. G. Winslow. por U S Naval Inst Proc 76:1316-19 D '50

RAM jet propulsion. See Airplanes, Jet propelled; Jet propulsion

RAMAN effect

Apparatus for low temperature study of the Raman effect. R. C. Lord and E. Nielsen. il diags Opt Soc Am J 40:655-7 O '50

Calculation of the Raman shift in vacuum. A. Opler. Opt Soc Am J 41:349-50 My '51

Formation of complexes in benzene-oxalyl chloride solutions. B. D. Saksena and R. E. Kagarise. il J Chem Phys 19:994-9 Ag '51

Infra-red and Raman frequencies of hydrocarbon groupings. N. Sheppard. Inst Pet J 37:95-106; Discussion. 3pls diags 135-46 Mr '51

Infrared and Raman spectra of condensed nitric oxide. A. L. Smith and others. bibliog J Chem Phys 19:189-92 F '51

Infra-red and Raman spectra of cyclopentane, cyclopentane-d_1, and cyclopentane-d_{10}. F. A. Miller and R. G. Inskeep. bibliog diag J Chem Phys 18:1519-31 D '50

Infra-red and Raman spectra of fluorinated ethanes; 1,1,1-trifluoroethane. J. R. Nielsen and others. bibliog J Chem Phys 18:1471-6 N '50

Infrared and Raman spectra of methylhydrazine and symmetrical dimethylhydrazine. D. W. E. Axford and others. J Chem Phys 19:704-7 Je '51

Infra-red and Raman spectra of para-difluorobenzene. A. H. Delsemme. J Chem Phys 18:1680 D '50

Infrared and Raman spectra of SiF_4. E. A. Jones and others. J Chem Phys 19:242-5 F '51

Infrared and Raman spectra of trimethylphosphine oxide. L. W. Daasch and D. C. Smith. bibliog J Chem Phys 19:22-5 Ja '51

Infrared and Raman spectra of vinylidene cyanide. M. L. Dannis and J. J. Shipman. J Chem Phys 19:382 Mr '51

Interpretation of the CH_2 vibrational frequencies of *n*-paraffins. G. M. Barrow. bibliog J Chem Phys 19:345-6 Mr '51

Interpretation of the infrared and Raman spectra of mixed crystals. H. J. Hrostowski and G. C. Pimentel. bibliog J Chem Phys 19:661-2 My '51

Low temperature Raman cryostat. W. J. Taylor and others. il diags Opt Soc Am J 41:91-3 F '51

Origin of low frequency Raman lines in organic crystals. S. C. Sirkar. J Chem Phys 19:256 F '51

Raman and infrared spectra of nortricyclene. E. R. Lippincott. diag Am Chem Soc J 73:2001-6 My '51

Raman and infrared spectra of perfluoropropane. W. F. Edgell, H. D. Mallory and D. G. Weiblen. Am Chem Soc J 72:4856-9 N '50

Raman effect and ultraviolet absorption spectra of molybdenum and tungsten hexafluorides. K. N. Tanner and A. B. F. Duncan. bibliog Am Chem Soc J 73:1164-7 Mr '51

Raman spectra of hexamethylcyclotrisiloxane and octamethylcyclotetrasiloxane. H. Murata. J Chem Phys 19:659-60 My '51

Raman spectra of hydrocarbons; *n*-hexane, *n*-heptane, 2-methylpentane, 3-methylpentane, 2,4-dimethylpentane, and 2,3-dimethylbutane. F. F. Cleveland and P. Porcelli. bibliog J Chem Phys 18:1459-61 N '50

Raman spectra of several compounds containing phosphorus. T. J. Hanwick and P. O. Hoffmann. diag J Chem Phys 19:708-11 Je '51

Raman spectra study of hydrogen bond in acetoxime. C. N. Caughlan, H. V. Tartar and E. C. Lingafelter. bibliog Am Chem Soc J 73:1180-2 Mr '51

Raman spectrum of allene-d_4. R. C. Lord and J. Ocampo. J Chem Phys 19:260-1 F '51

Raman spectrum of tetramethyldiborane; apparatus for the production of Raman spectra at low temperatures. B. Rice, J. M. Gonzalez Barredo and T. F. Young. diag Am Chem Soc J 73:2306-7 My '51

Raman spectrum of the $[AuCl_4]$-ion. J. D. S. Goulden, A. Maccoll and D. J. Millen. Chem Soc J p 1635-6 Je '50

Rotational isomerism and the vibrational spectrum of 1,2-dibromoethane. J. T. Neu and W. D. Gwinn. bibliog diag J Chem Phys 18:1642-52 D '50

Rotational isomerism in oxalyl chloride (ClOC-COCl). B. D. Saksena and R. E. Kagarise. bibliog il J Chem Phys 19:987-93 Ag '51

Rotational isomers of 1,2-dihalogenoethanes. S. Mizushima and Y. Morino. bibliog J Chem Phys 18:1516 N '50

Substituted ethanes; Raman and infrared spectra, assignments, force constants, and calculated thermodynamic properties for 1,1,1-trichloroethane. M. Z. El-Sabban and others. bibliog diag J Chem Phys 19:855-64 Jl '51

Variation of atomic polarizabilities in molecular vibrations. F. Matossi. bibliog J Chem Phys 19:1007-10 Ag '51

Vibrational spectra of ionic forms of oxides and oxy-acids of nitrogen. C. K. Ingold and others. Chem Soc J p2576-627 O '50

RAMIE

Contradictory data on spiral structures in the secondary cell wall of fibers of flax, hemp, and ramie. P. S. Roelofsen. il diags Textile Res J 21:412-18 Je '51

Ramie fiber developments. C. E. Wright. Paper Tr J 132:13 Je 1 '51

X-ray study of the transition from water-cellulose to cellulose II in ramie, jute and sisal. R. R. Mukherjee and H. J. Woods. Textile Inst J Trans 42:T309-13 Jl-Ag '51

RAMPS

Design of aircraft loading ramps. G. H. Ikola. il diags Machine Design 23:100-5 Jl '51

Ramp speeds delivery of aggregate to plant. R. A. Phelps. il Eng N 146:52 Ap 19 '51

Tilting ramps put trucks and platforms on the level. il Comp Air Mag 56:212-13 Ag '51

Safety measures

Stairs and ramps. il Nat Safety N 63:58 Mr '51

RAMSAY-YOUNG rule

Applicability of the Ramsay-Young and Dühring rules, and an accurate method for calculating Θ, the characteristic temperature of a compound; an investigation using the best modern data. R. R. Dreisbach. Am Chem Soc J 73:3147-9 Jl '51

RANCHES

Matador; last big British-owned ranch sold. il Bsns W p56+ Ag 4 '51

Other factors enter into buying a ranch. B. Griffith. Barron's 31:6 Mr 5 '51

See also

Cattle breeding

Electric equipment

Modern ranch is scientific; electricity measures and mixes feed formulas accurately in a modern mill. il Elec West 106:70 Ja '51

RANCIDITY

BHA ups shelf life of salted nuts; butylated hydroxyanisole added to cooking oil and salt. S. R. Cecil and J. G. Woodroof. bibliog il Food Ind 23:81-4+ F '51

RAND, William McNear, 1886-
Portrait. Bsns W p 114 My 5 '51
Receives chemical industry medal. por Oil Paint & Drug Rep 158:4+ N 13 '50
Society of chemical industry medal award to W. M. Rand. por Chem & Eng N 28:4072-3 N 20 '50

RAND corporation
War of wits; air force's big brain-buying venture. J. McDonald. map Fortune 43:99-102+ Mr '51

RANDALL, Clarence Belden, 1891-
President, Inland steel co. por Fortune 42:12-13 N '50

RANDOLPH, Woodruff
I got to tell Woodruff Randolph exactly what. J. W. DeVine. pors Inland Ptr 126:35-7 N '50

RANDOMNESS (term)
Application of tests for randomness. C. A. Bennett. bibliog Ind & Eng Chem 43:2063-7 S '51

RANEY nickel. See Nickel—Raney nickel

RANGER, Texas
Kingdoms of oil. R. B. Pruet. il World Oil 132:272-3+ Ap '51

RAPID construction. See Building—Rapid construction

RAPID transit
Annual review of the transit industry. O. Ely. Pub Util 48:435-8 S 27 '51
Decentralization 1951 style; transit's latest plague. D. C. Hyde. Bus Transportation 30:63-5 S '51
Dilemma of transit or who's got the answer? industry needs a national program. G. J. MacMurray. Bus Transportation 30:34-5 Jl '51
Time to make tv an ally; television's effect on rapid transit business. il Bus Transportation 30:49-50 Ag '51
Transit, a vital national industry. H. L. Bollum. Bus Transportation 30:50-1 F '51
Transit's needs for rearmament and war. M. Edwards. Pub Util 46:592-5 O 26 '50
Where do we go from here? comments upon the transit industry's problems. F. C. Sullivan. Pub Util 48:413-23 S 27 '51

See also
Electric railroads
Motor bus lines
Railroads
Street railroads
Transit radio, inc.
Trolley buses
also subdivision Rapid transit under names of cities, e.g. Boston—Rapid transit; London—Rapid transit; Worcester, Massachusetts—Rapid transit
also American transit association

Advertising

ATA survey shows advertising is the stepchild of transit. Bus Transportation 30:38-9 Ja '51

Directories

Passenger transport year book, 1951. 258p 10s 6d Passenger transport, Avenue Chambers, Vernon place, Southampton row, London W.C.1 '51

Employees

Both sides losers in 59-day Detroit's Street Railways strike. il Bus Transportation 30:54-5 Jl '51
City government firm in DSR strike, longest in Nation's transit history. S. H. Brams. il Bus Transportation 30:84-6 Je '51
Local-transit operating employees; union scales, Oct. 1, 1950. J. P. Corkery. Mo Labor R 72:283-6 Mr '51; Same, with additional tables. U S Bur Labor Statistics Bul 1019:1-8; pa 15c Supt. of doc. '51
Strike ends in draw for transit workers in Detroit. Bsns W p42 Je 30 '51

Equipment and supplies

1951 bus show in print; illustrations with text. Bus Transportation 30:227-40 S '51

Fares

Going off the American plan in car fares; new zone system in Los Angeles. J. H. Collins. Pub Util 48:399-406 S 27 '51
St Louis Public Service wants zone fare system. Bus Transportation 30:102-3 S '51
Ten-cent peace in Birmingham. Bsns W p81-2 D 9 '50
To zone or not to zone. F. Kane. map Bus Transportation 30:27-31 Jl; 27-30 Ag '51
Zone fares for passenger transit. G. Reid. Pub Util 47:135-44, 210-17 F 1-15 '51

Finance

Public's responsibility toward transit. H. L. Bollum. Bus Transportation 30:58-9 S '51
St Louis Public Service test indicates that padding service won't pad revenues. il Bus Transportation 30:38-9 Ag '51
Transit, a unique business. J. H. Bickley. Pub Util 47:597-606, 678-87 My 10-24 '51

History

50 years of transit. G. J. MacMurray. Bus Transportation 30:46-9 F '51

Insurance requirements

Line up cover for Milwaukee rapid transit line. Nat Underw 54:15 D 28 '50
Lloyds gives Milwaukee interurban line new lease of life. Nat Underw 55:31 Ap 26 '51
Milwaukee rapid transit line is rescued by insurers after hiatus. Nat Underw 55:20 Mr 1 '51

Management

New transit idea; public transit corporations. S. H. Bingham. Pub Util 48:444-50 S 27 '51
Private enterprise in transit should be worth saving. J. L. Wilson. Bus Transportation 30:60-2 S '51

Municipal ownership

Los Angeles transit authority set up, suspended overhead transportation seen. Bus Transportation 30:101 S '51
Metropolitan transit authority changed in Wisconsin. Bus Transportation 30:101 S '51

Public relations

Going off the American plan in car fares; new zone system in Los Angeles. J. H. Collins. Pub Util 48:399-406 S 27 '51
Salesmanship; important key to transit survival. R. F. Thoma. Bus Transportation 30:72-3 S '51
Transit progress day; 100 years of progress. Bus Transportation 30:44-5 Jl '51

Securities

Recent financial data on telephone, transit, and water companies. Pub Util 47:50 Ja 4 '51 [cont monthly]

Service

St Louis Public Service test indicates that padding service won't pad revenues. il Bus Transportation 30:38-9 Ag '51

Statistics

Transit trends; 1948-1950; tabulation. Bus Transportation 30:28-31 F '51

United States

Transit girds for war. W. Pollard. Pub Util 47:339-43 Mr 15 '51

RAPID transit in war
Transit's powder is dry! transit radio as aid in civilian defense. G. W. Keith. Pub Util 48:407-12 S 27 '51

RARE earth borides
Boride cathodes. J. M. Lafferty. il diags J Ap Phys 22:299-309 Mr '51

RARE earth metals
Atom's nucleus arranged in energy shells, say physicists; conference on properties of the rare earths. Chem & Eng N 29:378-9+ Ja 29 '51
Designing with modern materials; survey of latest developments in engineering materials. il Machine Design 23:313-15 O '51
Element no. 61. bibliog Chem Age (Lond) 64:777-80+ My 19 '51
Lanthanide contraction as a teaching aid. R. N. Keller. bibliog J Chem Educ 28:312-17 Je '51
Magnesium rare earth alloys. L. W. Eastwood. il Product Eng 22:158-61 S '51
Observations on the rare earths; reaction between neodymium and ethylenediaminetetraacetate ions in aqueous solution. T. Moeller and J. C. Brantley. bibliog Am Chem Soc J 72:5447-51 D '50
Oxidation states of the rare-earth and actinide elements. R. E. Connick. Chem Soc J supp no 2:S235-41 '49

RARE earth metals—*Continued*

Position of the cis- and trans-uranic elements in the periodic system; uranides or actinides? M. Haissinsky. Chem Soc J supp no 2:S241-3 '49

Rare earths in aluminum baths give attractive hot-dip coatings. W. Hodge and E. M. Smith. il Materials & Methods 34:95-6 S '51

Rare metals found by Molybdenum corp. in California. Bsns W p27 O 13 '51

See also

Europium
Gadolinium
Lanthanum
Lutetium
Neodymium
Praseodymium
Samarium
Terbium
Ytterbium
Yttrium

Analysis

Instrument for internal standard flame photometry; application to determination of calcium in rare earths. R. H. Heidel and V. A. Fassel. bibliog diags Anal Chem 23:784-8 My '51

Rare earths; separative extraction of certain rare earth elements as 5,7-dichloro-8-quinolinol chelates. T. Moeller and D. E. Jackson. bibliog Anal Chem 22:1393-7 N '50

Isotopes

New neutron-deficient radioactive isotopes of the light rare-earth region. B. J. Stover. bibliog Phys R 81:8-13 Ja 1 '51

Separation

Adsorption separation of zirconium and hafnium. R. S. Hansen and others. bibliog Am Chem Soc J 72:5043-5 N '50

Efficient separation of dysprosium and yttrium. F. H. Spedding and J. L. Dye. Am Chem Soc J 72:5350 N '50

Further studies of the ion-exchange separation of the rare earths. B. H. Ketelle and G. E. Boyd. Am Chem Soc J 73:1862-3 Ap '51

Ion exchange separation of europium, gadolinium and terbium. G. H. Higgins and K. Street, jr. Am Chem Soc J 72:5321-2 N '50

Lanthanon complexes with ethylenediaminetetra-acetic acid. R. C. Vickery. Chem Soc J p 1817-21 Jl '51

Lanthanon purifications by the use of hexa-antipyrine lanthanon iodides. J. K. Marsh. Chem Soc J p 1337-9 My '51

Polynuclear complexes of lanthanon sulphates. R. C. Vickery. Chem Soc J p 1101-4 Ap '50

Purification of lutecium by fractionation of hexa-antipyrinelutecium iodide. J. K. Marsh. Chem Soc J p577-8 F '50

Separation of lanthanons by means of complexes with amino-acids. R. C. Vickery. Chem Soc J p2058-61 Ag '50

Separation of the lanthanons with the aid of ethylenediamine-NNN′N′-tetra-acetic acid. J. K. Marsh. Chem Soc J p 1819-23 Jl '50

Separation of yttrium and erbium with the aid of ethylenediaminetetra-acetic acid (enta acid). J. K. Marsh. Chem Soc J p 1461-3 Je '51

RARE earths

Boride cathodes. J. M. Lafferty. il diags J Ap Phys 22:299-309 Mr '51

Observations on the rare earths; precipitation of hydrous oxides or hydroxides from perchlorate solutions. T. Moeller and N. Fogel. Am Chem Soc J 73:4481 S '51

Oxidation of some rare earth oxides with ozone. S. Rabideau and G. Glockler. Am Chem Soc J 73:488 Ja '51

Rare earths; the ultraviolet absorption spectrum of the gadolinium ion in aqueous solutions. T. Moeller and F. A. J. Moss. Am Chem Soc J 73:3149-51 Jl '51

See also

Dysprosium

RARE gases. See Gases, Rare

RARITAN river

Trunk sewer proposed for the Raritan River valley. map Pub Works 82:56 S '51

RAT poisons. See Rats—Extermination

RATIONING

See also

Meat—Rationing

RATIONING, Industrial. See Priorities and allocations, Industrial

RATIOS, Financial. See Financial ratios

RATNER, Victor M. 1904-

Macy ads sell Macy's. por Bsns W p96+ Mr 3 '51

RATS

Rat-repellent findings; package protection by repellents in adhesives. J. F. Welch. il Mod Packaging 24:138-40 My '51

Rats in relationship to man's welfare. J. B. Calhoun. Science 114:214-15 Ag 24 '51

Extermination

Control of Norway rats with residual rodenticide warfarin. W. J. Hayes, jr. and T. B. Gains. bibliog diag Pub Health Rep 65:1537-55 N 24 '50

Controlling rats in New York city. W. A. Hardenbergh and J. J. Weinstein. il Pub Works 82:53-5 Mr '51

Emphasis on rats. Chem Ind W 68:33-4 Mr 17 '51

Insect and rodent control in civil defense. il Pub Works 82:79-80 Ap '51

Just how effective is warfarin? D. H. Little. il Food Eng 23:69+ Ag '51

Pest control in the food industry. R. L. Brett. il Safety Maint & Prod 102:25-6+ Jl '51

Rodenticides; progress in 75 years. J. C. Ward. il Ind & Eng Chem 43:572-3 Mr '51

Studies on 4-hydroxycoumarins; acylation of 3-(α-phenyl-β-acetylethyl)-4-hydroxycoumarin. M. Seidman, D. N. Robertson and K. P. Link. bibliog Am Chem Soc J 72:5193-5 N '50

Urban rats and their control; abstract. J. M. Henderson. Food Ind 23:176 F '51

Warfarin progress report. F. Thompson. Soap & San Chem 27:111 Ja '51

RATS as carriers of infection

Double infection of the rat fleas X. cheopis and N. fasciatus with pasteurella and salmonella. C. R. Eskey and others. Pub Health Rep 66:1318-26 O 12 '51

RAUTENSTRAUCH, Walter, 1880-

W. Rautenstrauch and his continuing influence. R. Villers. Advanced Management 16:20-1 Je '51

RAW materials

Allocations plan for U.S. and its allies. Bsns W p 146-7 F 24 '51

Britain's dwindling stocks; with data on imports and stocks, 1938, 1947-50. Economist 160:392 F 17 '51

Can Africa replace Asia as a source of raw materials? V. L. Horoth. il map Mag of Wall St 88:351-3+ Je 30 '51

Conservation of critical raw materials; design changes to effect savings in tv receiver manufacture. il Tele-Tech 10:39+ Ap '51

Co-operation on commodities. Economist 160:149-50 Ja 20 '51

Economics of raw material supplies in the Birmingham district; with cost data. E. C. Wright. Min Eng 187:1214-20 D '50

Effect of government regulations on commercial chemical development; labor, capital, and materials. W. Lindow. Chem & Eng N 29:1816-19 My 7 '51

Fuel materials; tabulations and charts. Steel 128:147 Ja 1 '51

Improvement in raw materials. Economist 161:592 S 8 '51

Industry and the raw materials crisis. Chem Age (Lond) 64:919-20 Je 16 '51

Procurement of scarce materials. E. A. Moss. Can Chem & Process Ind 35:52-5 Ja '51

Raw material availability; Southwest chemical industries. A. L. Burwell. bibliog maps Ind & Eng Chem 43:1727-34 Ag '51

Raw materials and defence. Economist 160:998-1000 Ap 28 '51

Raw materials face world allocations. Barron's 30:29 D 18 '50

Raw materials problem in British steel industry. Metallurgia 44:15-16 Jl '51

Raw materials scramble on; Washington parley draws a blank. il Bsns W p 113-14 My 26 '51

Scramble for materials; Bevan's charges and the facts. J. C. Perham. Barron's 31:3 My 14 '51

Scramble for raw materials. Bsns W p 145-6 Mr 24 '51

Steel industry's raw materials supplies. Engineer 191:127 Ja 26 '51

RAW materials—*Continued*

Tough all over. Fortune 43:19+ Ja '51

United States faces shortages in mineral raw materials. J. Boyd. Civil Eng 21:118+ F '51

U.S. raw material frontiers span the globe. T. Metaxas. Iron Age 167:108-9 Mr 8 '51

World raw materials mobilized by new setup. Bsns W p28 Ja 13 '51

See also

Cellulose
Ceramic materials
Chemicals
Clay
Coal
Cotton
Farm produce
Metals
Minerals
Mines and mineral resources
Oils and fats
Petroleum
Rubber
Textile fibers
Wood

RAYDIST

Raydist; new navigation and tracking system. C. E. Hastings and A. L. Comstock. il Aero Digest 63:24-5+ Jl '51

Raydist, new position-measuring device. diags Aviation W 54:43-4 Mr 5 '51

RAYON

Alpha cellulose output begins at Watson island. il Rayon 32:33 My '51

Cellulose-derivative rayons, past, present and future. A. R. Urquhart. bibliog Textile Inst J 42:P385-94 Ag '51

International Paper's new Natchez mill. il Paper Tr J 131:18-20+ O 5 '50; Paper Ind 32:724-7+ O '50; Tappi 33:sup78A+ N '50

Moisture relationships of cellulose; the heats of wetting of partially saturated viscose rayon and standard cellulose in water. M. Wahba. bibliog diags J Phys & Colloid Chem 54:1148-60 N '50

New pulps used in the viscose industry; dissolving pulps; abstract. R. Bartunek. Paper Ind 33:321 Je '51

1951 table of commercial synthetic yarns and fibers. Textile World 101:108-9, 118-19 S '51

Polymolecularity of viscose rayon and rayon-grade pulps. W. E. Davis. bibliog flow sheets Ind & Eng Chem 43:516-21 F '51

Purified sulphate wood pulp for viscose rayon; abstract. F. A. Simmonds. Tappi 33: sup 100A-1A D '50

Some relations, economical and technical, between the pulp and paper trade and the textile trade. G. Ullman. Soc Dyers & Col J 66:576-8 N '50

Structure and mechanical behavior of cellulose fibers. P. Herrent and A. Lude. diags Textile Res J 21:137-43 Mr '51

Synthetic fibers; Chemical Engineering report. il diags Chem Eng 58:125-32 Ag '51

Watson island; Celanese's dissolving pulp plant. il Rayon 31:31-3 O '50

See also

Dyes and dyeing—
Rayon

Analysis

Fractionation of cellulose by summative method. S. Coppick, O. A. Battista and M. R. Lytton. bibliog Ind & Eng Chem 42: 2533-8 D '50

Delustering

Delustring of acetate rayon. R. J. B. Marsden and A. R. Urquhart. bibliog il Textile Inst J Trans 42:T15-78 F '51

Knit goods

Approach to tricot-fabric engineering; American viscose corp. R. Stimmel. il Textile World 101:130-2+ S '51

Method of setting tricot fabrics. L. L. Walmsley. Am Dyestuff Rep 39:913-15 D 25 '50

Tricot quality is a habit at Native Laces. il Textile World 101:109-10+ Jl '51

Strength

Rayon fabric strength depends on variables. R. Bouvet. il Textile World 101:145+, 270 F '51

Terminology

Acetate producers ask own generic name. Rayon 32:41 Ja '51

It's as simple as that! comments on FTC hearing for the rayon industry. Rayon 32: 42 My '51

RAYON cords

Polymolecularity of viscose rayon and rayon-grade pulps. W. E. Davis. bibliog flow sheets Ind & Eng Chem 43:516-21 F '51

Resorcinol; its applications for textiles; rayon tire cord adhesive. E. W. Shand. bibliog Rayon 31:79-80+ N '50

Testing

Evaluating dynamic fatigue of adhesion of tire cords to rubber stocks. W. J. Lyons. bibliog il diags Anal Chem 23:1255-9 S '51

Tire-cord compression fatigue. M. W. Wilson. bibliog il Textile Res J 21:47-54 Ja '51

RAYON drying

Dielectric heating cuts drying time of rayon cakes from hours to minutes. R. H. Hagopian. Rayon 31:33+ N '50

Some aspects of the drying and heating of textiles; the effect of drying conditions on the latent strain in the yarn of viscose cakes. J. M. Preston and J. C. Chen. bibliog il Soc Dyers & Col J 67:97-100 Mr '51

RAYON fabrics

Corner cutters; it costs only nine cents to lose a customer, but how much more to replace her? J. M. Morahan. il Rayon 31: 34-5+ O '50

Dry cleaners are in despair about rayons. A. E. Johnson. il Rayon 32:54+ Ja '51

Hungry houses sell no bargains; price-cutting, ignorance big factors that injure rayons; education needed. J. M. Morahan. Rayon 31:32-3+ D '50

Serviceability of rayons. J. B. Goldberg. Rayon 32:43-4 Ap; 40+ My '51

Tv tackles rayon; Kathi Norris television show; discussion and demonstration of the proposed American standards for rayon fabrics. il Standardization 22:276+ S '51

Cotton mixtures

Mercerization of piece goods; cotton fabrics containing acetate rayon; abstract. A. J. Hall. Am Dyestuff Rep 39:922 D 25 '50

Defects

Check that supply package! poor quality in cloth may be caused by winding equipment. J. S. Gosnell. il Rayon 32:33 Je '51

Warp streaks; better loom reed care will improve twill linings. S. W. Brainard. il Rayon 32:31+ Jl '51

Shrinkage

Method of setting tricot fabrics. L. L. Walmsley. Am Dyestuff Rep 39:913-15 D 25 '50

Shrink-resistant rayon fabrics; abstract. M. L. Staples. Am Dyestuff Rep 40:255-6 Ap 16 '51

Strip-tester; an instrument designed to measure dimensional change in woven rayon fabrics. il diags Am Dyestuff Rep 40: 210-17 Ap 2 '51

Testing

Air porosity of open-weave fabrics; textile fabrics. A. F. Robertson. bibliog Textile Res J 20:844-57 D '50

Approach to tricot-fabric engineering; American viscose corp. R. Stimmel. il Textile World 101:130-2+ S '51

Calculate with confidence your rayon fabric strength. R. Bouvet. Textile World 100: 131+ O '50

Comparison of the breakdown produced by abrasion, using four combinations of wheels and pressures on the Taber abraser. M. H. Zook. Am Dyestuff Rep 39:795-800 N 27 '50

Development of a reproducible testing technique using the Taber abraser on rayon fabrics. M. H. Zook. bibliog diags Am Dyestuff Rep 39:679-85 O 16 '50

Evaluation of four laboratory and two wear test methods for measuring perspiration colorfastness in rayon fabrics. P. B. Mack and others. il Textile Res J 20:862-9 D '50

Men's summer suits of synthetic fibers. il Consumers Res Bul 28:11-16 Jl '51

Rayon fabric strength depends on variables. R. Bouvet. il Textile World 101:145+, 270 F '51

RAYON fabrics—Testing—*Continued*

Relation between fiber properties and apparent abrasion resistance. D. D. Gagliardi and A. C. Nuessle. Am Dyestuff Rep 40:409-15 Je 25 '51

Tachikawa's new viscose staple; Japan's new departure in rayon. S. Tachikawa. Rayon 32:43+ Mr '51

Wool mixtures

Ready rayon; Bigelow-Sanford carpet co. il Chem Ind W 68:41-2 Mr 31 '51

Wool men are on the horns of the wool dilemma; answer appears to be blends. il Rayon 32:36+ Ja '51

RAYON fibers

Experiments with high polymer rayon staple; Toramomen. S. Tachikawa. il Rayon 32:32-3+ Jl '51

Fibre arrangement in Fibro drawframe slivers. W. E. Morton and R. J. Summers. diags Textile Inst J Trans 41:T349-60 S '50

New physical properties built into Fiber E. Rayon 32:48 Ag '51

Some aspects of the drying and heating of textiles; modifications produced by thermal treatments. J. M. Preston and others. bibliog Soc Dyers & Col J 67:169-76 My '51

Tachikawa's new viscose staple; Japan's new departure in rayon. S. Tachikawa. il Rayon 32:31-3+ Mr '51

What's new in staple fibers; RST survey. Rayon 32:60-3 S '51

Where viscose stands today. J. M. Morahan. Rayon 32:36+ Ag '51

Testing

Ulster instrument for the stapling of cotton and rayon fibres. E. Honegger. bibliog il Textile Inst J 42:P57-74 F '51

RAYON finishing

Chemicals you live by in the textile industry. L. P. Seyb. Rayon 31:81-2 O '50

Corner cutters; it costs only nine cents to lose a customer; but how much more to replace her? J. M. Morahan. il Rayon 31:34-5+ O '50

Method of setting tricot fabrics. L. L. Walmsley. Am Dyestuff Rep 39:913-15 D 25 '50

Preparing rayons for resin finishing; abstract. J. M. Schandler. Am Dyestuff Rep 40:63 Ja 22 '51

Relation between fiber properties and apparent abrasion resistance. D. D. Gagliardi and A. C. Nuessle. Am Dyestuff Rep 40:409-15 Je 25 '51

Stabilizing cellulosic fabrics, with stannates or zincates, urea added; patent. Am Dyestuff Rep 40:277 Ap 30 '51

Technical aspects of the wet finishing of synthetics. H. F. Creegan. il Rayon 32:57-8+ F '51

Those bad finishes wouldn't exist if dyers turned down propositions. H. Chopak. Rayon 31:34-5 N '50

Transparentizing regenerated cellulose; patent. Am Dyestuff Rep 39:925 D 25 '50

See also

Dyes and dyeing—
  Rayon

Rayon sizing

RAYON industry

Avisco's anniversary marks rayon's fortieth year in U.S. production. H. W. Rose. il Rayon 31:60-1+ D '50

Hungry houses sell no bargains; price-cutting, ignorance big factors that injure rayons; education needed. J. M. Morahan. Rayon 31:32-3+ D '50

Let's take a look at prints; what is wrong with the rayon print business. il Rayon 32:34-5+ Ag '51

Man-made fibers; growth in rayon company sales. S. L. Sherman. Barron's 31:11-12 Jl 30 '51

Rayon's place in a war economy. Rayon 32:34-5+ F '51

Retail sellers need to learn. J. M. Morahan Rayon 32:36+ Ap '51

See also

Celanese corporation
  of America

Directories

Foreign producers of synthetic yarns and fibers. Textile World 101:125-6 S '51

How to contact fiber producers. Textile World 101:107 S '51

Securities

New synthetic fibers draw investors. Bsns W p 124+ Je 9 '51

Statistics

All-time production record for rayon and synthetic fibers. Rayon 32:96+ Mr '51

Man-made fibers in '50 show greatest percent gain. R. C. Scott. Textile World 101:115-17 S '51

British Columbia

Alpha cellulose output begins at Watson island. il Rayon 32:33 My '51

Watson island; Celanese's dissolving pulp plant. il Rayon 31:31-3 O '50

Great Britain

Rayon in difficulties; sulphur shortage. Economist 160:953 Ap 21 '51

Rayon industry and sulphur shortage; extension of acid plants. Chem Age (Lond) 65:88 Jl 21 '51

Japan

Tachikawa's new viscose staple; Japan's new departure in rayon. S. Tachikawa. il Rayon 32:31-3+ Mr '51

RAYON machinery

Refrigeration required in vacuum-xanthate kneading machines; abstract. W. Niebergall. Refrig Eng 59:456 My '51

Relation of lubrication to production costs. il Rayon 32:74+ Mr '51

RAYON manufacture

Cellulose manufacture; motor driving and pumping. il Elec R (Lond) 148:1219-21 Je '51

Chemical engineering aspects of the viscose rayon industry; abstract and discussion. W. R. Weigham. Chem & Ind p250-1 Mr 31 '51

Flow birefringence of viscose solutions. W. P. Conner and P. I. Donnelly. bibliog il diags Ind & Eng Chem 43:1136-42 My '51

Historical development of and the outlook for viscose fibres. H. J. Hegan. bibliog(60 ref) Textile Inst J 42:P395-410 Ag '51

Improving the tenacity of protein rayons; abstract. R. W. Moncrieff. Am Dyestuff Rep 40:559 S 3 '51

RAYON mills

Beacon plant uses water on roof to cool mill at Palmer, Puerto Rico. C. W. Bendigo. il Textile World 101:114-17 Mr '51

Puerto Rican rayon mill has all new equipment. C. W. Bendigo. il Textile World 101:116-17 Mr '51

Accounting

Standard labor costs for rayon finishers. E. Nadziejka. N A C A Bul 32:1335-43 Jl '51

Electric equipment

Cellulose manufacture; motor driving and pumping. il Elec R (Lond) 148:1219-21 Je 8 '51

Employees

Cotton and rayon textiles; earnings in April 1950; with tabulations. C. Rubenstein. Mo Labor R 71:466-70 O '50

Equipment

Relation of instrumentation to modernization. il Rayon 32:72-4 F '51

Ribbon quality attained at Century's new weaving mill. J. J. Lowe. il plan Textile World 101:130-3 F '51

Taylor instrument companies; control instruments for rayon mills. E. Weller. il diag Rayon 32:67-8+ F '51

RAYON printing

Cellulose acetate printing; with methylcellulose thickener and strongly alcoholic solutions; patent. Am Dyestuff Rep 40:64-5 Ja 22 '51

Fiber damage in printing cellulose rayon fabrics; abstract. A. J. Hall. Am Dyestuff Rep 39:924 D 25 '50

Let's take a look at prints; what is wrong with the rayon print business. il Rayon 32:34-5+ Ag '51

RAYON research

Configuration and structure of cellulose xanthate. C. Chen and others. bibliog Tappi 34:420-7 S '51

Experiments with high polymer rayon staple; Toramomen. S. Tachikawa. il Rayon 32:32-3+ Jl '51

RAYON sizing

Animal glue; many millions of pounds used for the sizing of textiles. H. B. Sweatt. Rayon 32:64+ Mr '51

Rayon warp sizing, old and new. J. H. MacGregor. diags Textile Inst J 42:P521-34; Discussion. P534-7 Ag '51

RAYON spinning

Direct spinning in Japan; Toho's new K.T. spinning frame. T. Takagi. il diag Rayon 31:31-2+ N '50

Fibre arrangement in Fibro drawframe slivers. W. E. Morton and R. J. Summers. diags Textile Inst J Trans 41:T349-60 S '50

100s combed viscose yarn made by Snia Viscosa. F. Perutz. Textile World 101:139 Mr '51

Pot spinning; centrifugal pot; its purposes and problems. C. P. Walker. il diag Rayon 31:34-5+ D '50

Study of one-step conversion of continuous-filament rayon to spun yarn. A. K. Cocke and others. bibliog il diags Textile Res J 21:248-55 Ap '51

RAYON throwing

Nine keys to good throwing efficiency and quality. D. S. Hamby. il Textile World 101:123+ Jl '51

RAYON weaving

Impressions of the American rayon weaving industry. H. Siddle. Textile Inst J 41:P819-26; Discussion. P826-31 D '50

Ribbon quality attained at Century's new weaving mill. J. J. Lowe. il plan Textile World 101:130-3 F '51

Teamwork gives quality weaving at Burlington Mills plant. W. A. Thomason, jr. il Textile World 101:122-5 F '51

Warp streaks; better loom reed care will improve twill linings. S. W. Brainard. il Rayon 32:31+ Jl '51

You should now be able to warp rayon from cakes. J. S. Chaya. il Textile World 100:112-15 D '50

RAYON winding

Check that supply package! poor quality in cloth may be caused by winding equipment. J. S. Gosnell. il Rayon 32:33 Je '51

RAYON yarn

Adhesion of rubber and textiles; effect of amount of spun staple yarn in textile. E. M. Borroff, R. S. Khot and W. C. Wake. il diag Ind & Eng Chem 43:439-42 F '51

Be prepared for changes in women's nylon hosiery; rayon may come back. V. A. Schiffer. Rayon 31:69-70 O '50

Reaction of acrylonitrile with macromolecular hydroxy substances; the production and uses of water-insoluble, alkali-soluble cyanoethyl cellulose ethers as soluble yarns. J. H. MacGregor and C. Pugh. bibliog Soc Dyers & Col J 67:74-80 F '51

Some aspects of the drying and heating of textiles; the effect of drying conditions on the latent strain in the yarn of viscose cakes. J. M. Preston and J. C. Chen. bibliog il Soc Dyers and Col J 67:97-100 Mr '51

Synthetics call for new type tension. J. S. Gosnell. Rayon 32:104+ Ap '51

See also

Rayon winding

Woolen and worsted yarn—Rayon mixtures

Tables, calculations, etc.

Change in synthetic yarn production; revised table, deniers and filament numbers. Rayon 32:53-5 Mr '51

Changes in synthetic yarn production; with revised denier and filament number tables as of Sept. 1951. Rayon 32:57-9 S '51

Testing

Calculate with confidence your rayon fabric strength. R. Bouvet. Textile World 100:131+ O '50

Experiments with high polymer rayon staple; Toramomen. S. Tachikawa. il Rayon 32:32-3+ Jl '51

New viscose staple; Japan's new departure in rayon. S. Tachikawa. Rayon 32:43+ Mr '51

Rotafil; evenness of low-twist filament yarns can now be measured accurately. J. A. Truitt. il diags Rayon 32:40-1 F '51

RAYONIER, inc.

Annual report. Comm & Fin Chr 173:1174-5 Mr 19 '51

RAYS

See also

Absorption of rays

Alpha rays

Cosmic rays

Gamma rays

Infrared rays

Polarization of rays

Radiation

Ultraviolet rays

X rays

RAZOR blades

Gillette razors and blades; nominated for packaging's Hall of fame. il Mod Packaging 24:92-9+ My '51

Safety blade sleeve; Marlin's slide-off wrapper makes razor-blade insertion safe and quick. il Mod Packaging 24:84-6 D '50

Advertising

Why Personna is cutting its price in half; doubled ad budget will help capture the broad, low-priced market. M. Beuick. il Ptr Ink 234:31-3 Ja 26 '51

Rating

Safety razor blades. Consumers Res Bul 27:23-4 Mr '51

RAZORS

Gillette razors and blades; nominated for packaging's Hall of fame. il Mod Packaging 24:92-9+ My '51

REACTANCE

Reactance chart. H. A. Wheeler. bibliog diags Inst Radio Eng Proc 38:1392-7 D '50

REACTIVE power

Kilovar supply and voltage control of subtransmission systems. C. A. Woodrow. il diags Elec World 134:106-9+ D 4 '50

REACTIVE power meters. See Varmeters

REACTORS

Design of saturable chokes for the control and regulation of alternating currents at power frequencies. H. S. Double. diags Inst E E Proc 98 pt 2:35-45 F '51

Reactors in low-voltage industrial power systems of 600 volts or less. D. L. Beeman and L. L. Baird. il diags Gen Elec R 53:26-33 D '50

Review of transductor principles and applications. R. Feinberg. il diags Inst E E Proc 97 pt 2:628-44 bibliog (52 titles, p643-4) O '50

Saturable reactors and control oscillators. E. Bukstein. diags Radio & Tv N 45:42+ Ap '51

Series-connected saturable reactor with control source of comparatively high impedance. H. F. Storm. il diag Elec Eng 69:1012 N '50

Simple magnetic modulator for conversion of millivolt d-c signals. G. Wennerberg. bibliog il diags Elec Eng 70:144-7 F '51

Theory of the series transductor. C. S. Hudson. Inst E E Proc 97 pt 2:751-5 D '50

Transient response of saturable reactors with resistive load. H. F. Storm. il Elec Eng 70:442 My '51

Use of saturable reactors as discharge devices for pulse generators. W. S. Melville. diags Inst E E Proc 98 pt 3:185-204; Discussion. 204-7 My '51

See also

Petersen earth coil

READABILITY. See English language

READING

Reading for profit; how do top management men arrive at decisions. Bsns W p60+ S 1 '51

Schools should teach reading. M. Kiskern. Ed & Pub 83:68 D 9 '50

Top men learn to read faster at Motorola, inc. Am Bsns 21:44-5 Jl '51

You can read faster than you do. il Mod Ind 21:42-5 Ja '51

See also

Books and reading

Business periodicals

READING—*Continued*

Study and teaching

Oral stress and meaning in printed material. W. F. Dearborn and others. Science 110: 404 O 14 '49; Discussion. 111:582-3; 112:476; 113:365 My 26, O 20 '50, Mr 30 '51

READING company
Joseph A. Fisher, new Reading co. head. il Ry Age 131:62+ S 3 '51

READING lists
Selected reading list; a means of improving the use of periodical literature. S. Herner. Special Lib 41:324-6+ N '50

READY-mixed concrete. See Concrete mixing—Ready-mixed concrete

READY mixed concrete association, National. See National ready mixed concrete association

REAL estate boards, National association of. See National association of real estate boards

REAL estate business
Air transportation and real estate values. A. N. Kemp. Comm & Fin Chr 174:1161+ S 27 '51
Effect of war on real estate; with tabulations. M. M. Blair. Comm & Fin Chr 173: 1673-5 Ap 19 '51
Lower ratio of real estate values in Nation's total wealth. R. H. Armstrong. Comm & Fin Chr 174:248 Jl 19 '51
Real estate outlook for 1952. R. W. Babson. Comm & Fin Chr 174:873 S 6 '51
Residential real estate under controls. Fed Res Bul 37:901-12 Ag '51
Urban real estate markets; characteristics and financing; abstract. E. M. Fisher. Comm & Fin Chr 174:876 S 6 '51
See also
Building
Housing projects
Leases
Mortgages
Rent
also Realtor traders club, Chicago

Advertising

Cleveland ad plan endorsed for builders. Ed & Pub 83:14 D 2 '50
Display ads do the job selling $100,000 homes. L. Farrant. Ed & Pub 83:12 D 16 '50
Ohio realty brokers favor newspaper ads. R. C. Perry. Ed & Pub 84:14 Mr 31 '51
Realtors are advised of advertising results. J. H. Hopkins. Ed & Pub 84:40 My 26 '51
Unusual product needs unusual promotion; 250-million-dollar housing project for 70,000 people gets mass market treatment; Lakewood Park, Calif. L. F. Thomann. Ptr Ink 234:42 Ja 19 '51

REAL estate developments. See Suburban development

REAL property
Pollution control and property rights. J. H. Murdoch, jr. map Am Water Works Assn J 43:61-4 Ja '51; Same. Water & Sewage Works 98:44-5 Ja '51
See also
Insurance, Life—Real estate operations
Land titles
Mortgages
Real estate business

Taxation

Easy money in real estate; some unforeseen effects of the excess profits tax and how to take advantage of them. J. K. Lasser. Arch Forum 95:143+ Ag '51
Income tax laws favorable to real estate. W. W. Brudno. Comm & Fin Chr 173:2678-9 Je 28 '51

Valuation

See also
Assessment
Insurance, Fire—Valuation of property

REALTOR traders club, Chicago
Realtor club; springboard for swaps. il Bsns W p 100-2 Ag 25 '51

REAMERS
Low-cost reamer. C. J. Anderson. diags Tool Eng 26:66 Mr '51

REARMAMENT. See Armaments

REARRANGEMENTS, Molecular. See Molecular rearrangements

RECEIVERS
See also
Insurance companies—Receiverships

RECIPROCAL trade agreements. See Commercial treaties and agreements

RECKITT and Colman, limited
Statement by the chairman. J. B. Upton. Economist 160:1535 Je 23 '51

RECLAMATION of land
Considerations for reclamation policy. M. C. Taylor. Land Econ 27:31-40 F '51
Not authorities, but the man on the land; program for river basin development proposed by the National reclamation assn. Elec West 106:59-61 Mr '51
Planned program for land rehabilitation; American aggregates corp. B. Nordberg. il plan Rock Prod 54:110-13 Ja '51

RECOMBINATION of ions. See Ions—Recombination

RECOMMENDATION, Letters of
More reliable letters of evaluation. E. A. Metcalf. J Chem Educ 28:40-1 Ja '51

RECONSTRUCTION (World war, 1939-1945)
Foreign aid by the U.S. government in calendar year 1950; with tabulations by program and by country, July 1, 1945-December 31, 1950. C. E. Shepler. Survey of Cur Bsns 31:12-18 Mr '51
Keynes in America. R. F. Harrod. Fortune 43:89-91+ Ja '51
See also
Economic cooperation administration
European recovery program

Marshall plan

British aid ends; Marshall-plan help to be suspended on Dec. 31. Oil & Gas J 49:46 D 28 '50
Can Britain do without Marshall aid? P. Einzig. Comm & Fin Chr 172:2542 D 28 '50
Disinflation in Europe; recent developments in the Organization for European economic cooperation. P. Einzig. Comm & Fin Chr 173: 1346 Mr 29 '51
Dollar aid in suspense; status of Marshall aid to Britain. Economist 159:757-9 N 11 '50
Europe's recovery; summary of third report of Organisation for European economic cooperation. Economist 160:1421-2 Je 16 '51
Marshall aid and the colonies. Economist 161:206 Jl 28 '51
Marshall aid to Britain suspended. Economist 159:1069, 1103 D 16 '50
Marshall plan starts final year. il Steel 128: 55 Ap 9 '51
$7.1 billion kitty; who is going to control our foreign aid expenditures? F. Morley. Barron's 31:5 My 14 '51
Technique for freedom. J. D. Zellerbach. Tappi 34:sup20A+ Mr '51

RECONSTRUCTION finance corporation
Abolish the RFC. M. S. Eccles. Comm & Fin Chr 173:1850+ My 3 '51
Caesar's wife must be above suspicion; RFC in deep trouble; editorial. Bsns W p 148 F 24 '51
Clean and useful; goal of new RFC. Bsns W p26 Je 9 '51
How the RFC got that way. Fortune 43:81-2 Ap '51
Insurance transactions of RFC in fiscal 1950. Nat Underw 55:2 Ja 18 '51
Loans to private business enterprises; amendments to Executive order no. 10161; text. Fed Res Bul 37:1129-30 S '51
One more chance. Bsns W p26 Ap 28 '51
RFC business loan interest rates increase from four to five per cent. Iron Age 166: 105 N 16 '50
RFC gets defense bankroll. Bsns W p 160 S 22 '51
RFC to operate in goldfish bowl. G. Baker. Iron Age 168:88 S 20 '51
Truman yields on RFC; urges single director. Bsns W p24 F 24 '51

RECORDING instruments
Amperometric residual chlorine recording. G. J. Hazey. Am Water Works Assn J 43: 292-8 Ap '51
Chart recording of microsecond pulse amplitudes. J. T. Dewan and K. W. Allen. diags R Sci Instr 21:823-6 O '50

RECORDING instruments—*Continued*

Continuous recording of circulatory hemoglobin. A. C. Guyton and others. bibliog il diags R Sci Instr 2:205-9 Mr '51

High-speed direct-trace recording methods; fixed styluses. R. B. Loucks. il diags Instruments 24:30-4 Ja '51

Instrument for automatically recording waviness of surfaces. C. W. Medhurst. il diags J Sci Instr 28:211-14 Jl '51

Instrument for directly recording the metacentric height of a ship. A. G. Boggis and E. C. B. Corlett. diags J Sci Instr 27:278-9 O '50

Instruments keep accurate records. M. F. Degley. Foundry 79:108-11 Mr '51

Kent air-operated receiver-recorder. il Engineer 191:770 Je 8 '51; Engineering 171:667 Je 1 '51; Metallurgia 43:302 Je '51

Magnetic tape recorder for very low frequency phenomena. P. E. Green, jr. diags R Sci Instr 21:893-5 N '50

New eight-day orifice-meter charts effect 20 per cent economy. il Oil & Gas J 50:102+ S 6 '51

Principles of automatic control. M. B. Hall. Pulp & Pa of Can 52:82-6 Mr '51

Recording device checks tricot feeding. M. Uno. diags Textile World 101:184 S '51

Recording motion of a watch balance wheel by watch-case reaction. E. C. Lloyd. il diag Instruments 24:154-5+ F '51

Recording tank-vapor recovery. il Oil & Gas J 50:78 Ag 30 '51

Residual chlorine recorder experiences. H. J. Krum. il plan Water & Sewage Works 98:376-9 S '51

Rotary chart translator. G. A. Flint and J. G. Lee. il diags Engineer 191:340-2 Mr 16 '51

Small infractions create major errors in flowmeter measurement. J. P. Squier. Oil & Gas J 49:60+ Ja 18 '51

Wigglin' Willie takes the place of photo recording in jet test flights; illustrations with text. Bsns W p 142 My 5 '51

RECORDING instruments, Electric

Apparatus for differential thermal analysis. D. McConnell and J. W. Earley. bibliog il diag Am Cer Soc J 34:183-7 Je 1 '51

Autographic method of checking micrometer screws. F. H. Rolt. diags Engineer 191:117-19 Ja 26 '51; Same. Engineering 171:300 Mr 9 '51

Automatic calibration of radiosonde baroswitches. S. S. Haynes. il diags Electronics 24:126-9 My '51

Automatic measurement computation and recording of dielectric constant and loss factor against temperature. E. B. Baker. il diags R Sci Instr 22:376-83 Je '51

Capacitance-controlled recorder. il Electronics 23:194+ D '50

Continuous electronic recording of the water content of oil field emulsions. P. O. Engelder. il diag Instruments 24:335-7 Mr '51; Same. Pet Eng 23:B28+ Ap '51

Crawler detects gun-barrel cracks. R. D. Kodis and R. Shaw. il diags Electronics 24:92-5 S '51

Data printers for the research laboratory. R. H. Müller and S. T. Zenchelsky. il Anal Chem 23:sup23A-4A+ Ap '51

Electronic analysis of walking. il Electronics 24:212+ Je '51; Nat Safety N 63:29+ Je '51

Electronic recording analytical balance. I. W. Lohmann. il diags R Sci Instr 21:999-1002 D '50

Electronic scale simplifies weighing operations. il Steel 129:72-3 Ag 20 '51

Electronics applied to production weighing. il Iron Age 168:119-20 S 6 '51

Electrostatically induced permanent memory. C. F. Pulvari. bibliog diags J Ap Phys 22:1039-44 Ag '51

Errors introduced into f-m carrier measuring systems; by time-base variations in recording and reproducing data. J. C. Coe. il Instruments 24:274-8 Mr '51

Frequency compensated direct coupled amplifier for use with a four channel pen recorder. J. A. Tanner and B. G. V. Harrington. bibliog il diags J Sci Instr 28:33-5 F '51

Frequency recorder. diag Elec R (Lond) 148:754 Ap 13 '51

Frequency-type paper machine speed recorder. E. H. Snider. diags Pulp & Pa of Can 52:107-8 Ag '51

Graphic recorders with fixed styli. R. S. Bark. diags Electronics 24:162+ Mr '51

High-speed recording. Tech R 53:288-9 Ap '51

How's your fist, old man? automatic code recorder. S. Becker. il diag Radio & Tv N 45:50-1 Je '51

Illumination recorder. A. H. Taylor and W. G. Pracejus. il diags Illum Eng 46:310-13 Je '51

Kelvin Hughes strain indicators. il Automobile Eng 41:300 Ag '51

Mechanical or electronic design? G. J. Giel. il diags Machine Design 23:118-20 F '51

Metropolitan-Vickers self-balancing recorder. Elec R (Lond) 147:1066 D 22 '50; Metallurgia 43:49 Ja '51

New recorders provide test data immediately. il Product Eng 22:177 Je '51

Null balance measurements. il Chem Age (Lond) 63:840 D 16 '50

Operation recorders help in making time-studies. A. N. Engblom. il Textile World 101:134-6+ Mr '51; Mech Eng 73:549-53 Jl '51

Recorder handles signals at 20 to 180/min. rate. il Pet Processing 6:673-4 Je '51

Recording manometer. il diags Engineer 190:304 S 22 '50; Engineering 170:456 D 1 '50; Metallurgia 42:274 O '50

Recording of continuous and accurate curves of any two interdependent functions that can be converted into d.c. signals. R. H. Müller and S. T. Zenchelsky. il diag Anal Chem 23:sup 21A-2A+ Mr '51

Recording torsion pendulum for the measurement of the dynamic mechanical properties of plastics and rubbers. L. E. Nielsen. bibliog diags R Sci Instr 22:690-3 S '51

Self-balancing instruments for the process industries. J. E. M. Coombes and F. B. Hinderwell. il diags Engineering 170:297-300 O 13 '50

Shape recording with ratio-modulated tape. R. R. Perron. il diags Electronics 23:104-8 N '50

Significance and continuous measurement of draw speed. E. H. Snider. diag Pulp & Pa of Can 52:109-12 Ag '51

Simple type of $X(t)$—Y recorder. T. A. Perls and W. A. Wildhack. R Sci Instr 22:541-2 Jl '51

Stress-strain recorder. il Electronics 24:244+ Ag '51

Tape and wire recorders in controlling chemical manufacturing operations. W. von Pechmann. il Ind & Eng Chem 43:sup95A-6A Jl '51

Time-base reducer. il Machine Design 23:196-7 Ap '51

Universal range selector for strip chart recorders. E. A. Bunt. il diags R Sci Instr 22:57-8 Ja '51

Versatility displayed by recorders of test data. il Product Eng 22:224 My '51

X-Y type recorder. il R Sci Instr 22:434 Je '51; Product Eng 22:179 Jl '51

See also

Intelex

Standards

Progress on recording instruments. H. C. Koening. il Standardization 22:43 F '51

RECORDS

Control records and the Controlled materials plan. A. N. Seares. Advanced Management 16:14-16 Ag '51

See also

Accounting
Archives
Card system in business
Colleges and universities—Student records
Files and filing (documents, etc.)
Forms and blanks, Business
Inventories
Microfilm records
Punched card system
Sales records
Stores systems
Time cards

also subdivision Records under special subjects, e.g.

Banks and banking
Employment departments
Factories
Mail order business
Motor bus lines
Purchasing departments
Railroads

RECORDS, Microfilm. See Microfilm records

RECORDS, Preservation of

Accountant's responsibility in preparing for possible atomic attack. T. R. Cloake. J Account 91:256-9 F '51

Microfilm safeguards vital records; Ford motor co. Nat Safety N 63:85-6 Ap '51

Protect your vital records; joint report of AGA-EEI subcommittees. il Am Gas Assn Mo 33:13-16+ Mr '51; Same abr. Edison Elec Inst Bul 19:124-7 Ap '51

Protecting your vital records; abstract. Management R 40:335-6 Je '51

Record storage; abstract. R. Jackson. J Account 90:supA26+ D '50

Will one fire or bomb, ruin your company? E. J. Leahy and R. E. Weil. il Mill & Factory 48:125-7 Ap '51

Would your records survive bombings of big cities? H. G. Miller's underground shelter. diag Am Bsns 20:20 O '50

RECORDS, State. See State records

RECORDS, Visible

Accounts receivable; how to save $4,000 a year; Garford trucking company. D. J. Zabolin. il Am Bsns 21:20+ Je '51

Focal point; a composite record for the control of periodicals using a visible signalling device. R. M. Jacobs. il J Doc 6:213-28 D '50

How visible records improve stores control. A. G. Denham. il Ry Age 130:24-5 Ap 23 '51

Magnetic indicator board for smaller libraries. J. E. L. Farradane. Aslib Proc 3:155-8 Ag '51

RECREATION

Do we need a national recreation policy? recreational benefits of multipurpose projects. J. J. Hassett. Pub Util 47:156-64 F 1 '51

Recreation as an avocation. M. B. Andrews. Textile World 100:143+ O '50

Recreation of North African workers employed in France. Int Labour R 63:192-202 F '51

Wanna buy a trip around the world? E. N. Mayer, jr. Ptr Ink 234:96 Mr 30 '51

See also

Exercise

Sports

Bibliography

Recreation bibliography; with annotations and call numbers for ready reference. M. Rife, comp. 35p pa 75c College typing co, 527 State st, Madison, Wis. '50

RECREATION areas

San Diego builds playground. il Eng N 146:45-6 Ja 18 '51

RECRYSTALLIZATION. See Crystallization

RECTIFICATION

Film resistances in rectification. K. S. Chari and J. A. Storrow. bibliog J Ap Chem 1:45-67 F '51

RECUPERATORS. See Furnaces, Recuperative and regenerative

RED

See also

Turkey red

RED lead. See Lead oxides

RED river

Flood control in the Red River basin. L. G. Yoder. map Roads & Eng Constr 88:109+ O '50

RED sea

Organic origin of some calcareous sediments from the Red sea. R. Said. bibliog Science 113:517-18 My 4 '51

REDMOND, Kenneth H.

Portrait. Fortune 43:24 Je '51

REDUCTION, Chemical

Alkaline reduction of aromatic nitro compounds with glucose. H. W. Galbraith, E. F. Degering and E. F. Hitch. bibliog Am Chem Soc J 73:1323-4 Mr '51

Asymmetric reductions; the action of (+)-2-methylbutylmagnesium chloride on methyl *t*-butyl ketone. H. S. Mosher and E. La Combe. bibliog Am Chem Soc J 72:3994-9 S '50

Asymmetric reductions; the action of (+)-3-methylpentylmagnesium chloride on methyl *t*-butyl ketone. H. S. Mosher and E. La Combe. bibliog Am Chem Soc J 72:4991-4 N '50

Attempted Rosenmund reduction of diphenylacetyl chloride. J. G. Burr, jr. Am Chem Soc J 73:3502 Jl '51

Catalytic reduction with hydrazine. L. P. Kuhn. bibliog Am Chem Soc J 73:1510-12 Ap '51

Chemical engineering unit processes fourth annual review; amination by reduction. J. Werner. bibliog(64 ref) Ind & Eng Chem 43:1917-19 S '51

Chemistry of the oxo and related reactions; reductions in the aromatic series. I. Wender, H. Greenfield and M. Orchin. Am Chem Soc J 73:2656-8 Je '51

Clemmensen reduction of butyroin. W. T. Smith, jr. Am Chem Soc J 73:1883-4 Ap '51

Cyclopropanes; the configuration and reduction of the steroisomers of cyclopropyl 3-phenyl-2-nitro-1-cyclopropyl ketone. L. I. Smith and E. R. Rogier. Am Chem Soc J 73:3837-40 Ag '51

Deoxy-sugars; comparative rates of oxidation and reduction of D-galactose and 2-deoxy-D-galactose. W. G. Overend, F. Shafizadeh and M. Stacey. Chem Soc J p2062-4 Ag '51

Evidence of 1,4- and 1,6-reductions of *cis* and *trans*-phenyldibenzoylethylenes. R. E. Lutz and C. R. Bauer. Am Chem Soc J 73:3456-9 Jl '51

Induced oxidation of alcohols during the reduction of acid permanganate. J. H. Merz, G. Stafford and W. A. Waters. Chem Soc J p638-45 Mr '51

Kinetics of the reduction of aromatic iodo-compounds by hydriodic acid in solution. V. Gold and M. Whittaker. Chem Soc J p 1184-90 My '51

Lanosterol; reduction of ketones in the lanosterol series. J. F. Cavalla and J. F. McGhie. Chem Soc J p834-7 Mr '51

Meerwein-Ponndorff/Oppenauer reaction. W. A. Johnson and G. E. H. Skrimshire. bibliog diags Chem & Ind p380-4 My 19 '51; Discussion. J. C. McGowan. p601-2 Jl 7 '51

Molecular weight of lysozyme after reduction and alkylation of the disulfide bonds. H. Fraenkel-Conrat and others. Am Chem Soc J 73:625-7 F '51

New reduction product of brucine. S. P. Findlay. bibliog Am Chem Soc J 73:3008-11 Jl '51

New technique for the reduction of certain heterocyclic methiodides. J. A. Barltrop and D. A. H. Taylor. Chem Soc J p 108-10 Ja '51

Oxidation and reduction of 4-acetamidobenzaldehyde thiosemicarbazone. R. Duschinsky and H. Gainer. Am Chem Soc J 73:4464-6 S '51

Oxidation-reduction; the kinetics of the reduction of iodine by titanous ion. C. E. Johnson, jr. and S. Winstein. bibliog Am Chem Soc J 73:2601-5 Je '51

Partial asymmetric synthesis by the Meerwein-Ponndorf reduction. L. M. Jackman, J. A. Mills and J. S. Shannon. bibliog Am Chem Soc J 72:4814-15 O '50

Path of carbon in photosynthesis; photosynthesis, photoreduction and the hydrogen-oxygen-carbon dioxide dark reaction. E. J. Badin and M. Calvin. bibliog Am Chem Soc J 72:5266-70 N '50

Podophyllotoxin and picropodophyllin; their reduction by lithium aluminum hydride. N. L. Drake and E. H. Price. bibliog Am Chem Soc J 73:201-5 Ja '51

Polarographic study of the electroreduction of acridine. R. C. Kaye and H. I. Stonehill. pl diags Chem Soc J p27-38 Ja '51

Rearrangement and reduction of hindered 2-hydroxy-3-alkyl-1,4-naphthoquinones. L. F. Fieser and A. R. Bader. bibliog Am Chem Soc J 73:681-4 F '51

Rearrangement of α-aminoketones during Clemmensen reduction; the rearrangement of 3-ketoquinolizidine. N. J. Leonard and S. H. Pines. bibliog Am Chem Soc J 72:4931-4 N '50

Reduction by dissolving metals; some hydronaphthalene derivatives. A. J. Birch, A. R. Murray and H. Smith. Chem Soc J p 1945-50 Ag '51

Reduction by dissolving metals; the reactivity of mesomeric anions in relation to the reduction of benzene rings. A. J. Birch. Chem Soc J p 1551-6 Je '50

REDUCTION, Chemical—*Continued*

Reduction of acetylated glycopyranosyl bromides to 1,5-anhydroglycitols with lithium aluminum hydride; 1,5-anhydro-L-rhamnitol. R. K. Ness, H. G. Fletcher, jr. and C. S. Hudson. bibliog Am Chem Soc J 72:4547-9 O '50

Reduction of allylamines with sodium in liquid ammonia. T. J. King. Chem Soc J p898-900 Ap '51

Reduction of amides with lithium aluminium hydride. A. L. Morrison, R. F. Long and M. Königstein. Chem Soc J p952-5 Ap '51

1,4-Reduction of an αβ-unsaturated ketone by lithium aluminum hydride. R. E. Lutz and D. F. Hinkley. Am Chem Soc J 72:4091-2 S '50

Reduction of α- and β-ketoesters. M. S. Newman and H. M. Walborsky. bibliog Am Chem Soc J 72:4296-7 S '50

Reduction of aromatic hydrocarbons with lithium aluminium hydride. I. Goodman. Chem Soc J p846-7 Mr '51

Reduction of carbohydrazide; the acidity of carbohydrazide, semicarbazide and urea. A. H. Corwin and J. D. Reinheimer. bibliog diag Am Chem Soc J 73:1184-6 Mr '51

Reduction of certain halogenated nitroparaffins by liquid ammonia; brompicrin. E. Schulz, S. Meisel and F. C. Schmidt. Am Chem Soc J 73:2962 Je '51

Reduction of cholestenone enol acetate by sodium borohydride. W. G. Dauben and J. F. Eastham. Am Chem Soc J 73:4463-4 S '51

Reduction of diazotized amines on cotton. E. R. Atkinson and A. G. Hoyle. Am Chem Soc J 73:1841-2 Ap '51

Reduction of 1,4-di-(2-hydroxy-3,4,6-trimethylphenyl)-butane-1,4-dione; the two stereoisomeric diols. L. I. Smith and R. R. Holmes. Am Chem Soc J 73:3851-3 Ag '51

Reduction of estrone and estrogen esters. J. H. Biel. Am Chem Soc J 73:847-8 F '51

Reduction of α-haloketones to halohydrins by lithium aluminum hydride. R. E. Lutz, R. L. Wayland, jr. and H. G. France. Am Chem Soc J 72:5511-12 D '50

Reduction of nitriles to primary amines with lithium aluminum hydride. L. H. Amundsen and L. S. Nelson. Am Chem Soc J 73:242-4 Ja '51

Reduction of *o*-quinones with lithium aluminium hydride. J. Booth, E. Boyland and E. E. Turner. Chem Soc J p 1188-90 Ap '50

Reduction of *p*-quinones with lithium aluminium hydride. E. Boyland and D. Manson. Chem Soc J p 1837-40 Jl '51

Reduction of SrO by tungsten in vacuum. G. E. Moore and others. bibliog J Chem Phys 18:1579-86 D '50

Reduction of sulfones to sulfides. F. G. Bordwell and W. H. McKellin. bibliog Am Chem Soc J 73:2251-3 My '51

Reduction of trimethylacetonitrile with Grignard reagents. H. S. Mosher and W. T. Mooney. Am Chem Soc J 73:3948-9 Ag '51

Reductive cleavage of benzyl glycosides for relating anomeric configurations; preparation of some new benzyl pentosides. C. E. Ballou, S. Roseman and K. P. Link. bibliog Am Chem Soc J 73:1140-4 Mr '51

Reversible oxidation-reduction reactions of aromatic amines. L. F. Oldfield and J. O. Bockris. bibliog diag J Phys & Colloid Chem 55:1255-74 O '51

Sodium borohydride as a reducing agent for sugar lactones. M. L. Wolfrom and H. B. Wood. bibliog Am Chem Soc J 73:2933-4 Je '51

Steric effects and stereochemistry of lithium aluminum hydride reduction. D. S. Noyce and D. B. Denney. bibliog Am Chem Soc J 72:5743-5 D '50

Studies in the anthracene series; reduction of highly hindered ketones with lithium aluminum hydride. E. L. May and E. Mosettig. Am Chem Soc J 73:1301-2 Mr '51

Unit processes; Chemical Engineering report, March 1951; amination by reduction. P. H. Groggins. diag Chem Eng 58:131 Mr '51

REDUCTION, Electrolytic

Diffusion-controlled electrode reactions. C. S. Lin and others. bibliog diags Ind & Eng Chem 43:2136-43 S '51

Dodecitol from the alkaline electroreduction of D-glucose. M. L. Wolfrom and others. Am Chem Soc J 73:3357-8 Jl '51

Electrochemical reduction of nitroalkanes; preparation of *N*-alkylhydroxylamines (hydroxaminoalkanes). M. W. Leeds and G. B. L. Smith. bibliog Electrochem Soc J 98:129-33 Ap '51

Millicoulometry; the polarographic reduction of copper(II) from thiocyanate solutions. L. Meites. bibliog Am Chem Soc J 73:4479-81 S '51

Millicoulometry; the purported reduction of nitrate at the dropping mercury electrode. L. Meites. bibliog Am Chem Soc J 73:4115-19 S '51

Oxidation levels of rhenium; polarographic and coulometric reduction of perrhenate. C. L. Rulfs and P. J. Elving. bibliog Am Chem Soc J 73:3284-6 Jl '51

Oxidation-reduction reactions of neptunium (IV) and -(V). J. R. Huizenga and L. B. Magnusson. Am Chem Soc J 73:3202-6 Jl '51

Polarographic reduction of *cis*- and *trans*-dinitrotetramminecobalt(III) chloride in chloride, tartrate and citrate media. H. F. Holtzclaw, jr. Am Chem Soc J 73:1821-2 Ap '51

Polarographic reduction of some heterocyclic molecules; coumarin and certain derivatives thereof. A. J. Harle and L. E. Lyons. Chem Soc J p 1575-8 Je '50

Reductive dissolution of ferric oxide in acid. M. J. Pryor and U. R. Evans. diags Chem Soc J p 1259-76 My '50

Synthesis of 2,3-bis-(*p*-carbethoxyphenyl)-2,3-butanediol by electrolytic reduction. M. J. Allen. diags Am Chem Soc J 73:3503-4 Jl '51

See also

Polarography

REDUCTONE

Chemistry of reductone; some condensation products of reductone with amino-compounds. W. Cocker and others. Chem Soc J p2052-8 Ag '50

REDUCTORS

Application of lead reductor to indirect determination of sodium. W. M. McNabb, J. F. Hazel and H. F. Dantro. diag Anal Chem 23:1325-6 S '51

Jones reductor; a model for the kinetics of chromatography. K. Knox and H. C. Thomas. J Chem Phys 19:224-7 F '51

Potentiometric method for microdetermination of iron; extension of use of silver reductor. I. C. Wells. bibliog Anal Chem 23:511-14 Mr '51

REDUX. See Resinous products—Adhesives

REDWOOD

Delignification of redwood cooling tower. M. Brooke. Pet Eng 23:C38-9 Ap '51

Probable chromosome number of fossil sequoia and metasequoia found in Japan. S. Miki and S. Hikita. bibliog il Science 113:3-4 Ja 5 '51

Redwood as a potential source of pulp. H. F. Lewis. il Tappi 34:385-90 S '51

Redwood bark fiber insulation; its properties and application. E. Simons. bibliog il Refrig Eng 59:782-7; Discussion. 787+ Ag '51

Redwood plastic pulp for phenolic resin laminates. T. A. Howells and R. H. Goms. il Tappi 34:121-5 Mr '51

REED, Ellis Emmons

Director of services to U.S. management by National management council. H. Woodward. por Sales Management 66:40 Je 1 '51

REEFS

Acidizing practices in Canyon Reef section, Scurry county. G. D. Simon. World Oil 132:100+ Mr '51

Deep Pennsylvanian reef discoveries spur exploration. K. M. Fagin. maps Pet Eng 22:B7-10 D '50

Geology and the petroleum engineer with special reference to western Canada. H. H. Beach. diags World Oil 131:250-2+ D '50

Gravity exploration for reefs and other porosity maxima. H. Klaus and J. C. Hughes. bibliog World Oil 132:78-80+ Je '51

Oil possibilities of Niagaran reefs in Illinois. A. H. Bell. maps World Oil 132:74+ Ja '51

Some operating problems in old limestone reef fields. K. M. Fagin. il Pet Eng 23:B62+ Ja '51

REEFS, Coral. See Coral reefs and islands

REELS
See also
Moving picture films
—Reels

REEMPLOYMENT of veterans. See Veterans—Reemployment

REEVES soundcraft corporation
Security I like best. C. L. Holton. Comm & Fin Chr 174:150+ Jl 12 '51

REFEREES in bankruptcy. See Bankruptcy

REFERENCE books
See also
Bibliography
Dictionaries
Directories

Bibliography

Art of searching the literature. L. O. Lewton. J Chem Educ 28:487-91, 539-43 S-O '51
Basic reference sources. Special Lib 42:67 F '51
Business reference publications; catalogs, directories, buyers' guides, etc. Ind Marketing 35:119-21 S 15 '50; 36:107-9 Je 25 '51
Reference books a brief guide for students and other users of the library. M. N. Barton, comp. 2d ed 99p pa 75c Enoch Pratt free library, Baltimore '51
Reference publisher's reference collection. A. Rothe. Special Lib 42:51-5+ F '51

REFINERIES, Petroleum. See Petroleum refineries

REFLECTION
Experimental study of the change in phase accompanying reflection of light from thin evaporated films. L. G. Schulz and E. J. Scheibner. bibliog diags Opt Soc Am J 40:761-5 N '50

REFLECTION (optics)
Absolute spectral diffuse reflectance of magnesium oxide. W. E. K. Middleton and C. L. Sanders. bibliog diags Opt Soc Am J 41:419-24 Je '51
Effect of phase changes in white light interferometry. L. G. Schulz. bibliog diags Opt Soc Am J 41:261-4 Ap '51
Polarimetric determination of the ratio of complex reflection coefficients. R. E. Hartman. Opt Soc Am J 41:244-6 Ap '51
Reflecting surface to simulate an infinite conducting plane. S. J. Raff. diags J Ap Phys 22:610-13 My '51
Shape of reflected interference fringes from interferometers coated with thin metal films. J. Holden. bibliog il Opt Soc Am J 41:504-10 Ag '51
Spectroscopy in infrared by reflection and its use for highly absorbing substances. I. Šimon. bibliog il diags Opt Soc Am J 41:336-45 My '51
Specular and diffuse reflectances of printing ink and common papers. H. M. Sharp and J. F. Parsons. plan diag Illum Eng 46:413-14 Ag '51
See also
Reflectors

REFLECTOMETERS
Hiding power by Hunter reflectometer of synthetic iron oxides, by the Toronto club. il diag Paint Oil & Chem R 113:70-3 N 23 '50
Instrumentation studies; photoelectric instruments for measurement of color; reflectance and transmittance; photovolt photoelectric reflection meter, Model 610. L. R. Dearth and others. bibliog il diag Tappi 33:sup85A-9A O '50
Instrumentation studies; study of photoelectric instruments for the measurement of color; reflectance and transmittance; Densichron as a reflection meter. L. R. Dearth and others. bibliog il Tappi 34:sup 126A-32A Ag '51

REFLECTORS
Blue tv lamp design report. R. D. Chipp. il diag Tv Eng 2:16-17+ Ag '51
Reflector lamps pay off in maintenance dollars. J. W. St Andre. il Factory Management 109:88-9 Ag '51
Reflectorized lamps in protective lighting. R. T. Dorsey. il Illum Eng 46:264-5 My '51
72-inch high vacuum evaporator and its glow discharge equipment. N. C. Benson and others. diags Opt Soc Am J 40:687-90 O '50

REFORESTATION. See Forests and forestry

REFORMATSKY reaction
Investigation of the course of the Reformatsky reaction. J. F. J. Dippy and J. C. Parkins. Chem Soc J p 1570-4 Je '51
New approaches to the synthesis of compounds containing conjugate unsaturation. C. D. Hurd and H. E. Winberg. Am Chem Soc J 73:917-19 Mr '51
Partial asymmetric synthesis in a Reformatsky reaction. J. A. Reid and E. E. Turner. Chem Soc J p3365-8 D '49
Researches on acetylenic compounds; further Reformatsky reactions with propargyl bromides. H. B. Henbest, E. R. H. Jones and I. M. S. Walls. Chem Soc J p3646-50 D '50
Synthesis of a lactone related to auxin b. E. B. Reid and W. R. Ruby. bibliog Am Chem Soc J 73:1054-61 Mr '51
Synthesis of some δ-lactones of α,β,δ-trihydroxy acids. J. English, jr., J. D. Gregory and J. R. Trowbridge, 2d. bibliog Am Chem Soc J 73:615-18 F '51

REFRACHOR. See Physical constants

REFRACTION, Double
Effect of a Gaussian distribution on flow birefringence. H. A. Scheraga. bibliog J Chem Phys 19:983-4 Jl '51
Flow birefringence of viscose solutions. W. P. Conner and P. I. Donnelly. bibliog il diags Ind & Eng Chem 43:1136-42 My '51
Streaming birefringence of denatured ovalbumin. J. F. Foster and E. G. Samsa. bibliog Science 112:473-4 O 20 '50
Streaming orientation studies on denatured proteins; heat denaturation in 85 per cent aqueous glycerol. E. G. Samsa and J. F. Foster. Am Chem Soc J 73:3190-3 Jl '51
Streaming orientation studies on denatured proteins; heat denaturation of ovalbumin in acid media. J. F. Foster and E. G. Samsa. bibliog Am Chem Soc J 73:3187-90 Jl '51
Studies on birefringence of macromolecular solutions. C. Sadron. bibliog il diags J Ap Chem 1:290-8 Jl '51
See also
Cotton-Mouton effect
Kerr effect

REFRACTION, Molecular
Atom polarisation; the solvent-effect theory and its application to the molecular refraction and polarisation of *n*-paraffins in the liquid state. A. Audsley and F. R. Goss. Chem Soc J p2989-97 N '50
Interaction polarizabilities of electron releasing and electron withdrawing groups in aromatic compounds. C. Curran and F. M. Palermiti. Am Chem Soc J 73:3733-4 Ag '51

REFRACTIVE index
Acetaldehyde, propionaldehyde, and *n*-butyraldehyde; some physical properties. T. E. Smith and R. F. Bonner. bibliog diag Ind & Eng Chem 43:1169-73 My '51
Achromatic doublet of silicon and germanium. R. G. Treuting. il Opt Soc Am J 41:454-6 Jl '51
Amino-acids and peptides; the solubility criterion of chemical purity with special reference to amino-acids; the use of refractive-index measurements. E. W. Williams and G. T. Young. diags Chem Soc J p 1745-6 Jl '51
Analysis of three-component liquid mixtures by refractive index alone. W. M. Spicer and L. H. Meyer. bibliog Anal Chem 23:663-4 Ap '51
Aqueous solutions of sodium benzenesulfonate and monosubstituted derivatives; some physicochemical properties. P. W. Renich and R. Taft. bibliog Ind & Eng Chem 43:2376-84 O '51
Azeotropes of 2-ethoxyethanol with alkyl benzenes. W. F. Kieffer and C. E. Grabiel. bibliog Ind & Eng Chem 43:973-5 Ap '51
Calculation of index of refraction of gases from absorption data. M. A. Greenfield and F. W. Brown. Opt Soc Am J 40:643-6 O '50
Densities and refractive indexes for propylene glycol-water solutions. G. MacBeth and A. R. Thompson. bibliog Anal Chem 23:618-19 Ap '51
Density, refractive index, boiling point, and vapor pressure of eight monoolefin (1-alkene), six pentadiene, and two cyclomonoolefin hydrocarbons. A. F. Forziati and others. bibliog J Res Nat Bur Stand 45:406-10 N '50

REFRACTIVE index—*Continued*

Determination of saturation temperatures of inorganic salt solutions; refractive index measurements. C. R. Parkerson. diags Anal Chem 23:610-13 Ap '51

Effect of small refractive index differences between solution and solvent on light scattering. P. Debye and W. M. Cashin. J Chem Phys 19:510 Ap '51

Effect of small refractive index differences between the solution and the solvent on light-scattering molecular weight. R. Rivest and M. Rinfret. J Chem Phys 18:1513-14 N '50

Effect of temperature on density and refractive index on organic compounds of various Cox chart families. R. R. Dreisbach. bibliog Anal Chem 23:379 F '51

Fluctuations in the refractive index of the atmosphere at microwave frequencies. G. Birnbaum. bibliog Phys R 82:110-11 Ap 1 '51

Index of refraction as supplement to X-ray crystal analysis of solid solutions. L. J. Wood and A. J. Frank. bibliog Anal Chem 23:695-9 My '51

Index of refraction for neutrons. D. Kleinman and G. Snow. Phys R 82:952 Je 15 '51

Interference films on glass. S. Anderson and D. D. Kimpton. il Am Cer Soc J 34:141-5 My 1 '51

Interferometry in electrophoresis. L. G. Longsworth. bibliog diags Anal Chem 23:346-8 F '51

Liquid dinitrogen tetroxide solvent system; the dielectric constant, refractive index, and polarisation of liquid dinitrogen tetroxide; the nature of solutions. C. C. Addison, H. C. Bolton and J. Lewis. diag Chem Soc J p 1294-7 My '51

Measurement of refractive indexes of liquids in the infrared. J. H. Jaffe. diags Opt Soc Am J 41:166-9 Mr '51

Phase-shift refractometer. C. W. Tolbert and A. W. Straiton. bibliog il diags R Sci Instr 22:162-5 Mr '51

Prism reflections aiding index measurements. F. Mooney. Opt Soc Am J 41:247-8 Ap '51

Properties of new synthetic rubbers and plastics. G. B. Bachman and others. bibliog Ind & Eng Chem 43:997-1002 Ap '51

Refrachor; a new physical constant. S. S. Joshi and G. D. Tuli. Chem Soc J p837-8 Mr '51

Refractive indices for the methyl esters of the C_{12}-C_{28} saturated *n*-aliphatic acids. C. F. Krewson. Am Chem Soc J 73:1365 Mr '51

Refractive indices of lithium fluoride. D. S. L. Durie. diag Opt Soc Am J 40:878-9 D '50

Refractive indices of maltose solutions. E. J. McDonald. J Res Nat Bur Stand 46:165-7 Mr '51

Refractive indices of rutile and sphalerite. J. R. DeVore. diag Opt Soc Am J 41:416-19 Je '51

Refractivity of lithium fluoride with application to the calibration of infrared spectrometers. L. W. Tilton and E. K. Plyler. bibliog J Res Nat Bur Stand 47:25-30 Jl '51

Some disubstituted α-methylstyrenes and their polymerization characteristics and a comparative study of the refractive indexes of substituted styrenes and α-methylstyrenes. G. H. Stempel, jr. and others. bibliog Am Chem Soc J 73:455-6 Ja '51

Study of the effect of linear pressure on refractive index change in glass. P. W. Collyer. bibliog il Am Cer Soc J 34:59-62 F 1 '51

Test mixtures for distillation at atmospheric and reduced pressure. C. B. Willingham and V. A. Sedlak. bibliog J Res Nat Bur Stand 45:315-17 O '50

Ultraviolet absorption spectra and the refractive indices of some fluorobromomethanes. N. Davidson. bibliog Am Chem Soc J 73:467-8 Ja '51

Vapor-liquid equilibria in binary systems. N. Alpert, P. J. Elving and D. G. Flom. bibliog diag Ind & Eng Chem 43:1174-86 My '51

REFRACTOMETERS

Calibration of differential refractometers. R. F. Stamm. il Opt Soc Am J 40:788 N '50

Hilger-Chance precision refractometer. il diags Engineering 171:738-9 Je 15 '51

Phase-shift refractometer. C. W. Tolbert and A. W. Straiton. bibliog il diags R Sci Instr 22:162-5 Mr '51

Recording microwave refractometer. il diag Instruments 23:1016-18 O '50

Simple double-prism refractometer. R. Cecil and A. G. Ogston. diags J Sci Instr 28:253-4 Ag '51

REFRACTORIES institute

Semiannual meeting, 1st, White Sulphur Springs, June 18-19. Brick & Clay Rec 119:48-9 Jl '51

REFRACTORY cement. See Cement, Refractory

REFRACTORY concrete. See Concrete, Refractory

REFRACTORY industry

Directories

Directory of materials; refractories for chemical manufacture. Chem Eng 57:152-3 N '50

Statistics

Refractories industry has always taken serious view of its responsibility; production data, selected years, 1938-1948. il Brick & Clay Rec 118:54-5 Ja '51

REFRACTORY materials

All-basic open hearth furnaces; conference, Leamington Spa, May 2-3. Engineer 191:644-8, 696-7 My 18-25 '51; Metallurgia 43:289-94 Je '51

American ceramic society 53d annual meeting, Chicago, April 22-26; abstracts of refractories papers. Iron Age 167:95-6 My 24 '51

American foundrymen's society refractory sessions, Buffalo. Brick & Clay Rec 118:64+ Je '51

Basic need. il Chem Ind W 68:10-11 Mr 10 '51

Beta-alumina occurrence in glass tank refractories. L. Bor. il Am Cer Soc J 33:375-6 D 1 '50

Certain refractory compounds as thermionic emitters. D. L. Goldwater and R. E. Haddad. diag J Ap Phys 22:70-3 Ja '51

Chemical engineering materials of construction; ceramics. J. H. Koenig and N. H. Snyder. bibliog(59 ref) il Ind & Eng Chem 43:2208-17 O '51

Control of refractory materials. C. E. Sumpter. J Metals 188:1442-3 D '50

Designing with modern materials; survey of latest developments in engineering materials. il Machine Design 23:327-31 O '51

Developments in refractories for glass furnaces. W. F. Rochow and H. E. Primm. il Am Cer Soc Bul 30:287-90 S 15 '51

Fundamental investigation of steel plant refractories problems; abstract. A. Muan and E. F. Osborn. Iron & Steel Eng 28:124-5 Ag '51

Gun-applied refractory linings. Pet Processing 6:1000+ S '51

Handling refractories with fork lift trucks. W. F. Mundy. Am Cer Soc Bul 30:8-10 Ja 15 '51

Here are other reasons why refractories are essential. il Brick & Clay Rec 118:60-1+ Ja '51

High-lime refractory resistant to phosphate melts; studies in the system CaO-TiO_2. H. G. Fisk. bibliog il Am Cer Soc J 34:9-13 Ja 1 '51

High-temperature ceramic materials. H. B. Michaelson. bibliog il Product Eng 22:120-3 Ag '51

Hot metal cars and mixers; how to extend life of refractory linings. R. P. Heuer and C. E. Grigsby. il Steel 128:93-4+ Ap 2; 129:82+ Jl 16; 90+ Ag 6; 78+ Ag 20 '51

Improved refractory now produced in volume. Iron Age 166:60 O 26 '50

Iron on the alkaline side; foundrymen shift from acid to basic linings. il Bsns W p74-5 Mr 10 '51; Same. Brick & Clay Rec 118:96+ Ap '51

Ladle refractories and practice in acid electric steel foundry; abstract. C. H. Wyman. Foundry 79:152 Jl '51

Manufacture and use of fireclay grog refractories. R. R. West and W. J. Sutton. bibliog Am Cer Soc Bul 30:35-40 F 15 '51

REFRACTORY materials—*Continued*

Mineral and chemical changes in periclase brick under conditions of steel plant operation. R. G. Wells and L. H. Van Vlack. bibliog il diags Am Cer Soc J 34:64-70 F 1 '51

More steel, more brick; refractories for steel furnaces. il Bsns W p 110-12+ Ap 14 '51

Open hearth and electric furnace refractories. J. R. Cady. bibliog il Blast F & Steel Pl 39:684-7 Je '51

Outlook for ceramics in gas turbines. W. H. Duckworth and I. E. Campbell. Brick & Clay Rec 118:47-8 My '51

Physical properties of refractories. R. A. Witschey. Oil & Gas J 50:331 S 20 '51

Plastic refractories are versatile performers. diags Power 95:109+ Mr '51

Preparation of zirconia and alumina shapes. L. E. Mong and J. J. Donoghue. bibliog il Am Cer Soc Bul 29:405-7 N 15 '50

Properties of available blast furnace refractories. M. A. Fay. diags Iron & Steel Eng 27:55-9 O '50

Properties of refractory materials; table. Oil & Gas J 50:139 S 13 '51

Protection of mild steel against high temperatures; investigations into a refractory enamel; abstracts. Engineer 191:879 Je 29 '51; Engineering 171:763 Je 22 '51; Metallurgia 44:144 S '51

Refractories are needed here, and refractories are ready; symposium. il Brick & Clay Rec 118:50-1+, 52-5+ Ja '51

Refractories; classification. R. A. Witschey. Oil & Gas J 50:113 S 6; 115 S 27 '51

Refractories for the task. W. L. Fabianic and others. il Cer Ind 54:84-6 Je; 55:72-4 Jl '50; Same. Brick & Clay Rec 117:66-7+ O; 65-6+ N '50

Refractories industry trends. il Brick & Clay Rec 118:63 Ja '51

Refractories problems in the melting of glass. C. G. Harman and J. D. Sullivan. bibliog plan diags Glass Ind 32:178-82 Ap '51

Refractory cermets. L. J. Cronin. bibliog diags Am Cer Soc Bul 30:234-8 Jl 15 '51

Refractory papers presented at annual open hearth conference, Cleveland. Brick & Clay Rec 118:49-50 My '51

Sintered oxide crucibles withstand temperatures exceeding 2000° centigrade. il Brick & Clay Rec 118:72-3 Ap '51

Some physical properties of eight refractory oxides and carbides. J. J. Gangler. bibliog il diag Am Cer Soc J 33:367-74; Discussion. 374-5 D 1 '50

Spectral emissivity of coatings of thoria and other refractories as a function of temperature. F. H. Morgan. J Ap Phys 22:108-9 Ja '51

Stabilized zirconia a pure oxide refractory. L. H. Milligan. il Brick & Clay Rec 118:52 My '51

Study of conduction phenomena near current zero for an a-c arc adjacent to refractory surfaces. T. E. Browne, jr. and A. P. Strom. il Elec Eng 70:331 Ap '51

Study of lime refractories; abstract. R. W. McAllister. Rock Prod 53:78-9 N '50

Study of the refractory borides. L. Brewer and others. bibliog Am Cer Soc J 34:173-9 Je 1 '51

There's big ceramic potential in the new, unusual silicon carbide known as Durhy. C. G. Rose. il Brick & Clay Rec 118:62-3 Mr '51

Twenty-one years progress in refractories. J. H. Chesters. Metallurgia 42:293-6 N '50

UN helps solve refractory shortage; illustrations with text. Chem & Eng N 28:4098-9 N 20 '50

Use and misuse of fused cast high-alumina refractories. R. W. Brown and O. R. Stach. il diags Am Cer Soc Bul 30:251-7 Ag 15 '51; Excerpts. Glass Ind 32:518+ O '51

Vanadium in crude oil; effect of ash on refractories. W. L. Nelson. Oil & Gas J 49:330 D 21 '50

Zirconia labors at new jobs. Power 95:140 Mr '51

Zirconia refractory good to 4600°F. il Steel 128:68 Ja 29 '51; Materials & Methods 33:81 Mr '51

See also

Concrete, Refractory
Fire brick
Forsterite
Magnesite
Porcelain, Refractory
Semisilica brick
Silica brick
Zirconium oxide

Analysis

Dumas microdetermination of nitrogen in refractory organic compounds; modification of Zimmermann's method. P. D. Sternglanz, R. C. Thompson and W. L. Savell. bibliog diags Anal Chem 23:1027-30 Jl '51

Testing

Carbon resistance furnace for pyrometric cone equivalent tests. H. E. CoVan and J. L. Carruthers. il diags Am Cer Soc Bul 30:170-3 My 15 '51

Corrosion resistance of pure alumina as a glass refractory. F. Day, jr. and J. P. Ambrosone. Am Cer Soc J 34:163-4 My 1 '51

Experimental investigation of alumino-silicate refractories of high purity for use in glassmaking. Moore and Heeley. Glass Ind 32:417+ Ag '51

Long-time load tests show semi-silica superior. H. H. Wilson, jr. il diag Brick & Clay Rec 119:45-6 Jl; 51-3 Ag '51

Preparation and tests of refractory sulfide crucibles. E. D. Eastman and others. diags Am Cer Soc J 34:128-34 Ap 1 '51

Properties of the glassy phase in alumina-silica refractories; abstract. W. D. Fitzpatrick and R. K. Hursh. Brick & Clay Rec 119:54 Jl '51

Radioactive indicators for blast-furnace refractory wear. E. W. Voice. Iron & Steel Inst J 167:157-61 F '51

Thermal diffusivity of refractory oxides. E. S. Fitzsimmons. il diag Am Cer Soc J 33:327-32 N 1 '50

Thermal shock behavior of pure refractory oxides; abstract. B. Schwartz. Brick & Clay Rec 119:54 Jl '51

REFRACTORY porcelain. See Porcelain, Refractory

REFRACTORY research

A.C.S. refractory papers reveal latest developments in field; abstracts of convention papers. Brick & Clay Rec 118:55+ Je; 119:52+ Jl '51

REFRIGERANTS

See also

Ammonia
Brine
Carbon dioxide, Solid
Chlorodifluoromethane
Chlorofluoromethanes
Dichlorodifluoromethane
Ice
Methyl chloride

REFRIGERATING engineering

See also

Cold storage

Study and teaching

National college for heating, ventilating, refrigeration and fan engineering. il plan Engineering 171:156-7, 162 F 9 '51

Today's students are the backbone of tomorrow's industry. A. H. Lawrence, jr. and others. il Refrig Eng 59:651-2+ Jl '51

REFRIGERATING industries

Air conditioning, commercial refrigeration equipment, 1944-1950; tabulations. Steel 128:125 Ja 1 '51

How to make a survey for air conditioning and refrigeration applications. J. Partington, jr. il Heat & Ven 48:65-8 Jl '51

Looking back at 1950. il Refrig Eng 59:35-7 Ja '51

Statistics

1950 shipments of air conditioning and refrigeration equipment. Refrig Eng 59:760-1+ Ag '51; Excerpt. Heat & Ven 48:107 S '51

Denmark

Denmark accelerates production of refrigeration equipment. Refrig Eng 59:77+ Ja '51

Russia

Construction of refrigerating machinery and apparatus in the Soviet Union; abstract. B. Weinberg and others. Refrig Eng 59:678-9 Jl '51

REFRIGERATING plants

700-ton plant cools huge Detroit dam. il Power 95:99 S '51

See also

Cold storage
Cold storage warehouses
Piping (refrigerating plants)
Refrigeration and refrigerating machinery
Water supply for refrigerating plants

REFRIGERATION and refrigerating machinery

Absorption air conditioner. E. P. Whitlow and L. A. McNeely. il diags Refrig Eng 59:38-43; Discussion. 43+ Ja '51

Aim at best output for centrifugals. J. G. Manning. il Power 95:124-5 Jl '51

Air cycle refrigeration in aeronautical research; abstract. B. L. Rathmell. Refrig Eng 59:472 My '51

Air force installs world's largest single compressor low temperature system. H. A. Click. il Refrig Eng 59:572+ Je '51

Aluminum offers design advantages for refrigeration equipment. E. W. Mason. il diag Refrig Eng 59:869-72+ S '51

Ammonia condensing cycle. E. R. Michel. il Refrig Eng 58:1173+ D '50

Compression refrigeration machine with liquor circuit; abstract. E. Altenkirch. diag Refrig Eng 59:256-7 Mr '51

Cooling gas to thwart corrosion; Honolulu gas co. H. P. Saueressig. il diag Comp Air Mag 56:114-18 My '51

Evaporative condensers; abstract. E. E. Moertstedt. Refrig Eng 58:1079 N '50

Freeze-thaw testing indicates concrete durability. I. V. Walter. il Refrig Eng 59:372-4 Ap '51

Hermetic vs open type compressors. H. D. Moore. il Refrig Eng 59:264-5 Mr '51

Hydrocarbon dewpoint control by gas refrigeration. J. T. Simon. flow diag map World Oil 132:175-7 Mr '51

Ice cream is regular treat for GI's in Korea, thanks to portable plants. il Refrig Eng 59:896 S '51

Interchanger raises refrigerating capacity; chart and diagram; data sheet. J. D. Constance. Power 95:144 Mr '51

Know your centrifugal compressors; illustration and drawings with text. J. G. Manning. Power 95:114-15+ Mr '51

Let's get down to facts on booster operation. R. E. Miller. il diags Refrig Eng 59:873-6+ S '51

Low temperature refrigeration systems. T. Lopiccolo. diags Refrig Eng 59:239-42+ Mr '51

Mysterious ammonia explosions. T. R. Hughes. il Refrig Eng 59:859-62+ S '51

Natural gasoline; today's equipment; compressors, refrigeration; abstract. W. G. Palmer. Pet Processing 5:1322 D '50

Performance of centrifugal compressor operated as radial-inflow turbo-expander. H. Kottas. bibliog il diags Refrig Eng 59:762-6 Ag '51

Portable low-temperature processing equipment. G. F. Russell. flow diags il Pet Refiner 30:81-3 Ap '51

Power handbook; refrigeration. T. G. Hicks, comp. diag Power 95:98-9 Jl '51

Purge connections. T. H. Rea. diags Refrig Eng 59:159-60 F '51

Refrigeration; a research tool. il Refrig Eng 59:343-5+ Ap '51

Refrigeration controls blast moisture. W. K. Mitchell. il Foundry 79:134-7 Ap '51

Refrigeration design considerations below -20 F. E. R. Michel. flow diag il Refrig Eng 59:552-6+ Je '51

Refrigeration in the petroleum industry. J. Charls, jr. flow diags il diags Pet Eng 23:C40+ Ap; C11-12+ My '51

Refrigeration in the refining industry. T. G. Hicks. il Pet Refiner 30:88-90 Mr; 145-6 Je; 147-9 Jl '51

Refrigeration, internationally speaking; digests of significant articles appearing in foreign journals. R. Plank, comp. Published in monthly numbers of Refrigerating engineering

Refrigeration is key to modernization of grocery chain; Safeway stores, inc. L. A. Warren. il Refrig Eng 59:63-4 Ja '50

Refrigeration required in vacuum-xanthate kneading machines; abstract. W. Niebergall. Refrig Eng 59:456 My '51

Role of the adsorption-type desiccant in refrigeration units. W. A. Pennington. bibliog diags Refrig Eng 59:272-5+; Discussion. 300-1 Mr '51

Tons of conditioned air for jet engine research; Lewis flight propulsion laboratory. il Steel 128:80-1 My 21 '51

Two refrigeration kinks; Lehigh Valley dairy co. diags Food Eng 23:5+ Ag '51

What refrigeration does for candies. J. G. Woodroof and H. H. Thompson. il Refrig Eng 58:1169-72+ D '50; Discussion. 59:50-1 Ja '51

White-to-grey tin formation in refrigeration equipment. H. S. Kalish. il Materials & Methods 34:136+ Ag '51

Why soft drink was weak. O. L. Brage. diags Power 95:118-19 Ag '51

York corporation. C. H. Vivian. il Comp Air Mag 56:30-7 F '51

See also

Air conditioning
Ammonia compressors
Carbon dioxide, Solid
Cold storage
Compressors
Cooling
Cooling equipment
Cooling of water
Electricity in refrigeration
Freezing
Heat pump
Ice machines
Insulation (heat)
Piping (refrigerating plants)
Railroads—Ice supply
Refrigerants
Refrigerating engineering
Refrigeration on cars, trucks, etc.
Refrigeration on ships
Refrigerator cars
Refrigerators
Skating rinks
Temperature, Low

also International congress of refrigeration, London, 1951

Control

Save refrigeration condensing water with proper control. diags Power 94:100-1+ N '50

Defrosting

Hot gas defrosting in commercial refrigeration. T. H. Hart. il diag Refrig Eng 59:139-42, 246-50+ F-Mr '51

Installation

Make your cold system shipshape. T. Mitchell. il diags Power 95:116-17 O '51

Lubrication

Refrigeration oils suit high operating temperatures. Product Eng 22:211-12 Ap '51

Maintenance and repair

Ejector dumps ammonia. S. C. Page. diags Power 95:121 Ap '51

How to keep centrifugal compressors rolling. J. G. Manning. il diags Power 95:118-19 Ap; 118-19 My; 122-3 Je '51

Manufacture

AiResearch air turbine assembly; refrigeration equipment for aircraft; illustrations with text. Aero Digest 62:22-5 Je '51

Materials

Choosing metals for low temperature use. J. R. Watt. bibliog Refrig Eng 59:751-4 Ag '51

What's ahead? G. F. Taubeneck. Refrig Eng 59:674-5+ Jl '51

Moisture problem

Determination of moisture in refrigeration oils; adaptation of the Karl Fischer method. J. D. Bopp. diags Refrig Eng 59:891-3 S '51

Field removal of moisture. F. Y. Carter. diags Refrig Eng 59:547-51+ Je '51

Patents

Noteworthy patents. H. L. Stults, ed. diags Refrig Eng 59:58-9 Ja '51 [cont monthly]

Safety measures

Safety in servicing refrigerating systems; blowing down carryover oil from ammonia refrigerating systems. G. Holman. il Power Eng 54:89-90 N '50

REFRIGERATION and refrigerating machinery —*Continued*

Standards

Army refrigeration requirements. J. W. Millard. il Refrig Eng 59:666-7+ Jl '51

New ASA standard assures uniform shipboard refrigeration installations. Refrig Eng 59:776+ Ag '51; Same. Marine Eng 56:53+ S '51; Same. il Standardization 22:236-9 Ag '51

Proposed American standard; refrigeration nomenclature for text and drawings. Refrig Eng 59:sup 1-5 S '51 (reprints 40c)

Refrigeration standard widely used. C. W. Miller. Standardization 22:87 Mr '51

What is the standards situation for refrigerators and freezers? W. M. Timmerman. Refrig Eng 59:158+ F '51

Tables, calculations, etc.

Brine film resistance to heat flow of calcium chloride, sodium chloride, and ethylene glycol; with charts. C. T. Shields. Refrig Eng 59:880-4 S '51

Quantity of refrigeration required to cool and freeze food; abstract. D. G. Rewtoff. Refrig Eng 59:358 Ap '51

Temperature-pressure-concentration chart for ammonia-water solutions. W. L. Bulkley and R. H. Swartz. Refrig Eng 59:660-2 Jl '51

REFRIGERATION from central stations

How three refrigeration plants serve cooling and freezing loads. W. Brownlow. il map diag Power 95:92-4+ Ja '51

REFRIGERATION on cars, trucks, etc.

Adjusts freezer space to shipment; movable bulkheads and dry ice permit trucks to carry mixed loads. il map Food Eng 23:139+ My '51

Cargo cooler requires little space, low maintenance. il diag Food Eng 23:116-17 S '51

Fabrication of refrigerated trucks; Fruehauf trailer co.; abstract. V. M. Drew. Refrig Eng 59:268 Mr '51

Pushbutton truck door steps up milk deliveries. il Food Eng 23:115+ Jl '51

Refrigerated trucks speed canned-whip to market. il Food Eng 23:114 Je '51

Refrigeration of delivery vehicles. W. E. Petersen. il diag Refrig Eng 59:351-3+ Ap '51; Abstract. S A E J 59:69 Mr '51

Refrigeration of highway transport vehicles; abstract. V. M. Drew. S A E J 59:70 Mr '51

Rough riding unit charts truck's cooling efficiency. il Food Eng 23:151+ Ag '51

Shipping hard frozen foods by rail and truck; abstract. H. C. Emerson. Refrig Eng 59:863-4 S '51

Truck transportation of perishables; abstract. T. G. Lumbra. Refrig Eng 59:864 S '51

See also

Refrigerator cars

REFRIGERATION on ships

Floating processing plant; Frozen-at-sea fish corp., Boston. H. S. Knowlton. il Food Eng 23:145+ Je '51

S.S. Independence; air conditioning, ventilation and refrigeration. il Marine Eng 56:100-3 Mr '51

Trends in U.S. naval refrigeration. G. Thompson. il Refrig Eng 59:453-5 My '51

Standards

New ASA standard assures uniform shipboard refrigeration installations. Refrig Eng 59:776+ Ag '51; Same. Marine Eng 56:53+ S '51; Same. il Standardization 22:236-9 Ag '51

New marine standard. A. R. Gatewood. Refrig Eng 59:371+ Ap '51

REFRIGERATOR cars

First mechanically refrigerated milk car. Ry Age 130:100 My 14 '51

Gulf Mobile & Ohio develops better icing record; five-part form moves with waybill. Ry Age 129:35 D 9 '50

Mechanical refrigeration for transportation; abstract. W. H. Redit. Refrig Eng 59:863 S '51

Mechanical refrigeration system for cars. il plan Ry Mech & Elec Eng 125:49-51 Ja '51; Same. Ry Age 129:26-8 D 23 '50

Mechanical units heat or chill car. il diags Food Ind 23:146-7 F '51

Mechanically refrigerated railroad cars now in commercial use. il Refrig Eng 58:1083+ N '50

New design for railroad bunker system. C. P. Lentz and W. H. Cook. bibliog il diags Refrig Eng 59:148-52 F '51

New refrigerator-freight car incorporates revolutionary design. il Refrig Eng 58:1161-2+ D '50

Pressed steel develops molded car; Unicel combination refrigerator-box car. il Ry Mech & Elec Eng 124:697-8+ N '50

Railroad-car refrigeration; gasoline-powered refrigeration unit developed by U.S. Thermo Control. J. A. Numero. il diags Mech Eng 73:138-9 F '51

Reefer cars adequate, say rail operators. Food Ind 23:151 Ja '51

Refrigerator cars, a progress report. J. N. Kelley. il Ry Age 130:37-9 Mr 26 '51

Research instrumentation as applied to the transportation of perishable freight; refrigerator car research. C. A. Richardson and A. O. Radke. Instruments 24:811-14 Jl '51

Uni-built car has Diesel-electric coolers; Unicel. il Food Ind 22:1895-6 N '50

REFRIGERATOR shelves. See Refrigerators—Manufacture

REFRIGERATORS

Method of installing pellet-type insulation. P. E. James and C. P. Davis, jr. il Refrig Eng 59:562 Je '51

Non-sweating duct for refrigerator walls. P. E. James and C. P. Davis, jr. il diags Refrig Eng 59:463 My '51

Steel in a refrigerator; tabulation. Iron Age 167:325 Ja 4 '51

Study of spalling found in porcelain enamel after repeated freezing and thawing in the presence of moisture. R. J. McEvoy and A. I. Andrews. il diag Am Cer Soc J 34:135-41 My 1 '51

See also

Refrigeration and refrigerating machinery

Advertising

Refrigerator ads in papers up 20 per cent in '50. Ed & Pub 84:24 Ja 20 '51

Manufacture

Improved tangent bender speeds cabinet and evaporator production. il Refrig Eng 59:556 Je '51

Painted shelves, wartime substitute or peacetime development? E. J. Hakel and J. B. Horvay. il Refrig Eng 59:457-8 My '51

Technique of applying porcelain enamel cover coat directly on steel. M. E. McHardy. Refrig Eng 58:1194-5 D '50

REFRIGERATORS, Electric

Astral refrigerator; not recommended. Consumers Res Bul 26:25-6 N '50; 27:21 Ja '51

Hermetic refrigerator motor, a lesson in technical progress. il Westinghouse Eng 11:71 Mr '51

Refrigeration industry; abstracts. E. G. Batt. Elec R (Lond) 148:1297-9 Je 22 '51; Electrician 146:2123-6 Je 22 '51; Discussion. Elec R (Lond) 148:1359-61 Je 29 '51

Small refrigerator; Freez-Pak, not recommended. il Consumers Res Bul 27:21-2 Je '51

Underwriters' laboratories warns against storage of flammables in refrigerator. Refrig Eng 58:1099 N '50

Manufacture

Automatic sorting speeds piston and wrist-pin production; refrigerator compressor parts. il Steel 127:91-2 D 11 '50

Frigidaire sprays at low pressure. R. S. Sheldon. bibliog Cer Ind 56:70+ Mr '51

Ingenious fastenings speed and simplify refrigerator assembly. il diags Refrig Eng 59:657-9 Jl '51

Rating

Refrigerators for 1951. il Consumers Res Bul 28:5-9 S; 12-14 O '51

Testing

Laboratory simulation of refrigerator home use. M. Kalischer and G. S. McCloy. maps Refrig Eng 58:1073-6 N '50

REFRIGERATORS, Gas
Customer service responsibility is spelled out in New York city. H. W. Springborn. Gas Age 108:56-60+ O 11 '51
Gas refrigerators; a potential hazard to users. Consumers Res Bul 27:16 Ja '51
Gas scare; new York starts check of appliances. Bsns W p26 My 5 '51
Servel bucks bad publicity. Bsns W p 121-2 S 29 '51
Servel buys wartime goodwill; redesigns gas refrigerators, cuts prices. il Bsns W p89-90+ F 17 '51
Servel launches program to replace obsolete models in New York. Am Gas J 175:16 S '51
When everybody loves a competitor; Rheem manufacturing company to make gas refrigerators. Bsns W p68+ N 25 '50

Merchandizing

How three star salesmen won refrigerator contest prizes; Southern union gas co. Gas Age 107:19+ Mr 1 '51
Industry honors gas refrigeration winners. Am Gas Assn Mo 32:46 N '50
Spotlight on sales; winners in the A.G.A. Big Six refrigeration sales contest of 1950. W. P. Jones. Am Gas Assn Proc 1950:227-8

Repair

Philadelphia Gas Works now repairs refrigerator units. il Am Gas J 174:14-16 F '51

REFUGEES
Arabs in dire need. Economist 159:1149-50 D 23 '50
DP's; manpower pool. Mod Ind 21:80 Ap '51
Problem of the German refugees. Economist 161:630+, 690+ S 15-22 '51

REFUSE, Utilization of
See also
Refuse as fertilizer

REFUSE as fertilizer
Engineer's contribution to soil fertility; use of composts and sewage. H. Gutteridge. diag Engineer 192:203-4 Ag 17 '51
Should we reconsider composting of organic refuse? M. L. Panzer and H. F. Ludwig. Civil Eng 21:90-1 F '51

REFUSE collection
Canton's improved garbage collection system; trucks equipped with can washing units. A. E. Ransom. il Water & Sewage Works 98:282 Je '51
Lansing rents garbage cans. R. J. Cooke. il Pub Works 81:40 N '50
Refuse collection and disposal cost and methods, Winston-Salem, N.C. C. E. Perkins. il Pub Works 82:54-5 S '51

REFUSE disposal
Diesels play important role in public health and sanitation. J. Joseph. il Diesel Power 29:44-5 F '51
Large-scale odor and dust control results in nuisance-free refuse handling station. W. A. Xanten. il plan Heat & Ven 48:65-7 Ag '51
Locating, designing, and operating sanitary landfills. C. W. Klassen. il Pub Works 81:42-3 N '50
Los Angeles County sanitation districts refuse study; garbage grinding aspects; abstract. A. M. Rawn and F. R. Bowerman. Water & Sewage Works 98:355-6 Ag '51
Refuse collection and disposal cost and methods, Winston-Salem, N.C. C. E. Perkins. il Pub Works 82:54-5 S '51
Sanitary landfill cuts disposal cost; inadequate-capacity incinerator abandoned; Burlington, N.C. il Eng N 145:38-9 D 14 '50
Sanitary landfill experience at Memphis. il Pub Works 82:58 Mr '51
Sanitary landfill handles 9½ million yards yearly at Fresh Kills, Staten Island. H. Liebman. il Pub Works 82:39-41 Jl '51
Smog-reduction plan hits incinerators in 350,000 Los Angeles County back yards; plan for rubbish-collection and disposal system. Eng N 145:43 D 14 '50
See also
Refuse as fertilizer
Refuse incinerators, Domestic
Sewage disposal
Sewage disposal—Sludge and refuse mixing
Trade waste

Bibliography

Sewerage and refuse digest. Published in monthly numbers of Public works

REFUSE grinders
Ground garbage studies at Detroit. C. L. Palmer and I. Nusbaum. Sewage & Ind Wastes 23:1113-17 S '51

REFUSE grinders, Domestic
Case for food waste disposers! il Dom Eng 176:102-3+ N; 106-9+ D '50; 177:107+ Ja '51
How to design a septic tank for use with a food waste disposer. diags Pub Works 82:51-2+ Mr '51
Plan to sell garbage-free cities. il Elec West 106:86 Ap '51
Recent developments in dual disposal. M. M. Cohn. Sewage & Ind Wastes 23:54-8 Ja '51; Discussion. B. A. Poole and G. K. Erganian. il 23:278-80 Mr '51

REFUSE incinerators, Domestic
Five reasons why you should sell automatic gas-fired incinerators. J. G. Dierkes. Gas Age 107:38-9+ Ap 12 '51
How to sell incinerators. Gas Age 107:35+ F 15 '51

REGENERATION (biology)
Effect of colchicine on regeneration in pelmatohydra oligactis. F. M. Sturtevant, jr. and others. bibliog Science 114:241-2 Ag 31 '51

REGIONAL campaigns. See Advertising campaigns—Regional campaigns

REGIONAL planning
Britain builds her new towns. M. Rosenauer. il maps plans Arch Rec 108:100-5+ D '50
Curricula in city and regional planning at the University of Wisconsin. F. A. Clarenbach. Land Econ 26:394-7 N '50
India's TVA; Damodar Valley project. W. G. Bowman. il map Eng N 146:33-6 My 24 '51
See also
Zoning

Bibliography

Selected bibliography on city and regional planning. S. Spielvogel. 276p $5.50 Scarecrow press, 3341 Prospect av. N.W., Washington 7, D.C. '51

REGISTERED mail insurance. See Insurance, Registered mail

REGISTERS (heating)
Additional locations for warm air registers. diags Sheet Metal Worker 42:58+ Ap '51
Registers along outside walls. G. A. Voorhees. plans diags Sheet Metal Worker 42:87+ Ja '51

REGULATORS, Voltage. See Voltage regulators

REHABILITATION. See Disabled—Rehabilitation

REICHSTEIN, Tadeus, 1897-
Nobel award reaffirms kinship of chemistry and medicine. por(cover) Chem & Eng N 28:4169-70 N 27 '50

REICHSTEIN'S substance E. See Pregnenetetrolone

REICHSTEIN'S substance S. See Desoxyhydroxy corticosterone

REID, Ed
Journalistic romance is just a big gamble. por Ed & Pub 83:57 N 4 '50

REID, Ernest Welcom
Chemical industry medal, 1951. por Chem & Ind p459 Je 16 '51
Man of the month; new president of Corn Products. por Chem Eng 58:232+ Je '51
Portrait. Fortune 43:24 Je '51

REIMER-TIEMANN reaction
Polycyclic compounds; the Reimer-Tiemann reaction with 1-alkyl-2-naphthols. R. M. Dodson and W. P. Webb. Am Chem Soc J 73:2767-9 Je '51

REINDEER
Reindeer herd in heart of Texas fills stockman's Xmas stocking. il Bsns W p 108+ S 8 '51

REINECKE acid
Salts of Reinecke acid with certain simple amines. B. F. Aycock, E. J. Eisenbraun and R. W. Schrader. Am Chem Soc J 73:1351-2 Mr '51

REINFORCING steel. See Steel, Reinforcing

REINSTATEMENT after loss. See Insurance—Reinstatement after loss; Insurance, Fire—Reinstatement after loss

RELAPSING fever
Insecticides in industry and public health. H. Pirie. Chem & Ind p 100-4 F 10 '51

RELATIVITY (physics)
Conservation laws in the general theory of relativity with electromagnetic field. H. Zatzkis. Phys R 81:1023-6 Mr 15 '51
Constraints in covariant field theories. J. L. Anderson and P. G. Bergmann. bibliog Phys R 83:1018-25 S 1 '51
Covariant transformation law for the field equations. J. Heller. Phys R 81:946-8 Mr 15 '51
General motion of matter at the cosmological scale. A. Gião. Phys R 80:755-6 N 15 '50
Geometrical model for the unified theory of physical fields. J. I. Horváth. Phys R 80:901 D 1 '50
Nonstatic solutions of Einstein's field equations for spheres of fluids radiating energy. P. C. Vaidya. bibliog Phys R 83:10-17 Jl 1 '51
Relativistic corrections in high energy *n-p* scattering. A. Siegel. bibliog Phys R 82:194-203 Ap 15 '51
Relativistic quantum mechanics and the mass operator. W. Wessel. bibliog Phys R 83:1031-7 S 1 '51
Relativistic theory of electro magneto-ionic waves. V. A. Bailey. bibliog Phys R 83:439-54 Jl 15 '51

RELAXATION time (physics)
Creep and relaxation. B. Gross and H. Pelzer. bibliog J Ap Phys 18:212-21; 19:257-64; 22:1035-9 F '47, Mr '48, Ag '51

RELAXATION time (term)
Vibrational relaxation times in gases. W. Griffith. bibliog diags J Ap Phys 21:1319-25 D '50

RELAXOMETERS
Studies of relaxation characteristics of nonmetallic gasket materials. R. G. Farnam. diag India Rubber World 123:679-82+ Mr '51; Abstract. Mech Eng 73:510-11 Je '51

RELAYS
Application of industrial control relays. B. H. Carlisle, jr. il diags Iron & Steel Eng 27:119-25 N '50
Carrier-controlled relay servos. J. C. Lozier. diag Elec Eng 69:1052-6 D '50
Combined phase and ground distance relaying. W. C. New. diags Elec Eng 69:960 N '50
Contribution to the algebra of relay and switch contacts. G. H. Buffery. diags Inst E E Proc 97 pt 1:357-63 N '50
Current transformer differences overcome with percentage type relay. J. J. Samson and E. L. Michelson. diags Elec World 134:96-7+ D 18 '50
Decreasing relay differential electrically. J. J. Baruch. diags R Sci Instr 22:699-700 S '51
Differential relay sensitivity adjuster. C. L. Headley. diag Elec Eng 69:967 N '50
Differential relaying for double-end unit substations. A. J. Nicholson. diags Elec World 135:166 Ja 29 '51
General Electric indicating relay. il Electrician 146:392 F 2 '51; Engineer 191:170 F 2 '51
H-v series capacitors can be relayed. J. E. Barkle. il diags Elec West 107:96-7 S '51
Low-voltage relay control circuits. il Elec West 106:83 My '51
Measure phase angle in relay circuit accurately. J. R. Eaton and J. S. Race. diags Elec World 134:126+ N 20 '50
Miniature relays hermetically sealed. Aviation W 55:52+ Ag 13 '51
Preventing breakdown with antenna changeover relays. T. A. Consalvi. diag Q S T 35:28 S '51
Relay protection for ac generators; summary of AIEE relay committee's report. diags Power 95:94-5 Ap '51
Relay servomechanisms; the shunt-motor servo with inertia load. T. A. Rogers and W. C. Hurty. bibliog diags A S M E Trans 72:1163-72 N '50
Sensitive relays in process control. R. T. Pierce. il diags Elec Eng 70:625-6 Jl '51
Sketch for an algebra of relay and contactor circuits. G. A. Montgomerie. bibliog diags Inst E E J 95 pt 2:355-64 Je '48; Same. 95 pt 3:303-12 Jl '48; Discussion. Inst E E Proc 96 pt 2:253-4; 97 pt 2:513-4 Ap '49, Ag '50; 96 pt 3:166-7; 97 pt 3:460-1; 98 pt 3:75-6 Mr '49, N '50, Ja '51
Suppression of arcs across relay contacts. R. W. Gilbert. diag Power Eng 55:90 Ag '51
Symbolic method for the solution of some switching and relay-circuit problems. I. A. D. Lewis. Inst E E Proc 98 pt 1:181-91 My '51
Telephone type relays. V. E. James. il diags Product Eng 21:130-3 O; 141-4 N '50; 22:136-40 F; 125-8 Mr '51
Three-relay circuits; tabulation of formulas simplifies design and analysis. E. C. Varnum. diags Machine Design 23:121-4+ F '51
Timing relays; their selection and application in electrical control circuits. J. C. Ponstingl. il diags Machine Design 23:131-41 Ap '51
Use directional distance relaying to solve 33-kv loop problem. A. J. Nicholson. il diags Elec World 136:94-6 Ag 27 '51
Voltage blocking relay for automatic synchronizing. G. C. Blegen and R. B. Bruck. Elec World 135:164+ My 21 '51
Watchdog of the Diesel-electric locomotive; protection against damage from grounds and flashovers. G. R. McDonald. diags Ry Mech & Elec Eng 125:69-75 S '51
You can do it with relays. H. E. Dudrey. il diags Elec West 105:72-4 N '50

RELIANCE manufacturing company
President can take over any job in his 18 clothing plants; Albert T. Bard. W. Norris. il Am Bsns 21:20-1+ Ag '51

RELIGIOUS architecture. See Church architecture

RELIGIOUS liberty
Supreme court as protector of civil rights; freedom of religion. L. Pfeffer. bibliog Ann Am Acad 275:75-85 My '51

REM-CRU titanium, inc.
C. I. Bradford named operations director. Light Metal Age 8:28 D '50

REMINGTON, Franklin
How firm a foundation; adventures of an international contractor. F. Remington. por Dun's R 59:21-2+ S; 21-2+ O '51 (to be cont)

REMINGTON RAND, inc.
Gains in foreign business help push sales up from fiscal 1950 dip. R. Hunter. Barron's 31:13 F 12 '51
Security I like best. S. L. Stirling. Comm & Fin Chr 174:1150+ S 27 '51

REMODELED buildings. See Buildings, Remodeled

REMODELED houses. See Houses, Remodeled

REMODELING (architecture)
See also
Buildings, Remodeled
Houses, Remodeled

RENDERING plants
Rendering plant waste treatment studies. M. L. Granstrom. Sewage & Ind Wastes 23:1012-16 Ag '51

RENEGOTIATION of contracts. See Contracts, Government—Renegotiation

RENSSELAER polytechnic institute, Troy, New York
Nuclear chemistry. H. M. Clark. J Chem Educ 28:4-7 Ja '51

RENT
Correction of new unit bias in rent component of CPI. G. Johnson and B. Schiro. Mo Labor R 72:437-44 Ap '51
Family income and new rental housing. G. G. Rudney. Mo Labor R 73:8-12 Jl '51
Income and housing cost trends of Boston's middle-income groups; 1846-1947. L. Rodwin. bibliog Land Econ 26:368-82 N '50
Residential rent increases in nine decontrolled areas. G. G. Johnson. Mo Labor R 72:661-3 Je '51

RENTAL housing. See Apartment houses; Housing

RENTAL libraries. See Libraries, Rental and subscription

RENTING of equipment
Rented tools to the rescue; Cincinnati's Bedel brothers. il Bsns W p60+ Jl 28 '51
RENTZEL, Delos Wilson, 1909-
One transport boss for land, sea and air. Bsns W p26 Mr 24 '51
Rentzel to get key mobilization post. por Aviation W 54:13 Mr 12 '51
REO motor car company
Rising earnings make Reo dividend resumption likely. Barron's 30:15 O 23 '50
REPAIR parts
Get that parts supply room in shape now. W. A. Newell. il diags Textile World 101:110-12+ My '51
Scorecard simplifies maintenance. V. Satkoff. Steel 129:69 Jl 30 '51
See also
Automobile parts
Machine parts
REPAIR shops
Engineer base maintenance shop, Schenectady (N.Y.) general depot. il plans diags Arch Rec 110:112-13 S '51
How big British contractor keeps equipment rolling with central shops. il Constr Methods 33:60-3 Jl '51
Magnolia's Corsicana machine shop saves critical materials. H. Guitar. il World Oil 133:290-3 S '51
Seabees repatriate their World war II equipment. J. Joseph. il Diesel Power 29:74-6 Je '51
See also
Car shops
Locomotive shops
Radio service shops
REPAIR shops, Portable
Mobile workshop. il Engineer 192:241 Ag 24 '51
REPAIRING
See also
Building—Repair and reconstruction
also subdivision Repair or Maintenance and repair under various headings, e.g. Factories—Maintenance and repair; Machinery—Maintenance and repair; Railroads—Maintenance and repair
REPEATABILITY (term)
Accuracy of analysis. A. H. Dodd. Chem & Ind p702 Ag 18 '51
REPLACEMENT of machinery. See Machinery, Replacement of
REPLANNING of libraries. See Libraries, Special—Layout
REPLICA technique
Electron microscopy of wet biological tissues by replica techniques. I. W. Fischbein. il diags J Ap Phys 21:1199-204 D '50
Modification of a positive-replica technique for electron microscopy. A. E. Austin and C. M. Schwartz. diags J Ap Phys 22:847-8 Je '51
Preparation of replicas for electron metallography. W. J. Craig. il Metal Prog 60:68-71 Ag '51
Transfer of replica from metal to electron microscope. H. C. O'Brien, jr. Metal Prog 58:732 N '50
REPLOGLE globe company
Global changes benefit globe maker; illustrations with text. Bsns W p98-9 S 22 '51
REPORTERS
Nine reporters, three papers receive Polk awards. Ed & Pub 84:12 F 17 '51
Three Chicago Tribune men win awards. Ed & Pub 83:30 D 16 '50
Toast of New Orleans, Gus is done in oil. Ed & Pub 83:66 D 9 '50
Two reporters in wreck, one lives to tell story. Ed & Pub 84:9 F 10 '51
See also
Kellogg, Mark
Oatis, William N.
Reid, Ed
REPORTING
Grove Patterson chats about his interviews. C. Watson. Ed & Pub 84:48 Ap 21 '51
Hearst formed interview policy for reporters. Ed & Pub 84:58 Ag 18 '51
Police reporters at White House, photographers get prize break; attempted assassination of Truman. Ed & Pub 83:10+ N 4 '50
Pulliams roam again; South America this time. Ed & Pub 83:22 D 16 '50
205 newsmen cover superliner's party. R. Erwin. Ed & Pub 84:58 Je 30 '51
See also
Newspapers—Crime reporting
United nations—Reporters and reporting

Study and teaching

Motion picture teaches police reporter's job. D. Bentel. Ed & Pub 83:22 D 23 '50
REPORTS
Obtaining and circulating company information. R. D. Goodall. Ind & Eng Chem 43:838-40 Ap '51
Organization of reports. W. B. Campbell. Pulp & Pa of Can 52:110-11 My '51
Reporting to management; abstract. C. E. Jarchow. Management R 40:324 Je '51
See also
Accountants' reports
Banks and banking—Reports
Corporations—Reports and yearbooks
Research reports
Salesmen's reports
REPPE, Walter Julius, 1892-
Walter Julius Reppe. R. E. Oesper. por(front) J Chem Educ 27:648+ D '50
REPRODUCTION
Effect of heated linseed oil on reproduction and lactation in the rat. F. A. Farmer and others. Science 113:408-10 Ap 13 '51
Influence of amount of food on the reproduction rate and longevity of a suctorian (tokophrya infusionum). M. A. Rudzinska. Science 113:10-11 Ja 5 '51
Successful transplantation of a fertilized bovine ovum. E. L. Willett and others. Science 113:247 Mr 2 '51
See also
Fertilization (biology)
REPUBLIC aviation corporation
Earnings advancing. Barron's 31:13-14 S 24 '51
REPUBLIC natural gas company
Higher prices aiding Republic. Barron's 31:19-21 Ap 2 '51
REPUBLIC steel corporation
Republic Steel authorizes expansion program in excess of $75,000,000. Blast F & Steel Pl 39:62 Ja '51
REPUBLICAN party
Challenge for the G.O.P. F. Morley. Barron's 30:3 D 4 '50
Which Republicans? who represents the party today? E. V. Rostow. Barron's 31:5 My 21 '51; Discussion. 31:5+ Je 11 '51
REQUISITIONING
Philly tells the marines, we need our new pier. Bsns W p36 Mr 10 '51
Requisition cover on hulls being written in New York. Spectator (Property ed) 17:54+ O '51
RESALE price fixing. See Price fixing, Resale
RESEARCH
External memory and research. S. R. Ranganathan and J. W. Perry. J Doc 7:10-14 Mr '51
Operations research. P. M. Morse. il Tech R 53:191-4+ F '51
Partners in research. C. C. Furnas. Machine Design 23:175+ F '51
Research and you. R. E. Montonna. Refrig Eng 59:258-9+ Mr '51
See also
Advertising research
Aeronautic research
Automobile research
Building research
Business research
Ceramic research
Chemical research
Coal research
Colleges and universities—Research
Concrete research
Corrosion research
Cotton research
Economic research
Electric research
Engineering research
Food research
Foundry research
Gas research
Government research
Heating research
Industrial research
Laboratories
Lighting research
Lubrication research
Market research
Metallurgical research
Military research
Moving picture research
Operations research
Paint research
Paper research
Petroleum research
Pharmaceutical research
Radio research
Railroad research
Rubber research

RESEARCH—See also—*Continued*
Scientific research
Social research
Steel research
Textile research
United States—Army—Research
Wood research
Wool research
also Armour research foundation; Southern research institute

RESEARCH, Government. See Government research

RESEARCH and development board. See United States—Research and development board

RESEARCH corporation
Research corp. announces impressive program. Chem & Eng N 29:3093-4, 3175-7, 3376 Jl 30-Ag 13 '51

RESEARCH departments
Coordination of research and development work. J. A. Leermakers. Chem & Eng N 29:3152-4 Ag 6 '51
More important than to pay dividends; Du Pont's experimental work. il Chem Ind W 68:21+ My 12 '51
Organization of research. D. B. Harris. Inst Radio Eng Proc 39:868-73 Ag '51
Transferring a new product from research to sales; General Mills research laboratories. G. E. Nadler. maps Ind & Eng Chem 43:834-7 Ap '51

RESEARCH reports
Progress report, third quarter, 1949 from Northeastern divisional laboratories to National council on science and technology. J. H. Pomeroy. Chem & Eng N 28:4566-7 D 25 '50

RESEARCH workers
Annual conference on industrial research, 2d, New York. Chem & Eng N 29:2632-4 Je 25 '51
Attitude of the research worker to technical information. S. Weinberg. Aslib Proc 3:22-9 F '51
Careers in chemistry and chemical engineering; academic research as a career. L. Pauling. Chem & Eng N 28:3970-1 N 13 '50
Defining the requirements of the executive's job; critical incident technique; pilot studies of army officers and research workers. J. C. Flanagan. Personnel 28:28-35 Jl '51
Human element in research and industry. W. H. Kohl. Inst Radio Eng Proc 39:228-9 Mr '51
Productivity in research and development. R. M. Hogan. Science 112:613-16 N 24 '50
Research and you. R. E. Montonna. Refrig Eng 59:258-9+ Mr '51

RESERVATIONS. See Railroads—Reservation systems

RESERVED forces. See United States—Armed services—Reserves

RESERVES
How to deal with the inconsistencies in the tax law on prepayments, deferrals, reserves, so as to obtain the maximum benefits for taxpayer. M. D. Bachrach. J Account 91:282-5 F '51
Is the retirement reserve method still generally accepted? J Account 91:840-1 Je '51
Time for realistic appraisals of reserves as protection against invisible losses. A. C. Kiechlin. Inland Ptr 126:73-4 N '50

RESERVES, Military. See United States—Armed services—Reserves

RESERVOIRS
Constant-factor method aids computation of reservoir sediment. G. N. Burrell. Civil Eng 21:413-14 Jl '51
Economic effects of reservoir sedimentation. W. E. Corfitzen. Am Soc C E Proc 76 [no 30]:1-6 Ag '50; Discussion. 77 [no D-30]:1-5 S '51
Falcon dam stimulates irrigation in Mexico. J. C. Bustamante. il map Civil Eng 21:272-3 My '51
Flood-control operation of Tennessee Valley Authority reservoirs. E. J. Rutter. map Am Soc C E Proc 76 [no 19]:1-33 My '50; Discussion. 77 [no D-19]:1-4 Mr '51
Grouting checks seepage under dikes forming Granby reservoir in Colorado. il Eng N 147:36 S 27 '51
Inclined inlet for reservoir. N. J. Kendall. il diags Eng N 146:46-7 F 22 '51
Long-term storage capacity of reservoirs. H. E. Hurst. Am Soc C E Proc 76 [no 11]:1-30 Ap '50; Discussion. 77 [no D-11]:1-9 Mr '51
Measurement of sedimentation in small reservoirs. L. C. Gottschalk. il map Am Soc C E Proc 77 [no55]:1-11 Ja '51
Opening of the Darwell reservoir, Hastings. Engineer 190:supp4 N 3 '50
Remote control pays off for reservoir system. H. A. Evans. il map diag Elec World 134:110-11 D 4 '50
Sedimentation at hydro reservoirs. E. K. Nelson. il Pub Util 46:792-803 D 7 '50
Sedimentation studies at Conchas reservoir in New Mexico. D. C. Bondurant. Am Soc C E Proc 76 [no 29]:1-10 Ag '50; Discussion. 77 [no D-29]:1-3 Je '51
Water vs. scenery; construction of reservoirs on national reserves. map Eng N 146:112 Mr 8 '51
World's largest pump starts to fill Coulee reservoir for Basin project. il Elec World News ed 135:6 Je 25 '51
See also
Dams

Sterilization

Methods of disinfecting tanks and reservoirs; with cost data. H. W. Tracy. Am Water Works Assn J 43:85-90 Ja '51

RESERVOIRS, Steel
Details of steel reservoir construction. Pub Works 82:74-5 Jl '51

RESIDENCE halls. See Dormitories

RESIMENT. See Resinous products—Adhesives

RESINOLS
Triterpene resinols and related acids. R. Bhuvanendram and others. Chem Soc J p3472-4 D '50; p935-8, 1093-6 Ap '51

RESINOUS products
Alkyd resin polyesters; Atlac. R. L. Van Boskirk. Mod Plastics 28:174 F '51
Alkyd resins; correlation between properties of alkyds and composition of modifying fatty acids. D. T. Moore. Ind & Eng Chem 43:2348-55 O '51
Application studies on a cationic urea-formaldehyde wet-strength resin. I. J. Gruntfest and others. bibliog Tappi 34:108-10 Mr '51
Chemical engineering unit processes fourth annual review; esterfication. E. E. Reid. il Ind & Eng Chem 43:1942-7 bibliog(189 ref, p 1946-7) S '51
Chemistry of phenolic resins and the processes leading to their formation. A. Zinke. bibliog J Ap Chem 1:257-66 Je '51
Classification of thermoplastic resins from their plasticity curves. W. H. Willert. India Rubber World 124:324-6 Je '51
Cobalt naphthenate for initiating and accelerating gelation of polyester resins in styrene monomer. Chem Age (Lond) 63:914 D 30 '50
Corrosion prevention; changing techniques in synthetic resins. il Chem Age (Lond) 65:189-92 Ag 11 '51
Creep rates of acrylic plastics; reference book sheet. J. Marin. Product Eng 22:171, 173, 175 Jl '51
Direct reinforcement of natural rubber latex mixes; use of resorcinol-formaldehyde resins. J. Le Bras and I. Piccini. bibliog il Ind & Eng Chem 43:381-6 F '51
Effect of absorbed water on physical properties of molded phenolics. H. M. Quackenbos, jr. Mod Plastics 28:107-8+ Jl '51
Epon resins, new film formers. Paint Oil & Chem R 113:15-18+ N 9 '50
Epoxy resins in glass-cloth laminates. I. Silver and H. B. Atkinson, jr. diags Mod Plastics 28:113-14+ N '50
Ethoxylines; what they are; where they are going. E. Preiswerk and J. Charlton. bibliog il Mod Plastics 28:85-8 N '50
Factors influencing the retention and efficiency of wet-strength resins. C. S. Maxwell and others. bibliog Tappi 34:233-8 My '51
Formulation studies of vinyl resin organosols. G. M. Powell and others. bibliog il Mod Plastics 28:129-30+ Je '51
General Mills expands resinous alcohol line. Oil Paint & Drug Rep 159:62 Je 4 '51

RESINOUS products—*Continued*

Glycerine dividend; Epon resins go into large-scale production. il Chem Ind 67:717-18 N '50

Jobs cast plastics can do. il Mod Plastics 28:59-63 D '50

Liquid resin curing in component manufacture. R. G. Peters. Tv Eng 2:18-19+ Ag '51

Many of the properties you want in one basically new type of resin; Shell Chemical's Epon series. Chem Eng 57:192-3 N '50

Molding the specialized plastics; mineral-filled alkyd. il Mod Plastics 28:85-6 D '50

New rigid vinyl processed without plasticizer. il Materials & Methods 33:74-5 My '51

Organic adsorbents; comparative study of adsorption by different resins. M. S. Bhatnagar. bibliog Ind & Eng Chem 43:2108-12 S '51

Paper-plastics conference sponsored by plastics committee of Tappi. Rubber Age 68: 474-5 Ja '51

Phenolic-sand molds cut costs. il Mod Plastics 28:123 Je '51

Polyamide resin suspensoids. H. Wittcoff and others. India Rubber World 124:189-91 My '51

Polyester resins find wide field of applications; abstract. J. D. Robinson. Chem Eng 57:188+ D '50

Polyvinyl acetal resins. N. Platzer. diag Mod Plastics 28:142+ Je '51

Preparation and properties of resin saturating papers. M. P. Seidel. Tappi 33:494-5 O '50

Promise of reinforced plastics in defense. il Mod Plastics 28:55-9+ Mr; 91-5 Ap; 64-7 My '51

Raw materials curb resin output. Chem Ind W 68:31-2 Ap 7 '51

Reciprocal paper-plastics developments. E. C. Jahn. bibliog Tappi 34:sup8A+ Ag '51

Resin-sand molds held promising. Comp Air Mag 55:279 D '50

Resins go the water route. il Chem Ind 67: 713-14 N '50

Retention of wet-strength additives in paper. I. J. Gruntfest. bibliog Tappi 33:529-30 N '50

Shortage of phenolics due for relief next year; other resins. Chem & Eng N 29:2821 Jl 9 '51

Some new developments in the beater addition process. F. H. Snyder. Tappi 34:sup 105A-7A Mr '51

Synthesis of molecular units for rational synthesis of phenol-formaldehyde and allied resins; synthesis of resoles, dihydroxydiphenylethanes, and dihydroxydiphenylpropanes. A. T. Carpenter and R. F. Hunter. bibliog J Ap Chem 1:217-26 My '51

TAPPI plastics committee, Paper-plastics conference, Syracuse, N.Y. Oct. 19-20; abstracts of papers. Paper Tr J 131:19-21 N 9 '50; Paper Ind 32:986+ D '50; Pulp & Pa of Can 51:103-5 D '50; Tappi 33:sup60A+ D '50

Three vinyl formulations widen applications of these resins. K. Rose. il Materials & Methods 34:148+ S '51

Triple-function resins; Ciba company's Araldite. il Factory Management 109:252 Ja '51

Vacuum impregnation of resins. Steel 129: 114+ Ag 6 '51

See also

Bakelite
Catalin
Formvar
Melamine resins
Methacrylates
Molded products
Plaskon
Plastic materials
Polyethylene
Rubber—Mixing with resins
Rubber, Artificial—Mixing with resins
Saran
Styrene (and polymers)
Teflon
Vinyl chloride
Vinyl compounds
Vinylite

Adhesives

Adhesives fasten. il Product Eng 22:122-3 My '51

Adhesives may be the answer to problems inherent in the design and assembly of plastics products. G. P. Hollingsworth. il Mod Plastics 28:79-81 Jl '51

Bonding brake linings; use of Redux. R. A. Johnson. il Automobile Eng 41:230-2 Je '51

Bonding of metals. C. J. Moss. bibliog il Metallurgia 43:267-72 Je '51; Abstract. Metal Prog 60:128+ S '51

British metals adhesive uses; Redux bonding. C. J. Moss. il Aviation W 54:30+ Mr 5 '51

Dermatitis from formaldehyde. Chem Age (Lond) 65:91-2 Jl 21 '51

High-interest bond. il Chem W 69:27 S 8 '51

Improved corrosion resistant cements have many new applications. C. R. Simmons. il Materials & Methods 33:81 Je '51

Laminated freight cars; Unicel uses phenolic- and resorcinol-bonded wood and phenolic-impregnated paper. il diag Mod Plastics 28:64-5+ D '50

Metal adhesive processes; Redux process. F. H. Parker. il diags Roy Aeronautical Soc J 55:153-67 Mr '51; Abstract. Engineering 171:144-6 F 2 '51; Discussion. Roy Aeronautical Soc J 55:167-8 Mr '51

Polyamide resin suspensoids; answer to many packaging adhesive problems. H. Wittcoff. il Mod Packaging 24:111-15 Mr '51

Resorcinol; its applications for textiles; rayon tire cord adhesive. E. W. Shand. bibliog Rayon 31:79-80+ N '50

Synthetic resin glues. Chem Age (Lond) 65: 151-2 Ag 4 '51

Urea-formaldehyde resins in starch corrugating pastes. E. S. Gantt. Tappi 34:sup42A+ Ap '51

Versatile adhesive handles wide variety of bonding operations; Resiment. Elec Eng 70: 90 Ja '51

Weatherproof corrugated boxboard manufacture experience with vinyl resin adhesives. E. G. Boyce. Tappi 34:sup46A+ Ap '51

Why consider adhesive bonded structures? S. Gunthorp and R. G. Naugle. il diags Product Eng 21:138-43 D '50

Analysis

Chemical analysis of styrenated drying oils and alkyds. C. P. A. Kappelmeier and others. bibliog Paint Oil & Chem R 114: 16+ F 1 '51

Spectrophotometric determination of total phthalic anhydride in alkyd resins and other phthalate esters. O. D. Shreve and M. R. Heether. bibliog Anal Chem 23:441-5 Mr '51

Bibliography

Bibliography on resin analysis. E. V. Smith and T. P. G. Shaw, comps. Tappi 34:sup 123A-8A My '51

Binding materials

Corrosion-resistant cements; use of furfuryl-alcohol resins. il Mod Plastics 28: 150-1 My '51

Hard board from agricultural residues. R. V. Williamson and E. C. Lathrop. Mod Plastics 28:126+ Ap '51

Low-pressure molded glass fiber parts economical in small runs; polyester styrene impregnated glass fiber moldings. C. D. Birmingham. il Materials & Methods 34: 78-80 S '51

Phenolic-improved wood. il Mod Plastics 28: 55-60 My '51

Resin bonding of paper fibers. C. G. Landes. bibliog(79 ref) il Tappi 33:463-71 S '50; Same. Pulp & Pa of Can 51:120-8 S '50

Shell molding produces precise big castings. Am Mach 95:126 O 15 '51

Synthetic resins in the foundry. Engineer 191:807 Je 15 '51

Electric properties

Seven-pin miniature tube sockets molded of tetrafluorethylene resin. il Mod Plastics 28: 158 Ag '51

Finishing materials

Evaluation of alkyd resins for stoving finishes, by the Birmingham (England) club. Paint Oil & Chem R 113:63-4+ N 23 '50

Influence of urea and melamine resin finishes on the mechanical properties of cotton fibers. R. Aenishaenslin. Am Dyestuff Rep 40:432 Jl 9 '51

Modification of alkyd resins; abstract. R. S. Robinson. Paint Oil & Chem R 114:30-1 Ja 4 '51

RESINOUS products—Finishing materials—*Continued*

Rainbow resins. il Chem Ind W 68:25-6 Ja 20 '51
Rosin-modified phenolic resins. P. O. Powers. bibliog Ind & Eng Chem 43:1770-4 Ag '51
Silicone-alkyd surface coatings. il Mod Plastics 28:190-1 Je '51
Wider application horizons for organic finishes. il Product Eng 22:164-6 My '51

Insulating materials

Chemistry and the electrical engineer. F. M. Clark. Gen Elec R 54:20-2 F '51
Deterioration and breakdown of dielectrics resulting from internal discharges. J. H. Mason. bibliog il diags Inst E E Proc 98 pt 1:44-50 Ja '51
Fosterite insulation for small transformers. R. Lee. il Westinghouse Eng 10:233-4 N '50
Insulating components; mouldings for electrical equipment. il Electrician 146:635 F 23 '51
New laminate will reduce LCR equipment failures. M. L. Manning and others. il Elec World 135:93+ Je 4 '51
New uses seen for Goodrich's Geon; aircraft electrical equipment. Aviation W 54: 43+ Mr 12 '51
Telephone cables in Denmark. Elec R (Lond) 149:255-6 Ag 3 '51; il Engineer 192:160-1 Ag 3 '51; Engineering 172:223-4 Ag 17 '51
Thermal evaluation of Formvar resin. T. D. Callinan. bibliog diags Electrochem Soc J 98:171-6 My '51

Ion exchanging

Absorption of quinine by a carboxylic acid ion-exchange resin. L. Saunders and R. Srivastava. Chem Soc J p2915-19 N '50
Action of mineral ion exchange resins on milk constituents. C. W. Gehrke and E. F. Almy. bibliog Ind & Eng Chem 42:2344-7 N '50
Adsorption curve of a rare earth in an ion-exchange column. H. B. van der Heijde and A. H. W. Aten, jr. diag J Phys & Colloid Chem 55:740-4 My '51
Adsorption of iron by anion exchange resins from hydrochloric acid solutions. G. E. Moore and K. A. Kraus. Am Chem Soc J 72:5792-3 D '50
Adsorption of protactinium from hydrochloric acid solutions by anion exchange resins. K. A. Kraus and G. E. Moore. Am Chem Soc J 72:4293-4 S '50
Amino-acid separations by use of a strong-base. C. W. Davies, R. B. Hughes and S. M. Partridge. Chem Soc J p2285-7 S '50
Anion exchange of zirconium, hafnium, niobium and tantalum in hydrochloric acid solutions. E. H. Huffman, G. M. Iddings and R. C. Lilly. Am Chem Soc J 73:4474-5 S '51
Anion exchange resins may recover iodine from brines; abstract. M. Sekino. Chem & Eng N 29:3973 S 24 '51
Anion exchange studies; protactinium in some HCl-HF mixtures; separation of niobium, tantalum and protactinium. K. A. Kraus and G. E. Moore. Am Chem Soc J 73:2900-2 Je '51
Anion exchange studies; separation of zirconium and niobium in HCl-HF mixtures. K. A. Kraus and G. E. Moore. bibliog il Am Chem Soc J 73:9-13 Ja '51
Anion exchange studies; tantalum in some HF-HCl mixtures. K. A. Kraus and G. E. Moore. Am Chem Soc J 73:13-15 Ja '51
Carboxylic cation exchange resin in water conditioning; hydrogen cycle. F. X. McGarvey and J. Thompson. Ind & Eng Chem 43:741-6 Mr '51
Cation-exchange resins; the applicability of the mass-action law to the exchange of univalent ions. J. D. Cosgrove and J. D. H. Strickland. Chem Soc J p 1845-53 Jl '50
Classroom demonstrations of ion-exchange resins. J. F. Castka and J. Crane. J Chem Educ 27:673 D '50
Determination of the external volume of ion exchange resin particles. H. P. Gregor, K. M. Held and J. Bellin. bibliog Anal Chem 23:620-2 Ap '51
Electromigration in a cation exchange resin. K. S. Spiegler and C. D. Coryell. bibliog Science 113:546-7 My 11 '51
Experiments with ion-exchange resins. R. H. Schuler and others. bibliog J Chem Educ 28:192-4 Ap '51
Fluorometric determination of nicotinamide by use of synthetic ion exchange resins. M. Kato and H. Shimizu. bibliog diags Science 114:12-14 Jl 6 '51
Gibbs-Donnan equilibria in ion exchange resin systems. H. P. Gregor. bibliog diag Am Chem Soc J 73:642-50 F '51
Ion-exchange experiment for quantitative analysis. W. M. MacNevin and others. diag J Chem Educ 28:389-90 Jl '51
Ion exchange in synthetic resins. S. L. Gupta, M. Bose and S. K. Mukherjee. bibliog J Phys & Colloid Chem 54:1098-109 N '50
Ion exchange materials and their application; abstract and discussion. T. Currie. Chem & Ind p823-4 D 23 '50
Ion exchange symposium. bibliog il diags Ind & Eng Chem 43:1062-93 My '51
Isolation and purification of morin on an ion-exchange resin. Q. L. Morris, T. B. Gage and S. H. Wender. Am Chem Soc J 73: 3340-1 Jl '51
Mixed-bed deionization. A. C. Reents and F. H. Kahler. bibliog il Ind & Eng Chem 43: 730-4 Mr '51
Monobed deionization with ion exchange resins. R. Kunin and F. X. McGarvey. diag Ind & Eng Chem 43:734-40 Mr '51
Plastics that sort atoms. il diags Fortune 44:107-10+ Jl '51
Preparation of gallium citrate by ion exchange. R. E. Blanco and J. D. Perkinson, jr. diags Am Chem Soc J 73:2696-700 Je '51
Properties of ion-exchange resins in relation to their structure; relative affinities. D. Reichenberg, K. W. Pepper and D. J. McCauley. diag Chem Soc J p493-9 F '51
Properties of ion-exchange resins in relation to their structure; titration curves. N. E. Topp and K. W. Pepper. Chem Soc J p3299-303 D '49
Reactions of cesium in trace amounts with ion-exchange resins. H. S. Miller and G. E. Kline. Am Chem Soc J 73:2741-3 Je '51
Resinous ion exchangers in water treatment. W. W. Aultman. bibliog Am Soc C E Proc 77 [no 85]:1-9 Ag '51
Selective diffusion into ion-exchange resins; a new method for the purification of the direct cotton dyes. R. W. Richardson. Chem Soc J p910-14 Ap '51
Separation of copper from zinc by ion exchange. E. J. Breton, jr. and A. W. Schlechten. bibliog diag J Metals 3:Trans 517-21 Jl '51
Streptomycin and mannosidostreptomycin in fermentation broths; ion exchange resin separation and spectrophotometric determination. C. V. St John, D. E. Flick and J. B. Tepe. bibliog Anal Chem 23:1289-91 S '51
Studies of cation-exchange equilibrium on a synthetic resin. W. K. Lowen and others. Am Chem Soc J 73:2666-74 Je '51
Study on the relation between *p*H of ion exchange resin phase and the composition of solution at equilibrium. M. Honda. Am Chem Soc J 73:2943-4 Je '51
Sulphonated cross-linked polystyrene; a monofunctional cation-exchange resin. K. W. Pepper. bibliog J Ap Chem 1:124-32 Mr '51
Symposium on preparation of ion exchange materials; A.C.S. Division of paint, varnish, and plastics chemistry. Chem & Eng N 29:3835-6 S 17 '51
Uronoside formation catalyzed by cation active resin. E. M. Osman, K. C. Hobbs and W. E. Walston. Am Chem Soc J 73:2726-9 Je '51
Use of ion exchange resins with flavonoid compounds. T. B. Gage and others. Science 113:522-3 My 4 '51

Manufacture

Continuous polycondensation; the development of a practical method. E. Sunderland. J Ap Chem 1:360-3 Ag '51
Electric synthetic resin kettle; data sheet. A. B. Rudy. il Elec West 105:91 O '50
Immersion heated resin plant. H. W. Chatfield. diags Paint Oil & Chem R 114:12-15 Ag 30 '51

RESINOUS products—Manufacture—*Continued*

New line of resins marketed by Shell; Epon. Chem & Eng N 28:4112 N 20 '50

Statistics

Production of synthetic resins and cellulosics in pounds, 1946, 1949, 1950; tabulation. Mod Plastics 28:60 Ja '51

Textile uses

Acrysol A-1; new synthetic size solves many nylon sizing problems. H. C. Borghetty and J. J. Bernard. Rayon 32:58+ Jl '51

Application of *s*-bisalkoxymethylureas (dialkyl ethers of dimethylolurea) to wool. P. Alexander and others. Soc Dyers & Col J 66:579-83 N '50

Fluorescent resins; condensates of ketones, aldehydes and guanidine derivatives; patent. Am Dyestuff Rep 40:477-8 Jl 23 '51

Modification of wool by the application of linear synthetic polyamides; *N*-methoxymethyl polyamides. D. L. C. Jackson and M. Lipson. bibliog Textile Res J 21:156-63 Mr '51

New way to flameproof nylon. R. C. Axtmann and A. T. Sweet. il Textile World 101:130+ Mr '51

Odor prevention in resin treated fabrics. L. A. Fluck and others. bibliog Am Dyestuff Rep 40:154-60 Mr 5 '51; Excerpt. Textile World 100:133 D '50

Phenolic-impregnated fire helmet. il Mod Plastics 28:91 N '50

Resin can improve good fabrics; abstract. R. M. Fischer. Am Dyestuff Rep 39:686 O 16 '50

Resin treatment gives longer life to webbing of parachute harness. il Mod Plastics 28:165 N '50

Safety clothing of Geon vinyl chloride resin. il Mod Plastics 28:165 Ap '51

Shrinkproofing and mothproofing; alkylated methylolmelamines plus melamine fluosilicate; patent. Am Dyestuff Rep 40:64 Ja 22 '51

Transparentizing; ureaformaldehyde ether resins; patent. Am Dyestuff Rep 39:926 D 25 '50

Vinyl-coated fabrics are not hard to process continuously. E. D. White. il Textile World 101:135+ Je '51

Water treatment

Resinous ion exchangers in water treatment. W. W. Aultman. bibliog Am Soc C E Proc 77 [no 85]:1-9 Ag '51

RESINS. See Gums and resins

RESNATRON

New uhf resnatron designs and applications. D. B. Harris. il diags Electronics 24:86-9 O '51

Radar jamming tube to serve as transmitter for color television; reflex Resnatron. Mech Eng 73:581 Jl '51

RESONANCE (chemistry)

Calculation of resonance energies. J. L. Franklin. bibliog Am Chem Soc J 72:4278-80 S '50

Fluorescence of 1,4-diarylbutadienes and its relation to their configuration. Y. Hirshberg, E. Bergmann and F. Bergmann. Am Chem Soc J 72:5117-18 N '50

Molecular orbital theory and spectra of monosubstituted benzenes. F. A. Matsen, W. W. Robertson and J. F. Music. bibliog il Am Chem Soc J 72:5243-63 N '50

Molecular-orbital treatment of organic compounds containing oxygen. J. G. M. Bremner and W. C. G. Bremner. Chem Soc J p2335-40 S '50

Resonance energy of benzene. D. F. Hornig. bibliog diags Am Chem Soc J 72:5772-4 D '50

Stabilization of highly polar resonance structures by hydrogen bonding; electric moments. C. Curran and G. K. Estok. bibliog Am Chem Soc J 72:4575-8 O '50

Study of nuclear and electronic magnetic resonance. K. K. Darrow. Elec Eng 70:401-4 My '51

Validity of an assumption of resonance theory. A. F. Johnson. Science 112:503-4 O 27 '50

RESONANCE radiation. See Radiation

RESONATORS

Wavelength of a spherical resonator with a circular aperture. H. Levine. diag Acoustical Soc Am J 23:307-11 My '51

RESORCINOL

Glue needs up resorcinol. Chem W 68:43-4 Je 16 '51

Kinetics of the uncatalyzed reactions between resorcinol and formaldehyde. R. A. V. Raff and B. H. Silverman. bibliog Ind & Eng Chem 43:1423-7 Je '51

Resorcinol-formaldehyde reaction observed by ultraviolet absorption measurements. P. J. Stedry. bibliog Ind & Eng Chem 43:2372-5 O '51

Resorcinol; its applications for textiles. E. W. Shand. bibliog Rayon 31:79-80+ N '50

Some alkylresorcinols. J. P. Brown and others. Chem Soc J p2019-20 Ag '51

RESORCYLIC acid

Identification and separation of amines employing beta-resorcylic acid. K. W. Wilson, F. E. Anderson and R. W. Donohoe. bibliog Anal Chem 23:1032-3 Jl '51

RESORTS

See also

Summer resorts

RESPIRATION

Application of mass spectrometer analysis to the study of respiratory metabolism. A. W. Pratt and others. bibliog diag R Sci Instr 22:694-6 S '51

New apparatus for the partitioning of expired air. J. H. U. Brown and others. diags R Sci Instr 22:81-3 F '51

RESPIRATION, Artificial

Artificial respiration. S. Jellinek. il Sci Am 185:18-21 Jl '51; Discussion. 185:2+ O '51

Artificial respiration; newly developed automatic breathing apparatus embodying an oxygen administration technique. Safety Maint & Prod 101:62 Mr '51

Creator of life-saving technique honored by electric industry; Oesterreich pole top method of resuscitation. il Edison Elec Inst Bul 19:240-2 Jl '51; Excerpts. Nat Safety N 64:54 S '51

Demonstrate pole-top resuscitation; illustrations with text. Nat Safety N 63:30-1 My '51

EEI resuscitation medal awards honor electric company employees' resourcefulness-teamwork-devotion to duty. il Edison Elec Inst Bul 19:20-4, 53-8 Ja-F '51

Electric shock. W. Maclachlan. bibliog(37 ref) Elec Eng 70:871-6 O '51

Eleven EEI resuscitation medals awarded to valorous electric company personnel. Edison Elec Inst Bul 19:301-6 S '51

First and second aids to life-saving. D. L. Garrison. il Safety Maint & Prod 101:18-20+ Mr '51

Manual artificial respiration, comparison of effectiveness of various methods on apneic normal adults; abstract. S. Gordon and others. Nat Safety N 63:60 F '51

Opposition to resuscitation method outlined to EEI accident committee. Elec World 136:75 S 24 '51

Pole top resuscitation; Oesterreich method. Pub Util 48:53-4 Jl 5 '51

Pressure tank aids stork; used to start the breathing organs of newborn babies. Comp Air Mag 55:278 D '50

Resuscitators to the rescue. W. H. Stephenson. il Safety Maint & Prod 101:60-1 My '51

RESPIRATORY apparatus

Air flow measurements on human subjects with and without respiratory resistance at several work rates. L. Silverman and others. bibliog A M A Archives Ind Hygiene & Occup Med 3:461-78 My '51

New versatile respirator. C. Marshall. bibliog diags Science 113:514-15 My 4 '51

Respiratory protection. il Nat Safety N 63:75+ Mr '51

Safe eyes look backward; strides made in eye and respiratory protection. T. A. Willson. il Safety Maint & Prod 101:23-4+ Je '51

They'll wear clean respirators; cleaning and maintenance of equipment at Bethlehem steel co. il Nat Safety N 62:32-3+ D '50; Abstract. Steel 127:75 O 30 '50

See also

Dust masks

RESPIRATORY organs

Diseases

See also
Cold (disease)
Influenza
Lungs—Diseases

RESPIROMETERS

Automatic manometric respirometer. P. R. Morrison. il diags R Sci Instr 22:264-7 Ap '51

Continuous flow respirometer utilizing the oxygen cathode. F. D. Carlson and others. diags R Sci Instr 21:923-32 N '50

Simple calibrator for Warburg respirometers. P. F. Scholander and others. diag Science 112:437-8 O 13 '50

Volumetric microrespirometer for studies of tissue metabolism. R. Wennesland. bibliog diags Science 114:100-3 Jl 27 '51

RESTAURANTS

See also
Lunchrooms and cafeterias
Lunchrooms and cafeterias, Employees'

Accounting

Discussion of the essentials of effective food inventory and cost control systems for restaurants; abstract. E. E. Wunderly. J Account 92:226+ Ag '51

Advertising

Harding's restaurants find dailies basic. Ed & Pub 84:18 Je 9 '51

Readers relish clean cafe ad served daily. Ed & Pub 84:62 Ap 28 '51

Air conditioning

Small units handle big air conditioning job. il Elec World 136:102 Jl 2 '51

Window air conditioners serve Texas restaurant. Heat & Ven 48:76 Jl '51

Credit cards

Credit card pays entertainment bills; Diners' club. Bsns W p34 N 11 '50

Electric equipment

All electric restaurant; data sheet. H. Winter. il Elec West 106:77 Ap '51

Electric space heating, electric water heating, Wegners coffee shop, Twin Falls, Idaho; data sheet. P. E. Kail. il Elec West 105:78 N '50

Finance

Another chance for Childs; adopted and rejuvenated by kindly men from Wall Street. il Fortune 43:84-6+ Mr '51

Lighting

National restaurant association joins I.E.S. to study food service areas. il Illum Eng 45:725 N '50

RESTRAINT of trade

Court holds Richfield dealer operations illegal. F. Breese. Nat Pet N 43:17 Jl 4 '51

Indiana Standard counsel cites shift in court definition of conspiracy. L. E. Castle. Nat Pet N 43:31+ F 28 '51

No peace for exclusive dealing. Bsns W p95-6 My 5 '51

Richfield admits direct control of lessees; exclusive dealing anti-trust suit. Nat Pet N 43:25-6 My 16; 17-19 My 23; 17-18 My 30; 36 Je 6; 23-4 Je 13 '51

Richfield decision requires supplier to let lessee make brand choices; Richfield ruling effect slight, majors say. Nat Pet N 43:19-20 Jl 11 '51

Richfield loses; court rules leased stations are independent businesses. Bsns W p 107-8 Jl 14 '51

Richfield tells court why it doesn't sell products to split-pump stations. F. Breese. Nat Pet N 43:26 My 30 '51

Timken loses; Supreme court rules it conspired with overseas affiliates in restraint of trade. Bsns W p22 Je 9 '51

See also
Exclusive agencies
Monopolies
Price fixing
Trusts, Industrial

RESTRICTOR tubes. See Capillaries

RESUSCITATION

See also
Respiration, Artificial

RETAIL salesmen. See Salesmen, Retail

RETAIL stores, Manufacturers'

To steady output, shoe makers turn sellers. il Bsns W p 116+ Jl 7 '51

RETAIL trade

Balky buyers; their earlier excesses are paining retailers. R. M. Bleiberg. Barron's 31:3 Ap 9 '51

Buying boom picking up after lag. Bsns W p20 F 17 '51

Cash sales; Regulation W doesn't stop them. Bsns W p70 D 9 '50

Coming events cast their shadow for the small retailer. G. E. Breen. J Retailing 26:169-73+ Winter '50

Consumer spending; bound to rise. Bsns W p 112-16 Ag 11 '51

Difficulties foreseen for retailers; survey by National retail dry goods association. Comm & Fin Chr 173:163+ Ja 11 '51

Easter sales; nobody's scared. Bsns W p 19-20 Mr 31 '51

Economic outlook for retailing. J. Backman. Comm & Fin Chr 172:1495+ O 19 '50

Historic forces on the march. F. Hooson. J Retailing 26:174-6+ Winter '50

Home furnishings merchandisers see no basis for lower prices or reduced sales; symposium. Comm & Fin Chr 174:70-1 Jl 5 '51

Management perspective of retailing. H. H. Schwamb. J Retailing 27:68-71 Summer '51

Marketing pattern; current buying wave. Bsns W p45 F 3 '51

New battle of the brands; store-controlled brands will be stronger in 1960. E. B. Weiss. il Ptr Ink 233:36-8+ N 24 '50

New stock control deal; wholesaler operates as store buyer. M. Beuick. il Ptr Ink 234:48+ Mr 2 '51

Nothing left to unload. il Bsns W p 19-20 Ja 6 '51

Outlook for our garrison economy. A. W. Zelomek. Comm & Fin Chr 173:2266-7 My 31 '51

Retailers mix hopes and worries. il Bsns W p85-6+ Je 30 '51

Retailers; out from under. Bsns W p26 Ag 25 '51

Retailers pay for the spree. il Bsns W p 103-4 My 19 '51

Retailer's stake in the standard of living. P. Mazur. Comm & Fin Chr 173:254+ Ja 18 '51

Retailers suspect a hook; joy over OPS margin system fades. Bsns W p98+ Mr 10 '51

Retailers; they worry, but still sell. Bsns W p 19-20 O 21 '50

Scare buying sweeps country. il Bsns W p20-1 Ja 20 '51

Still dragging. Bsns W p23 S 29 '51

Studying customer behavior in retail stores. W. Applebaum. J Marketing 16:172-8 O '51

Who suffers when a town's key industry shuts down? Chicago university survey. Bsns W p88 S 1 '51

Why do large retailers push their own brands? E. B. Weiss. il Ptr Ink 233:34-5+ O 27 '50

See also
Advertising—Dealers, Appeal to
Auctions
Chain stores
Charge accounts (retail trade)
Christmas business
Cooperative associations
Dealer helps
Dealer relations
Department stores
Display of merchandize
Electric shops (retail trade)
Electric utilities—Appliance selling
Gasoline service stations
Grocery trade
Instalment plan
Mail order business
Market research, Retail
Market stores
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Post exchanges
Price fixing, Resale
Price policies, Retail
Purchasing
Retail workers
Returned goods
Salesmanship, Retail
Salesmen, Retail
Self service
Self service stores
Shopping areas
Shopping centers
Show windows
Specialty stores
Store buildings
Traveling stores
Vending machines

RETAIL trade—*Continued*

Accounting

How accounting service can provide control and decision-making help to small retailers. H. A. Lipson. J Account 92:48-51 Jl '51

Papers, papers, papers! the trick in retail accounting is to get rid of the papers. D. L. Valentine. J Account 92:344 S '51

Successful cost allocation for retail stores is hinged to careful control of inventories. P. Wolitzer. J Account 91:129-30 Ja '51

See also

Chain stores—Accounting

Bibliography

Selected and annotated bibliography of accounting materials for retail concerns. H. A. Lipson. 16p pa 50c Bur. of business research, School of commerce and business administration, Univ. of Alabama, University, Ala. '51

Advertising

Advertising trends among the retail giants. E. B. Weiss. il Ptr Ink 233:38-40+ D 1 '50

Are retailers becoming media brokers? J. Lorin. il Ptr Ink 235:27-9 Ap 6 '51

Clean copy on back page store's success recipe. Ed & Pub 84:14 F 24 '51

Dayton story places its ads where news is. Ed & Pub 84:14 My 12 '51

42 stores run over 2,000,000 lines in dailies. Ed & Pub 84:30 Ap 7 '51

Housewife puts newspaper ads first in shopping. Ed & Pub 84:55 My 5 '51

Meaty retail ad book and 200 SEP cartoons; review of Effective retail advertising by I. Settel. R. Ellard. Ed & Pub 83:40 O 21 '50

More public service retail ads advocated. M. Hess, jr. Ed & Pub 84:14 Je 9 '51

Outdoor advertising success story; offer of free ice water built drug store business. G. L. Hough. il Adv Agency 44:76+ Jl '51

Readership of food-store advertising. R. H. Oakes. J Marketing 16:66-8 Jl '51

Retailers need ads to lift '51 unit sales. J. G. Dakins. Ed & Pub 84:12 Ja 6 '51

(R)obert (H)all factor in pipe rack success. R. B. McIntyre. Ed & Pub 84:20 S 8 '51

Small dealers recapture lost market; joined forces and used advertised premium to build store traffic. E. J. Faber. il Ptr Ink 235:48 Ap 20 '51

Store executive asks down-to-earth ad mats. N. Baron. Ed & Pub 84:14 Je 16 '51

Talk of ad rationing speeds radio to stores. H. N. Neubert. Ed & Pub 84:42 My 19 '51

Triple result from mail-order ads; new customers by mail, repeat business by mail, more customers in stores; Innes shoe co. L. F. Thomann. il Ptr Ink 235:33 Je 8 '51

Urges institutional ads for retailers. C. H. Sandage. Ed & Pub 84:16 Je 30 '51

What can an advertiser do when a market loses a major medium? strike on newspapers. T. M. Jones. Ptr Ink 233:34-5+ N 17 '50

What makes copy effective at the retail level? V. R. Noble. Adv Agency 44:75 Ja '51

See also

Advertising, Point of sale

Department stores—Advertising

Charge accounts

See Charge accounts (retail trade)

Finance

Retailers' earnings squeezed in first half of 1951; with tables. Nat City Bank p 113-16 O '51

See also

Chain stores—Finance

Insurance requirements

Inventory shortages and problems they present; abstract. W. W. Downs. Nat Underw 54:28-9 O 19 '50

Manufacturers' demonstrations

Demonstration; it's half the sales battle for Proctor. R. H. Dewalt. il Sales Management 67:102+ S 1 '51

See also

Department stores—Manufacturers' demonstrations

Purchasing

How retailer shops in new wholesale super market. il Ptr Ink 236:41 Ag 3 '51

See also

Retail trade—Stock

Securities

Slump in retail trade ahead? with statistics on merchandising stocks. R. Colston. Mag of Wall St 88:73-5+ Ap 21 '51

Statistics

Can stores match 1950? report of NRDGA's Comptrollers' congress. Bsns W p 114 Je 9 '51

Concentration of the American wholesale and retail markets in metropolitan areas. W. Alderson and L. Kent. Ptr Ink 235:29-32+ Ap 13 '51

Customer patronage of a parent and new branch store. D. F. Blankertz. J Marketing 16:152-7 O '51

First detailed census analysis will give retail data by areas, districts; Philadelphia study. E. J. Dever, jr. Ptr Ink 236:40 S 14 '51

Food stores gain; varieties lag. Bsns W p42-3 Ag 4 '51

High spot cities. Sales Management 66:94-101 Ja 1 '51 [cont monthly]

How dead is the 1948 census of business? metropolitan area sales, 1950 vs. 1948. Sales Management 67:54-6+ S 1 '51

How retailing patterns have shifted since '39; tabulation. Bsns W p 104 Ap 14 '51

Major American markets. W. Alderson and L. Kent. map Ptr Ink 235:31-5 My 25 '51

Metropolitan America; how it's changed since '39. Sales Management 65:136+ N 10 '50

Most things sell best in the big town. il Ptr Ink 235:36+ My 25 '51

Recent trends in retail trade; with data for selected years, 1929-first quarter 1951. W. W. Jacobs and C. Winston. Survey of Cur Bsns 31:14-19+ My '51

Retail bonanza; 1950 sales eight per cent over 1949. Bsns W p55 D 30 '50

Retail trade in 1950. J Retailing 27:72-8 Summer '51

Retail trade in 1950; with figures for other years. Survey of Cur Bsns 31:21-4 F '51

Retailing; 168 standard metropolitan areas account for 63.4 per cent of all retail sales. map Ptr Ink 235:71, 74+ My 25 '51

Sales Management survey of buying power, May 10, 1951; population estimates, effective buying income, retail sales, farm market data, etc. Sales Management 66:1-604 My 10 '51

Study of consumer spending trends. J. D. C. Weldon. Mag of Wall St 88:130-1+ My 5 '51

See also

Department stores—Statistics

Stock

High stocks don't worry stores. Bsns W p46+ Ja 13 '51

Lagging retail sales reflected in inventory increase; with table and graph. Survey of Cur Bsns 31:2-3 Jl '51

Retail inventory control, how to set it up and operate it; P.I. sales executives clinic report. Ptr Ink 234:40+ Ja 12 '51

Retail inventory control; why is it important to sales today? P.I. sales executives clinic reports. il Ptr Ink 233:33-6+ O 13; 36-9 N 10 '50

Trend of inventories in the mobilization period; retail inventories; with tabulations. M. F. Foss and L. E. Holmes. Survey of Cur Bsns 31:21-3 Ap '51

See also

Department stores—Stock

RETAIL trade—*Continued*

Store location

Mr Maugham's market research lesson; film, Trio. W. T. Bostelman. Ptr Ink 234:31 Mr 9 '51

There are lots of people downtown. il Bsns W p 138+ O 6 '51

Store management

Clinical thermometer for business; the operating forecast. A. A. Western. Credit & Fin Management 53:14+ Ap '51

Design for selling. T. D. Ellsworth. J Retailing 27:22-34+ Spring '51

Merchandise management profitable to the small retailer. L. R. Nathan. J Retailing 27:86-93+ Summer '51

Our retail selling ills; a diagnosis. N. H. Comish. il Dun's R 59:21-2+ Mr '51

Retail sales management in a semiwar economy. H. M. Cowee. J Retailing 27:8-11 Spring '51

Ten-point guide to successful retailing. il Dom Eng 176:114-15+ N; 110-13+ D '50

Study and teaching

How the New York university School of retailing was founded and developed. S. W. Reyburn. J Retailing 26:93-100 Fall '50

Is professional training in retailing worth while? evaluation of the New York university School of retailing by its graduates. J Retailing 27:53-67+ Summer '51

Charlotte, North Carolina

Buying practices of out-of-town customers; study of credit sales by two department stores. E. Douglas. J Bsns 23:259-72 O '50

Great Britain

Higher prices and larger sales; with tabulation of wholesale prices and retail sales, Sept. 1949-Oct. 1950. Economist 159:836 N 18 '50

New York (city)

What is your store doing about returns? study of returns in a group of metropolitan New York stores. J Retailing 26:101-6+ Fall '50

Washington, D.C.

D.C. stores break sale tradition; no Washington's birthday sales. il Bsns W p 25 Mr 3 '51

RETAIL trading zones. See Shopping areas

RETAIL workers

Does training pay dividends? T. D. Ellsworth. J Retailing 26:107-16+ Fall '50

See also

Department stores—
Employees
Salesmen, Retail

RETAINING walls

Earth pressure on retaining walls determined by diagram. K. Chu. Civil Eng 20:725-6 N '50

RETAINING walls, Concrete

Careless dimensioning fells a concrete wall. diag Eng N 146:51 F 8 '51

RETARDERS, Car. See Car retarders

RETENE

Infra-red studies of retene and its hydrogenation products. P. V. Laakso, S. F. D. Orr and H. W. Thompson. Chem Soc J p221-5 Ja '50

RETINA

See also

Visual purple

RETINENE

Chemistry of rod vision. G. Wald. bibliog diag Science 113:287-91 Mr 16 '51

RETIREMENT

Begin now to enjoy tomorrow; Mutual Benefit's book on retirement. H. G. Kenagy. East Underw 52:96-7 pt 2 O 5 '51

Factors in determining retirement age; abstract. R. K. Burns. Management R 40:544-5 S '51

Human factor in retirement; abstract. D. K. David. Management R 40:95-6 F '51

Life begins at sixty-five; achievements of W. F. Durand since retirement. N. A. Bowers. Aeronautical Eng R 10:9-11+ Je '51

Mutual Benefit Life's book tells how to get ready for happy retirement. Nat Underw (Life ed) 55:3 My 11 '51

New approach to retirement problem needed; abstract. E. S. Hewitt and C. L. Kluss. Management R 40:136 Mr '51

Northwest National Life survey shows needs and desires in period of retirement. Weekly Underw 165:316+ Ag 11 '51

Old hands snub pensions. il Bsns W p 124-6 N 18 '50

Pensioners are a sociological as well as economic problem; preparation for retirement program initiated by Esso standard oil co. Pet Processing 6:12 Ja '51

Pensions are not enough; the individual company and its older workers. E. S. Hewitt and others. bibliog J Bsns 24:127-40 Ap '51

Retirement, a bore or fun; Esso's preparation for retirement program. il Bsns W p32+ Ap 14 '51

Retiring to Florida won't solve income at 65 problem. Nat Underw (Life ed) 55:5 Je 29 '51

What do your employees plan to do at 65? Standard oil company (N.J.) retirement counseling program. Mill & Factory 48:111-12 F '51

What if a worker isn't old at his retirement age? International gerontological congress, 2d, St Louis. Bsns W p 116-18+ S 29 '51

You need more than money to retire. S. G. Hale. Life Ins Courant 56:37-8 Je '51

Bibliography

Your second career; how to find the doors retirement opens. (Business literature v. 23, no. 9) p 17-18 Business library, Newark public lib, Newark, N.J. My '51

RETIREMENT age. See Age and employment

RETIREMENT plans. See Age and employment; Pensions, Industrial

RETRORSINE

Senecio alkaloids; the structure of retrorsine and isatidine; the ester groupings. E. C. Leisegang and F. L. Warren. Chem Soc J p702-3 F '50

RETURNED goods

Retailers worried by merchandise returns. Bsns W p71 D 9 '50

What is your store doing about returns? study of returns in a group of metropolitan New York stores. J Retailing 26:101-6+ Fall '50

REUTER, Paul Julius de, 1816-1899

Portrait. D. Willens. Ed & Pub 84:9 Je 9 '51

REUTERS (news agency)

Celebrates its 100th anniversary. D. Willens. il Ed & Pub 84:9+ Je 9 '51

Reuters hailed in London in centenary celebration. Ed & Pub 84:16 Jl 14 '51

REUTHER, Walter Philip, 1907-

Old serpent tooth bites again; CIO's stentorious father blasts Reuther. Mod Ind 22:81-2 Jl '51

Portrait. Bsns W p30 S 15 '51

Walter Reuther marches on. Fortune 44:41-2+ Jl '51

REVENUE act of 1950

Analysis of the Revenue act of 1950 and how it will operate. B. Harrow. J Account 90:398-404 N '50

New Revenue act closes loopholes, removes perplexities in old law, adds new ones. B. Harrow. J Account 90:479-85 D '50

REVENUE bonds. See Bonds, Revenue

REVERBERATION. See Echo

REVERBERATORY furnaces. See Furnaces, Reverberatory

REVERE copper and brass company

Vexations of Revere. il Fortune 42:97-9+ D '50

REVIEWS

See also

Newspapers—Book reviews

REWARDS, prizes, etc.

A.G.A. awards to honor leadership, achievement. Am Gas Assn Mo 33:35 My '51

Bane and Chanute awards presented to J. B. Johnson and Lt. Col. M. E. Carl. Aeronautical Eng R 10:5 Ag '51

Better look "award" givers in the mouth; National better business bureau warns manufacturers. Mod Ind 22:117-18 S '51

REWARDS, prizes, etc.—*Continued*

Consolidated Edison co. of N.Y. employees receive meritorious service certificates for courageous acts. Edison Elec Inst Bul 18: 436 D '50

EEI prize contests offer 31 prizes for industry achievements in 1950. il Edison Elec Inst Bul 18:383-5 O '50

Gas service co. rewards employees for flood heroism. Gas Age 108:41 S 27 '51

Industry honors top achievement. Am Gas Assn Mo 32:24-6+ N '50

IAS grants awards. Aviation W 55:31-2 Jl 9 '51

IAS Honors night awards go to five. Aviation W 54:16 Ja 29 '51

Report of the prize awards committee. G. E. Whitwell. Edison Elec Inst Bul 19:233-7 Jl '51

Rudolph F. King gets '51 Beecroft award. S A E J 59:63 Jl '51

See See

Advertising awards
Coffin foundation
Einstein prize
Journalism awards
Medals
Nobel prizes
Runyon awards
Safety contests and awards

REXALL drug, inc.

Security I like best. N. L. Jarvis. Comm & Fin Chr 173:2550 Je 21 '51

REYNOLDS, Robert L.

Personalities in engineering. por Westinghouse Eng 11:158 S '51

REYNOLDS metal company

Security I like best. A. G. Erpf. Comm & Fin Chr 172:2078 N 30 '50

REYNOLDS number. See Fluids

RHAMNOSE

3 : 4-Dimethyl L-fucose and 2 : 3-dimethyl L-rhamnose. E. E. Percival and E. G. V. Percival. Chem Soc J p690-1 F '50

Reaction of tribenzoyl-α-L-rhamnopyranosyl bromide with methanol; various benzoylated derivatives of L-rhamnose. R. K. Ness, H. G. Fletcher, jr. and C. S. Hudson. bibliog Am Chem Soc J 73:296-300 Ja '51

L-Rhamno-2-4-dinitrophenylhydrazone. J. A. Domínguez. Am Chem Soc J 73:849 F '51

RHEEM, Richard Scofield, 1903-

Portrait. Bsns W p68 N 25 '50

RHEEM manufacturing company

Security I like best. J. Andrews. Comm & Fin Chr 173:1122 Mr 15 '51

When everybody loves a competitor; to make gas refrigerators. Bsns W p68+ N 25 '50

RHENIUM

Ammonia decomposition and related phenomena on rhenium catalysts. J. P. McGeer and H. S. Taylor. bibliog Am Chem Soc J 73:2743-51 Je '51

Disintegration scheme of Re^{186}. F. R. Metzger and R. D. Hill. bibliog diag Phys R 82:646-50 Je 1 '51

Electrodeposition of rhenium-nickel alloys. L. E. Netherton and M. L. Holt. bibliog Electrochem Soc J 98:106-9 Mr '51

Oxidation levels of rhenium. C. L. Rulfs and P. J. Elving. bibliog Am Chem Soc J 73:3284-92 Jl '51

Rhenium in high temperature alloys; abstract. A. D. Melaven. Chem Eng 58:259-60 Je '51

Secondary emission of nickel-barium mixtures and rhenium when bombarded by electrons with energies from 50 to 8000 electron-volts. H. E. Farnsworth and M. J. Lun. il diag J Ap Phys 22:77-9 Ja '51

Analysis

Colorimetric determination of rhenium. E. E. Malouf and M. G. White. bibliog Anal Chem 23:497-9 Mr '51

Isotopes

Dual decay of Re^{186}. R. M. Steffen. bibliog Phys R 82:827-31 Je 15 '51

Identification of W^{188} formed in neutron-activated tungsten by a chemical separation of Re^{188}. M. Lindner and J. S. Coleman. Am Chem Soc J 73:1610-11 Ap '51

Magnetic moments of Mg^{25}, Re^{185}, Re^{187}, and Be^{9}. F. Alder and F. C. Yu. bibliog Phys R 82:105 Ap 1 '51

RHENIUM compounds

Reaction of fluorine with the oxides and oxy-compounds of manganese and rhenium. E. E. Aynsley, R. D. Peacock and P. L. Robinson. diag Chem Soc J p 1622-4 Je '50

RHENIUM fluorides

Fluorides of niobium, tantalum, tungsten, and rhenium. H. J. Emeléus and V. Gutmann. Chem Soc J p2115-18 Ag '50

RHENIUM oxides

Method for the preparation of rhenium(VI) oxide. H. Nechamkin, A. N. Kurtz and C. F. Hiskey. bibliog Am Chem Soc J 73:2828-31 Je '51

RHEOLOGY

Rheology of rubber solutions and suspensions. L. Leaman. bibliog(53 ref) Rubber Age 69: 699-706 S '51

See also

Plasticity

RHEOSTATS

Rheostat size decreased by tapered resistances. diags Power Eng 54:84 D '50

RHINELANDER paper company

Purchase of Lake States yeast corp. stock announced by Rhinelander paper co. Paper Ind 32:1065 Ja '51

Stock offered. Comm & Fin Chr 173:1114 Mr 12 '51

RHINOCEROSES, Fossil

Mold of a rhinoceros in basalt, lower Grand Coulee, Wash. W. M. Chappell and others. bibliog map diags Geol Soc Bul 62:907-18, pl 1-2 Ag '51

RHIZOCARPIC acid

Structures and syntheses of rhizocarpic acid and epanorin. R. L. Frank, S. M. Cohen and J. N. Coker. bibliog Am Chem Soc J 72:4454-7 O '50

RHIZOPUS

Study of the action of gluc amylase, a glucose-producing amylase, formed by the mold, rhizopus delemar. L. L. Phillips and M. L. Caldwell. bibliog Am Chem Soc J 73: 3563-8 Ag '51

Study of the purification and properties of a glucose-forming amylase from rhizopus delemar, gluc amylase. L. L. Phillips and M. L. Caldwell. bibliog Am Chem Soc J 73: 3559-63 Ag '51

RHODANINE

1 : 2-Dihydro-2-thianaphthalene derivatives; preparation and reactions of 1 : 2-dihydro-1-keto-2-thianaphthalenes. D. J. Dijksman and G. T. Newbold. Chem Soc J p 1213-18 My '51

Ionization constants of *p*-diethylaminobenzylidenerhodanine. E. B. Sandell and J. J. Neumayer. Am Chem Soc J 73:654-5 F '51

Rhodanine derivatives. F. C. Brown and others. Am Chem Soc J 73:2357-9 My '51

RHODE ISLAND insurance company

Receiver still seeks rehabilitation. Nat Underw 54:1+ D 7 '50

Rehabilitation still possible. Nat Underw 55: 4 Ag 9 '51

Rhode Island receiver hopes for rehabilitation program. Nat Underw 55:5 Mr 1 '51

RHODESIA

British Central Africa; southern Rhodesia, northern Rhodesia and Nyasaland. map Economist 160:1415-16, 1510-11 Je 16-23 '51

See also

Geology—Rhodesia

RHODESIAN teak. See Baikiaea plurijuga

RHODIUM

Carrier-free radioisotopes from cyclotron targets; preparation and isolation of Pd^{103} from rhodium. J. D. Gile and others. bibliog J Chem Phys 19:660-1 My '51

Existence of different capture levels in the formation of nuclear isomers by slow neutron irradiation. P. C. Capron and A. J. Verhoeve-Stokkink. bibliog Phys R 81:336-9 F 1 '51

Reference tables for thermocouples. H. Shenker and others. U S Nat Bur Stand Circ 508:1-71; pa 35c Supt. of doc. '51

Isotopes

Gamma-rays emitted in the disintegration of the 36-hour Rh^{105}. C. E. Mandeville and E. Shapiro. Phys R 82:953-4 Je 15 '51

Radioactivities of Ru^{105}, Rh^{105}, Br^{84}, and Br^{83}. R. B. Duffield and L. M. Langer. diag Phys R 81:203-7 Ja 15 '51

RHODIUM coating

Deposition of rhodium on Perspex. B. L. Ginsborg and O. S. Heavens. R Sci Instr 22:114-15 F '51

RHODIUM compounds

Simple and complex fluorides of some noble metals. A. G. Sharpe. Chem Soc J p3444-50 D '50

Studies in co-ordination chemistry; complexes of rhodic halides with a ditertiary arsine. R. S. Nyholm. Chem Soc J p857-9 Mr '50

RHODOPSIN. See Visual purple

RHODOSPIRILLUM rubrum

Nonequivalence of methyl and carboxyl groups in photometabolism of acetate by rhodospirillum rubrum. M. D. Kamen and others. Science 113:302 Mr 16 '51

RHONE river

Development of the river Rhone. il map plans diags Engineer 190:548-51, 580-4, 616-19, 644-6 D 8-29 '50

RIBAZOLE. See Benzimidazole

RIBBON

Ribbon quality attained at Century's new weaving mill. J. J. Lowe. il plan Textile World 101:130-3 F '51

RIBOFLAVIN. See Vitamins—Vitamin B_2

RIBOFLAVINPHOSPHATES

Pure riboflavin-5′-phosphate synthesized on large scale; abstract. L. A. Flexser and W. G. Farkas. Chem & Eng N 29:3947 S 24 '51

RIBOFURANOSIDES

Codehydrogenases; the synthesis of dihydronicotinamide-D-ribofuranoside [*N*-D-ribofuranosidyl-1 : 2(or 6)-dihydronicotinamide]. L. J. Haynes and A. R. Todd. Chem Soc J p303-8 Ja '50

New synthesis of purine nucleosides; the synthesis of adenosine, guanosine and 2,6-diamino-9-β-D-ribofuranosylpurine. J. Davoll and B. A. Lowy. bibliog Am Chem Soc J 73:1650-2 Ap '51

RIBONUCLEASE

Chromatography of proteins; ribonuclease. C. H. W. Hirs, W. H. Stein and S. Moore. Am Chem Soc J 73:1893 Ap '51

Quantum yields, ionic yields, and molecular weights of proteins. A. D. McLaren. bibliog Science 113:716-17 Je 22 '51

RIBONUCLEIC acid

Incorporation of isotopic formate into the nucleotides of ribo- and desoxyribonucleic acids. J. R. Totter, E. Volkin and C. E. Carter. bibliog Am Chem Soc J 73:1521-2 Ap '51

Isolation of uridine and cytidine from yeast ribonucleic acid. D. T. Elmore. Chem Soc J p2084-5 Ag '50

Preparation and properties of mammalian ribonucleic acids. E. Volkin and C. E. Carter. bibliog il Am Chem Soc J 73:1516-19 Ap '51

RIBOSE

Chemistry of ribose and its derivatives; the constitution of an anhydro-D-ribose. G. R. Barker and M. V. Lock. Chem Soc J p 23-6 Ja '50

Novel synthesis of 2-deoxy-D-ribose. L. Hough. bibliog Chem & Ind p406-7 My 26 '51

RIBOSENUCLEIC acid

Molecular size and shape of yeast ribosenucleic acid. I. Watanabe and K. Iso. bibliog Am Chem Soc J 72:4836-7 O '50

Ribose nucleic acid content and cell growth of bact. lactis ærogenes. P. C. Caldwell, E. L. Mackor and C. Hinshelwood. Chem Soc J p3151-5 N '50

Some considerations on autosynthesis in bacteria. P. C. Caldwell and C. Hinshelwood. Chem Soc J p3156-9 N '50

RIBULOSE

Identification of ribulose in $C^{140}O_2$ photosynthesis products. A. A. Benson. Am Chem Soc J 73:2971-2 Je '51

RICE, Raymond H. 1904-

Rice of North American. F. Hamlin. por Aero Digest 62:29+ My '51

RICE

Cuban rice industry. For Comm W 43:22 Je 25 '51

Ecuador's rice crop and exports. For Comm W 44:17 S 10 '51

Increased rice production in Panama. For Comm W 43:19-20 Je 11 '51

Indian rice production and imports. For Comm W 44:19 Jl 16 '51

Morphology of the ovary of oryza sativa Linn. var. plena (double rice). R. M. Datta and A. K. Paul. diag Science 113:491 Ap 27 '51

Parboiling and drying improves milled rice; patent digest. Food Ind 23:173 F '51

Philippine rice supply favorable. For Comm W 43:20 Je 18 '51

RICHARDS, Ray

Holmes award given to pair killed in Korea. por Ed & Pub 84:46 F 3 '51

RICHARDSON, George Burr, 1872-1949

Memorial. R. H. Wood and R. W. Richards. por Am Assn Pet Geologists Bul 35:2125-7 S '51

RICHARDSON, Lawrence Baxter, 1897-

I.A.S. president for 1951. por(p 12) Aeronautical Eng R 9:5 D '50

RICHART, Frank Erwin, 1892-1951

Sketch. por Midwest Eng 4:29 S '51

RICHFIELD oil corporation

Court holds Richfield dealer operations illegal. F. Breese. Nat Pet N 43:17 Jl 4 '51

Net higher despite heavy taxes. Barron's 31:11-12 Ag 20 '51

Richfield admits direct control of lessees; exclusive dealing anti-trust suit. Nat Pet N 43:25-6 My 16; 17-19 My 23; 17-18 My 30; 36 Je 6; 23-4 Je 13 '51

Richfield decision requires supplier to let lessee make brand choices; Richfield ruling effect slight, majors say. Nat Pet N 43:19-20 Jl 11 '51

Richfield tells court why it doesn't sell products to split-pump stations. F. Breese. Nat Pet N 43:26 My 30 '51

Yankwich refuses to order Richfield to drop 24-hour cancellation now. Nat Pet N 43:19 Ag 8 '51

RICINENE oil

Identifying vegetable oils; effective German alkali isomer test. Chem Age (Lond) 63:572-3 O 21 '50

RICINOLEIC acid

Ketonic products of the oxidation of the *cis*- and *trans*-forms of ricinoleic acid. G. W. Ellis. Chem Soc J p9-12 Ja '50

RICKETS

Effect of desiccated thyroid, iodinated casein, and casein on a rachitogenic diet. I. A. Schechet. Science 113:60-1 Ja 19 '51

RICKETTSIA

Isolation and characterization of Rocky Mountain spotted fever rickettsiae from the rabbit tick haemaphysalis leporis-palustris Packard. R. R. Parker and others. bibliog Pub Health Rep 66:455-63 Ap 13 '51

Rickettsialpox case due to laboratory infection. M. H. Sleisenger and others. bibliog Pub Health Rep 66:311-16 Mr 9 '51

RIEFLER, Winfield William, 1897-

Portrait. Bsns W p 100 S 22 '51

RIFLES

0·280in. calibre weapons. il Engineer 192:237 Ag 24 '51

Recoilless rifle now built in 105-mm size. il Steel 128:73-4 Mr 19 '51

Manufacture

Manufacturing recoilless rifles for greater infantry fire power. C. H. Wick. il Mach 57:141-8 Je '51

RINDLAUB, Jean Wade, 1904-

Ad woman of the year successfully manages career and family. por Ptr Ink 235:96 Je 15 '51

Mrs Versatility herself. J. L. Collings. por Ed & Pub 84:26 Ag 4 '51

Portrait. Sales Management 67:41 Jl 1 '51

RING spot virus of cherry. See Cherries—Diseases and pests

RINGS (jewelry)

Manufacture

Smoothing out class ring sales; Josten mfg. co. il Bsns W p88-91 My 12 '51

RINGS, Steel

New forging technique saves scarce steel; C.B.S steel & forge, inc. il Mill & Factory 49:132 S '51

RIO DE JANEIRO

Architecture

Arched industrial building integrates display; repair and office space for Caterpillar Tractor; Rio de Janeiro. il plan diags Arch Forum 93:136-7 N '50

RIO GRANDE

International irrigation developments started. C. M. Ainsworth. il Civil Eng 21:268-71 My '51

Serious drought hits Rio Grande area. Eng N 146:30 Ap 19 '51

Taming the Rio Grande. il map Bsns W p122+ Je 23 '51

RIO TINTO company, limited

Statement by the chairman. Earl of Bessborough. Economist 160:1598 Je 30 '51

RIOT insurance. See Insurance, Riot and civil commotion

RIPARIAN rights

What the law says. M. Nord. Chem Ind 67: 897-8 D '50

RISK

Calculating risks in industry. W. H. Winfield. Comm & Fin Chr 173:2562 Je 21 '51

Capital that takes a chance; venture-capital firms. Bsns W p25-6 Ap 14 '51

RISK research institute. See National insurance buyers association

RIVER pollution. See Water pollution

RIVER traffic

Germany's inland-waterway traffic. For Comm W 44:16-17 Ag 13 '51

New lock and dam provide for expanding river traffic. R. B. Jackson. il plan Civil Eng 20:759-60 D '50

Old Man River has a fine young boom. il Bsns W p69-70+ O 21 '50

Ten per cent increase in river oil shipments is forecast for 1951 by bargemen. D. Warren. il Nat Pet N 43:49-50 My 30 '51

RIVERS

Adsorption of *E. coli* on river and estuarine silts. C. M. Weiss. bibliog Sewage & Ind Wastes 23:227-37 F '51

Good land-use practices cut turbidity in river water. il map Eng N 146:40-1+ F 8 '51

Historic development of the theory of the flow of water in canals and rivers. S. L. Bey. diags Engineer 191:466-8, 498-501, 533-5, 565-7, 601-3 Ap 13-My 11 '51

Interstate compact development of river basins. J. L. Donnelly. Pub Util 48:22-31 Jl 5 '51

Regime theory for self-formed sediment-bearing channels. T. Blench. bibliog il Am Soc C E Proc 77 [no 70]:1-18 My '51

River channel roughness. H. A. Einstein and N. L. Barbarossa. il diag Am Soc C E Proc 77[no 78]:1-12 Jl '51

River control and use, 1950. il Eng N 146: 105-9 Mr 29 '51

WRPC presents development study of ten big river basins in third report. Eng N 146:29 Mr 8 '51

See also

Dams
Floods
Ice on rivers, ponds, etc.
River traffic
Water pollution
Water supply

also names of rivers, e.g.
Mississippi river
Missouri river

Bank protection

Asphalt for river or canal banks. W. L. Nelson. Oil & Gas J 50:338 Je 21 '51

Regulation

Factors and trends relating to the economics of river developments. M. E. Sutton. J Eng Educ 41:430-4 Ap '51

Overflow-type dam diverts water to city. il diags Eng N 146:38-40 Mr 1 '51

Rectification of the Papaloapan river in Mexico. R. Schega. il map Am Soc C E Proc 77[no 71]:1-13 My '51

Water use and control. il maps Eng N 146: 192+ Mr 29 '51

See also

Dams
Levees

also Mississippi river—Flood control projects

India

India stakes future on her rivers. il map Eng N 146:32-6 Mr 1 '51

Scotland

River pollution in Scotland. Engineer 191:103 Ja 19 '51

Virginia

Folded overthrust and its effect upon stream development in central Virginia. R. O. Bloomer. bibliog maps diag Am J Sci 249: 640-53, pl 1-2 S '51

RIVETED joints

Aircraft riveting. H. Giddings. il diags Roy Aeronautical Soc J 54:753-78 D '50

Load distribution in riveted and spot-welded joints; abstract. D. Williams. Engineer 191: 479 Ap 13 '51

RIVETING

Aircraft riveting. H. Giddings. il diags Roy Aeronautical Soc J 54:753-78 D '50; Abstract. Engineering 170:467-8 D 8 '50

Electric eye accurately locates work in riveting operations. H. L. Hubbard. il Mach 57: 192-5 Jl '51

Hot dimpling widens metal use. il diags Aviation W 54:21-2 Ap 2 '51

Rapid riveting cuts costs in half; sprocket drive combinations for motorcycles. il Automotive Ind 104:46+ Ja 15 '51

Riveter features four-second cycle time. il diag Machine Design 23:135 My '51

RIVETS

Aircraft riveting. H. Giddings. il diags Roy Aeronautical Soc J 54:753-78 D '50

Characteristics and applications of standard aluminum rivet alloys and tempers; table; engineering file facts. Materials & Methods 33:105 Je '51

Countersinking adapters cut rivet holes. P. Van der Steen. diags Am Mach 94:168 D 11 '50

Extra flange rivets for web splice easily computed. T. Lappo. diags Civil Eng 20:786 D '50

Simple tool heads soft, drilled rivets. diag Iron Age 167:100 Mr 29 '51

Structural light-alloy riveting with the high-tensile alloys. J. G. Whitman. il diags Engineer 192:228-31 Ag 24 '51

RIVITZ, Hiram S. 1883-1951

Sketch. por Rayon 32:72 Jl '51

ROACH, Gwendolyn

Housewife dishes out journalism recipes; teaching students art of reporting. F. A. Martin. por Ed & Pub 84:34 Ap 21 '51

ROAD accidents. See Automobile accidents

ROAD contractors

Canada

Contractors; roadbuilding, earthmoving, engineering construction; directory. Roads & Eng Constr 89:94+ Je '51

ROAD making machinery

Big spreading hoppers cut county road graveling costs. il Roads & Sts 94:88-9 Ja '51

Development of highway construction equipment. W. J. Kane. Roads & Eng Constr 88:170+ O '50

Distribution of tar by mechanical sprayers. G. H. Fuidge and A. L. Deadman. bibliog il diags Soc Chem Ind J 69(sup no 2): S53-60 '50

Highway surfacing machine. il Engineer 191: 330 Mr 9 '51

Logger and road building machinery. W. E. McCraw. Pulp & Pa of Can 51:171+ S '50

See also

Excavating machinery
Paving machines
Roads—Construction equipment
Roads, Concrete—Construction equipment

Lubrication

Lubrication truck puts earthmoving on non-stop schedule. il Constr Methods 33:74-5 Ap '51

Maintenance and repair

Conserve your equipment by hard-facing it against wear. il diags Roads & Sts 94: 33-7+ F '51

ROAD making machinery—*Continued*

Manufacture

Heavy equipment for making large road building machines; Caterpillar Tractor co., the steel fabrication factory. il Automotive Ind 105:34-5 Jl 15 '51

Models

Road building equipment makers hit promotion paydirt with model toys. Iron Age 168: 123 S 13 '51

ROAD materials

Clay block pavement endures. il Brick & Clay Rec 118:37 My '51

Distribution charts for stabilization materials. Roads & Sts 94:46-7 Ag '51

Reinforced clay block solves problem of highway damage. il diags Brick & Clay Rec 118:67+ Ap '51

Selection by petrographical methods of roadstone for use in rolled asphalt paving mixtures. L. G. C. Sims. il Soc Chem Ind J 69(sup no 1):S18-23 '50

Welding versus future highway engineer; design for RST prefabricated all-welded highway. A. Cibulka. diags Welding J 30:457-8 My '51

See also
Aggregates
Asphalt
Bituminous materials
Cement
Concrete
Gravel
Pavements
Pitch
Stone, Crushed

Testing

India studies road materials. il Eng N 146:40 Mr 1 '51

ROAD rollers

Grid roller reduces road salvage time. il Pub Works 82:47 Jl '51

ROAD signs

Sign vandalism points to need for more strict law enforcement. J. Joseph. il Eng N 146: 36 Ja 18 '51

ROAD traffic

Crisis on the highways. A. Wagner. Roads & Eng Constr 88:113+ O '50

Design capacity charts for signalized street and highway intersections. J. E. Leisch. plans Pub Roads 26:105-39 F '51

More turnpikes to handle modern traffic. T. McNew. il maps Automotive Ind 104:34-7+ Je 1 '51

Traffic trends on rural roads in 1949. T. B. Dimmick. Pub Roads 26:85-98 D '50; Same cond. Roads & Eng Constr 88:89-92+ D '50

See also
Motor trucks and roads
Street traffic
Traffic signals

ROAD workers

County highway leader is known by the men he keeps with him. E. H. Coffin. il Roads & Sts 94:80+ Ja '51

ROADABLE airplanes. See Airplanes, Light—Automobile combinations

ROADMASTERS and maintenance of way association

Annual meeting, Chicago, Sept. 17-19. Ry Age 131:49-52 S 24 '51

ROADS

American association of state highway officials annual meeting, Miami, Dec. 4-7. Roads & Sts 94:53-5 Ja '51

California conference on street and highway problems, 3d. Roads & Eng Constr 89:122+ Ap '51

Highways for war or peace. E. Reybold. Roads & Eng Constr 89:110-12 F '51

International road federation; outline of the objectives and accomplishments. R. O. Swain. Roads & Eng Constr 88:174+ O '50

Narrow median strips on highways. Pub Works 82:81-2 Ag '51

Proceedings of the thirty-sixth annual road school, Purdue university, April 10-13, 1950. B. H. Petty, comp. bibliog il maps Purdue Univ, Eng Ext Dept, Ext Ser 71:1-196 '50

Road group aids Point Four road building; technical training to be stressed. Eng N 147: 29 Jl 26 '51

Road planning and safety; abstract and discussion. G. T. Bennett. Engineering 172: 151 Ag 3 '51

Roads, bridges and tunnels in 1950. il Engineer 191:13-15+ Ja 5 '51

Roads for civil defense. F. F. Worthington. Roads & Eng Constr 88:181-2 O '50

Ruined roads; are highway builders or truckers to blame? A. B. Gorman. il Nat Pet N 42:18-24 N 15 '50

Transportation, 1950. il Eng N 146:109-12 Mr 29 '51

See also
Causeways
Expressways
Forest roads
Highway administration
Highway engineering
Highway research
Highway transportation
Motor trucks and roads
Pan American highway
Pavements
Road making machinery
Road materials
Snow removal
Streets

Construction

Four-lane highway for Puerto Rico. il Pub Works 82:37 Mr '51

Minnesota engineers and contractors cooperate for safer traffic flagging through the job. C. L. Methven. il Roads & Sts 94: 36-8 Ag '51

New Jersey turnpike contractors complete $41,000,000 of work during 1950 season. il Roads & Sts 94:35-43 Ja '51

These ideas click on New Jersey turnpike; illustrations with text. Constr Methods 32: 49-51 N '50

Tight timetable adds problems to paving of New Jersey turnpike. il map diag Eng N 147:28-31 Ag 23 '51

Construction equipment

Buyer's guide; international directory of construction equipment. Roads & Eng Constr 89:298+ Je '51

Contractor's equipment records. W. D. Hamilton. N A C A Bul 32:1071-8 My '51

Equipment distributors, Canada; listing the principals whom they represent. Roads & Eng Constr 89:256+ Je '51

Manufacturers; their products and their distributors in Canada. Roads & Eng Constr 89:170+ Je '51

Trade names; construction equipment. Roads & Eng Constr 89:244+ Je '51

Construction schedules

Roadway grading records broken in Georgia. il Roads & Sts 94:52-4 Mr '51

Contracts

Better work from contractors; purpose of construction conferences in Ohio. il Roads & Sts 93:53-5+ N '50

Bureau of public roads discourages escalator clauses in federal-aid highway contracts. Roads & Sts 94:81 My '51

Extremely heavy relocation; how five contractors are doing it. il diags Roads & Sts 94:33-7 Mr '51

Joint cleaning and resealing performed by contract in Minnesota program. J. C. Robbers. il diags Roads & Sts 94:38-42 F '51

States make contract termination rules. il Eng N 146:27 Je 14 '51

Cost

Asphalt concrete cheapest in Jersey turnpike bidding. Eng N 145:25 O 26 '50

Catskill thruway divided highway and bridges; unit prices. Eng N 145:81 N 16 '50

Divided highway, viaduct, Allegheny co., Pa.; unit prices. Eng N 146:90 F 15 '51

First paving contract on New Jersey turnpike; unit prices. Eng N 145:66 N 23 '50

Ohio turnpike cost; near $300 million. Eng N 147:27 Jl 12 '51

Oklahoma turnpike, Creek county, Okla; unit prices. Eng N 147:75 Ag 23 '51

Price trends on highway construction; tabulations. Eng N 146:131 Mr 29 '51

Procedure for determining the annual cost of a section of rural highway. H. W. Hansen. il Pub Roads 26:141-7 Ap '51

Resurfacing highway in North Carolina; unit prices. Eng N 146:49 Mr 22 '51

Road work for Hall county, Ga.; unit prices. Eng N 146:61 My 31 '51

Sharp rise in road expenditures in the postwar period. Eng N 145:47 D 7 '50

$300,000,000 being spent on rural highways in Canada this year. Roads & Eng Constr 89: 113-14+ Ag '51

ROADS—Cost—*Continued*

Transportation, 1950 projects. il Eng N 146: 234+ Mr 29 '51

Drainage

County road in Maryland gets fitted with perforated subdrains. il Roads & Sts 94: 52 Ap '51

Unusual construction problem on sand-spit highway. M. McMillin. il Pub Works 82: 43-5 Mr '51

See also
Streets—Drainage

Economic aspects

New road keeps dollars at home. il Eng N 145:31 N 9 '50

Federal aid

Bureau of public roads discourages escalator clauses in federal-aid highway contracts. Roads & Sts 94:81 My '51

Getting our main roads built. G. D. Kennedy. Roads & Eng Constr 88:105+ O '50

Finance

California to seek bond road financing. Eng N 145:29 D 14 '50

Gasoline tax in relation to automobile operation and highway costs. E. M. Cope and L. L. Liston. Pub Roads 26:157-61 Je '51

Highway construction, maintenance and money are composite problem. Eng N 147: 26 Jl 12 '51

New York state thruway to be paid for by special license fees. B. D. Tallamy. il map Civil Eng 21:274-6 My '51

North Carolina bond program. W. R. Macatee. il maps diags Roads & Sts 93:31-40 D '50

Ohio road plan to cost 5.3 billion for 102,299 miles of new roads. Eng N 146:26 F 1 '51

$166 million lost by diversion in a single year. Roads & Sts 93:38 N '50

Responsibility for road costs needs more extensive study. O. Wright. Roads & Eng Constr 89:112-14 Mr '51

Road programs seek traffic easing. il Eng N 145:30 N 23 '50

Roads long on traffic, short on funds. Eng N 146:26 My 31 '51

State highway mileage, expenditures, budgets, 1950-1951; tabulation. Eng N 146:87 Mr 29 '51

States seek methods to raise funds for highway construction and repair. Eng N 146: 27 My 17 '51

States study road-building finances. Eng N 146:31 F 15 '51

Foundations

Better bases made by stabilizing with calcium chloride. T. D. Williams. Pub Works 81:61-2+ D '50

Recent trends in the construction of asphalt pavements. H. C. Helmle. il diags Roads & Eng Constr 88:106-8+ O '50

Soil-cement

Soil-cement base construction. E. C. Rodgers. il Roads & Sts 94:39-41 Ag '51

Soil-cement base course methods in North Carolina. L. D. Hicks. il Roads & Sts 94: 45-9+ Mr '51

Frost damage

Controlling frost effects on roads with calcium chloride. H. R. Smith. il Roads & Eng Constr 88:85-6+ D '50

Grade separation

Bituminous slope; paving placed under expressway grade separations. il Roads & Sts 93:70-1 D '50

Los Angeles freeway road system. il maps Engineering 172:196-9 Ag 17 '51

Grading

Roadway grading records broken in Georgia. il Roads & Sts 94:52-4 Mr '51

Scrapers do big skimming job. il Roads & Sts 94:84 S '51

Ice control

Do salts used for ice control speed rusting of automobiles? il Eng N 146:39-41 My 17 '51

Two cranes, conveyor belt and 60 trucks handle 300 tons of rock salt per hour at Toronto. il Roads & Eng Constr 88:48+ D '50

Winter road upkeep problems of a suburban county. E. Dickerson. il Roads & Sts 94: 49 Ja '51

Intersections

Design capacity charts for signalized street and highway intersections. J. E. Leisch. plans Pub Roads 26:105-39 F '51

Traffic handled in stages during interchange job. plan Roads & Sts 93:42 D '50

Lighting

Effective practice in lighting unusually hazardous or irregular roadway areas. R. M. Swetland and J. S. Lindsay. bibliog il diags Illum Eng 46:77-84; Discussion. 85 F '51

Ground-level transformers supply series lighting. S. P. Sawyer. il Elec World 134:134 D 4 '50

Uniformity of illumination in highway lighting. A. E. Simmons and D. M. Finch. bibliog plan diag Illum Eng 46:199-208; Discussion. 209-11 Ap '51; Reply. 46:315-16 Je '51

See also
Street lighting

Location

Extremely heavy relocation; how five contractors are doing it. il diags Roads & Sts 94:33-7 Mr '51

Factors affecting the selection of the route of Trans-Canada highway in Ontario. W. J. Fulton. il map diags Roads & Eng Constr 89:83-4+ Ag '51

Ground conditions vary all over site for foundations on this relocation job. il plan diag Eng N 147:42-3 S 6 '51

Hydraulic fill to support relocated highway; New Haven, Conn. il Constr Methods 33: 74-5+ Ag '51

Moving roads and rails for McNary dam. il map Eng N 145:39-41 O 26 '50

Photogrammetry locates 208 miles of Pennsylvania Turnpike extensions. F. J. Williams. il plan Civil Eng 20:761-3 D '50

Scrapers mingle with city traffic; road raising and hill job at Cincinnati. il plan diags Roads & Sts 94:35-7 Jl '51

Temporary trestle carries traffic over road relocation between Superior and Miami, Ariz. C. B. Browning. il Roads & Sts 94: 50-1 Mr '51

Unusual construction problem on sand-spit highway. M. McMillin. il Pub Works 82: 43-5 Mr '51

Maintenance and repair

Increased maintenance costs threaten state highway construction programs. R. H. Tittle. Civil Eng 20:704 N '50

Methods of highway servicing and maintenance. Pub Works 82:90-1 Je '51

Minnesota highway department contracts maintenance aggregate. Roads & Sts 94: 64-5 Ja '51

On-the-job equipment designed by county engineers. Pub Works 82:54+ F '51

Patrols compared with maintenance crews. J. C. Burnham. Roads & Sts 94:77-8 Jl '51

Radio committee report shows 62 highway departments now served by two-way radiotelephone. il Roads & Sts 94:48+ Ag '51

Rehabilitation of old pavements in the state of New York. C. R. Waters. Roads & Eng Constr 88:148+ O '50

State funds for arterial route maintenance. Roads & Sts 94:86-7 My '51

See also
Roads—Winter maintenance

Military use

Highways in time of war. G. Walsh. Roads & Eng Constr 88:110+ O '50

Joint highway-railway military planning should remain in state and private hands. J. W. Wheeler. il Civil Eng 21:400-1 Jl '51

Relocation

See Roads—Location

ROADS—*Continued*

Resurfacing

Gravel-asphalt cold mix; arterial resurface in Indiana. il plans Roads & Sts 93:81-4+ N '50

Heavily traveled New Mexico highway repaved with hot-mix asphaltic concrete. I. B. Miller and J. D. Reese. il Roads & Sts 94:72+ Jl '51

Minnesota practices in salvaging old pavements by resurfacing. O. L. Kipp and C. K. Preus. il diags Roads & Sts 94:81-2+ Mr; 69-72+ Ap '51

Repaving for very severe conditions. il Roads & Sts 93:33-7 N '50

Widening and resurfacing old pavements with asphaltic materials. H. C. Helmle. il Roads & Eng Constr 88:87-8+ D '50

Safety guards

Concrete safety guard for highways. il Roads & Eng Constr 89:88 Mr '51

Safety measures

Plans for a safer Penn turnpike discussed by users at Harrisburg. il Eng N 147:28-9 S 20 '51

President's highway safety conference, Washington, June 13-15. Roads & Sts 94:41-2 Ag '51

Reducing traffic interference from excavations. H. H. Cox. Pub Works 82:106-7 Ap '51

Safety on the highways. G. H. Doucett. Roads & Eng Constr 89:116+ Ag '51

Texas traffic safety program. F. T. Bennett. il Roads & Sts 94:38-40+ Jl '51

Shoulders

High shoulders; what middlewestern state highway departments are doing about them. C. W. Ross; E. B. Lockridge. il Roads & Sts 94:50-2 Ja '51

Shoulder paving serves several purposes. J. D. Meacham. il Roads & Sts 94:72-3 S '51

Snow barriers

See Snow barriers

Standards

Colorado standardizes road surfaces. il Pub Works 82:40-1 My '51

Subgrades

Contractors set fast pace on Oklahoma soil-asphalt jobs. il Roads & Sts 94:72-3 Ag '51

European superhighway network is being considered for future. Eng N 145:51 N 2 '50

Sand brought back from watery grave saves money on hydraulic fill jobs; New Jersey turnpike. il map Eng N 147:30-3 S 13 '51

Study of the performance of plant for the compaction of soil. F. H. P. Williams and D. J. MacLean. plan diag Roads & Eng Constr 88:74-6+ N '50

Superhighways

Chicago builds $230,000,000 superhighway system. V. E. Gunlock. il plan Civil Eng 21:88-9 F '51

New Jersey turnpike; photographs. S. Libsohn. Fortune 44:89-92 S '51

Surface treatment

California seal coat methods. il(cover) Roads & Sts 94:74+ S '51

Oregon seal coating is done full width. Roads & Sts 94:70 S '51

Wetting agents for wet weather road surfacing. Pub Works 82:98-9 Je '51

What makes a good seal coat job? Roads & Sts 94:74+ Ag '51

Your seal coating; it pays to do it right. il Roads & Sts 94:59 S '51

Surfaces

Colorado standardizes road surfaces. il Pub Works 82:40-1 My '51

Maine, too, finds that open winters damage highways. J. C. Burnham. Roads & Sts 94:78 Ag '51

Multi-channel apparatus for recording temperatures; temperature gradients in various road surfacings and subgrades. W. I. J. Price and J. J. Trott. il diags J Sci Instr 28:15-17 Ja '51

Use of rubber in bitumen for road surfacing. in Engineering 172:268-9 Ag 31 '51

Surveying

Angle prism and its application to highway surveying work. H. S. Wahlen. il diags Roads & Sts 94:48-9+ Jl '51

Higher accuracy in highway surveys brings long-run economy. J. C. Carpenter. Civil Eng 21:389 Jl '51

Two radio cars plot road sufficiency. Roads & Sts 94:52-3 Ag '51

Testing

Dynamic testing of road constructions. C. van der Poel. il diags J Ap Chem 1:281-90 Jl '51

Toll booths

Prefabricated steel toll booths on Penn turnpike extensions. il Eng N 147:44 Ag 2 '51

Tolls

New York state thruway will pay its own way. J. B. McMorran. il Civil Eng 21:447-8 Ag '51

Now 424 miles of toll roads. H. G. Moulton. Roads & Sts 94:82 Ag '51

Pennsylvania turnpike set financial pattern. F. Gannett. il Civil Eng 21:445-6 Ag '51

Solution to highway problems, tollways. C. E. DeLeuw. il map Midwest Eng 3:10-13+ My '51

Toll road returns. Comp Air Mag 56:77 Mr '51

Toll roads called traffic necessity; panel discussion. Eng N 146:24 Je 21 '51

Toll roads ease highway financing. Eng N 147:19 Ag 16 '51

Turnpike program must not hamper free-road net. B. H. Petty. il Civil Eng 21:449-50 Ag '51

Turnpikes are economically justified. E. R. Needles. il Civil Eng 21:442-4 Ag '51

Wrecks cool enthusiasm for toll roads. il map Bsns W p 108-10+ Ap 21 '51

Widening

Heater dries stone in trench for widening project; illustrations with text. Roads & Sts 94:84 Ja '51

High-speed four-unit outfit places concrete widening. il Roads & Sts 93:52-4 D '50

Minnesota practices in salvaging old pavements by resurfacing. O. L. Kipp and C. K. Preus. diags Roads & Sts 94:81-2+ Mr '51

Pavement widened with job-modified equipment. B. W. Davis. il Pub Works 82:56 Ag '51

Small elevating grader cuts road widening trench. R. Duncan. il Constr Methods 33:48 Ag '51

Widening and resurfacing old pavements with asphaltic materials. H. C. Helmle. il Roads & Eng Constr 88:87-8+ D '50

Widening old single-lane pavements with stone macadam. R. F. Fisher. il Roads & Sts 94:86 Ja '51

Winter maintenance

New road material allows winter road repairs. il Roads & Sts 94:80-1 S '51

Pre-mixed bituminous material heater for temporary winter patching. il Roads & Sts 94:76 S '51

Alberta

Rehabilitation of old pavements in the province of Alberta. G. R. Pinchbeck. Roads & Eng Constr 88:142+ O '50

Arizona

New road keeps dollars at home. il Eng N 145:31 N 9 '50

British Columbia

Rehabilitation of old pavements in the province of British Columbia. D. T. Willis. Roads & Eng Constr 88:144+ O '50

Burma

Burma and Ledo roads. For Comm W 43:22+ My 7 '51

ROADS—Burma—*Continued*

Burma highway notes. For Comm W 42: 21 Ja 15 '51

Canada

Canada's continued progress demands greater roadbuilding effort. C. W. Gilchrist. Roads & Eng Constr 89:88+ S '51

Canada's road problem and its solution. E. F. Willis. Roads & Eng Constr 88:84+ D '50

Canadian good roads association 31st annual meeting, Winnipeg, Sept. 19-21. Roads & Eng Constr 88:95-104+ O '50

Factors affecting the selection of the route of Trans-Canada highway in Ontario. W. J. Fulton. il map diags Roads & Eng Constr 89:83-4+ Ag '51

Federal aid for Canada. J. N. Allan. Roads & Eng Constr 88:124+ O '50

Highways in Canada, exclusive of urban streets, by provinces. Roads & Eng Constr 89:68 Je '51

Highways in time of war. G. Walsh. Roads & Eng Constr 88:110+ O '50

Highways to meet our transportation needs. R. M. Sale. Roads & Eng Constr 88:182-6 O '50

Provincial highway officials; organization chart, Provincial department of highways. Roads & Eng Constr 89:74+ Je '51

Road mileages in Canada; according to types of surface, by provinces. Roads & Eng Constr 89:67 Je '51

Roads are everybody's business. C. W. Gilchrist. Roads & Eng Constr 89:117+ Mr '51

$300,000,000 being spent on rural highways in Canada this year. Roads & Eng Constr 89: 113-14+ Ag '51

Trans-Canada highway specifications directed towards needs of the future. J. M. Wardle. Roads & Eng Constr 89:99+ F '51

Colombia

Highway developments in Colombia, 1950. For Comm W 43:23 Je 11 '51

Colorado

Colorado standardizes road surfaces. J. M. Armstrong. il Pub Works 82:40-1 My '51

Europe

European superhighway network is being considered for future. Eng N 145:51 N 2 '50

Florida

Jacksonville-Miami turnpike studied. Eng N 147:25 S 20 '51

Great Britain

Review of road problems. W. H. Glanville. Engineer 190:432-3, 455-7 N 10-17 '50; Engineering 170:345, 387-8 N 10-17 '50

Hawaiian Islands

Salvaged steel saves Hawaii money. il Eng N 146:44 My 3 '51

India

New roads for West Bengal, India. For Comm W 45:20 O 15 '51

Road system of Madras. For Comm W 43:25 My 21 '51

Iowa

Terraced highway side slopes in loess, southwestern Iowa. C. S. Gwynne. map Geol Soc Bul 61:1347-54, pl 1-2 D '50

Italy

Italian highway notes. For Comm W 43:26 My 14 '51

Maine

Maine, too, finds that open winters damage highways. J. C. Burnham. Roads & Sts 94: 78 Ag '51

Maryland

Maryland finds poor roads poor politics. Eng N 145:33 D 7 '50

Maryland road test has limitations. Eng N 145:30 N 9 '50

Mexico

New highways benefit Mexican agriculture. For Comm W 44:23 Jl 2 '51

Michigan

Michigan highway laws get a complete overhaul. Eng N 147:40 S 27 '51

Michigan issues report on pavement design study. Eng N 145:38 N 16 '50

Michigan overhauls its road legislation, why can't your state? L. A. Rubin. Roads & Sts 94:41-4 Jl '51

Minnesota

Minnesota engineers and contractors cooperate for safer traffic flagging through the job. C. L. Methven. il Roads & Sts 94: 36-8 Ag '51

Minnesota practices in salvaging old pavements by resurfacing. O. L. Kipp and C. K. Preus. il diags Roads & Sts 94:81-2+ Mr; 69-72+ Ap '51

Qualitative review of Minnesota's 1950 state highway bituminous program. Roads & Sts 94:64-5+ S '51

Nebraska

Nebraska seeks more durable concrete. W. H. Palmer. il Eng N 146:28-9 My 24 '51

New Brunswick

Rehabilitation of old pavements in the province of New Brunswick. W. J. Lawson. Roads & Eng Constr 88:112+ O '50

New Jersey

Brewster's big stone trucks; aggregates hauled for paving sections of New Jersey turnpike. il Roads & Sts 94:35-8 S '51

Contractor's special lubrication trucks keep 'em rolling on New Jersey turnpike. il Constr Methods 33:72-4+ Ja '51

New Jersey turnpike contractors complete $41,000,000 of work during 1950 season. il Roads & Sts 94:35-43 Ja '51

New Jersey turnpike; photographs. S. Libsohn. Fortune 44:89-92 S '51

New Jersey turnpike to have asphalt surfacing. Civil Eng 21:50 Ja '51

Pavement for New Jersey turnpike designed for high axle loads. diags Eng N 145:35-8 N 23 '50

Paving 46 miles of turnpike from a single plant set-up; New Jersey turnpike. il plan Roads & Sts 94:63-6+ Ag '51

Planning the big turnpike paving job. H. J. McKeever. il map diag Roads & Sts 94:37-41+ Ap '51

Portable unit aggregate plant turns out 6,000 tons daily for Jersey pike. flow diag il Constr Methods 33:50-3 Ag '51

These ideas click on New Jersey turnpike; illustrations with text. Constr Methods 32: 49-51 N '50

Tight timetable adds problems to paving of New Jersey turnpike. il map diag Eng N 147:28-31 Ag 23 '51

Turnpike fixed-fee contract protested. Eng N 146:29 Ap 19 '51

New York (state)

Early patching helps New York roads through worst spring. il Roads & Sts 94: 86+ Jl '51

New York state thruway to be paid for by special license fees. B. D. Tallamy. il map Civil Eng 21:274-6 My '51

New York state thruway will pay it own way. J. B. McMorran. il Civil Eng 21:447-8 Ag '51

New York state to have $160 million for highway construction in 1951-2. Eng N 146:26 F 15 '51

Rehabilitation of old pavements in the state of New York. C. R. Waters. Roads & Eng Constr 88:148+ O '50

State funds for arterial route maintenance. Roads & Sts 94:86-7 My '51

North Carolina

North Carolina bond program. W. R. Macatee. il maps diags Roads & Sts 93:31-40 D '50

Soil-cement base course methods in North Carolina. L. D. Hicks. il Roads & Sts 94: 45-9+ Mr '51

ROADS—*Continued*

Nova Scotia

Rehabilitation of old pavements in the province of Nova Scotia. J. L. Wickwire. Roads & Eng Constr 88:111-12 O '50

Ohio

Ohio road plan to cost 5.3 billion for 102,299 miles of new roads. Eng N 146:26 F 1 '51
Ohio turnpike cost; near $300 million. Eng N 147:27 Jl 12 '51
Ohio turnpike decisions announced. map Eng N 147:28 S 13 '51
Traffic signal; installation and maintenance by Ohio highway department. H. E. Neal. il Roads & Sts 93:42-5 N '50
Transposed traffic lanes proposed for Ohio turnpike. il plans diags Eng N 147:32-5 Jl 26 '51

Oklahoma

Thick pavement specified for Oklahoma turnpike. Eng N 147:25 S 20 '51

Ontario

Factors affecting the selection of the route of Trans-Canada highway in Ontario. W. J. Fulton. il map diags Roads & Eng Constr 89:83-4+ Ag '51
Increase in truck traffic affecting roads in Ottawa area. J. L. Shearer. il Roads & Eng Constr 89:118+ Ap '51
Ontario good roads association 49th annual meeting, Toronto, Feb. 20-21; with abstracts of papers. Roads & Eng Constr 89: 99-106+ Mr '51
Peak activity marks fiftieth year of Ontario's road legislation. J. D. Millar. Roads & Eng Constr 89:115+ Mr '51
Rehabilitation of old pavements in the province of Ontario. G. R. Marston. Roads & Eng Constr 88:138+ O '50
Responsibility for road costs needs more extensive study. O. Wright. Roads & Eng Constr 89:112-14 Mr '51
Safety on the highway. G. H. Doucett. Roads & Eng Constr 89:116+ Ag '51
Urban and rural municipalities must cooperate on roads. V. H. Evans. Roads & Eng Constr 89:128 Mr '51
Year of record achievement for roadbuilding in Ontario. G. H. Doucett. Roads & Eng Constr 89:111+ Mr '51

Oregon

Extra lanes on grades provide cheaper mountain highways. il Eng N 146:47-8 Ap 19 '51

Pakistan

Highway developments in Pakistan, 1950. For Comm W 43:25 Ap 16 '51

Pennsylvania

Everything rides the rails on Pennsylvania turnpike paving. il Constr Methods 32:72-3 D '50
Extremely heavy relocation; how five contractors are doing it. il diags Roads & Sts 94:33-7 Mr '51
Geophysics on the Pennsylvania turnpike. H. L. Scharon and A. B. Cleaves. maps diags Min Eng 3:Trans 351-5 Ap '51
Pennsylvania turnpike extension opens. J. C. Carter. il Concrete 58:20-2 N '50
Pennsylvania turnpike set financial pattern. F. Gannett. il Civil Eng 21:445-6 Ag '51
Pennsylvania's procedure and results in asphaltic concrete job control. W. H. Herman. il Roads & Sts 94:67-72+ Je '51
Philadelphia extension of Pennsylvania turnpike opened. il Comm & Fin Chr 172:1690+ N 2 '50
Photogrammetry locates 208 miles of Pennsylvania turnpike extensions. F. J. Williams. il plan Civil Eng 20:761-3 D '50
Plans for a safer Penn turnpike discussed by users at Harrisburg. il Eng N 147:28-9 S 20 '51
Revenues and users of original turnpike section at new peaks. il Comm & Fin Chr 172: 1691 N 2 '50
70 mph. speed limit on Pennsylvania turnpike is accident cause; reduction urged. Roads & Eng Constr 89:58 Jl '51
12-year master plan proposed for Pennsylvania highways. Eng N 146:30 F 1 '51
Work starts on west section of expressway for Pittsburgh. J. R. Dietz. map diag Eng N 145:35-6 O 26 '50

Peru

Pan American highway in Peru. For Comm W 42:21-2 F 26 '51
Peru has a six-year road building plan. Eng N 146:57 Je 14 '51

Puerto Rico

Four-lane highway for Puerto Rico. il Pub Works 82:37 Mr '51

Quebec (province)

Rehabilitation of pavements in the province of Quebec. A. Morissette. Roads & Eng Constr 88:134+ O '50

Saskatchewan

Rehabilitation of old pavements in the province of Saskatchewan. W. E. Winnitoy. Roads & Eng Constr 88:140+ O '50

Tennessee

Stabilization of some rockslides in Grainger county, Tenn. R. A. Laurence. il maps plan diag Econ Geol 46:329-36 My '51

Texas

Progress report on San Antonio expressway. G. B. Arthur. il map Pub Works 82:52-3 S '51
Texas traffic safety program. F. T. Bennett. il Roads & Sts 94:38-40+ Jl '51

Tunisia

Highway developments in Tunisia. For Comm W 43:25+ Ap 16 '51

Turkey

Highway planning in Turkey. H. E. Hilts. Am Soc C E Proc 77 [no 58]:1-11 F '51
Turkish highway improvements during 1950. For Comm W 43:26 My 14 '51

United States

All road building records fall, top $1 billion. Eng N 145:27 O 26 '50
Crisis on the highways. A. Wagner. Roads & Eng Constr 88:113+ O '50
Five state tollway plans move forward. map Eng N 146:22 Mr 22 '51
Getting our main roads built. G. D. Kennedy. Roads & Eng Constr 88:105+ O '50
Highway construction for war or peace. E. Reybold. Roads & Sts 94:38-9 Mr '51
Increased maintenance costs threaten state highway construction programs. R. H. Tittle. Civil Eng 20:704 N '50
More turnpikes to handle modern traffic. T. McNew. il maps Automotive Ind 104:34-7+ Je 1 '51
Roads; building plans hit bump. G. Beaudet. Iron Age 168:107 S 13 '51
Roads long on traffic, short on funds. Eng N 146:26 My 31 '51

Virginia

Virginia's overload campaign is getting results. il Roads & Sts 94:58 My '51

Washington (state)

How Washington state road crews keep passes cleared. K. G. Miller. il Roads & Sts 94:46+ S '51

Wisconsin

Building a floating road between Ashland and Grandview, Wis. il Pub Works 81:41 D '50

ROADS, Asphalt

See also
Pavements, Asphalt
Roads, Earth-asphalt

ROADS, Bituminous

Aggregate packing in bitumen macadam carpets; abstract and discussion. J. F. T. Blott. Chem & Ind p 146 F 24 '51
Building a floating road between Ashland and Grandview, Wis. il Pub Works 81:41 D '50
California seal coat methods. il(cover) Roads & Sts 94:74+ S '51

ROADS, Bituminous—*Continued*

Contractors set fast pace on Oklahoma soil-asphalt jobs. il Roads & Sts 94:72-3 Ag '51

Design problems in the use of local aggregates for bituminous surfaces. J. T. Pauls and H. M. Rex. Pub Roads 26:186-91 Ag '51

Effect of synthetic elastomers on properties of petroleum asphalts. H. A. Endres and others. bibliog il Ind & Eng Chem 43:334-40 F '51

40-mile county contract in 40 working days. il Roads & Sts 94:93-4 F '51

Gravel-asphalt cold mix; arterial resurface in Indiana. il plans Roads & Sts 93:81-4+ N '50

How an Indiana county has achieved durable low cost roads. il Roads & Sts 94:77-9 Ja '51

100 per cent surfaced system, aim of this highly mechanized Indiana county. il Roads & Sts 94:77-9+ F '51

Oregon seal coating is done full width. Roads & Sts 94:70 S '51

Plant provides hot asphalt mix in a hurry. L. F. Root. Pub Works 81:64-5 N '50

Qualitative review of Minnesota's 1950 state highway bituminous program. Roads & Sts 94:64-5+ S '51

Recent trends in the construction of asphalt pavements. H. C. Helmle. il diags Roads & Eng Constr 88:106-8+ O '50

Repaving for very severe conditions. il Roads & Sts 93:33-7 N '50

Road rebuilding method salvages original asphalt. J. G. Jordan. Nat Pet N 43:42 Ap 18 '51

Sand asphalt mixed-in-place highway construction. R. G. Fallon. il Roads & Sts 94:78-80 My '51

Soil-cement base construction. E. C. Rodgers. il Roads & Sts 94:39-41 Ag '51

Soil-cement base course methods in North Carolina. L. D. Hicks. il Roads & Sts 94:45-9+ Mr '51

What makes a good seal coat job? Roads & Sts 94:74+ Ag '51

Widening and resurfacing old pavements with asphaltic materials. H. C. Helmle. il Roads & Eng Constr 88:87-8+ D '50

See also

Pavements, Bituminous

Cost

Minnesota practice in salvaging old pavements by resurfacing; bituminous surfacing. O. L. Kipp and C. K. Preus. il Roads & Sts 94:69-72+ Ap '51

Maintenance and repair

Contractors help repair Ohio's spring road damage in $3 million quickie program. il Roads & Sts 94:67-9 Jl '51

De-waving old asphalt pavements. F. H. Kiburz. il Roads & Sts 94:90+ F '51

Early patching helps New York roads through worst spring. il Roads & Sts 94:86+ Jl '51

Rehabilitation of old pavements in the province of Nova Scotia. J. L. Wickwire. Roads & Eng Constr 88:111-12 O '50

Relaying oil-mix surfaces mechanically. il Pub Works 81:37 N '50

ROADS, Bituminous concrete

Asphalt concrete cheapest in Jersey turnpike bidding. Eng N 145:25 O 26 '50

Asphaltic concrete chosen for turnpike. Eng N 145:28 D 7 '50

Heavily traveled New Mexico highway repaved with hot-mix asphaltic concrete. I. B. Miller and J. D. Reese. il Roads & Sts 94:72+ Jl '51

New Jersey turnpike to have asphalt surfacing. Civil Eng 21:50 Ja '51

New Mexico hot plant mix methods. T. G. Brown and L. F. Root. il Roads & Sts 94:82+ My '51

Pavement for New Jersey turnpike designed for high axle loads. diags Eng N 145:35-8 N 23 '50

Paving 46 miles of turnpike from a single plant set-up; New Jersey turnpike. il plan Roads & Sts 94:63-6+ Ag '51

Pennsylvania's procedure and results in asphaltic concrete job control. W. H. Herman. il Roads & Sts 94:67-72+ Je '51

Planning the big turnpike paving job. H. J. McKeever. il map diag Roads & Sts 94:37-41+ Ap '51

Portable unit aggregate plant turns out 6,000 tons daily for Jersey pike. flow diag il Constr Methods 33:50-3 Ag '51

Tight timetable adds problems to paving of New Jersey turnpike. il map diag Eng N 147:28-31 Ag 23 '51

ROADS, Concrete

Long-time study of cement performance in concrete; New York test road. F. H. Jackson and I. L. Tyler. il map diags Am Concrete Inst J 22:773-96 Je '51; Discussion. 23:796^1-796^4 pt 2 D '51

Michigan issues report on pavement design study. Eng N 145:38 N 16 '50

Michigan test road report lists six conclusions re concrete-road construction. Roads & Eng Constr 88:32 N '50; Same abr. Am Concrete Inst J 22:346-7 D '50

Nebraska seeks more durable concrete. W. H. Palmer. il Eng N 146:28-9 My 24 '51

New York treats new road slab to prevent scaling. Concrete 58:14 N '50

Pavement for New Jersey turnpike designed for high axle loads. diags Eng N 145:35-8 N 23 '50

Prestressed concrete road at Crawley, Sussex. Engineering 171:185, pl 8 F 16 '51

Road prestressed to prevent cracks. il Eng N 146:37 Ap 12 '51

Test road report interests ready mix truckers. Concrete 59:9 F '51

See also

Pavements, Concrete

Roads, Bituminous concrete

Construction

How eight-mile multi-lane project was graded and paved in a single year. il Roads & Sts 94:39-41+ My '51

Ocracoke's beach sand roads. J. L. Morrison. il map Pub Works 82:42-3+ Jl '51

Pennsylvania turnpike extension opens. J. C. Carter. il Concrete 58:20-2 N '50

Quality concrete paving methods stressed on Chicago's new Edens expressway. W. J. Mortimer. il map diags Roads & Sts 94:40-5 S '51

Traffic handled in stages during interchange job. plan Roads & Sts 93:42 D '50

Construction equipment

Baltimore expressway; a short paving job but long on good ideas. J. Connolly. il Constr Methods 33:54-6 Je '51

Concreting and back-filling tractor. il Engineering 170:520 D 15 '50

Everything rides the rails on Pennsylvania turnpike paving. il Constr Methods 32:72-3 D '50

High-speed four-unit outfit places concrete widening. il Roads & Sts 93:52-4 D '50

New Jaeger spreader with oscillating metering screed. il Roads & Eng Constr 89:68 Mr '51

Construction schedules

Streu outfit achieved fast paving time. il Roads & Sts 94:52 Mr '51

Cost

Divided Dover by-pass for Kent co., Delaware; unit prices. Eng N 145:46 D 28 '50

East Hartford-Glastonbury expressway paving, Conn.; unit prices. Eng N 147:73 S 20 '51

Joints

Joint cleaning and resealing performed by contract in Minnesota program. J. C. Robbers. il diags Roads & Sts 94:38-42 F '51

Minnesota reseals pavement joints fast. il Constr Methods 33:82-3 F '51

Slab warping affects pavement joint performance. F. N. Hveem. il Am Concrete Inst J 22:797-808 Je '51

Thin corrugated joints tried experimentally on Texas concrete road job. il Roads & Sts 94:44-5 Je '51

Maintenance and repair

Bituminous undersealing practice. il Roads & Sts 94:76-7 Ag '51

ROADS, Concrete—Maintenance and repair—*Continued*
1,500,000 gallons of hot undersealing asphalt f.o.b. nozzle. il Roads & Sts 94:67-8 My '51
Pavement repair and resurfacing by Missouri highway department. il Roads & Sts 94:68-9+ My '51
State practices in asphalt undersealing. il Roads & Sts 94:81-4+ Je '51
Undersealing concrete pavements with asphalt. W. F. Winters. il diag Roads & Eng Constr 89:100-1+ Ag '51

Testing

Research project on weight loads permitted on highways. F. Burggraf. plan Roads & Eng Constr 89:90+ S '51

ROADS, County
County road in Maryland gets fitted with perforated subdrains. il Roads & Sts 94:52 Ap '51
40-mile county contract in 40 working days. il Roads & Sts 94:93-4 F '51
How a poor county can be rich in road equipment. J. G. Cooney. il Pub Works 82:41-2 F '51
How an Indiana county has achieved durable low cost roads. il Roads & Sts 94:77-9 Ja '51
Numerical ratings of county highways. W. E. Willey. Pub Works 82:51 F '51
On-the-job equipment designed by county engineers. Pub Works 82:54+ F '51
100 per cent surfaced system, aim of this highly mechanized Indiana county. il Roads & Sts 94:77-9+ F '51
Soil-cement base construction. E. C. Rodgers. il Roads & Sts 94:39-41 Ag '51
Winter road upkeep problems of a suburban county. E. Dickerson. il Roads & Sts 94:49 Ja '51

ROADS, Earth-asphalt
Soil asphalt roads. Eng N 147:51-2 Ag 23 '51

ROADS, Elevated
Build double-deck concrete viaduct to bypass downtown Seattle. il diags Eng N 146:43-5 F 15 '51
Motor thruways built over railroad tracks. A. Wilson. Comm & Fin Chr 174:872 S 6 '51

ROADS, Experimental
How Kansas built a concrete test pavement. il Eng N 146:37-40 Mr 15 '51

ROADS, Forest. See Forest roads

ROADS, Gravel
Big spreading hoppers cut county road graveling costs. il Roads & Sts 94:88-9 Ja '51

Cost

Culverts and gravel road, Jones co., South Dakota. Eng N 145:70 O 26 '50
Gravel surface highway, Lander county, Nev.; unit prices. Eng N 147:75 Ag 30 '51

ROADS, Industrial
Toughest drilling location; cost of building access road equal to cost of drilling the wildcat well. L. S. McCaslin, jr. il map Oil & Gas J 49:42-3+ Ja 4 '51

ROADS, Macadam
Widening old single-lane pavements with stone macadam. R. F. Fisher. il Roads & Sts 94:86 Ja '51

ROADS, Military
Army, navy show off their quick-roads. il Eng N 145:30 N 16 '50

ROADS, State
Highway control sections; their establishment and use. G. D. Gronberg. il maps plans Pub Roads 26:180-5 Ag '51
Payment for utility changes in state highways. H. B. Shaw. Am Water Works Assn J 43:496-504 Jl '51

ROADS, Tarred
Adhesion between chippings and tar on roads. Engineering 170:421 N 24 '50
Distribution of tar by mechanical sprayers. G. H. Fuidge and A. L. Deadman. bibliog il diags Soc Chem Ind J 69(sup no 2):S53-60 '50; Abstract and discussion. Chem & Ind p840-1 D 30 '50

ROADSIDE market
Drive planned to reduce obstacles to roadside sale of oil products. F. Breese. Nat Pet N 42:28 N 22 '50

ROADSIDE planting
Asphalt mulch for seeding and protecting roadway areas. W. J. Garmhausen. il Roads & Sts 94:80+ F '51
How to get better grass for the taxpayer. J. W. Lentz. il Pub Works 82:45-7 S '51
Seeder-fertilizer does man-size job. il Roads & Sts 93:46-7 N '50

ROADSIDES
Equipment suggestions for more efficient roadside work. W. J. Garmhausen. il Roads & Sts 94:46-9+ Ap; 52-6 My '51
Nature's methods declared best for roadside erosion control. Roads & Eng Constr 89:102+ S '51

ROARK, Louis, 1890-1950
Memorial. R. H. Wood. por Am Assn Pet Geologists Bul 35:1923-5 Ag '51

ROBBERY, Motor truck. See Motor truck robberies

ROBBINS and Myers, inc.
Security I like best. G. F. Helbig. Comm & Fin Chr 174:1346 O 11 '51

ROBERTS, Avis C.
Woman covers labor unions, inside and out. por Ed & Pub 84:14 Ap 7 '51

ROBERTS, Carlene
First lady to hold vice-presidency with major airline. H. Woodward. por Sales Management 67:41 Ag 1 '51

ROBERTS, William Alva, 1897-
Allis-Chalmers' Mister Roberts. por Fortune 43:16-17 My '51
Roberts, Allis-Chalmers president; Johnson advanced to executive vp. por(cover) Elec World News ed 135:22 Mr 5 '51

ROBERTSON, Robert, 1869-1949
Sketch. R. C. Farmer. Chem Soc J p434-40 Ja '50

ROBINSON, Claude
Portrait. Bsns W p21 Jl 28 '51

ROBINSON airlines
Robinson, Wiggins plan merger. map Aviation W 54:56 Je 11 '51

ROBINSON-PATMAN act. See Price discrimination—Patman law

ROCHELLE salt. See Potassium sodium tartrate

ROCHESTER gas and electric corporation
New rate increase aids Rochester Gas & Electric. Barron's 31:31+ S 10 '51
Stockholders offered additional common stock. Comm & Fin Chr 174:455 Ag 6 '51

ROCHESTER telephone corporation
Common stock offering. Comm & Fin Chr 172:1536 O 23 '50

ROCK drills
Analysis of rock bit performance data. H. B. Woods. World Oil 133:193-4+ S '51
Auger rods carbide-tipped for serpentine. il Eng & Min J 152:102 My '51
Carbide drilling with air-leg-mounted light machines is proving useful at various Canadian mines. Eng & Min J 152:88-9 Ja '51
Carbide insert bits. A. J. Zinkl. Min Eng 3:312-14 Ap '51
Carbide tips at Mountain Copper. Eng & Min J 151:105 D '50
Climax tractor-mounted rock drill. il Engineering 171:40 Ja 12 '51
Diamond-drill research. Mech Eng 73:743 S '51
Drilling at Bunker Hill; abstract. E. B. Olds. Min Eng 3:228 Mr '51
Drilling industry needs tungsten carbide. il Comp Air Mag 56:103 Ap '51
Drilling problems in underground rock breaking. J. F. Johnson. il Min Cong J 37:24-6+ Ja '51
Grinding machine for tipped bits. il Engineer 191:232 F 16 '51
High-frequency heating makes superior rock drills. D. C. Thomas. flow diag il Elec West 106:64-5 Ja '51
Holman tractor-mounted rock-drilling equipment. il Engineering 171:23 Ja 5 '51
How to sharpen carbide-tipped auger drills. diags Coal Age 56:110 Mr '51
In prospect drilling, emphasis on mobility keynotes drill design; illustrations with text. Eng & Min J 152:92-3 Jl '51
Light weight drill combination used in Canadian mines. J. C. Heaslip and T. N. Dawson. il Min Cong J 37:40-4 S '51

ROCK drills—*Continued*

Over-all look at rock drill bits. J. D Forrester. il Min Cong J 36:22-6+ N; 52-3 D '50; Discussion. G. E. apRoberts. 36:54-5 D '50

Production and metallurgical characteristics of mining hollow drill steel in Australia. D. Clark. il diags Metallurgia 43:112-17, 161-6 Mr-Ap '51

Rock drilling experience of the Donnacona paper company limited on the Jacques Cartier river. E. W. Birch. Pulp & Pa of Can 51:154+ N '50

Solving the bit problem. il diags Eng & Min J 152:110, insert Jl '51

Tungsten carbide and the defense program; allocation to mining will save critical manpower and steel. M. L. McCormack. il Min Cong J 37:110-11 Ap '51

Tungsten carbide bits at the Consolidated Beattie mines. R. F. Fry. il Can Min J 72:55-7 Mr '51

See also
Drilling and boring (earth and rocks)
Drills, Oil well

History

Low's rock drill of 1863. il Comp Air Mag 56:131 My '51

Lubrication

Reduce drill part breakage with proper lubrication. F. R. Anderson. il Eng & Min J 152:100-1 My '51

ROCK phosphate. See Phosphate rock

ROCK products

See also
Aggregates
Stone, Crushed

ROCK products industry

75 years in business; Jahncke service, inc. B. Nordberg. il Rock Prod 54:90-4 Ap '51

Canada

Survey of Canadian rock products industry. Rock Prod 54:123-4 Mr '51

Great Britain

Difficulties of sand and gravel production in England. C. Maw. Rock Prod 54:108+ My '51

Producing sand and gravel in England. C. Maw. flow sheet il Rock Prod 54:98-102 Je '51

Kansas

Activities of producers during Kansas floods. T. Brown. il Rock Prod 54:89-91 S '51

ROCK products plants

National Gypsum's plant operations geared for lowered unit cost; with details on individual gypsum, lime and rock wool plants. il plan Rock Prod 53:94-111 D '50

Production of diatomaceous earth; Eagle-Picher co. il Rock Prod 54:129-30+ Je '51

Directories

Commercial producers of sand, gravel and crushed stone, Canada. Roads & Eng Constr 89:120+ Je '51

Equipment

Latest recovery methods highlight Florida phosphate plant. W. B. Lenhart. flow sheet il Rock Prod 54:74-81 Mr '51

Machinery development of 1950. flow diag il Rock Prod 54:82-3 Ja '51

Operation of long belt conveyors. W. B. Lenhart. il diags Rock Prod 54:108-12 Je '51

Plant designed for low labor cost. W. B. Lenhart. il diag Rock Prod 54:70-3 Jl '51

Processing tailings into lightweight aggregates; Lehigh materials co. W. B. Lenhart. il Rock Prod 54:94-5+ S '51

Rock Products directory of manufacturers' equipment 1951. Rock Prod 54:229-74 Ja '51

Safety measures

National Gypsum record proves soundness of safety program. M. C. M. Pollard. Rock Prod 53:122-4 D '50

Safety program kept on rolling; Funkhouser co. H. F. Johnston. il Nat Safety N 63:38+ Ap '51

ROCK salt. See Salt

ROCK specimens. See Geological specimens

ROCKEFELLER Center. See New York (city)—Rockefeller Center

ROCKET engines

Curtiss-Wright rocket motor gets throttle control. Aviation W 55:27-8 Jl 9 '51

Determination of rocket-motor heat-transfer coefficients by the transient method. S. Greenfield. bibliog il diags J Aeronautical Sci 18:512-18+ Ag '51

Fluctuations in a spray formed by two impinging jets; abstract. M. F. Heidmann and J. C. Humphrey. Aviation W 55:28 S 3 '51

Heat transfer in rocket motors and the application of film and sweat cooling. R. H. Boden. il diag A S M E Trans 73:385-90 My '51

New technique for obtaining heat-transfer parameters of the wall and combustion gas in rocket motor. M. E. Ellion. bibliog diags A S M E Trans 73:109-14 F '51

Rocket motor technology highlights conference at semiannual meeting of ASME, Toronto, June 11-14. Chem & Eng N 29: 2745-6 Jl 2 '51

Manufacture

Motors that propel the 3.5-inch rockets. C. O. Herb. il diags Mach 57:164-74 Ja '51

ROCKET propulsion

Application of rocket power to aircraft. H. R. Moles. il diags Aeronautical Eng R 10: 24-30 Ap '51

Designing a Jato engine. W. L. Rogers. il diags Machine Design 23:102-6 Ja '51

Details of Douglas Skyrocket's new record flight. il Aviation W 55:14 S 10 '51

Douglas Skyrocket; highest and fastest. il Aviation W 55:14-15 Jl 16; 37-8 Ag 6 '51

Problems faced in designing famed X-1. J. van Lonkhuyzen. il Aviation W 54:22-4 Ja 1 '51

Rockets. il Fortune 42:118-20+ N '50

ROCKETS

Accuracy of the long-range ballistic rocket. W. E. Frye. bibliog J Ap Phys 22:585-9 My '51

Advance man to the moon; highest and fastest-flying missile, Martin Viking. il Aero Digest 63:25-32 O '51

Altitude record; navy Viking rocket soared to an altitude of 107 miles. Mech Eng 73:138 F '51

Boron carbide can be used for aircraft thrust nozzles. S. D. Stoddard. bibliog Brick & Clay Rec 118:83 Ap '51

Brainwork is done; rocket missile to escape the earth can be built. R. McLarren. il Aero Digest 63:34+ O '51

Clothing protects rocket fuel handlers. Aviation W 54:34 Ja 15 '51

Desirability of completely expanded nozzles. C. B. Cohen and P. J. Evans, jr. J Aeronautical Sci 17:811-12 D '50

Early rocket research. J. W. Siry. Mech Eng 73:136-8 F '51

Evidence for ionosphere currents from rocket experiments near the geomagnetic equator. E. Maple and others. Phys R 82:957-8 Je 15 '51

Keeping a rocket in bounds. il Gen Elec R 54:44 Jl '51

Long-distance rocket flight. A. J. Nerad. Mech Eng 73:656 Ag '51

Measurement of velocity and pressure of gases in rocket flames by spectroscopic methods. F. P. Bundy and others. il diags J Ap Phys 22:1069-77 Ag '51

Measurements of solar extreme ultra-violet and X-rays from rockets by means of a $CaSO_4$:Mn phosphor. R. Tousey and others. bibliog Phys R 83:792-7 Ag 15 '51

Perturbation calculus in missile ballistics. R. Drenick. diag Franklin Inst J 251:423-36 Ap '51

Petrochemical engineer looks at rocket fuels. M. Sittig. Pet Refiner 30:114-16 My '51

Photon counter measurements of solar X-rays and extreme ultraviolet light. H. Friedman and others. bibliog Phys R 83: 1025-30 S 1 '51

Preview of space flight. L. S. Black. il Aero Digest 63:17-23 O '51

ROCKETS—*Continued*

Rocket linings. W. H. Duckworth and H. Z. Schofield. Aviation W 54:31+ Je 25 '51

Rockets. il Fortune 42:118-20+ N '50

Rockets and assisted take-off. A. V. Cleaver. il diags Roy Aeronautical Soc J 55:87-102 F '51; Same cond. Engineering 170:575-7 D 29 '50; Discussion. Roy Aeronautical Soc J 55:102-9 F '51

Steel ball holds nitrogen at 5500 psi.; Nitro-Sphere for servicing AF rocket-powered craft. il Aviation W 54:28+ Mr 26 '51

Sun follower. Mech Eng 73:324 Ap '51

Sweat-cooled metals step up rocket speeds. A. P. Colburn. Steel 127:109 D 18 '50

Symposium on jet propellants. Chem & Eng N 29:2054 My 21 '51

20th century rocket research. J. W. Siry. Mech Eng 73:322-4 Ap '51

Upper atmosphere, its exploration and exploitation. W. Ley. il diags Aeronautical Eng R 10:20-4+ F '51

Viking flights prove research worth. il Aviation W 54:24-6+ Ja 15 '51

Bibliography

Bibliography of books and published reports on gas turbines, jet propulsion, and rocket power plants. E. F. Fiock and C. Halpern. U S Nat Bur Stand Circ 509:1-64; pa 20c Supt. of doc. '51

Manufacture

Motors that propel the 3.5-inch rockets. C. O. Herb. il diags Mach 57:164-74 Ja '51

Tips on welding high-temperature materials in production of military rockets. F. H. Stevenson. il Iron Age 168:109-11 Jl 19 '51

Testing

Central instrumentation widens testing scope. F. Friswold. il Product Eng 22:168-71 Ag '51

Navy expanding rocket test base. Aviation W 54:16-17 Ap 16 '51

Rocket engine flight testing; abstract. R. F. Gompertz. Aviation W 53:34-6 D 18 '50

Scale-model testing of a small rocket motor. il Machine Design 22:113 N '50

Supersonic rocket missiles tested at secret station. R. McLarren. il Automotive Ind 105:34-7+ S 1 '51

ROCKRITE process. See Tubes—Manufacture

ROCKS

Analogy between diffusion and electrical conductivity in porous rocks. L. J. Klinkenberg. bibliog Geol Soc Bul 62:559-63 Je '51

Bluejacket sandstone of Kansas and Oklahoma. W. B. Howe. bibliog diag Am Assn Pet Geologists Bul 35:2087-93 S '51

Deformation of Yule marble. D. Griggs and others. bibliog 6pls diags Geol Soc Bul 62:853-905 Ag '51

Huge special tongs handle 30-ton breakwater stones. H. W. Holzhauer. il Roads & Sts 94:56 Je '51

Iron formation and associated rocks in the Iron River district, Michigan. H. L. James. bibliog map Geol Soc Bul 62:251-66, pl 1-4 Mr '51

Lithologic criteria of Arbuckle in western Kansas. J. R. Clair and F. C. Edson. diag World Oil 131:83-4+ D '50

Luminescence dates rocks; measures gamma-ray exposure. Chem & Eng N 29:1632-3 Ap 23 '51

McIntosh formation, Centralia-Chehalis coal district, Wash. P. D. Snavely, jr. and others. bibliog il map diag Am Assn Pet Geologists Bul 35:1052-61 My '51

Macroscopic method of fabric analysis. R. H. Clark and D. B. McIntyre. diags Am J Sci 249:755-68 O '51

Manganese on Punta Concepcion, Baja California, Mexico. J. A. Noble. maps Econ Geol 45:771-85 D '50

Metamorphic and igneous rocks of the Merrimac area, Plumas national forest, Calif. A. Hietanen. bibliog maps diags Geol Soc Bul 62:565-607, pl 1-5 Je '51

Nankoweap group of the Grand Canyon Algonkian of Arizona. C. E. Van Gundy. bibliog maps Geol Soc Bul 62:953-9, pl 1-3 Ag '51

Physical properties of mine rock. S. L. Windes. bibliog 17pls U S Bur Mines Rep of Invest 4459:1-79 '49; 4727:1-37 '50

Rock from Straits of Florida. J. Bush. bibliog il Am Assn Pet Geologists Bul 35:102-7 Ja '51

Rock hardness as a factor in drilling problems. W. B. Mather. bibliog Min Eng 190: Trans 173-6 F '51

Statistical methods applied to the study of rock fractures; quantitative comparative analysis of fractures in gneisses and overlying sedimentary rocks of northern New Jersey. H. J. Pincus. maps diags Geol Soc Bul 62:81-129 bibliog(p 128-9) F '51

Stratigraphy of lower Mississippian rocks in southwestern Missouri. C. P. Kaiser. map diags Am Assn Pet Geologists Bul 34:2133-75 bibliog(p2172-5) N '50

Structure and petrology of the Peach Bottom slate, Pennsylvania and Maryland, and its environment. S. L. Agron. diags Geol Soc Bul 61:1265-306, pl 1-11 bibliog(p 1305-6) N '50

Structure of the Hot Springs window, Madison county, North Carolina. S. S. Oriel. fold map maps diags Am J Sci 249:1-30 bibliog (p29-30) Ja '51

Three critical environments of deposition, and criteria for recognition of rocks deposited in each of them. J. L. Rich. bibliog diags Geol Soc Bul 62:1-19, pl 1-4 Ja '51

See also

Breccia
Continental shelf
Dolomite
Drilling and boring (earth and rocks)
Epidote
Folds (geology)
Geology
Geophysics
Granite
Gypsum
Limestone
Metamorphism
Minerals
Pegmatites
Phosphate rock
Phyllite
Quarries and quarrying
Schists
Sedimentation and deposition
Shale
Stone, Crushed
Weathering (rocks)

Analysis

Abundance of several relatively rare elements in igneous rocks of North America. L. H. Ahrens and L. G. Gorfinkle. Science 112: 565 N 10 '50

Determination of lithium in rocks; fluorometric method. C. E. White, M. H. Fletcher and J. Parks. bibliog Anal Chem 23:478-81 Mr '51

Determination of molybdenum in soils and rocks; geochemical semimicro field method. F. N. Ward. bibliog Anal Chem 23:788-91 My '51

Determination of the age of igneous rocks. S. Miholić. Chem Soc J p3402-5 D '50

Determination of titanium in rocks and minerals; mercury cathode polarographic method. R. P. Graham and J. A. Maxwell. bibliog Anal Chem 23:1123-6 Ag '51

Determination of traces of chloride; potentiometric titration to the apparent equivalence potential. I. M. Kolthoff and P. K. Kuroda. Anal Chem 23:1304-6 S '51

Infrared absorption spectra of minerals and other inorganic compounds. J. M. Hunt, M. P. Wisherd and L. C. Bonham. bibliog Anal Chem 22:1478-97 D '50

Variations in chemical composition across igneous contacts. W. H. Dennen. bibliog Geol Soc Bul 62:547-57 Je '51

ROCKS, Igneous

Abundance of several relatively rare elements in igneous rocks of North America. L. H. Ahrens and L. G. Gorfinkle. Science 112: 565 N 10 '50

Assimilation in the Cold Springs area of the Wichita mountains igneous complex, Okla. J. L. Walper. bibliog fold map Am J Sci 249:47-65, pl 1-2 Ja '51

Diabase of the Georgia piedmont. J. G. Lester and A. T. Allen. bibliog map Geol Soc Bul 61:1217-24, pl 1-2 N '50

Form and structure of sills near Pando, Colo. O. Tweto. bibliog map diags Geol Soc Bul 62:507-31, pl 1 My '51

Formation of late magmatic oxide ores. A. M. Bateman. il diags Econ Geol 46:404-26 Je '51

ROCKS, Igneous—*Continued*
Geology of the Barrilla mountains, Texas. G. K. Eifler, jr. bibliog map Geol Soc Bul 62:339-53, pl 1-2 Ap '51
Magnetic fields associated with igneous pipes in the central Ozarks. C. R. Holmes. maps Min Eng 187:Trans 1143-6 N '50
Metamorphic and igneous rocks of the Merrimac area, Plumas national forest, Calif. A. Hietanen. bibliog maps diags Geol Soc Bul 62:565-607, pl 1-5 Je '51
Relation of chemical properties to the bloating of clays; bloating of igneous rocks. C. M. Riley. bibliog diags Am Cer Soc J 34:121-8 Ap 1 '51
Uranium deposits near Marysvale, Piute county, Utah. J. W. Gruner and others. maps Econ Geol 46:243-51 My '51
Variations in chemical composition across igneous contacts. W. H. Dennen. bibliog Geol Soc Bul 62:547-57 Je '51
Younger intrusive rocks of Plateau province, Nigeria, compared with the alkalic rocks of New England. R. Greenwood. bibliog maps Geol Soc Bul 62:1151-78, pl 1-4 O '51
See also
Batholiths
Gabbro
Granite
Ore deposits
Pegmatites
Volcanic ash, tuff, etc.

Water content

Water in primordial and derivative magma and its relation to the ore-forming fluid. J. D. Ridge. bibliog Am J Sci 249:512-32 Jl '51

ROCKSLIDES. See Landslides

ROCKWELL hardness test. See Hardness—Testing

ROCKWOOD and company
Security I like best. D. M. Halsted. Comm & Fin Chr 173:614 F 8 '51

ROCKY Mountain spotted fever
Isolation and characterization of Rocky Mountain spotted fever rickettsiae from the rabbit tick haemaphysalis leporis-palustris Packard. R. R. Parker and others. bibliog Pub Health Rep 66:455-63 Ap 13 '51

ROCKY mountains
Devonian stratigraphy of Rocky mountains and foothills between Crowsnest pass and Athabaska river, Alberta, Canada. F. G. Fox. bibliog map diags Am Assn Pet Geologists Bul 35:822-43 Ap '51
Tectonics of east side of Cordillera in western Canada. A. J. Goodman. bibliog il map diags Am Assn Pet Geologists Bul 35:783-96 Ap '51

ROD mills (for crushing). See Tube mills

RODDIS plywood corporation
Stock offering oversubscribed. Comm & Fin Chr 174:1199 O 1 '51

RODENT repellents
Rat-repellent findings; package protection by repellents in adhesives. J. F. Welch. il Mod Packaging 24:138-40 My '51

RODENTICIDES
See also
Rats—Extermination

RODENTS
See also
Mice

RODGERS, Richard, 1902-
R & H shows are pushing $8-million. por(cover) Bsns W p96-7+ Ag 11 '51

RODS
Area calculations for round wire and rods; tabulation; engineering data sheet. Metal Finishing 49:79 Mr '51
Surface areas of round-square-hexagonal rods; tabulation; engineering data sheet. Metal Finishing 49:78 Ap '51

ROEDER, Dale, 1900-
SAE president for 1951. por S A E J 59:51 F '51

ROGERS, Bruce, 1870-
Fifty years after. B. Rogers. Inland Ptr 127:44 Je '51

ROGERS, John, 1878-
Portrait. Chem & Ind front Jl 14 '51
Sketch. por Chem & Ind p25 Ja 13 '51
SCI honors John Rogers and Edward C. Dodds. por(cover) Chem & Eng N 29:3164 Ag 6 '51
Society's president-elect, 1951-52. por Chem & Ind p493 Je 30 '51

ROGERS, John Lenzie, 1889-
Rogers calls Tobey quiz intimidation. Ry Age 130:48-9 Ap 16 '51
Teamsters will oppose. Ry Age 130:73 Mr 19 '51

ROGERS, Lester Cushing, 1893-
Sketch. por Explosives Eng 29:36-7 Mr '51

ROHM and Haas company
New products adding to net. Barron's 31:16 Je 25 '51

ROHR aircraft corporation
Common stock offered. Comm & Fin Chr 172:1931 N 20 '50

ROLE playing. See Dramatization in training

ROLLA, Missouri
Seams burst in little boom towns. il Bsns W p81-2 O 13 '51

ROLLER skating rinks

Lighting

Lighting a roller skating rink. E. W. Halteman. il Illum Eng 45:622 O '50

ROLLERS
Output climbs on roller drive; smoothing weld seams. il Steel 129:96+ Ag 20 '51

ROLLERS (earthwork)
Earthmoving, an art and a science; stabilization of embankments. D. K. Heiple. il Constr Methods 33:91-2+ S '51
New roller proves its worth. il Constr Methods 32:103 D '50

ROLLERS, Paint. See Paint rollers

ROLLERS, Printers'
How to conserve your rollers; the bridge from ink to paper. E. B. Davis. il Inland Ptr 126:34-6 Mr '51

ROLLING (metal work)
Beryllium powder compacts reduced nine per cent by cold rolling. H. Hausner and N. Pinto. Steel 127:93 D 11 '50
Cold rolling of tinplate. G. E. Stoltz and J. W. Brinks. plan diag Iron & Steel Eng 27:69-77; Discussion. 77-88 O '50
Cold rolling strip. J. D. Keller. bibliog diags Steel 128:76+ F 19; 92+ Mr 5; 80+ Mr 19; 84+ Mr 26; 98+ My 14; 129:86+ Jl 9; 78+ Jl 23; 88+ Ag 13 '51
Continuous cast aluminum bars produced by the Properzi process. D. I. Brown. il Iron Age 167:71-3 F 22 '51
Effect of tension on torque and roll force in cold strip rolling. W. C. F. Hessenberg and R. B. Sims. bibliog Iron & Steel Inst J 168:155-64 Je '51
Integrally-stiffened skin revolutionizes aircraft construction; rolled and cast sections. P. E. Sandorff and G. W. Papen. il diag Iron Age 167:87-90 F 8 '51
Investigations into the effect of non-metallic inclusions on the hot-workability of steel. F. Rapatz and M. Strobich. bibliog il Iron & Steel Inst J 168:374-5 Ag '51
Modern blooming mill practices; problem of surface defects. D. W. Lloyd. il diags Iron & Steel Eng 28:59-64; Discussion. 65 F '51
New processing scalebreaker. J. I. Greenberger. diags Iron & Steel Eng 28:95-101 Je '51
Origin of the cube texture in face-centered cubic metals. P. A. Beck. bibliog J Metals 3:Trans 474-5 Je '51
Relations between initial and final orientations in rolling and annealing of silicon ferrite. B. F. Decker and D. Harker. il diags J Ap Phys 22:900-4 Jl '51
Report of rolling experiences. L. Moses. diags Iron & Steel Eng 28:59-65; Discussion. 65-7 Ja '51
Roll-edging forging blanks saves steel; Ford motor co. il Steel 127:61 O 30 '50
Rolling of powder metals; abstract. G. Naesen and F. Zirm. Metal Prog 59:586 Ap '51
Rolling of tool steels. H. C. Bigge. il diags Iron & Steel Eng 28:57-66 My '51
Rolling solutions for specialty steels. M. L. Bible. il Iron & Steel Eng 28:91-3; Discussion. 93-4 Je '51
Rolls and rolling (cont). E. E. Brayshaw. il diags Blast F & Steel Pl 38:1323-6+, 1435-46; 39:93-102+, 214-22, 343-50, 439-44, 553-60, 800-12, 958-66, 1224-34 N '50-My, Jl-Ag, O '51

ROLLING (metal work)—*Continued*

Steel strip experimentally rolled from powder; tr. by B. M. Pearson. F. Zirm. Iron Age 167:110-14 F 1; 95-9 F 15 '51

See also

Rolling mills

Steel, Strip

Thread rolling

Tables, calculations, etc.

Cold rolling with strip tension. H. Ford and others. bibliog diags Iron & Steel Inst J 168:57-72 My '51

Relations between roll-force, torque, and the applied tensions in strip-rolling. R. Hill. diags Inst Mech Eng Proc 163 (W.E.P. no 58):135-40; Discussion. 144-8 '50

Theoretical investigation of roll flattening. D. R. Bland. diags Inst Mech Eng Proc 163 (W.E.P. no 58):141-4 '50; Same. Engineer 189:535-7 My 5 '50; Discussion. Inst Mech Eng Proc 163 (W.E.P. no 58):144-8 '50

ROLLING-ball analogue. See Electric circuits—Mechanical analogies

ROLLING mills

Cold mill steps up Thomas Steel capacity 120,000 tons. il Steel 127:113 N 20 '50

Continuous merchant mill. L. C. Sowell. il plans Iron & Steel Eng 28:72-6 Je '51

Finishing plant for Detroit steel corp.; strip mill and distribution center, Hamden, Conn. il plan Arch Rec 109:132-5 F '51

French building two continuous hot strip mills. il Steel 127:110+ D 11 '50

Iron and steel engineers rolling mill committee spring conference, Detroit, April 30-May 1; program and abstracts of papers. Iron & Steel Eng 28:107-17 Ap '51

Measures rolling mill load continuously. il Iron Age 167:74 Mr 22 '51

New rolling mill for magnesium; Brooks and Perkins, inc. Aviation W 55:30 S 10 '51

New steelmaking capacity, new rolling mills; installed, dismantled; tabulations. Iron Age 167:297 Ja 4 '51

19-stand rod mill of Keystone steel and wire co. W. Herman. plan Iron & Steel Eng 28:91-5 Ja '51

Nonferrous strip capacity expanded; Riverside metal co. W. Bomboy. il diag Steel 128:72+ Ja 8 '51

Precision rolling thin-gage magnetic alloys; Sendzimir cold strip mill. il Steel 128:114 Je 25 '51

Rolling mill for hoe and trowel blades. il Engineering 171:481 Ap 20 '51

Washington steel corporation's 39-in. cold mill; successful Sendzimir unit. T. S. Fitch. il diag Iron & Steel Eng 28:51-6; Discussion. 56-7 Ag '51

Bearings

Association of iron and steel engineers plain bearing recommended practice. bibliog il diags Iron & Steel Eng 28:sup PB3-37 Jl '51

Lubrication and maintenance of bearings. L. E. Lovitt. Iron & Steel Eng 28:169-71 S '51

Maintenance of roller bearings in steel plants. P. L. Haager. il diags Iron & Steel Eng 28:172-94 S '51

Electric equipment

Aluminium strip mill at Rogerstone. flow chart il Engineer 190:319-22, 351-3, 459-61, 487-9 S 29-O 6, N 17-24 '50; Engineering 170:265-7, 281-3, 337-40, pl 19-22, 26-7 S 29-O 6, N 10 '50; Metallurgia 42:223-32 O '50; Elec R (Lond) 147:607-14 O 20 '50

Blooming mill, steel industry's iron horse. R. H. Wright. il diags Iron & Steel Eng 28:98-105; Discussion. 105-6 Mr '51

Developments in the design of d-c motors and generators for rolling mills. B. H. Caldwell, jr. bibliog il diags Iron & Steel Eng 27:63-71 D '50

Electric drives for reversing hot mills. P. E. Peck. il diags Iron & Steel Inst J 167:309-23 Mr '51

Electrical and allied developments during 1950; industry. G. Bartlett. il diag Gen Elec R 54:35-7 Ja '51

400-kw grid-controlled rectifier for tyre-rolling mill. il Engineering 171:68-9 Ja 19 '51

Grid controlled rectifier equipment for a tyre rolling mill. Metallurgia 43:33-4 Ja '51

Handling and storage of electrical parts; abstract. A. W. McAuly. Steel 128:109+ Je 4 '51

Induction heating in the steel industry. E. H. Browning. il diags Iron & Steel Eng 27:82-9 D '50

Large meters easily read at a distance. Iron Age 167:67 Ja 11 '51

Maintenance for 600 series auxiliary mill motors. J. C. Anderson. il diags Blast F & Steel Pl 39:1077-83 S '51

Margam steelworks. il Electrician 147:253-60 Jl 27 '51

New steel works at Margam. il Elec R (Lond) 149:175-8 Jl 27 '51

Power for hot strip mills. A. F. Kenyon. il plans diags Iron & Steel Eng 28:80-8 Ap '51

Report on mill motor standardization. M. B. Antrim. Iron & Steel Eng 28:118-19 My '51

Stainless steels; modern electrical applications to strip and sheet production. il Elec R (Lond) 148:471-7 Mr 9 '51

Ventilation of steel mill motors and motor rooms. S. L. Jameson. il diags Iron & Steel Eng 28:68-72 Ja '51

See also

Electric driving—Rolling mills

Employees

Motor inspector training. G. M. Kennedy. Iron & Steel Eng 28:74-6; Discussion. 77 Jl '51

Equipment

Alan Wood steel co. T. J. Ess. il plan Iron & Steel Eng 28:sup 1A-18A My '51

American seamless tube mill; Gary works of the National tube co. il Engineer 191:248-50 F 23 '51

Arvida mill is fully automatic and repeating. H. Jones. il Iron Age 166:72-5 N 30 '50

Automatic self-centering rolls and pulleys. E. T. Lorig. diags Iron & Steel Eng 27:57-67 N '50

Blooming and billet mills at the Normanby Park steelworks of John Lysaght's Scunthorpe works, ltd.; abstracts. J. Peacock. diags Engineer 192:27-8 Jl 6 '51; Iron & Steel Eng 28:95-9 O '51; Discussion. Engineer 192:28 Jl 6 '51

Chile now a producer of steel with fully integrated plant. F. Senior. il plans diag Blast F & Steel Pl 38:1303-14 N '50

Chilean mill uses novel bloom shear. il diags Iron Age 166:96 N 16 '50

Columbia's cold reduced steel products. L. S. Dahl. il Blast F & Steel Pl 39:1084-90 S '51

Continuous annealing arousing industry interest. W. R. Weir. il Steel 128:68+ Ap 30 '51

Continuous brass strip mill at Waterbury, Conn. flow chart il plan diags Engineer 192:179-82, 209-11 Ag 10-17 '51

Continuous cascade pickling. W. H. Stuck and J. H. Abrams. il Iron & Steel Eng 28:101-6+ F '51

Continuous seamless pipe mill; National tube co.'s Lorain plant. J. L. Young. il Iron & Steel Eng 28:53-8 Ap '51; Excerpts. Steel 127:78+ O 30 '50; Discussion. Iron & Steel Eng 28:59-61 Ap '51

Continuous strip mill; Northern aluminum company limited, Rogerstone. flow diag il Automobile Eng 40:445-51 D '50

Ford motor co. rounds out steel plant operating units for balanced production. C. Longenecker. il diags Blast F & Steel Pl 39:944-54 Ag '51

42-in. slabbing mill at Shotton. il diag Engineering 171:1-5, pl 1 Ja 5 '51; Same cond. Metallurgia 42:397-9 D '50

Hot bloom and slab shears. J. A. Kilby. il plans diags Iron & Steel Inst J 167:165-99 F '51

Metallic recuperators for slab heating furnaces. R. R. Shedd. il plans diags Iron & Steel Eng 28:55-62 Jl '51

Midland works of Crucible steel co. of America. T. J. Ess. il plans Iron & Steel Eng 27:M8-18 O '50

New bar production facilities at Bethlehem's Lackawanna plant. G. A. Henderson. il plan Iron & Steel Eng 27:93-100 N '50

New 86-inch hot strip mill in production on Pacific coast. il Steel 128:82+ Ap 16 '51

ROLLING mills—Equipment—*Continued*

New facilities for stocking and shipping pipe at Lorain works. C. C. Wales. il plans diag Iron & Steel Eng 28:71-5; Discussion. 75-6 Ag '51

New 42in. slabbing mill at Shotton; abstract. J. F. R. Jones. il Engineer 191:862-3; Discussion. 863 Je 29 '51

Operating the world's fastest mill; Aliquippa works of Jones and Laughlin steel corp. J. R. Powell; G. A. Kaufman. il diag Iron & Steel Eng 28:73-80; Discussion. 80-2 Ja '51

Pressure-filled breaking piece for load limitation. W. H. Bailey. il diags Engineer 191:213-14 F 16 '51

Rod and bar mill at Guest, Keen and Nettlefolds (South Wales) ltd., Cardiff. G. A. Phipps. il Engineer 192:65-6; Discussion. 67 Jl 13 '51

Roller guides in modern merchant mill practice. C. S. Lambert. diags Iron & Steel Eng 28:79-87; Discussion. 87-8 F '51

Rolling of tool steels. H. C. Bigge. il diags Iron & Steel Eng 28:57-66 My '51

Standard Belgian mill adapted for South American use. E. C. Peterson. il plan Steel 127:96+ N 6 '50; Same, with additional plans and diags. Iron & Steel Eng 27:88-92 N '50

Ultra-fast mill helps meet strip shortage; McLouth Steel's new hot rolled strip mill. D. I. Brown. il plan diag Iron Age 166:67-70 O 26 '50

Gearing

Rolling mill drive. Engineer 191:843 Je 22 '51

Selecting gears for rolling mill equipment. E. C. Denne. diags Iron & Steel Eng 28:62-8; Discussion. 68-9 Ap '51

Heating and ventilation

Heating a sheet and plate mill. il Heat & Ven 48:77-8 Mr '51

Ventilation of steel mill motors and motor rooms. S. L. Jameson. il diags Iron & Steel Eng 28:68-72 Ja '51

Lubrication

Lubrication and maintenance of bearings. L. E. Lovitt. Iron & Steel Eng 28:169-71 S '51

Modernization of lubrication for old mills; abstract. W. Holland. Iron & Steel Eng 28:112-13 Ap '51

Maintenance and repair

Scorecard simplifies maintenance. V. Satkoff. Steel 129:69 Jl 30 '51

Management

Budgeted blooming mill maintenance. J. H. Mayer. Iron & Steel Eng 27:90-2; Discussion. 92-4 D '50

Processing inquiries and orders for hot rolled sections; abstract. W. H. Mohler. Iron & Steel Eng 28:117 Ap '51

ROLLMAN, Heinz Walter

Crises can't crush Rollman. L. M. Hughes. por Sales Management 66:37-9+ My 20 '51

ROLLS

Automatic self-centering rolls and pulleys. E. T. Lorig. diags Iron & Steel Eng 27:57-67 N '50

Self-centering rolls. il Machine Design 22:112-13 N '50

Skewed rolls; correct for deflection in calendering operations. G. F. Carrier. diag Machine Design 22:136 N '50

ROLLS (paper machinery)

Behaviour of press rolls. F. A. Garrett. il diags Pulp & Pa of Can (Convention no) 52:226-31 [F] '51

Effect of roll load in the beating of southern kraft pulp. C. S. Walseth and C. G. Geijer. il Tappi 33:490-4 O '50

How to get most service from rubber-covered rolls. A. C. Lutz. il Paper Tr J 132:56-7 Je 15 '51

How to prolong the life of water removal equipment. L. E. Smith. il Paper Tr J 133:26+ Ag 24 '51

Insulation of roll ends cuts power costs. il Steel 127:104 D 18 '50

Operation of anti-deflection top press rolls on newsprint machines. D. R. Catford. il diags Pulp & Pa of Can (Convention no) 52:221-5 [F] '51

Past, present, and future design of corrugated combiners. W. Goettsch. Tappi 34:sup26A+ Jl '51

Portable machine for honing and polishing calender stock base rolls. F. Lindberg and H. Fish. diags Pulp & Pa of Can 52:101 Mr '51

Roll cambering; abstract. R. T. Boynton. Pulp & Pa of Can 52:115 Ag '51

Suction rolls; their uses and maintenance. C. M. Connor and R. Tourangeau. Paper Tr J 132:30+ Mr 16 '51

Welded steel drier rolls; increased paper production and reduced maintenance. H. Fieberts. il Paper Tr J 131:21-3 N 2 '50

ROLLS (rolling mills)

Analysis of some roll-pass designs for round sections. D. A. Winton. 2 pls diags Iron & Steel Inst J 167:31-41 Ja '51

Magnetic rollers support sheet on shear. il diag Machine Design 22:147 D '50

Measurement of roll temperature. diag Blast F & Steel Pl 39:467 Ap '51; Same. Automotive Ind 104:84 Ap 15 '51; Same. Rubber Age 69:476 Jl '51

Rolls and rolling (cont). E. E. Brayshaw. il diags Blast F & Steel Pl 38:1323-6+, 1435-46; 39:93-102+, 214-22, 343-50, 439-44, 553-60, 800-12, 958-66, 1224-34 N '50-My, Jl-Ag, O '51

Special roll for hot-working high speed steel. diag Blast F & Steel Pl 38:1358 N '50; Iron Age 167:116 Je 7 '51

Strain gages record roll pressures. il Steel 128:113-14 Mr 5 '51

Theoretical investigation of roll flattening. D. R. Bland. diags Inst Mech Eng Proc 163 (W.E.P. no 58):141-4 '50; Same. Engineer 189:535-7 My 5 '50; Discussion. Inst Mech Eng Proc 163 (W.E.P. no 58):144-8 '50

Tungsten carbide rolls for cold rolling metals. R. T. Beeghly. il diags Iron & Steel Eng 28:74-8; Discussion. 79 Ap '51

Manufacture

Manufacture of cast steel rolls. S. R. Robinson. Foundry 78:188+ D '50

ROLLS (rubber machinery)

Electronic metal detector protects calender rolls. il Rubber Age 69:316 Je '51

ROLLS (textile machinery)

Defective drafting arising from imperfections in front rollers of mules and ring frames. J. Gregory and A. Tyson. il diags Textile Inst J Trans 42:T 147-67 Ap '51

How to select drawing frame rolls. A. Boylston. il Rayon 32:31-3+ Ja '51

ROME cable corporation

Earning about $3.50 a share. Barron's 31:16 Ap 23 '51

RONEO limited

Statement by the chairman at 43d annual general meeting. G. S. Maginness. Economist 159:779-80 N 11 '50

RONSON art metal works, inc.

Security I like best. S. Heller. Comm & Fin Chr 173:2042 My 17 '51

ROOFING

Colored roofing granules for South American market. Brick & Clay Rec 119:66 Ag '51

Has prefabricated bituminous surfacing a peacetime usefulness? C. M. Baskin. il diags Roads & Eng Constr 89:74-80+ Ja '51

Investigation of the longevity of galvanized roofing sheets and wires. D. J. Swaine. bibliog Chem & Ind p764-7 S 15 '51

Mechanized built-up roofing. S. M. Friedberg. il Sheet Metal Worker 42:40-1+ Jl '51

Mechanizing built-up roofing applications. T. M. Dantz. il Sheet Metal Worker 42:40-2+ S '51

New roof applied by spraying; use of plastic spray coating, Cocoon. Am Bld 73:202+ F '51

Sandwich roofing for festival restaurant. il Metallurgia 43:111 Mr '51

ROOFING, Copper

Applying copper to octagonal church roof. il plan diags Sheet Metal Worker 42:35-6 Je '51

Model copper roof. H. E. Voegeli. il Sheet Metal Worker 42:35-7+ N '50

U.S. Senate gets new copper roof. il diags Sheet Metal Worker 42:66+ D '50

ROOFING, Plastic
Translucent porch roof of corrugated sheets of fiber glass mat and polyester resin; illustrations with text. Mod Plastics 28:87 Ap '51

ROOFING, Terne plate
Finishing terne roof edges. diags Sheet Metal Worker 42:42 Jl '51

ROOFING felt. See Felt, Roofing

ROOFS
Arrangement of eaves, gravel stops and gutters; detail plate. K. R. O'Neal. il diags Am Bld 73:148-9 F '51
Cocoon house uses navy's moth-balling material to weatherproof catenary curved roof. R. S. Twitchell and P. Rudolph. il plan diag Arch Forum 94:156-9 Je '51
Fire-resistant roof construction for row houses. diag Eng N 146:53 Ap 12 '51; Arch Rec 109:163 My '51
How to prepare metal roofs before attaching grounding. Sheet Metal Worker 42:31 F '51
Round table report of home building experts. Arch Forum 94:128 F '51
San Francisco steel-saving school has zig-zag roof; Y-shaped concrete slabs separate classrooms. il plans diag Arch Forum 95:132-3 Ag '51
Store roof hangs from concrete frames; Portland, Ore. shopping center. il plan diags Arch Rec 108:149-51 D '50
See also
Skylights
Trusses

ROOFS, Aluminum
Aluminium structural panel. il Engineer 191:359 Mr 16 '51; Engineering 171:315 Mr 16 '51
Applying aluminum roofing by stud welding. il Sheet Metal Worker 42:74-5 D '50

ROOFS, Cement
Lightweight, poured-in-place roof deck; railroad station in Jersey City. il Constr Methods 33:56-8 My '51

ROOFS, Concrete
Cylindrical roof for circular coliseum; Alabama's live-stock coliseum in Montgomery. B. G. Anderson. il diags Eng N 145:30-3 N 2 '50
English firm builds shell concrete domes; factory of Brynmawr rubber, ltd. il Eng N 146:33 Je 28 '51
Flexible square steel pans form low-cost modular roof. R. L. Reid and F. P. Johnston. il Eng N 147:38-9 Ag 30 '51
Huge arched roofs built of precast units; Palazzo Esposizioni (Exhibition Palace) in Turin, Italy. il Eng N 146:46-7 Ja 4 '51
Kansas City perlite expanding plant; Panacalite perlite, inc. T. Brown. il Rock Prod 54:117 Je '51
Precast roof beams help beat winter on snowshed construction. il Constr Methods 33:94-5+ Ap '51
Steel-pan forms provide economical long-span roof. R. L. Reid. il plan Civil Eng 21:512-13 S '51

ROOFS, Glass
Roofed with movable dome; house in Cave Creek, Ariz. P. Soleri and M. Mills. il plans Arch Forum 94:150-2 Je '51

ROOFS, Steel
Case histories of stairless roofs. R. E. Paret. il diags Sheet Metal Worker 42:35-6+ Ag '51

ROOMS
See also
Bathrooms
Bedrooms
Dining rooms
Kitchens
Playrooms

ROOSEVELT, Eleanor, 1884-
How freedom works; defends columns of Mrs Roosevelt and Thomas Stokes. R. W. Howard. Ed & Pub 83:10 O 28 '50

ROOSEVELT, Franklin Delano, 1882-1945
FDR letters contain many barbs at press. J. McMaster. Ed & Pub 83:16 D 9 '50

ROOTH, Ivar
Portrait. Fortune 44:130 O '51

ROOTS
Problems with tree roots in sewers; guided discussion. Munic Util 89:38+ S '51

ROPE
Effect of freezing on manila cordage. R. T. Starr. il Marine Eng 56:63-4+ Ag '51
Fiber rope-making and its use. S. A. Reed. il Marine Eng 55:58-61 N '50
Fiber rope; types, care. Nat Safety N 63:146-7 Mr '51
How to take care of rope. P. C. Ziemke. Safety Maint & Prod 101:23+ F '51
Making rope last longer. Marine Eng 56:52 My '51
Rope buyers okay self-display carton; New Bedford Cordage pre-measured rope. Sales Management 66:74 My 1 '51
Rope; development of rope making; uses, testing. W. A. Kenyon. diags Textile Inst J 42:P502-18; Discussion. P518-20 Ag '51
Rope needs care; it's only human. il Mod Ind 22:18+ Ag '51
Rope slings and rope tackle. S. Reed. diags Marine Eng 56:67-9 Ap '51
Ropes and cordage. E. Wigzell. Textile Inst J 42:P237-8 Je '51
See also
Wire rope

Testing

Rope testing set-up reduces labor, improves results. il Elec World 135:114 Mr 12 '51

ROSANILINE
Studies on the structure of nucleic acids; interaction of rosaniline with desoxypentose nucleic acid. L. F. Cavalieri and A. Angelos. bibliog Am Chem Soc J 72:4686-90 O '50
Studies on the structure of nucleic acids; investigation of pentose nucleic acid and enzyme-resistant residues. L. F. Cavalieri, S. E. Kerr and A. Angelos. bibliog Am Chem Soc J 73:2567-78 Je '51

ROSE oil. See Attar of roses

ROSENBERG, Anna Marie, 1902-
Portrait. Bsns W p26 Ja 6 '51

ROSENBERG, Ethel
Lyons faces order to divulge tip source. Ed & Pub 84:8 My 12 '51

ROSENMUND reaction
Unsaturated lactones and related substances; the synthesis of aldehydo-acids by the Rosenmund reaction. W. S. Johnson, R. P. Linstead and R. R. Whetstone. Chem Soc J p2219-22 Ag '50

ROSES
See also
Attar of roses

ROSICRUCIANS
Rosicrucian order leans heavily on ads. C. Watson. Ed & Pub 83:24 D 2 '50

ROSIN
Hydrogenated rosin in cold rubber tire tread stocks; Staybelite. L. O. Amberg. bibliog Rubber Age 69:191-9 My '51
New tack for gum naval stores. D. N. Collins and E. L. Patton. flow sheets il Chem Eng 58:154-6 S '51
Rosin as an insecticide adhesive in outdoor DDT residual sprays. J. A. Jensen and others. Soap & San Chem 26:121+ N '50
Rosin-modified phenolic resins. P. O. Powers. bibliog Ind & Eng Chem 43:1770-4 Ag '51

Analysis

Colorimetric determination of rosin and rosin esters. M. H. Swann. bibliog Anal Chem 23:885-8 Je '51

Prices

Rosin and turpentine given specific ceilings. Oil Paint & Drug Rep 160:3 Jl 2 '51
Rosin market follows C.C.C. lead upward. Barron's 30:21-2 N 6 '50

ROSS, Charles Griffith, 1885-1950
Sketch. por Ed & Pub 83:9 D 9 '50

ROSSINI, Frederick Dominic, 1899-
Portrait. Chem & Eng N 29:1826 My 7 '51

ROTAMETERS
Rotameters. W. J. Beckett. diags Instruments 24:229-31 F '51
Rotameters, what they are and what they will do. S. D. George. il diags Mill & Factory 48:120-3 Ja '51

ROTATING disks. See Disks, Rotating

ROTATION, Optical. See Optical rotation

ROTATORY dispersion. See Dispersion of rays

ROTENONE
Experiments on the synthesis of rotenone and its derivatives; the rotenonone nucleus. G. Parker and A. Robertson. Chem Soc J p 1121-4 Ap '50

ROTENONE—*Continued*

Infrared spectra of rotenone and dihydrorotenone. H. L. Cupples and I. Hornstein. Am Chem Soc J 73:4023-4 Ag '51

Structural and insecticidal relationships in rotenone, methoxychlor, and DDT. R. W. Hummer and E. E. Kenaga. bibliog il Science 113:653-5 Je 8 '51

Analysis

Determination of rotenone as an impurity in dihydrorotenone. I. Hornstein. Anal Chem 23:1330-1 S '51

Determination of rotenone by the use of mercuric acetate. I. Hornstein. bibliog Anal Chem 23:1329-30 S '51

ROTHAMSTED experimental station

Rothamsted experimental station. il Chem & Ind p517 Je 30 '51

ROTOGRAVURE

ABC's of gravure. F. B. Johnson; J. Martin. Tappi 34:sup82A-6A Ja '51

Roto revolution. il Chem Ind W 68:13-14 Ja 27 '51

Unit-type gravure in the decoration of vinyl film. W. H. King. il diag Mod Plastics 28:83-4 Ap '51

ROTORS

Manufacture, testing and inspection of turbine and turbo-alternator rotors for power stations. H. H. Burton. il diags Metallurgia 44:22-8 Jl '51

Reducing costs in deep-slotting compressor rotors. J. H. Hummer and others. il Mach 57:183-5 D '50

Welded pump rotor saves machining. B. J. Rosen. il Iron Age 166:78-9 D 21 '50

ROTORS (electric machinery)

Correcting thermal unbalance in electric rotors. W. F. King. il diags Power 94:84-6+ N '50

Design of rotor-coil support rings. J. J. Ryan. il diags A S M E Trans 73:163-6 F '51

Manufacture, testing and inspection of turbine and turbo-alternator rotors for power stations. H. H. Burton. il diags Metallurgia 44:22-8 Jl '51

Modern practice in the balancing of large turbine-generator rotors; abstracts. C. M. Laffoon and others. il Elec Eng 70:436 My '51; Power 95:154+ My '51

Quality control eliminates unnecessary operations. R. C. Byers. Automotive Ind 104:122+ Je 15 '51

Repair, store or carry turbine rotor in cradle. W. E. Adams. diag Elec World 134:122 D 4 '50

Unbalanced magnetic pull and the mechanical stability of rotating electrical machines. W. G. Crawford. diags Engineering 171:504-5 Ap 27 '51

Why does electric rotor oscillate? diags Power 95:140+ Je '51

Testing

Die-cast rotor studies. L. C. Packer and G. E. Monchamp. il Elec Eng 70:389 My '51

Electrical dynamic balancing machine for alternator rotors. il diag Engineering 171:138-9 F 2 '51

Thermal cracks in turbine and generator rotor forgings. A. W. Rankin and others. il diags Mech Eng 72:559-66 Jl '50; Discussion. 72:919-21 N '50

ROTPROOFING of textiles

Canvas fire hose deterioration; rot-proofing treatment. Chem Age (Lond) 64:459-60 Mr 24 '51

Multiple culture technique for testing rot-resistance, particularly suited to jute materials. S. N. Basu and others. bibliog il diags Textile Inst J Trans 41:T466-80 D '50

Rot- and mildewproofing; the search for reliable treatments; abstract. Am Dyestuff Rep 40:62-3 Ja 22 '51

ROTTLERIN

Rottlerin; the rottlerone change. A. McGookin, A. Robertson and T. H. Simpson. Chem Soc J p2021-9 Ag '51

ROUSSET, David

Rousset case. Economist 160:141 Ja 20 '51

ROW houses. See Houses, Row

ROWE rearrangement. See Molecular rearrangements

ROYAL aeronautical society

Annual report of the council, 86th, 1950-1951. Roy Aeronautical Soc J 55:244-59 Ap '51

New Zealand division 2d annual report, year ended Dec. 31. Roy Aeronautical Soc J 55:386-91 Je '51

Summary of activities, Jan.-Dec. 1950. Roy Aeronautical Soc J 54:779-801 D '50

ROYAL Dutch petroleum company

Royal Dutch power in world markets after 60 years of hard competition. Nat Pet N 43:34 My 16 '51

ROYAL Dutch-Shell group

Royal Dutch-Shell group nearly doubles Venezuelan production since 1945. il Oil & Gas J 49:102-3 F 8 '51

Shell's 1950 story. Oil & Gas J 50:49-50 Jl 5 '51

Shell's strength displayed; with production and financial data for 1949-1950. Economist 160:1389-91 Je 9 '51

ROYAL institute of chemistry

Annual general meeting, 73d, London, April 27. Chem & Ind p385-7 My 19 '51

ROYAL insurance company, limited

100th anniversary of admittance to United States. East Underw 52:25+ Ap 27 '51

ROYAL poinciana

Time of flowering of delonix regia. G. N. Wolcott. Science 114:307-8 S 21 '51

ROYAL society of London

Annual conversazione, May 24. Engineering 171:664 Je 1 '51; Elec R (Lond) 148:1137-8 Je 1 '51

ROYER, George Lewis, 1908-

Olney medal award. pors Am Dyestuff Rep 39:872-6 D 11 '50

RUBBER

Advances in the uses of rubber in engineering, 1949-50. L. E. Straka. il Rubber Age 68:445-53 bibliog(190 titles, p450-3) Ja '51; Same. India Rubber World 123:442-9 Ja '51; Abstract. Mech Eng 73:417-18 My '51

Automotive applications and special features of synthetic and natural rubbers. J. W. Liska. diags S A E J 59:22-5 My '51

Chemical engineering materials of construction; hard rubber. H. Peters. bibliog il Ind & Eng Chem 43:2256-7 O '51

Data on some special purpose natural rubbers; Tensorub and Plastorub. Rubber Age 68:561 F '51

Designing with modern materials; survey of latest developments in engineering materials. il Machine Design 23:345-8 O '51

Engineering design with natural and synthetic rubbers; description and properties of 15 important elastic polymers. E. F. Riesing. il diags Product Eng 21:106-11 N; 104-7 D '50

Linatex, an extra-tough rubber is the answer to many maintenance problems. J. F. Myers. Min Eng 3:680 Ag '51

Nuclear magnetic resonance study of transitions in polymers. L. V. Holroyd and others. bibliog il diag J Ap Phys 22:696-705 Je '51

Radical mechanisms in saturated and olefinic systems; disubstitutive carbon-carbon cross-linking by *tert.*-alkoxy-radicals in isoprenic olefins and rubber. E. H. Farmer and C. G. Moore. Chem Soc J p 142-8 Ja '51

Raw materials for electric cable-making. V. H. Wentworth. il Electrician 145:1327-31 D 8 '50

Recent developments in the physics of rubber. S. D. Gehman and others. India Rubber World 124:62-6 Ap '51

Report on the technical grading of natural rubber in Malaya. Rubber Age 68:584 F '51

Rheology of rubber solutions and suspensions. L. Leaman. bibliog(53 ref) Rubber Age 69:699-706 S '51

Rubber; research and development have lengthened service life; abstract. W. L. Smith. Mech Eng 72:1000-1 D '50

Rubber symposium. bibliog il diags Ind & Eng Chem 43:315-493 F '51

Stress-temperature studies of transitions in rubbers. R. S. Witte and R. L. Anthony. bibliog diags J Ap Phys 22:689-95 Je '51

RUBBER—*Continued*

Visco-elasticity of rubber. R. B. Blizard. diags J Ap Phys 22:730-5 Je '51

See also

Chilte
Guayule
Rubber industry and trade
Rubber plants and planting
Tires, Automobile
Tires, Rubber
Vulcanization

also American society of mechanical engineers—Rubber and plastics division

Aging

Color reactions between silica pigments and certain accelerators and antioxidants. R. F. Wolf and others. bibliog(p 104) Rubber Age 69:55-6 Ap '51

Rubber oxidation and aging studies; safe limits of sample thickness. G. W. Blum, J. R. Shelton and H. Winn. bibliog il diags Ind & Eng Chem 43:464-71 F '51

Rubber oxidation and antioxidant actions. S. Baxter, W. M. Morgan and D. S. P. Roebuck. bibliog diags Ind & Eng Chem 43:446-52 F '51

Volumetric oxygen-absorption test for rubber aging. J. R. Shelton and W. L. Cox. bibliog Ind & Eng Chem 43:456-63 F '51

Weather aging of automotive rubber; abstract. H. A. Winkelmann. India Rubber World 123:208 N '50

Analysis

Copper compounds in latex and in rubber; the quantitative determination of minute amounts of copper. G. J. van der Bie. bibliog(61 titles) diag Rubber Age 69:309-15 Je '51

Determination of free sulphur in vulcanizates by a polarographic method. F. C. J. Poulton and L. Tarrant. J Ap Chem 1:29-33 Ja '51

Simple method for the determination of rubber hydrocarbon. Can Chem Process 35:565 Jl '51; Same. Rubber Age 69:444 Jl '51; Same. Chem Age (Lond) 65:351-2 S 15 '51

Spectrophotometric analysis of accelerator-rubber mixtures. K. E. Kress. bibliog Anal Chem 23:313-22 F '51

Third annual review of analytical chemistry; natural and synthetic rubbers. N. Bekkedahl. Anal Chem 23:243-53 bibliog(219 ref, p251-3) F '51

Bibliography

Advances in the uses of rubber in engineering, 1949-50. L. E. Straka. il Rubber Age 68:450-3 Ja '51; Same. India Rubber World 123:447-9 Ja '51

Bibliography. Published in monthly numbers of India rubber world

Chemistry

ACS Division of rubber chemistry 58th meeting, Washington, February 28-March 2; abstracts of papers. Chem & Eng N 29:1000-2 Mr 12 '51

ACS Division of rubber chemistry 58th meeting, Washington, February 28-March 2; with abstracts of papers. India Rubber World 123:575-82 F '51; Rubber Age 68:562-70 F '51

A.C.S. Division of rubber chemistry jubilee meeting, New York. Chem & Eng N 29:3842-3 S 17 '51

American chemical society Rubber division meeting, 59th, New York, Sept. 5-7; abstracts of papers. India Rubber World 124:328-36 Je '51; Rubber Age 69:322-31 Je '51

Chemical institute of Canada Rubber chemistry division meeting, Kitchener, Ont. June 15; abstracts of papers. Rubber Age 69:200-1 My '51

Chemical progress during the 75 years of the American chemical society. R. P. Dinsmore. bibliog(72 ref) il Ind & Eng Chem 43:795-803 Ap '51

International congress of pure and applied chemistry Elastomers and plastomers section meeting, New York, Sept. 10-13; program and abstracts of papers. India Rubber World 124:584-6 Ag '51; Rubber Age 69:581-3 Ag '51

Rubber chemists international meeting, Cleveland, Oct. 11-13. Can Chem & Process Ind 34:899-900 N '50

Rubber plus chemistry. H. L. Fisher. J Chem Educ 28:328-31 Je '51

Rubber symposium. bibliog il diags Ind & Eng Chem 43:315-493 F '51

See also

Rubber—Reclaiming

Chlorination

Chlorination of natural and synthetic polyisoprenes. G. Kraus and W. B. Reynolds. bibliog diag Am Chem Soc J 72:5621-6 D '50

Color

Color reactions between silica pigments and certain accelerators and antioxidants. R. F. Wolf and others. bibliog(p 104) Rubber Age 69:55-6 Ap '51

Conservation

Rubber is scarce, make it last. Mill & Factory 48:128-9 Ap '51

Cracking

Review of the mechanism of flex-cracking and flex-cracking tests. J. M. Buist and G. E. Williams. bibliog India Rubber World 124:320-2, 447-9, 567-70 Je-Ag '51

Crystallization

Crystallization in unstretched rubber; microscopic study in polarized light. H. N. Campbell and M. D. Allen. bibliog il Ind & Eng Chem 43:413-15 F '51

Some properties of vulcanized rubber under strain; degree of crystallization as calculated from temperature coefficient of elastic tension. B. B. S. T. Boonstra. bibliog Ind & Eng Chem 43:362-5 F '51

Cutting

See Rubber cutting

Electric properties

Electrostatic potential bleed-off in rubber compounds. J. A. Hurry and others. il diags India Rubber World 124:689-95 S '51

Joining to metal

New process for bonding rubber to metal; Redux process. Light Metal Age 9:18 F '51; Chem Ind W 68:17 F 10 '51; Product Eng 22:150 Mr '51

Rubber to aluminum assembly. il Light Metal Age 9:24 Je '51

Study of bonded units. J. M. Buist and others. bibliog il diags Ind & Eng Chem 43:373-81 F '51

Joining to plastics

Power brushing operation roughens rubber back of plastic laminate. il Rubber Age 68:187 N '50

Manufacture

Boston rubber group fall meeting; panel discussion on compounding features. India Rubber World 123:203-7 N '50; Same. Rubber Age 68:188-94 N '50

Deresination as a means of improving the quality of guayule rubber. R. L. Chubb and others. bibliog il diags India Rubber World 123:557-62+ F '51

Raw materials for electric cable making; applications of compounded rubbers. V. H. Wentworth. il Electrician 146:29-39 Ja 5 '50

See also

Carbon black
Rubber—Reclaiming
Rubber, Artificial—Manufacture
Rubber chemicals
Rubber goods—Manufacture
Vulcanization

Mixing with resins

Banbury dispersion of high-styrene copolymer resins with rubber. H. S. Sell and R. J. McCutcheon. bibliog il Ind & Eng Chem 43:1234-43 My '51

Drop ball impact test shows resilience of rubber-phenolic plastics. Mach 57:190-1 Ja '51

Moisture content

Determination of moisture in rubber; apparatus developed by Max Tryon. Can Chem & Process Ind 35:297 Ap '51

Improved apparatus for determining moisture in rubber by distillation with toluene. M. Tryon. bibliog diag J Res Nat Bur Stand 45:362-6 N '50; Abstracts. Rubber Age 69:54 Ap '51; Franklin Inst J 252:169-70 Ag '51

RUBBER—*Continued*

Oxidation

Absorption of oxygen by ammonia-preserved rubber latex. J. McGavack and E. M. Bevilacqua. bibliog Ind & Eng Chem 43:475-9 F '51

Frosting of rubber; its occurrence, cause, prevention and nature. J. T. Beaudry. Rubber Age 69:429-32 Jl '51

Relation of peroxide decomposition to rubber degradation. C. E. Kendall. bibliog Ind & Eng Chem 43:452-5 F '51

Rubber oxidation and aging studies; safe limits of sample thickness. G. W. Blum, J. R. Shelton and H. Winn. bibliog il diags Ind & Eng Chem 43:464-71 F '51

Patents

Patents and trade marks. Published in monthly numbers of India rubber world

Prices

GSA cuts price of natural rubber to 52c as RFC extends 30-day credit on synthetic. Rubber Age 69:446 Jl '51

GSA reduces natural rubber price. A. J. Kraft. India Rubber World 124:461-2 Jl '51

OPS issues new price regulations for the rubber industry. Rubber Age 69:448 Jl '51

U.S. pares rubber prices. Bsns W p 101 Je 30 '51

Reclaiming

High-quality reclaim obtained at low cost with new mechanical process; Banbury-Lancaster method. D. A. Comes. il diags India Rubber World 124:175-7 My '51

How to slash devulcanizing time. il diag Chem Eng 58:192+ Jl '51

Preliminary metal removal eliminated in new rubber reclaiming process. flow sheet il Rubber Age 68:323-4 D '50

Rate of cure of present-day whole-tire reclaimed rubber. J. M. Ball and R. L. Randall. bibliog India Rubber World 124:53-7+ Ap '51

Reclaimed rubber in 1950. J. M. Ball. India Rubber World 124:63-4 Ap '51

Rubber reclaiming. R. N. Hader and D. S. le Beau. bibliog flow sheets il diags Ind & Eng Chem 43:250-63 F '51

Reinforcement

Direct reinforcement of natural rubber latex mixes; use of resorcinol-formaldehyde resins. J. Le Bras and I. Piccini. bibliog il Ind & Eng Chem 43:381-6 F '51

Dynamic study of reinforcement. J. R. S. Waring. bibliog il diags Ind & Eng Chem 43:352-62 F '51

Interaction between carbon black and polymer in cured elastomers. R. S. Stearns and B. L. Johnson. bibliog(53 ref) diag Ind & Eng Chem 43:146-54 Ja '51

Surface oxidation of furnace black and resulting rubber properties. M. R. Cines. bibliog Rubber Age 69:183-8 My '51

Vulcanization characteristics of *N,N'*-dithioamines in furnace black stocks. M. C. Throdahl and M. W. Harman. bibliog Ind & Eng Chem 43:421-9 F '51

Specifications

Automotive and aeronautical specifications revised by SAE-ASTM. Rubber Age 69:594 Ag '51

Standards

ISO rubber group meeting, Akron, Oct. 16-20. Rubber Age 68:212-13 N '50; India Rubber World 123:328-9 D '50

Rubber research institute of Malaya, a report on proceedings of international meeting on quality and grading of natural rubber, Kuala Lumpur, Sept. 12-14, 1949. India Rubber World 123:484+ Ja '51

Sulfur content

See also
Vulcanization

Temperature effect

Correlation of specification limits for gasket materials with simulated sub-zero service tests. E. F. Greenleaf. il Rubber Age 68:557-61 F '51

T-R (temperature-reaction) test for characterizing the low-temperature behavior of elastomeric compositions. J. F. Svetlik and L. R. Sperberg. bibliog India Rubber World 124:182-7 My '51

Testing

ASTM committee D-11 annual meeting, Atlantic City, June 20-22. India Rubber World 124:579-83 Ag '51

ASTM committee D-11 crude rubber subcommittee meeting, 4th, Washington, Feb. 27; abstracts of papers. India Rubber World 124:195-7 My '51

ASTM committee D-11 spring meeting, Cincinnati, March 9; abstracts of reports. India Rubber World 124:193-5 My '51

ASTM D-11 crude rubber subcommittee meeting, Akron, Oct. 14. India Rubber World 123:200-1 N '50

Autopneumatic apparatus for measuring stress relaxation. C. S. Wilkinson, jr. and S. D. Gehman. bibliog il diags Anal Chem 22:1439-43 N '50

Comparison of viscosities of rubbers from the McKee worker-consistometer and from the Mooney viscometer. A. B. Bestul and others. bibliog J Res Nat Bur Stand 46:283-7 Ap '51

Compressibility of natural and synthetic high polymers at high pressures. C. E. Weir. bibliog J Res Nat Bur Stand 46:207-12 Mr '51

Determination of intrinsic low stress properties of rubber compounds; use of inclined plane tester. W. B. Dunlap, jr., C. J. Glaser, jr. and A. H. Nellen. Anal Chem 23:638-43 Ap '51

Dynamic study of reinforcement. J. R. S. Waring. bibiog il diags Ind & Eng Chem 43:352-62 F '51

Elasticity of soft polymers; constant-stress elongation tests. C. A. Dahlquist, J. O. Hendricks and N. W. Taylor. bibliog il Ind & Eng Chem 43:1404-10 Je '51

Electrostatic potential bleed-off in rubber compounds. J. A. Hurry and others. il diags India Rubber World 124:689-95 S '51

Measurement of dynamic internal dissipation and elasticity of soft plastics. H. C. Rorden and A. Grieco. il diags J Ap Phys 22:842-5 Je '51

Ozonator for testing of rubber. diag Rubber Age 68:232 N '50

Photoelectric recording interferometer for measurement of dimensional changes. R. N. Work. diags J Res Nat Bur Stand 47:80-6 Ag '51

Primary creep and stiffness of vulcanized rubbers. D. H. Cooper. il Ind & Eng Chem 43:365-73 F '51

Recording torsion pendulum for the measurement of the dynamic mechanical properties of plastics and rubbers. L. E. Nielsen. bibliog diags R Sci Instr 22:690-3 S '51

Review of the mechanism of flex-cracking and flex-cracking tests. J. M. Buist and G. E. Williams. bibliog India Rubber World 124:320-2, 447-9, 567-70 Je-Ag '51

Rheometric tests and extrusion. S. Eccher. bibliog il diags Ind & Eng Chem 43:479-87 F '51

Testing vulcanised rubber. Chem Age (Lond) 63:851 D 16 '50

See also
Rubber laboratories

Textile use

Adhesion of rubber and textiles; effect of amount of spun staple yarn in textile. E. M. Borroff, R. S. Khot and W. C. Wake. il diag Ind & Eng Chem 43:439-42 F '51

See also
Rubberized fabrics

Transportation

RMA packing specifications for crude rubber should be made more specific. C. B. McKeown and T. E. Williams. il India Rubber World 123:683-5 Mr '51

Uses

Extensive utilization of rubber and plastic elastomers in the U.S. navy. T. A. Werkenthin. il Rubber Age 68:435-42 Ja '51

Vulcanization

See Vulcanization

RUBBER, Artificial

Additional experimental GR-S polymers and latices; Office of rubber reserve; list. India Rubber World 122:553+; 123:331; 124:446 Ag, D '50, Jl '51

Advances in the uses of rubber in engineering, 1949-50. L. E. Straka. il Rubber Age 68:445-53 bibliog(190 titles, p450-3) Ja '51; Same. India Rubber World 123:442-9 Ja '51; Abstract. Mech Eng 73:417-18 My '51

Application of fungicides to rubberlike polymers and related materials. R. Treichler. Rubber Age 69:579-80 Ag '51

Army needs for rubber-like materials; abstract. W. Stubblebine. India Rubber World 124:74-5 Ap '51

Automotive applications and special features of synthetic and natural rubbers. J. W. Liska. diags S A E J 59:22-5 My '51

Chemical engineering materials of construction; elastomers. H. L. Fisher. Ind & Eng Chem 43:2227-35 bibliog(161 ref, p2233-5) O '51

Designing with modern materials; survey of latest developments in engineering materials. il Machine Design 23:345-8 O '51

Direct forming of rubber and plastic products from dispersions. K. Rose. il Materials & Methods 34:64-7 Ag '51

Effect of synthetic elastomers on properties of petroleum asphalts. H. A. Endres and others. bibliog il Ind & Eng Chem 43:334-40 F '51

Engineering design with natural and synthetic rubbers; description and properties of 15 important elastic polymers. E. F. Riesing. il diags Product Eng 21:106-11 N; 104-7 D '50

Engineering properties of silicone rubbers. P. C. Servais. il Mech Eng 73:639-43 Ag '51

Extensive utilization of rubber and plastic elastomers in the U.S. navy. T. A. Werkenthin. il Rubber Age 68:435-42 Ja '51

Flying foam; combination of GR-A(butadiene-acrylonitrile) synthetic rubber and nylon. il Chem Ind W 68:13 Mr 3 '51

Industrial rubber; how much, how good, what kind? il Mod Ind 22:40-7 Ag '51

Molding the specialized plastics; silicone rubber. P. C. Servais and D. C. Youngs. il Mod Plastics 28:83-4 D '50

Molecular structure of styrene-butadiene copolymers; dynamic mechanical measurements. L. E. Nielsen, R. Buchdahl and G. C. Claver. bibliog Ind & Eng Chem 43:341-5 F '51

More rubber and cheaper; General Tire mixes oil with waste synthetic rubber. Bsns W p26 Je 23 '51

New polymers authorized by Office of rubber reserve, Reconstruction finance corporation (cont). Rubber Age 68:217, 593, 726; 69:79, 215, 459 N '50, F-My, Jl '51

New silicone elastomer retains properties over wide temperature range. il Materials & Methods 33:67-8 Ja '51

Nuclear magnetic resonance study of transitions in polymers. L. V. Holroyd and others. bibliog il diag J Ap Phys 22:696-705 Je '51

Plastics men quake at rubber plans; shortage of styrene monomer and benzene. Bsns W p68+ N 4 '50

Polysulfide liquid polymers. J. S. Jorczak and E. M. Fettes. bibliog Ind & Eng Chem 43:324-8 F '51

Problem of rubber in aircraft. Rubber Age 69:717 S '51

Producing synthetic rubber in Britain. Economist 159:1110 D 16 '50

Properties of Vulkollans. India Rubber World 124:364 Je '51

Raw materials for electric cable making; synthetic rubbers. Electrician 146:465-9 F 9 '51

Recent developments in the field of compounding in 1950. A. E. Juve. India Rubber World 124:445-6 Jl '51

Rubber speedup; General Tire's new process. Bsns W p26 N 18 '50

Rubberized asphalt sheeting performs job of metal flashing at fraction of cost; Nervastral Seal-Pruf. il diags Arch Forum 94:278 Mr '51

Rubberizing America's future. J. L. Collyer. il Dun's R 58:30-1+ N '50

Sorption of GR-S type rubber by carbon black; effect of variables on the sorption by Graphon. I. M. Kolthoff, R. G. Gutmacher and A. Kahn. bibliog J Phys & Colloid Chem 55:1240-6 O '51

Special-purpose rubbers; abstract. R. C. Bascom. India Rubber World 124:336 Je '51

Strain data as a basis for comparing cures of rubber compounds. J. W. Schade. India Rubber World 123:311-14 D '50

Stress-temperature studies of transitions in rubbers. R. S. Witte and R. L. Anthony. bibliog diags J Ap Phys 22:689-95 Je '51

Synthetic rubber back in spotlight; C&EN annual review. W. N. Munster and O. B. Hander. il Chem & Eng N 29:20-1 Ja 1 '51

Synthetic rubber competes for vital chemicals. J. T. Cox, jr. flow diag Chem Ind 67:734-9 N '50

Synthetic rubber O-ring seals. E. L. Carlotta. il diags Product Eng 22:130-5 Je '51

Synthetic rubber reactivation proceeding ahead of schedule. Rubber Age 68:330-1, 458 D '50-Ja '51

See also
Neoprene
Thiokol

Aging

Aging of black neoprene jackets. G. N. Vacca, R. H. Erickson and C. V. Lundberg. Ind & Eng Chem 43:443-6 F '51

Aging studies on redox polymers; effect of iron. C. R. Parks, J. O. Cole and J. D. D'Ianni. bibliog Ind & Eng Chem 42:2553-7 D '50

GR-S aging in solution. G. D. Jones and R. E. Friedrich. bibliog diags Ind & Eng Chem 43:1600-4 Jl '51

Rubber oxidation and aging studies; safe limits of sample thickness. G. W. Blum, J. R. Shelton and H. Winn. bibliog il diags Ind & Eng Chem 43:464-71 F '51

Weather aging of automotive rubber; abstract. H. A. Winkelmann. India Rubber World 123:208 N '50

Analysis

Determination of ash in GR-S synthetic rubbers and latices. F. J. Linnig and others. bibliog J Res Nat Bur Stand 47:135-8 S '51

Third annual review of analytical chemistry; natural and synthetic rubbers. N. Bekkedahl. Anal Chem 23:243-53 bibliog(219 ref, p251-3) F '51

Bibliography

Advances in the uses of rubber in engineering, 1949-50. L. E. Straka. il Rubber Age 68:450-3 Ja '51; Same. India Rubber World 123:447-9 Ja '51

Chemistry

Alfin-catalyzed GR-S type polymers. W. K. Taft and H. Goldsmith. bibliog Ind & Eng Chem 42:2542-6 D '50

ACS Division of rubber chemistry 58th meeting, Washington, February 28-March 2; with abstracts of papers. India Rubber World 123:575-82 F '51; Rubber Age 68:562-70 F '51

American chemical society Rubber division meeting, 59th, New York, Sept. 5-7; abstracts of papers. India Rubber World 124: 328-36 Je '51; Rubber Age 69:322-31 Je '51

Catalytic synthesis of thiols. M. W. Farlow, W. A. Lazier and F. K. Signaigo. bibliog Ind & Eng Chem 42:2547-9 D '50

International congress of pure and applied chemistry Elastomers and plastomers section meeting, New York, Sept. 10-13; program and abstracts of papers. India Rubber World 124:584-6 Ag '51; Rubber Age 69:581-3 Ag '51

Oxidation of olefins representing some structural units of GR-S. W. C. Warner and J. R. Shelton. bibliog il Ind & Eng Chem 43:1160-4 My '51

Peroxides from turpentine as catalysts for 5° C. GR-S polymerization. G. S. Fisher, and others. bibliog Ind & Eng Chem 43: 671-4 Mr '51

Joining to metal

Bonding butyl rubber to brass. R. W. Kaercher and G. W. Blum. bibliog(66 ref) il diag Ind & Eng Chem 43:488-93 F '51

RUBBER, Artificial—Joining to metal—*Cont.*

Chemical for bonding silicone rubber to metal surfaces. Mach 57:188 Je '51

Latex

Creaming latex with ammonium alginate; influence of particle size. E. Schmidt and R. H. Kelsey. bibliog il Ind & Eng Chem 43:406-12 F '51

Determination of stability of paint and paper coating latex. W. H. Watson and E. S. Graham. diags Paint Oil & Chem R 114:11+ My 24 '51

Developments in low-temperature polymerization of GR-S latex. H. S. Smith and others. bibliog il diags Ind & Eng Chem 43:212-16 Ja '51

Effect of certain latex variables in beater addition of nitrile rubber latices. D. M. Yost and W. H. Aiken. bibliog Tappi 34:30-9 Ja '51

Effect of certain papermaking variables upon beater addition of nitrile rubber latices. D. M. Yost and W. H. Aiken. Tappi 34:40-8 Ja '51

Effect of compounding variables on styrene-butadiene latex used for protective coatings for paper. M. E. Wendt and W. H. Aiken. bibliog Tappi 34:49-56 F '51

Latex particle size from X-ray diffraction peaks. K. L. Yudowitch. bibliog il diag J Ap Phys 22:214-16 F '51

Master batches from carbon blacks with GR-S latices. J. W. Adams, W. E. Messer and L. H. Howland. bibliog il diag Ind & Eng Chem 43:754-65 Mr '51

New cold synthetic rubber latex saves natural rubber. il Materials & Methods 34:10 Ag '51

Sodium polyacrylate as a latex thickener. W. D. Schroeder and G. L. Brown. bibliog Rubber Age 69:433-6 Jl '51

Manufacture

Aqueous dispersion of carbon blacks. E. M. Dannenberg and K. P. Seltzer. bibliog Ind & Eng Chem 43:1389-96 Je '51

Boston rubber group fall meeting; panel discussion on compounding features. India Rubber World 123:203-7 N '50; Same. Rubber Age 68:188-94 N '50

By-product of spruce wood seen as styrene substitute. K. A. Kobe and R. T. Romans. Rubber Age 68:586 F '51

Co-coagulation of rubbers and extenders; use of petroleum products. F. S. Rostler. Rubber Age 69:559-78 bibliog(86 titles, p577-8) Ag '51

Compounding of butyl rubber with fine particle silica. R. F. Wolf and F. W. Gage. India Rubber World 123:565-9 F '51

Dehydrogenation of *p*-cymene. K. A. Kobe and R. T. Romans. bibliog diag Ind & Eng Chem 43:1755-8 Ag '51

Design of a continuous cold rubber process. M. W. Larson. il diags Chem Eng Prog 47:270-4 My '51

Effect of air on Banbury breakdown of low temperature polymers. G. J. Tiger, M. H. Reich and W. K. Taft. bibliog Ind & Eng Chem 42:2562-9 D '50

Effect of colloidal noncarbon pigments on elastomer properties. E. Schmidt. bibliog il Ind & Eng Chem 43:679-83 Mr '51

Ester plasticizers for low temperature rubber compounding. W. A. Woodcock. bibliog(p 104) Rubber Age 69:51-3 Ap '51

First reactivated plant opens as synthetic problems mount. Rubber Age 68:204-5 N '50

Hydrogenated rosin in cold rubber tire tread stocks; Staybelite. L. O. Amberg. bibliog Rubber Age 69:191-9 My '51

Master batches from carbon blacks with GR-S-latices. J. W. Adams, W. E. Messer and L. H. Howland. bibliog il diag Ind & Eng Chem 43:754-65 Mr '51

Oil-extended synthetic rubber including oil-masterbatched GR-S. J. D. D'Ianni and others. bibliog il Rubber Age 69:317-21 Je '51

Petrochemicals in synthetic rubber production. R. R. Emmerson. Can Chem & Process Ind 35:288-90+ Ap '51

Polymerization recipes for 41°F. sugar-free redox systems. V. C. Neklutin, C. B. Westerhoff and L. H. Howland. bibliog Ind & Eng Chem 43:1246-52 My '51

Production and utilization of high Mooney viscosity synthetic rubber. H. D. Harrington and others. India Rubber World 124:435-42, 571-5 Jl-Ag '51

Properties of new synthetic rubbers and plastics. G. B. Bachman and others. bibliog Ind & Eng Chem 43:997-1002 Ap '51

Study of plasticized high Mooney viscosity synthetic rubbers. G. H. Swart and others. India Rubber World 124:309-19 Je '51

Synthetic problem; materials. Bsns W p47-8+ D 2 '50

Synthetic snaps back. il Chem Eng 57:211-12+ N '50

Waste disposal at a synthetic rubber plant. L. D. Dougan and J. C. Bell. diag Sewage & Ind Wastes 23:181-7 F '51

Mixing with resins

Rubber-phenolic materials for greater impact strength. W. Goss. il Product Eng 22:137-41 Ja '51

Rubber-phenolic molding materials. W. Goss. il Mod Plastics 28:100+ Mr '51

Oxidation

Permanganate oxidation of polybutadiene rubbers. F. J. Naples and J. D. D'Ianni. bibliog Ind & Eng Chem 43:471-5 F '51

Reinforçement

Effect of coprecipitation conditions on filtration and properties of lignin reinforced GR-S. J. J. Keilen and others. diag India Rubber World 124:178-81 My '51

Elastic modulus and swelling of butyl vulcanizates; influence of fillers. R. L. Zapp and E. Guth. bibliog il Ind & Eng Chem 43:430-8 F '51

Research

Co-coagulation of rubbers and extenders; use of petroleum products. F. S. Rostler. Rubber Age 69:559-78 bibliog(86 titles, p577-8) Ag '51

Effect of coprecipitation conditions on filtration and properties of lignin reinforced GR-S. J. J. Keilen and others. diag India Rubber World 124:178-81 My '51

Production and utilization of high Mooney viscosity synthetic rubber. H. D. Harrington and others. India Rubber World 124:435-42, 571-5 Jl-Ag '51

Study of plasticized high Mooney viscosity synthetic rubbers. G. H. Swart and others. India Rubber World 124:309-19 Je '51

Study of styrene-butadiene copolymers. E. B. Storey and H. L. Williams. bibliog Rubber Age 68:571-7 F '51

Specifications

Automotive and aeronautical specifications revised by SAE-ASTM. Rubber Age 69:594 Ag '51

Temperature effect

Butyl acrylate-acrylonitrile rubbers resistant to heat, oils and low temperatures. T. J. Dietz and J. E. Hansen. bibliog Rubber Age 68:699-700+ Mr '51

Correlation of specification limits for gasket materials with simulated sub-zero service tests. E. F. Greenleaf. il Rubber Age 68:557-61 F '51

T-R (temperature-reaction) test for characterizing the low-temperature behavior of elastomeric compositions. J. F. Svetlik and L. R. Sperberg. bibliog India Rubber World 124:182-7 My '51

Testing

Butyl acrylate-acrylonitrile rubbers resistant to heat, oils and low temperatures. T. J. Dietz and J. E. Hansen. bibliog Rubber Age 68:699-700+ Mr '51

Compounding acrylonitrile-type rubber for low temperature flexibility. R. A. Clark and J. B. Dennis. bibliog Ind & Eng Chem 43:771-8 Mr '51

Compressibility of natural and synthetic high polymers at high pressures. C. E. Weir. bibliog J Res Nat Bur Stand 46:207-12 Mr '51

Dynamic shear properties of rubberlike polymers. I. L. Hopkins. il diags A S M E Trans 73:195-203; Discussion. 203-4 F '51

RUBBER, Artificial—Testing—*Continued*
Evaluation of various torsion wires for the Gehman apparatus used for determining low-temperature stiffness of elastomers. B. G. Labbe. il India Rubber World 124:443-4 Jl '51
Low temperature flexibility tester. M. A. Pollack and others. il Rubber Age 69:713-17 S '51
McKee worker-consistometer with constant-speed drives. S. A. McKee and H. S. White. il diags J Res Nat Bur Stand 46:18-29 Ja '51
Rheometric tests and extrusion. S. Eccher. bibliog il diags Ind & Eng Chem 43:479-87 F '51
Studies of relaxation characteristics of non-metallic gasket materials. R. G. Farnam. diag India Rubber World 123:679-82+ Mr '51; Abstract. Mech Eng 73:510-11 Je '51

Tire use

Hydrogenated rosin in cold rubber tire tread stocks; Staybelite. L. O. Amberg. bibliog Rubber Age 69:191-9 My '51
Low cost rubber compounds for high mileage tires. il Automotive Ind 105:47 Ag 1 '51
Production and utilization of high Mooney viscosity synthetic rubber. H. D. Harrington and others. India Rubber World 124:435-42, 571-5 Jl-Ag '51
Utilization of butyl rubber in automotive inner tubes. D. J. Buckley, E. T. Marshall and H. H. Vickers. bibliog il diag Ind & Eng Chem 42:2407-13 D '50

Vulcanization

See Vulcanization

RUBBER, Effect of ozone on
Study of the factors affecting the weathering of rubber-like materials. E. W. Ford and L. V. Cooper. bibliog il diags India Rubber World 124:696-8+; 125:55-60 S-O '51

RUBBER, Reclaimed. See Rubber—Reclaiming

RUBBER, Sponge
Method to produce cellular rubber from latex. India Rubber World 123:606+ F '51
Sponge rubber blowing agent. Chem Eng 58:165 Jl '51
Swelling and tensile characteristics of crude sponge rubber immersed in common oils and solvents; engineering file facts. Materials & Methods 34:115 S '51

RUBBER cement
Distillation of rubber cement. J. L. Been, M. M. Grover and K. J. Ewing. Anal Chem 23:813 My '51

RUBBER chemicals
Polymer corporation develops new polymeric material; Polysar Krynol. Can Chem Process 35:555+ Jl '51
Rubber chemicals; enough. il Chem W 69:37 Jl 21 '51
Service lab aids salesmen; Sharples Chemical's sales service laboratory; illustrations with text. Chem Ind W 68:14-15 Mr 17 '51
Sodium polyacrylate as a latex thickener. W. D. Schroeder and G. L. Brown. bibliog Rubber Age 69:433-6 Jl '51
Synthetic rubber competes for vital chemicals. J. T. Cox, jr. flow diag Chem Ind 67:734-9 N '50
U.S. production and sales of rubber processing chemicals, 1950; table. Rubber Age 69:741 S '51
See also
Butadiene
Vulcanization—Accelerators

RUBBER coating
Aging of black neoprene jackets. G. N. Vacca, R. H. Erickson and C. V. Lundberg. Ind & Eng Chem 43:443-6 F '51
Neoprene protective coating. Chem Eng 58:166 Ap '51
Sinclair evaluates neoprene coatings for tanker fleet. W. N. Damonte and T. T. Wilkinson. il diag Marine Eng 56:40-7 O '51
Spray gun for polymeric emulsions and solutions. C. A. Nielson and F. Leonard. diags Ind & Eng Chem 43:765-6 Mr '51

RUBBER cutting
Fixtures aid in sharpening dies used to cut rubber tensile test specimens. R. H. Taylor. il India Rubber World 123:441+ Ja '51

RUBBER dies. See Dies, Rubber

RUBBER factories
See also
Rubber—Reclaiming
Tire factories

Accidents

Recent reports of avoidable accidents (cont). Rubber Age 68:324, 442; 69:199 D '50-Ja, My '51

Electric equipment

Electronic metal detector protects calender rolls. il Rubber Age 69:316 Je '51

Employees

Sixth round pierces ten per cent formula. Bsns W p38+ Ag 11 '51
United States rubber industry employment, wages, hours; tables. India Rubber World 124:590 Ag '51

Equipment

Arrowhead's new rubber factory. il Rubber Age 69:57-8 Ap '51
Integrated system doubled our production; handling methods at Ohio rubber co. M. D. Covert. il Factory Management 109:88-90 My '51
Precision and accuracy of orifice-meter installations. L. V. Cunningham, jr. il diags Mech Eng 72:979-83 D '50; Same. Pet Processing 5:1312-17 D '50; Discussion. Mech Eng 73:434-5 My '51
Substitutes porcelain enamel for metals in synthetic unit. Rubber Age 69:595 Ag '51; Steel 129:96 Ag 27 '51
Zipper conveyor belt for carbon black handling at Goodrich. il Rubber Age 69:188 My '51
See also
Rubber machinery

Management

Akron rubber group symposium on statistical quality control. India Rubber World 123:690-3 Mr '51; Same. Rubber Age 68:701-6 Mr '51

Safety measures

Mechanical noses sniff escaping gas; Goodyear tire and rubber co., Akron. il Nat Safety N 63:52-3 Ja '51

RUBBER footwear. See Shoes, Rubber

RUBBER goods
Army needs for rubber-like materials; abstract. W. Stubblebine. India Rubber World 124:74-5 Ap '51
Case history of a new aggressive merchandizer, aged 100; American Hard Rubber combs and bowling balls. D. Williamson. il Ptr Ink 233:31-3+ N 17 '50
Developments in various countries; rubber and products. Published in Foreign commerce weekly
How to boost sales 10,000 per cent; Jim Caldwell and Wooster rubber company. L. M. Hughes. il Sales Management 65:37-40+ N 10 '50
Synthetic fibers in the rubber industry. E. Weller. il Rayon 32:39-41+ Ag '51
See also
Hose
Molds (for rubber)
Printing plates, Rubber
Rubber lining
Shoes, Rubber
Tires, Rubber

Manufacture

Dimensional tolerance system for molded hard rubber parts. W. L. Harnevious. diags Product Eng 22:124-5 Ap '51
Direct forming of rubber and plastic products from dispersions. K. Rose. il Materials & Methods 34:64-7 Ag '51
Handling system reduces production costs of rubber parts. il Rubber Age 69:315 Je '51
Hard rubber finishing; steering wheels for automobiles, trucks, tractors, etc. H. R. Bennett. Rubber Age 69:437-8 Jl '51
Tailoring the finish to the job and the job to the finish. M. J. Gordon. il Rubber Age 69:439-40 Jl '51
Unique conveyor drying system improves mass production of latex rubber novelties. il Rubber Age 69:189-90 My '51

RUBBER goods—*Continued*

Prices

OPS announces new ceilings for wide range of rubber products. Rubber Age 69:592-3 Ag '51

Testing

ASTM committee D-11 annual meeting, Atlantic City, June 20-22. India Rubber World 124:579-83 Ag '51

RUBBER goods, Mechanical

Factors influencing design of natural and synthetic rubber parts. E. F. Riesing. il diags Product Eng 21:104-7 D '50

How to get most service from rubber-covered rolls. A. C. Lutz. il Paper Tr J 132:56-7 Je 15 '51

Mechanical rubber goods; use by the metalworking industry in 1950; tabulation. Iron Age 167:352 Ja 4 '51

Nylon-in-rubber diaphragm improves regulation. diag Product Eng 22:165 Mr '51

Reduction of vibration and sound transmission with rubber mountings. A. Pfenninger, jr. il Tool Eng 26:41-4 Mr '51

Rubber chucks set up small parts. D. G. Nolle. diags Am Mach 95:134 Ag 6 '51

Rubber goods; what metalworking needs and will get. O. L. Johnson. Iron Age 166:57-9 D 28 '50

Rubber valves for industrial uses. il Engineering 172:287 Ag 31 '51

Special valves have synthetic rubber parts. Product Eng 21:104-5 N '50

Synthetic rubber O-ring seals. E. L. Carlotta. il diags Product Eng 22:130-5 Je '51

Textile specialty line announced by U.S. Rubber. il Textile World 101:137-8+ Jl '51

Toothed rubber belt assures split-second timing. il Steel 128:71 Ja 29 '51

RUBBER heels. See Heels, Rubber

RUBBER hose. See Hose

RUBBER industry and trade

Ample consumer products is aim of U.S. rubber policy; discussion at Chemical market research association annual meeting, New York, June 7. Chem & Eng N 29:2464+ Je 18 '51

Chemical market research association meeting, New York, June 7. India Rubber World 124:458-9 Jl '51

Chemical progress during the 75 years of the American chemical society; rubber chemistry. R. P. Dinsmore. bibliog(72 ref) il Ind & Eng Chem 43:795-803 Ap '51

Collyer asks desocialization of rubber industry in America. Rubber Age 69:721 S '51

Developments in various countries; rubber and products. Published in Foreign commerce weekly

Free rubber market may be on way out. Barron's 30:30 D 11 '50

International rubber study group meeting, 8th, Rome. Rubber Age 69:212 My '51

London rubber parley. India Rubber World 123:701-2 Mr '51

Malayan export tax seen forcing rubber out; effect on U.S. supply. Barron's 30:22 N 27 '50

No rubber for China. Economist 160:1188 My 19 '51

Oversupply of rubber? no, say the experts. map Mod Ind 22:74-5 Ag '51

Paradox of rubber. Economist 160:1387-9 Je 9 '51

Preparedness in rubber; abstract. A. Wolff. India Rubber World 124:74 Ap '51

Preparedness subcommittee issues second report on rubber. Rubber Age 68:332 D '50

Recent developments in the field of compounding in 1950. A. E. Juve. India Rubber World 124:445-6 Jl '51

Red threat and stockpile keep rubber price high. Barron's 30:27-8 O 30 '50

Rubber for the West. Economist 160:333-4 F 10 '51

Rubber; government and glut. il Fortune 44:94-5+ O '51

Rubber in 1950; year of records and changes. W. N. Small. il For Comm W 42:3-4+ F 12 '51

Rubber industry wins back some freedom. Barron's 31:27-8 Je 11 '51

RMA in annual review. India Rubber World 123:467-8 Ja '51

Rubber manufacturers association year-end statement cites production and consumption records. Rubber Age 68:462 Ja '51

Rubber manufacturing activities in various foreign countries. Rubber Age 68:444, 708 Ja, Mr '51

Rubber prices drop as controls tighten. Barron's 31:34-5 Ja 8 '51

Rubber prices reflect big U.S. consumption. Barron's 31:17-18 Ap 30 '51

Rubber relaxes. Bsns W p22 Jl 14 '51

Rubber shipments to China banned by British government. Rubber Age 69:207 My '51

Rubberizing America's future. J. L. Collyer. il Dun's R 58:30-1+ N '50

Senate committee says rubber situation improving. R. Gibbs. Chem & Eng N 28:4420 D 18 '50

Senate subcommittee urges speedier attainment of stockpile. Rubber Age 69:722 S '51

Singapore and the rubber embargo. Economist 160:1178+ My 19 '51

See also

Firestone tire and rubber company

Goodyear tire and rubber company

Tennis balls—Manufacture

Tire industry and trade

United States rubber company

Advertising

Case history of a new aggressive merchandiser, aged 100; American Hard Rubber combs and bowling balls. D. Williamson. il Ptr Ink 233:31-3+ N 17 '50

Industrial advertiser in short supply is shifting to service theme; Quaker rubber corp. il Ptr Ink 235:27 My 11 '51

What to do about the summer slump; Wooster rubber co. il Ptr Ink 236:27-9 Jl 20 '51

Directories

Directory of materials; rubber for chemical manufacture. Chem Eng 57:153-4 N '50

Rubber red book; directory of the rubber industry, 1951-52. 8th ed 1011p $7.50 Rubber age, 250 W. 57th st, New York 19 '51

History

Some of the real pioneers of the rubber industry. C. C. Davis. bibliog il India Rubber World 123:433-40+ Ja '51

Regulation

Bid for softer rubber controls. Bsns W p26 N 11 '50

GSA named sole natural rubber importer under new controls established by NPA; with text of rubber import control order. Rubber Age 68:455-6 Ja '51

Government rubber program; abstract. E. G. Holt. India Rubber World 124:73-4 Ap '51

NPA issues revised order limiting natural use during remainder of 1950. Rubber Age 68:201-2 N '50

NPA limits rubber uses. il Chem Ind W 68:40+ Mr 17 '51

Rubber controls relaxed owing to ample supply. Barron's 31:19 S 3 '51

Senate subcommittee on rubber opens hearings on allocation. Rubber Age 69:64-6 Ap '51

Still chance for rubber easeup. Bsns W p 160 S 15 '51

Stockpile eases rubber buying; NPA boosts April allocation. Bsns W p26 Ap 7 '51

U.S. stepping in; government to take over buying of all natural rubber. Bsns W p76 D 9 '50

Securities

Another look at the rubbers; with position of leading tire and rubber companies. R. Colston. Mag of Wall St 88:616-17+ S 8 '51

Bounce in the rubber industry; with statistical position of leading tire and rubber companies. H. F. Travis. Mag of Wall St 87:674-5+ Mr 24 '51

Statistics

Reports of rubber activities in various foreign countries. Rubber Age 69:706 S '51

Where is rubber going? with data on 1950 exports of rubber from Malaya and Indonesia. Economist 160:39-40 Ja 6 '51

RUBBER industry and trade—*Continued*

Argentina

Rubber shortage hits Argentina. India Rubber World 124:695 S '51

Australia

Rubber and plastics industries gaining in Australia. India Rubber World 124:187 My '51

Belgium

Belgian rubber goods production and trade. For Comm W 43:32 Ap 30 '51

Borneo

West Borneo. A. P. A. Vink. India Rubber World 124:614+ Ag '51

Ceylon

1950 record year for Ceylon. For Comm W 42:28 F 26 '51

Congo, Belgian

Rubber output in Belgian Congo. For Comm W 43:22-3 My 21 '51

Finland

Finland's rubber industry restricted by high prices. For Comm W 43:32 Ap 30 '51

France

Rubber consumption down in first half of 1950. India Rubber World 123:490-1 Ja '51

Germany

Rubber industry in allied zones during first half of 1950. India Rubber World 123:362 D '50

Great Britain

How FBRMA helps the rubber industry. T. H. Redfern. India Rubber World 124:734+ S '51

Producing synthetic rubber. Economist 159: 1110 D 16 '50

Recent rubber developments in Great Britain. India Rubber World 123:604+ F '51

Indonesia

Indonesia's rubber industry progresses. For Comm W 41:23 N 13 '50

Italy

Italian rubber-goods production in 1950. For Comm W 43:32 Ap 30 '51

Japan

Japan's rubber-goods industry. For Comm W 43:18+ Ap 23 '51

Malayan Union

Government plans for rubber. India Rubber World 124:742 S '51

Increased rubber export duty under new formula. For Comm W 42:23 F 19 '51

Malayan rubber tax modified. Economist 159: 1022-3 D 9 '50

Malaya's rubber industry in 1950; with comparisons for 1949. India Rubber World 124: 482+ Jl '51

New rubber duty in Malaya; with tabulation of export duty. Economist 159:768-9 N 11 '50

1950 a record year for Malaya. For Comm W 42:22+ Mr 5 '51

Opposition to the Malayan rubber tax. Economist 159:833-4 N 18 '50

Reconsideration for the rubber tax. Economist 159:914 N 25 '50

Report on the technical grading of natural rubber in Malaya. Rubber Age 68:584 F '51

Peru

Production and consumption in Peru, 1950. For Comm W 42:22 Mr 5 '51

Poland

Polish rubber industry. India Rubber World 123:610 F '51

South Africa

Rubber-goods industry, Union of South Africa. For Comm W 42:20-1 Ja 22 '51

Sweden

Swedish industry expanding. For Comm W 41:21-2 O 30 '50

RUBBER laboratories

Cornell university establishes Geer laboratory. Rubber Age 69:728 S '51

New latex laboratory; rubber chemicals division of E. I. du Pont de Nemours & co. il India Rubber World 124:717 S '51

RUBBER latex

Absorption of oxygen by ammonia-preserved rubber latex. J. McGavack and E. M. Bevilacqua. bibliog Ind & Eng Chem 43: 475-9 F '51

Characteristics of Positex; a natural rubber latex modified for textile finishing. C. M. Blow. il diags Rubber Age 68:319-21 D '50

Copper compounds in latex and in rubber. G. J. van der Bie. bibliog(61 titles) diag Rubber Age 69:309-15 Je '51

Creaming latex with ammonium alginate; influence of particle size. E. Schmidt and R. H. Kelsey. bibliog il Ind & Eng Chem 43:406-12 F '51

Direct reinforcement of natural rubber latex mixes; use of resorcinol-formaldehyde resins. J. Le Bras and I. Piccini. bibliog il Ind & Eng Chem 43:381-6 F '51

Esterase in latex of hevea brasiliensis. L. N. S. De Haan-Homans. bibliog Ind & Eng Chem 43:403-6 F '51

Influence of soaps on gelling characteristics of hevea latices. D. J. McKeand. Ind & Eng Chem 43:415-20 F '51

Kinetics of cyclization of hevea latex. M. Gordon. bibliog il Ind & Eng Chem 43: 386-93 F '51

Latex industry, 1950. G. R. Vila. India Rubber World 124:446 Jl '51

Natural latex today; centrifugal and electrolytic concentration at Dunlop rubber plantations in Malaya. E. A. Murphy. il Can Chem & Process Ind 34:975-8 D '50

Plastics from natural rubber. G. Salomon and others. bibliog Ind & Eng Chem 43: 315-19 F '51

Properties of natural rubber latex from clonal and seedling trees of hevea brasiliensis. G. A. Kidder. India Rubber World 124:563-6+, 699-701 Ag-S '51

Quebrachitol; cyclic polyalcohol from natural rubber latex. J. van Alphen. bibliog(42 ref) Ind & Eng Chem 43:141-5 Ja '51

Rubber hydrocarbons in freshly tapped hevea latex; abstract. G. F. Bloomfield. Rubber Age 69:581 Ag '51

Sodium polyacrylate as a latex thickener. W. D. Schroeder and G. L. Brown. bibliog Rubber Age 69:433-6 Jl '51

See also

Rubber, Artificial—
Latex

RUBBER lining

Construction materials in the paper industry. J. P. McNamee. Chem Eng 57:262-4 N; 228 D '50; 58:222 Ja '51

Operating precautions to be taken with rubber lined pipe and valves. Heat & Ven 48:98+ S '51

Rubber lined pump. il Engineer 191:491 Ap 13 '51

RUBBER machinery

All welded support for multiple platen press; comparison with riveted design; with cost data. O. E. Hermanns. il diags Rubber Age 69:707-12 S '51

Calenders for rubber and plastics. E. H. Johnson. il diags India Rubber World 123:315-20 D '50

Hydraulic presses and hydraulic press users. H. A. Trishman. il diags India Rubber World 123:673-8 Mr '51

Pressures developed by viscous materials in the screw extrusion machine. W. T. Pigott. bibliog A S M E Trans 73:947-54; Discussion. 954-5 O '51

See also

Rolls (rubber machinery)

Safety devices

Safety device for use with laboratory-size rubber mills. A. J. Poynton. il Rubber Age 68:707-8 Mr '51; Same. Nat Safety N 64:40 Ag '51

RUBBER masks. See Masks, Rubber

RUBBER plantations

Natural latex today; centrifugal and electrolytic concentration at Dunlop rubber plantations in Malaya. E. A. Murphy. il Can Chem & Process Ind 34:975-8 D '50

RUBBER plants and planting

Formula fed. il Chem Ind W 68:18-19 F 17 '51

Properties of natural rubber latex from clonal and seedling trees of hevea brasiliensis. G. A. Kidder. India Rubber World 124:563-6+, 699-701 Ag-S '51

Rapid extraction of resins from wild rubbers. Franklin Inst J 251:269-70 F '51

Rubber checkup; wild rubber research program broadens. Bsns W p48+ Ja 6 '51

Studies on pollination of hevea brasiliensis in Puerto Rico. H. E. Warmke. bibliog Science 113:646-8 Je 8 '51

Variability of Malayan rubber. R. G. Newton and others. il Ind & Eng Chem 43:329-34 F '51

See also

Chilte

Guayule

RUBBER plates. See Printing plates, Rubber

RUBBER producers' research association, British. See British rubber producers' research association

RUBBER reclaiming. See Rubber—Reclaiming

RUBBER research

Autopneumatic apparatus for measuring stress relaxation. C. S. Wilkinson, jr. and S. D. Gehman. bibliog il diags Anal Chem 22:1439-43 N '50

British rubber producers' research association report for 1950. Rubber Age 69:734 S '51

Comment on Relationship between Gough-Joule coefficients and moduli of vulcanized rubbers by F. S. Conant, G. L. Hall and G. R. Thurman. M. Mooney. J Ap Phys 21:1338 D '50

Compounding acrylonitrile-type rubber for low temperature flexibility. R. A. Clark and J. B. Dennis. bibliog Ind & Eng Chem 43:771-8 Mr '51

Copper compounds in latex and in rubber. G. J. van der Bie. bibliog(61 titles) diag Rubber Age 69:309-15 Je '51

Creaming latex with ammonium alginate; influence of particle size. E. Schmidt and R. H. Kelsey. bibliog il Ind & Eng Chem 43:406-12 F '51

Dynamic properties of raw and vulcanized polymers. R. S. Enabnit and S. D. Gehman. bibliog diags Ind & Eng Chem 43:346-51 F '51

Frosting of rubber; its occurrence, cause, prevention and nature. J. T. Beaudry. Rubber Age 69:429-32 Jl '51

Interaction between carbon black and polymer in cured elastomers. R. S. Stearns and B. L. Johnson. bibliog(53 ref) diag Ind & Eng Chem 43:146-54 Ja '51

Properties of natural rubber latex from clonal and seedling trees of hevea brasiliensis. G. A. Kidder. India Rubber World 124:563-6+, 699-701 Ag-S '51

Rapid extraction of resins from chilte and guayule rubbers. J. W. Wood and R. J. Fanning. il Rubber Age 68:195-7 N '50

Retraction test for serviceability of elastomers at low temperatures. O. H. Smith and others. bibliog il Anal Chem 23:322-7 F '51

Rheology of rubber solutions and suspensions. L. Leaman. bibliog(53 ref) Rubber Age 69:699-706 S '51

Stress-strain properties of natural rubber under biaxial strain. B. B. S. T. Boonstra. bibliog diags J Ap Phys 21:1098-104 N '50

Study of the factors affecting the weathering of rubber-like materials. E. W. Ford and L. V. Cooper. bibliog il diags India Rubber World 124:696-8+; 125:55-60 S-O '51

See also

British rubber producers' research association

Rubber laboratories

Bibliography

Technical publications of BRPRA made available. Rubber Age 68:722; 69:86, 466 Mr-Ap, Jl '51

RUBBER shoes. See Shoes, Rubber

RUBBER soles. See Soles, Rubber

RUBBER technology

Study and teaching

National college of rubber technology. Chem & Ind p43 Ja 20 '51

RUBBER thread

Rubber-sulfur dioxide thread. India Rubber World 123:185 N '50

RUBBER tires. See Tires, Rubber

RUBBER toys

Defense effort affects toy fair. India Rubber World 124:96 Ap '51

Sale I never forgot; out of the mouths of babes, a new business; dolls' hot water bottle. T. W. Smith, jr. Ptr Ink 234:50+ Mr 16 '51

RUBBER waste

See also

Rubber—Reclaiming

RUBBER workers of America, United. See United rubber workers of America

RUBBERIZED fabrics

Adhesion of rubber and textiles; effect of amount of sun staple yarn in textile. E. M. Borroff, R. S. Khot and W. C. Wake. il diag Ind & Eng Chem 43:439-42 F '51

Characteristics of Positex; a natural rubber latex modified for textile finishing. C. M. Blow. il diags Rubber Age 68:319-21 D '50

Collapsible drum; flexible rubber-fabric container can be deflated for return shipment. il Mod Packaging 24:89 My '51; Metal Finishing 49:84-5 Je '51; Rubber Age 69:211 My '51

Copper in textiles to be rubberized; proposed new method for determination of injurious copper. M. W. Weiss and others. bibliog Am Dyestuff Rep 40:41-3 Ja 22 '51

Non-injurious copper in textiles to be rubberized. S. Lee and others. bibliog India Rubber World 124:58-61 Ap '51

RUBEANIC acid. See Dithio-oxamide

RUBIDIUM

Radioactive strontium produced by deuteron bombardment of rubidium. M. Ter-Pogossian and F. T. Porter. Phys R 81:1057-8 Mr 15 '51

Uptake of alkali metals by bacteria. T. C. N. Carroll and others. Chem Soc J p946-9 Mr '50

Analysis

Analytical chemistry of the less common alkali metals; rubidium and caesium. T. S. West. bibliog Chem Age (Lond) 65:467-70+ O 6 '51

Quantitative spectrochemical analysis of rubidium in lepidolite. L. H. Ahrens and L. G. Gorfinkle. Am J Sci 249:451-6 Je '51

Isotopes

Disintegration of Rb^{88}. M. E. Bunker and others. bibliog Phys R 81:30-2 Ja 1 '51

Gamma-alpha-reaction in Rb^{87}. R. N. H. Haslam and H. M. Skarsgard. bibliog Phys R 81:479-80 F 1 '51

Nuclear magnetic moment of Rb^{85}, Rb^{87}, and I^{127}. E. Yasaitis and B. Smaller. Phys R 82:750 Je 1 '51

Radioactive isotopes of rubidium. D. G. Karraker and D. H. Templeton. Phys R 80:646-50 N 15 '50

Shape of the low energy beta-spectrum of Rb^{86}. H. R. Muether and S. L. Ridgway. bibliog Phys R 80:750-1 N 15 '50

RUBIDIUM bromide

Polymorphism of RbBr. L. G. Schulz. J Chem Phys 19:504 Ap '51

RUBIDIUM iodide

Energy distribution of external photoelectrons from *F*-centers in RbI. L. Apker and E. Taft. bibliog diag Phys R 82:814-19 Je 15 '51

Exciton-enhanced photoelectric emission from *F*-centers in RbI near 85° K. L. Apker and E. Taft. bibliog diags Phys R 81:698-701 Mr 1 '51

External photoelectrons from *F'*-centers in RbI. E. Taft and L. Apker. Phys R 83:479-80 Jl 15 '51

Mechanism of exciton-enhanced photoelectric emission in alkali halides. M. H. Hebb. Phys R 81:702-5 Mr 1 '51

RUBIDIUM sulfate
Systems Ag_2SO_4-Rb_2SO_4-H_2O and Ag_2SO_4-Cs_2SO_4-H_2O at 25°. W. C. von Dohlen and E. L. Simons. Am Chem Soc J 73:461-2 Ja '51

RUBIES
Ruby and sapphire in Canada. D. S. M. Field. il diag Can Min J 72:75-7 Jl '51

RUDD, Wortley Fuller, 1876-1950
Sketch. R. B. Smith. Science 112:589 N 17 '50

RUFFIN, William Haywood
New president of National association of manufacturers. por Bsns W p26 D 9 '50
Portrait. Fortune 43:15 Ja '51

RUGS
Report on habits and attitudes concerning rugs and carpets. E. Roper. Textile Res J 21:604-5 Ag '51; Same. Textile Inst J 42: P815-16 Ag '51
See also
Carpets

RUHR valley
German industry reaches a landmark; reorganisation of the Ruhr. Economist 159: 816+ N 18 '50
Who shall own the Ruhr? Economist 160:1379, 1428 Je 9-16 '51

RULES (printing). See Printing, Practical—Ruling

RULING machines
Interferometric calibration of precision screws and control of ruling engines; Commensurator. G. R. Harrison and J. E. Archer. bibliog il diags Opt Soc Am J 41:495-503 Ag '51
New Johns Hopkins ruling engine. J. Strong. il diags Opt Soc Am J 41:3-15 Ja '51

RUM
Ferment in rum; tie-in sales on Scotch worry Bacardi imports. Bsns W p 116 Mr 17 '51
Rum imports rise; but not drinking. Bsns W p 126 My 26 '51

RUMANIA
See also
Petroleum industry and trade—Rumania

Economic policy

Five-year plan introduced. For Comm W 42: 26 F 19 '51

Politics and government

Rumania conforms to Communist pattern. Economist 160:87-8 Ja 13 '51

RUMELY, Edward A.
Contempt charge. Ed & Pub 84:104 Ap 21 '51

RUML, Beardsley
Bucking the excess-profits tax. Bsns W p24 N 4 '50

RUN-OFF
Snow survey determines runoff water. il Elec World 136:112 Ag 27 '51
Urban runoff data studied in Urbana by University of Illinois. M. O. Schmidt. Eng N 146:43 Ap 26 '51

RUNWAYS. See Airports—Runways

RUNYON awards
Walter Winchell announces new Runyon awards. Ed & Pub 84:14 My 26 '51

RURAL electrification administration
Butterfly statistics; administration uses them in its rural electrification campaign. E. R. Abrams. Barron's 31:11 O 8 '51
Future of REA. C. R. Wickard. Pub Util 47:798-800 Je 7 '51
How will we keep the REA co-ops down on the farm? B. Tackett. Pub Util 47:13-20 Ja 4 '51
Power fracas; loans to Missouri co-ops. Bsns W p 104 N 18 '50
Power use on systems financed by REA show gain of 25 per cent in 1950. Elec World 135: 43 Ja 15 '51
REA develops new unit, trouble-shooting team. Pub Util 46:881-2 D 21 '50
REA-financed systems prospering. Elec World News ed 134:4 N 13 '50
REA gets allotment of 2nd quarter materials for allocation to co-ops. Elec World News ed 135:4 Ap 16 '51
REA has its problems. Pub Util 47:628-9 My 10 '51
REA lends funds denied Southwestern power administration. E. R. Abrams. Barron's 30: 9 O 23 '50
REA loan allows co-op to buy private company. Elec World News ed 136:14 Jl 9 '51
REA telephones. Pub Util 48:365-6 S 13 '51
Rural electrification must continue NRECA told. Elec World News ed 135:12 F 5 '51
Six REA employees killed in crash to be replaced from within agency. Elec World News ed 136:13 Jl 9 '51
Status of western REA-financed systems; tabulation. Elec West 106:80-1 F '51

RURAL fire protection. See Fire protection, Rural

RURAL health cooperatives. See Medical service, Rural

RURAL hospitals. See Hospitals, Rural

RURAL medical service. See Medical service, Rural

RUSSELL, George
Portrait. Fortune 44:132 S '51

RUSSELL, Jack
Some limitations of Russell's system of sales analysis. R. W. Watson. J Marketing 15: 479-82 Ap '51

RUSSIA
Second look at some popular beliefs about Russia. R. G. Wasson. Comm & Fin Chr 173:820+ F 22 '51
See also
Agriculture—Russia
Airplanes, Military—Russia
Automobile industry and trade—Russia
Chemical industries—Russia
Communism—Russia
Finance—Russia
Housing—Russia
Labor and laboring classes—Russia
Labor laws and Legislation—Russia
Mathematics—Russia
Mines and mineral resources—Russia
Prices—Russia
Science—Russia

Army

Some weaknesses in the Soviet army. Economist 160:747+ Mr 31 '51
Spirit of the Soviet soldier. Economist 160: 690-1 Mr 24 '51

Commerce

Soviet foreign trade; review of Economic relations of the U.S.S.R., by B. H. Kerblay. Economist 160:1050 My 5 '51

Commercial policy

Implications of 2nd Anglo-Russian trade agreement. P. Einzig. Comm & Fin Chr 172:1999 N 23 '50
More Czech goods for Russia; Czech-Soviet trade agreement. Economist 159:801 N 18 '50

Defenses

Arms in proportion; comparative strength of East and West. Economist 161:137-9 Jl 21 '51
National estimate. il Fortune 43:86-91+ Ap '51
Russia's industrial expansion. D. B. Shimkin. map Fortune 43:106-11 My '51

Economic conditions

Bases of Soviet power. Economist 160:780-2 Ap 7 '51
Russia's industrial expansion. D. B. Shimkin. map Fortune 43:106-11 My '51

Economic policy

Next stage in Soviet planning. Economist 160:990-1+ Ap 28 '51

Economic relations

Austria

Soviet economic interests in Austria. Economist 160:440+ F 24 '51

Foreign relations

Atomic bomb can destroy Russia, so no war. V. Bush. Comm & Fin Chr 173:1123+ Mr 15 '51
Back to diplomacy; conference proposed by western powers. Economist 159:1184-6 D 30 '50
Decisions coming in cold war. il map Bsns W p21-3 Ag 18 '51

RUSSIA—Foreign relations—*Continued*

From both sides, a Russian threat. maps Bsns W p 117-18+ N 25 '50

Handbook for Soviet diplomats; review of Soviet diplomatic dictionary. Economist 161:29-30 Jl 7 '51

Is Stalin bluffing? F. Mayer. Barron's 31:5 F 26 '51

Russian reply to western powers' proposal for wide-ranging talks. Economist 160:3-4 Ja 6 '51

Soviet policy and the revolutions in Asia. P. E. Mosely. Ann Am Acad 276:91-8 Jl '51

Stalin's chess; West's flurried play courts Russian checkmate. B. deJouvenel. Barron's 31:5 Ja 8 '51

There is no peaceful solution to Russia's aggression. M. Palyi. Comm & Fin Chr 172:2275+ D 14 '50

To keep China, Stalin needs Germany. il Bsns W p 105-6 Ja 13 '51

Two Russian fronts. H. Baillie. Comm & Fin Chr 173:448-9 Ja 25 '51

Austria

Stakes in Austria; Russians reluctant to leave. Economist 159:1206-7 D 30 '50

China

Pattern of Sino-Soviet treaties, 1945-1950. W. B. Ballis. bibliog Ann Am Acad 277:167-76 S '51

Germany

Soviet German offer. Economist 160:378+ F 17 '51

Iran

Moscow line on Persia. Economist 161:34+ Jl 7 '51

Near East

Center of Soviet aspirations. maps Fortune 44:93-8 Ag '51

United States

Are we falling into history's greatest trap? fallacy of waiting for next Russian move. M. Palyi. Comm & Fin Chr 173:149+ Ja 11 '51; Discussion. 173:251+, 431+, 523+, 615+, 711+, 811, 915+, 1024 Ja 18, 25, F 1, 8, 15, 22, Mr 1, 8 '51

Meeting Russia's challenge. P. Cortney. Comm & Fin Chr 173:521+ F 1 '51

Washington figures that Russia's on defensive. il Bsns W p26-7 O 13 '51

Industries and resources

New production index for Soviet industry. D. R. Hodgman. R Econ & Stat 32:329-38 N '50

Soviet economic progress. map Economist 160:436-7, 494+, 549-50 F 24-Mr 10 '51

Soviet industrial gains cost dearly. il Bsns W p 149-50 Ap 7 '51

Soviet industry moves eastward. map Economist 160:1450+ Je 16 '51

Navy

Historic pattern of Russian naval policy. T. V. Tuleja. il U S Naval Inst Proc 77:958-67 S '51

1,000 submarines, fact or fiction. B. M. Kassell. il U S Naval Inst Proc 77:266-75 Mr '51

Politics and government

Materials for the study of the Soviet system; state and party constitutions, laws, decrees, decisions and official statements of the leaders in translation. J. H. Meisel and E. S. Kozera, eds. 495p George Wahr pub. co, Ann Arbor, Mich. '50 ($6.50)

Statistics

Use and misuse of Russian statistics. A. Gerschenkron. R Econ & Stat 33:76-8 F '51

RUSSIAN literature

Problems of translation; Natural regions of the USSR. D. G. Nichols. Science 113:277-9 Mr 9 '51

See also

Periodicals—Russia

RUSSIAN scientists. See Scientists, Russian

RUST. See Corrosion and anti-corrosives

RUTGERS university

Lipman Hall soil laboratories

Rutgers science laboratory dedication; Lipman Hall. Chem & Eng N 29:2632 Je 25 '51

Serological museum

Nuttall memorial celebration. A. Boyden. Science 114:162 Ag 10 '51

RUTHENIUM

Lower oxidation states of ruthenium in acid perchlorate solutions. P. Wehner and J. C. Hindman. bibliog diags Am Chem Soc J 72:3911-18 S '50

Polarography of ruthenium(IV) in perchloric acid solutions. L. W. Niedrach and A. D. Tevebaugh. bibliog Am Chem Soc J 73:2835-7 Je '51

Analysis

Spectrophotometric study of the ruthenium-dithio-oxamide complex. G. H. Ayres and F. Young. bibliog Anal Chem 22:1281-3 O '50

Spectrophotometric study of the ruthenium-thiourea complex. G. H. Ayres and F. Young. bibliog Anal Chem 22:1277-80 O '50

RUTHENIUM chlorides

Ruthenium chlorides. M. A. Hill and F. E. Beamish. bibliog il Am Chem Soc J 72:4855-6 N '50

RUTHERFORD, Ernest, 1st baron, 1871-1937

Rutherford memorial. Engineer 190:533 D 1 '50

RUTILE

Optical absorption and photoconductivity of rutile. D. C. Cronemeyer and M. A. Gilleo. Phys R 82:975-6 Je 15 '51

Preparation of titanium tetrachloride from rutile. C. H. Gorski. bibliog il J Metals 191:Trans 131-3 F '51

Refractive indices of rutile and sphalerite. J. R. DeVore. diag Opt Soc Am J 41:416-19 Je '51

RUTIN

Use of ion exchange resins with flavonoid compounds. T. B. Gage and others. Science 113:522-3 My 4 '51

RYBNER, Jorgen, 1902-

Sketch. por Inst Radio Eng Proc 39:114 F '51

RYE

Firm rye prices point to high export demand. Barron's 31:28 Ap 23 '51

Rye stocks ample despite heavy use. Barron's 31:27-8 F 26 '51

RYERSON, Edward Larned, 1886-

Blunt talk on steel expansion. por Bsns W p26 N 4 '50

RYUKYU ISLANDS

News by countries. For Comm W 44:17-18 Jl 30 '51

S

S and W fine foods, inc.

Stock offering oversubscribed. Comm & Fin Chr 174:277 Jl 23 '51

STH. See Somatrofin

SAAR valley

Franco-German Saar. Economist 160:1174+ My 19 '51

Saar menaces the Schuman plan. map Economist 160:1283-4 Je 2 '51

SABATIER, Paul, 1854-1941

Concepts in catalysis; contributions of Paul Sabatier and of Max Bodenstein. E. K. Rideal. por Chem Soc J p 1640-7 Je '51

SABOTAGE

Danger; saboteurs at work. Chem Ind W 68:31-2 F 3 '51

Disaster control; sabotage; handbook for metalworking. Am Mach 94:142-4 N 13 '50

Oil prepares bomb defenses, fight on sabotage. L. Castle and others. il Nat Pet N 43:21-7 F 21 '51

Sabotage and espionage are top means Communists would use to hurt oil. L. Castle. Nat Pet N 42:27-8 O 25 '50

Sabotage lack in 2d war confirmed. A. B. Bielaski. Nat Underw 55:11 Je 21 '51

SABOTAGE—*Continued*

Sabotage losses are insurable, study by Brokers' association holds. East Underw 52:1+ F 2 '51; Same. Weekly Underw 164:330-1 F 3 '51

Sabotage net. Bsns W p41-2 My 12 '51

This is no time to laugh off plant security. A. N. Wecksler. il Mill & Factory 49:75-80 Jl '51

What about safeguards against industrial sabotage? Mill & Factory survey. Mill & Factory 48:69-72 Ap '51

SACCHARIN

Sweetness sans sucrose. il Chem W 69:39-40 O 13 '51

SACO-LOWELL shops

You can't be half-hearted about modernization; Saco-Lowell shops, Biddeford, Me. E. J. Tangerman. il diags Am Mach 95:147-66 Ap 16 '51

SAFE deposit box insurance. See Insurance, Safe deposit box

SAFE deposits

Selling in the safe deposit department; suggesting to clients, use of bank's other services. G. W. Stewart. Bankers Mo 68:18+ Jl '51

Law

Joint deposit box, but no survivorship; Illinois decision. F. C. Fiechter, jr. Burroughs Clearing House 35:75-6+ Ag '51

SAFES

Increased safety for safes; electronic mechanism for controlling a combination lock. E. H. Forbes. il diag Electronics 24:138+ Je '51

Manufacture

Foundry pours burglar-proof doors; cast steel safe doors. il Iron Age 167:68-9 Ja 18 '51

SAFETY at sea

Death by asphyxiation due to carbon dioxide gas tank of an American tanker. Marine Eng 56:75 F '51

Luxury and safety afloat; new SS United States. H. C. Shepheard. il Nat Safety N 64:107 O '51

S.S. Independence; navigating, communicating and safety equipment. il Marine Eng 56:75-7+ Mr '51

Safety at sea, 1850-1950. D. O'Neill. Engineering 170:550-1, 578-9 D 22-29 '50

Safety of small ships; abstracts and discussion. H. E. Skinner. Engineer 191:408-9 Mr 30 '51; Engineering 171:398-9 Ap 6 '51

See also

Fog signals
Life preservers
Lightships
Radio aids to navigation
Ships—Fires and fire protection
Ships—Stability
Tank ships—Fires and fire protection

SAFETY awards. See Safety contests and awards

SAFETY belts

Safety belts and harness. il Nat Safety N 63:117 Mr '51

SAFETY campaigns

How much is industry doing to prevent off-the-job accidents? T. J. Berk. Nat Safety N 63:24-5+ Ja '51; il Safety Maint & Prod 101:11+ F '51

Program cuts injuries to New York City employees. il Nat Safety N 63:40 F '51

Safety director uses postcards to sell safety on a family basis. Coal Age 56:94-5 Ag '51

You and the newspapers; suggestions for getting publicity for safety. S. Ingham. Nat Safety N 64:102-3+ O '51

SAFETY cartoons

Famous cartoonist joins effort; James Robert Williams. il Nat Safety N 64:30-1 Jl '51

Front line indoctrination at GE for safety cartoons with a wallop. J. Barstow. il Nat Safety N 64:21+ Ag '51

Look out for the imps! Linde air products co. dramatizes accident hazards. il Safety Maint & Prod 102:48-9 Ag '51

Ten little Indians; illustrations. Ind Marketing 36:56 Je '51

SAFETY clothing. See Clothing, Protective

SAFETY codes

Labor's attitude toward safety codes. J. G. Cross. il Standardization 21:287+ N '50

Symposium on the Institute of petroleum safety codes. E. J. Sturgess and others. plans Inst Pet J 37:163-97; Discussion. 197-208 Ap '51

SAFETY committees

Front line indoctrination at GE for safety cartoons with a wallop. J. Barstow. il Nat Safety N 64:21+ Ag '51

General Electric's voice of safety. L. R. Boulware. il Safety Maint & Prod 101:51-2+ Je '51

Safety works. J. R. Shea, jr. il Paper Tr J 133:20-2 Jl 6 '51; Same. Pulp & Pa of Can 52:148+ Jl '51; Same abr. Safety Maint & Prod 102:25-6+ Ag '51

SAFETY conferences

Focal point; actual machine that figured in accident is studied at conference. il Nat Safety N 63:32-3 My '51

SAFETY congresses

Annual All-Alaska accident prevention conference, 5th. Safety Maint & Prod 102:49-50 Ag '51

Greater New York safety council 21st annual safety convention and exposition, April 3-6. Safety Maint & Prod 101:17-19 Ap; 13+ My '51

Midwest safety show and civil defense conference, Chicago. Safety Maint & Prod 102:13+ Jl '51

President's highway safety conference, Washington, D.C., June 13-15. East Underw 52:26 Je 22 '51; Nat Underw 55:19 Je 21 '51; Weekly Underw 164:1631-2 Je 30 '51

President's highway safety conference, Washington, June 13-15. Roads & Sts 94:41-2 Ag '51

See also

National safety council

SAFETY contests and awards

Annual Holmes Safety awards honor individuals and mining companies. Coal Age 56:128+ Jl '51

Calendar contest winners for Aug. 1951. Nat Safety N 64:174 O '51

Firestone wins fifth DSS award. il Nat Safety N 63:54 My '51

43 U.S. airlines win safety awards. Aviation W 54:56-7 Je 11 '51

Goodyear plants in world-wide safety contest. Nat Safety N 63:46 Ap '51

Hudson coal company's Birdseye mine awarded Sentinels of safety trophy. il Explosives Eng 29:111-12+ Jl '51

National crushed stone association safety award winners. Rock Prod 53:164-5 D '50

National safety competition of 1950; list of winners, 1925-1950; awards of certificates. F. T. Moyer. il Explosives Eng 29:71-85+ My '51

New safety honor for Ohio Fuel. Am Gas Assn Mo 33:7-8+ Ap '51

Paper industry safety trophy awarded National container corp. Jacksonville. il Paper Ind 32:862-5 N '50

Pickands Mather & company honors Embarrass miners; Sentinels of Safety trophy awarded. il Explosives Eng 29:10-11 Ja '51

Public interest awards for 1950. Nat Safety N 63:107-8 Je '51

Reliance number seven mine again wins safety honors. Explosives Eng 29:24-5+ Ja '51

Safety's supreme award. il Nat Safety N 62:38-9+ D '50

Sand and gravel safety competition winners. Rock Prod 53:162-3 D '50

Stevens shaft mine wins Sentinels of Safety trophy. Explosives Eng 28:188-9 N '50

TCI's Dolonah quarry honored for safety achievements. il Explosives Eng 28:148-9 S '50

Third DSS award for air force. Nat Safety N 63:19 My '51

Training leads to award at Tinker air force base. Safety Maint & Prod 102:34-5 Ag '51

Wheel of good fortune; safety program of Vitreous steel products co. il Nat Safety N 63:42+ Ja '51

Winners in National safety council's 1950 industrial contests. Nat Safety N 63:42+ My '51

SAFETY contests and awards—*Continued*

Winners of 1950 railroad employees' safety contest. Nat Safety N 63:25 Je '51

See also

Fire protection—Contests and awards

Harriman memorial medals for safety

SAFETY councils

See also

National safety council

SAFETY departments

District manager appraises the safety department. N. C. Walker. Nat Safety N 64:18-19+ Jl '51

SAFETY devices and measures

Above-ground safety. il Safety Maint & Prod 100:16-17+ D '50; 101:18-20+ Ja; 14-16+ F '51

Cathode ray tubes; hazards and accident prevention; data sheet. il Nat Safety N 62:28-9+ D '50

Defective tool can put a permanent defect in you. J. G. Reynolds. Power Eng 55:85-6 Ja '51

Do your employes know safe practices when they see them? safety test developed by Revere copper and brass, inc. il Mill & Factory 48:123-4 Mr '51

Drum handling made safer. G. L. Stenberg. il Safety Maint & Prod 101:26 Ja '51

Du Pont's accident frequency rate has been reduced to one twenty-fifth of its accident rate 25 years ago. V. R. Croswell. Ind & Eng Chem 42:sup 119A-20A N '50

Eastman develops safety too. S. E. Clarke. il Safety Maint & Prod 101:71-5 Je '51

Equipment inspection saves lives and money; National safety congress, chemical section. Chem & Eng N 28:3777 O 30 '50

Explosion-proof lighting. E. H. Church. il Illum Eng 46:269-70 My '51

Flammables can be stored safely. P. C. Hensler. Safety Maint & Prod 100:24-5+ D '50

Formula for safe production; Westinghouse electric corp. P. R. Edelman. il Safety Maint & Prod 101:24-6 Mr '51

GM beats its own safety record; illustrations with text. Mill & Factory 47:126-7 N '50

How accident control charts can help your safety record; experience at Ford Instrument. T. R. Leadbeater. Factory Management 109:92-3 Je '51

How insurers make plants safe. il Bsns W p74-6 Ag 4 '51

Industrial Tape adheres to safety. il Safety Maint & Prod 102:14-16+ Jl '51

Labor-management cooperation for safety; a statement of principles; abstract. Management R 39:610-11 O '50

Maintain maintenance equipment or take the consequences. F. L. Cleary. il Safety Maint & Prod 101:21-2+ Mr '51

Medicine and industrial accident prevention. I. R. Tabershaw and W. Moorman. Ind Med 20:86-8 F '51

National safety news; fifteenth annual safety equipment issue. il Nat Safety N 63:2-202 Mr '51

New national safety program. Standardization 22:90+ Mr '51

Pictures from the past. Safety Maint & Prod 101:37 Je '51

Production bonuses from safety; panel discussion. Nat Safety N 64:30-1+ S '51

Protecting the plant and the worker. H. E. Beaven. Safety Maint & Prod 100:15-16+ N; 21-2 D '50

Safety by the barrel; Blue grass cooperage co., Louisville, Ky.; photo visit. Mod Ind 21:18+ My '51

Safety raises its voice; G.E.'s electronic safety man. il Safety Maint & Prod 101:84 Je '51

Safety, the fifth freedom; Westinghouse electric corp. T. O. Armstrong. il Safety Maint & Prod 101:33-4+ Je '51

Single objective, safety. E. E. Moore. Personnel 27:236-8 N '50

Some aspects of industrial injury prevention. A. Uytdenhoef. Int Labour R 63:266-78 Mr '51

Static electricity; its elimination by bonding and grounding. G. M. Kintz. bibliog il Nat Safety N 63:24-5+ F '51

See also

Automobile driving
Clothing, Protective
Color codes, Safety
Eye—Protection
Factories—Lighting
Fire protection
First aid in illness and injury
Floors—Anti-slip surfaces
Goggles
Inflammable liquids
Lightning protection
National safety council
Poisons, Industrial
Railroads—Signals
Respiratory apparatus
Safety at sea and other headings beginning Safety
Trade agreements—Safety and health provisions
Trade unions—Safety work
Traffic signals

also subdivision Safety measures under special subjects, e.g.

Automobile factories
Aviation
Bakers and bakeries
Breweries
Building
Cleaning industry
Coal mines and mining
Conveying machinery
Cranes, derricks, etc.
Electric equipment
Electric tools, Portable
Explosives
Gas, Natural—Pipe lines
Gas appliances, Domestic
Glass factories
Highway departments
Hoisting
Ice industry
Ladders
Laundries
Loading and unloading
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Machine shops
Material handling
Mining engineering
Motor bus lines
Motor trucks
Motor trucks, Industrial
Paint spraying, Electrostatic
Paper mills
Petroleum industry and trade
Quarries and quarrying
Railroads
Rubber machinery
Sawmills
Textile mills
Welding

Bibliography

Safety library. Published in monthly numbers of National safety news

Psychological aspects

Emotions can be killers. L. G. Giberson. Nat Safety N 64:28-9+ S '51

Human relations and accident prevention. L. E. Himler. bibliog Ind Med 20:121-3 Mr '51

International Harvester found the key. J. W. Young. il Safety Maint & Prod 101:30+ Je '51

More about psychology and safety. J. S. Sawatsky. Can Min J 72:65 Jl '51

Some neglected aspects of accident prevention. R. Hersey. Personnel 27:231-6 N '50

SAFETY education

Quarry superintendent cooperates with school to promote safety among children. P. Sturtevant and G. Sturtevant. il Explosives Eng 29:113 Jl '51

See also

Safety engineering—Study and teaching

Safety instructions and training

SAFETY engineering

Focusing on safety; photographic style; cameras help safety men keep records at Davis Chemical. A. B. Pettit. il Mill & Factory 47:92-4 D '50

Loss control comes of age. G. E. Peterson. il Safety Maint & Prod 101:21-2+ Je '51

Loss prevention philosophy for today. R. Clair. il Safety Maint & Prod 101:41+ Je '51

Part of the contract; construction of flood control project with a minimum of accidents one of objectives of the Corps of engineers. il Nat Safety N 63:42+ F '51

Plant design and layout. bibliog il Nat Safety N 63:11-12+ Mr '51

Productivity in British industry; safety in industry. A. Herbert. il Engineer 190:389-92, 406-8 O 27-N 3 '50

Reducing costs through accident-prevention engineering. J. V. Grimaldi. Mech Eng 73:492-3+ Je '51

Safety depends upon men who carry its banner. H. W. Boggess. il Pet Refiner 30:140-2 Je '51

SAFETY engineering—*Continued*

Safety engineering in a nutshell. R. M. McGowan. Safety Maint & Prod 102:15+ S '51

Safety-health team. C. F. Shook. il Nat Safety N 63:36-7+ Ap '51

Supervisor's stake in safety. H. F. Webb. Water & Sewage Works 97:459-61 N '50

When your safety program goes sour. E. E. Glomstead. Nat Safety N 64:111+ O '51

See also

Coal mines and mining—Safety measures

Mining engineering—Safety measures

Safety departments

Study and teaching

Master's degree in safety engineering offered by Illinois institute of technology. Safety Maint & Prod 102:46-7 Jl '51

Progress report on accident prevention in engineering schools. J. J. Ahern. J Eng Educ 41:321-5 Ja '51

Safety, a part of the technical man's training. L. A. Martin. Am Pet Inst Proc 31 M(3):191-3 '51

Safety integration procedures. S. S. Steinberg. J Eng Educ 41:462-3 Ap '51; Same abr. Nat Safety N 63:70 Ja '51

SAFETY engineers

Getting the most out of your safety engineer. A. L. Cobb. il Chem Eng 58:120-2 Jl '51

Industrial safety panel discusses difficult days. D. E. Mumford and others. Nat Safety N 63:54-5+ Ja '51

Safety as a field for professional engineers. W. J. M. Redwood. Can Chem & Process Ind 34:903 N '50

Wanted, a good safety director. Bus Transportation 30:50-1 My '51

SAFETY equipment

National safety news; fifteenth annual safety equipment issue. il Nat Safety N 63:2-202 Mr '51

Safe bet for a better year; safety equipment makers. il Steel 129:77 S 24 '51

Safety then and now. J. T. Ryan, jr. il Safety Maint & Prod 101:28-9+ Je '51

See also

Clothing, Protective

Fire extinguishers

Gloves, Safety

Respiratory apparatus

SAFETY exhibits

Holidays coming; Bakelite's off-the job safety campaign; illustrations with text. Nat Safety N 63:26-7 My '51

Safety's little teachers; stickmen of pipe cleaners and wooden beads, with simple backgrounds, provide effective safety dioramas. H. E. Hedges. il Nat Safety N 63:34-5 My '51

SAFETY glass. See Glass, Safety

SAFETY in the home

See also

Electric apparatus and appliances, Domestic—Safety measures

SAFETY instructions and training

Big Jim and safety first; Jim Woodruff dam; contractors and army engineers cooperated with Florida Industrial commission to start classes training foremen in safety practices. il Eng N 146:104 Mr 15 '51

How to prepare a safety manual. J. E. Appel. Nat Safety N 64:96-7+ O '51 (to be cont)

International Harvester found the key. J. W. Young. il Safety Maint & Prod 101:30+ Je '51

It pains to be ignorant; safety pantomime with department store setting. il Nat Safety N 64:38-9+ Ag '51

New in flying, advanced in safety; Philippine air lines. S. Soliman. il Nat Safety N 63:20-2+ F '51

Only trained workers are safe workers; safety programs. A. M. Cooper. il Mill & Factory 48:123-4 Ap '51

Reducing industrial accidents; experience of a General electric company plant. G. R. Fugal. Harvard Bsns R 29:82-90 Jl '51; Abstract. Mo Labor R 73:680-1 D '51

Safe handling of volatile materials; Esso standard oil co. training program. il Pet Processing 6:378-9 Ap '51

Safety placement testing; Revere copper and brass, inc. Safety Maint & Prod 101:46 F '51

Selling safety to new miners. il Coal Age 56:74-7 Jl '51

Training materials. il Nat Safety N 63:193+ Mr '51

Use of visual aids in the Morenci branch safety program, Phelps Dodge corp., Morenci, Ariz. M. L. Williams and A. D. Look. 6pls U S Bur Mines Information Circ 7598:1-6 '51

Venezuelans learn fast. A. R. Taylor. il Nat Safety N 64:22-3+ S '51

What to do about a stymied safety program; Tyrone mill, West Virginia pulp & paper co. J. R. Shea. il Safety Maint & Prod 102:25-6+ Ag '51

See also

First aid in illness and injury

Safety posters

Bibliography

National safety council occupational safety services; catalog. Nat Safety N 63:N 1-N36 Mr '51

SAFETY isles

Corner islands on Daytona streets. G. B. Arthur. il plan Pub Works 81:39-40 D '50

SAFETY lamps, Electric

Miner's lamps for the moth-ball fleet. il Safety Maint & Prod 102:30-1 Jl '51

SAFETY laws and regulations

See also

Fire protection—Laws and regulations

SAFETY literature

Bibliography

National safety council occupational safety services; catalog. Nat Safety N 63:N1-N36 Mr '51

SAFETY manuals. See Safety instructions and training

SAFETY movement

Moral challenge of the safety movement. P. A. McGhee. Nat Safety N 64:17+ Ag '51

Story of safety; a 50-year review. H. Armand. il Safety Maint & Prod 101:15-16+ Je '51

There's safety in numbers; need to enlist entire population in a crusade. N. Damon. Nat Safety N 63:18-19+ Je '51

SAFETY on the farm

Color for farm machines. A. Nicholson. Safety Maint & Prod 101:39 Ap '51

SAFETY organization

Day after is safer than the day before; Du Pont aware of the hazards of its operations. J. S. Queener. il Safety Maint & Prod 101:48+ Je '51

Du Pont safety story. H. L. Miner. il Nat Safety N 62:22-3+ N '50

Eastman develops safety too. S. E. Clarke. il Safety Maint & Prod 101:71-5 Je '51

It's a human problem. E. B. McConnell. Nat Safety N 63:18-19+ Ap '51

Management group's function in a safety program. W. C. Budgeon. Pulp & Pa of Can 52:154+ Mr '51

New in flying, advanced in safety; Philippine air lines. S. Soliman. il Nat Safety N 63:20-2+ F '51

Oil organizes for safety. F. G. Wilson. il Safety Maint & Prod 100:30-2+ O; 24-6+ N '50

Only trained workers are safe workers; safety programs. A. M. Cooper. il Mill & Factory 48:123-4 Ap '51

Pennsylvania railroad schedules protection. J. T. Williams. il Safety Maint & Prod 101:44+ Je '51

Plant safety vital to defense; abstract. J. C. Stennett. Safety Maint & Prod 102:50-1 Ag '51

Practical points in maintaining safety; Union Pacific coal co. F. J. Peternell. Min Cong J 37:45+ Ag '51

Safety consciousness, an evaluation; abstract. S. M. Walker. Mo Labor R 72:651-3 Je '51

Safety program for California industry. Safety Maint & Prod 101:32-4 Ap '51

SAFETY organization—*Continued*

Safety's dynamic at Big Steel! B. F. Fairless. il Safety Maint & Prod 101:18-19+ Je '51

Selling safety down the line for a new world's record; camera tour of American welding & manufacturing co. R. A. Dilley. il Factory Management 109:124-7 Ja '51

Tennessee copper company's four-point program. S. E. Sharp. il Nat Safety N 63:22-3+ Ja '51

Two-way channels; Shell Pipe Line's safety program. D. M. Farrell. il Nat Safety N 63:30-1+ Je '51; Same abr. World Oil 133:55-7 Jl '51; Abstract. Mech Eng 73:319-20 Ap '51

What's wrong with small business? safety panel discussion. Nat Safety N 64:104-5+ O '51

SAFETY posters

Safety posters. Published in monthly numbers of National safety news

Ten little Indians tell the safety tale; cartoons with text. Mod Ind 20:91 D '50

Which safety poster? A. A. Canfield. il Factory Management 109:204+ F '51

SAFETY shoes. See Shoes, Safety

SAFETY signs

Safety signs. bibliog il Nat Safety N 63:194-5 Mr '51

SAFETY standards

American standard is guide to woodworking safety. il diag Standardization 22:80-1 Mr '51; Same. Nat Safety N 63:127-9 My '51

Are we ready for standards in noise? J. H. Sterner. Ind Med 20:99-101 Mr '51

First safety code for power trucks; new American standard. il Standardization 21:288-9+ N '50; Same. Safety Maint & Prod 102:52-3 Ag '51

Revise code for open tanks. Nat Safety N 63:110-11 My '51

Safety for open-tank operators. A. C. Stern. il Standardization 22:109-10+ Ap '51

Ventilation and operation of open-surface tanks; American standard safety code Z 9.1-1951. diags Metal Finishing 49:64-73+ Je '51

See also

Glass, Safety—Standards

Safety codes

SAFETY valves

Automatic safety shut-off valve. R. L. Patton. diag Pet Processing 6:639 Je '51

Automatic surface safety valve. C. A. Kizer. il Pet Eng 22:B16+ D '50

Develop rules for installing relief valves. il Heating-Piping 23:124-7 Ap '51

Sealing of high-pressure steam safety valves. R. E. Adams and J. L. Corcoran. diags A S M E Trans 72:1137-42 N '50

Testing

Safety valve discharge capacity tests. diags Engineer 191:121-4 Ja 26 '51

SAFEWAY stores, inc.

Exchange offer underwritten. Comm & Fin Chr 172:1931 N 20 '50

High yield stocks that should do well in a defense economy; with comparative balance sheet items. Mag of Wall St 87:229 D 2 '50

1950 net may exceed $6 a share. Barron's 30:15-16 O 30 '50

SAGO

Fractionation of starch; the determination of the molecular weights of the triacetates of amyloses and amylose fractions by osmotic pressure measurements. R. S. Higginbotham. bibliog diags Textile Inst J Trans 42:T235-48 Je '51

Fractionation of starch; the fractionation of amyloses. D. Goodison and R. S. Higginbotham. bibliog diags Textile Inst J Trans 42:T249-73 Je '51

SAGUENAY river

Power development

Vital industry geared to the Saguenay. A. W. J. Dyck. il Can Chem & Process Ind 34:894-8 N '50

SAILBOATS

Fiberglas cloth and resin make biggest plastic boat. il Bsns W p47 Je 30 '51

SAILING

Sailing at M.I.T. W. C. Wood. il Tech R 53:300-2+ Ap '51

SAILING vessels

High-speed sailing; abstracts and discussion. H. M. Barkla. Engineer 191:438-9 Ap 6 '51; Engineering 171:440-1 Ap 13 '51

See also

Yachts and yachting

SAILPLANES. See Gliders

SAINT JOHN, New Brunswick

Water supply

Canada's oldest water-supply system. W. R. Godfrey. il map Munic Util 88:22-4+ N '50

ST JOSEPH lead company

May set new sales record in 1951. Barron's 31:31 Ap 16 '51

ST LAWRENCE waterway and power project

All-Canadian St Lawrence development. J. G. G. Kerry. Roads & Eng Constr 89:110+ My '51

Battle of the St Lawrence. F. Lincoln. il maps Fortune 42:84-90+ D '50

Canada considers building seaway alone. J. Montagnes. Barron's 31:18 Ag 20 '51

Canadian hydro keeps pace with industrial development; need for a seaway. C. Bassett. Pub Util 48:135-46 Ag 2 '51

Cost of St Lawrence development estimated at $290,000,000. Roads & Eng Constr 89:51 My '51

FPC backs federal development of power project on St Lawrence. Elec World 135:41 Ja 1 '51

House group concludes St Lawrence hearings. Ry Age 130:60+ My 7 '51

House tables St Lawrence seaway as Canada threatens to go it alone. Elec World News ed 136:12 Ag 6 '51

Minister of transport calls for action on development of St Lawrence power and canals. L. Chevrier. Roads & Eng Constr 88:74 O '50

New York's plan for the St Lawrence. J. E. Burton. Pub Util 47:819-24 Je 21 '51

Ore haul revives seaway. map Bsns W p98+ F 17 '51

St Lawrence project; abstract. C. B. Fentress. Pub Util 47:252-3 F 15 '51

St Lawrence push. Pub Util 47:300-1 Mr 1 '51

St Lawrence seaway is unnecessary. G. S. Prince. Ry Age 130:53-4 Ap 16 '51

St Lawrence seaway referred to Congress. Eng N 146:31 Ja 4 '51

Seaway; with or without U.S.? map Bsns W p 148-9 Ag 11 '51

Stranded seaway. Bsns W p52 Ag 4 '51

Truman continues support. Ry Age 131:34 O 8 '51

Wilson now backs Truman on St Lawrence project. Elec World News ed 135:12 F 5 '51

ST LOUIS

See also

Housing—St Louis

Sanitary affairs

Use of low-sulfur fuels to reduce sulfur dioxide concentrations in downtown St Louis. L. C. McCabe. diags Ind & Eng Chem 43:sup83A-4A Ja '51

ST LOUIS car company

Lafayette college buys St Louis car co. Ry Age 130:105+ Je 25 '51

ST LOUIS-SAN FRANCISCO railway company

Earnings gain seen. Barron's 31:11+ Ap 30 '51

ST LOUIS southwestern railway

McKenzie succeeds Green on Cotton Belt. Ry Age 131:63-4 Jl 2 '51

ST LOUIS star-times

High production cost fatal. Ed & Pub 84:7-8 Je 23 '51

ST MARY River formation

St Mary River formation in Spring Coulee-Magrath area, Alberta, Canada. E. P. Williams. bibliog il map Am Assn Pet Geologists Bul 35:885-98 Ap '51

ST PAUL

Galleries and museums

Museums and art galleries in the Twin Cities. H. M. Nebelthau. Special Lib 42:170-2+ My-Je '51

ST PAUL—*Continued*

Streets

How St Paul keeps up its bituminous residential streets. il Roads & Sts 93:88+ N '50

ST PAUL group. See Stones River group

ST VITUS'S dance. See Chorea, Hereditary

SALARIES

AMA handbook of wage and salary administration; tested compensation methods for factory, office and managerial personnel. M. J. Dooher and V. Marquis, eds. 412p $7.50 American management assn, 330 W. 42d st, New York 18 '50

Compensation of water works personnel; A.W.W.A. committee report. Am Water Works Assn J 43:675-80 S '51

Executives may get a raise; new Salary stabilization board. Bsns W p38+ Je 30 '51

How is your salary determined? S. P. Farwell. Chem Eng Prog 47:219-22 My '51

How much do agency people earn? W. A. Lowen. Adv Agency 44:58-9+ Ap '51

How you administer salaries goes deep. Management R 40:271 My '51

New York office workers' salaries rise 15 to 20 per cent since 1948. Adv Agency 44:77 S '51

Wages; restrict raises of salaried; new Regulation three. Iron Age 168:44 S 27 '51

Zone control for balanced salaries. R. H. Hoge. Personnel J 29:247-51 D '50

See also

Aviators—Salaries
Civil engineers—Salaries
Engineers—Salaries
Executives—Salaries
Government employees—Salaries
Salesmen—Salaries and commissions
Scientists—Salaries
Teachers—Salaries
Wages

SALES

Define customer satisfaction when drawing up contract. A. W. Gray. Inland Ptr 126:48-9 D '50

Selling your business? how to soften the tax blow. Bsns W p73-4+ Jl 14 '51

Some reflections on discrimination in sales transactions. D. L. Miller. Credit & Fin Management 52:4-6+ D '50

See also

Auctions
Exclusive agencies
Instalment plan

SALES, Conditional

Motor vehicle liens; common law of conditional sales applies in absence of statute modifying it; Friendly finance corporation v. Quinn. Banking 43:78 D '50

SALES agencies. See Exclusive agencies

SALES agents. See Manufacturers' agents

SALES campaigns

Casey Jones promotes Diesel cleaning compound; Pennsalt's sales promotion campaign built around ad. il Ind Marketing 35:66+ O '50

Coffee time is a smash hit; national distribution coming; new carbonated coffee beverage. B. G. Priestley. il Sales Management 67:56+ O 15 '51

How to get distributors on the new product band wagon; Mullins Jet-Tower dishwasher. M. Adams. il Ptr Ink 235:27-9 Je 8 '51

Show-and-sell drives, sparked by contests, mine pay dirt for West. W. Flatow, jr. il Sales Management 67:42-6 O 15 '51

When a product suffers from regional apathy. H. Lynde. il Sales Management 67:113-16 S 1 '51

Why Personna is cutting its price in half; doubled ad budget will help capture the broad, low-priced market. M. Beuick. il Ptr Ink 234:31-3 Ja 26 '51

SALES conferences

Advance preparation leads to successful sales meetings; Victor Adding Machine's program. il Ptr Ink 233:92-3 N 24 '50

Plan it; salesmen won't forget; Brown & Bigelow's conference; illustrations with text. Bsns W p84-5 D 2 '50

Putting drama in sales meetings; Brown-Forman. Bsns W p 136 Je 16 '51

Ten ways to plan a sales meeting. S. E. Voran. Ind Marketing 35:52+ O '50

SALES contests

Extra dough-re-me for salesmen spurs interest in training clerks; Mirro aluminum ware contest. R. L. Pritchard. il Ptr Ink 234:34-5 F 9 '51

GAMA's sales shot up when each one was given real chance to win. S. C. Gorman. il Sales Management 65:82+ D 15 '50

How Fairbanks, Morse stimulates the salesman's will to fight. H. J. Barbour. Sales Management 67:120+ O 1 '51

Only a chunk of bronze, but Standard men fight for it; Standard Accident offers annual trophy for best showing on volume, profit and collections. Sales Management 67:110 S 1 '51

Why did this contest flop? Ptr Ink 236:53-4 S 28 '51

SALES contests, Dealers'

Each man competed with himself; in Curtis' dealer contest. W. Kaplan. Sales Management 66:65-8 Ja 1 '51

Sales-building promotion contest helps market new line; direct-mail campaign plus salesmen; Union underwear co. E. J. Dever, jr. il Ptr Ink 234:28-30 Ja 5 '51

SALES contests, Employees'

Non-selling TWA employees sell $366,743 worth of air travel. L. Stemp. Am Bsns 21:30 Ag '51

Want more business? don't overlook sales contests for nonsales employees; Northwest Airlines contest. il Ptr Ink 233:56+ N 17 '50

SALES contracts. See Sales

SALES conventions

Blindfold tests for ads. il Sales Management 67:81 Ag 15 '51

Case of the hard-bottom chairs; Prat-Daniel corp. decamped to a country club. E. P. Pearsall. Sales Management 67:56+ Ag 1 '51

Convention for sales leaders is half work, half play; Pitney-Bowes co. il Ptr Ink 233:40-2+ O 27 '50

Jaded convention audience; how to make it sit up and bark. il Sales Management 66:66-8+ Ap 1 '51

That annual meeting of the sales department. G. Carson. Sales Management 66:125 Mr 15 '51

Try this Bikini on your salesmen; real explosion drives home slogan to Allied Mills salesmen and dealers. J. L. Richardson. il Ptr Ink 235:42-3 Ap 20 '51

Television conventions

Sales convention via tv is emergency measure. D. Goldstein. Ptr Ink 234:40+ F 2 '51

SALES costs

Sales managers combat the high cost per sales call. W. A. Marsteller. Ind Marketing 36:48+ S '51

What Air Reduction is doing to increase effective selling time. J. Dowd. Sales Management 65:44-6 N 10 '50

See also

Salesmen—Expenses

Accounting

Interpretation of earnings changes in an oil company. E. W. Korsmeyer. N A C A Bul 31:1383-92 Jl '50; Same. il Pet Refiner 29:109-12 N '50

SALES departments

Sales logistics. Chem Ind W 68:30-1 F 10 '51

Unified labels spark sell-the-line merchandising plan for Pabco. il Sales Management 67:44-6+ S 15 '51

Union labor chiefs suggest; tell us about your sales plans. B. W. Dempsey and D. R. Henle. il Sales Management 66:78+ F 15 '51

Records

See also

Sales records

SALES estimates

Forecasting the market. W. E. Hosken. Chem & Eng N 29:2992-3+ Jl 23 '51

Method for pre-evaluating merchandise offerings. E. L. Quenon. J Marketing 16:158-71 O '51

Sales forecasting. J. M. Gould. J Marketing 15:357-61 Ja '51

SALES letters

ABC's of effective sales letters. C. Bury. Sales Management 67:86+ S 1; 152+ S 15; 72+ O 1; 112+ O 15 '51

Aesop Glim's clinic; over issue of greenbacks. Ptr Ink 236:58-9 Ag 3 '51

Direct mail advertising. E. N. Mayer, jr. Harvard Bsns R 29:37-51 Jl '51

How long should a sales letter be? Ptr Ink 236:46-7 S 21 '51

How to write a sales letter about the product. Ptr Ink 236:30-2 Ag 31 '51

How to write your next sales letter. A. J. Sullivan. il Ptr Ink 235:37-8 Je 22 '51

Is it written so Schultz will understand? E. R. Smith. Ptr Ink 236:33 Jl 27 '51

Phriendly, phony? S. F. Merritt. Ptr Ink 236:76 S 14 '51

Sales letters to dealers' prospects increase independent jobber's TBA, oil product volume. F. C. Sturtevant. il Nat Pet N 42:54+ D 6 '50

Six sales letters that click. C. Judson. Ptr Ink 233:37-8 N 3 '50

Six sales letters that clicked! N. P. Kane. Ptr Ink 235:37-8+ My 4 '51

Ways to keep sales letters out of the wastebasket. il Dom Eng 178:90-1 Jl; 98-100 Ag '51

What industrial buyers expect to find in your proposal letters; six key elements. H. W. Green. Sales Management 66:126+ Mr 15 '51

Lost customers

Famous 50-50 letter woos lost customers; Southern states cooperative. T. K. Wolfe. il Sales Management 66:91-3 F 15 '51

Price announcements

How and when to put sell in your sales quotations. W. A. Marsteller. Ind Marketing 36:42-3+ Je '51

SALES management

Average salesman's output trebles under Pitney-Bowes six-point program. H. M. Nordberg. il Sales Management 67:74+ Ag 15 '51

Confidence; a must for each new salesman. W. E. Major. Sales Management 66:145-7 Mr 15 '51

Crises can't crush Rollman. L. M. Hughes. Sales Management 66:37-9+ My 20 '51

Dealer organization the foundation for sales at National Gypsum. L. J. Fitzpatrick. il Rock Prod 53:124-7 D '50

Dynamics of sales leadership. F. K. Doscher. Am Gas Assn Proc 1950:234-7

Four major opportunities for expanding your sales volume. C. T. Hoffman. Sales Management 65:48+ N 20 '50

Four reasons for keeping your sales force at top strength. W. M. Fox. Ind Marketing 36:49+ S '51

Gearing sales forces to today's market; plans of selected companies. il Mod Ind 21:39-43 F '51

How a small company can turn its size to advantage; national sales plan and local advertising for women's swimsuits. L. F. Thomann. il Ptr Ink 236:58-9 S 7 '51

How hard must we sell when demand gets ahead of supply? C. H. Lang. Ind Marketing 36:46+ Ja '51

How Kraft cut distribution costs 25 per cent; Zonor system. il Bsns W p40-2 O 28 '50

How to develop outside selling. il Elec West 107:94-6 Ag '51

How to hold sales down and not show it. W. M. Borton. Ind Marketing 35:60+ O '50

How to prevent allocation allergies. il Mod Ind 22:46-9 Jl '51

Is it management's fault that so many salesmen fail? R. N. McMurry. Sales Management 67:37-9+ Ag 15 '51

Is this the time to stop selling? il Mod Ind 20:44-7 N '50

Keeping customers happy though unsupplied. il Mod Ind 21:38-41 Ja '51

Mothballs aren't for salesmen. F. J. Smith. Ptr Ink 233:34 N 3 '50

New sales force boosts volume 65 per cent. il Ptr Ink 234:40-2 Mr 16 '51

One roof, lower overhead; American Cyanamid will open consolidated sales offices and warehouses. Chem Ind W 68:14 My 19 '51

Sales management; start selling friendship now. Ptr Ink 233:22 D 29 '50

Six steps to ease war-induced worries that now grip your salesmen. C. T. Hoffman. Sales Management 66:84+ Ja 15 '51

Six ways to make a happy and productive salesman. U. R. Kendree. Sales Management 65:37-9 N 1 '50

Supervision of outside salesmen; abstract. C. Lapp. Management R 40:431-2, 559 Jl, S '51

Too much paper work; thief of golden selling hours; Pabco simplifies sales communications. il Sales Management 66:37-9+ Mr 1 '51

Top management forum; what happens to the industrial sales organization in time of war. Ind Marketing 36:40-1+ Mr; 40-1+ Ap '51

What Air Reduction is doing to increase effective selling time. J. Dowd. Sales Management 65:44-6 N 10 '50

Your post-Korea sales force; is now the time to plan it? W. Hart. Sales Management 65:37-9 N 20 '50

See also

Advertising
Advertising and salesmen
Branch management
Dealer helps
Display of merchandize
Drivers as salesmen
Marketing
Printing trade—Salesmen
Prospect lists
Sales contests and other headings beginning Sales
Salesmanship
Salesmen
Salesmen's bulletins
Salesmen's reports
Saleswomen

SALES managers

If salesmen could choose their sales managers. J. L. Rosenstein. Am Gas Assn Proc 1950:244-8

President's letter to a junior sales executive. M. B. Pendleton. Sales Management 67:44-5 O 15 '51

When a 68-year-old district manager hit the road; Harnischfeger's farm welder sales. il Sales Management 65:54+ N 10 '50

SALES manuals

This tell-all sales manual goes along on every call; tv time buyers told Edward Petry & co. what kind of information they wanted. il Sales Management 67:94+ Ag 1 '51

$25,000 booklet brings Hays $1,430,000 in sales; manufacturer of industrial instruments and controls. F. I. Lackens. il Ind Marketing 36:33+ Mr '51

Why our new sales manual is designed to sell itself; General Foods' copy, art and layout. J. P. Kelley. il Ptr Ink 236:76+ S 28 '51

SALES manuals, Jobbers'

Coleman's master sales tool; management guide for everybody. C. Burrows. il Sales Management 66:114-16+ Mr 15 '51

SALES policies

Consistent and conventional, this small-space program pays off; Corn king co. sells specialty feed and medicinal livestock products. H. E. Green. il Ptr Ink 236:40+ Ag 17 '51

Customers say yum yum to apple-wine-cheese tie-in sale. il Sales Management 65:50+ N 1 '50

The day my grocer notified us, you're an unprofitable account. W. M. Fox. Sales Management 66:102+ Ap 15 '51

Ferment in rum; tie-in sales on Scotch worry Bacardi Imports. Bsns W p 116 Mr 17 '51

Heinz mobilizes for mass markets. L. M. Hughes. il Sales Management 65:37-9+ D 1 '50

How Scott Paper directs its sales power. C. J. Swan. il Ptr Ink 236:38-40 Ag 3 '51

How to boost sales 10,000 per cent; Jim Caldwell and Wooster rubber company. L. M. Hughes. il Sales Management 65:37-40+ N 10 '50

New attacks on old sales problems lift volume 120 per cent for Schilling. J. D. Miller. il Sales Management 66:37-9+ Je '51

Plough plows it back; cultivated little dealers in smaller towns. L. M. Hughes. il Sales Management 66:37-9+ Je 1 '51

To make or not to make private labels? E. B. Weiss. il Ptr Ink 233:36-8+ D 8 '50

SALES policies—*Continued*

What's behind the Admiral story? W. C. Johnson. il map Sales Management 66:82-5 Ap 1 '51

See also

Credit
Customers relations
Dealer helps
Dealer relations
Discount, Cash
Discount, Trade
Exhibits
Gas industry—Merchandizing
Guaranty of products
Instalment plan
Jobbers
Marketing
Premiums (merchandizing)
Price fixing, Resale
Price policies
Products, Improved
Returned goods
Sales units
Trade-in policies

Combination selling

New sales collateral you can find in teamwork promotions. il Sales Management 67:37-9+ Ag 1 '51

Selective selling

This company spread itself too thin; Tatham-Laird, inc. R. D. Crisp. Ptr Ink 233:40-1 N 3 '50

Small orders

Sale I never forgot; selling ball bearings to a nine-year old boy. R. H. DeMott. Ptr Ink 236:54 Ag 17 '51

SALES promotion

Crosscountry clinic sells abrasives for Behr-Manning; exhibits latest abrasive machinery. il Bsns W p 118-20 Ag 11 '51

Does it pay to promote a little specialty item? snake-bite kit. il Sales Management 67:96+ Ag 15 '51

Every plumber a retailer; program of American-Standard. Bsns W p94-6 Mr 10 '51

Fiberglas takes to the road. il Bsns W p84 Mr 31 '51

Free rides bring profits; Camden ice cream distributor uses merry-go-rounds on premium basis to boost sales. il Bsns W p38-9 D 9 '50

Greer integrates promotion with publicity for sales results. il Ind Marketing 35:66+ D '50

How a horse can sell beer; Anheuser-Busch's hitches champion Clydesdales to sales promotion caravans. il Bsns W p22-3 Ag 25 '51

How to enlarge a market for a product people try to avoid; Bausch & Lomb educational program to match one's eyesight with his job. R. A. Sherman. il Sales Management 66:56+ Ap 15 '51

How to increase gas load in the first quarter of 1951; symposium of latest advertising and sales promotion ideas. Gas Age 107:31-2+ F 15 '51

How to tenderize the tough food market; Adolph's seasoned meat tenderizer. il Sales Management 66:84-5 F 1 '51

How to train men to sell good will; Standard Oil's adpreps. Sales Management 66:62+ My 20 '51

If it breathes, it's a salesman; Le Blanc promotes patent medicine; Hadacol. il Bsns W p72+ Ja 6 '51

Open house for customers sells industrial equipment. K. F. Kirchhofer. Ind Marketing 35:110 N '50

Plumbing-heating surveys are good business. E. Phillips. Dom Eng 177:100-1 Mr '51

Prizes, premiums and parties build a 70-million-dollar bonanza; Stanley home products. M. Beuick. il Ptr Ink 234:40-2 Mr 9 '51

Promotion's big ten family; library of sales information ready for gas companies and dealers. il Am Gas Assn Mo 33:6-8+ Mr '51

Sales promotion's role in a sellers' market. J. W. Huddleston and others. Ptr Ink 234:23-5+ F 9 '51

Spending on sales promotion may increase profit and reduce overhead ratio to sales. A. C. Kiechlin. Inland Ptr 126:55-6 D '50

Teen-age salesmen star in Proctor kids' day promotions. W. M. Schwartz. il Sales Management 67:48+ O 15 '51

2,001 sales promotion ideas push plumbing and heating; Domestic Engineering's contest. B. Aitchison. il Ind Marketing 36:37-9 S '51

Walter F. Cobb, stages a lively promotion. il Dom Eng 177:86-8+ Mr '51

When prospects put up with the status quo; Minneapolis-Honeywell program. Sales Management 67:44-6 O 1 '51

Why Betty Crocker's cookbook is a runaway best seller. il Sales Management 65:84+ N 10 '50

Why plug for more sales now? il Mod Ind 21:55-7 Mr '51

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SALES quotas

Executives tell why they use quotas, and why not. Ind Marketing 36:40-1+ Je '51

SALES records

Are sales call reports worth the cost? W. A. Marsteller. Ind Marketing 36:38-9+ Ja '51

Company's sales records offer fingertip control; Pearl beer distributing co., Dallas. L. Bolger. Am Bsns 21:24+ F '51

Graphic records reveal new sales opportunities; the Kardex system at Frank N. Wood co. il Sales Management 65:53 N 20 '50

Quotas, or allocations? Atlantic Brewing is set. Sales Management 67:58-9 Jl 1 '51

What kind of sales control system in selling intangibles? CBS' sales control system. il Sales Management 65:102+ D 15 '50

SALES research

How to get usable sales ideas from retail salesmen. L. D. Rambeau. Ptr Ink 236:43 S 14 '51

SALES statistics

How dead is the 1948 census of business? metropolitan area sales, 1950 vs. 1948. Sales Management 67:54-6+ S 1 '51

How to use these census figures; discovering sales weaknesses and underadvertising. Ptr Ink 235:62+ My 25 '51

Some limitations of Russell's system of sales analysis. R. H. Watson. J Marketing 15:479-82 Ap '51

See also

Retail trade—Statistics

SALES tax

Australia; exemptions and increases under recent sales tax amendments. For Comm W 42:10 Mr 26 '51

Georgia sales tax to be most inclusive. Bsns W p64 Mr 3 '51

Sales tax; its proponents had better take a second look. G. A. Shea, jr. Barron's 31:3 Jl 16 '51

Sales tax; the solution to mounting deficits in federal budget. M. Palyi. Comm & Fin Chr 174:1149+ S 27 '51

Sales taxes hard on the poor? Nat City Bank p91-2 Ag '51

SALES units

Chicken feed stuff the dealer despises; what we do about it; screws, washers, rubber plugs, etc. for plumbing replacement. J. P. Holm. il Sales Management 67:96+ O 1 '51

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Boss answered a salesman's challenge, and both won; selling the whole line. G. M. Olson. Ptr Ink 234:52 Mr 2 '51

Candy salesmen stop knocking each other. Sales Management 66:87 Ap 1 '51

Close-up selling produces orders in tight competition; centering attention of customer on performance advantages he wants. H. S. Nelson. il Ptr Ink 234:32-5 Ja 19 '51

Do you want to see your volume grow and grow and grow? 15 sales builders for your salesmen. W. J. Tobin. Ptr Ink 234:46+ F 16 '51

Eight types of sales prospects, and how to handle them. W. G. Damroth. Sales Management 66:134-5 Mr 15 '51

Fallacies of salesmanship. H. J. Ashe. Inland Ptr 127:36 My '51

Five rules of competition that will keep salesmen on top. W. J. Tobin. Ptr Ink 236:42-3 Ag 3 '51

Five ways to submit your proposals to industrial prospects. H. W. Green. Sales Management 67:50+ Jl 1 '51

SALESMANSHIP—*Continued*

Five ways your salesmen can better themselves. W. J. Tobin. Ptr Ink 235:32-3 My 4 '51
Greatest salesman; St Paul. J. S. Long. Paint Oil & Chem R 114:16+ Jl 19 '51
How much should a salesman know about production? F. Rundell. Inland Ptr 126:52-4 N '50
How to head off arguments with prospects. D. A. Laird. Sales Management 67:76+ Jl 1 '51
It pays to look back on some of our mistakes. F. Rundell. Inland Ptr 127:70+ S; 128:68-9 O '51
Motives that move industrial buyers. Sales Management 65:80 N 1 '50
Natural way to get buying decisions. D. A. Laird. Management R 40:354-5 Je '51
New salesmanship. D. A. Laird. Management R 40:560-2 S '51
Now there's family resemblance wherever Warfield brand appears. R. S. Smith, jr. and A. T. MacMath. il Sales Management 66:56+ Ja 15 '51
Sale I never forgot; ask for an order. E. R. Merrill. Ptr Ink 235:67 Je 29 '51
Sale I never forgot; find out the other fellow's problem. A. C. Fuller. Ptr Ink 233:64 O 27 '50
Sale I never forgot followed a mix up in the mail room; customer gets letter intended for home office. A. Mazer. Ptr Ink 236:52 Jl 27 '51
Sale I never forgot followed 18 months of study; paper milk containers. D. G. Mitchell. Ptr Ink 233:46 D 8 '50
Sale I never forgot; to get the key man's O.K., diplomacy may help; let the prospect sell himself. C. C. Withers. Ptr Ink 234:57 F 16 '51
Sale I never forgot was one I didn't count on; low pressure selling; American coffee brewer in France. J. W. Alsdorf. il Ptr Ink 233:92 N 10 '50
Sale I never forgot was one I promised myself; percentage of sales to calls 100 for Vick salesman. C. T. Lipscomb, jr. Ptr Ink 234:51 Ja 5 '51
Sales engineer and his problems (cont). B. Lester. Mach 57:196 N; 200 D '50; 206-7 Ja; 204-5 F; 202-3 Mr; 202-3 Ap; 199 My; 198-9 Je; 221 Jl; 192-3 Ag; 58:195 S; 202-3 O '51
Selling; not only a job, but a symbol of a free society. H. Swift. Sales Management 66:46+ F 15 '51
Sells comforts, not plumbing; automatic gas fire water heaters. L. T. White. Sales Management 65:46 D 15 '50
Step-by-step story of how Mr Smith sells a telephone system to independent telephone companies. H. C. Smith. il Sales Management 67:84-6+ Jl 15 '51
Thirteenth doughnut. G. A. Saas. Am Gas Assn Proc 1950:238-43
Toughest sale I remember; sale I simply had to make. E. C. Lee. Sales Management 65:80 N 20 '50
What will make salesmanship a profession? D. A. Laird. Management R 40:89-90 F '51
When, and why, customers mistrust salesmen. D. A. Laird. Sales Management 66:82+ F 1 '51

See also
Advertising
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Approach

Sale I never forgot; Ben Franklin told me how to make it; ask some favor of prospect. W. C. Chambers. Ptr Ink 234:50 Ja 12 '51
Sale I never forgot; don't let a closed door stop you. R. F. Yambert. Ptr Ink 236:51 Ag 10 '51
Sale I never forgot; ingenuity and service succeeded. R. C. Dreher. Ptr Ink 235:58+ Ap 20 '51
Sale I never forgot; it happened in Amsterdam. P. G. Bauduin. Ptr Ink 236:56+ Jl 13 '51
Sale I never forgot; selling feed to customer's customer. R. Martin. Ptr Ink 234:48 F 2 '51
Sale I never forgot was made by telephone. L. F. McCarthy. Ptr Ink 233:64 N 3 '50
Toughest sale I remember; send me three dozen! G. Marohn. Sales Management 66:43 F 15 '51

Demonstrations

Crosscountry clinic sells abrasives for Behr-Manning; exhibits latest abrasive machinery. il Bsns W p 118-20 Ag 11 '51
Demonstration selling and stunts won initial distribution; national advertising and local tie-ins will spread consumer acceptance; Wynn lubricating oil additive. L. F. Thomann. il Ptr Ink 234:38-9 F 23 '51
Demonstration techniques in action. il Elec West 106:88 My '51
Demonstrator cuts two-hour sales story to ten minutes; Alemite's Oil-Mist lubrication system. E. R. Harris. il Sales Management 66:102+ Je 1 '51
How Alemite's sales aids cut technical jargon; slide film and portable demonstrator sell tachometer. E. N. Robinson. il Sales Management 67:80+ Jl 1 '51
How to sell sound; prospects for Donaldson's engine mufflers hear tape recordings. il Sales Management 66:45 Je 1 '51
Idea far removed from shoes; Health spot shoe co. R. Conover. il Sales Management 66:58+ Ja 1 '51
Old hand at demonstration shows off new product; Singer to push new vacuum cleaner. M. Beuick. il Ptr Ink 237:46-8 O 12 '51
Sale I never forgot; he bought results. E. J. Presser. Ptr Ink 235:66 Je 15 '51
Sale I never forgot; one I didn't deserve; trick demonstration. H. Lehman. Ptr Ink 234:58 F 23 '51
Sale I never forgot; one sale that led to many more. E. B. Jessup. Ptr Ink 233:68-9 N 17 '50
Sale I never forgot; proving that dog food was fit for human consumption. R. A. Whitney. Ptr Ink 235:56+ My 18 '51

See also
Department stores—Manufacturers' demonstrations
Retail trade—Manufacturers' demonstrations

Group selling

G-E's Washington little show; they're group selling devices. Sales Management 67:74-5 S 1 '51
What kind of product preview when top brass prospects come? Shakeproof pre-assembled nut and lock washer. J. O'Connor and J. S. Hawley. il Sales Management 66:64+ Mr 1 '51

Number of calls

Sales leap 51 per cent when Homasote offers incentive for more calls; compensation and sales control tied together. F. V. Wilson, jr. Sales Management 65:42-5 D 15 '50

Price problem

Sale I never forgot; boost for the competitor. L. S. Mayers. Ptr Ink 235:52+ Ap 27 '51
Toughest sale I remember; why pay for those fancy ads? J. B. Holcomb. Sales Management 66:41 Ja 1 '51

Samples

I had a sale up my sleeve; underwear sample wins prospect. J. O. Gantner. Sales Management 66:97 Ap 1 '51

Service

Industrial salesman is jack-of-all-trades; selling Plaskon glue. il Bsns W p54-6 Ja 27 '51
Retail sales zero; new market, record sales; service to laundries. T. H. Beck. Ptr Ink 235:56+ Ap 6 '51
Sale I never forgot; Burroughs Adding Machine sale 17 years in coming. J. S. Coleman. Ptr Ink 236:86 S 28 '51

SALESMANSHIP—Service—*Continued*

Sale I never forgot; Burroughs Adding Machine salesman studies customers' equipment. A. E. Cobo. Ptr Ink 236:50 Ag 3 '51

Sale I never forgot; I held out for all or nothing; wall board for Chicago World's fair. M. H. Baker. Ptr Ink 236:96 S 7 '51

Sale I never forgot; one good turn deserved so many. H. A. Kent. Ptr Ink 233:62+ D 22 '50

Sale I never forgot; we sold color, not just paint. F. P. Connolly. Ptr Ink 234:44+ Ja 26 '51

Salesmen's corner; careful selection of paper for printing job. F. Rundell. Inland Ptr 126:48-50 Ja '51

Selling without an order book. F. W. Sullivan. Ptr Ink 235:39 Ap 13 '51

Service emphasis takes over in modern selling. D. A. Laird. Management R 40:496-7 Ag '51

Star salesman makes specialty of service; methods used by Nolan Bourgeois of New Orleans. il Inland Ptr 127:36-7 Je '51

When goods are in short supply you always can sell service; Disston steel products. W. H. Gebhart. il Sales Management 66:70+ My 1 '51

Who pays your salary? L. Moses. Sales Management 67:112+ O 1 '51

Study and teaching

Oscar for leadership. il Sales Management 67:45 Ag 1 '51

Professor Jack sells salesmanship. P. Lockwood. Am Bsns 21:8-9 My '51

Telephone calls

Advance planning makes sales calls more productive; using letters and telephone calls to pave the way. K. F. Kirchhofer. Ind Marketing 36:124 S '51

Voice with a sale in it gets the orders; telephone canvassing technique. R. G. French. Am Bsns 20:28+ O '50

Visual aids

They want to be shown, not just told. S. Edlund. Ptr Ink 234:40+ Mr 30 '51

SALESMANSHIP, Retail

Adventures in shopping. Sales Management 65:37-9 D 15 '50; 66:53-4+ Ja 1; 68+ F 1; 48+ Mr 1; 50+ Ap 1; 62-4+ My 1; 46+ Je 1; 67:54+ Jl 1; 46+ Ag 1; 48+ S 1; 66+ O 1 '51 (to be cont)

Sale I never forgot; the other salesmen were too busy selling building material to shabby farmer. A. A. Hood. Ptr Ink 234:62+ Mr 9 '51

Salesmanship, what's that? J. McEwen. J Retailing 26:153-7+ Winter '50

Selling methods and merchandise knowledge of men's wear and shoe salespeople. N. H. Comish. J Retailing 27:40-8 Spring '51

See also

Dealer helps

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Careers in chemistry and chemical engineering; technical salesman. H. D. Hughes. Chem & Eng N 28:4163-4 N 27 '50

Did somebody get left out? J. A. Gelish. Ptr Ink 235:104 My 4 '51

How station salesmen sell. N. Hall. Nat Pet N 43:50-3 My 23 '51

How to be human on the job. W. G. Strathern. Am Gas Assn Proc 1950:20-6

My time is my time. O. C. Olin. Ptr Ink 236:82-3 S 7 '51

Sale I never forgot; 102 miles of bad roads to call on illiterate customer. A. O. Buckingham. Ptr Ink 234:46 F 9 '51

Sale I never forgot was made in the wilderness; selling brake lining to British Columbia lumber camp. W. B. Given, jr. Ptr Ink 233:60+ D 15 '50

Sale I never forgot was made on a memory; salesman listens to story of his father's heroism. D. A. Jenks. Ptr Ink 236:110 S 21 '51

Sales leap 51 per cent when Homasote offers incentive for more calls; compensation and sales control tied together. F. V. Wilson, jr. Sales Management 65:42-5 D 15 '50

Salesmen are busy as ever. Bsns W p 102-4 Ap 7 '51

Salesmen in impending sellers' market. E. Roper. Comm & Fin Chr 174:72+ Jl 5 '51

Selling as a career. B. A. Buechner. Sales Management 66:74-5 Je 15 '51

Tax pointers for sales executives. L. Gold. Sales Management 66:50+ F 15 '51

Will we have salesmen? C. B. Boulet. Edison Elec Inst Bul 19:110-12 Ap '51

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Purchasing—Treatment of salesmen
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Advance cards and letters

Advance planning makes sales calls more productive; using letters and telephone calls to pave the way. K. F. Kirchhofer. Ind Marketing 36:124 S '51

Six-year-old wrote the best card. il Ptr Ink 235:37 Je 29 '51

This letter opens door to more direct sales; Charmante's Beauty Planalysis. Sales Management 67:64 Ag 15 '51

Bonuses

Bonus yardstick; Libbey-Owens-Ford rating formula. Bsns W p84 D 16 '50

How bonus incentive plans build linage. R. B. McIntyre. Ed & Pub 84:16+ Jl 28 '51

Schilling explains the why's behind salary and bonus pay plan. J. D. Miller. Sales Management 67:78+ Ag 1 '51

Expenses

Are your expense acounts hurting? Management R 40:301-2 My '51

Kiss the swindle sheet good-by! how 39 companies handle expense accounts. M. French. Am Bsns 21:18-19+ Jl '51

Records you must have to back tax deductions; salesmen's expense accounts. J. Shoenfeld. il Sales Management 66:60+ Mr 15 '51

Salesmen police their expenses in United Board's pay plan. W. G. Henry. Sales Management 66:56+ Mr 1 '51

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Automobiles, Salesmen's—Costs

Gifts to buyers

Manhattan's give-aways; there's a tie-up idea in every one; well chosen gifts to buyers help to maintain prompt association between a product and a specific brand name. Sales Management 67:105-6 S 15 '51

Rating

Appraisals for salesmen; they help to lift the batting average. E. F. Schumacher. Sales Management 66:42-6 F 1 '51

Bonus yardstick; Libbey-Owens-Ford rating formula. Bsns W p84 D 16 '50

Do you want more volume, better service to customers? give your salesmen this nine-point attitude test. S. Munson. Ptr Ink 233:32-3 D 8 '50

Keeping sell in salesmen; missionary salesmen. Chem Ind W 68:35-6 Mr 17 '51

Rating system to set salesmen bonuses. J. M. Johns. Ptr Ink 235:35-6 My 4 '51

Ratings guide salesmen in self-improvement; Pabco Products. Sales Management 66:74+ My 20 '51

Salaries and commissions

Best way to pay salesmen; Harvard-NSE study. Bsns W p 108-9 Mr 17 '51

Experts will help WSB stabilize commissions. Bsns W p34 S 15 '51

Falk's industrial sales pay plan heads off squabbles. T. F. Scannell. Sales Management 66:50+ My 20 '51

How to pay your salesmen in today's changed conditions. R. F. Dick. Ind Marketing 36:38-9+ Ag '51

Is your salesmen's pay plan out of tune with the times? J. C. Olson. Sales Management 67:37-9+ Jl 15 '51

SALESMEN—Salaries and commissions—*Cont.*
No floor for salesmen's pay, says Salary stabilization board. Sales Management 67:111 Ag 15 '51
Pay plan long on incentive speeds up sales for Daystrom. T. S. Gallagher. Sales Management 67:96+ S 1 '51
Pay your salesmen on the hybrid plan. W. M. Fox. Ind Marketing 35:44+ D '50
Recent trends in salesman compensation; abstract. Management R 39:666-8 N '50
Salary and bonus plans popular in drug field. Sales Management 67:102 Jl 15 '51
Sales leap 51 per cent when Homasote offers incentive for more calls; compensation and sales control tied together. F. V. Wilson, jr. Sales Management 65:42-5 D 15 '50
Salesmen cannot be bought for $3,600. E. B. Weiss. Ptr Ink 236:49 Ag 24 '51
Salesmen police their expenses in United Board's pay plan. W. G. Henry. Sales Management 66:56+ Mr 1 '51
Salesmen stuck; government can recapture excessive commissions; Armstrong case. Bsns W p56-7 D 2 '50
Salesmen's compensation; a survey; abstract. H. R. Tosdal and W. Carson, jr. Management R 40:219-20 Ap '51
Survey shows U.S. sales-pay picture. il map diag Mod Ind 21:97-8+ Mr '51
Today's sales incomes can get out of hand. B. Miller and B. K. Moffitt. Ind Marketing 36:34-5+ Je '51
What you can and can't do now to raise salesmen's pay rates. J. Shoenfeld. Sales Management 67:84+ Jl 1 '51

Selection

Aptitude tests; we use 'em to spot the lemons and the misfits. E. E. Reynolds. Sales Management 66:58+ F 15 '51
Industrial selling is on the way up; selection and training of salesmen at E. F. Houghton & co. A. A. Miller. Ind Marketing 35:106+ N '50
Kind of person who can sell. D. A. Laird. Management R 40:426-8 Jl '51
Selling by slide rule. Chem W 69:16 S 22 '51
Your post-Korea sales forces; is now the time to plan it? W. Hart. Sales Management 65:37-9 N 20 '50

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Training

Brake experts made in 60 minutes; all about Grey-Rock jobber meetings. A. B. Ecke. il Sales Management 66:84+ Je 15 '51
Dress rehearsal sales teach inside technical men to sell; Bausch & Lomb's see and do training technique. B. T. Parker. Sales Management 67:45-6 S 1 '51
Ethyl splits engines apart in product training clinics. il Sales Management 67:90-1 O 1 '51
How United air lines trains its salesmen; use of recordings of conversations between customers and company personnel. Am Bsns 21:38 Ja '51
Industrial selling is on the way up; selection and training of salesmen at E. F. Houghton & co. A. A. Miller. Ind Marketing 35:106+ N '50
New sales force boosts volume 65 per cent. il Ptr Ink 234:40-2 Mr 16 '51
Obstacle course for salesmen; Fram corp. H. E. Robinson. Ptr Ink 234:38-40+ Ja 5 '51
Sales training, even now; Coleman, heater manufacturer, launches $2-million program. il Bsns W p 114-15 Mr 17 '51
Sales-training films for any industry; Sleeping Giant series. il Mod Ind 20:105-6 N '50
Sales training now? here's A-1 advocate; Coleman co., Wichita. il Mod Ind 21:97-8 My '51
Show-and-sell drives, sparked by contests, mine pay dirt for West. W. Flatow, jr. il Sales Management 67:42-6 O 15 '51
Speech training equips sales force for group selling. il Ptr Ink 233:40 N 10 '50
Sperry's doughboys; to sell a baker they learn his trade. il Sales Management 67:45 Ag 15 '51
Unorthodox sales training helps Harper buck its problems. M. Kingman. Ind Marketing 36:36-7+ F '51
Use this ten-point guide to make your salesmen sit up and take notice. W. J. Tobin. Ptr Ink 236:46-7 S 7 '51
Voice with a sale in it gets the orders; telephone canvassing technique. R. G. French. Am Bsns 20:28+ O '50
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Unionization

Colgate and union both win salesmen's strike; company gains open shop for selling employes; soap salesmen in N.Y. area get new salary, bonus and security provisions. Sales Management 67:126-8 O 1 '51
No soap today! Colgate salesmen raise problems of white-collar unionism. il Fortune 44:64-6 O '51

SALESMEN, Jobbers'
Give distributors' salesmen the sort of catalog they want; Smith welding equipment corp. N. N. Canfield. il Ptr Ink 233:30-1 N 3 '50
How we pass our story along to wholesalers' salesmen; visual presentation with carefully devised follow-through. E. L. Wight. il Ptr Ink 233:37-8 O 27 '50

Training

How Lily-Tulip talks to wholesalers' salesmen. M. Beuick. il Ptr Ink 235:38-9 Je 8 '51
Obstacle course for salesmen; Fram corp. H. E. Robinson. il Ptr Ink 234:38-40+ Ja 5 '51

SALESMEN, Missionary
Keeping sell in salesmen; missionary salesmen. Chem Ind W 68:35-6 Mr 17 '51

SALESMEN, Retail
Extra dough-re-me for salesmen spurs interest in training clerks; Mirro aluminum ware contest. R. L. Pritchard. il Ptr Ink 234:34-5 F 9 '51
How to get usable sales ideas from retail salesmen. L. D. Rambeau. Ptr Ink 236:43 S 14 '51
Our retail selling ills; a diagnosis. N. H. Comish. il Dun's R 59:21-2+ Mr '51

Bonuses (manufacturers')

FTC's battle against PMs. G. H. Weil. Ptr Ink 236:42 Jl 13 '51

Training

Carnation's retail stores, they're sales proving grounds. il Sales Management 65:42-3 N 20 '50
Dental group packages training meetings for dealers. V. W. Rooke, jr. il Sales Management 67:102-5 Ag 15 '51
How to personalize a sales-training film. L. F. Thomann. il Ptr Ink 234:31 Ja 5 '51
How to sell through the mail order chains; educating the retail salespeople. J. C. Cumming. Sales Management 65:76+ N 10 '50
Let's see you do it training is heart of Winkler's dealer course. R. C. Hulse. il Sales Management 66:42-4 My 20 '51
Retail clerk; once again he spits in the customer's eye. J. C. Cumming. Sales Management 66:113-14+ Ap 15 '51
Sales girls can say, it's made this way; booklets issued by De De Johnson, designer. Sales Management 65:64 N 1 '50
Sales training by mail lifts retail know-how 29 per cent; course in corset fitting. C. J. Swan. il Ptr Ink 234:40-1 Mr 23 '51
Stress is on the trade-up in retail sales training; Hoffman radio corp. L. F. Thomann. il Ptr Ink 235:236-7 Ap 20 '51
What McKesson is doing to break retail training bottleneck. E. M. Kelley. il Sales Management 66:37-9 My 1 '51
Why four manufacturers teach management at sundae school; Western fountain institute. il Sales Management 65:94+ D 15 '50
Why groceries move faster in Frisco. il Sales Management 65:62+ D 1 '50

SALESMEN, Specialty
How store detailing helps the agency. D. L. Harrington. il Adv Agency 44:52-3+ F '51

SALESMEN and advertising. See Advertising and salesmen

SALESMEN and credit

Credit man in the field. C. E. Buck. Credit & Fin Management 52:24-5 N '50

Credit-sales cooperation? customers and salesmen; they're all alike. E. Bowles. Credit & Fin Management 53:11-12+ S '51

Keep the salesmen your friend. J. E. Walsh. Credit & Fin Management 53:2-3 My '51

Sales viewpoint on credit. W. T. Murray. Credit & Fin Management 52:15-16+ D '50

Salesman looks at the credit man. G. A. Kiepe. Credit & Fin Management 53:21-2 Ap '51

Salesmen view the credit department. J. P. Maloney. Credit & Fin Management 53:10-12+ Ag '51

SALESMEN'S automobiles. See Automobiles, Salesmen's

SALESMEN'S bulletins

Put your salesmen on the spot, to be sure your sales bulletins are read. J. A. McIlnay. Sales Management 66:88-9 My 20 '51

Too much paper work; thief of golden selling hours; Pabco simplifies sales communications. il Sales Management 66:37-9+ Mr 1 '51

SALESMEN'S cards

Unusual salesmen's cards. il Sales Management 67:80 S 15 '51

SALESMEN'S equipment

Build-your-own models boom Fruehauf truck body sales. N. A. Rowe. il Ind Marketing 36:36-7 My '51

How Alemite's sales aids cut technical jargon; slide film and portable demonstrator sell tachometer. E. N. Robinson. il Sales Management 67:80+ Jl 1 '51

Idea far removed from shoes; Health spot shoe co. R. Conover. il Sales Management 66:58+ Ja 1 '51

Industrial models at work; they pay off for Allis-Chalmers. il Sales Management 66:42-3 Ja 1 '51

Lots and lots of sales tools. il Sales Management 67:88-90+ O 15 '51

Manhattan's give-aways; there's a tie-up idea in every one; well chosen gifts to buyers help to maintain prompt association between a product and a specific brand name. Sales Management 67:105-6 S 15 '51

Portable recorders slash paper work for Sutherland. il Sales Management 66:98+ Je 1 '51

Presentations; how to make them sell. H. Edmunds. il Adv Agency 44:68-9+ Jl '51

Salesmen like gimmicks if they work; these do; Morning milk co. L. F. Thomann. il Ptr Ink 233:35-6 N 3 '50

Three-minute sales talk; one dollar fountain pen; pocket-size visual. il Sales Management 66:41 Mr 15 '51

Tools for quick answers; they touch a buyer's live nerve. il Sales Management 67:42-4 Ag 15 '51

Two-sided visual serves as memory for salesmen. il Ind Marketing 36:70+ S '51

Why Belding says it with color slides; salesmen's Kodachromes and viewers. Sales Management 66:118+ Ap 15 '51

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SALESMEN'S portfolios

Give the salesmen's old story a new package; Soft-Lite lens co. A. A. Kohler. il Ptr Ink 236:38 Ag 31 '51

Try this Bikini on your salesmen; real explosion drives home slogan to Allied Mills salesmen and dealers. J. L. Richardson. il Ptr Ink 235:42-3 Ap 20 '51

SALESMEN'S reports

Portable recorders slash paper work for Sutherland. il Sales Management 66:98+ Je 1 '51

Selling via sound tape. il Sales Management 67:84-6 Ag 15 '51

SALESMEN'S wives

Getting more mileage from salesmen's wives; wives' clinic at Revlon co.'s New York offices. Mod Ind 21:108+ Je '51

SALESWOMEN

Our retail selling ills; a diagnosis. N. H. Comish. il Dun's R 59:21-2+ Mr '51

So you think women couldn't sell your line? tested ideas for recruiting, testing, training, supervising them. D. G. Humm. il Sales Management 66:138+ Mr 15 '51

SALICYLALDEHYDE

Some chroman and 1 : 2-benzopyran derivatives. H. V. Taylor and M. L. Tomlinson. Chem Soc J p2724-5 O '50

SALICYLIC acid

Effect of changes in the allyl group on the rearrangement of allyl ethers of salicylic acids. W. R. Nummy and D. S. Tarbell. bibliog Am Chem Soc J 73:1500-4 Ap '51

Spectrophotometric determinations of esterases. B. H. J. Hofstee. Science 114:128-30 Ag 3 '51

SALICYLIDES

Eight- and higher-membered ring compounds; di-, tri-, tetra-, and hexasalicylides. W. Baker, W. D. Ollis and T. S. Zealley. diag Chem Soc J p201-8 Ja '51

Stereochemistry of the salicylides and some related compounds. P. G. Edgerley and L. E. Sutton. pl diags Chem Soc J p 1069-74 Ap '51

SALINAS CRUZ, Mexico

Harbor

Unusual fixed dredge to keep port open. il Eng N 145:57 N 16 '50

SALIVA

Analysis of the enzyme activity of the conditioned salivary response in human subjects. J. D. Brothers and C. J. Warden. Science 112:751 D 22 '50

SALMANOWITZ, Jules M.

Portrait. Fortune 44:22 Jl '51

SALMON

How salmon get home. Sci Am 185:56+ S '51

Pack diced salmon in four-lb. cans. R. Bloomberg. il Food Eng 23:93 My '51

SALMONELLA

Double infection of the rat fleas X. cheopis and N. fasciatus with pasteurella and salmonella. C. R. Eskey and others. Pub Health Rep 66:1318-26 O 12 '51

Five new salmonella types. C. L. Stucker and others. Pub Health Rep 66:1058-63 Ag 17 '51

Membrane filter in sanitary bacteriology. H. F. Clark and others. bibliog il diag Pub Health Rep 66:951-77 Jl 27 '51

Preparation of antisera for detection of the somatic antigens of salmonella cultures. P. R. Edwards. bibliog Pub Health Rep 66:837-9 Je 29 '51

Salmonella in irrigation water. S. G. Dunlop and others. bibliog Sewage & Ind Wastes 23:1118-22 S '51

SALOL

Ultraviolet inhibitors for cellulose acetate-butyrate plastics; phenyl hydroxybenzoates, hydroxyphenyl benzoates, and their methyl ethers. L. W. A. Meyer and W. M. Gearhart. bibliog il Ind & Eng Chem 43:1585-91 Jl '51

SALT

Absorption spectra of pure and colored alkali halide crystals. D. L. Dexter. Phys R 83:435-8 Jl 15 '51

Better ice control with rock salt. A. L. Demarest. il Pub Works 82:41-2 Ag '51

Brine film resistance to heat flow of calcium chloride, sodium chloride, and ethylene glycol; with charts. C. T. Shields. Refrig Eng 59:880-4 S '51

Color centers in additively colored alkali halide crystals containing alkaline earth ions. F. Seitz. Phys R 83:134-40 Jl 1 '51

Differential diffusion coefficients of lithium and sodium chlorides in dilute aqueous solution at 25°. H. S. Harned and C. L. Hildreth, jr. Am Chem Soc J 73:650-2 F '51

Dissociation energies of the Cd^{++} vacancy complex and of the double vacancy in sodium chloride. J. R. Reitz and J. L. Gammel. bibliog J Chem Phys 19:894-9 Jl '51

Distribution of impurities in alkali halides. E. Burstein and others. bibliog Phys R 81:459-60 F 1 '51

Do salts used for ice control speed rusting of automobiles? il Eng N 146:39-41 My 17 '51

Effects of sodium chloride on setting properties of oil-well cements. N. C. Ludwig. bibliog Oil & Gas J 50:125-6+ My 24 '51

SALT—*Continued*

Energy storage and light stimulated phosphorescence in activated $NaCl$ crystals induced by gamma-rays. H. Kallmann and M. Furst. Phys R 83:674-5 Ag 1 '51

Equivalent and ionic conductances for sodium and potassium chlorides in anhydrous methanol at 25°C. J. P. Butler and others. bibliog J Chem Phys 19:752-4 Je '51

Ionization constants of glycine and the effect of sodium chloride upon its second ionization. E. J. King. bibliog Am Chem Soc J 73:155-9 Ja '51

Materials of construction report. il diag(p135) Chem Eng 57:132-4 N '50

Oscillator strengths for the α- and β-bands in alkali halide crystals. D. L. Dexter. bibliog Phys R 83:1044-6 S 1 '51

Phosphorescent effects with high energy radiation. M. Furst and H. Kallmann. Phys R 82:964 Je 15 '51

Salt as a fertiliser. Chem Age (Lond) 64:301-4 F 24 '51

Salt; its importance and use in textile industry. E. B. Tustin, jr. Rayon 31:83-4 D '50

Salt on wheels; tank truck delivery of brine. il Chem Ind W 68:41 Mr 31 '51

Sodium chloride in cyanidation at Renabie. E. G. Kearney and W. J. Fenton. bibliog Can Min J 72:63-7 Je '51

Some optical properties of lead-activated sodium chloride phosphors. J. H. Schulman and others. bibliog il Opt Soc Am J 40:854-62 D '50

Transference numbers for sodium and potassium chlorides in anhydrous methanol at 25°C. J. A. Davies and others. bibliog J Chem Phys 19:749-51 Je '51

Two cranes, conveyor belt and 60 trucks handle 300 tons of rock salt per hour at Toronto. il Roads & Eng Constr 88:48+ D '50

See also
Brine

Manufacture

How Morton Salt refines salt, fights corrosion, handles solids. J. A. Lee. il diags Chem Eng 58:102-5 Ja '51

How to squeeze salt from the sea; Leslie salt co. il Bsns W p 122-3 Ap 28 '51

New salt plant overcomes handling headaches; Morton's Grand Saline, Texas, plant. G. R. Pyle. il Factory Management 108:120-3 D '50

Something new in saltmaking. L. D. Simmons. il diag Chem Eng 57:156-7 N '50

Therapeutic use

Hot weather health. Nat Safety N 63:190 Mr '51

SALT domes

Salt-dome faults. M. Quarles. Oil & Gas J 49:46 N 30 '50

Scale models as guide to interpretation of salt-dome faulting. T. J. Parker and A. N. McDowell. il maps Am Assn Pet Geologists Bul 35:2076-86 S '51

Types of hydrocarbon accumulation and geology of South Liberty salt dome, Liberty county, Tex. M. T. Halbouty and G. C. Hardin, jr. maps diags Am Assn Pet Geologists Bul 35:1939-77 S '51

SALT handling

Vertical cure of costly clog jumps storage capacity 75 per cent; Morton salt company. H. S. Squibbs. Food Eng 23:143 Ag '51

SALT industry and trade

See also
Pennsylvania salt manufacturing company

SALT LAKE CITY

Brigham Young wouldn't recognize it. il Bsns W p80-2+ S 1 '51

Wholesaling the Mormon way. il Bsns W p 128-30+ Je 23 '51

SALT mines and mining

Detroit underground; illustrations with text. Eng & Min J 152:102 Ja '51

1,100 ft. under Detroit; salt mine of International salt co. il Bsns W p38-9 Ja 6 '51

Tunneling equipment is electrified for rock salt mining. H. W. Richardson. il Constr Methods 33:60-3 My '51

Underground storage tanks; salt dissolved from underground beds gives storage for liquefied petroleum gases. W. F. Matheny and G. H. Billue. diag Chem Eng 57:115 D '50

See also
Salt domes

SALT water. See Sea water; Water supply—Salt water intrusion

SALTED nuts. See Nuts, Salted

SALTS

Condensations by sodium; the effect of salts and other substances on the alkylation of toluene, a modified Wurtz reaction. A. A. Morton and A. E. Brachman. bibliog Am Chem Soc J 73:4363-7 S '51

Industrial salts; production at Searles lake. J. E. Ryan. bibliog il Min Eng 3:Trans 447-52 My '51

Ionic conductances in ethylidene chloride. F. H. Healey and A. E. Martell. bibliog Am Chem Soc J 73:3296-9 Jl '51

Microwave resonance absorption in paramagnetic salts. Ju Ting and D. Williams. bibliog diag Phys R 82:507-10 My 15 '51

Oxidation of sulphurous acid. H. Bassett and W. G. Parker. Chem Soc J p 1540-60 Je '51

Properties of electrolytic solutions; conductance of some salts in acetone. M. J. McDowell and C. A. Kraus. Am Chem Soc J 73:3293-6 Jl '51

Quaternary salts of halogenated pyridines and quinolines. C. T. Bahner and others. Am Chem Soc J 73:3499-501 Jl '51

Reaction-kinetic investigations of the incomplete dissociation of salts; the hydrolysis of carbethoxymethyltriethylammonium iodide and the ethyl acetate by solutions of metal hydroxides. R. P. Bell and G. M. Waind. Chem Soc J p 1979-83 Ag '50

Reactions of metallic salts of acids with halogens; the reaction of metal trifluoroacetates with iodine, bromine, and chlorine. R. N. Haszeldine. Chem Soc J p584-7 F '51

Salt effects on the acid-catalyzed hydrolysis of γ-butyrolactone. F. A. Long, W. F. McDevit and F. B. Dunkle. bibliog J Phys & Colloid Chem 55:813-42 Je '51

Some aqueous salt systems involving fluosilicates. J. E. Ricci and J. A. Skarulis. bibliog Am Chem Soc J 73:3618-27 Ag '51

Source of atmospheric salts. S. G. Boyce. bibliog Science 113:620-1 Je 1 '51

Studies on phosphorylation; the action of salts on neutral benzyl esters of the oxy-acids of phosphorus; a new method of selective debenzylation. V. M. Clark and A. R Todd. Chem Soc J p2030-4 Ag '50

SALTS, Complex

Cation complexes of compounds containing carbon-carbon double bonds; further studies on the argentation of substituted benzenes. L. J. Andrews and R. M. Keefer. bibliog Am Chem Soc J 72:5034-7 N '50

Chemistry of thorium in aqueous solutions; some organic and inorganic complexes. R. A. Day, jr. and R. W. Stoughton. Am Chem Soc J 72:5662-6 D '50

Complex formation between nickel ion and hydrazine in solution. E. C. Gilbert and W. H. Evans. Am Chem Soc J 73:3516-18 Jl '51

Complexes between metal salts and long-chain aliphatic amines; the complexes of cupric salts with long-chain amines. A. R. Burkin. Chem Soc J p 122-7 Ja '50

Complexes between metal salts and long-chain aliphatic amines; the complexes of cuprous halides with long-chain aliphatic amines. R. G. Wilkins and A. R. Burkin. diag Chem Soc J p 127-32 Ja '50

Complexes between metal salts and long-chain aliphatic amines; the oxidation of copper(I) complexes to copper(II) complexes. R. G. Wilkins and A. R. Burkin. Chem Soc J p 132-6 Ja '50

Complexes of copper phenylacetate and diphenylacetate with alcohols. M. Crawford. Chem Soc J p2187-90 Ag '50

Inorganic complex compounds containing polydentate groups; formation constants of diethylenetriamine-nickel(II) and -copper (II) complexes. H. B. Jonassen, R. B. Le Blanc and R. M. Rogan. Am Chem Soc J 72:4968-71 N '50

SALTS, Complex—*Continued*

Inorganic complex compounds containing polydentate groups; formation constants of the triethylenetetramine-copper(II) and nickel (II) complex ions. H. B. Jonassen and A. W. Meibohm. bibliog J Phys & Colloid Chem 55:726-33 My '51

Lanthanon complexes with ethylenediaminetetra-acetic acid. R. C. Vickery. Chem Soc J p 1817-21 Jl '51

Liquid complexes of lower olefins with anhydrous metal salts. A. W. Francis. bibliog diags Am Chem Soc J 73:3709-13 Ag '51

Nature of the co-ordinate link; halogen-bridged, binuclear platinous complexes; the co-ordinating affinity of the tertiary alkyls of group V elements for platinous chloride. J. Chatt. Chem Soc J p652-8 Mr '51

Nature of the co-ordinate link; the non-ionic complex compounds of tri-*n*-propylphosphine with platinic and platinous chlorides. J. Chatt. Chem Soc J p2301-10 S '50

Polarographic studies of metal complexes; the cadmium(II), zinc(II) and iron(III) citrates. L. Meites. Am Chem Soc J 73:3727-31 Ag '51

Polarographic studies of metal complexes; the lead(II) tartrates and oxalates. T. Meites and L. Meites. bibliog Am Chem Soc J 73:1161-4 Mr '51

Preferential complexing of iron(III) with β-glucose. J. C. Delaney, J. Kleinberg and W. J. Argersinger, jr. Am Chem Soc J 72:4277-8 S '50

Preparation of complex fluoro-acid salts of metals and of the nitronium ion by means of bromine trifluoride. A. A. Woolf and H. J. Emeléus. Chem Soc J p 1050-2 Ap '50

Role of halide ions in the ferric-stannous reaction. F. R. Duke and R. C. Pinkerton. bibliog Am Chem Soc J 73:3045-9 Jl '51

Sexadentate metal complexes; magnetic studies. F. P. Dwyer, F. Lions and D. P. Mellor. bibliog Am Chem Soc J 72:5037-9 N '50

Some complexes formed from diaryl selenoxides and mercury(II) halides. E. S. Gould and J. D. McCullough. Am Chem Soc J 73:3196-7 Jl '51

Spectrophotometric studies of cobalt(II) thiocyanate complexes in organic solvents. L. I. Katzin and E. Gebert. Am Chem Soc J 72:5659-62 D '50

Spectrophotometric studies on complex formation with sulfosalicylic acid; with iron (III) at higher *p*H values. R. T. Foley and R. C. Anderson. bibliog Am Chem Soc J 72:5609-12 D '50

Spectrophotometric study of the hydrolysis products, some possible complexes and metal salts of fluoroboric acid. E. R. Scheffer and E. M. Hammaker. bibliog Am Chem Soc J 72:5607-9 D '50

Stability of complexes of uranyl nitrate with ketones and ethers. A. R. Mathieson. diag Chem Soc J supp no 2:S294-8 '49

Studies in co-ordination chemistry; the structure of the blue and the brown cuprous-cupric complexes of methyldiphenylarsine. R. S. Nyholm. Chem Soc J p 1767-74 Jl '51

Study of the solubility of triethylenediaminenickel thiosulfate. J. H. Gast and F. L. Aldrich. Am Chem Soc J 73:3037-9 Jl '51

SALTS, Double

Pickeringite and the system $MgSO_4$-$Al_2(SO_4)_3$-H_2O. H. Bassett and W. Watt. Chem Soc J p 1408-14 My '50

System $Ba(IO_3)_2$-$BaCl_2$-H_2O at 25°. J. E. Ricci. Am Chem Soc J 73:1375-6 Mr '51

SALTS, Fused

Catalysis in fused salt systems. N. E. Norman and H. F. Johnstone. bibliog Ind & Eng Chem 43:1553-8 Jl '51

SALTS, Molten

Brazing in salt baths offers production economies. J. B. Campbell. il Materials & Methods 33:64-6 Ja '51

Good carburizing practice; salt baths save process time. T. A. Frischman. il Am Mach 94:89-93 D 25 '50

SALVADOR

El Salvador hits the jackpot. il Eng N 146:54 F 8 '51

Economic conditions

El Salvador booms. il Bsns W p 122-3 O 28 '50

News by countries. For Comm W 41:11-12 N 6; 10-11 D 11 '50; 42:13-14 F 12; 16 Mr 12; 43:12 Ap 23; 12 My 21; 10-11 Je 18; 44:13 Jl 30; 13-14 Ag 6; 10-11 S 10; 45:11 O 8 '51

SALVAGE

Admiralty salvage organisation. Engineer 190:494-5 N 24 '50

Ancient law of the sea tangles settlement of salvage of Andrea F. Luckenbach. il Bsns W p78-80+ S 8 '51

Salvage of H.M.S. Breconshire. Engineer 190:411 N 3 '50

Salvaging a sunken river dredge. R. K. Graul. il Comp Air Mag 56:177-9 Jl '51

Salvaging the U.S.S. Lafayette. H. O. Austin. il U S Naval Inst Proc 77:810-17 Ag '51

See also

Ships—Refloating

SALVAGE (floods)

Underwriters salvage co. reduced greatly Kansas City flood losses. East Underw 52:25 Ag 31 '51; Same. Nat Underw 55:1+ Ag 30 '51

SALVAGE (waste, etc.)

Aluminum scrap recovery saves five million pounds; Chrysler's scrap system. H. Chase. il plan Iron Age 168:94-8 S 27 '51

De-enameling salvages defective ware. R. Reebel. il Steel 128:91 Ap 2 '51

Diamonds from dust; recovery from metal waste piles. R. S. Young and A. D. McDonald. il Iron Age 167:76-7 Je 28 '51

Gold in the plant scrap pile. D. P. Thornton, jr. il Pet Processing 6:251-3 Mr '51

How to cut station, plant building costs; independent finds answer by using company employes and salvaging old materials. L. Castle. il plan Nat Pet N 43:42-5 My 16 '51

How to recondition pipe. R. Sneddon. il Pet Eng 23:B37-8+ S '51

How welding salvages broken tools and dies. L. D. Richardson. il Iron Age 168:162-5 S 13 '51

Industrial glove salvaging cuts replacements. W. G. Patton. il Iron Age 166:109-11 D 14 '50

Making workers waste conscious. Mill & Factory 48:99 My '51

Need any grommets, ambrac tubes, scrap? Honeywell salvage store; photo visit. Mod Ind 21:18+ Ap '51

New process slashes cost of phosphoric acid pickling; reclaims the acid for reuse. C. F. Paulson and M. E. Gilwood. flow sheet il Iron Age 166:97-9 D 14 '50

Park fine-coal plant. il diag Coal Age 56:82-5 Je '51

Pontiac saves $100,000 annually with a tool-control program. R. Le Grand. il diags Am Mach 95:85-7 Ja 8 '51

RCA's new triple-S campaign. il Factory Management 109:68-73 My '51

Salvaging saves at Westinghouse. Bsns W p 101 My 12 '51

Scrap; industry's five percenter; plant salvage programs. il Mod Ind 21:52-5 Ap '51

Scrap salvage; case study from Britain; abstract. C. Bryant. Management R 40:552-3 S '51

Setting up a salvage stores department. P. L. Kimmell. N A C A Bul 32:205-8 O '50

Spoiled tool steels can be reclaimed. R. P. Seelig. il Iron Age 167:97-101 Ap 12 '51

38-year-old pipe reclaimed. J. Joseph. il World Oil 133:220-2 Jl '51

Union of California salvages oil from waste-water conditioning system. il Oil & Gas J 49:A92+ N 9 '50

Valve salvage pays when it's part of routine maintenance. W. C. Uhl. il plan Pet Processing 6:388-92 Ap '51

Wise use of waste materials results in significant savings. J. D. Coleman. il Materials & Methods 32:55-7 N '50

See also

Scrap material

SAMARIUM

Mass assignment of natural activity of samarium. B. Weaver. Phys R 80:301 O 15 '50

Resonant scattering in samarium and gadolinium. B. N. Brockhouse and D. G. Hurst. bibliog Phys R 83:841 Ag 15 '51

SAMARIUM—*Continued*

Isotopes

Hyperfine structure of Sm^{149}, Sm^{147}, Nd^{145}, and N^{143}. K. Murakawa and J. S. Ross. bibliog Phys R 82:967-8 Je 15 '51

Isotope shifts in enhanced samarium isotopes. D. D. Smith and J. R. McNally, jr. bibliog il Opt Soc Am J 40:878 D '50

SAMOA

American Samoa acquires civilian status. For Comm W 44:9 Jl 16 '51

SAMPLER packages. See Package goods—Sampler packages

SAMPLES (merchandizing)

Developing prospects; market research and advertising methods. R. S. Aries and W. Copulsky. bibliog Ind & Eng Chem 43:852-5 Ap '51

How to lick silence at point-of-purchase; Noxzema's new shave cream provocative package. il Sales Management 66:62-3 Ap 1 '51

Minuscule samples; Harper's Bazaar's perfume packet mailed to readers; flame-sealed Plastene ampoules. il Mod Packaging 24:80-2 Ja '51

Taste-test on a big scale helps build sale of wine. il Ptr Ink 235:27 Ap 27 '51

See also

Coupons

Package goods—Sampler packages

SAMPLES, Textile. See Textile samples

SAMPLING

Electronic spray analyzer for electrically conducting particles. J. M. Geist, J. L. York and G. G. Brown. bibliog diags Ind & Eng Chem 43:1371-7 Je '51

Maryland asphalt extractor. J. E. Wood and W. T. Long. il diags Roads & Sts 94:60-2+ S '51

Microsampling of ceramic materials. L. B. Bassett and V. D. Frechette. il diags Am Cer Soc Bul 29:410 N 15 '50

Sampling and metering are basic; adequate and economical pollution control. diags Chem Eng 58:121-2 My '51

Sampling device for pressurized package dyeing machines. P. M. Cole and T. W. Stricklin. il diags Am Dyestuff Rep 39:801 N 27 '50

Simple sampling device for submerged cultures. H. A. Walch, jr. and others. diag Science 114:368-9 O 5 '51

Some legal aspects of sampling. F. R. Kennedy. Standardization 22:282 S '51

Tentative textile specification no. 18, 1950; methods of fibre sampling for testing. Textile Inst J 41:S 1-6 O '50

See also

Cotton sampling

Ore sampling

Petroleum—Sampling

Petroleum—Well drilling—Sampling

Sewage sampling

Soil sampling

Steam sampling

Water sampling

SAMPLING (statistical methods)

Application of tests for randomness. C. A. Bennett. bibliog Ind & Eng Chem 43:2063-7 S '51

Distribution of the range in samples from a discrete rectangular population. P. R. Rider. Am Stat Assn J 46:375-8 S '51

Large sample *t*-statistic which is insensitive to non-randomness. J. E. Walsh. Am Stat Assn J 46:79-88 Mr '51

Random walks and the eigenvalues of elliptic difference equations. W. Wasow. bibliog J Res Nat Bur Stand 46:65-73 Ja '51

Response errors in surveys. M. H. Hansen and others. Am Stat Assn J 46:147-90 Je '51

Sampling keeps rejects down. Bsns W p45-6 Je 30 '51

Sampling 1949 corporation income tax returns. A. C. Rosander and others. Am Stat Assn J 46:233-41 Je '51

Sampling with probabilities proportional to size; adjustment for changes in the probabilities. N. Keyfitz. Am Stat Assn J 46:105-9 Mr '51

Sequential analysis in marketing sampling. A. P. Ruderman. J Marketing 15:470-6 Ap '51

Sequential sampling from finite lots when the proportion defective is small. J. H. Chung. Am Stat Assn J 45:557-69 D '50

Sharp tool for industrial engineers. J. M. Allderige. Advanced Management 16:12-15 S '51

Some sampling simplified. J. W. Tukey. Am Stat Assn J 45:501-19 D '50

Source of bias in one of the samples of the 1950 census. P. O. Steiner. Am Stat Assn J 46:110-13 Mr '51

Statistical solution of a problem arising in the sampling of leather. J. Mandel and C. W. Mann. bibliog diag J Res Nat Bur Stand 46:99-105 F '51

Stratification and optimum allocations. W. D. Evans. Am Stat Assn J 46:95-104 Mr '51

Two-choice selection. I. Bross. Am Stat Assn J 45:530-40 D '50

See also

Probabilities

SAMPSON, William J. jr.

Iron age salutes. por Iron Age 167:83 Ap 5 '51

SAMUELSON, Paul Anthony, 1915-

Economists. J. McDonald. por Fortune 42:108-13+ D '50

SANATORIUMS

See also

Tuberculosis—Hospitals and sanatoriums

SAND

Application of radioactive tracer techniques to the study of the movement of oil in sands. S. E. Coomber and E. N. Tiratsoo. 3pls diags Inst Pet J 36:543-58; Discussion. 558-60 S '50

Ocracoke's beach sand roads. J. L. Morrison. il map Pub Works 82:42-3+ Jl '51

Point of no return; Pritchard sand classifier and flotation separator. il Chem W 69:8-9 Ag 25 '51

Purification of sand for glassmaking; abstract. I. B. Shlain and others. Glass Ind 32:356 Jl '51

Sand brought back from watery grave saves money on hydraulic fill jobs; New Jersey turnpike. il map Eng N 147:30-3 S 13 '51

Special methods for the beneficiation of glass sand. P. M. Tyler. bibliog Min Eng 187: Trans 1139-42 N '50

See also

Aggregates

Beaches

Bituminous sand

SAND, Foundry

Adherence of sand on steel castings. P. R. Beeley and H. T. Protheroe. bibliog il 4pls diags Iron & Steel Inst J 167:141-57 F '51

Automatic weighing of foundry sand mixtures. D. H. Jillson. il diag Foundry 79:136+ S '51

Brass, bronze sand; abstract. H. W. Dietert. Foundry 79:133 Jl '51

Core sands. Foundry 79:175-6 Jl; 153 Ag '51

Foundry sands, composition, particle size. Foundry 79:160 Mr '51

Molding and core sand sessions, A.F.S. annual meeting. Foundry 79:166+ Je '51

Molding sands for nonferrous alloys. Foundry 79:151-2 S '51

Olivine sand research. G. S. Schaller and W. A. Snyder. il Foundry 79:104-5+ My '51

Properties of molding sands. Foundry 79:182+ My '51

Sand shop course; A.F.S. annual meeting. Foundry 79:130+ Jl '51

Reclamation

Improved molding sand effected by new conditioner. il Foundry 78:176 N '50

Sand reclamation at the Eddystone plant. K. S. Howard and C. B. Jenni. flow sheet il Mech Eng 73:621-6 Ag '51

Testing

Casting surfaces produced in olivine molding sand. G. S. Schaller and A. M. Nelson. il diags Foundry 79:110-13+ O '51

Impact strength of sands. H. W. Dietert. il Foundry 79:150-1 Ag '51

New sand testing method used to eliminate casting defects. W. H. Moore. il Foundry 79:152+ Ja '51

SAND and gravel association, National. See National sand and gravel association

SAND and gravel plants
Aggregates industries comment on current problems. W. B. Lenhart. il Rock Prod 54:118-21+ Ja '51
American aggregates corporation's contributions to the sand and gravel industry. B. Nordberg. il Rock Prod 54:102-7 Ja '51
Court upholds commission in pollution case. Rock Prod 54:130-3 F '51
Producing sand and gravel in England. C. Maw. flow sheet il Rock Prod 54:98-102 Je '51
Ready mix plant is adjunct of aggregate processing. il Concrete 59:28+ Je '51

Directories

Commercial producers of sand, gravel and crushed stone, Canada. Roads & Eng Constr 89:120+ Je '51
Directory of quarries, clayworks, sand and gravel pits, etc. 1950-1951. 12th ed 428p 15s Quarry managers' journal, Salisbury square house, Fleet st, London, E.C.4 '51

Electric equipment

Push-button operated gravel plant; D. D. Ruxton co. E. F. Perreault. il Rock Prod 54:76-7 My '51

Equipment

Air currents for size separation; Clayton silica co. W. B. Lenhart. il diag Rock Prod 54:75-7 S '51
Handling large tonnages of gravel; mining operation in Nevada employs belt conveyors. W. B. Lenhart. flow sheet il diag Rock Prod 54:56-9+ Jl '51
Largest sand and gravel plant; Pacific Coast aggregates, inc. W. B. Lenhart. il plan diags Rock Prod 54:86-92+ F '51
Low unit cost gravel operation; Graham bros., El Monte plant. W. B. Lenhart. flow sheet il Rock Prod 53:80-2+ D '50
Producing gravel for McNary dam. W. B. Lenhart. flow plan il map diags Rock Prod 53:66-70+ N '50
Producing washed uncrushed gravel and unwashed crushed gravel; Livingston rock and gravel co. W. B. Lenhart. flow diags il Rock Prod 53:56-9+ N '50

Safety measures

Sand and gravel safety competition winners. Rock Prod 53:162-3 D '50

SAND and gravel plants, Portable
Big gravel plant on skids. il Constr Methods 32:93+ N '50

SAND bars
Barrier island, not offshore bar. W. A. Price. bibliog Science 113:487-8 Ap 27 '51

SAND blast
Airless blasting does the trick. Steel 129:112+ Ag 13 '51
Garnet abrasive saves blasting costs. Aviation W 54:36 Je 18 '51
High pressure water + blasting sand = cleaner heat exchangers. W. C. Uhl. flow diag il Pet Processing 6:22-5 Ja '51
Layout for sand-blasting cars. il Ry Mech & Elec Eng 125:66-7 F '51
Mold cleaning by the vapor blast process; abstract. E. J. Gooding. Glass Ind 32:83+ F '51
No pump needed in wet blaster. il diag Product Eng 22:128-9 Je '51
Operator carried around the work in an unusual sand-blasting set-up. il plan diag Mach 58:167-9 S '51
Sand blast cleaner does all-around job. il Food Eng 23:84 Jl '51
Surface-preparation values and sand-blasting economics. A. J. Liebman. il Marine Eng 56:53-6 My '51
Wet blasting permits direct chrome plating on aluminum. H. E. Linsley. il Am Mach 95:120-1 Ag 20 '51

SAND drying
Draining excess water from sand; use of porous concrete slabs. R. E. Fowle. il diags Rock Prod 53:71+ N '50
Drying granular solids in superheated steam. L. Wenzel and R. R. White. bibliog il diags Ind & Eng Chem 43:1829-37 Ag '51

SAND dunes
Drawing water from a dune area. P. C. Lindenbergh. diags Am Water Works Assn J 43:713-24 S '51

SAND handling
Now, an automatic sanding plant; Diesel-servicing facility built by the Bessemer & Lake Erie at Albion, Pa. il Ry Age 131:38-40 O 8 '51
See also
Sand and gravel plants

SAND traps
Model and prototype studies of sand traps. R. L. Parshall. il Am Soc C E Proc 77 [no 67]:1-9 My '51

SAN DIEGO, California
San Diego builds playground. il Eng N 146:45-6 Ja 18 '51

Water supply

Water conservation program combats drought. Civil Eng 21:552 S '51

SAN DIEGO gas and electric company
Preferred stock offered. Comm & Fin Chr 173:384 Ja 22 '51

SANDING machines
Counterbalance eliminates vibrations in sander. il diags Machine Design 23:128-9 S '51

SANDSTONE
Electric log resistivity, porosity and water saturation for clean and shaly sandstones. P. J. Jones. bibliog diags World Oil 132:140-2+ F '51
Spraberry and Dean sandstones of west Texas. L. McLennan, jr. and H. W. Bradley. map diags Am Assn Pet Geologists Bul 35:899-908 Ap '51

SANDWICH construction. See Laminated construction

SAN FRANCISCO
San Francisco pushes redevelopment. il Eng N 146:52+ Je 7 '51
See also
Wages—San Francisco

Harbor

San Francisco builds large new wharf. il Eng N 147:48 Jl 5 '51

Sewerage

Sludge elutriation at the Richmond-Sunset plant. K. Fraschina. Sewage & Ind Wastes 22:1413-16 N '50

Streets

Parking relief promised. Eng N 145:60+ N 16 '50

Tunnel

Morrison-Knudsen and city dispute over design of tunnel. diags Eng N 147:29 S 13 '51

SAN FRANCISCO bay
Reber plan killed by report based on studies of all existing data. Eng N 146:40 Mr 15 '51
See also
Geology—San Francisco bay

SAN FRANCISCO Bay bridges
Engineering geology of San Francisco bay, Calif. P. D. Trask and J. W. Rolston. bibliog maps diags Geol Soc Bul 62:1079-109 S '51
S.F. Bay crossing revived by civic group. plan Eng N 145:31 N 23 '50

SAN FRANCISCO Bay region
See also
Housing—San Francisco Bay region

SAN FRANCISCO stock exchange
Exchange merger? Bsns W p61 D 30 '50

SANGUINARINE
Synthetical experiments in the chelidonine-sanguinarine group of the alkaloids. A. S. Bailey, R. Robinson and R. S. Staunton. Chem Soc J p 1375-9, 2277-81 My, S '50

SANITARY chemicals
Institutional uses of sanitary chemicals. F. W. Brewer. il Soap & San Chem 27:118-21+ Ag '51
Maintenance chemicals; what the building superintendent wants. T. R. M. Coull. Soap & San Chem 27:134-5+ Je '51
See also
Disinfection and disinfectants

SANITARY chemistry

History

Chemical progress during 75 years of the American chemical society; water, sewage, and sanitation chemistry. A. M. Buswell and others. il Ind & Eng Chem 43:594-602 Mr '51

SANITARY districts

Patapsco interceptor sewer and pump station. W. F. Neale. il map diags Water & Sewage Works 98:270-6 Je '51

Sanitation districts in Kentucky. H. A. Seaman. Sewage & Ind Wastes 22:1532-5 D '50

SANITARY engineering

Engineering and public health. A. J. S. Pippard. Engineering 171:493 Ap 27 '51

Environmental engineering aspects of nuclear activities. A. E. Gorman. J Eng Educ 41:179-84 N '50

Graphical approach to statistics; its use in sanitary engineering. C. J. Velz. Water & Sewage Works 97:195-200, 309-14, 393-400; 98:66-73, 262-5, 289-93 My, Ag, O '50, F, Je-Jl '51

Sanitary engineering is short on fluid mechanics knowledge. T. R. Camp. Eng N 147:45-6 Ag 9 '51

Sanitary engineering problems in disaster. G. E. McCallum. il Pub Works 82:68-70+ Ap '51

Water supply, sanitation, 1950. il Eng N 146:101-5 Mr 29 '51

See also

Air conditioning
Drainage
Dust removal
Factory sanitation
Filters and filtration
Heating
Mosquitoes—Extermination
Plumbing
Refuse disposal
Sanitation
Sewage disposal
Sewerage
Snow removal
Trade waste
Ventilation
Water pollution
Water purification
Water supply engineering

Study and teaching

Graduates from undergraduate sanitary engineering courses in the United States. A. P. Miller. bibliog Pub Health Rep 66:369-74 Mr 23 '51

Sanitary engineering education. G. W. Reid and R. T. Tindal. bibliog J Eng Educ 41:478-83 Ap '51

SANITARY engineers

Education and utilization of sanitary engineers. Pub Health Rep 66:1185-6 S 14 '51

Personnel needs in the environmental health and sanitation field. A. P. Miller. Pub Health Rep 66:535 Ap 27 '51

Quantitative study of sanitary engineering graduates. W. A. Lyon. Pub Health Rep 66:1177-84 S 14 '51

Sanitary engineers and selective service. Sewage & Ind Wastes 22:1542 D '50

Unit studies sanitary engineer supply. Eng N 146:62 Je 7 '51

Directories

Federation of sewage and industrial wastes associations; annual year book and directory, 1951. Sewage & Ind Wastes 23:335-430 Mr '51

SANITARY laws. See Milk supply—Laws and regulations; Public health laws

SANITARY products industry

Brewery switched to liquid soap and became Huntington laboratories. J. L. Brenn. il Soap & San Chem 27:122-3+ Ap '51

Buffalo, N.Y. as a sanitary supply market. E. Weller. il Soap & San Chem 26:110-13+ N '50

Looking ahead in sanitary supply selling. A. Candy, jr. Soap & San Chem 27:133 Je '51

Sanitary supplies for industry; survey conducted in Asheville, N.C. F. W. Brewer. Soap & San Chem 26:119+ O '50

Sanitary supplies for the Chicago market. H. H. Slawson. il Soap & San Chem 26:121-3+; 149+ D '50

Exhibitions

Convertibles, free drinks help abstinent Piatt & Smillie sell to distributors. il Ind Marketing 36:40-1+ S '51

Sanitary supplies at Midwest hotel show, Chicago, March 27-29. Soap & San Chem 27:145 My '51

SANITARY supply association, National. See National sanitary supply association

SANITARY ware

Inspection

Nondestructive testing of green ware; filtered-particle method. H. N. Staats. il Am Cer Soc Bul 29:411-15 N 15 '50

Manufacture

Innovations keep plant up to snuff; Norris stamping & manufacturing co. il Cer Ind 56:42-4+ F '51

Ware transfer device cuts labor; Norris stamping and manufacturing co. il Cer Ind 56:73 Mr '51

SANITATION

Environmental health. Pub Health Rep 65:1634-49 D 8 '50

Environmental health; a critique. M. D. Hollis. Pub Health Rep 66:400-9 Mr 30 '51

Let's look at the record of sanitation. G. M. Fair. Sewage & Ind Wastes 23:431-6 Ap '51

See also

Air conditioning
Air pollution
Air purification
Dairies—Sanitation
Disinfection and disinfectants
Dust removal
Factory sanitation
Food factories—Sanitation
Hygiene, Industrial
Milk supply
Plumbing
Public health
Refuse disposal
Sanitary engineering
Sewage disposal
Sewerage
Smoke prevention
Trade waste
Ventilation
Water purification
Water supply

SAN JOAQUIN valley

Industries

Farm valley, 1950; industrial diversification; illustrations with text. Bsns W p82+ N 4 '50

SAN JOSE mercury (newspaper)

Centennial marked. C. Watson. Ed & Pub 84:22 Je 16 '51

SAN JUAN canyon, Utah

Reef limestones of Hermosa formation. S. A. Wengerd. bibliog il maps diags Am Assn Pet Geologists Bul 35:1038-51 My '51

SANSEVIERIA. See Bowstring hemp

SANTA CLAUS

Mass production agrees with Santa; Gardner's seasonal and holiday displays; illustrations with text. Mod Ind 20:18+ D '50

SANTALIC acid

Chemistry of the insoluble red woods; some mixed benzoins. G. G. Badcock and others. Chem Soc J p2961-5 N '50

SANTOBRITE

Toxicity of some related halogenated derivatives of phenol. E. F. Stohlman. bibliog Pub Health Rep 66:1303-12 O 12 '51

SANTOMERSE

Spray drying of santomerse. Ju Chin Chu, L. E. Stout and R. M. Busche. bibliog flow sheet il Chem Eng Prog 47:29-38 Ja '51; Abstract. Soap & San Chem 27:71+ Mr '51

SANTONIN

See also

Pseudosantomine

SAO PAULO, Brazil

U.S. municipal experts make survey. Eng N 146:54+ F 8 '51

SAPOGENINS

Constituents of the wood of castanospermum australe Cunn. et Fras; the isolation of a new sapogenin, castanogenin. J. J. H. Simes. Chem Soc J p2868-70 O '50

Δ^9-12-Keto steroidal sapogenins. R. B. Wagner, R. F. Forker and P. F. Spitzer, jr. Am Chem Soc J 73:2494-7 Je '51

Steroidal sapogenins; oxidation of $\Delta^{5,16,20(22)}$-furostatriene-3β,26-diol. A. Sandoval and others. Am Chem Soc J 73:3820-4 Ag '51

Triterpenoids. D. H. R. Barton, C. J. W. Brooks and N. J. Holness. Chem Soc J p257-79 F '51

See also

Hecogenin

SAPONIFICATION

Saponification of difficult saponifiable esters. W. E. Shaefer and W. J. Balling. Anal Chem 23:1126-8 Ag '51

Saponification of α-monomyristin, α-monostearin and α-mono-olein. H. H. G. Jellinek and A. Gordon. bibliog J Ap Chem 1:185-8 Ap '51

SAPPHIRES

Method of sealing sapphire to glass. H. Rawson. il diags J Sci Instr 28:208-9 Jl '51

Method of sealing sapphire to glass and its application to infra-red photocells. R. P. Chasmar and others. diag J Sci Instr 28:206-7 Jl '51

New sapphire laboratory crucibles developed by air force scientists. il Materials & Methods 33:146+ Je '51

Ruby and sapphire in Canada. D. S. M. Field. il diag Can Min J 72:75-7 Jl '51

SAPPHIRES, Artificial

Solve it with sapphires? il(cover) Mod Ind 22:76+ Jl '51

SARAN

Comparative study of water vapor permeability of saran films. T. W. Sarge. bibliog Anal Chem 22:1541-5 D '50

Saran curled staple fiber. il Rayon 32:86 Ag '51

Screens without frames. il Mod Plastics 29:86 S '51

Sunsweet and K-202; saran-coated cellophane provides visible package for dried fruit. T. A. Schwarz. il Mod Packaging 24:122-5+ Ap '51

SARDINES

Application of ecological research to aquiculture and the fisheries. C. L. Newcombe. bibliog Science 114:27-30 Jl 13 '51

Sardines return; Portuguese fishing industry. Economist 159:1208+ D 30 '50

SARETT, Lewis H.

L. Sarett worked alone to solve cortisone synthesis. por(cover) Chem & Eng N 29:1741 Ap 30 '51

SARMENTOGENIN

Source of sarmentogenin. R. K. Callow and others. bibliog Chem & Ind p336-7 Ap 28 '51

SASKATCHEWAN

See also

Mines and mineral resources—Saskatchewan

Roads—Saskatchewan

SASKATOON, Saskatchewan

Sewerage

Design of sewage pumping stations. H. M. Weir. plans diags Munic Util 89:28-32+ Ap '51

SAUGUS, Massachusetts

New England rebuilds its first industry; Saugus ironworks. il Bsns W p78-80+ O 6 '51

SAUSAGE

Engineering did it; Boston sausage & provision co. J. V. Ziemba. il Food Eng 23:105-9+ Ap '51

Old recipes plus new tools; Armour's dry sausage department. il Food Eng 23:85-7 Je '51

Production control is the answer; variety sausage packer. W. C. Zinck. il Food Eng 23:141-3 S '51

SAVANNAH

Sewerage

Savannah sewer story, 1847-1951. H. W. Jenkins. il Water & Sewage Works 98:426-8 O '51

SAVING

Dream you save for; Stamford (Conn.) bank cooperates in cartoon drawing contest. M. B. Leach. il Banking 43:14-15+ My '51

Hopalong cashidy; movie-video cowpoke persuades small fry to start savings accounts. Bsns W p 123-4 F 17 '51

Looks for decline in rate of savings. G. L. Bliss. Comm & Fin Chr 173:180 Ja 11 '51

People's temper veers from scare buying to saving. Nat Underw (Life ed) 55:3 Jl 20 '51

Personal saving in an inflationary economy. S. H. Slichter. Comm & Fin Chr 174:1149+ S 27 '51

Saving in the defense economy. Fed Res Bul 37:1053-7 S '51

Saving vs. spending; review of consumers' attitudes. E. A. Krauss. Mag of Wall St 88:592-4 S 8 '51

Savings program for the emergency. D. B. Woodward. Comm & Fin Chr 173:532 F 1 '51

Savings promotion ideas from Sweden. E. Elinder. il Burroughs Clearing House 35:32-4+ N '50

Socony savings plan lists 31 eligible funds; with excerpts from company's booklet of information. P. A. Johnston. Barron's 31:17-19 O 1 '51

Socony's savings plan for employes permits three ways of investing money. R. E. Bjorkback. Nat Pet N 43:27 Jl 4 '51

Ways of celebrating National thrift week. H. White. Bankers Mo 67:20+ D '50

See also

Credit unions

Investments

Savings banks

Savings deposits

School savings

School savings banks

Statistics

Estimated liquid asset holdings of individuals and businesses; with figures by type of holder, 1939-1950. Fed Res Bul 37:807-8 Jl '51

Individual liquid savings decline in first quarter of 1951. Comm & Fin Chr 174:338 Jl 26 '51

Nationwide savings shown by regional figures; ownership at end of 1949. map Life Ins Courant 55:53 D '50

1950 survey of consumer finances; distribution of assets, liabilities, and net worth of consumers, early 1950. Fed Res Bul 36:1584-611 D '50

1950 survey of consumer finances; distribution of consumer saving in 1949. J. A. Frechtling and J. H. Lorie. Fed Res Bul 36:1441-55 N '50

1951 survey of consumer finances; distribution of consumer saving in 1950. T. Smith and J. A. Frechtling. Fed Res Bul 37:1061-78 S '51

Savings growth exceeds rate of spending; Institute of life insurance study. Comm & Fin Chr 174:516 Ag 9 '51

Spending power is still going up, FRB reports. Bsns W p25 Ag 18 '51

What's U.S. consumer worth? summary of FRB survey on assets, liabilities and net worth of consumers. Bsns W p68-9 Ja 6 '51

SAVINGS and loan associations. See Building and loan associations

SAVINGS and loan associations, Federal. See Federal savings and loan associations

SAVINGS and loan league, United States. See United States savings and loan league

SAVINGS bank insurance forum of New York

Annual meeting, New York. Nat Underw 55:9 My 17 '51

Buyers discuss war cover, storm loss procedure at Savings bank insurance forum of New York. Nat Underw 55:5 F 8 '51

SAVINGS banks

Emergency program's impact on savings banks. M. Nadler. Comm & Fin Chr 173:1018+ Mr 8 '51

Formation of regional committees for mutual savings banks, Voluntary credit restraint program. Fed Res Bul 37:758 Jl '51

Hopalong cashidy; movie-video cowpoke persuades small fry to start savings accounts. Bsns W p 123-4 F 17 '51

Impact of changing society on savings banks. E. L. Bernays. Comm & Fin Chr 173:2063 My 17 '51

Taking the guesswork out of selling. W. C. Wheeler. Banking 43:48-9 N '50

See also

Postal savings banks

Advertising

See Bank advertising

Insurance selling

Pennsylvania bill for bank insurance introduced in legislature. East Underw 52:10 Je 8 '51

SBLI fight in Connecticut. Nat Underw (Life ed) 55:3 Mr 16 '51; Nat Underw 55:24 Mr 23 '51

Savings banks report insurance sales drop. Bsns W p84 Ja 13 '51

SAVINGS banks—Insurance selling—*Cont.*

Savings banks win life insurance tax status. Nat Underw (Life ed) 55:32 S 28 '51

Investments

Are stocks the remedy? report of Savings banks association of the state of New York. Burroughs Clearing House 35:6-7 Ja '51

Claim common stocks safe for savings banks. Am Gas J 173:29-30 N '50

Equity investment for savings banks? Banking 43:137-8 N '50

Equity investments for savings banks. A. C. Middlebrook. Comm & Fin Chr 172:1505+ O 19 '50

Equity investments for savings banks. J. I. Bogen. Comm & Fin Chr 173:2046+ My 17 '51

Investment problems of savings institutions. J. W. Kress. Comm & Fin Chr 173:1232 Mr 22 '51

Savings banks should invest in some common stocks. E. V. Bell. Comm & Fin Chr 174: 1351+ O 11 '51

Savings banks yearn for stocks. Bsns W p98-9 O 21 '50

Weather eye on rail bonds; Connecticut's method of determining legality of savings bank investments; with eligible list as of March 15, 1951. T. L. Nims. Banking 43:52-3+ My '51

Sweden

Savings promotion ideas from Sweden. E. Elinder. il Burroughs Clearing House 35: 32-4+ N '50

SAVINGS banks, National association of mutual. See National association of mutual savings banks

SAVINGS deposits

Deposits of mutual savings banks now exceed $20 billion. A. L. Kelley. Comm & Fin Chr 173:546 F 1 '51

Incentive plans that help build savings accounts. Banking 44:46-7 Ag '51

See also

Postal savings banks

School savings banks

Accounting

No-ticket system of savings records saves time and prevents forgeries. Bankers Mo 47:30 O '50

Insured deposits

Bank deposit insurance opposed in Missouri. Weekly Underw 164:598 Mr 3 '51; Excerpts. Nat Underw (Life ed) 55:21 F 23 '51

Connecticut mutual savings banks push new insurance plan. Nat Underw (Life ed) 55:14 Ja 5 '51

Continental not to write group on savings accounts; agents told why. Nat Underw (Life ed) 55:2 Ja 19 '51

Illinois department permits group life on savings accounts. Nat Underw (Life ed) 55:2 Ja 19 '51

Illinois verbal ruling would permit insured savings accounts. Nat Underw (Life ed) 55: 1 Ja 12 '51

Life underwriters alerted to menace of bank savings account plans. Weekly Underw 164: 193+ Ja 20 '51

One brand of bank depositor cover. W. R. Snyder. Nat Underw (Life ed) 54:6 O 20 '50

Interest

Interest rates rise. Burroughs Clearing House 35:13-14 F '51

N.Y. state bankers association objects to interest and dividend withholding tax. A. L. Muench. Comm & Fin Chr 173:2256 My 31 '51

Piggy bank incentive? Buffalo and Syracuse banks outbid each other for time deposits. Bsns W p 152 O 6 '51

Rift in the thrift; Buffalo commercial banks raise rate to lure accounts from mutuals. Bsns W p 131 S 29 '51

Savings bonus? Bsns W p 134 S 8 '51

SAWDUST

Sawdust as fertilizer. Dun's R 59:52 S '51

Sawdust; how to burn the stuff. O. L. Brage. il Power Eng 55:92-3 F '51

Sawdust made available for cattle fodder by cathode rays. Elec Eng 70:653 Jl '51

Will mixing sawdust with coal in bunker increase fire danger? Power Eng 55:85-6 Jl; 93-4 Ag '51

SAWMILL waste. See Wood waste

SAWMILLS

Air bubbles keep sawmill log pond free of ice. plan Comp Air Mag 56:162 Je '51

Employees

Premature wails; southern sawmills and minimum wage. Bsns W p 112 O 28 '50

Safety measures

Progress in accident prevention work in the sawmill industry of the province of Quebec. R. H. Morewood. Pulp & Pa of Can 52:208+ Ap '51

SAWS

Diamond bandsaw blade proved in production. H. J. Chamberland. Cer Ind 56:83 Mr '51

How to make tools last longer; data from Disstons' Fight waste instruction cards; data sheet. Factory Management 109:126, 128, 130 F '51

Improved portable power saw. il Engineer 190:603-4 D 15 '50

Power vs hand falling and bucking in logging operations of the West. E. P. Stamm. Pulp & Pa of Can 52:114+ Mr '51

Radial arm saw techniques in rafter cutting. il diags Am Bld 73:50+ Ag '51

Saw for cutting flooring. il Blast F & Steel Pl 39:124 Ja '51

Saw-nose cat clears 1¼ acres per hour. il Constr Methods 33:57-8 Je '51; Eng N 146: 49 Je 21 '51; Roads & Eng Constr 89:76 Ag '51

Sawteeth in action; studies leading to development of Forest products laboratory Duo-Kerf rip saw. L. H. Reineke. il diags Paper Tr J 132:16+ Ja 26 '51

Solid carbide saws cut clean and fast. C. S. Ricker. il diags Am Mach 95:120-1 My 28 '51

Things to know about the circular saw. diags Am Bld 73:48+ My '51

Tractor-mounted buzz saw. diag Welding J 30:840 S '51

Advertising

Cash crop from the woodlot; key to McCulloch sales strategy for light-weight chain saws. C. F. Breer. Sales Management 66: 84+ Ap 15 '51

Rating

Portable power saws. il Consumers Res Bul 27:23-4 Ap '51

SAWS, Electric

Geared drive powers portable saw. il Machine Design 22:122-3 N '50

Wolf electric saw. il(p 150) Automobile Eng 41:151 Ap '51

SAWS, Metal working

Band machining saves metal. H. J. Chamberland. il diag Iron Age 167:97-9 Mr 8 '51

Band saws can cut blank costs. H. J. Chamberland. il Am Mach 95:108-9 Ja 8 '51

Designing fixtures for band saw applications. H. J. Chamberland. il Tool Eng 25:26-7 D '50

Offhand-ground HSS saws double cutting rate. N. Palmer. diag Am Mach 94:119 O 30 '50

Saw speeds; reference book sheet. diags Am Mach 95:183 Je 11 '51

Small portable hacksawing machine. il Engineer 191:394 Mr 23 '51

SAWYER, Charles, 1887-

U.S. can't relax now; interview. pors Bsns W p30+, cover O 21 '50

SAYER, Henry D. 1879-

Sketch. por East Underw 51:30 O 20 '50

SCABRIN

Scabrin; a new botanical insecticide. R. C. Roark. Soap & San Chem 27:125+ Mr '51

SCAFFOLDING

Safety measures

Scaffolds and staging. il Nat Safety N 63: 24 Mr '51

SCAFFOLDING, Aluminum
Mobile scaffolds aid maintenance; rolling work stands save time and labor. E. J. Beinecke, jr. il Safety Maint & Prod 102: 28-30 Ag '51
Versatility keynotes aluminum rolling scaffolds. E. J. Bienecke, jr. il Safety Maint & Prod 101:18-20+ Ja '51

SCAFFOLDING, Portable
Car stenciling portable scaffold. il Ry Mech & Elec Eng 125:59 Ja '51
Mobile scaffolds aid maintenance; rolling work stands save time and labor. E. J. Beinecke, jr. il Safety Maint & Prod 102: 28-30 Ag '51
Reaching the high spots; scaffold suspended from crane useful for construction and maintenance jobs. il Nat Safety N 63:26-7 Ja '51
Rolling scaffolds; mobile work stands of lightweight aluminum alloys. il Nat Safety N 64:44+ Jl '51
Scaffold moved from working platform. il Ry Mech & Elec Eng 124:727 D '50
Versatility keynotes aluminum rolling scaffolds. E. J. Bienecke, jr. il Safety Maint & Prod 101:18-20+ Ja '51

SCAFFOLDING, Steel
Cite increased efficiency of steel scaffolding. il Am Bld 73:160+ S '51

SCALE from hard water. See Water—Hardness

SCALES
Air-controlled drum filler measures fluid content. il Comp Air Mag 56:51 F '51
Electronic scale simplifies weighing operations. il Steel 129:72-3 Ag 20 '51
Know your measuring tools; scales and tapes. H. E. Linsley. diags Am Mach 95:102-3 Ap 2 '51
New Presrule precision scales. Roads & Eng Constr 88:74 D '50
Scalemakers hustle to meet demand. Steel 127:89 N 20 '50
Signal light tells operator when coal scale sticks. W. M. Montgomery. diags Power 95:120 F '51
Special scale aids piston rod balancing. il Iron Age 167:115-16 F 1 '51
Transit weighing effects savings. il Steel 129:101 Jl 2 '51
See also
Balances

SCANDINAVIA
See also
Labor and laboring classes—Scandinavia

SCANDINAVIAN airlines system
Scandinavian lines form one company. Aviation W 53:49-50 N 27 '50

SCANDIUM
Chemistry of scandium. M. J. Klein and P. M. Bernays. bibliog Am Chem Soc J 73:1364 Mr '51
Chemistry of scandium. L. Pokras and P. M. Bernays. bibliog Am Chem Soc J 73:7-9 Ja '51
Fission of medium weight elements. R. E. Batzel and G. T. Seaborg. bibliog Phys R 82:607-15 Je 1 '51
(*p,n*) Reaction on scandium and vanadium; energy levels of Ti^{46} and Cr^{52}. W. D. Baker and others. Phys R 81:48-50 Ja 1 '51

Analysis

Determination of scandium with 8-quinolinol. L. Pokras and P. M. Bernays. bibliog Anal Chem 23:757-9 My '51

Isotopes

Carrier-free radioisotopes from cyclotron targets; preparation and isolation of Sc 44, 46, 47, 48 from titanium. J. D. Gile and others. J Chem Phys 18:1685 D '50
High energy beta-spectrum of Sc^{46}. F. T. Porter and C. S. Cook. Phys R 81:640-1 F 15 '51

SCATTERING of light. See Light, Scattering of

SCATTERING of particles and rays
Absolute energy loss of 18-Mev protons in various materials. D. C. Sachs and J. R. Richardson. bibliog diags Phys R 83:834-7 Ag 15 '51
American physical society meeting; scattering; abstracts of papers. Phys R 83:217-19 Jl 1 '51
Angular dependence of scattering and reaction cross sections. J. M. Blatt and L. C. Biedenharn. Phys R 82:123 Ap 1 '51
Angular distribution of photons in showers in lead. J. W. Rose. diag Phys R 82:747-8 Je 1 '51
Asymptotic formula for stopping power of *K*-electrons. M. C. Walske and H. A. Bethe. Phys R 83:457-8 Jl 15 '51
Bound states and scattering in positron theory. W. H. Furry. bibliog Phys R 81:115-24 Ja 1 '51
Calculations concerning the measurement of the energy of charged particles by small angle scattering. H. S. Snyder. Phys R 83: 1068 S 1 '51
Charge exchange scattering of π-mesons in deuterium. B. Segall. Phys R 83:1247-8 S 15 '51
Coherent scattering amplitudes as determined by neutron diffraction. C. G. Shull and E. O. Wollan. Phys R 81:527-35 F 15 '51
Coherent scattering processes arising from quantum correlations. L. Goldstein. bibliog Phys R 83:289-98 Jl 15 '51
Connection of the scattering and derivative matrices with causality. W. Schützer and J. Tiomno. bibliog Phys R 83:249-51 Jl 15 '51
Conservation of energy and momentum in Compton scattering. W. G. Gross and N. F. Ramsey. bibliog diags Phys R 80:929-36 D 15 '50
Diffusion of high energy gamma-rays through matter; fundamental equations. L. L. Foldy. bibliog Phys R 81:395-9 F 1 '51
Diffusion of high energy gamma-rays through matter; refinement of the solution of the diffusion equation. L. L. Foldy. Phys R 82: 927-31 Je 15 '51
Diffusion of high energy gamma-rays through matter; solution of the diffusion equation. L. L. Foldy and R. K. Osborn. Phys R 81:400-4 F 1 '51
Effect of scattering on angular correlation measurements. S. Frankel. Phys R 83:673 Ag 1 '51
Effective range of nuclear forces; effect of the potential shape. E. E. Salpeter. bibliog Phys R 82:60-6 Ap 1 '51
Effects of geometry on scattering distributions in the Wilson cloud chamber. A. V. Crewe and A. E. Litherland. diags J Sci Instr 28:182-5 Je '51
Electromagnetic scattering from spheres with sizes comparable to the wavelength. A. L. Aden. bibliog J Ap Phys 22:601-5 My '51
Evidence concerning equality of *n-n* and *p-p* forces. G. Breit. Phys R 80:1110-11 D 15 '50
Experiment on the anomalous scattering of μ-mesons by nucleons. E. Amaldi and G. Fidecaro. diag Phys R 81:339-41 F 1 '51
General theory of scattering. M. L. Goldberger. bibliog Phys R 82:757 Je 1 '51
Inelastic scattering of π-mesons. M. H. Johnson. Phys R 83:510-12 Ag 1 '51
Internal excitation and apparent range of nuclear forces in scattering experiments. G. Breit and M. C. Yovits. bibliog Phys R 81:416-24 F 1 '51
Internal excitation and apparent range of nuclear forces in scattering experiments; abstract. G. Breit and M. C. Yovits. Science 112:455 O 20 '50
Interpretation of resonance levels and their widths in terms of the scattering length and the effective range. T. Teichmann. bibliog Phys R 83:141-5 Jl 1 '51
Large angle scattering of π^--mesons. H. Bradner and B. Rankin. Phys R 80:916 D 1 '50
Mean square angle of emission of nucleons in high energy nucleon-nucleus collisions. H. Messel and H. S. Green. Phys R 83: 1279 S 15 '51
Measurement of nuclear polarizabilities by nuclear scattering experiments. N. F. Ramsey. Phys R 83:659 Ag 1 '51
Measuring the thickness of thin coatings with radiation backscattering. E. Clarke and others. bibliog il diag Elec Eng 70:35-7 Ja '51; Abstract. Electronics 24:226+ Ap '51
Meson scattering. H. A. Bethe and R. R. Wilson. bibliog Phys R 83:690-2 Ag 1 '51
Multiple elastic scattering and radiation damping. H. Ekstein. bibliog Phys R 83: 721-9 Ag 15 '51

SCATTERING of particles and rays—*Cont.*
Multiple scattering of electron pairs from (Li,p) gamma-rays in photographic emulsions. L. Voyvodic and E. Pickup. bibliog Phys R 81:471-2 F 1 '51
Multiple scattering of fast particles in photographic emulsions. L. Voyvodic and E. Pickup. bibliog Phys R 81:890 Mr 1 '51
Nuclear interaction of π-mesons in nuclear emulsions. G. Bernardini and others. Phys R 82:105-6 Ap 1 '51
Nuclear multiple plate camera. J. C. Allred and others. il diag R Sci Instr 22:191-4 Mr '51
Nuclear scattering of negative pi-mesons. G. Bernardini and others. bibliog il diag Phys R 83:1277-9 S 15 '51
Nucleon-nucleon interaction. R. Jastrow. bibliog Phys R 81:165-70 Ja 15 '51
Proton-proton scattering at 105 Mev and 75 Mev. R. W. Birge and others. bibliog diags Phys R 83:274-80 Jl 15 '51
Radiative processes in the presence of heavy nuclei. G. Parzen. Phys R 81:808-14 Mr 1 '51
Scattering and absorption of gamma-rays. M. S. Plesset and S. T. Cohen. J Ap Phys 22:350-7 Mr '51
Scattering and absorption of scalar and pseudoscalar mesons by nucleons. M. Peshkin. Phys R 81:425-9 F 1 '51
Scattering approximation. A. L. Latter. Phys R 83:1056-7 S 1 '51
Scattering coefficients of fillers in suspension; abstract. C. Gustafsson and others. Paper Ind 33:438 Jl '51
Scattering lengths of the deuteron and p-d scattering. M. M. Gordon. bibliog Phys R 80:1111-12 D 15 '50
Scattering losses in the synchrotron. J. M. Greenberg and T. H. Berlin. bibliog R Sci Instr 22:293-301 My '51
Scattering of a particle by a static potential. R. Jost and A. Pais. bibliog Phys R 82:840-51 Je 15 '51
Scattering of π-mesons by deuterium. S. Fernbach and others. Phys R 82:980 Je 15 '51
Scattering of mesons by nuclear particles. Vachaspati. bibliog Phys R 80:973-6 D 15 '50
Scattering of 20-Mev alpha-particles by helium. K. B. Mather. diag Phys R 82:126 Ap 1 '51
Scattering of pi-mesons by the deuteron. J. S. Blair. Phys R 83:1246-7 S 15 '51
Scattering of plane waves by soft obstacles; spherical obstacles. R. W. Hart and E. W. Montroll. bibliog J Ap Phys 22:376-86 Ap '51
Scattering phenomena in electron microscope image formation. C. E. Hall. bibliog il diags J Ap Phys 22:655-62 My '51
Scattering theory of the Dirac equation. G. Parzen. bibliog Phys R 80:261-8 O 15 '50
Singular potentials and the theory of the effective range. K. A. Brueckner and F. Low. Phys R 83:461-2 Jl 15 '51
Spin-orbit interactions and nucleon-nucleon scattering. K. M. Case and A. Pais. Phys R 80:203-11 O 15 '50
Survey experiment on elastic scattering. J. W. Burkig and B. T. Wright. Phys R 82:451-2 My 1 '51
Transmission of gamma-rays through large thicknesses of heavy materials. G. H. Peebles and M. S. Plesset. diags Phys R 81:430-9 F 1 '51
Variational methods in collision problems. T. Kato. bibliog Phys R 80:475 N 1 '50
See also
Deuterons—Scattering
Electrons—Reflection, Scattering, etc.
Gamma rays—Scattering
Neutrons—Scattering
Protons—Scattering
X rays—Scattering

SCATTERING of radio waves. See Radio waves—Scattering

SCATTERING of sound. See Sound—Scattering

SCHAEFER, Hugo Herman, 1891-
Remington '51 medal awarded. por Oil Paint & Drug Rep 160:7 O 1 '51

SCHARDINGER dextrins. See Dextrins

SCHEDULES
Master schedule guides production planning at Saco-Lowell. W. B. Lund. il Am Mach 95:108-12 Ag 6 '51
Performance reports in a tabulating unit. L. C. Lewan. N A C A Bul 32:923-7 Ap '51
Productigraph; it tells who should be doing what where. H. G. Weber. il Factory Management 108:78-80 N '50
See also
Advertising—Schedules
Production control

SCHEELITE
Flotation tests on Korean scheelite ore. W. Mitchell, jr. and others. bibliog il Min Eng 190:Trans 60-4 Ja '51

SCHENCK, Robert B., 1886-
Iron age salutes. por Iron Age 167:51 Mr 22 '51
Sketch. por Metal Prog 60:62-4 Ag '51

SCHENLEY industries, inc.
Blood plasma substitute may spur sales. Barron's 31:17 My 21 '51
High yield stocks that should do well in a defense economy; with comparative balance sheet items. Mag of Wall St 87:229 D 2 '50

SCHERING bridge
New version of Schering bridge. J. H. Jupe. Electronics 24:214+ F '51

SCHICK, inc.
Common stock offered. Comm & Fin Chr 172:2383 D 18 '50

SCHIEMANN reaction
Preparation of heterocyclic fluorine compounds by the Schiemann reaction; some monofluoroisoquinolines. A. Roe and C. E. Teague, jr. bibliog Am Chem Soc J 73:687-8 F '51

SCHIFF bases
Chelation and association of some ethylenediamine Schiff bases. L. N. Ferguson and I. Kelly. Am Chem Soc J 73:3707-9 Ag '51
Method for preparing secondary amines and Schiff's bases from phenols and hexamine. J. C. Duff and V. I. Furness. Chem Soc J p 1512-15 Je '51
Preparation of benziminazoles and benzoxazoles from Schiff's bases. F. F. Stephens and J. D. Bower. Chem Soc J p 1722-6 Jl '50

SCHLESINGER, Herman Irving, 1882-
Schlesinger receives 1951 honor scroll award. por Chem & Eng N 29:4260 O 15 '51

SCHLIEREN apparatus
High-speed stereoscopic Schlieren system. J. H. Hett. il diags Soc Motion Picture & Tv Eng J 56:214-18 F '51
Method of correction of astigmatism in Schlieren systems. R. Prescott and E. L. Gayhart. il diags J Aeronautical Sci 18:69 Ja '51

SCHMERLING, Louis, 1912-
Human catalyst wins award in petroleum chemistry. por(cover) Chem & Eng N 29:1540 Ap 16 '51

SCHMIDT camera. See Cameras

SCHMIDT reaction
Further applications of the Schmidt reaction. L. P. Kuhn and J. DiDomenico. Am Chem Soc J 72:5777-8 D '50
Schmidt reaction of some p-substituted acetophenones. H. H. Szmant and J. J. McIntosh. Am Chem Soc J 72:4835-6 O '50
Schmidt reaction with arylcarbinols. C. L. Arcus and R. J. Mesley. bibliog Chem & Ind p701 Ag 18 '51

SCHOELLKOPF medal
Strother called master of physicochemical technique. H. S. Taylor. Chem & Eng N 29:2380 Je 11 '51

SCHOLARSHIPS and fellowships
Announcement of predoctoral fellowships on the fundamental sciences related to welding, administered by the Welding research council. Welding J 30:sup41-3 Ja '51
General Electric science fellowships for high school teachers. Science 113:221 F 23 '51
General industrial practice regarding fellowships. M. J. Bergen. J Eng Educ 41:513-17 My '51
Guggenheim fellows named. Chem & Eng N 29:1849 My 7 '51
Industrial fellowships for graduate study from the university viewpoint. W. L. Everitt. J Eng Educ 41:508-12 My '51
I.A.S. fellowship; editorial. Aeronautical Eng R 9:13 D '50
Labor foundation and others. Science 112:797-8 D 29 '50

SCHOLARSHIPS and fellowships—*Continued*

National research fellowships. Chem & Eng N 29:2292 Je 4 '51

National research fellowships in the natural sciences and Merck postdoctoral fellowships. Science 112:705-6 D 8 '50

Scholarships, fellowships and loans. S. N. Feingold. v2 312p bibliog(p247-58) $5 Bellman pub. co, 83 Newbury st, Boston 16 '51

Science fellowships for high school teachers. Gen Elec R 54:42 Mr '51

State department announces Fulbright study awards. Chem & Eng N 29:3364 Ag 13 '51

Welding research council announces fellowships in welding and closely allied fields. Welding J 30:sup 122 Mr '51

See also

Nieman foundation

SCHONLAND, Basil Ferdinand Jamieson, 1896-

Presentation of the Cresson medal. por Franklin Inst J 250:571-2 D '50

SCHOOL architecture. See School buildings—Designs and plans

SCHOOL buildings

Battle for better schools won by New Orleans' architects. il plans diag Arch Forum 94:104-6 F '51

Better school for the South; E. Rivers school in Atlanta. il plan diag Arch Forum 94:160-3 Ap '51

Caddo Heights elementary school, Shreveport, La. il plan diags Brick & Clay Rec 117:54-6 D '50

Hillside school, Richmond, Calif. J. C. Warnecke. il plan diag Arch Forum 94:185-9 Je '51

New school, by A. Roth; review. il plans Arch Forum 94:112-14, 154 F '51

San Francisco steel-saving school has zigzag roof; Y-shaped concrete slabs separate classrooms. il plans diag Arch Forum 95:132-3 Ag '51

School today, stores tomorrow; Pearl River, N.Y. school has provisions for future conversion. il plan Arch Forum 94:164-5 Ap '51

Technical high school in Stockholm. il plans diags Arch Forum 93:140-5 N '50

See also

Classrooms

Nursery schools

Cost

California architects study school costs. diags Arch Rec 110:160-1 Jl '51

Costs appraised by quality values; analysis of ten schools in New England. Arch Rec 110:156-8 Ag '51

Light precast joists lower school costs. J. A. Murlin. il plans diags Arch Rec 110:174-6 S '51

School construction costs. Eng N 146:165 Mr 29 '51

Designs and plans

Building types study. il plans diags Arch Rec 109:117-50 Je '51

Country school scaled to the small child; Kimberton Farms school, Kimberton, Pa. il plans Arch Forum 95:162-3 Jl '51

Junior high school, Wilton, Conn. il plans diags Arch Rec 109:101-11 Ap '51

New Canaan, Conn. elementary school. il plans Arch Rec 110:98-105 Ag '51

Equipment

Modern building, modern fuel help student homemakers. il Am Gas Assn Mo 33:28 S '51

Today's tools for the bride of tomorrow; Southern California Edison program to modernize equipment in school home economics departments. J. H. Collins. Pub Util 47:145-51 F 1 '51

Heating and ventilation

Duct layouts for heating schools. S. Lewis. diags Heating-Piping 23:104-5 S '51

Floor panel system serves California high school. il Heat & Ven 48:70 Ja '51

Fundamentals of schoolroom heating and ventilating. H. Wright. Heat & Ven 48:87-9 F '51

Gas-fired heaters solve problem of intermittent school use for auditorium, kitchen and cafeteria. il Gas Age 107:25-6 Je 7 '51

Heating system lowers school costs; Hillsborough township elementary school, N.J. il plans diags Arch Rec 109:191-4 Je '51

Heating the small rural school. E. M. Tarnoff. il Heat & Ven 48:81-2 S '51

Hot and cold ducts feature direct fired system for school. H. A. Vernay, jr. il Heating-Piping 23:79-81 Jl '51

Laws and regulations controlling school heating and ventilating. N. N. Wolpert. Heat & Ven 48:70-3 Mr; 105-7+ Ap; 103-6 My; 96-9 Je '51

Natural gas is year-round fuel for Nation's richest school. il Gas Age 108:49-50 Jl 19 '51

Stopping drafts in classrooms; new unit ventilator kills down-window drafts. il plan Arch Forum 93:151 N '50

Wall to wall convector radiation for school buildings. D. F. Bennett. il Heat & Ven 47:62-3 N '50

Warm air heating for schools. F. W. Osborn. diag Heat & Ven 47:67-9 D '50

What's effect of floor heating in schools? P. S. Park. il Heating-Piping 22:100-2 N '50

Lighting

Aluminum louvers for south light. il Eng N 145:41 N 9 '50

City-wide school modernization. il map Elec West 106:67-9 Ja '51

Classroom salvage saves sight too. C. W. Jarrett. il Elec West 107:81-3 S '51

Daylight in classrooms; multilateral lighting. R. L. Biesele, jr. il plans diags Illum Eng 46:212-19; Discussion. 219-20 Ap '51; Reply. 46:316-17 Je '51

Demonstration rooms help swing school relighting. il Elec World 134:148 N 20 '50

Extensive study of classroom fenestration; use of glass blocks. Eng N 146:61 Je 28 '51

Knoxville lights up its schools. C. O. Carpenter, jr. il Elec World 135:87 Je 4 '51

Lighting a classroom. D. E. Spencer. il diag Illum Eng 46:63-4 F '51

Lighting saves the trees. il Elec West 105:76 N '50

Lighting the school auditorium and stage. C. J. Allen. bibliog il plan diags Illum Eng 46:131-6; Discussion. 136-9 Mr '51

Nashville relights 800 school classrooms. S. B. Le Cornu. il Elec World 136:114 Jl 30 '51

Photoelectric controls for regulating schoolroom lighting. il Gen Elec R 54:50 Jl '51

School with controlled daylighting; Southgate elementary school, Seattle. il plans diags Arch Forum 95:158-61 Jl '51

These school children study under uniform daytime illumination. A. T. Moses. il diag Elec World 135:99-101 Ap 23 '51

SCHOOL hygiene

Causes of absenteeism in New Haven schools; follow-up after 21 years. J. I. Linde and others. bibliog Pub Health Rep 65:1737-44 D 29 '50

SCHOOL laws and legislation

Fair educational practices legislation. E. N. Saveth. Ann Am Acad 275:41-6 My '51

SCHOOL news. See Newspapers—School news

SCHOOL savings

A.B.A. forum on school savings. Banking 43:89 Ap '51

School savings in Japan. Banking 43:138 My '51

SCHOOL savings banks

Bank finds rich market; 80,000 thrifty kids; Dollar savings bank, New York. P. Patterson. il Sales Management 67:84+ O 15 '51

Office machines in a school bank; Central high school, Syracuse, N.Y. il Banking 44:102 S '51

SCHOOLS

See also

Colleges and universities

Education

Engineering colleges

Mining schools and education

Nursery schools

Trade schools

SCHOTTKY effect

Periodic deviations in the Schottky effect for polished tantalum. G. B. Finn and others. Phys R 81:889 Mr 1 '51

Periodic deviations in the Schottky effect for tantalum. R. J. Munick and others. bibliog diags Phys R 80:887-91 D 1 '50

SCHRADER, Gerhard

Pest control in Germany; Schrader's work on insecticides. Chem Age (Lond) 64:813-16 My 26 '51

SCHRÖDINGER equation. See Quantum electrodynamics; Wave mechanics

SCHULTE, D. A., inc.
Now Schulte is going to try snack bars. il Bsns W p 124-6+ O 13 '51

SCHUMACHER, Kurt
Portrait. Bsns W p 166 O 13 '51

SCHUMAN, Robert, 1886-
Portrait. Bsns W p 144 Ag 25 '51

SCHUMAN plan. See Coal-steel pool (proposed)

SCHUMPETER, Joseph Alois, 1883-1950
Economists. J. McDonald. por Fortune 42: 108-13+ D '50
Schumpeter, social scientist. S. E. Harris and others. por(front) R Econ & Stat 33:89-177 My '51

SCHUYLKILL river
Restoration of the Schuylkill river; abstract. F. H. Dechant. Mech Eng 73:590 Jl '51

SCHWARTZ, E. P.
Ernie, the doer, tells what needs to be done. G. A. Brandenburg. por Ed & Pub 84:44-5 S 1 '51

SCHWARZ-CHRISTOFFEL transformation
Epitomization of the basic theory of the generalized Schwarz-Christoffel transformations as used in applied physics. T. J. Higgins. bibliog J Ap Phys 22:365-6 Mr '51

SCHWEGMANN brothers, inc.
Man who beat fair trade. il Bsns W p 120-1 Je 9 '51

SCIENCE
Pure science, applied science, and the application of science. H. R. Kruyt. diags Chem & Ind p260-4 Ap 7 '51; Abstract. Chem Age (Lond) 64:143 Ja 20 '51
Science, and tomorrow; a symposium. bibliog il diags Franklin Inst J 251:11-173 Ja '51
Science in the service of the community. J. Anderson. Engineering 171:799-800 Je 29 '51
Science today and yesterday; summary of symposium. W. F. G. Swann. Franklin Inst J 251:167-73 Ja '51
University's responsibility to science. J. R. Killian, jr. Chem & Eng N 29:2033-5 My 21 '51

See also
Bacteriology
Biological chemistry
Biology
Botany
Chemistry
Crystallography
Geology
Mathematics
Metallography
Meteorology
Microscope and microscopy
Optics
Paleobotany
Paleontology
Physics
Scientific research
Technology

Bibliography

Bibliography of scientific publications of South Asia (India, Burma, Ceylon). (nos. 1 and 2) 107p, 88p UNESCO, Science cooperation office for South Asia, University bldgs, Delhi, India '49
Biblioteca scientifica sovietica. Published quarterly by Istituto bibliografico Italiano, via dei Giardini 42-B, Rome
Book reviews. Science 113:439-64 Ap 20 '51

Classification

See Classification of sciences

Exhibitions

A.A.A.S's annual exposition of science and industry. R. L. Taylor. Science 114:372-3 O 5 '51
Engineering in the Festival of Britain; scientific exhibits in the Dome of discovery and Science museum. Engineering 172:246-7 Ag 24 '51
Exhibition of science, South Kensington. il diag Engineer 192:234-7 Ag 24 '51
Science for the layman; Festival exhibition, South Kensington. il Elec R (Lond) 148: 1305-6 Je 22 '51

History

British contribution to science and technology in the past hundred years. Duke of Edinburgh. Engineering 172:182-4 Ag 10 '51; Same abr. Engineer 192:176-8 Ag 10 '51; Abstracts. Chem & Ind p694-5 Ag 18 '51; Chem Age (Lond) 65:179-80+ Ag 11 '51
See also
Chemistry—History

International aspects

Chemists and the building of international bridges. J. B. Conant. Chem & Eng N 29: 4254-5 O 15 '51
International exchange of scientific information. W. R. Brode. Chem & Eng N 28: 4332-7+ D 11 '50
Role of chemistry in promoting international understanding. A. W. Barkley. Chem & Eng N 29:3850-1 S 17 '51
Scientists share and serve, Priestley medal address. E. J. Crane. Chem & Eng N 29: 4250-3 O 15 '51
Towards international collaboration in science. L. H. Lampitt. Chem & Ind p485-93 Je 30 '51

Methodology

Influence of Statistical methods for research workers on the development of the science of statistics. F. Yates. bibliog Am Stat Assn J 46:19-34 Mr '51
See also
Classification of sciences

Nomenclature

See also
Zoology—Nomenclature

Periodicals

Editorial policy. G. W. Leeper. Science 113: 213 F 23 '51; Discussion. N. W. Pirie. 114: 20 Jl 6 '51
See also
Chemistry—Periodicals
Franklin institute journal

Philosophy

Lack of natural philosophy in our education; in memoriam of Wilhelm Ostwald. E. A. Hauser. bibliog J Chem Educ 28:492-4 S '51
New pattern in science. P. Le Corbeiller. J Chem Educ 28:553-5 O '51

Popularization

See also
Science fiction

Social aspects

Contributions of science to the goal of civilization. J. C. Warner. Chem & Eng N 29: 108-10 Ja 8 '51
Science and civilization. R. R. Williams. Chem & Eng N 29:3268-72 Ag 13 '51
Science and human affairs. E. C. Stakman. Science 113:137-42 F 9 '51
Science and human relations. O. B. Blackwell. Elec Eng 70:188-9 Mr '51
Science and the future. V. E. Smith. Chem & Eng N 29:3272-7 Ag 13 '51

Study and teaching

Historical approach to the teaching of science; development of oxygen theory as illustration. L. K. Nash. J Chem Educ 28: 146-51 Mr '51
Recommendations made for changes in science teaching; committee of seventeen scientific and educational organizations cooperating with the American association for the advancement of science. C. H. Sorum. Chem & Eng N 28:4165-9 N 27 '50
Report of a seminar on the general science course in higher education. Sister M. M. Christine. J Chem Educ 28:47 Ja '51
Return to medievalism in science teaching. P. Goldstein and H. Pollet. Science 113:249-50 Mr 2 '51; Reply, with editorial comment. 113:696-7 Je 15 '51
Science exhibits. L. Panush. il J Chem Educ 28:25 Ja '51
Science in general education. J. B. Entrikin. J Chem Educ 28:274-6 My '51
See also
Scientific education

Alaska

See also
Alaskan science conference

Germany

For a new academy. H. Nachtsheim. Science 113:30-1 Ja 12 '51

SCIENCE—*Continued*

Great Britain

British contribution to science and technology in the past hundred years. Duke of Edinburgh. Engineering 172:182-4 Ag 10 '51; Same abr. Engineer 192:176-8 Ag 10 '51; Abstracts. Chem & Ind p694-5 Ag 18 '51; Chem Age (Lond) 65:179-80+ Ag 11 '51

Russia

Science behind the iron curtain. B. Monsaroff. Can Chem Process 35:752-5 S '51

Science in bondage. H. J. Muller. bibliog Science 113:25-9 Ja 12 '51

Stalin prize awards to Soviet scientists. Sci Am 184:36+ My '51

See also

Mathematics—Russia

Psychology—Russia

United States

Scientists; applied science takes workers away from pure science. M. H. Trytten. il Sci Am 185:71-6 S '51

SCIENCE and industry

Science and industry. C. A. Thomas. il Chem & Eng N 29:3277-9 Ag 13 '51

SCIENCE and state

Politics in an age of science. A. E. Driscoll. Chem & Eng N 29:3982-4 S 24 '51

See also

Government research

Great Britain

Scientific policy; fourth report of Advisory council. Elec R (Lond) 149:277-8 Ag 10 '51

United States

Federal threat to science and industry; abstract. J. J. O'Neill. Chem & Eng N 29: 1833 My 7 '51

Present draft policies called threat to scientific progress; administration of research for defense. W. J. Murphy. Chem & Eng N 28:4172-3 N 27 '50

See also

National science foundation

SCIENCE fiction

Science and literature. J. R. Pierce. Science 113:431-4 Ap 20 '51; Reply. J. S. Huxley. Science 114:109 Jl 27 '51

SCIENCE museum. See London—Science museum

SCIENCE talent search

Westinghouse science talent search. Science 113:286 Mr 9 '51

SCIENCES, Classification of. See Classification of sciences

SCIENTIFIC apparatus and instruments

AAAS annual science exposition, 117th, Cleveland, Dec. 26-30. Science 112:509-10 O 27 '50

British scientific instrument research association. il Chem Age (Lond) 64:629-32 Ap 28 '51

Instrumentation in perspective. W. A. Wildhack. bibliog Science 112:515-19 N 3 '50

Minister of supply opens new works; Baird & Tatlock's Chadwell Heath premises. il Chem Age (Lond) 64:739-42 My 12 '51

See also

Aeronautic instruments

Cathode ray tubes

Chemical apparatus

Electric apparatus and appliances

Electric instruments

Electron microscope

Medical instruments and apparatus

Optical instruments

Physical instruments

Physiological apparatus

Pycnometers

Radio instruments

Surgical instruments and apparatus

Exhibitions

British industries fair, Olympia April 30-May 11; scientific instrument display. il Metallurgia 43:199-202 Ap '51

British instrument industries exhibition, London, July 4-14. Chem & Ind p552-5, 613 Je 30, Jl 14 '51

British instruments on show. il Chem Age (Lond) 64:979-84 Je 30 '51

Scientific instruments; exhibition of British equipment in Paris. Elec R (Lond) 148: 1053 My 18 '51

SCIENTIFIC apparatus makers association

Annual meeting, 33d, White Sulphur Springs, W.Va. April 15-18. Chem & Eng N 29: 1738+ Ap 30 '51

SCIENTIFIC education

Chemistry and education. J. H. Hildebrand. Chem & Eng N 29:3279-81 Ag 13 '51

Importance of science in American education. E. A. Hauser. bibliog Science 113:643-6 Je 8 '51

Lack of natural philosophy in our education; in memoriam of Wilhelm Ostwald. E. A. Hauser. bibliog J Chem Educ 28:492-4 S '51

Origins of American scientists. R. H. Knapp and H. B. Goodrich. Science 113:543-5 My 11 '51

Origins of U.S. scientists. H. B. Goodrich and others. map Sci Am 185:15-17 Jl '51

Science and education. E. A. Hauser. bibliog J Chem Educ 28:208-11 Ap '51

Teaching foreign languages to research students. E. Hocking. J Chem Educ 28:544-6 O '51

Training leaders in science and religion. J. R. Sampey. Science 114:332 S 28 '41

Training of the scientist; symposium. Chem & Ind p356-7 My 5 '51

See also

Chemical education

SCIENTIFIC information

Medical sciences information exchange of the National research council. S. L. Deignan. Science 113:584-5 My 18 '51

SCIENTIFIC information, Freedom of

International exchange of scientific information. W. R. Brode. Chem & Eng N 28: 4332-7+ D 11 '50

Scientists share and serve, Priestley medal address. E. J. Crane. Chem & Eng N 29: 4250-3 O 15 '51

Statement on Atomic energy commission fellowship; resignation because of loyalty test requirement. B. J. Bachmann. Science 112: 364-5 S 29 '50; Discussion. 113:247-8 Mr 2 '51

SCIENTIFIC instrument research association, British. See British scientific instrument research association

SCIENTIFIC libraries

Research and the science library. M. B. Wenger. Special Lib 41:327-8 N '50

SCIENTIFIC literature

Considerations on utilization of scientific literature. P. A. Woke. bibliog Science 113:399-403 Ap 13 '51

Current science reading. K. F. Mather. Science 113:427-9 Ap 20 '51

Problem of an international language; Acta physiologica polonica in Polish. Science 113:607-9 My 25 '51

Science communications. W. F. Hewitt, jr. bibliog Science 114:134-5 Ag 3 '51

See also

Chemical literature

Science—Periodicals

Science fiction

Scientific writing

SCIENTIFIC method

Contributions of science to the goal of civilization. J. C. Warner. Chem & Eng N 29: 108-10 Ja 8 '51

Operations research. H. C. Levinson and A. A. Brown. diags Sci Am 184:15-17 Mr '51

Place of the scientific method in the first course in chemistry. W. F. Kieffer. J Chem Educ 28:300-3 Je '51

See also

Science—Methodology

SCIENTIFIC research

Committee on award of the Society of sigma xi and Scientific research society of America; grants-in-aid of research for 1950. Science 112:485 O 20 '50

Electrical and allied developments during 1950; research. G. Bartlett. il Gen Elec R 54:16-18 Ja '51

Fisherian revolution in methods of experimentation. W. J. Youden. Am Stat Assn J 46:47-50 Mr '51

Leadership in scientific research; review of Research and its organization, by E. McDonald. Franklin Inst J 252:89-92 Jl '51

National research fellowships in the natural sciences and Merck postdoctoral fellowships. Science 112:705-6 D 8 '50

Pursuit of science for utilitarian ends. J. Taylor. bibliog Chem & Ind p56-9 Ja 27 '51

SCIENTIFIC research—*Continued*

Research and the science library. M. B. Wenger. Special Lib 41:327-8 N '50

Research corp. grants $86,000 to forty-six scientists. Chem & Eng N 29:570-1 F 12 '51

Research key to survival; abstract. E. D. Adrian. Chem Age (Lond) 64:281 F 17 '51

Scientific research vs. the theory of probabilities. A. G. Huntsman. Science 110:566 N 25 '49; Discussion. 112:233-4 Ag 25 '50; Reply. 113:729-30 Je 22 '51

Scientists, inventors, and executives. J. B. Conant. Chem & Eng N 29:2262-4 Je 4 '51; Same. Pet Refiner 30:85-6+ S '51

See also

Aeronautic research
Atomic research
Botanical research
Chemical research
Electric research
Electron microscope
Engineering research
Government research
Industrial research
Laboratories
Medical research
Metallurgical research
Microscope and microscopy
Petroleum research
Physical research
Scholarships and fellowships
Textile research

also Gordon research conferences; Great Britain—National physical laboratory, Teddington; Great Britain—Scientific and industrial research, Department of; National research council of Canada; National science foundation; Oak Ridge national laboratory; Pittsburgh university. Mellon institute of industrial research; Southern research institute

SCIENTIFIC societies

See also American association for the advancement of science; American chemical society; National academy of sciences

Directories

Directory of international scientific organizations. (Unesco pub. 619) 221p pa $1 Columbia univ. press, 2960 Broadway, New York 27 '50

Great Britain

See also British association for the advancement of science; Royal society of London

Netherlands

Z.W.O., the Netherlands science foundation. J. H. Bannier. Science 113:197-201 F 23 '51

SCIENTIFIC workers

Rating

Productivity in research and development. R. M. Hogan. Science 112:613-16 N 24 '50

SCIENTIFIC writing

American institute of physics style manual. Opt Soc Am J 41:567-96 S '51

Books, civilization, and science. W. Guthrie. Science 113:429-31 Ap 20 '51

Clichés in full scale production. R. L. Dean. Chem & Eng N 29:2729 Jl 2 '51

High polymer adjective synthesis. R. L. Dean. Chem & Eng N 29:2902+ Jl 16 '51

High-verbosity prose. R. L. Dean. Chem & Eng N 29:3532+ Ag 27 '51

Sin of synonyms. R. L. Dean. Chem & Eng N 29:3081 Jl 30 '51

See also

Chemical writing
Science fiction
Technical writing

SCIENTISTS

Agenda for 1951. K. F. Mather. Science 113:144-5 F 9 '51

ACS recommends plans for effective use of scientific manpower. Chem & Eng N 28:4426-30+ D 18 '50

Gantt to the rescue! W. H. Gantt. Science 114:332-3 S 28 '51

Mobilization of scientific, engineering, and medical manpower; an interim report. C. V. Kidd. bibliog Science 113:737-41 Je 29 '51

Origins of American scientists. R. H. Knapp and H. B. Goodrich. Science 113:543-5 My 11 '51

Origins of scientists. D. H. Sweet. Science 114:214 Ag 24 '51

Origins of U. S. scientists. H. B. Goodrich and others. map Sci Am 185:15-17 Jl '51

Plans for the development and use of scientific manpower. Chem & Eng N 29:456-60 F 5 '51

Present draft policies called threat to scientific progress; administration of research for defense. W. J. Murphy. Chem & Eng N 28:4172-3 N 27 '50

Problems of security and science; review of of Security, loyalty and science, by Walter Gellhorn. I. I. Rabi. Sci Am 184:56-7 Ja '51

Productivity in research and development. R. M. Hogan. Science 112:613-16 N 24 '50

Program for strategic use of scientific manpower in all-out mobilization. Pet Processing 6:262-3 Mr '51

Program suggested for trebling U.S. scientific man power. J. S. Nicholas. Mech Eng 72:931 N '50

Scientific faith. H. D. Smyth. Aviation W 54:30+ Ap 16 '51

Scientific manpower advisers present plan to Senate group. Chem & Eng N 29:462-3 F 5 '51

Scientists; applied science takes workers away from pure science. M. T. Trytten. il Sci Am 185:71-6 S '51

Scientist's attitude toward government employment. C. D. Ahlberg and J. C. Honey. Science 113:505-10 My 4 '51

Students, scientists, and selective service; report of Scientific advisory committees. Science 112:479-83 O 20 '50

Thomas to head NSRB advisers on scientific manpower. Chem & Eng N 28:4440-1 D 18 '50

See also

Bronk, Detlev Wulf
Chemists

Biography

Chambers's dictionary of scientists. A. V. Howard. 499p E. P. Dutton & co, 300 Fourth av, New York 10 '51 ($4)

Directories

Naturalists' directory, containing names, addresses and special subjects of study of professional and amateur naturalists of North and South America, etc. and a list of periodicals dealing with the subjects of natural history also a list of natural history museums. 36th ed 247p pa $3 Cassino press, Salem, Mass. '51

Public relations

Chandler medal award to Milton C. Whitaker. Chem & Eng N 29:384-5 Ja 29 '51

Public relations and the technologist. A. M. York. il Tech R 53:249-51+ Mr '51

Research and national policies. D. W. Bronk. Chem & Eng N 29:278-9 Ja 22 '51

Salaries

Earnings of American men of science. M. H. Trytten and T. R. Shapiro. Science 113:345-7 Mr 30 '51

Payment of the learned man. E. Bodewig. Science 112:538-9 N 3 '50; Discussion. 113:330-3; 114:109-10 Mr 23, Jl 27 '51

Wages of science. Sci Am 184:32 My '51

SCIENTISTS, Russian

Letter to the U.N. Security council from presidium of the Academy of sciences of the USSR. Science 112:475-6 O 20 '50; Discussion. 113:365-7 Mr 30 '51

SCINTILLATION counters. See Counters (electrons, ions, etc.)

SCOPOLAMINE

Use of morphine-scopolamine in surgery. R. Householder. Ind Med 20:115-18 Mr '51

SCOTLAND

See also

Archives—Scotland
Hydroelectric plants —Scotland

Industries and resources

American business in Scotland. J. Kingsley. Am Bsns 21:40 Ag '51

SCOTT, Alexander, 1853-1947

Sketch; with bibliography of his works. por(pl) Chem Soc J p762-7 F '50

SCRANTON, Pennsylvania

Industries

Building security with buildings. il Eng N 145:120 N 9 '50

SCRANTON electric company

Preferred stock offered. Comm & Fin Chr 174:278 Jl 23 '51

SCRAP material

Junk is a scarce material, too. il Bsns W p90-2 Ap 14 '51

Scrap segregation yields hidden treasure. il Chem W 69:26 Ag 18 '51

See also

Cotton waste

Salvage (waste, etc.)

Scrap metal

SCRAP metal

Characteristics of scrap in relation to bulk handling. E. L. Diamond. diags Iron & Steel Inst J 164:452-62 Ap '50; Same cond. Iron Age 166:95-9 S 21 '50; Discussion. Iron & Steel Inst J 167:364-6 Ap '51

Direct extrusion applied to light metal scrap. M. Stern. il diag Iron Age 167:71-3 Je 28 '51

Handling scrap quickly? il Steel 129:45 Ag 27 '51

If you can't use it, scrap it. Steel 129:37-8 Jl 23 '51

Let's get in the scrap! R. H. Wilcox. il Mill & Factory 49:122-4 Ag '51

Scrap; junk wins new prestige. T. Metaxas. il Iron Age 168:77 S 20 '51

Steel scrap; depression and war are parents of today's scarcity. J. C. Perham. Barron's 31:5 S 17 '51

Steel scrap sleuth tracks down 40 tons. il Bsns W p52-4 Ag 11 '51

To help you make more steel we're scrapping everything we can; Sun Oil's program. P. D. Barton. il Factory Management 109:84-7 S '51

Today's scrap; availability, condition and contamination. R. W. Farley and R. J. McCurdy. J Metals 188:1435-8 D '50; Abstract. Steel 128:110+ Ja 15 '51

Tool steel scrap, key to metal conservation. H. M. Givens, jr. Steel 128:101 Je 11 '51

See also

Aluminum waste

Metal waste

Steel waste

Street railroads—Track reclamation

Prices

Average monthly quotations in 1950; tabulation. Steel 128:128 Ja 1 '51

Number one heavy melting and cast scrap prices in major iron and steel centers; tabulations. Iron Age 167:316-17 Ja 4 '51

Steelmaking scrap price composite; tabulation. Steel 128:127 Ja 1 '51

SCRAP metal industry

Scrap squeeze. Bsns W p22 Je 30 '51

Slag dump yields harvest of vital scrap for Robert M. Chambers. il Bsns W p64-6 Je 2 '51

Where scrap comes from; ABC of what's behind some key statistics. il Bsns W p 117-18+ My 26 '51

Accounting

Recording sales and purchases of scrap metals. J Account 90:518-19 D '50

Statistics

Consumption of metallics in 1950 sets record. E. C. Barringer. Blast F & Steel Pl 39:85-6 Ja '51

How much scrap? figures from British iron and steel federation's Statistical bulletin. Economist 160:1060+ My 5 '51

U.S. scrap consumption, 1910-1950; tabulation. Iron Age 167:317 Ja 4 '51

SCRAPERS

Earthmoving, an art and a science; application of scrapers and rooters. D. K. Heiple. il Constr Methods 33:62-4+ Mr '51

18-yd. Euclid scraper delivered to C. A. Pitts. il Roads & Eng Constr 88:30 N '50

Power drag scraper for handling bulk materials. R. E. Wright. il Ind & Eng Chem 43:sup99A-100A+ Mr '51

Scraper assembly cuts costs at open-pit barite mine. H. J. Tillia. il map Eng & Min J 152:78-9 Ag '51

Scrapers do a big skimming job. il Roads & Sts 94:84 S '51

Scrapers mingle with city traffic; road raising and hill job at Cincinnati. il plan diags Roads & Sts 94:35-7 Jl '51

SCRAPERS, Pipe

Best methods to obtain maximum pipe line efficiency. H. M. McDonald. Gas Age 107:27+ Je 7 '51

SCREEN printing. See Silk screen printing

SCREENING

Screening and charging practice increases furnace yield; Bethlehem steel co. A. H. Fosdick. il Steel 128:86+ Je 18 '51

See also

Coke screening

Paper making—Screening

SCREENS

Automatic control saves screen washing time. diag Elec World 135:74 Ja 15 '51

Electrically heated clay screens double output. R. H. Hively. il Elec World 135:174+ Ja 29 '51

Gyratory screen developed for sizing fine materials. il Rock Prod 54:69 Jl '51

Investigation of flow through screens. W. D. Baines and E. G. Peterson. bibliog diags A S M E Trans 73:467-77 Jl '51; Excerpt. Mech Eng 73:152 F '51; Discussion. A S M E Trans 73:477-80 Jl '51

See also

Wire cloth

SCREENS, Plastic

Screens without frames. il Mod Plastics 29:86 S '51

See also

Moving picture screens, Plastic

SCREW machine products industry

Big oak from little acorns; screw machine product companies. il Steel 128:61-2 My 14 '51

Radio instead of paperwork to speed production; camera tour of Weatherhead co. Cleveland plant. Factory Management 109:102-7 Jl '51

SCREW machines

Air feed equips screw machine for long bars. J. Starr. il diag Am Mach 94:95 O 30 '50

Attachment for automatically loading buttons in screw machines. C. W. Johnson. diags Mach 57:197 Ja '51

Automatics use round insert tools. G. Elwers. il plan diags Iron Age 167:100-1 My 24 '51

Conveyor system handles screw machine parts 50 per cent faster. il Steel 129:68 Jl 30 '51

Deep-hole recesser works on screw machine. R. G. Planck. diags Am Mach 95:166 Mr 13 '51

How to get maximum production from single-spindle automatics. W. E. Rollins. il diags Mach 57:166-72 Ap '51

Multi-spindle automatic hollow-mills eccentric. J. H. Beck. il diags Am Mach 95:166-7 Je 11 '51

Sliding headstock on Tornos high-speed automatic screw machines. il Am Mach 95:146 Ag 20 '51

Small parts bore hardened on screw machines. A. H. Allen. il Steel 128:74-5 Mr 26 '51

SCREW threads

Calculations for Acme thread gages; reference book sheet. D. Sweet. Am Mach 94:137, 139 N 27 '50

Fatigue durability of prestressed screw threads. J. O. Almen. bibliog il diags Product Eng 22:153-6 Ap '51

Helical inserts speed thread repair in castings. il Iron Age 167:104 F 15 '51

Helical thread inserts help speed up motor repairs. il Ry Mech & Elec Eng 125:43-5 Jl '51

Helical-wire thread inserts permit salvage of fuel pumps. il Mach 57:165 Je '51; Same cond. Steel 129:87 Ag 6 '51

How to mill, roll, grind threads for production. W. M. Stocker, jr. il diags Am Mach 95:145-68 Jl 9 '51

In repairing worn threads with special coil inserts, new threads withstand 20 to 30 per cent higher loads. il Mill & Factory 49:135 Ag '51

Inserts extend tool life. Steel 129:112 S 3 '51

Screws and screwing; producing screw threads by cutting, rolling, grinding, and milling. C. Eatough. diags Inst Mech Eng Proc 164 no 1:52-9, pl 3-4; Discussion. il 59-67 '51

Thread repair time cut with helical inserts. il Steel 128:89 Mr 19 '51

See also

Thread cutting

SCREW threads—*Continued*

Measurement

Measurement over three wires of Acme screw threads; tabulations. H. F. Thompson. Tool Eng 26:46 Ja '51

Standards

1950 supplement to screw-thread standards for federal services, 1944. diags U S Nat Bur Stand Handbook H28 (1944):1-113; pa 50c Supt. of doc. '51

Testing

How to inspect screwthread elements. W. M. Stocker, jr. il diags Am Mach 95:137-52 O 15 '51

SCREWDRIVERS

Screwdriver has overload release. il diag Machine Design 23:127-8 Jl '51

SCREWDRIVING machines

Friction drive prevents stripping fine threads. B. P. Fortin. diags Am Mach 94:116 D 25 '50

SCREWS

Interferometric calibration of precision screws and control of ruling engines; Commensurator. G. R. Harrison and J. E. Archer. bibliog il diags Opt Soc Am J 41:495-503 Ag '51

Press tools for screw holes in sheet metal; reference book sheet. diags Am Mach 95: 169, 171 My 14 '51

See also

Leadscrews

Manufacture

Decarb on screw products yields to controlled atmosphere. J. E. Tschopp. il diag Am Mach 95:142-3 F 19 '51

Multi-spindle automatic hollow-mills eccentric. J. H. Beck. il diags Am Mach 95: 166-7 Je 11 '51

Planetary rolling increases bolt-threading production. H. L. Rasmussen. il Mach 57: 163-5 Ap '51

Screw slotter goes versatile; pneumatic and hydraulic hookups. C. Kazek. il diags Am Mach 95:110-11 Ja 8 '51

SCRUB oak. See Oak

SCRUBBERS

Disposal of oil and varnish fume. J. C. Dittmer. il diags Nat Safety N 63:36-7+ Ja '51

Fluoride scrubbers. A. B. Pettit. diags Chem Eng 58:250+ Ag '51

SCRUBBERS, Venturi. See Venturi scrubbers

SCULPTURE, Architectural

Large sculpture group cast in aluminum; group, Venus and Manhattan decorates the face of Parke-Bernet Galleries building, New York. J. Morris. il Foundry 78:102-5+ N '50

SCURVY

Adrenal cholesterol in the scorbutic guinea pig. M. J. Oesterling and C. N. H. Long. bibliog Science 113:241-2 Mr 2 '51

SEA air

New corrosion testing station of International nickel co., Harbor Island, N.C. il Marine Eng 56:62-5 Ja '51; Same. Mech Eng 73: 224-5 Mr '51

Ocean test tube corrosion research at Kure Beach and Wrightsville Beach. W. A. Shrader. il Aeronautical Eng R 10:24-7 Ja '51

Protection of rails from salt-air corrosion. il Ry Age 130:21-3 F 19 '51

SEA food

See also

Fish as food
Lobsters
Oysters

SEA level

High sea levels of the Sonoran shore. R. L. Ives. bibliog maps diag Am J Sci 249:215-23, pl 1-2 Mr '51

Volcanism; a contributing factor to major change in sea level. E. C. Zimmerman. Science 113:391 Ap 6 '51

SEA mountains. See Mountains, Submarine

SEA power

Papua; a lesson in seapower. J. C. Shaw. il map U S Naval Inst Proc 76:1204-11 N '50

World history and sea power. S. M. Robinson. il U S Naval Inst Proc 77:600-3 Je '51

See also

United States—Navy

SEA urchins

Prolongation of the fertilizing capacity of sea-urchin spermatozoa by amino acids. A. Tyler and E. Atkinson. bibliog Science 112: 783-5 D 29 '50

Question of hyaluronidase in sea-urchin spermatozoa. M. Krauss. bibliog Science 112:759 D 22 '50

SEA valleys. See Canyons, Submarine

SEA walls

See also

Breakwaters

SEA walls, Concrete

Dangerous sand subsidence at California port to require heroic concrete structural work. M. E. Sylvester. il Concrete 59:38+ Je '51

Walls protect sinking shipyard; subsidence of Long Beach naval shipyard. L. C. Coxe. il diags Eng N 146:32-4 F 8 '51

SEA water

Attacking corrosion; billion-dollar problem; International Nickel's Harbor Island testing station; photo visit. Mod Ind 21:18+ Ja '51

Blistering phenomena of paints in marine environments. W. G. O'Driscoll. il diag Iron & Steel Inst J 167:353-7 Ap '51

Cell-and-seawater chlorination; simple electrolytic unit employed by Gloucester fish plant. J. V. Ziemba. il diag Food Eng 23:42-3+ Jl '51

Corrosion and related problems in sea water cooling and pipe systems in the H. M. ships; abstract. I. G. Slater and others. Metal Prog 59:273-4+ F '51

Corrosion of bare iron or steel in sea water. J. C. Hudson. il Iron & Steel Inst J 166: 123-36 O '50

Electrochemical behaviour of paint film on steel in sea-water. J. T. Crennell. Soc Chem Ind J 69(sup no 1):S36-8 '50; 371-3 D '50

Geologic history of sea water; an attempt to state the problem. W. W. Rubey. Geol Soc Bul 62:1111-47 bibliog(p 1143-7) S '51

How sea water is utilized for cooling loads. il Pet Refiner 30:107 My '51

Magnesium production; the sea water magnesia process. il Elec R (Lond) 148:967-73 My 11 '51

New corrosion testing station of International nickel co., Harbor Island, N.C. il Marine Eng 56:62-5 Ja '51; Same. Mech Eng 73: 224-5 Mr '51

No method yet known will produce potable water from sea water at cost competitive with most surface waters. R. Gibbs. Chem & Eng N 29:2716 Jl 2 '51

Ocean put into another test tube; Kure Beach cooperative corrosion-testing project. il Power 95:140+ Ja '51

Ocean test tube corrosion research at Kure Beach and Wrightsville Beach. W. A. Shrader. il Aeronautical Eng R 10:24-7 Ja '51

Production of drinking water from sea water by freezing; abstract. A. Steinbach. Refrig Eng 59:879 S '51

Recovery of bromine from sea-water; abstract and discussion. R. O. Gibson. Chem & Ind p217-18 Mr 17 '51

Ship bottom corrosion. P. Ffield. il Marine Eng 55:64-7 D '50

Softening plant has sea-water regeneration, and automatic control, for processing. il diag Eng N 146:46-8 F 1 '51

Strontium content of sea water, celestite radiolaria, and strontianite snail shells. H. T. Odum. bibliog Science 114:211-13 Ag 24 '51

Studies of time-potential changes on an electrode surface during current interruption; zinc-steel couple in synthetic sea water. S. Schuldiner and R. E. White. bibliog il diags Electrochem Soc J 97:433-47 D '50

Analysis

Isotopic composition of oxygen in air dissolved in Pacific Ocean water as a function of depth. N. M. Rakestraw, D. P. Rudd and M. Dole. Am Chem Soc J 73:2976 Je '51

SEA water—*Continued*

Desalting

Army improves sea-water distillation. Eng N 146:73 My 10 '51

SEABEES. See United States—Navy—Construction battalions

SEABOARD air line railroad

Equipment trust certificates offered. Comm & Fin Chr 173:1175 Mr 19 '51

Five high yield stocks that should do well in a defense economy; with comparative balance sheet items. Mag of Wall St 87:453 Ja 27 '51

Railroad securities. Comm & Fin Chr 172:2442 D 21 '50

Secondary offering, etc. Comm & Fin Chr 174:720 Ag 27 '51

SEAFARERS international union

Cities Service's big mistake. il Fortune 42:48+ D '50

SEALING

Collapsible tanks under development; new type seal makes them possible. il Nat Pet N 42:56+ D 27 '50

Design recommendations for O-ring seals. J. H. Swartz. diags Product Eng 22:162-3 S '51

Developing seals for abrasive-fluid mixtures. J. Rabinow. il diags Machine Design 23:128-31 Je '51

Effective sealing of concrete pavement joints. H. F. Clemmer. il Am Concrete Inst J 22:445-8 F '51

Embedments sealed in flexible film; process by Transeal, ltd., Plainfield, N.J. il Mod Plastics 28:82-3 Jl '51

Fix those seals before they knock out turbine; drawings with text. S. Elonka. Power 95:112-13 Ag '51

Gym floor sealers. E. Brenn. il Soap & San Chem 27:117+ My '51

Hermetic sealing of aircraft instruments. R. F. Buckley. il diag Gen Elec R 53:43-5 N '50

Hermetically sealed components for industrial control. E. B. Steinberg. bibliog il Elec Eng 70:804-7 S '51

High pressure metal-to-glass fitting. P. C. Davis, T. L. Gore and F. Kurata. il diag Ind & Eng Chem 43:1826-7 Ag '51

Mechanical seal. il Blast F & Steel Pl 39:718-19 Je '51

Mechanical seals effective on main-line pumps. M. J. Dabney and W. W. Holt, jr. diag Oil & Gas J 49:57-8 Ja 4 '51

Mechanical seals for centrifugal pumps. D. R. Rankin. il diags Pet Eng 23:C13+ S '51; Same cond. Heating-Piping 23:102-5 O '51

Mechanical seals for high speed, temperature, and pressure applications. T. W. Rodes. diags Ind & Eng Chem 43:sup 117A-18A Je '51

Mechanical shaft seals for general refinery service. A. Fanestiel. il diags Oil & Gas J 49:56+ F 1 '51

Method of sealing sapphire to glass. H. Rawson. il diags J Sci Instr 28:208-9 Jl '51

Method of sealing sapphire to glass and its application to infra-red photocells. R. P. Chasmar and others. diag J Sci Instr 28:206-7 Jl '51

O ring seals standard check valve. il Product Eng 21:189 N '50

Sealing of high-pressure steam safety valves. R. E. Adams and J. L. Corcoran. diags A S M E Trans 72:1137-42 N '50

Streamlining the treatment of mains with anti-leak; use of Carboseal. K. D. Knoblock. il Gas Age 107:48-50 Mr 15 '51

Synthetic rubber O-ring seals. E. L. Carlotta. il diags Product Eng 22:130-5 Je '51

Water-tight sealing of cable insulation joints. W. F. Bonwitt. diags Elec World 134:110 D 18 '50

SEALING (packaging)

Giant jobs for tape; new reinforced materials fill in for scarce metal strapping. il diags Mod Packaging 24:98-102 Jl '51

Pouches, joint army and navy packaging. L. M. Burgess. Tappi 34:sup 109A-11A Ap '51

SEALING compositions

Aircraft adhesives, sealers, and coatings. I. G. Christensen. diags Aeronautical Eng R 10:10-16 Ag '51

Anaerobic permafil. il Gen Elec R 54:49 F '51; Mech Eng 73:141-2 F '51; Heat & Ven 48:148-50 F '51

Flexible sealers find wide use in industry. K. Rose. il Materials & Methods 34:66-9 Jl '51

Fuel tank sealers. Aviation W 54:54 Je 4 '51

Impregnation cuts casting rejects. M. J. Nathason. flow sheet il diags Iron Age 168:115-17 S 6 '51

Putty seals floor joints for fire safety; DuPont petroleum laboratory. F. J. Staudt. diags Mill & Factory 49:126 Ag '51

Terrazzo sealers. G. J. Flanagan. Soap & San Chem 27:151+ Je '51

SEAMEN

Group plan covers 40,000 seamen with 97 employers; written by Hancock. Nat Underw (Life ed) 55:4 Ja 26 '51; Weekly Underw 164:253+ Ja 27 '51

Health and welfare of seafarers; an international problem. K. Evang. Int Labour R 63:1-23 Ja '51

Work injuries to crewmen on inland waterway vessels. F. S. McElroy and G. R. McCormack. Mo Labor R 71:676-80 D '50

See also

Seafarers international union

SEAMEN'S church institute of New York

Annual report, 116th. Marine Eng 56:47 Je '51

SEAPLANES

Application of basic research to seaplane design. J. D. Pierson. il diags S A E J 59:42-5 Jl '51

Striking it rich in oil and fish; dealers demonstrating value of seaplanes to tidewater oil men and tuna fishers. E. J. Bulban. il Aviation W 53:39 O 30 '50

Theoretical investigation of hydrodynamic impact loads on scalloped-bottom seaplanes and comparisons with experiment. B. Milwitzky. bibliog il U S Nat Advisory Com for Aeronautics 1947:109-24 '50

See also

Flying boats

SEARCHLIGHTS

72-inch high vacuum evaporator and its glow discharge equipment. N. C. Benson and others. diags Opt Soc Am J 40:687-90 O '50

SEARLE, G. D., and company

New pharmaceuticals spark continued growth. Barron's 31:11 Ag 27 '51

SEARLES lake

Industrial salts; production at Searles lake. J. E. Ryan. bibliog il Min Eng 3:Trans 447-52 My '51

New carbonation technique, more natural soda ash. J. V. Hightower. il diags Chem Eng 58:162-3 My '51

SEARS, Roebuck and company

After half a century it is still the biggest U.S. retailer; with financial data, 1940-1950. J. A. McWethy. Barron's 31:9-10 My 7 '51

Investment audit. W. Beecher. il Mag of Wall St 88:499-500+ Ag 11 '51

SEASONAL industries

New line licks off season bugaboo for White Stag. il Sales Management 67:37-9 O 1 '51

Stopette upsets seasonal sales with fall deodorant promotion. W. A. Wright. il Sales Management 65:76+ N 20 '50

Wine-Certo test pays off; may ease seasonal slump for General Foods; Wine institute and C. & H. sugar refining corporation cooperate. il Sales Management 66:40-2 F 15 '51

See also

Summer business

Advertising

See also

Sun glasses—Advertising

Turkeys—Advertising

SEATON, Max Y. 1890-

Portrait. Fortune 43:106 Je '51

SEATRAIN lines, inc.

New complications enter Seatrain-Savannah case. Ry Age 131:93-4 S 17 '51

SEATS

See also

Airplanes—Seats

Automobiles—Seats

SEATTLE

Build double-deck concrete viaduct to bypass downtown Seattle. il diags Eng N 146:43-5 F 15 '51

SEATTLE—*Continued*

Lighting

Seattle's safety lighting. il maps Elec West 107:84-5 S '51

SEATTLE city light company
City Light to take over Puget property March 1. Elec World 135:94 F 12 '51

SEAWEED. See Algae

SEBACIC acid
New sebacic role? Chem W 69:39-40 S 1 '51

SECOND injury funds. See Workmen's compensation—Second injury funds

SECOND sound in liquid helium. See Helium, Liquid

SECONDARY emission. See Electrons—Secondary emission

SECRET service

United States

Aetna's secret service film shown abroad. East Underw 52:11 O 5 '51

SECRETARIES, Private
Secretaries analyze their problems at Penn Salt's workshop for secretaries. il Bsns W p78-9 Je 30 '51

SECURITIES

Answers to inquiries. Published in bi-weekly numbers of Magazine of Wall Street

Boom in new-issues market. Bsns W p 108+ N 4 '50

Elementary facts for the untutored investor. C. Schick. Comm & Fin Chr 172:1605 O 26 '50

Fixed-interest securities fall off. Bsns W p 137-8 Je 23 '51

IBA committee sees sharp decline in industrial security offerings. Comm & Fin Chr 172:2294+ D 14 '50

Investment market; governments, other securities. M. Olyphant; H. E. Dickhuth. Banking 43:70-2 Ja '51 [cont monthly]

Investors; watch federal financing. B. B. Griffith. Comm & Fin Chr 172:1796 N 9 '50

Movement of the market over the last fortnight. A. T. Miller. Mag of Wall St 87:364-6+ Ja 13 '51 [cont biweekly]

1951 midyear re-appraisals of values, earnings and dividend forecasts. Mag of Wall St 88:452-9+, 504-11+, 554-63+, 605-17+ Jl 28-S 8 '51

Securities disturbing investors. R. Colston. Mag of Wall St 87:334-5, 347+; 88:362-3+ D 30 '50, Je 30 '51

Securities now in registration; prospective offerings. Published in weekly Thursday numbers of Commercial and financial chronicle

Security I like best; selections of experts in the investment and advisory field. Comm & Fin Chr 173:54+ Ja 4 '51 [cont weekly]

Where do I go to invest my dollars? A. W. May. Comm & Fin Chr 172:1685 N 2 '50

See also

Banks and banking—Investments
Banks and banking—Stock
Bonds
Investments, Foreign
Loans, Foreign
Mortgages
Municipal bonds
Speculation
Stockholders
Stocks
Trusts and trustees—Investments

also subdivision Securities under names of industries, e.g.

Airlines
Airplane industry and trade
Building trades
Chemical industries
Distilling industries
Drug trade
Electric utilities
Finance companies
Food industry and trade
Gas companies
Gold mines and mining
Holding companies
Insurance companies
Investment trusts
Machine tool industry
Machinery industry
Metal trade
Moving picture industry
Paper industry and trade
Petroleum industry and trade
Public utilities
Railroad supplies industry
Railroads
Rubber industry and trade
Shoe industry and trade
Sugar industry and trade
Television apparatus industry
Textile industry
Tire industry and trade
Tobacco industry and trade

Advertising

Advertising in the securities business. J. Dutton. Comm & Fin Chr 173:628, 722, 822, 934, 1042 F 8, 15, 22, Mr 1, 8 '51

Advertising of securities. L. Engel. Comm & Fin Chr 172:1502+ O 19 '50

Financial linage grows with eye on public policy. L. Farrant. Ed & Pub 83:12 N 11 '50

Hedge clauses; opinion of General counsel for SEC; editorial. Comm & Fin Chr 173:1636+ Ap 19 '51

Urges prospectus reforms; abstract. E. T. McCormick. Comm & Fin Chr 173:2445 Je 14 '51

Wall Street looks uptown for humanizing copy. L. Farrant. Ed & Pub 83:62 N 25 '50

Direct placement

See Securities—Marketing

Exemption from taxation

See Taxation, Exemption from

Law

Are we protecting the investor? E. T. McCormick. Comm & Fin Chr 173:712+ F 15 '51

Frear bill. J. A. Frear, jr. Comm & Fin Chr 172:1492+ O 19 '50

Implications of Frear bill. J. A. Frear, jr. Comm & Fin Chr 172:2285+ D 14 '50

Securities regulation in U.S. as it affects Canadian issues. A. H. Dean. Comm & Fin Chr 173:4+ sec 2 Je 28 '51

Working of SEC acts and Frear bill criticized. T. Graham. Comm & Fin Chr 172:1901 N 16 '50; Discussion. R. B. McEntire. 173:74 Ja 4 '51

See also

Securities and exchange commission

Marketing

Answer please; why don't more people own stock? J. Dutton. Comm & Fin Chr 174:254, 339, 432, 531 Jl 19, 26, Ag 2, 9 '51

Corporate financing by direct placement. E. R. Corey. Harvard Bsns R 28:67-76 N '50

Direct placement of securities. G. T. Conklin, jr. Comm & Fin Chr 173:154+ Ja 11 '51

Direct placement of securities with insurance companies; with tabulation of corporate bonds placed directly and offered publicly, 1934-1949. O. Ely. Pub Util 46:680-1 N 9 '50

How to capitalize capital; America's fastest growing market. G. Dock, jr. Comm & Fin Chr 173:1851 My 3 '51

Private security sales soar. Bsns W p 110-11 Mr 3 '51

Program sale. J. Dutton. Comm & Fin Chr 173:1961, 2066, 2157, 2260, 2359 My 10, 17, 24, 31, Je 7 '51

Pros and cons of direct placement; with tabulations. F. B. Wilde. Comm & Fin Chr 172:1490+ O 19 '50

Prospecting. J. Dutton. Comm & Fin Chr 173:2689; 174:78, 163 Je 28, Jl 5, 12 '51

Securities markets. C. Schick. Comm & Fin Chr 172:1699 N 2 '50

Securities salesman's corner. J. Dutton. Published in weekly Thursday numbers of Commercial and financial chronicle
See also National association of securities dealers

Obsolete securities

It's not necessarily worthless; Tracers company of America determines values of obsolete securities. R. H. Joseph. il Bankers Mo 68:30+ Ap '51

Over-the-counter marketing

Activity on the over-the-counter markets; abstract. I. Friend. Comm & Fin Chr 173:538-9 F 1 '51

Over-the-counter market. Barron's 31:49-50 Ja 8 '51 [cont weekly]

Over-the-counter market in stocks. O. J. Troster. Comm & Fin Chr 172:1584+ O 26 '50

Positioning of securities on over-the-counter markets; abstract. W. J. Winn. Comm & Fin Chr 174:609 Ag 16 '51

SECURITIES—*Continued*

Prices

Security prices in United States, Canada, United Kingdom, France, Netherlands, yearly 1942-1949 and monthly Dec. 1949-Nov. 1950. Fed Res Bul 37:119 Ja '51 [cont monthly]

Private placement

See Securities—Marketing

Regulation

Canadian clean-up; brokers move to make it tough for stock sharpers. N. Willatt. Barron's 31:17 Je 18 '51

From regulator to regulated. E. T. McCormick. Comm & Fin Chr 174:1162 S 27 '51

Regulation is here to stay! H. A. McDonald. Comm & Fin Chr 172:6 sec 2 O 19 '50

U.S. seeks curb on Canadian frauds; revision of extradition treaty. Bsns W p 155 S 15 '51

See also
Securities—Law
Securities and exchange commission

Statistics

Capital flotations in the United States in Dec. and for the twelve months of calendar year 1950. Comm & Fin Chr 173:1059-70 Mr 12 '51

Estimates value of all listed shares. C. A. Cole. Comm & Fin Chr 173:1347 Mr 29 '51

New corporate security issues; proposed uses of proceeds, all issuers, yearly 1936-1949 and monthly Nov. 1949-Nov. 1950. Fed Res Bul 37:68 Ja '51 [cont monthly]

New security issues, for new capital and for refunding, domestic totals, 1941-1949 and monthly Nov. 1949-Nov. 1950. Fed Res Bul 37:67 Ja '51 [cont monthly]

Unlisted securities

Role of the unlisted securities dealer. J. F. Egan. Comm & Fin Chr 174:1059+ S 20 '51

See also
Securities—Over-the-counter marketing

Valuation

See also
Stocks—Valuation

Canada

Securities regulation in U.S. as it affects Canadian issues. A. H. Dean. Comm & Fin Chr 173:4+ sec 2 Je 28 '51

France

French investor's squeeze by inflation; a warning. A. W. May. Comm & Fin Chr 173:2661+ Je 28 '51

French investors will not buy bonds or stocks because of negative returns. B. DeJouvenel. Barron's 30:11 O 30 '50

Great Britain

Are gilt-edged vulnerable? with tabulation of gross redemption yields. Economist 160:211-12 Ja 27 '51

New light on new issues. Economist 159: 1023-4 D 9 '50

Japan

Japanese bonds; world affairs call the tune in the market. G. Cruikshank. Barron's 31: 7 Ag 27 '51

Japanese dollar bonds. W. H. Oppenheimer. Comm & Fin Chr 174:58 Jl 5 '51

SEC announces resumption of dealings in Japanese bonds. Comm & Fin Chr 172:1899 N 16 '50

Ontario

Canadian clean-up; brokers move to make it tough for stock sharpers. N. Willatt. Barron's 31:17 Je 18 '51

SECURITIES and exchange commission

Accountant's problems arising under SEC's new revision of Regulation S-X. C. G. Blough. J Account 91:238-42 F '51

Frear bill. J. A. Frear, jr. Comm & Fin Chr 172:1492+ O 19 '50

Hedge clauses; opinion of General counsel for SEC; editorial. Comm & Fin Chr 173: 1636+ Ap 19 '51

How coöperation in development of accounting principles by SEC and profession helps investors. H. A. McDonald. J Account 91: 411-15 Mr '51

Implications of Frear bill. J. A. Frear, jr. Comm & Fin Chr 172:2285+ D 14 '50

Scrutiny of SEC welcome. H. A. McDonald. Comm & Fin Chr 174:959 S 13 '51

SEC denies charge of favoritism in not forcing United corp. breakup. Elec World 136:88 Ag 27 '51

SEC stock market index. Comm & Fin Chr 173:1554-5 Ap 12 '51

SEC unveils most accurate index; new weekly stock price averages. Bsns W p 128+ Ap 7 '51

Suggestions for operating under the SEC's new rules governing financial statements. J Account 91:230-7 F '51

Working of SEC acts and Frear bill criticized T. Graham. Comm & Fin Chr 172:1901 N 16 '50; Discussion. R. B. McEntire. 173:74 Ja 4 '51

SECURITIES dealers, National association of. See National association of securities dealers

SECURITY (psychology)

In defense of security. W. Weir. Ptr Ink 236: 50+ S 7 '51

SECURITY traders association, National. See National security traders association

SECURITY traders association of New York

Annual dinner, 15th, New York, April 13; portraits. Comm & Fin Chr 173:1657+ Ap 19 '51

Annual meeting, New York; portraits. Comm & Fin Chr 172:2547-50 D 28 '50

New officers. Comm & Fin Chr 172:2200 D 7 '50

SEDGWICK, William Thompson, 1855-1921

William T. Sedgwick, biologist. J. A. Tobey. por Tech R 53:94-5+ D '50

SEDIMENTATION

Boundary spreading in sedimentation velocity experiments. R. L. Baldwin and J. W. Williams. Am Chem Soc J 72:4325 S '50

Conversion of fibrinogen to fibrin; sedimentation and viscosity studies on clotting systems inhibited by hexamethylene glycol. S. Shulman and J. D. Ferry. bibliog J Phys & Colloid Chem 55:135-44 Ja '51

Density correction of sedimentation constants. H. K. Schachman and M. A. Lauffer. bibliog Am Chem Soc J 72:4266-8 S '50

Determination of sedimentation constants from Fresnel diffraction patterns. G. Kegeles and F. J. Gutter. bibliog il Am Chem Soc J 73:3770-7 Ag '51

Fundamentals and performance of gravity separation. A. C. Ingersoll. il diags Pet Refiner 30:106-18 bibliog(151 titles, p 116-18) Je '51; Same. Am Pet Inst Proc 31 M(3): 45-62 '51

Particle size determination by centrifugal pipet sedimentation. H. J. Kamack. bibliog il diag Anal Chem 23:844-50 Je '51

Sedimentation equilibria of polydisperse non-ideal solutes; association in dilute cellulose acetate solutions. M. Wales and D. L. Swanson. bibliog J Phys & Colloid Chem 55:203-10 F '51

Sedimentation equilibria of polydisperse non-ideal solutes; number-average molecular weight and molecular-weight distribution functions. M. Wales, F. T. Adler and K. E. Van Holde. bibliog J Phys & Colloid Chem 55:145-61 Ja '51

Sedimentation equilibria of polydisperse non-ideal solutes; uses and limitations of the equilibrium ultracentrifuge. M. Wales. bibliog J Phys & Colloid Chem 55:282-92 F '51

Sedimentation equilibrium in concentrated polymer solutions. M. Wales. bibliog J Ap Phys 22:735-9 Je '51

SEDIMENTATION and deposition

Origin and significance of openwork gravel. A. S. Cary. il diags Am Soc C E Proc 76 [no 17]:1-13 My '50; Discussion. 77 [no D-17]:1-10 S '51

Pleistocene valley sediments of the Dugway area, Utah. R. L. Ives. bibliog maps diags Geol Soc Bul 62:781-97, pl 1-2 Jl '51

Rubble bedding and graded bedding in Talara formation of northwestern Peru. J. M. Dorreen. bibliog il maps diags Am Assn Pet Geologists Bul 35:1829-49 Ag '51

SEDIMENTATION and deposition—*Continued*

Sedimentary basins of Arizona and adjoining areas. E. D. McKee. maps Geol Soc Bul 62:481-505, pl 1-3 bibliog(p500-2) My '51

Some relations among sedimentation, stratigraphy, and seismic exploration. W. C. Krumbein. bibliog map diags Am Assn Pet Geologists Bul 35:1505-22 Jl '51

Three critical environments of deposition, and criteria for recognition of rocks deposited in each of them. J. L. Rich. bibliog diags Geol Soc Bul 62:1-19, pl 1-4 Ja '51

See also

Ocean bottom

Ore deposits

Silt

SEDIMENTATION apparatus

Sedimentation cylinder for particle size analysis. C. J. Leith. il Science 113:412-13 Ap 13 '51

SEDIMENTS

Engineering geology of San Francisco bay, Calif. P. D. Trask and J. W. Rolston. bibliog maps diags Geol Soc Bul 62:1079-109 S '51

Measurement of sedimentation in small reservoirs. L. C. Gottschalk. il map Am Soc C E Proc 77 [no55]:1-11 Ja '51

Organic origin of some calcareous sediments from the Red sea. R. Said. bibliog Science 113:517-18 My 4 '51

Regime theory for self-formed sediment-bearing channels. T. Blench. bibliog il Am Soc C E Proc 77 [no 70]:1-18 My '51

Sedimentary study of dust storms in the vicinity of Lubbock, Tex. G. F. Warn and W. H. Cox. bibliog maps diags Am J Sci 249:553-68 Ag '51

SEDITION

See also

Subversive activities

SEDOHEPTULOSAN

Structure of sedoheptulosan. J. W. Pratt, N. K. Richtmyer and C. S. Hudson. bibliog Am Chem Soc J 73:1876-7 Ap '51

SEDOHEPTULOSE

Sedoheptulose in photosynthesis by plants. A. A. Benson, J. A. Bassham and M. Calvin. Am Chem Soc J 73:2970 Je '51

SEEBECK effect

Electrical properties of αFe_2O_3 and αFe_2O_3 containing titanium. F. J. Morin. diag Phys R 83:1005-10 S 1 '51

SEED stores

Seed business sprouts new lines. il Bsns W p 102-5 Jl 7 '51

SEEDING

New aid to reforestation; seeding tool. A. P. Leslie. il diag Pulp & Pa of Can 52:122-3 My '51

SEEDS

Farm drying of grain and seeds. J. Woodforde. diags Engineering 171:669-73 Je 1 '51

Production of legume, grass and forage herb seeds, Australia. For Comm W 44:19 Ag 20 '51

Studies of seed mucilages; examination of a polysaccharide extracted from the seeds of plantago ovata Forsk by hot water. R. A. Laidlaw and E. G. V. Percival. Chem Soc J p528-34 F '50

Toxicological studies of compounds investigated for use as inhibitors of biological processes. A. M. Ambrose. bibliog diag A M A Archives Ind Hygiene & Occup Med 2:582-97; 3:48-56 N '50, Ja '51

See also

Oil seeds

Inspection

High level lighting for seed inspection. E. A. Lindsay. il Illum Eng 46:171 Ap '51

SEFSTRÖM, Nils Gabriel, 1787-1845

N. G. Sefström and the discovery of vanadium. S. G. Sjöberg. por J Chem Educ 28:294-6 Je '51

SEGAL, Alfred

"Cincinnatus" deals in human interest. H. V. Martin. por Ed & Pub 84:48 Ja 6 '51

SEGAL, Martin E.

Welfare-plan reformer. por Fortune 43:75 My '51

SEIBERLING rubber company

Capacity operations expected this year; profits to be off from 1950 high. R. Vogel. Barron's 31:39-40 Ja 22 '51

SEIGNETTE'S salt. See Potassium sodium tartrate

SEISMOGRAPHS

Explosives for seismograph prospecting. L. W. Braniff. il World Oil 131:73-5+ D '50

Miniature seismograph features performance plus portability. H. J. Girard. il Oil & Gas J 50:96-7+ My 24 '51

Sand bar located by seismograph. P. C. Ingalls. Oil & Gas J 49:141 O 26 '50

Velocity information needed for seismic interpretation. J. W. Daly. diags World Oil 132:86-8 Je '51

SEISMOLOGICAL society of America

Abstracts of papers at 1950 meeting. Geol Soc Bul 61:1543-7 pt 2 D '50

SEITZ, Peter, 1905-

Strikes mount; WSB names P. Seitz its disputes officer. por Bsns W p37-8 S 22 '51

SEIZURE of plants. See Government regulation of industry

SELENANTHRENE

Some derivatives of selenanthren. N. M. Cullinane. Chem Soc J p237-8 Ja '51

SELENATES

Analysis

Determination of selenate, and the preparation of some aluminium selenates. H. Bassett. Chem Soc J p 1191-4 Ap '50

SELENIC acid

Structures of inorganic oxy-acids; the crystal structure of selenic acid. M. Bailey and A. F. Wells. diags Chem Soc J p968-73 Ap '51

Vibrational spectra of ionic forms of oxides and oxy-acids of nitrogen; Raman-spectral evidence of the ionisation of nitric acid by perchloric, sulphuric, and selenic acids; spectroscopic identification of the nitronium ion, NO_2^+. C. K. Ingold, D. J. Millen and H. G. Poole. Chem Soc J p2576-89 O '50

SELENIDES

Dissociation constants of some monosubstituted benzeneseleninic acids; a new synthesis of diaryl diselenides. E. S. Gould and J. D. McCullough. bibliog Am Chem Soc J 73:1109-12 Mr '51

Some addition reactions of chalcones; the preparation of some γ-ketoselenides. H. Gilman and L. F. Cason. bibliog Am Chem Soc J 73:1074-6 Mr '51

SELENIUM

Electrical properties of selenium; single crystals. H. W. Henkels. bibliog il diag J Ap Phys 22:916-25 Jl '51

How to conserve selenium decolorizer. W. H. Manring. Cer Ind 57:49-50 Jl '51

Need for improvement in selenium rectifiers. J. T. Cataldo. diags Electronics 24:182+ Mr '51

Selenium rectifiers. O. S. Aikman. il diags Machine Design 23:163-72 Ap '51

Selenium rectifiers for tv applications. R. P. Turner. il diags Tv Eng 2:14-15+ Ap '51

Sensitized paper for estimation of mercury vapor. F. Stitt and Y. Tomimatsu. Anal Chem 23:1098-101 Ag '51

Analysis

Chemical analysis of soda-lime-silica glasses for trace quantities of several colorants. P. Close and others. diag Am Cer Soc J 33:349-51 N 1 '50

Determination of selenium in metallic copper and pyritic materials. J. S. McNulty, E. J. Center and R. M. MacIntosh. bibliog diag Anal Chem 23:123-5 Ja '51

Determination of trace amounts of selenium in water. J. L. Lambert, P. Arthur and T. E. Moore. bibliog diag Anal Chem 23:1101-6 Ag '51

Isotopes

Band spectra of the selenium isotopes. S. P. Davis and F. A. Jenkins. Phys R 83:1269 S 15 '51

Energy of the gamma-ray from Se^{77m}. R. Canada and others. Phys R 82:750 Je 1 '51

SELENIUM alloys

Electrical resistivity and thermoelectric power of antimony-selenium alloys. B. D. Cullity and others. bibliog J Metals 188: Trans 47-52 Ja '50; Discussion. 188:Trans 1367-8 N '50

SELENIUM cells
Recovery of selenium rectifiers after a voltage pulse in the blocking direction. K. Lehovec. bibliog diags J Ap Phys 22:934-9 Jl '51

SELENIUM coating
Electrical properties of selenium coatings. P. H. Keck. bibliog il Opt Soc Am J 41: 53-5 Ja '51

SELENIUM compounds
Esters containing boron and selenium. H. G. Cook and others. Chem Soc J p3125-8 N '51
New synthesis of dibenzoselenophene. J. D. McCullough, T. W. Campbell and E. S. Gould. Am Chem Soc J 72:5753-4 D '50
Reaction of ketones with iodine and selenourea. L. C. King and R. J. Hlavacek. Am Chem Soc J 73:1864-5 Ap '51
Reactions of 2,4-dinitrobenzeneselenenyl bromide with alcohols and amines. W. S. Cook and R. A. Donia. bibliog Am Chem Soc J 73:2275-7 My '51
Selenoaldehydes; selenoformaldehyde (trimethylene triselenide) and its chlorination products. H. J. Bridger and R. W. Pittman. Chem Soc J p 1371-5 My '50
Selenonophosphates as lubricant additives. R. E. Heiks and F. C. Croxton. Ind & Eng Chem 43:876-84 Ap '51
Synthesis of 1,4-diselenane. E. S. Gould and J. D. McCullough. Am Chem Soc J 73:1105-6 Mr '41

SELENIUM dioxide. See Selenium oxides

SELENIUM oxides
Reaction of α- and γ-stilbazoles with selenium dioxide. C. A. Buehler, J. O. Harris and W. F. Arendale. bibliog Am Chem Soc J 72:4953-5 N '50
Some complexes formed from diaryl selenoxides and mercury(II) halides. E. S. Gould and J. D. McCullough. Am Chem Soc J 73:3196-7 Jl '51
Standard X-ray diffraction patterns. H. E. Swanson and E. Tatge. bibliog J Res Nat Bur Stand 46:318-27 Ap '51

SELENIUM sulfide
Rapid estimation of small amounts of ethylene in air; portable instrument for testing degrading of oranges. F. Stitt, A. H. Tjensvold and Y. Tomimatsu. bibliog il diag Anal Chem 23:1138-41 Ag '51
Sensitized paper for estimation of mercury vapor. F. Stitt and Y. Tomimatsu. Anal Chem 23:1098-101 Ag '51

SELENONIUM compounds
X-ray study of triphenylselenonium chloride. J. D. McCullough and R. E. Marsh. diag Am Chem Soc J 72:4556-7 O '50

SELENOPHOSPHATES. See Selenium compounds

SELF, Sir Henry, 1890-
Sketch. por(pl) Elec R (Lond) 148:1228 Je 15 '51

SELF service
Experiments in self-service. Economist 161: 182+ Jl 21 '51
Five shoppers' whims that stumped meat marketeers temporarily. D. G. Brauer. il Sales Management 65:70+ N 10 '50
Self-service merchandising of meats. N. Allen. il Refrig Eng 58:1191-3+ D '50; Discussion. 59:51+ Ja '51
Selling hard goods by self-service. il Ptr Ink 235:34 My 4 '51
See also Gasoline service stations—Self service stations

SELF service stores
Are you financing retailer competition for your brand? P.M.'s display allowances. E. B. Weiss. il Ptr Ink 233:35-6+ D 15 '50
Drug-O-Mat saves time for shopper, saves work for storekeeper. il Bsns W p52 Jl 28 '51
Self-service meat retailing in 1950. S. Teitelman. maps J Marketing 15:307-18 Ja '51

SELVAGES
Gara, a new weft trimmer. il Rayon 32:45 Ag '51

SEMANTICS
Kennetic inquiry. A. F. Bentley. bibliog Science 112:775-83 D 29 '50
Semantics of industrial relations. W. Exton, jr. bibliog Personnel 26:418-23; 27:194-201 My, N '50
What about semantics? in general and for advertising. R. Webster. Ptr Ink 235:38-40 Je 1 '51

SEMICARBAZIDE
Action of hydrazine on benzoxazolones. J. D. Bower and F. F. Stephens. Chem Soc J p325-8 F '51
Reduction of carbohydrazide; the acidity of carbohydrazide, semicarbazide and urea. A. H. Corwin and J. D. Reinheimer. bibliog diag Am Chem Soc J 73:1184-6 Mr '51

SEMICARBAZONES
Semicarbazones of α,β-unsaturated 20-ketosteroids. H. Reich and R. W. Collins. bibliog Am Chem Soc J 73:1374 Mr '51

SEMI-CONDUCTORS. See Electric conductors—Semi-conductors

SEMIDINES
Stereochemistry of the semidine transformations. D. L. Hammick and D. C. Munro. Chem Soc J p2049-52 Ag '50

SEMINOLE, Oklahoma
Kingdoms of oil. L. N. Unsell. il World Oil 132:238-40+ My '51

SEMISILICA brick
Long-time load tests show semi-silica superior. H. H. Wilson, jr. il diag Brick & Clay Rec 119:45-6 Jl; 51-3 Ag '51
Semisilica refractories lessen furnace structural failures. G. B. Remmey. il diag Steel 127:62-4+ N 27 '50
Valentine adds kiln, expands to meet semisilica demand. il Brick & Clay Rec 119:57 S '51

SEMPERVIRINE
Constitution of yohimbine and related alkaloids; some attempts to synthesise sempervirine. G. A. Swan. Chem Soc J p 1539-42 Je '50

SENATE building. See Washington, D.C.—Senate building

SENECIC acid
Senecio alkaloids; the isomerisation of senecic acid to *trans*-senecic (integerrinecic) acid, and the general structure of the necic acids. M. Kropman and F. L. Warren. Chem Soc J p700-2 F '50

SENECIO
Identity of α-longilobine and seneciphylline. R. Adams and J. H. Looker. bibliog Am Chem Soc J 73:134-6 Ja '51
Senecio alkaloids; the isomerisation of senecic acid to *trans*-senecic (integerrinecic) acid, and the general structure of the necic acids. M. Kropman and F. L. Warren. Chem Soc J p700-2 F '50
Senecio alkaloids; the occurrence and preparation of the *N*-oxides; an improved method of extraction of the senecio alkaloids. M. J. Koekemoer and F. L. Warren. Chem Soc J p66-8 Ja '51
Senecio alkaloids; the structure of retrorsine and isatidine; the ester groupings. E. C. Leisegang and F. L. Warren. Chem Soc J p702-3 F '50

SENECIOIC acid
Polyalkylbenzenes; action of senecioic acid, and of senecioyl chloride, upon the tetramethylbenzenes and upon pentamethylbenzene. L. I. Smith and J. J. Rosenbaum. bibliog Am Chem Soc J 73:3843-7 Ag '51

SENECIOYL chloride
Polyalkylbenzenes; action of senecioic acid, and of senecioyl chloride, upon the tetramethylbenzenes and upon pentamethylbenzene. L. I. Smith and J. J. Rosenbaum. bibliog Am Chem Soc J 73:3843-7 Ag '51

SENECIOYL tetralin
Cyclization of β-(6-tetralyl)-isovaleric acid, and of 6-senecioyltetralin. L. I. Smith and P. N. Gordon. Am Chem Soc J 73:3747-9 Ag '51

SENECIPHYLLINE
Identity of α-longilobine and seneciphylline. R. Adams and J. H. Looker. bibliog Am Chem Soc J 73:134-6 Ja '51

SENIORITY. See Employees—Length of service; Trade agreements—Seniority provisions

SENSES and sensation
All experience is of change; survey of the senses reveals large gaps in our knowledge of the mechanism by which man perceives his environment. F. W. Nordsiek. bibliog il Tech R 53:22-5+ N; 87-90+ D '50
How many senses has man? E. L. Bernays. Ptr Ink 235:46 My 4 '51
See also
Hearing
Pain
Sight
Smell
Taste

SEPARATION

Cold-separation processing; nontechnical questions and answer discussion. J. D. Lowd. diags Oil & Gas J 50:294+ Je 21; 81-5+ Je 28 '51

Diamonds from dust; recovery from metal waste piles. R. S. Young and A. D. McDonald. il Iron Age 167:76-7 Je 28 '51

Efficiency and sharpness of separation in evaluating coal-washery performance. H. F. Yancey and M. R. Geer. bibliog Min Eng 3: Trans 507-17 Je '51; Discussion. 3:Trans 994-1000 N '51

Engineering aspects of separation of gases; fractional permeation through membranes. S. Weller and W. A. Steiner. bibliog flow diags diags Chem Eng Prog 46:585-90 N '50

Fundamentals and performance of gravity separation. A. C. Ingersoll. il diags Pet Refiner 30:106-18 bibliog(151 titles, p 116-18) Je '51; Same. Am Pet Inst Proc 31 M(3): 45-62 '51

Gravity separation of inactive catalyst. C. K. Viland. flow diag il Oil & Gas J 49:74-5+ N 30 '50

Low-temperature separation as applied to gas-condensate production. A. W. Francis, jr. flow diag Oil & Gas J 50:69-70+ Jl 5 '51

New technique taps Athabaska tar sands. K. A. Clark. il diag World Oil 132:205-8 F '51

Role of heterogeneous equilibria in analytical chemistry. P. J. Elving. bibliog Anal Chem 23:1202-9 S '51

Separation methods in metallurgical analysis. T. S. West. bibliog Metallurgia 43:41-6 Ja '51

Separation of copper from zinc by ion exchange. E. J. Breton, jr. and A. W. Schlechten. bibliog diag J Metals 3:Trans 517-21 Jl '51

Separation of gas mixtures by mass diffusion. M. Benedict and A. Boas. diags Chem Eng Prog 47:51-62, 111-22 F-Mr '51

Separation of mixtures by continuous extraction processes; the continuous step-wise extraction of a fixed quantity of a mixture of solutes. J. D. A. Johnson. Chem Soc J p 1743-53 Jl '50

Separation of mixtures of solutes by distribution between solvents; the separation of the components of a fixed quantity of a mixture by a continuous counter-current extraction process. J. D. A. Johnson and A. Talbot. diags Chem Soc J p 1068-88 Ap '50

Separations in analytical chemistry; 3d annual summer symposium. M. G. Mellon and others. bibliog flow sheets il diags Anal Chem 22:1342-97 N '50

Solvent fractionation of wax mixtures; patent. flow chart Pet Processing 6:523 My '51

Sweep diffusion gas separation process. M. T. Cichelli, W. D. Weatherford, jr. and J. R. Bowman. bibliog il diags Chem Eng Prog 47:63-74, 122-33 F-Mr '51

See also

Adsorption
Chromatography
Crystallization
Distillation
Dust removal
Electric precipitation
Elutriation
Extraction processes
Filters and filtration
Flotation process
Hydrocarbons—Separation processes
Ion exchangers
Ore treatment
Precipitation
Sedimentation
Sink and float process
Sublimation

SEPARATORS

How self-adjusting skimmers improve operation of waste separators. W. O. Small. il diags Pet Processing 5:1300-3 D '50

Mesh ups output; wire cloth entrainment separators. Chem Ind 67:719 N '50

New method of cleaning straw pulp. C. G. Krancher. Tappi 34:sup 133A; Discussion. sup 133A-5A S '51

Water drained automatically from lube oil reservoir. J. C. Albright. il Pet Eng 23: B84+ S '51

See also

Centrifuges
Classifiers
Concentrators
Cream separators
Dust collectors
Electric precipitation
Evaporators
Filters and filtration (technical chemistry)
Magnetic separators
Oil separators
Screens

SEPARATORS, Electrostatic. See Electrostatic separators

SEPTIC tanks

Equilibrium percolation test for designing sewage effluent leaching fields. H. F. Ludwig and others. bibliog Water & Sewage Works 97:513-16 D '50

How to design a septic tank for use with a food waste disposer. diags Pub Works 82: 51-2+ Mr '51

Kitchen sink drainage and the septic tank. Consumers Res Bul 28:9 S '51

Septic tank installations for private residences and institutions; guided discussion. Munic Util 89:70+ S '51

SEQUENTIAL analysis. See Statistical methods

SEQUENTIAL sampling. See Sampling (statistical methods)

SEQUOIA

Probable chromosome number of fossil sequoia and metasequoia found in Japan. S. Miki and S. Hikita. bibliog il Science 113:3-4 Ja 5 '51

SEQUOYITOL

Nature of a cyclitol isolated from macrozamia riedlei. N. V. Riggs. Chem Soc J p3199-200 D '49

SERGE

Uniform loom settings are a must for 18-oz. serge. E. P. Schremp. il Textile World 101: 104-5+ Je '51

SERIES

Transformations to speed the convergence of series. J. B. Rosser. bibliog J Res Nat Bur Stand 46:56-64 Ja '51

SERPENTINE

Auger rods carbide-tipped for serpentine. il Eng & Min J 152:102 My '51

SERTÜRNER, Friedrich Wilhelm, 1783-1841

F. W. Sertürner, the discoverer of morphine. G. Lockmann. por J Chem Educ 28:277-9 My '51

SERUM

Colloid osmotic pressure of serum. G. Scatchard. bibliog Science 113:201-2 F 23 '51

Immunochemical changes in chicken serum during development of Rous sarcoma. I. A. Parfentjev and F. Duran-Reynals. bibliog Science 113:690-1 Je 15 '51

Modification of the Schleicher technique for detecting the erythrocyte aggregation factor in serum. A. Fjelde. Science 113:750 Je 29 '51

Radioactive tracers in antisera. F. D. S. Butement. Chem Soc J supp no2:S408-10 '49

Temperature dependence of the electrophoretic mobility of horse serum albumin. I. Watanabe, N. Ui and M. Nakamura. bibliog J Phys & Colloid Chem 54:1366-70 D '50

SERUM albumin. See Albumin

SERVANTS

Household tax service for bank customers; bank handles social security tax returns for domestic servants. V. F. Ostrom. il Burroughs Clearing House 35:30-1+ Mr '51

How to pay servants' tax. Bsns W p94-5 D 9 '50

Status of domestic work in the United Kingdom; with special reference to the National institute of houseworkers. D. M. Elliott. Int Labour R 63:125-48 F '51

SERVEL, Inc.

Cost-cutting the homemade way; Servel's work simplification program. il Bsns W p52+ N 18 '50

Servel bucks bad publicity. Bsns W p 121-2 S 29 '51

Servel buys wartime goodwill; redesigns gas refrigerators, cuts prices. il Bsns W p89-90+ F 17 '51

SERVICE (in industry)

Cory's Mr Red Face is sorry, but. il Sales Management 67:68-9 Jl 1 '51

How industrial distributors can help you increase production under the rearmament program. il map Mill & Factory 48:171-86 Je '51

How to turn a current problem into a promotion plus; Gould-National Battery helps customers get maximum use of product. M. W. Heinritz. il Ptr Ink 236:41-2 S 14 '51

SERVICE (in industry)—*Continued*

White Motor announces emergency service plan. R. B. Temple. il Bus Transportation 30:48-9 Mr '51

See also

Banks and banking—Service
Dealer helps
Electric utilities—Service
Gas companies—Service

SERVICE industries

See also

Banks and banking
Gasoline service stations
Hotels
Laundries
Railroads
Telegraph
Telephone
Trust companies

Advertising

Advertising a service. Aesop Glim. Ptr Ink 236:62-3 Ag 17 '51

SERVICE pipe line company

Separation program; construction of building one of final steps in becoming entity apart from parent. Oil & Gas J 49:31 N 2 '50

SERVICE stations. See Gasoline service stations

SERVOMECHANISMS

Ascertaining the critical servo gain. A. Schlang. Inst Radio Eng Proc 39:290 Mr '51

Carrier compensation for servomechanisms. H. E. Blanton. diags Franklin Inst J 250: 391-407, 525-42 bibliog(p541-2) N-D '50

Carrier-controlled relay servos. J. C. Lozier. diag Elec Eng 69:1052-6 D '50

Combined search and automatic frequency control of mechanically tuned oscillators. J. G. Stephenson. diag Inst Radio Eng Proc 38:1314-17 N '50

Continuous film scanner for tv. il diags Electronics 24:114-16 Jl '51

Control-surface position feedback in flight-control systems. L. Becker. diag Aeronautical Eng R 10:17-19+ S '51

D.c. generator amplifier use in servo control systems. J. C. West. diag Elec R (Lond) 147:819-22 N 24 '50

Dc synchros control feeds on huge boring mill. R. A. Gerg. il diag Steel 129:88-9 S 17 '51

Double-duty servos. il Aviation W 53:39 N 27 '50

Effect of friction on the behaviour of servo mechanisms at creep speeds. J. G. L. Michel and A. Porter. bibliog flow diag diags Inst E E Proc 98 pt 2:297-308; Discussion. 308-11 Je '51; Electrician 145:1434 D 15 '50

Electromagnetic brakes for d-c servo motors. C. Kronacher. il diags Product Eng 22:172-5 Je '51

Electronic brains for machines. il diag Product Eng 22:138-41 My '51

Elimination of brush ripple in d.c. tachometer-generators used in servo-mechanisms. J. C. West and T. W. Hey. diags J Sci Instr 28:18-20 Ja '51

Hydraulic servocontrols in the steel industry. H. Ziebolz. il diags Instruments 24:650-1+ Je '51

Importance of extending Nyquist servomechanism analysis to include transient response. R. L. Johnson and J. B. Rea. bibliog diags J Aeronautical Sci 18:43-9 Ja '51

Integral controller for use in carrier-type servomechanisms. R. L. Cosgriff. diag Elec Eng 69:1078 D '50

Inverted servo system for sensitive inputs. H. F. Colvin, 3d. il diags Product Eng 22: 147-51 Ag '51

Magnetic particle and hysteresis clutches for servo systems. il Product Eng 22:176-7 Jl '51

Network synthesis by graphical methods for a-c servomechanisms; abstract. G. A. Bjornson. Elec Eng 70:571 Jl '51

New approach to the design of pulse-monitored servo systems. A. Porter and others. bibliog diags Inst E E Proc 97 pt 2:597-608; Discussion. 608-11 O '50

New servomotor. il Chem Age (Lond) 65:364 S 15 '51

Optimum gear train ratios for instrument servomechanisms. L. N. Canick. diags Product Eng 22:108-9 Jl '51

Packaged servo amplifier for industrial processes. il Product Eng 22:215 My '51; Franklin Inst J 251:676-7 Je '51

Pneumatic servomechanisms in the iron and steel industry. A. A. Markson. il diags Instruments 24:647-9+ Je '51

Position synchronization of a rotating drum. F. C. Williams and J. C. West. bibliog diags Inst E E Proc 98 pt 2:29-34 F '51

Proportionalizing dither increases sensitivity of hydraulic servo. P. B. Sebring. il diags Machine Design 23:125-8 Ag '51

Relay servomechanisms; the shunt-motor servo with inertia load. T. A. Rogers and W. C. Hurty. bibliog diags A S M E Trans 72:1163-72 N '50

Servo drive for heterodyne oscillators; abstract. T. Slonczewski. diag Elec Eng 70: 683 Ag '51

Servo guider for solar telescopes. F. E. Fowler and D. S. Johnson. il diags Electronics 24:118-22 My '51

Servo power calculations; chart; reference sheet. O. E. Carlson. Electronics 24:134 Mr '51

Servomechanisms; abstract. P. G. Briggs. Electrician 145:1139 N 24 '50

Servotechniques in industry. il Tech R 53: 344 My '51

Stability of servomechanisms with linearly varying elements. M. J. Kirby. Elec Eng 70:343 Ap '51

Torque motor performs with servo-mechanisms. il Product Eng 22:176 Ja '51

Valve controls electro hydraulic servo-mechanisms. il Product Eng 22:234 My '51

What size motor for proper operation of servomechanism. G. C. Newton, jr. bibliog il diags Machine Design 22:125-30+ N '50

Wien bridge as frequency-shift servo. J. Yeiser. diag Electronics 24:162+ Ja '51

SESAME

Research on sesame. Franklin Inst J 252:326 O '51

SESAME oil

Chemical and physiological properties of sesame oil. P. Budowski and K. S. Markley. Chem R 48:125-51 bibliog(254 ref, p 145-51) F '51

Sesame oil; antioxidant properties of sesamol; abstract. P. Budowski. Food Ind 22: 1953 N '50

SETTLING basins

Settling of coal-breaker wash water prevents black-silt stream pollution. il diag Eng N 146:34-5 Mr 22 '51

SETTLING tanks

Formula for designing settling tanks. C. H. Coberly. diags Water & Sewage Works 98:228-9 My '51

Railroad industrial waste treatment plant; Pennsylvania railroad at Enola, Pa. R. Coltart. flow diag il Pub Works 82:57-8 S '51

Settling tank design; resume of a paper by F. Poepel; tr. by C. E. Keefer. diag Water & Sewage Works 97:422-6 O '50; Correction. 97:523 D '50; Discussion. 98:89-92 F '51; Reply. bibliog 98:367-9 Ag '51

Settling tank weir cleaner. F. A. Gerard. diag Sewage & Ind Wastes 23:540-1 Ap '51

Use of final settling tanks with standard-rate trickling filters. J. R. Thoman. Sewage & Ind Wastes 22:1428-31 N '50

SEVCIK, John

Stock boy to president. W. Norris. pors Am Bsns 21:14-15+ Jl '51

SEVENTH day adventists

Sabbath day woe; Seventh day adventist loses to International Shoe on overtime work. Bsns W p 117 O 21 '50

SEVERN barrage scheme. See Hydroelectric plants—England

SEWAGE

Equilibrium percolation test for designing sewage effluent leaching fields. H. F. Ludwig and others. bibliog Water & Sewage Works 97:513-16 D '50

Literature review on the occurrence and survival of enteric, pathogenic, and related organisms in soil, water, sewage, and sludges, and on vegetation. W. Rudolfs and others. Sewage & Ind Wastes 22:1261-81, 1417-27 bibliog(179 titles, p 1277-81, 1424-7) O-N '50

1950 operators' forum; effect of detergents on sewage treatment plants. C. C. Larson. Sewage & Ind Wastes 23:675-80 My '51

SEWAGE—*Continued*

Volatile acid production during the digestion of seeded, unseeded, and limed fresh solids. A. J. Kaplovsky. bibliog Sewage & Ind Wastes 23:713-21 Je '51

Analysis

Colorimetric determination of metals in sewage and industrial wastes. P. G. Butts and others. Sewage & Ind Wastes 22:1543-62 D '50; Same. Metal Finishing 49:50-60+ Ap '51

Determination of anionic synthetic detergents in sewage. H. C. Evans. bibliog Soc Chem Ind J 69(sup no 2):S76-80 '50

Determination of chlorine demands and chlorine residuals in sewage. I. Nusbaum and L. A. Meyerson. bibliog Sewage & Ind Wastes 23:968-76 Ag '51

Determination of cyanides in sewage and polluted waters. I. Nusbaum and P. Skupeko. bibliog Sewage & Ind Wastes 23:875-9 Jl '51; Same. Metal Finishing 49:61-3 O '51

Determination of oxygen-consumed values of organic wastes; a comparative study of methods. W. A. Moore, F. J. Ludzack and C. C. Ruchhoft. bibliog Anal Chem 23:1297-300 S '51

System of balancing oxidation-reduction equations. J. F. Thomas. Water & Sewage Works 97:511-12 D '50

Bacteriology

Contamination of vegetables grown in polluted soil. W. Rudolfs and others. bibliog plan Sewage & Ind Wastes 23:253-68 Mr '51

Disinfection of sewage with chlorine; laboratory experiments on the effect of chlorine dosage on residual coliform organisms. H. Heukelekian and M. B. Smith. bibliog Sewage & Ind Wastes 22:1509-17 D '50

Graphical approach to statistics; evaluation of bacterial density. C. J. Velz. Water & Sewage Works 98:66-73 F '51

Membrane filter in sanitary bacteriology. H. F. Clark and others. bibliog il diag Pub Health Rep 66:951-77 Jl 27 '51

Testing

B.o.d. determination of trade waste samples in admixture with sewage. W. E. Abbott and R. J. Fearn. Sewage & Ind Wastes 23:505-7 Ap '51

Chemical oxygen consumed and its relationship to b.o.d. W. A. Moore and C. C. Ruchhoft. bibliog Sewage & Ind Wastes 23:705-12 Je '51

Simplified method for the analysis of b.o.d. data. E. W. Moore and others. bibliog Sewage & Ind Wastes 22:1343-53 O '50; Abstract. Water & Sewage Works 98:35 Ja '51; Discussion. Sewage & Ind Wastes 22:1353-5; 23:164-6 O '50, F '51

Studies on the effect of radioactive phosphorus on the biochemical oxidation of sewage. W. N. Grune and R. Eliassen. bibliog flow diag il Sewage & Ind Wastes 23:141-54 F '51; Abstract. Water & Sewage Works 98:38 Ja '51

See also

Sewage sampling

SEWAGE, Utilization of

Battle Creek sewage plant produces new product. R. R. McIntosh. il Water & Sewage Works 98:413-15 O '51

Sewage reclamation by spreading basin infiltration. R. Stone and W. F. Garber. bibliog diags Am Soc C E Proc 77 [no 87]:1-20 S '51

See also

Sewage irrigation
Sewage sludge as fertilizer

SEWAGE disposal

Alkalinity-nitrogen relationships in sewage treatment. W. W. Eckenfelder, jr. and J. W. Hood. bibliog Water & Sewage Works 97:507-10 D '50

Calgary's system of sewage collection and treatment. J. I. Strong. Munic Util 88:29+ O '50

California sewage works association 23d annual meeting, Fresno, April 25-28; with abstracts of papers. Water & Sewage Works 98:354-9 Ag '51

Chemistry and sewage treatment; progress in 75 years. F. W. Mohlman. il Ind & Eng Chem 43:598-601 Mr '51

Critical review of the literature of 1950 on sewage, waste treatment, and water pollution. W. Rudolfs and others. Sewage & Ind Wastes 23:555-642 bibliog(661 titles, p621-42) My '51

Detergents and sewage treatment plant foaming. R. E. Anderson and others. Pub Works 82:96-7 Je '51

Detergents in sewage. Soap & San Chem 27:79+ Je '51

De-watering of sludge; effects of freezing with added chemicals. G. S. Clements and others. Chem Age (Lond) 63:708-10 N 18 '50

Effects of industrial wastes on municipal sewage works at Detroit. I. Nusbaum. bibliog Sewage & Ind Wastes 22:1583-90 D '50

Equilibrium percolation test for designing sewage effluent leaching fields. H. F. Ludwig and others. bibliog Water & Sewage Works 97:513-16 D '50

Florida and Cuban water and sewage assn.'s joint meeting, Fort Lauderdale, Nov. 12-15. Water & Sewage Works 98:80-6 F '51

How the Daytona Beach process shapes up over long run. il Eng N 147:32 Ag 23 '51

How to flocculate greases so they won't clog sewers. H. F. Ludwig and R. G. Ludwig. Eng N 147:40 Jl 5 '51

Increases in syndet use mean bigger problems for sanitation. il Chem & Eng N 29:1635-6 Ap 23 '51

Needs for sewage and industrial waste treatment. M. D. Hollis. Pub Works 81:40 D '50

New compressors serve Port Said sewage system. il Comp Air Mag 55:246-7 N '50

New Jersey sewage and industrial wastes association 36th annual meeting, Atlantic City, March 14-16. Water & Sewage Works 98:230-4 My '51

Nutritional requirements in the biological stabilization of industrial wastes. E. N. Helmers and others. bibliog il Sewage & Ind Wastes 22:1200-6; 23:884-99 S '50, Jl '51

Operation and maintenance of New York city sewage treatment plants; sewage treatment control. W. N. Torpey and A. H. Chasick. il Sewage & Ind Wastes 23:1182-4 S '51

Patapsco interceptor sewer and pump station. W. F. Neale. il map diags Water & Sewage Works 98:270-6 Je '51

Pennsylvania sewage and industrial wastes association, 23d annual meeting; with abstracts of papers. Water & Sewage Works 98:420-5 O '51

Pre-aeration and air flocculation; abstract and discussion. F. C. Roe. Water & Sewage Works 97:489-90 D '50

Savannah sewer story, 1847-1951. H. W. Jenkins. il Water & Sewage Works 98:426-8 O '51

Sewage and industrial waste treatment, 1950; a review. R. E. Fuhrman. il Water & Sewage Works 98:47-59 F '51

Sewage disposal at Tampa. Fla. P. E. Langdon. maps plan Sewage & Ind Wastes 23:643-53; Discussion. D. B. Lee. 653-5 My '51

Sewage disposal program for Cincinnati and vicinity. F. C. Tolles and others. il maps Sewage & Ind Wastes 22:1387-402 N '50

Sewage-disposal proposals for city of Ottawa. il map Munic Util 89:21-5+ Mr '51

Sewerage and sewage disposal; past, present and future; abstracts. D. M. Watson. Engineering 172:233 Ag 24 '51; Engineer 191:877 Je 29 '51; Discussion. Engineering 172:233-4 Ag 24 '51

Sludge dewatering and disposal. S. I. Zack. bibliog il Sewage & Ind Wastes 22:975-94 Ag '50; Same. Water & Sewage Works 98:R165-72 Ap '51; Discussion. Sewage & Ind Wastes 22:994-6 Ag '50

Sludge disposal vs. sludge utilization; operators forum. Sewage & Ind Wastes 22:700-3 My '50; Same abr. Water & Sewage Works 98:R164 Ap '51

Sludge elutriation at the Richmond-Sunset plant, San Francisco, Calif. K. Fraschina. Sewage & Ind Wastes 22:1413-16 N '50

SEWAGE disposal—*Continued*

To lime or not to lime; discussion. Sewage & Ind Wastes 22:357-62 Mr '50; Same. Water & Sewage Works 98:R162-3 Ap '51

Trends in sewage disposal. R. A. McLellan. Munic Util 88:33-4+; Discussion. L. A. Kay. 50+ O '50

Unfinished sewers earn an income as district builds treatment plant; Rhode Island's Blackstone Valley sewer district project. il map Eng N 147:28-31 Ag 30 '51

Utilization of natural purification capacity in sewage and industrial waste disposal. C. J. Velz. Sewage & Ind Wastes 22:1601-13 D '50

See also

Plumbing
Septic tanks
Sewage incinerators
Sewage irrigation
Sewage sludge
Sewage tanks
Sewer pipes
Sewerage
Trade waste
Water pollution

Activated sludge method

Activated sludge from foods for treatment of radioactive waste; wheat flour-dextrose. C. C. Ruchhoft, F. I. Norris and L. R. Setter. bibliog Ind & Eng Chem 43:1520-6 Jl '51

Activated sludge studies. C. E. Keefer and J. Meisel. bibliog Sewage & Ind Wastes 22:1117-22, 1518-31; 23:982-91 S, D '50, Ag '51

Aero-Accelator, pilot plant studies. F. A. Eidsness. diag Sewage & Ind Wastes 23:843-8 Jl '51

Assimilation of dairy wastes by activated sludge. S. R. Hoover and others. bibliog Sewage & Ind Waste 23:167-73 F '51

Cleaning of porous air diffusers. A. Bruce and R. J. Stephenson. Sewage & Ind Wastes 23:810-15 Je '51; Same cond. Munic Util 89:28+ F '51

Factors affecting the quantity of sludge production in the activated sludge process. H. Heukelekian and others. bibliog diag Sewage & Ind Wastes 23:945-58 Ag '51

Nutritional requirements during aerobic biological stabilization of cotton kiering waste. E. N. Helmers and C. N. Sawyer. bibliog il Textile Res J 21:671-80 S '51

Operating experiences at the activated sludge plant of Meadville, Pa.; abstract. D. Day. Water & Sewage Works 98:422-3 O '51

Operating fundamentals of the activated sludge process. T. R. Haseltine. bibliog Water & Sewage Works 98:R144-7 Ap '51

Preaeration tank operation at an activated sludge plant. J. S. Whitney. il Sewage & Ind Wastes 23:238-40 F '51

Recirculation of final effluent in a small activated sludge plant. L. Hillis. Sewage & Ind Wastes 22:1485-7 N '50

Sewage reclamation at Golden Gate park. B. Martin. Sewage & Ind Wastes 23:319-20 Mr '51

Sewage works design requirements. L. G. Rice. Water & Sewage Works 97:518-19 D '50

Aeration

Air diffuser maintenance. F. C. Roe. il diag Water & Sewage Works 98:184-9 Ap '51

Air diffusion, a versatile tool for sewage and industrial waste treatment. F. C. Roe. bibliog il diags Sewage & Ind Wastes 23:825-32 Jl '51

Automatic devices protect aeration system for Philadelphia sewage works. J. R. Grandinetti. il diags Civil Eng 21:28-32 Ja '51

Clean tubular air diffusers mean uniform sewage-aeration at low cost. il Eng N 145:40-2 N 23 '50

Diffused air floats particles for waste disposal. A. I. Barry. flow diag il Chem Eng 58:107-10 Ap '51

Jet (impingement) aeration. J. R. Sperry and J. D. Walker. il Sewage & Ind Wastes 23:839-42 Jl '51

Pre-aeration and aerated grit chambers. S. E. Kappe and J. B. Neighbor. bibliog il Sewage & Ind Wastes 23:833-8 Jl '51

Preaeration and air flocculation. F. C. Roe. bibliog il diags Sewage & Ind Wastes 23:127-38; Discussion. 138-40 F '51

Chlorination

Determination of chlorine demands and chlorine residuals in sewage. I. Nusbaum and L. A. Meyerson. bibliog Sewage & Ind Wastes 23:968-76 Ag '51

Disinfection of sewage with chlorine. H. Heukelekian and others. bibliog Sewage & Ind Wastes 22:1509-17; 23:47-53, 155-63 D '50-F '51

Fundamentals of chlorination of sewage and waste. E. W. Moore. bibliog Water & Sewage Works 98:130-6 Mr '51

Practical aspects of sewage and waste chlorination. L. F. Warrick. bibliog il Water & Sewage Works 98:179-83 Ap '51

Sewage chlorination, emergency b.o.d. reduction, and odor control. A. J. Gully. bibliog Sewage & Ind Wastes 23:106-9 Ja '51

Coagulation

Effect of ultrasonics on suspended matter in sewage. W. A. Lyon. bibliog il diag Sewage & Ind Wastes 23:1084-95 S '51

Pista process for purification of water and sewage; abstract. H. L. Bendel. Sewage & Ind Wastes 23:1212-13 S '51

Cost

See also Sewage disposal plants—Costs

Filtration

Alternating double filtration at works of the Birmingham Tame and Rea district drainage board. M. R. V. Daviss. bibliog il plans diags Sewage & Ind Wastes 23:437-49 Ap '51; Abstract. Water & Sewage Works 98:38-9 Ja '51; Discussion. E. S. Chase. Sewage & Ind Wastes 23:449-50 Ap '51

Chain drags on distributor reduce filter pooling. R. Spiess. diags Sewage & Ind Wastes 23:1042-3 Ag '51

Comparative study of vacuum filter cloths. A. B. Joseph. Sewage & Ind Wastes 23:977-81 Ag '51

Comparison of methods of operation of percolating filters. il Munic Util 89:32-4+ Mr '51

Early operation experiences with two-stage high rate filters; abstract. H. Foth. Water & Sewage Works 98:423 O '51

Factors in vacuum filtration of sludge. T. R. Komline. Pub Works 81:48 N '50

Loadings and performance of high rate trickling filters operated in series and in parallel; abstract. H. Hukelekian and M. C. Rand. Water & Sewage Works 98:423-4 O '51

Milk waste treatment on an experimental trickling filter. E. F. Gloyna. bibliog flow diag Water & Sewage Works 97:473-8 N '50

Prefabricated tile media for biological filters. H. C. Leibee and R. L. Smith. il Pub Works 82:36-7 My '51

Rebuilding an old trickling filter, Fort Worth. G. B. Arthur. il Pub Works 82:50-1 Ag '51

Recirculating filters at Malton airport give effective performance. G. G. Reid. il Munic Util 89:23+ Ag '51

Sewage treatment plant equipment; vacuum filtration of sludge. F. L. Flood. il Water & Sewage Works 98:126-9 Mr '51

Sewage works design requirements. L. G. Rice. Water & Sewage Works 97:517-21 D '50

Use of final settling tanks with standard-rate trickling filters. J. R. Thoman. Sewage & Ind Wastes 22:1428-31 N '50

Grit chambers

Pre-aeration and aerated grit chambers. S. E. Kappe and J. B. Neighbor. bibliog il Sewage & Ind Wastes 23:833-8 Jl '51

Statistical summary of grit chamber usage as related to type of sewer system. J. R. Thoman. Sewage & Ind Wastes 23:1108-12 S '51

Odor removal

Experiments on control of sewage odors at Winnipeg. D. L. McLean and O. Petursson. Munic Util 89:32+ Ja '51

Sewage chlorination, emergency b.o.d. reduction, and odor control. A. J. Gully. bibliog Sewage & Ind Wastes 23:106-9 Ja '51

Radioactive waste disposal

Radioactive wastes will be future sewage-treatment problem. W. F. Brown. il Munic Util 89:22-4+ F '51

Sludge and refuse mixing

Addition of garbage to sewage. T. R. Haseltine. Water & Sewage Works 97:467-72 N '50

SEWAGE disposal—Sludge and refuse mixing—*Continued*

Ground garbage studies at Detroit. C. L. Palmer and I. Nusbaum. Sewage & Ind Wastes 23:1113-17 S '51

Industrial waste investigations in New York city. R. Shapiro. Sewage & Ind Wastes 23:775-81 Je '51

1950 industrial wastes forum; treatment of industrial wastes with domestic sewage. Sewage & Ind Wastes 23:759-65 Je '51

Recent developments in dual disposal. M. M. Cohn. Sewage & Ind Wastes 23:54-8 Ja '51; Abstract. Water & Sewage Works 98:34-5 Ja '51; Discussion. Sewage & Ind Wastes 23:278-80 Mr '51

Sewage and garbage disposal at Marion, Ind. Pub Works 81:76-7 D '50

War problems

Civil defense for the sewage treatment plant. R. E. Fuhrman. il Pub Works 82:77-8+ Ap '51

SEWAGE disposal, Rural

Realty company takes responsibility; Brown & Vaughn development co. has provided complete sewage disposal for its Longvue Acres project. il diag Eng N 146:42-3 Mr 1 '51

See also

Septic tanks

SEWAGE disposal plants

City and county attack pollution on Long Island's southern shore. il Eng N 146:32-3 My 3 '51

Daily log (cont). Sewage & Ind Wastes 22:1639-42, 23:101-4, 204-6, 681-4, 807-10, 928-30, 1043-6, 1323-8 D '50, Ja-F, My, Je-Ag, O '51

Fiber losses at paper mills; effects on streams and sewage treatment plants. N. Nemerow. Sewage & Ind Wastes 23:880-3 Jl '51

First, you need a construction site; making construction site out of a lagoon; problem solved by constructors of Hunts Point sewage works. il Eng N 147:28-31 Ag 16 '51

Houston sludge disposal plant profits from use of existing facilities. J. G. Turney and others. il map plan Civil Eng 21:256-9 My '51

Hyperion activated sludge plant; the first year; abstract. G. A. Parkes. Water & Sewage Works 98:357-8 Ag '51

Interesting extracts from operation reports (cont). Sewage & Ind Wastes 22:1489-93, 1636-9 N-D '50

1950 operators' forum. Sewage & Ind Wastes 23:541-52, 673-80, 1046-51 Ap-My, Ag '51; Abstract. Water & Sewage Works 98:41-3 Ja '51

Operation and maintenance of New York city sewage treatment plants. N. I. Kass and others. il Sewage & Ind Wastes 23:1177-98 S '51

Problems caused by industrial wastes at sewage treatment plants; symposium. Water & Sewage Works 98:401-2 S '51

Sewage works program of Wilmington, Del. A. R. Vollmer. map plan Water & Sewage Works 98:318-24 Jl '51

Tips on winter operations. R. Binder. Sewage & Ind Wastes 23:318-19 Mr '51

Water supply and sanitation in 1950. il Engineer 191:114-16 Ja 26 '51

Accidents

Unusual accidents at two Illinois plants. il Sewage & Ind Wastes 23:310-13 Mr '51

Accounting

Water and sewerage financing and accounting. R. S. Gillespie. Munic Util 88:38+ O '50

Cold weather operation

Sewage treatment in low-temperature areas. H. A. Thomas, jr. maps diags Sewage & Ind Wastes 23:1-33 bibliog(45 titles, p32-3) Ja '51

Costs

Bio-filtration plant in San Marcos, Texas; unit prices. Eng N 146:59 Ja 25 '51

Material requirements for sewage and water installations. il Pub Works 82:35+ Jl '51

Materials chief cost in building new sewage works. Sewage & Ind Wastes 23:1123-4 S '51

Operation and maintenance of New York city sewage treatment plants; general aspects and costs. N. I. Kass. il Sewage & Ind Wastes 23:1177-81 S '51

Per capita costs of sewage works in Indiana. Eng N 146:73 Ja 4 '51

Sewage disposal, 1950 projects. il Eng N 146:277-8+ Mr 29 '51

Sewage treatment plant, pumping station, Va.; unit prices. Eng N 147:75 Ag 23 '51

Design

Effect of metal wastes on sewage treatment plant design at Waterbury, Conn. R. D. Mitchell and others. bibliog maps Sewage & Ind Wastes 23:1001-11 Ag '51

Kentucky sewage treatment plants reflect progressive national design trends. J. S. Watkins. il Civil Eng 21:396-7 Jl '51

Sewage works design requirements. L. G. Rice. Water & Sewage Works 97:337-40, 436-40, 517-21 Ag, O, D '50

Unusual design for small waste treatment plant. R. J. Ellison and R. L. Smith. diags Pub Works 82:44-5 Ag '51

Directories

Directory of sewage-treatment plants in Canada. Munic Util 88:99-107 D '50

Electric equipment

Electrical equipment in a large, modern sewage plant. J. L. Barbi. flow diag il diag Water & Sewage Works 98:26-31 Ja '51

Maintenance of electrical equipment in water and sewage works. A. R. Walker. Water & Sewage Works 98:172-5 Ap '51

Operation and care of electric motors. F. A. Kuhl. Sewage & Ind Wastes 23:95-8 Ja '51

Operation and maintenance of New York city sewage treatment plants; operation, repair, and maintenance of electrical equipment. E. W. Luft. il Sewage & Ind Wastes 23:1194-8 S '51

Employees

Salaries and working conditions of sewage plant personnel. T. R. Haseltine and others. Sewage & Ind Wastes 23:919-28 Jl '51

Equipment

Additions quadruple sewage plant capacity. M. E. Boyden and R. L. Smith. il plan Pub Works 82:35-6 Mr '51

Aero-Accelator, pilot plant studies. F. A. Eidsness. diag Sewage & Ind Wastes 23:843-8 Jl '51

Air diffuser maintenance. F. C. Roe. il diag Water & Sewage Works 98:184-9 Ap '51

Alternating double filtration at works of the Birmingham Tame and Rea district drainage board. M. R. V. Daviss. bibliog il plans diags Sewage & Ind Wastes 23:437-49; Discussion. E. S. Chase. 449-50 Ap '51

Automatic devices protect aeration system for Philadelphia sewage works. J. R. Grandinetti. il diags Civil Eng 21:28-32 Ja '51

Biofiltration sewage treatment for the town of Cobourg. R. G. Tredgett. flow sheet il map plan Munic Util 89:19-24+ Ja '51

Classified index of products used in waterworks and sewage field. Water & Sewage Works 98:R1-13 Ap '51

Clean tubular air diffusers mean uniform sewage-aeration at low cost. il Eng N 145:40-2 N 23 '50

Cleaning diffuser plates. J. Samson. diag Sewage & Ind Wastes 22:1487-9 N '50

Cleaning of porous air diffusers. A. Bruce and R. J. Stephenson. Sewage & Ind Wastes 23:810-15 Je '51; Same cond. Munic Util 89:28+ F '51

Corrosion protection of sewage works structures; abstract. W. T. McClenahan. Water & Sewage Works 98:423 O '51

Design of sewage pumping stations. H. M. Weir. plans diags Munic Util 89:28-32+ Ap '51

Digester cover has center support; Portland, Ore. sewage treatment plant. il diag Eng N 145:47 N 9 '50

Emergency sewer truck. G. J. Fisher. il Pub Works 82:39 F '51

SEWAGE disposal plants—Equipment—*Cont.*

Found, a sewage works the village can afford at Mathews, Va. G. H. Ellis. il diag Eng N 146:35-7 My 10 '51

Full-scale operating tests prove sewage plant performs as designed. R. Collins and C. Burns. il diag Eng N 146:42-4 Ap 19 '51

Lagooning of sludge under two years' trial at Winnipeg. plan diags Munic Util 89:28+ Ag '51

Measurement of sewage flows. W. H. Brown. Sewage & Ind Wastes 23:269-72 Mr '51

Modern sewage treatment for a summer resort. il plans Pub Works 82:36-8 Ja '51

Motorized valves sample sewage in proportion to flow. G. S. Long. il diag Eng N 145:46-7 O 26 '50

1950 operators' forum; lubrication of equipment. Sewage & Ind Wastes 23:546-52 Ap '51

Sewage treatment plant equipment. F. L. Flood. bibliog il diags Water & Sewage Works 97:201-5, 255-8, 301-6, 427-31; 98:126-9, 222-7, 394-8 My-Je, Ag, O '50, Mr, My, S '51

Steel required for sewage treatment plants. il Pub Works 81:35 N '50

Housing project plants

Realty company takes responsibility; Brown & Vaughn development co. provides sewage disposal for Longvue Acres project. il diag Eng N 146:42-3 Mr 1 '51

Insurance requirements

Is your plant insurance adequate? H. P. Orland. Sewage & Ind Wastes 23:1176 S '51

Maintenance and repair

Maintenance and inspection of equipment. W. H. H. Putnam. Sewage & Ind Wastes 22:1497-500 N '50

Maintenance procedures for comminutors and screens. D. P. Backmeyer; W. E. Ross. Pub Works 82:59-60 F '51

Operating a dilapidated system. S. W. Hazlip. plan Sewage & Ind Wastes 22:1483-5 N '50

Operation and maintenance of New York city sewage treatment plants; repair and maintenance of mechanical equipment and structures. R. C. French. il Sewage & Ind Wastes 23:1184-94 S '51

Power

New York's latest sewage treatment works; use of dual-fuel engines for power plant. flow diag il map diags Diesel Power 28:44-9 N '50

Protection

Civil defense for the sewage treatment plant. R. E. Fuhrman. il Pub Works 82:77-8+ Ap '51

Public relations

1950 operators' forum; public relations. C. C. Larson. Sewage & Ind Wastes 23:673-5 My '51

Tables, calculations, etc.

Measurement of sludge drying bed performance. T. R. Haseltine. bibliog il Sewage & Ind Wastes 23:1065-83 S '51

SEWAGE filter fly

Control of nuisance from flies in sewage filters; use of Gammexane. Munic Util 89:31-2+ My '51

Controlling filter flies; Chem-Larv. A. M. Livingston. il Pub Works 82:39+ Ja '51

Trickling filter fly control. A. M. Livingston. Sewage & Ind Wastes 23:241-4 F '51

SEWAGE flow

Design of Palmer-Bowlus flumes. J. H. Ludwig and R. G. Ludwig. plan diags Sewage & Ind Wastes 23:1096-107 S '51

Measurement of sewage flows. W. H. Brown. Sewage & Ind Wastes 23:269-72 Mr '51

Parallel reinforced concrete Venturi tubes gage sewage flow entering treatment plant. il plan diag Eng N 145:48 N 23 '50

Primary devices and meters for waste flow measurements. H. O. Hite. il diags Sewage & Ind Wastes 22:1357-63 O '50; Same abr. Water & Sewage Works 98:R139-41 Ap '51

Sanitary engineering is short on fluid mechanics knowledge. T. R. Camp. Eng N 147:45-6 Ag 9 '51

Solution of Manning's formula and velocity and discharge for partially full circular sewers. J. P. Messina. Water & Sewage Works 98:418-19 O '51

SEWAGE incinerators

Removal of submicron aerosol particles from moving gas stream; condensation center effects in steam nozzles. P. J. Schauer. bibliog il diags Ind & Eng Chem 43:1532-8 Jl '51

Sewage treatment plant equipment. F. L. Flood. il Water & Sewage Works 98:222-7, 394-8 My, S '51

SEWAGE irrigation

Contamination of vegetables grown in polluted soil; bacterial decontamination. W. Rudolfs and others. Sewage & Ind Wastes 23:739-51 Je '51

Salmonella in irrigation water. S. G. Dunlop and others. bibliog Sewage & Ind Wastes 23:1118-22 S '51

Sewage reclamation at Golden Gate park. B. Martin. Sewage & Ind Wastes 23:319-20 Mr '51

SEWAGE lagoons

Lagooning of sludge under two years' trial at Winnipeg. plan diags Munic Util 89:28+ Ag '51

Railroad industrial waste treatment plant; Pennsylvania railroad at Enola, Pa. R. Coltart. flow diag il Pub Works 82:57-8 S '51

SEWAGE pumping

Design features of sewage pumping stations not found in text-books. J. C. D. Taylor. il Munic Util 89:25-7+ F '51

Design of sewage pumping stations. R. R. Kennedy. il diags Sewage & Ind Wastes 23:451-60 Ap '51; Abstract. Water & Sewage Works 98:34 Ja '51; Discussion. G. M. Olewiler. Sewage & Ind Wastes 23:460-4 Ap '51

Design of sewage pumping stations. H. M. Weir. plans diags Munic Util 89:28-32+ Ap '51

Fundamentals of sewage pumping. G. E. Hands. diag Sewage & Ind Wastes 23:959-67 Ag '51

Louisville storm-water pumping station designed for surges. R. L. Irwin. map Civil Eng 21:392-3 Jl '51

Patapsco interceptor sewer and pump station. W. F. Neale. il map diags Water & Sewage Works 98:270-6 Je '51

Sewage and sludge pumping. H. Ryon. Water & Sewage Works 98:R135-7 Ap '51

Storm water pumping stations solve Corpus Christi problems. il Water & Sewage Works 98:416-17 O '51

SEWAGE pumps

Taking the spray out of sludge pumps. R. Grinnell. il diags Sewage & Ind Wastes 23:685-6 My '51

SEWAGE sampling

East Lansing's automatic sewage samplers. M. S. Richmond. il Sewage & Ind Wastes 22:1634-5 D '50

Motorized valves sample sewage in proportion to flow. G. S. Long. il diag Eng N 145:46-7 O 26 '50

1950 operators' forum; sampling technique. Sewage & Ind Wastes 23:541-6 Ap '51

Semi-automatic water, sewage, and industrial waste sampler. R. Stone and P. M. Teeple. il plans diags Sewage & Ind Wastes 23:796-800 Je '51

Sewage sampling; abstracts of three papers and a round table discussion. Water & Sewage Works 97:524-6 D '50

SEWAGE sludge

Factors affecting the quantity of sludge production in the activated sludge process. H. Heukelekian and others. bibliog diag Sewage & Ind Wastes 23:945-58 Ag '51

Factors in vacuum filtration of sludge. T. R. Komline. Pub Works 81:48 N '50

Heat treatment for conditioning sewage sludge. C. Lumb. Pub Works 82:82-4 Je '51

Houston sludge disposal plant profits from use of existing facilities. J. G. Turney and others. il map plan Civil Eng 21:256-9 My '51

Sludge elutriation at the Richmond-Sunset plant, San Francisco, Calif. K. Fraschina. Sewage & Ind Wastes 22:1413-16 N '50

SEWAGE sludge—*Continued*

Sludge heating methods. R. A. Greene. Sewage Works J 21:968-73 N '49; Same. Water & Sewage Works 98:R160-1 Ap '51

Vitamin B_{12} in activated sewage sludge. S. R. Hoover and others. Science 114:213 Ag 24 '51

Drying

De-watering of sludge; effects of freezing with added chemicals. G. S. Clements and others. Chem Age (Lond) 63:708-10 N 18 '50

Elutriation; how it aids in dewatering sludge. A. L. Genter. diags Pub Works 81:51-4+ D '50

Measurement of sludge drying bed performance. T. R. Haseltine. bibliog il Sewage & Ind Wastes 23:1065-83 S '51

Sewage sludge converted to soil builder and fertilizer; Soil builders, inc. il Pub Works 82:56 Mr '51

Sewage treatment plant equipment; flash drying and incineration. F. L. Flood. il Water & Sewage Works 98:394-8 S '51

Sludge dewatering and disposal. S. I. Zack. bibliog il Sewage & Ind Wastes 22:975-94 Ag '50; Same. Water & Sewage Works 98: R165-72 Ap '51; Discussion. Sewage & Ind Wastes 22:994-6 Ag '50

Gas production

Calculation of gas production. N. E. Waggoner. diag Sewage & Ind Wastes 23:931-3 Jl '51

Cyanide manufactured from sewage gas in South Africa; abstract. W. A. Barr. Water & Sewage Works 97:516 D '50

Sludge gas as fuel for motor vehicles. Pub Works 82:97-8 Je '51

Utilizing sludge gas at Los Angeles. il Pub Works 82:58+ Ag '51

SEWAGE sludge as fertilizer

Contamination of vegetables grown in polluted soil. W. Rudolfs and others. bibliog plan Sewage & Ind Wastes 23:253-68, 478-85, 656-60, 739-51, 853-60, 992-1000 Mr-Ag '51

Engineer's contribution to soil fertility; use of composts and sewage. H. Gutteridge. diag Engineer 192:203-4 Ag 17 '51

Houston sludge disposal plant profits from use of existing facilities. J. G. Turney and others. il map plan Civil Eng 21:256-9 My '51

Literature review on the occurrence and survival of enteric, pathogenic, and related organisms in soil, water, sewage, and sludges, and on vegetation. W. Rudolfs and others. Sewage & Ind Wastes 22:1261-81, 1417-27 bibliog(179 titles, p 1277-81, 1424-7) O-N '50

Sewage sludge as a fertilizer. A. H. Niles. Water & Sewage Works 98:R148-50 Ap '51

Sewage sludge converted to soil builder and fertilizer; Soil builders, inc. il Pub Works 82:56 Mr '51

Sludge disposal vs. sludge utilization; operators forum. Sewage & Ind Wastes 22:700-3 My '50; Same abr. Water & Sewage Works 98:R164 Ap '51

See also

Sewage irrigation

SEWAGE tanks

Preaeration tank operation at an activated sludge plant. J. S. Whitney. il Sewage & Ind Wastes 23:238-40 F '51

Sewage works design requirements. L. G. Rice. Water & Sewage Works 97:337-40, 436-40, 517-21 Ag, O, D '50

See also

Septic tanks

Settling tanks

Cleaning

Operation digester cleanout. J. E. Meers. il Sewage & Ind Wastes 23:1039-42 Ag '51

Some miseries of cleaning a large digester. G. M. Scheller and G. F. Fynn. il diag Water & Sewage Works 98:362-6 Ag '51

Heating

Heat treatment for conditioning sewage sludge. C. Lumb. Pub Works 82:82-4 Je '51

Sludge digestion tank heating and related problems, a panel discussion. Sewage & Ind Wastes 22:104-12 Ja '50; Same. Water & Sewage Works 98:R155-7 Ap '51

Sludge heating methods. R. A. Greene. Sewage Works J 21:968-73 N '49; Same. Water & Sewage Works 98:R160-1 Ap '51

SEWAGE tanks, Concrete

Forms for big digester tanks easy to handle, rigid in use. il Eng N 146:47-8 F 15 '51

SEWER cleaning

Machines clean sewers clean and fast. D. Wessel. Pub Works 82:103 Ap '51

Practical sewer-maintenance methods. E. H. Davis. il Munic Util 89:27-8+ Mr '51

Sewer maintenance and cleaning practices. J. W. Hood. il diag Water & Sewage Works 97:464-6 N '50

Solving the sewer cleaning problem. R. L. Couldron. il Pub Works 82:48-9 F '51

SEWER design

Evolving a shortcut for the design of storm sewers. W. C. Miller. Munic Util 89:42+ S '51

SEWER pipes

Carrying capacity of sewer pipe, gallons per minute; table. Water & Sewage Works 98:R122 Ap '51

Corrosion of cement-bonded sewer pipes by acid and alkaline solutions. H. F. Ludwig and R. G. Ludwig. il Water & Sewage Works 98:404-7 S '51

Laying and jointing sewer pipes. F. C. Palmer. diags Water & Sewage Works 98:R120-2 Ap '51

Jointing compounds for sewer pipe. R. B. Seymour. Pub Works 82:74-6 Ag '51

Longer pipes + fewer joints = better sewers. il Eng N 145:45-7 D 21 '50

Failure

Honolulu investigates sewer-main failure. Eng N 146:27 Je 28 '51

Manufacture

Firing periodic sewer pipe kilns with oil as stand-by fuel. M. P. Hall. Am Cer Soc Bul 29:407-9 N 15 '50

SEWER pipes, Concrete

Concrete-pipemaking method gets first use on sewer job. il Eng N 147:45-6 S 13 '51

Corrosion of cement-bonded sewer pipes by acid and alkaline solutions. H. F. Ludwig and R. G. Ludwig. il Water & Sewage Works 98:404-7 S '51

Impermeable concrete pipe. M. W. Loving. il diag Rock Prod 54:131-6 My '51

Jumbo places ocean outfall for Honolulu sewage. il Eng N 146:32 My 17 '51

SEWER pipes, Vitrified clay

Salt glaze or slip glaze? Brick & Clay Rec 119:78 S '51

Tampa solves a paradox; how to dig up $12 million for sewers and how then to bury it in the ground; with cost data. D. Newton. il plan Eng N 146:28-30 My 31 '51

Manufacture

Evens & Howard sewer pipe co. feature compartment drying in plant rebuilding program. flow diag il diags Brick & Clay Rec 118:30-2+ Mr '51

Testing

Clay products are elastic! new testing technique calculates stresses. il Brick & Clay Rec 118:38 Mr '51

Sewer pipe behavior under load is subject of investigation. il Munic Util 89:30-1+ Ja '51

SEWERAGE

Hydraulic behavior of storm-water inlets. Wen Hsiung Li and others. diags Sewage & Ind Wastes 23:34-46, 722-38 Ja, Je '51

New engineering projects reported by consulting engineers; sewerage and sanitation. Pub Works 81:52+ N '50

Oxygen depletion in a sewer manhole. G. J. Raschka and W. J. Uber. Sewage & Ind Wastes 23:802-7 Je '51

Sewer and water crossings for rivers and ravines; guided discussion. Munic Util 89: 76-8+ S '51

Sewer service connection policies. S. E. Harris. Sewage & Ind Wastes 23:687-8 My '51

Sound practices in sewer construction. F. S. Cresswell. il Water & Sewage Works 98:192-4 Ap '51

SEWERAGE—*Continued*

Trunk sewer proposed for the Raritan River valley. map Pub Works 82:56 S '51

Water and sewage works reference and data section, 1951. Water & Sewage Works 98: R1-191 Ap '51

See also

Plumbing
Sanitary districts
Sewage disposal
Sewage sludge
Sewer design
Sewer pipes
Sewers, Concrete
Trade waste
Water pollution

Bibliography

Sewerage and refuse digest. Published in monthly numbers of Public works

Cost

Burkesville, Kentucky, sewer system; unit prices. Eng N 146:77 My 17 '51

Intercepting sewer for Camden, N.J.; unit prices. Eng N 145:70 O 26 '50

Sewer intercepter for Pawtucket, R.I.; unit prices. Eng N 146:55 Mr 1 '51

Storm drain, Los Angeles; unit prices. Eng N 147:77-8 Ag 2 '51

Texline, Tex. gets sanitary sewer system; unit prices. Eng N 145:53 N 30 '50

Estimates

Cost estimating under present conditions; guided discussion. Munic Util 89:82+ S '51

Finance

Financing sewage works. W. F. Tempest. Water & Sewage Works 98:R111-15 Ap '51

Indiana sanitation tax ok'd by court. Eng N 146:29 Ap 5 '51

Industrial sewer rental with incentive base; how it works in Winchester, Va. S. H. Reaves. il Water & Sewage Works 98:63-5 F '51

Progress report on sewer rental for New York city. R. H. Gould. Sewage & Ind Wastes 23:849-52 Jl '51

Realty company takes responsibility; Brown & Vaughn development co. provides sewage disposal for Longvue Acres project. il diag Eng N 146:42-3 Mr 1 '51

Sewage disposal program for Cincinnati and vicinity; method of financing. A. B. Backherms. Sewage & Ind Wastes 22:1394-8 N '50

Sewage service charge practice. M. W. Tatlock. Sewage & Ind Wastes 22:1536-42 D '50

Special charge formulas for industrial wastes in municipal sewage. G. E. Symons. bibliog Water & Sewage Works 98:R116-19 Ap '51

Water and sewerage financing and accounting. R. S. Gillespie. Munic Util 88:38+ O '50

Maintenance and repair

Experience in sewer maintenance. W. H. Wisely. bibliog il diags Water & Sewage Works 98:R124-8 Ap '51

How organization and equipment speed up city work; Winchester, Mass. J. D. Halwartz. il Pub Works 82:58-9 Je '51

How storm sewers were relined and repaired. S. Lickton. il Pub Works 82:55-6 Je '51

Leaky sewers salvaged; saving pocketed. il Eng N 146:28-9 Je 28 '51

Operation and inspection of a sewer system. Pub Works 81:50 D '50

Practical sewer-maintenance methods. E. H. Davis. il Munic Util 89:27-8+ Mr '51

Problems with tree roots in sewers; guided discussion. Munic Util 89:38+ S '51

Rebuilding of flood-damaged outfall sewer in Winnipeg. N. S. Bubbis. il Munic Util 89: 21-2+ Ag '51

Sewer maintenance and cleaning practices. J. W. Hood. il diag Water & Sewage Works 97:464-6 N '50

Sewer maintenance truck. L. A. Fletcher. il Pub Works 82:35-6 F '51

Alaska

Sewage and waste disposal problems. E. K. Day. Pub Health Rep 66:922-8 Jl 20 '51

California

Experience with up-sewer Cloroben treatment in southern California. R. Pomeroy. bibliog Sewage & Ind Wastes 23:465-74; Discussion. 474-7 Ap '51

Canada

Canadian sewerage works statistics, by provinces; tabulation. Munic Util 88:6 D '50

Directory of sewage-treatment plants in Canada. Munic Util 88:99-107 D '50

Government officials in charge of public water supplies and sewerage systems. Munic Util 88:8 D '50

Florida

Florida water table hampers septic tanks. Eng N 146:25 My 31 '51

Long Island, New York

City and county attack pollution on Long Island's southern shore. il Eng N 146:32-3 My 3 '51

Rhode Island

Unfinished sewers earn an income as district builds treatment plant; Blackstone Valley sewer district project. il map Eng N 147: 28-31 Ag 30 '51

SEWERS. See Sewerage

SEWERS, Concrete

Long-boomed backhoe digs deep trench. il diag Eng N 145:32-4 N 23 '50

New drain for the Rimrose. A. M. Brodine. il plan Comp Air Mag 55:268-71 D '50

Putting down a big, deep storm drain; excavation, sheeting and jacking pipe. il diags Eng N 146:36-8 F 22 '51

See also

Sewer pipes, Concrete

SEWING

Remedies for sewing problems. H. Wedemeyer. il Rayon 31:36+ O '50; Excerpts. Am Dyestuff Rep 39:924 D 25 '50

Some problems relating to sewing. L. H. Scott. il Textile Inst J 42:P653-8; Discussion. P658-60 Ag '51

SEWING machines

Needle-threading device for sewing machines. il Consumers Res Bul 28:25 Jl '51

Sewing spree; it brings foreign machines into the American market. J. C. Perham. Barron's 31:5 S 3 '51

Small sewing units ease production planning; E-Z mills. E. D. White. il Textile World 101:147+ Mr '51

Advertising

Singer sews around the world. T. Mahoney. il Adv Agency 44:72-3+ Ja '51

Conversion kits

Sewing machine conversion kits. il Consumers Res Bul 27:14-16 My '51

SEX ratio

Action of genes affecting secondary sex ratio in man. M. E. Bernstein. Science 114:181-2 Ag 17 '51

SEXTANT

Periscope sextant eliminates dome. il diag Product Eng 22:114-15 Ja '51

SEXUAL hygiene. See Social hygiene

SEYCHELLES islands

Britain's island colonies; Mauritius and the Seychelles. map Economist 161:164-5 Jl 21 '51

SHADED pole motors. See Electric motors, Induction

SHADOW casting. See Electron microscope

SHADOWGRAMS

Shadowgrams of spherical missiles entering water at supersonic speeds. J. H. McMillen and others. il J Ap Phys 21:1341-2 D '50

SHADOWS

What hinders shadow and diffusion from playing an adequate role in the planning of illumination? K. Norden. il Illum Eng 45:683-7 N '50

SHAFT sinking

British collieries; planning and sinking of new shafts. A. Nelson. maps Can Min J 72:61-5 Mr '51

Shaft sinking record. Comp Air Mag 56:164 Je '51

Sinking Tennessee Copper's circular shaft. L. Weaver. il plan diag Min Eng 187:1106-9 N '50

See also

Mine shafts

SHAFTING
Cold extrusion goes commercial. il Am Mach 95:173 F 5 '51
New remote driveshaft is light; for transmission of power to aircraft accessories. G. L. Christian. il Aviation W 55:54-5 Ag 20 '51

SHAFTING, Flexible
Flexible shafting solves drive problems. il Machine Design 23:126 My '51

SHAFTS
Ball bearing pillow blocks to compensate for shaft expansion. R. E. Downs. il diags Product Eng 22:126-8 Ap '51
Critical speeds of overhung shafts. H. C. Hesse. il diags Product Eng 21:90-3 D '50
How to seal rotating shafts against high pressures. W. Coopey. diags Chem Eng 58: 116-17 Jl '51
Mechanical shaft seals for general refinery service. A. Fanestiel. il diags Oil & Gas J 49:56+ F 1 '51
Precision measurement of shaft speeds; use of 440-cycle tone from station WWV as standard. O. V. Riley. il diags Electronics 24:104-5 O '51

SHAFTS, Mine. See Mine shafts

SHAKESPEARE, William, 1564-1616
Shakespeare the physicist. B. Hoffmann. por Sci Am 184:52-3 Ap '51

SHAKING apparatus
Applying shakers for product vibration analysis. R. C. Lewis. il diags Product Eng 21:150-4 N '50
Shaker tests products for acceleration up to 50 g. il Product Eng 22:182 F '51
Test techniques using electro-dynamic shakers. R. C. Lewis. il diags Product Eng 22: 142-7 Ja '51

SHALE
Drilling through bentonitic shale. il Oil & Gas J 50:288-90 S 20 '51
Effects of heating rate on shrinkage of clays and shales in firing. W. J. Meid and R. K. Hursh. il Am Cer Soc J 34:287-90 S 1 '51
Electric log resistivity, porosity and water saturation for clean and shaly sandstones. P. J. Jones. bibliog diags World Oil 132: 140-2+ F '51
Evidence of the Taconic sequence in the vicinity of Lehigh river, Pa. bibliog map Am J Sci 248:815-19 N '50
Shale planer eliminates blasting. il Brick & Clay Rec 119:28 Jl '51
Status of Dry Creek shale of central Montana. C. Lochman. bibliog il diags Am Assn Pet Geologists Bul 34:2200-22 N '50
Tennessee Lightweight Aggregate plant. W. B. Lenhart. il diag Rock Prod 54:103-5 Je '51

See also
Oil shales

SHAMPOOS
Cosmetic chemists society discusses shampoos at annual meeting, New York, Dec. 5. Soap & San Chem 27:47 Ja '51
Degreasing action of shampoos. Soap & San Chem 27:81 Je '51
Jet-propelled lather; aerosols invade shampoo and shaving-cream fields. il Mod Packaging 24:94-5 N '50
Shampoo damage award reversed on appeal; suit against Watkins co. Soap & San Chem 27:31-2+ Ja '51
Shampoos; a study of trends in demand and of the better selling types marketed today. M. A. Lesser. bibliog il Soap & San Chem 26:40-3+ D '50; 27:38-41+ Ja '51
Suggest ways to solve shampoo piping problem. diag Heating-Piping 22:101-2 D '50

Rating

Should shampoos cleanse and condition the hair? Consumers Res Bul 28:5-8 O '51

Testing

Evaluating hair shampoos; with special reference to use in wool scouring. G. Barnett and D. H. Powers. Soap & San Chem 27: 59+ Ja '51

SHANGHAI
Shanghai during the takeover, 1949. R. Gould. Ann Am Acad 277:182-92 S '51

SHAPERS
Cincinnati shaper for duplicating contours on metal parts. il Mach 57:202-3 D '50
Curvilineal machining now in bailiwick of planers, shapers; application of hydraulic tracer controlled tooling. G. Hubbard. il Steel 127:94-7 N 13 '50
1951 production preview. il Am Mach 95:177-8 Ja 22 '51
Shaper makes gear cutter. J. P. Ramirez A. il diag Am Mach 95:118 Ja 8 '51
Shapers cut curves and contours. C. S. Ricker. diags Am Mach 95:106-7 Ag 6 '51

SHAPIRO, S. O.
Former Peck's bad boy of circulation cites values of editorial contents. por Ptr Ink 234:92 Mr 9 '51

SHAREHOLDERS. See Stockholders

SHARP, W. Howard
Sketch. por East Underw 51:107-8 D 15 '50

SHARPE engine. See Airplane engines—Design

SHARPENING
Fixtures aid in sharpening dies used to cut rubber tensile test specimens. R. H. Taylor. il India Rubber World 123:441+ Ja '51
How to sharpen carbide-tipped cutter bits, illustrated instructions. Coal Age 55:109-10 D '50

SHATTUCK, Frank G., company
Security I like best. J. Coe. Comm & Fin Chr 173:1426 Ap 5 '51

SHAVING cream
Flexible tube-filling lines; Mennen co. tube-filling operation. il Mod Packaging 24:68-9 Jl '51
How to lick silence at point-of-purchase; Noxzema's new shave cream provocative package. il Sales Management 66:62-3 Ap 1 '51
Jet-propelled lather; aerosols invade shampoo and shaving cream fields. il Mod Packaging 24:94-5 N '50
Shaving cream making. Soap & San Chem 27:91 Je '51

SHAVING soap
Shaving soap manufacture; abstract. Soap & San Chem 27:63 Ja '51

SHAWINIGAN water and power company
Beaumont heads Shawinigan board; utility names Challies senior vice president. Elec World News ed 135:27 Ja 22 '51
Shawinigan growth to aid industry. il maps Elec World News ed 134:4-5 D 11 '50

SHEAFFER pen company
Sheaffer Pen says it has happened here. Sales Management 67:140 S 15 '51

SHEAR. See Strains and stresses

SHEARS (machines)
Automatic shearing machine. il Engineering 172:224 Ag 17 '51
Billet shear. il Engineer 191:426 Mr 30 '51; Engineering 171:400-1 Ap 6 '51
Chilean mill uses novel bloom shear. il diags Iron Age 166:96 N 16 '50
Columbia power squaring shears use disk clutch ahead of gears. il Am Mach 95:189 F 19 '51; Automotive Ind 104:62+ F 15 '51
Correct care and use of hand operated shears. G. K. Nebel. il Sheet Metal Worker 42:39-41 Je '51
Electronic shear control. il Machine Design 23:162 Ap '51
Guillotine shearing machine. il Engineering 171:548 My 4 '51
Hot bloom and slab shears. J. A. Kilby. il plans diags Iron & Steel Inst J 167:165-99 F '51
1951 production preview. il diag Am Mach 95: 248-50 Ja 22 '51
Portable shear handles one-inch rod. E. Jasper. il Iron Age 166:74-6 N 23 '50
Power squaring shear maintenance and operation. J. J. Murphy. il diags Sheet Metal Worker 42:46-9+ S '51
Precision guillotine shearing machines. il Engineer 190:600-1 D 15 '50

SHEAVES
V-belt sheaves; reference book sheet. diags Am Mach 95:165 Jl 23 '51

SHEEHAN, John Clark, 1915-
Pure chemistry award goes to Sheehan for penicillin work. por(cover) Chem & Eng N 29:1006 Mr 12 '51

SHEEP

Diseases

Copper molybdenum relationships in disorders of ruminants; abstract and discussion. H. H. Green and R. Allcroft. Chem & Ind p 125-6 F 17 '51

SHEET iron

Cobalt-reduction theory for the adherence of sheet-iron ground coats. J. H. Healy and A. I. Andrews. il diag Am Cer Soc J 34:207-14 bibliog(p212-14); Discussion. 219-21 Jl 1 '51

Elements of the third, fourth, and fifth series as possible adherence-promoting materials for sheet-iron enamels. J. H. Healy and A. I. Andrews. bibliog Am Cer Soc J 34:214-19; Discussion. 219-21 Jl 1 '51

SHEET metal

High-efficiency sheet-metal blades for axial-flow fans. R. A. Wallis. il diags Engineering 171:681-3 Je 8 '51

Integrally-stiffened skin revolutionizes aircraft construction; rolled and cast sections. P. E. Sandorff and G. W. Papen. il diag Iron Age 167:87-90 F 8 '51

Propose preferred number system for metal strip and sheet gage. J. Gurski and W. Wiers. S A E J 59:80-1 Ja '51

See also

Alclad

Sheet steel

Tin plate

Standards

Do you want standard thicknesses? Steel 127:102 D 4 '50

Storage

Index system stores metal sheets at Pratt & Whitney Aircraft. Bsns W p46-7 Je 23 '51

Library stocks sheet metal books. il Aviation W 55:37 Jl 30 '51; Iron Age 168:67 Ag 9 '51; Automotive Ind 105:64+ S 1 '51; Am Mach 95:134-5 O 15 '51

Sheets stored in plywood books. H. A. Lessard. il Steel 128:84+ My 21 '51; Abstract. Factory Management 109:116-17 Je '51

Testing

Free cone bend test for aluminum alloy sheet and coil; abstract. W. Thompson. il Metal Prog 59:840+ Je '51

Influence of surface contamination on the corrosion of magnesium manganese sheet. L. Rakowski. il Metallurgia 42:362-6 D '50

Mechanical determination of biaxial residual stress in sheet materials. R. G. Treuting and W. T. Read, jr. bibliog diags J Ap Phys 22:130-4 F '51

SHEET metal, Enameled

Bends enameled liners; Florence stove co. il Cer Ind 56:105+ Ap '51

Cobalt-reduction theory for the adherence of sheet-iron ground coats. J. H. Healy and A. I. Andrews. il diag Am Cer Soc J 34:207-14 bibliog(p212-14); Discussion. 219-21 Jl 1 '51

Elements of the third, fourth, and fifth series as possible adherence-promoting materials for sheet-iron enamels. J. H. Healy and A. I. Andrews. bibliog Am Cer Soc J 34:214-19; Discussion. 219-21 Jl 1 '51

Innovations keep plant up to snuff; Norris stamping & manufacturing co. il Cer Ind 56:42-4+ F '51

Kawneer enamels aluminum for profit; panels for architectural use. il Cer Ind 55:54-7+ N '50

One-coat porcelain on non-premium steel. Steel 129:67 S 24 '51

Redesigned freezer door uses less steel. J. V. Kielb. il Iron Age 167:67-70 F 22 '51

Technology of porcelain enameling on steel. E. E. Marbaker. Mech Eng 73:386-92 My '51

X-ray diffraction study of the oxidation characteristics of nickel-pickled sheet iron as related to enamel adherence. G. S. Douglas and J. M. Zander. bibliog il Am Cer Soc J 34:52-9 F 1 '51

SHEET metal, Expanded

Expanded metals save weight and materials. P. O'Keefe. il diags Materials & Methods 34:74-7 S '51

SHEET metal contractors national association

Annual meeting. Sheet Metal Worker 42:73+ Je '51

Business administration forum. Sheet Metal Worker 42:52-3 S '51

SHEET metal distributors, National association of. See National association of sheet metal distributors

SHEET metal shops

Sheet metal departments; tabulation. Iron Age 167:343 Ja 4 '51

Electric equipment

Operation and maintenance of electric power tools. il Sheet Metal Worker 42:41-3+ Ap '51

Equipment

Consumer installs slitting and leveling plant; E. F. Hauserman co. il Iron Age 168:78-80 Ag 23 '51

More production in the same space; monorail system of E. F. Hauserman co. G. H. Cahoon. il plan Factory Management 109:94-5 My '51

Pattern-suspension rack. il diags Sheet Metal Worker 42:76 D '50

Well arranged, well equipped shop; Lloyd E. Mitchell co. il plan Sheet Metal Worker 42:68-73+ Ja '51

See also

Sheet metal working machinery

Management

Sheet metal contractors national association annual meeting, Colorado Springs. Sheet Metal Worker 42:52-3 S '51

Show windows

Some thoughts on window displays. R. C. Nason. il Sheet Metal Worker 42:38-40 N '50

SHEET metal trade

Compensation group saves again. Sheet Metal Worker 42:76 F '51

Controls and the market outlook. R. M. Nelson. Sheet Metal Worker 42:62+ Ap '51

Don't overlook the FHA. A. Stout. Sheet Metal Worker 42:72-4+ F '51

How to get subcontracts; with list of U.S. Dept. of commerce field offices. Sheet Metal Worker 42:32-3 F '51

Look ahead at 1951; opinions of executives. Sheet Metal Worker 42:53-7 Ja '51

New York state sheet metal, roofing and air conditioning contractors association annual meeting, Utica, March 11-14. Sheet Metal Worker 42:75-7 Ap '51

Ohio state sheet metal contractors association 37th annual meeting, Columbus, March 5-7. Sheet Metal Worker 42:73-5 Ap '51

Polishing the crystal ball; how sheet metal and heating dealers can increase their business. J. E. Philips. Sheet Metal Worker 42:47-8+ Je '51

Sheet metal, air conditioning and roofing contractors' association of Pennsylvania annual meeting, Lancaster, March 30-31. Sheet Metal Worker 42:88-9 My '51

Subcontracting in war production. E. E. Zideck. Sheet Metal Worker 42:65+ Ja '51

See also National association of sheet metal distributors; Sheet metal contractors national association

Accounting

Large firm uses simple cost methods. il Sheet Metal Worker 42:50-1 S '51

Sheet metal contractors national association annual meeting, Colorado Springs. Sheet Metal Worker 42:52-3 S '51

Directories

Directory section; names and addresses of manufacturers of equipment and products used in air conditioning, sheet metal work, ventilation and warm-air heating. Sheet Metal Worker 42:161-82 Ja '51

SHEET metal work

Duct system for recirculating hot brick kiln gases. il Sheet Metal Worker 42:80+ Mr '51

Forming problems with stainless steel sheet metal. il diag Automotive Ind 105:42-4+ Jl 15 '51

SHEET metal work—*Continued*

Forming washing machine legs on a transfer type press. A. E. Sweet. il Mach 57:177-80 N '50

Grain bin assembly on a large scale. H. Chase. il diags Sheet Metal Worker 42:37-41 Ag '51

Hoods and piping for dust control equipment. W. O. Vedder. il diags Sheet Metal Worker 42:37-8+ Je '51

Hot dimpling widens metal use. il diags Aviation W 54:21-2 Ap 2 '51

Magnesium sheet hot formed at less cost at Douglas Aircraft. G. C. Close. il Steel 127:56-8 N 27 '50

Magnetic sheet separator improves production. il Iron Age 167:103-4 Ap 26 '51

Making molds for concrete vaults; illustrations with text. Sheet Metal Worker 42:81 Ja '51

Metal cabinets formed in one piece; machine made by Cyril bath co. il Steel 127:101 N 13 '50

More kitchen cabinets in less time; Lyon metal products inc. il Steel 127:104 D 4 '50

Possibilities and limitations of the Marform process. H. P. Hessler and others. il diags Mach 57:159-63 My; 166-71 Je '51

Press tools for screw holes in sheet metals; reference book sheet. Am Mach 95:169, 171 My 14 '51

Problems involved in joining sheet metal for torque converters. H. O. Flynn. il S A E J 59:17-21 Mr '51

Sheet metal bend allowance and correction charts; reference book sheet. diags Product Eng 22:207 O '51

Side sheets without visible seams; Southern Pacific finds inert-arc welding advantageous. il diags Ry Mech & Elec Eng 125:46-7 Ja '51

Standard presses form ribbed sheets at Lockheed. R. B. Scott. il Iron Age 168:75-7 Ag 30 '51

Stitch it instead; metal stitching replacing riveting and other joining methods. A. G. Denne. il diags Iron Age 168:97-100 Jl 19; 78-82 Jl 26 '51

Stitcher supports all wire surfaces during driving. il diags Product Eng 22:162-3 O '51

Truck for filling trash bags. H. R. Dampman. plan diags Sheet Metal Worker 42:64+ N '50

Tube bender forms sheet metal components. A. Kastelowitz. il Steel 129:78-9 Ag 27 '51

See also

Air conditioning equipment
Air pipes
Containers, Steel—Manufacture
Dies
Dust collectors
Exhaust systems
Metal drawing
Metal spinning
Presses
Rolling (metal work)
Rolling mills
Sheet metal, Enameled
Shells (metal work)
Stamping
Tin cans
Tin plate
Ventilators

SHEET metal work, Architectural

Installing cornice 26 floors up; combination sheet metal parapet, sign and cornice. il diag Sheet Metal Worker 42:39+ S '51

Sheet metal workers' catechism; construction and erection of sheet metal skylights (cont). W. Neubecker. diags Sheet Metal Worker 42:49-50 Je '51 (to be cont)

Some pointers on soldering monel. diags Sheet Metal Worker 42:30-1 F '51

Stainless jackets for cold water exterior risers; incorporating the entire layout into the design treatment of the facade. il diags Sheet Metal Worker 42:44+ N '50

See also

Roofing, Copper
Roofs, Steel

SHEET metal work, Decorative

Swiss artistry in sheet metal. diags Sheet Metal Worker 42:36 Je '51

SHEET metal worker (periodical)

Sheet metal worker and the heating industry. il Sheet Metal Worker 42:49-50+ D '50

SHEET metal working machinery

Adapting machines to special requirements; Otis elevator co. A. Stout. il diag Sheet Metal Worker 42:58-60 Mr '51

Brake die; maintenance and forming techniques. A. E. Meyer. il diags Sheet Metal Worker 42:45-7+ Ag '51

Metal stitching speeds aluminum door assembly. il Steel 129:74 O 1 '51

Power and hand brakes. A. Meyer. il Sheet Metal Worker 42:35-9 Jl '51

Stretch-forming on a press brake. G. C. Close. il Mach 58:153-5 S '51

Verson press brake with electronically controlled ram motion. il Mach 58:200 S '51; Am Mach 95:143 Ag 20 '51

Wraparound bench forms sheet metal faster; Swarzbaugh mfg. co. H. W. Eschedor. il Iron Age 167:100-2 Mr 8 '51

See also

Hyraulic presses
Presses
Punching machinery
Shears (machines)
Stretching machines

SHEET piling

Economies effected on New Brunswick bridge by special deep-water pier design; use of Prepakt concrete. R. A. Malloy. il diags Roads & Eng Constr 89:69-74+ S '51

Sheeting jig insures fast sewer job. il Constr Methods 33:54-7 Ap '51

Unique cofferdam foils Old Man River; building intake was to supply cooling water for Venice no. 2 plant. G. F. Flay, jr. il diag Civil Eng 20:780-4 D '50

SHEET steel

Cold-rolled, hot-rolled, and galvanized sheets; prices, 1929-1950; tabulations. Iron Age 167:292 Ja 4 '51

Columbia's cold reduced steel products. L. S. Dahl. il Blast F & Steel Pl 39:1084-90 S '51

Flexible square steel pans form low-cost modular roof. R. L. Reid and F. P. Johnston. il Eng N 147:38-9 Ag 30 '51

Grain structure of aluminum-killed, low carbon steel sheets. R. L. Solter and C. W. Beattie. il J Metals 3:Trans 721-6 S '51

Recent progress in the production and fabrication of stainless steels; with particular reference to sheet and strip. il plan Metallurgia 42:367-71 D '50

Resistance welding of mild steel sheet; comparison of British and American methods. W. S. Simmie. il diags Welding J 29:651-4 Ag '50; Abstract. Metal Prog 58:894+ D '50

Steel industry statistics; finished steel. Steel 129:130-5 O 1 '51

Steel-pan forms provide economical long-span roof. R. L. Reid. il plan Civil Eng 21:512-13 S '51

Straight chromium type stainless available. Sheet Metal Worker 42:87+ My '51

Technology of porcelain enameling on steel. E. E. Marbaker. Mech Eng 73:386-92 My '51

Welded narrow steel sheets used for wide stampings. K. Rose. il Materials & Methods 33:83-4 Ja '51

Welding helps to ease sheet steel shortage for automobile manufacturers. Bsns W p64+ N 4 '50

See also

Steel, Strip

Testing

How to evaluate deep drawing quality steel. S. Epstein and J. W. Frame. il diags Iron Age 166:88-92 N 9 '50

Noncontacting thickness gages for flat rolled steel products; abstract. W. A. Black. Metal Prog 60:130+ Ag '51

SHELL oil company

High yield stocks that should do well in a defense economy; with comparative balance sheet items. Mag of Wall St 87:230 D 2 '50

Shell activities. D. H. Stormont. il Oil & Gas J 49:44 N 30 '50

SHELLAC

Stabilizing shellac in tin-starved containers. W. E. Drown. Oil Paint & Drug Rep 159:74 Mr 26 '51

Study of the optical properties of shellac solutions; depolarization of scattered light. S. Basu. bibliog J Phys & Colloid Chem 54:1358-66 D '50

SHELLFISH

See also

Oysters

SHELLS
Experiments on the movement of shells by water. H. W. Menard and A. J. Boucot. bibliog diags Am J Sci 249:131-51 F '51
See also
Oyster shells

SHELLS (metal work)
How to choose trim dies for drawn shells; drawings with text. J. R. Paquin. Am Mach 94:85-8 O 30 '50

SHELLS (projectiles)
Cold war puts heat on metal powder; rotating band for artillery shells by using iron powder. J. Kolb. il Iron Age 167:95-9 My 3 '51
Ordnance holds key to vast iron powder growth; shell rotating band and bullet projects would require vast quantities. B. Packard. Iron Age 167:109-10 F 15 '51
Shell rotating bands successfully made from iron powders. H. R. Clauser. il diags Materials & Methods 33:61-5 Ap '51

Manufacture

Cold-extruded shells for the field artillery. B. Kaul. il diags Mach 57:158-63 Ja '51
How to approach shell forging problems. K. N. Mills. il diags Iron Age 168:90-4 Jl 5 '51
Ordnance shell specs, a tough order. B. Czygan. Iron Age 167:108 Je 14 '51
Production of 20-pounder shells. il Engineering 171:573-4 My 11 '51
Royal ordnance factory at Wigan. il Engineer 191:575-6 My 4 '51

SHELTERS
Cantilever shelter protects rig power plant. J. C. Albright. il World Oil 132:142+ Je '51
Protective shelters in modern warfare. W. Viessman. il plan diags Heating-Piping 23:77-82 Mr; 111-16 Ap '51
See also
Motor bus lines—Shelters

SHELTERS, Air raid. See Air raid shelters

SHELTON, James Errett, 1886-
A.B.A.'s new president. K. Monroe. pors Burroughs Clearing House 35:27-9+ O '50
Sketch. pors Banking 43:42+ O '50

SHEPHERD, Clinton O. d. 1950
Sketch. por East Underw 51:15 O 20 '50

SHERATON corporation of America
Security I like best. E. J. Mann. Comm & Fin Chr 173:1150 Mr 15 '51

SHEWHART control charts. See Control charts

SHIFT schedules. See Hours of labor—Shift schedules

SHIGELLA
Alkalescens-dispar group. W. H. Ewing and others. bibliog Pub Health Rep 65:1474-80 N 10 '50
Two provisional shigella boydii serotypes. W. H. Ewing and M. W. Taylor. bibliog Pub Health Rep 66:1327-31 O 12 '51

SHIMS
Laminated shims reduce production and maintenance costs. R. Seipt. il diags Mach 57:177-82 Je '51

SHIP decoration
S.S. Independence; interior design. il Marine Eng 56:78-87 Mr '51

SHIP model tanks
David Taylor model basin. A. P. Miller, jr. il U S Naval Inst Proc 77:410-21 Ap '51
Electronic speed control for the towing carriage of a ship-model testing tank. R. H. Tizard and B. G. V. Harrington. bibliog il diags Inst E E Proc 97 pt 2:651-62 O '50
Ship model towing tank part of new Hydrodynamics laboratory at M.I.T. M. A. Abkowitz. il Tech R 53:404-6 Je '51; Same abr. Marine Eng 56:49-50+ Jl '51

SHIP models
Six foot radio-controlled model boat. W. B. Ford. il diags Radio & Tv N 46:49-53+ Jl '51
See also
Ships—Model testing

SHIP newspapers. See Newspapers, Ship

SHIP plates
Hydrogen theory for brittle ship-plate. C. A. Zapffe. bibliog il Metal Prog 59:802-8 Je '51
Navy considers hull plate specification changes. J. E. Walker. Steel 128:89 Je 11 '51

Testing

Evaluating notch toughness. R. W. Vanderbeck and M. Gensamer. bibliog il Welding J 29:sup37-48 Ja '50; Discussion. 30:sup408-14 Ag '51
Evaluation of welded ship plate by direct explosion testing. G. S. Mikhalapov. bibliog il Welding J 30:sup 195-201 Ap '51
Some metallurgical aspects of ship steel quality. H. M. Banta and others. il diag Welding J 30:sup79-89 F '51; Discussion. 30:sup89-90, 192-4 F, Ap '51

SHIP propulsion
Economics of repowering Lakes vessels. Marine Eng 56:58-62 Ag '51
How hydraulic valves control S. S. Bland's propulsion unit. diag Marine Eng 56:48-9 S '51
Resistance and propulsion. A. L. Ayre. diag Engineering 171:767, 800-2 Je 22-29 '51; Abstract. Engineer 191:388 Mr 23 '51; Discussion. Engineering 171:378-80 Mr 30 '51; Engineer 191:388-9 Mr 23 '51
S.S. Independence; propulsion and auxiliary machinery. il plans diags Marine Eng 56:88-99+ Mr '51
Trends in naval propulsion machinery; abstract. W. P. Mowatt. S A E J 59:70-1 Ap '51
Tug fleet converts to Diesel power. L. C. Turner. il Marine Eng 56:54-5 O '51
See also
Boilers, Marine
Diesel engines, Marine
Gas turbines, Marine
Internal combustion engines, Marine
Motor ships
Propellers
Ship resistance
Steam turbines, Marine
Steamboats

SHIP propulsion, Electric
Constant current control for T.S.M.V. Royal Iris. diag Engineer 191:539-40 Ap 27 '51; Excerpts. Electrician 146:1370 Ap 27 '51
Diesel-electric pilot vessel. il Elec R (Lond) 147:831 N 24 '50
Marine electricity. A. C. Hardy. il Electrician 146:807-11 Mr 9 '51
Marine gas turbo-alternators for tanker Auris. il diag Engineer 191:250-2 F 23 '51; Engineering 171:209-12, 224 F 23 '51; Elec R (Lond) 148:387-9 F 23 '51; Electrician 146:636-9 F 23 '51; Discussion. Engineering 171:322-3 Mr 16 '51
Pilot tender Sir Thomas Brocklebank. il Engineer 190:526-7 D 1 '50; Engineering 170:324 N 3 '50; Electrician 145:940 N 10 '50
Turbo-electric tankers. il Elec R (Lond) 148:99-100 Ja 12 '51

SHIP railroads
Railway dry dock in Denmark docks 2,000-ton ship in half an hour. J. S. Crandall. il diag Civil Eng 21:12-13 Ja '51

SHIP resistance
Formula for ship and model skin friction resistance. G. G. McDonald. Engineer 191:484 Ap 13 '51
Further ship resistance similarity; abstracts and discussion. E. V. Telfer. Engineer 191:409 Mr 30 '51; Engineering 171:399 Ap 6 '51
Practical use of theoretical studies in wave resistance. G. P. Weinblum. bibliog diags Marine Eng 56:49-52 O '51
Resistance and propulsion. A. L. Ayre. diag Engineering 171:767, 800-2 Je 22-29 '51; Abstract. Engineer 191:388 Mr 23 '51; Discussion. Engineering 171:378-80 Mr 30 '51; Engineer 191:388-9 Mr 23 '51
Resistance experiments on the Lucy Ashton. M. E. Denny. il plan diags Engineering 172:121-3, 153-7 Jl 27-Ag 3 '51; Abstract. Engineer 192:15-17 Jl 6 '51; Discussion. Engineering 172:41-2 Jl 13 '51; Engineer 192:24-5 Jl 6 '51

SHIPBUILDING
Computing machine boon to shipbuilders. Bsns W p67 F 3 '51
Design and construction of Great Lakes bulk freighter Wilfred Sykes. E. B. Williams and others. il plans diags Marine Eng 55:40-73 Je '50; Excerpts. Midwest Eng 3:6-8+ N '50
Foreign yards building ships for United States and affiliated interests. Marine Eng 56:36-9 Je '51

SHIPBUILDING—*Continued*

Optical layout system adopted at Götaverken. il diag Marine Eng 56:65-6 Je '51

Production-control in shipbuilding. J. E. Gordon. diag Marine Eng 55:38-43 N; 55-9 D '50; 56:71-3 F; 73-5 Ap; 74-6 My; 62-4 Je; 62-4 Jl; 65-7 Ag '51

Shipbuilding and marine engineering in 1950. il Engineer 191:10-13, 52-5, 104-5, pl 5, 9 Ja 5-19 '51

Some aspects of prefabrication in ship construction; abstracts and discussion. N. G. Eckerbom. Engineer 192:109-10 Jl 27 '51; Engineering 172:200 Ag 17 '51

Victory ship converted as ore carrier; Bethlehem Baltimore yard completes rebuilding of Cliffs Victory. il Marine Eng 56:50-7 Ag '51

See also

Barges
Dry docks
Freight ships
Motor ships
Naval architecture
Navy yards and naval stations
Propellers
Ships
Shipyards
Steamboats
Tank ships
Towboats
Warships

Bibliography

Manufacturing information that helped to win World war II. Mach 57:178-9 Ja '51

Statistics

Changes in ship design; figures from Lloyd's register of shipping annual report. Economist 160:42 Ja 6 '51

Construction of merchant vessels hits new post-war peak in world; Lloyd's Register figures. Weekly Underw 163:969+ O 28 '50

Increase in shipbuilding; second quarter. Economist 161:241-2 Jl 28 '51

Lloyd's Register annual report. Engineer 191: 59 Ja 12 '51; Engineering 171:23 Ja 5 '51

Merchant ship construction, finished steel consumption by U.S. shipbuilders, naval shipbuilding; tabulations. Steel 128:137 Ja 1 '51

Merchant ship tonnage launched in 1950 more than any non-war year since 1921; statement by Lloyd's register of shipping. Weekly Underw 164:634-5 Mr 10 '51

Monthly shipbuilding report. Published in monthly numbers of Marine engineering and shipping review

New records reported by Lloyd's register of shipping for quarter ended June 30. Weekly Underw 165:196+ Jl 28 '51

Shipbuilding conditions throughout world reviewed by Lloyd's register of shipping; quarter ending Dec. 31. Weekly Underw 164:264 Ja 27 '51

Shipbuilding output improves in last quarter of 1950; with Lloyd's Register data, 1949 and 1950. Economist 160:221 Ja 27 '51

Shipbuilding production in 1950. Marine Eng 56:36-45+ F '51

World's shipbuilding. Engineering 171:263 Mr 2 '51

Welding operations

Construction of fishing trawler. W. A. Palmer. il Welding J 30:454-5 My '51

Electric welding load in shipyards. J. S. McCulloch. diag Engineering 171:545-6 My 4 '51

Evaluating notch toughness. R. W. Vanderbeck and M. Gensamer. bibliog il Welding J 29:sup37-48 Ja '50; Discussion. 30:sup408-14 Ag '51

Evaluation of welded ship plate by direct explosion testing. G. S. Mikhalapov. bibliog il Welding J 30:sup 195-201 Ap '51

Procedure approval tests developed for weldments used in naval equipment. S. S. Katsef. flow sheet diags Welding J 29: 1070-7 D '50

Report of ship structure committee. bibliog Welding J 30:sup 169-81 Ap '51

Stress studies of welded ship structure specimens. W. R. Campbell. il diags Welding J 30:sup68-76; Discussion. sup76-8 F '51

Stud welding comes aboard. W. E. McArthur. il diags Marine Eng 56:68-70 Ag '51

Summary of the work of the ship structure committee. K. K. Cowart. Welding J 30: sup65-7 F '51

Sun supertankers. A. A. Holzbaur and F. L. Pavlik. il plans Welding J 30:40-8 Ja '51

Towboat Joan E. il Welding J 30:927-8 O '51

Europe

European tanker building. il Marine Eng 56: 59-60 Ap '51

Germany

German shipbuilding unshackled. Economist 161:99-100 Jl 14 '51

Relaxing of restrictions booms German shipbuilders. E. Hughes. Barron's 30:9 N 13 '50

Great Britain

Engineering outlook; shipbuilding and marine engineering. Engineering 171:182-5 F 16 '51

United States

Maritime board plans to build high-speed ships for defense program. E. L. Cochrane. Marine Eng 55:36+ N '50

Shipbuilding production in 1950. Marine Eng 56:36-45+ F '51

Shipbuilding rests on its keel. Bsns W p44 N 11 '50

Shipyards, biggest weakness in our war potential? A. Halsey, jr. il U S Naval Inst Proc 77:736-43 Jl '51

Shipyards saved by the bell. Bsns W p25 Ja 20 '51

SHIPLEY, William S. 1879-1951

Sketch. por Refrig Eng 59:183 F '51

SHIPMENT of goods

L.c.l. suits Dixie Cup. J. L. Geever. il Ry Age 130:42-3 Ja 8 '51

National distillers means business about loss and damages; firm holds meeting for everybody concerned in transportation. diag Ry Age 131:60-1 Ag 6 '51

Receiving and shipping on wheels; Douglas aircraft co.; illustrations with text. G. C. Close. Mill & Factory 48:109-11 Mr '51

Recorder leads way in transit tests. P. W. Bush. il Cer Ind 56:50-1+ My '51

Scott Paper reduces damage claims; traffic department spearheads campaign. il Ry Age 130:48-50 Mr 5 '51

Streamlined handling of warehouse goods. il Mill & Factory 49:112-13 S '51

Transportation of products and raw materials; National Gypsum uses water, rail and truck. il Rock Prod 53:115-18 D '50

See also

Air freight service
Chemicals—Transportation
Containers (for shipping)
Freight car service
Freight handling
Loading and unloading—Cars
Motor trucks in freight service
Packing for shipment
Railroads—Claims
Railroads—Loading rules
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Transportation

SHIPPING

Food group and Liverpool section; discussion on marine transport of food. Chem & Ind p290-2 Ap 14 '51

Transformation in shipping; shortage of merchant tonnage. Economist 159:1158-60 D 23 '50

Upward bound shipping. Economist 160:557-8 Mr 10 '51

See also

Barges
Free ports and zones
Freight handling
Insurance, Marine
Merchant marine
Ore ships
Ports
Shipbuilding
Shipment of goods
Ships
Steamboat lines
Train ferries
Transportation
Waterways

Claims

See also

Insurance, Marine—Adjustment of claims

Rates

OPS approves water freight rate increases. Oil Paint & Drug Rep 160:3 Jl 30 '51

Canada

Shipping report, year ended Dec. 31, 1949. 129p pa 50c Canada. Dominion bur. of statistics, Ottawa '50

SHIPPING—*Continued*

Great Britain

Freight market activity. Economist 160:1471 Je 16 '51

Great Lakes

Economics of repowering Lakes vessels. Marine Eng 56:58-62 Ag '51

Geared-Diesel repowering for Great Lakes vessels. C. R. Slawter and B. E. Ericson. plan Marine Eng 56:40-4 Je '51

Victory ship converted as ore carrier; Bethlehem Baltimore yard completes rebuilding of Cliffs Victory. il Marine Eng 56:50-7 Ag '51

Waterway traffic on the Great Lakes. J. R. Hardin. Am Soc C E Proc 77 [no 83]:1-10 Ag '51

See also

Iron ores—Transportation

Japan

Protest against expansion of Japanese marine industry. Marine Eng 56:61 Je '51

New York (city)

Last of the business rackets; New York waterfront. D. Bell. il Fortune 43:88-91+ Je '51

United States

Outlook for American shipping. F. J. Taylor. Marine Eng 56:50-1 F '51

SHIPPING containers. See Containers (for shipping)

SHIPPING departments

Faster shipping at 20 per cent less cost; how Aluminum cooking utensil co. packs and ships ware. R. M. Smith. il Factory Management 109:107-9 My '51

SHIPS

Engineering in the Festival of Britain. Engineering 171:730, pl 56-7 Je 15 '51

Proposed design of a combined research, training and cargo ship; abstracts and discussion. H. E. Jaeger and J. C. A. Schokker. Engineer 192:108-9 Jl 27 '51; Engineering 172:199-200 Ag 17 '51

Ship bottom corrosion. P. Ffield. il Marine Eng 55:64-7 D '50; Discussion. 56:62-3, 69+ F, Ap '51

Ship response to range action in harbor basins. B. W. Wilson. il plan diags Am Soc C E Proc 76 [no 41]:1-29 N '50

Shipbuilding and marine engineering in 1950. il Engineer 191:10-13, 52-5, 104-5, pl 5, 9 Ja 5-19 '51

Ships' structures; a century of progress. R. B. Shepheard. diags Engineering 172:25-8, 192 Jl 6, Ag 10 '51; Discussion. 172:11-12 Jl 6 '51; Engineer 192:23-4 Jl 6 '51

South Bank exhibition; Sea and ships pavilion. il Engineer 191:634-9, 670-1 My 18-25 '51

Unchangeable ship; review of several unusual and interesting ship designs. W. Ley. il Tech R 53:147-9+ Ja '51

See also

Barges
Cable laying and supply ships
Dredges
Ferryboats
Fishing boats
Freight ships
Hatch covers
Landing craft
Lightships
Loading and unloading—Ships
Merchant marine
Motor ships
Naval architecture
Ore ships
Power plants, Floating
Propellers
Refrigeration on ships
Sailing vessels
Salvage
Seamen
Ship propulsion
Ship resistance
Shipbuilding
Shipping
Shipyards
Steamboats
Submarine boats
Tank ships
Towboats
Train ferries
Transports
Warships

Cargo

Mezzo folding deck and grain division. diags Engineering 171:611-12 My 18 '51

Stowage of marine cargoes. E. L. Caulfield. Rough Notes 94:54+ Mr '51

Sweat prevention in ships' cargo spaces; abstracts. A. G. Bates. Engineer 190:537 D 1 '50; Weekly Underw 164:706-7 Mr 17 '51

Communication

Audio shore-to-ship, ship-to-shore. G. M. Marr. il Marine Eng 55:69-70 D '50

Dampness

Sweat prevention in ships' cargo spaces; abstracts. A. G. Bates. Engineer 190:537 D 1 '50; Weekly Underw 164:706-7 Mr 17 '51

Electric equipment

Application of electric discharge lamps to daylight signalling. H. K. Bourne and E. J. G. Beeson. il diags Inst E E Proc 97 pt 2:587-94 O '50; Abstract. Engineering 169:453-4 Ap 21 '50; Discussion. Inst E E Proc 97 pt 2:594-6 O '50

Applications of electricity to sea transport; abstracts. A. Gill. Engineer 191:762-3 Je 8 '51; Engineering 171:717; Discussion. 717-18 Je 15 '51

Constant current control for T.S.M.V. Royal Iris. diag Engineer 191:539-40 Ap 27 '51

Designer reviews electric winches and windlasses for Lakes service. A. A. Johnson. il diags Marine Eng 56:54-7 S '51

Electrical and allied developments during 1950; marine. G. Bartlett. il Gen Elec R 54:43-4 Ja '51

How to cut a T2's fuel consumption by motorizing the auxiliary generators. J. A. Wasmund. il diag Marine Eng 56:58-60 Je '51

Marine electricity. A. C. Hardy. il Electrician 146:807-11 Mr 9 '51

See also

Ship propulsion, Electric

Equipment

American machinery drives liner Ryndam. il Marine Eng 56:63-4 S '51

Cargo ship Schuyler Otis Bland goes into 'round-the-world service. C. R. Schaeffner. il plans diags Marine Eng 56:34-48 S '51

Chusan, P. and O. twin-screw passenger liner. il diags Engineering 170:489-91, 526-8, 557-61, pl 41-3, 46-8, 50-2 D 15-29 '50

Engineering of a 300,000 ton super-tanker; first ship using 1020 degrees F steam; Atlantic Seaman. L. M. Goldsmith. il plans diags Marine Eng 56:30-43 Ja '51; Same cond. Mech Eng 73:377-85 My '51

R.M.S. Oronsay. il plan Engineer 191:688-91, 717-20 My 25-Je 1 '51; Engineering 171:623-5 My 25 '51

S.S. Independence; the new American Export passenger liner. il plans diags Marine Eng 56:62-104 Mr '51

Three twin-screw Argentine motorships. il Marine Eng 55:60-3 D '50

T.S.S. Ocean Monarch. il plan Engineer 191:548-50, 581-3 Ap 27-My 4 '51

See also

Boilers, Marine
Radio apparatus on ships
Refrigeration on ships

Fires and fire protection

Decorative Micarta for the fireproof superliner United States. il Westinghouse Eng 11:102 My '51

Export luxury liners establish new standards of safety afloat; Constitution and Independence. il Marine Eng 56:50-2 My '51; Same. Safety Maint & Prod 101:25-6 My '51

Fire problems aboard American vessels. E. C. Holden, jr. Weekly Underw 164:830-5 Mr 31 '51

Fire safety, a feature of the Ocean Monarch. il Marine Eng 56:60-1 Je '51; Safety Maint & Prod 101:111-12 Je '51

Fire safety features of new U.S. liner Independence. East Underw 52:15+ Ja 5 '51

Miner's lamps for the moth-ball fleet. il Safety Maint & Prod 102:30-1 Jl '51

Modern fire system protects S.S. Ryndam. il Marine Eng 56:53-4 O '51

Prevention of fire in cargo ships using oil fuel. Engineering 172:279 Ag 31 '51

Providing greater security against machinery space fires. A. M. Doxsey. il Marine Eng 56:62-5 Ap '51

S.S. Independence; navigating, communicating and safety equipment. il Marine Eng 56:76-7 Mr '51

SHIPS—*Continued*

Fouling

Electrical control of marine fouling. E. S. Castle. il Ind & Eng Chem 43:901-4 Ap '51

Lighting

Cargo motorship lighting. il Electrician 146: 1932 Je 8 '51

Measurement

Instrument for directly recording the metacentric height of a ship. A. G. Boggis and E. C. B. Corlett. diags J Sci Instr 27:278-9 O '50; Discussion. V. W. H. Towns. 28:26 Ja '51

Model testing

Radio-controlled ship models. S. G. Lankester and S. G. Dreier. diags Engineer 191:319 Mr 9 '51; Same. Engineering 171:480 Ap 20 '51

Ship motions; abstracts and discussion. J. C. Niedermair. Engineer 192:80-1+ Jl 20 '51; Engineering 172:165-6 Ag 10 '51

See also

Ship model tanks

Painting

Self-propelled painters' scaffold. P. J. Gunderson. il Marine Eng 56:68 Jl '51

Piping

Corrosion and related problems in sea water cooling and pipe systems in the H. M. ships; abstract. I. G. Slater and others. Metal Prog 59:273-4+ F '51

Welding procedures for high-pressure, high-temperature steam piping. N. L. Navarre. il diags Welding J 30:sup 1-9 Ja '51

Radio equipment

See Radio apparatus on ships

Reconstruction

Lakes ore carrier lengthened; steamship Philip D. Block has 72-foot midsection added; illustrations with text. Marine Eng 56:46-7 Jl '51

T2 tankers being lengthened at Baltimore yard. il Marine Eng 56:57-8 Jl '51

Refloating

Refloating the U.S.S. Missouri. A. E. Smith. il map U S Naval Inst Proc 77:180-95 F '51

Repair

Atlantic MSTS ship-repair and maintenance work in first year of operation. Marine Eng 56:44-6 My '51

Construction notes for ship operators. J. Gray. diags Marine Eng 56:61-3 O; 54-6 N '51

U.S. fleet maintenance and battle damage repairs in the Pacific during World war II; abstract and discussion. R. K. James. Engineering 172:227-8 Ag 24 '51

Reversing

Backing power of geared-turbine-driven vessels; tests on Esso Suez. E. F. Hewins and others. bibliog diags Marine Eng 56:44-51; Discussion. 59-61+ Ja '51

Stability

Influence of ship form on transverse stability; abstracts and discussion. C. W. Prohaska. Engineer 191:439 Ap 6 '51; Engineering 171:441-2 Ap 13 '51

Motions of ships at sea; abstract and discussion. G. Weinblum and M. St Denis. Marine Eng 56:56-8 Ja '51

P. and O. twin-screw passenger liner Chusan. il diags Engineering 170:557-61, pl 50-2 D 29 '50

Retractable stabilizing fins for R.M.S. Chusan; illustration with text. Bsns W p50 Mr 31 '51

Standards for stability of ships in damaged condition; abstract and discussion. V. L. Russo and J. B. Robertson, jr. Marine Eng 56:59-61 F '51

Staterooms

S.S. Independence; interior design. il Marine Eng 56:78-87 Mr '51

Strains and stresses

Stresses in propellers and propeller shafting; abstract and discussion. S. F. Dorey. Engineering 172:228-9 Ag 24 '51

Testing

Backing power of geared-turbine-driven vessels; tests on Esso Suez. E. F. Hewins and others. bibliog diags Marine Eng 56: 44-51; Discussion. 59-61+ Ja '51

See also

Ship model tanks

Ships—Model testing

Vibration

Design-stage calculations of marine shafting vibrations; abstract and discussion. E. Panagopulos. Marine Eng 56:57-8 F '51

How to suppress fantail vibration. L. A. Baier. il Marine Eng 56:37-8 O '51

Vibration tests of all-welded and all-riveted 10,000-ton dry cargo ship; abstract. A. J. Johnson. Engineer 191:383 Mr 23 '51

Windows

Thermopane picture windows are highlight of Independence. il Marine Eng 56:61-2 My '51

SHIPS, Troop. See Transports

SHIPS' lights. See Ships—Lighting

SHIPWRECKS

See also

Salvage

SHIPYARDS

Barge production at Dravo yards. il Marine Eng 56:49-50 F '51

Walls protect sinking shipyard; subsidence of Long Beach naval shipyard. L. C. Coxe. il diags Eng N 146:32-4 F 8 '51

See also

Navy yards and naval stations

Shipbuilding

Electric equipment

Electric welding load in shipyards. J. S. McCulloch. diag Engineering 171:545-6 My 4 '51

Employees

Costlier travel; ship-repair companies may have to pay higher for travel time. Bsns W p 118+ O 21 '50

I strike, you get more pay; Philadelphia ship cleaners force higher pay scale for rival union. Bsns W p 110 Ja 20 '51

Shipbuilding employment; workers' average earnings, 1947-1950; tabulation. Iron Age 167:329 Ja 4 '51

See also Industrial union of marine and shipbuilding workers of America

SHIRTS

Display containers for shirts. il Mod Plastics 28:162 N '50

Why thousands of Canadians wear Van Heusen shirts. J. C. Cumming. il Sales Management 67:86+ O 1 '51

Advertising

How to stretch a small budget; heavy merchandising of a campaign for Nirenberg shirts. V. J. Dallaire. il Ptr Ink 234:32-4 F 23 '51

SHOCK

Levels of nucleotide in the blood during shock. G. T. Hoffmann and others. Science 114:188-9 Ag 17 '51

Nature of shock. Safety Maint & Prod 101:129 Je '51

Salt water for shock. Sci Am 183:29-30 D '50

SHOCK absorbers

French hydraulic shock absorber. il Automotive Ind 104:60 Ja 1 '51

Making Chrysler's new Oriflow shock absorbers; illustrations with text. Automotive Ind 104:38-9 F 15 '51

New automobile shock absorber designed. diag Product Eng 22:154-5 F '51

Principles of buffer design. J. Brown. il diags Product Eng 21:125-9 D '50

Selection factors for mechanical buffers. J. Brown. il diags Product Eng 21:156-60 N '50

SHOCK waves

Aerodynamics of blasts. L. Ting and H. F. Ludloff. J Aeronautical Sci 18:143-4 F '51

Approximate solutions for shock waves in a steady, one-dimensional, viscous and compressible gas. P. Lieber and others. bibliog J Aeronautical Sci 18:55-60 Ja '51

Approximate treatment of multishock bodies of revolution at small angles of attack by the method of characteristics. R. E. Bower. diag J Aeronautical Sci 18:70-1 Ja '51

Calculation of oblique shockwave characteristics. M. J. Thompson. J Aeronautical Sci 17:744 N '50

Density measurements in supersonic flow by means of the X-ray absorption method. E. M. Winkler. J Ap Phys 22:201-2 F '51

Effect of Prandtl number on the theoretical shock-wave thickness. P. A. Libby. J Aeronautical Sci 18:286-7 Ap '51

Extension of the theory of the one-dimensional shock-wave structure. L. Meyerhoff. bibliog J Aeronautical Sci 17:775-86 D '50

Influence of the temperature variation of the specific heats of air in shock-wave calculations. J. Kestin. J Aeronautical Sci 18:351-3 My '51

Interaction of shock waves with boundary layers on a flat surface. F. W. Barry and others. bibliog il diags J Aeronautical Sci 18:229-38+ Ap '51

Magneto-hydrodynamic shocks. F. de Hoffmann and E. Teller. bibliog Phys R 80:692-703 N 15 '50

No-load pneumatic transients in air blast circuit breakers. K. K. Schiller. bibliog il diags Engineer 192:200-3 Ag 17 '51

Production and stability of converging shock waves. R. W. Perry and A. Kantrowitz. bibliog il diags J Ap Phys 22:878-86 Jl '51

Reflection of strong shock at nearly glancing incidence. D. R. White. J Aeronautical Sci 18:633-4 S '51

Shadowgrams of spherical missiles entering water at supersonic speeds. J. H. McMillen and others. il J Ap Phys 21:1341-2 D '50

Shock-wave phenomena; waterlike substances. R. J. Seeger and H. Polachek. bibliog diags J Ap Phys 22:640-54 My '51

Solution of the Boltzmann equation for a shock wave. H. M. Mott-Smith. bibliog Phys R 82:885-92 Je 15 '51

Thickness of a steady shock wave. R. von Mises. J Aeronautical Sci 17:551-4+ S '50; Discussion. J. J. Bernard. 18:210 Mr '51

Thickness of shock fronts in argon and nitrogen and rotational heat capacity lags. E. F. Greene and others. bibliog diag J Chem Phys 19:427-34 Ap '51

SHOE factories

Electric equipment

Modern factory installation; Lotus factory, Stone. il Elec R (Lond) 148:157-61 Ja 26 '51

Employees

Footwear manufacture; earnings in Sept. 1950. F. W. Mohr. Mo Labor R 72:292-4 Mr '51

SHOE fitting machines

Hazards of shoe-fitting fluoroscopes. W. W. Van Allen. Pub Health Rep 66:375-8 Mr 23 '51

SHOE industry and trade

Brown Shoe helps dad groom son to take reins of his retail store. Sales Management 66:78+ Ja 15 '51

Crises can't crush Rollman. L. M. Hughes. Sales Management 66:37-9+ My 20 '51

Idea far removed from shoes; Health spot shoe co. R. Conover. il Sales Management 66:58+ Ja 1 '51

No pinch in shoes. Bsns W p88-9 Ap 28 '51

Selling methods and merchandise knowledge of men's wear and shoe salespeople. N. H. Comish. J Retailing 27:40-8 Spring '51

Selling shoes takes picking and choosing; how Thom McAn does it; illustrations with text. Bsns W p 106-7 Ap 14 '51

To steady output, makers turn sellers. il Bsns W p 116+ Jl 7 '51

Advertising

Shoe manufacturers, retailers add tv schedules, boost over-all advertising prospects for '51. M. F. Harris. Ptr Ink 233:114 N 10 '50

Triple result from mail-order ads; new customers by mail, repeat business by mail, more customers in stores; Innes shoe co. L. F. Thomann. il Ptr Ink 235:33 Je 8 '51

Bibliography

List of resources on shoes. J. K. Le Sueur and others. J Retailing 27:100-4 Summer '51

Securities

Re-appraisal of the shoe industry; with statistical data on leading companies. G. Mathis. Mag of Wall St 87:234-5+ D 2 '50

Algeria

Algerian shoe production curtailed. For Comm W 44:18-19 S 10 '51

France

Gains recorded in French footwear production. For Comm W 45:20 O 1 '51

Happy shoemaker; after U.S. tour French manufacturer ups output. Bsns W p 146-7 F 10 '51

SHOES

Manufacture

Trends in man-hours expended per pair; footwear, 1947 to 1948. (U.S. Bur. of labor statistics, Special ser. no. 1) 25p pa 20c Supt. of doc. '50

SHOES, Children's

Children's shoes. Consumers Res Bul 27:23-5 F '51

SHOES, Rubber

Footwear industry. India Rubber World 124:65 Ap '51

Warmer boot; Marine corps combat boot; two layers of rubber with wool insulation between. Bsns W p63-4 F 17 '51

SHOES, Safety

Foot protection. il Nat Safety N 63:76+ Mr '51

Safety shoe sale; a case history. M. W. Work. il Safety Maint & Prod 100:21+ N '50

Shoes with eye-appeal. R. Harrison. il Safety Maint & Prod 101:35-6+ Je '51

Store sells safety sensibly; Cadillac tank plant. W. M. Stocker, jr. il Am Mach 95:160 Je 11 '51

Un-toe-ward hazards. Safety Maint & Prod 101:28 My '51

SHOP management

See also

Job work

Machine shop management

SHOP stewards

Management and labor learn together; Botany plan. I. J. Phillipson. Dun's R 59:20+ S '51

Shop steward pays his way; Britain's changing industrial picture demands basic changes in the old concept of trade unionism. C. D. Mackinnon. Am Mach 95:144-5 Ap 16 '51

SHOPPING areas

New data on retail trading zones recommended to ABC. Ptr Ink 235:315+ My 25 '51

Procedure on ABC zone put to vote of newspapers. Ed & Pub 84:7-8 My 19 '51

What the auto is doing to farm sales. W. B. Williams. il Ptr Ink 236:33-4 Ag 3 '51

SHOPPING centers

Regional shopping centers. K. C. Welch. il map plans Arch Rec 109:120-31 Mr '51

Shopping center for the Hecht co., Washington, D.C. il Arch Rec 109:137-8 Mr '51

Stonestown shopping center, San Francisco. il plans Arch Rec 109:132-6 Mr '51

SHOPS

See also

Airlines—Shops

Car shops

Locomotive shops

Machine shops

Motor bus lines—Shops

Plumbing shops

Railroads—Shops

Repair shops

Sheet metal shops

SHORAN. See Radar

SHORE lines

High sea levels of the Sonoran shore. R. L. Ives. bibliog maps diag Am J Sci 249:215-23, pl 1-2 Mr '51

SHORE lines—*Continued*

Intensive frost action along lake shores. S. Taber. diags Am J Sci 248:784-93, pl 1 N '50

Pleistocene shore lines in Florida and Georgia. F. S. MacNeil. bibliog U S Geol S Professional Pa 221-F:95-107, pl 19-25; pa $1 Supt. of doc. '50

See also

Sand bars

Terraces (geology)

SHORE protection

Beach protection engineers attempt to outwit nature at Presque Isle peninsula. F. H. Forney and G. A. Lynde. il maps Civil Eng 21:508-11 S '51

Walls protect sinking shipyard; subsidence of Long Beach naval shipyard. L. C. Coxe. il diags Eng N 146:32-4 F 8 '51

See also

Breakwaters

Levees

Rivers—Bank protection

SHORING and underpinning

Deep underpinning formed in wells. il Eng N 147:34 S 20 '51

Jacks provide safety while installing shoring. il Eng N 145:50 D 21 '50

Miles of underpinning keep business district out of subway; Toronto's Yonge St subway. G. Goodwin. il diags Eng N 146:30-1 My 24 '51

SHORT, Joseph H., 1904-

J. Short, new press aide at White House. por Ed & Pub 83:14 D 16 '50

SHORT circuits

Efficient test set locates short circuits in ranges. C. A. Hass. il diag Elec World 135:152+ Je 18 '51

Fuses and circuit breakers for short circuit protection. K. S. Kuka. Iron & Steel Eng 28:108-12 My '51

Reactors in low-voltage industrial power systems of 600 volts or less. D. L. Beeman and L. L. Baird. il diags Gen Elec R 53:26-33 D '50

Symmetrical short circuits on saturated alternators. S. L. Mikhail. diags Elec Eng 70:34 Ja '51

SHORT line railroads. See Railroads, Short line

SHORTENING

Butter for bakers; new emulsified product. Bsns W p 110+ Mr 17 '51

Piloting a new product? A. J. Alton and others. il diag Food Eng 23:102-4+ Ag '51

Use the fats that fit your mixes. G. T. Carlin. Food Eng 23:113+ Jl '51

Analysis

Butylated hydroxyanisole in lard and shortening. J. H. Mahon and R. A. Chapman. bibliog Anal Chem 23:1120-3 Ag '51

Estimation of antioxidants in lard and shortening. J. H. Mahon and R. A. Chapman. bibliog Anal Chem 23:1116-20 Ag '51

SHOT blasting

British hard-drawn steel pellets for cleaning and peening. il Metallurgia 43:87-8 F '51

How Buick cuts forging cleaning cost; new conveyor-fed blasting system. H. Chase. il Steel 128:60-1 Ja 8 '51

Metal grit for sand-blasting; advantages of Si:Mn steel over quartz. Chem Age (Lond) 63:777 D 2 '50

Operation of blast cleaning equipment. M. R. Wiard. il S A E J 59:46-8 Ap '51

Workloader makes shotblasting automatic. R. E. Blaney. il diags Am Mach 95:160 S 17 '51

SHOT peening

British hard-drawn steel pellets for cleaning and peening. il Metallurgia 43:87-8 F '51

Fatigue weakness of surfaces. J. O. Almen. bibliog il diags Product Eng 21:119-28 N '50

More realistic measure of shot peening effectiveness. C. Lipson. il Steel 129:72-5 Ag 6 '51

Multiply spring life without changing design; Web Wilson oil drill pipe tong. C. W. Oicles and F. K. Landecker. il diag Iron Age 166:80-2 D 21 '50

Shot peening as a factor in the design of gears. J. C. Straub. Machine Design 23:178-80+ Je '51; Same cond. bibliog il Mech Eng 73:565-9 Jl '51; Abstract. Product Eng 22:259-60 S '51

Shot peening of spring steel. N. B. Brown. Engineer 191:685 My 25 '51

Some of the economical aspects of the new types of shot. A. E. Proctor. il S A E J 58:30-3 D '50

SHOTCRETE. See Concrete placing

SHOTGUNS. See Guns

SHOUSE, James D. 1903-

Portrait. Fortune 43:75 Ja '51

SHOVELING machines

Backhoe, tractor shovel and derrick speed up work and reduce costs. T. L. Cate. Pub Works 82:44+ S '51

Does outside jobs quickly; modified tractor-shovel. il Food Eng 23:88-9 S '51

Hough puts new tractor shovel on crawler mounting. H. W. Richardson. il Constr Methods 33:104-6 Ap '51

Improved Shoveloaders announced by Lull mfg. co. il Roads & Eng Constr 88:84 O '50

Labor saving equipment pays off. T. B. Tyldesley. il Pub Works 82:43 Ag '51

Mine welding saves 50 per cent in dipper-stick cost. il diag Coal Age 55:109-10 N '50

Open pit mining favors high production efficiency. il Eng & Min J 152:94-8 Jl '51

Priestman bros. ltd. introduces 1951-model shovel. il Roads & Eng Constr 89:84 Ap '51

See also

Buckets

SHOW rooms. See Showrooms

SHOW windows

Show window; Blackton 5th Avenue store; detail plate. L. J. Gluskin. il diags Am Bld 73:150-1 F '51

Show window; detail plate. L. J. Gluskin. il plans diags Am Bld 73:196-7 Ap '51

Show window framing; better detail plate. L. J. Gluskin. il diags Am Bld 73:134-5 Ag '51

See also

Banks and banking—Show windows

Gasoline service stations—Show windows

Contests

Periodic window contests win point-of-purchase push for Sheaffer. il Sales Management 67:82+ O 1 '51

Frost and condensation

Moisture condensation on enclosed show windows. T. L. Gershun. bibliog il diag Heat & Ven 47:83-94 D '50

Lighting

Department store show window. il Illum Eng 45:751 D '50

How traffic counts can build lighting usage. J. D. Haverkamp. il Elec World 135:148+ Ap 23 '51

SHOWER baths

Prefabricated shower stalls fill requirements in variety of situations. il diags Am Bld 73:190+ Ag '51

SHOWER curtains, Plastic

Four plastic shower curtains. Consumers Res Bul 28:26 Jl '51

SHOWROOMS

Tractor showroom in San Francisco. B. E. Heiser. il plan Arch Forum 94:195 Je '51

Walls of air, color, light and water; Knoll's new furniture showroom. il plans Arch Forum 94:138-43 My '51

Heating and ventilation

Radiant and convected warm air heat meet auto showroom needs. F. S. Lappin. il Heating-Piping 22:92-3 N '50

SHRINKAGE of ceramic materials

Effects of heating rate on shrinkage of clays and shales in firing. W. J. Meid and R. K. Hursh. il Am Cer Soc J 34:287-90 S 1 '51

SHRINKAGE of leather. See Leather—Shrinkage

SHRINKAGE of metals

Some relations of powder characteristics to the elastic modulus and shrinkage of sintered ferrous compacts. G. D. McAdam. bibliog pl diags Iron & Steel Inst J 168:346-58 Ag '51

Why castings shrink. Foundry 79:222+ Je '51

SHRINKAGE of textiles

Cloth shrinking; automatic infra-red machine. Elec R (Lond) 148:1204 Je 8 '51; il Electrician 146:1954 Je 8 '51

Stabilizing cellulosic textiles (shrinkproofing); aldehydes, acid catalyst, alkalisulfate; patent. Am Dyestuff Rep 40:374 Je 11 '51

SHUTDOWNS. See Factories—Shutdowns

SHUTTLES

Electronic shuttle-bonding technique. il Electronics 24:166+ Ag '51

Testing

New instrument tests shuttle tension. Franklin Inst J 251:566-7 My '51

SIAM (Thailand)

See also

Railroads—Siam (Thailand)

Economic conditions

News by countries; Thailand. For Comm W 42:17 F 12; 19 Mr 19 '51

Thailand; steady advance made in 1950 continues. For Comm W 44:3-4 Ag 6 '51

SICK leave

Reducing sick absences. B. Blai, jr. Personnel J 29:268-9 D '50

SICKLE cell anemia. See Anemia

SICKNESS

Causes of absenteeism in New Haven schools, follow-up after 21 years. J. I. Linde and others. bibliog Pub Health Rep 65:1737-44 D 29 '50

Disability panel and sick absence controls of the Consolidated Edison company of New York. D. S. Sargent. Am Gas Assn Proc 1950:61-73

Industrial sickness absenteeism; males and females, 1949, and males, first and second quarters, 1950. W. M. Gafafer. Pub Health Rep 65:1556-61 N 24 '50

Industrial sickness absenteeism third and fourth quarters, 1950. W. M. Gafafer. Pub Health Rep 66:779-80 Je 15 '51

Medical care for patients with prolonged illness. E. M. Bluestone. Ann Am Acad 273:144-50 Ja '51

See also

Diseases
Insurance, Health
Medical service
Mortality
Public health

Statistics

Accuracy of supplemental medical information on birth certificates. A. M. Lilienfeld and others. bibliog Pub Health Rep 66:191-8 F 16 '51

SICKNESS benefits

Conference on sickness disability insurance, sponsored by the Graduate school of business, School of engineering, School of law, School of public health of Columbia university, New York, May 9. A M A Archives Ind Hygiene & Occup Med 2:631-97 D '50

Disability panel and sick absence controls of the Consolidated Edison company of New York. D. S. Sargent. Am Gas Assn Proc 1950:61-73

SIDEWALKS, Concrete

Operating experience and data from a sidewalk snow-melting system. L. A. Stevens and G. D. Winans. bibliog il diags Heating-Piping 23:177-80 Ja '51

SIDEWALKS, Elevated

Elevated walkways for downtown Chicago. A. L. Tholin. il plan Midwest Eng 4:10-13+ S '51

SIDING (building)

How to use Presdwood for exterior siding. il plan Am Bld 73:290+ Ap '51

SIEMILLER, Roy

Labor technicians. por Fortune 43:42 F '51

SIERRA NEVADA

Mount Lincoln-Castle Peak area. F. S. Hudson. bibliog maps Geol Soc Bul 62:931-52, pl 1-2 Ag '51

SIEVES

Auxiliary vibrator for hand and machine sieving. T. H. Hughes. il diags Engineer 192:188-90 Ag 10 '51

Methods of sieve analysis with particular reference to bone char. F. G. Carpenter and V. R. Deitz. bibliog J Res Nat Bur Stand 45:328-46 O '51

See also

Sifting machines

Testing

Glass spheres for the measurement of the effective opening of testing sieves. F. G. Carpenter and V. R. Deitz. il J Res Nat Bur Stand 47:139-47 S '51

New calibration method for testing sieves. il Concrete 59:36-7 Ap '51; Same. Glass Ind 32:303 Je '51; Same cond. Food Eng 23:189 Ap '51

SIFTING machines

High-capacity, sanitary sifter needs little space. il Food Eng 23:103 My '51

SIGHT

All experience is of change; survey of the senses reveals large gaps in our knowledge of the mechanism by which man perceives his environment. F. W. Nordsiek. il Tech R 53:24-5 N '50

Brightness relationships for comfortable seeing. S. K. Guth. bibliog il Opt Soc Am J 41:235-44 Ap '51

Comfortable brightness relationships for critical and casual seeing. S. K. Guth. il Illum Eng 46:65-72; Discussion. 72-5 F '51

Decrease of critical flicker frequency with age. H. Misiak. bibliog Science 113:551-2 My 11 '51

Defective sight not safety hazard, survey of private pilots reveals. CAA J 12:23 F 20 '51; Aviation W 54:55 Ja 15 '51

Effect of task-to-surround brightness ratios on visual performance. R. L. Biesele, jr. Illum Eng 45:733-7; Discussion. 738-40 D '50

Illumination for sight testing. H. W. Hofstetter. Illum Eng 46:116-18 Mr '51

Informational capacity of the human eye. H. Jacobson. bibliog Science 113:292-3 Mr 16 '51

International commission of optics; recommendations concerning experimental conditions for investigations on visual sensitivity and discrimination. Opt Soc Am J 40:881-2 D '50

Lab tests for strenuous visual work disclose significant results; abstract. A. Simonson. Nat Safety N 62:48 N '50

Metric of binocular visual space. R. K. Luneburg. diags Opt Soc Am J 40:627-42 O '50

Muscle action potentials as a measure of visual performance cost. R. C. Travis and others. bibliog il Illum Eng 46:182-7 Ap '51

Peripheral contrast thresholds of the human eye. M. A. Bouman. bibliog diag Opt Soc Am J 40:825-32 D '50

Physiologic limits of vision in physiographic observation. E. W. Olmsted and E. P. Olmsted. il Science 113:176-7 F 16 '51; Discussion. 114:19-20, 505 Jl 6, N 9 '51

Psychophysical study of white; neutral adaptation. L. M. Hurvich and D. Jameson. bibliog diag Opt Soc Am J 41:521-7 Ag '51

Quanta and visual thresholds. M. H. Pirenne and E. J. Denton. bibliog Opt Soc Am J 41:426-7 Je '51

Subjective spectral band limits under controlled conditions. Z. V. Harvalik and J. H. Bowen. bibliog Opt Soc Am J 40:755-6 N '50

Suprathreshold area brightness relationships. R. M. Hanes. Opt Soc Am J 41:28-31 Ja '51

Uniform field and the 3:1 criterion. H. L. Logan. Illum Eng 46:sup10A+ Ja '51

Visual acuity and the normal tremor of the eyes. L. A. Riggs and F. Ratliff. bibliog il diag Science 114:17-18 Jl 6 '51

See also

Blind
Color blindness
Color sense
Eye
Optical illusions
Optics, Physiological
Space perception
Visibility

Bibliography

New selected bibliography of literature on the partially seeing. L. Galisdorfer, comp. 119p pa $1.50 Miss Lorraine Galisdorfer, Charles Lindbergh school, Kenmore 23, New York '51

SIGMA delta chi
National convention of professional journalistic fraternity, 31st, Miami Beach. Ed & Pub 83:7+ N 18 '50
SDX condemns language of UN covenant. Ed & Pub 83:7 N 18 '50
Sigma delta chi receives five new members. Ed & Pub 84:10 F 3 '51

SIGMA welding. See Electric welding, Arc—Inert gas shielding

SIGNAL corps. See United States—Army—Signal corps

SIGNAL oil and gas corporation
Security I like best. C. T. Jawetz. Comm & Fin Chr 172:1978 N 23 '50

SIGNAL tracer. See Radio instruments

SIGNALS, Railroad. See Railroads—Signals

SIGNALS and signaling
See also
Electric signals
Fire alarms
Fog signals
Light signals
Mine signals
Radio signals
Railroads—Signals
Time signals, Radio
Traffic signals

SIGNIFICANT difference (statistics)
Graphical approach to statistics; tests for statistical significance. C. J. Velz. Water & Sewage Works 98:262-5, 289-93 Je-Jl '51

SIGNS
How to put silent salesmen to work. il Dom Eng 178:94-5+ Ag '51
Installing cornice 26 floors up; combination sheet metal parapet, sign and cornice. il diag Sheet Metal Worker 42:39+ S '51
See also
Electric signs
Gasoline service stations—Signs
Road signs
Safety signs

SIGNS, Plastic
Black light display; utility tray and advertising sign for Miller High Life beer. il Mod Plastic 28:80 Ag '51
Molded signs sell a name; Blatz brewing co. il Mod Plastics 28:109 Je '51
Plastics, in war and peace; changes in building codes permit use of acrylic plastics in signs. F. J. Rarig. il Standardization 22:141-3 My '51

Advertising

Conventional ad campaign gets unusual results for Neon. il Ind Marketing 36:58+ Je '51

SILANE
Alkyliodosilanes; ethyl series and monododecyl. H. H. Anderson, D. L. Seaton and R. P. T. Rudnicki. Am Chem Soc J 73:2144-5 My '51
Alkyliodosilanes; methyl, propyl, butyl and amyl. H. H. Anderson. Am Chem Soc J 73:2351-2 My '51
Base-catalyzed conversion of triphenylfluorosilane and triphenylsilanol to hexaphenyldisiloxane. H. H. Szmant and G. A. Brost. Am Chem Soc J 72:5763 D '50
Chemistry of the tris-(triphenylgermanyl)-silyl group. J. G. Milligan and C. A. Kraus. bibliog Am Chem Soc J 72:5297-300 N '50
Cleavage of the silicon-silicon bond in hexaphenyldisilane. H. Gilman and T. C. Wu. Am Chem Soc J 73:4031-3 Ag '51
Effects of substituents on the rate of hydrolysis of triarylsilanes in wet piperidine. H. Gilman and G. E. Dunn. bibliog Am Chem Soc J 73:3404-7 Jl '51
Experiments on the substitution behavior of the silicon chlorobromides. C. J. Wilkins, N. P. H. Brown and A. D. Stevens. Chem Soc J p 163-4 Ja '50
Phase studies on the binary systems of tin tetrabromide, tin tetraiodide and trichlorosilane with some aliphatic ethers. H. H. Sisler, E. E. Schilling and W. O. Groves. Am Chem Soc J 73:426-9 Ja '51
Position isomers of substituted aryltrimethylsilanes. H. A. Clark and others. bibliog Am Chem Soc J 73:3798-803 Ag '51
Preparation and reactions of dichlorodifluorosilane. R. V. Lindsey, jr. bibliog diag Am Chem Soc J 73:371-3 Ja '51
Preparation and reactions of triphenylsilylpotassium. R. A. Benkeser and R. G. Severson. il Am Chem Soc J 73:1424-7 Ap '51
Preparation of aminomethylsilicon compounds and their derivatives. J. E. Noll, J. L. Speier and B. F. Daubert. Am Chem Soc J 73:3867-71 Ag '51
Preparation of some triarylaminosilanes. H. Gilman and others. Am Chem Soc J 72:5767-8 D '50
Reactions of bis-(halomethyl)-dimethyl-silanes with metals. J. D. Roberts and S. Dev. Am Chem Soc J 73:1879-80 Ap '51
Reactions of some triarylsilanes with methyllithium and phenylisopropylpotassium. R. A. Benkeser and F. J. Riel. Am Chem Soc J 73:3472-4 Jl '51
Some reactions of phenylsilane. W. H. Nebergall. Am Chem Soc J 72:4702-4 O '50
Some substituted naphthylsilanes. S. V. Sunthankar and H. Gilman. bibliog Am Chem Soc J 72:4884-7 N '50
Tetra-2-naphthylsilane. H. Gilman and C. G. Brannen. Am Chem Soc J 72:4280-1 S '50

SILBERT, Myron
Mapping a retailer's growth; Abraham & Straus starts second suburban branch; interview. pors Bsns W p50+ N 4 '50
Portrait. Bsns W p63 Ja 6 '51

SILICA
Activated silica as an aid to coagulation in water treatment processes. H. J. Wheaton and J. G. Walker. bibliog Chem & Ind p710-16, 802-5 O 28, D 16 '50
Ceramic compositions having negative linear thermal expansion; lithia-alumina-silica. E. J. Smoke. bibliog Am Cer Soc J 34:87-90 Mr 1 '51
Color reactions between silica pigments and certain accelerators and antioxidants. R. F. Wolf and others. bibliog(p 104) Rubber Age 69:55-6 Ap '51
Compounding of butyl rubber with fine particle silica. R. F. Wolf and F. W. Gage. India Rubber World 123:565-9 F '51
Cone deformation study of a portion of the system SrO-Al_2O_3-SiO_2. A. S. Watts. diag Am Cer Soc J 34:63 F 1 '51
Effect of nuclear substitution on the rate of silica-zirconia-alumina-catalyzed depropylation of cumene. R. M. Roberts and G. M. Good. bibliog Am Chem Soc J 73:1320-2 Mr '51
Effect of silica reduction on the desulphurizing power of blast-furnace type slags. N. J. Grant and others. J Metals 3:Trans 672-3 Ag '51; Discussion. 3:Trans 1049-50 N '51
Electrical method for investigating the nature and behavior of small, airborne, charged particles. J. H. Daniel and F. S. Brackett. bibliog diag J Ap Phys 22:542-54 My '51
Fluidization studies of solid particles. C. O. Miller and A. K. Logwinuk. bibliog il diags Ind & Eng Chem 43:1220-6 My '51
Gelatin times of various silica sols; effect of low temperatures. R. W. Spencer, A. B. Middleton and R. C. Merrill. bibliog Ind & Eng Chem 43:1129-32 My '51
Hydrogen-deuterium exchange activity of silica-alumina catalysts. V. C. F. Holm and R. W. Blue. bibliog diag Ind & Eng Chem 43:501-5 F '51
Hydrogen transfer over silica-alumina catalysts. R. W. Blue and C. J. Engle. bibliog Ind & Eng Chem 43:494-501 F '51
Hydrolysis of ethyl silicate. R. Aelion, A. Loebel and F. Eirich. bibliog Am Chem Soc J 72:5705-12 D '50
Immiscibility in the system H_2O-Na_2O-SiO_2. I. Friedman. Am Chem Soc J 72:4570-4 O '50
Investigation of small, airborne, charged particles by an electrical method. J. H. Daniel and F. S. Brackett. bibliog diag A M A Archives Ind Hygiene & Occup Med 3:505-19 My '51
Neutron-absorbing glass; CdO-SiO_2-B_2O_3 system. L. M. Melnick and others. bibliog diags Am Cer Soc J 34:82-6 Mr 1 '51
Portion of the system silica-water. G. C. Kennedy. bibliog diags Econ Geol 45:629-53 N '50
Quenching furnace for high-temperature studies of small specimens. H. G. Sowman and A. I. Andrews. diags Am Cer Soc J 33:365-6 D 1 '50
Reactions in the system TiO_2-SiO_2; revision of the phase diagram. R. W. Ricker and F. A. Hummel. bibliog Am Cer Soc J 34:271-9 S 1 '51
Sand in the gears; greases thickened with GS-199S. Bsns W p 100 My 12 '51; Materials & Methods 33:10 Je '51

SILICA—*Continued*

Solubility of quartz and some other substances in superheated steam at high pressures. G. W. Morey and J. M. Hesselgesser. bibliog diags A S M E Trans 73:865-72; Discussion. 872-5 O '51

System K_2O-MgO-SiO_2. E. W. Roedder. Am J Sci 249:81-130, 224-48 bibliog(p244-8) F-Mr '51

Thermal decomposition of hydrazine vapor in silica vessel. T. J. Hanratty and others. bibliog diags Ind & Eng Chem 43:1113-16 My '51

See also

Diatomaceous earth
Quartz
Quartzite
Sand
Water purification—Silica removal

Analysis

Determination of quartz in presence of silicates using phosphoric acid. N. A. Talvitie. bibliog il Anal Chem 23:623-6 Ap '51

Rapid X-ray diffraction method for the determination of quartz in industrial dusts. L. L. Schmelzer. bibliog A M A Archives Ind Hygiene & Occup Med 3:121-8 F '51

SILICA brick

Silica brick research; open-hearth deterioration. Chem Age (Lond) 64:597-8 Ap 21 '51

Silica brick standard grade prices, 1939-1950; tabulation. Iron Age 167:321 Ja 4 '51

Too rapid heating can crack silica brick. Brick & Clay Rec 118:51 My '51

Zebra type open-hearth roof steps up heats per campaign. il Steel 128:126+ My 7 '51

See also

Semisilica brick

Manufacture

Grefco's Portsmouth plant modernizes to meet demand. il Brick & Clay Rec 117:61-2+ D '50

SILICA gel

Adsorption of aliphatic amine vapors by silica gel. F. E. Bartell and D. G. Dobay. bibliog diag Am Chem Soc J 72:4388-93 O '50

Adsorption of organic bases on silica gel, and heats of adsorption. B. P. Gyani. diag Chem Soc J p 1521-4 Je '50

Adsorption studies of two silica gels and a gel-type catalyst. R. A. Van Nordstrand, W. E. Kreger and H. E. Ries, jr. bibliog J Phys & Colloid Chem 55:621-38 My '51

Aromatics by adsorption. V. B. Guthrie. flow diag Pet Processing 6:833-5 Ag '51

Carbon disulfide from natural gas and sulfur; reaction of methane and sulfur over a silica gel catalyst. H. O. Folkins, E. Miller and H. Hennig. bibliog flow diag Ind & Eng Chem 42:2202-7 N '50

Condensation phenomena in supersonic tunnels; adsorption with silica gel. L. M. Majeske. bibliog il Aero Digest 63:19+ Ag '51

Double shelf life? it's in the bag; potato chips stay fresh when packet of absorbing and drying agents is slipped into the sack. R. N. Miller and W. E. Robertson. il Food Eng 23:38-9+ Jl '51

Dynamic characteristics of a solid adsorbent. W. L. Ross and E. R. McLaughlin. diag Refrig Eng 59:167-73 F '51

Effect of wetting on the nitrogen adsorption-desorption isotherm of a silica aerogel. M. F. L. Johnson and H. E. Ries, jr. Am Chem Soc J 72:4289 S '50

Energetics of the adsorption of aliphatic amines by silica gel. D. G. Dobay, Ying Fu and F. E. Bartell. Am Chem Soc J 73:308-14 Ja '51

New adsorption process recovers aromatics. flow sheet Pet Eng 23:C21-2+ Ag '51; Same. il Pet Refiner 30:227-8+ S '51

New look in silica gel plants. il Chem Eng 58:240 S '51

Recovery of nitrogen oxides by silica gel. E. G. Foster and F. Daniels. bibliog Ind & Eng Chem 43:986-92 Ap '51

Silica gel employed for separation of aromatics; Arosorb process. Chem & Eng N 29:3015-16 Jl 23 '51

Silica gel spurs silicates. il Chem Ind W 68:39-40 Ap 28 '51

Sorption hysteresis; some factors determining the size of the hysteresis loop. A. G. Foster. bibliog J Phys & Colloid Chem 55:638-43 My '51

Surface area of porous adsorbents. Ying Fu and F. E. Bartell. bibliog J Phys & Colloid Chem 55:662-75 My '51

SILICATES

Contributions to the hydrothermal chemistry of silicates; abstract. R. M. Barrer and E. A. D. White. Chem & Ind p 146-7 F 24 '51

Crystal chemistry in ceramics. W. E. Hauth, jr. diags Am Cer Soc Bul 30:5-7, 47-9, 76-7, 137-42 Ja 15-Ap 15 '51

Effect of silicates on digester corrosion. J. C. Hair and A. W. Duskin. Tappi 34:252-4 Je '51

Flame-fusion synthesis of several types of silicate structures. W. H. Bauer and I. Gordon. bibliog Am Cer Soc J 34:250-4 Ag 1 '51

Hydrothermal chemistry of silicates; synthetic lithium aluminosilicates. R. M. Barrer and E. A. D. White. Chem Soc J p 1267-78, pl 1-9 My '51

Molecular models of silicates for lecture demonstration. W. K. Noyce. bibliog il J Chem Educ 28:29-31 Ja '51

Surface structure and composition of colloidal siliceous matter. E. A. Hauser, D. S. le Beau and P. P. Pevear. bibliog il J Phys & Colloid Chem 55:68-79 Ja '51

System K_2O-MgO-SiO_2. E. W. Roedder. Am J Sci 249:81-130 F '51

Thermodynamics of iron-silicate slags; slags saturated with gamma iron. R. Schuhmann, jr. and P. J. Ensio. bibliog diags J Metals 3:Trans 401-11 My '51

Value of agents to control silicate swelling in acidizing. P. H. Cardwell. bibliog il World Oil 133:159-62+ Jl '51; Same abr. Oil & Gas J 50:134-7+ My 24 '51

See also

Albite
Alkali metal silicates
Akaline earth silicates
Allanite
Aluminum silicates
Calcium silicates
Fuller's earth
Garnet
Glass
Lithium aluminum silicates
Mica
Mullite
Sodium silicates
Talc
Vermiculite
Wollastonite

SILICIC acid

Experimental study of chromatography on silicic acid-celite; the applicability of the theory of chromatography. K. N. Trueblood and E. W. Malmberg. bibliog Am Chem Soc J 72:4112-24 S '50

Hydrogen bonding and relative adsorption affinities on silicic acid of certain derivatives of diphenylamine and N-ethylaniline. W. A. Schroeder. bibliog Am Chem Soc J 73:1122-7 Mr '51

SILICOLS

Analysis

Determination of silanols with the Karl Fischer reagent. H. Gilman and L. S. Miller. Am Chem Soc J 73:2367-8 My '51

SILICON

Achromatic doublet of silicon and germanium. R. G. Treuting. il Opt Soc Am J 41:454-6 Jl '51

Cleavage of the silicon-silicon bond in hexaphenyldisilane. H. Gilman and T. C. Wu. Am Chem Soc J 73:4031-3 Ag '51

Contribution to the theory of impurity centers in silicon. W. Baltensperger. Phys R 83:1055-6 S 1 '51

Crystal diodes. R. W. Douglas and E. G. James. bibliog diags Inst E E Proc 98 pt 3:157-68; Discussion. 177-83 My '51

Importance of silicon in niobium-bearing steels and alloys. H. J. Goldschmidt. il Metallurgia 43:157-60 Ap '51

Measurement of the elastic constants of silicon single crystals and their thermal coefficients. H. J. McSkimin and others. Phys R 83:1080 S 1 '51

Neutron capture γ-rays from fluorine, sodium, magnesium, aluminum, and silicon. B. B. Kinsey and others. bibliog diag Phys R 83:519-34 Ag 1 '51

Oxidation of silicon at high temperatures. M. B. Brodsky and D. Cubicciotti. bibliog Am Chem Soc J 73:3497-9 Jl '51

SILICON—*Continued*

Semiconductor diodes; characteristics of silicon and germanium crystal diodes, with dimensions and terminal data; tabulations and diagrams. Electronics 24:112-13 Mr '51

Silicon and its effect on cast iron. D. J. Reese. Foundry 79:182+ F '51

Silicon distribution between austenite and liquid metal in freezing hypo-eutectic cast iron. A. Hultgren and O. Carlsson. diag Iron & Steel Inst J 166:303-4 D '50

Solubility of oxygen in liquid iron containing silicon and manganese. D. C. Hilty and W. Crafts. bibliog il J Metals 188: Trans 425-36 F '50; Discussion. 188:Trans 1346-7 N '50

Temperature dependence of the energy gap in semiconductors. H. Y. Fan. bibliog Phys R 82:900-5 Je 15 '51

Thermal neutron absorption cross section of silicon. C. W. Tittle and H. Faul. Phys R 80:908 D 1 '50

Total neutron cross sections of magnesium and silicon. R. E. Fields and M. Walt. Phys R 83:479 Jl 15 '51

Analysis

Determination of traces of silicon in vanadium and uranium; spectrophotometric method. R. Guenther and R. H. Gale. bibliog Anal Chem 22:1510-11 D '50

Spectrographic determination of silicon in uranyl nitrate solutions. F. T. Birks. Anal Chem 23:793-4 My '51

Isotopes

Excited states of Si^{29} from an investigation of the $P^{31}(d,\alpha)Si^{29}$ and $Si^{28}(d,p)Si^{29}$ reactions. P. M. Endt and others. bibliog Phys R 83:491-4 Ag 1 '51

Masses of Al, Si, P, and S isotopes. H. T. Motz. diag Phys R 81:1061-2 Mr 15 '51

Microwave study of Ge, Si, and S masses. S. Geschwind and R. Gunther-Mohr. bibliog Phys R 81:882-3 Mr 1 '51

Proton-gamma-ray coincidence study of Si^{30} and B^{11}. H. H. Landon. diag Phys R 83: 1081-4 S 15 '51

Protons from the deuteron bombardment of enriched silicon and related atomic masses. H. T. Motz and R. F. Humphreys. bibliog diags Phys R 80:595-602 N 15 '50

SILICON alloys

Faults in the structure of copper-silicon alloys. C. S. Barrett. bibliog il J Metals 188:Trans 123-35 Ja '50; Discussion. 188: Trans 1358-60 N '50

Modification in aluminum-silicon alloys; abstract. B. M. Thall and B. Chalmers. Metal Prog 58:902+ D '50

Modification in aluminium-silicon alloys; abstract. B. M. Thall and B. Chalmers. Engineering 171:492-3 Ap 27 '51

Solubility relationships in the aluminium-sodium and aluminium-silicon-sodium systems; abstract and discussion. C. E. Ransley and H. Neufeld. Engineer 191:437-8 Ap 6 '51

See also

Iron alloys—Silicon alloys

SILICON bronze

Determination of silicon, copper and iron in silicon bronze hardeners. G. Norwitz and I. Norwitz. Metallurgia 42:405 D '50

SILICON carbide

Fluidization studies of solid particles. C. O. Miller and A. K. Logwinuk. bibliog il diags Ind & Eng Chem 43:1220-6 My '51

Graphical determination of the Fermi level in a simple impurity semiconductor. K. Lehovec and H. Kedesdy. J Ap Phys 22: 65-7 Ja '51

Injected light emission of silicon carbide crystals. K. Lehovec and others. il diags Phys R 83:603-7 Ag 1 '51

Mechanism of impurity band conduction in semiconductors. C. Erginsoy. bibliog Phys R 80:1104-5 D 15 '50

New modified SiC makes improved kiln furniture possible. C. G. Rose. il Cer Ind 56: 90 Mr '51

Probe new uses for tough abrasives. il Steel 128:79 Ap 9 '51

Pump parts last longer with silicon carbide. J. J. Burns. il Eng & Min J 151:94-5 D '50

There's big ceramic potential in the new, unusual silicon carbide known as Durhy. C. G. Rose. il Brick & Clay Rec 118:62-3 Mr '51

SILICON chlorides

Reaction of perfluoroalkyl chlorides with silicon. E. F. Izard and S. L. Kwolek. Am Chem Soc J 73:1156-8 Mr '51

SILICON compounds

Cryoscopic behavior of organic compounds in sulfuric acid; organosilicon compounds. H. H. Szmant, O. M. Devlin and G. A. Brost. Am Chem Soc J 73:3059-61 Jl '51

Effect of organosilicon substituents on the basic strength of amines. J. E. Noll, B. F. Daubert and J. L. Speier. Am Chem Soc J 73:3871-3 Ag '51

Electric moments of organosilicon compounds; fluorides and chlorides. C. Curran, R. M. Witucki and P. A. McCusker. bibliog Am Chem Soc J 72:4471-4 O '50

New reaction in organosilicon chemistry. L. H. Sommer and others. Am Chem Soc J 73:882 F '51

Organosilicon compounds; a conversion series for organosilicon halides, pseudohalides, and sulphides. C. Eaborn. Chem Soc J p3077-89 N '50

Organosilicon syntheses; abstract. L. H. Sommer. Chem & Eng N 29:3841 S 17 '51

Preparation and reactions of triphenylsilylpotassium. R. A. Benkeser and R. G. Severson. il Am Chem Soc J 73:1424-7 Ap '51

Preparation of aminomethylsilicon compounds and their derivatives. J. E. Noll, J. L. Speier and B. F. Daubert. Am Chem Soc J 73:3867-71 Ag '51

Some organosilicon compounds containing the *p*-dimethylaminophenyl group. H. Gilman, M. A. Plunkett and G. E. Dunn. Am Chem Soc J 73:1686-8 Ap '51

Studies in silico-organic compounds; products resulting from the action of benzylmagnesium chloride on triethoxysilane. A. L. Reilly and H. W. Post. Am Chem Soc J 73:365 F '51

Surface structure and composition of colloidal siliceous matter. E. A. Hauser, D. S. le Beau and P. P. Pevear. bibliog il J Phys & Colloid Chem 55:68-79 Ja '51

See also

Silane
Silica
Silicones
Siloxanes

SILICON halides

Organosilicon compounds; a conversion series for organosilicon halides, pseudohalides, and sulphides. C. Eaborn. Chem Soc J p3077-89 N '50

Water repellent fabrics; solutions of organosilicon halides at low temperatures; patent. Am Dyestuff Rep 40:105 F 5 '51

SILICON monoxide. See Silicon oxide

SILICON oxide

Preparation, structure, and applications of thin films of silicon monoxide and titanium dioxide. G. Hass. bibliog il diags Am Cer Soc J 33:353-60 D 1 '50

Silicon monoxide in the melting of acid steel; abstract. P. V. Gel'd and others. Metal Prog 59:552+ Ap '51

SILICON steel

Measurement of interlaminar resistance of varnish-insulated silicon-steel sheet for large electrical machines. E. D. Taylor. diags Inst E E Proc 98 pt 2:377-85; Discussion. 385-8 Je '51

Selecting and processing steels for lamination dies. L. F. Spencer. il Tool Eng 26: 25-7 My '51

SILICON tetrachloride

Interaction of alcohols with silicon tetrachloride. W. Gerrard and A. H. Woodhead. Chem Soc J p519-22 F '51

SILICON tetrafluoride

Fluoride scrubbers. A. B. Pettit. diags Chem Eng 58:250+ Ag '51

Force fields of carbon and silicon tetrafluorides. J. W. Linnett and D. F. Heath. bibliog J Chem Phys 19:801-2 Je '51

Infrared and Raman spectra of SiF_4. E. A. Jones and others. J Chem Phys 19:242-5 F '51

SILICONES

Eight liquid phases in stable equilibrium. S. L. Kittsley and H. A. Goeden. il Am Chem Soc J 72:4841-2 O '50

SILICONES—*Continued*
Electrical and allied developments during 1950; chemical; silicones for electric equipment. G. Bartlett. il Gen Elec R 54:58-9 Ja '51
Electron diffraction by transmission through thin liquid films. C. W. Lufcy and others. bibliog il J Chem Phys 19:217-19 F '51
Engineering applications of silicones. I. W. Hutchison. il Tool Eng 26:38-40 Mr '51; Excerpts. Mech Eng 73:508 Je '51
Engineering properties of silicone rubbers. P. C. Servais. il Mech Eng 73:639-43 Ag '51
How silicones serve industry. il Mill & Factory 49:123-6 Jl '51
Like a duck's back; water-repellent finishes for masonry. il Chem W 69:35 S 29 '51
Molding the specialized plastics; silicone rubber. P. C. Servais and D. C. Youngs. il Mod Plastics 28:83-4 D '50
New sell in polishes. il Chem Ind W 68:16 Mr 10 '51
New silicone elastomer retains properties over wide temperature range. il Materials & Methods 33:67-8 Ja '51
Newest in silicones; silicone-alkyd coating resins. il Chem Eng 58:162-3 Ap '51
Plaskon eyes silicones. il Bsns W p68+ F 3 '51
Properties and molecular weights of some silicone polymers. E. G. Rochow and T. G. Rochow. il J Phys & Colloid Chem 55:9-16 Ja '51
Properties and performance of silicone lubricants. G. Grant, 3d. and C. C. Currie. bibliog Mech Eng 73:311-16 Ap '51
Silicone finishes. il Chem Ind W 68:18-19 Ja 20 '51
Silicone varnishes; Overseas Research reports. Chem Age (Lond) 65:160 Ag 4 '51
Silicones can mean more production, less maintenance. il Steel 128:87-90 Mr 5 '51
Silicones in chemical specialties. W. J. Dugan. il Soap & San Chem 27:114-16+ Jl '51
Silicones in tv. M. C. Hommel. il Tv Eng 2:22-3 Jl '51
Silicones speed, sanitize processes. T. A. Kauppi. il Food Ind 23:44-6+ Ja '51
Uses of commercial silicone products. R. O. Sauer. il Gen Elec R 54:39-44 Je '51

SILICOSIS
Dust study of the building brick industry in Indiana. J. F. Keppler and H. E. Bumsted. A M A Archives Ind Hygiene & Occup Med 2:735-41 D '50
Piezo-electric disease, a new theory of silicosis. Can Min J 72:64-5 Ja '51
Report on a country-wide study of silicosis in the metal mines of Japan. M. Yamamoto. A M A Archives Ind Hygiene & Occup Med 3:339-49 Ap '51
Two new clinical signs in silicosis. M. Maulini. Ind Med 20:211 My '51

SILK
New microscopic tests for the identification of damage to wool and silk. E. Kornreich. bibliog il Textile Inst J Trans 41:T321-8; 42:T145-6 Ag '50, Mr '51
Silk, an historical survey with special reference to the past century. F. O. Howitt. il Textile Inst J 42:P339-58; Discussion. P358-60 Ag '51
Some aspects of the drying and heating of textiles; modifications produced by thermal treatments. J. M. Preston and others. bibliog Soc Dyers & Col J 67:169-76 My '51
Technical possibilities for a regenerated silk. H. Wakeham and others. bibliog il diag Textile Res J 21:110-15 F '51
That old has-been, silk. il Rayon 31:29-30+ D '50; 32:42-4 Ja '51

SILK fabrics
Design in silk. A. B. Hunter. il Textile Inst J 42:P590-604 Ag '51

SILK fibroin. See Fibroin

SILK manufacture
Chemicals you live by in the textile industry; silk. L. P. Seyb. Rayon 31:75+ N '50
Exhaustion in the silk soaking bath. F. Bryant. Textile Res J 21:164-5 Mr '51
Foam method for degumming raw silk. F. Bryant. bibliog Textile Res J 20:735-6 O '50
Silk has some headaches for mill men. il Rayon 32:42-3 Ja '51

SILK screen printing
Checklist for screen printers. T. N. Patrick. il Textile World 101:224+ S '51
New color for advertisers; Day-Glo daylight fluorescent colors. L. Lapsley. il Adv Agency 44:76+ Mr '51
Silk screen printing on plastics. F. Hicks. diag Mod Plastics 28:194+ Ap '51

SILK trade
Fall buying expected to end silk decline. Barron's 31:19 Je 4 '51
More silk for 1951 drives price down. Barron's 31:35-6 Ap 9 '51
Silk, an historical survey with special reference to the past century. F. O. Howitt. il Textile Inst J 42:P339-58; Discussion. P358-60 Ag '51
That old has-been, silk. il Rayon 31:29-30+ D '50; 32:42-4 Ja '51

France

France still leading producer of fine silk fabrics. For Comm W 44:28 S 24 '51

Great Britain

Design and the silk centre. E. W. Goodale. Textile Inst J 42:P857-66 S '51

Italy

Situation in Italy's silk and synthetics industry. For Comm W 45:19 O 15 '51

SILK weaving
Design in silk. A. B. Hunter. il Textile Inst J 42:P590-604 Ag '51

SILKWORMS
Thousand dollar prize for silkworm research to C. M. Williams. Science 113:24 Ja 5 '51

SILLIMANITE
Heat capacities at low temperatures and entropies at 298.16°K. of andalusite, kyanite, and sillimanite. S. S. Todd. bibliog Am Chem Soc J 72:4742-3 O '50

SILLS. See Rocks, Igneous

SILOXANES
Base-catalyzed conversion of triphenylfluorosilane and triphenylsilanol to hexaphenyldisiloxane. H. H. Szmant and G. A. Brost. Am Chem Soc J 72:5763 D '50
Boundary lubricating characteristics of organopolysiloxanes. C. C. Currie and M. C. Hommel. bibliog diag Ind & Eng Chem 42:2452-6 D '50
Chronic toxicity of the methylpolysiloxane DC antifoam A in dogs. G. P. Child and others. A M A Archives Ind Hygiene & Occup Med 3:479-82 My '51
Effect of pressure on the melting of several methyl siloxanes. P. W. Bridgman. diag J Chem Phys 19:203-7 F '51
Flow characteristics of organopolysiloxane fluids and greases. C. C. Currie and B. F. Smith. bibliog Ind & Eng Chem 42:2457-62 D '50
Thermal and oxidation stability of polymethylphenylsiloxanes. C. M. Murphy, C. E. Saunders and D. C. Smith. bibliog Ind & Eng Chem 42:2462-8 D '50

SILT
Adsorption of *E. coli* on river and estuarine silts. C. M. Weiss. bibliog Sewage & Ind Wastes 23:227-37 F '51
Constant-factor method aids computation of reservoir sediment. G. N. Burrell. Civil Eng 21:413-14 Jl '51
Economic effects of reservoir sedimentation. W. E. Corfitzen. Am Soc C E Proc 76 [no 30]:1-6 Ag '50; Discussion. 77 [no D-30]:1-5 S '51
Retrogression on the lower Colorado river after 1935. J. W. Stanley. map Am Soc C E Proc 76 [no 28]:1-12 Ag '50; Discussion. 77[no D-28]:1-3 My '51
Sedimentation at hydro reservoirs. E. K. Nelson. il Pub Util 46:792-803 D 7 '50
Sedimentation studies at Conchas reservoir in New Mexico. D. C. Bondurant. Am Soc C E Proc 76 [no 29]:1-10 Ag '50; Discussion. 77 [no D-29]:1-3 Je '51
Turbulent transfer mechanism and suspended sediment in closed channels. H. M. Ismail. bibliog diags Am Soc C E Proc 77 [no 56]: 1-26 F '51

SILVER

Adsorption of silver ion by sphalerite. A. M. Gaudin and others. bibliog il Min Eng 3:Trans 780-4 S '51

Arcing at electrical contacts on closure; dependence upon surface conditions and circuit parameters. L. H. Germer. il J Ap Phys 22:955-64 Jl '51

Decomposition of a solid solution of silver in aluminum; abstract. N. V. Ageev and M. A. Skryabina. Light Metal Age 9:34 Ap '51

Dipositive silver as an intermediate in coulometric analysis. D. J. Meier and E. H. Swift. bibliog Am Chem Soc J 72:5331-2 N '50

Effect of phase changes in white light interferometry. L. G. Schulz. bibliog diags Opt Soc Am J 41:261-4 Ap '51

Electrode reactions in the glow discharge. F. E. Haworth. bibliog il J Ap Phys 22:606-9 My '51

Experimental study of the change in phase accompanying reflection of light from thin evaporated films. L. G. Schulz and E. J. Scheibner. bibliog diags Opt Soc Am J 40:761-5 N '50

Inhibition of urease by silver ions. J. F. Ambrose, G. B. Kistiakowsky and A. G. Kridl. bibliog Am Chem Soc J 73:1232-6 Mr '51

Lattice and grain boundary self-diffusion in silver. R. E. Hoffman and D. Turnbull. bibliog il diag J Ap Phys 22:634-9 My '51

Mechanism of the reaction between silver and sulfur in mineral oil. R. T. Foley and others. bibliog J Phys & Colloid Chem 54:1281-92 D '50

Photo-disintegration of silver and aluminum. B. C. Diven and G. M. Almy. diags Phys R 80:407-14 N 1 '50

Potential-pH diagram of silver. P. Delahay and others. bibliog Electrochem Soc J 98:65-7 F '51

Preparation of silver colloid. G. Matsumura. Am Chem Soc J 73:2375 My '51

Radiometric titration with radioactive silver as end-point indicator. A. Langer. bibliog diags Anal Chem 22:1288-90 O '50

Rate of dissolution of silver in aqueous ceric sulfate solutions. H. W. Salzberg and others. bibliog Electrochem Soc J 98:31-5 Ja '51

Re-solution of precipitated silver in copper-silver alloys. H. Margolin and W. R. Hibbard, jr. il J Metals 3:Trans 247 Mr '51

Self-diffusion of silver and mercury in Ag_2HgI_4. K. E. Zimen, G. Johansson and M. Hillert. Chem Soc J supp no 2:S392-4 '49

Silver as an activator of halophosphate phosphors. P. W. Ranby. Electrochem Soc J 98:299-300 Jl '51

Structure of metal deposits obtained by electrochemical displacement upon zinc. M. E. Straumanis and C. C. Fang. bibliog il diag Electrochem Soc J 98:9-13 Ja '51

Who's right about silver; abstract. D. Hinshaw. Min Cong J 36:88 O '50

See also
Argentometry

Analysis

Determination of lead as basic lead chromate and its application to the separation of lead from silver. F. C. Guthrie and J. T. Nance. bibliog J Ap Chem 1:109-11 Mr '51

Determination of small amounts of silver in lubricating oils by amperometric and gravimetric methods. T. D. Parks and L. Lykken. Anal Chem 22:1505-7 D '50

Industrial applications

Heavy silver plating of bearings. F. C. Mesle. il diags Metal Finishing 49:103-4+ Jl '51

See also
Silver solder

Isotopes

Beta-decay of 7.5-day Ag^{111} to a 0.1-microsecond excited state of Cd^{111}. D. Engelkemeir. Phys R 82:552-3 My 15 '51

Gamma-rays from Ag^{110}. J. M. Cork and others. bibliog Phys R 80:286-7 O 15 '50

Nuclear excitation of Ag^{107} and Ag^{109} by X-rays. E. J. Wolicki and others. bibliog Phys R 82:486-8 My 15 '51

Precipitate-ion exchange reactions using radiosilver. G. K. Schweitzer and J. W. Nehls. bibliog diag J Phys & Colloid Chem 55:215-21 F '51

Radiations of Ag^{110}. M. Goodrich. Phys R 82:759-60 Je 1 '51

Radioactive isotopes of Ag and Cd. J. R. Gum and M. L. Pool. bibliog Phys R 80:315-17 N 1 '50

Radioactivity of Ag^{111}, Cd^{111}, In^{111}, and Sn^{111}. C. L. McGinnis. bibliog Phys R 81:734-40 Mr 1 '51

24-minute radiations from Ag^{106}. W. L. Bendel and others. bibliog Phys R 83:677 Ag 1 '51

Prices

Nonferrous prices; tabulation. Steel 128:129 Ja 1 '51

Silver demand pushes market near U.S. peg. Barron's 31:41-2 Ja 22 '51; Discussion. F. H. Wemple. 31:47 F 19 '51

Silver price appears to have hit ceiling. W. F. Boericke. Barron's 31:21 Jl 30 '51

SILVER alloys

Effect of ternary additions on the age-hardening of a copper-silver alloy. H. Margolin and W. R. Hibbard, jr. bibliog il J Metals 191:Trans 174-80 F '51

Re-solution of precipitated silver in copper-silver alloys. H. Margolin and W. R. Hibbard, jr. il J Metals 3:Trans 247 Mr '51

X-ray measurement of long-range order in β-AgZn. L. Muldawer. J Ap Phys 22:663-5 My '51

X-ray measurement of short range order in Ag-Au. N. Norman and B. E. Warren. maps J Ap Phys 22:483-6 Ap '51

See also
Silver solder

SILVER as money

Silver, 1950. D. H. Leavens. Eng & Min J 152:78-9 F '51

SILVER brazing. See Silver solder

SILVER bromide

High temperature specific heat of AgBr. R. W. Christy and A. W. Lawson. bibliog J Chem Phys 19:517 Ap '51

Lattice defects in silver bromide. C. R. Berry. bibliog Phys R 82:422-3 My 1 '51

Lattice defects in silver bromide. H. Kanzaki. bibliog Phys R 81:884 Mr 1 '51

Precipitate-ion exchange reactions using radiosilver. G. K. Schweitzer and J. W. Nehls. bibliog diag J Phys & Colloid Chem 55:215-21 F '51

Silver bromide crystal counters. K. A. Yamakawa. bibliog Phys R 82:522-6 My 15 '51

SILVER chloride

Five-inch molded silver chloride correctors for a Kellner-Schmidt system. J. C. Evans and T. A. King. il diag Opt Soc Am J 41:510-12 Ag '51

Mobility of electrons in silver chloride. J. R. Haynes and W. Shockley. bibliog il diags Phys R 82:935-43 Je 15 '51

Precipitate-ion exchange reactions using radiosilver. G. K. Schweitzer and J. W. Nehls. bibliog diag J Phys & Colloid Chem 55:215-21 F '51

Thermogalvanic potentials; the application of thermodynamics to thermogalvanic data (a study of the silver chloride electrode from 25° to 90°C). H. Levin and C. F. Bonilla. bibliog diag Electrochem Soc J 98:388-94 O '51

SILVER compounds

Cation complexes of compounds containing carbon-carbon double bonds; further studies on the argentation of substituted benzenes. L. J. Andrews and R. M. Keefer. bibliog Am Chem Soc J 72:5034-7 N '50

Cation-exchange studies with the colloidal clay salts of silver. S. K. Mukherjee and S. Ghosh. bibliog J Phys & Colloid Chem 54:1110-21 N '50

Fluorocarbon chemistry; the preparation and some reactions of silver undecafluorocyclohexanecarboxylate. T. J. Brice and J. H. Simons. Am Chem Soc J 73:4016-17 Ag '51

Perfluoroalkyl halides prepared from silver perfluoro-fatty acid salts; perfluoroalkyl iodides. M. Hauptschein and A. V. Grosse. Am Chem Soc J 73:2461-3 Je '51

SILVER compounds—*Continued*

Study of the action of bromine on the silver salts of organic acids. J. W. H. Oldham. Chem Soc J p 100-8 Ja '50

Ternary systems $AgBrO_3$-$KBrO_3$-H_2O and $AgClO_3$-$NaClO_3$-H_2O at 25°. J. E. Ricci and J. A. Offenbach. Am Chem Soc J 73:1597-9 Ap '51

SILVER cyanide

Precipitate-ion exchange reactions using radiosilver. G. K. Schweitzer and J. W. Nehls. bibliog diag J Phys & Colloid Chem 55:215-21 F '51

SILVER dithizonate

Spectrophotometric studies of dithizone and some dithizonates; molecular extinction coefficient of dithizone in carbon tetrachloride. S. S. Cooper and Sister M. L. Sullivan. bibliog Anal Chem 23:613-18 Ap '51

SILVER halides

Coagulation effects of thorium nitrate on aqueous sols of silver halides in statu nascendi. B. Težak, E. Matijević and K. Schulz. bibliog Am Chem Soc J 73:1602-9 Ap '51

Energy transfer in the photo-sensitization of silver halide photographic emulsions; optical sensitization, supersensitization, and antisensitization. W. West and B. H. Carroll. bibliog J Chem Phys 19:417-27 Ap '51

Paucity of quanta rendering a silver halide grain developable; uniqueness of quantic representation of a simple sensitometric curve. L. Silberstein. Franklin Inst J 251: 263-8 F '51

See also

Silver bromide
Silver chloride
Silver iodide

SILVER industry and trade

Demand for silver. Economist 160:222 Ja 27 '51

Sellers' strike in silver. Economist 160:95 Ja 13 '51

Silver marks time. H. M. Bratter. Comm & Fin Chr 174:504+ Ag 9 '51; Same. Eng & Min J 152:65-7 Ag '51

Silver, 1950. D. H. Leavens. Eng & Min J 152:78-9 F '51

Silver, 1950. P. McCarran. il Min Cong J 37: 104-5 F '51

Statistics

Annual bullion review, 1950. Can Min J 72: 80-2 My '51

Silver production, 1943-1950; tabulation. Steel 128:133 Ja 1 '51

SILVER iodide

Rainmaking; new evidence; abstract. Chem Eng 58:258+ Ag '51

SILVER metallurgy

Experimental treatment of oxidized lead-silver ore from Eureka, Nev. A. L. Engel. flow sheets U S Bur Mines Rep of Invest 4762:1-9 '51

Separation of precious metals from anode slimes by flotation. R. T. Hukki and U. Runolinna. flow sheets Min Eng 187:Trans 1131-2 N '50

Simple treatment methods for oxide gold and silver ores. A. L. Engel. U S Bur Mines Rep of Invest 4758:1-14 '51

Simple treatment methods for sulfide gold and silver ores. A. L. Engel. U S Bur Mines Rep of Invest 4790:1-17 '51

SILVER mines and mining

Idaho

Shallow expressions of silver belt ore shoots Coeur d'Alene district, Idaho. R. E. Sorenson. bibliog maps diags Min Eng 3: Trans 605-11 Jl '51

Mexico

Tectonic analysis of a mining district; Pachuca, Mexico. E. Wisser. bibliog maps diags Econ Geol 46:459-77 Ag '51

Ontario

Cobalt camp comes back. G. P. Lutjen. il diag Eng & Min J 151:86-91 N '50

Silver in Ontario. J. A. Reid. bibliog il Can Min J 71:129-33 N '50; 72:52-3 Ja '51

SILVER molybdate

Aqueous solubility of silver molybdate and the ternary systems AG_2MoO_4-$AgNO_3$-H_2O and Ag_2MoO_4-Na_2MoO_4-H_2O at 25°. J. E. Ricci and W. F. Linke. Am Chem Soc J 73:3601-3 Ag '51

SILVER nitrate

Conductances of potassium iodide, silver nitrate and some alkaline earth halides in methanol at 20° and 0°. L. R. Dawson and W. M. Keely. Am Chem Soc J 73:3783-5 Ag '51

Diffusion coefficient of silver nitrate in dilute aqueous solution at 25°. H. S. Harned and C. L. Hildreth, jr. Am Chem Soc J 73: 3292-3 Jl '51

Rapid determination of tetraethyllead in aviation gasoline. V. A. Smith and others. bibliog Anal Chem 22:1230-1 O '50

Silver nitrate as a test for ortho and para dihydric phenols. B. S. Wildi. Science 113: 188 F 16 '51

Use of silver nitrate and sodium dichromate in the detection of purines by paper partition chromatography. R. M. Reguera and I. Asimov. Am Chem Soc J 72:5781-2 D '50

Physiological effect

Effects of various analgesics on inflammatory edema resulting from silver nitrate injection. A. La Belle and J. A. Tornaben. Science 114:187-8 Ag 17 '51

SILVER ores

Geology of the Broken Hill ore deposit, Broken Hill, N.S.W., Australia. J. K. Gustafson and others. maps diags Geol Soc Bul 61:1369-437, pl 1-8 bibliog(p 1436-7) D '50

Shallow expressions of silver belt ore shoots Coeur d'Alene district, Idaho. R. E. Sorenson. bibliog maps diags Min Eng 3:Trans 605-11 Jl '51

Significant replacement textures at Cobalt and South Lorraine, Ontario, Canada. E. S. Bastin. bibliog Econ Geol 45:808-17, pl 1-4 D '50

SILVER oxide

Periodic acid and periodates; the system silver oxide-periodic acid-water at 35°C. P. P. Gyani. bibliog diags J Phys & Colloid Chem 55:1111-19 O '51

Studies on lignin and related products; oxidation of basic calcium lignosulphonate with silver oxide and alkali. I. A. Pearl and D. L. Beyer. bibliog Tappi 33:508-12 O '50

SILVER perchlorate

Structure of the silver perchlorate-benzene complex. R. E. Rundle and J. H. Goring. diag Am Chem Soc J 72:5337 N '50

SILVER periodates

Periodic acid and periodates; the system silver oxide-periodic acid-water at 35°C. P. P. Gyani. bibliog diags J Phys & Colloid Chem 55:1111-19 O '51

SILVER picrate

Action of silver picrate on alkyl halides. G. E. Philbrook and D. J. Massey. bibliog Am Chem Soc J 73:3454-5 Jl '51

SILVER plating

Heavy silver plating of bearings. F. C. Mesle. il diags Metal Finishing 49:103-4+ Jl '51

Miracle instant silver plater. Consumers Res Bul 28:7 Jl '51

Silver plating on inconel. L. J. Cook. R Sci Instr 22:542 Jl '51

SILVER reductors. See Reductors

SILVER solder

Assemblies economically produced by brazing and soldering; Technical metal processing inc. N. M. Salkover. il Steel 129:69-70 Ag 20 '51

Automatic gas soldering gives better, cheaper joints. il Iron Age 168:130 S 20 '51

Induction solders to size. C. H. Yetman. il diags Am Mach 95:102-3 Je 25 '51

Notch-coil brazing rings boost production. il Iron Age 167:102 My 24 '51

Silver alloy brazing a versatile joining method. A. S. Cross, jr. il diags Materials & Methods 33:82-5 Ap '51

Silver brazing eases shotgun wedding. K. Ireland. il Am Mach 95:164-5 F 19 '51

Silver brazing of nickel alloys; reference book sheet. diags Am Mach 95:169, 171, 173 S 17 '51

SILVER solder—*Continued*

Silver brazing used on billion-volt machine; cosmotron, at the Brookhaven national lab. E. W. Moles. il diag Welding J 30:456-7 My '51

Solder and brazing materials; tabulation; engineering file facts. Materials & Methods 33: 97+ F '51

SILVER sulfate

Determination of oxygen-consumed values of organic wastes; a comparative study of methods. W. A. Moore, F. J. Ludzack and C. C. Ruchhoft. bibliog Anal Chem 23:1297-300 S '51

Systems Ag_2SO_4-$BeSO_4$-H_2O and Ag_2SO_4-$MgSO_4$-H_2O at 35°. C. A. Orlick and E. L. Simons. Am Chem Soc J 73:4325 S '51

Systems Ag_2SO_4-Rb_2SO_4-H_2O and Ag_2SO_4-Cs_2SO_4-H_2O at 25°. W. C. von Dohlen and E. L. Simons. Am Chem Soc J 73:461-2 Ja '51

SILVER sulfides

Thermodynamic properties of silver sulfide. J. R. Goates and others. Am Chem Soc J 73:707-8 F '51

SILVERING

Method of determining the thickness of silver deposited on glass. L. S. Nelson. J Chem Educ 28:103 F '51

Preparation of pinhole-free silver mirrors. E. Bovey and P. Unger. J Sci Instr 28: 68-70 Mr '51

Silvering plastics. I. Cross. il diags Metal Finishing 48:77-81 D '50

SILVERMAN, Alexander, 1881-

Ends 46 years of teaching. bibliog por Am Cer Soc Bul 30:246 Jl 15 '51

SILVERWARE

How Esterling men sell four to eight out of every ten calls. J. Luhn. il Sales Management 66:42-4 Ap 15 '51

Sources of information for silverware. M. L. Mayer and others. J Retailing 26:128-33 Fall '50

Tarnish-resistant treatments for silverware. Metal Finishing 49:59-60 Ag '51

Advertising

New style item breaks national promotion this week as show goes on tour; Towle silverware. il Ptr Ink 235:30 Ap 6 '51

SILVEY, Ted F.

Labor technicians. por Fortune 43:42 F '51

SIMILARITY, Theory of

Combined supersonic-hypersonic similarity rule. M. D. Van Dyke. bibliog diags J Aeronautical Sci 18:499-500 Jl '51

Similarity laws for slender bodies of revolution in hypersonic flows. S. E. Neice and D. M. Ehret. bibliog diags J Aeronautical Sci 18:527-30+ Ag '51

SIMMONS company

Sales, earnings stage strong comeback; new sales record expected this year. W. Wells. Barron's 30:16 O 23 '50

Security I like best. L. Klybert. Comm & Fin Chr 174:594+ Ag 16 '51

SIMON, Bernie

Making music sales go round and round. pors Bsns W p 106+ O 6 '51

SIMONDS saw and steel company

Five companies with big order backlogs; with comparative balance sheet items. Mag of Wall St 88:304 Je 16 '51

Net of $9 per share seen. Barron's 31:21 My 28 '51

SIMPLIFICATION in industry

Eliminate? simplify? who, me? survey finds products line reduction lagging. il Mod Ind 22:52-4 Jl '51

Simplification was big question before British engineers in 1950. Mech Eng 73:82 Ja '51

See also

Standardization

SIMS, Clarence Edgar, 1893-

Recipient, Albert Sauveur award, 1950. por Metal Prog 59:354-5 Mr 51

SIMULTANEOUS death act. See Survivorship, Presumption of

SINCLAIR oil corporation

Companies that should maintain their dividends in 1951; with comparative balance sheet items. Mag of Wall St 88:356 Je 30 '51

Organizes large subsidiary to acquire pipe line properties. Comm & Fin Chr 173:107 Ja 8 '51

Sinclair aiming at more crude production. Barron's 30:16 N 27 '50

SINGEING (textiles)

High-speed singeing gives smooth, clear finish. E. H. Helliwell. il Textile World 101:147 Je '51

SINGER, William A.

Portrait. Fortune 43:97 Je '51

SINGER sewing machine company

Old hand at demonstration shows off new product; Singer to push new vacuum cleaner. M. Beuick. il Ptr Ink 237:46-8 O 12 '51

Singer sews around the world. T. Mahoney. il Adv Agency 44:72-3+ Ja '51

SINGING

Study of the vowel formants of well-known male operatic singers. C. S. McGinnis and others. diag Acoustical Soc Am J 23:440-6 Jl '51

SINGLE rail railroads. See Railroads, Single rail

SINK and float process

Coal sampling by large-increment weights. B. A. Landry and W. W. Anderson. A S M E Trans 73:989-95; Discussion. 995-6 O '51

Comparative results with galena and ferrosilicon at Mascot. D. B. Grove and others. flow sheets il diags Min Eng 3:Trans 691-8 Ag '51; Discussion. 3:Trans 986-7 N '51

Diamond recovery by heavy-media; abstract. I. F. Cairns. Min Cong J 36:70-1 O '50

Heavy-media plant for profitable bank reclamation. il diag Coal Age 56:96-9 S '51

Heavy media process moves into new fields. Bsns W p60 N 18 '50

Heavy-media separation. flow sheet il diag Am Cer Soc Bul 30:63-6 Mr 15 '51

Heavy-media separation increases brown ore reserves; illustrations with text. Min Eng 187:1236-7 D '50

How new units, new uses widen scope of sink-float. il diags Eng & Min J 152:130-3 Jl '51

How to simplify testing for sink-float separation. S. E. Erickson. il diags Eng & Min J 152:88-9 Je '51

Operating factors in heavy-media processing. L. J. Erck. il diag Min Cong J 37:18-20+ Ja; 88-91 Ap '51

SINKS

Rating

Kitchen sinks. il plan Consumers Res Bul 27:8-11 My '51

SINTERING

Adsorption studies of two silica gels and a gel-type catalyst. R. A. Van Nordstrand, W. E. Kreger and H. E. Ries, jr. bibliog J Phys & Colloid Chem 55:621-38 My '51

Behavior of pores during the sintering of copper compacts. F. N. Rhines and others. bibliog il diags J Metals 188:Trans 378-88 F '50; Discussion. 188:Trans 1372-3 N '50

Blast furnace sintering practice surveyed. R. E. Powers. Steel 128:95+ F 5 '51

Diffusion phenomena occuring during sintering. B. H. Alexander. J Metals 191:95 F '51

Effect of sinter on blast furnace production as determined by analysis of daily operating data. W. E. Marshall. Blast F & Steel Pl 39:661-4 Je '51; Excerpt. Steel 128:97 My 28 '51; Abstracts. Iron & Steel Eng 28: 124 Ag '51; Metal Prog 60:162+ O '51

Improving current practice in blast furnace sintering. R. E. Powers. Iron & Steel Eng 28:120-1 Ag '51; Excerpt. Steel 128:94+ My 28 '51

Investigation of the effects of controlled variables on sinter quality. E. W. Voice and others. 2pls diag Iron & Steel Inst J 167:393-9 Ap '51

Laboratory studies on iron ore sintering and testing. F. M. Hamilton and H. F. Ameen. bibliog il diags Min Eng 187:Trans 1275-82 D '50

Manufacture of sintered alumina ware. R. Scott. il diags Metallurgia 44:50-2 Jl '51

Produces 45 cubic yards of lightweight aggregate per hour; Johnson concrete co., Salisbury, N.C.; illustrations with text. Brick & Clay Rec 118:34-6 Je '51

SINTERING—*Continued*

Progress in the manufacture of lightweight aggregates by the sintering process; abstract. R. W. Hyde. Rock Prod 54:147 Mr '51

Rate of sintering of copper under a dead load. F. N. Rhines and H. S. Cannon. il J Metals 3:Trans 529-30 Jl '51

Recent and prospective sinter plant improvements. A. A. Nilsen. Iron & Steel Eng 28: 122-4 Ag '51

Screening and charging practice increases furnace yield; Bethlehem steel co. A. H. Fosdick. il Steel 128:86+ Je 18 '51

Sinter making at Appleby-Frodingham. G. D. Elliot and N. D. Macdonald. bibliog pl diags Iron & Steel Inst J 167:261-72 Mr '51

Sintered oxide crucibles withstand temperatures exceeding 2000° centigrade. il Brick & Clay Rec 118:72-3 Ap '51

Sintering clay into lightweight aggregates; Dwight-Lloyd sintering process. W. B. Lenhart. il plan Rock Prod 54:108-11 Ag '51

Sintering helps ore reserves live longer. il Iron Age 168:87 Ag 23 '51

Sintering nonferrous metals. A. A. Nilsen and W. J. Urban. il J Metals 3:311-12 Ap '51

Sintering of Northamptonshire iron ore; a production-plant study of factors affecting sinter quality. D. W. Gillings and others. il diags Iron & Steel Inst J 167:400-39 Ap '51

Sintering practice at Josephtown smelter. H. K. Najarian and others. diags J Metals 191: Trans 116-19 F '51; Discussion. il 3:Trans 1045 N '51

Sintering reactions in MgO-TiC mixtures. H. F. G. Ueltz. bibliog diag Am Cer Soc J 33:340-4 N 1 50

Surface diffusion in sintering of spheres on planes. P. Schwed. diag J Metals 3:Trans 245-6 Mr '51

Testing of sinter. E. G. Hill and R. E. Powers. Iron & Steel Eng 28:121-2 Ag '51; Abstract. Metal Prog 60:116+ D '51

SINTERING machines

World's largest sintering plant. W. J. Urban. il Blast F & Steel Pl 39:339-42 Mr '51

SIPHONS

Soap Lake siphon of the Columbia River project, Washington, U.S.A. il Engineering 171:33-4, pl 2 Ja 12 '51

SIRENS. See Whistles

SIRUPS

Effects of nonsugars on solubility of sucrose in sugar beet sirups. H. W. Dahlberg and A. N. Bennett. bibliog Ind & Eng Chem 43: 660-2 Mr '51

Pure syrup from candy trims. W. H. Childs; V. R. Ciccone. il diag Food Eng 23: 79-82 Jl '51

See also

Corn sirup

Sugar, Liquid

SISAL estates, limited

Statement by the chairman. E. F. Hitchcock. Economist 160:403-5 F 17 '51

SISAL hemp

Mechanics of elastic performance of textile materials; mechanical properties of hard fibers with reference to their use in cordage structures. E. R. Kaswell and M. M. Platt. bibliog Textile Res J 21:263-76 My '51

Sisal shortage. Economist 160:398 F 17 '51

X-ray study of the transition from water-cellulose to cellulose II in ramie, jute and sisal. R. R. Mukherjee and H. J. Woods. Textile Inst J Trans 42:T309-13 Jl-Ag '51

SITOSTEROLS

Sitosterols from corn gluten. D. M. Rathmann and L. R. Morrow. bibliog Am Chem Soc J 72:5647-50 D '50

SIWALIK series

Plio-pleistocene boundary in the Siwalik series of India and in Java. D. A. Hooijer and E. H. Colbert. bibliog Am J Sci 249: 533-8 Jl '51

SIZE (biology)

Tissue respiration and body size. L. von Bertalanffy and W. J. Pirozynski. bibliog Science 113:599-600 My 25 '51; Discussion. K. Schmidt-Nielsen. 114:306-7; Reply. 307 S 21 '51

SIZING (textiles)

Desizing and sizing; abstract. I. Teplitz. Am Dyestuff Rep 39:787 N 13 '50

Protection of paper and textile products from insect damage. S. S. Block. bibliog il Ind & Eng Chem 43:1558-63 Jl '51

Sizing and desizing of synthetics; abstract. C. F. Bishop. Am Dyestuff Rep 40:448 Jl 9 '51

Slasher drive improves beam uniformity. E. H. Helliwell. il diags Textile World 101: 110-11 Ap '51

Warp sizing machine. Elec R (Lond) 148:1336 Je 22 '51; Electrician 146:1866 Je 1 '51

Weavers' thread sizing; variable-speed drives. il Elec R (Lond) 148:277-80 F 9 '51

Why homogenization helps slashing and weaving. J. H. Kennedy. il diags Textile World 101:130-1+ My '51

Why you should worry about size viscosity. F. Williams. il Textile World 101:126+ Ja '51; Discussion. W. C. Black. 101:146+ Ap '51

See also

Cotton sizing	Nylon sizing
Desizing (textiles)	Rayon sizing

SIZING of paper. See Paper sizing

SKATING rinks

Cleans skating rinks faster; broom and snow plow blade on motor truck. J. D. Gray. il Pub Works 82:36 F '51

Corrosion of ice rink piping. F. W. Knowles. il Refrig Eng 59:370-1 Ap '51

Welding takes spotlight on arena floor construction. il Constr Methods 32:54-7 D '50

SKILES oil corporation

Stocks offered. Comm & Fin Chr 172:2028 N 27 '50

SKIN

Appraisal of detergency through radioactive isotopes. C. P. McCord and R. L. Robertson. il Ind Med 19:554-7 D '50

Arginase activity in human skin. E. J. Van Scott. bibliog Science 113:601-3 My 25 '51

Electrical excitation of nerves in the skin at audiofrequencies. A. B. Anderson and W. A. Munson. il diags Acoustical Soc Am J 23:155-9 Mr '51

Electron microscope study of epidermal fibers. W. E. Adolph and others. il Science 113:685-6 Je 15 '51

Experimental ethylene oxide human skin injuries. R. J. Sexton and E. V. Henson. bibliog il A M A Archives Ind Hygiene & Occup Med 2:549-64 N '50

Percutaneous absorption of water. A. S. Szczesniak and others. bibliog Science 113: 293-4 Mr 16 '51

Polarographic measurement of the oxygen consumption of skin in vivo. F. Urbach and G. Peirce. bibliog Science 112:785-6 D 29 '50

Diseases

Cutting-oil dermatoses. H. Shapiro. il Safety Maint & Prod 102:55+ Jl '51

Dermatitis from formaldehyde. Chem Age (Lond) 65:91-2 Jl 21 '51

Dermatologist looks at everyday medical care in industry. E. A. Levin. Ind Med 20:63-4 F '51

Experimental beryllium granulomas of the skin. F. R. Dutra. bibliog il A M A Archives Ind Hygiene & Occup Med 3:81-9 Ja '51

Hand cleaners and protectants. M. A. Lesser. bibliog il Soap & San Chem 27:30-3+ Je '51

How to select a skin cleanser. L. W. Staples. il Safety Maint & Prod 102:25-6+ S '51

Industrial dermatitis. H. J. Sanders. il Metal Finishing 49:49-52 Ag '51

Investigation of occupational dermatoses in the citrus fruit canning industry. D. J. Birmingham and others. A M A Archives Ind Hygiene & Occup Med 3:57-63 Ja '51

New soap cuts industrial dermatitis. R. B. Trusler. il Foundry 79:139 My '51; Abstract. Iron Age 167:102 Mr 8 '51

Non-sensitization of nylon thread. S. W. Jennes. bibliog Ind Med 20:272 Je '51

Patch test, its technic and interpretation. W. Weinberger. bibliog A M A Archives Ind Hygiene & Occup Med 2:565-73 N '50

Protective hand creams. il Safety Maint & Prod 102:62-4 Ag '51

SKIN—Diseases—*Continued*

Skin hygiene. Nat Safety N 63:187-8 Mr '51

Sleuthing for skin irritants. C. H. Kalb. Nat Safety N 62:32-3+ N '50

SKIN effect

Reduction of skin effect losses by the use of laminated conductors. A. M. Clogston. diags Bell System Tech J 30:491-529 Jl '51; Same. Inst Radio Eng Proc 39:767-82 Jl '51; Review. G. W. O. Howe. Wireless Eng 28: 321-2 N '51

SKIN friction

Boundary layers and skin friction in high-speed flow. A. D. Young. bibliog il diags Roy Aeronautical Soc J 55:285-302 My '51

Effects of pressure gradient on stability and skin friction in laminar boundary layers in compressible fluids. H. Weil. bibliog J Aeronautical Sci 18:311-18 My '51

Formula for ship and model skin friction resistance. G. G. McDonald. Engineer 191: 484 Ap 13 '51

Turbulent boundary layer in compressible fluids. E. R. Van Driest. bibliog J Aeronautical Sci 18:145-60+ Mr '51

SKINNER, Carlton, 1913-

Portrait. Bsns W p 178 O 6 '51

SKIP-floor corridor plan. See Apartment houses—Skip-floor corridor plan

SKIS, Airplane. See Airplanes—Landing gear

SKIS and skiing

Night skiing on floodlighted slopes; Drumlins golf and sports center, Syracuse. D. R. Brown. il diag Illum Eng 46:418-19 Ag '51

Skiing on plastics. il diag Mod Plastics 28: 82-3 N '50

SKITS. See Dramatization in training

SKUCE, Walter

Men who worked out CMP. por Bsns W p50-2+ My 26 '51

SKY

Brightness and polarization of the daylight sky at altitudes of 18,000 to 38,000 feet above sea level. D. M. Packer and C. Lock. il diag Opt Soc Am J 41:473-8 Jl '51

SKYLIGHTS

Sheet metal workers' catechism; construction and erection of sheet metal skylights (cont). W. Neubecker. diags Sheet Metal Worker 42:49-50 Je '51 (to be cont)

SKYSCRAPERS. See High buildings

SLACKS. See Trousers

SLAG

Alkali-aggregate expansion corrected with portland-slag cement. F. Barona de la O. bibliog il Am Concrete Inst J 22:545-52 Mr '51

Characteristic odor of nodular iron fractures and carbide slags. B. F. Brown. Foundry 79:174 O '51

Composition of $CaO-FeO-Fe_2O_3$ and $MnO-FeO-Fe_2O_3$ melts at several oxygen pressures in the vicinity of 1600°. R. W. Gurry and L. S. Darken. bibliog Am Chem Soc J 72:3906-10 S '50

Distribution of sulphur between liquid iron and slags of low iron-oxide concentrations. R. Rocca and others. bibliog J Metals 3: Trans 319-26 Ap '51

Dwindling stocks spur manganese recovery from slag. R. C. Buehl. il Steel 127:108+ N 13 '50

Effect of silica reduction on the desulphurizing power of blast-furnace type slags. N. J. Grant and others. J Metals 3:Trans 672-3 Ag '51; Discussion. 3:Trans 1049-50 N '51

Effect of sodium oxide additions to steelmaking slags. W. R. Maddocks and E. T. Turkdogan. bibliog diags Iron & Steel Inst J 162:249-64 Jl '49; Discussion. 166:320-2 D '50

Effects of manganese and its oxide on desulphurization by blast-furnace type slags. N. J. Grant and others. bibliog diag J Metals 3:Trans 666-71 Ag '51; Discussion. 3:Trans 1048-9 N '51

Evaluation of pH measurements with regard to the basicity of metallurgical slag. C. W. Sherman and N. J. Grant. J Metals 1:Trans 898-903 N '49; Discussion. 188:Trans 1338-40 N '50

Ionic theory of slag-metal equilibria. P. Herasymenko and G. E. Speight. bibliog Iron & Steel Inst J 166:169-83, 289-303 N-D '50; Discussion. 168:376 Ag '51

Iron blast-furnace slag production in 1950. Rock Prod 54:49 Jl '51

Manganese from slag; S. W. Richardson wants to finance the Mines bureau project. Steel 129:44-5 Ag 27 '51

Mechanism of sulphur transfer between carbon-saturated iron and $CaO-SiO_2-Al_2O_3$ slags. G. Derge and others. bibliog flow sheet diag J Metals 188:Trans 1111-19 S '50; Discussion. 188:Trans 1336-8 N '50

More manganese from American ores and slags. E. C. Wright. Metal Prog 59:347-53 Mr '51

New slag plant of flexible design; Buffalo slag co. B. Nordberg. il Rock Prod 54: 114-17 Ja '51

Produces air-cooled slag block; Chicago block co. il Rock Prod 53:184-5+ D '50

Production of light weight aggregate from blast furnace slag. Iron & Steel Eng 27: 138 N '50

Relationship between electrical conductivity and composition of molten lead silicate slags. A. K. Schellinger and R. P. Olsen. bibliog J Metals 1:Trans 984-6 D '49; Discussion. 188:Trans 1383-6 N '50

Research on hydraulic properties of granulated blast furnace slag. T. Tanaka and K. Takemoto. il Rock Prod 54:82-4 Jl '51

Slag dump yields harvest of vital scrap for Robert M. Chambers. il Bsns W p64-6 Je 2 '51

Slag materials and action in basic arc furnaces. C. B. Post and D. G. Schoffstall. J Metals 188:1313-15 N '50; Abstract. Steel 128:114+ Ja 15 '51

Steel companies aid Bureau of mines in manganese research. il Blast F & Steel Pl 39: 1100 S '51

Theory of basicity and oxidation applicable to steelmaking. W. L. Kerlie. bibliog Iron & Steel Inst J 167:9-26 Ja '51

Thermodynamics of iron-silicate slags; slags saturated with gamma iron. R. Schuhmann, jr. and P. J. Ensio. bibliog diags J Metals 3:Trans 401-11 My '51

Analysis

Determination of titanium(III) in titaniferous slags. L. E. MacCardle and E. R. Scheffer. Anal Chem 23:1169-70 Ag '51

Spectrochemical analysis of steelmaking slags. C. G. Carlsson and J. T. M. Yü. bibliog diags Iron & Steel Inst J 166:273-80 D '50

SLAG (in boilers)

Vanadium in crude oils; effect of V_2O_5 on refractories. W. L. Nelson. Oil & Gas J 49:83 D 28 '50

Wet combustion air reduces slagging. il Power 95:71-4 My '51

SLAG association, National. See National slag association

SLANG

Jeepers! philosophy helps in teen strip. D. Brooks. Ed & Pub 84:32 F 10 '51

SLASHER sizing. See Cotton sizing; Sizing

SLATE

Structure and petrology of the Peach Bottom slate, Pennsylvania and Maryland, and its environment. S. L. Agron. diags Geol Soc Bul 61:1265-306, pl 1-11 bibliog(p 1305-6) N '50

SLAUGHTERING and slaughterhouses

Waste

Rendering plant waste treatment studies. M. L. Granstrom. Sewage & Ind Wastes 23: 1012-16 Ag '51

SLAVE labor. See Labor, Compulsory

SLEEPING cars

Combination sleepers for the Gulf, Mobile & Ohio; illustrations with text. Ry Age 129: 34-7 D 16 '50

New sleeping cars for Super Chief. il Ry Age 130:28-33 F 26 '51

History

Fifty years of Pullman. il Ry Age 129:164-6 O 28 '50

SLICERS, Meat. See Meat slicers

SLICHTER, Sumner Huber, 1892-

Economists. J. McDonald. por Fortune 42: 108-13+ D '50

SLICK airways, inc.
Stock offered. Comm & Fin Chr 174:1301 O 8 '51

SLIDE films
Ads sold as Bob puts squeeze on salesmen. R. H. Lampee. Ed & Pub 84:30 Jl 28 '51
Denison slide film speeds conversion for Korea. J. Gallant. il Ind Marketing 35:56+ O '50
Dental group packages training meetings for dealers. V. W. Rooke, jr. il Sales Management 67:102-5 Ag 15 '51
Extra dough-re-me for salesmen spurs interest in training clerks; Mirro aluminum ware contest. R. L. Pritchard. il Ptr Ink 234:34-5 F 9 '51
How Alemite's sales aids cut technical jargon; slide film and portable demonstrator sell tachometer. E. N. Robinson. il Sales Management 67:80+ Jl 1 '51
How to pick a motor; General electric co. sound slidefilm on motor selection. il Mod Ind 21:56-9 Je '51
Sales-training films for any industry; Sleeping Giant series. il Mod Ind 20:105-6 N '50
Slide-film replaces slide rule to sell complex hospital plan to Doubleday employes. R. Newcomb and M. Sammons. Ind Marketing 36:90-1+ F '51
Teaching banking; film-strips to be used in Canadian schools. J. Montagnes. il Burroughs. Clearing House 35:65-6 Je '51
This idea sells complete kitchens! Zien plumbing and heating company uses three-dimensional color film slides. il Dom Eng 176:101+ N '50
What puts the sell in today's sales slidefilms? P. Lane. il Ind Marketing 35:36-7+ N '50
See also
Lantern slides

Projectors

Complex phenolic case easily molded; Port-A-View 35 mm slide projector. il diag Product Eng 22:127 Je '51
Cooling of film and slides in projectors. H. M. Ross. bibliog diags Soc Motion Picture & Tv Eng J 56:538-50 My '51
Portable slide viewer. il Mod Plastics 28:74-5 My '51

SLIDE rule
Engineering version of the rubber-ruler; Gerber variable scale. il Product Eng 22:184 Ag '51
Equations solved fast by slide rule. Eng N 145:32 N 30 '50
Log analyzer simplifies electric log quantitative calculations. R. G. Hamilton. bibliog World Oil 133:143-4+ Ag '51
New log interpreter. K. B. Barnes. il Oil & Gas J 50:55-6 Jl 12 '51
Slide rule for analyzing high-speed motion picture data. K. W. Maier. il diags Soc Motion Picture & Tv Eng J 56:623-34 Je '51
Slide rule for averaging grades or experimental data. D. F. Mowery, jr. il J Chem Educ 28:311 Je '51
Slide rule for lighting calculations. P. Moon and D. E. Spencer. bibliog diags Opt Soc Am J 41:98-103 F '51
Slide rule for nuclear emulsion calculations. A. Beiser. diag R Sci Instr 21:933-4 N '50
Slide rule tricks. H. Eckhardt. bibliog il Chem Eng 57:119-22 Jl '50; Excerpts. Product Eng 21:146-7 N '50
Solving the Pythagorean principle on the slide rule. H. W. D'Entremont. diags Product Eng 21:155 N '50; Discussion. 22:210+, 218+ Ja '51
Special rule speeds distribution studies. A. V. Lambert. il Elec World 134:104+ N 6 '50
Using the ordinary slide rule to reciprocate complex numbers. W. A. Edson. diag J Eng Educ 41:336-7 Ja '51
Vernier method of using a slide-rule. M. J. Everitt. diags J Sci Instr 27:316-17 N '50

SLIDING contacts. See Electric contacts

SLIDING doors. See Doors, Sliding

SLINGS and hitches
Rope slings and rope tackle. S. Reed. diags Marine Eng 56:67-9 Ap '51
Safer lifts; care in selection, use and maintenance of sling chains. S. N. Morison. il Nat Safety N 62:34-5+ N '50

SLIPS (ceramics)
Special mixing unit converts scrap to slip in a minimum of time. H. F. Kleinfeldt. diag Cer Ind 56:93+ Mr '51
See also
Engobes

SLITTING machines
Air-operated slitter for rolled material. il Comp Air Mag 55:282 D '50

SLOAN, George A. 1893-
Gets world Chamber job. por Bsns W p 137 D 16 '50
Portrait. Fortune 43:15 Ja '51

SLOGANS
Lewyt says it over and over again, no dust bag to empty. il Sales Management 66:74-5 Mr 15 '51
New additions to P.I. slogan file. Ptr Ink 234:50+ Ja 19 '51
Priceless ingredient is not so priceless. E. B. Weiss. Ptr Ink 234:37 Mr 16 '51
Try this Bikini on your salesmen; real explosion drives home slogan to Allied Mills salesmen and dealers. J. L. Richardson. il Ptr Ink 235:42-3 Ap 20 '51

SLOTTING
Band tool slotting is a time saver. G. H. Sheppard. il Automotive Ind 105:60+ Jl 15 '51
Christmas tree slotting job calls back old planer. S. K. Rudorf. il diags Am Mach 94:85-8 D 25 '50
Fixture for controlled-depth milling of gasket slots. R. W. Newton. diags Mach 57:191-2 Je '51
Reducing costs in deep-slotting compressor rotors. J. H. Hummer and others. il Mach 57:183-5 D '50
Screw-slotting attachment works on bench miller. M. Yamaguchi. diags Am Mach 95:176 Je 11 '51
Vise adapter for milling slots in two parts at one set-up. A. C. Eagle. diags Mach 57:189-90 N '50

SLOTTING machines
Screw slotter goes versatile; pneumatic and hydraulic hookups. C. Kazek. il diags Am Mach 95:110-11 Ja 8 '51

SLOWDOWNS
Can wildcat strikes and slowdowns be prevented? R. C. Smyth. Personnel 27:351-9 Mr '51
I got to tell Woodruff Randolph exactly what. J. W. DeVine. Inland Ptr 126:35-7 N '50

SLUDGE, Sewage. See Sewage sludge

SLUMS
Dallas slum clearance tied up by decision. Eng N 145:29 N 30 '50
Slum surgery in St Louis. il plans Arch Forum 94:128-36 Ap '51
Typical slum clearance projects outlined by Housing and home agency. Eng N 146:54+ My 17 '51

SMALL business. See Business—Small business

SMALL defense plants administration
Defined, but leaderless. Bsns W p24 S 15 '51

SMALLPOX
Dried smallpox vaccine. J. W. Hornibrook and W. H. Gebhard. bibliog il Pub Health Rep 66:38-43 Ja 12 '51

SMELL
All experience is of change. F. W. Nordsiek. bibliog il Tech R 53:87-90+ D '50
Inadequate stimulation of olfaction. A. Turk and K. Bownes. bibliog diag Science 114:234-6 Ag 31 '51
Route mapped for future odor research; Toilet goods association symposium on olfaction. Chem & Eng N 28:4449 D 18 '50
Test of the infrared absorption theory of olfaction. A. T. Forrester and W. E. Parkins. Science 114:5-6 Jl 6 '51
Theory of tastes and odors. A. F. El-Baradi and G. H. Bourne. il Science 113:660-1 Je 8 '51
TGA scientific section studies olfaction advances. Oil Paint & Drug Rep 158:7+ D 11 '50

SMELTER fumes
Economic utilization of sulfur dioxide from metallurgical gases; Trail smelter. R. A. King. bibliog flow sheet il Ind & Eng Chem 42:2241-8 N '50
High purity sulfur from smelter gases; reduction with natural gas. E. P. Fleming and T. C. Fitt. bibliog flow diag il diags Ind & Eng Chem 42:2249-53 N '50

SMELTER fumes—*Continued*

Liquid sulfur dioxide from waste smelter gases; use of dimethylaniline as absorbant. E. P. Fleming and T. C. Fitt. bibliog flow diags il Ind & Eng Chem 42:2253-8 N '50

Recovery of sulfur compounds from atmospheric contaminants. M. Katz and R. J. Cole. bibliog(66 ref) Ind & Eng Chem 42:2258-69 N '50

SMELTING

Iron smelting problems. E. C. Smith. diag Metal Prog 58:721-4 N '50

Look to new ideas and new processes like these for greater production from tomorrow's smelters. il diags Eng & Min J 152:134-8 Jl '51

New smelting process means more TiO_2 for US. il map Chem Eng 58:184+ Je '51

Short road to titanium; U.S. companies use new process to smelt ore from Canadian deposit. maps Bsns W p42-4 D 9 '50

See also

Blast furnaces
Smelting works

SMELTING works

Equipment

Redesigning a secondary smelting plant; American smelting and refining co. E. R. Marble, jr. il J Metals 3:218-22 Mr '51

Sintering practice at Josephtown smelter. H. K. Najarian and others. diags J Metals 191:Trans 116-19 F '51; Discussion. il 3: Trans 1045 N '51

SMITH, Charles Christian, 1895-

Portrait. Fortune 44:132 S '51

SMITH, L. C. and Corona typewriters, inc.

Smith-Corona off to flying start on 1951 fiscal year. Barron's 30:19 D 11 '50

SMITH, Phillips W.

$10-billion-a-year purchasing agent. por Fortune 44:128 S '51

SMITH, Rebecca H.

Smith of Northrop. J. Joseph. por Aero Digest 63:90+ S '51

SMITH, Robert H. 1888-

Portrait. Bsns W p 116 N 18 '50

SMITH and Wesson company

Revolutionary decade. G. P. Muir. il Tool Eng 27:55-60 Ag '51

SMITHSONIAN institution

Library

Smithsonian library. L. F. Clark. Special Lib 42:173-5+ My-Je '51

SMOG. See Air pollution

SMOKE

Coal smoke; abstract and discussion. A. C. Monkhouse. Chem & Ind p772-3 D 2 '50

Effect of bituminous coal dust and smoke on the lungs; animal experiments; effects on susceptibility to pneumonia. F. J. Vintinner and A. M. Baetjer. A M A Archives Ind Hygiene & Occup Med 4:206-16 S '51

Influence of carbon smokes on the corrosion of metal surfaces exposed to flue gases containing sulphur trioxide. R. W. Kear. diag J Ap Chem 1:393-9 S '51

Influence of carbon smokes on the dewpoint and sulphur trioxide content of flame gases. G. Whittingham. bibliog diag J Ap Chem 1:382-8 S '51

Smoke-density measurement. W. F. Stoecker. il diags Mech Eng 72:793-8 O '50; Discussion. 73:243-4 Mr '51

Smoke in arc welding; abstract. W. Hummitzsch. Welding J 30:323-4 Ap '51

Smoke measurement in a fuel oil test unit. D. W. Locklin and G. V. Parmelee. bibliog il diags Heating-Piping 22:107-11 N '50

See also

Flue gas
Fumes
Locomotives—
  Smoke problem
Smoke prevention

SMOKE detectors

Constant voltage important to smoke detector. Heat & Ven 48:104 O '51

Lamp and mirror make smoke-density indicator. M. Cadrecha. diag Power 95:134 Je '51

Photoelectric measurement of dust and smoke density. J. E. Coolidge and G. J. Schulz. diags Instruments 24:534+ My '51

Tv watches smoke emission at Waterside. il Elec World 136:136 S 10 '51

SMOKE prevention

Air gets cleaner. Steel 128:63 Mr 5 '51

Air pollution control for a city. N. L. Cunningham. il Pub Works 82:46-8+ Ja '51

Air-pollution prevention in the United States. J. F. Barkley. bibliog Mech Eng 73:284-8 Ap '51

Allegheny county, Pa. Bureau of smoke control 2d annual report. Ind & Eng Chem 43: sup 119A-20A+ S '51

Chemical jets eliminate smoke. Steel 128:72 Ja 29 '51

Dust, fume and smoke suppression. A. J. Grindle. il diags Iron & Steel Eng 28:87-94; Discussion. 94-6 Jl '51

Fundamentals of smoke abatement. J. F. Barkley. 2pls U S Bur Mines Information Circ 7588:1-34 '50

Gas cleaner devised to curb smoke and fly ash is air jet with electronic control. Heat & Ven 48:126 Ap '51

High pressure boiler plant equipped for smokeless operation; National tube co.'s National works. il Steel 128:84+ F 26 '51; Same cond. Nat Safety N 63:34+ Ap '51; Same cond. Safety Maint & Prod 102:62-4 S '51

Higher stacks help to reduce smog; abstract. M. L. Barad. Nat Safety N 63:129-30 My '51

Los Angeles kills smog with kindness. il Bsns W p60+ F 24 '51

National Tube promotes smoke control for boilers. il Blast F & Steel Pl 39:358 Mr '51

New catalytic process effectively eliminates smoke. il diags Steel 128:90 Mr 12 '51

Problems of smoke prevention. A. Parker. Chem Age (Lond) 63:747-8 N 25 '50

Smokeless flare stacks. W. H. Smolen. bibliog il diags Pet Processing 6:978-82 S '51

See also

Electric precipitation
Locomotives—
  Smoke problem

SMOKE prevention association. See Air pollution and smoke prevention association of America

SMOKED meat. See Meat, Smoked

SMOKEHOUSES

Engineering did it; Boston sausage & provision co. J. V. Ziemba. il Food Eng 23: 107-8 Ap '51

SMOKELESS powder

Chromatographic investigations of smokeless powder; derivatives of acardite, carbazole, and triphenylamine formed in double-base powder during accelerated aging. W. A. Schroeder, B. Keilin and R. M. Lemmon. bibliog Ind & Eng Chem 43:939-46 Ap '51

SMOKING

Burley tobacco; relation of the nitrogenous fractions to smoking quality. J. M. Moseley, W. R. Harlan and H. R. Hanmer. bibliog il Ind & Eng Chem 43:2343-7 O '51

Etiologic factors in bronchiogenic carcinoma with special reference to industrial exposures; report of eight hundred fifty-seven proved cases. E. L. Wynder and E. A. Graham. bibliog A M A Archives Ind Hygiene & Occup Med 4:221-35 S '51

Fire hazards

Court holds employer may be liable for negligent act of employee, even after warning. East Underw 51:30 D 8 '50

SMUGGLING

German smuggling; legal fiction of national unity promotes contraband profits. J. Joesten. Barrons 31:11 Ja 8 '51

SMUTS

Control of covered smut of oats by seed treatment with an antibiotic. A. W. Henry and others. Science 113:390 Ap 6 '51

SMYTH, Henry DeWolf, 1898-

Portrait. Bsns W p 103 Jl 28 '51

SNAILS

Determination of sodium and copper pentachlorophenates in dilute aqueous solutions. W. T. Haskins. Pub Health Rep 66:1047-51 Ag 17 '51

Laboratory tests on the rapidity of molluscacidal action of copper sulfate in high concentration. M. O. Nolan. bibliog Pub Health Rep 65:1481-5 N 10 '50

SNAILS—*Continued*

Strontium content of sea water, celestite radiolaria, and strontianite snail shells. H. T. Odum. bibliog Science 114:211-13 Ag 24 '51

SNAKE bite kit

Does it pay to promote a little specialty item? il Sales Management 67:96+ Ag 15 '51

SNAKE poisons. See Venom

SNAKES

Coloration of the tail tip of young fer-de-lances; sexual dimorphism rather than adaptive coloration. W. L. Burger and P. W. Smith. bibliog il Science 112:431-3 O 13 '50

SNEEZING

Organo-lead compounds; a new method for preparing diethyl-lead salts; derivatives of mixed plumbanes. R. Heap, B. C. Saunders and G. J. Stacey. Chem Soc J p658-64 Mr '51

SNOHOMISH river

Investigation of pollution of Port Gardner bay and Snohomish River estuary. E. F. Eldridge and G. T. Orlob. maps Sewage & Ind Wastes 23:782-95 Je '51

SNORING

Cure for snoring. R. Elman. Sci Am 184:35 Je '51

SNOW

Heavy snows spur attack on rainmakers. Eng N 147:26 Jl 5 '51

Present-day snowfall of Labrador-Ungava; origin of Wisconsin ice. F. K. Hare. bibliog maps Am J Sci 249:654-70 S '51

Snow has little effect on improved landing aid. CAA J 11:133 D 15 '50

Telemetering system for radioactive snow gage; snowfall measured in terms of radiation between slug of cobalt-60 and Geiger-Müller tube. J. A. Doremus. il diag Electronics 24:88-91 F '51

Analysis

Radioactive snows at Ann Arbor, Mich., after Las Vegas atomic test explosions. W. W. Meinke. Science 113:545-6 My 11 '51

SNOW barriers

Precast beams used on Snoqualmie Pass snowsheds. il Concrete 59:34+ Ja '51

Precast roof beams help beat winter on snowshed construction. il Constr Methods 33:94-5+ Ap '51

Reinforced concrete sheds to keep snow off highway; Snoqualmie Pass highway. il Eng N 146:42-3 Mr 15 '51

SNOW fences

Investigations of snow-fence effectiveness. bibliog diags Roads & Eng Constr 89:152+ Mr; 136-8+ Ap '51

Snow control structures for roads; abstract. K. Croce and J. Kayser. Pub Works 82:121 Ap '51

SNOW line

Pleistocene climate in New Mexico. L. B. Leopold. bibliog Am J Sci 249:152-68 F '51

SNOW plows

Electric snow plows. il Ry Age 130:45 Mr 26 '51

Rotary snow plough. il Engineer 192:160 Ag 3 '51

Two-way snow consumer developed on the Canadian Pacific. il Ry Age 131:72-3 Jl 9 '51

SNOW removal

Boxes help in snow removal. T. Eikey. Pub Works 82:38 F '51

11 miles of snow-melting pipe in bus ramps; New York City's Port Authority bus terminal. il Constr Methods 33:64-6 Ja '51

Heating bridge decks and pavements. G. S. Paxson. Pub Works 82:103-4 Ap '51

Here's experience report on big snow melting system; New England telephone & telegraph co., sidewalks, driveway and ramp; with cost data. R. Goetchius. il plan Heating-Piping 23:94-5 Ag '51

How snow removal costs are cut in half. R. Deardorff. il Pub Works 81:41 N '50

How Washington state road crews keep passes cleared. K. G. Miller. il Roads & Sts 94:46+ S '51

Operating experience and data from a sidewalk snow-melting system. L. A. Stevens and G. D. Winans. bibliog il diags Heating-Piping 23:177-80 Ja '51

Pittsburgh melts record snowfall; illustrations with text. Heat & Ven 48:83 F '51

Removal of ice and snow in industry; data sheet. il diags Nat Safety N 63:28-30+ Ja '51

Two years' operating data for Detroit's electrically heated highway snow melting system. plan Heat & Ven 48:64-5 Ja '51

See also

Railroads—Snow protection and removal
Snow plows

SNOW surveys

Drought, floods forecast. R. A. Work and C. E. Houston. il map Elec West 106:69-71 My '51

Snow survey determines runoff water. il Elec World 136:112 Ag 27 '51

SNUFF

Tidier world shuns chaw; snuff steady. il Bsns W p85-6+ My 26 '51

SNYDER, Carl J.

Portrait. Bsns W p69 S 15 '51

SNYDER, John I. 1909-

Iron age salutes. por Iron Age 167:41 Ja 18 '51

SNYDER, John Wesley, 1895-

Portrait. Bsns W p 150 O 6 '51

SNYDER, William Cordes, 1903-

Portrait. Bsns W p 101 O 13 '51

SNYDER, Texas

Kingdoms of oil. M. Olson. il World Oil 132:201-4 Mr '51

SOAP

Causes of soap sweating. Soap & San Chem 27:89 Je '51

Effect of added hydrocarbons upon critical concentrations of soap and detergent solutions. H. B. Klevens. bibliog J Phys & Colloid Chem 54:1012-16 O '50

Effect of salts on the critical concentration, size, and stability of soap micelles. M. E. Hobbs. bibliog J Phys & Colloid Chem 55:675-83 My '51

How to select a skin cleanser. L. W. Staples. il Safety Maint & Prod 102:25-6+ S '51

Influence of soaps on gelling characteristics of hevea latices. D. J. McKeand. Ind & Eng Chem 43:415-20 F '51

Isobaric and isothermal studies in the system soap-water. W. O. Milligan, G. L. Bushey and A. L. Draper. bibliog il J Phys & Colloid Chem 55:44-53 Ja '51

It started with solium; optical bleaches. Chem W 69:31+ Jl 14 '51

Mechanism of hydrolysis in aqueous soap solutions. M. A. Cook. bibliog J Phys & Colloid Chem 55:383-402 Mr '51

Micelle shape from dissymmetry measurements. P. Debye and E. W. Anacker. J Phys & Colloid Chem 55:644-55 My '51

Soaps as solubilizers; abstract. Soap & San Chem 27:67 My '51

Soaps vs. synthetic detergents; abstract. Soap & San Chem 27:65 My '51

Solubilization of four typical hydrocarbons in aqueous solution by three typical detergents. J. W. McBain and K. J. Lissant. bibliog J Phys & Colloid Chem 55:655-62 My '51

Toilet bar form synthetics. V. J. Keenan. il Soap & San Chem 27:27-30+ My '51

Transitions in soap-oil systems by dielectric absorption. T. M. Doscher and S. Davis. bibliog diag J Phys & Colloid Chem 55:53-61 Ja '51

See also

Bath preparations
Cleaning compositions
Potassium laurate
Saponification
Shampoos
Shaving soap
Sodium stearate

Analysis

Determination of metal oxide content in metallic stearates; magnesium and zinc soaps. P. N. Cheremisinoff. Paint Oil & Chem R 114:14+ F 15 '51

New color reaction of cationic soaps and its application to studies of their interactions with cellulose fibers. J. A. Hart and E. W. Lee. Tappi 34:77-9 F '51

Rapid test for castor oil in soaps and lipsticks. Sister M. C. Mangold. J Chem Educ 28:266 My '51

SOAP—*Continued*

Bibliography

Bibliography of 105 titles reprinted from Survey of recent literature on soaps versus synthetic detergents. J. Kanegis. Soap & San Chem 26:51+ D '50

Drying

Soap plant observer; spray drying methods. J. W. McCutcheon. Soap & San Chem 26:85 D '50; 27:73 Ja; 87+ F; 87 Mr '51

Prices

Soap price rules. R. W. Peet. Soap & San Chem 27:63 Je '51

Rating

Toilet soaps; some of the best are the cheapest! Consumers Res Bul 27:12-14 Mr '51

SOAP, Antiseptic

New soap cuts industrial dermatitis. R. B. Trusler. il Foundry 79:139 My '51; Abstract. Iron Age 167:102 Mr 8 '51

SOAP, Deodorant

Deodorant soaps; advent of G-11 or hexachlorophene. bibliog il Soap & San Chem 27:34-7 Ja '51

SOAP, Liquid

Hints on liquid soap making. Soap & San Chem 26:69 N '50

SOAP, Metallic

Determination of metal oxide content in metallic stearates; magnesium and zinc soaps. P. N. Cheremisinoff. Paint Oil & Chem R 114:14+ F 15 '51

Developments in metallic soaps. F. J. Licata. Paint Oil & Chem R 114:16+ Je 21 '51

Making metallic soaps. Oil & Gas J 49:363 Ja 25 '51

Microscopy of metallic stearates. P. N. Cheremisinoff. bibliog il Paint Oil & Chem R 114:15-16 Ag 2 '51

Preparation of a stable aluminium dodecanoate (laurate) with no gelling properties in hydrocarbons. J. Glazer, T. S. McRoberts and J. H. Schulman. Chem Soc J p2082-3 Ag '50

Solutions of metal soaps in organic solvents; peptisation and micelle size in solutions of some zinc soaps in toluene. V. D. Tughan and R. C. Pink. Chem Soc J p 1804-8 Jl '51

SOAP, Transparent

Making transparent soap. Soap & San Chem 26:69+ O '50

SOAP and glycerine producers, Association of American. See Association of American soap and glycerine producers

SOAP factories

Color harmony in soap plant; Lever's Port Sunlight plant. Soap & San Chem 26:71 N '50

Lever bros. plant, Los Angeles. il Arch Forum 95:184 Jl '51; Arch Rec 110:13 Jl '51

Lever goes West. il Chem Eng 58:206 Ag '51

New Lever plant in California. il Soap & San Chem 27:27-9 Jl '51

Electric equipment

Service continuity of secondary network natural for soap plant; Lever bros. plant. W. H. Hahn. il diag Elec World 136:96-7 S 24 '51

Equipment

Lubrication in soap plants. Soap & San Chem 27:71+ Ap '51

Maintenance and repair

Production clinic; need for constructive and adequate maintenance program. E. G. Thomssen. Soap & San Chem 27:77+ Ap '51

Safety measures

Before the blueprints; Lever brothers engineers work on safety specifications. il Nat Safety N 64:90-1+ O '51

SOAP industry and trade

Colgate and union both win salesmen's strike; company gains open shop for selling employes; soap salesmen in N.Y. area get new salary, bonus and security provisions. Sales Management 67:126-8 O 1 '51

Dead; aged 119; M. Werk co. Bsns W p20-1 My 5 '51

Early soap giveaways shown at 18th National premium buyers exposition, Chicago, April 2-5. Soap & San Chem 27:39 My '51

Looking back over 60 years in the soap business; interview with Fred Young. il Soap & San Chem 26:44-6+ N '50

Product liability of the soap manufacturer. A. W. Gray. Soap & San Chem 26:37-9+ N '50

Retail sales zero; new market, record sales; service to laundries. T. H. Beck. Ptr Ink 235:56+ Ap 6 '51

Soap and cosmetic trademarks. A. W. Gray. Soap & San Chem 27:46-7 Ap '51

Soap anti-trust probe under way. Soap & San Chem 27:59 Jl '51

Soap merchandising. F. Schneller. Soap & San Chem 27:40-1 Ap '51

Soap plant observer; a study of detergent sales; with tabular data on leading brands. J. W. McCutcheon. Soap & San Chem 26:83+ N '50

Soap progress since 1900. J. W. McCutcheon. il Soap & San Chem 27:27-30+ Ja '51

Soaps and syndets, present and future. F. D. Snell and C. S. Kimball. Soap & San Chem 27:27-9 Je '51

What's ahead for soaps and synthetic detergents? L. F. Flett. il Soap & San Chem 27:35-8 Mr '51

See also

Association of American soap and glycerine producers

Advertising

Planning and research behind soap advertising. W. G. Werner. Soap & San Chem 26:44-6+ O '50

Soap advertising claims; cases and court decisions reviewed. Soap & San Chem 27:39-40+ F '51

Regulation

Redefining soap; bill would put soap and detergents under same regulation as cosmetics. Bsns W p 138-9 O 13 '51

Statistics

Detergent use at peak; with table, 1921-1950. Soap & San Chem 27:43+ Ag '51

Retail soap sales. P. J. Stomberg. Soap & San Chem 27:43-5+ Mr '51

SOAP manufacture

Making transparent soap. Soap & San Chem 26:69+ O '50

Soap plant observer; continuous methods of production. J. W. McCutcheon. Soap & San Chem 27:95+ Jl '51

Soap progress since 1900. J. W. McCutcheon. il Soap & San Chem 27:27-30+ Ja '51

Solvent extraction of cocoa butter; premium soap ingredients from waste chocolate. il diag Chem Eng 58:254+ Jl '51

Toilet soap making; abstract. A. Aronowsky. Soap & San Chem 27:55 Ap '51

Toilet soaps. J. M. Vallance and F. V. Wells. bibliog il Soap & San Chem 26:32-5 S; 46-8+ O; 47-9+ N '50

See also

Soap—Drying

Soap factories

Soap materials

Bleaching

Soap plant observer. J. W. McCutcheon. Soap & San Chem 27:95+ Je '51

SOAP materials

Oxidation of soap fats. Soap & San Chem 27:71+ F '51

Soap plant observer. J. W. McCutcheon. Soap & San Chem 26:83+ O '50

Soap plant observer; diversifying fat supply sources through hydrogenation. J. W. McCutcheon. Soap & San Chem 27:87 Ap '51

Soap plant observer; marine oils and their use in soap. J. W. McCutcheon. Soap & San Chem 26:83+ D '50

Suspending power of builders; abstract. A. S. Weatherburn and others. Soap & San Chem 27:73 Mr '51

SOCIAL and economic security

Security and how to obtain it. M. M. Townsend. Comm & Fin Chr 173:2251+ My 31 '51

SOCIAL ethics

One freedom, indivisible. H. E. Stassen. Franklin Inst J 251:571-80 Je '51

SOCIAL hygiene
Social hygiene movement and family stability. E. Shenehon. Ann Am Acad 272:163-70 N '50

SOCIAL insurance. See Insurance, Social

SOCIAL laws and legislation
Social security and family stability. W. J. Cohen. Ann Am Acad 272:117-26 N '50

SOCIAL problems
New field for private initiative; abstract. R. W. Davenport. Management R 40:457-8 Ag '51

See also
Gambling
Housing
Medical service
Public health
Safety movement
Unemployment

SOCIAL psychology
Character types; one way to look at a changing world; review of the Lonely crowd, by D. Riesman, R. Denney and N. Glazer. Bsns W p84-7 Ag 18 '51
People in groups; three aspects of the problem; communication, leadership and interaction. D. B. Hertz and S. L. Lesser. il Sci Am 184:26-8 F '51

See also
Political psychology

SOCIAL research
Organization of social forces to promote family stability. E. M. Duvall. Ann Am Acad 272:77-85 N '50
Research note on randomization in a social experiment. F. S. Chapin. Science 112:760 D 22 '50
Some statistical problems in small group research. R. F. Bales. Am Stat Assn J 46:311-22 S '51

SOCIAL responsibility in science, Society for. See Society for social responsibility in science

SOCIAL science research. See Social research

SOCIAL sciences
Building up of a library in the social studies at Nuffield college, Oxford. N. M. Lock. J Doc 7:1-9 Mr '51

See also
Economics

SOCIAL scientists
Social science and industrial relations; how management can use the human relations specialist. W. F. Whyte. Personnel 27:258-66 Ja '51
Social science; friend of management. S. Chase. Personnel 27:246-58 Ja '51

SOCIAL security act
Business proprietors to be affected by the new Social security act. S. H. Unterberger. Inland Ptr 126:82-3 O '50
Growing taxes pose publishers' problem. Ed & Pub 84:90 Ap 28 '51
Medical services and the Social security act amendments of 1950. S. J. Mushkin. bibliog Pub Health Rep 66:98-114 Ja 26 '51
Quick summary of the provisions of the new Social security law; the rates, the changes from the old law. S. Prerau. J Account 90:439-40 N '50

SOCIAL surveys
Response errors in surveys. M. H. Hansen and others. Am Stat Assn J 46:147-90 Je '51

SOCIAL work
Cooperation between health and welfare agencies. L. A. Scheele. Pub Health Rep 66:163-6 F 9 '51
Facilities for women workers with home responsibilities; canteens, school meals, washing and mending facilities, etc. Int Labour R 63:287-301 Mr '51
How to be a better advertising man; community service. J. B. Zabin. Ptr Ink 234:38 Mr 23 '51
Outlook for women in community organization in social work. U S Women's Bur Bul 235-5:1-37 bibliog(p35-7); pa 20c Supt. of doc. '51
Outlook for women in social case work with families. il U S Women's Bur Bul 235-4:1-80 bibliog(p77-80); pa 30c Supt. of doc. '51
Private social agencies and family stability. E. L. Koos. Ann Am Acad 272:110-16 N '50

See also
Child welfare
Community life

Directories

Directory of social agencies of the city of New York, 1950-1951. 513p $5 Columbia univ. press, 2960 Broadway, New York 27 '50

See also
Blind, Agencies for—
Directories

SOCIAL work, Medical
Community-wide chest X-ray survey. S. Bloom. Pub Health Rep 66:139-56 F 2 '51
Cultivating community relationships in a mental health program. H. L. Rooney. Pub Health Rep 66:637-43 My 18 '51
Medical care for patients wtih prolonged illness. E. M. Bluestone. Ann Am Acad 273:144-50 Ja '51
Medical social service in a tuberculosis sanatorium. P. Miller. Pub Health Rep 66:987-1008, 1139-57 Ag 3, S 7 '51

SOCIAL work, Psychiatric
Outlook for women in social case work in a psychiatric setting. M. W. Zapoleon. il U S Women's Bur Bul 235-2:1-56 bibliog(p53-6); pa 25c Supt. of doc. '50

SOCIAL workers
Economic status of social workers in 1950. M. G. Stewart. map Mo Labor R 72:391-5 Ap '51
Outlook for women in social case work in a psychiatric setting. M. W. Zapoleon. il U S Women's Bur Bul 235-2:1-56 bibliog(p53-6); pa 25c Supt. of doc. '50
Outlook for women in social group work. il U S Women's Bur Bul 235-7:1-41 bibliog(p39-41); pa 20c Supt. of doc. '51
Status of child-welfare workers. Mo Labor R 73:176 Ag '51

SOCIALISM
Looking ahead; engineer challenged to meet his increased responsibilities in the future. L. H. Campbell. Midwest Eng 3:4-5+ Ja '51
Národní podnik. A. A. Vervaert. Edison Elec Inst Bul 19:171 Je '51
Socialism is here now. A. V. Bodine. Comm & Fin Chr 174:1073 S 20 '51
Socialism is like a narcotic. O. W. Hindley. Elec West 106:73-5 Je '51
Socialist international. Economist 161:96 Jl 14 '51

Great Britain

Britain piles on socialized services. Pub Util 47:315-18 Mr 1 '51
British outlook. R. W. Babson. Comm & Fin Chr 174:965 S 13 '51
British socialism too far right? R. G. Tugwell. Pub Util 47:377-8 Mr 15 '51
Failure of socialism in Britain. J. Dana. Mag of Wall St 88:19-20 Ap 7 '51

SOCIETIES

See also
Engineering societies
Scientific societies
Trade association
Trade unions

SOCIETY buildings
PTA headquarters, Chicago. H. Weese. il plans diags Arch Forum 94:196-7 Je '51

SOCIETY for advancement of management
Membership; detail of industries and functional positions. Advanced Management 16:28-9 Ag '51
Facing new tasks with new strength; president's report. D. E. Bird. Advanced Management 16:3-24+ Jl '51
Fall meeting, New York, Nov. 2-3. Mech Eng 72:1023-4 D '50

SOCIETY for applied spectroscopy
Annual meeting, 6th, New York, May 25-26. Chem & Eng N 29:2377-8 Je 11 '51

SOCIETY for personnel administration
Annual conference, Washington, D.C. May 10-11. Mo Labor R 73:61-2 Jl '51

SOCIETY for social responsibility in science
Social responsibility in science. A. Einstein. Science 112:760-1 D 22 '50

SOCIETY of actuaries (formerly Actuarial society of America and American institute of actuaries)
Annual meeting program; questions for informal discussion. Nat Underw (Life ed) 55:1+ Ag 31 '51
Annual meeting, 2d, White Sulphur Springs. East Underw 51:7 N 10; 3-4+ N 17 '50; Nat Underw (Life ed) 54:1+ N 10; 1+ N 17 '50; Weekly Underw 163:1212 N 25 '50

SOCIETY of actuaries—*Continued*

Annual meeting, Toronto, Sept. 26-28. East Underw 52:1+ O 5; 6-7 O 12 '51; Nat Underw 55:32 O 4 '51; Nat Underw (Life ed) 55:1+, 3 O 5 '51; Spectator (Life ed) 159: 32-3 O '51; Weekly Underw 165:842+, 980+ O 6, O 20 '51

Eastern spring meeting, New York, March 29-30. East Underw 52:3-4 Ap 6 '51; Nat Underw (Life ed) 55:3+ Ap 6 '51; Weekly Underw 164:974+, 1046+ Ap 14-21 '51

Western meeting, Denver, May 22-23. East Underw 52:18-19 Je 1 '51; Nat Underw 55:15 My 31 '51; Nat Underw (Life ed) 55:1+ My 25; 6 Je 1 '51

SOCIETY of American bacteriologists

Annual meeting, 51st, Chicago. Chem & Eng N 29:2374+ Je 11 '51

Meeting, 51st, Chicago, May 27-31. Soap & San Chem 27:151 Jl '51

SOCIETY of apothecaries

Society of apothecaries. Chem & Ind p681-2 Ag 11 '51

SOCIETY of automotive engineers

Annual meeting, Detroit, Jan. 8-12. S A E J 59:17+ F '51

Annual meeting, Detroit; with abstracts of papers. Automotive Ind 104:32-6+ F 1 '51

By-law changes. S A E J 58:79 N '50

Council, vice-presidents. S A E J 59:52-5 F '51

National aeronautic meeting, Los Angeles, Sept. 28-30. S A E J 58:70-5 N '50

National aeronautic meeting, New York; abstracts of papers. Automotive Ind 104:39+ My 15 '51

National aeronautic meeting, New York, April 16-19. S A E J 59:58-62+ My '51

National passenger car, body, and materials meeting, 5th, Detroit, March 6-8. S A E J 59:54-60 Ap '51

National tractor meeting, Milwaukee, Sept. 12-14. S A E J 58:66-9+ N '50

National transportation meeting, New York. S A E J 58:34-9 D '50

National West Coast meeting, Seattle, Aug. 13-15. S A E J 59:77-81 S '51

1950 annual report. S A E J 59:19-24 Ja '51

SAE aero standardization geared to military preparedness. S A E J 59:48-50 F '51

SAE means success at engineering. D. Roeder. S A E J 59:17 Je '51

SAE national fuels and lubricants meeting, Tulsa, Nov. 9-10. S A E J 58:66-70 D '50; Oil & Gas J 49:193-4 N 16 '50; Pet Eng 22:C42-3 D '50

SAE section officers for 1951-52. S A E J 59:92-5 Ag '51

SAE technical committees speed work on all defense assignments. il S A E J 59:54-7 Mr '51

Summer meeting, French Lick; abstracts of papers. Automotive Ind 105:34-8+ Jl 1 '51

Summer meeting, French Lick; abstracts of papers. Steel 128:57-8 Je 18 '51; Nat Pet N 43:28-30 Je 20 '51; S A E J 59:17+ Jl '51

SOCIETY of business magazine editors

Business mobilization dinner, Washington, D.C. Jan. 19. Mach 57:195 F '51

SOCIETY of chemical industry

Annual dinner, London, July 11. Chem Age (Lond) 65:119-20 Jl 28 '51

Annual meeting, London, July 9-13. Chem & Ind p505-51 Je 30 '51

Annual meeting, 70th, London, July 9-13. Chem Age (Lond) 65:75-9 Jl 21 '51; Chem & Eng N 29:3162-4+ Ag 6 '51; Chem & Ind p624-7, 645-50 Jl 21-28 '51

Annual report of the council, 70th, year ended Dec. 31, 1950. Chem & Ind p564-85 Je 30 '51

History of Bristol section and local chemical industry. A. Marsden. Chem & Ind p 159-64 Mr 3 '51

Honorary officers of the London section. Chem & Ind p502-3 Je 30 '51

Officers and council, 1951-1952. Chem & Ind p776 S 15 '51

Seventieth anniversary. Chem Age (Lond) 65:15 Jl 7 '51

Chemical engineering group

Annual general meeting, London, May 23. Chem Age (Lond) 64:837-9 Je 2 '51

SOCIETY of cosmetic chemists

Annual meeting, New York, Dec. 5. Chem & Eng N 28:4449 D 18 '50; Soap & San Chem 27:47 Ja '51

Technical meeting, New York, Dec. 5. Oil Paint & Drug Rep 158:7+ D 11 '50

Technical meeting, New York, May 18. Oil Paint & Drug Rep 159:5+ My 21 '51

SOCIETY of dyers and colourists

Proceedings, annual general meeting, 67th, Leicester, March 30. Soc Dyers & Col J 67:209-22 Je '51

SOCIETY of economic geologists

Joint technical sessions with divisions of the American institute of mining and metallurgical engineers, St Louis, Feb. 19-21; program and abstracts of papers. Econ Geol 46:94-116 Ja '51

SOCIETY of economic paleontologists and mineralogists

Joint annual meeting with A.A.P.G. and S.E.G., St Louis, April 23-26; with abstracts of papers. Oil & Gas J 49:67, 123-4+ Ap 26 '51

Joint annual meeting with AAPG and SEG, 25th, St Louis, April 23-26; with list of papers. World Oil 132:109-10+ Ap '51

SOCIETY of exploration geophysicists

Joint annual meeting with A.A.P.G. and S.E.P.M., St Louis, April 23-26; with abstracts of papers. Oil & Gas J 49:67, 123-4+ Ap 26 '51

Joint annual meeting with AAPG and SEPM, 21st, St Louis, April 23-26; with list of papers. World Oil 132:109-10+ Ap '51

SOCIETY of fire protection engineers. See National fire protection association

SOCIETY of mining geologists, Japan

Formation in Japan. Econ Geol 46:447-8 Je '51

SOCIETY of model and experimental engineers

Society of model and experimental engineers. Engineering 170:423-4 N 24 '50

SOCIETY of motion picture and television engineers

Constitution, officers, treasurer's report, awards. Soc Motion Picture & Tv Eng J 56:443-59 Ap '51

Elects 1951 officers, confers awards. Electronics 23:132 D '50

Papers presented at the New York convention, April 30-May 4; list. Soc Motion Picture & Tv Eng J 56:698-701 Je '51

President's convention address. E. I. Sponable. Soc Motion Picture & Tv Eng J 55: 559-61 D '50

Progress report of Engineering committee work. F. T. Bowditch. Soc Motion Picture & Tv Eng J 55:547-8 N '50

Semi-annual meeting, 68th, Lake Placid, Oct. 16-20; with list of papers. Soc Motion Picture & Tv Eng J 55:647-53, 658-60 D '50

SMPTE establishes new award: David Sarnoff gold medal for outstanding contribution to television. Electronics 24:132 F '51

SOCIETY of motion picture and television engineers journal

Index, 1946-1950. Soc Motion Picture & Tv Eng J 56:1-79 pt 2 My '51

SOCIETY of naval architects and marine engineers

Annual meeting, New York, Nov. 8-11; with abstracts of papers. Marine Eng 56:53-61+ Ja; 57-63 F '51

Committees appointed for 1951. Marine Eng 56:69 My '51

SOCIETY of plastics engineers

Annual meeting, New York, Jan. 18-20. Chem & Eng N 29:467 F 5 '51

National technical conference, 7th, New York, Jan. 18-20, 1951; abstracts of papers. India Rubber World 123:324-5 D '50; Mod Plastics 28:67+ F '51

SOCIETY of public analysts and other analytical chemists

Annual general meeting, 77th, London, March 16. Chem Age (Lond) 64:495-6 Mr 31 '51; Chem & Ind p268-9 Ap 7 '51

SOCIETY of the plastics industry

Annual conference, Swampscott, Mass. Oil Paint & Drug Rep 158:5+ O 23 '50; Mod Plastics 28:74+ D '50

Annual meeting, White Sulphur Springs, May 24-25; with abstracts of papers. Mod Plastics 28:88+ Jl '51

SOCIETY of the plastics industry—*Continued*
Conference of the plastics film, sheeting and coated fabrics division, 2d, New York, Dec. 14-15. Mod Plastics 28:61+ F '51; India Rubber World 123:455-6 Ja '51; Rubber Age 68:464 Ja '51

SOCIOLOGY
Social science; friend of management. S. Chase. Personnel 27:246-58 Ja '51
See also
Charities
Cities and towns
Crime and criminals
Family
Groups (sociology)
Leadership
Liquor traffic
Population
Public welfare
Unemployment

Methodology

Some statistical problems in small group research. R. F. Bales. Am Stat Assn J 46:311-22 S '51

SOCKETS. See Wire rope fastenings

SOCKS. See Hosiery

SOCONY-VACUUM oil company
New oil discoveries strengthen earnings outlook. E. N. Morse. Barron's 30:31-2 N 13 '50
Security I like best. S. R. Winters. Comm & Fin Chr 174:437 Ag 2 '51
Socony progress. D. M. Duff. Oil & Gas J 49:59-60 F 8 '51

SODA ash
Here's how to cut soda ash. Cer Ind 57:53+ Jl '51
New carbonation technique, more natural soda ash. J. V. Hightower. il diags Chem Eng 58:162-3 My '51
Trona process and its unique features; with flow sheets. J. V. Hightower. Chem Eng 58:104-6 Ag '51

SODA fountains
Why four manufacturers teach management at sundae school; Western fountain institute. il Sales Management 65:94+ D 15 '50

SODALITE
Sodalite and apatite in Canada. D. S. M. Field. il Can Min J 72:82-3 S '51

SODIUM
Calculation of the electron affinity of sodium. R. M. Thaler. Phys R 83:131-3 Jl 1 '51
Calculations of surface energy for a free-electron metal. H. B. Huntington. Phys R 81:1035-9 Mr 15 '51
Chemiluminescence of the sodium or sodium halide catalyzed oxidation of carbon monoxide by nitrous oxide. C. P. Fenimore and J. R. Kelso. il Am Chem Soc J 72:5045-8 N '50
Condensations by sodium; the effect of salts and other substances on the alkylation of toluene, a modified Wurtz reaction. A. A. Morton and A. E. Brachman. bibliog Am Chem Soc J 73:4363-7 S '51
Effect of sodium contamination on magnesium-lithium base alloys. P. D. Frost and others. J Metals 188:Trans 1171-2 S '50; Discussion. 3:Trans 557-8 Jl '51
Excitation functions for proton reactions with sodium and magnesium. J. W. Meadows and R. B. Holt. diags Phys R 83:47-9 Jl 1 '51
Flame tests in the presence of sodium. R. B. Hahn. J Chem Educ 27:597 N '50
Handling sodium in organic reactions. V. L. Hansley. bibliog diag Ind & Eng Chem 43:1759-66 Ag '51
Investigation of the existence of a sodium lithium molecule. B. B. Phillips and others. Phys R 81:898-9 Mr 1 '51
Ion-exchange studies; the sodium-hydrogen system. J. F. Duncan and B. A. J. Lister. diags Chem Soc J p3285-96 D '49
Modification in aluminum-silicon alloys; abstract. B. M. Thall and B. Chalmers. Metal Prog 58:902+ D '50
Neutron capture γ-rays from fluorine, sodium, magnesium, aluminum, and silicon. B. B. Kinsey and others. bibliog diag Phys R 83:519-34 Ag 1 '51
New aspects of the photoelectric emission from Na and K. J. Dickey. bibliog diags Phys R 81:612-16 F 15 '51
Nuclear magnetic moment of Na^{23}. R. A. Logan and P. Kusch. Phys R 81:280 Ja 15 '51
Nuclear magnetic resonance in metals; temperature effects for Na^{23}. H. S. Gutowsky. bibliog Phys R 83:1073-4 S 1 '51
Nuclear relaxation times in metallic Na^{23}. R. E. Norberg and C. P. Slichter. bibliog Phys R 83:1074-5 S 1 '51
Nuclear spin relaxation studies in dilute sodium-liquid ammonia solutions. R. Newman and R. A. Ogg, jr. bibliog J Chem Phys 19:214-17 F '51
Paramagnetic resonance in metal ammonia solutions at very low fields. M. A. Garstens and A. H. Ryan. Phys R 81:888 Mr 1 '51
Preliminary studies on the solubility of iron in liquid sodium; abstract. L. F. Epstein. Science 112:426 O 13 '50
Reactions of organometallic compounds with alkyl halides; on Wurtz syntheses with optically active halides. J. F. Lane and S. E. Ulrich. bibliog Am Chem Soc J 72:5132-4 N '50
Reactions of radicals produced by the action of sodium on alkyl iodides. A. A. Comstock and G. K. Rollefson. bibliog diags J Chem Phys 19:441-6 Ap '51
Reduction of allylamines with sodium in liquid ammonia. T. J. King. Chem Soc J p898-900 Ap '51
Spin dependence of neutron scattering by Na^{23}. W. Selove. Phys R 80:290 O 15 '50
Uptake of alkali metals by bacteria. T. C. N. Carroll and others. Chem Soc J p946-9 Mr '50
Viscosity of the sodium-potassium system. C. T. Ewing, J. A. Grand and R. R. Miller. diag Am Chem Soc J 73:1168-71 Mr '51

Analysis

Analysis of the alkali metals. Chem Age (Lond) 63:684-5 N 11 '50
Application of lead reductor to indirect determination of sodium. W. M. McNabb, J. F. Hazel and H. F. Dantro. diag Anal Chem 23:1325-6 S '51
Determination of sodium and potassium in clays. B. B. Osthaus. bibliog Am Cer Soc J 33:377 D 1 '50
Determination of sodium and potassium in lithium metal by flame photometer. W. R. Inman, R. A. Rogers and J. A. Fournier. bibliog Anal Chem 23:482-3 Mr '51
Determination of sodium monoxide in sodium. L. P. Pepkowitz and W. C. Judd. bibliog il diag Anal Chem 22:1283-6 O '50
Flame-photometer determination of sodium and potassium in soils and other siliceous materials. W. J. Halstead and B. Chaiken. bibliog Pub Roads 26:99-104+ D '50
Sodium content in aluminum speedily analyzed, using a Beckman flame spectrophotometer. D. A. Brewster and C. J. Clausen, jr. bibliog il Iron Age 166:88-92 N 2 '50
Stable internal standard flame photometer for potassium and sodium analyses. C. L. Fox, jr. bibliog il diags Anal Chem 23:137-42 Ja '51

Isotopes

Electrolytic properties of aqueous solutions of polyacrylic acid and sodium hydroxide; diffusion experiments using radioactive sodium. J. R. Huizenga, P. F. Grieger and F. T. Wall. bibliog Am Chem Soc J 72:4228-32 S '50
Half-life of Na^{24}. J. H. Sreb. Phys R 81:469 F 1 '51
Na^{20} from the gamma-ray bombardment of NaF. R. K. Sheline. Phys R 82:954 Je 15 '51
Photo-disintegration cross sections of deuterium and beryllium for the gamma-rays of sodium 24 and gallium 72. A. H. Snell and others. bibliog diags Phys R 80:637-42 N 15 '50
Three new delayed alpha-emitters of low mass. L. W. Alvarez. bibliog Phys R 80:519-23 N 15 '50

Manufacture

National Distillers gets into sodium production ahead of schedule at big Ashtabula plant. diag Chem Eng 57:179-80+ D '50

SODIUM acetate
Kinetics of chlorohydrin formation; the reaction between hypochlorous acid and allyl alcohol in the presence of sodium acetate-acetic acid buffers of constant *pH*. G. C. Israel. Chem Soc J p 1286-9 My '50

SODIUM acetate—*Continued*

Syntheses with isotopic tracer elements; the preparation of methanol and sodium acetate labelled with carbon isotopes. J. D. Cox, H. S. Turner and R. J. Warne. diags Chem Soc J p3167-76 N '50

SODIUM acrylate

Sodium polyacrylate as a latex thickener. W. D. Schroeder and G. L. Brown. bibliog Rubber Age 69:433-6 Jl '51

SODIUM alloys

See also

Sodium potassium alloys

SODIUM aluminum silicate

See also

Albite
Jadeite

SODIUM amide

Rearrangements of benzyltrimethylammonium ion and related quaternary ammonium ions by sodium amide involving migration into the ring. S. W. Kantor and C. R. Hauser. bibliog Am Chem Soc J 73:4122-31 S '51

SODIUM ammonium thiosulfate

Bulk for bullets; SAT photographic fixer. Chem Ind W 68:12 F 3 '51

SODIUM benzenesulfonate

Aqueous solutions of sodium benzenesulfonate and monosubstituted derivatives; some physicochemical properties. P. W. Renich and R. Taft. bibliog Ind & Eng Chem 43:2376-84 O '51

SODIUM benzoate

Ice supplement; Fran-Kem. Chem Ind W 68:29+ Mr 17 '51

SODIUM bicarbonate. See Sodium carbonates

SODIUM bismuthate

Oxidations with sodium bismuthate; glycol fission and related reactions. W. Rigby. Chem Soc J p 1907-13 Jl '50

SODIUM borates

Sodium metaborate dihydrate, $NaBO_2.2H_2O$; crystallographic data. J. Krc, jr. il diags Anal Chem 23:806 My '51

SODIUM borohydride

Isotopic exchange between D_2O and $NaBH_4$. P. R. Girardot and R. W. Parry. Am Chem Soc J 73:2368 My '51

Reduction of cholestenone enol acetate by sodium borohydride. W. G. Dauben and J. F. Eastham. Am Chem Soc J 73:4463-4 S '51

Sodium borohydride as a reducing agent for sugar lactones. M. L. Wolfrom and H. B. Wood. bibliog Am Chem Soc J 73:2933-4 Je '51

SODIUM bromate

Separation of ^{82}Br from neutron-irradiated sodium bromate. E. Berne. Chem Soc J supp no 2:S338-40 '49

SODIUM carbonates

Magadi soda lake. il Chem Age (Lond) 65:230 Ag 18 '51

New system drowns fires with dry powder; specially treated sodium bicarbonate. Bsns W p63-4 D 16 '50

SODIUM cellulose sulfate

Now look at three; Tennessee Eastman corp. adds new water-soluble cellulosic, sodium cellulose sulfate. il Chem Ind 67:555-6 O '50

Sodium cellulose sulphate. Chem Age (Lond) 64:137 Ja 20 '51

SODIUM cetyl sulfate

Sorption of anionic detergents by wool. K. Swanston and R. C. Palmer. bibliog diag Soc Dyers & Col J 66:632-8 D '50

SODIUM chlorate

Chlorate candles as a source of oxygen. W. H. Schechter and others. bibliog diag Ind & Eng Chem 42:2348-53 N '50

SODIUM chlorite

Bleaching kraft pulp with mixtures of sodium chlorite and chlorine. W. A. Stone and J. G. Matarese. Pulp & Pa of Can 52:85-8 Ja '51

Investigation of the carbohydrate fraction of spruce chlorite liquors. W. J. Bublitz. bibliog flow sheet Tappi 34:427-32 S '51

Reaction products of lignin and sodium chlorite in acid solution. J. S. Barton. bibliog flow sheets Tappi 33:496-503 O '50

Manufacture

Production of sodium chlorite; survey of prevalent manufacturing methods. G. Holst. bibliog Ind & Eng Chem 42:2359-71 N '50

SODIUM citrate

Treatment of lead poisoning with sodium citrate. H. L. Hardy and others. bibliog A M A Archives Ind Hygiene & Occup Med 3:267-78 Mr '51

SODIUM cobalt sulfate

Double salts, sodium cobalt sulphate and sodium magnesium sulphate. H. Bassett and J. H. Henshall. Chem Soc J p 1970-1 Jl '50

SODIUM cobaltinitrite

Separation and determination of ammonia in methylamine mixtures. J. L. Gove, H. Baum and E. L. Stanley. bibliog Anal Chem 23:721-4 My '51

SODIUM columbates

Dielectric properties of sodium and potassium niobates. B. T. Matthias and J. P. Remeika. il Phys R 82:727-9 Je 1 '51

SODIUM compounds

Effects of alkaline detergents on a magnesium die casting alloy. J. F. Hazel and W. Stericker. bibliog Electrochem Soc J 98:273-6 Jl '51

Handling sodium in organic reactions. V. L. Hansley. bibliog diag Ind & Eng Chem 43:1759-66 Ag '51

Removal of stearic acid from surfaces by alkaline detergents. F. Hazel and W. Stericker. bibliog il Ind & Eng Chem 43:919-25 Ap '51

Sodium poly-(hydroxymethyl)-phenates. R. W. Martin. bibliog Am Chem Soc J 73:3952-4 Ag '51

Spectrophotometric determination of displacement series of metal complexes of the sodium salts of ethylenediaminetetraacetic acid. R. C. Plumb, A. E. Martell and F. C. Bersworth. bibliog J Phys & Colloid Chem 54:1208-15 N '50

Analysis

Multipurpose method of spectrographic analysis; sodium nitrate matrix and alternating current arc excitation. V. G. Perry, W. M. Weddell and E. R. Wright. Anal Chem 22:1516-18 D '50

SODIUM cyanide

Action of sodium cyanide on β-hydroxypropionitrile and β-hydroxypropionic acid. L. Ts'ai. Am Chem Soc J 73:1886-7 Ap '51

Fibers spur cyanide boom. Chem Ind W 68:41-2 My 12 '51

Synthesis of C^{14}-sodium cyanide from carbon dioxide. B. Belleau and R. D. H. Heard. bibliog Am Chem Soc J 72:4268-9 S '50

Use of sodium cyanide with L-arabinose in the Kiliani synthesis. C. S. Hudson. Am Chem Soc J 73:4498-9 S '51

SODIUM cyclohexyl sulfamate

Sweetness sans sucrose. il Chem W 69:39-40 O 13 '51

SODIUM dibutyl phosphite

Anomalous reaction of allyl bromide with sodium dibutyl phosphite. W. H. C. Rueggeberg, J. Chernack and I. M. Rose. Am Chem Soc J 72:5336-7 N '50

SODIUM dichromate

Oxidation of toluene by sodium dichromate. R. D. Abell. Chem Soc J p 1379-81 Je '51

Protecting against white rusting of zinc plated parts. P. T. Gilbert and S. E. Hadden. Metal Finishing 49:66-9 Ap '51

Separation of chromium and vanadium salts by liquid-liquid extraction. A. E. Weinhardt and A. N. Hixson. bibliog Ind & Eng Chem 43:1676-84 Jl '51

Use of silver nitrate and sodium dichromate in the detection of purines by paper partition chromatography. R. M. Reguera and I. Asimov. Am Chem Soc J 72:5781-2 D '50

Manufacture

Occupational cancer in a chromate plant; environmental appraisal. H. G. Bourne, jr. and H. T. Yee. bibliog Ind Med 19:563-7 D '50

SODIUM diethyldithiocarbamate

Colorimetric estimation of various metal derivatives of sodium diethyldithiocarbamate. R. J. Lacoste, M. H. Earing and S. E. Wiberley. bibliog Anal Chem 23:871-4 Je '51

SODIUM dodecyl sulfate

Properties of freshly formed surfaces; dynamic tensions of sodium dodecyl sulphate solutions at the surface of liquid→air and liquid→liquid contracting jets. C. C. Addison and T. A. Elliott. Chem Soc J p3096-103 N '50

SODIUM ethoxide

Action of sodium ethoxide on chroman-4-ones. E. M. Padfield and M. L. Tomlinson. Chem Soc J p2272-7 S '50

SODIUM ethyl

Reactions of organometallic compounds with alkyl halides; on sodium ethyl and butenyl chlorides. S. E. Ulrich and J. F. Lane. bibliog Am Chem Soc J 72:5130-1 N '50

Reactions of organometallic compounds with alkyl halides; on sodium ethyl and (+)2-chlorooöctane. S. E. Ulrich and others. bibliog Am Chem Soc J 72:5127-30 N '50

SODIUM fluoride

Na^{20} from the gamma-ray bombardment of NaF. R. K. Sheline. Phys R 82:954 Je 15 '51

Sodium fluoride in ice cubes. D. B. Williams. Water & Sewage Works 97:512 D '50

Analysis

Rapid test for fluoride ion. W. R. Crandall. Anal Chem 22:1449-50 N '50

SODIUM fluoroacetate

Analysis

Determination of fluorine in monofluorinated organic compounds in air and water. J. M. Salsbury and others. bibliog il diag Anal Chem 23:603-8 Ap '51

SODIUM fluoroantimonates

Nuclear magnetic resonance absorption in $NaSbF_6$. E. R. Andrew. bibliog Phys R 82: 443-4 My 1 '51

SODIUM fluorophosphate

Decay stopper. Chem Ind W 68:27 Mr 31 '51

SODIUM fluorosilicate

Influence of soaps on gelling characteristics of hevea latices. D. J. McKeand. Ind & Eng Chem 43:415-20 F '51

SODIUM germanyl

Compounds of germanium and hydrogen; monoalkylgermanes; potassium germanyl; electrolysis of sodium germanyl. G. K. Teal and C. A. Kraus. Am Chem Soc J 72:4706-9 O '50

SODIUM glutamate

Monosodium glutamate rules defined by FDA. Oil Paint & Drug Rep 159:7 Je 18 '51

SODIUM halides

Chemiluminescence of the sodium or sodium halide catalyzed oxidation of carbon monoxide by nitrous oxide. C. P. Fenimore and J. R. Kelso. il Am Chem Soc J 72:5045-8 N '50

SODIUM hexametaphosphate

Corrosion control at New Haven, Conn.; Calgon treatment. M. Wellington. il Water & Sewage Works 98:304-6 Jl '51

Sodium hexametaphosphate in chrome tannin; abstract. J. Jofre. Chem Age (Lond) 65:349-50 S 15 '51

SODIUM hydride

Action of sodium hydride on certain aryl bromides. G. E. Philbrook, H. F. Gober and C. L. Henry. Am Chem Soc J 73:2382-3 My '51

Sodium hydride process and its application to the cleaning of molds for the glass industry; abstract. N. L. Evans. Glass Ind 31:584 N '50

Sodium-hydride tube-descaling plant. Engineering 171:173 F 9 '51

SODIUM hydrosulfite

Recovery of organic material from cobalt 1-nitroso-2-naphtholate. A. D. Dargaville, D. L. Ingles and J. B. Polya. J Ap Chem 1:345-6 Ag '51

SODIUM hydroxide

Caustic soda, one of major alkalis; commodity survey. J. R. Skeen. diags Chem Eng 58:283-4+ Ja '51

Electrolytic properties of aqueous solutions of polyacrylic acid and sodium hydroxide; diffusion experiments using radioactive sodium. J. R. Huizenga, P. F. Grieger and F. T. Wall. bibliog Am Chem Soc J 72: 4228-32 S '50

Handling practices for liquid caustic soda. R. A. Springer. diag Tappi 34:sup 125A-8A S '51; Same cond. Chem Eng 58:112-13+ Ag '51; Discussion. Tappi 34:sup 128A-9A S '51

Heat of solution of halides, sulphuric acid, oxalic acid, sodium hydroxide, and urea in ethyl alcohol-water mixtures. M. Bobtelsky and R. D. Larisch. diag Chem Soc J p3612-15 D '50

Low temperature thermodynamic properties of sodium hydroxide. J. C. R. Kelly and P. E. Snyder. bibliog Am Chem Soc J 73: 4114-15 S '51

Mechanism of inhibition of the corrosion of iron by sodium hydroxide solution. J. E. O. Mayne, J. W. Menter and M. J. Pryor. pl diags Chem Soc J p3229-36 N '50

Sodafining; catalytic gasoline-stability control by caustic washing. M. C. K. Jones. il Oil & Gas J 49:88-9+ Ap 12 '51

Solubility of cobalt hydroxide, $Co(OH)_2$, in solutions of hydrochloric acid and sodium hydroxide at 25°. K. H. Gayer and A. B. Garrett. bibliog Am Chem Soc J 72:3921-3 S '50

Sweetening and desulfurization of light petroleum products; alkaline reagents. V. A. Kalichevsky. bibliog il Pet Refiner 30:111-14 Ap '51

System cellulose-sodium hydroxide-water; determination of the ionization constant of cellulose. J. B. Calkin. bibliog Tappi 34: sup 108A-12A S '51

System oxalic acid-sodium hydroxide-water. W. H. H. Norris. diags Chem Soc J p 1708-15 Jl '51

What's the trouble with caustic regenerative gasoline treating. C. W. Rippie. Pet Eng 23: C127 Jl '51

Analysis

Booster-bath analysis. Textile World 101: 244+ Mr '51

Manufacture

Consumer market development; Diamond alkali co., Houston, caustic soda-chlorine plant. G. F. Rugar. il Ind & Eng Chem 43: 1751-3 Ag '51

Materials of construction report. il diags Chem Eng 57:113-16 N '50

Transportation

Safe handling of high concentration liquid caustic. Chem & Eng N 28:4580 D 25 '50

SODIUM hypochlorite

Big and small compete in household bleach. diag Chem Ind 67:740-2 N '50

Bleach trend; strength in numbers. Chem W 69:31-2 Jl 21 '51

Quantitative determination of nylon, orlon and fiber V in wool blends. H. W. Wolf. bibliog il Am Dyestuff Rep 40:273-6 Ap 30 '51

Stabilization of neutral hypochlorite-oxidized cotton fiber. R. E. Reeves and J. R. Jung, jr. bibliog Textile Res J 21:22-5 Ja '51

SODIUM in the body

Application of radioactive indicators in biochemistry; radio-sodium in distribution studies. G. Hevesy. bibliog Chem Soc J p 1618-22 Je '51

SODIUM iodide

Anhydrides of polyhydric alcohols; the reactions of sodium iodide and lithium chloride with dimethanesulphonyl and ditoluene-*p*-sulphonyl derivatives of the 1 : 4-3 : 6-dianhydrides of D-mannitol, D-sorbitol, and L-iditol. L. F. Wiggins and D. J. C. Wood. Chem Soc J p 1180-4 My '51

Detection of X-rays by means of NaI(Tl) scintillation counters. H. I. West, jr. and others. Phys R 81:141-2 Ja 1 '51

Fluorescence efficiencies of some crystals for electrons and heavy particles. W. K. Jentschke and others. Phys R 83:170-1 Jl 1 '51

Measurement of gamma-ray energies with single crystals of NaI(Tl). R. Hofstadter and J. A. McIntyre. bibliog il Phys R 80: 631-7 N 15 '50

Response of some scintillation crystals to heavy particles. C. J. Taylor and others. bibliog Phys R 83:169-70 Jl 1 '51

Temperature coefficient of scintillation phosphors. W. L. Minarik and H. G. Drickamer. bibliog R Sci Instr 22:704-5 S '51

SODIUM magnesium sulfate
Double salts, sodium cobalt sulphate and sodium magnesium sulphate. H. Bassett and J. H. Henshall. Chem Soc J p 1970-1 Jl '50

SODIUM metaphosphate
See also
Sodium hexametaphosphate

SODIUM nitrate
Activity coefficient of uranyl nitrate in the presence of sodium nitrate. E. Glueckauf, H. A. C. McKay and A. R. Mathieson. diag Chem Soc J supp no 2:S299-302 '49
Addition of sodium nitrate to a river prevents formation of hydrogen sulfide odor nuisance. H. R. Murdock. Ind & Eng Chem 43:sup79A-80A Ja '51
Potentiation of muscular contraction by the nitrate-ion. A. J. Kahn and A. Sandow. bibliog il Science 112:647-9 D 1 '50
Salt effect in vapor-liquid equilibria; ethanol-water saturated with inorganic salts. R. R. Tursi and A. R. Thompson. bibliog diag Chem Eng Prog 47:304-8 Je '51
Using sodium nitrate for odor control in a polluted stream, San Antonio, Tex. P. N. Albright. il map Pub Works 82:57-8 Ag '51

Analysis

Multipurpose method of spectrographic analysis; sodium nitrate matrix and alternating current arc excitation. V. G. Perry, W. M. Weddell and E. R. Wright. Anal Chem 22:1516-18 D '50

SODIUM nitrite
Sodium nitrite as an inhibitor against the attack of sea-water on steel; inhibitor in sea-water/distilled water mixtures. T. P. Hoar. bibliog Soc Chem Ind J 69:356-62 D '50

Analysis

Iodopermanganate determination of nitrites in the presence of nitric acid. R. C. Brasted. bibliog Anal Chem 23:980-3 Jl '51

SODIUM orthophenylphenate
Prevention of the phytotoxic action of sodium orthophenylphenate on citrus fruits by hexamine. E. F. Hopkins and K. W. Loucks. il Science 112:720-1 D 15 '50

SODIUM oxide
Effect of sodium oxide additions to steelmaking slags. W. R. Maddocks and E. T. Turkdogan. bibliog diags Iron & Steel Inst J 162:249-64 Jl '49; Discussion. 166:320-2 D '50
Immiscibility in the system $H_2O-Na_2O-SiO_2$. I. Friedman. Am Chem Soc J 72:4570-4 O '50

Analysis

Determination of sodium monoxide in sodium. L. P. Pepkowitz and W. C. Judd. bibliog il diag Anal Chem 22:1283-6 O '50

SODIUM palmitate
Isobaric and isothermal studies in the system soap-water. W. O. Milligan, G. L. Bushey and A. L. Draper. bibliog il J Phys & Colloid Chem 55:44-53 Ja '51

SODIUM pentachlorophenate
Effect on calves of prolonged oral administration of three potential molluscacides. J. R. Herdt and others. Pub Health Rep 66:1313-17 O 12 '51
Influence of soaps on gelling characteristics of hevea latices. D. J. McKeand. Ind & Eng Chem 43:415-20 F '51
Truth about pentachlorophenol. Chem Age (Lond) 64:245-7 F 10 '51

Analysis

Determination of sodium and copper pentachlorophenates in dilute aqueous solutions. W. T. Haskins. Pub Health Rep 66:1047-51 Ag 17 '51

SODIUM perchlorate
Apparent and partial molal volumes of sodium perchlorate and perchloric acid in mixed solutions. H. E. Wirth and F. N. Collier, jr. bibliog Am Chem Soc J 72:5292-6 N '50
Hammett acidity function in six formal perchloric acid-sodium perchlorate mixtures. G. Harbottle. Am Chem Soc J 73:4024-5 Ag '51

SODIUM periodates
Synthesis of 2:3-dimethyl L-rhamnose; the action of sodium metaperiodate on 2:3- and 3:4-dimethyl L-rhamnoses. F. Brown, L. Hough and J. K. N. Jones. Chem Soc J p 1125-7 Ap '50

SODIUM peroxide
Peroxide bleaching of groundwood and sulphite pulps. R. A. Premo. diags Tappi 34:270-2 Je '51
Zirconium for sodium peroxide fusions. G. J. Petretic. Anal Chem 23:1183-4 Ag '51

SODIUM phosphates
Mechanism of the inhibition of the corrosion of iron by solutions of sodium orthophosphate. M. J. Pryor and M. Cohen. bibliog il diags Electrochem Soc J 98:263-72 Jl '51
Reinvestigation of the kinetics of the urease-catalyzed hydrolysis of urea; the activity of urease in the presence of sodium and potassium phosphate. G. D. Fasman and C. Niemann. bibliog Am Chem Soc J 73:1646-50 Ap '51
Treatment of radioactive water by phosphate precipitation. R. A. Lauderdale. Ind & Eng Chem 43:1538-40 Jl '51
Tripoly triples. Chem Ind 67:874-5 D '50
See also
Sodium hexametaphosphate
Sodium pyrophosphates

SODIUM phosphotungstate
Preparation of phosphotungstic acid and of sodium and barium phosphotungstates. M. A. Phillips. Soc Chem Ind J 69:282-4 S '50

SODIUM platinum oxide
Crystal structure of $NaPt_3O_4$. J. Waser and E. D. McClanahan, jr. bibliog diags J Chem Phys 19:413-16 Ap '51

SODIUM plumbite
Sodium plumbite treating methods and equipment. L. S. Daniels. flow diag il diags Pet Refiner 30:138-42 Ja '51
Sweetening and desulfurization of light petroleum products. V. A. Kalichevsky. il patent list(140 ref) Pet Refiner 30:129-35 Ja '51

SODIUM polyacrylate. See Sodium acrylate

SODIUM potassium alloys
Heats of formation of sodium potassium alloys. R. L. McKisson and L. A. Bromley. Am Chem Soc J 73:314-15 Ja '51

SODIUM propionate
Use of sodium propionate in isolating actinomycetes from soils. P. Crook and others. Science 112:656 D 1 '50

SODIUM pyrophosphate
Investigations on the passage of light through suspensions. A. H. M. Andreasen and others. il diags Soc Chem Ind J 69:312-17 O '50

SODIUM silicates
Contribution of sodium silicate to the stiffness of paperboard. R. H. Sams and N. W. McCready. Tappi 34:67-70 F '51
Control of the caustic-silicate ratio in peroxide bleaching liquors. K. D. Ballou and others. bibliog Am Dyestuff Rep 40:218-22 Ap 2 '51
Gelation times of various silica sols; effect of low temperatures. R. W. Spencer, A. B. Middleton and R. C. Merrill. bibliog Ind & Eng Chem 43:1129-32 My '51
Light-scattering investigations of carefully filtered sodium silicate solutions. R. V. Nauman and P. Debye. bibliog J Phys & Colloid Chem 55:1-9 Ja '51
Operation of the single facer with sodium silicate. E. M. Hertzmark. Tappi 34:sup86A+ Jl '51
Product control in Bowen-type spray dryer; particle size and particle distribution. H. Wallman and H. A. Blyth. bibliog il diag Ind & Eng Chem 43:1480-6 Je '51
Role of sodium silicate in inhibiting corrosion by film formation on water piping. L. Lehrman and H. L. Shuldener. bibliog il Am Water Works Assn J 43:175-88 Mr '51
Silica gel spurs silicates. il Chem Ind W 68:39-40 Ap 28 '51
Silicate of soda uses in the paper mill. F. R. MacGonagle. Tappi 34:sup77A-8A Ja '51
Sodium silicate; inexpensive and extensively used tool in the textile industry. A. B. Middleton. bibliog il Rayon 32:51-2 Ag '51

SODIUM silicates—*Continued*

Specific heats of sodium silicate solutions. N. W. McCready. bibliog diag Ind & Eng Chem 43:1154-9 My '51

Studies with titanium as an agent for imparting durable fire-retardancy to fabrics. A. E. Jacobsen and others. il Am Dyestuff Rep 40:439-43 Jl 9 '51

System Na_2O-SiO_2-H_2O at 50, 70 and 90°. C. L. Baker, L. R. Jue and J. H. Wills. bibliog il Am Chem Soc J 72:5369-82 D '50

SODIUM silicotungstate

Modified method for the determination of total penicillin in procaine penicillin. A. M. Wild. J Ap Chem 1:329-32 Ag '51

SODIUM stannate

Sodium stannate, $Na_2Sn(OH)_6$. J. Krc, jr. il diags Anal Chem 23:675-6 Ap '51

SODIUM stearate

Isobaric and isothermal studies in the system soap-water. W. O. Milligan, G. L. Bushey and A. L. Draper. bibliog il J Phys & Colloid Chem 55:44-53 Ja '51

Thermal analysis of the system sodium stearate-cetane. F. H. Stross and S. T. Abrams. Am Chem Soc J 73:2825-8 Je '51

Transitions in soap-oil systems by dielectric absorption. T. M. Doscher and S. Davis. bibliog diag J Phys & Colloid Chem 55:53-61 Ja '51

SODIUM sulfates

Application of new techniques to the solution of an efflorescence problem. W. E. Brownell. il diag Am Cer Soc J 33:360-3 D 1 '50

Diffusion coefficients of lithium and sodium sulfates in dilute aqueous solution at 25°. H. S. Harned and C. A. Blake, jr. bibliog Am Chem Soc J 73:2448-50 Je '51

Investigation of sodium sulfate deposits in Bull lake, Carbon county, Wyo. W. A. Young. 6pls U S Bur Mines Rep of Invest 4816:1-9 '51

Salt effect in vapor-liquid equilibria; ethanol-water saturated with inorganic salts. R. R. Tursi and A. R. Thompson. bibliog diag Chem Eng Prog 47:304-8 Je '51

Manufacture

New type evaporator designed to lick the sodium sulphate problem. A. A. Holland. flow sheet diag Chem Eng 58:106-7 Ja '51

SODIUM sulfides

Analysis

Booster-bath analysis. Textile World 101: 244+ Mr '51

Colorimetric determination of hydrogen sulphide and methyl mercaptan in sulphate pulp mill effluents and of sodium sulphide in black liquor. R. H. Wright and others. bibliog il Tappi 34:289-94 Jl '51

SODIUM sulfites

Oxygen atom transfer during the oxidation of aqueous sodium sulfite. E. R. S. Winter and H. V. A. Briscoe. Am Chem Soc J 73: 496-7 Ja '51

Reaction of combined cystine of wool with sodium bisulfite. G. J. Schuringa and others. bibliog Textile Res J 21:281-5 My '51

Sodium sulfite eliminates deposits on our turbine blades. K. M. White. Power 94:128 N '50

SODIUM superoxide

Determination of superoxide oxygen. E. Seyb, jr. and J. Kleinberg. bibliog diag Anal Chem 23:115-17 Ja '51

SODIUM tartrate

Sodium tartrate dihydrate as a primary standard for Karl Fischer reagent. J. D. Neuss, M. G. O'Brien and H. A. Frediani. bibliog Anal Chem 23:1332-3 S '51

SODIUM thiosulfate

Kinetics of the acid decomposition of sodium thiosulfate in dilute solutions. R. H. Dinegar, R. H. Smellie and V. K. La Mer. Am Chem Soc J 73:2050-4 My '51

SODIUM thymonucleate

Mechanism of the action of ionizing radiations on sodium thymonucleate. D. B. Smith and G. C. Butler. bibliog Am Chem Soc J 73:258-61 Ja '51

SODIUM toluenesulfonate

Acid-catalysed chlorination by means of hypochlorous acid. D. H. Derbyshire and W. A. Waters. Chem Soc J p73-5 Ja '51

SODIUM tricodophenol

Toxicity of some related halogenated derivatives of phenol. E. F. Stohlman. bibliog Pub Health Rep 66:1303-12 O 12 '51

SODIUM tungstate

Formula of sodium paratungstate. K. Saddington and R. W. Cahn. Chem Soc J p3526-9 D '50

System sodium tungsten bronze-lithium tungsten bronze-tungsten(VI) oxide. M. E. Straumanis and G. F. Doctor. bibliog Am Chem Soc J 73:3492-6 Jl '51

SODIUM xanthate

Analysis

Determination of purity and water content of xanthates and dithiocarbamates; use of iodine reagents. A. L. Linch. bibliog Anal Chem 23:293-6 F '51

SOFAS

Rating

Convertible bed sofas. il Consumers Res Bul 27:16-19 Je '51

SOFTENING points

Determination of the ring and ball softening point of asphaltic bitumens with and without stirring. C. J. Krom. 2pls Inst Pet J 36: 727-37 D '50

Littleton softening point test as a method of measuring frit fusibility. R. J. Brown. Am Cer Soc Bul 30:197-200 Je 15 '51

SOIL analysis

Determination of molybdenum in soils and rocks; geochemical semimicro field method. F. N. Ward. bibliog Anal Chem 23:788-91 My '51

Flame-photometer determination of sodium and potassium in soils and other siliceous materials. W. J. Halstead and B. Chaiken. bibliog Pub Roads 26:99-104+ D '50

Prospecting for zinc using semiquantitative chemical analyses of soils. R. B. Fulton. bibliog map diags Econ Geol 45:654-70 N '50

Sensitive field test for detecting heavy metals in soil or sediment. L. C. Huff. bibliog diags Econ Geol 46:524-40 Ag '51

SOIL bacteria

See also

Actinomycetes

SOIL conservation

Bank credit can help save U.S. soil. M. E. Fonda. il Bankers Mo 68:26+ Ag '51

Bank leads in restoring soil vitality. J. C. Davis. il Banking 43:68+ N '50

Farmers guard AT&T's cable; company-sponsored soil conservation program prevents washouts. il Bsns W p90+ S 29 '51

How soil conservation pays off in pipe line maintenance. A. W. Emerson. il Gas Age 108:26-8+ Jl 5 '51

Land or people? C. M. Hardin. Land Econ 27:133-42 My '51

When bankers favor conservation loans; survey of Illinois bankers. L. R. Combs. il Banking 43:72 Je '51

SOIL laboratories

See also

Rutgers university—
Lipman Hall soil
laboratories

SOIL mechanics

Capillary phenomena in cohesionless soils. T. W. Lambe. diags Am Soc C E Proc 76 [no 4]:1-23 F '50; Discussion. 76 [no D-4]: 1-9 N '50

Influence of soil mechanics on civil engineering. H. J. B. Harding and H. Q. Golder. bibliog Engineering 170:419-21 N 24 '50

Terraced highway side slopes in loess, southwestern Iowa. C. S. Gwynne. map Geol Soc Bul 61:1347-54, pl 1-2 D '50

See also

Earth pressure
Landslides
Roads—Testing
Soil stabilization

SOIL microorganisms

Isolation of histoplasma capsulatum from soil in an unused silo. J. T. Grayston and others. bibliog Science 114:323-4 S 28 '51

Resistance of protein-montmorillonite complex to decomposition by soil microorganisms. L. A. Pinck and F. E. Allison. bibliog Science 114:130-1 Ag 3 '51

SOIL moisture

Airport building aided by new atomic device; radioactive material to measure the moisture content and density of the soil under airport pavement. CAA J 11:134 D 15 '50

SOIL moisture—*Continued*

Compaction control for earth fills made easier by rapid moisture test. D. Zwerski and L. D. Graves. il Eng N 146:39-40 My 3 '51

Comparative moisture regimes of humus and rotten wood. I. C. M. Place. Pulp & Pa of Can 51:124 O '50

Movements in the desiccated alkaline soils of Burma. F. L. D. Wooltorton. il plan diags Am Soc C E Proc 76:63-99 Ja '50; Discussion. 76 [no D-XXVIII]:1-10 N '50

New development in the measurement of high relative humidities. W. R. Steiger. Science 114:152-3 Ag 10 '51

Resistance measurement tells when to irrigate Hawaiian sugar plantations. il Elec West 105:73 D '50

Small soil compaction apparatus duplicates field results closely. S. D. Wilson. il diags Eng N 145:34-6 N 2 '50; Discussion. H. H. Munger. 146:51 F 15 '51

See also

Soil stabilization

SOIL pipes

Continuous dip system improves tar coating. F. R. Adams and G. E. Loftin. diag Iron Age 168:92-4 Ag 2 '51

SOIL sampling

Develop new soil selection technique. Roads & Sts 94:45 Ag '51

Field-like samples from lab for soils, bituminous tests. il diag Eng N 146:43-4 F 22 '51

SOIL stabilization

Better bases made by stabilizing with calcium chloride. T. D. Williams. Pub Works 81:61-2+ D '50

Contractors set fast pace on Oklahoma soil-asphalt jobs. il Roads & Sts 94:72-3 Ag '51

Distribution charts for stabilization materials. Roads & Sts 94:46-7 Ag '51

Settlement correction at La Guardia field. J. M. Kyle. plan Am Soc C E Proc 76 [no 43]:1-6 N '50

Soil-cement base course methods in North Carolina. L. D. Hicks. il Roads & Sts 94:45-9+ Mr '51

Stabilization of some rockslides in Grainger county, Tenn. R. A. Laurence. il maps plan diag Econ Geol 46:329-36 My '51

Unusual construction problem on sand-spit highway. M. McMillin. il Pub Works 82:43-5 Mr '51

SOILING of textiles

Improvement of cotton cloth in resistance to soiling and in ease of washing. W. P. Utermohlen, jr. and others. bibliog Textile Res J 21:510-21 Jl '51

Printing of soil cloth. C. Z. Draves and O. L. Sherburne. Am Dyestuff Rep 39:771-2 N 13 '50

Make-up of print paste for soil cloth. Soap & San Chem 27:73 F '51

Soiling and soil retention in textile fibers; cotton fiber, grease-free carbon black systems. J. Compton and W. J. Hart. il Ind & Eng Chem 43:1564-9 Jl '51

SOILS

Isolation of histoplasma capsulatum and allescheria boydii from soil. L. Ajello and L. D. Zeidberg. Science 113:662-3 Je 8 '51

Morphology and chemistry of podzolic soils; abstract. A. Muir. Chem & Ind p252 Mr 31 '51

Society of chemical industry, agriculture group meeting, South Kensington, April 12; abstracts of papers. Chem & Ind p461-2 Je 16 '51

Soil colloids; abstract and discussion. R. K. Schofield. Chem & Ind p792-3 S 22 '51

Soil inorganics said to increase amino acid content in plants; American society of agronomy and Soil science society of America, joint meeting, Cincinnati, Oct. 30-Nov. 3. Chem & Eng N 28:4077 N 20 '50

Soil properties and the design of earth-moving equipment. W. S. Pollard, jr. diags S A E J 59:39-41+ S '51

Thermal characteristics of soils for ground coil design. W. Parkerson. bibliog diag Heat & Ven 48:83-6 O '51

Use of minor elements; abstract. A. W. Marsh. Chem & Eng N 29:3004-5 Jl 23 '51

See also

Agriculture
Clay
Drainage
Earthwork
Erosion
Fertilizers
Foundation soils
Highway engineering
Irrigation
Roads—Subgrades
Sand
Silt
Soil moisture

Calcium content

Radioactive calcium in the study of additive and native supplies in the soil. H. C. Harris and others. Science 113:328-9 Mr 23 '51

Chemical consolidation

Chemicals stop cofferdam leaks. C. M. Riedel. il plan diags Civil Eng 21:195-6 Ap '51

Soil stabilization speeds tower footing excavation. E. C. Gershoy and C. Mueller. il diags Elec World 135:66-7 Ja 15 '51

Consolidation

Army, navy show off their quick-roads. il Eng N 145:30 N 16 '50

Compaction of cohesive soils; progress report of the subcommittee on consolidation of materials in earth dams and their foundations of the committee on earth dams of the Soil mechanics and foundations division. Am Soc C E Proc 76 [no 48]:1-9 D '50

Earthmoving, an art and a science; stabilization of embankments. D. K. Heiple. il Constr Methods 33:91-2+ S '51

Study of the performance of plant for the compaction of soil. F. H. P. Williams and D. J. MacLean. plan diag Roads & Eng Constr 88:74-6+ N '50

Electric properties

Corrosion and its control; how to locate hot spots. M. E. Parker. Oil & Gas J 49:116-17 F 15 '51

Pipe-to-soil potentials as an indication of corrosion. M. E. Parker. diags Oil & Gas J 49:65-6 Mr 1 '51

Resistance measurement tells when to irrigate Hawaiian sugar plantations. il Elec West 105:73 D '50

Fluorine content

Crop and soil reactions to applications of hydrofluoric acid. W. H. MacIntire and others. bibliog il Ind & Eng Chem 43:1800-3 Ag '51

Effect of fluorine carriers on crops and drainage waters. W. H. MacIntire and others. bibliog Ind & Eng Chem 43:1797-9 Ag '51

Freezing

Solar thawing increases profit from sub Arctic placer gravels. E. N. Patty. il Min Eng 190:27-8 Ja '51

Gas content

Gas content of soils is determined by meter. E. D. Myers. il Eng N 146:49 Je 21 '51

Molybdenum content

Molybdenum deficiency in Dunkirk silty clay loam. G. J. Raleigh. bibliog Science 112:433-4 O 13 '50

Testing

Compaction control for earth fills made easier by rapid moisture test. D. Zwerski and L. D. Graves. il Eng N 146:39-40 My 3 '51

Importance of soil sampling, testing; abstract. B. R. Bertramson. Chem & Eng N 29:3004 Jl 23 '51

Small soil compaction apparatus duplicates field results closely. S. D. Wilson. il diags Eng N 145:34-6 N 2 '50; Discussion. H. H. Munger. 146:51 F 15 '51

Undisturbed soil density found with radioisotopes. Eng N 146:67-8 Ap 12 '51

Burma

Movements in the desiccated alkaline soils of Burma. F. L. D. Wooltorton. il plan diags Am Soc C E Proc 76:63-99 Ja '50; Discussion. 76 [no D-XXVIII]:1-10 N '50

SOILS—*Continued*

Rocky Mountain region

Pre-Wisconsin soil in the Rocky Mountain region, a progress report. C. B. Hunt and V. P. Sokoloff. U S Geol S Professional Pa 221-G:109-23 bibliog(p118-21); pa 15c Supt. of doc. '50

SOILS, Ancient. See Paleopedology

SOLANIDINE

Solanum alkaloids; fission of the oxide ring of solasodine with lithium aluminium hydride. L. H. Briggs and R. H. Locker. Chem Soc J p3020-1 N '50

Solanum alkaloids; solasodine. L. H. Briggs and others. Chem Soc J p3013-20 N '50

SOLANUM

Solanum alkaloids; fission of the oxide ring of solasodine with lithium aluminium hydride. L. H. Briggs and R. H. Locker. Chem Soc J p3020-1 N '50

Solanum alkaloids; solasodine. L. H. Briggs and others. Chem Soc J p3013-20 N '50

SOLAR atmosphere. See Sun

SOLAR eclipses. See Eclipses, Solar

SOLAR furnaces. See Furnaces, Solar

SOLAR heating

Windows. E. Ayres. il map diags Sci Am 184:60-5 F '51

See also

Furnaces, Solar

Bibliography

Bibliography on domestic and industrial applications of solar heating. (Bibliog. no. 7) 20p pa $2 Engineering societies library, 29 W. 39th st, New York 18 '50

SOLAR noise. See Radio noise, Solar

SOLAR power

Harnessing the sun. E. P. Herman. Power Eng 55:67+ F '51

SOLAR radiation

Closer look at the sun. Sci Am 184:31-2 Je '51

Handling sun loads on buildings. W. B. Foxhall. bibliog diags Heat & Ven 48:76-80 Ap '51

Heat pump; heat sources and sinks. il Heating-Piping 22:87-91 N '50

Intensity of ultraviolet radiation from solar flares. R. N. Sedra. bibliog Phys R 83:190 Jl 1 '51

New sun angle calculator simplifies solar engineering. D. W. Dunipace. il diags Heating-Piping 23:121-3 Ap '51

Photon counter measurements of solar X-rays and extreme ultraviolet light. H. Friedman and others. bibliog Phys R 83:1025-30 S 1 '51

Solar energy transmittance of figured rolled glass. G. V. Parmelee and W. W. Aubele. bibliog Heating-Piping 23:124-8 F '51

Solar evaporation of salt brines. M. R. Bloch, L. Farkas and K. S. Spiegler. bibliog il diag Ind & Eng Chem 43:1544-53 Jl '51

Solar irradiation of walls and windows, east and west; October-April; data sheet. F. W. Hutchinson. Heating-Piping 23:106-8 My '51

Solar irradiation of walls and windows; Southeast and Southwest; October-April; data sheet. F. W. Hutchinson. Heating-Piping 22:106-8 D '50

Ultraviolet spectral distribution of radiant energy from the sun. R. Stair. bibliog diag J Res Nat Bur Stand 46:353-7 My '51

See also

Earth temperature
Radio noise, Solar
Solar heating
Spectrum, Solar
Sunspots

SOLAR spectrum. See Spectrum, Solar

SOLAR system

Origin of the solar system; abstract. G. P. Kuiper. Science 112:452 O 20 '50

Models

Demonstration model at South Bank exhibition. diags(p815) Engineer 191:814 Je 22 '51

SOLASODINE. See Solanidine

SOLDER and soldering

Application of down-draft exhaust ventilation; automatic soldering of metal containers. E. D. Sallee and R. B. Carter. diags Heat & Ven 48:61-4 Mr '51

Bar solder cast automatically. il Steel 129:112 Ag 6 '51

Duplex setup solders type to typewriter bars. H. Chase. il Steel 128:76 Je 18 '51

Eases aluminum soldering problems; ultrasonic soldering iron. Aviation W 53:40 D 11 '50

Federated Metals develops tin-conserving solders. Steel 128:125 Mr 5 '51; Can Min J 72:65 Mr '51

Induction heating successfully solders aluminum. C. H. Yetman. il Iron Age 167:108-9 Mr 15 '51

Induction solders to size. C. H. Yetman. il diags Am Mach 95:102-3 Je 25 '51

Soft soldering in production; illustrations with text. C. H. Yetman. Metal Prog 59:74-5 Ja '51

Soldering of aluminium; avoidance of brittlement. il Metallurgia 42:131-3 Ag '50; Abstract. Product Eng 22:151-2 Ja '51

Solders and brazing materials; tabulation; engineering file facts. W. H. Kohl. Materials & Methods 33:97, 99 Ja; 97+ F '51

Solders and soldering; some recent advances. H. C. Watkins. il diag Metallurgia 42:372-6 D '50

Some pointers on soldering monel. diags Sheet Metal Worker 42:30-1 F '51

Thermal shunt for soldering resistors. diags Electronics 24:176+ Jl '51

Ultra-sonic solder bath aids tinning. Aviation W 55:44+ Jl 23 '51; il Metallurgia 44:41 Jl '51; Engineer 192:30 Jl 6 '51; Electronics 24:212+ S '51

Ultrasonic soldering iron. diag Electronics 24:154+ Ag '51

Ultrasonic soldering irons. B. E. Noltingk and E. A. Neppiras. diag J Sci Instr 28:50-2 F '51

Ultrasonic soldering of light metals. A. E. Crawford. il diag Metallurgia 44:113-16+ S '51

When and how to use induction soldering. E. M. Wharff. il diags Am Mach 95:166-8 S 3 '51

See also

Brazing
Silver solder
Welding

SOLDIERS, Disabled. See Veterans, Disabled

SOLDIERS, Discharged. See Veterans

SOLDIERS' and sailors' civil relief act. See Military service—Protective legislation

SOLDIERS' bonus. See Veterans—Bonuses

SOLENOIDS

Axially symmetric systems for generating and measuring magnetic fields. M. W. Garrett. bibliog diags J Ap Phys 22:1091-107 S '51

Eddy-current and screen losses of a screened single-layer solenoid. F. M. Phillips. bibliog diag Inst E E Proc 97 pt 3:77-87 Mr '50; Discussion. 98 pt 3:248-9 My '51

Inductance chart for solenoid coil. H. A. Wheeler. bibliog diags Inst Radio Eng Proc 38:1398-400 D '50

Number 11 r-f solenoid design chart. P. G. Sulzer. Tele-Tech 10:45 My '51

Solenoid air valves in automatic machines. R. C. May. diags Product Eng 22:193-5 O '51

Solenoid motor control. G. M. Chute. diag Electronics 24:105 Ja '51

Solenoid operated three position indicator. il diags Product Eng 22:222 O '51

SOLES, Rubber

Sole and heel industry. India Rubber World 124:64-5 Ap '51

SOLID carbon dioxide. See Carbon dioxide, Solid

SOLID solutions. See Solutions, Solid

SOLIDIFICATION

Microscopic observation of the solidification of Cu-Ni alloy droplets. R. E. Cech and D. Turnbull. bibliog il J Metals 3:Trans 242-3 Mr '51

SOLIDS

Absolute theory of solid-state luminescense. F. E. Williams. bibliog J Chem Phys 19:457-66 Ap '51

SOLIDS—*Continued*

Dielectric relaxation in liquids and solids. C. P. Smyth. Elec Eng 69:975-80 bibliog(76 titles, p 979-80) N '50

Elastic energy of an ellipsoidal inclusion in an infinite solid. K. Robinson. bibliog J Ap Phys 22:1045-54 Ag '51

Electrical properties of solids; polytrifluoromonochloroethylene as a polyphase dielectric. S. I. Reynolds and others. bibliog il Am Chem Soc J 73:3714-17 Ag '51

Electrical properties of solids; poly-4-vinylpyridine and some of its derivatives. W. N. Maclay and R. M. Fuoss. Am Chem Soc J 73:4065-9 S '51

Frequency spectra of simple solids from specific heat data. E. Katz. J Chem Phys 19:488-93 Ap '51

Heterogeneous catalysis; theoretical basis. D. A. Dowden. diags Chem Soc J p242-65 Ja '50

Kinetics of ordering in the alloy AuCu. G. J. Dienes. bibliog J Ap Phys 22:1020-6 Ag '51

Method for the calculation of heat transfer in solids with temperature-dependent properties. R. Plunkett. A S M E Trans 73: 605-7; Discussion. 607-8 Jl '51

Methods of estimating the entropies of solid compounds. W. M. Latimer. Am Chem Soc J 73:1480-2 Ap '51

New method of determining thermal diffusivity of solids at various temperatures. D. Rosenthal and A. Ambrosio. il diag A S M E Trans 73:971-4 O '51

Progress of the physics of solids. F. Seitz. Franklin Inst J 251:156-66 Ja '51

Pulse-annealing for the study of relaxation processes in solids. W. E. Parkins and others. il diags J Ap Phys 22:1012-19 Ag '51

Self-diffusion in some solids. R. Lindner. diags Chem Soc J supp no 2:S395-6 '49

Solid-state reactions in phase equilibrium research. W. R. Foster. bibliog Am Cer Soc Bul 30:267-70, 291-6 Ag 15-S 15 '51

See also

Crystals
Expansion (heat)
Melting points
Particles
Powders
Solidification
Solutions, Solid
Sublimation
Surface phenomena

SOLS. See Colloids

SOLUBILITY

Amino-acids and peptides; the solubility criterion of chemical purity with special reference to amino-acids; the use of differential vapour-pressure measurements. I. W. Hughes, E. W. Williams and G. T. Young. diags Chem Soc J p 1279-81 My '51

Amino-acids and peptides; the solubility criterion of chemical purity with special reference to amino-acids; the use of refractive-index measurements. E. W. Williams and G. T. Young. diags Chem Soc J p 1745-6 Jl '51

Aqueous solubility of hafnium oxide by the radioactive isotope technique. R. A. Cooley and H. O. Banks. Am Chem Soc J 73:4022 Ag '51

Aqueous solubility of silver molybdate and the ternary systems Ag_2MoO_4-$AgNO_3$-H_2O and Ag_2MoO_4-$Na_2MoO_4H_2O$ at 25°. J. E. Ricci and W. F. Linke. Am Chem Soc J 73: 3601-3 Ag '51

Conductometric studies of solubility and micelle formation. D. N. Eggenberger and H. J. Harwood. Am Chem Soc J 73:3353-5 Jl '51

Cosolubilization in solutions of potassium laurate; effect of cosolubilized alcohols and hydrocarbons on the solubilization of several aromatic compounds in potassium laurate solutions. I. M. Kolthoff and W. F. Graydon. bibliog J Phys & Colloid Chem 55:699-712 My '51

Effect of added hydrocarbons upon critical concentrations of soap and detergent solutions. H. B. Klevens. bibliog J Phys & Colloid Chem 54:1012-16 O '50

Effects of nonsugars on solubility of sucrose in sugar beet sirups. H. W. Dahlberg and A. N. Bennett. bibliog Ind & Eng Chem 43:660-2 Mr '51

Film-forming properties of cellulose acetate propionates; effect of solvents, diluents, and plasticizers. A. G. Roberts and S. G. Weissberg. bibliog Ind & Eng Chem 43:2088-98 S '51

Free energy of formation and solubility product constant of mercuric sulfide. J. R. Goates, A. G. Cole and E. L. Gray. bibliog Am Chem Soc J 73:3596-7 Ag '51

Gas evolution in liquids and cavitation. P. H. Schweitzer and V. G. Szebehely. diags J Ap Phys 21:1218-24 D '50

Liquid-liquid equilibria in system benzene-pyridine-water. J. C. Smith, V. D. Stibolt and R. W. Day. bibliog diag Ind & Eng Chem 43:190-4 Ja '51

Mutual solubility of mercury and gallium. W. M. Spicer and H. W. Bartholomay. Am Chem Soc J 73:868-9 F '51

Portion of the system silica-water. G. C. Kennedy. bibliog diags Econ Geol 45:629-53 N '50

Preliminary studies on the solubility of iron in liquid sodium; abstract. L. F. Epstein. Science 112:426 O 13 '50

Quaternary system $MgMoO_4$-Na_2SO_4-H_2O at 25° and its related ternary systems. J. E. Ricci and W. F. Linke. Am Chem Soc J 73:3607-12 Ag '51

Reciprocal solubility of 4,6-dimethyl-1,2-pyrone and water. R. H. Wiley and N. R. Smith. bibliog Am Chem Soc J 73:1383-4 Mr '51

Relation between gas evolution and physical properties of liquids. V. G. Szebehely. J Ap Phys 22:627-8 My '51

Relationship between solubility and stereochemical configuration in copper salts of unsaturated carboxylic acids. M. Crawford. Chem & Ind p234 Mr 24 '51

Room temperature solubility of iron in copper. T. S. Hutchison and J. Reekie. bibliog Phys R 83:854-5 Ag 15 '51

Salt effect in vapor-liquid equilibria; ethanol-water saturated with inorganic salts. R. R. Tursi and A. R. Thompson. bibliog diag Chem Eng Prog 47:304-8 Je '51

Soaps as solubilizers; abstract. Soap & San Chem 27:67 My '51

Solubilities of the sulfides of arsenic, antimony, and tin in hydrochloric acid. C. H. Sorum and H. A. Wolf. J Chem Educ 27: 614-16 N '50

Solubility and structure of cellulose acetates. F. Howlett and A. R. Urquhart. bibliog Chem & Ind p82-7 F 3 '51

Solubility measurements in the critical temperature region. D. Atack and W. G. Schneider. bibliog diags J Phys & Colloid Chem 54:1323-36 D '50

Solubility of aromatic hydrocarbons in water. R. L. Bohon and W. F. Claussen. bibliog Am Chem Soc J 73:1571-8 Ap '51

Solubility of cobalt hydroxide, $Co(OH)_2$, in solutions of hydrochloric acid and sodium hydroxide at 25°. K. H. Gayer and A. B. Garrett. bibliog Am Chem Soc J 72:3921-3 S '50

Solubility of higher alkyl quaternary ammonium salts of fatty acids. D. N. Eggenberger and others. Am Chem Soc J 72: 4135-7 S '50

Solubility of hydrogen in molten lead. W. R. Opie and N. J. Grant. J Metals 3:Trans 244-5 Mr '51

Solubility of iron in liquid magnesium-aluminium alloys. W. A. Baker and M. D. Eborall. Metallurgia 44:145-6 S '51

Solubility of mercury in liquid phosphorus. G. J. Rotariu and others. il Am Chem Soc J 73:2527-8 Je '51

Solubility of methyl bromide in water and in some fruit juices. G. P. Haight, jr. diag Ind & Eng Chem 43:1827-8 Ag '51

Solubility of perfluoro-*n*-heptane with benzene, carbon tetrachloride, chloroform, *n*-heptane and 2,2,4-trimethylpentane. J. H. Hildebrand, B. B. Fisher and H. A. Benesi. bibliog Am Chem Soc J 72:4348-51 O '50

Solubility of polystyrene fractions in hydrocarbons. P. O. Powers. bibliog Ind & Eng Chem 42:2558-62 D '50

Solubility of propane and the butanes in ethanol. C. B. Kretschmer and R. Wiebe. bibliog diag Am Chem Soc J 73:3778-81 Ag '51

SOLUBILITY—*Continued*

Solubility of quartz and some other substances in superheated steam at high pressures. G. W. Morey and J. M. Hesselgesser. bibliog diags A S M E Trans 73:865-72; Discussion. 872-5 O '51

Solubility of quaternary ammonium salts in methanol-benzene mixtures; the anomalous behavior of tetraethylammonium iodide. G. M. Goldberg and A. A. Vernon. Am Chem Soc J 73:2845-6 Je '51

Solubility of sucrose in aqueous glycerol and propylene glycol. M. W. Fey, C. M. Weil and J. B. Segur. bibliog Ind & Eng Chem 43:1435-6 Je '51

Solubility of sulfur; an undergraduate research project. M. Brooke. J Chem Educ 28:434-5 Ag '51

Solubility of tetraethylammonium chloride in benzene-ethylene dichloride mixtures. A. A. Vernon, G. M. Goldberg and J. H. LaRochelle. Am Chem Soc J 73:2844-5 Je '51

Solubility of water in diethyl ether at 25°. H. H. Rowley and W. R. Reed. bibliog Am Chem Soc J 73:2960 Je '51

Solubility products of ferrous and ferrosic hydroxides. T. V. Arden. Chem Soc J p882-5 Mr '50

Solubilization of four typical hydrocarbons in aqueous solution by three typical detergents. J. W. McBain and K. J. Lissant. bibliog J Phys & Colloid Chem 55:655-62 My '51

Some aqueous salt systems involving fluosilicates. J. E. Ricci and J. A. Skarulis. bibliog Am Chem Soc J 73:3618-27 Ag '51

Study of some complex chlorides and oxalates by solubility measurements. J. E. Barney, 2d, W. J. Argersinger, jr. and C. A. Reynolds. bibliog Am Chem Soc J 73:3785-8 Ag '51

Study of the solubility of triethylenediamine-nickel thiosulfate. J. H. Gast and F. L. Aldrich. Am Chem Soc J 73:3037-9 Jl '51

System magnesium molybdate-water and the 25° isotherm of the system $MgMoO_4$-$MgCl_2$-H_2O. J. E. Ricci and W. F. Linke. Am Chem Soc J 73:3603-7 Ag '51

Systems Ag_2SO_4-H_2O and Ag_2SO_4-$MgSO_4$-H_2O at 35°. C. A. Orlick and E. L. Simons. Am Chem Soc J 73:4325 S '51

Systems Ag_2SO_4-Rb_2SO_4-H_2O and Ag_2SO_4-Cs_2SO_4-H_2O at 25°. W. C. von Dohlen and E. L. Simons. Am Chem Soc J 73:461-2 Ja '51

Vapor-liquid equilibrium of C_4 hydrocarbon-furfural-water mixtures; experimental and theoretical methods for three- and four-component systems. D. Jordan and others. bibliog Chem Eng Prog 46:601-13 D '50

SOLUTION (chemistry)

Aqueous solutions of sodium benzenesulfonate and monosubstituted derivatives; some physicochemical properties. P. W. Renich and R. Taft. bibliog Ind & Eng Chem 43:2376-84 O '51

Behavior of solutions of titanium dioxide in sulfuric acid in the presence of certain bivalent metallic sulfates. S. M. Mehta and R. P. Poncha. Am Chem Soc J 73:227-8 Ja '51

Behavior of solutions of titanium dioxide in sulfuric acid in the presence of metallic sulfates. S. M. Mehta and S. R. Patel. Am Chem Soc J 73:224-6 Ja '51

Chemical actions of ionising radiations in solution; radiation chemistry of sterols; the action of X-rays on cholesterol and 3β-hydroxypregn-5-en-20-one. M. Keller and J. Weiss. Chem Soc J p2709-14 O '50

Chemical actions of ionising radiations in solution; radiation chemistry of sterols; the action of X-rays on cholic acid in aqueous solution. M. Keller and J. Weiss. Chem Soc J p25-6 Ja '51

Chemical actions of ionising radiations on aqueous solutions; hydroxylation of benzoic acid by free radicals produced by X-rays. H. Loebl, G. Stein and J. Weiss. Chem Soc J p405-7 F '51

Chemical actions of ionising radiations on aqueous solutions; hydroxylation of nitrobenzene by free radicals produced by X-rays. H. Loebl, G. Stein and J. Weiss. Chem Soc J p2704-9 O '50

Chemical actions of ionising radiations on aqueous solutions; introductory remarks and description of irradiation arrangements. F. T. Farmer, G. Stein and J. Weiss. diags Chem Soc J p3241-5 D '49

Chemical actions of ionising radiations on aqueous solutions; the action of neutrons and of α-particles on benzene. G. Stein and J. Weiss. Chem Soc J p3254-6 D '49

Chemical actions of ionising radiations on aqueous solutions; the action of X-rays on some amino-acids. G. Stein and J. Weiss. Chem Soc J p3256-63 D '49

Chemical actions of ionising radiations on aqueous solutions; the formation of free radicals; the action of X-rays on benzene and benzoic acid. G. Stein and J. Weiss. diag Chem Soc J p3245-54 D '49

Concentration dependence of the rates of diffusion of macromolecules in solution; an investigation of fractions of polystyrene. A. F. Schick and S. J. Singer. bibliog J Phys & Colloid Chem 54:1028-44 O '50

Concentration dependence of the viscosity of solutions of macromolecules. J. Riseman and R. Ullman. bibliog J Chem Phys 19:578-84 My '51

Critical solution temperatures for sulfur and butyl phthalate. M. Brooke. Am Chem Soc J 72:5748-9 D '50

Determination of saturation temperatures of inorganic salt solutions; refractive index measurements. C. R. Parkerson. diags Anal Chem 23:610-13 Ap '51

Diffusion coefficients of organic liquids in solution from surface tension measurements. R. L. Olson and J. S. Walton. Ind & Eng Chem 43:703-6 Mr '51

Effect of small refractive index differences between solution and solvent on light scattering. P. Debye and W. M. Cashin. J Chem Phys 19:510 Ap '51

Exchange of water between hydrated cations and solvent. J. P. Hunt and H. Taube. bibliog J Chem Phys 19:602-9 My '51

Experiments on the ultrasonic unmixing of liquid solutions. C. A. Boyd and R. J. Zentner. il diag Phys R 83:1059-60 S 1 '51

Fluorescence of solutions bombarded with high energy radiation (energy transport in liquids). H. Kallmann and M. Furst. bibliog il diag Phys R 79:857-70; 81:853-64 S 1 '50, Mr 1 '51

High-efficiency vacuum method. M. A. Phillips. diag Chem Age (Lond) 63:681-2 N 11 '50

Instruments for chemical plant; properties of solutions. diags Chem Age (Lond) 65:41-5 Jl 14 '51

Investigations on proteins and polymers; critical phenomena in polyvinyl alcohol-acetate copolymer solutions. F. F. Nord, M. Bier and S. N. Timasheff. bibliog Am Chem Soc J 73:289-93 Ja '51

Kinetics of the dissolution of zinc in aqueous iodine solutions. L. L. Bircumshaw and A. C. Riddiford. diags Chem Soc J p598-603, 1490-3 F, Je '51

Measurement of large partition coefficients by interchange extraction. C. Golumbic and S. Weller. bibliog Anal Chem 22:1418-19 N '50

Rate of dissolution of silver in aqueous ceric sulfate solutions. H. W. Salzberg and others. bibliog Electrochem Soc J 98:31-5 Ja '51

Sedimentation equilibria of polydisperse non-ideal solutes; association in dilute cellulose acetate solutions. M. Wales and D. L. Swanson. bibliog J Phys & Colloid Chem 55:203-10 F '51

Sedimentation equilibria of polydisperse non-ideal solutes; number-average molecular weight and molecular-weight distribution functions. M. Wales, F. T. Adler and K. E. Van Holde. bibliog J Phys & Colloid Chem 55:145-61 Ja '51

Sedimentation equilibria of polydisperse non-ideal solutes; uses and limitations of the equilibrium ultracentrifuge. M. Wales. bibliog J Phys & Colloid Chem 55:282-92 F '51

Stability of gas bubbles in liquid-gas solutions. P. S. Epstein and M. S. Plesset. J Chem Phys 18:1505-9 N '50

Statistical mechanical theory of solutions. J. G. Kirkwood and F. P. Buff. J Chem Phys 19:774-7 Je '51

SOLUTION (chemistry)—*Continued*

Symposium on complex ions and polyelectrolytes, Ithaca, N.Y. June 18-21. Chem & Eng N 29:2746-7 Jl 2 '51

Ternary system nicotine-water-kerosene. C. O. Badgett. diag Ind & Eng Chem 43:2370-2 O '51

Theories of solutions; International congress of pure and applied chemistry papers. Chem & Eng N 29:3973-4 S 24 '51

Theory of high polymer solutions (the dumbbell model). A. Isihara. bibliog diags J Chem Phys 19:397-403 Ap '51

Theory of ionic solutions. J. E. Mayer. diags J Chem Phys 18:1426-36 N '50

Theory of the high polymer solution. H. Ichimura. J Chem Phys 19:516-17 Ap '51

Thermodynamic study of liquid metallic solutions; the systems bismuth-gold and thallium-gold. O. J. Kleppa. diags Am Chem Soc J 73:385-90 Ja '51

See also

Colloids	Ions
Crystallization	Precipitation
Diffusion	Solubility
Electrolysis	Solvents
Electrolytes	Supersaturation

SOLUTION, Adsorption from. See Adsorption

SOLUTION, Heat of

Heat of solution of halides, sulphuric acid, oxalic acid, sodium hydroxide, and urea in ethyl alcohol-water mixtures. M. Bobtelsky and R. D. Larisch. diag Chem Soc J p3612-15 D '50

Heat of solution of zinc oxide in 2 *N* hydrochloric acid. R. B. Peppler and E. S. Newman. bibliog J Res Nat Bur Stand 46: 121-3 F '51

Molar heats of solution of boric oxide and boric acid. E. R. Van Artsdalen and K. P. Anderson. bibliog Am Chem Soc J 73: 579-81 F '51

SOLUTIONS, Solid

Anelastic effects arising from precipitation in aluminum-zinc alloys. A. S. Nowick. bibliog il J Ap Phys 22:925-33 Jl '51

Atomic arrangements in gold-nickel solid solutions. P. A. Flinn and B. L. Averbach. Phys R 83:1070 S 1 '51

Crystal structures and transformations in indium-thallium solid solutions. L. Guttman. bibliog il J Metals 188:Trans 1472-7 D '50; Discussion. 3:Trans 1056-7 N '51

Effect of alloying elements on the elevated temperature plastic properties of alpha solid solutions of aluminum. O. D. Sherby and others. bibliog J Metals 3:Trans 643-52 Ag '51

Index of refraction as supplement to X-ray crystal analysis of solid solutions. L. J. Wood and A. J. Frank. bibliog Anal Chem 23:695-9 My '51

Interface and marker movements in diffusion in solid solutions of metals. L. C. Correa da Silva and R. F. Mehl. bibliog il diags J Metals 191:Trans 155-73 F '51

Interpretation of the infrared and Raman spectra of mixed crystals. H. J. Hrostowski and G. C. Pimentel. bibliog J Chem Phys 19:661-2 My '51

Kinetics of precipitation in supercooled solid solutions. G. Borelius. il diags J Metals 3: Trans 477-84 Je '51

Magnetic susceptibilities of Cr_2O_3-Al_2O_3 and of Fe_2O_3-Al_2O_3 solid solutions. P. W. Selwood, L. Lyon and M. Ellis. Am Chem Soc J 73:2310-11 My '51

Magnetic susceptibilities of urania-thoria solid solutions. W. Trzebiatowski and P. W. Selwood. bibliog Am Chem Soc J 72:4504-6 O '50

Oxides of uranium; the binary system UO_2-CaO. K. B. Alberman, R. C. Blakey and J. S. Anderson. diag Chem Soc J p 1352-6 My '51

Radioactive tracers in solid solution investigations. W. T. Foley and P. A. Giguere. bibliog Science 113:754-5 Je 29 '51

Reactions in the system TiO_2-SiO_2; revision of the phase diagram. R. W. Ricker and F. A. Hummel. bibliog Am Cer Soc J 34: 271-9 S 1 '51

Room temperature solubility of iron in copper. T. S. Hutchison and J. Reekie. bibliog Phys R 83:854-5 Ag 15 '51

Solid solutions of the alkali halides; theoretical calculation of lattice constants, heats of mixing, and distributions between solid and aqueous phases. G. S. Durham and J. A. Hawkins. bibliog J Chem Phys 19: 149-56 F '51

Studies of gradual transitions in mixed crystals; the system ammonium chloride-ammonium bromide. C. J. Mandleberg and L. A. K. Staveley. diag Chem Soc J p2736-43 O '50

Study of precipitates of C and N in iron with an electron microscope. J. Radavich and C. Wert. il J Ap Phys 22:367-71 Ap '51

System sodium tungsten bronze-lithium tungsten bronze-tungsten(VI) oxide. M. E. Straumanis and G. F. Doctor. bibliog Am Chem Soc J 73:3492-6 Jl '51

Ternary systems $AgBrO_3$-$KBrO_3$-H_2O and $AgClO_3$-$NaClO_3$-H_2O at 25°. J. E. Ricci and J. A. Offenbach. Am Chem Soc J 73:1597-9 Ap '51

Transformations $\alpha \rightarrow \gamma$ and $\gamma \rightarrow \alpha$ in iron-rich binary iron-nickel alloys. N. P. Allen and C. C. Earley. 6pls Iron & Steel Inst J 166:281-8 D '50

Zirconia-yttria system. P. Duwez and others. bibliog il Electrochem Soc J 98:356-62 S '51

SOLUTIONS, Standard

Keeping properties of certain volumetric solutions. B. W. Durham. J Chem Educ 28: 387 Jl '51

Sodium tartrate dihydrate as a primary standard for Karl Fischer reagent. J. D. Neuss, M. G. O'Brien and H. A. Frediani. bibliog Anal Chem 23:1332-3 S '51

Tris(hydroxymethyl)aminomethane as an acidimetric standard. J. H. Fossum, P. C. Markunas and J. A. Riddick. bibliog Anal Chem 23:491-3 Mr '51

SOLUTIZER process. See Gasoline—Manufacture

SOLVATION

First-order asymmetric transformation arising from solvation. J. Glazer, M. M. Harris and E. E. Turner. Chem Soc J p 1753-7 Jl '50

SOLVENTS

Analysis of inorganic compounds by paper chromatography. F. H. Pollard, J. F. W. McOmie and I. I. M. Elbeih. Chem Soc J p466-74 F '51

Apparent induction of polarity in non-polar solutes by polar solvents. H. G. Holland and R. J. W. Le Fèvre. Chem Soc J p2166-9 Ag '50

Apparent polarisations of paraldehyde in non-polar solvents measured at 10 and 25 cm. R. J. W. Le Fèvre and J. W. Mulley. diag Chem Soc J p295-7 Ja '50

Aromatics recovery by solvent refining; β,β'-oxydipropionitrile as a selective solvent. E. C. Medcalf and others. Pet Refiner 30:97-100 Jl '51

Atom polarisation; the solvent-effect theory and its application to the molecular refraction and polarisation of *n*-paraffins in the liquid state. A. Audsley and F. R. Goss. Chem Soc J p2989-97 N '50

Construction materials vs. hydrocarbon solvents. il Chem Eng 58:222+ Jl '51

Corrosion forum; construction materials vs. hydrocarbon solvents. il Chem Eng 58:220+ Je '51

Distribution of several bivalent and trivalent metallic nitrates between water and *n*-hexyl alcohol at 25°. C. C. Templeton and L. K. Daly. Am Chem Soc J 73:3989-91 Ag '51

Distribution of the lower fatty acids between water and a variety of solvents. M. Davies and others. Chem Soc J p 1249-52 My '51

Effect of solvent on the adsorption of liquids by bauxite and attapulgus clay. J. G. Miller, H. Heinemann and W. S. W. McCarter. bibliog J Phys & Colloid Chem 55:515-23 Ap '51

Effect of solvents on tautomeric equilibria. J. Powling and H. J. Bernstein. bibliog Am Chem Soc J 73:4353-6 S '51

Electrolytic dissociation of lanthanum ferricyanide in mixed solvents. J. C. James. Chem Soc J p 1094-8 Ap '50

Extraction of ceric nitrate by solvents. A. W. Wylie. Chem Soc J p 1474-80 Je '51

Factors affecting solvent performance. Chem Age (Lond) 63:570-1 O 21 '50

SOLVENTS—*Continued*

Fractional solvent extraction between immiscible solvents; graphical calculation. E. L. Compere and A. Ryland. bibliog Ind & Eng Chem 43:239-41 Ja '51

Glycol ethers as nonaqueous solvents in polarographic analysis. T. D. Parks and K. A. Hansen. bibliog Anal Chem 22:1268-9 O '50

Infrared-transmitting solvents; triethylamine addition as a means of increasing applicability. J. S. Ard and T. D. Fontaine. bibliog Anal Chem 23:133-7 Ja '51

Intrinsic viscosity relationships for polystyrene. T. G. Fox, jr. and P. J. Flory. bibliog Am Chem Soc J 73:1915-20 My '51

Intrinsic viscosity-temperature relationships for polyisobutylene in various solvents. T. G. Fox, jr. and P. J. Flory. bibliog Am Chem Soc J 73:1909-15 My '51

Kinetics of the decomposition of tertiary hydroperoxides in solvents. V. Stannett and R. B. Mesrobian. Am Chem Soc J 72:4125-30 S '50

Lewis acids and bases and molecular complexes. R. S. Mulliken. J Chem Phys 19:514-15 Ap '51

Measurement of molecular weight in organic solvents; thermoelectric method. C. B. Taylor and M. B. Hall. diags Anal Chem 23:947-9 Jl '51

Mechanism of the hydrolysis of acid chlorides; the effect of temperature and solvent composition. B. L. Archer and R. F. Hudson. diags Chem Soc J p3259-69 N '50

Mixed hydrocarbon solvents for fatty acids and their triglycerides. R. Bogash and A. N. Hixson. bibliog il Chem Eng Prog 47:347-53 Jl '51

Nitriles as selective solvents; extraction of aromatics from petroleum hydrocarbons. K. W. Saunders. bibliog Ind & Eng Chem 43:121-6 Ja '51

Optical activation by asymmetric solvent action. C. Buchanan and S. H. Graham. Chem Soc J p500-7 F '50

Petroleum derivatives. Published in weekly numbers of Oil, paint and drug reporter

Petroleum solvents, and the supply problem. E. M. Toby, jr. Paint Oil & Chem R 113:33 N 9 '50

Phase equilibria between fluorothene and solvents. R. E. McHenry and others. bibliog Ind & Eng Chem 42:2317-19 N '50

Pinch in solvents. M. W. Schwarz. Barron's 31:15 Mr 5 '51

Protective and decorative coatings applied from organic solvents. P. H. Yoder. Tappi 34:sup84A-7A Je '51

Reactions of iodine monohalides in different solvents. F. W. Bennett and A. G. Sharpe. Chem Soc J p 1383-4 My '50

Rheology of rubber solutions and suspensions. L. Leaman. bibliog(53 ref) Rubber Age 69:699-706 S '51

Separation of mixtures by continuous extraction processes; the continuous step-wise extraction of a fixed quantity of a mixture of solutes. J. D. A. Johnson. Chem Soc J p 1743-53 Jl '50

Separation of mixtures of solutes by distribution between solvents; the separation of the components of a fixed quantity of a mixture by a continuous counter-current extraction process. J. D. A. Johnson and A. Talbot. diags Chem Soc J p 1068-88 Ap '50

Softening solvent helps pulverize and remix old bituminous surfacing. E. Withycombe. il Roads & Sts 93:67-9 D '50

Solution viscosity and partial specific volume of polystyrene; effect of solvent type and concentration. D. J. Streeter and R. F. Boyer. bibliog Ind & Eng Chem 43:1790-7 Ag '51

Solvent dependence of specific rates treated as a problem in activity coefficients. E. Grunwald. bibliog J Phys & Colloid Chem 55:881-4 Je '51

Solvent-detergent products. A. Davidsohn. Soap & San Chem 27:47+ Ag '51

Solvents for extracting nicotine from aqueous solutions. C. O. Badgett. bibliog Ind & Eng Chem 42:2530-1 D '50

Sommelet reaction; the choice of solvent and the effect of substituents. S. J. Angyal and others. Chem Soc J p2141-5 Ag '50

Spectrophotometric investigation of cobaltous nitrate in organic solvents. L. I. Katzin and E. Gebert. bibliog Am Chem Soc J 72:5455-63 D '50

Spectrophotometric studies of cobalt(II) thiocyanate complexes in organic solvents. L. I. Katzin and E. Gebert. Am Chem Soc J 72:5659-62 D '50

Stabilization of highly polar resonance structures by hydrogen bonding; electric moments. C. Curran and G. K. Estok. bibliog Am Chem Soc J 72:4575-8 O '50

System uranyl nitrate-water-organic solvent. L. I. Katzin and J. C. Sullivan. bibliog J Phys & Colloid Chem 55:346-74 Mr '51

See also

Actone
Acetonitrile
Benzene
Butyl alcohol
Carbon disulfide
Carbon tetrachloride
Chloroform
Cleaning compositions
Extraction processes
Furfural
Methanol
Naphtha
Stearins
Tetrahydrofuran

Recovery

Activated carbon in solvent recovery; gasoline vapourized during manufacture of asbestos sheet packing. il Can Chem & Process Ind 35:376-7+ My '51; Same cond. Heating-Piping 23:100-1 Jl '51; Abstract. Heat & Ven 48:121 My '51

Continuous stripper for adsorption column effluent streams. R. L. Hopkins. diags Ind & Eng Chem 43:1456-8 Je '51

Safety measures

Combustible gas alarm aids safety in solvent extraction; Hunter packing co. il Heating-Piping 23:99-101 Mr '51; Same. Safety Maint & Prod 101:30-1+ Ap '51

Storing and handling solvents. il Paint Oil & Chem R 114:20-2 My 24 '51

SOLVOLYSIS

Alkyl-oxygen fission in carboxylic esters; solvolytic reactions of esters of optically active *cyclo*hexylphenyl-, methylphenyl-, and methyl-α-naphthyl-carbinols. M. P. Balfe, G. H. Beaven and J. Kenyon. Chem Soc J p376-80 F '51

Allylic rearrangements; the solvolysis and intramolecular rearrangement of α,α-dimethylallyl chloride. W. G. Young, S. Winstein and H. L. Goering. bibliog Am Chem Soc J 73:1958-63 My '51

Correlation of solvolysis rates and the classification of solvolysis reactions into mechanistic categories. S. Winstein, E. Grunwald and H. W. Jones. bibliog Am Chem Soc J 73:2700-7 Je '51

Effect of intramolecular configuration on the rate of unimolecular solvolysis of aralkyl chlorides. G. Baddeley and J. Chadwick. Chem Soc J p368-74 F '51

Liquid dinitrogen tetroxide solvent system; reactions involving some alkylammonium salts, with particular reference to solvolysis and the formation of diethylnitrosamine. C. C. Addison, C. P. Conduit and R. Thompson. Chem Soc J p 1298-303 My '51

Solvolysis and rearrangement reactions accompanying the formation of methallyl bromide. P. Teuscher. Am Chem Soc J 72:4316-18 S '50

SOMALILAND, Italian

Commercial policy

New payments system for imports and exports outlined. For Comm W 45:15 O 8 '51

SOMATROFIN

Hormone armorer. il Chem W 69:21-2 Jl 28 '51

SOMMELET reaction

Sommelet reaction; the choice of solvent and the effect of substituents. S. J. Angyal and others. Chem Soc J p2141-5 Ag '50

SOMMERFELD, Arnold Johannes Wilhelm, 1868-

Portrait. Opt Soc Am J 41:63 F '51

Sommerfeld's surface wave. C. J. Bouwkamp. bibliog Phys R 80:294 O 15 '50

SONAR

New technique traces underwater structure of Chicago's harbor. Elec Eng 70:940-1 O '51

Radio, radar, sonar in naval applications. S. Freedman. il diag Radio & Tv N 45:31-4+ Ap '51

Sound waves will tell Chicago where water tunnel should go; sonar depth finding method. il Eng N 147:44 Ag 23 '51

SONIC-flow pyrometer. See Pyrometers and pyrometry

SONISCOPE

Soniscope tests concrete structures. E. A. Whitehurst. il Am Concrete Inst J 22:433-44 F '51; Discussion. 23:444^1-444^4 pt 2 D '51

SONOGRAPH

Sonograph and sound mechanics. J. Dreyfus-Graf. il diags Acoustical Soc Am J 22:731-9 N '50

SONORA, Mexico

High sea levels of the Sonoran shore. R. L. Ives. bibliog maps diag Am J Sci 249:215-23, pl 1-2 Mr '51

SONOTONE corporation

Preferred stock offered; note placed privately. Comm & Fin Chr 174:998 S 17 '51

SOO line. See Minneapolis, St Paul and Sault Ste Marie railway

SOOT blowers

Saving steam or air when blowing soot. W. F. Schaphorst. Marine Eng 56:76 Ap '51

SORBIC acid

Diels-Alder reaction with α,β,γ,δ-unsaturated acids. N. C. Deno. Am Chem Soc J 72:4057-9 S '50

SORBITOL

Anhydrides of polyhydric alcohols; the amino-derivatives of 1 : 4-3 : 6-dianhydro-mannitol, -sorbitol, and -L-iditol, and their behaviour towards nitrous acid. V. G. Bashford and L. F. Wiggins. pl Chem Soc J p371-4 Ja '50

Anhydrides of polyhydric alcohols; the reactions of sodium iodide and lithium chloride with dimethanesulphonyl and ditoluene-*p*-sulphonyl derivatives of the 1 : 4-3 : 6-dianhydrides of D-mannitol, D-sorbitol, and L-iditol. L. F. Wiggins and D. J. C. Wood. Chem Soc J p 1180-4 My '51

Conversion of mannitol and sorbitol into dulcitol. P. Bladon and others. Chem Soc J p3000-5 N '50

Dithiols; ethers of 2 : 3-dimercaptopropanol with mannitol and sorbitol. P. Bladon and L. N. Owen. Chem Soc J p591-7 F '50

Preparation of 4,6-ethylidene-D-glucopyranose from sucrose and its hydrogenation to 4,6-ethylidene-D-sorbitol. R. C. Hockett, D. V. Collins and A. Scattergood. bibliog Am Chem Soc J 73:599-601 F '51

Sorbitol, doubled and redoubled. il Chem W 69:30 O 6 '51

SORBITOLEEN

Dithiols; 5 : 6-sorbitoleen and 1 : 2-mannitoleen as intermediates for the preparation of dithiols. P. Bladon and L. N. Owen. Chem Soc J p598-603 F '50

SORET effect

Differential Soret coefficient of certain electrolytes. M. G. Morin, J. H. Saylor and P. M. Gross. bibliog diag Am Chem Soc J 73:3977-81 Ag '51

SORGHUM

Semipilot production of sucrose from sorghum. R. H. Cotton and others. bibliog flow diag il diag Ind & Eng Chem 43:628-35 Mr '51

SORPTION. See Adsorption

SORTING devices

Automatic sorting speeds piston and wrist-pin production; refrigerator compressor parts. il Steel 127:91-2 D 11 '50

Design of a semiautomatic gaging-and-sorting machine for telephone protector blocks. G. M. Foster. il plan diags Mech Eng 73:713-18 S '51; Same cond. Machine Design 23:160-2+ Ag '51

Electromechanical distributor for sorting mail. S. Scheuer and others. il diags Elec Com 28:163-70 S '51

Fast and easy sorting of steel products; Steelsorter. il Mill & Factory 48:143-4 Ja '51

New electro-mechanical system provides fast access to punched card data file. J. H. Drillick. diags Product Eng 22:176-8 O '51

Office device solves sorting problem. il Mill & Factory 49:116 S '51

Sorters and feeders; reference book sheet. W. Schwartz. diags Am Mach 95:175, 177 F 19; 139, 141 Mr 5 '51

SOUND

Acoustical radiation of an emitter vibrating freely or in a wall of finite dimensions. J. Pachner. bibliog Acoustical Soc Am J 23:198-208 Mr '51

Acoustical radiation of an emitter vibrating in an infinite wall. J. Pachner. bibliog Acoustical Soc Am J 23:185-98 Mr '51

Acoustical society of America 40th meeting, Boston, Nov. 9-11; abstracts of papers. Acoustical Soc Am J 23:142-50 Ja '51

Discussion of papers by Pachner and by Stenzel on radiation from a circular emitter. R. L. Pritchard. bibliog Acoustical Soc Am J 23:591 S '51

New expansion for the velocity potential of a piston source. A. H. Carter and A. O. Williams, jr. bibliog diags Acoustical Soc Am J 23:179-84 Mr '51

Representations of speech sounds and some of their statistical properties. S. Chang and others. bibliog il diags Inst Radio Eng Proc 39:147-53 F '51

Vibrational relaxation times in gases. W. Griffith. bibliog diags J Ap Phys 21:1319-25 D '50

See also

Acoustics, Architectural
Echo
Electroacoustics
Hearing
Noise
Overtones
Photography of sound
Sound waves
Soundproofing
Speech
Supersonic waves
Television—Sound transmission
Tones
Vibration
Vowels

Absorption

Absorption of high power sound waves in water. A. O. Williams, jr. Acoustical Soc Am J 23:369 My '51

Absorption of sound by gas bubbles at a water-metal interface. P. J. Westervelt. Acoustical Soc Am J 23:369 My '51

Absorption of sound by resonant panels. G. G. Sacerdote and A. Gigli. diag Acoustical Soc Am J 23:349-52 My '51

Dispersion of velocity and anomalous absorption of ultrasonics in nitrogen. A. J. Zmuda. bibliog diags Acoustical Soc Am J 23:472-7 Jl '51

Measurements of ultrasonic absorption in various mixtures of nitrobenzene. D. Sette. Acoustical Soc Am J 23:359-63 My '51

Modification of the box method of determining relative sound absorption coefficients. C. B. Boenning and others. Acoustical Soc Am J 23:114-15 Ja '51

Scattering and absorption by an acoustic strip. A. Levitas and M. Lax. bibliog diags Acoustical Soc Am J 23:316-22 My '51

Ultrasonic absorption in binary mixtures of unassociated liquids. D. Sette. J Chem Phys 18:1592-4 D '50

Ultrasonic absorption in liquids. C. J. Moen. bibliog il diag Acoustical Soc Am J 23:62-70 Ja '51

Ultrasonic absorption measurements in aqueous solutions of magnesium sulfate. M. C. Smith and others. bibliog diag Acoustical Soc Am J 23:71-4 Ja '51

Ultrasonic absorption of glycerin in the liquid and vitreous state. T. A. Litovitz. diags Acoustical Soc Am J 23:75-9 Ja '51

Volume viscosity and compressibilities from acoustic phenomena. Hoff Lu. bibliog Acoustical Soc Am J 23:12-15 Ja '51

Apparatus

Complex tone generator for deviation tests. F. A. Bramley. il diag Electronics 24:184+ F '51

Grading grinding wheels; use of a stroboscopic frequency meter called the Stroboconn. T. E. Dustin. il Electronics 24:115 Ap '51

SOUND—Apparatus—*Continued*

Improvements in the design of ultrasonic lamination detection equipment. H. R. Clayton and R. S. Young. diags J Sci Instr 28: 129-32 My '51

Refracting sound waves. W. E. Kock and F. K. Harvey. bibliog il diags Acoustical Soc Am J 21:471-81 S '49; Review. G. W. O. Howe. Wireless Eng 28:1-3 Ja '51

Sonograph and sound mechanics. J. Dreyfus-Graf. il diags Acoustical Soc Am J 22: 731-9 N '50

Spectra and loudnesses of modern automobile horns. D. B. Callaway. Acoustical Soc Am J 23:55-8 Ja '51

Spectrum analysis. F. S. Cooper. Acoustical Soc Am J 22:761-2 N '50

Tailor your direct mail to local market needs; distributors will buy pin-pointed mail campaigns; Stromberg-Carlson co. S. H. Manson. il Ptr Ink 233:30-3 D 1 '50

Tiny voices from rolled zinc; sound unit used in talking dolls and in rubber toys. Steel 128:112 F 5 '51

Tire tread noise analyzer. S. A. Lippmann and K. A. Ferguson. il diags Electronics 23:84-7 N '50

Tunable audio-frequency amplifier of variable selectivity. E. A. G. Shaw. bibliog diags J Sci Instr 27:295-8 N '50

Ultrasonic projector design for a wide range of research applications. E. J. Fry. diag R Sci Instr 21:940-1 N '50

See also

Acoustic patents
Audiometers
Earphones
Electroacoustic transducers
Hearing aids, Mechanical
Loud speaking apparatus
Microphones
Moving picture sound recording
Phonograph
Radio apparatus
Sound—Measurement
Sound—Recording and reproducing
Sound filters
Telephone
Tuning forks

Bibliography

Radio progress during 1950; audio techniques. Inst Radio Eng Proc 39:361-2 Ap '51

Attenuation

Attenuation in a rectangular slotted tube of (1,0) transverse acoustic waves. H. E. Hartig and R. F. Lambert. Acoustical Soc Am J 23:111 Ja '51

Effect of partitions in the absorptive lining of sound-attenuating ducts. U. Ingård and D. Pridmore-Brown. diag Acoustical Soc Am J 23:589-90 S '51

Wall viscosity and heat conduction losses in rigid tubes. R. F. Lambert. bibliog Acoustical Soc Am J 23:480-1 Jl '51

Bibliography

Current publications on acoustics. F. A. Firestone. Published in bi-monthly numbers of Journal of the Acoustical society of America

References to contemporary papers on acoustics. A. T. Jones. Acoustical Soc Am J 23:121-9 Ja '51

Diffraction

Diffraction of a plane sound wave by a paraboloid of revolution. C. W. Horton and F. C. Karal, jr. diag Acoustical Soc Am J 22:855-6 N '50

Measurement

Accuracy of the method of best beats for determining the intensity of a tone. J. M. Warren and J. P. Egan. Acoustical Soc Am J 23:111-13 Ja '51

Army signal corps perfects new type noise meter. Elec Eng 69:1135-6 D '50

Calculation and measurement of the loudness of sounds. L. L. Beranek and others. bibliog diag Acoustical Soc Am J 23:261-9 My '51

Combining sound levels; nomogram; reference sheet. W. B. Conover. Electronics 23: 118 D '50

Correspondence between the intensities of two tones for best beats. R. G. Klumpp and J. P. Egan. Acoustical Soc Am J 23:113-14 Ja '51

Discharge lamp chokes; methods of production noise testing. C. A. Mason and D. A. Nutt. il Elec R (Lond) 148:489-92 Mr 9 '51

Effects of reflected signals and electric pick-up at an ultrasonic microphone. A. O. Williams, jr. and W. Keck. il diags Acoustical Soc Am J 23:173-5 Mr '51

Experimental determination of acoustic wave fronts. P. Tamarkin and others. diags Acoustical Soc Am J 23:7-11 Ja '51

Free field method of measuring the absorption coefficient of acoustic materials. U. Ingård and R. H. Bolt. bibliog il diags Acoustical Soc Am J 23:509-16 S '51

Generation and measurement of low frequency random noise. R. R. Bennett and A. S. Fulton. diags J Ap Phys 22:1187-91 S '51

Half-million pound sound test chamber; acoustics lab of MIT. il Tv Eng 1:9 N '50

How to measure apparatus noise. C. H. G. Gray. il Standardization 22:55-6 F '51

Levels and spectra of traffic, industrial, and residential area noise. G. L. Bonvallet. Acoustical Soc Am J 23:435-9 Jl '51

Measurements of the underwater sound field generated by quartz transducers. W. Keck and others. bibliog il diags Acoustical Soc Am J 23:168-72 Mr '51

Measurements on an acoustic wave propagated along a boundary. R. B. Lawhead and I. Rudnick. diags Acoustical Soc Am J 23: 541-5 S '51

Measuring and evaluating noise. A. H. Fiske, jr. Gen Elec R 53:29-31 N '50

Measuring and recording muffler efficiency. il Automotive Ind 104:52+ My 15 '51

Noise evaluation of fluorescent lamp ballasts. C. P. Hayes and H. R. Gould. il diags Gen Elec R 54:45-52 Je '51

Power level indicator. il R Sci Instr 21: 887 O '50

Sound equipment; Type 1400 sound level meter. il R Sci Instr 22:285-6 Ap '51

Sound is studied in new test chamber of M.I.T. acoustics laboratory. il Elec Eng 69: 1062 D '50

Ultrasonic underwater point source probe. L. Fein. diag Acoustical Soc Am J 22:876-7 N '50

Ultra speed recording for acoustical measurement. C. J. LeBel and J. Y. Dunbar. il diag Acoustical Soc Am J 23:559-63 S '51

See also

Sound—Velocity

Recording and reproducing

Apparatus for speech compression and expansion and for relaying visible speech records. F. Vilbig. il diags Acoustical Soc Am J 22:754-61 N '50

Audio simplified. D. Fidelman. il Radio & Tv N 46:48-50+ S; 59-62+ O; 59-62+ N '51 (to be cont)

Auditioner. L. M. Dezettel. il diags Radio & Tv N 44:50-1+ N '50

Building the Williamson amplifier. H. I. Keroes. il diags Radio & Tv N 44:52-3+ D '50

Cut-off frequencies and audio quality. J. P. Neil. Q S T 34:25+ N '50

Detroit Times Singit cuts wire tolls 73 per cent. il Ed & Pub 84:9 My 19 '51

Disk and tape recording. Consumers Res Bul 28:8 O '51

Electronic loss compressor. E. C. Miller and T. Jones. il diags Radio & Tv N 44:64+ N '50

Electronics speed news for Detroit paper. Bsns W p92 Ag 11 '51

Flexible record-reproduce system. O. Read. il diags Radio & Tv N 44:42-3+ N '50; 45: 47-9+ Ja; 62-4+ F '51

High-quality audio system. H. T. Sterling and A. Sobel. il diags Radio & Tv N 45: 39-42+ Mr '51

High-quality sound system for the home. H. F. Olson and A. R. Morgan. bibliog il plan diags Radio & Tv N 44:59-63+ N '50

How to judge audio quality. J. Marshall. il Radio & Tv N 44:44+ N '50

How United air lines trains its salesmen; use of recordings of conversations between customers and company personnel. Am Bsns 21:38 Ja '51

Improved tone control circuit. J. A. Szabo. diag Radio & Tv N 46:86 S '51

SOUND—Recording and reproducing—*Cont.*
New audio developments. J. Simon. il diags Radio & Tv N 44:43-5+ D '50
Practical sound engineering. H. M. Tremaine. il diags Radio & Tv N 45:52-4 Mr; 53-5+ Ap; 60-2+ My; 66-8+ Je; 46:60-2+ Jl; 64-6+ Ag; 70-2+ S; 72-4+ O; 72-4+ N '51 (to be cont)
Selecting your high-fidelity system. J. F. Becker. il Radio & Tv N 44:80-1+ N '50
Selling via sound tape. il Sales Management 67:84-6 Ag 15 '51
Snowball interview; new tool for market research; group interview played back to agency personnel. P. C. Nahl. Ptr Ink 234: 35-6 Mr 23 '51
Sound recording and the problem of evidence in psychiatry. E. B. Brody and others. bibliog Science 113:379-80 Ap 6 '51
Versatile equipment key to good recording. W. Miller. il Radio & Tv N 45:35+ Ap '51

See also
Moving picture sound recording
Moving picture theaters—Sound equipment
Sonograph

Bibliography

Radio progress during 1950; sound recording and reproducing. Inst Radio Eng Proc 39:365-6 Ap '51

Magnetic recording

Adapt your amplifier for magnetic recording. L. B. Hust. il diags Radio & Tv N 45: 64-5+ My '51
Broadcast tape speed control. D. R. Andrews. il diags Electronics 24:120-3 Jl '51
Dialing in on plant news; transmitting tape-recorded messages by interplant telephone. il Bsns W p44+ N 18 '50
Four-way brake controls recorder. il diags Machine Design 23:125-6 Jl '51
How a small company stays on top of shifting markets; Magnecord, inc. H. E. Green. il Ptr Ink 235:25-7 My 18 '51
How to read everything; Cole electric co. executives get daily tape-recorded digest. il Bsns W p 105 Ag 18 '51
How to sell sound; prospects for Donaldson's engine mufflers hear tape recordings. il Sales Management 66:45 Je 1 '51
KFAB's Magnecorder modifications. V. Wight. diags Tele-Tech 10:37 Je '51
Magnetic dictation machine. Elec R (Lond) 148:683 Ap 6 '51
Magnetic recording with ac bias. R. E. Zenner. Inst Radio Eng Proc 39:141-6 F '51
Magnetic tape recording. il diag Fortune 43: 97-100+ Ja '51
Magneto-optic transducers. A. W. Friend. bibliog il diags RCA R 11:482-507 D '50
Measuring and recording muffler efficiency. il Automotive Ind 104:52+ My 15 '51
Mirror for mistakes; electric recorders valued as agent training device. F. R. Amthor. Nat Underw (Life ed) 54:8 D 1 '50
Mixed ferrites for recording heads. R. Herr. il diag Electronics 24:124-5 Ap '51
More plastics in tape recorder. il Mod Plastics 28:80 Ap '51
Multi-lingual announcing equipment installed at the Parkeston Quay station of British railways. il Engineering 170:392 N 17 '50
New editing machine for professional tape recordings. D. C. Yarnes. il diag Tele-Tech 10:32-3+ Ja '51
Package tune-up; Scotch brand sound recording tape. il Mod Packaging 24:108-9 D '50
Recording demagnetization in magnetic tape recording. O. W. Muckenhirn. bibliog diags Inst Radio Eng Proc 39:891-7 Ag '51
Sound engineering for quieter automobiles. il Automotive Ind 103:52+ N 1 '50
Tape recorder echo chamber. R. L. Gallagher. diag Tele-Tech 10:46 S '51
Tape recorder; multichannel aircraft communications two-way recording system. il Aviation W 54:69-70 Mr 26 '51
Tape recorder solves mass training problem; Allen Electric's factory instructor records training story and 70 sales engineers carry it to mechanics' after-hours classes. il Sales Management 65:74 N 20 '50
Tape transport theory and speed control. J. R. Montgomery. Soc Motion Picture & Tv Eng J 57:63-7; Discussion. 68 Jl '51
Tricks in tape recording. H. G. Eidson, jr. il diag Tv Eng 2:14+ Mr '51
Two-channel magnetic recording amplifier. L. B. Hust. il diag Radio & Tv N 44:45-7+ N '50
Uses of magnetic tape recording in telemetering. K. B. Boothe. Instruments 23: 1186-8 N '50
Wire recorders in making inventories for PPF risks. W. R. Blake. East Underw 52:20 S 7 '51

See also
Moving picture sound recording—Magnetic recording

Terminology

Standards on electroacoustics; definitions of terms, 1951. Inst Radio Eng Proc 39:509-32 My '51 (reprints $1)

Reflection

Nonspecular reflection of sound from planes with absorbent bosses. V. Twersky. Acoustical Soc Am J 23:336-8 My '51
Reflection of a spherical sound wave from an infinite plane. U. Ingard. diag Acoustical Soc Am J 23:329-35 My '51

Scattering

Scattering and absorption by an acoustic strip. A. Levitas and M. Lax. bibliog diags Acoustical Soc Am J 23:316-22 My '51
Sound scattering by solid cylinders and spheres. J. J. Faran, jr. diags Acoustical Soc Am J 23:405-18 Jl '51
Sound scattering of a plane wave from a nonabsorbing sphere. R. W. Hart. bibliog Acoustical Soc Am J 23:323-9 My '51

Study and teaching

Acoustics in the electrical engineering curriculum. G. W. Swenson, jr. J Eng Educ 41:329-30 Ja '51
Courses in acoustics. Acoustical Soc Am J 23:373-5 My '51

Transmission thru sea water

Dependence of shadow zone sound on the surface sound velocity gradient. R. W. Morse. diags Acoustical Soc Am J 22:857-60 N '50
Effect of temperature inhomogeneities in the ocean on the propagation of sound. L. Liebermann. diags Acoustical Soc Am J 23: 563-70 S '51
Velocity of sound in sea water. A. Weissler and V. A. Del Grosso. Acoustical Soc Am J 23:219-23 Mr '51

Transmission thru water

Experimental determination of acoustic wave fronts. P. Tamarkin and others. diags Acoustical Soc Am J 23:7-11 Ja '51
Measurements of the underwater sound field generated by quartz transducers. W. Keck and others. bibliog il diags Acoustical Soc Am J 23:168-72 Mr '51
Transmission of sound through steel plates immersed in water. R. D. Fay and O. V. Fortier. bibliog il diag Acoustical Soc Am J 23:339-46 My '51
Ultrasonics sweep Chicago harbors. diag Electronics 24:192+ Ap '51

Velocity

Asymptotic approximation for the normal modes in sound channel wave propagation. N. A. Haskell. diags J Ap Phys 22:157-68 F '51
Concluding remarks on the speed of sound. M. Morduchow and M. Morkovin. J Aeronautical Sci 18:66-8 Ja '51
Dependence of shadow zone sound on the surface sound velocity gradient. R. W. Morse. diags Acoustical Soc Am J 22:857-60 N '50
Dispersion of velocity and anomalous absorption of ultrasonics in nitrogen. A. J. Zmuda. bibliog diags Acoustical Soc Am J 23:472-7 Jl '51
Improved methods for measuring ultrasonic velocity. G. W. Willard. il diags Acoustical Soc Am J 23:83-93 Ja '51

SOUND—Velocity—*Continued*

Propagation of sound in carbon dioxide near the critical point. N. S. Anderson and L. P. Delsasso. bibliog il diag Acoustical Soc Am J 23:423-9 Jl '51

Ultrasonic velocities in gases at low pressures. R. A. Boyer. bibliog diag Acoustical Soc Am J 23:176-8 Mr '51

Velocity of sound in fluids. C. Truesdell. bibliog J Aeronautical Sci 18:501 Jl '51

Velocity of sound in sea water. A. Weissler and V. A. Del Grosso. Acoustical Soc Am J 23:219-23 Mr '51

Velocity of sound through tissues and the acoustic impedance of tissues. G. D. Ludwig. bibliog diag Acoustical Soc Am J 22:862-6 N '50

SOUND, Photography of. See Photography of sound

SOUND absorbent materials

Absorption characteristics of acoustic material with perforated facings. U. Ingård and R. H. Bolt. bibliog il diag Acoustical Soc Am J 23:533-40 S '51

Absorption coefficients of fir plywood panels. R. W. Kenworthy and T. D. Burnam. Acoustical Soc Am J 23:531-2 S '51

Acoustic panels, core and coil isolation promise noise relief. A. V. Lambert. diags Elec World 136:72-3 Jl 2 '51

Development and pricing of a new product; Kelley Island acoustical tile. J. O. Kamm. J Marketing 15:343-7 Ja '51

Free field method of measuring the absorption coefficient of acoustic materials. U. Ingård and R. H. Bolt. bibliog il diags Acoustical Soc Am J 23:509-16 S '51

New type cylinders absorb test sounds. il Aviation W 54:24+ Mr 5 '51

Practical sound engineering; determining reverberation time of sound studios; how to obtain desirable acoustical characteristics. H. M. Tremaine. il diags Radio & Tv N 45:66-8+ Je '51

Scattering and absorption by an acoustic strip. A. Levitas and M. Lax. bibliog diags Acoustical Soc Am J 23:316-22 My '51

Testing

Acoustical research program announced. Nat Safety N 64:94 S '51

SOUND filters

Acoustic filters as ear defenders. J. Zwislocki. bibliog diag Acoustical Soc Am J 23:36-40 Ja '51

Tuning fork filter. K. N. Wulfsberg. il diag Acoustical Soc Am J 22:847-9 N '50

SOUND waves

Acoustic wave propagation along a constant normal impedance boundary. R. B. Lawhead and I. Rudnick. bibliog diag Acoustical Soc Am J 23:546-9 S '51

Analysis of multiple-echo effect arising from the release of a stored wave train. L. Gold. bibliog il Acoustical Soc Am J 23:214-18 Mr '51

Autocorrelation analysis of speech sounds. K. N. Stevens. diag Acoustical Soc Am J 22:769-71 N '50

Boundary layer attenuation of higher order modes in rectangular and circular tubes. R. E. Beatty, jr. bibliog diags Acoustical Soc Am J 22:850-4 N '50

Correlation function analysis. L. G. Kraft. il Acoustical Soc Am J 22:762-4 N '50

Discontinuous growth and decay of sound in a one-dimensional room. H. B. Miller. il diags Acoustical Soc Am J 23:517-30 S '51

Effect of acoustical radiations on the hydrogen electrode. E. Yeager and F. Hovorka. bibliog Electrochem Soc J 98:14-20 Ja '51; Discussion. 98:510-11 D '51

Equivalent circuit for the transmission of plane elastic waves through a plate at oblique incidence. W. T. Thomson. bibliog diags J Ap Phys 21:1215-17 D '50

Experimental determination of acoustic wave fronts. P. Tamarkin and others. diags Acoustical Soc Am J 23:7-11 Ja '51

Measurements on an acoustic wave propagated along a boundary. R. B. Lawhead and I. Rudnick. diags Acoustical Soc Am J 23:541-5 S '51

Musical tones; wave structure made visible. H. Lineback. il Sci Am 184:52-3 My '51

Nonspecular reflection of sound from planes with absorbent bosses. V. Twersky. Acoustical Soc Am J 23:336-8 My '51

Photographic method for displaying sound wave and microwave space patterns. W. E. Kock and F. K. Harvey. il diag Bell System Tech J 30:564-87 Jl '51

Reflection of a spherical sound wave from an infinite plane. U. Ingard. diag Acoustical Soc Am J 23:329-35 My '51

Refracting sound waves. W. E. Kock and F. K. Harvey. bibliog il diags Acoustical Soc Am J 21:471-81 S '49; Review. G. W. O. Howe. Wireless Eng 28:1-3 Ja '51

Resonant vibrations in a water-filled piping system. D. B. Callaway and others. Acoustical Soc Am J 23:550-3 S '51

System-function analysis of speech sounds. W. H. Huggins. diag Acoustical Soc Am J 22:765-7 N '50

Theory of steady forces caused by sound waves. P. J. Westervelt. bibliog Acoustical Soc Am J 23:312-15 My '51

See also

Photography of sound

Supersonic waves

Industrial applications

Dynamic measurements of physical properties of pulp and paper by audiofrequency sound. M. Horio and S. Onogi. J Ap Phys 22:971-7 Jl '51

Feed controller for pulverised fuel mills. il Engineer 191:427-8 Mr 30 '51; Elec R (Lond) 148:973 My 11 '51; Electrician 146:972-3 Mr 23 '51; Elec Com 28:69 Mr '51; Electronics 24:136+ Jl '51

Putting noise to work. il Mill & Factory 48:139 Ap '51

Sonic agglomeration, a new solution. G. Kiddoo. bibliog flow diags Chem Eng 58:154-6 My '51

Sound waves test cylinder heads. il diag Electronics 24:90-1 O '51

Physiological effect

Intermittent loud noise and mental performance. K. R. Smith. Science 114:132-3 Ag 3 '51

Otitis media and audiogenic seizures in mice. H. Frings and M. Frings. bibliog Science 113:689-90 Je 15 '51

Self-selection of diet in relation to audiogenic seizures in rats. W. J. Griffiths, jr. bibliog Science 112:786-7 D 29 '50

Bibliography

Bibliography on sonic and ultrasonic vibration; biological, biochemical and biophysical applications. G. M. Naimark and others. Franklin Inst J 251:279-99, 402-8 F-Mr '51

SOUNDING

Continental slope off Apalachicola river, Fla. G. F. Jordan. il maps Am Assn Pet Geologists Bul 35:1978-93 S '51

Electronic depth meters aid cable laying across Mississippi. J. E. Vollmar, jr. il map Elec World 136:98-100 S 24 '51

New technique traces underwater structure of Chicago's harbor. Elec Eng 70:940-1 O '51

Novel technique tracks underwater mud layers and bedrock structure. Franklin Inst J 252:280-2 S '51

Quoddy reborn? depth sounding with new navy equipment. Bsns W p64 O 6 '51

Soundings above Niagara falls obtained by helicopter and Kytoons. F. P. Bane. il map Civil Eng 21:529-32 S '51

Supersonic sounding instruments and methods. J. M. Caldwell. il diag Am Soc C E Proc 76[no 50]:1-15 D '50

SOUNDPROOFING

Absorption characteristics of acoustic material with perforated facings. U. Ingård and R. H. Bolt. bibliog il diag Acoustical Soc Am J 23:533-40 S '51

Air conditioning helps control noise. C. M. Ashley. bibliog il Refrig Eng 58:1080-3+ N '50

Confinement of transformer noise; enclosure of pumice blocks filled with sand. C. McLean. il diag Elec Eng 70:325-30 Ap '51; Abstract. Elec World 134:114-16 N 20 '50

SOUNDPROOFING—*Continued*

Cylinders swallow sound; aluminum tubes stuffed with fiberglas used in aircraft engine test cells. il Bsns W p76-7 Ja 27 '51

New acoustical plan kills tunnel noise. il Aviation W 54:29-31 Ja 15 '51

Silencing aircraft engines; illustrations with text. Automotive Ind 104:40 F 15 '51

Tempest in a tunnel; solving noise and vibration problems at Lewis flight propulsion laboratory. il Eng N 146:35-7 Mr 8 '51

See also

Acoustics, Architectural

Sound—Absorption

Sound absorbent materials

SOUP

Aseptic canning in action; split-pea soup. C. R. Havighorst. flow diag il Food Ind 23:72-4 F '51

Award for progress to Andersen's Foods for continuous short-high aseptic canning system. flow sheet(p 134-7) il Food Eng 23:67-70 Je '51

Composition of soups. J. G. Huntley. Chem & Ind p227-9 Mr 24 '51

Introducing soup. H. Sarson. il Chem & Ind p20-3 Ja 13 '51

Nutritive value of soup. B. R. Stanton. Chem & Ind p 105-6 F 10 '51

SOUTH

See also

Tourist trade—Southern states

Economic conditions

Southern opportunities increase despite inflationary tendencies. C. R. Walker. Manuf Rec 120:30 Ja '51

Industries and resources

Cost control adds strength to war-bred expansions. S. Fish. Manuf Rec 119:31-2 N '50

Du Pont's Dixie; company's investment in South. Bsns W p58 N 11 '50

New and expanding plants; list by states. Manuf Rec 120:13-14+ Ja '51 [cont monthly]

New defense controls aid southern expansion. S. Fish. Manuf Rec 119:34-5 D '50

Old South bursts with new growth. G. M. Ives. Pub Util 47:267-77 Mr 1 '51

Scores complacency. P. W. Chapman. Manuf Rec 119:37 D '50

Several southern industries top national expansion rate. S. Fish. Manuf Rec 120:42+ Jl '51

South faces challenge in war goods production. C. R. Walker. Manuf Rec 120:32 Ap '51

Southern business will profit from good public relations, now. S. Fish. Manuf Rec 120:31-2 Ja '51

South's industrial gains outstrip World war II. S. Fish. Manuf Rec 120:58-9 Je '51

South's 1950 record proves claim of economic fitness. C. R. Walker. Manuf Rec 120:60 F '51

See also

Southern research institute

SOUTH AFRICA

See also

Airlines—South Africa

Gold mines and mining—South Africa

Investments, Foreign (in South Africa)

Mines and mineral resources—South Africa

Rhodesia

Commerce

South Africa's reserves and imports. Economist 161:239 Jl 28 '51

Commercial policy

Import-permit allocation scheme for consumer goods announced. For Comm W 41:27 N 20 '50

New import control. Economist 159:610-11 O 14 '50

Tariffs and trade controls. For Comm W 42:17+ F 12; 19+ Mr 12; 44:18+ Ag 6 '51

Defenses

Arms for Africans; refusal to make use of native troops. Economist 161:458+ Ag 25 '51

Defence of the Africans. Economist 159:550 S 30 '50

Economic conditions

News by countries. For Comm W 40:20-1 Ag 28; 41:18+ N 13; 17+ D 18 '50; 42:14-16 F 26; 43:19-20 Ap 30; 15-16 Je 18; 44:14-15 Ag 27 '51

Industries and resources

Foreign capital plays vital role in South Africa's development. B. Blankenheimer. il For Comm W 44:3-4+ S 17 '51

Politics and government

Hoggenheimer rides again. Economist 160:1182 My 19 '51

Political currents in South Africa. Economist 160:205-6 Ja 27 '51

Successor to Smuts. Economist 159:952 D 2 '50

Who will stop Dr Malan? Economist 161:352+ Ag 11 '51

Race problems

Arms for Africans? refusal to make use of native troops. Economist 161:458+ Ag 25 '51

Countering Dr Malan. Economist 160:932+ Ap 21 '51

Into the laager, Malan-Havenga agreement. Economist 159:895-6 N 25 '50

Yearbooks

Year book and guide to southern Africa. A. Gordon-Brown, ed. 770p, 48p, 162p $3 Union-Castle mail steamship co, 3 Fenchurch st, London, E.C. 3; for sale by H. W. Wilson co, New York '51

SOUTH AFRICAN council for scientific and industrial research

National chemical research laboratory. W. S. Rapson. bibliog Chem & Ind p366-8 My 12 '51

SOUTH AMERICA

South America, take it away. J. L. Collings. Ed & Pub 84:40 Ap 14 '51

Industries and resources

Business week reports to executives on South America. il maps Bsns W p83-93 Ag 25 '51 (reprints 20¢)

SOUTH CAROLINA

See also

Electric utilities—South Carolina

SOUTH CAROLINA electric and gas company

Public utility securities. O. Ely. Comm & Fin Chr 173:1454 Ap 5 '51

SOUTH DAKOTA

Directories

South Dakota industrial and wholesale directory. (Bul. 25) 49p pa $1 Univ. of South Dakota, Business research bur, School of business administration, Vermillion '51

SOUTH PACIFIC commission

Meeting, 7th, Noumea, April 28-May 7. Science 114:138 Ag 3 '51

SOUTHEASTERN power administration

H-bomb project in South Carolina may get power from Sepa plants. Elec World 134:90-1 D 4 '50

Sepa is granted funds for transmission line. Elec World News ed 135:5 Ja 8 '51

Sepa line-fund plea meets with opposition. Elec World 134:72 D 18 '50

SOUTHEASTERN public service company

Preference stock offered. Comm & Fin Chr 173:2499 Je 18 '51

SOUTHEASTERN underwriters association

Annual meeting, Hot Springs, Va. Nat Underw 55:4 Je 7 '51

SOUTHERN advance bag and paper company

Southern paper firm earning $3.50 this year. Barron's 30:19 O 30 '50

SOUTHERN brick and tile manufacturers association

Annual meeting, Ponte Vedra Beach, Fla. May 18-19. Brick & Clay Rec 118:51+ Je '51

SOUTHERN California Edison company

Annual report. Comm & Fin Chr 173:1380 Ap 2 '51

Bonds offered. Comm & Fin Chr 173:864 F 26 '51

SOUTHERN California Edison company—*Cont.*
Bonds sold. Comm & Fin Chr 174:851 S 3 '51
Ceremonies mark millionth meter day. il Edison Elec Inst Bul 19:172 Je '51
Southern California Edison growing. il Elec World 134:94-5 N 20 '50

SOUTHERN circulation managers association
Convention, Birmingham. Ed & Pub 84:34 S 29 '51

SOUTHERN classified advertising managers association
Convention, St Petersburg. Ed & Pub 84:13, 64 Ja 13 '51

SOUTHERN company
Common stock offered. Comm & Fin Chr 173:1483 Ap 9 '51
Likely to turn corner this year. Barron's 31:13-14 My 7 '51

SOUTHERN farm equipment manufacturers
Farm equipment manufacturers form southern organization. Manuf Rec 120:54 Ja '51

SOUTHERN gas association
Annual convention, 43d, Biloxi, Miss. April 23. Manuf Rec 120:39 My '51

SOUTHERN natural gas company
Bonds offered. Comm & Fin Chr 173:478-9 Ja 29 '51
Earnings uptrend. Barron's 31:18-19 Ap 23 '51

SOUTHERN newspaper publishers association
Annual convention, 48th, White Sulphur Springs, W. Va. Oct. 26-28. Ed & Pub 83:5+ O 28; 8-9+ N 4 '50
Annual convention, 49th, Hot Springs, Ark. Ed & Pub 84:13+ S 29 '51

SOUTHERN Pacific railroad
Celebrates 100 years. il Manuf Rec 120:33 S '51
Equipment trust certificates offered. Comm & Fin Chr 173:1483; 174:903 Ap 9, S 10 '51
Investment audit; with data on long term operating and earnings record, 1940-50. R. Carleson. Mag of Wall St 87:274-6+ D 16 '50
Security I like best. G. D. McKeever. Comm & Fin Chr 173:614+ F 8 '51
Strategic railroad; with earnings record for selected years, 1929-1949. A. Jansen. Barron's 31:19-20 Ja 22 '51

SOUTHERN production company
Gains from merger with Danciger. Barron's 31:25-6 Ja 8 '51

SOUTHERN railway
Annual report, 57th, year ended Dec. 31, 1950. Comm & Fin Chr 173:1239-41, 1279 Mr 22-26 '51
Southern is prepared for tough transportation job. il Manuf Rec 120:36 My '51
Study of Southern railway, a growth stock; with long term operating and earnings record, 1940-50. R. Carleson. Mag of Wall St 87:325-7+ D 30 '50
Ten potential market leaders for 1951; with comparative balance sheet items. Mag of Wall St 87:506 F 10 '51

SOUTHERN research institute
Had record year in 1950. Manuf Rec 120:130 Je '51; Chem & Eng N 29:3018 Jl 23 '51
Metalworking research reaches all-time high. W. W. Austin, jr. and P. Wheeler. il Iron Age 166:95-8 N 9 '50

SOUTHERN union gas company
How Southern Union expanded transmission and distribution systems. F. Kutnewsky. il Gas Age 108:68-70+ O 11 '51
Offering oversubscribed. Comm & Fin Chr 174:1407 O 15 '51
Stock offered. Comm & Fin Chr 173:663 F 12 '51

SOUTHERN weighing and inspection bureau
How it helps southeastern roads and shippers. Ry Age 131:56 Jl 16 '51

SOUTHWEST

Economic conditions

Markets for the chemicals industry. W. P. Brann. Ind & Eng Chem 43:1743-6 Ag '51
Resources for the chemical industry; economic developments. M. H. Rice. Ind & Eng Chem 43:1746-50 Ag '51

Industries and resources

See also
Chemical industries—Southwestern states

SOUTHWEST museum library, Los Angeles
Unique assemblage of books. E. L. Robinson. Special Lib 42:178-80 My-Je '51

SOUTHWEST research institute
Reports progress. H. Vagtborg. il Chem & Eng N 28:3966-9 N 13 '50
Southwest Research grosses half million. Chem & Eng N 29:2290-1 Je 4 '51

SOUTHWESTERN gas and electric company
Bonds offered. Comm & Fin Chr 172:2224 D 11 '50

SOUTHWESTERN power administration
Co-op gets loan to build 1,125-mile, 69-kv network, SPA will operate. Elec World News ed 134:13 D 25 '50
How will we keep the REA co-ops down on the farm? B. Tackett. Pub Util 47:13-20 Ja 4 '51
Power fracas; REA loans to Missouri co-ops. Bsns W p 104 N 18 '50
Public power's revolving door to the U.S. Treasury; controversy in the Southwest. F. M. Wilkes. Pub Util 47:737-43 Je 7 '51
REA lends funds denied SWPA. E. R. Abrams. Barron's 30:9 O 23 '50

SOUTHWESTERN public service company
Public utility securities. O. Ely. Comm & Fin Chr 172:2346 D 14 '50
Secondary offering. Comm & Fin Chr 173:385 Ja 22 '51
Stock offered. Comm & Fin Chr 173:664 F 12 '51

SOUTHWESTERN states telephone company
Security I like best. I. Hourwich. Comm & Fin Chr 174:950+ S 13 '51

SOUTHWIDE chemical conference
Conference, Atlanta, Oct. 16-18. Chem & Eng N 28:3766-8 O 30 '50

SOXHLET extractor. See Extraction apparatus

SOYBEAN association, American. See American soybean association

SOYBEAN flour
Sugar liquor defecation with soybean flours. Lie Tien Chang. bibliog Ind & Eng Chem 43:654-9 Mr '51

SOYBEAN oil
Inert gas generator enables soybean processor to minimize hazard and cut insurance costs. il Chem Eng 57:184 D '50; Food Ind 23:88 Ja '50
Inside Glidden's new extraction plant. il Chem Eng 58:212+ F '51

SOYBEANS
Canadian imports of flaxseed and soybeans increase. For Comm W 43:20 Je 4 '51
Flow rates through soybean flakes; gravity percolation of hexane miscella. D. Cornell and D. L. Katz. bibliog il diag Ind & Eng Chem 43:992-6 Ap '51
Lower soybean prices predict big 1951 crop. Barron's 31:35-6 Mr 19 '51
Manchurian soybeans are new worry to U.S. trade. Barron's 31:17-18 Jl 16 '51
Modern approach to soybean processing. C. Vogt and K. McCubbin. flow diag il Can Chem Process 35:468-70 Je '51
Slow offerings push soybean prices up. Barron's 30:30+ N 20 '50
Soybean futures trading restricted. Oil Paint & Drug Rep 160:3 Ag 20 '51
See also
Central soya company

SPACE buyers. See Advertising agencies—Space buyers

SPACE charge
Analysis of synchronous conditions in the cylindrical magnetron space charge. H. W. Welch, jr. and W. G. Dow. bibliog diag J Ap Phys 22:433-8 Ap '51
Behavior of space charge in diamond crystal counters under illumination; under beta-ray bombardment. A. G. Chynoweth. bibliog diag Phys R 83:254-68 Jl 15 '51
Effects of space charge on frequency characteristics of magnetrons. H. W. Welch, jr. diags Inst Radio Eng Proc 38:1434-49 D '50
Electron optical exploration of space charge in a cut-off magnetron. D. L. Reverdin. bibliog il diags J Ap Phys 22:257-62 Mr '51
Experimental verification of space charge and transit time reduction of noise in electron beams. C. C. Cutler and C. F. Quate. bibliog diag Phys R 80:875-8 D 1 '50

SPACE charge—*Continued*

High-speed ten-volt effect. R. M. Matheson and L. S. Nergaard. RCA R 12:258-68 Je '51

Macroscopic space charge in a potassium chloride solution during electrolysis. W. Schriever and E. E. Ferguson. J Chem Phys 19:609-12 My '51

Space-charge effects in electron beams and their reduction by positive ion trapping. E. G. Linder and K. G. Hernqvist. bibliog diags J Ap Phys 21:1088-97 N '50

Space-charge smoothing factor. C. S. Bull. bibliog diag Inst E E Proc 98 pt 3:149-52 Mr '51; Discussion. 98 pt 3:470-2 N '51

Theory of space-charge waves in cylindrical waveguides with many beams. P. Parzen. diags Elec Com 28:217-19 S '51

SPACE flight. See Interplanetary flight

SPACE perception

Metric of binocular visual space. R. K. Luneburg. diags Opt Soc Am J 40:627-42 O '50

SPAIN

See also

Andalusia, Spain

Oil shales—Spain

Petroleum industry and trade—Spain

Biography

Diccionario biográfico español e hispanoamericano. v 1, A-F 1014p $10 Instituto español de estudios biográficos, Palma de Mallorca, Spain; American agent Stechert-Hafner, 31 E. 10th st, New York 3 '50

Commercial policy

Exchange rates for imports revised. For Comm W 41:17 N 20 '50

Spain's business set-up. A. W. May. Comm & Fin Chr 174:769+ Ag 30 '51

Economic conditions

Harsh contrast in Iberia. Economist 161:462+ Ag 25 '51

News by countries. For Comm W 41:16 N 6; 15-16 D 11 '50; 43:17 Ap 2; 16-17 Je 11; 44:15+ Jl 2; 18-19 Jl 9; 16 Jl 23; 13-14 Ag 27 '51

Economic relations

United States

Spain highlights difficulties in U.S. foreign aid policies. A. W. May. Comm & Fin Chr 174:149+ Jl 12 '51

Foreign relations

Deal with Franco. Economist 161:433-4 Ag 25 '51

One step back to Madrid. Economist 159:728 N 11 '50

Place of Spain. Economist 160:117-18 Ja 20 '51

Spain; new link against Communist aggression. V. L. Horoth. Mag of Wall St 89:19-21+ O 6 '51

United States

Spain; a military partner? il Bsns W p 133-4 Jl 14 '51

Industries and resources

Easier business policy shapes up. Bsns W p 176 O 6 '51

Politics and government

No change in Madrid. Economist 161:222-3 Jl 28 '51

SPALLING

Semisilica refractories lessen furnace structural failures. G. B. Remmey. il diag Steel 127:62-3 N 27 '50

SPANGLER, Walter Blue, 1915-

Recipient of president's award. A. H. Bell. por Am Assn Pet Geologists Bul 35:1700-2 Jl '51

SPARK, Electric. See Electric spark

SPARK gap

Calibration of uniform-field spark-gaps in air. J. M. Meek. bibliog Inst E E Proc 98 pt 2:362-3 Je '51

Correlation of data on uniform-field spark-gaps. F. M. Bruce. bibliog Inst E E Proc 98 pt 2:363-4 Je '51

Dependence of direct spark-over voltage of gaps on humidity and time; abstract. P. B. Jacob, jr. and G. M. L. Sommerman. Elec Eng 70:595 Jl '51

Design and performance of surge diverters for the protection of alternating-current systems. T. F. Monahan. bibliog diags Inst E E Proc 98 pt 2:312-22; Discussion. il 322-30 Je '51

SPARK plugs

Champion case; what is competition? H. L. Hansen and M. N. Smith. Harvard Bsns R 29:89-103 My '51

Confusion is outcome of FTC hearings on spark plug discrimination charge. Nat Pet N 42:54 D 13 '50

FTC faces ticklish decision in spark plug case. Automotive Ind 104:24 Ja 1 '51

How large can the gaps be? C. E. Swanson and J. W. Miller. S A E J 59:32-5 F '51

New auto tricks; Boeing's spark plug; Bendix brake pedal. Bsns W p52 O 6 '51

Overhauling the trademark; AC spark plug division of GM. J. C. Hines. il Mod Packaging 24:112-14 Je '51

Points on plug care given by Champion. Aviation W 53:32 D 25 '50

Spark plug rulings may be forerunners of the fate of functional discounts. F. C. Sturtevant. Nat Pet N 42:60-1 D 6 '50

SPASMOLYTICS. See Antispasmodics

SPEAKMAN, John Bamber

Portrait. Soc Dyers & Col J 67:236A Je '51

SPEARMINT

Isolation of *d*-3-octanol from American oil of spearmint. C. E. Bryan, N. C. Burnett and R. B. Wearn. bibliog Am Chem Soc J 73:1848 Ap '51

SPECIAL assessments

Detroit's assessment street program. G. R. Thompson. il plan Roads & Sts 94:44-5 My '51

SPECIAL libraries and information bureaus, Association of. See Association of special libraries and information bureaux

SPECIAL libraries association

Annual convention, 42d, St Paul, Minn. June 18-21; preliminary program. Special Lib 42:121-7 Ap '51

Cumulative statement on publications in print as of Dec. 31, 1950. Special Lib 42:103 Mr '51

Division highlights. Special Lib 41:329 N '50

Executive board and advisory council meetings, St Louis. Special Lib 41:347+ D '50

Reorganization of SLA divisions. Special Lib 42:26+ Ja '51

What is institutional membership worth? J. M. Fertig. Special Lib 42:185 My-Je '51

Biological sciences division

Biological sciences division; short history. Special Lib 42:85 Mr '51

General reserve fund

SLA general reserve fund policy. P. Gay. Special Lib 42:24-5+ Ja '51; Reply. R. Savord. 42:68-9 F '51

SPECIAL weeks and days. See Advertising campaigns—Special weeks and days

SPECIALTY stores

Specialty shop; Lane Bryant store, Manhasset, N.Y. il plan Arch Forum 95:178-9 Jl '51

SPECIFIC gravity

Application of the specific gravity gradient column to the quantitative determination of additives in a base material; concentration of melamine resin, applied to wool. C. R. Stock and E. R. Scofield. il Textile Res J 21:521-6 Jl '51

Densities and refractive indexes for propylene glycol-water solutions. G. MacBeth and A. R. Thompson. bibliog Anal Chem 23:618-19 Ap '51

Densities and viscosities of solutions of the zinc halides in methanol from -50 to 20°. L. R. Dawson and others. bibliog Am Chem Soc J 73:4326-7 S '51

Density correction of sedimentation constants. H. K. Schachman and M. A. Lauffer. bibliog Am Chem Soc J 72:4266-8 S '50

Density of polystyrene latex by a centrifugal method. H. Kahler and B. J. Lloyd, jr. bibliog il Science 114:34-5 Jl 13 '51

Density, refractive index, boiling point, and vapor pressure of eight monoolefin (1-alkene), six pentadiene, and two cyclomonoolefin hydrocarbons. A. F. Forziati and others. bibliog J Res Nat Bur Stand 45:406-10 N '50

SPECIFIC gravity—*Continued*

Effect of temperature on density and refractive index on organic compounds of various Cox chart families. R. R. Dreisbach. bibliog Anal Chem 23:379 F '51

Graphical correlation of physical properties of a ternary system; vapor pressure and specific gravity for ammonia-ammonium nitrate-water. B. H. Sanders and D. A. Young. bibliog Ind & Eng Chem 43:1430-3 Je 14; 341 Je 21 '51

Gravity determination of heavy petroleum products. H. G. Smith. Oil & Gas J 50:111 Je 14; 341 Je 21 '51

Improving specific gravity control with a fluid-response system. J. F. Schnacky. diag Chem Eng 58:132 Ap '51

Magnetic float method for determining the densities of solutions. D. A. MacInnes and others. il diag R Sci Instr 22:642-6 Ag '51

Physical properties of methanol-water system. C. Carr and J. A. Riddick. bibliog Ind & Eng Chem 43:692-6 Mr '51

Quantum-theoretical densities of solids at extreme compression. W. M. Elsasser. bibliog Science 113:105-7 Ja 26 '51

Viscosity and density of lubricating oils from 0 to 150,000 psig and 32 to 425 F. D. Bradbury and others. il diags A S M E Trans 73:667-72; Discussion. 672-6 Jl '51

See also

Pycnometers

SPECIFIC heat

Anomalous specific heat of lead titanate. G. Shirane and E. Sawaguchi. bibliog Phys R 81:458-9 F 1 '51

Condensed gas calorimetry; heat capacities, latent heats and entropies of pure parahydrogen from 12.7 to 20.3°K; description of the condensed gas calorimeter in use in the cryogenic laboratory of the Ohio state university. H. L. Johnston and others. bibliog diags Am Chem Soc J 72:3933-8 S '50

Condensed gas calorimetry; heat capacity of ortho-deuterium between 13.1 and 23.6° K., melting and boiling points, heats of fusion and vaporization; vapor pressures of liquid ortho-deuterium. E. C. Kerr and others. bibliog Am Chem Soc J 73:282-4 Ja '51

Dynamic method for measuring the specific heat of metals. A. M. Nathan. diag J Ap Phys 22:234-5 F '51

Effect of composition and temperature on the specific heat of glass. D. E. Sharp and L. B. Ginther. bibliog Am Cer Soc J 34:260-71 S 1 '51

Experimental vapor heat capacities and heats of vaporization of seven octanes. G. M. Barrow. Am Chem Soc J 73:1824-6 Ap '51

Frequency spectra of simple solids from specific heat data. E. Katz. J Chem Phys 19:488-93 Ap '51

Heat capacities at low temperatures and entropies at 298.16°K. of andalusite, kyanite, and sillimanite. S. S. Todd. bibliog Am Chem Soc J 72:4742-3 O '50

Heat capacities, dielectric constants and molecular rotational freedom in solid trichloroethanes and disubstituted propanes. R. W. Crowe and C. P. Smyth. bibliog Am Chem Soc J 72:4009-15 S '50

Heat capacities of several organic liquids. E. W. Hough, D. M. Mason and B. H. Sage. Am Chem Soc J 72:5775-7 D '50

Heat capacity of crystalline dextrose between 25 and 95°. T. B. Douglas, A. F. Ball and J. L. Torgesen. bibliog Am Chem Soc J 73:1360-1 Mr '51

Heat capacity of liquid mercury between 0° and 450° C; calculation of certain thermodynamic properties of the saturated liquid and vapor. T. B. Douglas and others. bibliog J Res Nat Bur Stand 46:334-48 Ap '51

Heat capacity of multimolecular layers of adsorbed argon. J. A. Morrison and L. E. Drain. bibliog J Chem Phys 19:1063 Ag '51

Heat capacity of organic vapors; a flow calorimeter requiring only 25 ml. of liquid sample. A. E. Reynolds and T. De Vries. bibliog diag Am Chem Soc J 72:5443-5 D '50

Heat capacity of the furfuryl alcohol-aniline system. E. W. Hough, D. M. Mason and B. H. Sage. bibliog Am Chem Soc J 73:1363-4 Mr '51

Heat capacity of the hydrazine-water system. E. W. Hough, D. M. Mason and B. H. Sage. Am Chem Soc J 72:5774-5 D '50

Heats of vaporization and vapor heat capacities of some dimethylcyclohexanes. J. P. McCullough, W. B. Person and R. Spitzer. bibliog Am Chem Soc J 73:4069-71 S '51

High-temperature heat contents of ferrous oxide, magnetite and ferric oxide. J. P. Coughlin, E. G. King and K. R. Bonnickson. bibliog Am Chem Soc J 73:3891-3 Ag '51

High-temperature heat contents of manganous sulfide, ferrous sulfide and pyrite. J. P. Coughlin. bibliog Am Chem Soc J 72:5445-7 D '50

High temperature specific heat of AgBr. R. W. Christy and A. W. Lawson. bibliog J Chem Phys 19:517 Ap '51

Influence of the temperature variation of the specific heats of air in shock-wave calculations. J. Kestin. J Aeronautical Sci 18:351-3 My '51

Isobaric heat capacities at bubble point; *n*-hexane, methylcyclopentane, and *n*-octane. T. J. Connolly, B. H. Sage and W. N. Lacey. bibliog Ind & Eng Chem 43:946-50 Ap '51

Lattice defects in silver bromide. H. Kanzaki. bibliog Phys R 81:884 Mr 1 '51

Low-temperature heat capacities and entropies at 298.16°K. of crystalline calcium orthosilicate, zinc orthosilicate and tricalcium silicate. S. S. Todd. Am Chem Soc J 73:3277-8 Jl '51

Low temperature heat capacities and entropies at 298.16°K. of ferrous oxide, manganous oxide and vanadium monoxide. S. S. Todd and K. R. Bonnickson. bibliog Am Chem Soc J 73:3894-5 Ag '51

Low temperature heat capacities of inorganic solids; heat capacities and entropies of lithium hydroxide and of lithium hydroxide monohydrate from 15 to 300°K; third law check on the entropies through the reaction $LiOH + H_2O$ (gas) $= LiOH{\cdot}H_2O$. T. W. Bauer, H. L. Johnston and E. C. Kerr. bibliog Am Chem Soc J 72:5174-6 N '50

Low temperature heat capacities of inorganic solids; heat capacity and thermodynamic functions of Li_2O; thermodynamics of the Li_2O-H_2O system. H. L. Johnston and T. W. Bauer. bibliog Am Chem Soc J 73:1119-22 Mr '51

Low temperature heat capacities of inorganic solids; heat capacity of aluminum oxide (synthetic sapphire) from 19 to 300°K. E. C. Kerr, H. L. Johnston and N. C. Hallett. Am Chem Soc J 72:4740-2 O '50

Low temperature heat capacities of inorganic solids; the heat capacity of boric acid from 16 to 296°K; description of the Ohio state university solid calorimeters. H. L. Johnston and E. C. Kerr. bibliog il diags Am Chem Soc J 72:4733-8 O '50

Low temperature heat capacities of inorganic solids; the heat capacity of crystalline boric oxide from 17 to 300°K. E. C. Kerr, H. N. Hersh and H. L. Johnston. Am Chem Soc J 72:4738-40 O '50

Low temperature heat capacities of inorganic solids; the heat capacity of pure elementary boron in both amorphous and crystalline conditions between 13 and 305° K; some free energies of formation. H. L. Johnston, H. N. Hersh and E. C. Kerr. bibliog il Am Chem Soc J 73:1112-17 Mr '51

Low-temperature heat capacity, entropy at 298.16°K., and high-temperature heat content of ferric chloride. S. S. Todd and J. P. Coughlin. Am Chem Soc J 73:4184-5 S '51

Low temperature heat capacity of inorganic solids; the heat capacity of decaborane, $B_{10}H_{14}$, from 14 to 305° K. E. C. Kerr, N. C. Hallett and H. L. Johnston. Am Chem Soc J 73:1117-19 Mr '51

Methyl alcohol; the entropy, heat capacity and polymerization equilibria in the vapor, and potential barrier to internal rotation. W. Weltner, jr. and K. S. Pitzer. bibliog Am Chem Soc J 73:2606-10 Je '51

SPECIFIC heat—*Continued*

Oxidation potentials of the Pu(III)-Pu(IV) and Fe(II)-Fe(III) couples in perchloric acid solution; heat content and entropy changes. R. E. Connick and W. H. McVey. Am Chem Soc J 73:1798-804 Ap '51

Partition functions of cubic lattices. E. Fisher. bibliog J Chem Phys 19:632-40 My '51

Specific heat and heat of calcination; determination of kiln efficiency and proper design. V. J. Azbe. Rock Prod 54:122-3 Ja '51

Specific heat of beryllium between 0° and 900°. D. C. Ginnings, T. B. Douglas and A. F. Ball. bibliog diag Am Chem Soc J 73:1236-40 Mr '51

Specific heat of insulating materials. N. H. Spear. Refrig Eng 58:1077 N '50

Specific heat ratio in compression calculations. W. C. Edmister. Pet Eng 22:C13-14+ D '50

Specific heats of sodium silicate solutions. N. W. McCready. bibliog diag Ind & Eng Chem 43:1154-9 My '51

Thickness of shock fronts in argon and nitrogen and rotational heat capacity lags. E. F. Greene and others. bibliog diag J Chem Phys 19:427-34 Ap '51

SPECIFIC surface

Comparison of the specific surface areas of solids as calculated by the Brunauer-Emmett-Teller and the Hüttig equations. M. L. Corrin. J Phys & Colloid Chem 55:612-13 Ap '51

Determination of particle density of crushed porous solids; gas flow method. S. Ergun. bibliog Anal Chem 23:151-6 Ja '51

Determination of relative specific surface of zinc oxide pigments. W. W. Ewing and R. N. Rhoda. bibliog Anal Chem 22:1453-5 N '50

Measurement of specific surface areas of nonporous powders by a pressure-decline liquid-permeability method. C. G. Dodd, J. W. Davis and F. D. Pidgeon. bibliog diags J Phys & Colloid Chem 55:684-98 My '51

Routine measurement of surface of paint pigments and other fine powders. P. C. Carman and P. L. Malherbe. bibliog J Ap Chem 1:105-8 Mr '51

Specific surface measurement, with special reference to light-absorption methods. A. E. Moore. diag Soc Chem Ind J 69(sup no 1):S33-6 '50

SPECIFIC volume

Elastic energy of an ellipsoidal inclusion in an infinite solid. K. Robinson. bibliog J Ap Phys 22:1045-54 Ag '51

Error in the average coefficients of specific volume change from 0 to 20° in aqueous solutions of hydrogen peroxide. F. G. Keyes and C. E. Huckaba. Am Chem Soc J 72:5324-5 N '50

Solution viscosity and partial specific volume of polystyrene; effect of solvent type and concentration. D. J. Streeter and R. F. Boyer. bibliog Ind & Eng Chem 43:1790-7 Ag '51

Volumetric behavior of nitric oxide. B. H. Golding and B. H. Sage. bibliog Ind & Eng Chem 43:160-1 Ja '51

SPECIFICATIONS

How to order equipment. D. P. Thornton, jr. Pet Processing 6:722-4, 844-7, 974-7, 1128-32 Jl-O '51 (to be cont)

Materials specification and standardizing bodies. Machine Design 23:354+ O '51

Selling to U.S.; more "fedspecs" make it easier now. il Mod Ind 21:67+ F '51

Spec sheets and their various uses; abstract. J. Taylor. Foundry 79:144 Jl '51

Use of American standards in federal specifications for photographic chemicals. F. S. Schmitt. il Standardization 21:312-14+ D '50

See also

Standards

also subdivision Specifications under special subjects, e.g.

Airplane engines—Specifications
Airplanes—Specifications
Automobile engines—Specifications
Automobiles—Specifications
Cast iron—Specifications
Internal combustion engines—Specifications
Motor boat engines, Outboard—Specifications
Paper—Specifications
Steel—Specifications

Bibliography

Specifications issued by the federal government. N. M. Bowman. Special Lib 41:318-19+ N '50

SPECTACLES

Three-range glasses focus on efficiency of myopic middle-aged. Iron Age 166:124 D 14 '50

See also

Lens cleaners
Sun glasses

Advertising

How to enlarge a market for a product people try to avoid; Bausch & Lomb educational program to match one's eyesight with his job. R. A. Sherman. il Sales Management 66:56+ Ap 15 '51

Manufacture

Home-developed simplification; Penoptic's short cuts in output of ready-to-wear glasses; photo visit. Mod Ind 22:18+ S '51

SPECTROCOMPARATOR

Spectrocomparator. il R Sci Instr 22:432-3 Je '51

SPECTROGRAPH

Apparatus for time-resolved spectroscopy. G. Gordon and W. M. Cady. bibliog il diag Opt Soc Am J 40:852-3 D '50

Contribution of the source unit to variability in spectrographic analysis. diag Iron & Steel Inst J 166:325-8 D '50

Designs of photometer units for infrared spectrographs. R. A. Oetjen and L. C. Roess. diags Opt Soc Am J 41:203-8 Mr '51

Direct-reading spectrograph is faster, more accurate. B. J. Tufty. il Iron Age 167:104-5 Je 7 '51

Efficient grating mount. N. A. Finkelstein. diags Opt Soc Am J 41:179-82 Mr '51

Electrostatic beta-spectrograph. D. R. Hamilton and L. Gross. bibliog diag R Sci Instr 21:912-17 N '50

f:1.0 camera for astronomical spectroscopy. A. Offner and W. B. Decker. il diags Opt Soc Am J 41:169-72 Mr '51

High temperature, broad-band Stark cell for microwave spectroscopy. L. J. Rueger and others. diags R Sci Instr 22:428 Je '51

Multiplier photocell attachment for use with prism spectrographs. J. M. Naish. il diags J Sci Instr 28:138-40 My '51

Photoelectric scanning unit for spectrographs. il J Sci Instr 28:158-9 My '51

Precise determination of the $Li^7(p, \alpha)He^4$ and $Be^9(d, \alpha)Li^7$ Q-values. W. Whaling and C. W. Li. bibliog Phys R 81:150-1 Ja 1 '51

Simultaneous recording of two wave-length ranges with the Littrow spectrograph. R. W. Murphy and H. K. Hughes. diags Opt Soc Am J 40:779-81 N '50

Spectrographic exposure controls. il J Sci Instr 28:93 Mr '51

Statistical study of the behaviour of spectrographic source units. H. T. Shirley and others. bibliog pl diags Iron & Steel Inst J 166:329-38 D '50

Stellar spectrograph for the Radcliffe observatory, Pretoria. il diag Engineer 190:528-9 D 1 '50; Engineering 171:250-2 Mr 2 '51

Step-sector for the astigmatic spectrograph. R. E. Thiers. bibliog il diags Opt Soc Am J 40:849-51 D '50

Synchronizer for 100-kc square wave generator. L. C. Hedrick. diag R Sci Instr 22:537 Jl '51

See also

Spectrophotometers

SPECTROGRAPHY

Spark analysis of semi-microsamples. W. J. Wark. diags Opt Soc Am J 41:465-7 Jl '51

SPECTROMETERS

Automatic focusing condition for double-crystal spectrometer. R. Wild. diag R Sci Instr 22:537-8 Jl '51

Automatic operation of a beta-ray spectrometer. W. C. Kelly and K. J. Metzgar. diags R Sci Instr 22:665-7 S '51

SPECTROMETERS—*Continued*

Automatic range changer for strip chart recorder. C. F. Salzman, jr. diag R Sci Instr 22:59-60 Ja '51

Auxiliary equipment to be used with a beta-ray spectrometer for the study of radioactive gases. M. Ter-Pogossian and others. il diags R Sci Instr 22:389-92 Je '51

β-Spectrometer investigations on electromagnetically separated Xe^{135} and Kr^{79}. I. Bergström. bibliog Phys R 82:112-13 Ap 1 '51

Calibration of infra-red prism spectrometers. W. Guy and J. H. Towler. J Sci Instr 28:103-5 Ap '51

Calibration of infrared spectrometers. A. E. Martin. Opt Soc Am J 41:56 Ja '51

Double-beam recording infra-red spectrometer. K. S. Tetlow and others. bibliog diags J Sci Instr 28:161-7 Je '51

Double thin lens beta-ray spectrometer. C. M. Van Atta and others. bibliog diag R Sci Instr 21:985-90 D '50

Effect of finite slit width on infrared absorption measurements. A. R. Philpotts, W. Thain and P. G. Smith. bibliog Anal Chem 23:268-72 F '51

Graphical determination of transmission curves for certain magnetic lens beta-ray spectrometers. J. F. Perkins and A. W. Solbrig, jr. R Sci Instr 22:173-5 Mr '51

High resolution two-directional focusing beta-ray spectrometer. A. A. Bartlett and K. T. Bainbridge. bibliog il diags R Sci Instr 22:517-23 Jl '51

Improved heated cell for infra-red spectroscopy. L. Brown and P. Holliday. diags J Sci Instr 28:27 Ja '51

Industry sees infrared; infrared spectrometer for automatic process control. il Mod Ind 21:56-7 F '51

Infrared analysis of *cis*- and *trans*-decahydronaphthalene. J. Seidman. Anal Chem 23:559-63 Ap '51

Infrared microspectroscopy. E. R. Blout and others. bibliog il diags Opt Soc Am J 40:304-13; 41:547-51 My '50, Ag '51

Magnetic analyzer for charged-particles from nuclear reactions. C. W. Snyder and others. bibliog diags R Sci Instr 21:852-66 O '50

Measurement of refractive indexes of liquids in the infrared. J. H. Jaffe. diags Opt Soc Am J 41:166-9 Mr '51

Nomograph for gain control of Perkin-Elmer infrared spectrometer. A. S. Henick, B. R. Anderson and M. Freed. Anal Chem 23:661-3 Ap '51

Optical image transformer. W. Benesch and J. Strong. il diag Opt Soc Am J 41:252-4 Ap '51

Quantitative analysis with infrared spectrophotometers. D. Z. Robinson. bibliog Anal Chem 23:273-7 F '51

Recording grating spectrometer with linear wavelength scale. G. P. Koch and others. bibliog il diags Opt Soc Am J 41:125-30 F '51

Refractivity of lithium fluoride with application to the calibration of infrared spectrometers. L. W. Tilton and E. K. Plyler. bibliog J Res Nat Bur Stand 47:25-30 Jl '51

Ring focusing in a thin lens beta-ray spectrometer. W. W. Pratt and others. bibliog il diags R Sci Instr 22:92-6 F '51

Simplified percent transmission computer. A. L. McClellan and G. C. Pimentel. diag R Sci Instr 21:1023 D '50

Slow neutron velocity spectrometer studies; Au, Ag, Br, Fe, Co, Ni, Zn. W. W. Havens, jr. and L. J. Rainwater. bibliog Phys R 83:1123-33 S 15 '51

Some criteria for commercial spectrometers. J. G. Reynolds. Inst Pet J 37:125-34; Discussion. 3pls diags 135-46 Mr '51

Some mechanical features of a double-crystal neutron spectrometer. G. E. Bacon and others. il diag J Sci Instr 27:330-1 D '50

Source discharger for magnetic lens beta-ray spectrometers. J. L. Wolfson. bibliog diag R Sci Instr 22:280-2 Ap '51

Spectroscopy from the point of view of the communication theory; resolution. G. W. King and A. G. Emslie. Opt Soc Am J 41:405-12 Je '51

Static multislit spectrometry and its application to the panoramic display of infrared spectra. M. J. E. Golay. bibliog diags Opt Soc Am J 41:468-72 Jl '51

Temperature coefficients for use with rock-salt prism spectrometers. J. H. Towler and W. Guy. J Sci Instr 28:105 Ap '51

Ten channel infrared spectrograph. J. T. Agnew and others. il diags Opt Soc Am J 41:76-9 F '51

Three-crystal scintillation spectrometer. J. K. Bair and F. C. Maienschein. diag R Sci Instr 22:343-4 My '51

Two crystal spectrometer results with uncollimated γ-rays. J. K. Bair and others. Phys R 81:283-4 Ja 15 '51

Two-path method for measuring flame temperatures and concentrations in low pressure combustion chambers. S. S. Penner. bibliog diag J Chem Phys 19:272-80 Mr '51

Use of three long rectangular coils for neutralization of the earth's magnetic field in a lens-type beta-ray spectrometer. S. K. Haynes and J. W. Wedding. diags R Sci Instr 22:97-101 F '51

Wavelengths for calibration of prism spectrometers. E. K. Plyer and C. W. Peters. bibliog J Res Nat Bur Stand 45:462-8 D '50

SPECTROMETERS, Mass. See Mass spectrometers

SPECTROMETERS, X ray

Geiger-counter X-ray spectrometer; influence of size and absorption coefficient of specimen on position and shape of powder diffraction maxima. A. J. C. Wilson. bibliog diags J Sci Instr 27:321-5 D '50

Geiger counter X-ray spectrometry. J. R. Majer. Chem Age (Lond) 64:670 Ap 28 '51

Orientation of crystals using a Geiger counter X-ray spectrometer. J. A. James. diag J Sci Instr 27:326 D '50

X-ray microbeam spectrometer and technique of its use. J. S. Thorp. bibliog diag J Sci Instr 28:239-41 Ag '51

SPECTROMETRY

Light absorption spectrometry; review of 1950. M. G. Mellon. Anal Chem 23:2-7 bibliog(217 ref, p5-7) Ja '51

Subjective spectral band limits under controlled conditions. Z. V. Harvalik and J. H. Bowen. bibliog Opt Soc Am J 40:755-6 N '50

SPECTROPHOTOMETERS

Design and performance of a double-beam infrared spectrophotometer. F. M. Rugg and others. bibliog il diags Opt Soc Am J 41:32-8 Ja '51

Designs of photometer units for infrared spectrographs. R. O. Oetjen and L. C. Roess. diags Opt Soc Am J 41:203-8 Mr '51

Desk and power supply for the Beckman spectrophotometer. A. B. Carlson and others. il diags J Chem Educ 28:205-7 Ap '51

False absorption bands in the region of 200-230 $m\mu$ caused by stray radiation in the Beckman spectrophotometer. L. J. Saidel and others. bibliog Science 113:683-5 Je 15 '51

Illuminant-converting filter for use with the automatic tristimulus integrator. H. R. Davidson and others. Opt Soc Am J 40:817-18 D '50

Influence of optical working on surface structure of plastic crystals. A. Smakula and M. W. Klein. il diags Opt Soc Am J 40:748-50 N '50

Measurements of fading colours. E. Waters. Chem Age (Lond) 63:865-6 D 23 '50

Medium resolution replica grating spectrophotometer. P. Krumholz. diags R Sci Instr 22:362-4 Je '51

Near-infrared spectrophotometry with the Beckman model DU spectrophotometer. W. Kaye. Opt Soc Am J 41:277 Ap '51

Quantitative analysis with infrared spectrophotometers. D. Z. Robinson. bibliog Anal Chem 23:273-7 F '51

Rapid and sensitive spectrophotometry. B. Chance and V. Legallais. bibliog il diags R Sci Instr 22:619-38 Ag '51

Simple conversion of the Beckman IR-2 into a monochromator. R. Anthony. diag R Sci Instr 22:338-9 My '51

SPECTROPHOTOMETERS—*Continued*

Sodium content in aluminum speedily analyzed, using a Beckman flame spectrophotometer. D. A. Brewster and C. J. Clausen, jr. bibliog il Iron Age 166:88-92 N 2 '50

Variability in the Beckman spectrophotometer. W. O. Caster. bibliog diag Anal Chem 23:1229-36 S '51

SPECTROPHOTOMETERS, Recording

Color control by instrument? C. F. King. Inland Ptr 126:45-8 D '50

Transmittance measurement of samples of small area with the Hardy recording spectrophotometer. F. J. Baum. diag Opt Soc Am J 41:427 Je '51

SPECTROPHOTOMETRY

American standard methods of measuring and specifying color; Z58.7.1, Z58.7.2, and Z58.7.3-1951. bibliog Opt Soc Am J 41:431-9 Jl '51

Analogous nitro and nitroso compounds; separation, identification, and quantitative estimation. W. R. Edwards, jr. and C. W. Tate. bibliog Anal Chem 23:826-30 Je '51

Beryllium complexes with naphthazarin and alkannin. A. L. Underwood, T. Y. Toribara and W. F. Neuman. bibliog Am Chem Soc J 72:5597-602 D '50

Color in industrial wastes; determination by spectrophotometric method. W. Rudolfs and W. D. Hanlon. bibliog Sewage & Ind Wastes 23:1125-32 S '51

Cotton powder for infrared transmission measurements. F. H. Forziati and others. bibliog il J Res Nat Bur Stand 45:109-13 Ag '50

Criteria for pre-exposure of spectroscopic plates. L. M. Branscomb. bibliog Opt Soc Am J 41:255-60 Ap '51; Discussion. M. Green. 41:862; Reply. 862 N '51

Determination of iron in wood and wood pulp. R. M. Kingsbury. bibliog diag Tappi 34:382-4 Ag '51

Determination of the dissociation constants of very sparingly soluble weak electrolytes. R. N. Beale and A. Liberman. Chem Soc J p2287-90 S '50

Determination of traces of silicon in vanadium and uranium; spectrophotometric method. R. Guenther and R. H. Gale. bibliog Anal Chem 22:1510-11 D '50

Determination of *trans*-octadecenoic acids, esters, and alcohols in mixtures; infrared spectrophotometric method. O. D. Shreve and others. bibliog Anal Chem 22:1261-4 O '50

Determination of trigonelline in coffee; ultraviolet absorption spectrophotometry. R. G. Moores and D. M. Greninger. bibliog Anal Chem 23:327-31 F '51

Equilibrium between the complexes of tervalent manganese with 2,4-pentanedione. G. H. Cartledge. bibliog Am Chem Soc J 73:4416-19 S '51

Fluorescence and the Beer-Lambert law; a note on the technique of absorption spectrophotometry. E. A. Braude, J. S. Fawcett and C. J. Timmons. Chem Soc J p 1019-21 Mr '50

Hydrolysis of 2-fluoroquinoline in acid solution. W. K. Miller, S. B. Knight and A. Roe. Am Chem Soc J 72:4765-7 O '50

Infrared analysis of five C_{10} aromatics. J. A. Perry. Anal Chem 23:495-7 Mr '51

Infrared analysis of pharmaceutical products; acetylsalicylic acid, phenacetin, and caffeine, and combinations of these with codeine or thenylpyramine. T. V. Parke and others. bibliog Anal Chem 23:953-7 Jl '51

Infrared determination of methyl deuteride; application to analysis of deuterium oxide. T. L. Brown and R. B. Bernstein. Anal Chem 23:673-4 Ap '51

Microspectrophotometry and cytochemical analysis of nucleic acids. H. Naora. bibliog diags Science 114:279-80 S 14 '51

Optimum optical density in spectrophotometry. R. Cole. Opt Soc Am J 41:38-40 Ja '51

Optimum transmittance in spectrophotometry. D. Z. Robinson and R. Cole. Opt Soc Am J 41:560 Ag '51

Photometric separator for precision visual spectrophotometry. J. Terrien and F. Desvignes. il diags Opt Soc Am J 40:845-8 D '50

Principles of infrared spectrophotometry. V. Williams. Science 113:51-4 Ja 19 '51

Quantitative analysis with infrared spectrophotometers. D. Z. Robinson. bibliog Anal Chem 23:273-7 F '51

Residual monomer in polystyrene; spectrophotometric analysis. J. E. Newell. bibliog Anal Chem 23:445-7 Mr '51

Spectrophotometric analysis of accelerator-rubber mixtures. K. E. Kress. bibliog Anal Chem 23:313-22 F '51

Spectrophotometric analysis of amithiozone preparations. G. B. Levy and D. Fergus. Anal Chem 23:384-5 F '51

Spectrophotometric and radiochemical investigation of the interaction between tin(II) and -(IV) in hydrochloric acid solutions. C. I. Browne, R. P. Craig and N. Davidson. bibliog Am Chem Soc J 73:1946-51 My '51

Spectrophotometric determination of aspirin, phenacetin, and caffeine in mixtures. M. Jones and R. L. Thatcher. Anal Chem 23:957-60 Jl '51

Spectrophotometric determination of beryllium in aluminum with sulfosalicylic acid. H. V. Meek and C. V. Banks. bibliog Anal Chem 22:1512-16 D '50

Spectrophotometric determination of cerium(IV). A. I. Medalia and B. J. Byrne. bibliog Anal Chem 23:453-6 Mr '51

Spectrophotometric determination of dihydrostreptomycin. D. J. Hiscox. bibliog Anal Chem 23:923-4 Je '51

Spectrophotometric determination of hemoglobin and oxyhemoglobin in whole hemolyzed blood. G. G. Nahas. il Science 113:723-5 Je 22 '51

Spectrophotometric determination of nickel in aluminum alloys. M. D. Cooper. Anal Chem 23:880-3 Je '51

Spectrophotometric determination of nickel in calcium metal using 1,2-cyclohexanedionedioxime. R. C. Ferguson and C. V. Banks. bibliog Anal Chem 23:448-53 Mr '51

Spectrophotometric determination of nickel in steel. M. D. Cooper. Anal Chem 23:875-80 Je '51

Spectrophotometric determination of 8-quinolinol and some of its halogenated derivatives. W. T. Haskins and G. W. Luttermoser. bibliog Anal Chem 23:456-8 Mr '51

Spectrophotometric determination of tellurium as the iodotellurite complex. R. A. Johnson and F. P. Kwan. bibliog Anal Chem 23:651-3 Ap '51

Spectrophotometric determination of the approximate dissociation constants of the monofluoroquinolines. W. K. Miller, S. B. Knight and A. Roe. Am Chem Soc J 72:4763-5 O '50

Spectrophotometric determination of total phthalic anhydride in alkyd resins and other phthalate esters. O. D. Shreve and M. R. Heether. bibliog Anal Chem 23:441-5 Mr '51

Spectrophotometric determinations of esterases. B. H. J. Hofstee. Science 114:128-30 Ag 3 '51

Spectrophotometric evidence for the absence of free aldehyde groups in periodate-oxidized cellulose. J. W. Rowen, F. H. Forziati and R. E. Reeves. bibliog Am Chem Soc J 73:4484-7 S '51

Spectrophotometric examination of some derivatives of pyrogallol and phloroglucinol. T. W. Campbell and G. M. Coppinger. bibliog Am Chem Soc J 73:2708-12 Je '51

Spectrophotometric investigation of cobaltous nitrate in organic solvents. L. I. Katzin and E. Gebert. bibliog Am Chem Soc J 72:5455-63 D '50

Spectrophotometric investigation of the interaction between iron(II) and iron(III) in hydrochloric acid solutions. H. McConnell and N. Davidson. bibliog Am Chem Soc J 72:5557-60 D '50

Spectrophotometric methods of establishing empirical formulas of colored complexes in solution. A. E. Harvey, jr. and D. L. Manning. Am Chem Soc J 72:4488-93 O '50

Spectrophotometric studies of beryllium thenoyltrifluoroacetone. L. Wish and R. A. Bolomey. Am Chem Soc J 72:4486-8 O '50

SPECTROPHOTOMETRY—*Continued*

Spectrophotometric studies of cobalt(II) thiocyanate complexes in organic solvents. L. I. Katzin and E. Gebert. Am Chem Soc J 72:5659-62 D '50

Spectrophotometric studies of cobaltous chloride. L. I. Katzin and E. Gebert. bibliog Am Chem Soc J 72:5464-71 D '50

Spectrophotometric studies of continuous dyeing. Am Dyestuff Rep 40:101-4 F 5 '51

Spectrophotometric studies of dithizone and some dithizonates; molecular extinction coefficient of dithizone in carbon tetrachloride. S. S. Cooper and Sister M. L. Sullivan. bibliog Anal Chem 23:613-18 Ap '51

Spectrophotometric studies on complex formation with sulfosalicylic acid; with iron(III) at higher *p*H values. R. T. Foley and R. C. Anderson. bibliog Am Chem Soc J 72:5609-12 D '50

Spectrophotometric studies on refined sugars in solution. F. W. Zerban, L. Sattler and J. Martin. bibliog Anal Chem 23:308-13 F '51

Spectrophotometric study of 8-hydroxyquinaldine chelates; notes on 8-quinolinol chelates. J. P. Phillips and H. P. Price. bibliog Am Chem Soc J 73:4414-15 S '51

Spectrophotometric study of the hydrolysis of iron(III) ion. T. H. Siddall, 3d and W. C. Vosburgh. bibliog Am Chem Soc J 73:4270-2 S '51

Spectrophotometric study of the hydrolysis products, some possible complexes and metal salts of fluoroboric acid. E. R. Scheffer and E. M. Hammaker. bibliog Am Chem Soc J 72:5607-9 D '50

Spectrophotometric study of the Molisch phase test of chlorophyll. B. Dunicz and others. diag Am Chem Soc J 73:3388-90 Jl '51

Spectrophotometric study of the platinum(IV)-tin(II) chloride system. G. H. Ayres and A. S. Meyer, jr. bibliog Anal Chem 23:299-304 F '51

Spectrophotometric study of the ruthenium-dithio-oxamide complex. G. H. Ayres and F. Young. bibliog Anal Chem 22:1281-3 O '50

Spectrophotometric study of the ruthenium-thiourea complex. G. H. Ayres and F. Young. bibliog Anal Chem 22:1277-80 O '50

Spectrophotometric study of tripositive manganese in hydrochloric acid solution. J. A. Ibers and N. Davidson. bibliog Am Chem Soc J 72:4744-8 O '50

Spectrophotometry of neptunium in perchloric acid solutions. R. Sjoblom and J. C. Hindman. bibliog Am Chem Soc J 73:1744-51 Ap '51

Spectroscopic study of N-H isomerism in porphyrin free bases. G. D. Dorough and K. T. Shen. bibliog diag Am Chem Soc J 72:3939-44 S '50

Stable isotope dilution method for nicotinic acid determination. N. R. Trenner and others. bibliog Anal Chem 23:487-90 Mr '51

Study of degradation of polystyrene, using infrared spectrophotometry. B. G. Achhammer and others. bibliog J Res Nat Bur Stand 47:116-25 Ag '51

Ultraviolet absorption spectrophotometry; review of 1950. E. J. Rosenbaum. bibliog(43 ref) Anal Chem 23:12-14 Ja '51

Ultraviolet spectrophotometric determination of vanadium. G. Telep and D. F. Boltz. bibliog Anal Chem 23:901-3 Je '51

Uranyl-citrate system; spectrophotometric studies in acid solution. I. Feldman and W. F. Neuman. Am Chem Soc J 73:2312-15 My '51

What's new in spectrophotometry; progress of spectrophotometry in the textile industry to 1951. E. I. Stearns. Am Dyestuff Rep 40:563-74 bibliog(107 titles, p572-4) S 3 '51

SPECTRORADIOMETERS

Photoelectric spectroradiometry and its application to the measurement of fluorescent lamps. R. Stair. bibliog il diags J Res Nat Bur Stand 46:437-45 Je '51

SPECTROSCOPE

Beta-ray spectroscopes. E. Persico and C. Geoffrion. bibliog diags R Sci Instr 21:945-70 D '50

Improved microwave spectroscope. diags Electronics 23:126+ D '50

Light sources

Incandescent tungsten source for infrared spectroscopy. J. H. Taylor and others. diags Opt Soc Am J 41:626-9 S '51

SPECTROSCOPY

Apparatus for quantitative low temperature ultra-violet absorption spectroscopy. R. N. Beale and E. M. F. Roe. bibliog il diags J Sci Instr 28:109-11 Ap '51

Apparatus for time-resolved spectroscopy. G. Gordon and W. M. Cady. bibliog il diag Opt Soc Am J 40:852-3 D '50

Infrared spectroscopy; review of 1950. R. C. Gore. Anal Chem 23:7-12 bibliog(354 ref, p9-12) Ja '51

Internal rotation; a dilute solution method for the spectroscopic determination of the energy difference between rotational isomers. J. Powling and H. J. Bernstein. bibliog diags Am Chem Soc J 73:1815-20 Ap '51

International union of pure and applied physics; International astronomical union (IUPAP-IAU) joint commission for spectroscopy. Opt Soc Am J 41:564-5 Ag '51

Molecular structure and spectroscopy; symposium, Columbus, Ohio, June 11-15. Anal Chem 23:1043-51 Jl '51

Nuclear spectroscopy of Ba^{131} and Cs^{131}. R. Canada and A. C. G. Mitchell. bibliog diag Phys R 83:76-9 Jl 1 '51

Pittsburgh conference on analytical and applied spectroscopy, 2d, March 5-7; with abstracts of papers. Anal Chem 23:676-85 Ap '51

Spectroscopic evidence for the sunlight conversion of *trans* to *cis*-benzalacetone. R. E. Lutz, C. R. Bauer and R. H. Jordan. Am Chem Soc J 72:4300-1 S '50

Spectroscopy from the point of view of the communication theory; resolution. G. W. King and A. G. Emslie. Opt Soc Am J 41:405-12 Je '51

Stark effect absorption cells for microwave spectroscopy. D. H. Baird and others. diags R Sci Instr 21:881 O '50

Statistical procedures for counter-current distribution and differential spectroscopy. J. E. Bacher. bibliog Am Chem Soc J 73:1023-7 Mr '51

Symposium on molecular structure and spectroscopy, Columbus, June 11-15. Chem & Eng N 29:2748 Jl 2 '51

Symposium on spectroscopic methods in the petroleum industry. bibliog Inst Pet J 37:93-134; Discussion. 3pls diags 135-46 Mr '51

Study and teaching

Simple molecular spectra experiments. M. Davies. J Chem Educ 28:474-7 S '51

SPECTROSCOPY, Society for applied. See Society for applied spectroscopy

SPECTRUM

Absolute determination of the *F*, *I*, and *L* lines of Th(B+C+C″). G. Lindström. bibliog Phys R 83:465-6 Jl 15 '51

Absorption and emission spectra of promethium. W. F. Meggers and others. bibliog il J Res Nat Bur Stand 46:85-98 F '51

Analysis of high energy proton spectra by means of a stack of photographic plates. D. Walker. R Sci Instr 22:607-11 Ag '51

Atomic spectra for the astrophysicist. C. E. Moore. bibliog Science 113:669-73 Je 15 '51

Calculation of the absorption and emission spectra of the thallium-activated potassium chloride phosphor. F. E. Williams. bibliog Phys R 80:306-7 O 15 '50

Changes in *g*-values, in a spectrum, for different magnetic fields. M. A. Catalán and R. Velasco. diag Opt Soc Am J 40:653-5 O '50

Chemistry and the spectrum before Bunsen and Kirchhoff. T. H. Pearson and A. J. Ihde. bibliog il J Chem Educ 28:267-71 My '51

Configuration interaction in Mn II. R. E. Trees. Phys R 83:756-60 Ag 15 '51

Deep configurations of V I and Cr II. A. A. Schweizer. Phys R 80:1080-2 D 15 '50

Differential range spectrum of cosmic-ray mesons. L. Germain. bibliog diags Phys R 80:616-19 N 15 '50

Effect of electron-neutron interaction on spectral isotope shifts. L. Wilets and L. C. Bradley, 3d. bibliog Phys R 82:285 Ap 15 '51

SPECTRUM—*Continued*
Emission of the forbidden oxygen lines by molecular dissociation. R. Herman and others. bibliog il diags Phys R 82:751-2 Je 1 '51
Emission spectra of first-stage combustion in an engine. H. P. Broida and others. J Chem Phys 19:797 Je '51
Emission spectrum of curium. J. G. Conway, M. F. Moore and W. W. T. Crane. diags Am Chem Soc J 73:1308-9 Mr '51
Excitation spectra of some tungstates. A. J. Oszy. bibliog Opt Soc Am J 41:57-8 Ja '51
Fundamental research in molecular spectra. R. W. B. Pearse. bibliog Opt Soc Am J 41:148-52 Mr '51
Further evidence for a two quantum transition in molecular spectroscopy. L. Grabner and V. Hughes. Phys R 82:561 My 15 '51
High energy γ-ray line in the spectrum of Mg^{24}. L. E. Beghian and others. Phys R 83:186-7 Jl 1 '51
Injected light emission of silicon carbide crystals. K. Lehovec and others. il diags Phys R 83:603-7 Ag 1 '51
Isoconjugate spectra and variconjugate sequences. J. R. Platt. bibliog diags J Chem Phys 19:101-18 Ja '51
Isotope effect in hydrocarbon flame spectra. G. M. Murphy and L. Schoen. il J Chem Phys 19:380-1 Mr '51
Isotope shift in the atomic spectrum of carbon. C. R. Burnett. Phys R 80:494 N 1 '50
Isotope shift in the Ce II spectrum and the magic number 82. K. Murakawa and J. S. Ross. bibliog il Phys R 83:1272-3 S 15 '51
Isotope shift in the spectrum of Os I and the magnetic moment of Os^{189}. S. Suwa Phys R 83:1258-9 S 15 '51
Kinetics of OH radicals from flame emission spectra. K. E. Shuler. bibliog J Chem Phys 18:1221-6, 1466-70; 19:888-94 S, N '50, Jl '51
Measurement of velocity and pressure of gases in rocket flames by spectroscopic methods. F. P. Bundy and others. il diags J Ap Phys 22:1069-77 Ag '51
Nuclide P^{33} and the P^{32} spectrum. R. K. Sheline and others. bibliog Phys R 83:919-23 S 1 '51
Perturbations in the BaO spectrum. I. Kovacs and A. Lagerqvist. bibliog J Chem Phys 18:1683-4 D '50
Pure quadrupole spectrum of solid chlorine. R. Livingston. J Chem Phys 19:803 Je '51
Radiofrequency spectrum of D_2 in a magnetic field. H. G. Kolsky and others. Phys R 80: 483 N 1 '50
Recombination and the helium afterglow spectrum. D. R. Bates. Phys R 82:103 Ap 1 '51
Scintillation spectra of As^{76}. J. K. Bair and F. Maienschein. bibliog Phys R 81:463 F 1 '51
Solvent induced frequency shifts for catacondensed aromatics. N. D. Coggeshall and A. Pozefsky. J Chem Phys 19:980-1 Jl '51
Some optical properties of lead-activated sodium chloride phosphors. J. H. Schulman and others. bibliog il Opt Soc Am J 40:854-62 D '50
Spectrum of He^3 I. M. Fred and others. bibliog Phys R 82:406-21 My 1 '51
Spectrum of the boron monosulfide (BS) molecule. P. B. Zeeman. Phys R 80:902 D 1 '50
Spectrum utilization in color television. R. B. Dome. diags Gen Elec R 54:18-22 Je '51
Spin-spin interaction within paramagnetic ions. M. H. L. Pryce. Phys R 80:1107-8 D 15 '50
Theoretical low temperature spectra of the thallium activated potassium chloride phosphor. F. E. Williams. Phys R 82:281-2 Ap 15 '51
Wave-lengths of mercury 198. W. F. Meggers and K. G. Kessler. bibliog Opt Soc Am J 40:737-41 N '50

See also
Raman effect
Spectrocomparator
Spectrography
Spectroscopy
Spectrum analysis
Stark effect
Stars—Spectra

Absorption spectra

Absorption and reflection spectra of the ammonium halides. L. F. H. Bovey. bibliog J Chem Phys 18:1684 D '50
Absorption spectra and photo-isomerization of arylated dienes. Y. Hirshberg, E. Bergmann and F. Bergmann. bibliog Am Chem Soc J 72:5120-3 N '50
Absorption spectra and structure of organic sulphur compounds; sulphoxides. H. P. Koch. Chem Soc J p2892-4 O '50
Absorption spectra of azines. H. H. Szmant and H. J. Planinsek. bibliog Am Chem Soc J 72:4981-6 N '50
Absorption spectra of certain nickel(II) and cobalt(II) complex ions. G. L. Roberts and F. H. Field. bibliog Am Chem Soc J 72: 4232-5 S '50
Absorption spectra of chlorophyll and related compounds. S. Aronoff. bibliog Chem R 47:175-95 O '50
Absorption spectra of chlorophylls in solutions at low temperatures, equilibria between isomers. S. Freed and K. M. Sancier. Science 114:275-6 S 14 '51
Absorption spectra of I_2, I_3^-, I^-, IO_3^-, $S_4O_6^{=}$ and $S_2O_3^{=}$; heat of the reaction $I_3 = I_2 + I^-$. A. D. Awtrey and R. E. Connick. Am Chem Soc J 73:1842-3 Ap '51
Absorption spectra of molecules in the vacuum ultra-violet. W. C. Price. Inst Pet J 37:106-9; Discussion. 3pls diags 135-46 Mr '51
Absorption spectra of pure and colored alkali halide crystals. D. L. Dexter. Phys R 83: 435-8 Jl 15 '51
Absorption spectra of samples of quartz and corundum in ultraviolet; electric and thermic treatment of quartz. R. Bauple and others. bibliog Opt Soc Am J 40:788-9 N '50
Absorption spectra of some cellulose derivatives in the 3-μ region. L. Brown, P. Holliday and I. F. Trotter. Chem Soc J p 1532-9 Je '51
Absorption spectra of some chlorosubstituted tetracyclones. F. J. Thaller, D. E. Trucker and E. I. Becker. bibliog Am Chem Soc J 73:228-9 Ja '51
Absorption spectra of some cobalt(III) coördination compounds. F. Basolo. bibliog Am Chem Soc J 72:4393-7 O '50
Absorption spectra of some N-substituted *p*-aminotriphenylmethyl ions. H. Walba and G. E. K. Branch. Am Chem Soc J 73:3341-8 Jl '51
Absorption spectra of some phenyl sulfides, sulfoxides and sulfones containing nitro and amino groups. H. H. Szmant and J. J. McIntosh. bibliog Am Chem Soc J 73:4356-9 S '51
Absorption spectra of some substituted benzoquinones. C. M. Martini and F. C. Nachod. Am Chem Soc J 73:2953-4 Je '51
Absorption spectra of substances containing the carbon-iodine bond. R. A. Durie, T. Iredale and J. M. S. Jarvie. Chem Soc J p 1181-4 Ap '50
Absorption spectra of the benzoylaminoanthraquinone vat dyes. E. Waters. Soc Dyers & Col J 66:544-5 O '50
Absorption spectra of thioindigo dyes in benzene and chloroform. W. R. Brode and G. M. Wyman. J Res Nat Bur Stand 47:170-8 S '51
Absorption spectra of water vapor and carbon dioxide in the region of 2.7 microns. W. S. Benedict and E. K. Plyler. bibliog J Res Nat Bur Stand 46:246-65 Mr '51
Absorption spectrum of 3,7-dimethylxanthine. E. E. Lockhart and M. C. Merritt. Am Chem Soc J 72:5328-9 N '50
Absorption spectrum of keten in the far ultra-violet. W. C. Price, J. P. Teegan and A. D. Walsh. Chem Soc J p920-6 Ap '51
Absorption spectrum of sulfur hexafluoride in the vacuum ultraviolet region. T. Liu and others. bibliog J Chem Phys 19:71-2 Ja '51
Absorption spectrum of thallium-activated potassium chloride phosphor at low temperatures. P. D. Johnson and F. J. Studer. diag Phys R 82:976 Je 15 '51
Action of alcohol on phthalic anhydrides. Y. Hirshberg, D. Lavie and E. D. Bergmann. Chem Soc J p 1030-4 Ap '51
Analysis of the 774 cm^{-1} (v_6) absorption band of F_2CO. A. H. Nielsen. bibliog J Chem Phys 19:98-100 Ja '51
Aryl carbonium ions in sulfuric acid. M. S. Newman and N. C. Deno. bibliog Am Chem Soc J 73:3644-50 Ag '51

SPECTRUM—Absorption spectra—*Continued*

Binding of organic ions by proteins; optical evidence of coöperative interactions with hydrogen ions. I. M. Klotz and J. M. Urquhart. Am Chem Soc J 73:3182-6 Jl '51

Characteristic absorption bands in the 10-μ region of the infra-red spectra of *cyclo*paraffin derivatives. L. W. Marrison. Chem Soc J p 1614-15 Je '51

Chelation and association of some ethylenediamine Schiff bases. L. N. Ferguson and I. Kelly. Am Chem Soc J 73:3707-9 Ag '51

Color and constitution; absorption of cyanines derived from 3-methylisoquinoline; a rule relating basicity and absorption in symmetrical cyanines. L. G. S. Brooker, F. L. White and R. H. Sprague. Am Chem Soc J 73:1087-93 Mr '51

Complexes of naphthalene with iodine and bromine; on the origin of the spectra of complexes between halogens and aromatics. N. W. Blake, H. Winston and J. A. Patterson. Am Chem Soc J 73:4437-40 S '51

Conversion of sucrose into pyridazine derivatives; the ultra-violet absorption spectra of substituted 1-phenyl-6-pyridazones and related substances. W. G. Overend, L. M. Turton and L. F. Wiggins. Chem Soc J p3505-8 D '50

β-Dimethylaminoethyl esters of organic dithio acids; absorption spectra. S. B. Knight and others. Am Chem Soc J 73:29-31 Ja '51

Effect of bromine substitution upon the ultra-violet absorption spectra of α,β-unsaturated ketones. A. L. Nussbaum and others. bibliog Am Chem Soc J 73:3263-6 Jl '51

Effect of changes in crystalline structure on the infrared absorption spectrum of cellulose. F. H. Forziati and J. W. Rowen. bibliog J Res Nat Bur Stand 46:38-42 Ja '51

Effects of added chlorides on the absorption spectra of cobaltous chloride in water and in formamide. L. R. Dawson and J. H. Chaudet. bibliog J Chem Phys 19:771-4 Je '51

Ethylene imine ketones; stereochemical configurations, absorption spectra and reactions with phenylhydrazine. N. H. Cromwell and others. bibliog Am Chem Soc J 73:1044-51 Mr '51

Evidence for the existence of unipositive iodine ion in solutions of iodine in pyridine. R. A. Zingaro, C. A. VanderWerf and J. Kleinberg. Am Chem Soc J 73:88-90 Ja '51

False absorption bands in the region of 200-230 mμ caused by stray radiation in the Beckman spectrophotometer. L. J. Saidel and others. bibliog Science 113:683-5 Je 15 '51

Frequency of the third harmonic O-H band of methanol in various solvents, and the hydrogen bonding of methanol with aromatic hydrocarbons. L. H. Jones and R. M. Badger. bibliog Am Chem Soc J 73:3132-4 Jl '51

Industrial applications of absorption spectroscopy. bibliog Inst Pet J 37:109-25; Discussion. 3pls diags 135-46 Mr '51

Influence of foreign gases at high pressures on the infrared absorption band of methane at 3.3μ. H. L. Welsh and others. bibliog diag J Chem Phys 19:340-4 Mr '51

Influence of steric configuration on the ultra-violet absorption of 1,2-diketones. N. J. Leonard and P. M. Mader. bibliog il diag Am Chem Soc J 72:5388-97 D '50

Influence of structure on the ultra-violet absorption spectra of heterocyclic systems. G. R. Clemo and D. G. I. Felton. Chem Soc J p671-7 Mr '51

Infra-red absorption of hydrogen induced by foreign gases. M. F. Crawford and others. Phys R 80:469-70 N 1 '50

Infrared absorption spectra of alkaloids. L. Marion, D. A. Ramsay and R. N. Jones. Am Chem Soc J 73:305-8 Ja '51

Infrared microspectrum of living muscle cells. D. L. Wood. bibliog Science 114:36-8 Jl 13 '51

Infra-red spectroscopic measurements of substituted pyrimidines; the absorption spectra of di-, tri-, and tetra-substituted pyrimidines. I. A. Brownlie. Chem Soc J p3062-72 N '50

Interaction of bromide with benzene and certain of its derivatives. R. M. Keefer and L. J. Andrews. bibliog Am Chem Soc J 72:4677-81 O '50

Interaction of sulfur dioxide with aromatic substances. L. J. Andrews and R. M. Keefer. bibliog Am Chem Soc J 73:4169-72 S '51

Method for reducing the Doppler breadth of microwave absorption lines. G. Newell, jr. and R. H. Dicke. diags Phys R 83:1064-5 S 1 '51

Molecular orbital theory and spectra of monosubstituted benzenes. F. A. Matsen, W. W. Robertson and J. F. Music. bibliog il Am Chem Soc J 72:5243-63 N '50

Multiplicity forbidden absorption bands in the spectrum of pyridine. C. Reid. il J Chem Phys 18:1673-5 D '50

Near ultraviolet absorption spectra of some fluorinated derivatives of methane and ethylene. J. R. Lacher and others. bibliog Am Chem Soc J 72:5486-9 D '50

Near-ultraviolet absorption spectrum of benzaldehyde vapor. S. Imanishi. il J Chem Phys 19:389 Mr '51

New type of short wavelength absorption band in alkali halides containing color centers. C. J. Delbecq and others. bibliog J Chem Phys 19:574-7 My '51

Nicotinamide; ultraviolet absorption spectra and dissociation constants. H. H. G. Jellinek and M. G. Wayne. bibliog J Phys & Colloid Chem 55:173-80 F '51

Observations on the rare earths; reaction between neodymium and ethylenediaminetetraacetate ions in aqueous solution. T. Moeller and J. C. Brantley. bibliog Am Chem Soc J 72:5447-51 D '50

Organic fluorides; the ultra-violet absorption spectra of some aromatic compounds containing fluorine. F. Smith and L. M. Turton. Chem Soc J p 1701-5 Jl '51

Oscillator strengths for the α- and β-bands in alkali halide crystals. D. L. Dexter. bibliog Phys R 83:1044-6 S 1 '51

Photochemical action of ultraviolet light on the absorption spectra of nucleic acid and related substances. D. Rapport and A. Canzanelli. Science 112:469-71 O 20 '50

Raman effect and ultraviolet absorption spectra of molybdenum and tungsten hexafluorides. K. N. Tanner and A. B. F. Duncan. bibliog Am Chem Soc J 73:1164-7 Mr '51

Rare earths; the ultraviolet absorption spectrum of the gadolinium ion in aqueous solutions. T. Moeller and F. A. J. Moss. Am Chem Soc J 73:3149-51 Jl '51

Reactions of the perfluoroalkyl radicals. J. Banus, H. J. Emeléus and R. N. Haszeldine. Chem Soc J p3041-5 N '50

Relation between the absorption spectra and the chemical constitution of dyes; absorption spectra of some thioindigo dyes in sulfuric acid. W. R. Brode and G. M. Wyman. bibliog Am Chem Soc J 73:4267-70 S '51

Relation between the absorption spectra and the chemical constitution of dyes; *cis-trans* isomerism in thioindigo dyes. G. M. Wyman and W. R. Brode. bibliog Am Chem Soc J 73:1487-93 Ap '51

Relative *f*-values for lines of Cr I. A. J. Hill and R. B. King. bibliog Opt Soc Am J 41:315-21 My '51

Researches on dichroism of planar complexes. S. Yamada. bibliog Am Chem Soc J 73:1182-4 Mr '51

Researches on dichroism of planar complexes; the color and the structure of $[Pt(NH_3)_4]$ $[PtCl_4]$ and $[Pt(NH_3)_4]$ $[PtBr_4]$. S. Yamada. bibliog Am Chem Soc J 73:1579-80 Ap '51

Rotation-vibration spectra of diatomic and simple polyatomic molecules with long absorbing paths; the spectrum of isocyanic acid. C. Reid. il J Chem Phys 18:1544-50 D '50

Rotation-vibration spectra of diatomic and simple polyatomic molecules with long absorbing paths; the spectrum of methyl fluoroform (CH_3CF_3) from 19μ to 0.7μ. R. D. Cowan and others. bibliog J Chem Phys 18:1538-44 D '50

SPECTRUM—Absorption spectra—*Continued*

Rotation-vibration spectra of diatomic and simple polyatomic molecules with long absorbing paths; the spectrum of nitrous oxide (N_2O) below 1.2μ. G. Herzberg and L. Herzberg. bibliog il J Chem Phys 18:1551-61 D '50

Solution absorption spectrum of americium. B. J. Stover, J. G. Conway and B. B. Cunningham. Am Chem Soc J 73:491-2 Ja '51

Spectra and structure of iron carbonyls; iron tetracarbonyl. R. K. Sheline. bibliog Am Chem Soc J 73:1615-18 Ap '51

Spectra of some 2,4-dinitrophenylhydrazones. H. H. Szmant and H. J. Planinsek. bibliog Am Chem Soc J 72:4042-5 S '50

Spectra of the metallo-derivatives of α,β,γ,δ-tetraphenylporphine. G. D. Dorough, J. R. Miller and F. M. Huennekens. Am Chem Soc J 73:4315-20 S '51

Spectral study of long chain quaternary ammonium salts in brom phenol blue solutions. E. L. Colichman. bibliog Am Chem Soc J 73:3385-8 Jl '51

Spectroscopic study of *cis*- and *trans*-dibenzoylethylenes and related compounds. L. P. Kuhn, R. E. Lutz and C. R. Bauer. bibliog diags Am Chem Soc J 72:5058-63 N '50

Structure and infrared absorption spectra of polynitrophenylmethylnitramines and polynitroanilines. W. C. Lothrop, G. R. Hanrick and R. M. Hainer. bibliog Am Chem Soc J 73:3581-4 Ag '51

Structure of 1-acetyl-2-methylcyclohexene; spectral characteristics of *s-cis*-αβ-unsaturated ketones. R. B. Turner and D. M. Voitle. bibliog diags Am Chem Soc J 73:1403-10 Ap '51

Studies in light absorption; the relation between absorption intensities and molecular dimensions, and its application to the electronic spectra of polyenes and polycyclic benzenoid hydrocarbons. E. A. Braude. diags Chem Soc J p379-84 Ja '50

Studies in the sulfone series; infrared absorption spectra and structure of some substituted diphenyl sulfones and sulfoxides. E. D. Amstutz, I. M. Hunsberger and J. J. Chessick. bibliog Am Chem Soc J 73:1220-4 Mr '51

Substituted anthracene derivatives; the ultra-violet absorption spectra of *meso*-substituted 1 : 2-benzanthracenes. G. M. Badger and R. S. Pearce. Chem Soc J p3072-7 N '50

Substituted stilbenes; absorption spectra. M. Calvin and H. W. Alter. bibliog J Chem Phys 19:765-7 Je '51

Synthesis and absorption spectra of some analogs of humulon. T. W. Campbell and G. M. Coppinger. bibliog Am Chem Soc J 73:1849-50 Ap '51

Thermal stability of *F*-centers in alkali halides. A. B. Scott and W. A. Smith. bibliog Phys R 83:982-6 S 1 '51

trans-8 : 9-Epoxy-11-ketoheptadecane-1-carboxylic acid and *cis*-10 : 11-diketoheptadec-8-ene-1-carboxylic acid, with some observations on the ultra-violet absorption spectra of these and related compounds. G. King. Chem Soc J p2897-900 O '50

Ultraviolet absorption of benzotriazole. J. E. Fagel, jr. and G. W. Ewing. bibliog Am Chem Soc J 73:4360-2 S '51

Ultraviolet absorption spectra and the refractive indices of some fluorobromomethanes. N. Davidson. bibliog Am Chem Soc J 73:467-8 Ja '51

Ultraviolet absorption spectra of acrylic acids and esters. H. E. Ungnade and I. Ortega. bibliog Am Chem Soc J 73:1564-7 Ap '51

Ultraviolet absorption spectra of chromatographic fractions of lignins. A. Bailey. bibliog Am Chem Soc J 73:2325-6 My '51

Ultra-violet absorption spectra of 2 : 2′-, 2 : 4′-, 4 : 4′-dihydroxydiphenylmethanes, 2 : 2′-dihydroxy-5 : 5′-dimethyldiphenylmethane and its 3-, 4-, and 5-ring polymers, and of 4 : 4′-dihydroxydiphenylethane. R. F. Hunter, R. A. Morton and A. T. Carpenter. Chem Soc J p441-4 F '50

Ultra-violet absorption spectra of mercurous perchlorate solutions. W. C. E. Higginson. Chem Soc J p 1438-43 Je '51

Ultraviolet absorption spectra of 5-nitroaminotetrazole and its salts. E. Lieber, E. Sherman and S. H. Patinkin. Am Chem Soc J 73:2329-31 My '51

Ultraviolet absorption spectra of α-phenylcarbonyl compounds. E. L. Alpen, W. D. Kumler and L. A. Strait. bibliog Am Chem Soc J 72:4558-61 O '50

Ultraviolet absorption spectra of proteins. A. R. Goldfarb and L. J. Saidel. Science 114:156-7 Ag 10 '51

Ultra-violet absorption spectra of some benzoic acids with electron-repelling substituents. C. M. Moser and A. I. Kohlenberg. Chem Soc J p804-9 Mr '51

Ultraviolet absorption spectra of some hydroxynaphthalenes. C. Daglish. bibliog Am Chem Soc J 72:4859-64 N '50

Ultraviolet absorption spectra of 2-substituted 8-quinolinols. J. P. Phillips and others. Am Chem Soc J 73:630-2 F '51

Ultraviolet absorption spectrum of 1,3-cycloheptadiene. E. Pesch and S. L. Friess. Am Chem Soc J 72:5756-7 D '50

Ultraviolet absorptions of some 2,5-diphenylfurans and related compounds. S. M. King, C. R. Bauer and R. E. Lutz. Am Chem Soc J 73:2253-6 My '51

Unsaturated lactones; the relationship between chemical constitution and absorption spectra in a group of crotonolactones. F. W. Schueler and C. Hanna. Am Chem Soc J 73:3528-30 Jl '51

Band spectra

Band spectra of the selenium isotopes. S. P. Davis and F. A. Jenkins. Phys R 83:1269 S 15 '51

Band spectrum of HgIn. R. L. Purbrick. il Phys R 81:89-94 Ja 1 '51

$3p^3\Sigma \rightarrow 2s^3\Sigma$-Bands of TH and T_2. G. H. Dieke and F. S. Tomkins. Phys R 82:796-807 Je 15 '51

Chemical reaction in the torch discharge in carbon monoxide and carbon dioxide. S. Mizushima and others. diag Am Chem Soc J 72:5176-7 N '50

Fractional transition probabilities of the first positive band system ($B^3\Pi \rightarrow A^3\Sigma$) of molecular nitrogen. C. E. Montgomery and R. W. Nicholls. bibliog Phys R 82:565-6 My 15 '51

Intensity distribution of the first negative ($B^2\Sigma \rightarrow X^2\Sigma$) band system of N_2^+. R. G. Turner and R. W. Nicholls. Phys R 82:290 Ap 15 '51

Kinetic mechanisms and hydrocarbon flame spectra. R. C. Herman and others. bibliog Science 112:497-8 O 27 '50

Multiplicity forbidden absorption bands in the spectrum of pyridine. C. Reid. il J Chem Phys 18:1673-5 D '50

Near ultraviolet solution spectra of the diazines. F. Halverson and R. C. Hirt. J Chem Phys 19:711-18 Je '51

Perturbations in the ultraviolet band spectrum of the phosphorus molecule P_2. S. M. Naudé and H. Verleger. bibliog Phys R 80:432-5 N 1 '50

Role of E^+_g vibrations in the 2600-A. benzene band system. D. P. Craig. Chem Soc J p59-62 Ja '50

Rotational structure of the ultraviolet band system of the P_2 molecule. E. J. Marais and H. Verleger. bibliog Phys R 80:429-31 N 1 '50

Broadening of lines

See Spectrum—Pressure effect

Excitation

Excitation temperature in time-resolved spectra of single condensed spark discharges. L. Blitzer and W. M. Cady. bibliog il diags Opt Soc Am J 41:440-5 Jl '51

Fine structure

Absolute absorption coefficient of germanium and the fine structure in the *K* edge of some of its compounds. H. Glaser. bibliog Phys R 82:616-21 Je 1 '51

Angular dependence of hyperfine structure for the copper ion. E. F. Carr and C. Kikuchi. bibliog Phys R 80:1107 D 15 '50

Fine structure in the emission spectrum of manganese activated zinc silicate. C. C. Vlam. bibliog Opt Soc Am J 41:558 Ag '51

SPECTRUM—Fine structure—*Continued*

Fundamental research in atomic spectra. W. F. Meggers. bibliog Opt Soc Am J 41:143-8 Mr '51

Hyperfine structure of hydrogen and deuterium. F. E. Low and E. E. Salpeter. Phys R 83:478 Jl 15 '51

Hyperfine structure of Sm^{149}, Sm^{147}, Nd^{145}, and Nd^{143}. K. Murakawa and J. S. Ross. bibliog Phys R 82:967-8 Je 15 '51

Hyperfine structure of the rotational spectra of XYZ_3-type molecule, where nuclei Z have electric quadrupole moments. M. Mizushima and T. Ito. bibliog J Chem Phys 19:739-44 Je '51

Hyperfine structure of Zeeman levels in nitric oxide. A. F. Henry. Phys R 80:549-52 N 15 '50

Line breadths of the fine structure of the microwave spectrum of oxygen. R. S. Anderson and others. bibliog Phys R 82:264 Ap 15 '51

Nuclear magnetic moments and atomic hyperfine structure. A. Bohr. bibliog Phys R 81:331-5 F 1 '51

Nuclear magnetic resonance fine structure in liquids. H. S. Gutowsky and D. W. McCall. Phys R 82:748-9 Je 1 '51

Fluorescence spectra

Correction for light absorption in fluorescence and light scattering measurements. J. L. Lauer. diag Opt Soc Am J 41:482-3 Jl '51

Origin of multiple bands in luminophors activated by divalent manganese. F. A. Kroeger and P. Zalm. bibliog Electrochem Soc J 98:177-82 My '51

Photoelectric measurement of fluorescence spectra of highly colored liquids. J. L. Lauer and E. J. Rosenbaum. il diag Opt Soc Am J 41:450-3 Jl '51

Vibrational analysis of the fluorescence spectrum of formaldehyde. J. C. D. Brand. bibliog J Chem Phys 19:377-8 Mr '51

Intensity

Experimental determination of the intensities of infrared absorption bands; measurements of the stretching vibrations of OCS and CS_2. D. Z. Robinson. bibliog J Chem Phys 19:881-6 Jl '51

Intensities of some characteristic infrared bands of ketones and esters. S. A. Francis. J Chem Phys 19:942-8 Jl '51

Quantitative infrared intensity measurements; carbon monoxide pressurized with infrared-inactive gases; studies on the first overtone of unpressurized CO. S. S. Penner and D. Weber. bibliog diags J Chem Phys 19:807-18 Jl '51

Relative intensities of first-order Stark components. S. Kung. Phys R 83:665-6 Ag 1 '51

Suppression of line intensities by perchloric acid. E. E. Pickett and G. Todd. Opt Soc Am J 41:361 My '51

Line breadth

Imprisonment of resonance radiation in gases. T. Holstein. bibliog Phy R 83:1159-68 S 15 '51

Multiplets

Multiplets and terms in technetium spectra. W. F. Meggers. bibliog J Res Nat Bur Stand 47:7-14 Jl '51

Spin-spin interaction. R. E. Trees. bibliog Phys R 82:683-8 Je 1 '51

Pressure effect

Pressure broadening in the microwave spectrum of ammonia. C. A. Potter and others. diags Phys R 83:987-9 S 1 '51

Pressure broadening of an ammonia inversion line for foreign gases. J. Weber. bibliog Phys R 83:1058-9 S 1 '51

Pressure broadening of the ammonia inversion line by foreign gases; quadrupole-induced dipole interactions. P. W. Anderson. diags Phys R 80:511-13 N 15 '50

Statistical theory of pressure broadening. H. Margenau. Phys R 82:156-8 Ap 15 '51

Theory of pressure broadening and its application to microwave spectra. M. Mizushima. bibliog Phys R 83:94-103 Jl 1 '51

Tables, etc.

Arc and spark spectra of technetium. W. F. Meggers and B. F. Scribner. bibliog J Res Nat Bur Stand 45:476-89 D '50

Electronic computation of wave numbers. G. K. Werner and others. Opt Soc Am J 41:559-60 Ag '51

First spectrum of arsenic. W. F. Meggers and others. bibliog J Res Nat Bur Stand 45:346-56 O '50

Relative f-values for lines of Cr I. A. J. Hill and R. B. King. bibliog Opt Soc Am J 41:315-21 My '51

Spectrum of iodine excited in the presence of argon. P. Venkateswarlu. bibliog Phys R 81:821-9 Mr 1 '51

Structure of Te II. J. E. Mack and others. bibliog Phys R 83:654-5 Ag 1 '51

Third spectrum of copper (CuIII). A. G. Shenstone and L. Wilets. bibliog Phys R 83:104-8 Jl 1 '51

Two-path method for measuring flame temperatures and concentrations in low pressure combustion chambers. S. S. Penner. bibliog diag J Chem Phys 19:272-80 Mr '51

Wavelength tables of sensitive lines. L. H. Ahrens. 86p bibliog(p86) $3 Addison-Wesley press, Kendall sq, Cambridge 42, Mass. '51

Vibrational spectra

Aid in making vibrational assignments. H. J. Bernstein. J Chem Phys 18:1682 D '50

Frequency spectra of simple solids from specific heat data. E. Katz. J Chem Phys 19:488-93 Ap '51

Hydrogen sulfide band of 1180 cm^{-1}. H. C. Allen, jr. and P. C. Cross. bibliog J Chem Phys 19:140 Ja '51

Interpretation of the vibration spectrum of mix-crystals. F. Matossi. J Chem Phys 19:161-3 F '51

Rotation-vibration spectrum of methyl cyanide in the region 1.6μ-20μ. P. Venkateswarlu. bibliog J Chem Phys 19:293-8 Mr '51

Rotational isomerism and the vibrational spectrum of 1,2-dibromoethane. J. T. Neu and W. D. Gwinn. bibliog diag J Chem Phys 18:1642-52 D '50

Vibration-rotation bands of OH in the photographic infrared. G. A. Hornbeck and R. C. Herman. J Chem Phys 19:512 Ap '51

Vibration-rotation spectrum and structure of monochlorosilane. A. Monfils. bibliog J Chem Phys 19:138-9 Ja '51

Vibrational spectra and structure of cycloöctatetraene. E. R. Lippincott, R. C. Lord and R. S. McDonald. bibliog diags Am Chem Soc J 73:3370-85 Jl '51

Vibrational spectra and structure of inorganic molecules; the infra-red spectra of nitrosyl chloride and nitrosyl bromide from 2.0 to 25μ. W. G. Burns and H. J. Bernstein. bibliog J Chem Phys 18:1669-73 D '50

Vibrational spectra of diborane and some of its isotopic derivatives. R. C. Lord and E. Nielsen. bibliog J Chem Phys 19:1-10 Ja '51

Vibrational spectra of molecules and complex ions in crystals; ammonia and deuteroammonia. F. P. Reding and D. F. Hornig. bibliog J Chem Phys 19:594-601 My '51

SPECTRUM, Auroral

Evidence for the entry into the upper atmosphere of high-speed protons during auroral activity. A. B. Meinel. Science 112:590 N 17 '50

SPECTRUM, Beta ray. See Beta rays

SPECTRUM, Infrared

Absorption spectra of some cellulose derivatives in the 3-μ region. L. Brown, P. Holliday and I. F. Trotter. Chem Soc J p 1532-9 Je '51

Analysis of mixtures with double-beam nondispersive infrared instrument. O. G. Koppius. bibliog diags Anal Chem 23:554-9 Ap '51

Analysis of the isomeric composition of bromodihydromyrcene. L. Bateman, J. I. Cunneen and H. P. Koch. Chem Soc J p3045-51 N '50

Analytical examination of plasticizers obtained from polyvinyl chloride compositions. J. Haslam, W. Soppet and H. A. Willis. J Ap Chem 1:119-24 Mr '51

SPECTRUM, Infrared—*Continued*

Anomalous intensity distribution of rotation lines in fundamental vibration bands in triatomic molecules. H. H. Nielsen. Phys R 83:838-9 Ag 15 '51

Characteristic absorption bands in the 10-μ region of the infra-red spectra of *cyclo*paraffin derivatives. L. W. Marrison. Chem Soc J p 1614-15 Je '51

Characteristic infra-red frequencies of the carboxylic acid group. M. S. Flett. Chem Soc J p962-7 Ap '51

Characterization of benzene ring substitution by infrared spectra. C. W. Young, R. B. DuVall and N. Wright. Anal Chem 23:709-14 My '51

Cotton powder for infrared transmission measurements. F. H. Forziati and others. bibliog il J Res Nat Bur Stand 45:109-13 Ag '50

Determination of diethylene glycol dinitrate and nitroglycerin by infrared spectroscopy. S. Pinchas. bibliog Anal Chem 23:201-2 Ja '51

Determination of isotope ratios, e.g., in tracer work, by an infrared absorption method. J. M. W. Milatz and others. bibliog J Chem Phys 19:887-8 Jl '51

Determination of *trans*-octadecenoic acids, esters, and alcohols in mixtures; infrared spectrophotometric method. O. D. Shreve and others. bibliog Anal Chem 22:1261-4 O '50

Determination of water in pyridine homologues by the use of infra-red spectroscopy. E. A. Coulson, J. L. Hales and E. F. G. Herington. diag Chem Soc J p2125-8 Ag '51

Experimental determination of the intensities of infrared absorption bands; measurements of the stretching vibrations of OCS and CS_2. D. Z. Robinson. bibliog J Chem Phys 19:881-6 Jl '51

Formation of complexes in benzene-oxalyl chloride solutions. B. D. Saksena and R. E. Kagarise. il J Chem Phys 19:994-9 Ag '51

Incandescent tungsten source for infrared spectroscopy. J. H. Taylor and others. diags Opt Soc Am J 41:626-9 S '51

Induced infrared absorptions of H_2, N_2, and O_2 in the first overtone regions. H. L. Welsh and others. Phys R 83:1264 S 15 '51

Influence of foreign gases at high pressures on the infrared absorption band of methane at 3.3μ. H. L. Welsh and others. bibliog diag J Chem Phys 19:340-4 Mr '51

Infra-red absorption of hydrogen induced by foreign gases. M. F. Crawford and others. Phys R 80:469-70 N 1 '50

Infrared absorption spectra of alkaloids. L. Marion, D. A. Ramsay and R. N. Jones. Am Chem Soc J 73:305-8 Ja '51

Infrared absorption spectra of minerals and other inorganic compounds. J. H. Hunt, M. P. Wisherd and L. C. Bonham. bibliog Anal Chem 22:1478-97 D '50

Infrared absorption spectra of some epoxy compounds. O. D. Shreve and others. bibliog Anal Chem 23:277-82 F '51

Infrared absorption spectra of some hydroperoxides, peroxides, and related compounds. O. D. Shreve and others. bibliog Anal Chem 23:282-5 F '51

Infrared absorption spectra; some long-chain fatty acids, esters, and alcohols. O. D. Shreve and others. bibliog Anal Chem 22:1498-501 D '50

Infrared absorption spectrum of $H_2C=CHD$. C. Courtoy and others. J Chem Phys 19:137 Ja '51

Infra-red absorption spectrum of isothiocyanic acid (HNCS). C. Reid. J Chem Phys 18:1512-13 N '50

Infrared analysis of *cis*- and *trans*-decahydronaphthalene. J. Seidman. Anal Chem 23:559-63 Ap '51

Infrared analysis of pharmaceutical products; acetylsalicylic acid, phenacetin, and caffeine, and combinations of these with codeine or thenylpyramine. T. V. Parke and others. bibliog Anal Chem 23:953-7 Jl '51

Infrared and mass spectra of some deuterium-containing derivatives of propane. F. E. Condon and others. bibliog J Chem Phys 19:1010-13 Ag '51

Infra-red and Raman frequencies of hydrocarbon groupings. N. Sheppard. Inst Pet J 37:95-106; Discussion. 3pls diags 135-46 Mr '51

Infrared and Raman spectra of condensed nitric oxide. A. L. Smith and others. bibliog J Chem Phys 19:189-92 F '51

Infra-red and Raman spectra of cyclopentane, cyclopentane-d_1, and cyclopentane-d_{10}. F. A. Miller and R. G. Inskeep. bibliog diag J Chem Phys 18:1519-31 D '50

Infra-red and Raman spectra of fluorinated ethanes; 1,1,1-trifluoroethane. J. R. Nielsen and others. bibliog J Chem Phys 18:1471-6 N '50

Infrared and Raman spectra of methylhydrazine and symmetrical dimethylhydrazine. D. W. E. Axford and others. J Chem Phys 19:704-7 Je '51

Infra-red and Raman spectra of para-difluorobenzene. A. H. Delsemme. J Chem Phys 18:1680 D '50

Infrared and Raman spectra of SiF_4. E. A. Jones and others. J Chem Phys 19:242-5 F '51

Infrared and Raman spectra of trimethylphosphine oxide. L. W. Daasch and D. C. Smith. bibliog J Chem Phys 19:22-5 Ja '51

Infrared and Raman spectra of vinylidene cyanide. M. L. Dannis and J. J. Shipman. J Chem Phys 19:382 Mr '51

Infrared determination of ortho and meta isomers in *p*-cresol; freezing points of pure cresols. O. E. Knapp, H. S. Moe and R. B. Bernstein. Anal Chem 22:1408-10 N '50

Infra-red examination of terpenoid substances. M. F. Carroll and others. Chem Soc J p3457-61 D '50

Infrared microspectroscopy. E. R. Blout and others. bibliog il diags Opt Soc Am J 40:304-13; 41:547-51 My '50, Ag '51

Infrared microspectrum of living muscle cells. D. L. Wood. bibliog Science 114:36-8 Jl 13 '51

Infra-red spectra and chemical structure of some aromatic disulphides, disulphones, and thiolsulphonates. J. Cymerman and J. B. Willis. Chem Soc J p 1332-7 My '51

Infrared spectra and force constants of chloroform and trichlorosilane. T. G. Gibian and D. S. McKinney. bibliog Am Chem Soc J 73:1431-4 Ap '51

Infrared spectra and tautomerism of 2-thioöxazolidone and congeners. M. G. Ettlinger. bibliog Am Chem Soc J 72:4699-702 O '50

Infrared spectra of CH_2N_2 and CD_2N_2. B. L. Crawford, jr. and others. bibliog diags J Chem Phys 19:406-12 Ap '51

Infra-red spectra of carcinogens; derivatives of stilbene. H. W. Thompson and others. Chem Soc J p214-18 Ja '50

Infra-red spectra of carcinogens; polynuclear hydrocarbons. S. F. D. Orr and H. W. Thompson. Chem Soc J p218-21 Ja '50

Infrared spectra of Cl_2O and ClO_2. K. Hedberg. bibliog J Chem Phys 19:509 Ap '51

Infrared spectra of cinerolone and synthetic *trans*-(2-butenyl)-4-hydroxy-3-methyl-2-cyclopenten-l-one. H. L. Cupples. bibliog Am Chem Soc J 72:4522-3 O '50

Infrared spectra of eighteen halogen-substituted methanes. E. K. Plyler and W. S. Benedict. J Res Nat Bur Stand 47:202-20 S '51

Infrared spectra of ethylenimine and N-methylethyleneimine. H. T. Hoffman, jr., G. E. Evans and G. Glockler. bibliog Am Chem Soc J 73:3028-30 Jl '51

Infrared spectra of HOCl and DOCl. K. Hedberg and R. M. Badger. bibliog J Chem Phys 19:508-9 Ap '51

Infrared spectra of mesitylene complexes. G. C. Pimentel and others. bibliog J Chem Phys 19:513-14 Ap '51

Infra-red spectra of $N^{15}N^{14}O^{16}$ and $N^{14}N^{15}O^{16}$; some thermodynamic properties of the isotopic N_2O molecules. J. Bigeleisen and L. Friedman. bibliog J Chem Phys 18:1656-9 D '50

Infrared spectra of phenols. R. A. Friedel. bibliog Am Chem Soc J 73:2881-4 Je '51

Infrared spectra of phosphorus compounds. L. W. Daasch and D. C. Smith. bibliog Anal Chem 23:853-68 Je '51

Infra-red spectra of propane and 2,2-dideuteropropane. H. L. McMurry and V. Thornton. J Chem Phys 18:1515-16 N '50

SPECTRUM, Infrared—*Continued*

Infrared spectra of propane and its symmetrical deuterium substituted analogs. H. L. McMurry and V. Thornton. bibliog J Chem Phys 19:1014-18 Ag '51

Infrared spectra of propargylic alcohols and bromides. J. H. Wotiz, F. A. Miller and R. J. Palchak. Am Chem Soc J 72:5055-8 N '50

Infrared spectra of rotenone and dihydrorotenone. H. L. Cupples and I. Hornstein. Am Chem Soc J 73:4023-4 Ag '51

Infra-red spectra of three sydnones and certain *N*-nitroso-compounds. J. C. Earl and others. Chem Soc J p2207-8 Ag '51

Infrared spectrometry in graphic arts; development and production of inks, stencils, coated papers, and accessories of the mimeograph process. T. U. Marron and T. S. Chambers. Anal Chem 23:548-50 Ap '51

Infra-red spectroscopic investigation of double-bond structure in simple acyclic terpenes and derivatives thereof. D. Barnard and others. Chem Soc J p915-25 Mr '50

Infra-red spectroscopic investigation of the reaction between acetic anhydride and butyric anhydride. L. Brown and I. F. Trotter. Chem Soc J p87-93 Ja '51

Infra-red spectroscopic measurements of substituted pyrimidines; the absorption spectra of di-, tri-, and tetra-substituted pyrimidines. I. A. Brownlie. Chem Soc J p3062-72 N '50

Infra-red spectroscopic studies of the structure of molecular complexes. W. R. Burton and R. E. Richards. Chem Soc J p 1316-19 My '50

Infra-red spectroscopy and structural chemistry. J. F. Grove and H. A. Willis. Chem Soc J p877-85 Ap '51

Infrared spectroscopy of compounds having biological interest; a comparative study of normal and *i*-steroids. M.-L. Josien, N. Fuson and A. S. Cary. bibliog Am Chem Soc J 73:4445-9 S '51

Infrared spectroscopy; review of 1950. R. C. Gore. Anal Chem 23:7-12 bibliog(354 ref, p9-12) Ja '51

Infra-red spectrum and molecular structure of HNCS. L. H. Jones and R. M. Badger. J Chem Phys 18:1511-12 N '50

Infrared spectrum and structure of tungsten carbonyl. R. K. Sheline. bibliog Am Chem Soc J 72:5761-2 D '50

Infrared spectrum of active nitrogen. L. M. Branscomb. il Phys R 82:83-6 Ap 1 '51

Infrared spectrum of boron trichloride. R. E. Scruby and others. J Chem Phys 19:386-7 Mr '51

Infrared spectrum of bromochlorofluoromethane. E. K. Plyler and M. A. Lamb. J Res Nat Bur Stand 46:382-4 My '51

Infra-red spectrum of C_2H_2 from 4400 to 8500 cm^{-1}. R. M. Talley and A. H. Nielsen. J Chem Phys 18:1680-1 D '50

Infrared spectrum of chlorofluoromethane. E. K. Plyler and M. A. Lamb. J Res Nat Bur Stand 45:204-8 S '50

Infrared spectrum of $H_2C{=}CD_2$. J. E. Lancaster and others. J Chem Phys 19:661 My '51

Infrared spectrum of KHF_2. J. A. A. Ketelaar and W. Vedder. J Chem Phys 19:654 My '51

Infrared spectrum of methyl chloroform in the region 1.6μ-20μ. P. Venkateswarlu. bibliog J Chem Phys 19:298-302 Mr '51

Infra-red spectrum of nitrosyl fluoride. E. A. Jones and P. J. H. Woltz. J Chem Phys 18:1516 N '50

Infrared spectrum of P_4. H. S. Gutowsky and C. J. Hoffman. bibliog diag Am Chem Soc J 72:5751-2 D '50

Infrared spectrum of stibine. D. C. Smith. J Chem Phys 19:384-5 Mr '51

Infrared spectrum of sulfur hexafluoride. R. T. Lagemann and E. A. Jones. bibliog J Chem Phys 19:534-6 My '51

Infra-red spectrum of tropolone. H. P. Koch. Chem Soc J p512-15 F '51; Discussion. Chem & Ind p29-31 Ja 13 '51

Infrared studies of association in eleven alcohols. F. A. Smith and E. C. Creitz. bibliog diag J Res Nat Bur Stand 46:145-64 F '51

Infra-red studies of retene and its hydrogenation products. P. V. Laakso, S. F. D. Orr and H. W. Thompson. Chem Soc J p221-5 Ja '50

Infrared-transmitting solvents; triethylamine addition as a means of increasing applicability. J. S. Ard and T. D. Fontaine. bibliog Anal Chem 23:133-7 Ja '51

Integrated absorption of the fundamental of CO from measurements using self-broadening of rotational lines. D. Weber and S. S. Penner. diag J Chem Phys 19:974-5 Jl '51

Interpretation of the CH_2 vibrational frequencies of *n*-paraffins. G. M. Barrow. bibliog J Chem Phys 19:345-6 Mr '51

Interpretation of the infrared and Raman spectra of mixed crystals. H. J. Hrostowski and G. C. Pimentel. bibliog J Chem Phys 19:661-2 My '51

Near infrared absorption spectrum of liquid water. J. A. Curcio and C. C. Petty. diag Opt Soc Am J 41:302-4 My '51

Near infrared spectra of compounds with two peptide bonds and the configuration of a polypeptide chain. S. Mizushima and others. bibliog Am Chem Soc J 73:1330-3 Mr '51

Neo-fatty acids. H. Sobotka and F. E. Stynler. bibliog Am Chem Soc J 72:5139-43 N '50

New measurements on the infrared spectrum of F_2O. E. A. Jones and others. J Chem Phys 19:337-9, 379 Mr '51

New role for infra-red; rapid quantitative analysis of complex mixtures. il Chem W 69:23-4 Jl 14 '51

Optical rotation of quartz in the infrared to 9.7μ. H. S. Gutowsky. bibliog J Chem Phys 19:438-40 Ap '51

Photographic infrared spectrum of CD_3CCH and the structure of methyl acetylene. G. Herzberg and others. bibliog J Chem Phys 19:136-7 Ja '51

Position isomers of substituted aryltrimethylsilanes. H. A. Clark and others. bibliog Am Chem Soc J 73:3798-803 Ag '51

Principles of infrared spectrophotometry. V. Williams. Science 113:51-4 Ja 19 '51

Quantitative analysis with infrared spectrophotometers. D. Z. Robinson. bibliog Anal Chem 23:273-7 F '51

Quantitative infrared intensity measurements; carbon monoxide pressurized with infrared-inactive gases; studies on the first overtone of unpressurized CO. S. S. Penner and D. Weber. bibliog diags J Chem Phys 19:807-18 Jl '51

Raman and infrared spectra of nortricyclene. E. R. Lippincott. diag Am Chem Soc J 73:2001-6 My '51

Raman and infrared spectra of perfluoropropane. W. F. Edgell, H. D. Mallory and D. G. Weiblen. Am Chem Soc J 72:4856-9 N '50

Re-examination of the infrared spectra of the monodeutero toluenes; a method of analysis. G. V. Tiers. J Chem Phys 19:1072 Ag '51

Reflection and transmission infrared cells for use at liquid air temperatures. L. F. H. Bovey. bibliog il Opt Soc Am J 41:381-4 Je '51

Rotation-vibration spectra of diatomic and simple polyatomic molecules with long absorbing paths; the spectrum of isocyanic acid. C. Reid. il J Chem Phys 18:1544-50 D '50

Rotation-vibration spectra of diatomic and simple polyatomic molecules with long absorbing paths; the spectrum of methyl fluoroform (CH_3CF_3) from 19μ to 0.7μ. R. D. Cowan and others. bibliog J Chem Phys 18:1538-44 D '50

Rotation-vibration spectra of diatomic and simple polyatomic molecules with long absorbing paths; the spectrum of nitrous oxide (N_2O) below 1.2μ. G. Herzberg and L. Herzberg. bibliog il J Chem Phys 18:1551-61 D '50

Rotation-vibration spectrum of methyl cyanide in the region 1.6μ-20μ. P. Venkateswarlu. bibliog J Chem Phys 19:293-8 Mr '51

Rotational isomerism in oxalyl chloride (ClOC-COCl). B. D. Saksena and R. E. Kagarise. bibliog il J Chem Phys 19:987-93 Ag '51

Shifted position of infrared absorption bands associated with the $C{=}O$ linkages in polycyclic compounds. M. L. Josien and N. Fuson. Am Chem Soc J 73:478-9 Ja '51

Spectra and structure of iron carbonyls; iron tetracarbonyl. R. K. Sheline. bibliog Am Chem Soc J 73:1615-18 Ap '51

SPECTRUM, Infrared—*Continued*

Spectroscopy in infrared by reflection and its use for highly absorbing substances. I. Šimon. bibliog il diags Opt Soc Am J 41:336-45 My '51

Static multislit spectrometry and its application to the panoramic display of infrared spectra. M. J. E. Golay. bibliog diags Opt Soc Am J 41:468-72 Jl '51

Structure and infrared absorption spectra of polynitrophenylmethylnitramines and polynitroanilines. W. C. Lothrop, G. R. Handrick and R. M. Hainer. bibliog Am Chem Soc J 73:3581-4 Ag '51

Structure of penicillic acid. J. H. Ford, A. R. Johnson and J. W. Hinman. bibliog Am Chem Soc J 72:4529-31 O '50

Studies in steroid metabolism; the effects of stereochemical configuration at positions three and five on the infrared spectra of 3-acetoxy steroids. R. N. Jones and others. bibliog Am Chem Soc J 73:3215-20 Jl '51

Studies in the sulfone series; infrared absorption spectra and structure of some substituted diphenyl sulfones and sulfoxides. E. D. Amstutz, I. M. Hunsberger and J. J. Chessick. bibliog Am Chem Soc J 73:1220-4 Mr '51

Substituted ethanes; Raman and infrared spectra, assignments, force constants, and calculated thermodynamic properties for 1,1,1-trichloroethane. M. Z. El-Sabban and others. bibliog diag J Chem Phys 19:855-64 Jl '51

Substituted methanes; infrared spectra and calculated thermodynamic properties for some trichloromethanes. J. R. Madigan and F. F. Cleveland. J Chem Phys 19:119-23 Ja '51

Synthesis, stereochemistry, and infrared and ultraviolet spectra of several tricyclic ketones homologous with ketoöctahydrophenanthrene. C. D. Gutsche. bibliog Am Chem Soc J 73:786-92 F '51

Ten channel infrared spectrograph. J. T. Agnew and others. il diags Opt Soc Am J 41:76-9 F '51

Toxic factor from agenized proteins; infrared measurements. L. N. Short and H. W. Thompson. Chem Soc J p 1746-9 Jl '51

Variable thickness low temperature infra-red cell. R. B. Holden and others. bibliog il diags Opt Soc Am J 40:757-60 N '50

Vibration-rotation bands of OH in the photographic infrared. G. A. Hornbeck and R. C. Herman. J Chem Phys 19:512 Ap '51

Vibrational spectra and structure of inorganic molecules: the infra-red spectra of nitrosyl chloride and nitrosyl bromide from 2.0 to 25μ. W. G. Burns and H. J. Bernstein. bibliog J Chem Phys 18:1669-73 D '50

Vibrational spectra of alkyl esters of phosphorus oxy-acids. C. I. Meyrick and H. W. Thompson. Chem Soc J p225-9 Ja '50

Vibrational spectra of tetrahydropyran and *p*-dioxane. S. C. Burket and R. M. Badger. bibliog Am Chem Soc J 72:4397-405 O '50

Wavelength calibration in the infrared by interference. C. V. Cooper and J. D. Stroupe. bibliog Opt Soc Am J 41:427 Je '51

SPECTRUM, Microwave

Centrifugal distortion in asymmetric top molecules; ordinary formaldehyde, $H_2C^{12}O$. R. B. Lawrance and M. W. P. Strandberg. bibliog Phys R 83:363-9 Jl 15 '51

Critical evaluation of quantitative histo- and cytochemical microscopic techniques. D. Glick and others. bibliog Science 114:253-8 S 7 '51

Determination of the molecular structure of the halogenosilanes by microwave spectroscopy; abstract. A. H. Sharbaugh. Science 112:421 O 13 '50

Empirical formula for the microwave spectrum of ammonia. C. C. Costain. bibliog Phys R 82:108 Ap 1 '51

Frequency meter for microwave spectroscopy. J. D. Rogers and others. bibliog diags R Sci Instr 21:1014-15 D '50

High temperature, broad-band Stark cell for microwave spectroscopy. L. J. Rueger and others. diags R Sci Instr 22:428 Je '51

Improved microwave spectroscope. diags Electronics 23:126+ D '50

Line breadths of the fine structure of the microwave spectrum of oxygen. R. S. Anderson and others. bibliog Phys R 82:264 Ap 15 '51

Mass of S^{35} from microwave spectroscopy. T. Wentink, jr. and others. bibliog diags Phys R 81:948-51 Mr 15 '51

Method for reducing the Doppler breadth of microwave absorption lines. G. Newell, jr. and R. H. Dicke. diags Phys R 83:1064-5 S 1 '51

Microwave absorption spectrum of nitrosyl chloride NOCl. J. D. Rogers and others. bibliog Phys R 83:431-4 Jl 15 '51

Microwave collision diameters and associated quadrupole moments. R. M. Hill and W. V. Smith. Phys R 82:451 My 1 '51

Microwave determination of the centrifugal distortion constants of CH_3Cl, CH_3Br, CH_3I, BrCN, and ICN. J. W. Simmons and W. E. Anderson. bibliog Phys R 80:338-42 N 1 '50

Microwave magnetic resonance spectrum of oxygen. R. Beringer and J. G. Castle, jr. bibliog Phys R 81:82-8 Ja 1 '51

Microwave resonance absorption of $NiOFe_2O_3$. T. Okamura and others. bibliog Phys R 80:910-11 D 1 '50

Microwave spectra and molecular structures of trifluorosilane derivatives. J. Sheridan and W. Gordy. bibliog J Chem Phys 19:965-70 Jl '51

Microwave spectra of deutero-ammonias. H. Lyons and others. Phys R 81:630-1 F 15 '51

Microwave spectra of the deutero-ammonias. M. T. Weiss and M. W. P. Strandberg. bibliog Phys R 83:567-75 Ag 1 '51

Microwave spectra, structure, and dipole moments of ethylene oxide and ethylene sulfide. G. L. Cunningham, jr. and others. bibliog J Chem Phys 19:676-85 Je '51

Microwave spectroscopic evidence for internal rotation in methyl silane. D. R. Lide and D. K. Coles. Phys R 80:911 D 1 '50

Microwave spectrum and dipole moment of methyl mercaptan. T. M. Shaw and J. J. Windle. J Chem Phys 19:1063-4 Ag '51

Microwave spectrum and molecular constants of trifluoromethyl acetylene. W. E. Anderson and others. il Phys R 82:58-60 Ap 1 '51

Microwave spectrum and molecular structure of GeF_3Cl. W. E. Anderson and others. bibliog Phys R 81:819-21 Mr 1 '51

Microwave spectrum and structure of methyl acetylene. R. Trambarulo and W. Gordy. bibliog J Chem Phys 18:1613-16 D '50

Microwave spectrum of methyl mercaptan. F. K. Hurd and W. D. Hershberger. Phys R 82:95-6 Ap 1 '51

Microwave spectrum of NO_2. K. B. McAfee, jr. Phys R 82:971 Je 15 '51

Microwave spectrum of phosphine, arsine, and stibine. C. C. Loomis and M. W. P. Strandberg. bibliog diags Phys R 81:798-807 Mr 1 '51

Microwave spectrum of sulfur dioxide. M. H. Sirvetz. J Chem Phys 19:938-41 Jl '51

Pressure broadening in the microwave spectrum of ammonia. C. A. Potter and others. diags Phys R 83:987-9 S 1 '51

Resonant absorption of oxygen at 2.5-millimeter wavelength. R. S. Anderson and others. bibliog Phys R 83:1061-2 S 1 '51

Structure and dipole moment of SO_2 from microwave spectra. G. F. Crable and W. V. Smith. bibliog J Chem Phys 19:502 Ap '51

Structure of methyl bromide from microwave spectra. J. W. Simmons and W. O. Swan. Phys R 80:289-90 O 15 '50

Structure of nitrosyl chloride from the microwave absorption spectrum. H. J. Bernstein. J Chem Phys 18:1514 N '50

Theory of pressure broadening and its application to microwave spectra. M. Mizushima. bibliog Phys R 83:94-103 Jl '51

SPECTRUM, Solar

Atomic spectra for the astrophysicist. C. E. Moore. bibliog Science 113:669-73 Je 15 '51

Investigation of the 2943-cm^{-1} line of the solar spectrum. W. M. Benesch and others. Phys R 81:145 Ja 1 '51

Measurements of solar extreme ultra-violet and X-rays from rockets by means of a $CaSO_4$:Mn phosphor. R. Tousey and others. bibliog Phys R 83:792-7 Ag 15 '51

SPECTRUM, Solar—*Continued*

Solar atomic lines in the 3μ region. O. C. Mohler. Phys R 83:464-5 Jl 15 '51

Technetium in the sun. C. E. Moore. Science 114:59-61 Jl 20 '51

Ultraviolet spectral distribution of radiant energy from the sun. R. Stair. bibliog diag J Res Nat Bur Stand 46:353-7 My '51

Water vapor absorption lines in the solar spectrum between 8μ and 13μ. J. H. Shaw and H. H. Claassen. Phys R 82:559 My 15 '51

SPECTRUM, Stellar. See Stars—Spectra

SPECTRUM, Ultraviolet

Absorption spectra of molecules in the vacuum ultra-violet. W. C. Price. Inst Pet J 37:106-9; Discussion. 3pls diags 135-46 Mr '51

Absorption spectra of substances containing the carbon-iodine bond. R. A. Durie, T. Iredale and J. M. S. Jarvie. Chem Soc J p 1181-4 Ap '50

Absorption spectrum of keten in the far ultra-violet. W. C. Price, J. P. Teegan and A. D. Walsh. Chem Soc J p920-6 Ap '51

Action of alcohol on phthalic anhydrides. Y. Hirshberg, L. Lavie and E. D. Bergmann. Chem Soc J p 1030-4 Ap '51

Apparatus for quantitative low temperature ultra-violet absorption spectroscopy. R. N. Beale and E. M. F. Roe. bibliog il diags J Sci Instr 28:109-11 Ap '51

Aromatic hydrocarbons in some Diesel fuel fractions; ultraviolet spectrometric identification. N. G. Adams and D. M. Richardson. bibliog Anal Chem 23:129-33 Ja '51

Chromatographic separation employing ultraviolet absorbancy ratios. M. Beroza. bibliog Anal Chem 22:1507-10 D '50

Conversion of sucrose into pyridazine derivatives; the ultra-violet absorption spectra of substituted 1-phenyl-6-pyridazones and related substances. W. G. Overend, L. M. Turton and L. F. Wiggins. Chem Soc J p3505-8 D '50

Determination of parathion in air samples by ultraviolet absorption spectroscopy. R. C. Hirt and J. B. Gisclard. bibliog diag Anal Chem 23:185-7 Ja '51

Deviations from Beer's law in the ultraviolet absorption spectra of some organic compounds. H. E. Ungnade and others. bibliog Science 113:601 My 25 '51

Dissociation constants of 4-aminobenzophenone calculated from ultraviolet spectra at several temperatures. E. E. Sager and I. J. Siewers. bibliog J Res Nat Bur Stand 45: 489-96 D '50

Effect of bromine substitution upon the ultraviolet absorption spectra of α,β-unsaturated ketones. A. L. Nussbaum and others. bibliog Am Chem Soc J 73:3263-6 Jl '51

Formation of complexes in benzene-oxalyl chloride solutions. B. D. Saksena and R. E. Kagarise. il J Chem Phys 19:994-9 Ag '51

Influence of steric configuration on the ultraviolet absorption of 1,2-diketones. N. J. Leonard and P. M. Mader. bibliog il diag Am Chem Soc J 72:5388-97 D '50

Influence of structure on the ultra-violet absorption spectra of heterocyclic systems. G. R. Clemo and D. G. I. Felton. Chem Soc J p671-7 Mr '51

Method for the determination of flame temperature from emission in the ultraviolet OH band. J. A. Curcio and others. il diag Opt Soc Am J 41:173-9 Mr '51

Near ultraviolet absorption spectra of some fluorinated derivatives of methane and ethylene. J. R. Lacher and others. bibliog Am Chem Soc J 72:5486-9 D '50

New absorption bands of the NO molecule in the extreme ultraviolet region. Y. Tanaka and others. J Chem Phys 19:979 Jl '51

Organic fluorides; the ultra-violet absorption spectra of some aromatic compounds containing fluorine. F. Smith and L. M. Turton. Chem Soc J p 1701-5 Jl '51

Perturbations in the ultraviolet band spectrum of the phosphorus molecule P_2. S. M. Naudé and H. Verleger. bibliog Phys R 80: 432-5 N 1 '50

Raman effect and ultraviolet absorption spectra of molybdenum and tungsten hexafluorides. K. N. Tanner and A. B. F. Duncan. bibliog Am Chem Soc J 73:1164-7 Mr '51

Rare earths; the ultraviolet absorption spectrum of the gadolinium ion in aqueous solutions. T. Moeller and F. A. J. Moss. Am Chem Soc J 73:3149-51 Jl '51

Residual monomer in polystyrene; spectrophotometric analysis. J. E. Newell. bibliog Anal Chem 23:445-7 Mr '51

Rotational structure of the ultraviolet band system of the P_2 molecule. E. J. Marais and H. Verleger. bibliog Phys R 80:429-31 N 1 '50

Spectroscopic moment; a parameter of substituent groups determining aromatic ultraviolet intensities. J. R. Platt. bibliog J Chem Phys 19:263-71 Mr '51

State of sulphur dioxide dissolved in sulphuric acid. V. Gold and F. L. Tye. Chem Soc J p2932-4 N '50

Structural studies on polynuclear pyridine compounds. P. Krumholz. bibliog Am Chem Soc J 73:3487-92 Jl '51

Substituted anthracene derivatives; the ultraviolet absorption spectra of *meso*-substituted 1 : 2-benzanthracenes. G. M. Badger and R. S. Pearce. Chem Soc J p3072-7 N '50

Synthesis, stereochemistry, and infrared and ultraviolet spectra of several tricyclic ketones homologous with ketoöctahydrophenanthrene. C. D. Gutsche. bibliog Am Chem Soc J 73:786-92 F '51

trans-8 : 9 - Epoxy-11-ketoheptadecane-1-carboxylic acid and *cis*-10 : 11-diketoheptadec-8-ene-1-carboxylic acid, with some observations on the ultra-violet absorption spectra of these and related compounds. G. King. Chem Soc J p2897-900 O '50

Ultra-violet absorption; abstract. Mrs G. Aulin-Erdtman. Chem & Ind p29 Ja 13 '51

Ultraviolet absorption of benzotriazole. J. E. Fagel, jr. and G. W. Ewing. bibliog Am Chem Soc J 73:4360-2 S '51

Ultraviolet absorption spectra and the refractive indices of some fluorobromomethanes. N. Davidson. bibliog Am Chem Soc J 73:467-8 Ja '51

Ultraviolet absorption spectra of acrylic acids and esters. H. E. Ungnade and I. Ortega. bibliog Am Chem Soc J 73:1564-7 Ap '51

Ultraviolet absorption spectra of chromatographic fractions of lignins. A. Bailey. bibliog Am Chem Soc J 73:2325-6 My '51

Ultra-violet absorption spectra of 2 : 2′-, 2: 4′-, 4 : 4′-dihydroxydiphenylmethanes, 2 : 2′-dihydroxy - 5 : 5′ - dimethyldiphenylmethane and its 3-, 4-, and 5-ring polymers, and of 4 : 4′-dihydroxydiphenylethane. R. F. Hunter, R. A. Morton and A. T. Carpenter. Chem Soc J p441-4 F '50

Ultra-violet absorption spectra of mercurous perchlorate solutions. W. C. E. Higginson. Chem Soc J p 1438-43 Je '51

Ultraviolet absorption spectra of mercury in solution. M. K. Phibbs. bibliog J Chem Phys 18:1679 D '50

Ultraviolet absorption spectra of 5-nitroaminotetrazole and its salts. E. Lieber, E. Sherman and S. H. Patinkin. Am Chem Soc J 73:2329-31 My '51

Ultraviolet absorption spectra of normal cerebrospinal fluid. L. H. Sophian and V. J. Connolly. bibliog J Phys & Colloid Chem 55:712-16 My '51

Ultraviolet absorption spectra of α-phenylcarbonyl compounds. E. L. Alpen, W. D. Kumler and L. A. Strait. bibliog Am Chem Soc J 72:4558-61 O '50

Ultraviolet absorption spectra of proteins. A. R. Goldfarb and L. J. Saidel. Science 114: 156-7 Ag 10 '51

Ultra-violet absorption spectra of some benzoic acids with electron-repelling substituents. C. M. Moser and A. I. Kohlenberg. Chem Soc J p804-9 Mr '51

Ultraviolet absorption spectra of some heterocyclic phosphorous compounds. A. Furst and R. J. Horvat. Science 114:330 S 28 '51

Ultraviolet absorption spectra of some hydroxynaphthalenes. C. Daglish. bibliog Am Chem Soc J 72:4859-64 N '50

Ultraviolet absorption spectra of 2-substituted 8-quinolinols. J. P. Phillips and others. Am Chem Soc J 73:630-2 F '51

Ultraviolet absorption spectrophotometry; review of 1950. E. J. Rosenbaum. bibliog(43ref) Anal Chem 23:12-14 Ja '51

SPECTRUM, Ultraviolet—*Continued*

Ultraviolet absorption spectrum of 1,3-cycloheptadiene. E. Pesch and S. L. Friess. Am Chem Soc J 72:5756-7 D '50

Ultraviolet absorption spectrum of fluoroanthene. W. F. Maddams and R. Schnurmann. J Chem Phys 19:973-4 Jl '51

Ultraviolet absorption spectrum of gaseous hydrogen fluoride. E. Safary and others. bibliog J Chem Phys 19:379-80 Mr '51

Ultraviolet absorptions of some 2,5-diphenylfurans and related compounds. S. M. King, C. R. Bauer and R. E. Lutz. Am Chem Soc J 73:2253-6 My '51

Ultraviolet radiation of the high pressure xenon arc. W. A. Baum and L. Dunkelman. il diag Opt Soc Am J 40:782-6 N '50

Ultra-violet spectra of certain substituted aromatic nitro-compounds. P. Fielding and R. J. W. Le Fèvre. Chem Soc J p2812-13 O '50

Ultraviolet spectral distribution of radiant energy from the sun. R. Stair. bibliog diag J Res Nat Bur Stand 46:353-7 My '51

Ultraviolet spectrophotometric determination of vanadium. G. Telep and D. F. Boltz. bibliog Anal Chem 23:901-3 Je '51

Ultra-violet spectrum and constitution of 3-hydroxy-2-naphthoic acid and related compounds. E. D. Bergmann, Y. Hirshberg and S. Pinchas. Chem Soc J p2351-6 S '50

Ultraviolet spectrum of oxalyl chloride. B. D. Saksena and R. E. Kagarise. il J Chem Phys 19:999-1001 Ag '51

SPECTRUM, X ray

Analysis of uranium solutions by X-ray fluorescence. L. S. Birks and E. J. Brooks. Anal Chem 23:707-9 My '51

Crystals suitable for double crystal X-ray spectroscopy in the region 3 to 15A. S. T. Stephenson and D. L. Martin. R Sci Instr 21:1023-4 D '50

L X-ray spectra from radioactive decay of transuranium elements. G. W. Barton, jr. and others. bibliog diags Phys R 81:208-13 Ja 15 '51

Melting-point and X-ray data for 2 : 4-dinitrophenylhydrazones of *n*-aliphatic aldehydes. T. Malkin and T. C. Tranter. pl Chem Soc J p 1178-9 My '51

Soft X-ray spectroscopy of solids. E. R. Piore and others. R Sci Instr 22:543 Jl '51

Soft X-ray valence band spectra and the heat of formation of chemical compounds and alloys. K. Das Gupta. diags Phys R 80:281-2 O 15 '50

X-ray absorption spectrometry for determination of tetraethyllead in gasoline; investigation of mono- and polychromatic methods and description of monochromatic method for routine use. H. K. Hughes and F. P. Hochgesang. bibliog il diags Anal Chem 22:1248-58 O '50

X-ray fluorescence analysis of ethyl fluid in aviation gasoline. L. S. Birks and others. diag Anal Chem 22:1258-61 O '50

X-ray spectrum produced by 322-Mev electrons striking a platinum target. W. M. Powell and others. il Phys R 81:213-18 Ja 15 '51

SPECTRUM analysis

Analysis of alkyl phenols by infra-red spectroscopy. A. B. Densham and W. E. Armstrong. diags Chem & Ind p776 D 2 '50

Analysis of aluminum and aluminum alloys using pin samples; direct-reading spectrochemical methods. R. W. Callon and L. P. Charette. bibliog il Anal Chem 23:960-6 Jl '51

Analysis of uranium solutions by X-ray fluorescence. L. S. Birks and E. J. Brooks. Anal Chem 23:707-9 My '51

Analytical examination of plasticizers obtained from polyvinyl chloride compositions. J. Haslam, W. Soppet and H. A. Willis. J Ap Chem 1:119-24 Mr '51

Aromatic hydrocarbons in some Diesel fuel fractions; ultraviolet spectrometric identification. N. G. Adams and D. M. Richardson. bibliog Anal Chem 23:129-33 Ja '51

Chamber for controlled atmosphere spectral excitation. L. E. Owen. il Opt Soc Am J 41:139 F '51

Contribution of the source unit to variability in spectrographic analysis. diag Iron & Steel Inst J 166:325-8 D '50

Cyanogen rarefaction using solid CO_2. W. J. Wark. il Opt Soc Am J 41:482 Jl '51

Decomposition of glass by an acid-leaching solution. E. F. Dick and others. diag Am Cer Soc J 34:31-2 Ja 1 '51

Determination of diethylene glycol dinitrate and nitroglycerin by infrared spectroscopy. S. Pinchas. bibliog Anal Chem 23:201-2 Ja '51

Determination of dipentaerythritol in the presence of pentaerythritol. J. H. Jaffe and S. Pinchas. bibliog Anal Chem 23:1164-5 Ag '51

Determination of parathion in air samples by ultraviolet absorption spectroscopy. R. C. Hirt and J. B. Gisclard. bibliog diag Anal Chem 23:185-7 Ja '51

Determination of thionaphthen in naphthalene by infra-red absorption spectroscopy. W. E. Armstrong, A. B. Densham and G. Gough. Chem Soc J p3359-60 D '50

Electrode holder for operating arcs and sparks in controlled atmospheres. T. Hugo and others. il R Sci Instr 22:210 Mr '51

Igniting an arc for spectrographic analysis in vacuum. A. J. Mitteldorf. diag Opt Soc Am J 41:646-7 S '51

Impurities in catalyst materials; quantitative spectroscopic analysis using alternating current spark. D. D. Harmon and R. G. Russell. bibliog Anal Chem 23:125-8 Ja '51

Index for identifying spectrograms viewed on a comparator. A. J. Mitteldorf. il Anal Chem 23:1055 Jl '51

Industrial applications of absorption spectroscopy. bibliog Inst Pet J 37:109-25; Discussion. 3pls diags 135-46 Mr '51

Influence of argon, helium, oxygen, and carbon dioxide on emission spectra in the d.c. arc. B. L. Vallee and others. bibliog diag Opt Soc Am J 40:751-4 N '50

Infrared absorption spectra of minerals and other inorganic compounds. J. M. Hunt, M. P. Wisherd and L. C. Bonham. bibliog Anal Chem 22:1478-97 D '50

Infrared absorption spectra of some epoxy compounds. O. D. Shreve and others. bibliog Anal Chem 23:277-82 F '51

Infrared absorption spectra of some hydroperoxides, peroxides, and related compounds. O. D. Shreve and others. bibliog Anal Chem 23:282-5 F '51

Infrared analysis of *cis*- and *trans*-decahydronaphthalene. J. Seidman. Anal Chem 23:559-63 Ap '51

Infrared determination of ortho and meta isomers in *p*-cresol; freezing points of pure cresols. O. E. Knapp, H. S. Moe and R. B. Bernstein. Anal Chem 22:1408-10 N '50

Infrared spectra of phosphorus compounds. L. W. Daasch and D. C. Smith. bibliog Anal Chem 23:853-68 Je '51

Infrared spectrometry in graphic arts; development and production of inks, stencils, coated papers, and accessories of the mimeograph process. T. U. Marron and T. S. Chambers. Anal Chem 23:548-50 Ap '51

Infrared spectroscopy; review of 1950. R. C. Gore. Anal Chem 23:7-12 bibliog(354 ref, p9-12) Ja '51

Isotopic determination of nitrogen and carbon by means of a microwave spectrograph. A. L. Southern and others. bibliog diag Anal Chem 23:1000-4 Jl '51

Light absorption spectrometry; review of 1950. M. G. Mellon. Anal Chem 23:2-7 bibliog(217 ref, p5-7) Ja '51

Mass spectrometer leads swing to instrumentation in analysis; conference on analytical chemistry and applied spectroscopy, Pittsburgh. Chem & Eng N 29:1102+ Mr 19 '51

Multipurpose method of spectrographic analysis; sodium nitrate matrix and alternating current arc excitation. V. G. Perry, W. M. Weddell and E. R. Wright. Anal Chem 22:1516-18 D '50

New role for infra-red; rapid quantitative analysis of complex mixtures. il Chem W 69:23-4 Jl 14 '51

Pittsburgh conference on analytical and applied spectroscopy, 2d, March 5-7; with abstracts of papers. Anal Chem 23:676-85 Ap '51

SPECTRUM analysis—*Continued*

Quantitative spectrochemical analysis of rubidium in lepidolite. L. H. Ahrens and L. G. Gorfinkle. Am J Sci 249:451-6 Je '51

Quantitative spectrographic analysis of zirconium-hafnium mixtures. V. A. Fassel and C. H. Anderson. bibliog Opt Soc Am J 40:742-7 N '50

Rare earths; separative extraction of certain rare earth elements as 5,7-dichloro-8-quinolinol chelates. T. Moeller and D. E. Jackson. bibliog Anal Chem 22:1393-7 N '50

Sample temperature in the carrier-distillation arc. S. Wexler. diag Anal Chem 23:1166-7 Ag '51

Segregates in steel analyzed spectrographically. il Steel 129:78-80 Jl 9 '51

Simultaneous recording of two wave-length ranges with the Littrow spectrograph. R. W. Murphy and H. K. Hughes. diags Opt Soc Am J 40:779-81 N '50

Solid spectrometry. il Chem W 68:20-1 Je 16 '51

Solution methods of spectrographic analysis. diags Metallurgia 44:45-9 Jl '51

Spark analysis of semi-microsamples. W. J. Wark. diags Opt Soc Am J 41:465-7 Jl '51

Spectrochemical analysis of bismuth matrices; porous electrode technique. J. C. Delaney and L. E. Owen. Anal Chem 23:577-80 Ap '51

Spectrochemical analysis of radioactive solutions. C. Feldman and others. bibliog il Anal Chem 22:1400-3 N '50

Spectrochemical analysis of steelmaking slags. C. G. Carlsson and J. T. M. Yü. bibliog diags Iron & Steel Inst J 166:273-80 D '50

Spectrochemical determination of iron, magnesium, and manganese in titanium metal. M. J. Peterson. bibliog Anal Chem 22:1398-400 N '50

Spectrographic determination of hafnia in mixtures of hafnium and zirconium oxides. G. W. J. Kingsbury and R. B. Temple. bibliog diag J Ap Chem 1:406-11 S '51

Spectrographic determination of halogens and sulfur in engine deposits. W. O. Mansfield, jr. and others. il Opt Soc Am J 41:412-16 Je '51

Spectrographic determination of nitrogen in some organic nitrogen compounds. L. D. Frederickson, jr. and L. Smith. bibliog il diag Anal Chem 23:742-4 My '51

Spectrographic determination of phosphorus in lubricating oil by solution excitation. J. B. Pagliassotti and F. W. Porsche. bibliog diag Anal Chem 23:198-200 Ja '51

Spectrographic determination of silicon in uranyl nitrate solutions. F. T. Birks. Anal Chem 23:793-4 My '51

Spectrographic study of platinum and palladium in common sulphides and arsenides of the Sudbury district, Ontario. J. E. Hawley and others. bibliog il Econ Geol 46:149-62 Mr '51

Spectrophotometric determination of carboxyl in cellulose. F. H. Forziati and others. bibliog J Res Nat Bur Stand 46:288-91 Ap '51

Spectrophotometric determination of displacement series of metal complexes of the sodium salts of ethylenediaminetetraacetic acid. R. C. Plumb, A. E. Martell and F. C. Bersworth. bibliog J Phys & Colloid Chem 54:1208-15 N '50

Spectroscopic moment; a parameter of substituent groups determining aromatic ultraviolet intensities. J. R. Platt. bibliog J Chem Phys 19:263-71 Mr '51

Statistical study of the behaviour of spectrographic source units. H. T. Shirley and others. bibliog pl diags Iron & Steel Inst J 166:329-38 D '50

Step-sector in spectrochemical analysis. R. E. Thiers. bibliog Opt Soc Am J 41:273-6 Ap '51

Suppression of certain parts in spark spectra by electronic time switching. H. M. Crosswhite and others. diag Opt Soc Am J 41:299-302 My '51

Three-line method of obtaining characteristic curves for heterochromous photometry. M. Green. Opt Soc Am J 40:842-4 D '50

Trace metals in cotton fiber. D. C. Heinzelman and R. T. O'Connor. bibliog Textile Res J 20:805-7 N '50

Ultraviolet absorption spectra of normal cerebrospinal fluid. L. H. Sophian and V. J. Connolly. bibliog J Phys & Colloid Chem 55:712-16 My '51

Ultraviolet absorption spectrophotometry; review of 1950. E. J. Rosenbaum. bibliog(43 ref) Anal Chem 23:12-14 Ja '51

Ultraviolet spectrophotometric determination of styrene in ethylbenzene. N. Hadden and J. A. Perry. Anal Chem 23:1337 S '51

X-ray absorption; review of 1950. H. A. Liebhafsky. bibliog Anal Chem 23:14-16 Ja '51

X-ray fluorescence analysis of ethyl fluid in aviation gasoline. L. S. Birks and others. diag Anal Chem 22:1258-61 O '50

See also

Mass spectrometric analysis

SPECULATION

Stock speculation. J. McDonald. Fortune 43:110-11+ Je '51

SPEECH

Effect of delay distortion upon the intelligibility and quality of speech. J. L. Flanagan. bibliog diags Acoustical Soc Am J 23:303-7 My '51

Effects of delayed speech feedback. B. S. Lee. bibliog diag Acoustical Soc Am J 22:824-6 N '50

Intelligibility of amplitude-dichotomized, time-quantized speech waves. J. C. R. Licklider. bibliog diags Acoustical Soc Am J 22:820-3 N '50

Phoneme detector. C. P. Smith. il diags Acoustical Soc Am J 23:446-51 Jl '51

Proceedings of the speech communication conference at M.I.T. May 31-June 3. S. S. Stevens and others. bibliog il diags Acoustical Soc Am J 22:689-806 N '50

Representations of speech sounds and some of their statistical properties. S. Chang and others. bibliog il diags Inst Radio Eng Proc 39:147-53 F '50

Some everyday business speech problems. F. H. Knower. Management R 40:57-8 F '51

Toward the specification of speech. R. K. Potter and J. C. Steinberg. il diags Acoustical Soc Am J 22:807-20 N '50

See also

Public speaking

Vowels

SPEECH, Visible

Apparatus for speech compression and expansion and for relaying visible speech records. F. Vilbig. il diags Acoustical Soc Am J 22:754-61 N '50

British speech visualizer; device that will enable deaf to read speech by means of two-dimensional pictures of sounds. Electronics 23:239 D '50

Sonograph and sound mechanics. J. Dreyfus-Graf. il diags Acoustical Soc Am J 22:731-9 N '50

SPEECH association of America

1951 directory of the Speech association of America. 535p pa $1.50 Speech assn. of America, State univ. of Iowa, Iowa City, Iowa '51

SPEECH defects

Pathology in speech communication. I. J. Hirsh. bibliog Acoustical Soc Am J 22:717-19 N '50

SPEED

Critical speeds of overhung shafts. H. C. Hesse. il diags Product Eng 21:90-3 D '50

See also

Airplanes—Speed

Railroads—Train speed

Velocity

SPEED indicators

Frequency-type paper machine speed recorder. E. H. Snider. diags Pulp & Pa of Can 52:107-8 Ag '51

Precision measurement of shaft speeds; use of 440-cycle tone from station WWV as standard. O. V. Riley. il diags Electronics 24:104-5 O '51

Significance and continuous measurement of draw speed. E. H. Snider. diag Pulp & Pa of Can 52:109-12 Ag '51

See also

Accelerometers

Tachometers

SPEED-up
Can you sell speed-up? H. R. Nissley. Mill & Factory 47:128 N '50

SPEED variation
Adjustable-speed motor aids milling. il Elec World 135:176 My 21 '51
Broadcast tape speed control. D. R. Andrews. il diags Electronics 24:120-3 Jl '51
Characteristics of the N.S. variable speed a.c. motor. D. Faughnan. il diags Pulp & Pa of Can 51:120-4 N '50
Coming; more adjustable speed drives. il Product Eng 22:142 My '51
Electronic speed control for the towing carriage of a ship-model testing tank. R. H. Tizard and B. G. V. Harrington. bibliog il diags Inst E E Proc 97 pt 2:651-62 O '50
Estimating and measuring pumping unit peak torque loads. K. N. Mills. il diag World Oil 132:185-6+ Ap '51
Fractional hp variable speed drives. il Product Eng 22:178 Ja '51
Give a thought to variable speed. F. H. Rumble. il Heat & Ven 48:97 S '51
How to use a differential gear for speed reduction. O. Flatheim. diag Chem Eng 58:132-3 Ap '51
Magnetic-drive control. F. A. Annett. diags Power 94:123-4+ N; 123-4+ D '50
Mechanical systems for controlling speed and tension. J. H. Gepfert. il diags Product Eng 21:85-9 D '50
Mechanism that produces variable speed from constant rotary motion; wire fabricating machine. L. Kasper. diags Mach 57:187-8 N '50
Motor control; rotating, electronic and magnetic. C. P. Croco. diags Paper Tr J 133:24+ Ag 10 '51
Motor speed controls. E. Bukstein. il diags Radio & Tv N 45:35+ Mr '51
New approach to production winding. L. A. Graham. il diag Machine Design 23:153-6 Ap '51
New version of adjustable speed motor. il diag Product Eng 22:174 Ap '51
Power drive units. J. E. Hyler. il Mill & Factory 48:79-83 My '51
Producing variable speed from constant rotary motion. J. J. Pot. diags Mach 57:190 Ag '51
Pump speed can be varied to fit capacity. il Product Eng 22:221 My '51
Slasher drive improves beam uniformity. E. H. Helliwell. il diags Textile World 101:110-11 Ap '51
Solenoid motor control. G. M. Chute. diag Electronics 24:105 Ja '51
Speed can be varied within any range. il Product Eng 21:186 D '50
Speed control and synchronization of multi-unit internal combustion engine plants. H. C. Givens. il diags Instruments 23:1244-7 D '50; Same abr. Oil & Gas J 49:69-70+ Mr 1 '51
Speed control of ac motors. F. A. Annett. diags Power 95:100-2+ Ag '51
Speed-controlled switch. H. W. Kretsch and F. J. Walker. il diag Electronics 24:112-13 Jl '51
Speed drive needs little elbow room; Perfection stove co. il Mill & Factory 48:128 Mr '51
Tachometer for measurement of instantaneous variations in angular velocity. S. P. Bartles. bibliog il diags Elec Eng 70:816-19 S '51
Tape transport theory and speed control. J. R. Montgomery. Soc Motion Picture & Tv Eng J 57:63-7; Discussion. 68 Jl '51
Variable speed drive suits limited space. il diag Product Eng 22:164-5 Ja '51
Variable speed transmission installation supplies delivered speed accuracy within .04 per cent; Goodyear tire & rubber co. il Mill & Factory 48:147-8 Je '51
Variable-speed V-belt drive. il Engineering 171:109 Ja 26 '51
Velotrol electric motor speed control. Engineering 171:221 F 23 '51
See also
Electric motors—Control

SPEEDUP. See Speed-up

SPEER carbon company
Stock offered. Comm & Fin Chr 174:192 Jl 16 '51

SPELLERS
20,000 words spelled, divided and accented. L. A. Leslie. 3d ed 244p $1.25 Gregg pub. co, 330 W. 42d st, New York 18 '51

SPELLING

Study and teaching

Bad spellers present schools with problem. D. Bentel. Ed & Pub 84:26 Ja 6 '51

SPELLING contests. See Newspapers—Prize contests

SPENCER, Percy Craig, 1893-
Sinclair oil corp., new president. por Sales Management 67:40 Ag 15 '51

SPENCER chemical company
Preferred stock offering. Comm & Fin Chr 174:852 S 3 '51
Security I like best. R. E. Ball. Comm & Fin Chr 173:1326 Mr 29 '51
To boost nitrogen capacity by 30 per cent. Barron's 31:17 O 8 '51

SPENDING. See Consumption (economics)

SPERMATOZOA
Adjuvant action of amino acids and peptides in fertilizin agglutination of starfish sperm. C. B. Metz and J. E. Donovan. Science 112:755-6 D 22 '50
Prolongation of the fertilizing capacity of sea-urchin spermatozoa by amino acids. A. Tyler and E. Atkinson. bibliog Science 112:783-5 D 29 '50
Question of hyaluronidase in sea-urchin spermatozoa. M. Krauss. bibliog Science 112:759 D 22 '50

SPERRY corporation
Big backlog of war orders will keep Sperry humming. Barron's 31:17-18 F 26 '51

SPHAGNUM moss
Sphagnum moss and egg yolk as food for anuran tadpoles. H. Ting. Science 112:539-40 N 3 '50

SPHALERITE
Adsorption of silver ion by sphalerite. A. M. Gaudin and others. bibliog il Min Eng 3: Trans 780-4 S '51
Equilibrium currents induced in zincblende by electron bombardment of negative electrode. M. F. Distad. bibliog diags Phys R 80:879-86 D 1 '50
Refractive indices of rutile and sphalerite. J. R. DeVore. diag Opt Soc Am J 41:416-19 Je '51
Temperatures of mineral formation in bottom-run lead-zinc deposits of the upper Mississippi valley, as indicated by liquid inclusions. S. W. Bailey and E. N. Cameron. map diags Econ Geol 46:626-51 bibliog(p650-1) S '51

SPHERES
Electromagnetic scattering from spheres with sizes comparable to the wavelength. A. L. Aden. bibliog J Ap Phys 22:601-5 My '51
Sphere drag data at supersonic speeds and low Reynolds numbers. E. D. Kane. bibliog il diags J Aeronautical Sci 18:259-70 Ap '51
Virtual mass of a sphere entering water vertically. A. May and J. C. Woodhull. il J Ap Phys 21:1285-9 D '50
Viscosity of suspensions of spheres. J. V. Robinson. bibliog J Phys & Colloid Chem 53:1042-56; 55:455-64 O '49, Mr '51

SPHERICAL surfaces
Lathe tailstock adapter for turning spherical surfaces. J. Homewood. diags Mach 57:197 Mr '51

SPHYGMOMANOMETRY. See Blood pressure

SPICES
Story of spices. M. Rector. il Can Chem & Process Ind 35:114-17+ F '51

SPIDERWORTS
Effect of X-irradiation in oxygen and in hydrogen at normal and positive pressures on chromosome aberration frequency in tradescantia microspores. N. H. Giles, jr. and A. V. Beatty. bibliog Science 112:643-5 D 1 '50

SPIEGELEISEN
Production of spiegeleisen, 1930-1950; tabulation. Iron Age 167:321 Ja 4 '51

Prices

Spiegeleisen 19 to 21 per cent; 1929-1950; tabulation. Iron Age 167:320 Ja 4 '51

SPIES, Joseph Reuben, 1904-
Sleuthing oilseed allergens wins Hillebrand prize for three. por(cover) Chem & Eng N 29:663 F 19 '51

SPILLWAYS
Cableway spans Shasta spillway to facilitate repairs to apron. il Constr Methods 33:51 Ja '51
Capacities of uncontrolled spillways increased by lengthening the crests. il diags Eng N 146:30-1 Je 28 '51
Concrete rides high at Diablo dam. il Constr Methods 33:54-5 My '51
French touch in dams. W. G. Bowman. il map diags Eng N 146:28-33 My 10 '51
Grouted preplaced aggregate for eight-foot slab. il plan diag Eng N 147:32-5 S 27 '51
Model study aids designers of spillway for Lyman Run dam. A. L. Jorissen and V. L. Dutton. il plan diag Civil Eng 21:514-15 S '51
Money-saving methods at Woodruff dam. F. S. Merritt. il Eng N 146:33-5 Je 14 '51
Petenwell hydroelectric project. E. M. Fucik. il map plan diags Am Soc C E Proc 77 [no 81]:1-15 Jl '51

SPINAL cord
Method for dissection and electrical study in vitro of mammalian central nervous tissue. D. O. Rudin and G. Eisenman. bibliog il diags Science 114:300-2 S 21 '51
See also
Cerebrospinal fluid

SPINE
Surgical lesions of the spine. F. A. Chandler. Ind Med 19:558-62 D '50

SPINELS
Ferromagnetic spinels for radio frequencies. R. L. Harvey and others. bibliog il diags RCA R 11:321-63 S '50
Phase equilibrium relationships in a portion of the system $MgO-Al_2O_3-2CaO \cdot SiO_2$. A. T. Prince. bibliog Am Cer Soc J 34:44-51 F 1 '51

SPINNING
56 causes of tangled yarn, and how to remedy them. R. H. Pharr. Textile World 101: 127 My '51
For cheaper plied yarns try core spinning. A. Johnson. il diag Textile World 101:128-9 Mr '51
Here's an easy way to check spinning ends down. P. S. Leach. Textile World 101:119 Mr '51
New French system cuts costs, ups production. V. Saxl. il Textile World 100:110-11+ O '50
Setting a workload; case study. N. M. Mitchell. Textile World 101:109-16 O '51
Spinning and weaving ideas aired at spring Southern textile association meetings. Textile World 101:101+ Jl '51
Spinning tension measured continuously; yarn tensiometer. P. C. Wolters. il Textile World 100:153+ D '50
Up spinning production with filament-base combination yarns. A. Johnson. il Textile World 101:163+ O '51
See also
Cotton spinning
Nylon spinning
Rayon spinning
Woolen and worsted spinning

Tables, calculations, etc.

Application of the index of irregularity to the study of spinning on the cotton system. R. Temmerman and L. Hermanne. Textile Inst J Trans 41:T411-21 N '50
Look, no rules! for carding and spinning calculations; Textile World report to mill management. W. A. Thomason, jr. diags Textile World 101:131-5+ Ja '51
Nomograph; calculation of the degree of elongation of fiber during its preparation. J. T. Hogan. Am Dyestuff Rep 39:725 O 30 '50

SPINNING machinery
Aid for spinners; Bird universal drafting system. Bsns W p76-7 Mr 10 '51
Ambler superdraft system available in U.S. from McGlynn Hays. il diag Textile World 101:159-60 Mr '51
Centrifugal spinning is even and economical; abstract. H. V. Farnsworth. Textile World 100:149 D '50
Defective drafting arising from imperfections in front rollers of mules and ring frames. J. Gregory and A. Tyson. il diags Textile Inst J Trans 42:T 147-67 Ap '51
Direct spinning in Japan; Toho's new K.T. spinning frame. T. Takagi. il diag Rayon 31:31-2+ N '50
History of long-draft spinning and roving. Textile World 101:206+ S '51
How much power does a spindle use? speed, package size, and oil viscosity influence consumption. il Textile World 100:122-3 D '50
New fluid-drive mules reduce spinning costs; illustrations with text. E. H. Helliwell. Textile World 101:134-5 O '51
Pot spinning; centrifugal pot; its purpose and problems. C. P. Walker. il diag Rayon 31:34-5+ D '50
Processing of nylon staple (three denier, 1½ inch) on cotton spinning machinery. F. Millard. bibliog Textile Inst J 42:P 125-31 Ap '51
Review of the development of cotton spinning machinery. G. Dakin. diags Textile Inst J 42:P457-78 Ag '51
Spindle adapter cuts costs of spinning; Joanna cotton mills co. W. A. Thomason, jr. il Textile World 101:161+ S '51
See also
Drawing frames
Twisting machines

Manufacture

Making Micarta spinning buckets; illustrations with text. L. E. Caldwell. Rayon 31:41 O '50

SPIRAL gearing. See Gearing, Spiral

SPIRO compounds
1,6-Dioxaspiro[4.4]nonanes from γ-(2-furyl)-alkanols. K. Alexander, L. S. Hafner and L. E. Schniepp. Am Chem Soc J 73:2725-6 Je '51
Some adsorption colors and their significance for tautomeric and thermochromic effects. A. Schönberg and W. Asker. bibliog Science 113:56-7 Ja 19 '51
Some adsorption colors and their significance for thermochromic and tautomeric effects; experiments with spiropyrans and with 1,3-diketohydrindene. A. Schönberg, A. Mustafa and W. Asker. bibliog diag Am Chem Soc J 73:2876-9 Je '51
Structure and polarity of some polycyclic spirans. E. D. Bergmann, A. Weizmann and E. Fischer. bibliog Am Chem Soc J 72:5009-12 N '50

SPIROBIFLUORENE
Some derivatives of 9,9′-spirobifluorene. J. H. Weisburger, E. K. Weisburger and F. E. Ray. Am Chem Soc J 72:4253-5 S '50

SPIROPENTANE
Spiropentane; heat capacity, heats of fusion and vaporization, vapor pressure, entropy and thermodynamic functions. D. W. Scott and others. bibliog Am Chem Soc J 72:4664-8 O '50

SPLEEN
Coenzyme and spleen β-glucuronidase. P. Bernfeld and W. H. Fishman. Science 112: 653-4 D 1 '50

SPLINES. See Keys and keyways (machinery)

SPLIT-up of stocks. See Stocks—Split-up

SPODUMENE
Geology, mining, and uses of strategic pegmatites. R. H. Jahns. bibliog il diags Min Eng 190:Trans 47-8 Ja '51

SPONGE iron. See Iron, Sponge

SPONTANEOUS combustion
Liability to spontaneous combustion of oils on jute. A. N. Saha. bibliog Textile Inst J Trans 42:T207-10 My '51

SPOOLING machines
Here's how to up Barber-Colman spooler production. H. P. Lynch. il Textile World 100: 129+ O '50

SPOONER, Ray N. 1893-
Moles to honor two at annual award dinner. por Comp Air Mag 55:278 D '50

SPORTING goods

Advertising

House organ, started as good-will builder, becomes primary sales tool; MacGregor-Goldsmith sports equipment. G. W. Young. il Ptr Ink 234:38+ F 9 '51

SPORTING goods—*Continued*

Manufacture

Squeeze play; sporting goods industry faces pressure of restricted materials. J. S. Bowen. Barron's 30:11 N 6 '50

SPORTS

See also

Baseball

Horse racing

Skating rinks

Television broadcasting—Sports programs

Insurance aspects

Heavy operating deficits in Wisconsin school athletic and pupil plans. Nat Underw 54:28 N 16 '50

Great Britain

Sporting nation? Economist 160:1146-7 My 19 '51

SPORTS, Lighting for

Floodlighting a quarter-mile auto race track; Brewerton speedway, Brewerton, N.Y. R. H. Goodman. il plan Illum Eng 46:420-1 Ag '51

I.E.S. guide for outdoor illumination tests. bibliog il plans Illum Eng 46:425-30 Ag '51

Night skiing on floodlighted slopes; Drumlins golf and sports center, Syracuse. D. R. Brown. il diag Illum Eng 46:418-19 Ag '51

SPORTS clothes. See Sportswear

SPORTSWEAR

New line licks off season bugaboo for White Stag. il Sales Management 67:37-9 O 1 '51

SPOT analysis. See Microanalysis

SPOT tests. See Microanalysis

SPOT welding. See Electric welding

SPRAY dryers. See Drying apparatus

SPRAY drying. See Drying

SPRAY painting. See Paint spraying

SPRAY towers. See Absorption apparatus

SPRAYING and dusting

Battle of the weeds; special equipment helps railroads keep rights-of-way free. W. P. Gillingham. il Comp Air Mag 56:150-4 Je '51

Tar oils for potato spraying; substitute for sulphuric acid. Chem Age (Lond) 64:776 My 19 '51

SPRAYING apparatus

Distribution of tar by mechanical sprayers. G. H. Fuidge and A. L. Deadman. bibliog il diags Soc Chem Ind J 69(sup no 2): S53-60 '50

Droplet size distribution in sprays. R. A. Mugele and H. D. Evans. bibliog Ind & Eng Chem 43:1317-24 Je '51

Droplet transfer from suspending air to duct walls. L. G. Alexander and C. L. Coldren. bibliog il diags Ind & Eng Chem 43:1325-31 Je '51

Electronic spray analyzer for electrically conducting particles. J. M. Geist, J. L. York and G. G. Brown. bibliog diags Ind & Eng Chem 43:1371-7 Je '51

Flame spraying plastics. J. Starr. il diags Comp Air Mag 56:209-11 Ag '51

Modern insecticide sprayers. E. D. Anderson. il Soap & San Chem 27:121-3+ F '51

Safety devices for crop spraying equipment. il Engineer 191:477 Ap 13 '51

Spray gun bonderizing; a Pyrene cold pretreatment process. il Automobile Eng 41:340 S '51

Spray gun for polymeric emulsions and solutions. C. A. Nielson and F. Leonard. diags Ind & Eng Chem 43:765-6 Mr '51

Weed sprayer for along-the-curb-spraying. R. S. Hopson. il Pub Works 82:36-7 F '51

SPRAYING of enamel. See Enamel spraying

SPREADING

Control of foaming. R. E. Pattle. bibliog il diag Soc Chem Ind J 69:363-71 D '50

Improved spreading apparatus for the measurement of film pressures. J. W. Y. Heynis and L. Maaskant. il diags J Phys & Colloid Chem 54:1222-7 N '50

SPREADS (bread)

Jams and some other spreads as food; historical introduction. L. E. Campbell. Chem & Ind p300-1 Ap 21 '51

SPRINGS (mechanism)

Accurate spring counterbalancing. W. S. Rouverol. diags A S M E Trans 73:141-4 F '51; Excerpt. Machine Design 22:166-7 N '50; Discussion. A S M E Trans 73:144-5 F '51

Constant torque spring motor runs longer. il diag Iron Age 166:123 D 7 '50

Dimensional tolerance charts for helical springs; reference book sheet. C. H. Sacks. diags Product Eng 22:199, 201, 203 S '51

Fatigue failures from nominal compressive stress; Belleville type springs. J. O. Almen. il diags Product Eng 22:114-18 Mr '51

Instability of springs; abstract. J. A. Haringx. diags Product Eng 22:227-8+ Jl '51

Mill corrects helix pitch. R. E. Blaney. il diag Machine Design 23:123 Jl '51

Multiply spring life without changing design; Web Wilson oil drill pipe tong. C. W. Oicles and F. K. Landecker. il diag Iron Age 166: 80-2 D 21 '50

Overriding spring mechanisms for low-torque drives. H. L. Milo, jr. diags Product Eng 22:168-9 O '51

Parallel and rectilinear spring movements. R. V. Jones. diags J Sci Instr 28:38-41 F '51

Prestressed springs; Neg'ator. il diags Machine Design 23:141-2 Ja '51

Replacing springs on roll-out carriage wheels. il Ry Mech & Elec Eng 125:81-2 Je '51

Shot peening of spring steel. N. B. Brown. Engineer 191:685 My 25 '51

Spring motor. il R Sci Instr 21:888-9 O '50

Steel-spring-type vibration mountings for machine tools. D. H. Vance. il Tool Eng 27: 31-3 Jl; 47-9 Ag; 55-7 S '51

Torsion spring charts for round or square wire; reference book sheet. H. F. Ross. diags Product Eng 22:203, 205 O '51

Torsional fatigue failures. J. O. Almen. bibliog il diags Product Eng 22:167-82 S '51

Typical properties of vanadium spring steels; tabulation; engineering file facts. Materials & Methods 34:113-115 Jl '51

See also

Automobiles—Springs and suspension

Car springs

Design

Design of nonlinear leaf springs. S. P. Clurman. il diags A S M E Trans 73:155-61 F '51

Designing wave springs. L. Kulze. il diags Machine Design 23:109-10 Jl '51

Helical spring nomograph; reference book sheet. C. A. Kulmann. Product Eng 21:165 D '50

Nomographic design of helical springs; data sheet. J. H. Keyes. Machine Design 22: 173-4 D '50

Simplified helical spring design. C. Thumim and H. A. Riester. il fold chart diags Product Eng 22:136-40 Mr '51

Manufacture

Mechanised laminated spring manufacturing plant. il Engineer 191:166-8 F 2 '51

Mechanised production of railway laminated springs. il plan Engineering 171:149-52, pl 6-7 F 9 '51

Tensioning holder for coiling spring wire. W. M. Halliday. diags Mach 58:192-3 S '51

Testing

Fatigue tests on helical springs. A. Pomp and M. Hempel. Engineer 190:496-7 N 24 '50

SPRINKLER leakage insurance. See Insurance, Sprinkler leakage

SPRINKLING systems

Automatic protectors. il Nat Safety N 63: 167-8 Mr '51

Sprinklers make plants fire-safe. D. Powell and J. B. Coleman. il plan diags Power 95: 80-2+ Je '51

See also

Insurance, Sprinkler leakage

SPROCKETS

No master pattern used in sprocket cutter. il diags Product Eng 22:116-17 Jl '51

SPROCKETS—*Continued*

Standards

Sprockets for silent chains; reference book sheet. diags Am Mach 95:179, 181, 183 S 3 '51

SPRUCE

Dehydrogenation of *p*-cymene. K. A. Kobe and R. T. Romans. bibliog diag Ind & Eng Chem 43:1755-8 Ag '51

Investigation of the carbohydrate fraction of spruce chlorite liquors. W. J. Bublitz. bibliog flow sheet Tappi 34:427-32 S '51

Pulpwoods, with special reference to the silviculture of spruce and lodgepole pine; abstract. A. F. von der Schulenburg. il Paper Ind 33:76 Ap '51

Questions of provenance with relation to pulpwood; abstract. A. F. von der Schulenburg. Paper Tr J 132:28 Ap 6 '51

Relations between yield and properties of spruce and aspen sulphite and sulphite semichemical pulps. J. N. McGovern. bibliog Tappi 33:486-9 O '50

Sulphite cooking control based on liquor viscosities of pine or spruce; abstract. J. Marchlewska-Szrajerowa and W. Surewicz. Paper Ind 32:1000 D '50

SPRUCE budworms

Pathological deterioration of balsam fir killed by the spruce budworm. J. T. Basham. bibliog il Pulp & Pa of Can 52:120-2+ Ag '51

Spruce budworm in the Maritime Provinces. Pulp & Pa of Can (Convention no) 52:354 [F] '51

SPUR gearing. See Gearing, Spur

SQUARE D company

Kollsman instrument division

Aviation newcomer buys Kollsman. E. J. Bulban. Aviation W 53:18 D 18 '50

SQUARE-root planimeter. See Planimeters

SQUARES (instrument)

Know your measuring tools; squares and protractors. H. E. Linsley. diags Am Mach 95:108-9 Ap 2 '51

SQUARES, Magic. See Magic squares

SQUIBB, E. R., and sons

Foreign earnings growing more important. Barron's 31:13 Ag 13 '51

Stock offered. Comm & Fin Chr 173:2500 Je 18 '51

SQUIDS

Squid. H. B. Steinbach. il Sci Am 184:64-9 Ap '51

SQUIRRELS

See also

Ground squirrels

STABILITY, Chemical. See Chemical stability

STABILIZATION in industry

See also

Building cycles

Business cycles

Employment—Stability

Prices—Stabilization

STABILIZATION of prices. See Prices—Stabilization

STABILIZING agents

Stabilization of polyvinyl chloride-type plastics. J. G. Hendricks and E. L. White. Ind & Eng Chem 43:2335-8 O '51

Vinyl stabilizers. H. J. Ratti. il India Rubber World 123:451-4 Ja '51

STACHYDRINE

Isolation and identification of (—)-stachydrine ethyl ester periodide from the root of courbonia virgata. A. J. Henry and H. King. Chem Soc J p2866-8 O '50

STACKS. See Chimneys

STADIUMS

Building warmth into concrete stadium seats. il Concrete 59:34 Ap '51

Sand fill makes marine stadium a dry-land job at Jones beach. il plan diags Eng N 147:41-2+ Jl 26 '51

Spiral ramps for stadium traffic; stadium addition, Univ. of Washington, Seattle. il plan diags Arch Rec 109:146-8 F '51

Stadium gets go-ahead as M-4 hardship case. Eng N 145:25 N 23 '50

Stadium without substructure planned for a southern university. il plans diags Arch Forum 93:88-91 D '50

Lighting

Twenty years of nighttime sports; Withington stadium. L. D. Lyon. il plan Illum Eng 46:350-1 Jl '51

STAEHLE, Alfred M. 1894-

McGraw-Hill publisher, on the job a quarter of a century. por Ptr Ink 234:78 Ja 5 '51

STAGE lighting

Dimming fluorescent lamps; abstract and discussion. C. E. Williams. Elec R (Lond) 148:385-6 F 23 '51

Lighting for the audience. S. McCandless. il Illum Eng 46:397-402 Ag '51

Lighting the school auditorium and stage. C. J. Allen. bibliog il plan diags Illum Eng 46:131-6; Discussion. 136-9 Mr '51

Old Vic. il Elec R (Lond) 147:915-17 D 8 '50

Regent theatre, King's Cross. il Electrician 145:1232 D 1 '50

Stage lighting control. il Elec R (Lond) 148:407 F 23 '51; Electrician 146:486 F 9 '51

Stage lighting; new system at the New Theatre, London. il Electrician 145:934 N 10 '50

Theatre engineering; electrical and mechanical innovations. il Electrician 146:1033-7 Mr 30 '51

Theatre engineering; fluorescent lamp application and control. diag Electrician 146:1211-12 Ap 13 '51

STAHLMAN, James Geddes, 1893-

Nashville civic leaders honor J. G. Stahlman. Ed & Pub 84:24 Je 2 '51

STAINLESS clad steel. See Steel, Stainless clad

STAINPROOFING of textiles. See Textile fabrics—Stains

STAINS

See also

Textile fabrics—Stains

Removal

Stains; their cause, cure and removal; abstract. A. Carpenter. Am Dyestuff Rep 40:560 S 3 '51

STAINS and staining (microscopy)

Effects of gold chloride upon hair cortex. D. S. Po-Chedley. Textile Res J 21:165-6 Mr '51

Stains for microscopy; Britain's role. Chem Age (Lond) 64:241-3 F 10 '51

STAIRWAYS

Stair for store; better detail plate. L. J. Gluskin. il plan diags Am Bld 73:124-5 Je '51

Stairs and ramps. il Nat Safety N 63:58 Mr '51

STAIRWAYS, Concrete

Revolutionary staircase built of prestressed concrete. G. Magnel. il diags Civil Eng 21:505-7 S '51

STAMP and coin collection floater. See Insurance, Inland marine—Policies—Stamp and coin collection floater

STAMPING

Accurate stampings made at high production rates; torque converter shells, shrouds and blades for Ford automatic transmission. H. Chase. il Iron Age 168:159-61 S 13 '51

Design details for stamped parts. D. A. Rogers. diags Machine Design 22:157-60 D '50

Designing small stamped mechanisms. A. A. Laurich. il diags Product Eng 22:120-4 Ja '51

15,000,000 stampings per grind on carbide dies. J. E. Spofford, jr. il diags Steel 128:80-2 Mr 5 '51

Mass production component and circuit die stamping. R. G. Peters. il diags Tv Eng 2:10-11+ Ja '51

Press clips produce wrinkle-free stampings. R. B. Stanton. il diags Steel 129:101 S 24 '51

Progressive dies for television parts. J. Kleinoder. il diags Mach 57:174-81 My '51

Scrap suspension maintains lead in progressive die. R. Le Grand. il diags Am Mach 95:140-1 My 14 '51

Special six-press setup stamps bearing retainers faster. R. E. Hansen. il Automotive Ind 105:62+ S 1 '51

Speedier stamping of axle housings with greater safety; axle plant of the Oldsmobile division. R. E. Hansen. il Iron Age 167:74-5 Je 28 '51

STAMPING—*Continued*

Stamped electrical circuits yield compact, low cost asemblies. H. Chase. il diag Materials & Methods 33:78-81 Ap '51

Stamped motor housing. Steel 129:98 S 3 '51

Stamped switch mechanism is designed for interchangeability. E. Drewitz. il diag Machine Design 23:137-40 F '51

Stamping plants in U.S.; tabulation. Iron Age 167:342 Ja 4 '51

Welded narrow steel sheets used for wide stampings. K. Rose. il Materials & Methods 33:83-4 Ja '51

STAMPS, Hand. See Hand stamps

STANDARD coil products company

Aviation newcomer buys Kollsman. E. J. Bulban. Aviation W 53:18 D 18 '50

Newcomers on the New York stock exchange. G. W. Mathis. Mag of Wall St 88:361+ Je 30 '51

STANDARD deviation

Hand calculation of the standard deviation by successive summation. L. J. Worthington. Textile Inst J 42:P276-83 Jl '51

Two numerical indexes evaluate masses of meter test data. F. H. Busch. Elec World 134:84-6 D 18 '50

Variance of estimates of the standard deviation and variance. W. D. Evans. bibliog Am Stat Assn J 46:220-4 Je '51

STANDARD gas and electric company

Agreement reached with Standard power & light corp. Comm & Fin Chr 174:456 Ag 6 '51

Files plan. Comm & Fin Chr 173:664 F 12 '51

Progress report. Comm & Fin Chr 173:1893 My 7 '51

Public utility securities. O. Ely. Comm & Fin Chr 174:880 S 6 '51

STANDARD motor company, limited

Statement by the chairman at 47th annual general meeting. C. J. Band. Economist 159:781 N 11 '50

STANDARD of living

Economic puritanism, fact or fiction; high standard of living leads to prosperous economy. P. M. Mazur. Advanced Management 15:23-5 D '50

Living standards and productivity. J. Burkhead. R Econ & Stat 33:241-7 Ag '51

Retailer's stake in the standard of living. P. Mazur. Comm & Fin Chr 173:254+ Ja 18 '51

Scales of living and wage earners' budgets. D. S. Brady. Ann Am Acad 274:32-8 Mr '51

STANDARD oil company (New Jersey)

Giant holding company still has growth potential. G. P. Caterer. Barron's 31:11-12 Je 4 '51

Jersey company. G. Burck. il map Fortune 44:98-113+ O '51

STANDARD oil company of California

California comes east. D. M. Duff. il Oil & Gas J 49:42-3 N 30 '50

Large crude reserves aid Standard Oil of California. Barron's 30:21-2 N 13 '50

Standard Oil has enjoyed a striking growth in investment prestige. P. J. Fitzgerald. Barron's 31:11-12 My 21 '51

STANDARD oil company of Indiana

Indiana Standard counsel cites shift in court definition of conspiracy. L. E. Castle. Nat Pet N 43:31+ F 28 '51

Michigan lawmakers refuse to hear Indiana Standard's monopoly reply. Nat Pet N 43:21 S 12 '51

STANDARD railway equipment manufacturing company

Freight-car revival spurs railway equipment firm. Barron's 30:13 N 6 '50

Offering oversubscribed. Comm & Fin Chr 172:1537 O 23 '50

Standard Railway joins public ownership trend. il Bsns W p 129-30 Je 16 '51

STANDARD time. See Time, Standard

STANDARDIZATION

Back to standardization. Bsns W p22 S 15 '51

British standards institution; urgent need for expansion. Chem Age (Lond) 64:307-8 F 24 '51

Broad standardization endorsed by five national associations. il Standardization 21:292-3+ N '50

Consumer clinic; manufacturer, retailer and consumer viewpoints on the use of standards. Standardization 22:22-4+ Ja '51

ECA nudges Europe to standardize; cites case histories from American industry. Bsns W p63-4+ S 29 '51

Economics of standardization. E. A. Pratt. Standardization 22:190-1 Je '51

Government planning for standardization. W. S. MacLeod. Standardization 22:48-51+ F '51

Industrial mobilization and standardization. J. C. Green. Standardization 22:14-15 Ja '51

International Harvester cashes in; standardization program. il Standardization 22:268-72+ S '51

Limits on hand tools; some want them, some don't. Steel 128:47 F 19 '51

Materials specification and standardizing bodies. Machine Design 23:354+ O '51

Measurements and standardization. E. S. Lee. Standardization 22:46+ F '51

National association of purchasing agents standardization committee annual meeting, June 4; with abstracts of papers. Standardization 22:241-3+ Ag '51

National production authority activities; recommendations to conserve scarce materials with standardization. Standardization 22:251-2 Ag '51

Place of standardization in construction; abstracts of papers at National standardization conference. Standardization 22:20-1 Ja '51

Production clinic. E. G. Thomssen. Soap & San Chem 26:75 O '50

Standardisation in the chemical industry. Chem Age (Lond) 64:891-3 Je 9 '51

Standardization; key to more for less. B. Melnitsky. il Steel 129:94-6+ S 24 '51

Standardisation of steel surveying tapes. J. S. Clark and L. O. C. Johnson. bibliog diags Engineer 191:820-2 Je 22 '51

Standardized wheels provide more efficient easy rolling for Lockheed's trucks, dollies, carts, racks, etc. F. M. Burt. il Mill & Factory 48:85-6 F '51

Standards in national defense; the Munitions board. M. L. Ring. Standardization 22:10-12+ Ja '51

Use of unweighed iron wire as a primary standard. M. Cefola and others. J Chem Educ 28:299 Je '51

Value of standards; abstract. J. G. Vincent. Mech Eng 73:577-8 Jl '51

Virtues of standardisation. H. A. R. Binney. Engineer 191:363-4 Mr 16 '51

See also

Preferred numbers	Trade associations—Standardization work
Standards	

STANDARDS

Basic standards in science. E. U. Condon. Franklin Inst J 251:103-8 Ja '51

Benefits of standards in purchasing. G. M. Rice. il Standardization 22:76-9 Mr '51

Custom built standards. W. P. Kliment. il Standardization 21:277-8+ N '50

How big is an inch? abstract. R. E. Flanders. Management R 40:110 Mr '51

How the Ford motor company saves through standards. H. Rourke. il Standardization 22:242-3 Ag '51

How the Union carbide & carbon company has used standards. C. W. Goodman. il Standardization 22:241-2 Ag '51

National security resources board. H. Coonley. Standardization 22:15+ Ja '51

Quality control standards would reduce reject toll; abstracts. H. Coonley. Steel 127:106 D 11 '50; Mech Eng 73:578 Jl '51

Restrictions on materials studied; other topics discussed at ASA's Standards council meeting, Sept. 21. Standardization 21:295 N '50

Standard samples and reference standards issued by the National bureau of standards; supplement to circular 398, supersedes supplement dated Jan. 1, 1949. 23p U.S. National bur. of standards, Washington; pa 20c Supt. of doc. '51

Standards; a procurement tool. Standardization 21:293 N '50

Standards; a procurement tool; abstracts of papers at the National standardization conference. Standardization 22:18-19+ Ja '51

STANDARDS—*Continued*

Standards; spearhead of industrial mobilization. R. E. Gay. Advanced Management 16:13-15 Ja '51; Abstract. Standardization 22:9 Ja '51

See also

Cost accounting—Standard costs
Electric standards
Preferred numbers
Production standards
Products, Certification of
Quality of products
Radio standards
Safety standards
Textile standards
Time study
United States—Standards, National bureau of
Weights and measures

also subdivision Standards under special subjects, e.g.

Building
Electric signs
Instruments
Kitchen utensils
Office management
Photographic chemicals
Photometry
Rubber
Television
Television receiving apparatus

Bibliography

American standards; standards approved or being considered. Published in monthly numbers of Standardization

Publications developed by the technical committees, ASME, with prices. A S M E Trans 73:59-61 sec 2 Ja '51

Standards from other countries (cont). Standardization 21:296-7, 322-3; 22:62-3, 94-6, 126-8, 157-8, 187-8, 256-7, 284-5 N-D '50, F-Je, Ag-S '51

Study and teaching

Standards and the young engineer. T. D. Jolly. J Eng Educ 42:43-6 S '51

Brazil

Brazil standardizes. il Standardization 22:179+ Je '51

Canada

Canada organizes for economy; excerpts from Canadian government specifications board report. il Standardization 22:82-4+ Mr '51

France

Report from France. il Standardization 22:273-5 S '51

Great Britain

British standards; golden jubilee celebrations and exhibition, London, June 18-28. Electrician 146:2144 Je 22 '51; Elec R (Lond) 148:1375-6 Je 29 '51

Japan

Japan studies quality control. Standardization 21:297 N '50

Sweden

Sweden standardizes for economy. Standardization 21:319-20 D '50

STANDARDS, Chemical. See Chemical standards

STANDARDS, Engineering

Codes and standards a tremendous ASME operation. Mech Eng 72:945 N '50

Engineering standards at IBM. C. I. Johnson. il Standardization 21:315-17+ D '50

Equipment standards cut costs and erection time; Barbadoes extension, Philadelphia electric co. D. F. Schick and B. R. Nevins. il Power 95:75-7 Je '51; Same cond. Standardization 22:281+ S '51

International Harvester cashes in; standardization program. il Standardization 22:270-2+ S '51

Standard design practices for construction recommended by NPA. Heat & Ven 48:118 O '51

Why standards? G. Noble. Machine Design 22:167-8 N '50

See also

Electric standards
Standardization
Weights and measures

also subdivision Standards under special subjects, e.g.

Building
Electric equipment
Electric motors
Machinery
Railroads
Screw threads

STANDARDS, Industrial

See also

Standardization

STANDARDS, International

Electrical and magnetic magnitudes and units to have international standards. Elec Eng 70:557-8 Je '51

International electrotechnical commission meeting, Paris, July 10-21. Standardization 21:279-81 N '50

ISO rubber group meeting, Akron, Oct. 16-20. Rubber Age 68:212-13 N '50; India Rubber World 123:328-9 D '50

Why American libraries want international standards. J. Doe. Standardization 22:280 S '51

STANDARDS, National bureau of. See United States—Standards, National bureau of

STANDARDS association, American. See American standards association

STANDARDS departments

Standardization; key to more for less. B. Melnitsky. il Steel 129:94-6+ S 24 '51

STANDARDS of length

Atomic standards of length now available. Franklin Inst J 252:68-9 Jl '51; il Comp Air Mag 56:216 Ag '51

Mercury; a better yardstick. il Chem Ind W 68:23 Ap 14 '51; Product Eng 22:197 My '51; Mech Eng 73:578-9 Jl '51; Gen Elec R 54:12-13 N '51

STANDARDS of mass

National Standard of mass. Mach 57:177 F '51

Standards of mass. L. B. Macurdy. il Instruments 24:530-3 My '51

STANDING type forms. See Printing offices—Standing type forms

STANDPIPES

New standpipe at Madison, Wis. L. A. Smith. il Water & Sewage Works 98:371-5 S '51

STANFORD research institute

Metalworking research reaches all-time high. E. D. Porro. il Iron Age 166:124-6 D 7 '50

STANFORD university

Graduate school of business

Industry blooms on campus; Stanford university's industrial laboratory. il Bsns W p94+ F 17 '51

STANLEY, Allen L.

All business is local is Al Stanley's tune. C. Watson. por Ed & Pub 84:26 Ja 20 '51

STANTON, Frank, 1908-

Portrait. Bsns W p21 My 12 '51

STARCH

Acetylation of starch. R. Lohmar and C. E. Rist. Am Chem Soc J 72:4298-9 S '50

Allyl starch. R. Nordgren and others. Paint Oil & Chem R 114:15-16+ Ja 18 '51

Carbohydrate primers in the synthesis of starch. J. M. Bailey, W. J. Whelan and S. Peat. Chem Soc J p3692 D '50

Distribution of starch in clay coatings. J. W. Dappen. bibliog diags Tappi 34:324-35 Jl '51

Enzymic synthesis and degradation of starch. S. A. Barker and others. Chem Soc J p84-99 Ja '50

Enzymic synthesis and degradation of starch; improved methods for the fractionation of potato starch. P. N. Hobson and others. Chem Soc J p801-3 Mr '51

Enzymic synthesis and degradation of starch; isophosphorylase. J. M. Bailey and W. J. Whelan. Chem Soc J p3573-9 D '50

Enzymic synthesis and degradation of starch; methylation and end-group assay of some synthetic polysaccharides. S. A. Barker, E. J. Bourne and I. A. Wilkinson. pl Chem Soc J p3027-30 N '50

Enzymic synthesis and degradation of starch; R-enzyme. P. N. Hobson, W. J. Whelan and S. Peat. Chem Soc J p 1451-9 Je '51

Enzymic synthesis and degradation of starch; the mechanism of synthesis of amylopectin. P. N. Hobson. W. J. Whelan and S. Peat. Chem Soc J p596-8 F '51

Enzymic synthesis and degradation of starch; the phosphorylase and Q-enzyme of broad bean; the Q-enzyme of wrinkled pea. P. N. Hobson, W. J. Whelan and S. Peat. Chem Soc J p3566-73 D '50

Enzymic synthesis and degradation of starch; the use of mixtures of P- and Q-enzymes in the synthesis of starch-type polysaccharides. S. A. Barker and others. Chem Soc J p3022-7 N '50

STARCH—*Continued*

Fractionation of starch. R. S. Higginbotham and others. bibliog diags Textile Inst J Trans 40:T201-19, T783-808; 42:T235-73 Ap, D '49, Je '51

Linear starch reagents. J. L. Lambert. bibliog Anal Chem 23:1247-55 S '51

Liquid assets; Zippy liquid starch. il Chem Ind W 68:28-9 F 17 '51

New developments in starch adhesives. J. E. Killinger. Tappi 34:sup36A+ Ap '51

Periodate oxidation of the formyl esters of starch. O. A. Moe, S. E. Miller and M. I. Buckley. Am Chem Soc J 73:4185-6 S '51

Phosphorylation of starch. R. Lohmar, J. W. Sloan and C. E. Rist. bibliog Am Chem Soc J 72:5717-20 D '50

Reaction of acrylonitrile with macromolecular hydroxy substances; general survey of the reaction. J. H. MacGregor. bibliog Soc Dyers & Col J 67:66-73 F '51

Starch; the molecular constitution of amylose subfractions. A. L. Potter and W. Z. Hassid. Am Chem Soc J 73:593-5 F '51

Starch; the uniformity of the degree of branching in amylopectin. A. L. Potter and W. Z. Hassid. bibliog Am Chem Soc J 73:997-8 Mr '51

Studies in the fundamental processes of textile printing; the influence of thickener composition on dye transfer during steaming. D. A. Reilly and H. A. Turner. bibliog Soc Dyers & Col J 67:103-15 Mr '51

Surface area of starch and its role in water sorption. N. M. Hellman and E. H. Melvin. bibliog Am Chem Soc J 72:5186-8 N '50

Thickener study points way to improved printing exhaustion. E. Rhodes. Textile World 101:208+ Ag '51

Urea-formaldehyde resins in starch corrugating pastes. E. S. Gantt. Tappi 34:42A+ Ap '51

Use of starch adhesives on the single facer in the manufacture of corrugated board. C. R. Vander Meulen. Tappi 34:sup80A+ Jl '51

See also

Cornstarch

Potato starch

Analysis

Automatic fraction collector for chromatographic separations. D. F. Durso, E. D. Schall and R. L. Whistler. il diags Anal Chem 23:425-7 Mr '51

Composition of the polysaccharide synthesised by polytomella cœca. E. J. Bourne, M. Stacey and I. A. Wilkinson. Chem Soc J p2694-8 O '50

Determination of starch in paper. K. M. Brobst and D. P. Langlois. bibliog Tappi 34:238-40 My '51

Simplified procedure for the characterization of starch fractions by viscosity and iodine sorption. I. A. Wolff, L. J. Gundrum and C. E. Rist. bibliog Am Chem Soc J 72:5188-91 N '50

Manufacture

Topnotch wet corn mill house; Staley manufacturing co. W. Bishop and J. Dustin. flow diag il diags Food Ind 23:121-4+ Mr '51

STARFISHES

Adjuvant action of amino acids and peptides in fertilizin agglutination of starfish sperm. C. B. Metz and J. E. Donovan. Science 112:755-6 D 22 '50

Photolabile pigments in invertebrates. J. C. Peskin. bibliog Science 114:120-1 Ag 3 '51

STARK effect

High temperature, broad-band Stark cell for microwave spectroscopy. L. J. Rueger and others. diags R Sci Instr 22:428 Je '51

Microwave spectra, structure, and dipole moments of ethylene oxide and ethylene sulfide. G. L. Cunningham, jr. and others. bibliog J Chem Phys 19:676-85 Je '51

Relative intensities of first-order Stark components. S. Kung. Phys R 83:665-6 Ag 1 '51

Stark effect absorption cells for microwave spectroscopy. D. H. Baird and others. diags R Sci Instr 21:881 O '50

Stark effect of the ammonia inversion spectrum. D. K. Coles and others. bibliog Phys R 82:877-8 Je 15 '51

STARLING, Ernest Henry, 1866-1927

Ernest Starling. R. Colp, jr. pors Sci Am 185:56-61 O '51

STARS

Capella, the anchor of Eddington's mass-luminosity relation; abstract. O. Struve. Science 113:481-2 Ap 27 '51

See also

Astrophysics

Spectra

f:1.0 camera for astronomical spectroscopy. A. Offner and W. B. Decker. il diags Opt Soc Am J 41:169-72 Mr '51

Spectroscopic problems of astronomical interest. P. Swings. bibliog Opt Soc Am J 41:153-65 Mr '51

Stellar spectrograph for the Radcliffe observatory, Pretoria. il diag Engineer 190:528-9 D 1 '50; Engineering 171:250-2 Mr 2 '51

STARVATION

Half starved; physiological adjustments to deficient food intake. Tech R 53:395 Je '51

STATE accounting

Taxpayers, the stockholders in government, are entitled to the protection of independent examinations of records; Wisconsin state audit. J. J. Keliher. J Account 92:343-4 S '51

STATE advertising

Oklahoman effectively uses state's brochure. T. S. Irvin. Ed & Pub 84:54 S 22 '51

Promoting Florida as an industrial state. H. Quednau. il Adv Agency 44:78-9+ Ja '51

STATE banks. See Banks and banking, State

STATE bonds

State and city department bond proposals and negotiations. Published in weekly Monday numbers of Commercial and financial chronicle

STATE buildings

Inadequate office; Albany follows a trend. il Eng N 147:148 Jl 19 '51

STATE employees

State and local governments, 1909 to 1948; a study of employment and payrolls. C. P. Brainerd. Mo Labor R 73:20-5 Jl '51

STATE finance

Mississippi story; government, finance. il Manuf Rec 120:93-5 Je '51

Postponement of state and local government borrowing; text of letter by Charles E. Wilson and statement of voluntary credit restraint committee. Fed Res Bul 37:497-9 My '51

Request denied; West Virginia can't postpone veterans' bond issue. Bsns W p 128 My 19 '51

Too much municipal borrowing; plea by Wilson that states and cities float no loans. Bsns W p 132+ My 12 '51

Voluntary credit restraint committee wants curb on municipal and state borrowing. Comm & Fin Chr 173:1971 My 10 '51

See also

Taxation, State

Federal aid

It went like a snowball; distribution of 1836 Treasury surplus, a warning for today. Edison Elec Inst Bul 19:282-3 Ag '51

STATE governments

43 states employ 700 to publicize governments. E. Knoll. Ed & Pub 84:13 Ap 7 '51

State and local governments, 1909 to 1948; a study of employment and payrolls. C. P. Brainerd. Mo Labor R 73:20-5 Jl '51

See also

Labor departments

Public health departments

Public utilities commissions

Federal relations

See also

State finance—Federal aid

STATE labor boards. See Labor boards, State

STATE laws

California engineers guide state legislation. A. J. Kennedy. Civil Eng 21:277 My '51

State labor legislation in 1950. B. McConnell. Mo Labor R 71:571-4 N '50

State laws of special value to women, Jan. 1, 1951. U.S. Women's bur, Washington '51

State legislation affecting trusts and estates. Trusts & Estates 90:268, 341-3, 412, 492, 553-4, 622-3 Ap-S '51

STATE laws—*Continued*
State legislation on trusts and estates, 1950; A.B.A. committee report. Trusts & Estates 89:686-8 O '50
State minimum-wage laws and orders, July 1, 1942-July 1, 1950; revised supplement to bulletin 191. U S Women's Bur Bul 227 rev:1-65; pa 20c Supt. of doc. '50
State minimum wages; legislative changes, 1949-50. A. Angus and L. Sullivan. Mo Labor R 71:460-4 O '50
State regulation of retail instalment financing; progress and problems. W. P. Mors. bibliog J Bsns 23:199-218; 24:43-71 O '50-Ja '51
State workmen's compensation legislation in 1950. B. A. Greene. Mo Labor R 71:484-7 O '50
See also
Price fixing, Resale
Taxation, State

STATE loan and finance corporation
Preferred stock offered. Comm & Fin Chr 174:721 Ag 27 '51

STATE records
State cleans up; Michigan streamlines use and storage of government papers. Bsns W p90+ Je 2 '51

STATE taxation. See Taxation, State

STATEN ISLAND

Ferry terminal
See Ferry terminals

STATEROOMS. See Ships—Staterooms

STATICS
See also
Dynamics
Elasticity
Electrostatics
Graphic statics
Hydrostatics
Strains and stresses

STATIONERY
See also
Letterheads

STATISTICAL education. See Statistics—Study and teaching

STATISTICAL mechanics
Conservation of angular momentum in the statistical theory of nuclear reactions. L. Wolfenstein. bibliog Phys R 82:690-6 Je 1 '51
First passage time probability problem. A. J. F. Siegert. bibliog Phys R 81:617-23 F 15 '51
Irreversibility and generalized noise; extension of Nyquist relation for voltage fluctuations in electrical impedances. H. B. Callen and T. A. Welton. Phys R 83:34-40 Jl 1 '51
Physical entropy and information. L. Brillouin. J Ap Phys 22:338-43 Mr '51
Quantum corrections to transport properties at high temperatures. J. de Boer and R. B. Bird. bibliog Phys R 83:1259-60 S 15 '51
Quantum statistics of fields. A. E. Scheidegger and C. D. McKay. bibliog Phys R 83:125-31 Jl 1 '51; Correction. 83:1263 S 15 '51
Statistical mechanical theory of solutions. J. G. Kirkwood and F. P. Buff. J Chem Phys 19:774-7 Je '51
Statistical mechanics of reversible reactions of neighboring pairs of substituents in linear polymers. P. J. Flory. bibliog Am Chem Soc J 72:5052-5 N '50
Superposition approximation in statistical mechanics of compressed gases. R. W. Hart and others. J Chem Phys 19:139-40 Ja '51
See also
Bose-Einstein statistics

STATISTICAL methods
Akron rubber group symposium on statistical quality control. India Rubber World 123:690-3 Mr '51; Same. Rubber Age 68:701-6 Mr '51
Application of statistical methods to paper testing procedures; reproducibility of physical tests. L. K. Reitz and F. J. Sillay. Tappi 33:504-6 O '50
Application of statistical techniques in time study; abstract. G. D. Wilkinson. Mech Eng 73:514 Je '51
Applications of the statistical analysis of factors affecting the output of an open-hearth furnace. P. Arnold and M. W. Thring. Iron & Steel Inst J 167:44-5 Ja '51
Automatic statistical control saves on package overfill; Selectrol electronic checkweigher. R. L. Merrill and W. Hecox. il Food Eng 23:55-9 My '51
Better quality costs us less with statistical control; Robertshaw-Fulton controls co. R. W. Good. il Factory Management 109:82-3 Ap '51
Can you trust averages? E. S. Rudnick. diags Textile World 101:155+ O '51
Case studies in the application of industrial statistics to papermaking. C. A. Bicking and R. T. Trelfa. bibliog Tappi 34:370-80 Ag '51
Construction and use of statistical control charts on continuous variables. K. A. Brownlee. Ind & Eng Chem 43:1307-10 Je '51
Control of averages in tube manufacture. A. K. Wright. il Tv Eng 1:40-2 N '50
Design of experiments for most precise slope estimation. C. Daniel. Ind & Eng Chem 43:1298-300 Je '51
Determining practical tolerances by statistical means. W. A. Ring. diags Machine Design 23:121-3 Mr '51
Direct probability sequential analysis; unified foundation for finite or infinite universes and the Poisson binomial limit; abstract. W. R. Thompson. Science 112:449-50 O 20 '50
Distribution of particle sizes. F. Kottler. bibliog il Franklin Inst J 250:339-56, 419-41 O-N '50
Effectiveness of quality control charts. L. A. Aroian and H. Levene. Am Stat Assn J 45:520-9 D '50
Factorial experiments in pilot plant studies. J. R. Bainbridge. flow sheet Ind & Eng Chem 43:1300-6 Je '51
Graphical approach to statistics; its use in sanitary engineering. C. J. Velz. Water & Sewage Works 97:195-200, 309-14, 393-400; 98:66-73, 262-5, 289-93 My, Ag, O '50, F, Je-Jl '51
Groundwood bleaching variables; a statistical approach. F. R. Sheldon. bibliog Tappi 34:163-6 Ap '51
How to make quality control work. J. V. Strela. il Am Mach 95:99-110 Ap 30 '51
Individualistic or statistical approach? G. M. Kosolapoff. Science 113:129 F 2 '51
Large-sample test of the hypothesis that one of two random variables is stochastically larger than the other. A. W. Marshall. Am Stat Assn J 46:366-74 S '51
Methods of constructing tables of working life for men. H. Wool. Mo Labor R 71:589-95 N '50
Peat samples for radiocarbon analysis; problems in pollen statistics. E. S. Deevey, jr. and J. E. Potzger. bibliog Am J Sci 249:473-511, pl 1 Jl '51
Portrayal of some elementary statistics of speech sounds. S. H. Chang. Acoustical Soc Am J 22:768-9 N '50
Prediction and entropy of printed English. C. E. Shannon. diag Bell System Tech J 30:50-64 Ja '51
Quality control in parts manufacturing; Thompson Products' plants. E. F. Gibian. Automotive Ind 104:124 Je 15 '51
Scrap down, quality up, through statistical control systems. H. H. Johnson. il Steel 128:76-9+ My 21 '51
Sequential analysis in marketing sampling. A. P. Ruderman. J Marketing 15:470-6 Ap '51
Simplified statistics for small numbers of observations. R. B. Dean and W. J. Dixon. bibliog Anal Chem 23:636-8 Ap '51
Some statistical problems in small group research. R. F. Bales. Am Stat Assn J 46:311-22 S '51
Statistical aids for tool engineering. L. E. Doyle. bibliog diags Tool Eng 25:17-20 D '50; 26:38-41 Ja; 46-8 F; 55-9 Mr; 42-4 Ap; 46-8 My '51
Statistical analysis aids quality control. P. C. White and W. B. Traver. Oil & Gas J 50:250+ Jl 26 '51
Statistical analysis of blast furnace production data. D. S. Leckie. J Metals 3:443-4 Je '51
Statistical analysis of cost estimates. P. Ferencz. Chem & Eng N 29:4158-60 O 8 '51

STATISTICAL methods—*Continued*

Statistical analysis of open hearth data. W. R. Weaver. Iron & Steel Eng 28:53-7; Discussion. 57-8 F '51

Statistical analysis of tests of Charpy V-notch and keyhole bars. J. A. Rinebolt and W. J. Harris, jr. Welding J 30:sup202-8 Ap '51

Statistical design in chemical experimentation. W. L. Gore. Ind & Eng Chem 43: 2327-8 O '51

Statistical evaluation of life expectancy of vacuum tubes designed for long-life operation. E. M. McElwee. Inst Radio Eng Proc 39:137-41 F '51

Statistical measurement and economic mobilization planning. G. E. McLaughlin. Am Stat Assn J 46:358-65 S '51

Statistical methodology reviews, 1941-1950. O. K. Buros, ed. 457p $7 John Wiley & sons, 440 Fourth av, New York 16 '51

Statistical methods applied to the study of rock fractures; quantitative comparative analysis of fractures in gneisses and overlying sedimentary rocks of northern New Jersey. H. J. Pincus. maps diags Geol Soc Bul 62:81-129 bibliog(p 128-9) F '51

Statistical methods for research workers; four papers by F. Yates, H. Hotelling, W. J. Youden, K. Mather. bibliog Am Stat Assn J 46:19-54 Mr '51

Statistical methods in chemical production; symposium. bibliog Ind & Eng Chem 43: 2053-73 S '51

Statistical methods in research and development. L. Lutzker. Inst Radio Eng Proc 38:1253-7 N '50

Statistical procedures for counter-current distribution and differential spectroscopy. J. E. Bacher. bibliog Am Chem Soc J 73: 1023-7 Mr '51

Statistical quality control. H. H. Johnson. Foundry 79:92-7+ Jl '51

Statistical quality control cuts inspection costs $100,000; Alemite division, Stewart-Warner corp. D. C. Peterson. il Steel 128: 58-62+ Ja 29 '51

Statistical quality control; National malleable & steel castings co. H. A. Schwartz. Foundry 79:94-5+ Ja '51

Statistical study of the behaviour of spectrographic source units. H. T. Shirley and others. bibliog pl diags Iron & Steel Inst J 166:329-38 D '50

Statistics in production and inspection. E. G. Olds. Am Stat Assn J 46:297-310 bibliog (p309-10) S '51

Techniques in radiochemical assay with Geiger-Müller counters. G. B. Cook and J. F. Duncan. diags Chem Soc J supp no 2: S369-81 '49

Theoretical backgrounds of the statistical methods; some basic concepts of probability and statistics. H. Scheffé. Ind & Eng Chem 43:1292-4 Je '51

Theoretical backgrounds of the statistical methods; underlying probability model used in making a statistical inference. F. Mosteller. Ind & Eng Chem 43:1295-7 Je '51

Theory of statistical decision. L. J. Savage. bibliog Am Stat Assn J 46:55-67 Mr '51

Tuning in accident experience. R. F. Millikan. Nat Safety N 64:24-6+ S '51

Two numerical indexes evaluate masses of meter test data. F. H. Busch. Elec World 134:84-6 D 18 '50

Use of a discriminant function in textile research. W. D. Baten and others. bibliog Textile Res J 20:869-72 D '50

Use of statistical techniques for investigational purposes; abstract. C. V. Garrett. Machine Design 23:208+ Ag '51

Use of tabulator data in the analysis of sliver and roving uniformity. J. P. Elting and J. C. Barnes. bibliog Textile Res J 20:773-9 N '50

Why a statistician? M. S. Renner. Tappi 34: sup92A+ Jl '51

Work measurement research; value of statistical analysis in the interpretation of a time study. D. J. Desmond. Engineering 170:310-12 O 20 '50

See also

Business forecasting
Chi square test
Control charts
Correlation (statistics)
Extrapolation
Frequency distribution (statistics)
Graphic methods
Index numbers (economics)
Least squares
Probabilities
Punched card system
Sampling (statistical methods)
Significant difference (statistics)
Standard deviation
Weather forecasts—Verification

Bibliography

Reprints of abstracts in statistical methodology. M. A. Woodbury, ed. Am Stat Assn J 46:251-4, 379-80 Je-S '51

Study and teaching

Statistics training for chemists. H. M. Smallwood. Ind & Eng Chem 43:2071-3 S '51

STATISTICS

How to say it with statistics. R. Flesch. Ptr Ink 233:23-4 D 8 '50

Impact of R. A. Fisher on statistics. H. Hotelling. Am Stat Assn J 46:35-46 Mr '51

See also

Business statistics
Commercial statistics
Correlation (statistics)
Economic statistics
Financial statistics
Frequency distribution (statistics)
Government statistics
Index numbers (economics)
Industrial statistics
Market statistics
Population—Statistics
Punched card system
Sampling (statistical methods)
Significant difference (statistics)
Statistical mechanics

Study and teaching

Courses in statistics for engineering students; what and how statistics should be taught to engineering students. I. W. Burr. J Eng Educ 41:548-51 My '51

Significance of courses in statistics for engineering students. M. E. Wescott. J Eng Educ 41:544-7 My '51

Teaching statistics to marketing students. R. Ferber. J Marketing 15:340-3 Ja '51

Undergraduate statistical education. S. S. Wilks. Am Stat Assn J 46:1-18 Mr '51

Yearbooks

Statistical yearbook, 1949-50. v2 553p $6 United nations, Dept. of economic affairs; for sale by Columbia univ. press, 2960 Broadway, New York 27 '50

STATITRON. See Electric generators, Electrostatic

STATUTE of limitations. See Limitation of actions

STAUDINGER, Hermann, 1881-

H. Staudinger, thirty years of macromolecules. W. Quarles. por(front) J Chem Educ 28:120-2 Mr '51

STAVES, Concrete. See Concrete staves

STAYBOLTS

Procedure for seal welding staybolts. Ry Mech & Elec Eng 124:669-70 N '50

STEACIE, Edgar William Richard

To address World chemical conclave. por(cover) Chem & Eng N 29:3010 Jl 23 '51

STEAM

Curing block with high-pressure steam; Harter marblecrete stone co. J. W. Shaver. il Concrete 59:20-2 S '51

Embrittlement of stainless steel by steam in heat treating atmospheres; abstract. C. A. Zapffe and R. L. Phebus. Materials & Methods 32:7-8 D '50

Embrittling effect of steam on stainless at elevated temperatures. C. A. Zappfe and F. E. Landgraf. bibliog il Steel 128:54-7+ Ap 30 '51

Filling digesters from overhead chip bins; use of steam nozzles. G. Morseth and V. Haner. diag Paper Ind 32:860-1 N '50

Heat transfer during condensation of steam. H. Hampson. il Engineering 172:221-3 Ag 17 '51; Discussion. 172:244-5 Ag 24 '51

How can we get steam in emergency? il Power 95:130-1 S '51

How much steam do these heat exchangers save? Power Eng 54:92+ N '50

How to recognize flash steam in trap discharge. T. H. Rea. Heating-Piping 22:77 N '50

Measurement of temperature in high-velocity steam. J. W. Murdock and E. F. Flock. il diags A S M E Trans 72:1155-61 N '50

STEAM—*Continued*

Removal of submicron aerosol particles from moving gas stream; condensation center effects in steam nozzles. P. J. Schauer. bibliog il diags Ind & Eng Chem 43:1532-8 Jl '51

Steam curing protects winter concreting. C. O. Crane. il Am Concrete Inst J 22:213-16 N '50

Steam curing with direct firing unit at Syracuse, N.Y. plant of Barnes & Cone. B. Nordberg. il diag Rock Prod 54:191-2+ Ja '51

Steam treatment increases high-speed tool life. H. Chase. il Iron Age 168:126-8 S 20 '51

Undecomposed steam in lignite gasification. M. H. Chetrick. bibliog 4pls U S Bur Mines Rep of Invest 4738:1-11 '50

See also

Boilers
Condensers (steam)
Electric plants (central stations)—Steam distribution
Evaporators
Exhaust steam
Steam engines and other headings beginning Steam
Superheated steam

Tables, calculations, etc.

Analysis of data on flow of steam in pipes; evaluation of data on absolute viscosity of steam. R. H. Page and S. Konzo. Heat & Ven 48:99-102 Ag '51

Estimating requirements for process steam and process water. Chem Eng 58:110-11 Ap '51

How to figure steam for heating water. Mill & Factory 48:130 Ap '51

Power handbook; steam tables simplified. P. Swain and W. Arrott. Power 95:89-91 Mr '51

Testing

Gravimetric determination of solids in steam condensate. J. E. Rayner and D. Logie. bibliog il diags Soc Chem Ind J 69:309-12 O '50

Methods for measuring the solids content of steam. R. H. Munch. diag Ind & Eng Chem 43:sup59A-60A F '51

Simplified process for determining steam purity. S. T. Powell and I. G. McChesney. bibliog il diags A S M E Trans 73:849-54; Discussion. 854-8 O '51

STEAM, Natural

Natural steam power plants of Larderello. G. Donato. il diags Mech Eng 73:709-12 S '51

Volcanic electricity. Sci Am 185:38 O '51

STEAM boilers. See Boilers

STEAM distribution

Big gain in steam use for New York air conditioning. Heating-Piping 23:91-3 Jl '51

Heat requirements of buildings. C. W. Signor. Heating-Piping 23:113-14 Je '51

How one plant serves 40 industries; East Newark industrial center. W. J. Roth, jr. flow diag il Power 94:120-2+ N '50

See also

Piping (power plants)
Steam flow
Steam pipe lines

STEAM engineering

See also

Boilers
Electric plants (central stations)—Steam distribution
Feed water
Marine engineering
Power (mechanics)
Power plants
Steam engines and other headings beginning Steam
Steamboats
Thermodynamics

Tables, calculations, etc.

Basic power plant figuring (cont). W. H. Engelman. diags Power Eng 54:86-8 N; 85-6 D '50; 55:98-100+ F; 87-8 My; 89-90 Je; 81 Jl; 78-80 S '51

Power handbook; steam generation. B. G. A. Skrotzki, comp. diag Power 95:90-1 Jl '51

STEAM engines

Automatic cushioning dashpot. J. H. Stewart. diags Power Eng 55:93-4 Ap '51

Basic power plant figuring; steam engine calculations. W. H. Engelman. diags Power Eng 55:89-90 Je '51

Emergency key design. diag Power Eng 55:89-90 My '51

Engine overhaul tips. diags Power 95:106-8 S '51

How should he figure steam engine stresses? diags Power Eng 55:108+ F '51

Modern rig powered by steam engine. K. M. Fagin. il Pet Eng 23:B38+ My '51

Venerable engine, running 95 years, still going strong. il Power Eng 55:83 Ag '51

See also

Locomotives
Steam turbines

Failure

Breakdown of Cornish engine at South Crofty. il Engineering 171:53 Ja 12 '51

Lubrication

Can vertical steam engine run without cylinder lubrication? Power Eng 55:86 Jl; 94 Ag; 84-5 S '51

Lubrication of refinery equipment. C. M. Larson. il diag Pet Eng 23:C8-9 Ja '51

Testing

Testing of motive power machinery. T. W. F. Brown. diags Engineering 171:107-8, 137-8, 201-3, 265-8 Ja 26-F 2, 16, Mr 2 '51; Same cond. il Engineer 191:152-4, 182-4, 233-5 F 2-16 '51

Valves

How does a shuttle valve work? diags Marine Eng 56:50-1 Je '51

Setting steam engine valves. Marine Eng 56:73-4 Ag '51

STEAM fitting

Hard facing of steam valve seats and disks. O. E. Swenson. il diags Welding J 29:1053-8 D '50

STEAM flow

Analysis of data on flow of steam in pipes; with new working charts for pipe sizing. R. H. Page and S. Konzo. Heat & Ven 48:85-104 Ag '51

Flow of a flashing mixture of water and steam through pipes and valves. W. F. Allen, jr. bibliog A S M E Trans 73:257-63; Discussion. 263-5 Ap '51

How to determine pressure drop, rate of flow, and pipe size for steam lines. Mill & Factory 48:104-5 Je '51; Same. Heating-Piping 23:112-13 F '51

Orifice meters with supercritical compressible flow. R. G. Cunningham. bibliog(32 titles) diags A S M E Trans 73:625-37; Discussion. 637-8 Jl '51

STEAM generators. See Boilers

STEAM heaters

How to select and install unit heaters. il plans diags Mill & Factory 48:93-7 Mr '51

Piping and controls help unit heater performance. J. H. Carpenter. il diags Power 94:96-9 N '50

Summer check-up of plant heating assures efficiency next winter. A. J. Swartz. il Heating-Piping 23:79 Ag '51

STEAM heating

Baseboard radiation. il diag Dom Eng 178:166+ S '51

Convectors; selection, application, installation. il diag Dom Eng 177:90-1+ F; 125+ Mr '51

Get your heating system in order. diags Power 95:118-19 O '51

Heat requirements of buildings. C. W. Signor. Heating-Piping 23:113-14 Je '51

Heating systems for large buildings. J. C. McCabe. diags Eng N 145:42-3 N 9 '50

How world's largest landlord heats low cost housing; procedures adopted by New York City Housing authority. L. Smith. il diags Heating-Piping 22:80-3 N; 80-3 D '50

Matching increasing heat demands with efficient, low cost service; Illinois institute of technology. L. C. Hardison and W. J. Parduhn. il Heating-Piping 23:69-72 Ag '51

Piping insulation problems of open structures; New York bus terminal. il Heat & Ven 48:74-5 My '51

Plans and layouts for modern boiler rooms. il plans Dom Eng 177:104-5 My; 136-7 Je '51

Principles of effective heat for steam-heated structures. C. O. Mackey and others. il diag Heating-Piping 23:161-8 Ja '51

Seeing eye oil heating system. il Dom Eng 177:141+ Ap '51

STEAM heating—*Continued*

Steam heat requirements on passenger equipment; report of Master boilermakers' association. Ry Mech & Elec Eng 124:663-4 N '50

Wall to wall convector radiation for school buildings. D. F. Bennett. il Heat & Ven 47:62-3 N '50

See also

Boilers, Heating
Heating from central stations
Radiators
Steam heaters
Steam pipes

STEAM heating, Industrial

Low-cost winter concrete; Hudson builders material co. jets live steam into hoppers. M. D. Morris. il Rock Prod 54:230-1 Ag '51

Reduce steam consumption with control instruments. L. Walter. il diags Textile World 101:113+ Ap '51

STEAM jets

Colorado university's steam-jet-powered supersonic wind tunnel. il diag Aeronautical Eng R 10:38-9+ Mr '51

Effect of molecular weight of entrained fluid on the performance of steam-jet ejectors. W. C. Holton. il A S M E Trans 73:905-7; Discussion. 907-10 O '51

Effect of temperature of entrained fluid on the performance of steam-jet ejectors. W. C. Holton and E. J. Schulz. A S M E Trans 73:911-13 O '51

See also

Air ejectors

STEAM pipe lines

Constructing the steam service to Henry Ford hospital. W. D. McCully. plan diags Heat & Ven 48:80-2 O '51

Small electric elevators serve underground steam line. plan diag Power Eng 55:81-2 S '51

Underground piping problems solved; installation at University of Texas. W. J. Whatley. il diags Power 95:102-3 My '51

See also

Piping (power plants)

STEAM pipes

Piping insulation problems of open structures; New York bus terminal. il Heat & Ven 48:74-5 My '51

Support unit for steam pipe lines. il Engineer 192:280 Ag 31 '51

See also

Piping (power plants)

Corrosion

Control of condensate return line corrosion. W. A. Tanzola. il diags Tappi 34:25-9 Ja '51

Tables, calculations, etc.

Analysis of data on flow of steam in pipes; with new working charts for pipe sizing. R. H. Page and S. Konzo. Heat & Ven 48:85-104 Ag '51

Determining pressure drop, flow rate and pipe size for steam lines; data sheet. Heating-Piping 23:112-13 F '51; Same. Mill & Factory 48:104-5 Je '51

How to figure your steam pipe warm-up condensate quickly. Mill & Factory 48:100 Ja '51

How to lay out steam transmission piping. il diags Mill & Factory 47:113-17 N; 99-104 D '50

STEAM plants

TVA moves into steam to fill power needs for atom. il map Bsns W p98-100+ Je 16 '51

See also

Boiler plants
Boilers
Electric plants
Feed water
Piping (power plants)
Power plants
Steam
Steam, Natural
Steam distribution
Steam engines
Steam turbines

Binary vapor systems

Insulation cuts mercury-unit losses. il Power 95:150 Jl '51

Mercury-steam power plants. H. N. Hackett. bibliog Mech Eng 73:559-64 Jl '51

Protection of mercury power plants; detection of mercury vapor. R. M. Ilfeld. il Power Eng 54:76-7 N '50

Schiller power station at Portsmouth, N.H. flow diag il diags Engineer 191:789-93 Je 15 '51

By-product power

Paper mill power; low boiler pressure, low power economy. D. M. Myers. Paper Ind 33:295 Je '51

Paper mill power; why by-product power is cheap power. D. M. Myers. Paper Ind 33:416 Jl '51

Combined heating and process system

Heat requirements of buildings. C. W. Signor. Heating-Piping 23:113-14 Je '51

Meters guide steam plant and substation operations. F. A. Hinchcliffe. il Power 95:86-9 Je '51

Combined power and process steam

Air your sights at upkeep in the power plant; Forstmann woolen co. F. L. Bradley. diags Textile World 101:141+ My '51

Formula for paper-mill power economy; plant of Fibreboard products. H. J. Byrne. il Power 95:71-4 Ap '51

Modernized power plant gives more economical service. M. Sampson. il diags Textile World 101:120-2 O '51

National Container installs 625 lb plant at Tomahawk. J. E. Hoeft. il plan diags Power Eng 54:54-7+ D '50

Power and steam generation. D. S. Helmick. Tappi 34:sup99A-102A Je '51; Same. Paper Tr J 133:20-3 Ag 31 '51

Power generation from wood waste. D. L. Gusler. il Power Eng 55:60-1+ Ap '51

Three ways to handle variations in steam and power demand. D. M. Myers. diags Paper Ind 33:518-19 Ag '51

Condensate recovery

Control of condensate return line corrosion. W. A. Tanzola. il diags Tappi 34:25-9 Ja '51

De-oiling condensate for boiler feedwater. W. A. Smith and F. L. Horine. il Power Eng 55:62-3 Ap '51

How can we meter condensate returns? diags Power 95:136+ O '51

Keep contaminated condensate out of your boilers. diag Power Eng 55:84-5 Ag '51

Low-cost filters chase oil from condensate. I. L. Plummer and J. H. Peebles. flow diag il Power 95:75+ My '51

What causes hammering in condensate line? diags Power 94:130+ D '50

What control for condensate pumps? P. Nardone. il diag Power 95:75-7 F '51

Control

Power plant controls. B. F. Heye. diags Instruments 24:38-41+ Ja '51

Costs

Basic study for a generating station. G. R. Milne. diag A S M E Trans 73:811-16 Ag '51; Same cond. Elec World 135:89-92 F 26 '51; Discussion. A S M E Trans 73:816-19 Ag '51

Comparative tests of different fuels. C. T. Baker. Power Eng 55:86-7 Ag '51

What will future steam power plants cost? W. C. Rowse. Power Eng 55:78-81 F '51

Design

Dunkirk station departures based on prototype experience. J. N. Ewart and J. M. Geiger. il diags Elec World 134:97-101 D 4 '50

Hawthorn station close-coupled both mechanically and electrically. G. T. Shoemaker and P. E. Gourdon. plans diags Elec World 134:88-92 N 6 '50

Semi-outdoor plant for -40F weather; Frank Bird steam-electric station. D. G. Iliff. il plan diags Power Eng 55:56-9 Ap '51

Steam plant simplification. L. E. Hunt. il diag Elec West 107:98-9 S '51

Efficiency

Power station efficiencies. F. Stevenson. Elec R (Lond) 148:1025-6 My 18 '51

Equipment

Automatic bypass controls pay off. B. J. Yeager. il diag Power 95:75-7 Ap '51

STEAM plants—Equipment—*Continued*

Basic study for a generating station. G. R. Milne. diag A S M E Trans 73:811-16 Ag '51; Same cond. Elec World 135:89-92 F 26 '51; Discussion. A S M E Trans 73:816-19 Ag '51

Booth Point eyes fuel flexibility; newest plant of Florida power corp. A. H. Kuljian and F. X. Bonnes. il plan diags Power 95:92-5 F '51

Chicago's new Ridgeland station. il diags Power Eng 55:70-5, 104+ Ja '51; Same abr. flow diag Midwest Eng 3:16-21 Ja '51; Same cond. Mech Eng 73:134-5 F '51

Cyclones burn two fuels automatically at Michigan City station. il diags Power 95: 71-5 O '51

Increased productivity through automatic combustion control. J. A. Perry, jr. diags Paper Tr J 131:24-6+ N 2 '50

More power for Cedar Falls. R. H. Sogard. il diag Power Eng 55:56-9 Jl '51

New boiler installation at Anglo-Canadian. diag Pulp & Pa of Can 51:87-9 O '50

1,370,000-lb boiler tops capacity record at world's largest station; Hudson Avenue station of Con Edison in New York. H. Knecht. il plan diags Power 94:112-18 N '50

Peat-fired power station at Portarlington, Eire. il plan Engineering 171:389-92, pl 22-3 Ap 6 '51

Power for Palermo. A. H. Kuljian and F. X. Bonnes. il diags Power Eng 55:76-8+ Ag '51

Ridgeland turbine minimizes outages. il diags Power 95:84-7+ Ap '51

Selection of instruments and controls for small steam power plants. F. E. Hutton. Tappi 34:104-7 Mr '51

Steam-powered compressor station. D. M. Taylor. il World Oil 133:231-3 Ag '51

Stourport B station of the British electricity authority. il plan diags Engineering 171: 241-5, 273-5, pl 10-12 Mr 2-9 '51

Throttle control regulates condenser hotwell level. P. Nardone. il diag Power 95:120-1 Mr '51

See also

Condensers (steam)	Steam turbines
Pumps, Feed water	Stokers, Mechanical

High pressure

Hoosiers and Wolverines get more AG&E power at 9300 Btu per kwh from Tanners Creek. il Power Eng 55:56-7 S '51

1,370,000-lb boiler tops capacity record at world's largest station; Hudson Avenue station of Con Edison in New York. H. Knecht. il plan diags Power 94:112-18 N '50

Solubility of quartz and some other substances in superheated steam at high pressures. G. W. Morey and J. M. Hesselgesser. bibliog diags A S M E Trans 73:865-72; Discussion. 872-5 O '51

Steam central stations; abstract. P. W. Thompson. Mech Eng 73:18-19 Ja '51

Management

These steam-plant operating methods may help you too; story of Curtiss-Wright operation as told to F. Giordano by A. N. Musgrave. il diags Power 95:112-14 Je '51

Process steam

Coal-fired steam-generating plant is clean and efficient. E. D. White. il Textile World 101:116-17+ Je '51

Estimating requirements for process steam and process water. Chem Eng 58:110-11 Ap '51

How to dry process steam. C. D. Crawford. il diags Pet Processing 6:734-5 Jl '51

Process steam generated by using waste heat. J. C. Albright. il Pet Refiner 30: 119-21 Mr '51

What kind of alarm for process-steam wastage? il diags Power 95:124+ F '51

Size

Investigation of economies of large size in steam stations. J. B. Lansing. Land Econ 27:108-22 My '51

STEAM plants, Outdoor

Side-exhaust turbine plus two-piece condenser keep foundation low. il diag Power Eng 55:63 S '51

STEAM sampling

Simplified process for determining steam purity. S. T. Powell and I. G. McChesney. bibliog il diags A S M E Trans 73:849-54 O '51; Abstract. Power Eng 55:91 Ap '51; Discussion. A S M E Trans 73:854-8 O '51

Take your steam samples in saturated, not in superheated, steam. K. H. Mack. Power Eng 55:93-4 F '51

STEAM traps

Best location for a steam trap. T. N. Adlam. diags Heat & Ven 48:100-2 Je '51

How to pick the right steam trap. C. T. Littleton. Factory Management 109:126+ Mr '51

How to recognize flash steam in trap discharge. T. H. Rea. Heating-Piping 22:77 N '50

STEAM turbines

Application of alloy steels to high temperature steam turbine service. W. L. Fleishmann. bibliog il Blast F & Steel Pl 38: 1183-6, 1447-50+ O, D '50

Combination gas turbine-steam turbine unit; performance of installation burning natural gas at Belle Isle station; with cost data. J. W. Blake. bibliog Mech Eng 73:14-16 Ja '51

Fix those seals before they knock out turbine; drawings with text. S. Elonka. Power 95:112-13 Ag '51

Full use of your steam; harvest low-cost electrical power by using non-condensing turbine. B. L. Skinner. il Food Eng 23:40-1 Jl '51

G.E. in 1950 broke turbine production record. G. B. Warren. Blast F & Steel Pl 39: sup62+ Ap '51

How your steam turbine is insulated. C. H. TeBrake. il Power 95:116-17 Ja '51

Installation, operation, maintenance of mechanical drive steam turbines. W. B. Yard. il diags Pet Refiner 30:104-8 Ap '51; Excerpt. Oil & Gas J 49:92+ Mr 22 '51

Letters from a turbine specialist (cont). C. A. Lilly, jr. and J. E. Downs. Power 94:113 D '50

Mineral wool forms blanket; insulation of turbines. Steel 129:114+ Ag 13 '51; il Power Eng 55:76-7 S '51

1,390-kw pass-out turbine for Beckton gas works. il diags Engineering 170:346-8, 350 N 10 '50; Engineer 190:433-5 N 10 '50; Elec R (Lond) 147:723-7 N 10 '50; Electrician 145: 909-10 N 10 '50

Power handbook; steam turbines. B. G. A. Skrotzki, comp. diags Power 95:92-3 Jl '51

Reheat turbine and its control. H. R. Reese and O. N. Bryant. il diags Westinghouse Eng 11:62-7 Mr '51

Why the turbine overspeeded. A. H. Moulton. diag Power Eng 54:83-4 N '50

Blades

Aerodynamics investigation on turbine-blade losses. K. H. Khalil. il diags Engineering 171:773-5 Je 29 '51

How to clean turbine blades. W. J. Smith. Pet Processing 6:749 Jl '51

Turbine blade fastenings. H. Woodhouse. diags Machine Design 23:148-53 F '51

Vibration test equipment for turbine blades. A. M. Roberts and A. A. Gregory. il diags Engineer 191:370-2 Mr 23 '51

Cleaning

How to clean your turbine lubricating system after service. F. E. Rosenstiehl. diag Power Eng 55:111-12 Ag '51

Control

Centralized control desirable for single boiler turbine-generator units. J. A. Lind and J M. Geiger. Elec Eng 69:966 N '50

Reheat turbine and its control. H. R. Reese and O. N. Bryant. diags Power Eng 55: 78 Mr '51

Steam turbine governor at work. G. Houser. diags Power Eng 55:74-6+ My '51

Watch your overspeed trip devices. Power Eng 55:77 S '51

Deposits

Sodium sulfite eliminates deposits on our turbine blades. K. M. White. Power 94:128 N '50

STEAM turbines—*Continued*

Efficiency

Reheat turbine and its control. H. R. Reese and O. N. Bryant. il diags Power Eng 55:76-8 Mr '51

Turbine-packing wear causes loss in unit efficiency. C. A. Lilly, jr. and J. E. Downs. il Power 94:113 D '50

Gearing

See also

Steam turbines, Marine—Gearing

Installation

Seven-league gloves; valves in inaccessible places. H. T. Livingston. Power Eng 54:53+ D '50

Lubrication

Lubrication of refinery equipment. C. M. Larson. il diags Pet Eng 23:C6-8 Ja '51

Modern turbine lubricants; abstract. H. E. Priston. Chem & Ind p807-8 D 16 '50

Obscure oil leak. D. Swift. il Power 95:97 Je '51

Ways to clean turbine lube system. il Power 95:98-9 Je '51

See also

Steam turbines, Marine—Lubrication

Manufacture

Christmas tree slotting job calls back old planer. S. K. Rudorf. il diags Am Mach 94:85-8 D 25 '50

Repair

Rotor repair at plant saves shipping. il Power 95:102 Ja '51

Standards

Preferred standards for 3600-rpm turbine generators revised. Power Eng 55:104 Je '51

Standardization of steam turbo-generating plant. I. V. Robinson. Inst Mech Eng Proc 164 no 1:31-4 '51; Same. Engineering 170:449-50 D 1 '50; Abstracts. Electrician 145:1233-5 D 1 '50; Elec R (Lond) 147:897 D 1 '50; Discussion. Inst Mech Eng Proc 164 no 1:35-45 '51; Engineer 190:534-6 D 1 '50; Electrician 145:1235-6 D 1 '50; Elec R (Lond) 147:897-8 D 1 '50

Starting

Controlled starting of steam turbines. R. L. Reynolds. il diags Westinghouse Eng 11:159-64 S '51; Excerpt. Elec W 135:128 Mr 26 '51

Latest technique for quick starts on large turbines and boilers. J. C. Falkner and others. diags A S M E Trans 72:1111-28; Discussion. il 1128-36 N '50

Quick start procedure for steam turbines. diag Power Eng 55:82 Jl '51

Testing

Boiler and turbine testing. L. F. Ingram and L. A. B. Peile. Engineering 172:285-7, 299-300, 349-52, 382-4 Ag 31-S 21 '51; Abstract. Engineer 192:46 Jl 13 '51; Discussion. Engineering 172:116-17 Jl 27 '51; Engineer 192:46-7 Jl 13 '51

Stress and deflection tests of steam-turbine diaphragm. V. C. Taylor. il diags A S M E Trans 73:877-86; Discussion. 886-90 O '51

Thermal cracks in turbine and generator rotor forgings. A. W. Rankin and others. il diags Mech Eng 72:559-66 Jl '50; Discussion. 72:919-21 N '50

Thermocouples for testing steam turbine plant. il diags Engineer 190:524-6 D 1 '50

Vibration

Condenser-mounted turbine shows little vibration. R. F. Cummings. Elec World 135:114+ F 26 '51

Vibration test equipment for turbine blades. A. M. Roberts and A. A. Gregory. il diags Engineer 191:370-2 Mr 23 '51

STEAM turbines, Marine

Economics of repowering Lakes vessels. Marine Eng 56:58-62 Ag '51

Gearing

Bearings and lubrication for marine turbines and reduction gears. F. C. Linn and J. T. Burwell. diags Marine Eng 55:47-54 D '50

Marine reduction-gearing. S. F. Dorey. diag Engineer 190:supp5-6, 426-7 N 3-10 '50

Naval gearing; war experience and present development. J. H. Joughin. il diags Engineering 171:25-7, 55-6 Ja 5-12 '51; Same cond. Engineer 190:632-5 D 22 '50; Discussion. 190:657-8 D 29 '50

New geared-turbine design for repowering ore carrier Williams. A. D. Sutton. il Marine Eng 56:42-5 Jl '51

Repowering Lakes ore carriers; geared Diesel drive on the Eugene W. Pargny, and geared turbines on the Homer D. Williams. il plans diags Marine Eng 56:36-41 Jl '51

Lubrication

Bearings and lubrication for marine turbines and reduction gears. F. C. Linn and J. T. Burwell. diags Marine Eng 55:47-54 D '50; Discussion. 56:58-9 F '51

Testing

Testing of motive power machinery. T. W. F. Brown. il Engineering 171:265-8 Mr 2 '51

STEAM whistles. See Whistles

STEAMBOAT lines

Europe travel booms steamship business. il Bsns W p22-3 Je 23 '51

Fast schedules, varied services make American export lines a top carrier. il Marine Eng 56:54-7 Mr '51

Lykes lines' 50th anniversary. il Marine Eng 55:40-2 D '50

See also

American president lines

Cunard steam-ship company, limited

Finance

Matson line still has troubles. il Bsns W p68-9 Ag 4 '51

Smoother sailing; shipping lines expect gain in revenues this year. A. Glenn. Barron's 31:11-12 Ja 1 '51

Germany

New German steamship passenger service is announced. For Comm W 43:25 My 14 '51

Great Britain

Liner company results. Economist 160:1063-4 My 5 '51

STEAMBOATS

American machinery drives liner Ryndam. il Marine Eng 56:63-4 S '51

Backing power of geared-turbine-driven vessels; tests on Esso Suez. E. F. Hewins and others. bibliog diags Marine Eng 56:44-51; Discussion. 59-61+ Ja '51

Cargo ship Schuyler Otis Bland goes into 'round-the-world service. C. R. Schaeffner. il plans diags Marine Eng 56:34-48 S '51

Christening the superliner United States. il Marine Eng 56:36-8 Ag '51

Chusan, P. and O. twin-screw passenger liner. il diags Engineering 170:489-91, 526-8, 557-61, pl 41-3, 46-8, 50-2 D 15-29 '50

Cross-channel and coastwise cargo ships. G. W. Tripp. il Engineer 191:402-4 Mr 30 '51

Design and construction of Great Lakes bulk freighter Wilfred Sykes. E. B. Williams and others. il plans diags Marine Eng 55:40-73 Je '50; Excerpts. Midwest Eng 3:6-8+ N '50

Engineering of a 30,000 ton super-tanker; first ship using 1020 degrees F steam; Atlantic Seaman. L. M. Goldsmith. il plans diags Marine Eng 56:30-43 Ja '51; Same cond. Mech Eng 73:377-85 My '51

Higher steam conditions for ships' machinery; abstracts and discussion. M. L. Ireland, jr. and others. Engineer 192:45-6 Jl 13 '51; Engineering 172:86-8 Jl 20 '51

Launch of the S.S. United States. il Engineer 192:221 Ag 17 '51

Maritime administration prototype ship; Schuyler Otis Bland. il Marine Eng 56:70-2 Ap '51

Pittsburgh promotes Pittsburgh with steamer race. il Bsns W p24-5 Je 9 '51

Recent Isle of Man steamers. G. W. Tripp. il Engineer 192:205-6 Ag 17 '51

STEAMBOATS—*Continued*

Resistance experiments on the Lucy Ashton. M. E. Denny. il plan diags Engineering 172:121-3, 153-7 Jl 27-Ag 3 '51; Abstract. Engineer 192:15-17 Jl 6 '51; Discussion. Engineering 172:41-2 Jl 13 '51; Engineer 192: 24-5 Jl 6 '51

R.M.S. Oronsay. il plan Engineer 191:688-91, 717-20 My 25-Je 1 '51; Engineering 171:623-5 My 25 '51

Staten Island express ferryboat. il plans diags Marine Eng 56:44-54 Ap '51

S. S. Constitution goes into service. il Marine Eng 56:47+ Ag '51

Steamship Independence. il plan Engineer 192:274-8 Ag 31 '51

S.S. Independence; the new American Export passenger liner. il plans diags Marine Eng 56:58-104 Mr '51

Turbine steamship Patricia. G. W. Tripp. il Engineer 191:801-2 Je 15 '51

T.S.S. Ocean Monarch. il plan Engineer 191: 516, 548-50, 581-3 Ap 20-My 4 '51

See also

Boilers, Marine
Naval architecture
Ship propulsion
Shipbuilding
Shipping
Ships
Steam turbines, Marine
Steamboat lines

STEARATES

Microscopy of metallic stearates. P. N. Cheremisinoff. bibliog il Paint Oil & Chem R 114: 15-16 Ag 2 '51

Analysis

Determination of metal oxide content in metallic stearates; magnesium and zinc soaps. P. N. Cheremisinoff. Paint Oil & Chem R 114:14+ F 15 '51

STEARIC acid

Anodic syntheses; new syntheses of stearic, myristic, and other acids. W. S. Greaves and others. Chem Soc J p3326-30 N '50

Mixed hydrocarbon solvents for fatty acids and their triglycerides. R. Bogash and A. N. Hixson. bibliog il Chem Eng Prog 47: 347-53 Jl '51

Reactions of tertiary butyl hypochlorite with vegetable oils and their derivatives; conversion of alkyl oleates and methyl linoleate to derivatives of ketostearic acids. H. M. Teeter and others. bibliog Am Chem Soc J 73:2302-3 My '51

Removal of stearic acid from surfaces by alkaline detergents. F. Hazel and W. Stericker. bibliog il Ind & Eng Chem 43: 919-25 Ap '51

Sorption of vapors by monolayers; organic vapors on stearic acid monolayers. R. B. Dean and F. Li. bibliog diag Am Chem Soc J 72:3979-82 S '50

Synthetic long-chain aliphatic compounds; myristic, stearic, and tricosanoic acids. D. E. Ames, R. E. Bowman and R. G. Mason. Chem Soc J p 174-7 Ja '50

STEARIN

Dielectric and molecular behavior of 1,3-dipalmitin, 1,3-distearin, tripalmitin, tristearin and tetradecyl palmitate. R. W. Crowe and C. P. Smyth. bibliog Am Chem Soc J 72:5281-7 N '50

Molecular rotation and proton transfer in the solid forms of 1-monopalmitin and 1-monostearin. R. W. Crowe and C. P. Smyth. bibliog Am Chem Soc J 72:4427-32 O '50

New £300,000 solvent plant; Bromborough pool works. il Chem & Ind p44 Ja 20 '51

Polymorphism of 2-acetyl,2-butyryl- and 2-caproyldistearin and -dipalmitin. F. L. Jackson, R. L. Wille and E. S. Lutton. bibliog il Am Chem Soc J 73:4280-4 S '51

Saponification of α-monomyristin, α-monostearin and α-mono-olein. H. H. G. Jellinek and A. Gordon. bibliog J Ap Chem 1:185-8 Ap '51

STEBINGER, Eugene, 1883-1951

Sketch. L. G. Weeks. por Am Assn Pet Geologists Bul 35:1113-16 My '51

STEEL

Adsorption of polar organic compounds on steel. E. L. Cook and N. Hackerman. bibliog diag J Phys & Colloid Chem 55:549-57 Ap '51

Alternate steels useful as substitutes for critical materials. E. L. Cady. il Materials & Methods 33:62-3 Ja '51

Carbon and low alloy steels; developments during the past 21 years. I. M. Mackenzie. Metallurgia 42:282-4 N '50

Chemical engineering materials of construction; iron, mild steels, and low-alloy steels. C. P. Larrabee and B. J. Kelly. bibliog il Ind & Eng Chem 43:2239-42 O '51

Corrosion of bare iron or steel in sea water. J. C. Hudson. il Iron & Steel Inst J 166: 123-36 O '50

German steels; ferrous metal industry in Germany during the period 1939-1945. G. Patchin and E. Brewin. Metal Prog 58:906+ D '50

Hardness of single crystal of steel determined by instrument. Mach 57:169 N '50

Influence of temperature on corrosion rates in moving conditions. F. Wormwell and H. C. K. Ison. Chem & Ind p293 Ap 14 '51

Low and medium carbon steels; tabulations; engineering file facts. Materials & Methods 34:99, 101 Ag '51

Plastic mold steels, their selection and treatment. L. F. Spencer. il Tool Eng 25:20-3 N '50; Abstract. Metal Prog 59:402+ Mr '51

Residual grinding stresses in mild steel. J. Frisch and E. G. Thomsen. bibliog diags A S M E Trans 73:337-42; Discussion. 342-6 Ap '51

Review of materials engineering developments in 1950. T. C. Du Mond. il Materials & Methods 33:85-96 Ja '51

Review of world coal and iron ore resources and their utilization for manufacture of steel. W. C. Rueckel. bibliog maps Blast F & Steel Pl 39:195-9, 327-32, 426-38, 540-8 F-My '51

Rolling solutions for specialty steels. M. L. Bible. il Iron & Steel Eng 28:91-3; Discussion. 93-4 Je '51

Some experimental indications of the stresses produced in a body by an exploding charge. J. S. Rinehart. il J Ap Phys 22:1178-81 S '51

Sorption of gases on metals at room temperature. A. L. McClellan and N. Hackerman. bibliog J Phys & Colloid Chem 55:374-82 Mr '51

Steel required for sewage treatment plants. il Pub Works 81:35 N '50

Studies of time-potential changes on an electrode surface during current interruption; zinc-steel couple in synthetic sea water. S. Schuldiner and R. E. White. bibliog il diags Electrochem Soc J 97: 433-47 D '50

Superior machinability of MX explained. F. W. Boulger and others. bibliog il Iron Age 167:90-5 My 17 '51

Technical apparatus for determining thermal conductivity of steels up to 500°C. Z. Horák and F. Krupka. il diags R Sci Instr 21:827-30 O '50

Twenty-one years of progress in special steels. D. A. Oliver and J. S. Bristow. il Metallurgia 42:279-82 N '50

What's new in mold making. J. L. Morrison. il India Rubber World 123:191-2 N '50

See also

Bessemer process
Bridges, Iron and steel
Case hardening
Chromium nickel steel
Chromium steel
Concrete, Reinforced
Corrosion and anticorrosives
Foundry practice
Iron
Manganese molybdenum steel
Manganese steel
Molybdenum steel
Nickel steel
Open hearth process
Pipes, Steel
Rails
Rolling (metal work)
Rolling mills
Sheet steel
Silicon steel
Springs (mechanism)
Steel, Aircraft and other headings beginning Steel
Tool steel
Tubes, Steel

Aging

Effect of cooling rate on the aging of structural steels. C. R. Felmley and others. flow charts diags Welding J 30:sup451-8 S '51

Hydrogen elimination by aging. C. F. Sims. J Metals 188:Trans 1321 N '50

Relative strain-aging tendency of weld and base metal. R. W. Fountain and R. D. Stout. il diag Welding J 30:sup43-6 Ja '51; Discussion. 30:sup356-8 Jl '51

STEEL—Aging—*Continued*

Strain aging of pressure vessel steels. H. Thielsch. bibliog(45 titles) Welding J 30: sup283-90 Je '51

Analysis

Accurate determination of carbon in low-carbon steels. J. E. Wells. bibliog diags Iron & Steel Inst J 166:113-17 O '50

Analysis of solids with the mass spectrometer. J. G. Gorman, E. J. Jones and J. A. Hipple. bibliog Anal Chem 23:438-40 Mr '51

Analyzing stabilized stainless now takes less time. J. F. Young. Iron Age 168:91-2 Jl 12 '51

Chemical spot tests for nickel and molybdenum. E. H. Snyder and A. H. Klein. Metal Prog 60:78-9 S '51

Colorimetric determination of copper in steel with rubeanic acid. W. L. Miller, I. Geld and M. Quatinetz. bibliog Anal Chem 22: 1572-3 D '50

Contribution of the source unit to variability in spectrographic analysis. diag Iron & Steel Inst J 166:325-8 D '50

Determination of boron in steels. M. W. Kelly. bibliog diag Anal Chem 23:1335-6 S '51

Determination of hydrogen in liquid steel. R. M. Cook and J. D. Hobson. Iron & Steel Inst J 169:24-5 S '51

Determination of small amounts of vanadium in steel by photometric titration. R. F. Goddu and D. N. Hume. bibliog il diag Anal Chem 22:1314-17 O '50

Identification of three stainless alloys simplified. A. W. Smolla. il Iron Age 167:97-8 Je 21 '51

Modified photometric determination of copper in ferrous alloys. K. W. Nance. Anal Chem 23:1034-5 Jl '51

Nitrogen and sulfur in steel determinations. Chem & Eng N 29:1619-20 Ap 23 '51

Problems in steel analysis; abstract. B. Bagshawe. Chem Age (Lond) 64:447-52 Mr 24 '51

Radio-autographic determination of lead in stainless. L. R. Standifer and M. G. Fontana. il diag Metal Prog 60:65-9 Jl '51

Rapid estimation of phosphorus in steels. A. Hans. il diag Iron & Steel Inst J 166:118-22 O '50

Sampling and analysis of liquid steel for hydrogen. D. J. Carney and others. bibliog diags J Metals 188:Trans 404-13 F '50; Discussion. 188:Trans 1334-5 N '50

Segregates in steel analyzed spectrographically. il Steel 129:78-80 Jl 9 '51

Spectrophotometric determination of nickel in steel. M. D. Cooper. Anal Chem 23:875-80 Je '51

Statistical study of the behaviour of spectrographic source units. H. T. Shirley and others. bibliog pl diags Iron & Steel Inst J 166:329-38 D '50

Bibliography

Abstracts of current literature and book notices. Published in monthly numbers of the Journal of the Iron and steel institute

Review of iron and steel literature for 1950. M. Schrero. Blast F & Steel Pl 39:688-90+, 813-16+, 1101-5 Je-Jl, S '51 [reprinted by Carnegie library of Pittsburgh]

Blackening

New blackening bath for ferrous metals. A. F. Holden. il Materials & Methods 33:128+ Ja '51

Boron content

Boron and alternate steels; lists issued by American iron and steel institute, June 13 and July, 1951; data sheet. Metal Prog 60: 80B Ag '51

Boron heats on the way. Steel 128:57 Mr 5 '51

Boron meets the test. Steel 128:39 O 1 '51

Boron steel seen substituting for some alloys. W. Patton. Iron Age 167:123 F 1 '51

Boron steel to the rescue. il Bsns W p69-70+ Mr 10 '51

Boron steels; by the panel on substitution of alloying elements in engineering steels, Metallurgical advisory board. il Metal Prog 60:81-92 Ag '51

Boron steels, only hope for civilian users. D. I. Brown. bibliog il Iron Age 167:107-8 Je 21; 168:79-85 Jl 5; 85-90 Jl 12; 102-6 Jl 19; 68-72 Jl 26; 75-80 Ag 9 '51

Boron treated steels prove efficient in use. G. C. Riegel. Automotive Ind 104:98 My 1 '51

Boron; use in steel alloys grows; abstracts of papers, SAE Detroit section. Iron Age 168:106 S 13 '51

Caterpillar's experience with boron steels. il Metal Prog 60:66-8 S '51

Effect of boron steels on shop problems. T. A. Frischman. Am Mach 95:160 O 1 '51

Industries exchange boron steel data through ISTC Division VIII. S A E J 59:76-7 Je '51

ISTC Division VIII reports on boron steels. il S A E J 59:17-31 Ag; 51-8 S; 41-7 O '51

Molybdenum can replace chromium in bearing steels. A. S. Jameson and others. il Iron Age 167:102-7 Ap 5 '51

New AISI steels conserve Mn, Ni, Cr and Mo. Steel 128:116+ Mr 12 '51

New steel compositions to conserve critical alloying elements; tabulations; engineering file facts. Materials & Methods 33:105, 107 Ap '51

Role of boron steels in present emergency. P. R. Wray. bibliog S A E J 59:46-52 Jl '51; Same cond. Metal Prog 60:52-5 Jl '51; Same cond. Steel 129:78-82 Jl 2 '51; Same cond. Materials & Methods 34:57-60 Ag '51

Brittleness

Brittle fractures in welded bridges. P. P. Bijlaard. il diags Eng N 146:46-8 Ap 26 '51

Effect of cooling rate and composition on the embrittlement of weld metal. E. C. Rollason and R. R. Roberts. 4pls diags Iron & Steel Inst J 166:105-12 O '50; Discussion. il 168:259-60 Jl '51

Effect of hardness on temper brittleness. D. C. Buffum and L. D. Jaffe. J Metals 3:Trans 540 Jl '51

Effect of isothermal treatment on the mechanical properties of steel; with note on solder embrittlement. M. D. Jepson. Metallurgia 43:82 F '51

Effect of nitrogen on brittle behavior of mild steels. G. H. Enzian and G. J. Salvaggio. bibliog diags Welding J 29:sup537-44 N '50; Correction. 30:sup271 My '51

885°F. embrittlement of the ferritic chromium-iron alloys. J. J. Heger. bibliog il Metal Prog 60:55-61 Ag '51

Embrittlement of stainless steel by steam in heat treating atmospheres; abstract. C. A. Zapffe and R. L. Phebus. Materials & Methods 32:7-8 D '50

Embrittlement of tempered martensite better defined. P. Payson. bibliog Iron Age 168: 86-9 S 27 '51

Embrittling effect of steam on stainless at elevated temperatures. C. A. Zappfe and F. E. Landgraf. bibliog il Steel 128:54-7+ Ap 30 '51

Evaluating notch toughness. R. W. Vanderbeck and M. Gensamer. bibliog il Welding J 29:sup37-48 Ja '50; Discussion. 30:sup408-14 Ag '51

Fractographic pattern for 475°C embrittlement in stainless steel. C. A. Zapffe. il J Metals 3:Trans 247-8 Mr '51

How furnace moisture causes embrittlement. C. A. Zapffe. bibliog Iron Age 166:60-5 D 28 '50

How to reduce pickling brittleness in stainless steels. C. A. Zapffe. Materials & Methods 32:74-7 N '50

Hydrogen embrittlement; effect of rate of strain. bibliog Engineer 191:554 Ap 27 '51

Hydrogen embrittlement of SAE 1020 steel. J. B. Seabrook and others. bibliog il diag J Metals 188:Trans 1317-21 N '50; Discussion. 3:Trans 558-60 Jl '51

Hydrogen theory for brittle ship-plate. C. A. Zapffe. bibliog il Metal Prog 59:802-8 Je '51

Influence of biaxiality on notch brittleness. D. Rosenthal and W. D. Mitchell. bibliog il diags Welding J 29:sup409-21 S '50; Discussion. 30:sup319-20 Je '51

Low-temperature fractures in tempered alloy steels. A. R. Entwisle. bibliog 2pls Iron & Steel Inst J 169:36-8 S '51

Molybdenum corrects temper embrittlement from phosphorus. J. J. Harwood. Steel 128:78 Ap 23 '51

STEEL—Brittleness—*Continued*

Scatter in transition test curves. A. F. Scotchbrook and others. il diag Welding J 30:sup266-71 My '51

Spherical shells subjected to internal pressure and low temperatures. J. L. Walmsley. bibliog il diag Welding J 30:sup 153-67 Mr '51

Strain aging of pressure vessel steels. H. Thielsch. bibliog(45 titles) Welding J 30:sup283-90 Je '51

Testing the tendency of weldable structural steel toward brittle fracture. E. Folkhard. Welding J 30:sup414-15 Ag '51

Upper and lower transitions in Charpy test. W. J. Harris, jr. and others. bibliog diags Welding J 30:sup417-22 S '51

Case hardening

See Case hardening

Cathodic protection

Above-ground cathodic protection. W. J. Schreiner. diag Am Gas Assn Mo 33:31-2 Jl-Ag '51

Basic principles of cathodic protection. M. E. Parker. diags Oil & Gas J 49:194+ F 22 '51

Cathodic protection of tank bottoms. M. E. Parker. Oil & Gas J 49:131 My 3 '51

Determination of current requirements for cathodic protection. M. E. Parker. bibliog diags World Oil 131:253+ N '50

Potential and current requirements for the cathodic protection of steel in soils. W. J. Schwerdtfeger and O. N. McDorman. bibliog il diag J Res Nat Bur Stand 47:104-12 Ag '51

Protection of well casings against external corrosion. R. E. Hammond and S. P. Ewing. il World Oil 132:154-6+ F '51

Role of current distribution in cathodic protection. H. D. Holler. bibliog diags J Res Nat Bur Stand 47:1-6 Jl '51

Cleaning

Brushes replace acid in descaling steel. Bsns W p60 Jl 21 '51

Chemical bath blasts scale from forgings. il Am Mach 95:155 Je 25 '51; Automotive Ind 105:57 Jl 1 '51; Factory Management 109:198 Jl '51; Iron Age 168:86 Jl 5 '51; Product Eng 22:165 Jl '51

Chemical bath removes scale from forgings. il Materials & Methods 34:112+ Ag '51

Cleaning and finishing stainless steels. T. C. Du Mond. il Materials & Methods 33:93-104 Ap '51

Coordinate cleaner, drawing compound for best enameling results. G. A. Cairns. Cer Ind 56:47+ F '51

Descaling of carbon steels in modern merchant mill practice; abstracts. C. S. Lambert. Iron & Steel Eng 28:115-16 Ap '51; Steel 128:101 Je 4 '51

Forgings descaled 90 per cent cheaper. il Steel 129:80-1 Ag 13 '51

Mechanical descaling makes a come-back. Materials & Methods 34:160+ S '51

New processing scalebreaker. J. I. Greenberger. diags Iron & Steel Eng 28:95-101 Je '51

Removal of stearic acid from surfaces by alkaline detergents. F. Hazel and W. Stericker. bibliog il Ind & Eng Chem 43:919-25 Ap '51

Removing weld discoloration from stainless steel. il Mach 57:178 F '51; Welding J 30:271 Mr '51; Sheet Metal Worker 42:40+ Ap '51

Sodium-hydride tube-descaling plant. Engineering 171:173 F 9 '51

Steel warehouse building flame cleaned without necessity for work shutdown. il Welding J 30:272 Mr '51

Surface-preparation values and sandblasting economics. A. J. Liebman. il Marine Eng 56:53-6 My '51

Color

See also
Steel—Blackening

Copper content

Activity of sulphur in liquid steel; the influence of copper. T. Rosenqvist and E. M. Cox. bibliog diag J Metals 188:Trans 1389-93 N '50

Welding copper-bearing stainless steels. H. Thielsch. bibliog il Welding J 30:sup341-7 Jl '51

Corrosion

See Corrosion and anti-corrosives

Decarburization

Decarb on screw products yields to controlled atmosphere. J. E. Tschopp. il diag Am Mach 95:142-3 F 19 '51

Defects

Defects in hot-rolled steel; abstract. Engineer 191:255 F 23 '51

Modern blooming mill practices; problem of surface defects. D. W. Lloyd. il diags Iron & Steel Eng 28:59-64; Discussion. 65 F '51

Why machine parts fail; when not to blame the designer. C. Lipson. bibliog il Machine Design 22:151-6 D '50

Deoxidation

Deoxidation by aluminium; abstract and discussion. H. A. Sloman and E. L. Evans. Engineer 190:493-4 N 24 '50

Deoxidizing in the ladle with Carbortam. W. O. Igelman and D. A. Finch. J Metals 188:1439-41 D '50

Investigation of new special deoxidizers. C. G. Mickelson. il J Metals 188:1311-1311C N '50

Descaling

See Steel—Cleaning

Failure

Brittle fracture of mild steel. T. S. Robertson. Engineer 192:278-9 Ag 31 '51; Abstracts. Metallurgia 44:90 Ag '51; Chem & Ind p739-40 S 1 '51

Conservation of columbium; intergranular cracking in aircraft parts. N. E. Promisel. il Metal Prog 58:705-8 N '50

Corrections for tool-steel failures; reference book sheet. Am Mach 95:179, 181 Je 11 '51

Fatigue failures from nominal compressive stress; Belleville type springs. J. O. Almen. il diags Product Eng 22:114-18 Mr '51

Flow and fracture of metals; selected bibliography. Welding J 29:sup623 D '50

Fracture under combined stress creep conditions of 0·5 per cent Mo steel. A. E. Johnson and N. E. Frost. Engineer 191:434-7 Ap 6 '51

Graphitization appraised. G. V. Smith. Pet Processing 6:997 S '51

Hot-tearing of steel. J. M. Middleton and H. T. Protheroe. bibliog 3pls diags Iron & Steel Inst J 168:384-400 Ag '51

Micro-mechanism of fracture in the tension-impact test. W. H. Bruckner. il diags Welding J 29:sup467-76 S '50; Discussion. 30:sup255-9 My '51

Micro-mechanism of fracture in the tension impact test; supplementary report number one. W. H. Bruckner. il Welding J 30:sup459-69 S '51

Tensile failure of carbon and stainless steel wires in the presence of water and hydrogen sulphide. J. E. Truman. il Metallurgia 43:8-10 Ja '51

Thermal cracks in turbine and generator rotor forgings. A. W. Rankin and others. il diags Mech Eng 72:599-66 Jl '50; Discussion. 72:919-21 N '50

Vibration and fatigue life of steel strand. J. C. Little and others. Elec Eng 69:1065 D '50

Weldcracking and blue-brittleness. L. W. C. Gaymans. bibliog Welding J 29:sup623-4 D '50

See also
Steel—Brittleness

Finishing

Airless blasting does the trick. Steel 129:112+ Ag 13 '51

Cleaning and finishing stainless steels. T. C. Du Mond. il Materials & Methods 33:93-104 Ap '51

Method of examining the adhesion of paint to steel. S. C. Britton and R. M. Angles. bibliog il 2pls Iron & Steel Inst J 168:358-63 Ag '51

Surface treatments for cutting tools; reference book sheet. Am Mach 95:183 Jl 9 '51

STEEL—Finishing—*Continued*

Technique of applying porcelain enamel cover coat directly on steel. M. E. McHardy. Refrig Eng 58:1194-5 D '50

Tooling designed for turning railway car axles. E. A. Watson. il Mach 57:168-71 D '50

Versatile finishing system speeds manufacture of lubrication equipment. R. Schirmer. il Steel 129:74-5 Ag 20 '51

See also

Steel—Blackening

Graphitization

See Steel—Metallography

Hydrogen content

Determination of hydrogen in liquid steel. R. M. Cook and J. D. Hobson. Iron & Steel Inst J 169:24-5 S '51

Hydrogen elimination by aging. C. E. Sims. J Metals 188:Trans 1321 N '50

Sampling and analysis of liquid steel for hydrogen. D. J. Carney and others. bibliog diags J Metals 188:Trans 404-13 F '50; Discussion. 188:Trans 1334-5 N '50

Hydrogen effect

Easily made test probe for hydrogen attack. il diag Pet Processing 6:877+ Ag '51

Embrittling effect of steam on stainless at elevated temperatures. C. A. Zappfe and F. E. Landgraf. bibliog il Steel 128:54-7+ Ap 30 '51

How furnace moisture causes embrittlement. C. A. Zapffe. bibliog Iron Age 166:60-5 D 28 '50

Hydrogen attack of steel in refinery equipment. R. T. Effinger and others. bibliog flow diags il diag Am Pet Inst Proc 31 M(3):107-30 '51; Same. Pet Refiner 30:132-44 My '51; Same abr. Oil & Gas J 50:99-100+ My 17 '51; Excerpts. Pet Processing 6:500-4 My '51; Discussion. Am Pet Inst Proc 31 M(3):130-3 '51

Hydrogen embrittlement; effect of rate of strain. bibliog Engineer 191:554 Ap 27 '51

Hydrogen embrittlement of SAE 1020 steel. J. B. Seabrook and others. bibliog il diag J Metals 188:Trans 1317-21 N '50; Discussion. 3:Trans 558-60 Jl '51

Hydrogen theory for brittle ship-plate. C. A. Zapffe. bibliog il Metal Prog 59:802-8 Je '51

Metals for high-pressure hydrogenation plants G. A. Nelson. il A S M E Trans 73:205-9 F '51; Same. Pet Refiner 29:104-8 S '50; Discussion. A S M E Trans 73:211-13 F '51

Inclusions

Investigations into the effect of non-metallic inclusions on the hot-workability of steel. F. Rapatz and M. Strobich. bibliog il Iron & Steel Inst J 168:374-5 Ag '51

Lead content

Lead-bearing steel improves machinability. H. J. Holquist. il Materials & Methods 33:142+ F '51

Radio-autographic determination of lead in stainless. L. R. Standifer and M. G. Fontana. il diag Metal Prog 60:65-9 Jl '51

Metallography

Atlas of isothermal transformation diagrams of B.S. En steels; discussion. Engineer 190:524, 552-3 D 1-8 '50; Engineering 170:491-2 D 15 '50

Carbide phase in iron-carbon-silicon alloys. W. S. Owen. bibliog pl Iron & Steel Inst J 167:117-20 F '51

Carbides in long-tempered vanadium steels; study with the electron microscope. W. Crafts and J. L. Lamont. il J Metals 188:Trans 561-74 Mr '50; Discussion. 188:Trans 1354-5 N '50

Crystal structure and particle size of the carbide phase in tempered steel; abstract. M. P. Arbuzov. Metal Prog 59:878+ Je '51

Diffusion coefficient of carbon in austenite. C. Wells and others. il J Metals 188:Trans 553-60 Mr '50; Discussion. 188:Trans 1375-6 N '50

Effect of alloying elements on true-stress true-strain flow curves of pearlitic steel. R. Raring and others. bibliog J Metals 3:Trans 395-400 My '51; Discussion. 3:Trans 1065-6 N '51

Effect of ferrite grain structure upon impact properties of 0.80 per cent carbon spheroidite. M. Baeyertz and others. bibliog il J Metals 188:Trans 1465-71 D '50; Discussion. 3:Trans 1064-5 N '51

Effect of initial heating temperature on the mechanical properties of Ni-Cr-Mo steels. J. A. Wheeler and others. bibliog 2pls diag Iron & Steel Inst J 167:301-8 Mr '51

Effect of manganese segregations on machinability; an application of microradiography. K. J. B. Wolfe and I. R. Robinson. il Metallurgia 43:3-7 Ja '51

Effect of microstructure on notch toughness. J. H. Gross and R. D. Stout. bibliog il Welding J 30:sup481-5 O '51

Effect of prior treatment on precipitation of sigma phase. G. V. Smith and others. bibliog il Welding J 30:sup385-96 Ag '51

Effect of structure on machinability demonstrated. N. Zlatin and L. Nowikowski. il Iron Age 168:95-8 Ag 2 '51

Effect of temperature on carbon steel in refinery vessels being surveyed; occurence of graphitization of steels. V. B. Guthrie. il Pet Processing 6:719-21 Jl '51

Etching steels which contain the sigma phase; with data sheet. J. J. Gilman. Metal Prog 59:376B, 377 Mr '51

Extension of the Ar_1 range with carbide formation in mild steel due to high-temperature treatment. J. H. Whiteley. 4pls Iron & Steel Inst J 164:399-405 Ap '50; Discussion. 167:372-4 Ap '51

Fractographic pattern for 475°C embrittlement in stainless steel. C. A. Zapffe. il J Metals 3:Trans 247-8 Mr '51

Free energy and metastable states in the iron-nickel and iron-manganese systems. F. W. Jones and W. I. Pumphrey. bibliog diags Iron & Steel Inst J 163:121-31 O '49; Discussion. 166:200-12 N '50

Grain structure of aluminum-killed, low carbon steel sheets. R. L. Solter and C. W. Beattie. il J Metals 3:Trans 721-6 S '51

Grand prize, 1950 metallographic exhibit. il Metal Prog 58:842 D '50

Growth of austenite as related to prior structure. A. E. Nehrenberg. bibliog il J Metals 188:Trans 162-74 Ja '50; Discussion. 188:Trans 1376-81 N '50

Isothermal formation of martensite at subzero temperatures in a high chromium steel. S. C. Das Gupta and B. S. Lement. bibliog il diags J Metals 3:Trans 727-31 S '51

Isothermal transformation diagrams for nickel steels. bibliog il Metallurgia 43:234-42, 280-8 My-Je '51

Machinability depends on microstructure. R. Le Grand. il diag Am Mach 94:119-24 N 27 '50

Martensitic transformation at temperatures approaching absolute zero. S. A. Kulin and M. Cohen. bibliog il J Metals 188:Trans 1139-43 S '50; Discussion. 3:Trans 551-3 Jl '51

Metallurgical considerations in machining. M. C. Shaw and P. A. Smith. il diags Am Mach 95:89-92 Ag 20; 139-42 S 17 '51

Microhardness of constituents in steel tested. H. A. Unckel. il Iron Age 168:68-71 Ag 30 '51

Micro-mechanism of fracture in the tension-impact test. W. H. Bruckner. il diags Welding J 29:sup467-76 S '50; Discussion. 30:sup255-9 My '51

Micro-mechanism of fracture in the tension impact test; supplementary report number one. W. H. Bruckner. il Welding J 30:sup459-69 S '51

Microscopical examination of creep specimens. E. A. Jenkinson. il Engineer 191:469-72 Ap 13 '51

Microstructures of metals; reference book sheet. M. Field and others. il Am Mach 95:315+ Ja 22; 165+ F 5 '51

Physical and mechanical properties of segregates in two alloy steels. H. M. Finniston and T. D. Fearnehough. bibliog 4pls diags Iron & Steel Inst J 169:5-12 S '51

Physical metallurgy of austenitic stainless steels. H. Thielsch. il Welding J 29:sup577-621 bibliog(257 ref, p620-1) D '50

Relation of structure of stainless steel to hot ductility. F. K. Bloom and others. bibliog il Metal Prog 59:250-6 F '51

STEEL—Metallography—*Continued*

Ringworm corrosion in oil well equipment; structure of metals and alloys. M. G. Fontana. il diag Ind & Eng Chem 43:sup 63A-4A+ F '51

Sigma phase in stainless. G. V. Smith. bibliog il Iron Age 166:63-8 N 30; 127-32 D 7 '50

Structural transformations in the tempering of high-carbon martensitic steels. K. H. Jack. bibliog 2pls diags Iron & Steel Inst J 169:26-36 S '51

Structure of martensite separated electrolytically from quenched steel; abstract. M. P. Arbuzov. Metal Prog 60:136 S '51

Temperature and stress rate affect fractology of ferritic stainless. C. A. Zapffe and C. O. Worden. bibliog il Iron Age 167:65-9 Je 28 '51

Tessellated stresses. F. László. bibliog diags Iron & Steel Inst J 147:173-99 no 1; 148:137-59 no 2 '43; 150:183-207 no 2 '44; 152:207-28 no 2 '45; 164:5-26 Ja '50; Discussion. 150:207-9 no 2 '44; 167:28-30 Ja '51

Twenty-five more years of metallography. J. R. Vilella. bibliog il diag J Metals 3:Trans 605-19 Ag '51

Welding high-temperature austenitic steel piping. R. W. Emerson and M. Morrow. bibliog(38 titles) il Welding J 30:sup 15-33; Discussion. 33-9 Ja '51

See also

Piping (power plants)
—Graphitization

Nitrogen effect

Effect of nitrogen on brittle behavior of mild steels. G. H. Enzian and G. J. Salvaggio. bibliog diags Welding J 29:sup537-44 N '50; Correction. 30:sup271 My '51

Overheating and burning

Detection of overheating and burning in steel by microscopical methods. A. Preece and J. Nutting. pl diag Iron & Steel Inst J 164:46-50 Ja '50; Discussion. 167:367-72 Ap '51

Grain-boundary phenomena in severely heated steel. T. Ko and D. Hanson. bibliog 8pls diags Iron & Steel Inst J 164:51-62 Ja '50; Discussion. 167:367-72 Ap '51

Overheating and burning of steel; influence of excessive reheating temperatures on the mechanical properties and the structure of alloy steels. A. Preece and others. bibliog 2pls Iron & Steel Inst J 164:37-45 Ja '50; Discussion. 167:367-72 Ap '51

Overheating of steel. E. C. Rollason and D. F. T. Roberts. bibliog Iron & Steel Inst J 164:422-4 Ap '50; Discussion. 167:367-72 Ap '51

Phosphorus content

Effect of sodium oxide additions to steelmaking slags. W. R. Maddocks and E. T. Turkdogan. bibliog diags Iron & Steel Inst J 162:249-64 Jl '49; Discussion. 166:320-2 D '50

Rapid estimation of phosphorus in steels. A. Hans. il diag Iron & Steel Inst J 166:118-22 O '50

Prices

Agreement ends pricing suit against steel. Eng N 146:66-7 Je 28 '51

Average monthly quotations in 1950; tabulation. Steel 128:128 Ja 1 '51

Finished steel, weighted price composite, annual price averages, arithmetical price composite; tabulations. Steel 128:126-7 Ja 1 '51

Ifs and buts of steel price; ABC of what's behind some key statistics. il Bsns W p63-4+ My 19 '51

More freedom for steel pricing. Steel 128:47-8 Je 25 '51

Plain talk on steel; its prices are too low, not too high. B. Moreell. Barron's 30:5 O 23 '50

Purchasing agents pay more in extras after steel rise. Iron Age 167:83 Ja 25 '51

Steel prices; finished steel composite, sheets, strip, tinplate, plate, rails, etc.; tabulations. Iron Age 167:292-4 Ja 4 '51

Steel prices up 5½ per cent, wages up 16c. Iron Age 166:135-6 D 7 '50; Steel 127:67+ D 4 '50

Steel settles with FTC on pricing. Bsns W p20 Je 23 '51

Protection

Aluminum-coated steel. Mech Eng 72:909-10 N '50

Cadmium-tin alloy plating stops corrosion. B. E. Scott and R. D. Gray, jr. il Iron Age 167:59-62 Ja 18 '51

Corrosion resistance performance record; hot applied Bitumastic enamel. Marine Eng 56:51 Je '51

Effect of bath composition on aluminum coatings on steel; abstract. D. O. Gittings and others. Materials & Methods 32:110 D '50

Effect of chromium plating on the plastic deformation of SAE 4130 steel. H. L. Logan. il diag J Res Nat Bur Stand 46:472-9 Je '51

Electric metallic tubing given protective coatings. il Iron Age 167:96 Mr 29 '51

Electrochemical behaviour of paint film on steel in sea-water. J. T. Crennell. Soc Chem Ind J 69:sup no 1:S36-8 '50; 371-3 D '50

Electrochemical behaviour of paint films in sea-water. J. E. O. Mayne. bibliog Chem & Ind p293-4 Ap 14 '51

Glass as a coating for steel. W. G. Martin. il diags Mech Eng 73:109-13 F '51

Heat-resistant ceramic coatings broaden low carbon steel applications. bibliog il Steel 129:74-7+ Ag 13 '51

Help your steel to hold its protective coating. A. J. Liebman. Chem Eng 58:326+ S '51

How to protect your steel. J. B. Scott. il Chem Eng 58:135-8 Ap '51; Discussion. K. Tator. 58:167-70 S '51

Jenolite rust-removing process. Engineering 170:532 D 22 '50

New way to make soft steel hard; Chromalloy process. il Bsns W p53-4+ Ag 18 '51

Plan painting of new plants to reduce costs. T. J. Eberhardt. Elec World 135:78+ Ja 1 '51

Plate for can stock improved; use of Bonderite K. Steel 129:104 Ag 20 '51

Plating and finishing tubing at Spang-Chalfant. il Metal Finishing 49:65 My '51

Protection of mild steel against high temperatures; investigations into a refractory enamel; abstracts. Engineer 191:879 Je 29 '51; Engineering 171:763 Je 22 '51; Metallurgia 44:144 S '51

Protection of structural steel against atmospheric corrosion. J. C. Hudson; W. A. Johnson. bibliog il pl diags Iron & Steel Inst J 168:165-80 Je '51

Protective coatings aid search for oil; Humble Oil uses zoned system for metal paints. il Safety Maint & Prod 100:23+ D '50

Relationship of price and life of paint to cost of tower protection per year; nomograph; engineering reference sheet. Elec World 135:162 Ja 29 '51

Sodium nitrite as an inhibitor against the attack of sea-water on steel; inhibitor in sea-water/distilled water mixtures. T. P. Hoar. bibliog Soc Chem Ind J 69:356-62 D '50

Substituted amines as inhibitors in the acid corrosion of steel. L. E. Swearingen and A. F. Schram. bibliog J Phys & Colloid Chem 55:180-7 F '51

Use of ethyl silicate in providing heat-resistant coatings of aluminum on steel. G. Tolley. il J Ap Chem 1:86-90 F '51

Zinc plating; continuous process for treating steel sheets. il Elec R (Lond) 148:785-9 Ap 20 '51

See also

Bonderizing
Chromizing
Galvanizing
Steel—Blackening
Steel—Cathodic protection

Rimmed steel

Observations on rimming steel ingots. A. Hultgren and others. il diags J Metals 191:Trans 101-10 F '51

Scaling

Spot welding of scaly heavy-gage structural steel. E. F. Nippes and J. N. Ramsey. il Welding J 30:sup327-36 Jl '51

Specifications

ASTM committee A-1 revises steel specifications, tests. Steel 128:88+ F 26 '51

Birth of S.A.E. 4340. H. W. McQuaid. Metal Prog 59:669-70 My '51

STEEL—Specifications—*Continued*

Impact tests help engineers specify steel; based on papers by L. D. Jaffe and others. S A E J 59:24-8 Mr '51

Steel for welded pressure vessels; requirements of new BSI specification. Chem Age (Lond) 63:565-6 O 21 '50

Standards

Boron and alternate steels; lists issued by American iron and steel institute, June 13 and July, 1951; data sheet. Metal Prog 60: 80B Ag '51

Latest alternate steels. W. L. Nelson. Oil & Gas J 50:108 S 27 '51

Strength

Fatigue strength of steel at low temperatures. Engineer 190:266 S 15 '50; Same cond. Product Eng 2:252-4 S '51

Fatigue tests of beams in flexure. W. M. Wilson. diags Welding J 30:sup 105-15 Mr '51

High-strength heat-treated steels. G. Sachs and others. bibliog diags Iron Age 166:59-63 N 23; 76-80 N 30 '50

How to determine toughness of steels from notched bar tests. E. J. Ripling. bibliog Materials & Methods 34:81-5 S '51

Prestressing processes and fracture barriers; improvement in fatigue strength of metal products. J. O. Almen. il diags Product Eng 22:102-11 Mr '51

Properties of materials under superindustrial stresses. P. W. Bridgman. Machine Design 23:210+ Jl '51; Abstract. Iron Age 167:71 My 31 '51

Stability and strength of slender beams. A. R. Flint. il diags Engineering 170:545-9 D 22 '50

Strength of I-beams in combined bending and torsion. B. Sourochnikoff. diags Am Soc C E Proc 76 [no 33]:1-18 S '50; Discussion. 77 [no D-33]:1-6 S '51

Sulfur content

A-one steel from low grade coke. J. R. Killian, jr. Steel 127:121-2 N 20 '50

Activity of sulphur in liquid steel; the influence of copper. T. Rosenqvist and E. M. Cox. bibliog diag J Metals 188:Trans 1389-93 N '50

Control of sulphur in steelmaking; report of symposium held at AIME annual meeting. il diag J Metals 3:511-16 Jl '51

Desulphurizing action of titanium in steels. W. P. Fishel and others. bibliog il J Metals 3:Trans 674-6 Ag '51

Thermodynamic aspects of the movement of sulphur; abstracts and discussion. F. D. Richardson and G. Withers. Engineer 190: 522-3 D 1 '50; Engineering 170:447-8 D 1 '50

Thermodynamic study of the reaction $CaS+H_2O \rightleftarrows CaO+H_2S$ and the desulphurization of liquid metals with lime. T. Rosenqvist. bibliog diags J Metals 3:Trans 535-40 Jl '51

Testing

ASTM committee A-1 revises steel specifications, tests. Steel 128:88+ F 26 '51

Corrosion of mild steel and mild steel welds in sulphate digesters. R. A. Huseby and M. A. Scheil. il diags Tappi 34:202-9 My '51

Effect of isothermal treatment on the mechanical properties of steel; with note on solder embrittlement. M. D. Jepson. Metallurgia 43:62-4+ F '51

Effect of microstructure on notch toughness. J. H. Gross and R. D. Stout. bibliog il Welding J 30:sup481-5 O '51

Endurance limit of a round bar with longitudinal grooves. H. Ōkubo. il diags J Ap Phys 21:1105-8 N '50

Fast and easy sorting of steel products; Steelsorter. il Mill & Factory 48:143-4 Ja '51

Field test service aids steel selection. Steel 128:120+ Je 18 '51

Flow test of hubbing steel. F. Halward. il diags Metal Prog 59:356-8 Mr '51

Hardness scale selector for steel. E. F. Bradley. data sheet(p 80B) Metal Prog 60:80 S '51

Hot-tearing of steel. J. M. Middleton and H. T. Protheroe. bibliog 3pls diags Iron & Steel Inst J 168:384-400 Ag '51

Notch-bend test. C. A. Zapffe and C. O. Worden. bibliog il Welding J 30:sup47-54 Ja '51

Plastic deformation of chromium-plated steel. Steel 128:108+ Je 18 '51

Shot peening of spring steel. N. B. Brown. Engineer 191:685 My 25 '51

Size effect in fatigue of plain and notched steel specimens loaded under reversed direct stress; abstract. C. E. Phillips and R. B. Heywood. Engineer 191:285 Mr 2 '51

Upper and lower transitions in Charpy test. W. J. Harris, jr. and others. bibliog diags Welding J 30:sup417-22 S '51

See also

Tool steel—Testing

Temperature effect

Control of electric element furnaces to fine limits at high temperatures for research purposes. T. W. Lomas and others. bibliog diags Iron & Steel Inst J 168:126-34 Je '51

Effect of temperature on carbon steel in refinery vessels being surveyed; occurrence of graphitization of steels. V. B. Guthrie. il Pet Processing 6:719-21 Jl '51

885°F. embrittlement of the ferritic chromium-iron alloys. J. J. Heger. bibliog il Metal Prog 60:55-61 Ag '51

Embrittling effect of steam on stainless at elevated temperatures. C. A. Zappfe and F. E. Landgraf. bibliog il Steel 128:54-7+ Ap 30 '51

Fatigue strength of steel at low temperatures. Engineer 190:266 S 15 '50; Same cond. Product Eng 22:252-4 S '51

Fracture under combined stress creep conditions of 0·5 per cent Mo steel. A. E. Johnson and N. E. Frost. Engineer 191: 434-7 Ap 6 '51

General tensional relaxation properties of a bolting steel. D. N. Frey. A S M E Trans 73:755-60 Ag '51

High temperature properties of stainless steel tubing; tabulation; engineering file facts. Materials & Methods 34:113 S '51

Low-temperature fractures in tempered alloy steels. A. R. Entwisle. bibliog 2pls Iron & Steel Inst J 169:36-8 S '51

Low temperature properties of ferrous materials. Metal Prog 60:98+ S '51

Nickel-chromium-molybdenum steel valve casting after 50,000 hours of service at 900 F. T. N. Armstrong and R. J. Greene. il A S M E Trans 73:751-3; Discussion. 753-4 Ag '51

Relaxation of austenitic steel at room temperature; abstract. I. A. Oding and E. N. Volosatova. Metal Prog 59:546+ Ap '51

Scatter in transition test curves. A. F. Scotchbrook and others. il diag Welding J 30:sup266-71 My '51

Spherical shells subjected to internal pressure and low temperatures. J. L. Walmsley. bibliog il diag Welding J 30:sup 153-67 Mr '51

Temperature and stress rate affect fractology of ferritic stainless. C. A. Zapffe and C. O. Worden. bibliog il Iron Age 167:65-9 Je 28 '51

Welding

Aircomatic welding of nickel and stainless-clad steels. T. T. Watson and R. R. Rothermel. il Welding J 30:sup 116-22 Mr '51

Cast weld construction. J. O. Felt. il Welding J 30:415-23 My '51

Cast-weld design. il Machine Design 23:137-40 O '51

Crack sensitivity of aircraft steels. A. W. Steinberger and others. bibliog il diags Welding J 29:752-64 S '50; Discussion. 29: 1068-9; 30:163-6 D '50, F '51

Design and operation of high-speed production tube mills. D. H. Fleig. il Welding J 30:589-96 Jl '51

Designing a large weldment. L. G. Hauser. il Machine Design 22:168-70 D '50

Developments in the welding of armor; abstract. T. L. H. Butterfield. Metal Prog 59:580+ Ap '51

Effect of cooling rate and composition on the embrittlement of weld metal. E. C. Rollason and R. R. Roberts. 4pls diags Iron & Steel Inst J 166:105-12 O '50; Discussion. il 168:259-60 Jl '51

STEEL—Welding—*Continued*

Effect of nitrogen on brittle behavior of mild steels. G. H. Enzian and G. J. Salvaggio. bibliog diags Welding J 29:sup537-44 N '50

Effect of repeated welding on the physical and metallurgical properties of A-212 plate; abstract. Metal Prog 59:562+ Ap '51

Engineering aspects of tool and die welding. A. R. Butler. il Tool Eng 25:21-3 D '50; 26:42-5 Ja; 40-2 F; 60-2 Mr; 45-6 Ap '51

Evolution of welded armored fighting vehicles; abstract. R. J. Fowler and L. F. Denaro. Metal Prog 59:848+ Je '51

Explosion bulge test studies of the deformation of weldments. C. E. Hartbower and W. S. Pellini. il diags Welding J 30:sup307-18 Je '51; Same cond. bibliog Iron Age 167:83-7 My 10 '51

Fracture barriers in welded structures. J. O. Almen. il Product Eng 22:112-13 Mr '51

High quality welds obtained with low hydrogen electrodes. E. L. Cady. il Materials & Methods 34:90-1 S '51

High-temperature welded joints. R. H. English. il diags Welding J 30:907-10 O '51

Higher design stresses for pressure vessels. P. R. Cassidy. Welding J 30:sup 123-4 Mr '51

Ice flower-like structure in metal deposited by arc welding in particular mild steel. M. Okada and Y. Wakabayashi. Welding J 30:sup469+ S '51

Influence of biaxiality on notch brittleness. D. Rosenthal and W. D. Mitchell. bibliog il diags Welding J 29:sup409-21 S '50; Discussion. 30:sup319-20 Je '51

Interpretive report, Fabrication division, Pressure vessel research committee. H. C. Boardman. diags Welding J 29:sup422-32 S '50; Discussion. 30:sup291-302 Je '51

Investigation of factors which determine the performance of weldments. C. E. Hartbower and W. S. Pellini. il diags Welding J 30:sup499-511 O '51

Lift-type farm trailer; two-wheeled carrier. diags Welding J 30:536-7 Je '51

Multiple layer submerged-arc welding of pressure vessels. L. C. Stiles and D. H. Curry. il Welding J 29:1065-8 D '50

Relative strain-aging tendency of weld and base metal. R. W. Fountain and R. D. Stout. il diag Welding J 30:sup43-6 Ja '51; Discussion. 30:sup356-8 Jl '51

Residual stresses in welded mild-steel pipe. L. J. Privoznik. bibliog Welding J 30:sup 422-8 S '51

Resistance welding of mild steel sheet; comparison of British and American methods. W. S. Simmie. il diags Welding J 29:651-4 Ag '50; Abstract. Metal Prog 58:894+ D '50

Sigma welding of nonferrous metals and alloy steels. H. T. Herbst. il Welding J 30:629-31 Jl '51

Stress-corrosion cracking in welded steel structures. C. E. Pearson and R. N. Parkins. Metal Prog 59:568+ Ap '51

Stresses around a spot weld under static and cyclic loads. G. Welter. il diags Welding J 29:sup565-76 N '50

Thermit welding. J. M. Wilson. il diag Steel 129:106+ S 3 '51

Transformation of austenite in a manganese-molybdenum steel deposited as weld metal. O. O. Miller and others. bibliog il Welding J 29:sup450-8 S '50; Discussion. 30:sup253-4 My '51

Upper and lower transitions in Charpy test. W. J. Harris, jr. and others. bibliog diags Welding J 30:sup417-22 S '51

Using weldment for surface plate increases strength 50 per cent. il Mach 57:201 Ap '51

Welded differential housing 20 per cent lighter; rear axle differential housing of large self-propelled earth movers. R. R. Kilgore. il Steel 128:121 My 7 '51

Welded narrow steel sheets used for wide stampings. K. Rose. il Materials & Methods 33:83-4 Ja '51

Welding air-hardening alloy steels. W. H. Wooding. il diags Welding J 29:sup552-64 N '50; Abstract. Metal Prog 59:698+ My '51

Welding electrodes and rods for ferrous and nonferrous metals; filler metals for steels and irons. H. R. Clauser. il Materials & Methods 32:68-75 D '50

Welding fractures. E. P. DeGarmo. diag Metal Prog 60:74-7 Ag '51

Welding helps to ease sheet steel shortage for automobile manufacturers. Bsns W p64+ N 4 '50

Welding high yield pipe. C. J. Coulter. il Pet Eng 23:D52+ My '51

See also

Steel, Stainless—Welding
Steel, Structural—Welding

STEEL, Aircraft

Conservation of columbium. J. F. Tyrrell. bibliog il Metal Prog 58:63-8 Jl '50; Discussion. 58:691-708+ N '50

Modern trends in airframe materials. L. Schapiro. il Metal Prog 59:511-15 Ap '51; Same cond. Steel 128:77-80 Ap 16 '51; Abstract. Light Metal Age 9:13 Ap '51

Not enough steel, say AF and industry. W. Kroger. Aviation W 55:13-15 S 10 '51

Testing

Crack sensitivity of aircraft steels. A. W. Steinberger and others. bibliog il diags Welding J 29:752-64 S '50; Discussion. 29:1068-9; 30:52-3, 163-6 D '50-F '51

Effect of chromium plating on the plastic deformation of SAE 4130 steel. H. L. Logan. il diag J Res Nat Bur Stand 46:472-9 Je '51

Plastic deformation of chromium-plated steel. Steel 128:108+ Je 18 '51; il Metal Finishing 49:53+ Ag '51; Aviation W 55:28-9 Jl 2 '51; Iron Age 168:101 O 18 '51; Mech Eng 73:823-4 O '51

STEEL, Automobile

Birth of S.A.E. 4340. H. W. McQuaid. Metal Prog 59:669-70 My '51

ISTC Division VIII reports on boron steels. il S A E J 59:17-31 Ag; 51-8 S; 41-7 O '51

Steel for automobile parts; steel used in a typical automobile; tabulations. Iron Age 167:324-5 Ja 4 '51

Vehicle makers to use alternate alloy steel. Automotive Ind 104:278 Mr 15 '51

STEEL, Clad

Clad steel equipment; some hints for modern maintenance. E. H. Wyche. il Chem Eng 58:122-3 Ja '51

Corrosion-resistant metals for the pulp and paper industry. D. L. Horigan. il Paper Tr J 133:20+ O 12 '51

Origin and use of clad steel plate. W. G. Theisinger. Metal Prog 59:671-2+ My '51

See also

Steel, Nickel clad
Steel, Stainless clad

STEEL, Cold treatment of

Isothermal formation of martensite at subzero temperatures in a high chromium steel. S. D. Das Gupta and B. S. Lement. bibliog il diags J Metals 3:Trans 727-31 S '51

Longer life for frozen steel. Steel 127:106 D 4 '50

Now, harder stainless; working stainless steel at 300° below zero doubles its hardness during laboratory study. Steel 128:352+ Ja 1 '51; Aviation W 54:33-4 Ja 15 '51; Mach 57:178-9 F '51; Chem Eng 58:254-6 Ja '51; il Westinghouse Eng 11:61 Mr '51

STEEL, Cold working of

Cold extrusion goes commercial. il Am Mach 95:173 F 5 '51

Cold extrusion of steel. H. Hauttmann. diags Iron Age 167:99-104 Mr 15 '51

Cold rolling of tinplate. G. E. Stoltz and J. W. Brinks. plan diag Iron & Steel Eng 27:69-77; Discussion. 77-88 O '50

Cold rolling strip. J. D. Keller. bibliog diags Steel 128:76+ F 19; 92+ Mr 5; 80+ Mr 19; 84+ Mr 26; 98+ My 14; 129:86+ Jl 9; 78+ Jl 23; 88+ Ag 13 '51

Cold rolling with strip tension. H. Ford and others. bibliog diags Iron & Steel Inst J 168:57-72 My '51

Cold-working of steel; reports of committees of the Verein deutscher eisenhüttenleute. Engineer 191:136-7 Ja 26 '51

Columbia's cold reduced steel products. L. S. Dahl. il Blast F & Steel Pl 39:1084-90 S '51

Effect of cold work on steel; abstract and discussion. J. H. Andrew and others. Engineer 190:523-4 D 1 '50

Fundamental effects of cold working on the creep resistance of an austenitic alloy. D. N. Frey and J. W. Freeman. bibliog il J Metals 3:Trans 755-60 S '51

STEEL, Cold working of—*Continued*

Grain structure of aluminum-killed, low carbon steel sheets. R. L. Solter and C. W. Beattie. il J Metals 3:Trans 721-6 S '51

Integrated phosphatizing system brings economies in cold drawing, stamping, cold heading, etc. il Steel 129:71-2 Jl 23 '51

Koldflo; cold extrusion tamed. il Iron Age 168:74 S 20 '51

Lubricant speeds, eases cold-working of steel, Pennsalt Foscoat. Bsns W p90+ Jl 14 '51

New metal treating process speeds cold working, cold extrusion of steel; Pennsylvania salt manufacturing co. Foscoat process. il Materials & Methods 34:68-9 Ag '51; Same. Product Eng 22:172-3 Ag '51; Abstract. Chem Eng 58:162 Ag '51

Phosphate coat speeds cold working of steel. il Am Mach 95:174-5 Jl 23 '51

Phosphate lubricant aids cold extrusion of steel. il Iron Age 168:76-7 Jl 26 '51

STEEL, Corrosion resisting

Corrosion-resistant metals for the pulp and paper industry. D. L. Horigan. il Paper Tr J 133:24+ O 5; 20+ O 12 '51

Data in chart form presenting temperatures and concentrations for corrosion of steel by sulfuric acid. M. G. Fontana. Ind & Eng Chem 43:sup65A-6A+ Ag '51

Designing with modern materials; survey of latest developments in engineering materials. il Machine Design 23:301-27 O '51

See also

Chromium nickel steel

Steel, Stainless

STEEL, Effect of sea water on

Corrosion of steel by sea salt of given moisture content. S. J. Duly. bibliog Soc Chem Ind J 69:304-6 O '50

Sodium nitrite as an inhibitor against the attack of sea-water on steel; inhibitor in sea-water/distilled water mixtures. T. P. Hoar. bibliog Soc Chem Ind J 69:356-62 D '50

STEEL, Galvanized

Survey of coating-thickness variation on commercially galvanized sheets. M. L. Hughes. bibliog diag Iron & Steel Inst J 167:48-65 Ja '51

STEEL, Hardening of

Boron steels. D. I. Brown. il Iron Age 168:85-90 Jl 12 '51

Bright hardening, carburizing and carbonitriding. H. Ipsen and R. Krogh. il diags Metal Prog 59:232-8 F '51

Distortion of toolsteel in heat treatment. J. Y. Riedel. il Metal Prog 58:853-9 D '50

Effect of heat-treatment and alloying constituents on the work-hardening of steels. G. Niebch and A. Pomp. Metallurgia 44:96 Ag '51

Gear hardener loads and unloads automatically. P. Good. il diags Iron Age 167:72-4 Mr 22 '51

Hardenability test for deep hardening steels. W. Wilson, jr. diags Automotive Ind 103:128+ N 15 '50; Abstract. Materials & Methods 32:8 D '50

Hardening and heat treatment of steel. G. H. Jackson. Engineer 190:527 D 1 '50

Hardening of high chromium steels by sigma formation; abstract. J. J. Gilman. Materials & Methods 32:8 D '50

Heat treatments, their selection and specification in design; hardness. N. N. Brown. il Machine Design 22:115-19 N '50

Hollow steel propeller blades for aircraft. il diags Engineering 172:225-7, pl 17 Ag 24 '51

Hot oil quenching reduces distortion in hardening of steel parts. K. Rose. il Materials & Methods 32:62-4 N '50

Liquid flame hardening used to selectively harden steel gear teeth. T. C. Du Mond. il Materials & Methods 33:74-5 Ja '51

Localized flame hardening of steel cutters reduces warpage; baler knives; International harvester co. A. P. Alexander. il Materials & Methods 33:76 Mr '51

Now, harder stainless; working stainless steel at 300° below zero doubles its hardness during laboratory study. Steel 128:352+ Ja 1 '51; Aviation W 54:33-4 Ja 15 '51; Mach 57:178-9 F '51; Chem Eng 58:254-6 Ja '51; il Westinghouse Eng 11:61 Mr '51

Plastic mold steels, their selection and treatment. L. F. Spencer. il Tool Eng 25:20-3 N '50; Abstract. Metal Prog 59:402+ Mr '51

Production processes; their influence on design; heat treating. R. W. Bolz. il Machine Design 23:98-107 O '51

Raising the limits of high speed steel machining. W. R. Frazer. bibliog il Tool Eng 26:33-7 Mr '51

Spoiled tool steels can be reclaimed. R. P. Seelig. il Iron Age 167:97-101 Ap 12 '51

Stainless steel that responds to low-temperature hardening; Armco 17-7 PH. Mach 57:188 Je '51

Two steels make our plastic molds. R. W. Brown. il Am Mach 95:112-13 Ja 8 '51

Uneven hardness gradients in quenched steels. H. O'Neill. il Metallurgia 44:29-31+ Jl '51

Work-hardening of mild steel by explosive attack. J. S. Rinehart. bibliog J Ap Phys 22:1086-7 Ag '51

See also

Case hardening

Steel—Aging

Steel, Heat treatment of

Steel, Quenching of

STEEL, Heat resisting

Alloy steel valve casting unimpaired after six years' service. T. N. Armstrong and R. J. Greene. Steel 127:66 D 25 '50

ASME high-temperature alloy-steel research progress reported. Mech Eng 73:527 Je '51

Application of alloy steels to high temperature steam turbine service. W. L. Fleishmann. bibliog il Blast F & Steel Pl 38:1183-6, 1447-50+ O, D '50

Designing with modern materials; survey of latest developments in engineering materials. il Machine Design 23:301-27 O '51

Early metallurgical development of the gas turbine engine. il Metallurgia 44:147-8 S '51

Experience with austenitic steels in high-temperature service in petroleum industry. M. E. Holmberg. il diags A S M E Trans 73:733-9 Ag '51; Same. Pet Processing 6:256-61 Mr '51; Discussion. A S M E Trans 73:739-42 Ag '51

High-temperature properties and characteristics of a ferritic steam-piping steel. A. W. Rankin and W. A. Reich. il A S M E Trans 73:891-8; Discussion. 898-904 O '51

High temperature steels and alloys for gas turbines; symposium. Engineer 191:313-14, 342-3, 373-4, 404-6 Mr 9-30 '51; Engineering 171:282-3, 312-13, 352, 380-1 Mr 9-30 '51; Metallurgia 43:119-26, 166-8+ Mr-Ap '51; Metal Prog 59:653-6+ My '51

High-temperature welded joints. R. H. English. il diags Welding J 30:907-10 O '51

Importance of silicon in niobium-bearing steels and alloys. H. J. Goldschmidt. il Metallurgia 43:157-60 Ap '51

Progress reported in high-temperature alloy-steel research project. Mech Eng 72:1025 D '50

Survey of the development of creep-resisting alloys. N. P. Allen. Engineering 171:235-8 F 23 '51

See also

Steel—Testing—Temperature effect

Testing

Navy studies jet structural alloys at intermediate temperatures. J. F. Erthal. il Iron Age 167:91-5 My 10 '51

STEEL, Heat treatment of

Continuous heat treatment improves pipe physical properties. C. A. Turner, jr. il diag Steel 129:97-8+ S 17 '51

Control salt bath when heat-treating high-speed steel. J. G. Morrison. Iron Age 167:63-6 My 31; 110-13 Je 7 '51

Effect of initial heating temperature on the mechanical properties of Ni-Cr-Mo steels. J. A. Wheeler and others. bibliog 2pls diag Iron & Steel Inst J 167:301-8 Mr '51

Effect of isothermal treatment on the mechanical properties of steel; with note on solder embrittlement. M. D. Jepson. Metallurgia 43:62-4+ F '51

Effect of structure on machinability demonstrated. N. Zlatin and L. Nowikowski. il Iron Age 168:95-8 Ag 2 '51

18-8 can be cured after intergranular attack. R. N. Gillmor. bibliog il Iron Age 168:81-5 Ag 2 '51

STEEL, Heat treatment of—*Continued*

Extension of the Ar_1 range with carbide formation in mild steel due to high-temperature treatment. J. H. Whiteley. 4pls Iron & Steel Inst J 164:399-405 Ap '50; Discussion. 167:372-4 Ap '51

Grain structure of aluminum-killed, low carbon steel sheets. R. L. Solter and C. W. Beattie. il J Metals 3:Trans 721-6 S '51

Heat treatment and properties of iron and steel. S. J. Rosenberg and T. G. Digges. il diags U S Nat Bur Stand Circ 495:1-33 bibliog(p32-3); pa 25c Supt. of doc. '50

Heat treatment in wartime Germany, G. Patchin and E. Brewin. Metal Prog 59:266+ F '51

Heat treatment inside out; stress-relieving large welded sulfite digesters. H. E. Linsley. il diags Am Mach 95:144 O 1 '51

Heat treatment of boiler steels; tabulation; reference book sheet. Am Mach 95:173 My 14 '51

Heat treatment of three per cent nickel-chromium case-hardening steel. H. D. Mansion. il Metallurgia 44:57-62 Ag '51

Heat treatments, their selection and specification in design. N. N. Brown. il Machine Design 22:88-93 O; 115-19 N; 137-42 D '50

High-strength heat-treated steels. G. Sachs and others. bibliog diags Iron Age 166:59-63 N 23; 76-80 N 30 '50

Homogenization of cast steels. M. T. Aktutay and P. C. Rosenthal. bibliog il Foundry 79:100-5+ Mr '51

How furnace moisture causes embrittlement. C. A. Zapffe. bibliog Iron Age 166:60-5 D 28 '50

How metallurgical control solves shop problems. T. A. Frischman. il Am Mach 95:145-60 O 1 '51

Metallurgical factors affecting drill-collar performance; abstracts. R. J. Stoup. diags Oil & Gas J 49:97-8+ Ap 12 '51; il Steel 128:90+ My 14 '51; Metal Prog 60:126+ Ag '51

Metallurgy in tool design and production. E. D. Wiard. il Mach 58:144-8 S '51

Microhardness of constituents in steel tested. H. A. Unckel. il Iron Age 168:68-71 Ag 30 '51

Multiply spring life without changing design; Web Wilson oil drill pipe tong. C. W. Oicles and F. K. Landecker. il diag Iron Age 166:80-2 D 21 '50

Navy studies jet structural alloys at intermediate temperatures. J. F. Erthal. il Iron Age 167:91-5 My 10 '51

Production and metallurgical characteristics of mining hollow drill steel in Australia. D. Clark. il Metallurgia 43:161-6 Ap '51

Production processes; their influence on design; heat treating. R. W. Bolz. il Machine Design 23:98-107 O '51

Selecting and processing steels for lamination dies. L. F. Spencer. bibliog Tool Eng 26:42-4 Je '51

Steam treatment increases high-speed tool life. H. Chase. il Iron Age 168:126-8 S 20 '51

Suggested heat treatment and forming data for boiler and pressure vessel steels; tabulation. Welding J 29:sup622 D '50

Technical forum on progress in metalworking; heat treating. Steel 128:162-4+ Ja 1 '51

See also

Case hardening

Steel, Quenching of

Bibliography

Mid-century reference of heat treating; complete and modern index of references on time-temperature-transformation reactions; ferrous and nonferrous metals. F. R. Morral. bibliog(334 titles) Iron Age 167:267-8+ Ja 4 '51

STEEL, Molten

Activity of sulphur in liquid steel; the influence of copper. T. Rosenqvist and E. M. Cox. bibliog diag J Metals 188:Trans 1389-93 N '50

Continuous temperature measurement of liquid steel in the furnace. D. Hardwick and H. Everard. diags Iron & Steel Inst J 166:147-8 O '50

Determination of hydrogen in liquid steel. R. M. Cook and J. D. Hobson. Iron & Steel Inst J 169:24-5 S '51

New molten steel thermocouple has speed, low weight. diag Blast F & Steel Pl 39:469 Ap '51

Sampling and analysis of liquid steel for hydrogen. D. J. Carney and others. bibliog diags J Metals 188:Trans 404-13 F '50; Discussion. 188:Trans 1334-5 N '50

Study of metal flow in sand molds. G. Di Sylvestro. il diags Foundry 79:104-9+ O '51

STEEL, Nickel clad

Aircomatic welding of nickel and stainless-clad steels. T. T. Watson and R. R. Rothermel. il Welding J 30:sup 116-22 Mr '51

STEEL, Powdered

Mechanical properties of stainless steel powder. A. H. Grobe and G. A. Roberts. il J Metals 191:Trans 125-30 F '51

STEEL, Quenching of

Effect of cooling rate on the aging of structural steels. C. R. Felmley and others. flow charts diags Welding J 30:sup451-8 S '51

Evaluation of the hardening power of quenching media for steel. E. J. Eckel and others. il diags Ill U Eng Exp Sta Bul 389:1-131 bibliog(p130-1) '51 (pa $1.50)

Good carburizing practice; how to select case depth and refine the case. T. A. Frischman. il diags Am Mach 95:128-31 F 5 '51

High speed quenching oils increase surface hardness. W. J. Reitze. il Steel 128:72-4 Je 18 '51

Hot oil quenching expands use of carbon steels. J. H. Greene. diag Steel 129:64-7 O 1 '51

Hot oil quenching reduces distortion in hardening of steel parts. K. Rose. il Materials & Methods 32:62-4 N '50

Mass marquenching speeds gear output. W. B. Cheney and W. C. Hiatt. il Steel 128:72-4 F 12 '51

Quench controller for steel. W. K. Halstead and L. D. Jaffe. il diags Electronics 23:109-11 N '50

Uneven hardness gradients in quenched steels. H. O'Neill. il Metallurgia 44:29-31+ Jl '51

STEEL, Reinforcing

A305 bars may need hooks. M. J. Hakan. Eng N 146:44 My 17 '51

Economy through better control of reinforcing steel. F. Tessitor and P. Rosewarne. bibliog il Am Concrete Inst J 22:333-40 D '50

Menzel wins CRSI award for development of A305 bar. Am Concrete Inst J 22:sup14 My '51; Excerpt. Concrete 59:8 My '51

New deformation patterns improve bond of reinforcing bars. C. A. Willson. il Civil Eng 21:144-7 Mr '51

Relationship of fly ash and corrosion in reinforced concrete. J. P. Ryan. bibliog Am Concrete Inst J 22:481-4 F '51

STEEL, Stainless

Are stainless conveyor belts commercially feasible? il Steel 127:100-1 N 13 '50

Austenitic stainless steels; typical properties; table; engineering file facts. Materials & Methods 33:99, 101 My '51

Automatic grinder cuts stainless conditioning costs. W. G. Patton. il Iron Age 168:90-1 S 27 '51

Automatic spinning of stainless steel in production. L. W. Court. il Materials & Methods 33:86-7 My '51

British firm cuts stainless manufacturing costs. Steel 127:94 D 4 '50

Building with stainless skin; 41-story office building in Pittsburgh. il Eng N 146:40-1 F 22 '51

Case histories of stainless roofs. R. E. Paret. il diags Sheet Metal Worker 42:35-6+ Ag '51

Cerium increases use of wrought stainless. il Iron Age 167:106 Je 7 '51; Machine Design 23:119 Jl '51; Product Eng 22:182 Jl '51

Chemical engineering materials of construction; stainless steels and other ferrous alloys. W. A. Luce. il Ind & Eng Chem 43:2258-71, 2288-9 bibliog(328 ref, p2269-71) O '51

Cleaning and finishing stainless steels. T. C. Du Mond. il Materials & Methods 33:93-104 Ap '51

Conservation of columbium. J. F. Tyrrell. bibliog il Metal Prog 58:63-8 Jl '50; Abstract. S A E J 59:108-9 F '51; Discussion. Metal Prog 58:691-708+ N '50

STEEL, Stainless—*Continued*

885°F. embrittlement of the ferritic chromium-iron alloys. J. J. Heger. bibliog il Metal Prog 60:55-61 Ag '51

Electroplating stainless steels. J. Haas. bibliog il diags Metal Finishing 49:50-4 Je '51

Embrittling effect of steam on stainless at elevated temperatures. C. A. Zappfe and F. E. Landgraf. bibliog il Steel 128:54-7+ Ap 30 '51

Forming problems with stainless steel sheet metal. il diag Automotive Ind 105:42-4+ Jl 15 '51

Fractographic pattern for 475°C embrittlement in stainless steel. C. A. Zapffe. il J Metals 3:Trans 247-8 Mr '51

German and American stainless compared. C. A. Zapffe. Iron Age 167:56-60 Ja 25 '51

High temperature properties of stainless steel tubing; tabulation; engineering file facts. Materials & Methods 34:113 S '51

How to reduce pickling brittleness in stainless steels. C. A. Zapffe. Materials & Methods 32:74-7 N '50

Identification of three stainless alloys simplified. A. W. Smolla. il Iron Age 167:97-8 Je 21 '51

M-14 nickel order as it affects stainless. Sheet Metal Worker 42:37-8 Mr '51

Mechanical properties of stainless steel powder. A. H. Grobe and G. A. Roberts. il J Metals 191:Trans 125-30 F '51

New developments in flame cutting stainless steel. G. E. Bellew. il diag Welding J 30:265-8 Mr '51

Nitriding stainless steels for better wear resistance; Malcomizing process. S. Low. il diag Steel 129:82+ Ag 6 '51

Now, harder stainless; working stainless steel at 300° below zero doubles its hardness during laboratory study. Steel 128: 352+ Ja 1 '51; Aviation W 54:33-4 Ja 15 '51; Mach 57:178-9 F '51; Chem Eng 58: 254-6 Ja '51; il Westinghouse Eng 11:61 Mr '51; Mech Eng 73:507 Je '51

Partial stabilization of stainless steels. S. F. Urban. Metal Prog 59:815 Je '51

Power spinning eliminates annealing and descaling; stainless steel bowls for cream separators. L. W. Court. il diags Am Mach 94:114-15 D 25 '50

Properly treated titanium-stabilized 18-8S stainless steel. M. G. Fontana. il Ind & Eng Chem 43:sup69A-70A+ Ja '51

Recent progress in the production and fabrication of stainless steels with particular reference to sheet and strip. il plan Metallurgia 42:367-71 D '50

Relation of structure of stainless steel to hot ductility. F. K. Bloom and others. bibliog il Metal Prog 59:250-6 F '51

Sigma phase in stainless. G. V. Smith. bibliog il Iron Age 166:63-8 N 30; 127-32 D 7 '50

Sigma phase in stainless steels. M. G. Fontana. il Ind & Eng Chem 43:sup91A-2A Jl '51

Sorption of gases on metals at room temperature. A. L. McClellan and N. Hackerman. bibliog J Phys & Colloid Chem 55:374-82 Mr '51

Stainless high alloy steels; current developments affecting the pulp and paper industry. J. M. Wilcox and J. T. Gow. Paper Tr J 133:80+ Jl 13 '51; Abstract. Paper Ind 33:550 Ag '51

Stainless is growing apace. R. E. Paret. il Metal Prog 59:58-61 Ja '51

Stainless jackets for cold water exterior risers; incorporating the entire layout into the design treatment of the facade. il diags Sheet Metal Worker 42:44+ N '50

Stainless on copper halts lithium attack. Iron Age 168:114 Ag 16 '51

Stainless steel castings, valves and fittings beat corrosion in paper industry. N. S. Mott. bibliog il Paper Tr J 132:31-2+ Ja 26 '51

Stainless steel lining of a pulp mill digester. S. C. Johnson and N. J. Gibson. il diags Paper Tr J 133:20+ S 14 '51

Stainless steel production, 1948-1949; tabulation. Steel 128:122 Ja 1 '51

Stainless steel shipments, 1947-1950; tabulation. Iron Age 167:289 Ja 4 '51

Stainless steel sphere fabricated from shaped plates to contain 200 gal. of liquid nitrogen. il Steel 128:82 Mr 26 '51; Mach 57:187 Je '51; Welding J 30:538-9 Je '51

Stainless steel that responds to low-temperature hardening; Armco 17-7 PH. Mach 57: 188 Je '51

Stainless steel, USS 17-TV, for video vacuum tubes. Mech Eng 72:911 N '50

Stainless steel vital to aircraft research; used for lining supersonic wind tunnel; Lewis flight propulsion laboratory. il Steel 128:86+ Je 11 '51

Stainless steels in pulp and paper equipment. H. O. Teeple. bibliog Paper Ind 33: 52-4 Ap '51

Stainless steels; modern electrical applications to strip and sheet production. il Elec R (Lond) 148:471-7 Mr 9 '51

Substitute grades suggested for scarce stainless steels. K. Rose. il Materials & Methods 33:87-8 Mr '51

Sulphur vs. construction materials. J. R. West. Chem Eng 58:282-4 S '51

Temperature and stress rate affect fractology of ferritic stainless. C. A. Zapffe and C. O. Worden. bibliog il Iron Age 167:65-9 Je 28 '51

Two new precipitation hardening stainless steels; 17-7PH and 17-4PH. M. G. Fontana. Ind & Eng Chem 43:sup89A-90A Je '51

See also

Chromium nickel steel
Chromium steel
Nickel steel

Analysis

See Steel—Analysis

Specifications

Stainless-steel specifications; reference book sheet. Am Mach 95:163, 165, 167 O 15 '51

Testing

Notch-bend test. C. A. Zapffe and C. O. Worden. bibliog il Welding J 30:sup47-54 Ja '51

Static friction tests with various metal combinations and special lubricants. H. S. White and D. Zei. il J Res Nat Bur Stand 46:292-8 Ap '51

Tensile failure of carbon and stainless steel wires in the presence of water and hydrogen sulphide. J. E. Truman. il Metallurgia 43:8-10 Ja '51

Welding

Aircomatic welding of austenitic stainless steels. W. G. Benz, jr. and J. S. Sohn. bibliog il diags Welding J 30:911-26 O '51

Arc-welding stainless steel without columbium. R. K. Lee. il diags Welding J 30: 447-9 My '51; Same abr. Mach 57:191-2 Mr '51; Same. Steel 128:71-2 Mr 19 '51

Corrosion data of welded low-carbon stainless steel. H. F. Ebling and M. A. Scheil. bibliog il diag Welding J 30:sup511-18 O '51

Cost of welding stabilized stainless. D. W. McDowell, jr. il Metal Prog 59:650-2 My '51

Diesel manifolds economically repaired. il Welding J 29:1004 N '50

Effect of prior treatment on precipitation of sigma phase. G. V. Smith and others. bibliog il Welding J 30:sup385-96 Ag '51

Physical and welding metallurgy of chromium stainless steels. H. Thielsch. il Welding J 30:sup209-50 bibliog(213 ref, sup248-50) My '51

Physical metallurgy of austenitic stainless steels. H. Thielsch. il Welding J 29:sup577-621 bibliog(257 ref. p620-1) D '50

Plug welding shortcuts jacketed vessel production. il Steel 127:89 N 6 '50

Removes weld discoloration. Steel 127:126 D 18 '50

Removing weld discoloration from stainless steel. il Mach 57:178 F '51; Welding J 30: 271 Mr '51; Sheet Metal Worker 42:40+ Ap '51

Spherical pressure tank welded from stainless plate; illustrations with text. Metal Prog 59:516-17 Ap '51

Welding and its effect on the corrosion resistance of stainless steel. E. W. Hopper. il Welding J 30:503-7 Je '51

Welding copper-bearing stainless steels. H. Thielsch. bibliog il Welding J 30:sup341-7 Jl '51

STEEL, Stainless—Welding—*Continued*

Welding high-temperature austenitic steel piping. R. W. Emerson and M. Morrow. bibliog(38 titles) il Welding J 30:sup 15-33; Discussion. sup33-9 Ja '51

Welding stainless steel containers to meet sanitary standards. P. H. Mounts. il diags Welding J 30:33-9 Ja '51

STEEL, Stainless clad

Aircomatic welding of nickel and stainless-clad steels. T. T. Watson and R. R. Rothermel. il Welding J 30:sup 116-22 Mr '51

STEEL, Strip

Annealing atmospheres for tin plate strip. J. R. Trimble and J. E. Hill. Iron & Steel Eng 28:70-3; Discussion. 73 Ap '51

Cold-rolled and hot-rolled strip; prices; 1929-1950; tabulations. Iron Age 167:293 Ja 4 '51

Cold rolling strip. J. D. Keller. bibliog diags Steel 128:76+ F 19; 92+ Mr 5; 80+ Mr 19; 84+ Mr 26; 98+ My 14; 129:86+ Jl 9; 78+ Jl 23; 88+ Ag 13 '51

Cold rolling with strip tension. H. Ford and others. bibliog diags Iron & Steel Inst J 168:57-72 My '51

Continuous annealing arousing industry interest. W. R. Weir. il Steel 128:68+ Ap 30 '51; Excerpts. Iron & Steel Eng 28:86 Mr '51

Effect of tension on torque and roll force in cold strip rolling. W. C. F. Hessenberg and R. B. Sims. bibliog Iron & Steel Inst J 168:155-64 Je '51

Finishing plant for Detroit steel corp.; strip mill and distribution center, Hamden, Conn. il plan Arch Rec 109:132-5 F '51

French building two continuous hot strip mills. il Steel 127:110+ D 11 '50

Non-contacting thickness gages for flat rolled steel products; abstracts. W. A. Black. Iron & Steel Eng 28:132-4 Ag '51; Metal Prog 60:130+ Ag '51

Recent progress in the production and fabrication of stainless steels with particular reference to sheet and strip. il plan Metallurgia 42:367-71 D '50

Steel industry statistics; finished steel. Steel 129:130-5 O 1 '51

Steel strip experimentally rolled from powder; tr. by B. M. Pearson. F. Zirm. bibliog diag Iron Age 167:110-14 F 1; 95-9 F 15 '51

Steel strip feeding machine. il Engineer 191:621 My 11 '51

Ultra-fast mill helps meet strip shortage; McLouth Steel's new hot rolled strip mill. D. I. Brown. il plan diag Iron Age 166:67-70 O 26 '50

STEEL, Structural

Effects of light peening on the yielding of steel. H. L. Harrison and B. D. Mills, jr. il diag Welding J 30:sup251-3 My '51; Same cond. Roads & Sts 94:53-4 Ag '51; Discussion. N. H. Polakowski. Welding J 30:sup450 S '51; Reply. 30:sup485 O '51

Fabricated structural steel by months, 1923-1950; tabulation. Iron Age 167:291 Ja 4 '51

Not enough steel, say AF and industry. W. Kroger. Aviation W 55:13-15 S 10 '51

Protection of structural steel against atmospheric corrosion. J. C. Hudson; W. A. Johnson. bibliog il pl diags Iron & Steel Inst J 168:165-80 Je '51

Structural steel fabricators, Canada; directory. Roads & Eng Constr 89:118 Je '51

See also

Bridges, Iron and steel
Concrete, Reinforced
Partitions, Steel
Steel, Aircraft
Steel, Automobile
Steel, Reinforcing
Steel construction

Manufacture

Drafting problems encountered in structural steel fabrication. R. M. Sherman. J Eng Educ 41:615-20 Je '51

Prestressing

American engineer studies prestressing of structural steel. diags Civil Eng 20:746 N '50

Prestressed-steel structures. G. Magnel. Engineering 170:386 N 17 '50

Testing

Statistical analysis of tests of Charpy V-notch and keyhole bars. J. A. Rinebolt and W. J. Harris, jr. Welding J 30:sup 202-8 Ap '51

Welding

Automatic welder fabricates heavy beams from plates. R. E. Peterson. il Constr Methods 33:82-3 Ag '51

Effect of cooling rate on the aging of structural steels. C. R. Felmley and others. flow charts diags Welding J 30:sup451-8 S '51

Spot welding of scaly heavy-gage structural steel. E. F. Nippes and J. N. Ramsey. il Welding J 30:sup327-36 Jl '51

Static and fatigue tests on spot-welded trusses. A. S. Joukoff. il diags Welding J 30:sup264-5 My '51

Testing the tendency of weldable structural steel toward brittle fracture. E. Folkhard. Welding J 30:sup414-15 Ag '51

Welded reinforcement of openings in structural steel members. D. Vasarhelyi and R. A. Hechtman. il diags Welding J 30:sup 182-92 Ap '51

STEEL, Tool. See Tool steel

STEEL alloys

Alloy boosters. Bsns W p56 Ag 11 '51

Alloy steel production by processes, 1934-1950; tabulation. Steel 128:122 Ja 1 '51

Alloy steels now workable while hot; Carpenter steel co. il Chem Eng Prog 47:sup22 Jl '51

Carbon and low alloy steels; developments during the past 21 years. I. M. Mackenzie. Metallurgia 42:282-4 N '50

Cobalt used in steel for many military uses. Blast F & Steel Pl 39:sup46 Ap '51; Same. Sheet Metal Worker 42:45 Ap '51

Designing with modern materials; survey of latest developments in engineering materials. il Machine Design 23:298-310 O '51

Effect of alloying elements on true-stress true-strain flow curves of pearlitic steel. R. Raring and others. bibliog J Metals 3:Trans 395-400 My '51; Discussion. 3:Trans 1065-6 N '51

Few alloy fears. Bsns W p80-1 Ja 13 '51

Good carburizing practice; choose steels for case and core properties. T. A. Frischman. il Am Mach 95:90-3 Ja 8 '51

High-stress fatigue of alloy steels; charts; reference book sheet. T. T. Oberg and W. J. Trapp. Product Eng 22:159, 161, 163 Ja '51

Leaner alloys developed. Steel 128:38-9 F 19 '51

Materials casebook; steel users must conserve alloying elements. il Product Eng 22:131-3 O '51

New AISI steels conserve Mn, Ni, Cr and Mo. Steel 128:116+ Mr 12 '51

New cerium-bearing alloy steels offer greater hot ductility. il Steel 128:98 Je 4 '51; Machine Design 23:119 Jl '51; Materials & Methods 34:152+ Jl '51

New steel; Carilloy T1. Welding J 29:1126 D '50; Same cond. Automotive Ind 103:88+ D 1 '50; Same cond. Mech Eng 73:20 Ja '51

New steel compositions to conserve critical alloying elements; tabulations; engineering file facts. Materials & Methods 33:105, 107 Ap '51

New steels conserve critical alloys. il Mill & Factory 49:90-1 Jl '51

Rare vanadium, an active steel alloy. Blast F & Steel Pl 39:702-3 Je '51

Saving precious alloys by intelligent use of alternatives; panel discussion. il Metal Prog 59:817-30 Je '51

Steel alloys cut. Bsns W p32 Ja 27 '51

Subject; substitutions; editorial. E. E. Thum. Metal Prog 59:51-3 Ja '51

What's new in mold making. J. L. Morrison. il India Rubber World 123:191-2 N '50

See also

Chromium nickel steel
Chromium steel
Ferroalloys
Iron alloys
Molybdenum steel
Nickel chromium steel
Nickel steel
Silicon steel
Steel, Automobile
Steel, Stainless
Steel, Structural
Tool steel
Vanadium steel
Worthite

Marking

Birthmarking alloy steels would save time and material. il Steel 127:54-6 D 25 '50

STEEL alloys—*Continued*

Testing

Physical and mechanical properties of segregates in two alloy steels. H. M. Finniston and T. D. Fearnehough. bibliog 4pls diags Iron & Steel Inst J 169:5-12 S '51

STEEL bars

Centerless turning of bars, billets and tubes. W. Siegerist. il diags Iron & Steel Eng 28:67-74; Discussion. 74-5 My '51

Evaluation of macroscopic residual stresses in cylindrical bars. H. Föppl. bibliog il diags Iron & Steel Inst J 168:15-23 My '51

Mechanical hands carry bars for 33 per cent less. B. C. Brosheer. il diags Am Mach 95:133-5 Ap 16 '51

Steel industry statistics; finished steel. Steel 129:130-5 O 1 '51

See also

Steel, Reinforcing

STEEL brothers and company, limited

Statement by the chairman. J. K. Michie. Economist 160:1531-2 Je 23 '51

STEEL buildings

Easily-erected steel buildings serve many purposes. il Coal Age 55:108 N '50

New Marine corps hangar is open and shut case. il Eng N 147:42 Jl 12 '51

Packaged steel building cuts cost and erection time. M. C. Heffelman. il Elec World 135:124 Mr 26 '51

Prefabricated steel toll booths on Penn turnpike extensions. il Eng N 147:44 Ag 2 '51

See also

Steel construction

STEEL castings

Adherence of sand on steel castings. P. R. Beeley and H. T. Protheroe. bibliog il 4pls diags Iron & Steel Inst J 167:141-57 F '51

Alloy steel valve casting unimpaired after six years' service. T. N. Armstrong and R. J. Greene. Steel 127:66 D 25 '50

Babcock & Wilcox tube company develops continuous casting. I. Harter, jr. bibliog il plan diags Iron & Steel Eng 27:57-62 D '50

Cast cutters for machine tools. il Electrician 146:909 Mr 16 '51

Cast milling cutters. Engineer 191:358-9 Mr 16 '51

Cast milling cutters; B.S.A. development for greater efficiency and lower costs. il Automobile Eng 41:132-4 Ap '51

Cast weld construction. J. O. Felt. il Welding J 30:415-23 My '51

Cast-weld design. il Machine Design 23:137-40 O '51

Casting steel crankshafts; Auto specialties manufacturing co. E. Bremer. il plan Foundry 79:84-7+ Mr '51

Casts 150-ton steel anvil block in a single mold; Continental foundry & machine co. il Foundry 78:150 N '50

Centrifugal casting for critical components. H. Cooper. il Machine Design 22:131-2 N '50

Centrifugal steel castings for gas turbines; abstract. J. Taylor and D. H. Armitage. Metal Prog 59:868+ Je '51

Centrispun high-alloy steel aero-engine components; abstract. A. E. Thornton and J. I. Morley. Metal Prog 60:116+ S '51

Continuous casting of steel. I. Rossi. J Metals 3:227-8 Mr '51

Continuous casting of steel at Babcock & Wilcox tube co. I. Harter, jr. il diags J Metals 3:223-6 Mr '51; Abstracts. Iron Age 166:66-7 D 28 '50; Mech Eng 73:25 Ja '51; Discussion. Iron Age 166:67 D 28 '50

Continuous casting of steel considered ready for market. Materials & Methods 33:154+ Ap '51

Continuous steel casting pilot plant proves successful. D. I. Brown. il diags Iron Age 168:113-18 S 20 '51

Conversion to castings results from foundry engineering; trailer-hitch unit. il Foundry 79:80-1 Ja '51

Deoxidizing in the ladle with Carbortam. W. O. Igelman and D. A. Finch. J Metals 188:1439-41 D '50

Faster cooling, key to Jacquet continuous casting method. diags Steel 127:108+ D 4 '50

Foundry pours burglar-proof doors; cast steel safe doors. il Iron Age 167:68-9 Ja 18 '51

Good steel casting design improves quality and reduces costs. C. W. Briggs. diags Materials & Methods 33:68-71 F '51

High tide for pourers of high alloy steel castings. il Steel 129:45-6 Ag 27 '51

Homogenization of cast steels. M. T. Aktutay and P. C. Rosenthal. bibliog il Foundry 79:100-5+ Mr '51

Horizontal continuous casting machine, patented by J. F. Jacquet. diags Iron & Steel Eng 28:144+ Ja '51

Interest in continuous steel casting gains momentum. Steel 127:68+ D 25 '50

Investigation of new special deoxidizers. C. G. Mickelson. il J Metals 188:1311-1311C N '50

Manufacture of cast steel rolls. S. R. Robinson. Foundry 78:188+ D '50

New continuous casting development. I. Harter. Iron Age 166:100-1 N 16 '50

Plus and minus of steel precision investment castings. A. C. Williams. il diag Materials & Methods 33:88-90 My '51

Product engineering and development of new casting design; abstract. A. H. Suckow. Steel 128:98 Ja 22 '51

Profits and good will through product development; abstract. A. S. Breithaupt. Steel 128:96 Ja 22 '51

Radiographic inspection of steel castings. J. M. Flanagan. il diag Instruments 24:655+ Je '51

Scrap down, quality up, through statistical control systems. H. H. Johnson. il Steel 128:76-9+ My 21 '51

Steel castings; abstracts of papers, A.F.S. annual meeting. Foundry 79:146+ Jl '51

Steel castings and defence. Economist 160:938-9 Ap 21 '51

Steel castings and welding can be combined successfully. P. O'Keefe. il Materials & Methods 34:73-5 Jl '51

Steel castings; past, present and future. J. F. B. Jackson. il Metallurgia 42:285-8 N '50

Steel castings support 18,000-ton load; new Narrows bridge. Materials & Methods 33:158+ Ap '51

Steelmaking for castings. J. H. Hall. il diags Foundry 79:98-9+ Mr; 128-9+ Ap; 101+ My; 109+ Je; 77+ Jl '51

Study of metal flow in sand molds. G. Di Sylvestro. il diags Foundry 79:104-9+ O '51

Things we know and don't know about cast steel. C. E. Sims. il diags Foundry 79:92-7+ S '51

Statistics

Steel castings production; iron and steel foundry employment; earnings, gray iron and semisteel foundries; earnings, steel casting industry; tabulations. Iron Age 167:338 Ja 4 '51

Steel castings shipments; gray iron castings shipments; malleable castings, shipments and orders. Iron Age 167:339 Ja 4 '51

Steel ingots and castings, pig iron and ferroalloys output by countries, 1943-1950; tabulations. Steel 128:120-1 Ja 1 '51

Testing

Hot-tearing of steel. J. M. Middleton and H. T. Protheroe. bibliog 3pls diags Iron & Steel Inst J 168:384-400 Ag '51

Nickel-chromium-molybdenum steel valve casting after 50,000 hours of service at 900 F. T. N. Armstrong and R. J. Greene. il A S M E Trans 73:751-3; Discussion. 753-4 Ag '51

STEEL company of Canada

Growing industrialization in Canada assures continued company gains. J. Dickson. Barron's 30:17-18 O 16 '50

STEEL construction

Building with stainless skin; 41-story office building in Pittsburgh. il Eng N 146:40-1 F 22 '51

Erector set construction used in test laboratory at El Segundo, Calif. plant of Douglas aircraft co. G. C. Close. il Steel 128:75 Je 18 '51

Life begins at forty; San Jacinto hotel in Houston being converted into an office building. R. B. Reilly. il Eng N 146:32 Je 7 '51

STEEL construction—*Continued*

Office building designed for flexibility; Esso standard oil co. office at Baton Rouge, La. il plan diags Eng N 146:43-5 Ja 25 '51

San Francisco steel-saving school has zig-zag roof; Y-shaped concrete slabs separate classrooms. il plans diag Arch Forum 95: 132-3 Ag '51

Saving $75,000 on floor costs; Marylander apartment house in Baltimore. il Eng N 146:39 My 10 '51

Specs written for high-tensile bolts. Eng N 146:73 Mr 29 '51

Steel saved in lightweight building; Republic National Life building, Dallas; with cost data. J. A. Murlin. il Arch Rec 109:188-90 Je '51

See also

Concrete, Reinforced
Riveting
Roofs, Steel
Steel, Structural
Steel houses
Towers, Steel

Concrete encasement

Bulkhead on scroll case allows one-pour encasement; hydroelectric units installed at Center Hill dam on Caney Fork river, Tenn. il Eng N 145:42 N 2 '50; Elec World 134: 98 D 18 '50

Design

Base plates for fixed-end columns should be designed to resist uplift. S. W. Waterman, jr. diag Civil Eng 21:218-19 Ap '51

Buckling of rigid-jointed plane trusses. N. J. Hoff and others. bibliog il diags Am Soc C E Proc 76 [no 24]:1-29 Je '50; Discussion. 77 [no D-24]:1-12 My '51

Design of rigid frame buildings. M. P. Korn. il diags Welding J 30:309-13 Ap '51

Effect of eccentricity on steel columns cannot be safely ignored. P. Rogers. diag Civil Eng 21:475-6 Ag '51

Elastic restraint equations for semi-rigid connections. J. E. Lothers. diags Am Soc C E Proc 76 [no 5]:1-15 F '50; Discussion. 76 [no D-5]:1-8 N '50

Engineering in the Festival of Britain; Skylon at the South Bank exhibition. il diags Engineering 171:589-92, pl 57-8 My 18 '51

How can I figure supports for a horizontal tank? T. E. Bridge. Heating-Piping 23: 88-9 Je '51

Stability and strength of slender beams. A. R. Flint. il diags Engineering 170:545-9 D 22 '50

Strength of I-beams in combined bending and torsion. B. Sourochnikoff. diags Am Soc C E Proc 76 [no 33]:1-18 S '50; Discussion. 77 [no D-33]:1-6 S '51

Weight saving means money saving on Los Angeles building group. il plan Eng N 146: 39-41 Ap 26 '51

Welded rigid frames span 224 ft. for coliseum with large unobstructed arena; Allen county war memorial coliseum. R. E. Coblentz. il plan diags Eng N 147:28-32 Jl 12 '51

Erection

Crane on skids rises with building to erect steel on 17-story apartment. il Constr Methods 33:54-5 S '51

Welding

Arc welding in home building. J. D. Bert. il plan Welding J 30:263-4 Mr '51

Connections for welded continuous portal frames. A. A. Topractsoglou and others. bibliog il diags Welding J 30:sup359-84, 397-405 Jl-Ag '51

Design of rigid frame buildings. M. P. Korn. il diags Welding J 30:309-13 Ap '51

Design stresses in fillet weld connections; abstract. F. Koenigsberger. Engineer 191:479 Ap 13 '51

Digester installation at Columbia Cellulose. il diag Pulp & Pa of Can 52:136-7 Je '51

Houston goes all out for welding. il diags Eng N 146:43-4 Ja 11 '51

How to save 30 per cent on steel. diags Arch Forum 94:113+ My '51; Discussion. 95:152+ Ag '51

Interpretive report on box girders and small specimens. L. Grover and others. il plan diags Welding J 30:sup321-6 Jl '51

Laboratory tests of welded rigid frames. Eng N 145:29 N 9 '50

Load distribution in riveted and spot-welded joints; abstract. D. Williams. Engineer 191: 479 Ap 13 '51

Stress distribution in plastic range in a rigid frame. L. E. Grinter and others. il diags Welding J 30:sup 125-34 Mr '51

Stress relieving and fracture strength. D. Swan and others. bibliog diags Welding J 30:sup 135-45 Mr '51

Welded aircraft hangar. O. Brødsgaard. il diags Welding J 30:461-2 My '51

Welded continuous frames and their components; plastic design and the deformation of structures. Ching Huan Yang and others. bibliog diags Welding J 30:sup348-56 Jl '51

Welded exposition building. M. Cosandey. il diags Welding J 30:sup470-1 S '51

Welded factory building in Italy. il diags Welding J 30:534-5 Je '51

Welded frame allows re-use of century-old building. E. E. Goehringer. il Eng N 146: 37 Je 14 '51

Welded frames cut costs of six-story building. il diags Eng N 145:35-6 D 14 '50

Welded rigid frames span 224 ft. for coliseum with large unobstructed arena; Allen county war memorial coliseum. R. E. Coblentz. il plan diags Eng N 147:28-32 Jl 12 '51

Welding a ten-story VA hospital. R. A. Phelps. il Eng N 146:32-5 Je 21 '51

Welding saves in three tall buildings. L. Grover and A. E. Pearson. il Eng N 146: 35-7 F 8 '51

Welding saves structural steel. T. R. Mullen. il Arch Rec 109:144-6 Mr '51

Welding trims steel from heavy trusses; additions to Mt Sinai hospital, New York. L. Grover and G. D. Fish. il diags Eng N 147: 30-2 Ag 2 '51

Welding versus waste. A. Cibulka. il diags Welding J 30:831-2 S '51

STEEL containers. See Containers, Steel

STEEL cutting

Contour machining of propeller blades. T. P. Williams. il Mach 57:154-7 Jl '51

Cutting equipment speeds steel mill scrap reduction. il Welding J 30:638-9 Jl '51

Edge preparation of plate for welding. C. A. Heffernon. il diags Welding J 30:221-8 Mr '51; Same cond. Mach 57:182-6 F '51

Effect of manganese segregations on machinability; an application of microradiography. K. J. B. Wolfe and I. R. Robinson. il Metallurgia 43:3-7 Ja '51

Effect of structure on machinability demonstrated. N. Zlatin and L. Nowikowski. il Iron Age 168:95-8 Ag 2 '51

Gas cutting machine for hot cropping of blooms. W. S. Walker and A. C. Gerrard. il plan diags Iron & Steel Inst J 168:401-6 Ag '51

Hard steel grilled at a mile a minute. J. O. Outwater. diag Am Mach 95:87 Ap 2 '51

Hardness of oxygen-cut surfaces and their softening by heat treatment; abstract. G. Kritzler and H. Thier. Welding J 30:sup282 Je '51

Here's a fast way to drill holes in steel plate; illustrated instructions. Coal Age 56:108 S '51

High-speed machining of forgings; Ford motor co. C. H. Wick. il diags Mach 57: 147-51 F '51

Hints for cutting thick steel. O. J. Swan. diags Welding J 29:1103 D '50

Hot metal machining. S. Tour. Metal Prog 59:793-4 Je '51

How Lincoln-Mercury machines axle shafts. R. F. Paulson. il diags Iron Age 167:88-90 My 10 '51

How to cut steel; illustrated instructions. H. J. Diehl. Welding J 30:359-61 Ap '51

Hydraulic cropping machine. il Engineer 190: 509 N 24 '50

Increasing productivity in production machining. M. Field and N. Zlatin. S A E J 59:41-3 Ap '51

Lead-bearing steel improves machinability. H. J. Holquist. il Materials & Methods 33: 142+ F '51

Machinability depends on microstructure. R. Le Grand. il diag Am Mach 94:119-24 N 27 '50

Machinability measurements on constant-pressure lathes. F. W. Boulger. bibliog il diag Tool Eng 27:25-30 Jl '51

Machining problem investigated at Production engineering research association laboratories. diag Engineer 191:348 Mr 16 '51

STEEL cutting—*Continued*

Machining steel molds for curing rubber tires. A. Felton. il Mach 57:144-50 Ag '51

Metallurgical considerations in machining. M. C. Shaw and P. A. Smith. il diags Am Mach 95:89-92 Ag 20; 139-42 S 17; 130-2 O 15; 100-3 O 29 '51 (to be cont)

New developments in flame cutting stainless steel. G. E. Bellew. il diag Welding J 30:265-8 Mr '51

New method machines sintered carbides, sintered borides, hardened tool steels; Cavitron process. A. S. Cohan. il J Metals 3:216-17 Mr '51

Production rate chart for AISI 8640; reference book sheet. Am Mach 95:181, 183 O 1 '51

Selecting and processing steels for lamination dies. L. F. Spencer. il Tool Eng 26:25-7 My '51

Selective hardening enables machine speed-up; Buick div., General motors corp. D. Godby. il Iron Age 166:93-4 N 2 '50

Special setups aid accurate machining; producing record changer spindles. F. C. Schwietert. il diag Iron Age 167:93-5 Mr 29 '51

Superior machinability of MX explained. F. W. Boulger and others. bibliog il Iron Age 167:90-5 My 17 '51

Trepanning lathe, saves time and metal. il Steel 128:87-8 Mr 12 '51

U.S. air force machinability report, 1951. Am Mach 95:161-8 O 1 '51

We turned SAE 1045 at 2150 SFPM. F. J. Fields. il Am Mach 95:102-3 Mr 5 '51

STEEL doors. See Doors, Steel

STEEL drums. See Containers, Steel

STEEL forgings

Chemical bath blasts scale from forgings. il Am Mach 95:155 Je 25 '51; Automotive Ind 105:57 Jl 1 '51; Factory Management 109:198 Jl '51; Iron Age 168:86 Jl 5 '51; Product Eng 22:165 Jl '51

Chemical bath removes scale from forgings. il Materials & Methods 34:112+ Ag '51

Forging; trail to ingots is rocky. W. Patton. Iron Age 168:39 S 27 '51

Forgings descaled 90 per cent cheaper. il Steel 129:80-1 Ag 13 '51

High-frequency heating of forging billets. il plan Metal Prog 60:70-3 Jl '51

High-speed machining of forgings; Ford motor co. C. H. Wick. il diags Mach 57:147-51 F '51

Investigations into the effect of non-metallic inclusions on the hot-workability of steel. F. Rapatz and M. Strobich. bibliog il Iron & Steel Inst J 168:374-5 Ag '51

Manufacture, testing and inspection of turbine and turbo-alternator rotors for power stations. H. H. Burton. il diags Metallurgia 44:22-8 Jl '51

New forging technique saves scarce steel; C.B.S. steel & forge, inc. il Mill & Factory 49:132 S '51

Press forging; J. Garrington & sons ltd. il Automobile Eng 40:363-9 N '50

Recent developments in large closed-die forging. E. O. Dixon. il diag Mach 57:184-9 Mr '51

Roll-edging forging blanks saves steel; Ford motor co. il Steel 127:61 O 30 '50

Shipments of commercial steel forgings, 1946-1950; tabulation. Iron Age 167:340 Ja 4 '51

Testing

Intelligent testing and inspection of forgings assures high quality at lower cost. L. F. Spencer. bibliog il Materials & Methods 33:77-80 Mr '51

Thermal cracks in turbine and generator rotor forgings. A. W. Rankin and others. il diags Mech Eng 72:599-66 Jl '50; Discussion. 72:919-21 N '50

STEEL founders' society of America

Annual meeting, Chicago, March 19-21. Foundry 79:124+ My '51

Fall meeting, 48th, Hot Springs, Va. Sept. 25-26. Foundry 78:141-2 N '50

Technical and operating conference, 5th, Cleveland, Nov. 9-11. Foundry 79:118 Ja '51

STEEL handling

Automatic conveyer handles 400-lb doors. il Iron Age 166:95 N 2 '50

Barges place girder spans in Chesapeake Bay bridge. il Constr Methods 33:100-1+ S '51

One man does work of two; handling square shearing. il Factory Management 109:91 My '51

Power truck transportation in steel plants. C. S. Schroeder. il Iron & Steel Eng 27:66-8 O '50

Steel strip feeding machine. il Engineer 191:621 My 11 '51

See also

Steel construction—Erection

STEEL houses

Arc welding in home building. J. D. Bert. il plan Welding J 30:263-4 Mr '51

STEEL industry and trade

Big squeeze on structural steel, DPA warns; steel men blame overordering. Arch Forum 95:39+ Ag '51

Blunt talk on steel expansion; Ryerson and Wilson carry on duel. Bsns W p26 N 4 '50

Both as producer and consumer the steel industry has problems. J. E. Eberhardt. il Chem & Eng 29:644-6 F 19 '51

CMP metals; steel, aluminum, and copper. Survey of Cur Bsns 31:4-6 My '51

Developments in the iron and steel industry during 1950. I. E. Madsen. flow diag il map diags Iron & Steel Eng 28:109-37 Ja '51

'51 peak steel year. C. M. White. Steel 128:356-7 Ja 1 '51

Gripes mount on fast amortization. Steel 128:45-6 F 26 '51

Industrial executives speak out on key shortage questions. Mod Ind 21:66-7 Ja '51

Is steel supply easing up? Bsns W p21 Je 16 '51

Low productivity; serious threat to steel industry. C. M. White. Comm & Fin Chr 173:2241+ My 31 '51

Men of steel, or mice? H. S. Taylor. Barron's 30:5 N 20 '50

Mobilization impact on steel industry. B. S. Chapple, jr. Comm & Fin Chr 172:1700-1 N 2 '50

More aluminum, more steel coming. Bsns W p25 D 2 '50

New companies start in steel. Bsns W p20 F 3 '51

Next fifty years. J. H. Vohr. Iron & Steel Eng 28:89-92 My '51

1954 steel goal; 120 million tons. Steel 127:69 N 20 '50

120-million-ton steel capacity stymies critics. il map Mod Ind 21:72-3 Mr '51

Outlook for steel; high employment assures the industry's stability. O. M. Miller. Barron's 31:9 O 1 '51

Plain talk on steel; its prices are too low, not too high. B. Moreell. Barron's 30:5 O 23 '50

Problem of iron and steel. Engineering 171:683-4, 715-16 Je 8-15 '51

Raw materials; outlook good. il map Steel 128:45-7 Mr 26 '51

Shrinking steel. Bsns W p82+ My 12 '51

State of steel. J. C. Perham. Barron's 31:5 Je 18 '51

Steel beats its capacity goal. Bsns W p79-80 Ja 13 '51

Steel capacity in '52 set at over 120 million tons. J. Delaney. Iron Age 167:121-2 F 1 '51

Steel; capacity outstrips supply of raw materials. il map Bsns W p22-4 S 22 '51

Steel cut exaggerated. Mod Ind 21:80 Je '51

Steel expansion; how much and where. Steel 128:42-3 Ap 23 '51

Steel hike fuels inflation. Bsns W p26 D 9 '50

Steel importers seek price freeze relief. il Iron Age 167:108 F 8 '51

Steel industry in a defense economy. W. S. Tower. Comm & Fin Chr 173:2253+ My 31 '51

Steel industry, the Russian menace and good government. E. T. Weir. Comm & Fin Chr 173:2343+ Je 7 '51

Steel merger between Pittsburgh Steel and Allegheny-Ludlum? Bsns W p25 Ja 27 '51

Steel output and the utilities. T. N. Sandifer. Pub Util 47:92-7 Ja 18 '51

Steel shortage to restrict industry operations. R. E. Spann. World Oil 133:71-2 Ag '51

Steel's coke capacity grows for expansion. J. Delaney. Iron Age 166:79-80 N 23 '50

STEEL industry and trade—*Continued*

Steel's high output, far reaching expansion provide assurance for industrial strength of Nation. W. S. Tower. Blast F & Steel Pl 39:55-6 Ja '51; Same. Steel 128:340+ Ja 1 '51; Same. Comm & Fin Chr 172:2536 D 28 '50

Steel's problem; materials. il Bsns W p24-5 F 24 '51

Successful attack by chemists and chemical engineers on problems of steel producers. H. P. Munger. il Chem & Eng N 29:647-9 F 19 '51

Ten years in steel. H. W. McQuaid. Metal Prog 59:55-7 Ja '51

Unprecedented steel expansion program; abstract. T. C. Campbell. Comm & Fin Chr 173:449 Ja 25 '51

Where is all the steel going? B. S. Chapple, jr. Comm & Fin Chr 173:2149+ My 24 '51; Same. Pet Eng 23:A56+ S '51

Why assail the steel industry? C. M. White. Comm & Fin Chr 172:2185+ D 7 '50

Wilson puts the brakes on granting certificates of necessity for expansion of steel industry. Iron Age 167:110-11 Mr 8 '51

Writeoffs O.K.'d to include 18 steel companies. Bsns W p24 D 16 '50

Your business and mine; the petroleum industry is assured of resources by the steel industry. B. F. Fairless. Midwest Eng 3:6-7+ Ja '51; Same. Am Pet Inst Proc 30(1):31-5 '50

See also

Iron industry and trade
Rolling mills
Steel workers
Steel works
Tin plate

also Granite city steel company; Pittsburgh steel company

Advertising

Elements of Inland Steel's prize-winning direct mail plan. W. E. Geidt. Sales Management 65:48 N 10 '50

Plant city ads aid Kaiser Steel. il Ed & Pub 84:48 Mr 3 '51

Ryerson's offer draws war contract seekers; advertisements in house organs. Sales Management 67:70 Jl 1 '51

Directories

Company names and addresses. Steel 129:125-6 O 1 '51

Guide for steel buyers. Steel 128:37-80 Ja 15 '51 (reprints 50 cents)

Structural steel fabricators, Canada; directory. Roads & Eng Constr 89:118 Je '51

Finance

Defense expansion loan to Lone Star Steel. Bsns W p34+ Ja 20 '51

Financial analysis of the steel industry, for years 1947, 1948, 1949; data covers 26 companies representing 92 per cent of ingot capacity; tabulation. Iron Age 167:296 Ja 4 '51

Financial analysis of the steel industry, 1950-1949; operations of 26 companies; tabulation. Iron Age 167:insert Ap 12 '51

GM turns lender; to put up cash for Jones & Laughlin expansion. Bsns W p 111-12 D 16 '50

GM's in steel; helps finance Republic's expansion. Bsns W p26 My 19 '51

Operations reflect return of crisis economy; financial analysis of 30 companies. Steel 128:32a-32e Ap 30 '51

Rising costs, wages overshadow steel future. Iron Age 166:111-12 N 9 '50

Steel company earnings, 1950 and 1949; tabulation. Iron Age 167:107 F 8 '51

Steel profits, taxes, sales reach new highs. J. Delaney. Iron Age 167:126 Ap 12 '51

Survey of steel expansion shows $2 billion for plant. D. E. Reilly. Eng N 146:23-4 Ja 4 '51

Taxes, inflation nick steel earnings; steel industry's net profit in third quarter. Steel 127:59-60 N 6 '50

Regulation

CMP managers need hard facts on steel. Bsns W p 112 S 1 '51

Controls and the steel outlook. T. C. Campbell. Sheet Metal Worker 42:51 N '50

How DPA split structural steel; aluminum industry fares best. Bsns W p 144+ S 8 '51

NPA adds rules for handling steel orders. Iron Age 166:103-4 N 2 '50

NPA order to give fair shake to warehouses. Iron Age 166:83 O 26 '50

New rules on steel. Bsns W p76 D 9 '50

No more steel? DPA official says small third-quarter steel allotment for oil needs, no mistake. Oil & Gas J 50:178 Jl 26 '51

Not enough steel, say AF and industry. W. Kroger. Aviation W 55:13-15 S 10 '51

Steel for oil; NPA lays basis for priorities on steel for oil industry. B. F. Linz. Oil & Gas J 49:35-6 N 2 '50

Warehouses get steel share after priorities. Iron Age 166:102 N 16 '50

Securities

Look at the steel stocks; with tabulations. L. Stone. Comm & Fin Chr 173:1230 Mr 22 '51

Our expanding steel industry; with position of leading steel and iron companies. H. F. Travis. Mag of Wall St 88:613-15+ S 8 '51

Statistics

Defense program alters steel distribution pattern. Steel 129:66-7 S 17 '51

Exports and imports of iron and steel products: 1937 to 1950; tabulations. Iron Age 167:298 Ja 4 '51

Facts and figures on metalworking. Steel 128:120-8 Ja 1 '51

Metal industry facts; steel production, prices and markets. Iron Age 167:285-98 Ja 4 '51

Reshuffle of steel's top-dog ratings; with table of company rankings, 1938, 1948 and 1951. Bsns W p 102 O 13 '51

Steel expansion and demand. Survey of Cur Bsns 31:9-10+ Ag '51

Steel industry statistics. Steel 129:121-36 O 1 '51

Steelmaking use of coal, fuel oil, raw materials; tabulations. Iron Age 167:322 Ja 4 '51

U.S. foreign trade in iron and steel; with tabulations. J. J. W. Palmer. il For Comm W 43:3-5 My 14 '51

U.S. produces almost half of world's steel; charts. Iron & Steel Eng 27:72-3 D '50

Alabama

Economics of raw material supplies in the Birmingham district; with cost data. E. C. Wright. Min Eng 187:1214-20 D '50

Australia

Broken hill proprietary co., ltd. of Australia to expand Kembla works. Blast F & Steel Pl 39:561-2+ My '51

Development of the steel industry in Australia. Engineer 192:182-3 Ag 10 '51

World's cheapest steel; Broken Hill proprietary co., Australia. il map Fortune 42:82-9+ N '50

Austria

Present metallurgical bases of Austrian iron and steel production. B. Matuschka. Iron & Steel Inst J 168:343-5 Ag '51

2000-year tradition of the Austrian iron and steel industry. R. Walzel. il maps diags Iron & Steel Inst J 168:364-73 Ag '51

Birmingham, Alabama

Birmingham's industry drive paying off, more steel helps. R. W. Kincey. Manuf Rec 119:38-9 N '50

California

Steel for the expanding industry of California. A. G. Roach. maps Blast F & Steel Pl 39:78-82+ Ja '51

Canada

Canada expands steel by $90-million worth. Bsns W p98 F 3 '51

Canadian steel, controls stay on sidelines. F. Sanderson. Iron Age 168:86 Ag 23 '51

Canadian steel industry boosting annual output. J. Montagnes. Barron's 31:6 F 19 '51

Steel industry statistics; Canadian statistics. Steel 129:135-6 O 1 '51

Europe

Korean war dominates '51 economic planning Steel 127:35-6 D 25 '50

STEEL industry and trade—Europe—*Cont.*

Second thoughts on Europe's steel. Economist 160:566-7 Mr 10 '51

See also

Coal-steel pool (proposed)

Finland

Finnish iron and steel production; with data for 1949 and January-June 1950. For Comm W 41:24 D 4 '50

Germany

Coal-steel swap. Bsns W p 150-1 Mr 24 '51

German steel; a weapon for the allies. T. Metaxas. Iron Age 166:138-9 D 7 '50

German steels; ferrous metal industry in Germany during the period 1939-1945. G. Patchin and E. Brewin. Metal Prog 58: 906+ D '50

Great Britain

Agreeing to agree; Iron and steel corporation of Great Britain and British iron and steel federation; who uses steel? Economist 161: 174 Jl 21 '51

Britain gets set to take over the steel industry. il Steel 127:76-7 D 18 '50

British iron and steel federation's annual report. Engineer 191:252-3 F 23 '51

British iron and steel industry in 1950. il Engineer 191:17-19, 62-4, pl 3 Ja 5-12 '51

English nationalization feud into the open. Iron Age 168:107 Jl 5 '51

Progress in the British iron and steel industry during the last two decades. Metallurgia 42:276-8 N '50

Raw materials problem in British steel industry. Metallurgia 44:15-16 Jl '51

South Durham steel and iron company limited; statement by the chairman at ordinary general meeting. B. C. Talbot. Economist 159:1169-70 D 23 '50

State steel. Economist 160:386-8 F 17 '51

Steel for rearmament. Economist 160:1318 Je 2 '51

Steel in 1951. Economist 160:92-4 Ja 13 '51

Steel industry's raw materials supplies. Engineer 191:127 Ja 26 '51

Steel nationalization in Britain. P. Einzig. Comm & Fin Chr 173:819 F 22 '51

Steel prices increased; prices and output. Economist 161:413-14 Ag 18 '51

Steel share valuations. Economist 160:282 F 3 '51

Steel stock makes its bow. Economist 160: 450 F 24 '51

Italy

Italian steel industry programs production; with tabulation of iron and steel supply program, 1950-51. For Comm W 41:21 N 27 '50

Northwestern states

Consumption of steel in Pacific Northwest increasing. H. H. Fuller. Blast F & Steel Pl 39:135 Ja '51

Russia

Manufacture of quality steel in Russia. N. H. Polakowski. Metal Prog 59:359-63 Mr '51

Southern states

Additional steel capacity announced by Bethleham Steel and Lone Star. il Manuf Rec 120:54-5 F '51

More steel is on the way. il Manuf Rec 120:28-9 Ja '51

Survey reveals opportunities for profitable steel expansion. Manuf Rec 119:32-3 D '50

Sweden

Sweden's iron and steel industry. T. L. Joseph. bibliog il J Metals 3:507-10 Jl '51

United States

Capacity for steelmaking rises in 1950. J. Delaney. Iron Age 166:95 D 21 '50

Inventory time. H. B. Jordan. Iron & Steel Eng 27:76-80 N '50

Panorama of steel. C. M. Parker. il J Chem Educ 28:236-42 My '51

Status of ferrous strategic materials; government and industry situation and rulings. E. C. Smith. S A E J 59:19-21 Je '51

Steel catches up. il Fortune 43:68-71+ Mr '51

Steel industry. H. E. Dickhuth. Banking 43: 72+ N '50

Steel production. Mech Eng 72:1001 D '50

See also

United States steel corporation

Western states

Western steel plants increasing output rapidly. T. A. Dickinson. il Blast F & Steel Pl 39:87-92 Ja '51

West's steel output expands. il Elec West 105:74-5 O '50

Youngstown

Youngstown seeking to brighten outlook. Iron Age 168:122 Ag 16 '51

STEEL ingots

Observations on rimming steel ingots. A. Hultgren and others. il diags J Metals 191: Trans 101-10 F '51

Steel quality as affected by track time and soaking pit practice. A. F. Mohri. Blast F & Steel Pl 39:665-70 Je '51

Vertical solidification of steel ingots studied. J. W. Spretnak. diags Iron Age 167:107-10 My 3 '51

Molds

Increase of ingot mold life versus surface quality of billets; use of plywood in mold. L. A. Boldizar. il Blast F & Steel Pl 39:74-7 Ja '51

Ingot heat conservation; ingot mould temperature measurements. R. T. Fowler and J. Stringer. plan diags Iron & Steel Inst J 167:283-8 Mr '51

New ingot mold coatings are in use. J. J. Golden. il diags Iron Age 167:83-5 Mr 29 '51

Symposium on stresses in moulds. bibliog il diags Iron & Steel Inst J 168:261-301 Jl '51

Ten-ton ingots moulds. A. Jackson. 2pls diags Iron & Steel Inst J 167:289-301 Mr '51

Statistics

Alloy steel ingot production, 1944-1950; tabulation. Iron Age 167:287 Ja 4 '51

Ingots; why count them? ABC of what's behind some key statistics. il Bsns W p38+ Mr 3 '51

Steel industry statistics; steel ingots. Steel 129:126-9 O 1 '51

Steel ingot and castings, pig iron and ferroalloys output by countries, 1943-1950; tabulations. Steel 128:120-1 Ja 1 '51

Steel ingot production by months, 1925-1950; tabulation. Iron Age 167:286 Ja 4 '51

Transportation

Vermiculite insulation allows shipment of hot ingots. il Manuf Rec 120:39 Mr '51

STEEL lining

Plug welding technique in clad lining dough mixer bowls. W. M. Davis. il diag Welding J 30:829-31 S '51

Stainless steel lining of a pulp mill digester. S. C. Johnson and N. J. Gibson. il diags Paper Tr J 133:20+ S 14 '51

Stainless steel vital to aircraft research; used for lining supersonic wind tunnel; Lewis flight propulsion laboratory. il Steel 128:86+ Je 11 '51

STEEL metallurgy

A-one steel from low grade coke. J. R. Killian, jr. Steel 127:121-2 N 20 '50

American iron and steel institute 59th general meeting, New York, May 23-24; summaries of papers. Steel 128:92+ My 28 '51

British achievements in steel technology. N. P. Allen. Chem Age (Lond) 64:7-9 Ja 6 '51

Control of sulphur in steelmaking; report of symposium held at AIME annual meeting. il diag J Metals 3:511-16 Jl '51

Developments in the iron and steel industry during 1950. I. E. Madsen. flow diag il map diags Iron & Steel Eng 28:109-37 Ja '51

Direct reduction won't arrive overnight; process has been worked out in pilot stage. Iron Age 167:93 F 22 '51

Effect of sodium oxide additions to steelmaking slags. W. R. Maddocks and E. T. Turkdogan. bibliog diags Iron & Steel Inst J 162:249-64 Jl '49; Discussion. 166:320-2 D '50

Investigation of new special deoxidizers. C. G. Mickelson. il J Metals 188:1311-1311C N '50

STEEL metallurgy—*Continued*

Manufacture of deep drawing steel. R. W. Evans. il diags Engineer 191:306-9, 338-40 Mr 9-16 '51

Manufacture of quality steel in Russia. N. H. Polakowski. Metal Prog 59:359-63 Mr '51

Metallurgical trends in production of steel plates. W. Barr. Engineering 170:453 D 1 '50

Oxygen for steel refining. G. Husson. Metal Prog 58:868 D '50

Present position of the converter process; economic comparison with other steelmaking processes. B. Matuschka. Iron & Steel Inst J 168:40-5 My '51

Radiation pyrometry in the steel industry. D. Robertson. il diags Mech Eng 73:198-202 Mr '51

Some metallurgical aspects of ship steel quality. H. M. Banta and others. il diag Welding J 30:sup79-89 F '51; Discussion. 30:sup-90, 192-4 F, Ap '51

Spectrochemical analysis of steelmaking slags. C. G. Carlsson and J. T. M. Yü. bibliog diags Iron & Steel Inst J 166:273-80 D '50

Steel quality as affected by track time and soaking pit practice. A. F. Mohri. Blast F & Steel Pl 39:665-70 Je '51; Same cond. Iron & Steel Eng 28:130-2 Ag '51; Excerpt. Steel 128:100 My 28 '51

Steelmaking for castings. J. H. Hall. il diags Foundry 79:98-9+ Mr; 128-9+ Ap; 101+ My; 109+ Je; 77+ Jl '51

Theory of basicity and oxidation applicable to steelmaking. W. L. Kerlie. bibliog Iron & Steel Inst J 167:9-26 Ja '51

Thermodynamic background of iron and steel making processes. F. D. Richardson and J. H. E. Jeffes. bibliog(72 ref) Iron & Steel Inst J 163:397-420 D '49; Discussion. 167: 378-82 Ap '51

Thermodynamic background of iron and steelmaking processes; deoxidation. F. D. Richardson. bibliog(42 ref) Iron & Steel Inst J 166:137-46 O '50

Thermodynamics of substances of interest in iron and steel making; compounds between oxides. F. D. Richardson and others. Iron & Steel Inst J 166:213-34+ bibliog(134 ref, p233-4+) N '50

Trends in steel plant controls for quality. H. J. Forsyth. Blast F & Steel Pl 39:69-73+ Ja '51

Vacuum-melted high chromium steels. Engineer 191:864 Je 29 '51

See also

Bessemer process
Case hardening
Furnaces, Steel making
Iron metallurgy
Open hearth furnaces
Open hearth process
Steel—Metallography
Steel, Hardening of
Steel, Heat treatment of
Steel alloys
Steel castings
Steel ingots
Steel works

Bibliography

AISE bookshelf; list of books found to be of value to steel plant engineers and operators. Iron & Steel Eng 27:120-1 D '50

Electrometallurgy

Alloy steel production in large basic furnaces. A. K. Blough. J Metals 191:30-2 Ja '51

British firm cuts stainless manufacturing costs. Steel 127:94 D 4 '50

Deoxidizing in the ladle with Carbortam. W. O. Igelman and D. A. Finch. J Metals 188: 1439-41 D '50

Electric furnace steel conference, Pittsburgh, Dec. 7-9; with abstracts of papers. Foundry 79:198+ F '51

Ore practice in acid electrics. F. J. Stanley. il J Metals 3:603-4 Ag '51

Oxygen in acid electric steel production. J. H. Garrison. il J Metals 3:601-2 Ag '51

Practical aspects of tool steel melting. C. F. Sawyer, jr. il J Metals 188:1433-4 D '50; Abstract. Steel 128:112+ Ja 15 '51

Progress in electric steelmaking; meeting of the American institute of mining and metallurgical engineers' electric furnace steel committee. Metal Prog 59:93+ Ja '51

Silicon monoxide in the melting of acid steel; abstract. P. V. Gel'd and others. Metal Prog 59:552+ Ap '51

Stainless by induction melting. R. J. Wilcox. il J Metals 188:1311D-12 N '50

Today's scrap; availability, condition and contamination. R. W. Farley and R. J. McCurdy. J Metals 188:1435-8 D '50; Abstract. Steel 128:110+ Ja 15 '51

See also

Electric furnaces,
Steel making

STEEL pipes. See Pipes, Steel

STEEL plates

Analytical investigation of certain types of machine frames cut from steel plate, and experimental verification of some of the results by photo-elasticity. N. Sag. diags Inst Mech Eng Proc 163(W.E.P. no 62): 311-16, pl 3-6; Discussion. 316-27 '50

Edge preparation of plate for welding. C. A. Heffernon. il diags Welding J 30:221-8 Mr '51; Same cond. Mach 57:182-6 F '51

Effect of repeated welding on the physical and metallurgical properties of A-212 plate; abstract. Metal Prog 59:562+ Ap '51

Metallurgical trends in production of steel plates. W. Barr. Engineering 170:453 D 1 '50

Origin and use of clad steel plate. W. G. Theisinger. Metal Prog 59:671-2+ My '51

Plate levelling machine. il Engineer 190:475 N 17 '50

Plates at Pittsburgh, prices, 1929-1950; tabulation. Iron Age 167:293 Ja 4 '51

Welded reinforcement of openings in structural steel members. D. Vasarhelyi and R. A. Hechtman. il diags Welding J 30:sup 182-92 Ap '51

Testing

Determination of initial stresses and results of tests on steel plates. E. W. Suppiger and others. bibliog il diags Welding J 30: sup91-104 F '51; Discussion. W. E. Magee. 30:sup272 My '51

Effect of fabrication processes on steels used in pressure vessels. S. S. Tör and others. il diag Welding J 30:sup446-50 S '51

Evaluating carbon plate steels by the keyhole Charpy impact test. R. W. Vanderbeck. bibliog Welding J 30:sup59-64 Ja '51

Room temperature tensile tests as an index of transition temperature of steel plates. S. S. Tör and others. bibliog diags Welding J 29:sup477-83 S '50; Discussion. 30: sup259, 405-7 My, Ag '51

STEEL products engineering company

Plane parts maker's prospects are bright. Barron's 31:15-16 S 3 '51

STEEL railroad ties. See Railroad ties, Steel

STEEL research

Both as producer and consumer the steel industry has problems. J. E. Eberhardt. il Chem & Eng N 29:644-6 F 19 '51

British iron and steel research association activities. il diag Metallurgia 44:125-8 S '51

B.I.S.R.A. physics laboratories. il diags Engineer 190:458-9 N 17 '50; Engineering 170: 374-5 N 17 '50

Evaluation of macroscopic residual stresses in cylindrical bars. H. Föppl. bibliog il diags Iron & Steel Inst J 168:15-23 My '51

Evaluation of pH measurements with regard to the basicity of metallurgical slag. C. W. Sherman and N. J. Grant. J Metals 1: Trans 898-903 N '49; Discussion. 188:Trans 1338-40 N '50

Five years of co-operative research; work of the British iron and steel research association. Chem Age (Lond) 64:383-4 Mr 10 '51

Ionic theory of slag-metal equilibria. P. Herasymenko and G. E. Speight. bibliog Iron & Steel Inst J 166:169-83, 289-303 N-D '50

Isotopes being used in many ways to broaden knowledge about steel. Blast F & Steel Pl 39:sup89 Ap '51

Physical metallurgy of austenitic stainless steels. H. Thielsch. il Welding J 29:sup577-621 bibliog(257 ref, p620-1) D '50

Some metallurgical aspects of ship steel quality. H. M. Banta and others. il diag Welding J 30:sup79-89 F '51; Discussion. 30:sup89-90, 192-4 F, Ap '51

Steel companies aid Bureau of mines in manganese research. il Blast F & Steel Pl 39:1100 S '51

Steel research laboratories at Rotherham. il Engineer 191:223 F 16 '51

STEEL research—*Continued*

Successful attack by chemists and chemical engineers on problems of steel producers. H. P. Munger. il Chem & Eng N 29:647-9 F 19 '51

STEEL reservoirs. See Reservoirs, Steel

STEEL roofs. See Roofs, Steel

STEEL scrap. See Steel waste

STEEL straps

How paper mills conserve steel strapping. A. N. Perry. il Paper Tr J 133:19-20 Jl 6 '51

Permanent anchorage for strap loading; Unistrap system developed in connection with Pressed Steel Unicel car. il Ry Age 130:23 Ja 8 '51

STEEL towers. See Towers, Steel

STEEL using industries

Conversion steel now a must. Bsns W p21 Mr 3 '51

Fewer autos, more steel for others. Bsns W p24-5 F 17 '51

Industrial executives speak out on key shortage questions. Mod Ind 21:66-7 Ja '51

Steel output and the utilities. T. N. Sandifer. Pub Util 47:92-7 Ja 18 '51

Steel usage in warm air heating industry. Sheet Metal Worker 42:52 N '50

Statistics

Defense program alters steel distribution pattern. Steel 129:66-7 S 17 '51

Steel distribution by consuming industries, 1939-1950; tabulation. Iron Age 167:288 Ja 4 '51

Steel used by electrical equipment makers; tabulation. Iron Age 167:349 Ja 4 '51

Steel used by metalworking equipment makers, 1947-1950; tabulation. Iron Age 167:346 Ja 4 '51

Steel used by the metalworking industry, 1948 by states; tabulation. Iron Age 167:289 Ja 4 '51

Steel used in appliances, automobiles, homes, containers and by the automobile industry, refrigerator, piano; tabulations. Iron Age 167:324-6 Ja 4 '51

Where did 1950's steel go? here's the breakdown. Steel 128:54-5 Ap 16 '51

Where is all the steel going? here's the answer. Steel 127:66 N 6 '50

STEEL waste

Chips crushed for conveying, oil extraction. diag Am Mach 95:156 Je 25 '51

Most satisfactory raw material for making steel is steel scrap. C. O. Brown. Ind & Eng Chem 43:sup79A-80A+ Jl '51

Steel scrap sleuth tracks down 40 tons. il Bsns W p52-4 Ag 11 '51

STEEL work

Consumer installs slitting and leveling plant; E. F. Hauserman co. il Iron Age 168:78-80 Ag 23 '51

Development of steel shapes for aircraft components. A. H. Peterson. diags Automotive Ind 104:204+ Mr 15 '51

How to drill hardened steels. R. Double. il Am Mach 95:125 F 5 '51

More and more firms try steel extrusion. il Bsns W p64-7 F 3 '51

Sulphide precoats facilitate metal forming. J. A. Henricks. il Steel 128:76 F 26 '51

STEEL workers

Big Steel settles. R. Molyneux. Barron's 30:13 D 11 '50

Cardiovascular disease in the steel industry. L. T. Smyth. Ind Med 20:34-7 Ja '51

Employment, average hours and earnings; reported by companies having more than 93 per cent of the total employment of the steel industry; tabulation. Iron Age 167:291 Ja 4 '51

Faces, by Karsh, peddle publicity in photographs of Atlas Steel's workers. Bsns W p44-5 O 21 '50; Ind Marketing 36:50 Ja '51

Golden rule in employee relations; Atlantic steel co. W. G. Torpey. Personnel J 30:102-5 Jl-Ag '51

Happy ending; Crucible Steel drops union-shop contract escape clause. Bsns W p 135 F 24 '51

Increased productivity through human relations. C. L. Huston, jr. Iron & Steel Eng 28:140 Ag '51

Increased productivity through incentives. R. C. Cooper. Iron & Steel Eng 28:138+ Ag '51

Increased productivity through training. J. S. Kopas. Iron & Steel Eng 28:137-8 Ag '51

Labor angle; Murray and the next contract. Bsns W p32 O 13 '51

More pressure for fringes; steelworkers lay groundwork. Bsns W p34-6 Je 2 '51

Occupational outlook handbook; iron and steel manufacturing occupations. il U S Bur Labor Statistics Bul 998:243-58 '51

Productivity of labor in steelmaking. Metal Prog 59:244 F '51

Savings bonds, roadblock to inflation; National tube co. has successful drive. B. Packard. Iron Age 166:80-1 O 26 '50

Sequential seniority; step-by-step system for worker promotion at Weirton. Steel 129:66 S 24 '51

Steel blazed a trail in wage administration. A. A. Schweighauser. N A C A Bul 33:38-47 S '51

Steel common labor rates, 1915-1950; tabulation. Steel 128:143 Ja 1 '51

Steel employment, wages, hours and payrolls, 1947-1950, by months; monthly averages, 1936-1949; tabulations. Steel 128:142 Ja 1 '51

Steel firms give workers right steer to bond savings plan. Iron Age 167:82 Ja 25 '51

Steel prices up 5½ per cent, wages up 16c. Iron Age 166:135-6 D 7 '50; Steel 127:67+ D 4 '50

Strikes; incentive rates squabble. Iron Age 168:73 S 20 '51

Structural steel fabrication; earnings, 1949 and 1950. A. N. Jarrell. Mo Labor R 72:564-5 My '51

Wage chronology no. three; United States steel corporation; supplement, 1950. Mo Labor R 71:473-4 O '50

Wage chronology number three; United States steel corp.; supplement number three. Mo Labor R 72:563 My '51

Wage pattern for millions; U.S. Steel CIO wage settlement. Bsns W p88-90 D 9 '50

Weirton holds out; CIO steelworkers lose to independent union. Bsns W p 126+ N 4 '50

Who is to decide a fair day's work? union claims American Steel & Wire cannot unilaterally set standards. J. Delaney. Iron Age 167:112-13 My 24 '51

See also

United steelworkers of America

Europe

Labour statistics in the European iron and steel industry. Int Labour R 62:157-62 Ag '50

STEEL works

Atlantic steel company will increase output. Blast F & Steel Pl 39:105 Ja '51

Big Steel steps up expansion program at Morrisville, Pa. Bsns W p20 D 16 '50

Continuous steel casting pilot plant proves successful. D. I. Brown. il diags Iron Age 168:113-18 S 20 '51

Developments in the iron and steel industry during 1950. I. E. Madsen. flow diag il map diags Iron & Steel Eng 28:109-37 Ja '51

Fairless plant to produce 1,800,000 tons of steel. I. S. Olds. Blast F & Steel Pl 39:56 Ja '51

Fairless steel works rises. il Comp Air Mag 56:244-5 S '51

Fairless turns earth for biggest steel plant job. G. Sullivan. Iron Age 167:105-6 Mr 8 '51

Lone Star spreads out; company's expansion will give east Texas its first integrated plant. il Steel 127:77 N 13 '50

Major expansion stretches steel mill to limit. il diags Eng N 147:30-3 S 20 '51

National's eastern mill rivals U.S. Steel's. J. Delaney. Iron Age 167:78 Ja 11 '51

Needs steel; LeTourneau builds Texas mill. G. Beaudet. Iron Age 167:124-5 Je 7 '51

New capacity; same old plant. il Bsns W p 130-4+ S 15 '51

New steelmaking capacity, new rolling mills; installed, dismantled; tabulations. Iron Age 167:297 Ja 4 '51

Rags to riches history of Phoenixville mill. G. Sullivan. Iron Age 167:92 Je 28 '51

Republic expands steel capacity. Bsns W p24 N 25 '50

STEEL works—*Continued*

Steel expansion; U.S. Steel's new plant at Morrisville. il map Bsns W p22-4 S 22 '51

Steel; Fairless works shapes up. J. Delaney. Iron Age 168:76 S 20 '51

Steel for the expanding industry of California. A. G. Roach. maps Blast F & Steel Pl 39:78-82+ Ja '51

Steel mill on the Delaware; new Fairless works of United States steel co. C. H. Vivian. il map plan Comp Air Mag 56:84-91 Ap '51

Steel plant rises from Pennsylvania farmland; Fairless works, U.S. Steel. il map plan Eng N 147:28-31 S 6 '51

Supply and distribution of water to iron and steel works. J. L. Daniel. plans diag Iron & Steel Inst J 165:437-53 Ag '50; Discussion. 168:77-80 My '51

U.S. Steel raises sights on expansion. Chem & Eng N 29:118+ Ja 8 '51

U.S. Steel speeds Fairless Works plan. Iron Age 167:380+ Ja 4 '51

Western steel plants increasing output rapidly. T. A. Dickinson. il Blast F & Steel Pl 39:87-92 Ja '51

Youngstown sheet and tube co. to expand at Indiana harbor. Blast F & Steel Pl 39:84 Ja '51

See also

Rolling mills

Accounting

Standard costs in a small steel company. A. J. Penz. N A C A Bul 32:1346-58 Jl '51

Bibliography

AISE bookshelf; list of books found to be of value to steel plant engineers and operators. Iron & Steel Eng 27:120-1 D '50

Electric equipment

Adjustable voltage drives for ore handling. C. B. Risler. il diags Iron & Steel Eng 28:102-7; Discussion. 108-9 Je '51

Blast furnace charging; automatically controlled material handling plant. il Elec R (Lond) 148:621-5 Mr 30 '51

Electrical developments in 1950. H. W. Poole. il diags Blast F & Steel Pl 39:63-8 Ja '51

Fire protection for electrical equipment. J. T. W. Babcock. Iron & Steel Eng 28:96-100 Ja '51

Fuses and circuit breakers for short circuit protection. K. S. Kuka. Iron & Steel Eng 28:108-12 My '51

Grounding practice at Inland Steel. V. E. Schlossberg. Iron & Steel Eng 28:77-9; Discussion. diags 79-80 Je '51

Handling materials by remote-controlled locomotives. W. J. Boyer. il plan Eng & Min J 151:92-3 D '50

Margam steelworks. il Electrician 147:253-60 Jl 27 '51

Operation and maintenance of electronically operated instrument equipment. J. R. Green. il diags Iron & Steel Eng 28:102-7 My '51

Sliding contacts for transfer of electrical energy for industrial systems. H. Y. Mageoch. il Iron & Steel Eng 27:110-16; Discussion. diags 116-18 N '50

Stainless steels; modern electrical applications to strip and sheet production. il Elec R (Lond) 148:471-7 Mr 9 '51

Supervisory control and telemetering as cost reduction tools. E. W. Head. il Iron & Steel Eng 28:83-7; Discussion. 88-90 Ja '51

Transformer oil in the steel plant. J. F. Boal. il Iron & Steel Eng 28:97-103; Discussion. 103-5 Jl '51

Wiring standardization (progress report). Iron & Steel Eng 28:122-6; Discussion. 127-8 My '51

Equipment

Alan Wood steel co. T. J. Ess. il plan Iron & Steel Eng 28:sup 1A-18A My '51

Association of iron and steel engineers plain bearing recommended practice. bibliog il diags Iron & Steel Eng 28:sup PB3-37 Jl '51

Automatic control systems for multifuel firing. R. L. Willis. diags Iron & Steel Eng 28:84-8 My '51

Babcock & Wilcox tube company develops continuous casting. I. Harter, jr. bibliog il plan diags Iron & Steel Eng 27:57-62 D '50

Britain's newest steelworks opened; Steel company of Wales. il Metallurgia 44:63-8 Ag '51

British iron and steel industry in 1950. il Engineer 191:17-19, 62-4, p 1 3 Ja 5-12 '51

Chile now a producer of steel with fully integrated plant. F. Senior. il plans diags Blast F & Steel Pl 38:1285-322+ N '50

Description of the blast furnace controlled split-wind blowing installation at Algoma steel corp., ltd. W. O. Bishop. il diags Blast F & Steel Pl 38:1428-34 D '50; Same. Iron & Steel Eng 28:78-83 Jl '51

Developments in the design of coal and ore bridges. B. A. Rose. il diags Iron & Steel Eng 27:60-4; Discussion. 64-5 O '50

Diesel-electric locomotive for the Steel company of Wales. il plan diag Engineering 171:158-9 F 9 '51; Engineer 191:198-9 F 9 '51

Diesel-electric locomotives serve the steel industry. R. J. Schroer. il Blast F & Steel Pl 39:452-3+ Ap '51

Diesels in the steel industry. G. W. Grupp. il Diesel Power 29:28-9+ Jl '51

Drying of ironstone. Metallurgia 43:29-30 Ja '51

Ford motor co. rounds out steel plant operating units for balanced production. C. Longenecker. il plans diags Blast F & Steel Pl 39:926-57 Ag '51

How good materials handling helps Armco. G. F. Sullivan. il plan Iron Age 167:75-8 Mr 22 '51

Hydraulic servocontrols in the steel industry. H. Ziebolz. il diags Instruments 24:650-1+ Je '51

Inland installs new coal preparation plant. il Iron & Steel Eng 28:112+ F '51

Instrument and control maintenance in a steel mill. J. H. Cuthbert. il diag Instruments 24:212-15 F '51

Iscor works at Vanderbijl park. il Engineer 192:281-4 Ag 31 '51

Margam and Abbey steel works. il plan Engineer 192:112-15 Jl 27 '51

Meehanite castings find wide use in steel plants. C. E. Herington. il Steel 128:81-2 Ap 9 '51

Midland works of Crucible steel co. of America. T. J. Ess. il plans Iron & Steel Eng 27:M2-19 O '50

National tube company completes new boiler plant at McKeesport. il Iron & Steel Eng 28:116+ Mr '51

Non-contact gaging; X-ray gage and air gage. J. T. Welch. il diags Instruments 24:652-4+ Je '51

Plant reorganisation at the works of the Consett iron company limited. il Metallurgia 43:20-4 Ja '51

Pneumatic servomechanisms in the iron and steel industry. A. A. Markson. il diags Instruments 24:647-9+ Je '51

Power truck transportation in steel plants. C. S. Schroeder. il Iron & Steel Eng 27:66-8 O '50

Proposed method of specifying travel-motion performance for steelworks overhead cranes. D. A. Wise and L. N. Bramley. Iron & Steel Inst J 164:439-51 Ap '50; Discussion. 166:246-52 N '50

Republic starts major expansion in Cleveland district. il Iron & Steel Eng 27:136+ D '50

Steam shunting locomotives for steel works. il Engineer 191:519 Ap 20 '51

Television in industry; applications in the steel plant. J. A. Good. il diags Iron & Steel Eng 28:107-10; Discussion. 110-11 Mr '51

230 h.p. Diesel-electric locomotive for steel works of Steel Peech and Tozer, ltd. il Engineer 191:220-1 F 16 '51; Electrician 146:457-8 F 9 '51

See also

Ingot strippers

Ladle cars

Fuel

Steelmaking use of coal, fuel oil, raw materials; tabulations. Iron Age 167:322 Ja 4 '51

Heating and ventilation

Heating and ventilation in the iron and steel industry. F. R. L. White. bibliog il Iron & Steel Inst J 165:221-6 Je '50; Discussion. 167:447-50 Ap '51

STEEL works—Heating and ventilation—*Cont.*

Heating of steel mill buildings. G. J. Campbell. il Iron & Steel Eng 28:139-43; Discussion. 143-5 S '51

Make your own weather; Columbia steel co. il Steel 127:69 O 30 '50

Ventilation of steel mill buildings. W. S. Johnson. il plan diag Iron & Steel Eng 28:145-9 S '51

Lighting

Lighting in iron and steel works. G. W. Levey. Iron & Steel Inst J 165:91-6 My '50; Discussion. 168:73-7 My '51

Lighting of steel mill buildings. D. H. Tuck. il Iron & Steel Eng 28:133-7; Discussion. 137-9 S '51

Maintenance and repair

Automatic welding in steel mill maintenance. W. P. Hoffman. il Welding J 29:989-94 N '50

Hard facing alloys for steel mill use. H. S. Avery. bibliog il diags Iron & Steel Eng 28:81-106 S '51

Maintenance of roller bearings in steel plants. P. L. Haager. il diags Iron & Steel Eng 28:172-94 S '51

Preventive maintenance for electric overhead cranes. H. C. Mullings. il diags Iron & Steel Eng 28:76-82; Discussion. 82-3 My '51

Preventive maintenance procedures. J. B. Whitlock. Blast F & Steel Pl 39:671-3+ Je '51; Same cond. Iron & Steel Eng 28:129-30 Ag '51

Stud welding speeds steel production; with cost data. R. C. Singleton. il Iron & Steel Eng 27:100-4 O '50; Excerpts. Welding J 29:1094-6 D '50

Management

Management committee; co-ordinator of policies and practises at Lukens steel co. C. L. Huston, jr. il Dun's R 59:16-18 Mr '51

Power

Economics of purchased power vs plant generated power in the Pittsburgh district. W. B. Skinkle. Iron & Steel Eng 28:85-97; Discussion. 97-100 Ag '51

Electric power distribution system for typical power plant. S. L. Chapin. diags Blast F & Steel Pl 38:1454-6+ D '50

Now blast-furnace gas is base-load boiler fuel. il diags Power 95:96-8 S '51

Power station at a large steelworks; Consett iron co. il Elec R (Lond) 149:263-9 Ag 10 '51

Requirements for a modern steel mill power distribution system. F. H. Wickline. plan diags Iron & Steel Eng 28:77-81; Discussion. 81-4 Ag '51

Speeding service to a new steel mill. F. F. Dickmann. diags Elec World 136:82+ Jl 2 '51

Safety measures

Anchored against wind; rail clamps for ore bridges. il Nat Safety N 62:40 N '50

Hazards of back-drafting. O. R. Rice. diag Iron & Steel Eng 28:118-22 Ap '51

Increased productivity through safety and accident prevention. H. W. Johnson. Iron & Steel Eng 28:136-7 Ag '51

Safety precautions in jet tapping. R. H. Ferguson. il J Metals 3:377-8 My '51

Safety's dynamic at Big Steel! B. F. Fairless. il Safety Maint & Prod 101:18-19+ Je '51

They'll wear clean respirators; cleaning and maintenance of equipment at Bethlehem steel co. il Nat Safety N 62:32-3+ D '50; Abstract. Steel 127:75 O 30 '50

Waste

Waste pickle liquor at Walker of Conshohocken; abstract. C. J. Lewis. Water & Sewage Works 98:421 O '51

Waste pickle liquor treatment at the Butler, Pa. plant of the Armco steel corp.; abstract. G. A. Pettit. Water & Sewage Works 98:420-1 O '51

Australia

World's cheapest steel; Broken Hill proprietary co., Australia. il map Fortune 42:82-9+ N '50

Austria

Austrian steel mill installs modern blooming mill. il Blast F & Steel Pl 39:1134 S '51

Chile

Chile now a producer of steel with fully integrated plant. F. Senior. il plans diags Blast F & Steel Pl 38:1285-322+ N '50

Chile starts operation of integrated steel mill. il J Metals 188:1316 N '50

Standard Belgian mill adapted for South American use. E. C. Peterson. il plan Steel 127:96+ N 6 '50; Same, with additional plans and diags. Iron & Steel Eng 27:88-92 N '50

France

Activities of the Creusot works of Messrs Schneider. il plans Engineer 191:310-13 Mr 9 '51

French building two continuous hot strip mills. il Steel 127:110+ D 11 '50

French rebuild shell-torn plant; Mondeville works of Société métallurgique de Normandie. il Steel 128:116 Je 25 '51

New England

Dream comes true; New England steel mill assured. Bsns W p23 Ja 13 '51

Estimates dash hopes for steel mill. Bsns W p 24 Mr 17 '51

New England mill group to ask U.S. funds. B. Packard. Iron Age 166:101 N 16 '50

No Yankee mill. Bsns W p25 S 1 '51

Proposed New England steel plant. C. S. Strike. Iron & Steel Eng 27:85-7 N '50

Steel mirage; report wraps New England mill in wet blanket. J. C. Perham. Barron's 31:9 Mr 19 '51

Oklahoma

Defense steel from new Oklahoma mill furnace; illustrations with text. Bsns W p26 O 6 '51

South Africa

Iscor works at Vanderbijl park. il Engineer 192:281-4 Ag 31 '51

Tennessee

Local market mill to be built in Tennessee. B. Packard. Iron Age 167:79-80 Ja 11 '51

Texas

New Lone Star mill rated at 500,000 tons. il Manuf Rec 120:42-3 Ap '51

Wales

Britain's newest steelworks opened; Steel company of Wales. il Metallurgia 44:63-8 Ag '51

STEELWORKERS union, Independent. See Independent steelworkers union

STEEP Rock lake

Glacial clays in Steep Rock lake, Ontario, Canada. E. Antevs. maps Geol Soc Bul 62:1223-62, pl 1-6 bibliog(p1261-2) O '51

STEERING

New steering equipment for navy destroyer. il Marine Eng 56:68 Je '51

Radio-controlled ship models. S. G. Lankester and S. G. Dreier. diags Engineer 191:319 Mr 9 '51; Same. Engineering 171:480 Ap 20 '51

See also

Airplanes—Steering

STEERING gear

Powersteer unit uses ball-socket design; Tournapull earthmover. il diags Product Eng 22:130-1 S '51

See also

Automobiles—Steering gear

STEETLEY company, limited

Statement by the chairman. N. M. Peech. Economist 160:833-4 Ap 7 '51

STEINEKE, Max, 1898-

Sketch. G. C. Gester. por Am Assn Pet Geologists Bul 35:1694-7 Jl '51

STELLATO, Carl

Ford hit by new bid for UAW power. por Bsns W p32+ Je 9 '51

Mutiny at Ford; Local 600. Fortune 44:43-4+ Ag '51

STELLITE

Haynes stellite alloys of recent development; table. Machine Design 23:323 O '51

STENOGRAPHIC departments

How office incentive plan works at Continental companies. il Am Bsns 21:14-15 F '51

See also

Transcription departments

STEP bearings. See Bearings, Thrust

STEPHENS, Adrian, 1795-1876

A. Stephens, inventor of the steam whistle. C. E. Lee. Engineering 171:299 Mr 9 '51

STEPS, Concrete

Typical front stoop for an average house. diags Am Bld 73:54 Ag '51

STERCULIA gum. See Karaya gum

STEREOCHEMISTRY

Chemistry of the pentacyclic triterpenes; the stereochemistry of rings D and E of the lupeol group. G. S. Davy and others. Chem & Ind p233 Mr 24 '51

Compounds with boron at the bridgehead; a study of the steric consequences of planar boron. H. C. Brown and E. A. Fletcher. diags Am Chem Soc J 73:2808-13 Je '51

Configuration of flexible polymethylene molecules in the gas phase. J. C. McCoubrey, J. N. McCrea and A. R. Ubbelohde. diag Chem Soc J p 1961-71 Ag '51

Effect of intramolecular configuration on the rate of unimolecular solvolysis of aralkyl chlorides. G. Baddeley and J. Chadwick. Chem Soc J p368-74 F '51

Electric dipole moment and stereochemistry of 2 : 5-dibromo-1 : 4-di-*tert.*-butylbenzene. H. Kofod, L. Kumar and L. E. Sutton. diags Chem Soc J p 1790-4 Jl '51

Ethylene imine ketones; stereochemical configurations, absorption spectra and reactions with phenylhydrazine. N. H. Cromwell and others. bibliog Am Chem Soc J 73:1044-51 Mr '51

Ethylene imine ketones; stereochemical configurations and reactions with organometallic compounds. N. H. Cromwell and others. Am Chem Soc J 73:2803-6 Je '51

Further studies on the stereochemistry of aromatic ethers. K. B. Everard and L. E. Sutton. Chem Soc J p 16-21 Ja '51

Influence of steric configuration on the ultraviolet absorption of 1,2-diketones. N. J. Leonard and P. M. Mader. bibliog il diag Am Chem Soc J 72:5388-97 D '50

Infra-red spectroscopy and structural chemistry. J. F. Grove and H. A. Willis. Chem Soc J p877-85 Ap '51

Leaf alcohol and the stereochemistry of the *cis*- and the *trans*-*n*-hex-3-en-1-ols and -*n*-pent-3-en-1-ols. L. Crombie and S. H. Harper. Chem Soc J p873-7 Mr '50

New synthesis of the 6-methoxy-17-equilenones and some stereochemical considerations. R. Hirschmann and W. S. Johnson. Am Chem Soc J 73:326-9 Ja '51

Passerini reaction; stereochemistry and mechanism. R. H. Baker and D. Stanonis. bibliog Am Chem Soc J 73:699-702 F '51

Relationship between solubility and stereochemical configuration in copper salts of unsaturated carboxylic acids. M. Crawford. Chem & Ind p234 Mr 24 '51

Role of neighboring groups in replacement reactions; complex neighboring groups; the benzamido group. S. Winstein and R. Boschan. bibliog Am Chem Soc J 72:4669-77 O '50

Stereochemical configuration of the Δ^{22}-ergostenyl side chain. R. N. Jones. Am Chem Soc J 72:5322-3 N '50

Stereochemical configuration of the number one carbon atom in β-D-xylopyranosylbenzene. W. A. Bonner and C. D. Hurd. bibliog Am Chem Soc J 73:4290-4 S '51

Stereochemical configurations of the 1-C-phenyl-D-pentitols. W. A. Bonner. bibliog Am Chem Soc J 73:3126-32 Jl '51

Stereochemical course of hydrogenation of ring D-unsaturated equilenane derivatives. A. L. Wilds, J. A. Johnson, jr. and R. E. Sutton. bibliog Am Chem Soc J 72:5524-9 D '50

Stereochemical relationships between the isomers of equilenin, desoxyequilenin and 1,2,3,4-tetrahydrodesoxyequilenin. W. E. Bachmann, A. S. Dreiding and E. F. M. Stephenson. Am Chem Soc J 73:2765-7 Je '51

Stereochemical studies of olefinic compounds; ring scission of 2-1′-halogenoalkyltetrahydrofurans and 3-halogeno-2-alkyl-tetrahydropyrans as a route to alk-4-en-1-ols of known configuration and as a method of chain extension by five methylene groups. L. Crombie and S. H. Harper. Chem Soc J p 1707-14 Jl '50

Stereochemical studies of olefinic compounds; ring scission of 3-halogeno-2-alkyltetrahydrofurans as a route to alk-3-en-1-ols of known configuration and as a method of chain extension by four methylene groups. L. Crombie and S. H. Harper. Chem Soc J p 1714-22 Jl '50

Stereochemistry of 1,4-addition; the chlorination of butadiene. K. Mislow and H. M. Hellman. bibliog Am Chem Soc J 73:244-6 Ja '51

Stereochemistry of 10-benzylideneanthrone and 9-benzylidenefluorene. V. M. Ingram. Chem Soc J p2318-24 S '50

Stereochemistry of catalytic hydrogenation; confirmatory evidence of the configurations of the perhydrodiphenic acids. S. B. Davis and R. P. Linstead. Chem Soc J p 1425-7 Je '50

Stereochemistry of catalytic hydrogenation; pyrolysis of the six perhydrodiphenic acids; limitations of the Blanc rule. S. B. Davis and others. Chem Soc J p 1423-5 Je '50

Stereochemistry of catalytic hydrogenation; the hydrogenation of *trans-as*-octahydrophenanthrene derivatives; a new form of the perhydrophenanthrene ring and a model for the inversion of the 6-keto-steroids. R. P. Linstead and R. R. Whetstone. Chem Soc J p 1428-32 Je '50

Stereochemistry of metabolic diols from naphthalene and anthracene. J. W. Cook, J. D. Loudon and W. F. Williamson. Chem Soc J p911-14 Mr '50

Stereochemistry of rings D and E in the β-amyrin and lupeol groups of triterpenoids. D. H. R. Barton and N. J. Holness. Chem & Ind p233-4 Mr 24 '51

Stereochemistry of simple ring systems. J. Figueras, jr. J Chem Educ 28:134-5 Mr '51

Stereochemistry of steroids; the concept of equatorial and polar bonds. D. H. R. Barton and W. J. Rosenfelder. Chem Soc J p 1048-54 Ap '51

Stereochemistry of the imidazolidine ring. E. Fischer. J Chem Phys 19:395-6 Ap '51

Stereochemistry of the salicylides and some related compounds. P. G. Edgerley and L. E. Sutton. pl diags Chem Soc J p 1069-74 Ap '51

Stereochemistry of the semidine transformations. D. L. Hammick and D. C. Munro. Chem Soc J p2049-52 Ag '50

Stereospecificity in the rearrangement of aminoalcohols. D. Y. Curtin and P. I. Pollak. bibliog Am Chem Soc J 73:992-4 Mr '51

Stereospecificity in the rearrangement of amino alcohols; the configurations of "α"- and "β"-1-*p*-chlorophenyl-1,2-diphenyl-2-aminoethanol. D. Y. Curtin, E. E. Harris and P. I. Pollak. Am Chem Soc J 73:3453-4 Jl '51

Steric effects and stereochemistry of lithium aluminum hydride reduction. D. S. Noyce and D. B. Denney. bibliog Am Chem Soc J 72:5743-5 D '50

Studies in steroid metabolism; the effects of stereochemical configuration at positions three and five on the infrared spectra of 3-acetoxy steroids. R. N. Jones and others. bibliog Am Chem Soc J 73:3215-20 Jl '51

Synthesis; stereochemistry, and infrared and ultraviolet spectra of several tricyclic ketones homologous with ketoöctahydrophenanthrene. C. D. Gutsche. bibliog Am Chem Soc J 73:786-92 F '51

Thermodynamic factors in stereo-specific processes; the transformation of diastereoisomers of brucine 2′-(2-hydroxy-2-propyl)-diphenyl-2-carboxylic acid. H. Kacser and A. R. Ubbelohde. Chem Soc J p2152-8 Ag '50

See also

Isomerism

Molecular rearrangements

STEREOISOMERS. See Isomerism

STEREOPTICON

Styrene parts in stereo viewer developed by Busch camera corp., Chicago. il Mod Plastics 28:89 Jl '51

Why Belding says it with color slides; salesmen's Kodachromes and viewers. Sales Management 66:118+ Ap 15 '51

STEREOSCOPIC television. See Television, Stereoscopic

STEREOTYPING

Advantages in plastic molding blanket are described; now generally available. J. D. Goggin. Ed & Pub 83:57 N 11 '50

Plastic blanket hailed as help in stereotyping. Ed & Pub 83:26 N 4 '50

Plastic blankets need seasoning. Ed & Pub 84:53-4 Ap 14 '51

Three new devices help stereotypers to control high shrinkage in mats. il Ed & Pub 84:63+ Je 9 '51

STERIC hindrance

Azo-bis-nitriles; the preparation and decomposition of azo-nitriles; steric factors. C. G. Overberger and M. B. Berenbaum. Am Chem Soc J 73:2618-21 Je '51

Chemical effects of steric strains; the effect of the halogen on the rate of hydrolysis of tertiary aliphatic halides. H. C. Brown and A. Stern. Am Chem Soc J 72:5068-70 N '50

Cyclic intermediates in substitution reactions; steric effects in the alkaline hydrolysis of the epimeric 3-chloro-6//7-cholestanedicarboxylic acids. D. W. Wujciak, R. L. Feller and J. F. Lane. bibliog Am Chem Soc J 73: 2392-4 My '51

I-Strain as a factor in the chemistry of ring compounds. H. C. Brown, R. S. Fletcher and R. B. Johannesen. bibliog diags Am Chem Soc J 73:212-21 Ja '51

Relation between steric hindrance and ionization constant of certain acids. H. L. Lochte and P. Brown. bibliog Am Chem Soc J 72:4297-8 S '50

Some observations concerning steric factors. M. S. Newman. bibliog Am Chem Soc J 72:4783-6 O '50

Steric effects and stereochemistry of lithium aluminum hydride reduction. D. S. Noyce and D. B. Denney. bibliog Am Chem Soc J 72:5743-5 D '50

Steric hindrance in acetamidomesitylene. G. Sachs. bibliog J Ap Chem 1:203 My '51

Steric hindrance in dienometry; abstract. J. D. Von Mikusch. Paint Oil & Chem R 114: 42+ Ap 12 '51

Steric hindrance; some reactions of mesitylacetylene. M. S. Newman and H. E. Connor. bibliog Am Chem Soc J 72:4002-3 S '50

Substituted anthracene derivatives; the ultraviolet absorption spectra of *meso*-substituted 1 : 2-benzanthracenes. G. M. Badger and R. S. Pearce. Chem Soc J p3072-7 N '50

Ultraviolet absorption spectra of 2-substituted 8-quinolinols. J. P. Phillips and others. Am Chem Soc J 73:630-2 F '51

STERILAMPS. See Ultraviolet rays—Lamps

STERILIZATION

Electronic sterilization. il Tech R 53:467-8 Jl '51

Electrons will sterilize foods and drugs. il Bsns W p81-2+ Ap 7 '51

Foods sterilized by radiation are nutritious but costly. B. E. Proctor. Food Ind 23:139 Ja '51

Role of atmospheric humidity in sterilization of surfaces; evaluation of O-Syl as a surface germicide. E. W. Dunklin and W. Lester, jr. Soap & San Chem 27:127+ Jl '51

Sterilizing with electrons; cathode-ray technique permits low-temperature sterilization of foods and drugs on conveyor line after packaging. J. G. Trump and B. E. Proctor. il Mod Packaging 24:105-6+ Jl '51

See also

Disinfection and disinfectants

STERILIZERS

Device for air evacuation from an autoclave sterilizer. Chen Lu-ao. diags Science 113: 488-90 Ap 27 '51

STERN brothers

Stern's is what Allied's waited for. Bsns W p78+ Mr 31 '51

STERNUTATORS. See Sneezing

STEROIDS

Action of alcoholic potassium hydroxide on Δ^{16}-20-ketosteroids. D. K. Fukushima and T. F. Gallagher. bibliog Am Chem Soc J 73:196-201 Ja '51

Bisteroids; bicholestanyl; the structure of bicholesteryl and 3, 3′,-bis-3,5-cholestadiene. E. N. Squire. bibliog Am Chem Soc J 73: 2586-9 Je '51

Configurations of certain steroids at C(20). W. Klyne. bibliog Chem & Ind p426-7 Je 2 '51

Derived steroids; 3-α-cholesterylacetic acid. R. H. Baker and Q. R. Petersen. Am Chem Soc J 73:4080-1 S '51

Determination of neutral 17-ketosteroids in urine. W. T. Beher and O. H. Gaebler. bibliog Anal Chem 23:118-23 Ja '51

Effect of ACTH and some adrenocortical steroids on the metabolism of tyrosine and phenylalanine in premature infants. S. Z. Levine and others. bibliog Science 113:311-12 Mr 23 '51

Enzyme in endocrine tissues which oxidizes Δ^5-3 hydroxy steroids to α,β-unsaturated ketones. L. T. Samuels and others. bibliog Science 113:490-1 Ap 27 '51

Further method for production of 11-ketosteroids from $\Delta^{7,9(11)}$-dienes. L. F. Fieser and others. Am Chem Soc J 73:4053-4 Ag '51

Hydroaromatic steroid hormones; 10-nortestosterone. A. J. Birch. Chem Soc J p367-8 Ja '50

Hydroaromatic steroid hormones; some hydrochrysene derivatives. A. J. Birch and H. Smith. Chem Soc J p 1882-8 Jl '51

Infrared spectroscopy of compounds having biological interest; a comparative study of normal and *i*-steroids. M.-L. Josien, N. Fuson and A. S. Cary. bibliog Am Chem Soc J 73:4445-9 S '51

Δ^9-12-Keto steroidal sapogenins. R. B. Wagner, R. F. Forker and P. F. Spitzer, jr. Am Chem Soc J 73:2494-7 Je '51

Labeling of steroids in the 4-position. G. I. Fujimoto. Am Chem Soc J 73:1856 Ap '51

New synthetic route to the cortical side chain. R. B. Wagner and J. A. Moore. bibliog Am Chem Soc J 72:5301-5 N '50

Oxidation of steroids; methyl $\Delta^{9[11]}$-lithocholenate and methyl 9α,11α-oxidolithocholanate. L. F. Fieser and S. Rajagopalan. bibliog Am Chem Soc J 73:118-22 Ja '51

Oxidation of steroids; selective oxidations and acylations in the bile acid series. L. F. Fieser and S. Rajagopalan. bibliog Am Chem Soc J 72:5530-6 D '50

Preparation of deuterated steroids. D. K. Fukushima, S. Lieberman and B. Praetz. bibliog Am Chem Soc J 72:5205-11 N '50

Recent advances in the chemistry of the steroids. F. S. Spring. Chem Soc J p3352-7 N '50

Reversed phase partition chromatography of steroids on silicone-treated paper. T. H. Kritchevsky and A. Tiselius. bibliog Science 114:299-300 S 21 '51

Semicarbazones of α,β-unsaturated 20-ketosteroids. H. Reich and R. W. Collins. bibliog Am Chem Soc J 73:1374 Mr '51

Stereochemistry of catalytic hydrogenation; the hydrogenation of *trans-as*-octahydrophenanthrene derivatives; a new form of the perhydrophenanthrene ring and a model for the inversion of the 6-keto-steroids. R. P. Linstead and R. R. Whetstone. Chem Soc J p 1428-32 Je '50

Stereochemistry of steroids; the concept of equatorial and polar bonds. D. H. R. Barton and W. J. Rosenfelder. Chem Soc J p 1048-54 Ap '51

Steroid series; the ozonolysis of fucosterol and some of its derivatives. D. H. Hey, J. Honeyman and W. J. Peal. Chem Soc J p2881-4 O '50

Steroid syntheses featured before A.C.S. Organic division. Chem & Eng N 29:3832-4 S 17 '51

Steroidal sapogenins; oxidation of $\Delta^{5,16,20(22)}$-furostatriene-3β,26-diol. A. Sandoval and others. Am Chem Soc J 73:3820-4 Ag '51

Steroids; a steroidal cyclopropyl ketone. A. Sandoval, G. Rosenkranz and C. Djerassi. Am Chem Soc J 73:2383-5 My '51

STEROIDS—*Continued*

Steroids and related compounds; further experiments on the bromination of oxidation products of cholestane-3β : 5α : 6β-triol. B. Ellis and V. Petrow. Chem Soc J p2194-8 Ag '50

Steroids and related compounds; some derivatives of zymosterol. W. J. Adams, V. Petrow and R. Royer. Chem Soc J p678-80 Mr '51

Steroids and related compounds; some heterocyclic derivatives. H. Antaki and V. Petrow. Chem Soc J p901-4 Ap '51

Steroids and related compounds; some transformation products of 5-methyl-10-norandrost-8(9)-ene-3 : 6-diol-17-one. M. Davis and V. Petrow. Chem Soc J p 1185-8 Ap '50

Steroids and related compounds; the preparation of pregna-5 : 17-diene-3β : 21-diol. D. Magrath and others. Chem Soc J p2393-6 S '50

Steroids and the Walden inversion; reduction of cholest-5-en-3-one with lithium aluminium hydride. C. W. Shoppee and G. H. R. Summers. Chem Soc J p687-9 F '50

Steroids; aromatization experiments in the progesterone series. C. Djerassi and others. bibliog Am Chem Soc J 73:1523-7 Ap '51

Steroids; Beckmann rearrangement of 17-ketosteroid oximes. S. Kaufmann. bibliog Am Chem Soc J 73:1779-80 Ap '51

Steroids; contribution to the bromination of Δ^4-3-ketosteroids and a new partial synthesis of the natural estrogens. C. Djerassi and others. bibliog Am Chem Soc J 72:4534-40 O '50

$\Delta^{5,7}$-Steroids; 7-dehydrocholesteryl methyl ether. S. Bernstein and K. J. Sax. Am Chem Soc J 73:846-7 F '51

Steroids; 17-ethynylandrostan-17β-ol and androstane-2,17-dione. C. Djerassi, R. Yashin and G. Rosenkranz. bibliog Am Chem Soc J 72:5750-1 D '50

Steroids; introduction of the 11-keto and 11α-hydroxy groups into ring C unsubstituted steroids. G. Stork and others. Am Chem Soc J 73:3546-7, 4496-7 Jl, S '51

Steroids; α-iodoketones; a method for the conversion of *allo*steroids into Δ^4-3-ketosteroids. G. Rosenkranz and others. bibliog Am Chem Soc J 72:4077-80 S '50

Steroids; reaction of α,β-unsaturated steroid ketones with benzylmercaptan; thioenol ether formation and 1,4-addition. J. Romo and others. bibliog Am Chem Soc J 73:1528-33 Ap '51

Steroids; the dienone-phenol rearrangement in the steroid series; synthesis of a new class of estrogens. C. Djerassi and others. bibliog Am Chem Soc J 72:4540-4 O '50

Steroids; the synthesis of adrenal corticosteroids and analogs from allopregnan-3β-ol-20-one. G. Rosenkranz and others. bibliog Am Chem Soc J 72:4081-5 S '50

Steroids; the synthesis of 19-norprogesterone. L. Miramontes, G. Rosenkranz and C. Djerassi. bibliog Am Chem Soc J 73:3540-1 Jl '51

Steroids; the Wohl-Ziegler bromination of steroidal 1,4-dien-3-ones; partial synthesis of Δ^6-dehydroestrone and equilenin. S. Kaufmann and others. bibliog Am Chem Soc J 72:4531-4 O '50

Studies in steroid metabolism; the effects of stereochemical configuration at positions three and five on the infrared spectra of 3-acetoxy steroids. R. N. Jones and others. bibliog Am Chem Soc J 73:3215-20 Jl '51

Studies in the sterol group; reactions between 17-keto-steroids and organometallic compounds. C. W. Greenhalgh, H. B. Henbest and E. R. H. Jones. Chem Soc J p 1190-3 My '51

Symposium on steroids in clinical and experimental practice. R. I. Dorfman. Science 113:467-8 Ap 20 '51

Synthesis of a steroid. Sci Am 184:30 Je '51

Synthesis of 11-hydroxylated cortical steroids; 17(α)-hydroxycorticosterone. N. L. Wendler and others. bibliog Am Chem Soc J 72:5793-4 D '50

Synthesis of 11-keto steroids. E. M. Chamberlin and others. Am Chem Soc J 73:2396-7 My '51

Total synthesis of a steroid. R. B. Woodward and others. Am Chem Soc J 73:2403-4 My '51

Total synthesis of natural steroid precursor announced; DL-methyl-3-keto-4,9(11),16-etiocholatrienate. Chem & Eng N 29:1847-8 My 7 '51

Total synthesis of some naturally occurring steroids. R. B. Woodward, F. Sondheimer and D. Taub. Am Chem Soc J 73:3547-8 Jl '51

Tricyclic intermediates for the synthesis of non-aromatic steroids. A. L. Wilds and others. Am Chem Soc J 72:5794-5 D '50

Wolff-Kishner reduction of 11-keto steroids. R. B. Moffett and J. H. Hunter. bibliog Am Chem Soc J 73:1973 My '51

See also

Corticosterone

Analysis

Paper chromatography of steroids. D. Kritchevsky and M. Calvin. bibliog Am Chem Soc J 72:4330 S '50

Nomenclature

Reevaluation of steroid nomenclature. F. Kipnis. bibliog Science 113:40-2 Ja 12 '51

Steroid nomenclature. Chem & Ind sup SN 1-11 Je 23 '51

STEROLS

Chemical actions of ionising radiations in solution; radiation chemistry of sterols; the action of X-rays on cholesterol and 3β-hydroxypregn-5-en-20-one. M. Keller and J. Weiss. Chem Soc J p2709-14 O '50

Chemical actions of ionising radiations in solution; radiation chemistry of sterols; the action of X-rays on cholic acid in aqueous solution. M. Keller and J. Weiss. Chem Soc J p25-6 Ja '51

Chemical actions of ionising radiations in solution; radiation chemistry of sterols; the action of X-rays on (+)-œstrone-b in aqueous solution. M. Keller and J. Weiss. Chem Soc J p 1247-9 My '51

Relation of the sterol and the glyceraldehyde steric conventions. R. S. Cahn. Chem & Ind p 14-15 Ja 6 '51

Sterol probe; Syntex S.A. il Chem Ind W 68:20 F 24 '51

Sterols; 17 α-hydroxy-11-desoxycorticosterone (Reichstein's substance S). P. L. Julian and others. bibliog Am Chem Soc J 72:5145-7 N '50

Sterols of algae; the structure of fucosterol. W. Bergmann and M. Klosty. Am Chem Soc J 73:2935 Je '51

Studies in the sterol group; reactions between 17-keto-steroids and organometallic compounds. C. W. Greenhalgh, H. B. Henbest and E. R. H. Jones. Chem Soc J p 1190-3 My '51

Analysis

Microscopic fusion analysis of sterols. V. Gilpin. bibliog il Anal Chem 23:365-74 F '51

STEVENAGE, England

British new towns, a case study of Stevenage. R. B. Black. Land Econ 27:41-8 F '51

STEVENS, Charles A. 1901-

Copy reader's rhymes in Journal, Press, Times. R. Johns. por Ed & Pub 83:24 D 16 '50

STEVENS, Henry, 1896-

Sleuthing oilseed allergens wins Hillebrand prize for three. por(cover) Chem & Eng N 29:663 F 19 '51

STEVENSON, A. E.

A. E. Stevenson and Samuel Cate Prescott. por(cover) Chem & Eng N 29:2820 Jl 9 '51

STEVENSON, William T.

Portrait. Fortune 44:24 Jl '51

STIBINE

Infrared spectrum of stibine. D. C. Smith. J Chem Phys 19:384-5 Mr '51

Microwave spectrum of phosphine, arsine, and stibine. C. C. Loomis and M. W. P. Strandberg. bibliog diags Phys R 81:798-807 Mr 1 '51

STIEBER, Jack

Portrait. Fortune 43:38 F '51

STIELTJES integrator. See Integrators

STIFFNESS

Evaluation of various torsion wires for the Gehman apparatus used for determining low-temperature stiffness of elastomers. B. G. Labbe. il India Rubber World 124:443-4 Jl '51

STIFFNESS—*Continued*
Measurement of stiffness in textile fabrics; comparison of five methods of laboratory evaluation; study of the Peirce cantilever test. N. J. Abbott. bibliog Textile Res J 21:435-44 Je '51
Primary creep and stiffness of vulcanized rubbers. D. H. Cooper. il Ind & Eng Chem 43:365-73 F '51

STIGLER, George Joseph, 1911-
Economists. J. McDonald. por Fortune 42:108-13+ D '50

STILBAZOLE
Reaction of α- and γ-stilbazoles with selenium dioxide. C. A. Buehler, J. O. Harris and W. F. Arendale. bibliog Am Chem Soc J 72:4953-5 N '50
X-ray diagnostics; diiodohydroxydihydrostilbazoles and related compounds. D. Papa, E. Schwenk and E. Klingsberg. Am Chem Soc J 73:253-5 Ja '51

STILBAZOLINE
Synthetic curare substitutes from stilbazoline quaternary ammonium salts. A. P. Phillips and J. C. Castillo. bibliog Am Chem Soc J 73:3949-51 Ag '51

STILBENE
Action of stilbene on tetrachloro-*o*-benzoquinone. A. Schönberg and N. Latif. Am Chem Soc J 72:4828-9 O '50
Chemotherapeutic diamidines; the sulphur analogue of 4 : 4′-diamidinostilbene. L. Bauer and J. Cymerman. Chem Soc J p 109-14 Ja '50
Fluorescence efficiencies of some crystals for electrons and heavy particles. W. K. Jentschke and others. Phys R 83:170-1 Jl 1 '51
Infra-red spectra of carcinogens; derivatives of stilbene. H. W. Thompson and others. Chem Soc J p214-18 Ja '50
Response of some scintillation crystals to heavy particles. C. J. Taylor and others. bibliog Phys R 83:169-70 Jl 1 '51
Reversibility of the Friedel-Crafts condensation; carbomethoxystilbenes. R. C. Fuson and H. G. Cooke, jr. Am Chem Soc J 73: 3515-16 Jl '51
Scintillations in some phosphor-plastic systems. W. S. Koski. bibliog Phys R 82:230-2 Ap 15 '51
Substituted stilbenes; absorption spectra. M. Calvin and M. W. Alter. bibliog J Chem Phys 19:765-7 Je '51
Substituted stilbenes; thermal isomerization. M. Calvin and H. W. Alter. J Chem Phys 19:768-70 Je '51
Thiophen derivatives of potential biological interest; thionaphthen analogues of stilbene and related compounds. N. P. Buu-Hoï and N. Hoán. Chem Soc J p251-5 F '51
Thiophen derivatives of potential biological interest; thiophen analogues of stilbene and of related compounds. N. P. Buu-Hoï, N. Hoán and D. Lavit. Chem Soc J p2130-4 Ag '50

STILBESTROL
Reaction of diazomethane with stilbœstrol in the presence of propanol. A. Mustafa. Chem Soc J p 1369-70 My '51

STILLINGIA oil
Constitution and properties of a conjugated diene acid present in stillingia oil. A. Crossley and T. P. Hilditch. Chem Soc J p3353-7 D '49

STIMULANTS
Pharmacologic analysis of intestinal stimulants. S. Ellis. bibliog Science 114:325-6 S 28 '51
Research yields understanding of stimulants, antispasmodics; abstract. A. M. Lands. Chem & Eng N 29:3467-8 Ag 20 '51
Stimulants, lift or letdown? Chem Eng 58: 251-2+ F '51

STIPITATIC acid
Structure of stipitatic acid. R. E. Corbett, A. W. Johnson and A. R. Todd. Chem Soc J p 147-9 Ja '50
Synthesis of stipitatic acid. J. Bartels-Keith and others. Chem & Ind p337 Ap 28 '51
Tropolone. W. V. Doering and L. H. Knox. bibliog Am Chem Soc J 73:828-38 F '51

STIRRERS
Improved stirrer assembly. J. T. Patton. diag J Chem Educ 28:207 Ap '51
Simple magnetic stirrer. E. Kohn. diag J Chem Educ 28:125 Mr '51

STIX, Baer and Fuller company
Stock offered. Comm & Fin Chr 174:1408 O 15 '51

STOBBE condensation. See Condensation, Chemical

STOCK, Chester, 1892-1950
Sketch. J. P. Buwalda. por Am Assn Pet Geologists Bul 35:775-8 Mr '51

STOCK company association
S.C.A. continues even though HOLC expires. Nat Underw 55:6 Je 7 '51

STOCK dividends. See Dividends

STOCK exchange
Balance sheet of the stock market. S. B. Lurie. Comm & Fin Chr 173:1425+ Ap 5 '51
Bull market can continue. B. K. Thurlow. Comm & Fin Chr 173:1745+ Ap 26 '51
Bull market now in fourth phase. R. S. Byfield. Comm & Fin Chr 174:857+ S 6 '51
Bull market's final phase. J. Mindell. Comm & Fin Chr 173:620 F 8 '51
Chicago analysts forecast 1951 stock market. Bsns W p 111 Ja 27 '51
Coming stock market decline. A. Gaubis. Comm & Fin Chr 173:616+ F 8 '51
Conversation on the stock market. A. Huber. Comm & Fin Chr 173:1237 Mr 22 '51
Current economic conditions and the outlook for stock prices. N. Molodovsky. Comm & Fin Chr 174:596-7 Ag 16 '51
Current investment and business outlook. H. Aul. Comm & Fin Chr 174:237+ Jl 19 '51
Democracy, inflation, and the stock market outlook. E. Jellinek. Comm & Fin Chr 172: 2442+ D 21 '50
Does public participation in bull market portend coming change? B. K. Thurlow. Comm & Fin Chr 173:257+; 174:1052 Ja 18, S 20 '51
Don't miss the caboose; bullish factors have run their course. H. Gully. Comm & Fin Chr 173:812+ F 22 '51
Double-standard in interpreting stock market performance. A. W. May. Comm & Fin Chr 172:2081+ N 30 '50
Forecastability of the market, 1950. A. W. May. Comm & Fin Chr 172:1585+ O 26 '50
Have stock prices over-discounted inflation and armament program? J. F. Hughes. Comm & Fin Chr 174:1159 S 27 '51
Heavy public buying presages market decline. J. Coe. Comm & Fin Chr 174:949+ S 13 '51
Inflation and stock prices. A. Huber. Comm & Fin Chr 173:715+ F 15 '51
Inflation, deflation and the stock market. F. W. LaFarge. Comm & Fin Chr 172: 1581+ O 26 '50
Inflation impact ended on stock market. T. D. Sears. Comm & Fin Chr 173:1223+ Mr 22 '51
Investing under a rearmament economy. P. J. Fitzgerald. Comm & Fin Chr 174:501+ Ag 9 '51
Is it possible to forecast the stock market? A. W. May. Comm & Fin Chr 172:2533+ D 28 '50; Discussion. 173:253+ Ja 18 '51
Is the bull market coming to a pause? A. Hecht. Comm & Fin Chr 172:1487 O 19 '50
Is this a new era? H. D. Comer. Comm & Fin Chr 173:1229+ Mr 22 '51
Knowing the stock market. W. J. B. Smith. Comm & Fin Chr 174:420 Ag 2 '51
Market; broken barometer; ABC of what's behind some key statistics. Bsns W p71-2+ Jl 28 '51
Market outlook. R. S. Byfield. Comm & Fin Chr 174:149+ Jl 12 '51
Misconceptions and facts concerning stock market. E. C. Gray. Comm & Fin Chr 173:709+ F 15 '51
Movement of the market over the last fortnight. A. T. Miller. Mag of Wall St 87:364-6+ Ja 13 '51 [cont biweekly]
Next move in the stock market. J. M. Templeton. Comm & Fin Chr 174:958 S 13 '51
No ground for bearish opinions. B. K. Thurlow. Comm & Fin Chr 173:2246 My 31 '51
Outlook for stock market. A. M. Kulp. Trusts & Estates 90:118-20 F '51
Outlook for stock prices. H. H. Biel. Comm & Fin Chr 173:2141+ My 24 '51
Outlook is for much higher stock prices. H. O. Whitman. Comm & Fin Chr 172:1896 N 16 '50

STOCK exchange—*Continued*

Outlook not as dark as it seems; with economic and stock data comparing 1929 and 1950. C. ter Kuile. Comm & Fin Chr 172: 2188 D 7 '50

Peak bull market is still to come! K. Ward. Comm & Fin Chr 172:1485+ O 19 '50

Picture of a puzzled market. Bsns W p 102-4 Jl 21 '51

Plateau theory and stock market movements. A. C. Poole. Comm & Fin Chr 174:954+ S 13 '51

Possible developments in 1951 stock market. G. M. Loeb. Comm & Fin Chr 173:257 Ja 18 '51

Prospects for business and the stock market. S. B. Lurie. Comm & Fin Chr 172:1977+ N 23 '50

Public relations and training programs in financial industry. W. H. Smith. Comm & Fin Chr 172:1086+ S 21 '50; Abstract. Trusts & Estates 89:785-7 N '50

Realistic view of the stock market. M. D. Safanie. Comm & Fin Chr 174:321+ Jl 26 '51

Security markets and business outlook. J. D. Weiss. Comm & Fin Chr 173:2148+ My 24 '51

Stay in, say bulls; take profits, say bears; with graph showing Dow-Jones stock price averages, 1924-1950. Bsns W p82-4 Ja 13 '51

Stock market action indicates no impending major war. C. A. Taggart. Comm & Fin Chr 173:537 F 1 '51

Stock market and World war III. J. C. Luitweiler. Comm & Fin Chr 172:2535+ D 28 '50

Stock market appraisal. V. L. Bassie. Comm & Fin Chr 172:2184 D 7 '50

Stock market at a glance; price changes, earnings and dividends; New York stock and curb exchanges. Published in weekly numbers of Barron's

Stock market at major peak. J. Coe. Comm & Fin Chr 172:2079 N 30 '50

Stock market is basically strong. V. L. Bassie. Comm & Fin Chr 174:413+ Ag 2 '51

Stock market outlook. H. H. Biel. Comm & Fin Chr 173:616 F 8 '51

Stock market outlook. R. D. Naess. Comm & Fin Chr 173:1124-5 Mr 15 '51

Stock market outlook for balance of 1951. J. D. Riordan. Comm & Fin Chr 174:765+ Ag 30 '51

Stock market timing based on credit controls. D. W. Matthews. Comm & Fin Chr 173:2665+ Je 28 '51

Stocks; 1929 look with differences; with graph 1924-1951. Bsns W p 19-20 S 22 '51

Today's stock market from a technical viewpoint. O. K. Taylor. Comm & Fin Chr 173:1538 Ap 12 '51

Trees do not grow to the sky; nor bull markets last forever. L. S. Herzig. Comm & Fin Chr 173:2557 Je 21 '51

Unfavorable vs. favorable factors in stock market. W. Kurtz. Comm & Fin Chr 173: 1748+ Ap 26 '51

What about stock prices? J. F. Hughes. Comm & Fin Chr 173:1539 Ap 12 '51

Where do we go from here? S. B. Lurie. Comm & Fin Chr 174:241+ Jl 19 '51

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also names of exchanges, e.g.

Bombay stock exchange
London stock exchange
Midwest stock exchange
New York curb exchange
New York stock exchange

Mergers

Exchange merger? San Francisco and Los Angeles plan to merge. Bsns W p61 D 30 '50

STOCK liquidation agreements

See also

Insurance, Business—Stock liquidation agreements

STOCK option contracts. See Puts and calls

STOCK options. See Stock purchase options

STOCK ownership, Employees'. See Employees as stockholders

STOCK purchase options

Committee of Society of corporate secretaries holds restricted stock options exempt from Salary stabilization board. Comm & Fin Chr 174:539 Ag 9 '51

It's better to take it later, taxwise; stock options and deferred compensation for executives. Bsns W p45-6+ Ap 7 '51

Stock option; newest stimulus of controversy. A. W. May. Comm & Fin Chr 173:1941+ My 10 '51; Discussion. W. Soss. 173:2445+ Je 14 '51

Stock option study by McKinsey & co. reveals cautious use. Comm & Fin Chr 174:880-1 S 6 '51

Stock options offered to key men; share-purchase plans as incentive to top management personnel. S. Altschul. Aviation W 55:43 S 17 '51

When do you use a stock option? W. H. Friedman and G. Silbert. bibliog J Account 90:443-4 N '50

STOCK rights. See Stocks—Rights

STOCK taking. See Inventories—Accounting

STOCKHOLDERS

Hails millionth stockholder of A.T.&T. C. E. Wilson. Comm & Fin Chr 173:2056 My 17 '51

Improving stockholder relations. F. A. Allen. Comm & Fin Chr 174:339 Jl 26 '51

Is there a limit to stockholder offerings? W. F. Stanley. Pub Util 48:201-6 Ag 16 '51

It's not necessarily worthless; Tracers company of America finds missing stockholders. R. H. Joseph. il Bankers Mo 68:30+ Ap '51

One-million stockholders for AT&T. il Bsns W p 130-2+ My 19 '51

Pooled votes. Bsns W p 132+ Je 16 '51

Potential stockholders are neglected market. R. L. Heilbroner. Am Bsns 20:20-1+ D '50

Something new in public ownership; A.T. and T.'s million shareholders. J. L. Donnelly. Pub Util 48:147-52 Ag 2 '51

Stockholder organizations and the utility companies. M. H. Frank. Pub Util 47:779-83 Je 7 '51

Stockholder preferences; survey by Los Angeles stock exchange. J. C. Clendenin. Comm & Fin Chr 174:427+ Ag 2 '51; Abstracts. Management R 40:501-2 Ag '51; Bsns W p 136 S 8 '51

Suggests share owner replace term stockholder. E. F. Hutton. Comm & Fin Chr 174:1354 O 11 '51

Swift makes friends by thanking stockholders for proxies. Am Bsns 21:30 F '51

See also

Advertising—Stockholders, Appeal to
Banks and banking—Stockholders
Corporations—Reports and yearbooks
Employees as stockholders

STOCKHOLM, Sweden

Architecture

Technical high school. il plans diags Arch Forum 93:140-5 N '50

STOCKPILING

Buying for stock. Economist 160:502-4 Mr 3 '51

Defense stockpiles grow fast. il Bsns W p24-5 D 9 '50

Only 59 per cent of stockpile goals of strategic and critical materials realized to date in spite of recently stepped-up activities. R. G. Gibbs. Chem & Eng N 29:3688 S 10 '51

Stockpiling and commodity prices. Economist 160:701 Mr 24 '51

Stockpiling for what? K. Bloch. Barron's 30: 5 D 11 '50

Stockpiling; new aims, new organization; Larson heads Defense materials procurement agency. Iron Age 168:89 Ag 9 '51

U.S. shifts stockpile policy. Bsns W p36 Mr 17 '51

See also

Minerals—Stockpiling

STOCKS

Are stocks the remedy? report of Savings banks association of the state of New York. Burroughs Clearing House 35:6-7 Ja '51

Are stocks too high for prudent investment? H. L. Whitridge. Comm & Fin Chr 173: 1138 Mr 15 '51

STOCKS—*Continued*

Attraction of defensive stocks at this time. G. W. Mathis. Mag of Wall St 88:439-41+ Jl 28 '51

Bargains in chips? W. Witherspoon. Barron's 31:13-14 Ap 16 '51

Caution in common stocks for trust funds. A. M. Massie. Comm & Fin Chr 172:1998-9 N 23 '50

Changes in common stock holdings of 44 investment management groups, Sept. 29-Dec. 31, 1950; tabulation. Comm & Fin Chr 173:734-5 F 15 '51

Changes in common stock holdings of 44 investment management groups, December 31, 1950-March 31, 1951; table. Comm & Fin Chr 173:1956-7 My 10 '51

Claim common stocks safe for savings banks. Am Gas J 173:29-30 N '50

Close corporation stock redemption for death taxes. R. O. Schwartz. Trusts & Estates 89:824-5 D '50

Common stocks and pension funds. P. I. Wren. Comm & Fin Chr 173:2151+ My 24 '51

Common stocks as inflation hedge for pension funds. P. I. Wren. Comm & Fin Chr 173:813+ F 22 '51; Same cond. Trusts & Estates 90:106-7+ F '51

Common stocks can hedge inflation, if you pick right. Bsns W p 114-16 F 24 '51

Common stocks in pension funds. D. L. Terwilleger. Comm & Fin Chr 174:324-5 Jl 26 '51

Companies which should maintain their dividends in 1951; with comparative balance sheet items. Mag of Wall St 87:383-5 Ja 13 '51

Companies with big earnings cushions; with tabulation of companies' earnings. J. C. Clifford. Mag of Wall St 87:163-5+ N 18 '50

Dollars are now preferable to equities. J. Coe. Comm & Fin Chr 173:714 F 15 '51

Equities in common funds; 494 common stocks in trust portfolios; with list. Trusts & Estates 90:364-6 Je '51

Financial survey of specialty and unclassified stocks; table. Mag of Wall St 88:562-3 Ag 25 '51

Five companies that should earn more in 1951; with comparative balance sheet items. Mag of Wall St 88:246-8 Je 2 '51

Five low-priced speculative stocks. Mag of Wall St 87:607-9 Mr 10 '51

Five promising low priced stocks; with comparative balance sheet items. Mag of Wall St 87:553-5 F 24 '51

Five stocks that should do well in war or peace; with comparative balance sheet items. Mag of Wall St 87:328-30 D 30 '50

Five well situated stocks offering good yields; with comparative balance sheet items. Mag of Wall St 87:122-4 N 4 '50

For long-term investment; stocks or bonds? with tabulation showing comparison of stocks and bonds for ten-year investment, 1900-1950. D. L. Kemmerer. Comm & Fin Chr 173:521+ F 1 '51

General Motors stock action indicates bull market top. S. J. Sanford. Comm & Fin Chr 173:714 F 15 '51

Glamour stocks. B. K. Thurlow. Comm & Fin Chr 174:415 Ag 2 '51

Growing respectability of the common stock. A. W. May. Comm & Fin Chr 174:1349+ O 11 '51

Growth stocks; study of market action reveals characteristic pattern. R. W. Bridwell. Barron's 31:21-2 Je 18 '51

High yield stocks that should do well in a defense economy; with comparative balance sheet items. Mag of Wall St 87:228-30, 451-3 D 2 '50, Ja 27 '51

Importance of growing demand for stocks by institutions. J. S. Williams. Mag of Wall St 87:215-17+ D 2 '50

Need of widespread equity investment. H. P. Hargrave. Comm & Fin Chr 173:58+ Ja 4 '51

New look of common stocks. L. B. Schwinn. Comm & Fin Chr 173:1637+ Ap 19 '51

New York trustees swarm into stocks. Bsns W p 106+ D 16 '50

Newcomers on the New York stock exchange. G. W. Mathis. Mag of Wall St 88:360-1+ Je 30 '51

1950 reshuffles favorite 50; tabular analysis of year-end holdings of 158 investment companies. Bsns W p 129 Mr 24 '51

1951 midyear re-appraisals of values, earnings and dividend forecasts. Mag of Wall St 88:452-9+, 504-11+, 554-63+, 605-17+ Jl 28-S 8 '51

Oil holdings maintain lead in favorite fifty in investment trust portfolios at mid-year 1951. P. A. Johnston. Barron's 31:35-7 S 10 '51

Opportunities in laggards; with statistical data on stocks which have been lagging behind the market. Mag of Wall St 87:225-7+ D 2 '50

Place of common stocks in trust investment. R. F. Murray. Comm & Fin Chr 172:1889+ N 16 '50; Excerpts. Trusts & Estates 89:829-31 D '50

Savings banks should invest in some common stocks. E. V. Bell. Comm & Fin Chr 174:1351+ O 11 '51

Savings banks yearn for stocks. Bsns W p98-9 O 21 '50

Shares for the carriage trade; Superior oil of California; Travelers insurance; Christiana securities. I. U. Cobleigh. Comm & Fin Chr 174:1250 O 4 '51

Simple formula for common stock investment. H. S. Schneider. Comm & Fin Chr 173:60+ Ja 4 '51

Six stocks behind the market; ready to move. J. C. Clifford. Mag of Wall St 88:655-7+ S 22 '51

Stock speculation. J. McDonald. Fortune 43:110-11+ Je '51

Stocks and bonds; a reader's reasoning behind a rule which has served him well. Barron's 31:19-20 Ap 9 '51

Stocks the experts like the best; analysis of trusts' midyear portfolios; table. Bsns W p 161 O 6 '51

Stocks with income tax free dividends. G. W. Mathis. Mag of Wall St 88:30-1+ Ap 7 '51

Ten endowment funds' blue chips. Banking 43:66 Je '51

Ten potential market leaders for 1951; with comparative balance sheet items. Mag of Wall St 87:501-6 F 10 '51

Timely evaluation of low priced stocks; with statistical data on selected shares. J. C. Clifford. Mag of Wall St 87:445-7+ Ja 27 '51

Timing vs. selectivity in buying stocks. S. M. Gofen. Comm & Fin Chr 172:1991+ N 23 '50

Traders' choices differ from funds' favorites. E. S. C. Coppock. Barron's 30:17-18 D 4 '50

Trusts continue switching to stocks of war industries in fourth quarter; with tabulations. H. A. Long. Comm & Fin Chr 173:709+ F 15 '51

Values in today's market; Electric Storage Battery and U.S. Pipe & Foundry. I. Komanoff. Comm & Fin Chr 173:2247 My 31 '51

Values in today's market; stocks of S. S. White dental manufacturing co. and Visking corp. I. Komanoff. Comm & Fin Chr 173:2046 My 17 '51

What can we expect from common stock investments? G. F. Shaskan, jr. Comm & Fin Chr 172:1692 N 2 '50

What's ahead for stock prices? A. M. Kulp. Comm & Fin Chr 173:440 Ja 25 '51

Which common stocks as inflation hedges? with statistical data on selected stocks. W. Gates. Mag of Wall St 87:111-13+ N 4 '50

See also

Banks and banking—Stock
Bonds
Corporations
Dividends
Investments
Securities
Speculation
Stock exchange
Stock purchase options

also subdivision Securities under names of industries, e.g.

Chemical industries—Securities
Electric utilities—Securities

Leverage

Five debt-free companies; with comparative balance sheet items. Mag of Wall St 88:402-4 Jl 14 '51

Industry characteristics important in investment planning. T. W. Phelps. Comm & Fin Chr 173:1228+ Mr 22 '51; Excerpts. Trusts & Estates 90:243-4 Ap '51

STOCKS—Leverage—*Continued*

Leverage factor in common stocks. J. C. Clifford. Mag of Wall St 88:81-2+ Ap 21 '51

Margin buying

Margin on stocks raised to 75 per cent. Comm & Fin Chr 173:260 Ja 18 '51

Margin requirements for purchasing securities; supplements to regulations T and U. Fed Res Bul 37:22 Ja '51

Reserve board alters Regulation T; with text of amendment. Comm & Fin Chr 174:967 S 13 '51; Same. Fed Res Bul 37:1133-4 S '51

Odd lots

Odd-lot stock dealers under fire. Bsns W p 124-5 Ag 18 '51

Price-earnings ratios

Continued high earnings portend higher stock valuations. C. F. Roos. Comm & Fin Chr 173:1020+ Mr 8 '51

Study of price-dividend ratios. P. Dobbs. Mag of Wall St 88:308-9+ Je 16 '51

Price fluctuations

Stay in, say bulls; take profits, say bears; with graph showing Dow-Jones stock price averages, 1924-1950. Bsns W p82-4 Ja 13 '51

Stock market fluctuations. P. J. FitzGerald. Comm & Fin Chr 172:1800-1 N 9 '50

Stocks; 1929 look with differences; with graph 1924-1951. Bsns W p 19-20 S 22 '51

Where do securities stand today? with table of cross currents in stock price movements. J. C. Clifford. Mag of Wall St 88:595-7+ S 8 '51

Price forecasting

Evaluating common stocks. A. Huber. Comm & Fin Chr 172:1788 N 9 '50

Forecasting the market. J. Levitan. Comm & Fin Chr 174:695 Ag 23 '51

Is it possible to forecast the stock market? A. W. May. Comm & Fin Chr 172:2533+ D 28 '50; Discussion. 173:253+ Ja 18 '51

Stock market forecast from the technical approach. E. W. Tabell. Comm & Fin Chr 173:1016+ Mr 8 '51

Price indexes and averages

Are stock prices forming an important top? index of secondary stocks. N. Molodovsky. Comm & Fin Chr 174:424 Ag 2 '51

Barron's market laboratory; comments by readers. Barron's 30:11-12 D 25 '50

Bull market comparison; 1951 vs. '29, '37, '46; table. Bsns W p 110 S 1 '51

Common stock index. Published in bi-weekly numbers of Magazine of Wall Street

Dow-Jones averages, 1942-1951; graph. Barron's 31:36 Ja 29 '51

How to use current listed stock market prices in fixing value of close corporation stock. W. R. Ginder. J Account 92:198-200 Ag '51

Market; broken barometer; ABC of what's behind some key statistics. Bsns W p71-2+ Jl 28 '51

1950's stock market pattern; tabulation by industry groups. Bsns W p97 Ja 6 '51

SEC stock market index. Comm & Fin Chr 173:1554-5 Ap 12 '51

SEC unveils most accurate index; new weekly stock price averages. Bsns W p 128+ Ap 7 '51

Should Dow-Jones industrial averages be revised? A. W. Thorpe. Comm & Fin Chr 174:1355+ O 11 '51

Stay in, say bulls; take profits, say bears; with graph showing Dow-Jones stock price averages, 1924-1950. Bsns W p82-4 Ja 13 '51

Stock prices, yearly average 1948-1950, monthly Dec. 1949-Dec. 1950 and weekly, Dec. 1950. Fed Res Bul 37:67 Ja '51 [cont monthly]

Study of price movement; market laboratory. Published in weekly numbers of Barron's

Study of the price movement; 16-month chart showing daily fluctuations of the Dow-Jones averages. Barron's 31:25 O 1 '51

Prices

Monthly range of prices on the New York stock exchange for year 1950. Comm & Fin Chr 173:355-67 sec 2 Ja 18 '51

New factors to influence stock price trends. A. T. Miller. Mag of Wall St 87:106-7 N 4 '50

1950 price movements among the 325 component issues of the Magazine of Wall Street combined stock averages. Mag of Wall St 87:432 Ja 27 '51

Stock market at a glance; price changes, earnings and dividends; New York stock and curb exchanges. Published in weekly numbers of Barron's

Rights

Capital increases via subscription rights; with data on recent offerings. G. W. Mathis. Mag of Wall St 88:254-5+ Je 2 '51

Short selling

Short interest ratio declines to 0.84; data as of Jan. 15, 1951 and comparison with Dec. 15, 1950. Barron's 31:38 Ja 22 '51 [cont monthly]

Split-up

Latest wave of stock splits; with tabulations. R. Colston. Mag of Wall St 87:182-3+ N 18 '50

Stock fission; bull market creates trend. Bsns W p 117 F 24 '51

Stock-split boom; shades of 1929; with table. Bsns W p 131-2 S 8 '51

Stocks with split personalities. I. U. Cobleigh. Comm & Fin Chr 174:327, 416 Jl 26, Ag 2 '51

Study of stock splits. G. W. Mathis. Mag of Wall St 88:598-9+ S 8 '51

Study of stock splits; with tabulations. P. Dobbs. Mag of Wall St 87:551-2+ F 24 '51

Talon splits stock. Bsns W p 156 O 6 '51

Valuation

Hard-boiled evaluation of common stocks. A. W. May. Comm & Fin Chr 172:1785+ N 9 '50

How to use current listed stock market prices in fixing value of close corporation stock. W. R. Ginder. J Account 92:198-200 Ag '51

Market level appraised on a price-value basis; Broad Street sales corp. release with tables. Barrons 31:21-2 O 15 '51; Excerpts. Comm & Fin Chr 174:1278 O 4 '51

Valuation of close corporation securities. K. J. Bushman. Trusts & Estates 90:228-30+ Ap '51

Yields

Fund probes historical import of six per cent return. P. A. Johnston. Barron's 31:23 My 28 '51

Index of yields; selected utilities stocks. Am Gas J 174:33-4 Ja '51 [cont monthly]

Study of common stock yields; with comparisons of selected stocks. H. F. Travis. Mag of Wall St 87:280-2+ D 16 '50

STOCKS, Convertible. See Stocks, Preferred—Convertible stocks

STOCKS, Preferred

Are preferred stocks conservative? comparisons with bonds, commons and formula results. M. S. Thomas. Trusts & Estates 90:152-4+ Mr '51

424 preferred stocks in common trust funds; with list. Trust & Estates 90:576-8 S '51

Outlook for high-grade bonds and preferreds. R. A. Bing. Comm & Fin Chr 173:1947 My 10 '51

Selecting industrial preferred stocks. R. F. Murray. Comm & Fin Chr 173:909+ Mr 1 '51

Utilities need aid to stimulate preferred stock financing. O. Ely. Pub Util 48:45-7 Jl 5 '51

Convertible stocks

Calling convertible issues. J. S. Williams. Mag of Wall St 87:658-9+ Mr 24 '51

Convertibles attractive now? with data on selected stocks. P. Dobbs. Mag of Wall St 88:202-3+ My 19 '51

If common stock won't do; growth companies seek equity capital via issues of convertible preferred. Bsns W p 128-30 S 29 '51

June just blossomed out all over with convertibles! I. U. Cobleigh. Comm & Fin Chr 174:60 Jl 5 '51

Present market appeal of convertible bonds and stocks; with analysis of Chicago pneumatic tool co., Oliver corp, and Glidden co. S. Fried. Comm & Fin Chr 173:1136 Mr 15 '51

STOCKS, Preferred—*Continued*

Prices

Preferred stocks move up in wake of bonds; table. Bsns W p 109 Jl 21 '51

STOCKYARDS

Chicago

Butcher for the world. il Bankers Mo 68: 18+ S '51

Chicago stockyards primp to pep up waning business. il Bsns W p80-2+ N 25 '50

STOKERS, Mechanical

Developments in spreader-firing wet wood. A. S. Weigel. diags A S M E Trans 73: 845-8 Ag '51

Spreader dust responds to controls. E. R. Kaiser. il diags Power 95:77-9 Ag '51

Stoker drive shaft saved by welding. G. S. McGinley. il Power 95:105 Mr '51

Tailoring an anthracite boiler to an overfeed rice stoker. H. F. Eastwood. il Heat & Ven 48:84-6 F '51

Testing

Spreader stokers pass rigid load tests with flying colors. R. W. Gausmann. diag Power 95:78-81+ Ja '51

STOLK, William C. 1900-

American can company's new president. H. Woodward. por Sales Management 66:41 My 20 '51

Portrait. Fortune 43:24 Je '51

STOLL, Arthur, 1887-

Arthur Stoll. R. E. Oesper. por(front) J Chem Educ 28:24-5 Ja '51

STOMACH

Antrum of the stomach; an endocrine organ concerned with gastric secretion; abstract. L. R. Dragstedt. Science 113:478 Ap 27 '51

STONE

Curling stones; are we missing the broom? L. H. Cole. Can Min J 72:67-9 My '51

Heater dries stone in trench for widening project; illustrations with text. Roads & Sts 94:84 Ja '51

See also

Building stone
Dolomite
Granite
Limestone
Marble
Masonry
Quarries and quarrying
Rocks

STONE, Crushed

Crusher-conveyor loads subgrade material. il Constr Methods 32:50 D '50

Mechanical handling of riprap; Big rock stone and material co. flow diag il Rock Prod 54:174-6 Ag '51

Rock-crushing operation designed for maximum flexibility; Limestone products ltd. il Roads & Eng Constr 89:70-3+ Ja '51

Symposium on production problems; joint meeting of operating men and equipment manufacturers for National crushed stone association and the Agricultural limestone institute. Rock Prod 54:92-8+ Mr '51

Twenty thousand tons of stone daily! Inland lime and stone co. il plans Rock Prod 54: 64-70 My '51

STONE implements and weapons

Early Americans. F. H. H. Roberts. il diag Sci Am 184:15-19 F '51

STONEFLIES

Thermophobic insect. R. I. Sailer. Science 112:743 D 22 '50

STONES in glass. See Glass—Stones

STONES River group

St Paul group; a revision of the Stones River group of Maryland and adjacent states. R. B. Neuman. maps diags Geol Soc Bul 62:267-324, pl 1-10 bibliog(p322-4) Mr '51

STOP payment. See Checks—Stop payment

STOPCOCKS

Hydrocarbon adsorption by stopcock lubricants. M. H. Polley. bibliog Anal Chem 23:545-6 Mr '51

STOPING methods. See Mining methods

STOPPING power. See Scattering of particles and rays

STORAGE

Adjustable pallet racks; Federal telephone & radio corp. il Factory Management 109:57 Ap '51

Crane-mounted lift doubles available storage area; Stak-Rak. il Factory Management 109:132-3 F '51

Flexible storage system doubles space. Steel 127:106 D 18 '50

How to lick a carton storage problem; overhead storage balcony equipped with chutes and conveyors at Westinghouse Electric's Beaver, Pa. plant. J. C. Hencel. il Factory Management 108:114-15 N '50

No waste air space; special equipment to handle barrel-loads of fittings at Republic supply co., Los Angeles. il Mill & Factory 48:104 F '51

Ordnance awakens its sleeping arsenal; storage methods of army ordnance. J. Kolb. il plan Iron Age 167:92-5 Ap 26 '51

Overhead tiering expands storage space. F. A. Miller. il plan diags Steel 127:104-6 N 20 '50; Abstract. Am Mach 95:106 Ja 8 '51

Palletized vertical storage revolutionizes warehouse operations; International harvester co. D. I. Brown. il Iron Age 167:87-90 Ap 26 '51

Safeguarding parts during shipment and storage. il Diesel Power 28:43 D '50

Special body handling saves storage space; Studebaker corp. il Automotive Ind 103:43+ D 1 '50

12 methods of high tiering; illustrations with text. Mill & Factory 48:111-13 Ap '51

Vertical cure of costly clog jumps storage capacity 75 per cent; Morton salt co. H. S. Squibbs. il Food Eng 23:143 Ag '51

See also

Apples—Storage
Cold storage
Construction equipment—Storage
Food, Frozen—Storage
Freight houses
Gas, Natural—Storage
Gasoline storage
Liquefied petroleum gas—Storage
Meat—Storage
Sheet metal—Storage
Stores systems
Water storage
Wood storage

STORAGE batteries

Add years to truck battery life. E. F. H. Grothe. il Factory Management 109:101 Jl '51

Anodic corrosion of lead in H_2SO_4 solutions. J. J. Lander. bibliog diag Electrochem Soc J 98:213-19 Je '51

Battery additive or improver; Sav-a-battery. Consumers Res Bul 28:26 O '51

Battery additives. P. L. Howard and G. W. Vinal. bibliog il U S Nat Bur Stand Circ 504:1-30; pa 15c Supt. of doc. '51

Battery additives tested, found worthless, at NBS. il Chem & Eng N 29:2386 Je 11 '51

Battery caps of transparent polyethylene. il Mod Plastics 28:132 Mr '51

Battery cranks engine for 23 minutes; Willard heavy duty deluxe battery. il Nat Pet N 43:75-6 S 5 '51

Battery failures on road are record 10.8 million in 1950; AAA reports. Nat Pet N 43:70 Je 6 '51

Battery improvers. Consumers Res Bul 27:17 F '51

Battery makers worried about weather, buying habits and lead shortage. Steel 129:47 Ag 6 '51

Calcium in batteries proves superior to antimony alloy. Chem & Eng N 29:665-6 F 19 '51

Diesel-electric locomotive batteries; questions and answers. K. A. Vaughan; S. K. Lessey. il diags Ry Mech & Elec Eng 125:77-8 F; 79 Ap; 80-1 My; 83-4 Je; 75-6 Jl; 86-7 Ag; 84 S; 90-1 O '51

Functions and behavior of the components of expanders for the negative plates of lead-acid storage batteries. A. C. Zachlin. bibliog il Electrochem Soc J 98:325-33 Ag '51

How a storage battery may be shorted. Marine Eng 56:76 My '51

How Ohio Boxboard maintains 195 industrial truck batteries. J. E. Vaughan. il Paper Tr J 132:18-19 Ap 27 '51

How to determine industrial truck battery requirements. J. E. Vaughan. il Mill & Factory 48:88-9 My '51; Same. Steel 129:84 Ag 13 '51; Same. Safety Maint & Prod 102:34-5 S '51; Same. Pet Eng 23:D6 N '51; Same. Paper Ind 33:1186 Ja '52; Same. Paper Tr J 134:23 Ja 4 '52; Same cond. Foundry 79:167 S '51

STORAGE batteries—*Continued*

How to turn a current problem into a promotion plus; Gould-National battery helps customers get maximum use of product. M. W. Heinritz. il Ptr Ink 236:41-2 S 14 '51

Lead, battery cutbacks could cripple essential auto travel, TBA men fear; convention of Association of American battery manufacturers, San Francisco, April 4-6. Nat Pet N 43:60+ My 2 '51

Lead-calcium storage batteries. Franklin Inst J 251:487-8 Ap '51

Longer life and saving in lead is claimed for low-gravity battery. Nat Pet N 43:68-9 My 2 '51

New low-gravity battery uses plastic separators; Exide Ultra Start. il Nat Pet N 43:76 S 5 '51

New storage battery developed by Bell telephone laboratories. Elec Eng 70:283 Mr '51

Nickel-cadmium batteries installed in substation. E. Barrow and P. B. Wickersham. il Elec World 135:72 Ja 1 '51

No antimony. il Chem Ind W 68:15 F 10 '51

Palletizing batteries. F. Breese. il Nat Pet N 43:58-9+ S 5 '51

Plan increases battery life. M. W. Heinritz. Steel 128:112+ My 21 '51

Potential-pH diagram of lead and its applications to the study of lead corrosion and to the lead storage battery. P. Delahay and others. bibliog Electrochem Soc J 98:57-64 F '51

Reducing battery adjustment claims. F. C. Sturtevant. il Nat Pet N 43:61+ F 7 '51

Replacement battery market expected to reach 24 million units by 1951. Nat Pet N 42:32 N 8 '50

Residual metal in discharged magnesium batteries. B. J. Sturm. Anal Chem 23:1333 S '51

Shop repair and reconditioning of storage batteries. S. K. Lessey. il Diesel Power 28:68-71 D '50

Some preliminary studies of positive grid corrosion in the lead-acid cell. J. J. Lander. bibliog Electrochem Soc J 98:220-4 Je '51

Storage battery emergency lighting systems; abstracts. E. R. Sanderson. Elec R (Lond) 148:1148-9 Je 1 '51; Electrician 146:1836 Je 1 '51

Storage-battery life can be stretched. J. E. Vaughan. il diag Power 95:94-5 My '51

Storage battery paint resists acid corrosion. il Power Eng 54:92 N '50: Steel 127:113 D 4 '50

Voltage variations of lead-acid accumulators at small discharge rates. F. A. Benson and D. Harrison. J Sci Instr 27:315-16 N '50

Charging

Alternator-rectifier battery charging systems. R. Gray. il Am Gas Assn Proc 1950:855-8

Automatic control of lead-acid-battery charging equipment. R. A. Harvey. bibliog diags Inst E E Proc 96 pt 2:607-17 Ag '49; Discussion. 96 pt 2:617-23; 97 pt 2:812-18 Ag '49, D '50

Battery trucks in storehouse service. il Ry Mech & Elec Eng 125:66-7 Jl '51

Circuit arrangement facilitates use of charger. W. E. Abbott. il diag Ry Mech & Elec Eng 125:45 Ja '51

How to charge storage batteries. K. A. Vaughan. il Ry Mech & Elec Eng 124:736-8 D '50; Same cond. Iron Age 166:58-9 Jl 27 '50; Same. Eng & Min J 151:102-3 O '50; Abstract. Steel 127:82 O 23 '50

Manufacture

Immersion heaters up battery production. il Elec World 135:128-9 Mr 12 '51

Producing storage battery parts with special equipment. G. E. Stringfellow. il Mach 57:172-8 D '50

Safety measures

Storage batteries can be dangerous. C. S. Moore. Pulp & Pa of Can 52:113 Mr '51

STORE buildings

Hardboard for commercial building; types; where and how to use; how to finish. il diags Am Bld 73:124-30 Jl '51

Mc Cully Square building, Honolulu. il plans Arch Rec 108:120-1 N '50

Robert Liner, watchmaker shop, Beverly Hills, Calif. il plan Arch Rec 110:120-1 Ag '51

Walter N. Boysen company's Honolulu building; Sears, Roebuck & co. building, Honolulu. il Arch Rec 108:118-19 N '50

See also
Department stores
Shopping centers

Air conditioning

Air conditioning cuts loses in photo supplies. il Heat & Ven 48:90 Jl '51

Dual role for a.c. in fruit stores; Smilen brothers, inc. il Heating-Piping 23:65 S '51

Heating and cooling plant for a retail shop. il Arch Rec 109:149 F '51

High-velocity air diffusers; Pittsburgh's Kaufmann department stores. il Power 94:99 N '50

High velocity air system is used to cool famous store; Kaufmann department store; Pittsburgh. A. T. Spangler. il diag Refrig Eng 58:1060-3+ N '50

How Macy's-Kansas City was completely air conditioned. W. L. Cassell. il plans Heating-Piping 23:100-3 F '51

Ingenuity sold these air conditioning jobs; illustrations with text. Dom Eng 178:150 Ag '51

New air conditioning design for stores. A. T. Spangler. il Heating-Piping 22:73-6 N '50

Oldest department store now up-to-date with air conditioning; Hager & bro., inc., Lancaster, Pa. W. F. Otis. il Heating-Piping 23:126-8 Ja '51

Store cooler specifications. il Refrig Eng 59:346-50, 368 Ap '51

Electric equipment

Heat resistant wire doubles store's feeder capacity. il plan Elec World 135:91-2 Je 4 '51

Square ventilated bus cuts service costs. G. Lufsey. il Elec World 134:118 D 4 '50

Fronts

American Builder's store front details. L. J. Gluskin. il diags Am Bld 73:174-5 Ja '51 [cont monthly]

Heating and ventilation

Heating store doors. T. W. Reynolds. diags Heat & Ven 48:109 Ap '51

Lighting

Display lighting; trends in the United States. A. H. Olson. il Elec R (Lond) 147:798-800 N 17 '50

Light plus color, a pick-up for business. H. Ketcham. il Illum Eng 45:673-5 N '50

Lighting a narrow, low-ceiling store. G. T. Anderson. il plan Illum Eng 45:761-2 D '50

Lighting a store. B. H. Leishman. il Illum Eng 46:405 Ag '51

Lighting a store; J. J. Newberry, Los Angeles. il plan Illum Eng 46:45 Ja '51

Lighting a store; Royer's inc., McKeesport, Pa. G. H. Maize and L. T. Kight. il Illum Eng 45:705-6 N '50

Low-voltage master control; Panorama supermarket. il Elec West 105:80 D '50

Luminous ceiling new in lighting; Saks Fifth Avenue fabric shop in Beverly Hills. il Elec West 106:83 Ap '51

Milliron's, incandescent lighting in a modern interior. il Illum Eng 45:671-2 N '50

Versatile light in stores; illustrations with text. Elec West 107:86 S '51

See also
Department stores—Lighting
Shows windows—Lighting
Jewelry stores—Lighting

STORE directories. See Department stores—Store directories

STORE fixtures

Drawer unit and display shelf; better detail plate. L. J. Gluskin. il diags Am Bld 73:130-1 Mr '51

Wrapping counter; detail plate. L. J. Gluskin. Am Bld 73:138-9 S '51

STORES (retail trade)

See also

Bakers and bakeries
Chain stores
Department stores
Drug stores
Electric shops (retail trade)
Florists' shops
Food stores
Market stores
Plumbing shops
Retail trade
Specialty stores
Store buildings
Store fixtures
Traveling stores
Women's apparel shops

STORES, Traveling. See Traveling stores

STORES systems

How to set up a maintenance stores department. C. C. Winston. Paper Ind 32:965-6 D '50

Keeping track of your inventory; control system at the National supply co., Torrance, Calif. G. A. Hatfield. il Mill & Factory 47: 85-7 D '50

No hunting in this maintenance stockroom; Trane co. J. R. Cline. il Factory Management 109:97 Ag '51

One-way traffic in this stockroom: Formfit company's Plaza plant in Chicago. il Factory Management 109:97 S '51

Perpetual-inventory system safeguards our spare-parts supply; Gastonia combed yarn corp. S. Funderburk. Textile World 101: 270+ S '51

Photograph the what-you-may-call-it; simple system of parts identification. E. K. Langille. il Mill & Factory 49:128 S '51

Plant radio speeds stock control at Weatherhead co., Cleveland. il Bsns W p96-7 Mr 17 '51

Setting up a salvage stores department. P. L. Kimmell. N A C A Bul 32:205-8 O '50

Tabulation machines simplify stockroom control; Douglas aircraft co. J. Joseph. Am Mach 95:93 My 28 '51

Wholesaler cuts costs by keeping close control of inventory; General steel co. L. Bolger. il Am Bsns 21:28+ Ja '51

See also

Gas companies—Stores systems
Inventories
Material control
Motor bus lines—Stores systems
Pattern storage
Railroads—Stores systems
Repair parts
Storage
Tool rooms

STORM water. See Sewerage

STORMS

Weather radar and offshore operations. W. W. Hildreth, jr. bibliog il diags Pet Eng 23:B7-10+ Jl '51

See also

Dust storms
Electric lines—Damage from storms
Hurricanes

STOUCH, Clarence Edgar, 1891-

Crowell-Collier's new president. H. Woodward. por Sales Management 66:41 Ap 15 '51

STOVALL, William Robert, 1905-

Dr W. R. Stovall chosen new Aero Medical head. CAA J 12:71 Je 20 '51

STOVE polish

Stove polish formulation; abstract. Soap & San Chem 27:79+ Jl '51

STOVES

Stove men seek solutions to problems at winter meeting of Institute of cooking and heating appliance manufacturers, Cincinnati, Dec. 4-6. Cer Ind 56:60-2+ Ja '51

See also

Electric stoves
Gas stoves

Manufacture

13 shortcuts to higher productivity; Perfection's Platt and Ivanhoe plants; illustrations with text. Factory Management 109: 108-12 S '51

STRAIGHTENING

Effects of light peening on the yielding of steel. H. L. Harrison and B. D. Mills, jr. il diag Welding J 30:sup251-3 My '51; Same cond. Roads & Sts 94:53-4 Ag '51

STRAIGHTENING machines

Bronx plate-levelling machine. il Engineering 170:562 D 29 '50

Parts straightened readily; straightening press made by Oilgear co. Steel 128:118+ Je 25 '51

Rotary straightener helps up tubing production. il Iron Age 168:70 Ag 9 '51

Takes the bends out of bars and tubes; KTC Straightener; illustration with text. Bsns W p62 S 8 '51

Tube-straightening machine. il Engineering 170:579 D 29 '50

STRAIN gages

Apparatus for measuring the rates of some rapid reactions. C. D. McKinney and M. Kilpatrick. bibliog il diags R Sci Instr 22: 590-7 Ag '51

Apparatus for the study of creep of dielectric polymers and their dynamic rheological properties. W. Lethersich. il diags J Sci Instr 27:303-6 N '50

Applications of bonded wire strain gages. F. G. Tatnall. diags Tool Eng 26:28-31 Ap '51

Capacitor gages for measuring small motions. H. H. Schwartz. il diags Product Eng 22: 163-5 Ag '51

Direct-reading d-c. strain-gage bridge. R. W. Troke. diags Instruments 24:400-1+, 535-6+ Ap-My '51

Dynamic strain measurement. C. M. Hathaway and K. C. Rock. il diags Elec Eng 70:675-8 Ag '51

How to use strain gages on concrete. A. R. Anderson. il Eng N 146:46-7 Mr 8 '51; Discussion. R. E. Latham. 146:42 My 31 '51

Hypodermic pressure manometer utilizing the bonded wire resistance strain gauge. H. R. Bierman and R. Jenkins. il diag R Sci Instr 22:268-9 Ap '51

Kelvin Hughes strain indicators. il Automobile Eng 41:300 Ag '51

Measuring lathe cutting tool loads with strain gages. il Mach 57:246 Ag '51

Mercury switch permits use of unlimited number of electric strain gages. S. R. Daniels and U. Seiden. il diag Civil Eng 21:158 Mr '51

Modification of portable strain indicator for use with a closed external bridge circuit. C. E. Bowman and W. J. Craig. il Instruments 24:533 My '51

Multi-channel measurement of physical effects by confluent pulse technique, with particular reference to the analysis of strain. J. G. Yates and others. bibliog il diags Inst E E Proc 98 pt 2:109-21; Discussion. 121-4 Ap '51

Multiple strain-gage tests. il Instruments 24: 698+ Je '51

Postage-stamp size gage measures stresses and strains. il Am Concrete Inst J 22: sup6+ Je '51

Resistance calibration steps. S. P. Hillson. diag J Sci Instr 28:122 Ap '51

Resistance strain gauges. T. B. Sansom. diags Elec R (Lond) 148:3-7 Ja 5 '51

Simple instrument for the determination of ACH. J. B. Davidson. diags Science 114: 361-2 O 5 '51

Strain-gage method of determining the running lash of L-head and overhead-valve engines; abstracts. A. E. Cleveland. diags Automotive Ind 104:92+ Ap 1 '51; S A E J 59:34+ Jl '51

Strain gage scale saves time in weighing operations; illustrations with text. Factory Management 109:99 S '51

Strain gages in design. S. G. Guins. il diags Machine Design 23:145-8+ Ja '51

Strain gages record roll pressures. il Steel 128:113-14 Mr 5 '51

Strain-gauge type artificial mastoid for testing bone conduction receivers. R. W. Carlisle and H. A. Pearson. bibliog il diags Acoustical Soc Am J 23:300-2 My '51

Strain-testing railroad bridges. A. D. M. Lewis. il diags Electronics 24:117-19 S '51

Structural load measurements on complex aircraft components using strain-gage summation circuits. M. A. Walter. bibliog diags J Aeronautical Sci 18:101-6 F '51

Use of the piezoelectric gauge for internal friction measurements. J. Marx. bibliog diags R Sci Instr 22:503-9 Jl '51

Waterproofing electrical-resistance strain gauges. J. D. Todd. il diags Engineering 171:67 Ja 19 '51

STRAINERS

Inserted key-stud strainer. C. H. Biedendieck. il diags Oil & Gas J 49:62-3 Ja 4 '51

Microstrainer in water filtration. J. R. Baylis. Pub Works 82:69 My '51

STRAINS and stresses

Analyzing stress and deflection for plates of three types; data sheet. H. D. Conway. diags Machine Design 23:163-7 S '51

Buckling stresses for flat plates and sections. E. Z. Stowell and others. bibliog(65 titles) il diags Am Soc C E Proc 77[no77]:1-31 Jl '51

Change of electrical resistance during the strain ageing of iron. A. H. Cottrell and A. T. Churchman. bibliog Iron & Steel Inst J 162:271-6 Jl '49; Discussion. 166:322-4 D '50

Clay products are elastic! new testing technique calculates stresses. il Brick & Clay Rec 118:38 Mr '51

Creep of a nominally isotropic magnesium alloy at normal and elevated temperatures under complex stress systems. A. E. Johnson. bibliog diags Metallurgia 42:249-62 O '50

Design factors for stress concentration; with charts; data sheet. R. E. Peterson. bibliog diags Machine Design 23:169-73 F; 161-5 Mr; 159-63 My; 173-7 Je; 155-9 Jl '51

Design procedure for integral flanges with tapered hubs. W. F. Jaep. diag A S M E Trans 73:569-71; Discussion. 572-4 Jl '51

Determination of elastic stresses in gas-turbine disks. S. S. Manson. diags U S Nat Advisory Com for Aeronautics 1947:241-51 '50

Determination of initial stresses and results of tests on steel plates. E. W. Suppiger and others. bibliog il diags Welding J 30:sup91-104 F '51; Discussion. W. E. Magee. 30:sup272 My '51

Dynamic shear properties of rubberlike polymers. I. L. Hopkins. il diags A S M E Trans 73:195-203; Discussion. 203-4 F '51

Effect of alloying elements on true-stress true-strain flow curves of pearlitic steel. R. Raring and others. bibliog J Metals 3:Trans 395-400 My '51; Discussion. 3:Trans 1065-6 N '51

Effect of internal pressure on stresses and strains in bolted-flanged connections. D. B. Wesstrom and S. E. Bergh. bibliog diags A S M E Trans 73:553-62; Discussion. 562-8 Jl '51

Effect of internal stresses on the behavior of members in the plastic range. J. F. Baker and M. R. Horne. diags Engineering 171:212-13 F 23 '51

Effect of prestraining temperatures on the recovery of cold worked aluminum. T. E. Tietz and others. bibliog J Metals 1:Trans 921-6 D '49; Discussion. 188:Trans 1364-5 N '50

Effect of rate of shear on the viscosity of dilute solutions of polyisobutylene. T. G. Fox, jr., J. C. Fox and P. J. Flory. diag Am Chem Soc J 73:1901-4 My '51

Effects of precompression on the behavior of the aluminum alloy 24ST4 during cyclic direct stressing. S. I. Liu. bibliog diag J Metals 3:Trans:452-6 Je '51

Effects of prior stress on the fatigue of aluminum alloys. J. E. Bennett and J. L. Baker. il Light Metal Age 9:16-17 Ap '51; Same cond. Materials & Methods 33:9+ Ap '51; Same cond. Mech Eng 73:584-5 Jl '51

Effects of temperature distribution and elastic properties of materials on gas-turbine-disk stresses. A. G. Holms and R. D. Faldetta. diags U S Nat Advisory Com for Aeronautics 1947:67-73 '50

Endurance limit of a round bar with longitudinal grooves. H. Ōkubo. il diags J Ap Phys 21:1105-8 N '50

Evaluation of macroscopic residual stresses in cylindrical bars. H. Föppl. bibliog il diags Iron & Steel Inst J 168:15-23 My '51

Fatigue crack as a stress-raiser. A. J. Fenner and others. il Engineering 171:637-8 My 25 '51

Fatigue failures are tensile failures. J. O. Almen. bibliog il diags Product Eng 22:101-24 Mr '51

Fatigue weakness of surfaces. J. O. Almen. il diags Product Eng 21:117-40 bibliog(p 140) N '50

Flexural stresses in curved beams of I- and box-section. C. G. Anderson. bibliog diags Inst Mech Eng Proc 163(W.E.P. no 62):295-306, pl 1-2; Discussion. 318-25 '50

Formula for pipe thickness. W. J. Buxton and W. R. Burrows. bibliog A S M E Trans 73:575-81; Discussion. 581-7 Jl '51

Formulas for the determination of residual stress in wires by the layer removal method. W. T. Read, jr. diag J Ap Phys 22:415-16 Ap '51

Fracture under combined stress creep conditions of a 0·5 per cent Mo steel. A. E. Johnson and N. E. Frost. Engineer 191:434-7 Ap 6 '51

Gauge for measuring sustained stresses in soil. A. C. Whiffin and R. T. Smith. bibliog il diags Engineer 192:5-6 Jl 6 '51

Gear-tooth stresses at high speed. W. A. Tuplin. diags Inst Mech Eng Proc 163 (W.E.P. no 59):162-7 '50; Same abr. Engineering 169:310-11 Mr 17 '50; Same abr. Engineer 189:342-3 Mr 17 '50; Discussion. Inst Mech Eng Proc 163 (W.E.P. no 59): 167-75 '50

Higher design stresses for pressure vessels. P. R. Cassidy. Welding J 30:sup123-4 Mr '51

How should he figure steam engine stresses? diags Power Eng 55:108+ F '51

Influence of stress on corrosion; abstract. J. J. Harwood. Automobile Eng 41:134 Ap '51

Interfiber stress and its transmission; measurement and theory of the contact area between fibers under pressure. R. B. Finch. bibliog il diags Textile Res J 21:375-92 Je '51

Measurement of stress relief. C. R. Tottle. Metallurgia 43:148-50 Mr '51

Mechanical determination of biaxial residual stress in sheet materials. R. G. Treuting and W. T. Read, jr. bibliog diags J Ap Phys 22:130-4 F '51

Mechanical methods of reducing residual stress. Engineer 191:865 Je 29 '51

Mechanical properties of metals. H. W. Gillett. bibliog diags Machine Design 23:143-8+ Mr '51

Operational stresses in automotive parts; abstracts. R. Schilling. S A E J 59:36-7+ My '51; Machine Design 23:233-4+ Je '51; Automotive Ind 104:34-5 F 1 '51; Automobile Eng 41:353-4 S '51

Plastic that provides internal vision for engineers. Mach 57:168 N '50; Elec Eng 69:1135 D '50

Prestressing processes and fracture barriers; improvement in fatigue strength of metal products. J. O. Almen. il diags Product Eng 22:102-11 Mr '51

Properties of thin-walled curved tubes of short-bend radius. T. E. Pardue and I. Vigness. bibliog il diags A S M E Trans 73:77-84; Discussion. 84-7 Ja '51

Residual contact stresses in built-up cylinders. W. R. D. Manning. Engineering 170:464 D 8 '50

Residual grinding stresses in mild steel. J. Frisch and E. G. Thomsen. bibliog diags A S M E Trans 73:337-42; Discussion. 342-6 Ap '51

Residual strains in injection molded polystyrene. R. S. Spencer and G. D. Gilmore. bibliog il Mod Plastics 28:97-8+ D '50

Residual stresses in machined or ground surfaces. Engineer 192:118 Jl 27 '51

Residual stresses in machined surfaces. E. K. Henriksen. bibliog il diags A S M E Trans 73:69-76 Ja '51

Safety margins and stress levels in high-temperature equipment. E. L. Robinson. bibliog A S M E Trans 73:89-95; Discussion. 95-9 Ja '51

Shear resistance of tile-concrete floor joists. J. N. Thompson and P. M. Ferguson. bibliog il diags Am Concrete Inst J 22:229-36 N '50

Some experimental indications of the stresses produced in a body by an exploding charge. J. S. Rinehart. il J Ap Phys 22:1178-81 S '51

Some extensions of elementary plasticity theory. F. Edelman and D. C. Drucker. bibliog diags Franklin Inst J 251:581-605 Je '51

Strain rate sensitivity of molybdenum at room temperature. R. Maddin and R. Pond. il Metal Prog 60:76-8 Jl '51

Stress analysis of a hemispherical pressure vessel head under concentric line loads. I. Malkin. diags Franklin Inst J 251:247-61 F '51

STRAINS and stresses—*Continued*

Stress and deflection tests of steam-turbine diaphragm. V. C. Taylor. il diags A S M E Trans 73:877-86; Discussion. 886-90 O '51

Stress corrosion of cast bronzes evaluated. J. T. Clenny. il Iron Age 167:85-9 Je 21 '51

Stress corrosion of wrought magnesium base alloys. H. L. Logan and H. Hessing. il J Res Nat Bur Stand 44:233-43 Mr '50; Abstract. Light Metal Age 8:12-13 O '50

Stress distribution in plastic range in a rigid frame. L. E. Grinter and others. il diags Welding J 30:sup 125-34 Mr '51

Stress distribution in the continuous chip, a solution of the paradox of chip curl. E. K. Henriksen. diags A S M E Trans 73:461-5; Discussion. 465-6 My '51

Stress relaxation and dynamic properties of polymers. A. V. Tobolsky and others. bibliog diag Textile Res J 21:404-11 Je '51

Stress-strain recorder. il Electronics 24:244+ Ag '51

Stresses imposed by processing; abstracts. O. J. Horger. Automotive Ind 104:33-4 F 1 '51; S A E J 59:38-40 My '51

Stresses in large horizontal cylindrical pressure vessels on two saddle supports. L. P. Zick. bibliog il diags Welding J 30:sup435-45 S '51

Stresses in rotating disks of nonuniform thickness. T. H. Gawain and E. C. Curry. Product Eng 22:152-5 Jl '51; Discussion. W. R. Leopold. 22:271-2+ N '51

Stresses in tubes due to internal pressure. J. S. Blair. Engineering 170:218-21 S 15 '50; Discussion. 170:383, 412-13 N 17-24 '50

Study of strain markings in aluminum. B. R. Banerjee. bibliog il J Metals 188:Trans 1126-8 S '50; Discussion. 3:Trans 547-8 Jl '51

Symposium on stresses in moulds. bibliog il diags Iron & Steel Inst J 168:261-301 Jl '51

Tessellated stresses. F. László. bibliog diags Iron & Steel Inst J 147:173-99 no 1; 148:137-59 no 2 '43; 150:183-207 no 2 '44; 152:207-28 no 2 '45; 164:5-26 Ja '50; Discussion. 150:207-9 no 2 '44; 167:28-30 Ja '51

Theory of dislocations. J. L. Bogdanoff. J Ap Phys 21:1258-63 D '50

Thermal stresses around an uncased hole. K. D. Saunders and A. D. Topping. bibliog World Oil 131:167-8+ D '50; 132:155+ Ja '51

Time-dependent strains around uncased holes. A. D. Topping. bibliog diags World Oil 133:134+ Jl '51

See also

Airplanes—Stresses
Beams and girders
Bending
Bridges—Stresses
Building
Columns
Concrete construction—Design
Creep of materials
Creep of metals
Deformation (mechanics)
Elasticity
Fatigue in metals
Friction, Internal
Graphic statics
Load (mechanics)
Notched bar testing
Photoelasticity
Pipe lines—Stresses
Poisson's ratio
Ships—Strains and stresses
Soil mechanics
Steel construction—Design
Strain gages
Strength of materials
Structural engineering—Design
Torsion
Welding—Stresses
Wind pressure

Brittle coating test

Brittle coatings for stress analysis. G. Ellis. il Tool Eng 26:35-7 Je; 27:49-50 Jl '51

Heat treatment improves brittle lacquer accuracy; abstract. K. C. Rockey. Product Eng 22:283-4 My '51

STRAPS, Steel. See Steel straps

STRATEGIC materials

Allocating scarce materials; International materials conference in Washington. Economist 161:111-12 Jl 14 '51

Alternate steels useful as substitutes for critical materials. E. L. Cady. il Materials & Methods 33:62-3 Ja '51

Attention, miners! higher premium prices for scarce materials. Bsns W p46 O 21 '50

Cobalt; report to industry on a strategic metal, discussing sources, use limitations, and future supply possibilities. il J Metals 191:17-24 Ja '51; Same. Min Eng 190:17-24 Ja '51

Commodity groups at work; International materials conference. Economist 160:506 Mr 3 '51

DMA bans hoarding of strategic minerals; list. Oil Paint & Drug Rep 159:5 Ja 8 '51

Domestic supplies of strategic minerals. D. D. Baker. il Min Cong J 37:69-70+ F '51

Effect of rearmament on our economy. A. N. Wecksler. il Mill & Factory 47:77-81 N '50

Geology, mining, and uses of strategic pegmatites. R. H. Jahns. bibliog(45 titles) il maps diags Min Eng 190:Trans 45-59 Ja '51

How can the western hemisphere help our defense effort? V. L. Horoth. Mag of Wall St 87:377-9+ Ja 13 '51

How to tackle materials substitution. il Product Eng 22:123-46 O '51

Industry and raw materials; impacts on production; outlook for supplies. Economist 159:1095-8+ D 16 '50

International materials conference breaks the ice. Economist 160:1522 Je 23 '51

Leadership at York, Pa.; forum on conservation. Mod Ind 21:70 My '51

Markets or allocations. Economist 159:982-4 D 9 '50

Material savers; NPA names task forces. Bsns W p32 Mr 17 '51

Material shortages endanger British rearmament. P. Einzig. Comm & Fin Chr 172:2309 D 14 '50

Materials; free world unites, shares. Iron Age 168:101-2 S 13 '51

Materials in 1951? illustrations with text. Mod Ind 20:65 D '50

Mobilization speedup begins; materials control. Bsns W p33-5 Ja 6 '51

Mobilizing raw materials; Truman and Attlee agree. Bsns W p26 D 16 '50

Mutual assistance on United States imports and exports; strategic materials and commodities in short supply. For Comm W 44:27 Jl 30 '51

Policy for commodities. Economist 159:759-60+ N 11 '50

Program to develop domestic substitutes for rubber, oils, and other strategic agricultural materials. R. G. Gibbs. Chem & Eng N 29:3784-5 S 17 '51

Status of ferrous strategic materials; government and industry situation and rulings. E. C. Smith. S A E J 59:19-21 Je '51

Stockpiling; new aims, new organization; Larson heads Defense materials procurement agency. Iron Age 168:89 Ag 9 '51

U.S.A. is not a have-not nation, normally. A. W. Williams. Mill & Factory 49:108-10 Jl '51

U.S. places ban on hoarding, lists 55 materials as essential. Oil Paint & Drug Rep 159:3+ Ja 1 '51

Where do we stand on nonferrous strategic materials? R. J. Lund. S A E J 59:18+ Je '51

STRATEGY

Joint chiefs of staff's new strategic concept. K. Johnsen. Aviation W 54:12 Je 25 '51

STRAW

Boxboard from wheat straw to replace wood veneer in wire-bound shipping containers. E. C. Lathrop and others. flow sheet il Tappi 34:145-52 Ap '51

Crystalline hemicelluloses; crystalline and amorphous xylan from barley straw. A. P. Yundt. bibliog il Tappi 34:89-91 F '51

Linseed flax straw, its use in paper making. G. H. Lafontaine. Pulp & Pa of Can 52:142-5 Je '51

Mechano-chemical process, rate of delignification. S. I. Aronovsky and G. H. Nelson. il Tappi 34:216-22 My '51

New method of cleaning straw pulp. C. G. Krancher. Tappi 34:sup 133A; Discussion. sup 133A-5A S '51

Studies on lignin by means of catalytic hydrogenation of aspen wood and wheat straw. J. M. Pepper, C. J. Brounstein and D. A. Shearer. Am Chem Soc J 73:3316-19 Jl '51

TAPPI fibrous agricultural residues meeting, Peoria, Nov. 13-14. Paper Ind 32:979-80 D '50; Same. Tappi 34:sup69A-71A Ja '51

Twenty-five years' pulping developments of agricultural residues. F. G. L. Becker. il Paper Tr J 132:16+ Mr 23 '51

STRAW cutting machines

Why cut straw? M. L. Rankin. Tappi 34:sup 122A-3A; Discussion. sup 123A-4A S '51

STRAWBERRIES
Refrigerated strawberry cases; fibreboard container with dry ice for shipments in planes. W. R. Barger. il diags Mod Packaging 24:125-6+ N '50

STRAWBERRIES, Frozen

Rating

Getting your daily quota of vitamin C in frozen orange juice; report on 11 brands of frozen strawberries. il Consumers Res Bul 27:8-10 Ap '51

STRAWBOARD. See Paper board

STRAY currents
Corrosion by stray currents. N. P. Peifer. diags Am Gas Assn Mo 33:24-6 F '51
External corrosion of gas and oil well casings. C. I. Sims. World Oil 133:262+ S '51

STREAK photography. See Photography, Streak

STREAM flow
Historic development of the theory of the flow of water in canals and rivers. S. L. Bey. diags Engineer 191:466-8, 498-501, 533-5, 565-7, 601-3 Ap 13-My 11 '51
Investigation of flow through screens. W. D. Baines and E. G. Peterson. bibliog diags A S M E Trans 73:467-77; Discussion. 477-80 Jl '51
Stream gradients and Monterey sea valley. A. O. Woodford. maps diags Geol Soc Bul 62:799-851, pl 1 bibliog(p849-51) Jl '51

STREAM measurement
BPA to record automatically flow of Columbia. D. L. Wylie. map diag Elec World 134:95 D 18 '50
See also
Stream flow

STREAM pollution. See Water pollution

STREATFIELD, E. L.
Portrait. Chem & Ind p503 Je 30 '51

STREET accidents
Connecticut fights night accidents. il Illum Eng 46:285-7 Je '51

STREET cleaning
One side parking aids street cleaning. H. Liebman. il Pub Works 82:38-9 Mr '51
Pushing up leaves in Princeton. I. R. Riker. il Pub Works 82:38 F '51

STREET cleaning apparatus
Cleaning twenty catch basins a day. J. J. Maloney. il Pub Works 82:41 S '51
Truck loader has many uses. G. Manz. il Pub Works 82:45 Je '51

STREET lighting
Detroit tries fluorescent street lights. L. J. Schrenk. il Elec World 135:52-3 Ja 1 '51
Fluorescent street lighting. A. F. Dickerson. il Gen Elec R 54:45-8 My '51
I.E.S. guide for outdoor illumination tests. bibliog il plans Illum Eng 46:425-30 Ag '51
Lighting an underpass, Philadelphia. H. E. Mason. il diags Illum Eng 46:417 Ag '51
Lighting circuit on mast arms clears trees. H. R. Means. il diags Elec World 134:132+ D 4 '50
New idea in street lighting; fluorescent lamps fixed to the face of buildings. B. C. Ossitt. il Elec R (Lond) 147:1111-12 D 29 '50
New street lighting system saves pole bases. P. E. Widenor. il Elec World 136:142+ S 10 '51
Photographic representation of street lighting. il diag Illum Eng 46:104-8 F '51
Trunk road lighting; sodium-fluorescent system installed at Chorley. il Electrician 145:931-2 N 10 '50
See also
Roads—Lighting

Control

How modern street lighting control methods work. W. Longmuir. diags Elec World 136:78-81 Jl 2 '51
Multiple street lighting control methods; engineering reference sheet. diags Elec World 135:164 Ja 29 '51
Schemes for controlling series street lights; diagrams; engineering reference sheet. Elec World 135:130 F 12 '51

Cost

Mercury vapor vs incandescent for street lighting. F. D. Wyatt. il Elec World 135:98-101, cover My 7 '51
Multiple vs series street lighting; economics of systems compared. C. J. Lake and K. D. Tobin. Elec World 134:96-9+ N 6 '50
Street lighting costs, lamp wattage and carrier current control; charts; engineering reference sheet. C. J. Lake. Elec World 134:114 N 6 '50
What rate for street lighting? H. F. G. Main. Elec World 136:127-9 Ag 13 '51

Safety aspects

Connecticut fights night accidents. il Illum Eng 46:285-7 Je '51
Effective practice in lighting unusually hazardous or irregular roadway areas. R. M. Swetland and J. S. Lindsay. bibliog il diags Illum Eng 46:77-84; Discussion. 85 F '51
Seattle's safety lighting. il maps Elec West 107:84-5 S '51
Street lighting and road accidents. Electrician 146:570 F 16 '51

Testing

Illumination recorder. A. H. Taylor and W. G. Pracejus. il diags Illum Eng 46:310-13 Je '51

STREET lighting fixtures
AK-6 suburban luminaire. il Westinghouse Eng 11:103 My '51
How to set new studs in old street light bases. P. E. Widenor. diag Elec World 136:154+ Ag 13 '51
Temperature problems in street lighting luminaires. R. W. Loehr. il diags Illum Eng 46:87-91; Discussion. 91-3 F '51

STREET maps
Dealer maps urged to define market. Nat Pet N 43:54 Jl 25 '51
Hammond's city street map atlas and trip guide for the executive, commercial traveler and tourist. 208p $1.95 C. S. Hammond and company, Maplewood, N. J. '51

STREET names
Uniform house numbering and street naming system. D. S. Martin. plan Pub Works 82:53-4+ Je '51

STREET openings
How Southern California gas co. won national public relations prize. J. T. Van Rensselaer. il Gas Age 106:13-15+ D 21 '50
Miles of underpinning keep business district out of subway; Toronto's Yonge St subway. G. Goodwin. il diags Eng N 146:30-1 My 24 '51
Reduce backfilling costs with jeep blade and broom. J. R. Kelley. il Elec World 135:132 Mr 26 '51

STREET railroads
Fiftieth anniversary of London's first electric tramway. il Engineer 191:380-1 Mr 23 '51
See also
Electric railroads
Rapid transit

Costs

Cable car tracks, San Francisco, Calif.; unit prices. Eng N 146:83 Je 14 '51

Track reclamation

Rail scrap; uprooted in Cleveland. B. Taylor. il Iron Age 168:102-3 S 13 '51

STREET traffic
Attacking a traffic problem; how Freeport, N.Y., did it. il plans Eng N 145:38-40 N 30 '50
Bridge and tunnel promise traffic relief at Norfolk. il maps Eng N 145:44-5 N 16 '50
Design capacity charts for signalized street and highway intersections. J. E. Leisch. plans Pub Roads 26:105-39 F '51
Elevated walkways for downtown Chicago. A. L. Tholin. il plan Midwest Eng 4:10-13+ S '51
Emergent urban problems of intercity motor transportation. J. D. Fellmann. plans Land Econ 27:91-101 My '51
One city's traffic solution; decentralization project for Washington. map Bsns W p26 D 2 '50
Special trucks for city traffic conditions; abstract. L. M. Hart, jr. Roads & Eng Constr 89:124 Ap '51
Study of vehicle, roadway, and traffic relationships by means of statistical instruments. T. J. Carmichael and C. E. Haley diags S A E J 59:50-5 Ag '51

STREET traffic—*Continued*

Tucson begins freeway to remove truck traffic from city streets. plan Eng N 145:30 D 21 '50

Two cross-town expressways advocated for the city of Hamilton. N. D. Wilson and A. E. K. Bunnell. map Roads & Eng Constr 89:68-9+ Ja '51

Statistics

Distribution of blocks in an uncongested stream of automobile traffic. M. S. Raff. diag Am Stat Assn J 46:114-23 Mr '51

War measures

A bomb problem solved by traffic engineers. V. Gunlock. map Midwest Eng 3:12-13+ D '50

Chicago civil defense committee. B. B. Smith. Midwest Eng 3:10-11, 23 D '50

STREETS

Detroit's assessment street program. G. R. Thompson. il plan Roads & Sts 94:44-5 My '51

Graphical design of asymmetric street crowns. D. Weage. Pub Works 81:44-5 N '50

Street pavement design and construction. W. L. Chilcote. Pub Works 82:60+ F '51

Streets should not be overlooked in urban redevelopment. S. H. Mott. Roads & Eng Constr 89:100+ S '51

See also

City planning
Pavements
Roads
Snow removal
Street lighting
Street traffic

Cost

Parking area and streets, Columbia Basin project; unit prices. Eng N 146:77 My 17 '51

Drainage

Boilerplate, thick concrete complicates road drain job in San Diego. il plan diag Eng N 145:37 N 30 '50

Ice control

Better ice control with rock salt. A. L. Demarest. il Pub Works 82:41-2 Ag '51

Intersections

Corner islands on Daytona streets. G. B. Arthur. il plan Pub Works 81:39-40 D '50

Design capacity charts for signalized street and highway intersections. J. E. Leisch. plans Pub Roads 26:105-39 F '51

Novel channelizing saves expensive intersection changes at Boise. H. K. Glidden. il plan Roads & Sts 93:48-9+ N '50

Maintenance and repair

Grid roller reduces road salvage time. il Pub Works 82:47 Jl '51

How St Paul keeps up its bituminous residential streets. il Roads & Sts 93:88+ N '50

New equipment improves economic status. R. F. Mott. il Pub Works 82:44-5 Ja '51; Same cond. Roads & Sts 94:60+ Ja '51

No longer such thing as secondary street; Miami, Fla. R. A. Williams. Roads & Sts 93:92-4 N '50

Patching mix deserves modern plant control; Lincoln, Neb. il Roads & Sts 94:72-3 My '51

Rating method for street resurfacing. R. A. Moyer and others. Pub Works 82:50-1 F '51

Rehabilitation of old pavements in the city of Winnipeg. G. Dennis. Roads & Eng Constr 88:146+ O '50

Small community improves ten miles of streets. il Roads & Sts 93:72-3+ D '50

Small distributor mounted on dump truck for street maintenance, Niles, Ohio. C. W. Dix. il Pub Works 82:48 Ag '51

Triple-speed paving job minimizes street traffic disturbances; South Bend. H. S. Driggs. il Roads & Sts 94:79-80+ Mr '51

Wholesale street improvements make city look better, motorists feel better. C. Zwally. il diag Eng N 146:43-4 F 1 '51

STRENGTH of materials

Buckling strength of rectangular sandwich panels; reference book sheet. N. J. Hoff. diag Product Eng 22:183+ Je '51

Chemical engineering materials of construction; wood. A. J. Stamm. bibliog(83 ref) il Ind & Eng Chem 43:2276-9, 2290-3 O '51

Comparative strengths of some adhesive-adherend systems. N. J. DeLollis and others. bibliog il A S M E Trans 73:183-93 F '51

Fatigue strength of spot-welded light alloy joints. H. Kihara. diags Welding J 30: sup529-36 O '51

Increasing endurance of magnesium castings by surface work. G. H. Found. il Metal Prog 60:51-4 Ag '51

Modern trends in airframe materials. L. Schapiro. il Metal Prog 59:511-15 Ap '51; Same cond. Steel 128:77-80 Ap 16 '51; Abstract. Light Metal Age 9:13 Ap '51

Porcelain enamel, stronger than you think. W. A. Deringer. bibliog il Iron Age 167: 85-7 Mr 8 '51

Power handbook. P. Swain and W. Arrott. diags Power 95:84-5 Mr '51

Properties of materials and the engineering uses of cast metals. R. W. Bailey. il diags Metallurgia 44:3-8 Jl '51; Same. Engineering 172:29-32 Jl 6 '51

Properties of materials under superindustrial stresses. P. W. Bridgman. Machine Design 23:210+ Jl '51

Relation of tensile strength to brittle temperature in plasticized polymers. R. F. Boyer. bibliog diag J Ap Phys 22:723-9 Je '51

Relative strength and stiffness of structural metals subjected to bending; tabulation; data sheet. E. V. Sharpnack, comp. Mach 57:239 D '50

Solid laminations make strong test beams. G. E. Heck. il Eng N 146:38-9 Je 28 '51

Strength behavior of adhesive bonds. H. P. Meissner and G. H. Baldauf. bibliog diags A S M E Trans 73:697-702; Discussion. 702-4 Jl '51

Strength of metals. A. H. Cottrell. Metallurgia 44:88-9 Ag '51; Same. Chem & Ind p738 S 1 '51; Same. Chem Age (Lond) 65: 291-2 S 1 '51; Same. Engineering 172:332-3 S 14 '51

Strength of pure molybdenum at 1800 to 2400°F. R. A. Long and others. il diags Metal Prog 60:81-8 S '51

What is the strength of aluminum after forming? L. V. Omelka and D. A. Paul. il Iron Age 168:112-14 Ag 16 '51

See also

Columns
Concrete—Strength
Deformation (mechanics)
Elasticity
Fatigue in metals
Glass—Strength
Graphic statics
Metals—Failure
Plastic materials—Strength
Steel—Strength
Strains and stresses
Torsion

Study and teaching

Laboratory demonstration experiment; a link between fundamentals and applications; stress analysis of punch press frame. D. Rosenthal and H. Baer. il diags J Eng Educ 41:171-5 N '50

Modified sequence in teaching mechanics of materials. E. P. Popov. J Eng Educ 41: 474-7 Ap '51

Photoelasticity; a powerful educational tool. E. Chapman. J Eng Educ 41:610-14 Je '51

STREPTAMINE

Streptomycin; new derivatives of streptamine; the oxidative degradation of O-tetramethylstreptamine. O. Wintersteiner and A. Klingsberg. bibliog Am Chem Soc J 73:2917-24 Je '51

STREPTOCOCCI

Medium for assay of vitamins with lactic acid bacteria. L. M. Flynn and others. Anal Chem 23:180-5 Ja '51

See also

Enterococci

STREPTOMYCES

Netropsin, a new antibiotic produced by a streptomyces. A. C. Finlay and others. Am Chem Soc J 73:341-3 Ja '51

STREPTOMYCIN

Biologically active N′-alkylstreptomycylamines. W. A. Winsten and others. bibliog il Am Chem Soc J 72:3969-72 S '50

Colloidal phenomena of antibiotics. E. A. Hauser and G. J. Marlowe. bibliog J Phys & Colloid Chem 54:1077-87 N '50

Control of covered smut of oats by seed treatment with an antibiotic. A. W. Henry and others. Science 113:390 Ap 6 '51

STREPTOMYCIN—*Continued*

Controlled investigation of streptomycin treatment in pulmonary tuberculosis. E. R. Long and S. H. Ferebee. Pub Health Rep 65:1421-51 N 3 '50
Decomposition of streptomycin. D. Pramer and R. L. Starkey. bibliog Science 113:127 F 2 '51
Effect of PAS on the emergence of tubercle bacilli resistant to streptomycin. Pub Health Rep 66:863-72 Jl 6 '51
Enhancement of the action of streptomycin. R. J. W. Rees and J. M. Robson. bibliog Science 112:790-1 D 29 '50
Failure of streptomycin to enhance the infectivity of histoplasma capsulatum in mice. C. C. Campbell and S. Saslaw. Pub Health Rep 66:16-19 Ja 5 '51
Hypersensitivity. Safety Maint & Prod 102:68-9 S '51
Polarographic investigation of the alkaline decomposition of streptomycin. C. E. Bricker and W. A. Vail. Am Chem Soc J 73:585-9 F '51
Properties, production and uses of streptomycin; abstract and discussion. W. B. Emery. Chem & Ind p289-90 Ap 14 '51
Resistance to streptomycin of tubercle bacilli isolated from patients treated with streptomycin. S. H. Ferebee and F. W. Appel. Pub Health Rep 66:277-88 Mr 2 '51
Streptomycin; new derivatives of streptamine; the oxidative degradation of O-tetramethylstreptamine. O. Wintersteiner and A. Klingsberg. bibliog Am Chem Soc J 73:2917-24 Je '51
This antibiotic age. bibliog il Chem & Eng N 29:1190-5 Mr 26 '51

See also
Hydroxystreptomycin

Analysis

Spectrophotometric determination of dihydrostreptomycin. D. J. Hiscox. bibliog Anal Chem 23:923-4 Je '51
Streptomycin and mannosidostreptomycin in fermentation broths; ion exchange resin separation and spectrophotometric determination. C. V. St John, D. E. Flick and J. B. Tepe. bibliog Anal Chem 23:1289-91 S '51

STRESSES. See Strains and stresses

STRETCHING

Aircraft parts stretch-formed on conventional mechanical presses; Rohr aircraft corp., Chula Vista, Calif. B. F. Raynes. il Steel 129:76-7 Ag 27 '51
How to stretch-form magnesium. il Aviation W 54:21-2 Mr 19 '51
Hydraulically expanded rubber die forms airplane fuel tanks. il Mach 58:169 S '51; Steel 129:76 Ag 20 '51
Stretch brake cuts forming cost 90 per cent. il Aviation W 54:42+ My 7 '51
Stretch-forming on a press brake. G. C. Close. il Mach 58:153-5 S '51
Stretch forming with flexible equipment; Northrop aircraft. il Automotive Ind 105:38-9 Jl 15 '51
What is the strength of aluminum after forming? L. V. Omelka and D. A. Paul. il Iron Age 168:112-14 Ag 16 '51

STRETCHING machines

Rubber die method cuts tooling costs for Consolidated Vultee Aircraft; Hidraw. il Bsns W p77-8 Ja 27 '51
Stretch-wrapper increases part strength. il Machine Design 23:123 Ag '51

STRIKE, Clifford Stewart

McGraw's Strike; Hartford builder received largest government construction contract ever awarded. por Fortune 43:100-1+ Ap '51

STRIKE insurance. See Insurance, Strike

STRIKES

Aircraft threat; strike at Alcoa. Bsns W p25 Jl 21 '51
Alcoa strike; aircraft and engine production faces snag. Aviation W 55:15 Jl 23 '51
Analysis of strikes, 1927-49. J. P. Goldberg and B. Yabroff. Mo Labor R 72:1-7 Ja '51
Are strike benefits taxable? Bsns W p38-9 Ap 21 '51
Can wildcat strikes and slowdowns be prevented? R. C. Smyth. Personnel 27:351-9 Mr '51
City government firm in DSR strike, longest in Nation's transit history. S. H. Brams. il Bus Transportation 30:84-6 Je '51
Colgate and union both win salesmen's strike; company gains open shop for selling employes; soap salesmen in N.Y. area get new salary, bonus and security provisions. Sales Management 67:126-8 O 1 '51
Controls embitter this textile strike; ceilings on wool prices and wage increases add to bargaining woes. il Bsns W p 126-7 F 24 '51
Copper slowup. Bsns W p23 S 1 '51
Defense strikes; first test; Board's handling of American Smelting dispute. Bsns W p32 Ag 4 '51
I strike, you get more pay; Philadelphia ship cleaners force higher pay scale for rival union. Bsns W p 110 Ja 20 '51
Is a new strike wave on? il Bsns W p30+ Jl 7 '51
Money's the big issue for labor now. Bsns W p32 Ap 28 '51
No soap today! Colgate salesmen raise problem of white-collar unionism. il Fortune 44:64-6 O '51
Office help poses a problem in a strike. Bsns W p 116 O 21 '50
Peace or truce in copper. Bsns W p33 S 8 '51
Pittsburgh newspaper strike put a crimp in retailing. Bsns W p86 D 2 '50
Preventive strike; walkouts at Western Union protest supervisor training plan. Bsns W p36+ My 26 '51
Rail mess; a ten-year growth. Bsns W p 130-3 F 17 '51
Seizure no strike panacea. Bsns W p 110-11 O 21 '50
Semantical strike; Chrysler workers won't wear smocks. il Bsns W p40-1 Je 9 '51
Strike ends in draw for transit workers in Detroit. Bsns W p42 Je 30 '51
Strikes are ancient history; ancient Egyptian office memorandum; abstract. Management R 40:540 S '51
Strikes close three plants of Pullman-Standard. Ry Age 131:43-4 Jl 30 '51
Strikes haven't changed much; walkout of construction labor in Egypt in 1170 B.C. il Bsns W p34+ S 8 '51
Strikes; incentive rates squabble. Iron Age 168:73 S 20 '51
Textile tension; CIO fears defeat in southern mill strike. il Bsns W p31-2 My 5 '51
Transit strike ensnarls Detroit. il Bsns W p 24-5 My 19 '51
Why a copper strike? Fortune 44:59-60 O '51
Wildcat strikers may get fired from UAW. Bsns W p36 Ag 4 '51

See also
Insurance, Strike
Lockouts
Picketing
Railroad strikes

Law

Can Congress salvage antistrike law? Wisconsin decision. Pub Util 47:430-2 Mr 29 '51
Federal labor legislation to govern public utility strikes. R. S. Bessey. Land Econ 27:182-6 My '51
High court rule hits utility antistrike laws. Bsns W p26 Mr 3 '51
Jersey's utility antistrike law. Pub Util 48:123-4 Jl 19 '51
No strikebreaking; what an employer can, or can't, require supervisory and plant-protection workers to do. Bsns W p48+ Ag 11 '51
Outlook for regulation of utility strikes. P. B. Willauer. Pub Util 47:619-26 My 10 '51
Public utilities compulsory arbitration law invalid. Mo Labor R 72:567-8 My '51
Public utility anti-strike laws declared invalid. A. W. Gray. Power Eng 55:87-8 S '51
Supreme court's Wisconsin ruling; does it end anti-strike laws? R. B. Temple. Bus Transportation 30:38-9 Ap '51
U.S. Supreme court defines primary and secondary strikes and boycotts. N. C. Rockwood. Rock Prod 54:95+ Ag '51
Utility antistrike laws. Pub Util 48:379-81 S 13 '51
Wisconsin utility anti-strike law violates T-H act, high court rules. Elec World News ed 135:6 Mr 5 '51

STRIKES—*Continued*

Statistics

Analysis of work stoppages during 1949. J. P. Goldberg and others. U S Bur Labor Statistics Bul 1003:1-28; pa 20c Supt. of doc. '50; Excerpts. Mo Labor R 70:497-505 My '50

Work stoppage during 1950. A. J. Herlihy and others. Mo Labor R 72:514-22 My '51

Work stoppages. Published in Monthly labor review

Work stoppages, 1927-1950; tabulation. Iron Age 167:360 Ja 4 '51

Hawaiian Islands

Hapco to ILWU. il Bsns W p37+ Ag 4 '51

New Zealand

Deadlock on New Zealand's waterfront. Economist 160:935 Ap 21 '51

New Zealand's waterfront. Economist 160: 1180+ My 19 '51

STRIP steel. See Steel, Strip

STRIPPING operations. See Coal mines and mining—Stripping operations; Mining methods—Stripping operations

STROBOSCOPIC instruments

Fuel spray pattern; test stand utilizing stroboscopic light device. il diags Pet Processing 6:400-1+ Ap '51

Load control; automatic frequency sensitive methods of load shedding. E. C. Levett and J. A. Williams. diags Elec R (Lond) 148:725-8 Ap 13 '51

Precision measurement of shaft speeds; use of 440-cycle tone from station WWV as standard. O. V. Riley. il diags Electronics 24:104-5 O '51

Stroboconn. il R Sci Instr 22:220 Mr '51

Super-stroboscope. il R Sci Instr 22:285 Ap '51

STRONTIANITE

Celestine and strontianite. L. Sanderson. Can Min J 72:69-70 Mr '51

Strontium holds enameling promise; abstract. L. Vielhaber. Cer Ind 56:49 F '51

STRONTIUM

Decay of Y^{87} and Sr^{87m}. L. G. Mann and P. Axel. bibliog Phys R 80:759 N 15 '50

Strontium content of sea water, celestite radiolaria, and strontianite snail shells. H. T. Odum. bibliog Science 114:211-13 Ag 24 '51

Analysis

Determination of the age of igneous rocks. S. Miholić. Chem Soc J p3402-5 D '50

Precipitation in homogeneous solution; separation and determination of barium, strontium, and calcium. P. J. Elving and R. E. Van Atta. bibliog Anal Chem 22:1375-8 N '50

Qualitative separation of calcium ion from strontium ion in group IV. M. V. Davis and F. H. Heath. J Chem Educ 27:626 N '50

Isotopes

Apparatus for determining bone density by means of radioactive strontium (Sr^{90}). F. G. Evans and others. diag Science 114:182-5 Ag 17 '51

Radioactive strontium produced by deuteron bombardment of rubidium. M. Ter-Pogossian and F. T. Porter. Phys R 81:1057-8 Mr 15 '51

Vacuum evaporation of radioactive materials. C. W. Sherwin. diag R Sci Instr 22:339-41 My '51

STRONTIUM carbonate

See also

Strontianite

STRONTIUM nitrate

Standard X-ray diffraction patterns. H. E. Swanson and E. Tatge. bibliog J Res Nat Bur Stand 46:318-27 Ap '51

STRONTIUM oxide

Cone deformation study of a portion of the system $SrO\text{-}Al_2O_3\text{-}SiO_2$. A. S. Watts. diag Am Cer Soc J 34:63 F 1 '51

Effect of coating composition of oxide-coated cathodes on electron emission. E. G. Widell and R. A. Hellar. bibliog il J Ap Phys 21: 1115-18 N '50

Evaporation products of barium oxide from various base metals and of strontium oxide from platinum. L. T. Aldrich. bibliog diag J Ap Phys 22:1168-74 S '51

Photoelectric changes induced in SrO and BaO by ultraviolet irradiation. J. E. Dickey and E. A. Taft. Phys R 80:308 O 15 '50

Reduction of SrO by tungsten in vacuum. G. E. Moore and others. bibliog J Chem Phys 18:1579-86 D '50

Thermionic emission from (Ba-Sr)O cathodes illuminated by the incandescent lamp. T. Hibi and K. Ishikawa. Phys R 83:659-60 Ag 1 '51

Vaporization of strontium oxide. G. E. Moore and others. bibliog diags J Chem Phys 18: 1572-9 D '50

STRONTIUM sulfate

Ultrasonic studies of Weimarn gels. A. M. Srivastava. bibliog il diags Acoustical Soc Am J 23:553-8 S '51

See also

Celestite

STROPHANTHIDIN

Constituents of the seeds of corchorus olitorius, L; corchorin and its identity with strophanthidin. G. Soliman and W. Saleh. Chem Soc J p2198-200 Ag '50

STROPHANTHUS

Glycosides of the seeds of strophanthus intermedius Pax. M. R. Salmon, E. Smith and W. G. Bywater. Am Chem Soc J 73: 3824-6 Ag '51

STROTHER, Corneille O. 1908-

Master of physicochemical technique. H. S. Taylor. por(cover) Chem & Eng N 29:2380 Je 11 '51

STRUCTURAL carbon. See Carbon, Structural

STRUCTURAL clay products institute

Annual convention, Colorado Springs. Brick & Clay Rec 117:24-7+ N '50

Convention, Colorado Springs, Oct. 23-26. Am Cer Soc Bul 29:429 N 15 '50

STRUCTURAL engineering

Structural engineering as a profession. O. G. Julian. J Eng Educ 41:383-6 Mr '51

Structural engineering at the South Bank exhibition. il plan diags Engineer 191:584-7, 618-21, pl 3-4 My 4-11 '51

Structural study. F. N. Severud. il diags Arch Rec 110:151-3 Jl '51

See also

Building
Columns
Concrete construction
Foundations
Steel construction
Strains and stresses
Strength of materials
Wind pressure

Design

Behaviour of thin-walled structural members in compression. A. H. Chilver. il diags Engineering 172:281-2 Ag 31 '51

Buckling stresses for flat plates and sections. E. Z. Stowell and others. bibliog(65 titles) il diags Am Soc C E Proc 77[no 77]:1-31 Jl '51

DPA outlines ground rules for design to save critical building materials. Eng N 147: 27 S 13 '51

Deflections in gridworks and slabs. W. W. Ewell and J. I. Abrams. plans diags Am Soc C E Proc 77 [no89]:1-22 S '51

Design of large coal bunkers. P. Rogers. bibliog diags Am Soc C E Proc 77 [no 72]: 1-12 Je '51

Designing a structural frame for economy; Mayo clinic Diagnostic building. E. L. Gardner. il plan Eng N 147:34-6 S 6 '51

Effect of internal stresses on the behavior of members in the plastic range. J. F. Baker and M. R. Horne. diags Engineering 171:212-13 F 23 '51

Flexural stresses in curved beams of I- and box-section. C. G. Anderson. bibliog diags Inst Mech Eng Proc 163(W.E.P. no 62):295-306, pl 1-2; Discussion. 318-25 '50

Large hyperbolic functions computed by fission. F. T. Llewellyn. Am Soc C E Proc 76 [no 49]:1-12 D '50; Discussion. 77[no D-49]:1-9 D '51

Lateral buckling of eccentrically loaded I-section columns. H. N. Hill and J. W. Clark. bibliog il diag Am Soc C E Proc 76 [no 34]:1-13 S '50; Discussion. 77 [no D-34]:1-5 S '51

Laterally loaded plane structures and structures curved in space. F. Baron and J. P. Michalos. bibliog diags Am Soc C E Proc 77 [no 51]:1-33 Ja '51

STRUCTURAL engineering—Design—*Cont.*
Limit design of beams and frames. H. J. Greenberg and W. Prager. diags Am Soc C E Proc 77 [no 59]:1-12 F '51
Plasticity of metals; mathematical theory and structural applications. D. C. Drucker. bibliog Am Soc C E Proc 76 [no 27]:1-14 Ag '50; Discussion. 77 [no D-27-D]:1-10 My '51
Short cut anticipates distribution of returning moments. E. Geer. Civil Eng 21:33 Ja '51
Solution of beam-on-elastic-foundation problems by means of a mechanical analogue. A. A. Wells. il diags Inst Mech Eng Proc 163(W.E.P. no 62):307-10; Discussion. 316-25 '50
Solution of difficult structural problems by finite differences. A. Parme. bibliog diags Am Concrete Inst J 22:237-56 N '50
Successive approximations for beams on an elastic foundation. E. P. Popov. bibliog diags Am Soc C E Proc 76 [no 18]:1-13 My '50; Discussion. 77 [no D-18]:1-13 Ap '51
Truss deflections by the coordinate method. K. Chu. diags Am Soc C E Proc 77 [no 54]: 1-20 Ja '51; Discussion. 77[no D-54]:1-4 D '51
Variation of mean floor loads with area. M. R. Horne. Engineering 171:179-82 F 16 '51
Wedge-beam framing. A. Amirikian. diags Am Soc C E Proc 77 [no 53]:1-36 Ja '51
Wind-load standards in Europe. J. W. T. Van Erp. diags Am Soc C E Proc 76 [no 42]:1-11 N '50
See also
Beams and girders
Bridge design
Concrete construction—Design

Mechanical analogies

Solution of beam-on-elastic-foundation problems by means of a mechanical analogue. A. A. Wells. il diags Inst Mech Eng Proc 163(W.E.P. no 62):307-10; Discussion. 316-25 '50

Study and teaching

Flexural centre of open members. R. J. Wilkins. il diags Engineering 170:321-2 N 3 '50
Graduate study in structural engineering. A. A. Brielmaier. J Eng Educ 42:33-5 S '51

Tables, calculations, etc.

Numerical computation of buckling loads by finite differences. M. G. Salvadori. bibliog diags Am Soc C E Proc 75:1441-75 D '49; Discussion. 77 [no D-XXV]:1-12 F '51

STRUCTURAL engineers
Structural design firms pressed hard as new work spurts for defense. Eng N 146:25 My 17 '51

STRUCTURES, Theory of
See also
Building
Columns
Graphic statics
Strains and stresses
Strength of materials

STRYCHNINE
Strychnine and brucine; oxy*pseudo*strychnine. C. A. Friedmann. Chem Soc J p 1585-9 Je '50
Synthesis in the octahydropyrrocoline series. G. R. Clemo and others. Chem Soc J p 1140-3 Ap '50
Synthesis of substituted 2 : 3-benzpyrrocolines. R. Robinson and J. E. Saxton. Chem Soc J p3136-40 N '50

STRYCHNOS
Curare alkaloids; some alkaloids of strychnos toxifera Rob. Schomb. H. King. Chem Soc J p3263-71 D '49

STUCCO
Stucco offers design innovations; Melody House features Tacoma home show. il plan diag Am Bld 73:108-9 N '50

STUDEBAKER corporation
What about the automobile independents? G. W. Mathis. Mag of Wall St 88:305-7+ Je 16 '51

STUDENT insurance. See Insurance, Student

STUDENT tours
See also
Motor bus lines—Student tours

STUDENTS
See also
College students
Engineering students

Insurance requirements

See also
Insurance, Student

STUDIOS
See also
Moving picture studios
Radio broadcasting stations
Television studios

STUDS. See Bolts and nuts

STUFFING boxes
High-pressure stuffing box. diag Chem Eng 58:187 S '51
How to pack a stuffing box. Water & Sewage Works 98:R76 Ap '51
Stuffing box for high-pressure orifice meter. il Machine Design 23:204 Mr '51

STURGEON, William, 1783-1850
Centenary. E. C. Smith. Engineering 170:465 D 8 '50

STURROCK, Walter
Sketch. por Illum Eng 45:603 O '50

STYLE. See Fashion

STYLE manuals. See Printing, Practical—Style manuals

STYLUSES, Phonograph
Recording styli, the burnishing facet, and a process for resharpening. C. F. Strandberg. diags Elec Eng 70:447-50 My '51

STYRENE (and polymers)
Absolute intensity of light scattering from pure liquids and solutions. C. I. Carr, jr. and B. H. Zimm. bibliog diags J Chem Phys 18:1616-26 D '50
Alfin-catalyzed GR-S type polymers. W. K. Taft and H. Goldsmith. bibliog Ind & Eng Chem 42:2542-6 D '50
Applications of polystyrene particles in conjunction with shadow casting to the study of polished metallic surfaces. I. Feng. bibliog il diags J Ap Phys 22:820-4 Je '51
As molders cheer. il Chem W 69:35 Jl 28 '51
Banbury dispersion of high-styrene copolymer resins with rubber. H. S. Sell and R. J. McCutcheon. bibliog il Ind & Eng Chem 43:1234-43 My '51
Britain starts producing styrene plastic. Chem Eng 57:250 N '50
Butadiene-styrene resinous copolymers. J. D. D'Ianni, L. D. Hess and W. C. Mast. bibliog(37 ref) Ind & Eng Chem 43:319-24 F '51
C^{14}-labeled polystyrene sheets for reference sources. Chem & Eng N 28:4482 D 18 '50
Chain transfer in the polymerization of styrene; chain transfer with styrene and benzoyl peroxide; the efficiency of initiation and the mechanism of chain termination. F. R. Mayo, R. A. Gregg and M. S. Matheson. bibliog Am Chem Soc J 73: 1691-700 Ap '51
Comparison of molecular weights of polystyrene by the light-scattering and osmometric methods. Q. A. Trementozzi. bibliog J Phys & Colloid Chem 54:1227-39 N '50
Concentration dependence of the rates of diffusion of macromolecules in solution; an investigation of fractions of polystyrene. A. F. Schick and S. J. Singer. bibliog J Phys & Colloid Chem 54:1028-44 O '50
Copolymerization. H. W. Melville, E. P. Bonsall and L. Valentine. J Ap Chem 1:249-53 Je '51
Copolymerization of 2-chloroallyl linoleate with styrene. E. Dyer and W. C. Meisenhelder. bibliog Am Chem Soc J 73:1434-7 Ap '51
Copolymerization; the over-all rate of copolymerization of styrene-diethyl fumarate. C. Walling and E. A. McElhill. Am Chem Soc J 73:2819-21 Je '51
Crazing of linear high polymers. C. C. Hsiao and J. A. Sauer. bibliog il J Ap Phys 21: 1071-83 N '50
Crosley's styrene t.v. windows. il Mod Plastics 28:62-3 F '51
Cyclic sulfones; the polymerization of styrene in the presence of 3,4-diphenylthiophene-1-dioxide and 3,4-di-(*p*-chlorophenyl)-thiophene-1-dioxide. C. G. Overberger. H. J. Mallon and R. Fine. bibliog Am Chem Soc J 72:4958-61 N '50
Defense casualty; polystyrene. Chem Ind 67: 716-17 N '50
Density of polystyrene latex by a centrifugal method. H. Kahler and B. J. Lloyd, jr. bibliog il Science 114:34-5 Jl 13 '51

STYRENE (and polymers)—*Continued*

Diamagnetic anisotropy of polyethylene, polystyrene and poly-2,5-dichlorostyrene. E. M. Weir and P. W. Selwood. Am Chem Soc J 73:3484-7 Jl '51

Dielectric constant of polystyrene solutions. P. Debye and F. Bueche. bibliog J Phys & Colloid Chem 55:235-8 F '51

Dielectric constant of solutions of polystyrenes and polyisobutylenes in toluene. A. Voet and L. R. Suriani. J Phys & Colloid Chem 54:1070-2 O '50

Directional patterns of polystyrene rod antennas. R. B. Watson. diags J Ap Phys 22:154-6 F '51

Effect of orientation on the mechanical properties of polystyrene. R. G. Cheatham and A. G. H. Dietz. il diags Mod Plastics 29:113-16+ S '51

Electrical charge storage in polystyrene capacitors. L. A. Matheson and V. J. Caldecourt. J Ap Phys 22:1176-8 S '51

Engineering aspects of separation of gases; fractional permeation through membranes. S. Weller and W. A. Steiner. bibliog flow diags diags Chem Eng Prog 46:585-90 N '50

Influence of molecular weight on the properties of polystyrene. E. H. Merz, L. E. Nielsen and R. Buchdahl. bibliog Ind & Eng Chem 43:1396-401 Je '51

Influence of oxygen upon polymerization reactions. J. Abere, H. Mark and W. P. Hohenstein. bibliog J Ap Chem 1:363-70 Ag '51

Intrinsic viscosity relationships for polystyrene. T. G. Fox, jr. and P. J. Flory. bibliog Am Chem Soc J 73:1915-20 My '51

Light scattering by concentrated polymer solutions. P. Debye and A. M. Bueche. J Chem Phys 18:1423-5 N '50

Light scattering studies of a polystyrene latex. W. B. Dandliker. bibliog Am Chem Soc J 72:5110-16 N '50

Mechanical properties of substances of high molecular weight; non-Newtonian flow and stress relaxation in concentrated polyisobutylene and polystyrene solutions. F. W. Schremp and others. bibliog diag J Ap Phys 22:711-17 Je '51

Molecular orbital theory and spectra of monosubstituted benzenes. J. F. Music, F. A. Matsen and W. W. Robertson. bibliog il Am Chem Soc J 72:5256-63 N '50

Molecular structure of styrene-butadiene copolymers; dynamic mechanical measurements. L. E. Nielsen, R. Buchdahl and G. C. Claver. bibliog Ind & Eng Chem 43:341-5 F '51

Monomers and polymers; alkylthiostyrenes and alkylsulfonylstyrenes. G. B. Bachman and C. L. Carlson. Am Chem Soc J 73:2857-8 Je '51

Monomers and polymers; syntheses with the aid of metallostyrenes. G. B. Bachman, C. L. Carlson and M. Robinson. bibliog Am Chem Soc J 73:1964-5 My '51

Nitration of polystyrene. H. Zenftman. Chem Soc J p982-6 Mr '50

Nuclear magnetic resonance study of transitions in polymers. L. V. Holroyd and others. bibliog il diag J Ap Phys 22:696-705 Je '51

Osmometry of high polymers. D. Cleverdon and D. Laker. bibliog J Ap Chem 1:2-13 Ja '51

Phosphomolybdic acid as a catalyst for the bulk polymerization of styrene. J. H. Day and T. A. Solak. bibliog Am Chem Soc J 73:469 Ja '51

Plastic patterns cut investment-casting cost. il Materials & Methods 32:136 N '50

Plastics men quake at rubber plans; shortage of styrene monomer and benzene. Bsns W p68+ N 4 '50

Polymerization of styrene with drying oils in aqueous emulsion. I. I. Bezman and D. D. Browning. bibliog il Paint Oil & Chem R 114:10B-14B+ S 27 '51

Post plasticized polystyrene in water paint emulsions. F. J. Hahn. Paint Oil & Chem R 114:14-15+ Je 7 '51

Preparation and polymerization of trifluoromethyl- and chloro-(trifluoromethyl)-substituted styrenes. E. T. McBee and R. A. Sanford. bibliog Am Chem Soc J 72:4053-5 S '50

Pressure drop of fluid polystyrene in conduits. R. M. Wiley and J. E. Pierce. Chem Eng Prog 47:432-5 Ag '51

Proven techniques for dry coloring thermoplastics. S. E. Glick. il India Rubber World 123:687-9 Mr '51

Rate constants in free radical polymerization; styrene. M. S. Matheson and others. bibliog Am Chem Soc J 73:1700-6 Ap '51

Scintillations in some phosphor-plastic systems. W. S. Koski. bibliog Phys R 82:230-2 Ap 15 '51

S.P.I. committee reports on polystyrene situation. Mod Plastics 28:158 D '50

Solubility of polystyrene fractions in hydrocarbons. P. O. Powers. bibliog Ind & Eng Chem 42:2558-62 D '50

Solution viscosity and partial specific volume of polystyrene; effect of solvent type and concentration. D. J. Streeter and R. F. Boyer. bibliog Ind & Eng Chem 43:1790-7 Ag '51

Some disubstituted α-methylstyrenes and their polymerization characteristics and a comparative study of the refractive indexes of substituted styrenes and α-methylstyrenes. G. H. Stempel, jr. and others. bibliog Am Chem Soc J 73:455-6 Ja '51

Some factors affecting the useful rates of reaction in the industrial polymerization of styrene. J. Elly, R. N. Haward and W. Simpson. bibliog J Ap Chem 1:347-53 Ag '51

Static dust collection on plastics. P. C. Woodland and E. E. Ziegler. il Mod Plastics 28:95-6+ My '51

Structure of butadiene-styrene type copolymers; the butadiene-*o*-chlorostyrene copolymer. C. S. Marvel and R. E. Light, jr. Am Chem Soc J 72:3887-91 S '50

Structures of the oxo aldehydes from styrene. L. A. Wetzel, C. H. McKeever and C. L. Levesque. Am Chem Soc J 72:4939-40 N '50

Studies on the structure and oxidation products of 1-methyl-3-phenylindane, a dimer of styrene. P. E. Spoerri and M. J. Rosen. bibliog Am Chem Soc J 72:4918-20 N '50

Study of degradation of polystyrene, using infrared spectrophotometry. B. G. Achhammer and others. bibliog J Res Nat Bur Stand 47:116-25 Ag '51

Study of styrene-butadiene copolymers. E. B. Storey and H. L. Williams. bibliog Rubber Age 68:571-7 F '51

Styrene joints and terminations. E. C. Lee and K. Konstantinowsky. il diags Elec Com 28:21-30 Mr '51

Styrofoam containers for liquid nitrogen. H. C. Froelich and C. Kenty. diags R Sci Instr 22:214 Mr '51

Sulphonated cross-linked polystyrene; a monofunctional cation-exchange resin. K. W. Pepper. bibliog J Ap Chem 1:124-32 Mr '51

Sulfonation of 1-methyl-3-phenylindane, a dimer of styrene. M. J. Rosen and P. E. Spoerri. bibliog Am Chem Soc J 73:2095-8 My '51

Synthesis of 3- and 4-methoxystyrenes. M. Sulzbacher. bibliog J Ap Chem 1:95-7 Mr '51

2,4,6-Tris-(trifluoromethyl)-styrene. E. T. McBee and R. A. Sanford. bibliog Am Chem Soc J 72:5574-5 D '50

Wavelengths for calibration of prism spectrometers. E. K. Plyer and C. W. Peters. bibliog J Res Nat Bur Stand 45:462-8 D '50

See also

Dimethylstyrene
Methyl styrene

Analysis

Chemical analysis of styrenated drying oils and alkyds. C. P. A. Kappelmeier and others. bibliog Paint Oil & Chem R 114:16+ F 1 '51

Residual monomer in polystyrene; spectrophotometric analysis. J. E. Newell. bibliog Anal Chem 23:445-7 Mr '51

Ultraviolet spectrophotometric determination of styrene in ethylbenzene. N. Hadden and J. A. Perry. Anal Chem 23:1337 S '51

Manufacture

Britain making polystyrene. il Mod Plastics 28:144 Jl '51

Commercial production of polystyrene. N. N. T. Samaras and E. Perry. bibliog J Ap Chem 1:243-8 Je '51

STYRENE (and polymers)—Manufacture—*Continued*
New British polystyrene plant. il Chem Age (Lond) 64:787 My 19 '51
Polystyrene plant; new production unit in operation. il Electrician 146:1708 My 18 '51

Molding

After-treatment of molded polystyrene parts. C. J. Snyder. il India Rubber World 124: 703-5 S '51
Modernizing a humidifier by switch from metal to styrene. il Mod Plastics 28:72-3 Mr '51
Photographic study of the polymer cycle in injection molding. G. D. Gilmore and R. S. Spencer. il Mod Plastics 28:117-18+ Ap '51
Residual strains in injection molded polystyrene. R. S. Spencer and G. D. Gilmore. bibliog il Mod Plastics 28:97-8+ D '50
Styrene case sells more sunglasses. il diag Mod Plastics 28:78-9 My '51
Styrene cores for Scotch tape; self-shearing 20-cavity molds speed production. il Mod Plastics 28:68-9 Mr '51
Styrene parts in stereo viewer developed by Busch camera corp., Chicago. il Mod Plastics 28:89 Jl '51
Styrene's march of triumph; molding material. il Mod Plastics 28:78-81+ N '50

STYRENE oxide
Acid-catalyzed reaction of styrene oxide with phenol and with 2-naphthol. C. O. Guss, H. R. Williams and L. H. Jules. bibliog Am Chem Soc J 73:1257-60 Mr '51
Nuclear alkylation in the alkali-catalyzed reaction of styrene oxide with 2-naphthol. C. O. Guss and L. H. Jules. bibliog Am Chem Soc J 72:3878-80 S '50

STYROFOAM. See Styrene (and polymers)

SUBAQUEOUS explosions. See Explosions, Subaqueous

SUBAQUEOUS mining. See Sulfur mines and mining—Subaqueous mining

SUBAQUEOUS pipe laying. See Pipe laying, Subaqueous

SUBCONTRACTING
Aircraft industry steps up subcontracting. W. Kroger. Aviation W 54:13-14 Mr 19 '51
Formula for flexibility; Pratt & Whitney subcontracts. il Bsns W p72-4 Je 30 '51

See also
Contracts, Government—Subcontracting

Accounting

Control of inventory consigned to suppliers. C. W. Bendel. N A C A Bul 32:1446-56 Ag '51

SUBJECT headings
Selection of subject headings in large botanical libraries. B. Hoskins. Special Lib 41:359-61 D '50
Subject headings for pamphlets in an occupations vertical file. R. B. Harness. (Information circ. no. 111) 16p Univ. of Ill. library, Chicago undergraduate div, Chicago 11 '51
Subject headings used in the catalogs of the U.S. atomic energy commission. A. G. Greene, ed. pa 70c Office of technical services, U. S. atomic energy commission, Oak Ridge, Tenn. '51

SUBLIMATION
Sublimation. M. Nord. il plan diags Chem Eng 58:157-66 S '51

SUBLIMATION, Heat of
Calculation of the latent heat of sublimation of carbon and the first C—H dissociation energy in methylene from electron impact data. F. H. Field. bibliog J Chem Phys 19:793 Je '51
Correlation energy and the heat of sublimation of lithium. C. Herring. bibliog Phys R 82:282-3 Ap 15 '51
Measurements of the vapour pressures of some alkylmercury halides; the latent heats of sublimation of methyl- and ethyl-mercury halides. T. Charnley and H. A. Skinner. Chem Soc J p 1921-4 Jl '51

SUBLIMATION apparatus
Apparatus for vacuum sublimation. W. K. Noyce. diag Anal Chem 22:1581 D '50

SUBMARINE boats
Atomic powered submarine; abstract. K. A. Kesselring. Mech Eng 73:17 Ja '51
Interior decoration for submarines. H. S. Dewey. il U S Naval Inst Proc 76:1182-5 N '50
Loss of the submarine Affray. Engineer 191: 658 My 18 '51
New class attack submarine launched. il Marine Eng 56:40-1 Ag '51
New Diesel to power submarines; revolutionary engine developed. il Marine Eng 56:41-2 Ag '51
1,000 submarines, fact or fiction. B. M. Kassell. il U S Naval Inst Proc 77:266-75 Mr '51
Rocket firing submarine. M. E. Holbrook. il U S Naval Inst Proc 77:46-51 Ja '51
Submarine navigation; abstract. P. G. Satow. Engineer 191:159 F 2 '51

Air conditioning

Navy has pressing air conditioning problems. T. L. Willmon. il Heating-Piping 23:80-3+ S '51

SUBMARINE cables. See Electric cables, Submarine

SUBMARINE canyons. See Canyons, Submarine

SUBMARINE mountains. See Mountains, Submarine

SUBMARINE photography. See Photography, Submarine

SUBMARINE telegraph. See Telegraph, Submarine

SUBMARINE telephone. See Telephone Submarine

SUBMARINE topography. See Ocean bottom

SUBMARINE warfare
Airborne submarine detection systems. T. B. Schillo. il Electronics 24:88-9 Ag '51
Grumman Guardians, designed for seeking out and destroying enemy submarines. il Aero Digest 62:26-8+ My '51
Law and the submarine. C. A. Eichelberger. il diag U S Naval Inst Proc 77:690-9 Jl '51
New anti-submarine warfare airship. il U S Naval Inst Proc 76:1248-53 N '50

SUBMERGED combustion. See Combustion, Submerged

SUBSCRIPTION libraries. See Libraries, Rental and subscription

SUBSIDENCES (earth movements)
Dangerous sand subsidence at California port to require heroic concrete structural work. M. E. Sylvester. il Concrete 59:38+ Je '51
Puddled-clay cutoff walls stop sea-water infiltration; subsidence basin of the Wilmington and Long Beach, Calif. harbor areas. A. D. Rhodes. il Civil Eng 21:71-3 F '51
Subsidence phenomenon pesters pipeliners. R. Sneddon. il map diags Pet Eng 23:D24-8 Jl '51
Walls protect sinking shipyard; subsidence of Long Beach naval shipyard. L. C. Coxe. il diags Eng N 146:32-4 F 8 '51

SUBSIDIARIES. See Corporations—Subsidiaries

SUBSIDIES
Canadian subsidy rise no boon to gold mines. N. Willatt. Barron's 31:6 Jl 2 '51
CIO steps up drive for food subsidies. H. Murphy. Barron's 31:24 Ap 2 '51
Subsidies; user charges and the national transportation policy. il Ry Age 130:48-50 F 5 '51

SUBSTANCE E. See Pregnenetetrolone

SUBSTANCE S. See Desoxyhydroxy corticosterone

SUBSTATIONS, Electric. See Electric substations

SUBSTITUTES
Alternate and substitute materials for electrical equipment and parts; tabulation; engineering file facts. Materials & Methods 33: 107 Mr '51
Alternate steels useful as substitutes for critical materials. E. L. Cady. il Materials & Methods 33:62-3 Ja '51
Basic materials and alternates. Machine Design 23:362 O '51
Europe studies tinplate substitutes. W. G. Cass. Materials & Methods 33:132+ My '51
Finding substitutes; it's later than you think. il Mod Ind 21:40-5 Mr '51

SUBSTITUTES—*Continued*

How to tackle materials substitution. il Product Eng 22:123-46 O '51

New vacuum tube materials; terratex as a substitute material for mica spacers; aluminum-clad iron materials as a replacement for nickel. A. P. Haase and E. B. Fehr. il diags Tele-Tech 10:30-2 Je; 33-5 Jl '51

Saving precious alloys by intelligent use of alternatives; panel discussion. il Metal Prog 59:817-30 Je '51

Subject; substitutions; editorial. E. E. Thum. Metal Prog 59:51-3 Ja '51

Substitute grades suggested for scarce stainless steels. K. Rose. il Materials & Methods 33:87-8 Mr '51

Substitution of metals; German war research. Chem Age (Lond) 65:156-8 Ag 4 '51

Teamwork vs. shortages; manufacturers set up groups to study substitutions. Bsns W p38-9 D 30 '50

Using substitute chemicals in plating baths. diags Metal Finishing 49:63-4+ F '51

Wanted; substitutes the builder can use when critical supplies are diverted for war production. Arch Forum 94:110-11+ Ja '51

SUBSTITUTION (chemistry)

Allylic rearrangements; relative tendencies of nucleophilic substitution in organic halides. I. D. Webb and W. G. Young. bibliog Am Chem Soc J 73:777-9 F '51

p-Aminodimethylaniline; the effect of substituents on the azo-coupling efficiency of the diazonium compounds. J. H. Gorvin. Chem Soc J p 1697-700 Jl '51

p-Aminodimethylaniline; the effect of substituents on the stability and mode of decomposition of the diazonium compounds. J. H. Gorvin. Chem Soc J p 1693-7 Jl '51

Aromatic substitution by free radicals; the cleavage of benzoyl peroxide by the triphenylmethyl radical. G. S. Hammond, J. T. Rudesill and F. J. Modic. bibliog Am Chem Soc J 73:3929-31 Ag '51

Chemistry of linear substituted nitroguanidines. R. H. Hall, A. F. McKay and G. F. Wright. Am Chem Soc J 73:2205-8 My '51

Δ^5-Cholestene-3β,4β,7α-triol and the inhibition of the oxidation of hydroxyl groups by vicinal substituents. S. Lieberman and D. K. Fukushima. bibliog Am Chem Soc J 72:5211-18 N '50

Comparative acidic properties of some 5-substituted tetrazoles. E. Lieber, S. H. Patinkin and Hsiang Hsia Tao. bibliog Am Chem Soc J 73:1792-5 Ap '51

Concerted displacement reactions; *m*- and *p*-substituent effects as evidence for a unity of mechanism in organic halide reactions. C. G. Swain and W. P. Langsdorf, jr. bibliog Am Chem Soc J 73:2813-19 Je '51

Cyclic intermediates in substitution reactions; steric effects in the alkaline hydrolysis of the epimeric 3-chloro-6/ /7-cholestanedicarboxylic acids. D. W. Wujciak, R. L. Feller and J. F. Lane. bibliog Am Chem Soc J 73:2392-4 My '51

Cyclic intermediates in substitution reactions; the alkaline hydrolysis of some aliphatic bromoacids. J. F. Lane and H. W. Heine. bibliog Am Chem Soc J 73:1348-50 Mr '51

Effect of bromine substitution upon the ultraviolet absorption spectra of α,β-unsaturated ketones. A. L. Nussbaum and others. bibliog Am Chem Soc J 73:3263-6 Jl '51

Effect of fluorine substitution on medicinal agents; synthesis of 2-trifluoromethyl-1,4-naphthoquinone. A. F. Helin, A. Sveinbjornsson and C. A. VanderWerf. Am Chem Soc J 73:1189-90 Mr '51

Effect of nuclear substitution on the rate of silica-zirconia-alumina-catalyzed depropylation of cumene. R. M. Roberts and G. M. Good. bibliog Am Chem Soc J 73:1320-2 Mr '51

Effects of substituents on the rate of hydrolysis of triarylsilanes in wet piperidine. H. Gilman and G. E. Dunn. bibliog Am Chem Soc J 73:3404-7 Jl '51

Experiments on the substitution behavior of the silicon chlorobromides. C. J. Wilkins, N. P. H. Brown and A. D. Stevens. Chem Soc J p 163-4 Ja '50

Influence of the methoxyl group in aromatic substitution. P. B. D. de la Mare and C. A. Vernon. Chem Soc J p 1764-7 Jl '51

Kinetics of aromatic halogen substitution; nitrosobenzene and azobenzene. P. W. Robertson, T. R. Hitchings and G. M. Will. Chem Soc J p808-12 Mr '50

Kinetics of halogen substitution; halogen addition; benzyl and allyl chloride, bromide, and cyanide. L. D. Swindale, B. E. Swedlund and P. W. Robertson. Chem Soc J p812-14 Mr '50

Kinetics of the base-catalyzed methanolysis of ortho, meta and para substituted *l*-menthyl benzoates. R. W. Taft, jr., M. S. Newman and F. H. Verhoek. bibliog Am Chem Soc J 72:4511-19 O '50

Orbital hybridisation and some other considerations concerning the transition state of bimolecular organic substitution reactions. V. Gold. Chem Soc J p 1430-4 Je '51

Phenylpropiolic acids; the effect of substituents on the mode of cyclisation of substituted phenylpropiolic anhydrides. F. G. Baddar and L. S. El-Assal. Chem Soc J p 1844-7 Jl '51

Properties of electrolytic solutions; effect of substituent groups on the properties of long chain ions. M. J. McDowell and C. A. Kraus. Am Chem Soc J 73:2173-6 My '51

Radioactive halogens and the mechanism of replacement reactions. E. D. Hughes. Chem Soc J supp no 2:S400-5 '49

Reactions of the alkyl-sulphate ion; kinetics and mechanism of the reaction with phenoxide ion and the polar effects of substituents in the phenol nucleus. G. H. Green and J. Kenyon. Chem Soc J p 1589-96 Je '50

Restricted rotation in aromatic amines; the effect of monosubstitution in the *ortho* position. R. Adams and A. S. Nagarkatti. Am Chem Soc J 72:4606-8 O '50

Sommelet reaction; the choice of solvent and the effect of substituents. S. J. Angyal and others. Chem Soc J p2141-5 Ag '50

Statistical mechanics of reversible reactions of neighboring pairs of substituents in linear polymers. P. J. Flory. bibliog Am Chem Soc J 72:5052-5 N '50

Substitution reactions of the naphthylenediamines. J. S. Whitehurst. Chem Soc J p215-30 Ja '51

SUBTERRANEAN installations. See Underground construction

SUBTILIN

Lanthionine in subtilin. G. Alderton and H. L. Fevold. bibliog Am Chem Soc J 73:463-4 Ja '51

Purification of subtilin concentrates by counter-current distribution. N. G. Brink, J. Mayfield and K. Folkers. bibliog Am Chem Soc J 73:330-1 Ja '51

SUBURBAN development

Community of country homes; Landerwood Estates near Cleveland. il plans Am Bld 73:132-5 F '51

Country club living at supermarket prices; Forest City housing development, Wantagh, L.I. il plans Am Bld 73:99-101 Je '51

Decentralization 1951 style; transit's latest plague. D. C. Hyde. Bus Transportation 30:63-5 S '51

Offices move to suburbs; Westchester County's garden-type office buildings. il map Bsns W p79-80+ Mr 17 '51

Park Forest, realization of a dream. H. E. Kincaid. il plan Midwest Eng 3:3-5, 30-1 N '50

SUBURBAN propane gas corporation

Debentures placed privately. Comm & Fin Chr 173:1483 Ap 9 '51

Suburban Propane scoring fifth straight record year. Barron's 30:13-14 O 16 '50

SUBVERSIVE activities

Do state antisubversive efforts threaten civil rights? W. B. Prendergast. Ann Am Acad 275:124-31 My '51

SUBWAYS

Conveyor belt subway passenger system proposed in New York. il Rubber Age 69:72-3 Ap '51; Excerpt. Product Eng 22:200 My '51

See also

Budapest—Subway

New York (city)—Subways

SUBWAYS—*Continued*

Construction

Chicago extends subway under La Salle Street station. D. Van Gorp. il plan diag Civil Eng 20:705-7 N '50

Complex problems on first section of Toronto subway. C. B. Molineaux. il Roads & Eng Constr 89:105-7+ Ap '51

Miles of underpinning keep business district out of subway; Toronto's Yonge St subway. G. Goodwin. il diags Eng N 146:30-1 My 24 '51

Tunnelling for transit subways. B. H. Colquhoun. Roads & Eng Constr 89:114+ My '51

Underground railway planning and construction; abstract. D. Anderson. Engineering 171:685-6 Je 8 '51

Yonge-street subway, Toronto. il diags Engineering 171:177-8 F 16 '51

Cost

Subway alterations, Brooklyn, New York; unit prices. Eng N 146:84 Je 21 '51

Power

50 years of progress; New York subway system's 59th st station; 1902 power practice compared with today's. il diags Power 95:71-6 S '51

SUCARYL. See Sodium cyclohexyl sulfamate

SUCCESS

Qualities that make for success. J. R. Cuthbert. Chem Eng 58:146+ S '51

SUCCINAMIC acid

Accelerator-activators from amic acids. M. C. Throdahl, R. O. Zerbe and D. J. Beaver. Ind & Eng Chem 43:926-30 Ap '51

SUCCINIC acid

First dissociation constant of succinic acid from 0° to 50° C. and related thermodynamic quantities. G. D. Pinching and R. G. Bates. bibliog J Res Nat Bur Stand 45:444-9 D '50

Reaction of succinic and glutaric acid with amines. G. B. Hoey and C. T. Lester. Am Chem Soc J 73:4473-4 S '51

Second dissociation constant of succinic acid from 0° to 50° C. G. D. Pinching and R. G. Bates. bibliog J Res Nat Bur Stand 45:322-8 O '50

Separation of mixtures of solutes by distribution between solvents; the separation of the components of a fixed quantity of a mixture by a continuous counter-current extraction process. J. D. A. Johnson and A. Talbot. diags Chem Soc J p 1068-88 Ap '50

Simple and rapid biosynthesis of isotopically labeled succinic acid. S. J. Ajl and M. D. Kamen. Am Chem Soc J 73:2349-50 My '51

Unsaturated lactones and related substances; the synthesis of aldehydo-acids by the Rosenmund reaction. W. S. Johnson, R. P. Linstead and R. R. Whetstone. Chem Soc J p2219-22 Ag '50

SUCCINIC anhydride

β-Aroylpropionic acids; the action of *o*- and *p*-methoxyphenylmagnesium bromide on succinic anhydride. F. G. Baddar and L. S. El-Assal. Chem Soc J p431-3 F '51

β-Aroylpropionic acids; the mechanism of interaction between phenol and succinic anhydride in presence of aluminum chloride; the nature of the Fries reaction. F. G. Baddar and L. S. El-Assal. Chem Soc J p3606-8 D '50

SUCCINIC dehydrogenase

Histochemical demonstration of succinic dehydrogenase. A. M. Seligman and A. M. Rutenburg. bibliog il Science 113:317-20 Mr 23 '51

SUCCINIMIDE

Synthesis of substituted penicillins and simpler structural analogs; the synthesis of a 5-phenyl penicillin and α-succinimido β-lactam-thiazolidines. J. C. Sheehan and G. D. Laubach. Am Chem Soc J 73:4376-80 S '51

SUCKER rods

On the beam pumping. J. S. Fuller. il Pet Eng 22:B27-8+ D '50

Practical application of rod, pump production, load tables. D. M. Jones. World Oil 132:194+ Ap '51

Tapered sucker rod strings. A. Quayle. il World Oil 131:186+ N '50

SUDAN

New development program planned. For Comm W 43:12 Ap 16 '51

Sudanese and their future. Economist 160:30 Ja 6 '51

SUEZ canal

Traffic

Suez Canal traffic trends in 1950. Economist 160:889-90 Ap 14 '51

SUEZ canal company

Annual general meeting, Paris, June 12th. Economist 160:1537 Je 23 '51

SUGAR

Amylopectin-type polysaccharide synthesised from sucrose by Cl. butyricum. P. N. Hobson and H. Nasr. Chem Soc J p 1855-7 Jl '51

Appetite-appeal sugar cartons; Savannah's telescope-reclosure packages. il Mod Packaging 24:99 D '50

Basis of life. O. Lyle. Chem & Ind p 164-7 Mr 3 '51; Abstract. Chem Age (Lond) 64:195-6 F 3 '51

Calculation of viscosity parameters for aqueous sucrose solutions. H. K. Zimmerman, jr. J Phys & Colloid Chem 55:1274-6 O '51

Conversion of sucrose into pyridazine derivatives. W. G. Averend, L. M. Turton and L. F. Wiggins. Chem Soc J p3500-11 D '50

Conversion of sucrose into pyridazine derivatives; the nitration of pyridazine derivatives. S. Dixon and L. F. Wiggins. Chem Soc J p3236-9 N '50

Dielectric constants of aqueous solutions of dextrose and sucrose. C. G. Malmberg and A. A. Maryott. bibliog il diags J Res Nat Bur Stand 45:299-303 O '50

Diffusion coefficient of sucrose in supersaturated solution. A. R. Gordon. Am Chem Soc J 72:4840 O '50

Itaconic acid; production by aspergillus terreus from unrefined cane sugar. G. C. A. van der Westhuizen, C. J. P. Spruit and H. H. Sephton. bibliog J Ap Chem 1:356-60 Ag '51

Preparation of 4,6-ethylindene-D-glucopyranose from sucrose and its hydrogenation to 4,6-ethylidene-D-sorbitol. R. C. Hockett, D. V. Collins and A. Scattergood. bibliog Am Chem Soc J 73:599-601 F '51

Scare buyers hold bag as sugar demand drops. Barron's 30:29 O 16 '50

Solubility of sucrose in aqueous glycerol and propylene glycol. M. W. Fey, C. M. Weil and J. B. Segur. bibliog Ind & Eng Chem 43:1435-6 Je '51

Structure of the starch-type polysaccharide synthesised from sucrose by neisseria perflava. S. A. Barker, E. J. Bourne and M. Stacey. Chem Soc J p2884-7 O '50

See also
Fondants

Bacteriology

Ray-table unit curbs bacteria on sugar; to protect canners against thermophile contamination. A. F. Blake. il Food Ind 23:77 Ja '51

Manufacture and refining

Cane sugar refining. W. H. Shearon, jr., W. H. Louviere and R. M. Laperouse. bibliog flow sheet il diags Ind & Eng Chem 43:552-63 Mr '51

Chemical progress during the 75 years of the American chemical society: sugar chemistry. W. D. Horne, S. M. Cantor and R. W. Liggett. il Ind & Eng Chem 43:804-8 Ap '51

Heterogeneous catalytic inversion of sucrose with cation exchange resins. G. Bodamer and R. Kunin. bibliog Ind & Eng Chem 43:1082-5 My '51

New clarification process; Koloa mill in Hawaii; abstract. Chem Eng 58:244+ Ap '51

Power clarifier recovers more sugar. R. E. Berg. flow sheet il Food Ind 23:58-60 Ja '51

Purification of sugar juices; symposium. bibliog il diags Ind & Eng Chem 43:603-38 Mr '51

Ray-table unit curbs bacteria on sugar; to protect canners against thermophile contamination. A. F. Blake. il Food Ind 23:77 Ja '51

SUGAR—Manufacture and refining—*Cont.*

Significance of term color in sugar; abstract. D. B. Judd. il Chem & Eng N 29:1511-12 Ap 16 '51

Some granular carbonaceous adsorbents for sugar refining; a study of bone char replacements based on hydroxyapatite; Synthads. E. P. Barrett, J. M. Brown and S. M. Oleck. il Ind & Eng Chem 43:639-54 Mr '51

Sugar liquor defecation with soybean flours. Lie Tien Chang. bibliog Ind & Eng Chem 43:654-9 Mr '51

Byproducts

Sugar waste; more uses. il Bsns W p 110-12 F 17 '51

Prices

Sugar market sees lower prices ahead. Barron's 30:28 O 30 '50

SUGAR, Liquid

Trucking of liquid sugar is fast and flexible. il map Food Eng 23:149+ S '51

SUGAR analysis

Acacia mollissima Willd; the component sugars and aldobiuronic acid of black wattle gum. A. M. Stephen. Chem Soc J p646-9 Mr '51

Applications of paper chromatographic methods in the sugar and allied industries; abstract and discussion. H. C. S. de Whalley and others. Chem & Ind p 126-7 F 17 '51

Chromatographic separation of amino sugars and amino acids, using the N-(2 : 4-dinitrophenyl) derivatives. P. W. Kent and others. bibliog Science 113:354-5 Mr 30 '51

Chromatographic study of sulfite waste liquor sugars. P. K. Mulvany and others. bibliog Am Chem Soc J 73:1255-7 Mr '51

Chromatography of sugars and their derivatives; aldonamides. M. L. Wolfrom, R. S. Bower and G. G. Maher. Am Chem Soc J 73:875 F '51

Colorimetric determination of methylated sugars; an improved micro-method of end-group assay. J. K. Bartlett and others. bibliog Chem & Ind p76 Ja 27 '51

Demonstration of the presence of a galactoaraban in raw cotton fiber. J. D. Guthrie and W. A. Reeves. bibliog Textile Res J 20:859-61 D '50

Determination of water in sugar solutions by desiccation at room temperature. T. J. Mitchell. bibliog Chem & Ind p815-17 D 23 '50

Improved techniques in paper chromatography of carbohydrates. A. Jeanes, C. S. Wise and R. J. Dimler. bibliog diag Anal Chem 23:415-20 Mr '51

Quantitative analysis of mixtures of sugars by the method of partition chromatography; improved methods for the separation and detection of the sugars and their methylated derivatives on the paper chromatogram. L. Hough, J. K. N. Jones and W. H. Wadman. Chem Soc J p 1702-6 Jl '50

Quantitative application of the Kiliani reaction. V. L. Frampton and others. bibliog diag Anal Chem 23:1244-7 S '51

Quantitative determination of sugars on filter paper chromatograms by direct photometry. E. F. McFarren, K. Brand and H. R. Rutkowski. bibliog Anal Chem 23:1146-9 Ag '51

Separation of monosaccharides by ion exchange. J. X. Khym and L. P. Zill. bibliog Am Chem Soc J 73:2399-400 My '51

Simple technique for the identification of raffinose and sucrose by enzymatic hydrolysis on paper chromatograms and the subsequent separation of the hydrolyzed products by paper chromatography. K. T. Williams and A. Bevenue. Science 113:582 My 18 '51

Spectrophotometric studies on refined sugars in solution. F. W. Zerban, L. Sattler and J. Martin. bibliog Anal Chem 23:308-13 F '51

Stability of carbonate buffered cupritartrate reagents of low *p*H for estimating micro and macro quantities of reducing sugars. L. J. Heidt and K. A. Moon. Am Chem Soc J 72:4130-5 S '50

See also

Molasses—Analysis

SUGAR cane

Cane sugar facts. Comp Air Mag 56:192 Jl '51

How sugar industry reduced transport cost; cane goes from field to mill in Tournahaulers. il Am Bsns 21:34 Mr '51

See also

Bagasse

SUGAR factories

They built their plant around the raw material; camera tour of Canada & Dominion sugar company's Montreal refinery. Factory Management 109:B86-91 pt 2 Ap '51

Accounting

Standard costs for control in sugar refining. E. N. Martin. N A C A Bul 32:1313-26 Jl '51

Employees

Sugar refining industry; earnings in 1950. A. N. Jarrell. Mo Labor R 73:46-7 Jl '51

Equipment

Powder clarifier recovers more sugar. R. E. Berg. flow sheet il Food Ind 23:58-60 Ja '51

Ray-table unit curbs bacteria on sugar; to protect canners against thermophile contamination. A. F. Blake. il Food Ind 23:77 Ja '51

Semipilot production of sucrose from sorghum. R. H. Cotton and others. bibliog flow diag il diag Ind & Eng Chem 43:628-35 Mr '51

Unique bulk-food warehouse is bringing new savings in sugar storing; C.&D. refinery, Montreal. il Food Eng 23:46-8+ Jl '51

Waste

Nitrogenous compounds in sugar beet juices. R. J. Brown. bibliog Ind & Eng Chem 43:610-14 Mr '51

Reburning of defecation lime cake. R. M. Daniels and R. H. Cotton. diag Ind & Eng Chem 43:624-7 Mr '51

Sugar cane process wastes. R. Stone. flow diag il Sewage & Ind Wastes 23:1025-8 Ag '51

Sugar-mill water reclaimed, rich soil is a by-product. il Eng N 146:36 Mr 1 '51

SUGAR handling

Big benefits in bin-handling of drys. il Food Eng 23:83-5+ S '51

They built their plant around the raw material; camera tour of Canada & Dominion sugar company's Montreal refinery. Factory Management 109:B86-91 pt 2 Ap '51

Unique bulk-food warehouse is bringing new savings in sugar storing; C.&D. refinery, Montreal. il Food Eng 23:46-8+ Jl '51

SUGAR industry and trade

Higher prices, output aid West Indies sugar earnings. Barron's 30:13-14 O 23 '50

Is sugar vulnerable? Economist 161:118 Jl 14 '51

Low U.S. sugar price causes export embargo. Barron's 31:19-20 My 7 '51

Peace would not ruin the 1952 sugar market. Barron's 31:19 Jl 2 '51

Reduction in sugar quota might cause a shortage. Barron's 31:27 O 8 '51

Sudden boom in sugar cuts down Cuban supply. Barron's 31:27 Mr 5 '51

Sugar market sags; lacks scare buying. Barron's 31:19-20 Ag 20 '51

Sugar recedes after second buying wave. Barron's 31:43-4 Ja 22 '51

Sugar stocks to stay high under 1951 quota. Barron's 31:34 Ja 8 '51

War tension bolsters lagging sugar demand. Barron's 30:20 D 4 '50

History

Chemical progress during the 75 years of the American chemical society; sugar chemistry. W. D. Horne, S. M. Cantor and R. W. Liggett. il Ind & Eng Chem 43:804-8 Ap '51

Securities

Are the sugars vulnerable to peace? with statistical summary of companies. F. R. Walters. Mag of Wall St 88:456-7+ Jl 28 '51

SUGAR industry and trade—Securities—*Cont.*

Outlook for foods, dairies, sugars; with statistical summary of leading companies. R. Colston. Mag of Wall St 87:610-12+ Mr 10 '51

Belgium

Belgian sugar situation. For Comm W 45:17 O 15 '51

Canada

Canadian sugar production at record level. For Comm W 43:19 My 7 '51

China

Small chemical industries for China; sugar and insecticides manufacture. J. E. Stepanek and C. H. Prien. bibliog il Chem & Eng N 28:4250-3 D 4 '50

Dominican Republic

Sugar yields high. For Comm W 43:21 My 14 '51

Great Britain

United Kingdom's sugar industry. For Comm W 43:19 My 7 '51

Hawaiian Islands

Aljian, Atchison and Lathrop team with Hawaiian sugar industry to study utilization of bagasse. Paper Tr J 133:172-4 S 7 '51; Same cond. Pulp & Pa of Can 52:102 S '51

Ireland

Ireland's sugar situation. For Comm W 44:21 Jl 30 '51

Italy

Sugar production and consumption at all-time high. For Comm W 43:20 My 21 '51

Salvador

El Salvador's sugar position. For Comm W 43:19 Je 18 '51

Sweden

Sugar production and imports up. For Comm W 43:20 My 21 '51

SUGAR plantations

Resistance measurement tells when to irrigate Hawaiian sugar plantations. il Elec West 105:73 D '50

SUGAR research

A.C.S. Division of sugar chemistry jubilee meeting, New York. Chem & Eng N 29:3843-4 S 17 '51

Beet juice defecation. G. Rorabaugh and V. I. Morris. bibliog Ind & Eng Chem 43:619-24 Mr '51

Development of microorganisms during sugar manufacture; significance relative to sucrose losses. W. L. Owen. bibliog il Ind & Eng Chem 43:606-9 Mr '51

Effects of nonsugars on solubility of sucrose in sugar beet sirups. H. W. Dahlberg and A. N. Bennett. bibliog Ind & Eng Chem 43:660-2 Mr '51

Semipilot production of sucrose from sorghum. R. H. Cotton and others. bibliog flow diag il diag Ind & Eng Chem 43:628-35 Mr '51

SUGAR workers

See also

Sugar factories—Employees

SUGARLOAF mountains

Structure of the Sugarloaf Mountain area, Maryland, as a key to Piedmont stratigraphy. D. M. Scotford. bibliog maps diags Geol Soc Bul 62:45-75, pl 1-7 Ja '51

Structure of the Sugarloaf Mountain area, Maryland, as a key to Piedmont stratigraphy. A. J. Stose and G. W. Stose. bibliog map diag Geol Soc Bul 62:697-9 Je '51

SUGARS

Action of Grignard reagents on anhydrosugars of ethylene oxide type; the behaviour of derivatives of α-methyl-2 : 3-anhydroalloside towards methylmagnesium iodide. F. H. Newth, G. N. Richards and L. F. Wiggins. Chem Soc J p2356-64 S '50

Chemical interactions of amino compounds and sugars; comparative studies with D-xylose and 2-furaldehyde. T. Tan, M. L. Wolfrom and A. W. Langer, jr. bibliog Am Chem Soc J 72:5090-5 N '50

Deoxy-sugars; a further contribution to the chemistry of 2-deoxy-D-galactose. A. B. Foster, W. G. Overend and M. Stacey. Chem Soc J p974-9 Ap '51

Deoxy-sugars; a study of the stabilities of some phosphoric acid derivatives of D-galactose and 2-deoxy-D-galactose. A. B. Foster, W. G. Overend and M. Stacey. Chem Soc J p987-91 Ap '51

Deoxy-sugars; an investigation of the glycal method for the preparation of derivatives of 2-deoxy-D-galactose. W. G. Overend, F. Shafizadeh and M. Stacey. Chem Soc J p992-3 Ap '51

Deoxy-sugars; comparative rates of oxidation and reduction of D-galactose and 2-deoxy-D-galactose. W. G. Overend, F. Shafizadeh and M. Stacey. Chem Soc J p2062-4 Ag '51

Deoxy-sugars; experiments with the *O*- and *N*-glycosides of some deoxy-sugars. K. Butler and others. Chem Soc J p 1433-9 Je '50

Deoxy-sugars; further observations on the Dische reaction for 2-deoxypentoses. W. G. Overend, F. Shafizadeh and M. Stacey. Chem Soc J p 1027-9 Ap '50

Deoxy-sugars; D-galactose-3 and -6 phosphoric acids and their 2-deoxy-analogues. A. B. Foster, W. G. Overend and M. Stacey. Chem Soc J p980-7 Ap '51

Deoxy-sugars; some methanesulphonyl and toluene-*p*-sulphonyl derivatives of α-ethyl-2 : 3-dideoxy-D-glucoside S. Laland, W. G. Overend and M. Stacey. Chem Soc J p738-43 F '50

Deoxy-sugars; some observations on the Feulgen nucleal reaction. W. G. Overend. Chem Soc J p2769-74 O '50

Deoxy-sugars; some properties and reactions of 2-deoxy-D-galactose. W. G. Overend, F. Shafizadeh and M. Stacey. Chem Soc J p671-7 F '50

Deoxy-sugars; synthesis of an oligosaccharide by the thermal condensation of αβ-methyl-2-deoxy-D-galactofuranoside. W. G. Overend, F. Shafizadeh and M. Stacey. Chem Soc J p994-7 Ap '51

Deoxy-sugars; synthesis of some derivatives of 2-deoxy-D-galacturonic acid. W. G. Overend, F. Shafizadeh and M. Stacey. Chem Soc J p 1487-9 Je '51

Deoxy-sugars; the conversion of D-arabinose into 3-deoxy-D-xylose derivatives. R. Allerton and W. G. Overend. Chem Soc J p 1480-4 Je '51

Deoxy-sugars; the value of the Dische test for the quantitative determination of deoxypentose nucleic acids. W. G. Overend. Chem Soc J p 1484-7 Je '51

Direct proof of the equivalence of carbon atoms 1 and 6 in D-mannitol and a new method of correlating certain higher-carbon sugars and alcohols. N. K. Richtmyer and C. S. Hudson. bibliog Am Chem Soc J 72:3880-2 S '50

L-Fuco-4-ketose, a new sugar produced by the action of acetobacter suboxydans on L-fucitol. N. K. Richtmyer, L. C. Stewart and C. S. Hudson. bibliog Am Chem Soc J 72:4934-7 N '50

Grapefruit and lemon gums; the ratio of sugars present in the gums and the structure of the aldobionic acid (4-D-glucuronosido-D-galactose) isolated by graded hydrolysis of the polysaccharides. J. J. Connell and others. Chem Soc J p 1696-700 Jl '50

Mechanisms for the mutarotation and hydrolysis of the glycosylamines and the mutarotation of the sugars. H. S. Isbell and H. L. Frush. bibliog J Res Nat Bur Stand 46:132-44 F '51

Quantitative recovery of carbon dioxide in lead tetraacetate oxidations of sugars and sugar derivatives. S. Abraham. bibliog diag Am Chem Soc J 72:4050-3 S '50

Replacement of the halogen group of acetohalogeno-sugars with retention of configuration. G. A. Howard. Chem Soc J p 1045-6 Ap '50

Structure of peach gum; the sugars produced on hydrolysis of the gum. J. K. N. Jones. Chem Soc J p534-7 F '50

SUGARS—*Continued*

Synthesis of sugars from simpler substances; the in vitro synthesis of the pentoses. L. Hough and J. K. N. Jones. Chem Soc J p 1122-6 Ap '51

See also

Aldoses
Arabinose
Carbohydrates
Desoxyxylose
Disaccharides
Fermentation
Fructose
Furanose
Galactose
Glucose
Isomaltose
Lyxose
Pentoses
Polysaccharides
Ribose
Sugar
Xylose

Analysis

See Sugar analysis

SUGGESTION systems

Alert employee saves 91 per cent of stenographic time in order procedure of Fisher Body division. R. G. French. il Am Bsns 21:32 F '51

Employee and the suggestion system; abstract. Management R 40:193-4 Ap '51

Employees' suggestion schemes; application in the electricity supply industry. T. H. Carr. Elec R (Lond) 148:588 Mr 23 '51

How Allis-Chalmers snares ideas from employes. A. E. Anderson. il Mill & Factory 48:118-19 F '51

Howjadoits pay double dividends in Youngstown. il Bus Transportation 29:36-7 D '50

If you act as personal shopper for award winners, you can put new zip in your suggestion program. R. H. Frame. il Factory Management 109:136-7 S '51

Listening to employes' suggestions; Socony-Vacuum plan of cash awards. F. C. Sturtevant. il Nat Pet N 42:21-2 D 6 '50

Short-cuts from a suggestion box; Place homes, South Bend, Ind. il plan Am Bld 73:118-21 F '51

Suggestion box, an incentive generator. M. B. Andrews. Textile World 101:142+ Ap '51

Suggestion system so successful company raises award ante; General Motors. il Mill & Factory 49:125-7 S '51

Suggestion systems can reduce turnover. J. R. Clarke. Personnel J 29:207-10 N '50

Suggestion systems pay big dividends. G. B. Roberts. il Iron Age 167:99-102 Je 21 '51

Suggestion systems; symptoms of failure? H. G. Heneman, jr. Personnel J 29:378-80 Mr '51

Suggestions aren't all funny. Bsns W p49-50 Jl 14 '51

Suggestions, employe paper build morale. Ed & Pub 84:28 Je 9 '51

What was wrong with my suggestion? recommendations for improving tone and readability of suggestion rejection letters. K. F. Schenkel and D. G. Paterson. Personnel 27:212-15 N '50

Why not a suggestion box for engineers and supervisors? J. D. Leonard. Chem Eng 58:117-18 Ja '51

Why not evaluate your suggestion system? P. A. King. Textile World 101:158+ Jl '51

Work simplification for everybody saves manpower and materials; Maytag plan. J. F. Biggane. il Factory Management 109:122-4 Mr '51

SUITING fabrics, Men's. See Men's suiting fabrics

SULFA drugs. See Sulfonamides

SULFAMATES

Conductance of sulfamic acid and some sulfamates in water at 25° and conductance measurements of some long chain sulfamates in water and in water-acetone mixtures at 25°. E. G. Taylor, R. P. Desch and A. J. Catotti. bibliog Am Chem Soc J 73:74-7 Ja '51

Analysis

Gasometric determination of nitrite and sulfamate. W. N. Carson, jr. bibliog diags Anal Chem 23:1016-19 Jl '51

SULFAMIC acid

Conductance of sulfamic acid and some sulfamates in water at 25° and conductance measurements of some long chain sulfamates in water and in water-acetone mixtures at 25°. E. G. Taylor, R. P. Desch and A. J. Catotti. bibliog Am Chem Soc J 73:74-7 Ja '51

Crystal structure of sulfamic acid. F. A. Kanda and A. J. King. bibliog Am Chem Soc J 73:2315-19 My '51

SULFANILAMIDE

Acetylation of 3,5-dibromosulfanilamide. M. K. Seikel and N. A. Strahan. Am Chem Soc J 73:2386-7 My '51

Antituberculous compounds; 2-sulphanilamido-5-alkyl-1 : 3 : 4-oxadiazoles and -thiadiazoles and related *iso*thiosemicarbazones and *iso*thioureas. J. D. Brooks and others. Chem Soc J p452-9 F '50

Synthesis of 2-sulfanilamido-5-aminopyrimidine. W. T. Caldwell. Am Chem Soc J 73:2357 My '51

Thiophene analog of sulfanilamide. H. Y. Lew and C. R. Noller. bibliog Am Chem Soc J 72:5715-17 D '50

SULFANILAMIDOCARBOXYAMIDES

Sulphonamides; sulphanilamidocarboxyamides as intestinal antiseptics; the influence of pK_a and hydrogen-bonding capacity. J. H. Gorvin. Chem Soc J p3304-11 D '49

SULFANILAMIDOPYRAZINE

Sulphanilyl derivatives of 2-amino-3 : 6-di-*sec.*-butylpyrazine. G. T. Newbold. Chem Soc J p2905-6 O '50

SULFANILIC acid

Ionization constant of sulfanilic acid from 0 to 50° by means of e.m.f. measurements. R. O. MacLaren and D. F. Swinehart. bibliog Am Chem Soc J 73:1822-4 Ap '51

SULFANILYLCYANAMIDE

p-Aminobenzenesulphonylphenylcyanamide (N^4-cyanosulphanilide) and related compounds. F. Kurzer. bibliog J Ap Chem 1:80-6 F '51

SULFAPYRAZINE

Sulfapyrazine precipitated in cancer tissue upon repeated glucose injections. C. D. Stevens and others. Science 112:561 N 10 '50

SULFAQUINAZOLINE

Quinazolines; synthesis of several aminoquinazolines and their sulfa derivatives. M. B. Naff and B. E. Christensen. Am Chem Soc J 73:1372-3 Mr '51

SULFATE process. See Paper making—Sulfate process

SULFATES

Absorption spectra of I_2, I_3-, I-, IO_3-, S_4O_6= and S_2O_3=; heat of the reaction I_3- = I_2 + I-. A. D. Awtrey and R. E. Connick. Am Chem Soc J 73:1842-3 Ap '51

Behavior of solutions of titanium dioxide in sulfuric acid in the presence of certain bivalent metallic sulfates. S. M. Mehta and R. P. Poncha. Am Chem Soc J 73:227-8 Ja '51

Behavior of solutions of titanium dioxide in sulfuric acid in the presence of metallic sulfates. S. M. Mehta and S. R. Patel. Am Chem Soc J 73:224-6 Ja '51

Conductivity measurements of the aqueous solutions from the sulfates of bivalent metal and titanium. S. R. Patel. Am Chem Soc J 73:488-9 Ja '51

Cryoscopic measurements in sulphuric acid; reactions of ionised sulphates in sulphuric oleum; self-ionisation equilibria in sulphuric acid, and ionic equilibria in oleum; the polysulphuric acids. R. J. Gillespie. Chem Soc J p2516-31 S '50

Limiting degrees of supersaturation of the sparingly soluble sulfates. V. K. La Mer and R. H. Dinegar. bibliog Am Chem Soc J 73:380-5 Ja '51

Polynuclear complexes of lanthanon sulphates. R. C. Vickery. Chem Soc J p 1101-4 Ap '50

See also

Cement, Effect of sulfates on

Analysis

Volumetric determination of sulfate ion; using barium ion and a standard disodium dihydrogen ethylenediamine tetraacetate solution. J. R. Munger, R. W. Nippler and R. S. Ingols. bibliog Anal Chem 22:1455-7 N '50

SULFATION

Chemical engineering unit processes fourth annual review; sulfonation and sulfation. E. E. Gilbert and E. P. Jones. il diags Ind & Eng Chem 43:2022-52 bibliog(397 ref, p2048-52) S '51

Mechanism of sulfation of alcohols. N. C. Deno and M. S. Newman. bibliog Am Chem Soc J 72:3852-6 S '50

SULFENAMIDES

N-Cyclohexyl-N', N'diethylthiocarbamyl sulfenamide as an accelerator. G. Alliger and S. R. Harrison. bibliog India Rubber World 123:181-5 N '50

SULFENIC acids

Derivatives of sulfenic acids. G. W. Perold and H. L. F. Snyman. Am Chem Soc J 73:2379-80 My '51

Derivatives of sulfenic acids; 1-fluorenone sulfur compounds. N. Kharasch and T. C. Bruice. bibliog Am Chem Soc J 73:3240-4 Jl '51

Derivatives of sulfenic acids; the synthesis of α-nitro sulfides. N. Kharasch and J. L. Cameron. bibliog Am Chem Soc J 73:3864-7 Ag '51

SULFIDES

Carbon-sulphur fission in thio-ethers; the retarding influence of α-methyl groups and of the length of the acid chain on the alkaline hydrolysis of (2-ketoalkylthio)- and (*p*-nitrotriphenylmethylthio)-acetic acids. Y. Iskander and R. Tewfik. Chem Soc J p2050-3 Ag '51

Carbon-sulphur fission in thio-ethers; the retarding influence of α-methyl groups and of the length of the acid chain on the alkaline hydrolysis of (nitrobenzylthio) acetic acids. Y. Iskander and Y. Riad. Chem Soc J p2054-8 Ag '51

Carbon-sulphur fission in thio-ethers; the retarding influence of the length of the radical chain and of a second α-thioacetic acid group on the alkaline hydrolysis of (nitrobenzylthio)- and (nitrodiphenylmethylthio)-acetic acids. Y. Iskander and A. Salama. Chem Soc J p2058-62 Ag '51

Dibasic acids based on *p*-chloromethylbenzoyl choride containing ether, thioether or sulfone groups. W. S. Emerson and R. A. Heimsch. Am Chem Soc J 73:1297-8 Mr '51

Dipole moments and structures of a series of alkyl polysulfides. C. C. Woodrow and others. bibliog diags J Chem Phys 19:951-4 Jl '51

Experience with up-sewer Cloroben treatment in southern California. R. Pomeroy. bibliog Sewage & Ind Wastes 23:465-74; Discussion. 474-7 Ap '51

Fission of the alkyl-oxygen bond in carbinols and of the alkyl-sulphur bond in sulphides and sulphones. M. P. Balfe, J. Kenyon and C. E. Searle. Chem Soc J p3309-12 N '50

FluoSolids roasting of sulphides. T. B. Counselman. il Min Cong J 37:30-4+ Mr '51

Formation and ring-opening of alkene sulfides. E. E. van Tamelen. bibliog Am Chem Soc J 73:3444-8 Jl '51

Grinding mills as conditioners in sulphide flotation. C. G. McLachlan. bibliog flow sheet diag Min Eng 3:Trans 347-50 Ap '51

Hydrogenolysis of sulfilimines and its application to the purification of sulfides. M. A. McCall, D. S. Tarbell and M. A. Havill. Am Chem Soc J 73:4476-8 S '51

Infra-red spectra and chemical structure of some aromatic disulphides, disulphones, and thiolsulphonates. J. Cymerman and J. B. Willis. Chem Soc p 1332-7 My '51

Mechanism of nonlinear luminescence in sulfide phosphors; abstract. S. Roberts. Science 112:427 O 13 '50

Molecular weight of lysozyme after reduction and alkylation of the disulfide bonds. H. Fraenkel-Conrat and others. Am Chem Soc J 73:625-7 F '51

Naphthoquinone antimalarials; thioether naphthoquinones. C. M. Moser and M. Paulshock. bibliog Am Chem Soc J 72:5419-23 D '50

β-Nitrosulfides and β-aminosulfides. W. E. Parham and F. L. Ramp. Am Chem Soc J 73:1293-5 Mr '51

Novel sulfidation reaction and its application to some indoles and pyrroles. R. G. Woodbridge, 3d and G. Dougherty. bibliog Am Chem Soc J 72:4320-2 S '50

Polyalkylene sulfides; the effect of *p*H on polymer size. C. S. Marvel and G. Nowlin. Am Chem Soc J 72:5026-9 N '50

Polyalkylene sulfides; the polymer from tetramethylenedithiol and biallyl. C. S. Marvel and A. Kotch. Am Chem Soc J 73:481 Ja '51

Polyalkylene sulfides; the rate of formation in emulsion. C. S. Marvel and A. H. Markhart, jr. Am Chem Soc J 73:1064-5 Mr '51

Polyarylene-alkylene sulfides. C. S. Marvel and P. D. Caesar. bibliog Am Chem Soc J 73:1097-9 Mr '51

Polysulfide polymers. E. M. Fettes and J. S. Jorczak. bibliog(69 ref) Ind & Eng Chem 42:2217-23 N '50

Preparation and physical properties of sulfur compounds related to petroleum; cyclic sulfides. E. V. Whitehead, R. A. Dean and F. A. Fidler. bibliog Am Chem Soc J 73:3632-5 Ag '51

Preparation and properties of the oxide-sulfides of cerium, zirconium, thorium and uranium. E. D. Eastman and others. Am Chem Soc J 73:3896-8 Ag '51

Preparation of some aryl aminoalkyl sulfides and sulfones. L. F. Cason and C. C. Wanser. bibliog Am Chem Soc J 73:142-5 Ja '51

Pyridoxal phosphate, the coenzyme of thioether-cleavage. F. Binkley and G. M. Christensen. Am Chem Soc J 73:3535 Jl '51

Reduction of sulfones to sulfides. F. G. Bordwell and W. H. McKellin. bibliog Am Chem Soc J 73:2251-3 My '51

Some β-hydroxypropyl sulfides and their derivatives. T. K. Todsen, C. B. Pollard and E. G. Rietz. bibliog Am Chem Soc J 72:4000-2 S '50

Substituted tetrahydropyranyl sulfides. F. Kipnis and J. Ornfelt. Am Chem Soc J 73:822 F '51

Sulphide precoats facilitate metal forming. J. A. Henricks. il Steel 128:76 F 26 '51

Sulphur dioxide from sulphides by fluosolids. N. A. Juli and W. T. Marston. il diag Pulp & Pa of Can 52:83-7 Jl '51

Test for polysulfides in gasoline. G. E. Mapstone. Pet Refiner 30:125-6 S '51

See also

Bornite
Galena
Sphalerite

Analysis

Spectrographic study of platinum and palladium in common sulphides and arsenides of the Sudbury district, Ontario. J. E. Hawley and others. bibliog il Econ Geol 46:149-62 Mr '51

SULFILIMINE

Hydrogenolysis of sulfilimines and its application to the purification of sulfides. M. A. McCall, D. S. Tarbell and M. A. Havill. Am Chem Soc J 73:4476-8 S '51

SULFINIC acids

Preparation of sulfinic acids. W. E. Truce and A. M. Murphy. Chem R 48:69-124 bibliog(316 ref, p 117-24) F '51

Some alkanesulfinic acids and their derivatives. C. S. Marvel and N. A. Meinhardt. Am Chem Soc J 73:859 F '51

Sulfination of aryllithium compounds; the preparation of sodium *o*-, *m*- and *p*-*n*-dodecylbenzenesulfonates. W. E. Truce and J. F. Lyons. bibliog Am Chem Soc J 73:126-8 Ja '51

SULFITE liquor

Aldehyde and alcohol yields in fermented sulphite waste liquor; abstracts. J. Sundman and V. Sundman. Paper Ind 33:78 Ap '51; Paper Tr J 132:26+ Ap 6 '51

Burning of calcium base sulfite liquor without auxiliary fuel. C. E. Rogers and R. S. Jolley. flow diag plans diags Paper Tr J 131:25-6+ N 16 '50; Abstract. Power 95:100-2 F '51

Chemical reaction equilibria in calcium and magnesium-base sulphite recovery systems. R. P. Whitney and others. bibliog Tappi 34:396-400 S '51

Chemistry of the sulphite pulping process and the evaporation of its waste liquor. E. Hägglund. il Tappi 33:520-7 O '50

Chromatographic study of sulfite waste liquor sugars. P. K. Mulvany and others. bibliog Am Chem Soc J 73:1255-7 Mr '51

Component in fusel oil from fermentation of sulphite waste liquor; abstract. W. Jensen. il Paper Ind 33:320 Je '51

Composition of birch and aspen sulphite waste liquor; abstracts. H. Roschier and E. Aaltio. Pulp & Pa of Can 51:100 O '50; Paper Ind 32:998 D '50

SULFITE liquor—*Continued*

Continuous laboratory propagation of sulphite waste liquor yeast. A. E. Markham and others. bibliog flow sheet Tappi 34:131-40 Mr '51

Effect of recycling spent liquor in semichemical pulping. E. L. Keller and J. N. McGovern. bibliog Tappi 34:262-5 Je '51

Fermentation to ethanol of concentrated calcium, magnesium, and ammonium sulphite waste liquors. H. D. Agar and J. L. McCarthy. bibliog diag Tappi 34:126-31 Mr '51

Food yeast from sulfite liquor. G. C. Inskeep and others. bibliog flow sheet il diags Ind & Eng Chem 43:1702-11 Ag '51

Precipitation of calcium sulphate from supersaturated sulphite waste liquor; abstracts. A. Scholander. Pulp & Pa of Can 52:91 Ja '51; Paper Ind 33:320-1 Je '51

Recycle spent sulfite liquor, Erik Hagglund urges; panel discussion on spent liquor. Chem & Eng N 29:4086 O 1 '51

Recycling of waste liquor in the sulphite cook; abstract. E. Hägglund and others. Paper Ind 32:1338-9 Mr '51

Report on sulphite waste liquor burning project. Paper Ind 33:629 S '51

Rhinelander yeast plant. E. P. McGinn. il diag Paper Tr J 133:96+ S 7 '51

Studies on lignin and related products; the oxidation of fermented sulphite spent liquor with cupric oxide under pressure. I. A. Pearl and D. L. Beyer. bibliog Tappi 33:544-8 N '50

Study of sulphite waste liquor fly ash; abstract. I. Jullander and B. Olsson. Paper Ind 33:78 Ap '51

Sulphite cooking with recycling of waste liquor; abstract. L. Stockman and E. Hagglund. Pulp & Pa of Can 52:111 My '51

Sulphite liquor used as fuel. Eng N 146:37 Ja 4 '51

Sulphite pulp manufacturers' league continues study of stream pollution problem. Paper Ind 32:1258+ Mr '51

Sulphite waste liquor in the kraft cook; "Silphate process"; abstract. N. Mannbro. Paper Ind 33:207 My '51

Wisconsin shows progress in sulphite waste liquor disposal. Paper Ind 33:499 Ag '51

Wisconsin stream improvement. Paper Tr J 133:164 S 7 '51

Wisconsin sulphite mills use ammonium base pulping. Paper Ind 33:626 S '51

Wood pulpers' dividend; norconidendrin, antioxidant from sulfite pulping wastes. il Chem W 69:23 S 22 '51

Worm's-eye view of the sulfite waste liquor problem. W. R. Barber. Paper Tr J 132:16+ Ap 6 '51

Analysis

Ammonia-base sulphite pulping liquors; their preparation and analysis. F. F. Bishop and J. F. Honstead. bibliog flow diag Tappi 34:318-23 Jl '51

Bibliography

Utilization of waste sulphite liquor; a bibliography of the literature published during 1950. H. B. Marshall, comp. Pulp & Pa of Can 52:61-8 F '51

SULFITE process. See Paper making—Sulfite process

SULFITES

Function of sulphites and bisulphites in cyanide plating solutions. J. Haas. bibliog Metal Finishing 49:64-5 Ap '51

Kinetics of the exchange of sulfur between thiosulfate and sulfite. D. P. Ames and J. E. Willard. bibliog Am Chem Soc J 73:164-72 Ja '51

Polymerisation of vinyl compounds by the sulphite radical. B. D. Sully. diags Chem Soc J p 1498-505 Je '50

Preparation of ethynylcarbinols from the bisulphite compounds of aldehydes and ketones. J. Cymerman and K. J. Wilks. Chem Soc J p 1208-9 Ap '50

SULFONAMIDES

p-Aminobenzenesulphonylphenylcyanamide (N^4-cyanosulphanilide) and related compounds. F. Kurzer. bibliog J Ap Chem 1:80-6 F '51

p-Cymene-2-sulphonamides. S. M. Brown and G. H. Thomson. Chem Soc J p 1019 Mr '50

Derivatives of benz-1 : 2 : 4-thiadiazine 1 : 1-dioxide. D. V. Parke and R. T. Williams. Chem Soc J p 1760-3 Jl '50

Heterocyclic sulfonamides as carbonic anhydrase inhibitors. W. H. Miller, A. M. Dessert and R. O. Roblin, jr. bibliog Am Chem Soc J 72:4893-6 N '50

Imitative drugs. R. O. Roblin, jr. Sci Am 184:60-3 Ap '51

N-Heterocyclic benzenesulfonomides. M. E. Hultquist and others. bibliog Am Chem Soc J 73:2558-66 Je '51

Organo-lead compounds; *N*-trialkylplumbisulphonamides. B. C. Saunders. Chem Soc J p684-7 F '50

Preparation of heterocyclic sulfonamides. R. O. Roblin, jr. and J. W. Clapp. bibliog Am Chem Soc J 72:4890-2 N '50

Quinone imides; 1,2- and 2,6-naphthoquinone disulfonimides. R. Adams and R. A. Wankel. Am Chem Soc J 73:2219-20 My '51

Some fluorine containing isosteres of sulfa drugs. A. Sveinbjornsson and C. A. VanderWerf. Am Chem Soc J 73:869-70 F '51

Sulphonamides; sulphanilamidocarboxyamides as intestinal antiseptics; the influence of pK_a and hydrogen-bonding capacity. J. H. Gorvin. Chem Soc J p3304-11 D '49

Synthesis of 2-amino-3- and -5-hydroxybenzenesulphonamides. D. V. Parke and R. T. Williams. Chem Soc J p 1757-60 Jl '50

See also
Sulfanilamide

SULFONATES

Chemical engineering unit processes fourth annual review; sulfonation and sulfation. E. E. Gilbert and E. P. Jones. il diags Ind & Eng Chem 43:2022-52 bibliog(397 ref, p2048-52) S '51

Hydrolysis of aryl sulphonates. C. A. Bunton and Y. F. Frei. Chem Soc J p 1872-3 Jl '51

Infra-red spectra and chemical structure of some aromatic disulphides, disulphones, and thiolsulphonates. J. Cymerman and J. B. Willis. Chem Soc J p 1332-7 My '51

Isomeric benzoate-toluene-*p*-sulphonates of propylene glycol. G. A. Haggis and L. N. Owen. Chem Soc J p2250-2 Ag '50

Non-degradative oxidation of lignin sulfonates. D. M. Ritter. bibliog Am Chem Soc J 73:2550-3 Je '51

Preparation of nitrosyl complex fluorides and of fluorosulphonates by means of bromine trifluoride. A. A. Woolf. Chem Soc J p 1053-6 Ap '50

Sulfination of aryllithium compounds; the preparation of sodium *o*-, *m*- and *p*-*n*-dodecylbenzenesulfonates. W. E. Truce and J. F. Lyons. bibliog Am Chem Soc J 73:126-8 Ja '51

Sulfonation of alkyl aryls. J. E. Kircher. flow diag Soap & San Chem 26:48-51 D '50

SULFONATION

Aromatic sulphonation; kinetics of sulphonation in fuming sulphuric acid. J. C. D. Brand. Chem Soc J p 1004-17 Mr '50

Aromatic sulphonation; the ionisation constants of *p*-nitrotoluene, nitrobenzene, and *p*-chloronitrobenzene, and the acidity function of oleum. J. C. D. Brand. Chem Soc J p997-1003 Mr '50

Chemical engineering unit processes fourth annual review; sulfonation and sulfation. E. E. Gilbert and E. P. Jones. il diags Ind & Eng Chem 43:2022-52 bibliog(397 ref, p2048-52) S '51

Phthalocyanines and related compounds; further investigations on tetrabenzporphin and allied substances. R. P. Linstead and F. T. Weiss. Chem Soc J p2975-81 N '50

Sulfonated cross-linked polystyrene; a monofunctional cation-exchange resin. K. W. Pepper. bibliog J Ap Chem 1:124-32 Mr '51

Sulfonation of alkyl aryls. J. E. Kircher. flow diag Soap & San Chem 26:48-51 D '50

Sulfonation of 1-methyl-2-phenylindane, a dimer of styrene. M. J. Rosen and P. E. Spoerri. bibliog Am Chem Soc J 73:2095-8 My '51

Unit processes; Chemical Engineering report, March 1951. P. H. Groggins. diag Chem Eng 58:132-3 Mr '51

SULFONAZIDES. See Sulfonyl azides

SULFONES

Action of phenylhydrazine on the periodate degradation products of phenyl β-D-glycopyranosyl sulfones. W. A. Bonner and R. W. Drisko. Am Chem Soc J 73:3701-3 Ag '51

Alkyl phenyl-(2-pyridyl)-methyl sulfones; sulfonium salts as alkylating agents. T. R. Lewis and S. Archer. bibliog Am Chem Soc J 73:2109-13 My '51

Cleavage of 3-dimethylamino-1,1-diphenylbutyl ethyl sulfone. S. Archer and M. E. Auerbach. Am Chem Soc J 73:1840 Ap '51

Cyclic sulfones; alkylation of 2,5-diphenyl-3,4-dihydroxythiophene-1-dioxide with methyl and ethyl iodide; an extension of a method for the alkylation of benzyl sulfone. C. G. Overberger and J. M. Hoyt. Am Chem Soc J 73:3957-8 Ag '51

Cyclic sulfones; methylation of 2,5-diphenyl-3,4-dihydroxythiophene-1-dioxide with methyl sulfate and diazomethane. C. G. Overberger and J. M. Hoyt. bibliog Am Chem Soc J 73:3305-8 Jl '51

Cyclic sulfones; the polymerization of styrene in the presence of 3,4-diphenylthiophene-1-dioxide and 3,4-di-(*p*-chlorophenyl)-thiophene-1-dioxide. C. G. Overberger, H. J. Mallon and R. Fine. bibliog Am Chem Soc J 72:4858-61 N '50

Derivatives of bis-(4-aminophenyl) sulfone and related compounds. H. Bauer. bibliog Am Chem Soc J 73:2113-18 My '51

Dibasic acids based on *p*-chloromethylbenzoyl chloride containing ether, thioether or sulfone groups. W. S. Emerson and R. A. Heimsch. Am Chem Soc J 73:1297-8 Mr '51

Fission of the alkyl-oxygen bond in carbinols and of the alkyl-sulphur bond in sulphides and sulphones. M. P. Balfe, J. Kenyon and C. E. Searle. Chem Soc J p3309-12 N '50

Infra-red spectra and chemical structure of some aromatic disulphides, disulphones, and thiolsulphonates. J. Cymerman and J. B. Willis. Chem Soc J p 1332-7 My '51

Kinetics of halogen addition to unsaturated compounds; αβ-unsaturated sulphones. I. R. C. McDonald, R. M. Milburn and P. W. Robertson. Chem Soc J p2836-8 O '50

Metalation of diaryl sulfones. W. E. Truce and M. F. Amos. bibliog Am Chem Soc J 73:3013-17 Jl '51

Miscellaneous sulphones. K. Bowden and C. H. Reece. Chem Soc J p 1969 Jl '50

Periodate oxidations of phenyl β-D-thioglycopyranosides, phenyl β-D-glucopyranosyl sulfones and related compounds. W. A. Bonner and R. W. Drisko. Am Chem Soc J 73:3699-701 Ag '51

Preparation of some aryl aminoalkyl sulfides and sulfones. L. F. Cason and C. C. Wanser. bibliog Am Chem Soc J 73:142-5 Ja '51

Preparation of sulfinic acids. W. E. Truce and A. M. Murphy. Chem R 48:69-124 bibliog(316 ref, p 117-24) F '51

Reduction of sulfones to sulfides. F. G. Bordwell and W. H. McKellin. bibliog Am Chem Soc J 73:2251-3 My '51

Studies in the sulfone series; infrared absorption spectra and structure of some substituted diphenyl sulfones and sulfoxides. E. D. Amstutz, I. M. Hunsberger and J. J. Chissick. bibliog Am Chem Soc J 73:1220-4 Mr '51

Studies of trifluoroacetic acid; the use of trifluoroacetic anhydride in the synthesis of aromatic ketones and sulphones. E. J. Bourne and others. Chem Soc J p718-20 Mr '51

Studies on antibiotics; substituted ω-phenylsulphonylacetophenones, bisphenylthio- and bisphenylsulphonyl-alkane derivatives. F. Bergel, A. L. Morrison and H. Rinderknecht. Chem Soc J p659-63 F '50

Thermal dissociation of methyldihydrothiophene-1-dioxides. O. Grummitt, A. E. Ardis and J. Fick. bibliog Am Chem Soc J 72:5167-70 N '50

SULFONIC acids

Kinetics and mechanism of aromatic nitration; nitration in acidified aqueous nitric acid. E. S. Halberstadt, E. D. Hughes and C. K. Ingold. Chem Soc J p2441-52 S '50

See also

Lignosulfonic acids

SULFONIUM compounds

Alkyl phenyl-(2-pyridyl)-methyl sulfones; sulfonium salts as alkylating agents. T. R. Lewis and S. Archer. bibliog Am Chem Soc J 73:2109-13 My '51

Preparation of triarylsulfonium halides by the action of aryl Grignard reagents on diphenyl sulfoxide. B. S. Wildi, S. W. Taylor and H. A. Potratz. Am Chem Soc J 73:1965-7 My '51

Studies in the organic chemistry of sulphur; the alkaline fission of some β-aroyloxyethyl dimethyl sulphonium iodides; abstract. P. Mamalis and H. N. Rydon. Chem & Ind p75-6, 93-4 Ja 27-F 3 '51

Sulphonium derivatives of DL-methionine and 5-(2-methylthioethyl)hydantoin. R. O. Atkinson and F. Poppelsdorf. Chem Soc J p 1378 My '51

SULFONYL azides

Reaction of some sulphonazides with pyridine. G. L. Buchanan and R. M. Levine. Chem Soc J p2248-9 Ag '50

SULFONYL chlorides

Cyanamides; N-aryl-N′-arylsulphonylureas. F. Kurzer. Chem Soc J p 1258-62 My '51

Cyanamides; the interaction of arylthioureas and aromatic sulphonyl chlorides. F. Kurzer. Chem Soc J p3269-76 N '50

SULFONYL compounds

Chemistry of indanthrone; alkylsulphonylindanthrones. W. Bradley and H. E. Nursten. Chem Soc J p2177-85 Ag '51

Cryoscopic measurements in sulphuric acid; the basicity of nitro-compounds, sulphonyl compounds, and sulphuryl compounds in sulphuric acid. R. J. Gillespie. Chem Soc J p2542-51 S '50

Diels-Alder reactions of α,β-unsaturated sulfonyl compounds. H. R. Snyder, H. V. Anderson and D. P. Hallada. bibliog Am Chem Soc J 73:3258-60 Jl '51

SULFONYL fluorides

Preparation of some aromatic sulfonyl fluorides. B. I. Halperin and others. Am Chem Soc J 73:1857-8 Ap '51

SULFONYL group

Anhydrides of polyhydric alcohols; the reactions of sodium iodide and lithium chloride with dimethanesulphonyl and ditoluene-*p*-sulphonyl derivatives of the 1 : 4-3 : 6-dianhydrides of D-mannitol, D-sorbitol, and L-iditol. L. F. Wiggins and D. J. C. Wood. Chem Soc J p 1180-4 My '51

SULFOSALICYLIC acid

Polarographic investigation of iron-sulfosalicylate complex ions. C. V. Banks and J. H. Patterson. bibliog Am Chem Soc J 73:3062-4 Jl '51

Spectrophotometric determination of beryllium in aluminum with sulfosalicylic acid. H. V. Meek and C. V. Banks. bibliog Anal Chem 22:1512-16 D '50

Spectrophotometric studies on complex formation with sulfosalicylic acid; with iron(III) at higher *p*H values. R. T. Foley and R. C. Anderson. bibliog Am Chem Soc J 72:5609-12 D '50

SULFOXIDES

Absorption spectra and structure of organic sulphur compounds; sulphoxides. H. P. Koch. Chem Soc J p2892-4 O '50

Reaction of hydrazoic acid with thioether-sulfoxides; synthesis of sulfoximines. F. Misani, T. W. Fair and L. Reiner. Am Chem Soc J 73:459-61 Ja '51

Studies in the sulfone series; infrared absorption spectra and structure of some substituted diphenyl sulfones and sulfoxides. E. D. Amstutz, I. M. Hunsberger and J. J. Chessick. bibliog Am Chem Soc J 73:1220-4 Mr '51

SULFOXIMINE. See Sulfur compounds

SULFUR

Changes in the sources of sulphur. W. A. Parks. Chem Age (Lond) 64:679-80 Ap 28 '51

Critical solution temperatures for sulfur and butyl phthalate. M. Brooke. Am Chem Soc J 72:5748-9 D '50

Diffusion in solid sulfur. R. B. Cuddeback and H. G. Drickamer. J Chem Phys 19:790-1 Je '51

Dry hydrogen sulphide recovery; new continuous purification process. F. G. Audas. Chem Age (Lond) 64:877-80 Je 9 '51

SULFUR—*Continued*
Dwindling sulphur supplies. Chem Age (Lond) 63:557-8 O 21 '50
Effects of ultrasonic waves and nitrous acid on the production of colloidal sulfur. S. Akiya and others. bibliog Science 112:463-5 O 20 '50
Exchange reaction between sulfur and dibenzothiophene-5-dioxide. R. R. Brown and others. Am Chem Soc J 73:465-6 Ja '51
Formation of colloidal sulfur. J. O. Edwards. Science 113:392 Ap 6 '51
Frasch still king. Chem W 69:19 S 22 '51
Fresh out of sulfur. Fortune 44:87-90+ Jl '51
Heating of nickel alloys; susceptibility to attack by sulphur. Chem Age (Lond) 63:783 D 2 '50
Kinetics of the exchange of sulfur between thiosulfate and sulfite. D. P. Ames and J. E. Willard. bibliog Am Chem Soc J 73:164-72 Ja '51
Large crystals of monoclinic sulfur. M. G. Wolf. J Chem Educ 28:427 Ag '51
Mass of S^{32}. H. E. Duckworth and others. Phys R 81:286 Ja 15 '51
Materials of construction report. il Chem Eng 57:134-6 N '50
Mechanism of the reaction between silver and sulfur in mineral oil. R. T. Foley and others. bibliog J Phys & Colloid Chem 54:1281-92 D '50
Memorandum concerning sulphur; sulphur committee of the International materials conference. Tappi 34:sup70A+ Jl '51
Overcoming the sulphur shortage; methods investigated by the DSIR. Chem Age (Lond) 64:491-3 Mr 31 '51
Phosphate production without sulfuric acid. J. W. Turrentine. il Chem & Eng N 29:3454-6 Ag 20 '51
Poisoning of oxide cathodes by atmospheric sulfur. H. A. Stahl. Inst Radio Eng Proc 39:193 F '51
Preparation of carrier-free ^{32}P from pile-irradiated sulphur; adsorption of ^{32}P on ferric hydroxide and dialysed iron. A. W. Kenny and W. T. Spragg. Chem Soc J supp no 2:S326-30 '49
Rayon industry and sulphur shortage; extension of acid plants. Chem Age (Lond) 65:88 Jl 21 '51
Reaction between paraffin hydrocarbons and sulphur vapour. W. A. Bryce and C. Hinshelwood. diag Chem Soc J p3379-87 D '49
Recovery of sulphur from flue gases. W. Francis and G. H. Lepper. Engineering 172:36-7 Jl 13 '51
Removing sulphur compounds from gaseous fuels, with the recovery of elementary sulphur. N. C. Updegraff. flow diags Am Gas Assn Proc 1950:724-7
Role of sulphur in industrial and living processes clarified. Can Chem Process 35:470 Je '51
Slow sulfur pick-up. N. McKitterick. Chem W 69:10-11 Ag 25 '51
Smelter sulfur eases shortage. il Chem Ind W 68:11 My 26 '51
Solubility of sulfur; an undergraduate research project. M. Brooke. J Chem Educ 28:434-5 Ag '51
Studies in polymorphism; a further investigation of the linear rate of transformation of monoclinic into rhombic sulphur. N. H. Hartshorne and M. H. Roberts. 2pls diags Chem Soc J p 1097-114 Ap '51
Studies in the organic chemistry of sulphur; the alkaline fission of some β-aroyloxyethyl dimethyl sulphonium iodides; abstract. P. Mamalis and H. N. Rydon. Chem & Ind p75-6, 93-4 Ja 27-F 3 '51
Studies on phosphorylation; the reaction between organic bases and esters of the oxy-acids of phosphorus; an interpretation based on a comparison of certain aspects of the chemistry of sulphur and phosphorus. V. M. Clark and A. R. Todd. Chem Soc J p2023-30 Ag '50
Sulphur; commodity survey. diags Chem Eng 58:265-7 Ap '51
Sulphur; demand exceeds record production. R. K. Shirley. il Min Cong J 37:84-5 F '51
Sulfur outlook; hearings on fertilizers. il Chem Ind W 68:32 Mr 3; 26-7 Mr 10 '51
Sulphur reactions in sulphite cooking. W. H. Rapson and others. bibliog il diags Pulp & Pa of Can 52:88-97 Jl '51
Sulfur recovery from flue gases. L. C. McCabe. Ind & Eng Chem 43:sup83A-4A Ag '51
Sulfur-resistant catalysts for reforming propane; method for rating catalytic activity and sulfur resistance. J. J. S. Sebastian and C. H. Riesz. bibliog flow diag Ind & Eng Chem 43:860-6 Ap '51
Sulfur shortage serious for many British industries. Chem & Eng N 29:212 Ja 15 '51
Sulphur; sources, uses, production, and conservation. W. L. Swager and J. D. Sullivan. bibliog il Min Eng 3:403-9 My '51
Sulfur; staff report. il diag Chem & Eng N 29:2126-31 My 28 '51; Same. Tappi 34:sup38A+ Jl '51
Sulfur symposium. bibliog flow diags il maps plan diags Ind & Eng Chem 42:2186-302 N '50 (reprints 75c)
Sulphur vs. construction materials. J. R. West and others. il Chem Eng 58:276+ S '51
Surface sulfur; plant is under construction in Colombia. Chem Ind W 68:20-1 F 10 '51
Surface tension of sulfur. R. Fanelli. bibliog Am Chem Soc J 72:4016-18 S '50
Thermal conductivity of sulfur vapor. J. R. West. bibliog J Phys & Colloid Chem 55:402-5 Mr '51
Viscosity of sulfur vapor. G. A. Dalin and J. R. West. bibliog diag J Phys & Colloid Chem 54:1215-21 N '50
World allocation for sulfur agreed upon. Chem & Eng N 29:3021 Jl 23 '51
See also
Copper—Sulphur content
Gas, Natural—Sulfur content
Gasoline—Sulfur content
Iron—Sulfur content
Oil fuel—Sulfur content
Petroleum—Sulfur content
Petroleum refining—Sulfur removal
Steel—Sulfur content
Sulfuration
Vulcanization

Analysis

Carbon, oxygen, and sulfur content of Chilean coppers as related to cuprous-oxide rectifiers. C. C. Hein and W. M. Hickam. J Ap Phys 22:1192-5 S '51
Chemical analysis of soda-lime-silica glasses for trace quantities of several colorants. P. Close and others. diag Am Cer Soc J 33:351-2 N 1 '50
Determination of free sulfur in gasoline. K. Uhrig and H. Levin. bibliog Anal Chem 23:1334-5 S '51
Determination of free sulphur in vulcanizates by a polarographic method. F. C. J. Poulton and L. Tarrant. J Ap Chem 1:29-33 Ja '51
Determination of sulfur after combustion in a small oxygen bomb; rapid titrimetric method. R. K. Siegfriedt, J. S. Wiberley and R. W. Moore. bibliog il Anal Chem 23:1008-11 Jl '51
Determination of sulfur and chlorine in organic materials; reduced scale oxygen bomb. E. J. Agazzi, T. D. Parks and F. R. Brooks. bibliog il Anal Chem 23:1011-13 Jl '51
Determination of sulfur in petroleum fractions by X-ray absorption. S. W. Levine and A. H. Okamoto. bibliog il diag Anal Chem 23:699-704 My '51
Distribution and type of sulfur compounds in straight-run naphthas. J. H. Hale and others. bibliog diag Anal Chem 23:287-93 F '51
Microdetermination of sulfur by the Grote method; photometric detection of the titrimetric end point. R. N. Walter. bibliog diag Anal Chem 22:1332-4 O '50
Modification of lamp method for sulfur in naphthalene. J. J. Tighe, J. S. McNulty and E. J. Center. il Anal Chem 23:669-70 Ap '51
Nitrogen and sulfur in steel determinations. Chem & Eng N 29:1619-20 Ap 23 '51
Spectrographic determination of halogens and sulfur in engine deposits. W. O. Mansfield, jr. and others. il Opt Soc Am J 41:412-16 Je '51

Conservation

Changes in equipment and in operating practices which will reduce sulphur consumption. W. F. McKee. Pulp & Pa of Can 52:79-82 Jl '51

SULFUR—Conservation—*Continued*

Reducing sulphur consumption; report of sulphite committee, Canadian pulp and paper assn. Tappi 34:sup50A+ My '51

Use of sulphur for sulphite pulping; report by Tappi acid pulping committee. Tappi 34:sup48A+ My '51

Isotopes

Acid-base exchange reactions in liquid sulfur dioxide. R. E. Johnson, T. H. Norris and J. L. Huston. bibliog Am Chem Soc J 73:3052-5 Jl '51

Atomic masses of H^1, C^{12}, and S^{32}. A. O. Nier. bibliog Phys R 81:624 F 15 '51

Beta-spectrum of sulfur 35 in the range of 0-30 kilovolts. L. Gross and D. R. Hamilton. bibliog Phys R 80:484 N 1 '50

Beta-spectrum of S^{35} using window corrections. R. B. Heller and others. bibliog Phys R 83:848-9 Ag 15 '51

Chemical identity of the sulphur formed by the slow neutron bombardment of alkali chlorides. U. Croatto and A. G. Maddock. Chem Soc J supp no 2:S351-5 '49

Comparison of two methods for correcting for self-absorption of beta particles, using sulfur. G. K. Schweitzer and J. T. Garrett. bibliog J Phys & Colloid Chem 55:195-9 F '51

Determination of the photo-nuclear cross sections $S^{32}(\gamma,d)P^{30}$, $S^{32}(\gamma,np)P^{30}$, and $P^{31}(\gamma,n)P^{30}$. L. Katz and A. S. Penfold. bibliog Phys R 81:815-19 Mr 1 '51

Isotopic exchange reactions of liquid sulfur trioxide and sulfur dioxide. J. L. Huston. bibliog Am Chem Soc J 73:3049-51 Jl '51

Magnetic moment of S^{33}. S. S. Dharmatti and H. E. Weaver, jr. bibliog Phys R 83:845 Ag 15 '51

Mass of S^{35} from microwave spectroscopy. T. Wentink, jr. and others. bibliog diags Phys R 81:948-51 Mr 15 '51

Masses of Al, Si, P, and S isotopes. H. T. Motz. diag Phys R 81:1061-2 Mr 15 '51

Micro syntheses with tracer elements; the synthesis of thiourea labeled with C^{14} and of thiourea labeled with S^{35}. C. W. Bills and A. R. Ronzio. Am Chem Soc J 72:5510-11 D '50

Microwave study of Ge, Si, and S masses. S. Geschwind and R. Gunther-Mohr. bibliog Phys R 81:882-3 Mr 1 '51

Nuclear magnetic moment of S^{33}. J. R. Eshbach and others. bibliog Phys R 80:1106-7 D 15 '50

Separation of the stable isotope of sulfur 34. E. D. North and R. R. White. flow sheet Ind & Eng Chem 43:2390-7 O '51

Studies with radioactive penicillin. S. Rowlands, D. Rowley and E. L. Smith. Chem Soc J supp no 2:S405-7 '49

Synthesis of 6-alkyl-2-thiouracils labelled with radioactive sulphur. J. Bell and K. A. Macdonald. Chem Soc J p 1930 Jl '51

Manufacture

Canada's sulphur supplies; plans for by-product sulphur. W. M. Bonham. il Can Min J 72:47-50 Ja '51; Same cond. Pulp & Pa of Can 52:66-8 Ja '51

Converter gets sulphur from sour gas; Texas Gulf Worland plant. il diag Chem Eng 58:181 Ap '51

Desulphurizing spent oxide. L. T. Minchin. Gas Age 107:54 Mr 15 '51

Manufacture of sulphur from pyrites. R. Aries and R. M. Cziner. Pulp & Pa of Can 52:70-2 Mr '51

New small-size sulfur-conversion plant; Lion oil co. G. Weber. flow diag Oil & Gas J 50:130+ Ag 23 '51

New sulfur process. F. L. Resen. flow diag Oil & Gas J 50:59 My 31 '51

New sulphur process; economic recovery from gases; Ferralyst process. diag Chem Age (Lond) 65:143-5 Ag 4 '51

New sulphur recovery process. diag Chem Eng 58:128+ Mr '51

New sulfur recovery process. flow diag Pet Eng 23:C44+ F '51

Production of sulfur from hydrogen sulfide at Elk basin, Wyoming, repressure plant. M. Webb. flow diag il Oil & Gas J 49:71-2 Ja 11 '51

Pyrites process can compete if sulfur prices go up; abstract. L. M. Williams, jr. Chem & Eng N 29:1310+ Ap 2 '51

Refinery sulphur. Economist 161:362+ Ag 11 '51

Spent acid recovery offers solution for tight sulfur supply. F. J. Bartholomew. il plan Pet Refiner 30:101-3 Ap '51

Sulphur industry in Canada. A. Buisson. bibliog il map Can Min J 72:51-9 Jl '51; Same cond. Pulp & Pa of Can 52:62-6 Jl '51

Sulphur recovery plants; three methods available. Chem Age (Lond) 64:857 Je 2 '51

Sulfur separator; Ferralyst process. Chem W 69:24 Ag 25 '51

Texas Gulf producing 300 tons daily of sulfur at new Worland plant. il diag Oil & Gas J 50:78-9 Jl 19 '51

Statistics

Sulphur situation. W. W. Duecker and E. W. Eddy. Tappi 34:sup82A+ Ap '51

SULFUR, Liquid

Vaporization of small sulfur droplets. H. F. Johnstone and D. K. Eads. bibliog il diag Ind & Eng Chem 42:2293-8 N '50

SULFUR bacteria

Casing failures traced to bacterial action. R. Sneddon. il plan diag Pet Eng 23:B7-12 Ag '51

How engineers solved Ventura's leaking-well case. H. D. Ralph. il Oil & Gas J 50:69-70 Je 14 '51

Mud-bug problem; Shell finds bacteria causing casing corrosion at Ventura. D. H. Stormont. Oil & Gas J 49:131 Ap 19 '51

Nitrogen fixation by sulfate-reducing bacteria indicated by nitrogen/argon ratios. F. D. Sisler and C. E. ZoBell. Science 113:511-12 My 4 '51

SULFUR burners

Automatic control of sulphur combustion. W. T. Butler. il Pulp & Pa of Can (Convention no) 52:243-8 [F] '51

Combustion chamber construction and operation factors relating to lining and shell life. R. G. Arklie and others. Pulp & Pa of Can 52:108-11+ S '51

Improvements in rotary sulfur burner. A. Lippman, jr. diags Ind & Eng Chem 42:2215-17 N '50

Improvised sulfur burner saves half billion gallons per year of tower blowdown. V. F. Estcourt. diags Oil & Gas J 50:105+ Je 14 '51

SULFUR compounds

Absorption spectra and structure of organic sulphur compounds; sulphoxides. H. P. Koch. Chem Soc J p2892-4 O '50

Absorption spectra of some phenyl sulfides, sulfoxides and sulfones containing nitro and amino groups. H. H. Szmant and J. J. McIntosh. bibliog Am Chem Soc J 73:4356-9 S '51

Alkyl-oxygen fission in carboxylic esters; esters of *p*-methylthio- and *p*-methylsulphonyl-diphenylcarbinols. M. P. Balfe, R. E. Dabby and J. Kenyon. Chem Soc J p382-5 F '51

Alkyl-oxygen fission in carboxylic esters; methyl-2-thienylcarbinol. I. G. Anderson, M. P. Balfe and J. Kenyon. Chem Soc J p385-6 F '51

Azeotrope formation between sulfur compounds and hydrocarbons. D. H. Desty and F. A. Fidler. bibliog Ind & Eng Chem 43:905-10 Ap '51

Chemotherapeutic diamidines; the sulphur analogue of 4 : 4′-diamidinostilbene. L. Bauer and J. Cymerman. Chem Soc J p 109-14 Ja '50

Cleavage of the carbon-sulfur bond in divalent sulfur compounds. D. S. Tarbell and D. P. Harnish. Chem R 49:1-90 bibliog(460 ref, p81-90) Ag '51

Cryoscopic behavior of organic compounds in sulfuric acid; sulfides, sulfoxides and sulfones; evidence for the existence of new sulfur ions. H. H. Szmant and G. A. Brost. bibliog Am Chem Soc J 73:4175-7 S '51

Derivatives of sulfenic acids; 1-fluorenone sulfur compounds. N. Kharasch and T. C. Bruice. bibliog Am Chem Soc J 73:3240-4 Jl '51

Dimethylsulphoximine. H. R. Bentley and J. K. Whitehead. Chem Soc J p2081-2 Ag '50

SULFUR compounds—*Continued*

Hydrogenolysis of dithioesters and thioamides. J. Baddiley. Chem Soc J p3693-4 D '50

Inorganic compounds containing sulfur and fluorine. H. C. Miller and J. F. Gall. bibliog Ind & Eng Chem 42:2223-7 N '50

Recovery of sulfur compounds from atmospheric contaminants. M. Katz and R. J. Cole. bibliog(66 ref) Ind & Eng Chem 42:2258-69 N '50

Removal of sulphur compounds from industrial gases. W. Francis. Engineering 172:180-2 Ag 10 '51

Some new alkyl 1,2-dithia-4-cyclopentene-3-thiones. R. S. Spindt, D. R. Stevens and W. E. Baldwin. bibliog Am Chem Soc J 73:3693-7 Ag '51

Sulfur analogs of β-carbolines. W. Herz. bibliog Am Chem Soc J 72:4999-5001 N '50

Sulfur analogs of isoquinolines. W. Herz. Am Chem Soc J 73:351-2 Ja '51

Sulfur compounds as antioxidants; beta-alkylmercaptoketones. R. B. Thompson. bibliog Ind & Eng Chem 43:1638-41 Jl '51

Sulphur compounds in sulphate turpentine; abstract. T. Bruun and others. Paper Ind 32:1338 Mr '51

Sulfur in fungicides. M. M. Baldwin. bibliog Ind & Eng Chem 42:2227-30 N '50

Toxic factor from agenized proteins; infra-red measurements. L. N. Short and H. W. Thompson. Chem Soc J p 1746-9 Jl '51

See also

Alkyl sulfides
Mercaptans
Sulfides
Sulfinic acids
Sulfonamides
Sulfones
Sulfur dyes
Sulfuric acid

Analysis

Color reactions of thiophene derivatives and of other compounds with a ceric nitrate reagent. H. D. Hartough. bibliog Anal Chem 23:1128-30 Ag '51

SULFUR dioxide

Absorption on a semi-works scale; absorption of sulfur dioxide in water in a packed tower. D. A. Pearson and others. bibliog diag Chem Eng Prog 47:257-64 My '51

Catalytic oxidation of sulfur dioxide; effect of diffusion. R. W. Olson, R. W. Schuler and J. M. Smith. bibliog diags Chem Eng Prog 46:614-24 D '50

Design of fixed-bed catalytic reactors. H. B. Irvin, R. W. Olson and J. M. Smith. bibliog flow sheet Chem Eng Prog 47:287-94 Je '51

Dielectric polarisation of gaseous sulphur dioxide. R. J. W. Le Fèvre, I. G. Ross and B. M. Smythe. diags Chem Soc J p276-83 Ja '50

Dorr FluoSolids reactor for roasting sulphides. J. N. Franklin. il Pulp & Pa of Can 52:140-1+ Je '51

Economic utilization of sulfur dioxide from metallurgical gases; Trail smelter. R. A. King. bibliog flow sheet il Ind & Eng Chem 42:2241-8 N '50

From pyrites; cheaper sulfuric; FluoSolids roaster. Chem Ind W 68:22 Ap 7 '51; il Chem Eng 58:186 Ap '51; Paper Tr J 132:32 Je 8 '51

High purity sulfur from smelter gases; reduction with natural gas. E. P. Fleming and T. C. Fitt. bibliog flow diag il diags Ind & Eng Chem 42:2249-53 N '50

Industrial hygiene; nitrogen oxides, sulfur dioxide, and sulfuric acid mists. Ind & Eng Chem 43:sup 111A-12A+ Je '51

Interaction of sulfur dioxide with aromatic substances. L. J. Andrews and R. M. Keefer. bibliog Am Chem Soc J 73:4169-72 S '51

Materials of construction report. il diags Chem Eng 57:136-40 N '50

Microwave spectrum of sulfur dioxide. M. H. Sirvetz. J Chem Phys 19:938-41 Jl '51

Nomograph gives solubility of sulphur dioxide in water. D. S. Davis. Chem Eng 58:125-6 Ja '51

Practical burning of pyrites for sulphite pulping; Nichols Freeman flash roaster. E. P. McGinn and others. flow chart il maps diag Paper Tr J 132:21-2+ My 25 '51

Preparation of sulfur dioxide. J. C. Darrah. bibliog diags Paper Tr J 131:131-5 N 30 '50

Recovery of sulfur compounds from atmospheric contaminants. M. Katz and R. J. Cole. bibliog(66 ref) Ind & Eng Chem 42:2258-69 N '50

Solution of Canada's sulphur shortage. R. S. Aries and R. M. Cziner. flow sheets Can Chem & Process Ind 35:291-5 Ap '51

State of sulphur dioxide dissolved in sulphuric acid. V. Gold and F. L. Tye. Chem Soc J p2932-4 N '50

Structure and dipole moment of SO_2 from microwave spectra. G. F. Crable and W. V. Smith. bibliog J Chem Phys 19:502 Ap '51

SO_2 and SO_3 in exhaust gases of internal-combustion engines. M. J. van der Zijden and others. bibliog diags Inst Pet J 36:561-74 S '50

Sulphur dioxide from sulphides by fluosolids. N. A. Jull and W. T. Marston. il diag Pulp & Pa of Can 52:83-7 Jl '51

Sulphur dioxide; its apparent dipole moment as a solute and as a pure liquid compared with the true value as a gas. R. J. W. Le Fèvre and I. G. Ross. diag Chem Soc J p283-90 Ja '50

Sulfur dioxide recovery. A. H. Lundberg. bibliog flow sheet diag Paper Tr J 131:147-51 N 30 '50

Use of low-sulfur fuels to reduce sulfur dioxide concentrations in downtown St Louis. L. C. McCabe diags Ind & Eng Chem 43:sup83A-4A Ja '51

See also

Plants, Effect of sulfur dioxide on

Analysis

Ammonia-base sulphite pulping liquors; their preparation and analysis. F. F. Bishop and J. F. Honstead. bibliog flow diag Tappi 34:318-23 Jl '51

New instrument is sensitive to 0.05 part per million of sulfur dioxide. R. H. Munch. il diag Ind & Eng Chem 43:sup99A-100A+ S '51

SULFUR dioxide, Liquid

Acid-base exchange reactions in liquid sulfur dioxide. R. E. Johnson, T. H. Norris and J. L. Huston. bibliog Am Chem Soc J 73:3052-5 Jl '51

Isotopic exchange reactions of liquid sulfur trioxide and sulfur dioxide. J. L. Huston. bibliog Am Chem Soc J 73:3049-51 Jl '51

Liquid sulfur dioxide from waste smelter gases; use of dimethylaniline as absorbant. E. P. Fleming and T. C. Fitt. bibliog flow diags il Ind & Eng Chem 42:2253-8 N '50

SULFUR dyes

Practical methods for treating dye house wastes. H. R. Murdock. diag Ind & Eng Chem 43:sup77A-8A+ Ag '51

SULFUR hexafluoride

Absorption spectrum of sulfur hexafluoride in the vacuum ultraviolet region. T. Liu and others. bibliog J Chem Phys 19:71-2 Ja '51

Coexistence curve of sulfur hexafluoride in the critical region. D. Atack and W. G. Schneider. il diags J Phys & Colloid Chem 55:532-9 Ap '51

Compressibility of gases at pressures up to 50 atmospheres; carbon tetrafluoride in the temperature range 0°-400°C; sulfur hexafluoride in the temperature range 0°-250°C. K. E. MacCormack and W. G. Schneider. J Chem Phys 19:845-8 Jl '51

Infrared spectrum of sulfur hexafluoride. R. T. Lagemann and E. A. Jones. bibliog J Chem Phys 19:534-6 My '51

Intermolecular potentials; carbon tetrafluoride and sulfur hexafluoride; carbon dioxide. K. E. MacCormack and W. G. Schneider. bibliog J Chem Phys 19:849-55 Jl '51

Some physical properties of sulfur hexafluoride. H. C. Miller, L. S. Verdelli and J. F. Gall. Ind & Eng Chem 43:1126-9 My '51

SULFUR in the body

Biochemistry and sulphur; abstract. R. A. Peters. Chem Age (Lond) 64:783-4 My 19 '51

SULFUR industry and trade

Brimstone drought. J. S. Bowen. Barron's 31:19-20 Ap 16 '51

Europe and the sulphur shortage. Economist 160:1250-1 My 26 '51

SULFUR industry and trade—*Continued*

Facts about the sulphur shortage. J. C. Carrington. il Min Cong J 37:53-5 Je '51
Freeport breaks news of big sulfur find in a marshland. il Bsns W p76+ S 1 '51
Half century of the American sulfur industry. W. W. Duecker. Ind & Eng Chem 42:2186-7 N '50
More about the sulphur shortage. Can Chem Process 35:493-6 Je '51
Needed; new sources. Bsns W p67-9 Ja 20 '51
New record in sulfur. J. A. Kornfeld. il Oil & Gas J 50:173 Jl 26 '51
Our sulphur problem. H. J. Perry. Paper Tr J 131:28-9 D 14 '50
Scarcity of sulphur. Economist 159:910 N 25 '50
Sulphur allocation held no help to US industry; Freeport sulphur co. Oil Paint & Drug Rep 160:4 Jl 2 '51
Sulphur consumption restricted. Chem Age (Lond) 63:899 D 30 '50
Sulphur developments. Paper Ind 33:500+ Ag '51
Sulphur discovery in Louisiana to ease world shortage in 1953. map Paper Ind 33:621 S '51
Sulfur; enough by '52. il Chem W 68:33-4 Je 30 '51
Sulphur export allocation cut in fourth quarter urged by NPA. Oil Paint & Drug Rep 160:4+ O 1 '51
Sulphur international allocation planned; NPA order M-69. Oil Paint & Drug Rep 159:3+ Je 11 '51
Sulfur lament. il Chem Ind 67:718-19 N '50
Sulphur, present and future. Paper Tr J 133:30 S 14 '51
Sulphur put under world-wide allocation; July-September quotas set. Oil Paint & Drug Rep 160:3+ Jl 16 '51
Sulphur shortage and prices. Economist 160:1123 My 12 '51
Sulphur sources goal of new UK syndicate. Oil Paint & Drug Rep 160:5+ S 10 '51
Sulphur supplies sought everywhere. Oil Paint & Drug Rep 159:3+ Je 11 '51
Sulphur supply problem as seen 25 years ago; reprinted from Oil, paint and drug reporter, May 3, 1926. Oil Paint & Drug Rep 160:7+ Jl 30 '51
Sulphur supply situation reviewed by Mines bureau. Oil Paint & Drug Rep 160:5+ S 10 '51
Sulphur; the American picture. Chem Age (Lond) 63:849-50 D 16 '50
Sulphur world-wide allocation studied by international group. Oil Paint & Drug Rep 159:4+ My 14 '51
Sulphur world-wide search accelerated. Oil Paint & Drug Rep 160:4 Jl 23 '51
What's ahead for sulfur. il Chem Ind W 68:9-10 Ap 28 '51
What's behind the sulphur shortage? L. M. Williams, jr. Eng & Min J 152:87-9 My '51
Why of sulfur. W. A. Jordan. Chem W 68:2+ Je 23 '51

Canada

Canada's sulphur supplies; plans for by-product sulphur. W. M. Bonham. il Can Min J 72:47-50 Ja '51; Same cond. Pulp & Pa of Can 52:66-8 Ja '51
Canadian industries move to raise sulphur output. W. Wells. Barron's 31:23 Je 25 '51
Solution of Canada's sulphur shortage. R. S. Aries and R. M. Cziner. flow sheets Can Chem & Process Ind 35:291-5 Ap '51
Sulphur industry in Canada. A. Buisson. bibliog il map Can Min J 72:51-9 Jl '51; Same cond. Pulp & Pa of Can 52:62-6 Jl '51

Chile

Fisons acquire Chilean sulphur options. Chem Age (Lond) 64:927-8 Je 16 '51

Germany

Sulphur recovery in Germany. Chem Age (Lond) 64:375-6, 571-2 Mr 10, Ap 14 '51

Italy

Italian sulfur output and trade. For Comm W 44:17 Ag 20 '51
Outlook for Italian sulphur; chance for revival and modernisation. Chem Age (Lond) 64:553-5 Ap 14 '51

Wyoming

Sources of hydrogen sulfide in Wyoming. R. H. Espach. map Ind & Eng Chem 42:2235-7 N '50

SULFUR mines and mining

Discovery to add 500,000 tons to annual sulfur supply. map Chem & Eng N 29:3618+ S 3 '51
High-rate sulfur melter. B. A. Axelrad and L. A. Nelson, jr. bibliog flow sheet plan diag Ind & Eng Chem 42:2212-15 N '50
Known and potential sulfur resources of the world. W. T. Lundy. bibliog(40 ref) Ind & Eng Chem 42:2199-201 N '50
Modern sulfur mining; a staff-industry collaborative report. W. H. Shearon, jr. and J. H. Pollard. bibliog il diags Ind & Eng Chem 42:2188-98 N '50

Subaqueous mining

Offshore sulfur production. J. M. Todd. Ind & Eng Chem 42:2210-11 N '50

Gulf Coast region

Offshore sulfur production. J. M. Todd. Ind & Eng Chem 42:2210-11 N '50

Louisiana

Freeport breaks news of big sulfur find in a marshland. il Bsns W p76+ S 1 '51
Freeport reveals huge Louisiana sulphur discovery. Oil Paint & Drug Rep 160:5 Ag 27 '51; Manuf Rec 120:43 S '51

SULFUR oxides

See also
Sulfur dioxide
Sulfur trioxide

SULFUR trioxide

Corrosion of a steel surface by condensed films of sulphuric acid. D. Flint and R. W. Kear. bibliog diags J Ap Chem 1:388-93 S '51
Cryoscopic measurements in sulphuric acid; the solutes water and sulphur trioxide; the basic strength of water, and the acid strength of disulphuric acid. R. J. Gillespie. Chem Soc J p2493-503 S '50
Influence of carbon smokes on the corrosion of metal surfaces exposed to flue gases containing sulphur trioxide. R. W. Kear. diag J Ap Chem 1:393-9 S '51
Influence of carbon smokes on the dew-point and sulphur trioxide content of flame gases. G. Whittingham. bibliog diag J Ap Chem 1:382-8 S '51
Isotopic exchange reactions of liquid sulfur trioxide and sulfur dioxide. J. L. Huston. bibliog Am Chem Soc J 73:3049-51 Jl '51
SO_2 and SO_3 in exhaust gases of internal-combustion engines. M. J. van der Zijden and others. bibliog diags Inst Pet J 36:561-74 S '50

SULFURATION

Kinetics of catalytic sulfurization of methane. R. C. Forney and J. M. Smith. bibliog diag Ind & Eng Chem 43:1841-8 Ag '51

SULFURIC acid

Acid-catalyzed reactions of nitriles; polyamides from formaldehyde and dinitriles. E. E. Magat and others. Am Chem Soc J 73:1031-5 Mr '51
Acid-catalyzed reactions of nitriles; the reaction of nitriles with formaldehyde. E. E. Magat and others. bibliog Am Chem Soc J 73:1028-31 Mr '51
Acid-catalyzed reactions of nitriles; the reaction of nitriles with N-methylolamides. E. E. Magat and L. F. Salisbury. Am Chem Soc J 73:1035-7 Mr '51
Acid recovery from continuous strip-pickling lines. J. Pearson and W. Bullough. bibliog flow sheet diag Iron & Steel Inst J 167:439-45 Ap '51
Adjusting sulfuric acid in chrome baths; tabulation; engineering data sheet. Metal Finishing 48:82 N '50
Anodic corrosion of lead in H_2SO_4 solutions. J. J. Lander. bibliog diag Electrochem Soc J 98:213-19 Je '51; Discussion. 98:522-3 D '51
Aryl carbonium ions in sulfuric acid. M. S. Newman and N. C. Deno. bibliog Am Chem Soc J 73:3644-50 Ag '51
Behavior of organic compounds in 100 per cent sulfuric acid. M. S. Newman and N. C. Deno. bibliog Am Chem Soc J 73:3651-3 Ag '51

SULFURIC acid—*Continued*

Behavior of solutions of titanium dioxide in sulfuric acid in the presence of certain bivalent metallic sulfates. S. M. Mehta and R. P. Poncha. Am Chem Soc J 73:227-8 Ja '51

Behavior of solutions of titanium dioxide in sulfuric acid in the presence of metallic sulfates. S. M. Mehta and S. R. Patel. Am Chem Soc J 73:224-6 Ja '51

Big sulphuric output aggravates a shortage. Chem Eng 58:279 Jl '51

Chemistry of the acid treatment of gasoline. G. E. Mapstone. bibliog(84 ref) il Pet Refiner 29:142-50 N '50

Corrosion of a steel surface by condensed films of sulphuric acid. D. Flint and R. W. Kear. bibliog diags J Ap Chem 1:388-93 S '51

Cryoscopic behavior of organic compounds in sulfuric acid; organosilicon compounds. H. H. Szmant, O. M. Devlin and G. A. Brost. Am Chem Soc J 73:3059-61 Jl '51

Cryoscopic behavior of organic compods in sulfuric acid; sulfides, sulfoxides and sulfones; evidence for the existence of new sulfur ions. H. H. Szmant and G. A. Brost. bibliog Am Chem Soc J 73:4175-7 S '51

Cryoscopic measurements in sulphuric acid. R. J. Gillespie and others. diag Chem Soc J p2473-551 S '50

Cryoscopic measurements in sulphuric acid; the solutes acetic anhydride and benzoic anhydride; cryoscopic evidence for the acetylium and benzoylium ions. R. J. Gillespie. Chem Soc J p2997-3000 N '50

Data in chart form presenting temperatures and concentrations for corrosion of steel by sulfuric acid. M. G. Fontana. Ind & Eng Chem 43:sup65A-6A+ Ag '51

Data in chart form presents concentrations and temperatures for corrosion of Durimet 20 by sulfuric acid. M. G. Fontana. Ind & Eng Chem 43:sup 107A-8A+ O '51

Data in chart form presents temperatures and concentrations for the corrosion of lead by sulfuric acid. M. G. Fontana. Ind & Eng Chem 43:sup 105A-6A S '51

Decomposition of chromic acid in sulphuric acid; the first-order thermal reaction. E. E. Aynsley. Chem Soc J p368-71 Ja '50

Degree of ionization of nitric acid to the nitronium ion in sulphuric acid solution. T. G. Bonner and G. Williams. bibliog Chem & Ind p820-1 S 29 '51

Heat of solution of halides, sulphuric acid, oxalic acid, sodium hydroxide, and urea in ethyl alcohol-water mixtures. M. Bobtelsky and R. D. Larisch. diag Chem Soc J p3612-15 D '50

How to conserve sulfuric acid. W. F. Bland. Pet Processing 6:865-6+ Ag '51

H_2SO_4 alkylation; pictured flow sheet. Chem Eng 58:212-15 S '51

Hydrolysis of propylene-sulfuric acid solutions to isopropyl alcohol. R. W. Schrage and E. H. Amick, jr. bibliog Ind & Eng Chem 42:2550-3 D '50

Improvements in sulfuric acid alkylation process. flow diag il Pet Refiner 30:93-4 F '51

Ionization of amino acids in the solvent sulfuric acid. J. L. O'Brien and C. Niemann. bibliog Am Chem Soc J 73:4264-7 S '51

Ionisation of triarylcarbinol indicators in sulphuric acid-water mixtures. M. A. Murray and G. Williams. Chem Soc J p3322-6 N '50

Kinetics of the reaction of lithium borohydride in aqueous acid solution. M. Kilpatrick and C. D. McKinney, jr. bibliog diag Am Chem Soc J 72:5474-6 D '50

Lower acidity sulfuric acid alkylation. E. C. Hughes, D. G. Stevens and F. Veatch. bibliog diag Ind & Eng Chem 43:1447-51 Je '51

Materials of construction report. il Chem Eng 57:140-2 N '50

Nitration in sulphuric acid; nitration of the trimethyl-*p*-tolylammonium ion in 75-85 per cent sulphuric acid. G. Williams and A. M. Lowen. Chem Soc J p3312-18 N '50

Nitration in sulphuric acid; the nitronium ion as nitrating agent in 75-85 per cent sulphuric acid. A. M. Lowen, M. A. Murray and G. Williams. Chem Soc J p3318-22 N '50

Oxidation of manganous sulphate by chromic acid in sulphuric acid solution. M. Bobtelsky and A. Glasner. Chem Soc J p3085-9 D '49

Oxidation of toluene by sodium dichromate. R. D. Abell. Chem Soc J p 1379-81 Je '51

Phthalocyanines and related compounds; the oxidation of phthalocyanine, tetrabenzporphin, and allied substances. R. P. Linstead and F. E. Weiss. Chem Soc J p2981-7 N '50

Pickle liquor disposal can pay off. F. D. Jones. il Iron Age 167:88-91 Mr 8 '51

Properties of benzhydrol in sulfuric acid solution. C. M. Welch and H. A. Smith. bibliog Am Chem Soc J 72:4748-50 O '50

Racemization of alkyl hydrogen sulfates in sulfuric acid. N. C. Deno and M. S. Newman. bibliog Am Chem Soc J 73:1920-3 My '51

Reaction of isoalkanes and olefin precursors catalyzed by sulfuric acid. R. F. Marschner and D. R. Carmody. Am Chem Soc J 73: 604-7 F '51

Reactions of paraffin hydrocarbons in the presence of sulfuric acid. V. I. Komarewsky and W. E. Ruther. Am Chem Soc J 72: 5501-3 D '50

Rearrangement of 4-methylcyclohexene during sulfuric acid-catalyzed reaction with benzene. J. Linsk. Am Chem Soc J 72: 4257-60 S '50

Relation between the absorption spectra and the chemical constitution of dyes; absorption spectra of some thioindigo dyes in sulfuric acid. W. R. Brode and G. M. Wyman. bibliog Am Chem Soc J 73:4267-70 S '51

Spent acid recovery offers solution for tight sulfur supply. F. J. Bartholomew. il plan Pet Refiner 30:101-3 Ap '51

State of sulphur dioxide dissolved in sulphuric acid. V. Gold and F. L. Tye. Chem Soc J p2932-4 N '50

Sulfuric acid alkylation. flow diag Oil & Gas J 49:194-5 Mr 29 '51

Sulfuric acid alkylation. flow diag diags Pet Refiner 30:152+ S '51

Sulfuric acid alkylation for gasoline. J. W. Jewell, jr. and C. C. King. flow diag diags Pet Eng 23:C24-6+ My '51; Same. Oil & Gas J 50:120+ Ag 16 '51

Sulfuric acid; hazards and precautions; data sheet. Nat Safety N 63:39-40+ My '51

Sulphuric acid M-45 allocation in force. Oil Paint & Drug Rep 159:4+ Ap 23 '51

Toxicity of sulfuric acid mist. J. F. Treon and others. bibliog il diag A M A Archives Ind Hygiene & Occup Med 2:716-34 D '50

Treatment of brick to prevent CO disintegration. J. A. Shea. il Iron & Steel Eng 27: 116-19 D '50; Same. Steel 127:74+ N 27 '50; Same. Blast F & Steel Pl 39:333-6 Mr '51; Same, without il. Brick & Clay Rec 118:84+ Ap '51

Vapors of sulfuric acid-water mixtures as nucleating sources in aerosol formation; abstract. V. K. LaMer and V. A. Gordieyeff. Science 112:454-5 O 20 '50

Vibrational spectra of ionic forms of oxides and oxy-acids of nitrogen; Raman spectra of solutions in sulphuric oleum; the polysulphuric acids; ionisation of nitric acid in oleum. D. J. Millen. Chem Soc J p2589-600 O '50

Vibrational spectra of ionic forms of oxides and oxy-acids of nitrogen; Raman spectral evidence of the ionisation of dinitrogen trioxide, dinitrogen tetroxide, and dinitrogen pentoxide by sulphuric acid. D. J. Millen. Chem Soc J p2600-6 O '50

Vibrational spectra of ionic forms of oxides and oxy-acids of nitrogen; Raman spectral evidence of the ionisation of nitric acid by perchloric, sulphuric and selenic acids; spectroscopic identification of the nitronium ion, NO_2^+. C. K. Ingold, D. J. Millen and H. G. Poole. Chem Soc J p2576-89 O '50

See also

Cement, Effect of sulfuric acid on

Kjeldahl reaction

Fuming acid

Aromatic sulphonation; kinetics of sulphonation in fuming sulphuric acid. J. C. D. Brand. Chem Soc J p 1004-17 Mr '50

SULFURIC acid—Fuming acid—*Continued*

Aromatic sulphonation; the ionisation constants of *p*-nitrotoluene, nitrobenzene, and *p*-chloronitrobenzene, and the acidity function of oleum. J. C. D. Brand. Chem Soc J p997-1003 Mr '50

Problem of venting oleum tanks. il Chem & Eng N 29:410 Ja 29 '51

Manufacture

Anhydrite fights Britain's sulphur shortage. il Chem Eng 58:212+ Jl '51

Autoxidation pans out; low-strength SO_2 into sulphates or acid by catalytic air oxidation; Inflo process. il diag Chem Eng 58:224 S '51

Chamber process manufacture of sulfuric acid. E. M. Jones. bibliog il Ind & Eng Chem 42:2208-10 N '50

Computing standard cost of sulphuric acid. M. B. Dilley. N A C A Bul 32:1386-8 Jl '51

Eighteen sulphuric acid plants for Britain. Chem Age (Lond) 65:7-8 Jl 7 '51

Manufacture of sulphuric acid from its natural salts. S. P. Schotz. Chem Age (Lond) 65:46 Jl 14 '51

Materials for sulphuric acid production; conversion of indigenous waste products. Chem Age (Lond) 64:563-6 Ap 14 '51

New Utah unit will convert smelter gas into sulphuric. Chem Eng 58:190 Ap '51

Overcoming the sulphur problem; new plants planned by Laporte Chemicals. Chem Age (Lond) 64:961 Je 23 '51

Small chemical industries for China; sulfuric acid manufacture. J. E. Stepanek and C. H. Prien. il Chem & Eng N 28:4062-5 N 20 '50

Smart kinks in acid cooling. il diag Chem Eng 58:230+ S '51

Solution of Canada's sulphur shortage. R. S. Aries and R. M. Cziner. flow sheets Can Chem & Process Ind 35:291-5 Ap '51

Sulphuric acid from anhydrite. Chem Age (Lond) 65:266 Ag 25 '51

Sulphuric acid making simplified. Steel 127:88 O 23 '50; flow diags Iron Age 166:66 O 26 '50; il Pet Refiner 29:116 N '50

United sulphuric acid corp. co-operative project. Economist 161:469-70 Ag 25 '51

With updraft; more sulfur. il Chem W 69:23 Jl 28 '51

Physiological effect

Industrial hygiene; nitrogen oxides, sulfur dioxide, and sulfuric acid mists. Ind & Eng Chem 43:sup 111A-12A+ Je '51

Statistics

Increasing sulphuric acid totals. Chem Age (Lond) 63:703; 64:230 N 18 '50, F 10 '51

SULFURIZATION. See Sulfuration

SULFUROUS acid

Oxidation of sulphurous acid. H. Bassett and W. G. Parker. Chem Soc J p 1540-60 Je '51

SULFURYL chloride

Properties and reactions of free alkyl radicals in solution; reactions with iodine, bromine, and sulphuryl chloride. M. C. Ford and W. A. Waters. Chem Soc J p 1851-5 Jl '51

Reactions of atoms and free radicals in solution; the peroxide-induced addition of sulfuryl chloride to 1-alkenes. M. S. Kharasch and A. F. Zavist. bibliog Am Chem Soc J 73:964-7 Mr '51

Study of the peroxide-catalyzed chlorination of the bromotoluenes with sulfuryl chloride. G. L. Goerner and R. C. Nametz. Am Chem Soc J 73:2940-1 Je '51

SULFURYL compounds

Cryoscopic measurements in sulphuric acid; the basicity of nitro-compounds, sulphonyl compounds, and sulphuryl compounds in sulphuric acid. R. J. Gillespie. Chem Soc J p2542-51 S '50

SULLIVAN, Dennis E.

Sketch. Weekly Underw 164:431 F 17 '51

SULPHENONE

Mighty miticide. Chem Ind W 68:34-5 Ap 28 '51

SUMATRA

See also

Petroleum industry and trade—Sumatra

SUMMER business

How temperature affects sales; influence of cool summer on cold beverage consumption. H. Zeisel. Ptr Ink 233:40-2 N 17 '50

What to do about the summer slump; Wooster rubber co. il Ptr Ink 236:27-9 Jl 20 '51

SUMMER resorts

Vacation gold in them thar hills; California resorts. il Bsns W p 116+ O 6 '51

SUN

Motion in the solar atmosphere as deduced from radio measurements. G. Reber. bibliog Science 113:312-14 Mr 23 '51

New sun angle calculator simplifies solar engineering. D. W. Dunipace. il diags Heating-Piping 23:121-3 Ap '51

Radio-frequency representation of the solar atmosphere. S. F. Smerd. bibliog diag Inst E E Proc 97 pt 3:447-52 N '50

Solar atmosphere and the origin of radiofrequency radiation. S. A. Korff and Y. Beers. Phys R 80:459-90 N 1 '50

Sun angle calculator. il plan diag Arch Rec 109:171+ Ap '51; Arch Forum 94:32 Ap '51

Sun follower. Mech Eng 73:324 Ap '51

See also

Radio noise, Solar
Solar heating
Solar radiation
Solar system
Spectrum, Solar
Sunlight
Sunshine
Sunspots

Spectrum

See Spectrum, Solar

SUN breaks

Metal screens to guard walls from sun heat. W. Becket. Sheet Metal Worker 42:96 Ja '51

Sunshades for office buildings. il diags Arch Forum 93:92-5+ D '50

SUN chemical corporation

Security I like best. E. N. Kleinbaum. Comm & Fin Chr 172:1914 N 16 '50

SUN dials. See Sundials

SUN glasses

Sunglass article in Reader's digest inaccurate. F. W. Jobe. Safety Maint & Prod 102:42 Ag '51

Sunglasses; facts and fiction. V. A. Byrnes. Nat Safety N 63:50 Ja '51

Switch-proof display; plastic package provides convenient carrying case and brand-protected merchandising for sun glasses. il Mod Packaging 24:120-1 Ap '51; Mod Plastics 28:78-9 My '51

Advertising

Sun glass promotion offers extra linage. R. B. McIntyre. Ed & Pub 84:16 My 26 '51

Why low-cost Polaroid campaign is all display this year. il Ptr Ink 236:48 Ag 31 '51

Testing

Visual acuity through various types and grades of sun glasses. R. H. Peckham. bibliog il Opt Soc Am J 41:23-7 Ja '51

SUN lamps

Employees get a sun tan in Westinghouse offices. D. Baker. il Am Bsns 21:22-3 Jl '51

SUN life assurance company of Canada

Security I like best. R. L. Scheinman. Comm & Fin Chr 173:2662+ Je 28 '51

SUNBURN

Sunshine and sales; sunburn preventives. il Chem Ind W 68:33 My 12 '51

SUNDIALS

Sun dial to check compass. J. W. Patterson. diags Can Min J 72:56 Ja '51

SUNDSTRAND machine tool company

Net may top last year's. Barron's 31:15-16 Jl 9 '51

SUNLIGHT

Harnessing the sun. E. P. Herman. Power Eng 55:67+ F '51

Sunshades for office buildings. il diags Arch Forum 93:92-5+ D '50

See also

Orientation (architecture)

SUNNYHILL coal company

$20-million upset; Sunnyhill sues Jeffrey. Bsns W p98 Je 9 '51

SUNRAY oil corporation

Five promising low priced stocks; with comparative balance sheet items. Mag of Wall St 87:555 F 24 '51

SUNSET magazine
Sunset proves a regional magazine can succeed. il Bsns W p62-4+ O 13 '51

SUNSHINE
Temperate house; how to do something about the weather by natural means. V. G. Olgyay. il maps plans diags Arch Forum 94: 179-91 Mr '51

SUNSHINE biscuits, inc.
Debt-free companies; with comparative balance sheet items. Mag of Wall St 88:404 Jl 14 '51

SUNSPOTS
Bailey's theory of growing circularly polarized waves in a sunspot. R. Q. Twiss. Phys R 80:767-8 N 15 '50

SUPER market institute
Annual convention and trade show, 14th, Chicago. Soap & San Chem 27:65 Jl '51

SUPER markets, Wholesale. See Market stores, Wholesale

SUPERCHARGERS
Broaching ups production of supercharger wheels, blades. il Iron Age 167:91 Je 14 '51
High-temperature problems in aircraft jet engines and turbo-superchargers. R. B. Johnson. il Metal Prog 59:503-10 Ap '51

See also
Airplane engines—Superchargers
Diesel engines—Superchargers
Gas engines—Superchargers
Internal combustion engines—Superchargers

Testing

Equipment for pre-testing turbochargers. il Diesel Power 29:40 My '51
Unique Cooper-Bessemer rig precision tests superchargers. il Marine Eng 56:43 Ja '51

SUPERCONDUCTORS. See Electric conductors

SUPERCOOLING
Kinetics of precipitation in supercooled solid solutions. G. Borelius. il diags J Metals 3:Trans 477-84 Je '51
Microscopic observation of the solidification of Cu-Ni alloy droplets. R. E. Cech and D. Turnbull. bibliog il J Metals 3:Trans 242-3 Mr '51
Supercooling of liquid phosphorous. J. H. Hildebrand and G. J. Rotariu. Am Chem Soc J 73:2524-5 Je '51

SUPERHEATED steam
Drying granular solids in superheated steam. L. Wenzel and R. R. White. bibliog il diags Ind & Eng Chem 43:1829-37 Ag '51
Pilot-plant gasification of pulverized coal with oxygen and highly superheated steam. G. R. Strimbeck and others. bibliog 45pls U S Bur Mines Rep of Invest 4733:1-41 '50; Same. Am Gas Assn Proc 1950:501-63
Reheat turbine and its control. H. R. Reese and O. N. Bryant. il diags Westinghouse Eng 11:62-7 Mr '51
Solubility of quartz and some other substances in superheated steam at high pressures. G. W. Morey and J. M. Hesselgesser. bibliog diags A S M E Trans 73: 865-72; Discussion. 872-5 O '51
Steam sprays paint. H. E. Linsley. il Am Mach 94:110-11 D 25 '50
Super-heated steam replaces compressed air in new paint spraying process. il Manuf Rec 120:41 Ja '51; Same. Mill & Factory 48:149 Ap '51
Synthesis gas from pulverized coal, oxygen, and highly superheated steam is produced in pilot plant. L. D. Schmidt. flow sheet diags Am Gas J 175:10-14+ Jl '51

SUPERHEATERS
How to stop one common cause of chronic superheater tube failures. il Power Eng 54:79-80 D '50
Moist combustion air lessens fireside deposits. P. Murphy, jr. and others. Power Eng 55: 73 Je '51
Performance of a pebble heater type steam superheater. H. R. Batchelder and H. A. Ingols. 8pls U S Bur Mines Rep of Invest 4781:1-8 '51

SUPERHIGHWAYS. See Roads—Superhighways

SUPERIOR, Wisconsin

Industries

Twin Ports' fortunate disaster; iron ore shipping wanes but new industries prosper. il Bsns W p30-2+ D 2 '50

SUPERMARKETS. See Market stores

SUPEROXIDES
See also
Sodium superoxide

SUPERPOSITION, Principle of
Superposition method for calculating the aeroelastic behavior of swept wings. R. B. Brown and others. diags J Aeronautical Sci 18:531-42 Ag '51

SUPERSATURATION
Limiting degrees of supersaturation of the sparingly soluble sulfates. V. K. La Mer and R. H. Dinegar. bibliog Am Chem Soc J 73:380-5 Ja '51

SUPERSONIC aerodynamics. See Aerodynamics, Supersonic

SUPERSONIC waves
Activation of photographic emulsions by ultrasonic waves. G. S. Bennett. bibliog il Acoustical Soc Am J 23:478-80 Jl '51
American physical society meeting; ultrasonics and fluid dynamics; abstracts of papers. Phys R 83:199-200 Jl 1 '51
Chemical effects produced by ultrasonic waves. O. Lindström and O. Lamm. bibliog diag J Phys & Colloid Chem 55:1139-46 O '51
Contribution of thermal conductivity to the ultrasonic absorption coefficient in liquefied gases. R. T. Beyer. J Chem Phys 19:788-9 Je '51
Dispersion of ultrasonic velocity in the liquid higher fatty acids. Y. Wada and others. Acoustical Soc Am J 22:880 N '50
Dispersion of velocity and anomalous absorption of ultrasonics in nitrogen. A. J. Zmuda. bibliog diags Acoustical Soc Am J 23:472-7 Jl '51
Effects of humidity on ultrasonic absorption in air at 1.46 megacycles. G. S. Verma. Acoustical Soc Am J 22:861-2 N '50
Effects of reflected signals and electric pickup at an ultrasonic microphone. A. O. Williams, jr. and W. Keck. il diags Acoustical Soc Am J 23:173-5 Mr '51
Effects of ultrasonic waves and nitrous acid on the production of colloidal sulfur. S. Akiya and others. bibliog Science 112:463-5 O 20 '50
Energy transfer by collision in benzene vapor. L. M. Chang. bibliog J Chem Phys 19:693-7 Je '51
Experiments on the utlrasonic unmixing of liquid solutions. C. A. Boyd and R. J. Zentner. il diag Phys R 83:1059-60 S 1 '51
Factors influencing bactericidal action of ultrasonic waves. M. P. Horwood and others. bibliog il Am Water Works Assn J 43:153-60 F '51
Hot-wire ultrasonic interferometer and its application to vapors. K. Matta and E. G. Richardson. bibliog diags Acoustical Soc Am J 23:58-61 Ja '51
Hypersonic flow at a Mach number of ten. I. D. V. Faro and others. il diags J Ap Phys 22:220-2 F '51
Hypersonic research facilities at the Ames aeronautical laboratory. V. I. Stevens. il diags J Ap Phys 21:1150-5 N '50
Improved methods for measuring ultrasonic velocity. G. W. Willard. il diags Acoustical Soc Am J 23:83-93 Ja '51
International ultrasonics congress, Rome, June 14-17, 1950. Acoustical Soc Am J 23: 233-4 Mr '51
Latest developments in ultrasonics. A. R. Laufer. il diags Electronics 24:82-6 Mr '51
Measurements of ultrasonic absorption in various mixtures of nitrobenzene. D. Sette. Acoustical Soc Am J 23:359-63 My '51
Mechanical breakdown of quartz transducers at resonance. T. F. Hueter. Acoustical Soc Am J 23:590 S '51
Piston source at high frequencies. A. O. Williams, jr. bibliog Acoustical Soc Am J 23: 1-6 Ja '51
Sounds you can see but cannot hear. il Elec Eng 70:370-1 Ap '51

SUPERSONIC waves—*Continued*

Supersonic sound waves sweep Chicago harbors; used to locate under water obstacles. J. E. Tripp. diag Eng N 145:54+ D 7 '50

Supersonic sounding instruments and methods. J. M. Caldwell. il diag Am Soc C E Proc 76 [no 50]:1-15 D '50

Ultrasonic absorption binary mixtures of unassociated liquids. D. Sette. J Chem Phys 18:1592-4 D '50

Ultrasonic absorption measurements in aqueous solutions of magnesium sulfate. M. C. Smith and others. bibliog diags Acoustical Soc Am J 23:71-4 Ja '51

Ultrasonic absorption of glycerin in the liquid and vitreous state. T. A. Litovitz. diags Acoustical Soc Am J 23:75-9 Ja '51

Ultrasonic investigation of liquids; acetylene derivatives. A. Weissler and V. A. Del Grosso. Am Chem Soc J 72:4209-10 S '50

Ultrasonic projector design for a wide range of research applications. E. J. Fry. diag R Sci Instr 21:940-1 N '50

Ultrasonic studies of gels. A. M. Srivastava. il Acoustical Soc Am J 23:232-3 Mr '51

Ultrasonic studies of Weimarn gels. A. M. Srivastava. bibliog il diags Acoustical Soc Am J 23:553-8 S '51

Ultrasonic underwater point source probe. L. Fein. diag Acoustical Soc Am J 22:876-7 N '50

Ultrasonic velocity in a series of alkyl phenyl ketones and a series of alkyl *p*-xylyl ketones. R. T. Lagemann and others. bibliog Am Chem Soc J 73:3213-14 Jl '51

Ultrasonics in the determination of elastic constants of metals; abstracts. B. Lockspeiser. Engineer 191:318 Mr 9 '51; Engineering 171:264 Mr 2 '51

Ultrasonography. P. J. Ernst. bibliog il Acoustical Soc Am J 23:80-3 Ja '51

Variable resonant frequency crystal systems. W. J. Fry and others. diags Acoustical Soc Am J 23:94-110 Ja '51

See also

Shock waves

Sound—Velocity

Bibliography

Bibliography, supersonics or ultrasonics, 1926 to 1949; with supplement to 1950. B. Curry and others, comps. 277p pa $2 Research foundation, Oklahoma agricultural and mechanical college, Stillwater '51

Industrial applications

Application of ultrasonic energy. R. O. Fehr. il diags Edison Elec Inst Bul 18:375-7 O '50

Apply noiseless sound waves to waste disposal problem. Pet Processing 6:695-6 Jl '51

Better, faster, cheaper; ultrasonic cleaning; Schick machine. C. F. Meyer, jr. il Factory Management 109:119 S '51

Effect of ultrasonics on suspended matter in sewage. W. A. Lyon. bibliog il diag Sewage & Ind Wastes 23:1084-95 S '51

Hard, brittle materials machined using ultrasonic vibrations; new process, known as Cavitron. S. G. Kelley, jr. il Materials & Methods 34:92-4 S '51

Improvements in the design of ultrasonic lamination detection equipment. H. R. Clayton and R. S. Young. diags J Sci Instr 28:129-32 My '51

Industrial applications for ultrasonic energy. Product Eng 22:199 O '51

Industrial uses of ultrasonics. G. E. Henry. il diags Gen Elec R 54:32-5 Mr '51

Metal wall thickness measurement from one side by the ultrasonic method. N. G. Branson. il diags Elec Eng 70:619-23 Jl '51

Method for determining the propagation constants of plastics at ultrasonic frequencies. H. J. McSkimin. diags Acoustical Soc Am J 23:429-34 Jl '51

New method machines sintered carbides, sintered borides, hardened tool steels; Cavitron process. A. S. Cohan. il J Metals 3:216-17 Mr '51

Nondestructive testing of engineering materials and parts. R. C. McMaster and S. A. Wenk. il diags Materials & Methods 33:87-90 F '51

Putting ultrasonic waves to work. il diag Bsns W p44+ Je 16 '51

Report on ultrasonics. T. A. Dickinson. il diag Foundry 79:224+ Ap '51

Sound approach in plastics. Tech R 53:467 Jl '51

Symposium on ultrasonic testing. (Special tech. pub no. 101) 133p bibliog(Hastings and Carter, 342 titles) pa $2 Am. soc. for testing materials, 1916 Race st, Philadelphia 3 '51

Thermal cracks in turbine and generator rotor forgings. A. W. Rankin and others. il diags Mech Eng 72:599-66 Jl '50; Discussion. 72:919-21 N '50

Tire separations detected by supersonic test machine; abstract. G. M. Sprowls. il S A E J 58:75 D '50

Ultrasonic cleaning device. Electronics 24:168+ S '51

Ultrasonic energy in industrial processes; abstract. J. W. Butterworth. Chem Eng 58:253-4 Ja '51

Ultrasonic flaw detection in pipes by means of shear waves. C. D. Moriarty. bibliog il diags A S M E Trans 73:225-9; Discussion. 229-35 Ap '51

Ultrasonic inspection today. H. E. VanValkenburg. diag Tool Eng 27:36-8 Ag '51

Ultrasonic method for measuring water velocity; abstracts. W. B. Hess and others. il diag Elec Eng 60:983 N '50; Mech Eng 72:911 N '50

Ultra-sonic solder bath aids tinning. Aviation W 55:44+ Jl 23 '51; Metallurgia 44:41 Jl '51; il Engineer 192:30 Jl 6 '51; Electronics 24:212+ S '51

Ultrasonic soldering iron. diag Electronics 24:154+ Ag '51

Ultrasonic soldering irons. B. E. Noltingk and E. A. Neppiras. diag J Sci Instr 28:50-2 F '51

Ultrasonic soldering of light metals. A. E. Crawford. il diag Metallurgia 44:113-16+ S '51

Ultrasonics in ceramics. J. A. Slyh and H. D. Bixby. bibliog(42 titles) il diags Am Cer Soc Bul 29:345-8 O 15 '50

Ultrasonics in industry. P. Conley. il diag Westinghouse Eng 11:132-5 Jl '51

Ultrasonics in processing. il diag Chem Eng 58:200+ Ag '51

Ultrasonics, metalworking tool? C. Emerson and J. Starr. il diags Am Mach 95:85-8 Ap 30 '51

Use of ultrasonic vibrations in textile treatment; abstract. A. J. Hall. Am Dyestuff Rep 40:361 My 28 '51

Vibrating abrasive cuts the hard-to-cut; Cavitron machine. Bsns W p80+ Mr 3 '51

Welding of pressure vessels. H. Harris. il diags Engineering 171:29-30 Ja 5 '51

Medical use

Detection of intracranial pathology by ultrasound. H. T. Ballantine, jr. and others. bibliog diags Science 112:525-8 N 3 '50

Ultrasonic method for outlining the cerebral ventricles. T. F. Hueter and R. H. Bolt. bibliog il diags Acoustical Soc Am J 23:160-7 Mr '51

Velocity of sound through tissues and the acoustic impedance of tissues. G. D. Ludwig. bibliog diag Acoustical Soc Am J 22:862-6 N '50

Physiological effect

Physical factors involved in ultrasonically induced changes in living systems; amplitude duration relations and the effect of hydrostatic pressure for nerve tissue. W. J. Fry and others. diag Acoustical Soc Am J 23:364-8 My '51

Physical factors involved in ultrasonically induced changes in living systems; identification of non-temperature effects. W. J. Fry and others. bibliog il diags Acoustical Soc Am J 22:867-76 N '50

Relationship of acoustical energy to the lethal effects of ultrasonic vibrations on E. coli. J. P. Horton and M. P. Horwood. Science 113:693-5 Je 15 '51

Some effects of high-intensity ultrasound on tobacco mosaic virus. N. Newton. il Science 114:185-6 Ag 17 '51

Bibliography

Bibliography on sonic and ultrasonic vibration; biological, biochemical and biophysical applications. G. M. Naimark and others. Franklin Inst J 251:279-99, 402-8 F-Mr '51

SUPERVISORY control. See Electric distribution—Supervisory control

SUPERVISORY workers

Check up on your production efficiency; pointers for supervisors. M. Miller. Textile World 100:192 N '50

Employee's success or failure, following promotion to a new job. W. von Pechmann. Ind & Eng Chem 43:sup71A-2A+ Ag '51

How do you rate on your community relations? pointers for the supervisor. H. Nix. Textile World 100:118-19 O '50

How to be a good boss. W. V. Merrihue. Elec West 106:53-5 Ja '51; Same. Edison Elec Inst Bul 19:33-5 F '51

How to help develop supervisors; Hollinger consolidated gold mines. T. E. Hawkins and H. M. Ferguson. il Eng & Min J 152:90-3 Ap '51

How to rank and price management jobs. R. C. Smyth. Factory Management 108:116-17 N '50

Importance of the supervisor in an employee relations program. L. A. Brandt. Am Gas Assn Proc 1950:815-18

Making the salary fit the job; Western Pacific develops logical and equitable salary structure for supervisors and executives. G. H. Kneiss. Ry Age 129:28-31 N 25 '50

Management inventory and development; a case study; Detroit Edison co. accounting department. V. K. Rowland. Personnel 28: 12-22 Jl '51

Management's lost influence. J. W. Caldwell. Personnel J 29:221-3 N '50

Republic Steel teaches economics to supervisors. il Bsns W p88-90+ S 8 '51

Research findings in the field of supervisory and executive selection. M. M. Mandell. Personnel 27:215-16 N '50

Supervisors hold key to success of accident prevention program. H. Ridder. Nat Pet N 43:46-9 Ja 10 '51

Supervisor's part in the labor agreement. H. F. Gracey. Mech Eng 73:494-5 Je '51

Supervisor's stake in safety. H. F. Webb. Water & Sewage Works 97:459-61 N '50

Supervisory development. A. C. Croft. Iron & Steel Eng 28:110-14; Discussion. 114+ Je '51

Supervisory officials and labor relations. C. J. Flippen. il Min Cong J 37:30-3 Jl '51

When does a man fail? abstract. Management R 40:197 Ap '51

Why not a suggestion box for engineers and supervisors? J. D. Leonard. Chem Eng 58: 117-18 Ja '51

See also
Foremen

Training

Benefits of supervisory training. R. B. Hewes. Coal Age 56:87-9 Ja '51

College courses aid 5,661 fleet supervisors. Nat Pet N 43:50 My 30 '51

Economics of supervision. J. M. Pfiffner. Personnel 27:304-12 Ja '51

Essential elements in supervisory development. R. K. Burns. Am Gas Assn Proc 1950:74-83

Get set now to handle your training problems of tomorrow. B. von Bleicken and V. I. Bumagin. Mill & Factory 49:91-3 Ag '51

Getting results from conferences. L. A. Allen. Personnel 27:276-81 Ja '51

How'm I doing? training supervisors to conduct employee progress conferences. C. E. Jurgensen. Personnel J 30:33-4 My '51

Improving supervision by reducing anxiety. R. Wallen. Personnel J 30:9-13 My '51

Industry picks up Wittenberg's tab; new one-week Management development program. il Bsns W p84+ O 6 '51

It's a custom-built job, this training program. V. I. Bumagin. Mill & Factory 47:119-20 D '50

Labor relations training for the operating supervisor. G. W. Kenning. Personnel 27: 202-11 N '50

Leadership in supervision; a program of supervisory training. C. M. Fesler. Personnel 27:217-23 N '50

Learn as you earn; Northern Ohio employers program to train teachers. Bsns W p 119-20 Ja 27 '51

Lockheed trains from the top. H. E. Linsley. Am Mach 95:123-6 O 15 '51

Making meetings pay. E. A. Lynch. Coal Age 56:90-1 Jl '51

Management and labor learn together; Botany plan. I. J. Phillipson. Dun's R 59: 20+ S '51

Need supervisors? here's how one company gets them; Dana corp. C. W. Gilmore. il Mill & Factory 48:125-6 Mr '51

Springfield supervisors to attend college; Wittenberg's course on management development. Am Bsns 21:58 S '51

Supervisory training in the drilling industry. A. L. Franzolino. World Oil 131:99-100 D '50

Supervisory training; Kimberly-Clark corp. N. Jansen. Pulp & Pa of Can 52:67-9 Mr '51

Training in human relations given to supervisors at National Gypsum. F. A. Manske. Rock Prod 53:120-2 D '50

Training of woods supervisory personnel; symposium. A. M. Stewart and others. Pulp & Pa of Can 52:166 Je '51

Training supervisors in human relations. F. J. Roethlisberger. Harvard Bsns R 29:47-57 S '51

SUPPLY and demand

Relations between prices, consumption, and production. K. A. Fox. Am Stat Assn J 46: 323-33 bibliog(p332-3) S '51

SUPREME court. See United States—Supreme court

SURETY and fidelity insurance. See Insurance, Surety and fidelity

SURETY association of America

Annual meeting, 43d, New York. East Underw 52:25 My 18 '51

SURETY bond producers, National association of. See National association of surety bond producers

SURETYSHIP and guaranty

Sound suretyship in the public interest. J. J. Malley. Weekly Underw 164:516-20 F 24 '51

SURFACE active substances

Bactericidal effect of surface-active agents on tubercle bacilli. C. R. Smith and others. bibliog Pub Health Rep 65:1588-600 D 1 '50

Breaking water-tar emulsions with surface-action agents. I. Pincus, K. F. Ockert and C. R. Kinney. bibliog Ind & Eng Chem 43: 521-4 F '51

Chemical constitution and surface-active properties; 2-alkylpyridines and 2-alkyl-1-methylpyridinium iodides. M. J. Birchenough. Chem Soc J p 1263-6 My '51

Complex surface. Chem Ind W 68:12-13 Mr 24 '51

Flake form nonionic detergents. C. R. Pacifico and others. Soap & San Chem 26: 40-3+ O '50

Hard surface cleaners. J. C. Harris. bibliog Soap & San Chem 27:49+ Je; 38-9+ Jl '51

Higher alkyl chloride industry; important germicidal uses for surface-active compounds; Leda Chemicals. il Chem Age (Lond) 64:415-17 Mr 17 '51

Nonionic surface-active agents; their chemistry and utilization in the textile industry. H. Robinette. Am Dyestuff Rep 39:888-90 D 11 '50

Non-ionics in the dry cleaning industry. C. E. Barker and H. J. Renauto. il Soap & San Chem 27:43+ Je '51

Physical-chemical studies on the interaction of surface-active agents with nucleoproteins. M. W. Renoll and Q. Van Winkle. Am Chem Soc J 73:2504-9 Je '51

Properties of freshly formed surfaces; the measurement of surface and interfacial tensions of solutions, employing stationary waves on a vertical jet. C. C. Addison and T. A. Elliott. Chem Soc J p3103-9 N '50

Radiotracer study of cationic surface-active agents by measurement of gegenion adsorption. C. M. Judson and others. bibliog J Chem Phys 19:378-9 Mr '51

Secondary oil recovery; various methods, including use of a new surface-active chemical. J. H. Prusick. Oil & Gas J 50:97-8+ Ag 9 '51

Sorption of synthetic surface-active compounds by carbon black. G. R. F. Rose and others. bibliog Textile Res J 21:427-32 Je '51

SURFACE active substances—*Continued*

Studies in the corrosion of metals occasioned by aqueous solutions of some surface-active agents; copper. H. Holness and T. K. Ross. bibliog J Ap Chem 1:158-69 Ap '51

Surface activity of polymeric acids in aqueous solutions. A. Katchalsky and I. Miller. bibliog J Phys & Colloid Chem 55:1182-94 O '51

Surfactants from petroleum; abstract. R. Leslie. Soap & San Chem 26:73 D '50

Syndets hit first billion pound year; C&EN annual review. F. D. Snell. il Chem & Eng N 29:36-8 Ja 1 '51

US surface-active agent output in 1950 up 54 per cent. Oil Paint & Drug Rep 159:57 Je 25 '51

SURFACE area of adsorbents. See Adsorbents

SURFACE area of particles. See Particles

SURFACE energy

Concerning the dependence of the surface energy and surface tension of spherical drops and bubbles on radius. T. L. Hill. bibliog diags Am Chem Soc J 72:3923-7 S '50

Surface energy of small nuclei. G. C. Benson and R. Shuttleworth. bibliog diag J Chem Phys 19:130-1 Ja '51

SURFACE phenomena

Lord Kelvin's contributions to surface chemistry. E. K. Rideal. diag Inst E E Proc 97 pt 1:273-8 N '50; Abstract. Engineer 189: 580-1 My 12 '50; Same. Elec R (Lond) 146: 819-20 Ap 28 '50; Same. Electrician 145:1369-70 Ap 28 '50

Measurement of equilibrium forces between an air bubble and an attached solid in water. T. M. Morris. bibliog diags Min Eng 187:Trans 91-5 Ja '50; Discussion. 187:Trans 1154-5 N '50

Mechanism of exchange between radioactive ions in solution and metal surfaces. M. T. Simnad and R. C. Ruder. bibliog il diag Electrochem Soc J 98:301-6 Ag '51

Mechanism of some chain reactions. F. O. Rice and K. F. Herzfeld. bibliog J Phys & Colloid Chem 55:975-85; Discussion. 986-7 Je '51

Nucleation mechanisms acquire significance in aeronautics; formation of rain particles, sheet ice, and supersonic condensation shock waves. Chem & Eng N 29:3616-17 S 3 '51

Polymerization induced by catalytic decomposition of hydrazine at palladium surfaces. G. Parravano. bibliog Am Chem Soc J 72: 3856-60 S '50

Properties of freshly formed surfaces; an experimental study of the desorption process with particular reference to aqueous decyl alcohol solutions. C. C. Addison and S. K. Hutchinson. Chem Soc J p3395-403 D '49

Properties of freshly formed surfaces; factors influencing surface activity and adsorption rates in aqueous decyl alcohol solutions. C. C. Addison and S. K. Hutchinson. Chem Soc J p3387-95 D '49

Properties of freshly formed surfaces; further studies of the influence of surface expansion on soluble films of long-chain compounds. C. C. Addison and S. K. Hutchinson. Chem Soc J p3406-11 D '49

Properties of freshly formed surfaces; the compressibility of soluble films of decyl and other alcohols. C. C. Addison and S. K. Hutchinson. Chem Soc J p3404-6 D '49

Significance of liquid-film coefficients in gas absorption. P. V. Danckwerts. bibliog Ind & Eng Chem 43:1460-7 Je '51

Some theorems on the free energies of crystal surfaces. C. Herring. bibliog diags Phys R 82:87-93 Ap 1 '51

Surface photoelectric effect. M. J. Buckingham. bibliog diag Phys R 80:704-8 N 15 '50

Surface reactions. A. Farkas and others. bibliog diags J Phys & Colloid Chem 55:1013-104 Je '51

Technique for the study of solid-gas surface reactions; the decomposition of nitrous oxide on iron oxide-zinc oxide catalysts. L. P. Bupp and A. B. Scott. diag Am Chem Soc J 73:4422-6 S '51

Wall reactions and diffusion in static and flow systems. R. Gomer. J Chem Phys 19: 284-9 Mr '51

See also

Adsorption
Catalysis
Electric double layer
Films
Foam
Friction
Surface tension

SURFACE tension

Amine salts of imidodisulfuric acid. C. E. Boatman and H. H. Sisler. Am Chem Soc J 73:559-60 F '51

Aqueous solutions of sodium benzenesulfonate and monosubstituted derivatives; some physicochemical properties. P. W. Renich and R. Taft. bibliog Ind & Eng Chem 43: 2376-84 O '51

Calculations of surface energy for a free-electron metal. H. B. Huntington. Phys R 81:1035-9 Mr 15 '51

Concerning the dependence of the surface energy and surface tension of spherical drops and bubbles on radius. T. L. Hill. bibliog diags Am Chem Soc J 72:3923-7 S '50

Contact angles and surface tensions in liquid/solid systems. G. A. H. Elton. bibliog J Chem Phys 19:1066 Ag '51

Determination of diffusion coefficients by measurements of surface tension. E. R. Washburn and H. N. Dunning. Am Chem Soc J 73:1311-13 Mr '51

Diffusion coefficients of organic liquids in solution from surface tension measurements. R. L. Olson and J. S. Walton. Ind & Eng Chem 43:703-6 Mr '51

Effect of lithium oxide upon the surface tension of several silicate melts. R. M. Williams and H. E. Simpson. bibliog diag Am Cer Soc J 34:280-3 S 1 '51

Estimation of surface tensions; ternary liquid mixtures. A. S. Michaels, R. S. Alexander and C. L. Becker. bibliog Ind & Eng Chem 42:2332-6 N '50

Grain boundary effect in surface tension measurement. H. Udin. J Metals 191:Trans 63 Ja '51

Properties of freshly formed surfaces. C. C. Addison and T. A. Elliott. diag Chem Soc J p3090-109 N '50

Properties of freshly formed surfaces; an experimental study of the desorption process with particular reference to aqueous decyl alcohol solutions. C. C. Addison and S. K. Hutchinson. Chem Soc J p3395-403 D '49

Properties of freshly formed surfaces; factors influencing surface activity and adsorption rates in aqueous decyl alcohol solutions. C. C. Addison and S. K. Hutchinson. Chem Soc J p3387-95 D '49

Properties of freshly formed surfaces; further studies of the influence of surface expansion on soluble films of long-chain compounds. C. C. Addison and S. K. Hutchinson. Chem Soc J p3406-11 D '49

Properties of freshly formed surfaces; the compressibility of soluble films of decyl and other alcohols. C. C. Addison and S. K. Hutchinson. Chem Soc J p3404-6 D '49

Role of surface tension in multilayer gas adsorption. W. G. McMillan and E. Teller. bibliog J Chem Phys 19:25-32 Ja '51

Simple surface tensiometer. N. B. Colthup and R. E. Torley. diag Anal Chem 23:804-5 My '51

Surface and interfacial tension titrations of long chain quaternary salts in brom phenol and brom thymol blue solutions. E. L. Colichman. bibliog Am Chem Soc J 73:1795-8 Ap '51

Surface tension and the theory of holes. R. L. Choate and L. H. Lund. bibliog J Chem Phys 19:1062 Ag '51

Surface tension of liquid metals. N. R. Mukherjee. J Ap Phys 22:1215-16 S '51

Surface tension of molten alkali silicates. L. Shartsis and S. Spinner bibliog J Res Nat Bur Stand 46:385-90 My '51

Surface tension of small droplets as a function of size from critical supersaturation data. G. M. Pound and V. K. LaMer. bibliog J Chem Phys 19:506-7 Ap '51

Surface tension of sulfur. R. Fanelli. bibliog Am Chem Soc J 72:4016-18 S '50

SURFACE tension—*Continued*

Temperature-interfacial tension studies of some alkyl esters of monobromoacetic acid against water. J. J. Jasper and W. J. Mayer. Am Chem Soc J 73:2610-11 Je '51

See also

Interfacial tension

SURFACES

Annual symposia on analysis and metallography of titanium and on surfaces, 4th, Chicago, June 11-16. Anal Chem 23:1051-2 Jl '51

Assessing surface texture. Engineering 171:409 Ap 6 '51

Cobalt self-diffusion; study of the method of decrease in surface activity. R. C. Ruder and C. E. Birchenall. J Metals 191:Trans 142-6 F '51

Contour mapping of optical surfaces with light waves. Product Eng 22:155 Jl '51; Excerpt. Mach 57:160 Ag '51

Determination of surface stresses in ingot moulds. M. W. Buttler and W. H. Glaisher. il diags Iron & Steel Inst J 168:287-99 Jl '51

Fatigue weakness of surfaces. J. P. Almen. il diags Product Eng 21:117-40 bibliog(p 140) N '50

Increasing endurance of magnesium castings by surface work. G. H. Found. il Metal Prog 60:51-4 Ag '51

Influence of base metal surfaces on the nature and characteristics of electrodeposited metals. A. T. Steer. Metal Prog 60:118+ Jl '51

Influence of optical working on surface structure of plastic crystals. A. Smakula and M. W. Klein. il diags Opt Soc Am J 40:748-50 N '50

Leveling solutions. A. Bregman. il Metal Prog 60:56-60 Jl '51

New surface measurement tool for mineral engineers; krypton adsorption method. F. W. Bloecher, jr. bibliog diag Min Eng 3:Trans 255-8 Mr '51; Discussion. 3:Trans 981-3 N '51

Properties of freshly formed surfaces. C. C. Addison and T. A. Elliott. diag Chem Soc J p3090-109 N '50

Residual stresses in machined or ground surfaces. Engineer 192:118 Jl 27 '51

Residual stresses in machined surfaces. E. K. Henriksen. bibliog il diags A S M E Trans 73:69-76 Ja '51

Studies of copper surfaces by low temperature adsorption isotherms. T. N. Rhodin, jr. bibliog diag Am Chem Soc J 72:4343-8 O '50

Surface finish standards. T. E. Cassey and J. W. Sawyer. diags Machine Design 23:137-40 My '51

Surface oxidation of furnace black and resulting rubber properties. M. R. Cines. bibliog Rubber Age 69:183-8 My '51

See also

Bearing surfaces
Boundary value problems
Contact angle
Films
Glass—Surface
Metal finishing
Specific surface

Smoothness testing

Effect of macro-roughness on the performance of parallel thrust bearings. M. E. Salama. il diags Inst Mech Eng Proc 163 (W.E.P. no 59):149-58; Discussion. 158-61 '50

How flat can you get? mechanized versions of old process of lapping. il Fortune 42:115-18+ D '50

Instrument compares surface finishes. Product Eng 21:204 D '50

Testing

Instrument for automatically recording waviness of surfaces. C. W. Medhurst. il diags J Sci Instr 28:211-14 Jl '51

Simple instrument for evaluating polished buffed surfaces. G. E. Gardam. il Metal Finishing 49:61-3 Ap '51

Visual and optical evaluation of metal surfaces. H. Thielsch. bibliog il diags Metal Finishing 49:54-61 My '51

SURGERY

Experimental study on the use of homonymous transplants of esophagus in dogs. H. L. Skinner and others. bibliog il Pub Health Rep 66:29-37 Ja 12 '51

Surgical stitching. H. Ogilvie. il diags Sci Am 183:44-7 N '50

Use and toxicity of pontamine sky blue. J. Weinberg and others. Science 114:41-2 Jl 13 '51

Use of morphine-scopolamine in surgery. R. Householder. Ind Med 20:115-18 Mr '51

See also

Amputation
Fractures

SURGERY, Industrial. See Medical service, Industrial

SURGICAL fabrics. See Bandages and bandaging

SURGICAL instruments and apparatus

Mechanical heart designed around squeegee pump; illustrations and diagrams with text. Product Eng 22:98-9 Mr '51

Plastics in a mechanical heart. il diags Mod Plastics 28:166 Ap '51

Surgical stitching. H. Ogilvie. il diags Sci Am 183:44-7 N '50

SURGICAL supplies

Pre-packaged for the surgeon; vinyl surgical drapes. il Mod Packaging 24:96-9 Mr '51

Vinyl surgical drapes. il Mod Plastics 28:61 My '51

SURPLUS products

See also

Airplanes—Surplus airplanes
Machine tool industry—Surplus tools

SURVEYING

Novel sighting method cuts survey time; kytoon, device used by Southwestern power administration engineers between distant areas and in rough terrain. E. E. Howe. il diags World Oil 132:175-6+ F '51

Some aspects of electronic surveying. C. I. Aslakson. maps diag Am Soc C E Proc 77 [no52]:1-17 Ja '51

Surveying and mapping requirements for modern city planning. C. A. Blessing. bibliog Am Soc C E Proc 77 [no 60]:1-11 F '51

See also

Leveling
Photographic surveying
Radar—Surveying use
Roads—Surveying
Topographical maps

Study and teaching

Educators cite goal for mappers, form surveying education division. Eng N 147:25 Jl 5 '51

Surveying instruction in the civil engineering curriculum. H. J. Shea. J Eng Educ 41:185-90 N '50

Tables, calculations, etc.

Computing survey notes with traverse tables. J. P. Trueblood. Min Eng 3:583 Jl '51

SURVEYING, Aerial

Aerial surveying for overhead power lines; abstract. T. A. George. Inst E E Proc 98 pt 1:83 Mr '51

Aerial surveys save time and money in public works planning. il plan Pub Works 82:31-4 Ja '51

Datum stabilizer for radar-altimeter surveying. B. I. McCaffrey. il diag Electronics 24:100-3 F '51

Photogrammetry locates 208 miles of Pennsylvania Turnpike extensions. F. J. Williams. il plan Civil Eng 20:761-3 D '50

SURVEYING, Hydrographic. See Hydrographic surveying

SURVEYING instruments

Angle prism and its application to highway surveying work. H. S. Wahlen. il diags Roads & Sts 94:48-9+ Jl '51

Maximum likelihood estimates of position derived from measurements performed by hyperbolic instruments. E. Lukacs. J Res Nat Bur Stand 47:197-201 S '51

SURVEYORS' tape

Standardisation of steel surveying tapes. J. S. Clark and L. O. C. Johnson. bibliog diags Engineer 191:820-2 Je 22 '51

SURVIVORSHIP, Presumption of

Common disaster. L. P. Thompson. Weekly Underw 165:108-10, 330-2 Jl 14, Ag 11 '51

Louisiana civil law presumption of survival of younger over older person in common disaster reaffirmed. Weekly Underw 163:946 O 21 '50

Where the law is deficient; common disaster. S. M. Hollander. Weekly Underw 164:1478-9 Je 9 '51

SUSPENDED railroads. See Railroads, Suspended

SUSPENSION bridges. See Bridges, Suspension

SUSPENSIONS

Aerosol build-up techniques. F. Fahnoe, A. E. Lindroos and R. J. Abelson. flow diag il diags Ind & Eng Chem 43:1336-46 Je '51

Electronic spray analyzer for electrically conducting particles. J. M. Geist, J. L. York and G. G. Brown. bibliog diags Ind & Eng Chem 43:1371-7 Je '51

Flocculation of pulp suspensions and the formation of paper. S. G. Mason. bibliog Tappi 33:440-4 S '50; Same. Pulp & Pa of Can 51:94-8 S '50

Investigations on the passage of light through suspensions. A. H. M. Andreasen and others. il diags Soc Chem Ind J 69:312-17 O '50

Particle size in suspension polymerization. F. H. Winslow and W. Matreyek. bibliog il diags Ind & Eng Chem 43:1108-12 My '51

Preparation of solid- and liquid-in-air suspension for use in air pollution studies. R. D. Cadle and P. L. Magill. bibliog il diags Ind & Eng Chem 43:1331-5 Je '51

Viscosity control of concentrated clay suspensions. N. Millman. diag Paper Tr J 132: 28+ F 16 '51

Viscosity of suspensions of spheres. J. V. Robinson. bibliog J Phys & Colloid Chem 53:1042-56; 55:455-64 O '49, Mr '51

SUSPENSOIDS. See Colloids

SUSQUEHANNA river

Buried valley of the Susquehanna river; anthracite region of Pennsylvania. S. H. Ash. bibliog maps diags 35 fold pls [pl 7-35 in box] U S Bur Mines Bul 494:1-27 '50

SUTHERLAND paper company

High yield stocks that should do well in a defense economy; with comparative balance sheet items. Mag of Wall St 87:230 D 2 '50

Preferred stock offered. Comm & Fin Chr 173:2614 Je 25 '51

SUTURES

Microdetermination of chromium in catgut sutures. H. V. Weiss, V. E. Siler and P. R. Buechler. bibliog Anal Chem 23:797-8 My '51

Testing

Measurement of tensile strength of suture materials. S. P. Steward. il J Sci Instr 28: 114-15 Ap '51

SVEDBERG, Thé

Ultracentrifuge. G. W. Gray. Sci Am 184:42-51 Je '51

SWAGING

Swaged generator pole shoes conserve copper wire. H. Chase. il Automotive Ind 104:40-1+ Ja 1 '51

Swaging saves time and material: bobbin spindles for textile machines. il Machine Design 23:144 Ja '51

Vibratory press speeds swaging job 800 per cent. diag Iron Age 168:71 Ag 9 '51

SWAIN, Robert Cuthbertson, 1907-

Man of the month. por Chem Eng 58:240 Jl '51

SWAMP buggy. See Motor trucks, Amphibious

SWAMPS. See Marshes

SWAN, Thomas Walter, 1877-

Portrait. Fortune 43:94 Ja '51

SWARTZ, Paul W.

Sketch. por Welding J 29:1028-9 N '50

SWEARING

There's too much profanity in business. M. Rinehart. Ptr Ink 234:92 Ja 5 '51

SWEAT glands

Functional activity of the sweat glands in the hairy skin of the dog. T. Aoki and M. Wada. bibliog il Science 114:123-4 Ag 3 '51

SWEATING sickness. See Epidemics

SWEDEN

Study in Sweden; M.I.T. graduates assisting in research programs. J. A. F. Hill and others. il Tech R 53:197-202+ F '51

See also

Electric apparatus industry—Sweden
Finance—Sweden
Savings banks—Sweden
Standards—Sweden

Commerce

Swedish luck; middle way is smoothed by export boom. J. Joesten. Barron's 31:7-8 O 1 '51

Texas swaps grapefruit for Swedish prefabs. Bsns W p 101-2 F 3 '51

Economic conditions

News by countries. For Comm W 40:21-2 Jl 31; 18-19 Ag 28; 41:16-17 O 23 '50; 43:17-18 Ap 2; 17-18 Je 4; 44:16+ Jl 16; 18+ Jl 30; 16-17 S 17 '51

Swedish economic stability continues. il Steel 127:74-5 D 4 '50

Economic policy

Socialist planning in Sweden. Economist 160: 329-30, 380-1 F 10-17 '51

Industries and resources

Public and private ownership in Sweden. G. Olson. il For Comm W 44:3-4+ Jl 23 '51

Social conditions

Marriage and divorce in Sweden. T. T. Segerstedt and P. Weintraub. Ann Am Acad 272: 185-94 N '50

SWEETENING agents

Vinylogy in sweetening agents; a vinylog of dulcin. W. K. Noyce, C. H. Coleman and J. T. Barr. Am Chem Soc J 73:1295-6 Mr '51

See also

Saccharin

SWELLING

Effect of drying and heating on the swelling of cellulose fibers and paper strength. L. M. Lyne and W. Gallay. bibliog Tappi 33:429-35 S '50; Same. Pulp & Pa of Can 51:129-34 S '50

Measurement and significance of swelling of cellulose fibers. W. Gallay. bibliog Tappi 33: 425-9 S '50; Same. Pulp & Pa of Can 51: 115-19 S '50

Value of agents to control silicate swelling in acidizing. P. H. Cardwell. bibliog il World Oil 133:159-62+ Jl '51; Same abr. Oil & Gas J 50:134-7+ My 24 '51

SWIFT and company

Wage chronology no. seven; supplement, 1950. Mo Labor R 71:476-8 O '50

SWIMMING pools

Seasonal conditioning for your swimming pool. J. A. Oldenburg. il Pub Works 82:55-6+ F '51

SWINE

Feed supply key to rise in hog output. Barron's 31:31-2 Ja 15 '51

Diseases

Survey of brucellosis in slaughtered hogs. N. B. McCullough and others. bibliog Pub Health Rep 66:205-8 F 16 '51

Prices

Hog price slump jumps seasonal decline gun. Barron's 31:19 S 17 '51

SWINE houses

Infrared heat saves pigs during farrowing. J. H. Bodwell. il Elec World 134:128 N 6 '50

Model pig "hatchery" features efficient planning and good construction. il diags Am Bld 73:114-15+ Mr '51

Radiant heat and a powder room for hogs; farrowing house. il plan Am Bld 72:94-5+ N '50

SWINE pens

Lighting

Lighted pen adds pounds to pigs during the night. il Elec World 135:90 Ja 15 '51

SWING bridges. See Bridges, Swing

SWITCHBOARDS

Color coded switchboards; newest step in control room design. W. B. Morton. il Elec World 136:83-6 S 24 '51

SWITCHES, Electric. See Electric switchgear

SWITZERLAND

See also

Airlines—Switzerland
Grocery trade—Switzerland
Hydroelectric plants—Switzerland
Labor and laboring classes—Switzerland
Radio broadcasting—Switzerland
Vocational education—Switzerland

Defenses

Switzerland's redoubt. map Economist 161: 351-2 Ag 11 '51

Economic conditions

News by countries. For Comm W 42:17 F 5; 43:20+ Ap 16; 44:19 Jl 9 '51

SYDNEY, Australia

Opening of maritime passenger terminal. For Comm W 44:21 S 10 '51

SYDNEY university

Chemistry at the University of Sydney. R. J. W. Le Fèvre. il Chem & Ind p415-16 Je 2 '51

Cyclic meso-ionic compounds; further properties of the sydnones and the mechanism of their formation. W. Baker, W. D. Ollis and V. D. Poole. Chem Soc J p 1542-51 Je '50

SYDNONES

Infra-red spectra of three sydnones and certain *N*-nitroso-compounds. J. C. Earl and others. Chem Soc J p2207-8 Ag '51

SYLVANIA electric products, inc.

Four executives are advanced to vice presidencies. Elec World News ed 135:27 Ja 8 '51

Stock offering oversubscribed. Comm & Fin Chr 173:1993 My 14 '51

SYMBOLIC logic. See Logic, Symbolic and mathematical

SYMBOLS

Agenda for symbols, units and nomenclature commission (I.U.P.A.P.), July 1951. F. G. Brickwedde. Science 113:213-15 F 23 '51

Drafting room symbols for piping. diags Heat & Ven 48:65 Ja '51

Information theory and most efficient codings for communication or memory devices. L. Brillouin. J Ap Phys 22:1108-11 S '51

Symbols, signs, and abbreviations recommended for British scientific publications. Chem Soc J p 1677-92 Je '51

Wanted: a trade-mark for advertising. il Ptr Ink 236:34-5 Ag 17 '51

See also

Numbering systems

SYMINGTON, William Stuart, 1901-

Clean and useful; goal of new RFC. por Bsns W p26 Je 9 '51

Mobilization quarterback. por Bsns W p24 N 11 '50

People at the controls. L. Stafford. por(cover) Banking 43:36-7+ N '50

Planner's plans; baseball or Uncle Sam? por Bsns W p34 Mr 3 '51

SYMPATHOMIMETIC substances

New 5-aminoglyoxalines as potential adrenergic agents. H. Bader, J. D. Downer and Mrs P. Driver. Chem Soc J p2775-84 O '50

Some derivatives of 3-pyridol with parasympathomimetic properties. H. M. Wuest and E. H. Sakal. bibliog Am Chem Soc J 73: 1210-16 Mr '51

SYMPHONY orchestras. See Orchestras

SYNAGOGS

Economical temple and community center, Roslyn Heights, L.I. il plan Arch Rec 110: 136-9 Ag '51

SYNCHRODYNE. See Radio modulation

SYNCHRONIZERS

Synchronizer for 100-kc square wave generator. L. C. Hedrick. diag R Sci Instr 22:537 Jl '51

SYNCHRONIZING

Automatic synchronizing generator for tv. C. Ellis. il diags Tv Eng 2:20-2+ Ag; 22-3 S '51

Hum and stability problems of power line synchronization in television. W. L. Hughes. il diags Elec Eng 70:900-4 O '51

Position synchronization of a rotating drum. F. C. Williams and J. C. West. bibliog diags Inst E E Proc 98 pt 2:29-34 F '51

Synchronizing piston movement in hydraulic cylinders. diags Product Eng 22:156-7 Jl '51

Voltage blocking relay for automatic synchronizing. G. C. Blegen and R. B. Bruck. Elec World 135:164+ My 21 '51

SYNCHRONOME. See Clocks, Electric impulse

SYNCHRONOUS motors. See Electric motors, Synchronous

SYNCHROTRON

Bevatron. L. Smith. il diags Sci Am 184:20-5 F '51

Design and operation of a 30-Mev synchrotron. D. W. Fry and others. bibliog il diags Inst E E Proc 97 pt 1:305-19; Discussion. 334-9 N '50; Electrician 144:1599-600 My 12 '50

Design of electron synchrotrons. F. K. Goward and others. bibliog diags Inst E E Proc 97 pt 1:320-33; Discussion. 334-9 N '50; Electrician 144:1599-600 My 12 '50

Double focusing with wedge-shaped magnetic fields. M. Camac. bibliog diags R Sci Instr 22:197-204 Mr '51

Field measurements on model betatron and synchrotron magnets. E. A. Finlay and others. bibliog diags J Sci Instr 27:264-70 O '50

Forced betatron oscillation in a synchrotron with straight sections. N. M. Blachman. R Sci Instr 22:569-71 Ag '51

Next; a billion electron volts. il Chem W 68: 19 Je 16 '51

Nonferromagnetic synchrotron; abstract. J. L. Lawson. Science 112:420-1 O 13 '50

Proton deuteron rf system for the Berkeley synchrocyclotron. K. R. MacKenzie. il diags R Sci Instr 22:302-9 My '51

Scattering losses in the synchrotron. J. M. Greenberg and T. H. Berlin. bibliog R Sci Instr 22:293-301 My '51

Synchrotron-oscillation resonance. N. M. Blachman. R Sci Instr 21:908-11 N '50

Thick target for synchrotrons and betatrons. E. M. McMillan. diag R Sci Instr 22:117 F '51

300Mev synchrotron at the Massachusetts institute of technology. il diags Engineer 191:440-2 Ap 6 '51

Variable frequency excitation system for a 70-Mev synchrotron; abstract. J. D. Ryder and J. P. Palmer. diag Elec Eng 70:673 Ag '51

X-ray spectrum produced by 322-Mev electrons striking a platinum target. W. M. Powell and others. il Phys R 81:213-18 Ja 15 '51

SYNONYMS

Dictionary of synonyms and antonyms and 5000 words most often mispronounced. J. Devlin. 235p $1 World pub. co, 2231 W. 110th st, Cleveland 2 '51

Sin of synonyms. R. L. Dean. Chem & Eng N 29:3081 Jl 30 '51

SYNTEX, S.A., Mexico city

Mexican hormones; Syntex. il Fortune 43:86-90+ My '51

SYNTHESIS

Acetylene and acetylenic compounds in organic synthesis. E. R. H. Jones. Chem Soc J p754-61 F '50

DDT-type compound as source material in organic synthesis. F. A. Gunther and R. C. Blinn. bibliog(44 ref) J Chem Educ 27: 654-8 D '50

Improved syntheses in the pyrimidine series; the use of pyrimidine-thiols. D. J. Brown. bibliog Soc Chem Ind J 69:353-6 D '50

Microsynthesis of some ^{14}C-labelled organic compounds. W. J. Arrol and R. Glascock. diags Chem Soc J supp no 2:S335-8 '49

New ketone synthesis. R. E. Bowman and W. D. Fordham. Chem & Ind p742 S 1 '51

One-carbon compounds in the biosynthesis of the biologically labile methyl group. V. du Vigneaud and others. bibliog Am Chem Soc J 73:2782-5 Je '51

Peptide syntheses. T. Wieland. Chem Age (Lond) 64:233-5 F 10 '51

Some considerations on autosynthesis in bacteria. P. C. Caldwell and C. Hinshelwood. Chem Soc J p3156-9 N '50

Steroid syntheses featured before A.C.S. Organic division. Chem & Eng N 29:3832-4 S 17 '51

Structural guides for synthetic lubricant development. C. M. Murphy and W. A. Zisman. bibliog Ind & Eng Chem 42:2415-20 D '50

SYNTHESIS—*Continued*

Symposium sponsored by the Philadelphia and Wilmington organic chemists clubs, Philadelphia, Oct. 26. Chem & Eng N 28:3881-2 N 6 '50

Synthesis of methane from carbon dioxide and hydrogen. G. G. Binder and R. R. White. bibliog flow sheet Chem Eng Prog 46:563-74 N '50

Synthesis of molecular units for rational synthesis of phenol-formaldehyde and allied resins; synthesis of resoles, dihydroxydiphenylethanes, and dihydroxydiphenylpropanes. A. T. Carpenter and R. F. Hunter. bibliog J Ap Chem 1:217-26 My '51

Synthesis of vitamin A. N. L. Wendler and others. bibliog Am Chem Soc J 73:719-24 F '51

Synthesis with isotopic tracer elements. J. D. Cox, H. S. Turner and R. J. Warne. diags Chem Soc J p3167-80 N '50

See also

Biological chemistry
Chichibabin synthesis
Hydrocarbons—Synthesis
Photosynthesis

SYNTHETIC detergents. See Cleaning compositions

SYNTHETIC products

See also

Plastic materials
Resinous products
Rubber, Artificial
Textile fibers, Synthetic

SYNTHOL process. See Gasoline—Manufacture—Synthol process

SYPHILIS

Influence of irradiation and penicillin on experimental syphilis transmission. T. F. Probey. bibliog Pub Health Rep 66:644-8 My 18 '51

Preservation of viability and pathogenicity of the Nichols' rabbit strain of treponema palladum by freeze drying. E. G. Hampp. bibliog Pub Health Rep 66:501-6 Ap 20 '51

SYRACUSE, N.Y.

See also

Banks and banking—Syracuse, N.Y.

SYRACUSE supply company

Industry's middleman booms. Bsns W p90-1 Ap 28 '51

SYRACUSE university

New York state college of forestry

Educational and development program at New York state college of forestry. C. E. Libby. Tappi 34:sup 110A Mr '51

SYRIA

Israel versus Syria. map Economist 160:1094 My 12 '51

Antiquities

Ancient Syrian coppers and bronzes. R. J. Braidwood and others. il map J Chem Educ 28:87-96 F '51

SYRINGALDEHYDE

Studies on lignin and related products; separation of syringaldehyde and vanillin by chromatography. I. A. Pearl and E. E. Dickey. Am Chem Soc J 73:863-4 F '51

Analysis

Rapid micromethod for alkaline nitrobenzene oxidation of lignin and determination of aldehydes. J. E. Stone and M. J. Blundell. bibliog il diag Anal Chem 23:771-4 My '51

SYRINGES

Modified syringe for extraction with solvents of low density. A. I. Medalia and R. W. Stoenner. diag Anal Chem 23:545 Mr '51

Transfer syringe for manual countercurrent distribution. M. Beroza. diag Anal Chem 23:1055-6 Jl '51

SYSTEMATICS. See Classification of sciences

SYSTOX. See Insecticides

SZILARD-CHALMERS reaction

Enrichment of antimony activity through the Szilard-Chalmers separation. M. Kahn. bibliog Am Chem Soc J 73:479-80 Ja '51

Separation of ^{82}Br from neutron-irradiated sodium bromate. E. Berne. Chem Soc J supp no 2:S338-40 '49

Yields by fast and slow neutrons in a Szilard-Chalmers reaction. E. Broda and W. Rieder. Chem Soc J supp no 2:S356 '49

T

TCC process. See Gasoline—Manufacture

TABLES

Two utility tables. il Consumers Res Bul 27:14 Mr '51

TABLES, Computing

Shortcuts in plastics calculations. P. H. Seckel. Mod Plastics 28:126-7+ Je '51

See also

Surveying—Tables, calculations, etc.

TABLES of contents. See Periodicals—Tables of contents

TABLETS (medicine)

Increasing packaging efficiency through coordinated action; Black Draught tablets; abstract. S. E. Noble. Mod Packaging 24:123-4 My '51

TABLEWARE

Design, color pay off in production; Santa Anita potteries, a leader in dinnerware field. il Cer Ind 55:78-9+ N '50

Lenox builds a dinnerware tradition. il Cer Ind 55:70-3, cover D '50

Retail sales promotion of dinnerware. L. Weiss. Am Cer Soc Bul 30:208-9 Je 15 '51

Manufacture

Experiments in jiggering. Cer Ind 56:135 Ap '51

How to jigger. il Cer Ind 56:96-7 Mr '51

Stresses initial quality to get top product; Flintridge china co. il Cer Ind 56:64-5+ F '51

West Coast pottery cuts costs with ram pressing; Weil dinnerware forming method. il Cer Ind 57:68-9+ Ag '51

Testing

Ink absorption test for hotel chinaware. R. W. Cline. Am Cer Soc Bul 30:174-5 My 15 '51

TABLEWARE, Plastic

Melamine dishware for QM. R. L. Van Boskirk. Mod Plastics 28:170+ Mr '51

New type product gains quick acceptance; Melmac plastic dinnerware action pictures. C. J. Swan. il Ptr Ink 233:32-3 N 24 '50

TABULATING machines

Card controls punch programming. il diag Machine Design 23:124-5 Jl '51

Performance reports in a tabulating unit. L. C. Lewan. N A C A Bul 32:923-7 Ap '51

Use of tabulator data in the analysis of sliver and roving uniformity. J. P. Elting and J. C. Barnes. bibliog Textile Res J 20:773-9 N '50

See also

Punched card system

TACARIGUA, Lake. See Valencia, Lake

TACHOMETERS

Electronic tachometer counts shaft revolutions. il Product Eng 21:179 N '50

Elimination of brush ripple in d.c. tachometer-generators used in servo-mechanisms. J. C. West and T. W. Hey. diags J Sci Instr 28:18-20 Ja '51

How Alemite's sales aids cut technical jargon; slide film and portable demonstrator sell tachometer. E. N. Robinson. il Sales Management 67:80+ Jl 1 '51

Make your own tachometer. D. Kelly. il diags Power 95:128-9 Jl '51

Speed-controlled switch. H. W. Kretsch and F. J. Walker. il diag Electronics 24:112-13 Jl '51

Tachometer for measurement of instantaneous variations in angular velocity. S. P. Bartles. bibliog il diags Elec Eng 70:816-19 S '51

Tachometer records stretch or shrinkage. il diag Product Eng 21:192 D '50

Tachometer shifts into five speeds. il Product Eng 21:180 D '50

TACKINESS

Nature of tack. A. Voet and C. F. Geffken. bibliog il diags Ind & Eng Chem 43:1614-24 Jl '51

TACOMA, Washington

Bridges

Plywood form details on Narrows bridge. il diags Concrete 59:28-30 Mr '51

Tacoma Narrows again bridged. il Eng N 145:29 O 26 '50

Water supply

Supplying industrial water. A. R. MacPherson. il Pub Works 82:33+ My '51

TACONITE

Beneficiation of taconites by pyro-metallurgy. R. G. Wuerker. flow sheet diags Min Eng 190:25-6 Ja '51

Commercial use near. Iron Age 168:38 S 27 '51

New taconite plant; ore shortage antidote. map Steel 129:37 O 1 '51

Oliver iron mining co. starts pilot taconite beneficiation plant. Iron & Steel Eng 28:131-2 Je '51

Pelletizing magnetic taconite concentrate. E. W. Davis and H. H. Wade. flow sheet il diags Steel 129:52+ Jl 30 '51

Plan 300,000-ton taconite pellet pilot plant. Iron Age 166:137 D 7 '50

Production jet-piercing of blastholes in magnetic taconite. D. H. Fleming and J. J. Calaman. il Min Eng 3:Trans 585-91 Jl '51

Report on taconite. E. W. Davis. il Eng & Min J 151:84-5 N '50

Republic and Armco acquire vast taconite deposit in Saint Louis county, Minn. Blast F & Steel Pl 38:1195 O '50

Republic-Armco push taconite program; will revamp old Mesabi iron co. plant at Babbitt, Minn. B. Lloyd. Iron Age 166:107-8 N 9 '50

Taconite is steel industry's ace-in-the-hole. B. Lloyd. Iron Age 167:105-6 F 8 '51

Taconite will be ready when. il Bsns W p76-8 N 11 '50

Unit operations score again; usable iron ore from abundant taconite. il diag Chem Eng 58:194+ Ag '51

TADPOLES

Sphagnum moss and egg yolk as food for anuran tadpoles. H. Ting. Science 112:539-40 N 3 '50

TAFT-HARTLEY law. See Labor laws and legislation—United States—Taft-Hartley law

TAGGART, Arthur Fay, 1884-

Tribute to A. F. Taggart at his retirement from teaching. M. D. Hassialis. Min Eng 3:723 Ag '51

TAGS

Adventures in shopping. Sales Management 66:48+ Mr: 46+ Je 1 '51

Hanging packages; labels, seals and tags are selling tools. il Mod Packaging 24:79 Mr '51

Locate meters with multiple tags. T. Pearson. il Elec World 135:156 My 21 '51

TAILINGS

Control of tailings from washing plants. W. B. Lenhart. il plans diags Rock Prod 53:72-80 Jl; 93-4+ S; 120-6 O '50; 54:112-13+ F; 124-6 Je; 67-70+ S '51

How to build a good tailings dam. il diags Eng & Min J 152:96-7 My '51

Processing tailings into lightweight aggregates; Lehigh materials co. W. B. Lenhart. il Rock Prod 54:94-5+ S '51

TAIWAN. See Formosa

TALARA formation

Rubble bedding and graded bedding in Talara formation of northwestern Peru. J. M. Dorreen. bibliog il maps diags Am Assn Pet Geologists Bul 35:1829-49 Ag '51

TALC

Talc as an absorbent for sulfonated azo dyestuffs. R. M. Hanson and C. W. Gould. bibliog Anal Chem 23:670-3 Ap '51

TALKING machines

Calculation of vowel resonances, and an electrical vocal tract. H. K. Dunn. bibliog il diags Acoustical Soc Am J 22:740-53 N '50

TALL oil

Bibliography

Bibliography of tall oil. C. J. West. (supplement 3) p200-66 Institute of paper chemistry, Appleton, Wis. '50

TALLOW

Bleaching of tallow; abstract. Soap & San Chem 27:81+ Jl '51

Configuration of naturally occurring mixed glycerides; the component fatty acids and glycerides of stillingia tallows. S. S. Gupta and M. L. Meara. Chem Soc J p 1337-42 My '50

Hydrolysis of fats at high temperatures. A. Sturzenegger and H. Sturm. bibliog diag Ind & Eng Chem 43:510-15 F '51

Palm oil gets replacement; tallow as substitute in hot dip tinning. Steel 128:112 Ap 9 '51; Bsns W p60+ Ap 21 '51; Iron Age 167:118-19 Ap 5 '51

Tallow can replace palm oil in hot dip tinning. G. C. Ference and W. R. Johnson. il diag Iron Age 168:86-9 Ag 2 '51

TALOA trading corporation

If it's legal and profitable, new export-import subsidiary of Transocean air lines will handle it. Bsns W p 152-3 S 29 '51

TALON, inc.

Talon splits stock. Bsns W p 156 O 6 '51

TAMPA, Florida

Sewerage

Sewage disposal. P. E. Langdon. maps plan Sewage & Ind Wastes 23:643-53; Discussion. D. B. Lee. 653-5 My '51

Tampa solves a paradox; how to dig up $12 million for sewers and how then to bury it in the ground; with cost data. D. Newton. il plan Eng N 146:28-30 My 31 '51

TAMPING machines

Earthmoving, an art and a science; stabilization of embankments. D. K. Heiple. il Constr Methods 33:91-2+ S '51

Self-powered compactor tamps trench backfill in a hurry. il Constr Methods 33:94-5 Mr '51

Trench backfill was a costly headache. W. V. Cornett. Pub Works 82:82-4 S '51

TANGANYIKA

See also

Hydroelectric plants
—Tanganyika

TANK barges

Chemicals on the waterways. A. J. Dawson. il Chem & Eng N 29:2813-17 Jl 9 '51

Dravo builds two-barge high-speed integrated fleet. il Marine Eng 56:68 My '51

Keeping it hot. il Chem W 68:35 Je 16 '51

Oil barge for river service. il World Oil 132:218 My '51

Oil barges hike payload by carrying new cars on empty trip down-river. D. Warren. il Nat Pet N 43:59 Ja 24 '51

Oil barging grows with industry in efficiency, size, importance. C. C. Thompson. il Nat Pet N 43:56-7 Ag 8 '51

Submersible tank-battery barge stores 4,800 bbl. of crude. il diag Oil & Gas J 49:146-7 F 22 '51; Same. Pet Eng 23:D26-8+ Mr '51

Ten per cent increase in river oil shipments is forecast for 1951 by bargemen. D. Warren. il Nat Pet N 43:49-50 My 30 '51

See also

Loading and unloading—Tank barges

TANK cars

Chemical industry, NPA study tankcar shortage. Oil Paint & Drug Rep 160:4 Jl 23 '51

Chlorine in crates? il Chem W 69:17 Ag 25 '51

Development of the aluminum tank car; abstract. G. B. Hauser. Mech Eng 73:237-8 Mr '51

Oil tank cars; plans studied to build more as shortage looms. Oil & Gas J 49:55-6 O 26 '50

Railroads list few fires on petroleum tank cars. Nat Pet N 43:41 Jl 18 '51

Safe handling of high concentration liquid caustic. Chem & Eng N 28:4580 D 25 '50

Semi-automatic welding builds tank cars faster; illustrations with text. J. S. Frey. Am Mach 95:170-1 O 1 '51

Tank cars; committee report, A.A.R. Mechanical division. Ry Age 131:91 Jl 9 '51; Same. Ry Mech & Elec Eng 125:63-4 Ag '51

Tank cars; their development and utilization in the petroleum industry. B. C. Graves. il Am Pet Inst Proc 30(5):77-82 '50

TANK cars—*Continued*
Tank trucks, barges, and full-scale tankers for shipping liquid chemicals in bulk. T. W. Rodes. Ind & Eng Chem 43:sup 135A-6A+ S '51
Transportation by railroad. J. R. Spraul. Chem & Eng N 29:2029-32 My 21 '51

TANK ships
Aluminum mechano decking. il Light Metal Age 9:27 Ap '51
Boom in tanker freights. Economist 160:219-20 Ja 27 '51
Cargocaire protects tanker; Sinclair Superflame. il plans diag Marine Eng 56:50-2+ S '51
Engineering of a 300,000 ton super-tanker; first ship using 1020 degrees F steam; Atlantic Seaman. L. M. Goldsmith. il plans diags Marine Eng 56:30-43 Ja '51; Same cond. Mech Eng 73:377-85 My '51
European tanker building. il Marine Eng 56:59-60 Ap '51
Foreign yards building ships for United States and affiliated interests. Marine Eng 56:36-9 Je '51
Geared Diesel machinery for tanker Atlantic Duchess. il Engineering 171:61-3, 74, pl 4 Ja 19 '51
How to cut a T2's fuel consumption by motorizing the auxiliary generators. J. A. Wasmund. il diag Marine Eng 56:58-60 Je '51
Improved tanker pipe line system. diag Marine Eng 55:72 D '50
Marine gas turbo-alternators for tanker Auris. il diag Engineer 191:250-2 F 23 '51; Engineering 171:209-12, 224 F 23 '51; Elec R (Lond) 148:387-9 F 23 '51; Electrician 146:636-9 F 23 '51
Mitigation of corrosion within cargo compartments aboard a T-2 tanker. G. D. Harden. il diags Am Pet Inst Proc 30(5):115-20 '50
Motor tanker Credo. il Engineering 171:483-4 Ap 20 '51
Motor tanker Gimle delivered by Kockum yard. il Marine Eng 56:41 Jl '51
Portable aircraft cargo deck erected on Mission San Diego. il Marine Eng 56:72-3 My '51
Seagoing chemicals. O. E. Beutel. il Chem & Eng N 29:3526-8 Ag 27 '51
Second Atlantic refining company tanker launched; Atlantic Engineer. il Marine Eng 55:43-4 N '50
Sinclair evaluates neoprene coatings for tanker fleet. il diag Marine Eng 56:40-7 O '51
Some aspects of modern tankers. R. H. Tingey. diags Am Pet Inst Proc 30(5):96-114 '50
Sun supertankers. A. A. Holzbaur and F. L. Pavlik. il plans Welding J 30:40-8 Ja '51
Swedish-built tanker, Nerva. il Marine Eng 55:43-4 D '50
T2 tankers being lengthened at Baltimore yard. il Marine Eng 56:57-8 Jl '51
Tank trucks, barges, and full-scale tankers for shipping liquid chemicals in bulk. T. W. Rodes. Ind & Eng Chem 43:sup 135A-6A+ S '51
Tankers for interprovincial service. H. C. Plummer. il Pet Eng 23:D29 Jl '51
Tankers tight. Bsns W p34 F 3 '51
Turbo-electric tankers. il Elec R (Lond) 148:99-100 Ja 12 '51
U.S. tanker fleet prospects. Pet Eng 23:D20-2+ Je '51
World tanker fleet. Economist 160:706 Mr 24 '51

See also
Loading and unloading—Tank ships
Tank barges

Fires and fire protection

All out for fire protection; mechanical foam installation on the Atlantic Seaman. J. H. Myers. il diag Nat Safety N 63:20-1+ Ap '51; Same cond. Marine Eng 56:64-7 My '51
Explosion and fire on board tank vessel. Marine Eng 56:64 Je '51
Fire quickly snuffed in new tankers. il diag Nat Pet N 43:74 Ap 18 '51

TANK trucks
Census lists 23,000 truck tank units operated by bulk plants, terminals. Nat Pet N 43:32-3 Jl 4 '51
Chemicals take to the road. C. A. Sutherland. il Chem & Eng N 29:2460-3 Je 18 '51
Chicago studies proposed rules on oil tank trucks. Nat Pet N 42:35 N 29 '50
Fuel oil delivery truck maintenance. R. T. Gould. diags Nat Pet N 43:58-9 Ap 18; 52-4 Ap 25 '51
Growing attacks on trucks can be dealt heavy blow with ammunition available. H. Ridder. il Nat Pet N 42:57-9 N 1 '50
High-output plane refueling truck. il Aviation W 54:53-4 Je 25 '51
How to test meters on tank trucks, determine proper spare parts list. R. T. Gould. Nat Pet N 43:72-3 My 16 '51
Motor vehicle for fuelling aircraft. il Engineering 171:546-7 My 4 '51
Oil fleet tests powered trailer. H. Ridder. il Nat Pet N 43:38-9 Jl 18 '51
Oil pipe-line transport vehicles. il Engineer 191:231 F 16 '51; Engineering 171:198-9 F 16 '51
Salt on wheels; tank truck delivery of brine. il Chem Ind W 68:41 Mr 31 '51
Selecting and installing reels, nozzles and hose on truck tanks. R. T. Gould. il Nat Pet N 43:55-7 My 9 '51
Selection of proper piping, meters important to tank truck efficiency. R. T. Gould. il Nat Pet N 43:39+ My 2 '51
Tank truck makers ready with plans for tightness in replacement parts. H. Ridder. Nat Pet N 43:62 Mr 14 '51
Tank truckers promote extended loading hours. Nat Pet N 43:44-5 Ja 17 '51
Trucking of liquid sugar is fast and flexible. il map Food Eng 23:149+ S '51

See also
Loading and unloading—Tank trucks

Fires and fire protection

Drag chains on tank trucks serve no useful purpose. J. M. Pearson and O. W. Johnson. Nat Pet N 43:48 Mr 21 '51
Few railroad crossing crashes shown in ICC truck fire accident report. H. Ridder. Nat Pet N 43:53+ Mr 14 '51
Oil trucks to lose drag chains. Safety Maint & Prod 100:33 N '50

TANKERS. See Tank ships

TANKS
How about your process tanks? L. J. Murphy. il Mill & Factory 48:115-16 Mr '51
New tank-emptying device. il Chem Age (Lond) 63:916 D 30 '50
Power handbook; piping, flow and tanks. P. Swain and W. Arrott. Power 95:104 Mr '51

See also
Air receivers
Airplanes—Fuel tanks
Boilers
Electric transformers—Tanks
Gas holders
Gasoline tanks
Oil tanks
Pressure vessels
Septic tanks
Settling tanks
Sewage tanks
Tank ships
Tank trucks
Water tanks

Cleaning

Nearly 90 per cent man-hours saved; removing sludge from normalizing tanks. il Mill & Factory 49:132 S '51

Foundations

Adequate foundations are first requirement for good tank service. I. E. Boberg. il diag Pet Refiner 30:125-7 Ap '51; Same. Oil & Gas J 50:106-7 Je 7 '51; Same. Pet Eng 23:D31-2+ Jl '51
Sling supports for beer tanks permit uniform foundation loads. il diag Eng N 147:44 Je 19 '51

Lining

Corrosion-proof cements extend pickling tank life. C. F. Sauereisen. il diags Iron Age 168:66-8 Ag 23 '51
Fight corrosion with plastics. R. B. Seymour and E. A. Erich. bibliog Pet Processing 6:861-2 Ag '51

TANKS—Lining—*Continued*

Glass as a coating for steel. W. G. Martin. il diags Mech Eng 73:109-13 F '51

Manufacture

Special devices up welding efficiency; National tank co. W. Rudolph. il Iron Age 167:70-1 Mr 22 '51

Measurement

Chart for determining capacity of tanks. Pet Eng 23:D34 S '51

Contents of horizontal cylinders. J. Tarrant. Water & Sewage Works 98:R174-5 Ap '51

Cubic feet, gallons, pounds, and tons of water in rectangular tanks; nomograph. Water & Sewage Works 98:R129 Ap '51

Restraints on the expansion of vertical tanks under liquid head. P. Kerr. diags Inst Pet J 37:209-23 Ap '51

Ventilation

Corrosion data helps select ventilation equipment; open-tank operations. J. W. McWilliams. il diags Standardization 22:111-14 Ap '51

Revise code for open tanks. Nat Safety N 63:110-11 My '51

Safety for open-tank operators. A. C. Stern. il Standardization 22:109-10+ Ap '51

Underwriters regulations on tank vents. Sheet Metal Worker 42:59+ Je '51

Ventilation and operation of open-surface tanks; American standard safety code Z 9.1-1951. diags Metal Finishing 49:64-73+ Je '51

TANKS, Aluminum

Aluminum tanks welded in unique fixtures. T. E. Imholz. il Iron Age 168:87-9 Jl 5 '51

Field welding of aluminum tanks. P. C. Arnold. il Welding J 30:597-601 Jl '51

TANKS, Collapsible

Collapsible 55-gal. drum holds oil. il Nat Pet N 43:29 My 2 '51

Collapsible storage tank. il World Oil 132:236+ Je '51; Same cond. Rubber Age 69:584 Ag '51

Collapsible storage tank holds oil products. il Nat Pet N 43:48-9 Ja 31 '51

Collapsible tanks under development; new type seal makes them possible. il Nat Pet N 42:56+ D 27 '50

10,000-gal. storage tank that is ready in ten minutes. K. L. Treiber. il Pet Eng 23:A64+ Ap '51

TANKS, Concrete

Concrete condenser box skims cooling water. il Oil & Gas J 49:102 D 7 '50

Prestressed-concrete principles and practices. D. A. Hopkins. il Roads & Eng Constr 89:106+ My '51

See also

Sewage tanks, Concrete

Water tanks, Concrete

Vats, Concrete

TANKS, Military

American tanks match anything reds have shown in Korea. Am Mach 95:178 S 17 '51

Army tanks; what to look for. il Steel 128:51-2 Ap 2 '51

Engines that power our tanks. C. H. Wick. il diag Mach 57:146-57 Ja '51

Ordnance tank-automotive vehicles. A. H. Allen. il Steel 128:72-5+ Ap 16 '51

Patton tank in Korea. W. O. Miller. il S A E J 59:26-30 Jl '51

Patton tank outstanding. H. C. Tuttle. Steel 128:66 My 14 '51

Russian realism, careful design, make T-34 bargain basement tank; illustrations with text. Product Eng 22:124-9 F '51

Tank center gets under way at last. Bsns W p 117 Ap 14 '51

Tank comeback; T-43. Bsns W p21 F 10 '51

U.S. armor; the champ. il Bsns W p48+ S 15 '51

U.S. tanks prove mettle in Korea. A. Jessup Am Mach 95:137 Ag 20 '51

Manufacture

Beans to tanks; Cadillac builds Bulldogs. B. Taylor. il Iron Age 168:88 Ag 30 '51

Britain builds modern tank with standard machines; illustrations with text. Am Mach 95:128F-128H Mr 5 '51

Defense production; ideas that help industry roll out the tanks; illustrations with text. Mod Ind 22:45 S '51

How Britain builds tanks. il Mach 57:143-51 Mr '51

How Cadillac is equipping plant to build Walker bull-dog tanks. J. Geschelin. il Automotive Ind 104:42-5+ Je 1 '51

Induction hardening tank turret bearing rings. A. H. Allen. il diag Steel 129:64-6 Jl 30 '51

Patton tanks roll from Detroit arsenal. C. H. Wick. il Mach 57:136-45 Ja '51

Production of the Centurion tank. il Engineering 170:325-6, 328 N 3 '50

Royal ordnance factory, Barnbow, Leeds. il Engineer 190:418-19 N 3 '50

Tool switch aids early tank debut. il Steel 128:98-9 My 7 '51

Warehouse to tank plant in one year; Cadillac's Detroit works. il Bsns W p42-4+ S 1 '51

Welded tanks; M-47 General Patton army tanks. il Welding J 30:837-8 S '51

Reconstruction

Tank rebuilding speeded by fixtures; illustrations with text. R. Le Grand. Am Mach 94:108-14 O 30 '50

Wheels

For defense: Firestone tire & rubber co.'s production of track wheels for General Patton tank; photo visit. Mod Ind 22:20+ Jl '51

TANKS, Ship model. See Ship model tanks

TANKS, Steel

Big steel tank floated to new position under precise control. A. Di Giacinto. il Constr Methods 33:56-8 S '51

Carbonizing tank of acid-resistant stainless steel. il Comp Air Mag 56:51 F '51

See also

Water tanks, Steel

Manufacture

New method of tank construction. P. E. Savage. Roads & Eng Constr 89:116+ My '51

Prefabricating channel tank tops; Rud machine co. J. W. Massenberg. il Marine Eng 56:55-8 Ap '51

Welded spheres solve liquid nitrogen storage. J. A. Toland. il Iron Age 167:86-8 Mr 29 '51

Protection

Cathodic protection of tank bottoms. M. E. Parker. Oil & Gas J 49:131 My 3 '51

TANNIN solutizer process. See Gasoline—Manufacture

TANNING

Function of the carboxyl group of collagen for fixation of cationic chromium complexes; abstract. K. H. Gustavson. Chem Age (Lond) 65:350 S 15 '51

Preventing mould on leather. Chem Age (Lond) 64:204 F 3 '51

TANNING materials

International union of leather chemists' societies conference, London; abstracts of papers. Chem Age (Lond) 65:349-50 S 15 '51

Leather chemists optimistic in face of low tannin supplies. Chem & Eng N 29:2630-1 Je 25 '51

Peru's trade in vegetable tanning materials. For Comm W 42:21 F 5 '51

Synthetic tans toe in. il Chem W 69:35 O 20 '51

Textile and leather chemicals. Published in weekly numbers of Oil, paint and drug reporter

See also

Tannins

Prices

Textile and leather chemicals; 1950 market trends. Oil Paint & Drug Rep 159:44-6 sec 2 Ja 29 '51

TANNINS

Canadian wood bark as a source of tannin. C. Greaves. Pulp & Pa of Can 52:118+ Mr '51

Chemical constitution of wattle (mimosa) tannin. A. M. Stephen. Chem Soc J p3082-5 D '49

TANNINS—*Continued*

Extractives from ponderosa pine bark. E. F. Kurth and J. K. Hubbard. il Ind & Eng Chem 43:896-900 Ap '51

Structure of tannins; the reduction of chalkone. L. R. Finch and D. E. White. Chem Soc J p3367-9 D '50

TANTALUM

Geology, mining, and uses of strategic pegmatites. R. H. Jahns. bibliog il diags Min Eng 190:Trans 48-9 Ja '51

High energy gamma radiation from Ta^{181}. J. M. Cork and others. Phys R 81:642-3 F 15 '51

High temperature structure and thermal expansion of some metals as determined by X-ray diffraction data; platinum, tantalum, niobium, and molybdenum. J. W. Edwards and others. bibliog J Ap Phys 22:424-8 Ap '51

Interchangeability of Cb and Ta in type 347 stainless. W. O. Binder. il Metal Prog 59:219-27 F '51

Internal motion of hydrogen absorbed in tantalum. M. A. Garstens. bibliog Phys R 81:288 Ja 15 '51

Periodic deviations in the Schottky effect for polished tantalum. G. B. Finn and others. Phys R 81:889 Mr 1 '51

Periodic deviations in the Schottky effect for tantalum. R. J. Munick and others. bibliog diags Phys R 80:887-91 D 1 '50

Tantalum partly replaces columbium content of electrodes. R. D. Thomas, jr. Iron Age 167:109-11 Ap 5 '51

Vapor pressure of inorganic substances; tantalum between 2624 and 2943°K. J. W. Edwards, H. L. Johnston and P. E. Blackburn. Am Chem Soc J 73:172-4 Ja '51

Analysis

Anion exchange of zirconium, hafnium, niobium and tantalum in hydrochloric acid solutions. E. H. Huffman, G. M. Iddings and R. C. Lilly. Am Chem Soc J 73:4474-5 S '51

Anion exchange studies; protactinium in some HCl-HF mixtures; separation of niobium, tantalum and protactinium. K. A. Kraus and G. E. Moore. Am Chem Soc J 73:2900-2 Je '51

Anion exchange studies; tantalum in some HF-HCl mixtures. K. A. Kraus and G. E. Moore. Am Chem Soc J 73:13-15 Ja '51

Isotopes

Excitation function of Ta$^{181}(d,p)$Ta^{182}. K.-H. Sun and others. Phys R 82:459 My 1 '51

Gamma-neutron cross sections. H. E. Johns and others. bibliog diag Phys R 80:1062-8 D 15 '50

Neutron deficient radioactive isotopes of tantalum and wolfram. G. Wilkinson. bibliog Phys R 80:495-9 N 15 '50

Short-lived isomers of Ta^{181}. W. C. Barber. diag Phys R 80:332-7 N 1 '50

TANTALUM compounds

Preparation of hexafluoroniobates, hexafluorotantalates, and hexafluorobismuthates by means of bromine trifluoride. V. Gutmann and H. J. Emeléus. Chem Soc J p 1046-50 Ap '50

TANTALUM fluorides

Fluorides of niobium, tantalum, tungsten, and rhenium. H. J. Emeléus and V. Gutmann. Chem Soc J p2115-18 Ag '50

TANTALUM halides

Determination of the structures of complex molecules and ions from X-ray diffraction by their solutions; the structures of the groups $PtBr_6^{--}$, $PtCl_6^{--}$, $Nb_6Cl_{12}^{++}$, $Ta_6Br_{12}^{++}$, and $Ta_6Cl_{12}^{++}$. P. A. Vaughan, J. H. Sturdivant and L. Pauling. bibliog Am Chem Soc J 72:5477-86 D '50

Seemingly forbidden octacovalent structure. G. H. Duffey. bibliog J Chem Phys 19:963-4 Jl '51

TAPE, Labeling. See Labeling

TAPE, Magnetic. See Magnetic tape

TAPE, Measuring. See Measuring tape

TAPE, Surveyors'. See Surveyors' tape

TAPEWORMS

See also

Echinococci

TAPIOCA

Fractionation of starch; the determination of the molecular weights of the triacetates of amyloses and amylose fractions by osmotic pressure measurements. R. S. Higginbotham. bibliog diags Textile Inst J Trans 42:T235-48 Je '51

Fractionation of starch; the fractionation of amyloses. D. Goodison and R. S. Higginbotham. bibliog diags Textile Inst J Trans 42:T249-73 Je '51

Molecular magnitude of amylopectin. R. W. Kerr, F. C. Cleveland and W. J. Katzbeck. bibliog Am Chem Soc J 73:111-17 Ja '51

Starch; the uniformity of the degree of branching in amylopectin. A. L. Potter and W. Z. Hassid. bibliog Am Chem Soc J 73:997-8 Mr '51

TAPPING

Automatic tools drill and tap die-castings. J. A. Mullen. il Am Mach 94:144-5 D 11 '50

Better tapping; special report. W. M. Stocker, jr. il diags Am Mach 95:143-58 My 14 '51

Fixture that insures accurate alignment in hand tapping operations. J. Homewood. diags Mach 57:193 N '50

Instrument records tapping torques. il Machine Design 23:131 My '51

Measuring and interpreting the factors in tapping torques. A. J. Carruthers. il diags Tool Eng 26:25-7 Ap; 34-6+ My '51

Some experiments on tapping. E. Johnson. diags Inst Mech Eng Proc 164 no 1:46-51 pl 1-2 '51

TAPPING machines

1951 production preview. il Am Mach 95:189-90 Ja 22 '51

Tapping machine made with friction drive. R. G. Vare. diag Am Mach 95:176 S 3 '51

TAPS

Better tapping; special report. W. M. Stocker, jr. il diags Am Mach 95:143-58 My 14 '51

Tap coning attachment. il Engineer 192:241 Ag 24 '51

Tap drivers (four-way-split type); reference book sheet. diags Am Mach 95:179 Ap 16 '51

Taps for tapping aluminum alloys. Mach 57:176 N '50

Why taps should be sharpened precisely. E. Blake. il diags Mach 57:154-9 Ag '51

TAR

Continuous dip system improves tar coating. F. R. Adams and G. E. Loftin. diag Iron Age 168:92-4 Ag 2 '51

Electrical dehydration of tar emulsions. W. S. McGraw. il Gas Age 106:28-30+ D 21 '50

Isolation of mandelic acid from cedar tar. C. L. Key and R. T. Clark, jr. Am Chem Soc J 72:5774 D '50

Report of joint subcommittee on tar dehydration. Am Gas Assn Proc 1950:448-51

Tar production in 1950 up eight percent over '49; table. Oil Paint & Drug Rep 160:5 Ag 20 '51

TAR acids

Characterization of tar acids from coal-hydrogenation oils. E. O. Woolfolk and others. U S Bur Mines Bul 487:1-56; pa 35c Supt. of doc. '50

Fractional extraction process for recovery of pure tar acids. M. B. Neuworth, V. Hofmann and T. E. Kelly. bibliog diag Ind & Eng Chem 43:1689-94 Jl '51

TAR distillation plants

First double-flash tar distillation units. diag Chem Eng 58:214 Ag '51

TAR sand. See Bituminous sand

TARBUTTON, Ben J.

B. J. Tarbutton assumes Central of Georgia presidency. por Ry Age 130:120 F 12 '51

TARIFF

Customs tariff nomenclature. J. C. Hancock. Elec R (Lond) 148:1377-9 Je 29 '51

Failure at Torquay. Economist 160:816 Ap 7 '51

Future of GATT. Economist 159:799-800 N 18 '50

General agreement on tariffs and trade; result of consultation on trade problems by contracting parties. For Comm W 42:4 Ja 15 '51

TARIFF—*Continued*

Goodbye to all GATT; close of Torquay conference. Economist 160:901-2 Ap 21 '51

Limited achievement at Torquay. Economist 160:1120 My 12 '51

Outlook for import-export trade under tariff cutting in Torquay. V. L. Horoth. il map Mag of Wall St 88:299-301+ Je 16 '51

Reciprocal trade agreements program. H. P. Macgowan. il For Comm W 44:3-5+ Jl 30 '51

State department reveals results of tariffs conference at Torquay. Oil Paint & Drug Rep 159:3 My 14 '51

Tariff bargaining goes slow at Torquay. Economist 159:832-3 N 18 '50

Tariff negotiations at Torquay completed. For Comm W 43:4+ My 28 '51

Tariff slashes; Torquay swap. Bsns W p 115-16 My 26 '51

Tariffs ease down; Torquay agreements. Mod Ind 21:78 Je '51

Tin talks break down in Geneva. Economist 159:913-14 N 25 '50

Torquay conference. Economist 159:560-1 S 30 '50

Torquay conference criticisms outlined at SOCMA luncheon. Oil Paint & Drug Rep 158:5+ O 16 '50

Torquay pact shows Canadian trade shift. W. Wells. Barron's 31:6 Je 11 '51

U.S.-German tariff pact effective Oct. 1; concessions itemized. Oil Paint & Drug Rep 160:3+ S 10 '51

See also

Commercial policy

Commercial treaties and agreements

Free ports and zones

Canada

Customs tariff; rates levied on importation of construction equipment. Roads & Eng Constr 89:70+ Je '51

Duty on imported engineering plans urged by C.C.A. Roads & Eng Constr 89:118+ Mr '51

Egypt

Revision of Egyptian customs tariff. For Comm W 43:10 Je 18 '51

Ethiopia

Modifications in import and export duties; list. For Comm W 44:12-13 Jl 16 '51

France

French import tariff modified as result of Torquay negotiations. For Comm W 44:11 Ag 20 '51

Great Britain

Exemptions from key industry duty continued; list. For Comm W 45:16 O 1 '51

United Kingdom tariff changes announced. For Comm W 44:17 S 17 '51

U.K. tariff concessions; concessions agreed at Torquay. Chem Age (Lond) 65:55 Jl 14 '51

Guatemala

Import tariff modifications. For Comm W 42: 11-12 Ja 8 '51

Mexico

Import tariff modifications; list. For Comm W 43:17 My 14; 15-16 Je 11; 44:21-2 S 3 '51

Mozambique

Customs tariff surtaxes revised. For Comm W 45:13-14 O 8 '51

Pakistan

Reduction in import duties and margins of preference; tabulation. For Comm W 43: 14-15 My 7 '51

Sudan

Anglo-Egyptian Sudan; import tariff undergoes extensive revision. For Comm W 43:8 Je 25 '51

United States

House reverts to protective tariffs; Reciprocal trade law amendments. Bsns W p 144-6 F 17 '51

Negotiations with 38 other nations at Torquay, England. R. Gibbs. Chem & Eng N 29:734 F 26 '51

Tariff classification of products now available before importation. Oil Paint & Drug Rep 158:3 N 6 '50; Same. For Comm W 41:13 N 13 '50

Tariff needs of the mining industry; abstract. P. B. Jessup. Min Cong J 36:69-70 O '50

See also

Customs service—United States

Chemicals

Again; the tariff tangle. Chem W 69:7 Ag 25 '51

Chemical industry opposes changes in customs practices; threat of reduced tariff. Chem & Eng N 29:3534-6+ Ag 27 '51

Concessions granted and obtained by U.S. at Torquay; list by countries and commodities. Oil Paint & Drug Rep 159:5+ My 14 '51

Customs simplification bill would upset organic chemical industry. S. C. Moody. Comm & Fin Chr 174:1062 S 20 '51

Proposed changes in tariffs face uncertain delay. Chem & Eng N 28:4556 D 25 '50

Traffic in chemical tariffs. Chem W 68:9-10 Je 9 '51

U.S. tariff policy; excerpts from annual report of directors of Manufacturing chemists' association. Comm & Fin Chr 173:2560 Je 21 '51

Copper

Suspension of tariff on copper. W. F. Boericke. Automotive Ind 104:49+ Je 1 '51

Instruments

Proposed tariff and instruments. R. Rimbach. Instruments 23:1009-10+ O '50

UNESCO and the instrument industry. R. Rimbach. Instruments 23:1008 O '50

Paper

Torquay tariff concessions. Paper Tr J 132: 11 My 11 '51

U.S. tariff concessions negotiated at Torquay; table. Paper Tr J 132:16 Je 1 '51

TARIFF (export duties)

Malayan Union

Increased rubber export duty under new formula. For Comm W 42:23 F 19 '51

Malayan export tax seen forcing rubber out. Barron's 30:22 N 27 '50

Malayan rubber tax modified. Economist 159: 1022-3 D 9 '50

New rubber duty in Malaya. Economist 159: 768-9 N 11 '50

Opposition to the Malayan rubber tax. Economist 159:833-4 N 18 '50

Reconsideration for the rubber tax. Economist 159:914 N 25 '50

Nigeria

Schedule of export duties revised. For Comm W 43:17 My 14 '51

Norway

Pulp and paper; new export tax. For Comm W 43:16-17 Je 4 '51

TARIFF commission. See United States—Tariff commission

TARNISHING of metals

Mechanism of the reaction between silver and sulfur in mineral oil. R. T. Foley and others. bibliog J Phys & Colloid Chem 54: 1281-92 D '50

Tarnish-resistant treatments for silverware. Metal Finishing 49:59-60 Ag '51

TARSALS

Fractures of the metatarsals and tarsals. R. J. Bennett. Ind Med 20:423-5 S '51

TARTARIC acid

New synthetic process; abstract. J. M. Church and R. Blumberg. Chem Eng 58: 261 Ja '51

Synthesis of tartaric acid by the hydroxylation of maleic acid. J. M. Church and R. Blumberg. bibliog flow sheet diag Ind & Eng Chem 43:1780-6 Ag '51

TARTRATES

See also

Lithium ammonium tartrate

TASS (U.S.S.R. news agency)

Editors (28 to 12) endorse barring Tass from gallery. Ed & Pub 84:7 S 15 '51

Tass accreditation halted. Ed & Pub 84:7-8 S 8 '51

Tass allowed to keep place in press gallery. Ed & Pub 84:12+ S 29 '51

TASTE

All experience is of change. F. W. Nordsiek. bibliog il Tech R 53:87-90+ D '50

Pungency taste characteristics of some piperazine derivatives. T. Hasselstrom and others. Science 112:626-7 N 24 '50

Taste reactions to antithyroid substances. W. C. Boyd. bibliog Science 112:153 Ag 4 '50; Discussion. 112:475 O 20 '50

Theory of tastes and odors. A. F. El-Baradi and G. H. Bourne. il Science 113:660-1 Je 8 '51

U.S. taste buds want it bland. Bsns W p 102-3 Jl 14 '51

See also

Flavor

TAUTOMERISM

Apparent ionization exponents of 4-hydroxyquinoline, 4-methoxyquinoline and N-methyl-4-quinolone; evaluation of lactam-lactim tautomerism. G. F. Tucker, jr. and J. L. Irvin. bibliog Am Chem Soc J 73:1923-9 My '51

Associating effect of the hydrogen atom; the structure of diacylamines and related substances. L. Hunter and N. G. Reynolds. Chem Soc J p2857-64 O '50

Effect of solvents on tautomeric equilibria. J. Powling and H. J. Bernstein. bibliog Am Chem Soc J 73:4353-6 S '51

Experimental study of some potentially tautomeric 2- and 4(6)-substituted pyrimidines. J. R. Marshall and J. Walker. Chem Soc J p1004-17 Ap '51

Infrared spectra and tautomerism of 2-thioöxazolidone and congeners. M. G. Ettlinger. bibliog Am Chem Soc J 72:4699-702 O '50

Infra-red spectroscopy and structural chemistry; keto-lactol tautomerism. J. F. Grove and H. A. Willis. Chem Soc J p877-83 Ap '51

Restriction of tautomerism in the amidine system by hydrogen bonding; the case of 4(7)-nitrobenzimidazole. J. L. Rabinowitz and E. C. Wagner. Am Chem Soc J 73:3030-7 Jl '51

Some adsorption colors and their significance for thermochromic and tautomeric effects; experiments with spiropyrans and with 1,3-diketohydrindene. A. Schönberg, A. Mustafa and W. Asker. bibliog diag Am Chem Soc J 73:2876-9 Je '51

Tautomeric forms of some 1,1-diaroylethanes. C. L. Bickel and R. Morris. Am Chem Soc J 73:1786-7 Ap '51

TAX auditing. See Income tax—Auditing

TAX avoidance. See Tax evasion and avoidance

TAX collection

Tax scandals hit public hard. Bsns W p28 O 13 '51

TAX consultants

Full understanding with client urged when preparing tax return. J Account 92:214 Ag '51

Lawyers and CPAs join in statement of principles defining proper areas of federal tax practice for members of both professions. J Account 91:869-71 Je '51; Excerpts. Trusts & Estates 90:392 Je '51

Relations between lawyers and certified public accountants in income-tax practice. M. Austin. bibliog J Account 91:805-15 Je '51

Text of opinion in Conway case; Minnesota Supreme court upholds conviction of tax expert for unauthorized practice of law. J Account 92:331-7; Editorial comment. 289-90 S '51

Use of term tax consultant opposed by American bar association standing committee on unauthorized practice of law. J Account 91:306-7 F '51

When may taxpayer escape penalties by relying on professional tax adviser? summary of recent cases. J Account 91:124-5 Ja '51

TAX court. See United States—Tax court

TAX deductions. See Income tax—Deductions

TAX evasion and avoidance

Easy money in real estate; some unforeseen effects of the excess profits tax and how to take advantage of them. J. K. Lasser. Arch Forum 95:143+ Ag '51

Family foundation; bulwark against high taxes. J. K. Lasser and W. J. Casey. Dun's R 59:22-3+ Ag '51

Farm investments; federal income taxes conducive to capital accumulation in land, livestock. J. L. Hopkins. Barron's 31:15-16 Ja 8 '51

How the plant engineer can save tax money. J. K. Lasser. Factory Management 109:109-11 Mr '51

How to analyze business taxpayer to get minimum taxes under 1950-1951 rates. J. K. Lasser. J Account 90:379-83 N '50

How to avoid personal holding company pitfalls in corporate reorganizations. T. J. Dolan. J Account 91:704-9 My '51

How to minimize the 1951 tax boosts; abstract. Management R 40:367 Je '51

How to minimize your taxes on stock market profits. A. C. Strasburger. Mag of Wall St 87:218-19+ D 2 '50

Income tax laws favorable to real estate. W. W. Brudno. Comm & Fin Chr 173:2678-9 Je 28 '51

Is your fire a capital gain? watch out for involuntary conversion. il Bsns W p 104+ O 13 '51

It doesn't hurt much to give; tax advantages of five per cent gift deduction. Bsns W p28 Ag 18 '51

It's better to take it later, taxwise; stock options and deferred compensation for executives. Bsns W p45-6+ Ap 7 '51

Lose with profit; sell and lease-back. Bsns W p83-5 My 5 '51

Lower your taxes the accounting way. R. Kammerman. Food Ind 22:1869-71 N '50

1951 law does not necessarily kill collapsible corporation idea. J Account 91:875 Je '51

Paying taxes; higher 1951 levies can sometimes be offset. A. Cotter. Barron's 30:7 N 20 '50

Profitable tax pointers in 1951 investment planning. A. C. Strasburger. Mag of Wall St 87:598-9+ Mr 10 '51

Save by giving; Lehigh Valley Steel foundation to use charity tax deductions. Bsns W p66+ S 22 '51

Selling your business? how to soften the tax blow. Bsns W p73-4+ Jl 14 '51

Taking the crunch out of tax bite via municipal bonds. I. U. Cobleigh. Comm & Fin Chr 173:2341+ Je 7 '51

Tax effects of splitting a corporation into two or more units. W. M. Jensen. J Account 92:294-303 S '51

Tax laws make art hard to give; Kress Foundation gift to National gallery. il Bsns W p 117-18+ Ap 7 '51; Same cond. J Account 92:352+ S '51

Tax official outlines way to trace shipments of motor fuel by barge. Nat Pet N 43:28 Ag 1 '51

Under some conditions Americans working abroad can escape taxes. J Account 92:94-5 Jl '51

Where tax evasion is an art. J Account 90:514-15 D '50

Would constructive receipt doctrine close deferred compensation loopholes? bibliog J Account 92:214-16 Ag '51

Your tax liability and wildcat oil wells. J. Boyd. il Am Bsns 21:26 Mr '51

See also

Pensions, Industrial—
Tax problems

TAX exempt securities. See Taxation, Exemption from

TAX exemption. See Taxation, Exemption from

TAX refunds

Ability to get tax refunds should not be regarded as test of accountant's skill. H. E. Taylor. J Account 90:510-11 D '50

TAXATION

Average man's $34,743 tax during working years. Banking 44:58 Ag '51

Equity grounds for property taxation reexamined. H. M. Groves and L. Prober. Land Econ 27:143-50 My '51

TAXATION—*Continued*

Heaviest tax load is borne by our citizens; comparisons of government revenues and national incomes. V. L. Horoth. map Mag of Wall St 88:447-9 Jl 28 '51

Lasser's business tax handbook. J. K. Lasser. 3d ed rev 792p $5 Simon & Schuster, Rockefeller Center, 1230 Sixth av, New York 20 '49

Taxes, and liberty, too? H. C. Stockwell. Am Gas Assn Mo 33:21-2+ F '51

Taxes and mergers. J. K. Butters and J. Lintner. Harvard Bsns R 29:69-81 Mr '51

See also

Assessment
Debts, Public
Excess profits tax
Excise tax
Gift tax
Income tax
Inheritance tax
Mine taxation
Municipal taxation
Sales tax
Special assessments
Tariff
Tariff (export duties)

also subdivision Taxation under special subjects, e.g.

Advertising
Cooperative associations
Corporations
Insurance companies
Public utilities
Railroads
Petroleum industry and trade

Accounting

Interrelationship between law and accountancy; a symposium. J Account 92:62-71 Jl '51

Credit aspects

Present tax code could jeopardize a businessman's credit standing; carry-back and carry-over provisions. W. H. Stonaker. Credit & Fin Management 53:23 Jl '51

Law

How taxpayer can lose protection of statute of limitations; a trap in the law. H. W. Wolfram. J Account 91:580-5 Ap '51

Must taxpayers be mind readers? J. P. Allison. Fortune 43:85+ Ap '51

What manner of tax do the courts say we have? R. S. Holzman. J Account 91:833-5 Je '51

See also

Revenue act, 1950

Arkansas

Arkansas story; state finance, taxes. il Manuf Rec 120:100-1 F '51

Australia

Exemptions and increases under recent sales tax amendments. For Comm W 42:10 Mr 26 '51

Canada

Canada tackles defence costs. Economist 160:1108-9 My 12 '51

New Canadian depreciation regulations diminish gap between law and good accounting. E. H. Robertson. J Account 91:428-33 Mr '51

Cuba

New and increased taxes. For Comm W 44:12 Jl 16 '51

Denver

Denver cuts taxes. Bsns W p 112+ Mr 3 '51

Dominican Republic

See also

Excess profits tax—Dominican Republic

Finland

Turn-over tax law modified. For Comm W 42:14 Mr 26 '51

Florida

Intangibles tax assessed against non-resident owner of mortgage note. Banking 43:90+ O '50

Georgia

Georgia sales tax to be most inclusive. Bsns W p64 Mr 3 '51

Great Britain

How to pay for defence. Economist 159:926-7 D 2 '50

See also

Excess profits tax—Great Britain

Iraq

See also

Income tax—Iraq

Italy

Italy's daring tax reform. Fortune 44:84-5 S '51

Maine

As the Nation goes; Maine must raise taxes or run deficit. Bsns W p 104 F 17 '51

Philippine Islands

Exchange tax and new corporate-income-tax bills signed. For Comm W 43:15 Ap 23 '51

Requirements for tax exemption for new industries. For Comm W 43:14 Je 18 '51

Switzerland

Swiss struggle over taxes. Economist 159:1012 D 9 '50

United States

Analysis of the Revenue act of 1950 and how it will operate. B. Harrow. J Account 90:398-404 N '50

Are the times out of joint? T. H. Beacom. Trusts & Estates 89:820-1 D '50

Burning the house down to keep warm; defects in current tax bills. H. L. Lutz. Comm & Fin Chr 174:1245+ O 4 '51

Calls House tax bill worst ever. R. Magill. Comm & Fin Chr 173:2668-9 Je 28 '51

Corporation taxes for defense. C. R. Peterson. Chem & Eng N 29:1724-6 Ap 30 '51

Face of taxes to come. Bsns W p24 My 26 '51

Federal tax notes. S. J. Foosaner. Trusts & Estates 90:64-6 Ja '51 [cont monthly]

Federal tax outlook grim. R. Magill. Trusts & Estates 90:116 F '51

Federal tax proposals. Nat City Bank p32-3 Mr '51

High taxes seen as inflation spur. J. L. Collyer. Comm & Fin Chr 174:1374 O 11 '51

House sets pattern for taxes. Bsns W p24 Je 23 '51

How high should taxes go? A. M. Sakolski. Comm & Fin Chr 174:240 Jl 19 '51

How high taxes can raise prices. A. M. Sakolski. Comm & Fin Chr 172:1687+ N 2 '50

Impact of taxation on production and jobs. C. F. Hood. Advanced Management 15:19-21 O '50

Let's keep Keynes out of it; a comment on tax policy. J. D. C. Weldon. Mag of Wall St 87:166-7+ N 18 '50

New tax bill. Nat City Bank p88-92 Ag '51

Pay-as-we-go taxation is not enough. J. Airey. Comm & Fin Chr 174:956 S 13 '51

Pay-as-you-go how far? Fortune 43:61-3 Mr '51

Paying taxes; higher 1951 levies can sometimes be offset. A. Cotter. Barron's 30:7 N 20 '50

President outlines tax proposals; text of special message to Congress. H. S. Truman. Comm & Fin Chr 173:626+ F 8 '51

Problems of federal taxation. R. Blough. Comm & Fin Chr 174:869 S 6 '51

Sales tax; its proponents had better take a second look. G. E. Shea, jr. Barron's 31:3 Jl 16 '51

Secretary Snyder outlines proposed tax increases in statement to House ways and means committee. Comm & Fin Chr 173:626-7 F 8 '51

Should we pay as we go? abstract. S. H. Slichter. Management R 40:116-17 Mr '51

Tax bill; a national defeat. Fortune 44:81-3 S '51

Tax delay. F. Morley. Barron's 31:3 Mr 26 '51

Tax program for sustained mobilization. J. K. Butters and others. Harvard Bsns R 29:119-24 Ja '51

Tax requirements for a balanced budget. W. Lindow. Comm & Fin Chr 172:2187+ D 7 '50

Taxes and a war for freedom. L. Ware. Min Eng 3:580-1 Jl '51

Taxes and liberty. H. C. Stockwell. Am Gas Assn Proc 1950:178-84

TAXATION—United States—*Continued*
Taxes and the chemical industry; World war II tax amortization revived. R. A. Irwin. Chem & Eng N 29:2369-72+ Je 11 '51
Technical changes in the tax law. Bsns W p94+ O 6 '51
Ten year tax plan. S. J. Foosaner. Trusts & Estates 90:183 Mr '51
Viewpoint of the pulp and paper industry with regard to the federal tax program. E. W. Tinker. Paper Tr J 133:14+ Ag 24 '51
We'll pay this much as we go. Bsns W p 19-20 F 10 '51
What are our tax and debt burdens? V. J. Wyckoff. il Dun's R 59:18-20+ Jl '51
Why a defense emergency tax should wipe out excise taxes. L. Ruthenburg. Gas Age 108:20-2+ Ag 30 '51
Your new tax bill. J. H. Landman. il Dun's R 58:27-9+ N '50
See also
Corporations—Taxation
Excess profits tax
Gift tax
Income tax—United States
Tariff—United States
United States—Internal revenue, Bureau of

TAXATION, Double
How to escape double taxation in corporate liquidation; abstract. F. Youngman. J Account 90:506-7 D '50
New Canadian legislation reduces double taxation of corporate income. K. L. Carter. J Account 92:209-13 Ag '51

TAXATION, Exemption from
Assails Treasury proposals to tax municipals. A. J. Tobin. Comm & Fin Chr 173:728 F 15 '51
Charities under 1950 revenue act; suggestions for complying with new provisions. B. C. Eaton, jr. Trusts & Estates 90:220-2+, 304-8 Ap-My '51
Competition from tax exempt business. H. G. Guthmann. Comm & Fin Chr 173:161+ Ja 11 '51; Same. Edison Elec Inst Bul 19: 272-8 Ag '51
Greener pastures; Americans working abroad pay no U.S. income tax. Bsns W p94+ Je 2 '51
How agencies can avoid excess profits taxes. J. K. Lasser. Adv Agency 44:64-5+ My '51
New Revenue act closes loopholes, removes perplexities in old law, adds new ones. B. Harrow. J Account 90:479-85 D '50
Tax exempt bonds. J. S. Williams. Mag of Wall St 88:310-11+ Je 16 '51
See also
Cooperative associations—Taxation

TAXATION, Municipal. See Municipal taxation

TAXATION, State
Local tax boosts. Bsns W p78-9 F 3 '51
State tax collections in 1951. V. J. Wyckoff. Comm & Fin Chr 174:1058 S 20 '51

TAXATION of art collections
Tax laws make art hard to give; Kress Foundation gift to National gallery. il Bsns W p 117-18+ Ap 7 '51; Same cond. J Account 92:352+ S '51

TAXATION of personal property
Florida intangibles tax assessed against nonresident owner of mortgage note. Banking 43:90+ O '50

TAXATION of securities
Items for the investor's year-end tax bill. A. W. May. Comm & Fin Chr 172:2277+ D 14 '50
See also
Taxation Exemption from

TAXICABS

Radio equipment

Taxicab radio advances. Electronics 24:250 Ja '51

TAYLOR, Arthur K.
Old-timer speaks. por Inland Ptr 127:47 S '51

TAYLOR, Charles Gillies, 1883-
Heads Metropolitan Life. por Bsns W p60 D 30 '50
Sketch. Weekly Underw 164:404 F 10 '51

TAYLOR, Floyd, 1902-1951
API director, succumbs. por Ed & Pub 84:20 S 1 '51

TAYLOR, Frederick Winslow, 1856-1915
Man who analyzed work. R. Burlingame. por Advanced Management 15:7-8 D '50

TAYLOR, George William, 1901-
Portrait. Bsns W p21 O 6 '51

TAYLOR, Hugh Stott, 1890-
Princeton dean leads the field in catalytic studies. por(cover) Chem & Eng N 29:2635 Je 25 '51

TAYLOR, Reese H.
Portrait. Bsns W cover D 2 '50

TAYLOR, Telford, 1908-
Heads Small defense plants administration. por Bsns W p 165 O 6 '51

TEA
Lipton tea; nominated for packaging's Hall of fame. il Mod Packaging 24:86-92+, cover F '51

TEA industry and trade

Africa

Growing importance of Mozambique tea. For Comm W 41:20 N 6 '50

Great Britain

Tea market re-opens. Economist 160:949 Ap 21 '51

Indonesia

High prices stimulate Indonesian tea industry. For Comm W 43:18 My 7 '51

Japan

Japanese tea crop and trade. For Comm W 45:17-18 O 8 '51
Japan's tea production increases; quality good. For Comm W 41:21 N 13 '50

TEACHERS
Cincinnati street railway co. was host (and carrier) when teachers toured Cincinnati plants. Bus Transportation 29:46-7 D '50
Educating the educators taps the roots of community understanding; steps being taken to interest educators in operation of mills. M. B. Andrews. Textile World 101: 164 Ag '51
Graduate teacher. Economist 160:1279-80 Je 2 '51
Harvard and M.I.T. announce joint plan for secondary school science teachers. Eng N 146:67-8 Je 14 '51
Science fellowships for high school teachers. Gen Elec R 54:42 Mr '51
Why we hold conferences for school teachers. A. S. Mixter. Gas Age 107:35-6 F 1 '51
See also
College professors and instructors
Engineering colleges—Professors and instructors
Engineering teachers

Rating by students

Report on student-faculty evaluations. J Eng Educ 41:75-7 O '50

Salaries

City public school teachers; salary trends, 1925-1949. F. W. Mueller and E. M. Bunn. Mo Labor R 72:286-8 Mr '51

TEACHERS, Interchange of
Professorships in foreign countries. G. A. Noble. Science 113:609-10 My 25 '51

TEACHERS, Training of
Professional training of college teachers. T. H. Matthews. Science 113:466 Ap 20 '51
See also
Engineering teachers

TEACHING
Seven deadly sins of teaching. W. P. Godfrey. J Eng Educ 41:213-15 D '50
See also
Education
Employees, Training of
also subdivision Study and teaching under special subjects, e.g.
Chemistry—Study and teaching
Engineering—Study and teaching

TEACHING load
Survey of faculty teaching loads in chemical engineering. M. L. Jackson. J Eng Educ 41:552-4 My '51

TEAGLE, Walter Clark, 1878-
A.P.I. award; Teagle will be fifth recipient of Gold medal. por Oil & Gas J 49:30 N 2 '50

TECHNETIUM

Arc and spark spectra of technetium. W. F. Meggers and B. F. Scribner. bibliog J Res Nat Bur Stand 45:476-89 D '50

Magic numbers and the missing elements technetium and promethium. H. E. Suess. Phys R 81:1071-2 Mr 15 '51

Multiplets and terms in technetium spectra. W. F. Megers. bibliog J Res Nat Bur Stand 47:7-14 Jl '51

Technetium; element 43. J. C. Hackney. bibliog(55 ref) J Chem Educ 28:186-90 Ap '51

Technetium in the sun. C. E. Moore. Science 114:59-61 Jl 20 '51; Abstract. Sci Am 185: 54+ S '51

Two new chemical elements confirmed; properties revealed by optical spectra. Chem Age (Lond) 64:423-4 Mr 17 '51; Excerpts. Elec Eng 70:431 My '51; Materials & Methods 33:152+ Ap '51

Isotopes

β-Ray spectrum and the *ft* value in the second forbidden transition. S. Nakamura and others. bibliog Phys R 83:1273-4 S 15 '51

Beta-spectrum of Tc^{99}. S. I. Taimuty. bibliog Phys R 81:461-2 F 1 '51

Cross-over transition in the decay of Tc^{99m}. J. W. Mihelich and others. bibliog il Phys R 82:972-3 Je 15 '51

Half-life of the long-lived Tc^{99}. S. Fried and others. bibliog Phys R 81:741-7 Mr 1 '51

Isomeric transition of Tc^{96}. H. A. Medicus and P. Preiswerk. Phys R 80:1101-2 D 15 '50

Nuclear spin of $_{43}Tc^{99}$. K. G. Kessler and W. F. Meggers. bibliog Phys R 80:905-6 D 1 '50

Radiations from Mo^{99} and Tc^{99m}. M. E. Bunker and R. Canada. bibliog Phys R 80: 961-5 D 15 '50

TECHNICAL association of the lithographic industry (now Technical association of the graphic arts)

Annual meeting, 3d, Columbus, Ohio, May 9. Inland Ptr 127:55-6 Je '51

TECHNICAL association of the pulp and paper industry

Annual meeting, 36th, New York, Feb. 19-22. Oil Paint & Drug Rep 159:5+ F 26 '51

Annual meeting, 36th, Feb. 19-22; abstracts of papers. Tappi 34:sup32A+ Mr '51; Paper Ind 32:1305-6+, 1342-6; 33:85-7 Mr-Ap '51

Engineering conference, 5th, Cincinnati, Oct. 2-5; abstracts of papers. Tappi 33:sup57A-8A+ N '50; 34:sup58A-68A Ja '51

TAPPI as an educational force. A. E. Bachmann. Tappi 34:sup 16A+ Ap '51

TECHNICAL consultants

Why a chemical consultant? J. W. McCutcheon. Soap & San Chem 26:40-3 N '50

TECHNICAL education

Education and training of electrical technicians. Engineer 190:442 N 10 '50; Abstracts and discussion. Elec R (Lond) 147: 741-3 N 10 '50; Electrician 145:921-2 N 10 '50

Education in technology. Chem Age (Lond) 65:433 S 29 '51

Experience credit toward the professional engineer's license for technical institute study. H. P. Rodes. J Eng Educ 41:471-3 Ap '51

Human relations and the industrial scientist; a teacher's view. H. J. Leavitt. Chem & Eng N 29:1727-8 Ap 30 '51

Industrial growth and formal engineering training; the technical institute. F. T. Agthe. J Eng Educ 41:91-4 O '50

Johnny and the three R's; abstract. F. D. Fagg, jr. Chem Eng 58:259-61 Ja '51

Junior college graduates; oil technicians. J. O. Nigra. World Oil 131:60-2 N '50

Lustre or glitter? J. A. Hannah. J Eng Educ 42:18-23 S '51

Shortage of scientific man-power; importance of further education in technology. Chem Age (Lond) 65:187-8 Ag 11 '51

Staff college for scientists. Hankey. Chem Age (Lond) 65:315-16+ S 8 '51

Technical education in the United States and Great Britain; some comparisons; abstract. P. F. R. Venables. Engineer 192:233-4 Ag 24 '51

Technological education; can universities serve all the needs of industry? E. Percy. Chem Age (Lond) 63:637-8 N 4 '50

Technology and the state. D. M. Newitt. Chem & Ind p694-6 O 14 '50

Training of a technologist. F. H. Garner. Chem Age (Lond) 65:501 O 13 '51

See also

Apprentices
Chemical education
Employees, Training of
Engineering colleges
Engineering education
Forestry schools and education
Industrial education
Mining schools and education
Rubber technology—Study and teaching
Textile education
Vocational education

also Foundry educational foundation; Massachusetts institute of technology

Great Britain

Contribution of the British technical colleges to engineering education; abstract and discussion. H. L. Haslegrave. Engineering 172:169-70 Ag 10 '51

Education for industry. C. Gibb. Engineer 191:356 Mr 16 '51

Higher technological education; report of National advisory council on education for industry and commerce. Elec R (Lond) 147:790 N 17 '50

Pioneer of technical education, John Anderson. Engineering 171:76 Ja 19 '51

Rugby college of technology and arts; presentation by British Thomson-Houston company of electrical laboratory equipment. il Engineer 190:560-1 D 8 '50

Technical college. H. J. Cull. Engineer 192: 250-1 Ag 24 '51

Technical education and craftsmanship; work of the city and guilds of London institute. F. H. Page. Chem Age (Lond) 64:141-2 Ja 20 '51

Technological education; abstract. F. H. Page. Chem & Ind p374 My 12 '51

Technological education; proposed new Royal college. A. L. Johnson. Elec R (Lond) 148: 31-2 Ja 5 '51

Training of craftsmen. J. Loxham. Engineer 191:124-6 Ja 26 '51

Quebec (province)

Technical education in Quebec. W. W. Werry. il Pulp & Pa of Can 51:118-19 N '50

TECHNICAL information

New product literature. L. D. Berger, jr. Ind & Eng Chem 43:849-51 Ap '51

Report on technical information services. J Doc 7:92-112 Je '51

Translating laboratory data into new product literature. J. R. Dudley and J. M. Salsbury. Ind & Eng Chem 43:845-9 Ap '51

TECHNICAL information agency, Armed services. See Armed services technical information agency

TECHNICAL libraries

Attitude of the research worker to technical information. S. Weinberg. Aslib Proc 3:22-9 F '51

Building an effective technical library. W. E. Jorgensen and I. G. Carlson. Science 112: 736-8 D 22 '50

Facilities of the Leeds university libraries for the study of technology. B. S. Page. Aslib Proc 3:131-6 My '51

Georgia Tech starts on new library. Chem & Eng N 29:3364 Ag 13 '51

Origin and influence of major technical libraries in Philadelphia. J. R. Skeen. Franklin Inst J 250:381-90 N '50

Resources of the Leeds public libraries for the study of commerce, science and technology. E. Hargreaves. Aslib Proc 3:123-30 My '51

Role of the technical library in the research program. H. Izzo. Special Lib 42:214-15+ Jl-Ag '51

Selected reading list; a means of improving the use of periodical literature. S. Herner. Special Lib 41:324-6+ N '50

TECHNICAL libraries—*Continued*

Technical libraries, their organization and management. L. Jackson, ed. 202p $6 Special libraries assn, 31 E. 10th st, New York 3 '51

See also

Business libraries
Chemical libraries
Engineering colleges—Libraries
Medical libraries

TECHNICAL literature

See also

Chemical literature
Engineering literature
Scientific literature

TECHNICAL periodicals

See also

Engineering periodicals
Metallurgy—Periodicals

TECHNICAL products

See also

Equipment industries
Industrial market
Machinery industry

Advertising

Advertising to the scientific world; abstract. E. E. Walker. Electrician 146:730 Mr 2 '51

Hang technical copy on a news peg; Hewlett-Packard co.'s trade ads. L. F. Thomann. il Ptr Ink 236:50 S 21 '51

Steady sales increase follows publication of reference book; Vix-Syn, synthetic rubber packings. il Ptr Ink 235:40 My 18 '51

Why fiberglas tells its story with man-in-the-street talk. il Sales Management 66:48-9 Ap 1 '51

TECHNICAL publishers association

Technical publishers launch own organization. Special Lib 42:264-5 S '51

TECHNICAL services, Office of. See United States—Technical services, Office of

TECHNICAL societies

Is publicity from technical societies tabu? no, if. B. C. Hutchins and H. W. Smith, jr. Ind Marketing 35:44+ O '50

TECHNICAL workers

Indoctrination programs for technical personnel. F. C. Cutting. Am Pet Inst Proc 31 M(3):178-82; Discussion. 182-3 '51

Industry practice in training technical personnel. H. G. Vesper and D. H. Etzler. bibliog Am Pet Inst Proc 31 M(3):171-5; Discussion. 175-7 '51

Program for strategic use of scientific manpower in all-out mobilization. Pet Processing 6:262-3 Mr '51

Safety, a part of the technical man's training. L. A. Martin. Am Pet Inst Proc 31 M(3):191-3 '51

Selective service; problem of technicians and engineers. il Aero Digest 61:17-19+ N '50

Top-level government manpower board recommended by EJC commission. Mech Eng 73:441-2 My '51

See also

Aeronautic workers
Chemical workers
Electric workers
Engineers
Laboratory workers
Radio workers
Research workers

TECHNICAL writing

Design that report! J. W. Souther. J Chem Educ 28:519-20 O '51

Preparing technical material for publication; a manual for authors of college and station publications. L. A. Rose and others. bibliog Ill U Eng Exp Sta Circ 62:1-39 '51 (pa 60c)

Textbook from the publisher's point of view. E. P. Hamilton. J Eng Educ 41:589-93 Je '51

See also

Chemical writing
Engineering reports
Engineering writing

TECHNOLOGY

Adapting to technological change. Y. Brozen. bibliog J Bsns 24:114-26 Ap '51

British contribution to science and technology in the past hundred years. Duke of Edinburgh. Engineering 172:182-4 Ag 10 '51; Same abr. Engineer 192:176-8 Ag 10 '51

Nature of good teaching. R. L. Sweigert. J Eng Educ 42:29-32 S '51

Pursuit of science for utilitarian ends. J. Taylor. bibliog Chem & Ind p56-9 Ja 27 '51

Six experts tell how we can boost productivity. C. F. Rassweiler and others. Factory Management 108:68-73 O '50; Excerpt. Bsns W p81-2 O 21 '50

Technical revolution. Fortune 43:94-5 F '51

See also

Building
Ceramics
Chemistry, Technical
Concrete
Dyes and dyeing
Electric engineering
Engineering
Glass manufacture
Inventions
Machinery
Manufactures
Metallurgy
Paper making
Pottery
Printing
Radio communication
Railroad engineering
Rubber
Soap
Steel
Technical education
Textile industry

Bibliography

Technical books, 1950-1951: 100 essential titles. R. R. Hawkins. Library Journal [New York] 76:809-16 My 15 '51

Social aspects

Social impact of technological change. Y. Brozen. J Eng Educ 41:148-54 N '50

Technological change and social policy. P. Meadows. bibliog il Tech R 53:150-2+ Ja '51

Terminology

See also

Calculating machines—Terminology

TEETH

Anodic decalcification of mineralized tissue. J. De Ment and E. B. Jump. bibliog il diags Science 112:438-9 O 13 '50

Direct tissue radioautography technique applied to teeth. N. D. Martin and E. S. Slater. il Science 113:721-2 Je 22 '51

Effect of distillers' solubles containing fluorine on the development of dental enamel in swine's teeth. J. A. English. bibliog il diags Science 113:678-80 Je 15 '51

Diseases and defects

Advancement of fluoridation. H. T. Dean. bibliog Am Water Works Assn J 43:17-21; Discussion. C. R. Cox. 22-3 Ja '51

Developments in fluoridation. H. A. Faber. bibliog Water & Sewage Works 98:203-11 My '51

Effect of topically applied zinc chloride and potassium ferrocyanide on dental caries experience. R. W. Anderson and J. W. Knutson. bibliog Pub Health Rep 66:1064-6 Ag 17 '51

Fluoridation keynoted at dental conference. Pub Health Rep 66:1171-6 S 14 '51

Fluoridation of public water supplies. F. J. Maier. bibliog Am Water Works Assn J 42:1120-32 D '50

Fluoridation of public water supplies; questions and answers. il Munic Util 89:37-8+ Ap '51

Studies on mass control of dental caries through fluoridation of the public water supply. H. T. Dean and others. Pub Health Rep 65:1403-8 O 27 '50

TEFFT, C. Forrest, 1889-

C. F. Tefft, president of S.C.P.I. por Am Cer Soc Bul 29:429 N 15 '50

TEFLON

Chemlon V-ring packing, molded of Teflon. il Mod Plastics 28:148 F '51

Coaxial spacers of Teflon. il Mod Plastics 28:131 Ja '51

Flexible, corrosion resistant plastic solves gasket problems; Teflon rings and tape for use in chemical processing equipment. B. G. Staples. il Materials & Methods 32:48-9 D '50

Fluorine-containing polymer; abstract. J. F. Lontz. Chem & Eng N 29:3841 S 17 '51

Molding and extrusion of Teflon. D. D. James. diags India Rubber World 124:68-70 Ap '51

Molding the specialized plastics; Teflon tetrafluoroethylene resin. D. B. Hanson. Mod Plastics 28:88+ D '50

New jobs for Teflon. Chem W 69:23-4 S 22 '51

Target; continuous operation. il Chem Ind W 68:29-30 Ap 14 '51

TEFLON—*Continued*
Tetrafluoroethylene resin in process equipment. D. B. Hanson. Tappi 33:541-4 N '50
Volume-temperature relationship for the room temperature transition in Teflon. F. A. Quinn, jr. and others. J Ap Phys 22: 1085-6 Ag '51

TELANSERPHONE, inc.
Radio brings the doctor; Telanserphone's radio-signals received by portable device. il Bsns W p 104-5 N 11 '50

TELEGIFT, inc.
Big ad drive to launch new Telegift, inc. Ed & Pub 84:16 F 10 '51

TELEGRAPH
Automatic switching of telegraph messages. E. J. Agnew. il map diags Elec Com 27: 280-94 D '50
High-speed facsimile; High-Speed Fax. Dun's R 59:48+ S '51
Telecommunications; abstract and discussion. S. Angwin. Engineering 172:71-2 Jl 20 '51
Teleprinter signal bias meter. H. F. Wilder. il diags Elec Eng 70:703-5 Ag '51
See also
Newspapers—Telegraph service
Railroads—Telegraph

Private wire systems

Bank wire system operating to benefit of 188 banks. Bankers Mo 67:47 D '50; Am Bsns 20:47-8 D '50
Full automatic private line teletypewriter switching system. W. M. Bacon and G. A. Locke. il map diag Elec Eng 70:408-13 My '51
Push-button communications center speeds orders for U.S. Steel. il Am Bsns 21:26 Ap '51; Elec Eng 70:464-5 My '51
Wire system to link 188 banks in 54 cities. map Banking 43:110 O '50

Rates

FCC approves rate increase; ANPA objects. Ed & Pub 84:12 S 8 '51
FCC okays W.U.'s press rate increase. Ed & Pub 84:9 S 1 '51
Western Union files change in press rate. Ed & Pub 84:54 My 5 '51
See also
Newspapers—Telegraph service

Repeaters

Submerged repeaters for long submarine telegraph cables. C. H. Cramer. il diags Elec Eng 70:566-70 Jl '51

Caribbean area

Florida; communication gateway to the Caribbean. I. S. Coggeshall. bibliog map Elec Eng 70:847-51 O '51

Great Britain

Teleprinter switching. Elec R (Lond) 147:888 D 1 '50

TELEGRAPH, Carrier current
Modern telegraphic communication systems; fm carrier transmission, microwave radio relay and facsimile. I. S. Coggeshall and A. E. Frost. il map Tele-Tech 10:40-2+ Ap '51
Nation-wide frequency-modulated telegraph network. F. B. Bramhall and L. A. Smith. bibliog maps diags Elec Eng 70:338-42 Ap '51

TELEGRAPH, Submarine
Anglo-Danish cable; installation of telegraph equipment. Elec R (Lond) 147:783 N 17 '50; Electrician 145:1042 N 17 '50
Cables still carry the load. il Bsns W p38-40 Ja 20 '51
Submerged repeaters for long submarine telegraph cables. C. H. Cramer. il diags Elec Eng 70:566-70 Jl '51

TELEGRAPH agency of Soviet Union. See Tass (U.S.S.R. news agency)

TELEGRAPH companies
See also
International telephone and telegraph corporation
Western union telegraph company

Employees

Communications industries; earnings in 1948 and 1949. L. E. Lewis. Mo Labor R 71: 584-6 N '50
Communications labor uneasy. Pub Util 48: 110 Jl 19 '51
Conditions of employment in postal, telegraph and telephone services. Int Labour R 63: 537-70 My '51
Preventive strike; walkouts at Western Union protest supervisor training plan. Bsns W p36+ My 26 '51
Wage chronology no. 12; Western Union Telegraph, 1945-50. A. A. Belman. Mo Labor R 72:174-83 F '51

TELEGRAPH in business
Making the most of telegraph services. J. Brandi. Management R 39:704-6 D '50
See also
Telegift, inc.

TELEMETERING
Automatic tie line load control solves power interchange problems. C. M. Clevenger and L. E. Ludekens. il diags Elec West 107:60-2 Jl '51
BPA to record automatically flow of Columbia. D. L. Wylie. map diag Elec World 134: 95 D 18 '50
Check carrier current equipment with play back unit. T. W. Dugdale. il diag Elec World 136:136+ Ag 13 '51
Choice of telemetering systems and channels for a power system. C. K. Duff. il diags Elec Eng 70:796-801 S '51
Converter circuit for phase-shift telemetering. F. G. Willey. il diags Electronics 24: 140+ Ag '51
Cosmic-ray radiosonde and telemetering system. M. A. Pomerantz. il diags Electronics 24:88-92 Ap '51
Drop data; new way to get pilot's reactions to high-altitude ejection seat bailout. il Aviation W 54:32-3 Ja 8 '51
Field testing a microwave channel for voice communication, relaying, telemetering, and supervisory control. D. R. Pattison and others. bibliog il diags Elec Eng 69:1092-7 D '50
Flow signal transmitter. il Blast F & Steel Pl 39:716+ Je '51
High-speed recording. Tech R 53:288-9 Ap '51
How Southern California employs telemetering and remote control. A. C. Alter. il Gas Age 108:42-5+ S 13 '51
Kent air-operated receiver-recorder. il Engineer 191:770 Je 8 '51; Engineering 171:667 Je 1 '51; Metallurgia 43:302 Je '51
Linear discriminator for f-m telemetering. G. S. Sloughter and R. T. Ellis. il diags Electronics 24:113-15 Je '51
Low noise and distortion audio multiplexing equipment with high stability carrier. F. S. Beale. bibliog diags Elec Eng 69:968-73 N '50
Microwave proves dependable in action. T. A. Phillips. il Elec World 134:87+ D 18 '50
Multichannel pam-fm radio telemetering system. J. P. Chisholm and others. bibliog il diags Inst Radio Eng Proc 39:36-43 Ja '51
Operation of a telemetering system which does not use commercial power at transmitter. W. L. Masheter. diags Instruments 24:597-9 My '51
Process monitoring systems. E. J. Grace. diags Oil & Gas J 49:202+ O 5 '50; Same. il Pet Processing 5:1188-91 N '50
Pulse-width discriminator. A. A. Gerlach and D. S. Schover. il diags Electronics 24:105-7 Je '51
Push button tank gauging; Cities service pipe line co. il World Oil 132:214 My '51
Radio telemetry. M. H. Nichols and L. L. Rauch. bibliog diag R Sci Instr 22:1-29 Ja '51
Remote control pays off for reservoir system. H. A. Evans. il map diag Elec World 134:110-11 D 4 '50
Remote control system for fm stations. P. Whitney. diags Tele-Tech 10:44-5+ S '51
Remote tank gaging; New Shell system at Bakersfield station. D. H. Stormont. il Oil & Gas J 49:62-3 F 1 '51
Some design considerations in connection with the use of high speed thermometry for telemetering. V. C. Westcott. il Instruments 23:1298-9 D '50

TELEMETERING—*Continued*

Station automatically heats and ships crude, telemeters data. G. M. Wilson. il World Oil 133:213-14+ Jl '51

Supervisory control and telemetering as cost reduction tools. E. W. Head. il Iron & Steel Eng 28:83-7; Discussion. 88-90 Ja '51

Telemetered vibration data. il diags Machine Design 22:119-20 D '50

Telemetering. J. F. Brinster. Aero Digest 63: 96-9 S '51

Telemetering system for radioactive snow gage; snowfall measured in terms of radiation between slug of cobalt-60 and Geiger-Müller tube. J. A. Doremus. il diag Electronics 24:88-91 F '51

Useful dispatching tools. E. D. Nuttall. bibliog diags Pet Eng (Ref annual) 23:D31-4 Jl 15 '51

Uses of magnetic tape recording in telemetering. K. B. Boothe. Instruments 23:1186-8 N '50

Wide-range phase control with constant attenuation by adjustable impedance in a resistance-loaded bridged-tee network. M. G. Pawley. bibliog diags J Res Nat Bur Stand 45:193-200 S '50

TELEPATHY

More about telepathic communication. T. Powell. Inst Radio Eng Proc 39:969 Ag '51

Telepathic communication. R. J. Bibbero. bibliog Inst Radio Eng Proc 39:290-1 Mr '51

Telepathic communication. H. E. Hollmann. bibliog Inst Radio Eng Proc 39:841 Jl '51

TELEPHONE

Development of the telecommunication circuit. R. E. S. Soper. Inst E E Proc 98 pt 1:79-80 Mr '51

Interexchange tandem trunking in the Los Angeles metropolitan area. W. F. Pfeiffer. map diags Elec Eng 70:344-9 Ap '51

Internal temperatures of relay windings. R. L. Peek, jr. diag Bell System Tech J 30: 141-8 Ja '51

Party line telephone aids underground work. il Elec World 135:68 Ja 1 '51

Telecommunications; a brief survey and future trends. W. F. Smith. Inst E E Proc 98 pt 1:16-17 Ja '51

Telecommunications; abstract and discussion. S. Angwin. Engineering 172:71-2 Jl 20 '51

See also

Bell telephone system
Electric communication
Electric lines—Inductive interference
Mine telephone
Radio communication—Wire line connections
Radio telephone
Railroads—Telephone
Telephone, Carrier current
United States independent telephone association

Apparatus and supplies

Design of a semiautomatic gaging-and-sorting machine for telephone protector blocks. G. M. Foster. il plan diags Mech Eng 73: 713-18 S '51; Same cond. Machine Design 23:160-2+ Ag '51

Evolution of inductive loading for Bell System telephone facilities. T. Shaw. bibliog il diags Bell System Tech J 30:149-204, 447-72, 721-64, 1221-43 Ja-pt 2 O '51

Fringe attachments on telephone service. H. Bratter. Pub Util 48:69-80 Jl 19 '51

From assembly to storage automatically; handling telephone sets at Western Electric's Indianapolis plant. il diag Factory Management 109:80-1 Mr '51

Improved telephone set. A. H. Inglis and W. L. Tuffnell. bibliog il diags Bell System Tech J 30:239-70 Ap '51; Same cond. Elec Eng 70:770-5 S '51; Abstract. Electronics 24:205-6 Je '51

Metallic rectifiers in telephone power plants; abstract. D. E. Trucksess. Elec Eng 70:866 O '51

Molded plastic eliminates insert; pawl of a telephone dial. il Machine Design 23:143-4 Ja '51

Some design features of the N-1 carrier telephone system. W. E. Kahl and L. Pedersen. il diags Bell System Tech J 30:418-46 Ap '51

Telephone-answering service; ruling of Indiana public service commission. Pub Util 48:299 Ag 30 '51

Telephone that's tough; molded nylon housing. il Mod Plastics 29:95 S '51

See also

Telephone receivers

Dial telephone

See Telephone, Automatic

History

Glimpse into telephony's first 75 years. il Midwest Eng 3:6-7+ Ap '51

Seventy-five years of the telephone. W. H. Martin. il Bell System Tech J 30:214-38 bibliog(80titles, p236-8) Ap '51

Telephone and seventy-five years. Pub Util 47:380-1 Mr 15 '51

Intercommunicating systems

See Intercommunicating systems

Laws and regulations

Developments of legal interest in the telephone field. N. S. Case. Pub Util 46:608-11 O 26 '50

Fringe attachments on telephone service. H. Bratter. Pub Util 48:69-80 Jl 19 '51

Telephone-answering service; ruling of Indiana public service commission. Pub Util 48:299 Ag 30 '51

Long distance

Developments in long-distance telephony. Engineering 171:687 Je 8 '51

Englewood, N. J., telephone subscribers to get coast-to-coast dialing equipment. map Elec Eng 70:556 Je '51; Same. Franklin Inst J 252:102-3 Jl '51; Same abr. il Mech Eng 73:744-5 S '51; Excerpt. Pub Util 47:700 My 24 '51

Simplified subscriber toll dialing; abstract. E. Brooke and others. diag Elec Eng 70: 602 Jl '51

Noise

Telephone influence factor in synchronous machines. G. L. Oscarson and I. C. Benson. Elec Eng 70:422 My '51

Picture transmission

See Phototelegraphy

Radio telephone connection

Emergency wire-line to radio circuits. D. Talley. diags Electronics 24:195+ Mr '51

Operational study of a highway mobile telephone system. L. A. Dorff. il maps Elec Eng 70:236-41 Mr '51

REA's radiotelephone. Pub Util 48:234 Ag 16 '51

Telephone toll prices via radio; Peninsular telephone company adopts microwave system of transmission. Pub Util 48:111 Jl 19 '51

Rates

Another needle for the FCC. Pub Util 47:433-5 Mr 29 '51

Excess over original cost excluded from rate base. Pub Util 48:128-9 Jl 19 '51

Massachusetts telephone decision. O. Ely. Pub Util 47:706-7, 793-5 My 24-Je 7 '51

NARUC ties into a busy line; disparity between interstate and intrastate rates. Pub Util 47:237-8 F 15 '51

Partial increase approved by California public utilities commission. Pub Util 48:188-9 Ag 2 '51

Rate increases. Pub Util 47:169-70 F 1 '51

Repeaters

Life of valves with oxide-coated cathodes. C. C. Eaglesfield. bibliog il Elec Com 28: 95-102 Je '51

Negative-impedance repeater. J. L. Merrill, jr. bibliog diags Elec Eng 70:49-54 Ja '51

Submarine telephone cable with submerged repeaters. J. J. Gilbert. il diags Bell System Tech J 30:65-87 Ja '51; Same cond. plan Elec Eng 70:248-53 Mr '51; Abstract. Electronics 24:164+ Je '51

Theory of the negative impedance converter. J. L. Merrill, jr. diags Bell System Tech J 30:88-109 Ja '51

TELEPHONE—*Continued*

Statistics

Telephone statistics of the world; abstract. Pub Util 47:101 Ja 18 '51

Time service

Automatic time announcer. il diag Electronics 24:170+ Ag '51

Canada

Canadian telephone lines continue big expansions. J. Montagnes. Barron's 31:8 Jl 9 '51

Caribbean area

Florida; communication gateway to the Caribbean. I. S. Coggeshall. bibliog map Elec Eng 70:847-51 O '51

Great Britain

Inaugural address; developments in telecommunication engineering. A. J. Gill. bibliog il diags Inst E E Proc 98 pt 1:1-11 Ja '51; Abstract. Elec R (Lond) 147:565-6 O 13 '50

Turkey

Turkish telephone system. Elec R (Lond) 149:276 Ag 10 '51

TELEPHONE, Automatic

Dial telephone central office buildings for small communities. F. D. Reese and E. C. Roys. Elec Eng 70:235 Mr '51

Englewood, N.J., telephone subscribers to get coast-to-coast dialing equipment. map Elec Eng 70:556 Je '51; Same. Franklin Inst J 252:102-3 Jl '51; Same abr. il Mech Eng 73:744-5 S '51; Excerpt. Pub Util 47:700 My 24 '51

General aspects of community dial office equipment. A. Burkett. diags Elec Eng 70: 231-4 Mr '51

Motor uniselector and the technique of its application in telecommunication. W. H. Grinsted. bibliog il diags Inst E E Proc 96 pt 3:403-17 S '49; Discussion. 96 pt 3: 417-21; 98 pt 3:141-8 S '49, Mr '51

N-terminal switching circuits. E. N. Gilbert. diags Bell System Tech J 30:668-88 Jl '51

Simplified subscriber toll dialing; abstract. E. Brooke and others. diag Elec Eng 70: 602 Jl '51

Some basic concepts of translators and identifiers used in telephone switching systems. H. H. Schneckloth. bibliog diags Bell System Tech J 30:588-625 Jl '51

Step-by-step story of how Mr Smith sells a telephone system to independent telephone companies. H. C. Smith. il Sales Management 67:84-6+ Jl 15 '51

TELEPHONE, Carrier current

Automatic simplex switching for carrier systems developed. Elec Eng 70:941 O '51

Carrier current transmitter. J. Gort. il diags Radio & Tv N 45:39-41+ Ap '51

Communication system operates on fm carrier current. Automotive Ind 104:102 Ja 1 '51

Economic and engineering aspects of microwave and carrier. F. C. Krings. il diags Elec World 136:99-102 Jl 16 '51; Same. Gen Elec R 54:25-8 Jl '51

Improved transmitted carrier system for telephone lines of short or medium length. G. H. Brodie. Elec Eng 70:148 F '51

Medium-haul carrier telephone system. H. H. Smith. Elec Eng 70:112 F '51

New telephone carrier system for medium-haul circuits. R. S. Caruthers and others. il diag Elec Eng 70:692-7 Ag '51

Simplified 48-channel carrier telephone system. L. G. Erickson. Elec Eng 70:56 Ja '51

Some design features of the N-1 carrier telephone system. W. E. Kahl and L. Pedersen. il diags Bell System Tech J 30:418-46 Ap '51

Study of carrier-frequency noise on power lines; theoretical considerations and measuring techniques; abstract. R. C. Cheek and J. D. Moynihan. Elec Eng 70:701 Ag '51

Technical considerations; power company communications. R. L. Brinton. il Elec West 105:75 D '50

Transmission considerations in the co-ordination of a power-line carrier network; abstract. G. E. Burridge and A. S. Jong. Elec Eng 70:803 S '51

Trolley phone in coal mining. E. Adams. il Min Cong J 37:35-7+ Mr '51

Type N-1 carrier telephone system; objectives and transmission features. R. S. Caruthers. bibliog diags Bell System Tech J 30:1-32 Ja '51

TELEPHONE, Military. See Military telephone

TELEPHONE, Mine. See Mine telephone

TELEPHONE, Submarine

Submarine telephone cable with submerged repeaters. J. J. Gilbert. il diags Bell System Tech J 30:65-87 Ja '51; Same cond. plan Elec Eng 70:248-53 Mr '51; Abstract. Electronics 24:164+ Je '51

TELEPHONE and general trust, limited

Statement by the chairman. A. Roger. Economist 160:1265 My 26 '51

TELEPHONE answering service

Radio brings the doctor; Telanserphone's radio-signals received by portable device. il Bsns W p 104-5 N 11 '50

TELEPHONE apparatus industry

Step-by-step story of how Mr Smith sells a telephone system to independent telephone companies. H. C. Smith. il Sales Management 67:84-6+ Jl 15 '51

TELEPHONE cables

Evolution of inductive loading for Bell System telephone facilities. T. Shaw. bibliog il diags Bell System Tech J 30:149-204, 447-72, 721-64, 1221-43 Ja-pt 2 O '51

Farmers guard AT&T's cable; company-sponsored soil conservation program prevents washouts. il Bsns W p90+ S 29 '51

Interaxial spacing and dielectric constant of pairs in multipaired cables. J. T. Maupin. diag Bell System Tech J 30:652-67 Jl '51

Lepeth sheath for telephone cables. E. J. Larsen and R. B. Farrell. il diags Elec Eng 69:1014-17 N '50

Plastic telephone cables. Electrician 147:336-7 Ag 3 '51

Submarine telephone cable with submerged repeaters. J. J. Gilbert. il diags Bell System Tech J 30:65-87 Ja '51; Same cond. plan Elec Eng 70:248-53 Mr '51

Telephone cables in Denmark. Elec R (Lond) 149:255-6 Ag 3 '51; il Engineer 192:160-1 Ag 3 '51; Engineering 172:223-4 Ag 17 '51

Coaxial cables

Coaxial impedance standards. R. A. Kempf. il diag Bell System Tech J 30:689-705 Jl '51

Manufacture of coaxial cables; illustrations with text. Elec Com 28:83-9 Je '51

TELEPHONE companies

Industry faces restrictions. Pub Util 46:884 D 21 '50

See also

American telephone and telegraph company

Bell telephone system

General telephone corporation

International telephone and telegraph corporation

Employees

Communications industries; earnings in 1948 and 1949. L. E. Lewis. Mo Labor R 71: 584-6 N '50

Communications labor uneasy. Pub Util 48: 110 Jl 19 '51

Conditions of employment in postal, telegraph and telephone services. Int Labour R 63: 537-70 My '51

CIO union skirmishes with AT&T. il Bsns W p 130+ N 18 '50

IBEW makes telephone union plans; with text of resolution. Pub Util 46:764-5 N 23 '50

Finance

Sale and lease-back agreements for utilities. C. H. Ross. Pub Util 48:424-8 S 27 '51

Public relations

Fundamentals of public relations program; Bell System's program. C. W. Phalen. Comm & Fin Chr 172:2292+ D 14 '50

TELEPHONE companies—*Continued*

Safety measures

Bell's on its toes! accidents in Bell telephone companies reduced. F. R. Kappel. il Safety Maint & Prod 101.25-6+ Je '51

Safety on the hilltops; Bell System's concrete relay stations. E. S. Hannaford. il Nat Safety N 64:22-3+ Ag '51

Securities

Public utility securities. O. Ely. Comm & Fin Chr 174:343 Jl 26 '51

Recent financial data on telephone, transit, and water companies. Pub Util 47:50 Ja 4 '51 [cont monthly]

TELEPHONE company buildings

Dial telephone central office buildings for small communities. F. D. Reese and E. C. Roys. Elec Eng 70:235 Mr '51

TELEPHONE exchanges

Developments in long-distance telephony. Engineering 171:687 Je 8 '51

Interexchange tandem trunking in the Los Angeles metropolitan area. W. F. Pfeiffer. map diags Elec Eng 70:344-9 Ap '51

Telephone exchanges; open week at London establishments. Electrician 146:1924 Je 8 '51

Television transmission in local telephone exchange areas. L. W. Morrison. il diags Soc Motion Picture & Tv Eng J 56:280-94 Mr '51

Lighting

Lighting a telephone room; data sheet. J. C. Murtha and H. J. Peters. il Illum Eng 45: 613-14 O '50

TELEPHONE in business

Sale I never forgot was made by telephone. L. F. McCarthy. Ptr Ink 233:64 N 3 '50

Staff course on use of the telephone. Banking 43:44-5 Je '51

Western Union phone survey finds an elusive market; materials handling periodical builds circulation list of purchasing agents. N. L. Cahners. Ind Marketing 35:44+ N '50

See also

Salesmanship—
Telephone calls

TELEPHONE laboratories

See also

Bell telephone laboratories

TELEPHONE lines

Electrostatic induction by power lines in parallel telephone lines and at crossings. H. Klewe. Inst E E Proc 98 pt 1:121-7 Mr '51

Reduction of skin-effect losses by the use of laminated conductors. A. M. Clogston. diags Bell System Tech J 30:491-529 Jl '51; Same. Inst Radio Eng Proc 39:767-82 Jl '51

TELEPHONE receivers

Ring armature telephone receiver. E. E. Mott and R. C. Miner. il diags Bell System Tech J 30:110-40 Ja '51

Stamped circuit simplifies telephone. il Machine Design 23:132 My '51

TELEPHONE recorders

Fringe attachments on telephone service. H. Bratter. Pub Util 48:69-80 Jl 19 '51

In the modern office; remote control dictation; TeleVoice system. Credit & Fin Management 53:30 Ja '51; Same. Franklin Inst J 251:312-13 F '51; Same cond. il Elec Eng 70:174 F '51

TELEPHONE rentals, limited

Statement by the chairman. F. T. Jackson. Economist 160:1480-1 Je 16 '51

TELEPHONE service, Rural

REA on joint use of poles. Pub Util 47:853-4 Je 21 '51

REA telephone loan program rejuvenated. Pub Util 47:500 Ap 12 '51

REA telephones. Pub Util 47:852-3; 48:365-6 Je 21, S 13 '51

REA's radiotelephone. Pub Util 48:234 Ag 16 '51

Wickard answers critic; letter addressed to Commissioner Ray C. Jones. Pub Util 47: 39-40 Ja 4 '51

TELEPHONE wire

Polyethylene-nylon on assault wire. il Mod Plastics 28:63 Ja '51

TELESCOPE

Amateur astronomer. A. G. Ingalls. il Sci Am 183:60-3 N '50 [cont monthly]

Big Schmidt. A. G. Wilson. il diag Sci Am 183:34-41 D '50

Modern reflecting telescope. E. H. Linfoot. diags Engineering 171:297-8 Mr 9 '51

Servo guider for solar telescopes. F. E. Fowler and D. S. Johnson. il diags Electronics 24:118-22 My '51

74in. reflecting telescope at South Bank exhibition. il Engineer 191:814+ Je 22 '51

Mirrors

Amateur astronomer; large composite mirrors. A. G. Ingalls. diag Sci Am 184:60-3 Ja '51

High vacuum evaporated optical coatings. R. E. Frazer. Instruments 24:284-5+ Mr '51

Rating

Sky-Scope, a telescope for the amateur. il Consumers Res Bul 27:25-6 My '51

TELE-TRIP policy company

Stock offered. Comm & Fin Chr 172:1441 O 16 '50

TELETYPE

Carrier equipment modified for teletype network. Elec World 136:107-8 Jl 30 '51

Dow teletype speeds sales service. il Chem Ind W 68:30-1 Mr 10 '51

Dynamotor for aircraft teletype printer. diag Westinghouse Eng 10:255 N '50

Fast billing for fast freight; teletypewriter communication of waybills. L. Mayrisch. il Ry Age 130:39-41 My 7 '51

Full automatic private line teletypewriter switching system. W. M. Bacon and G. A. Locke. il map diag Elec Eng 70:408-13 My '51

Modern office machines speed Pennsylvania railroad freight billing. J. L. Webb. il Ry Age 130:42-4 My 7 '51

Remotely controlled pipe-line stations. S. S. Smith. diags Oil & Gas J 49:82+ O 26 '50; Same. Pet Eng 22:D19-20+ D '50

Southern California Gas uses teletype to speed customer billing. A. Rohman. il Am Gas J 174:23 Ja '51

Story set up directly from Orange bowl. Ed & Pub 84:7 Ja 6 '51

Teletyping kilowatts; load dispatching, Northwest power pool. J. Paschall. il Elec West 105:88 O '50

TELETYPESETTERS

Allentown teletypesetter operation described. D. P. Miller. Ed & Pub 84:58 Jl 14 '51

End 11-week trial run of teletypesetter. Ed & Pub 84:22 S 1 '51

Men less adept than women on tele; Mid-Atlantic mechanical conference, Reading, Pa. April 6-9. Ed & Pub 84:53-4 Ap 14 '51

600 dailies on teletypesetter circuit in 1952. R. Erwin. il Ed & Pub 84:9+ Jl 21 '51

Teletypesetter operations spread in California. Ed & Pub 84:22 F 17 '51

Three more teletype circuits begun by three services. Ed & Pub 84:14 Jl 7 '51

TELETYPESETTING

Teletypesetting course offered at Kansas state teachers school. L. Brewington. il Inland Ptr 127:33-4 My '51

TELEVISION

Book publishers, movie moguls launch anti-tv campaign. N. Keine. il Ptr Ink 233: 83+ D 15 '50

Flicker in television pictures. J. Haantjes and F. W. de Vrijer. bibliog Wireless Eng 28:40-2 F '51

High-definition black-and-white television system. diags Electronics 24:124+ Ja '51

High definition monochrome tv. il Tv Eng 1:10-11 N '50

New video recording camera. F. N. Gillette and R. A. White. il diag Soc Motion Picture & Tv Eng J 56:672-9 Je '51

New visual idiom. N. Sobel. il diags Soc Motion Picture & Tv Eng J 56:642-52 Je '51

Storing video information. A. L. Hopper. il diags Electronics 24:122-5 Je '51

Subscriber-vision system. I. Kamen. il Tv Eng 1:24+ N '50

Television at the British association for the advancement of science meeting, Edinburgh. Engineering 172:203 Ag 17 '51

TELEVISION—*Continued*

Tv distribution map. Sales Management 67: 138 S 15 '51

Television electronic pointer. il diag Electronics 24:176+ Ja '51

Tv era forces new approach. B. L. Walters. Ed & Pub 84:46 Ap 14 '51

Television film recording and editing. A. Abramson. bibliog Soc Motion Picture & Tv Eng J 56:227-31 F '51

Tv flourishes but radio has bright future. Ed & Pub 83:37 D 30 '50

Television image reproduction by use of velocity-modulation principles. M. A. Honnell and M. D. Prince. il diag Inst Radio Eng Proc 39:265-8 Mr '51

Television, 1947-1948. v 5 461p Radio corporation of America, RCA laboratories division, Princeton, New Jersey '50 ($2.50)

Television, 1949-1950. v 6 422p bibliog(p405-22) Radio corporation of America, RCA laboratories division, Princeton, New Jersey '50 ($2.50)

Tv or not tv; that's the question. I. U. Cobleigh. Comm & Fin Chr 174:598 Ag 16 '51

Television's potentialities, progress and problems. M. C. Faught. Comm & Fin Chr 173: 1325+ Mr 29 '51

35-mm recording camera photographing the television picture tube. J. Kiehl. Tv Eng 2:8 Je '51

Time to make tv an ally; television's effect on rapid transit business. il Bus Transportation 30:49-50 Ag '51

What the engineers have done to television. R. C. Sprague. Inst Radio Eng Proc 39: 596-7 Je '51

Where do people get time for tv viewing? Sales Management 66:81 Ap 15 '51

See also

Moving picture industry—Television competition

Moving picture theaters—Television

Newspapers—Television competition

Periodicals—Television competition

Bibliography

RCA technical papers, second quarter, 1950. RCA R 11:446-7 S '50

RCA technical papers, third quarter, 1950. RCA R 11:565-7 D '50

RCA technical papers, fourth quarter, 1950. RCA R 12:150-3 Mr '51

RCA technical papers, first quarter, 1951. RCA R 12:282-3 Je '51

Radio progress during 1950; television system; video techniques. Inst Radio Eng Proc 39: 389-91 Ap '51

Color

Analysis of color television; abstract. A. V. Loughren. il Tele-Tech 9:61 D '50

Analysis of synchronizing systems for dot-interlaced color television. T. S. George. bibliog diags Inst Radio Eng Proc 39:124-31 F '51

Analysis of the sampling principles of the dot-sequential color television system. diags RCA R 11:431-45 S '50

Approaches to CBS color. J. H. Battison. diags Tele-Tech 9:44-5 D '50

Big question in color tv; are newspapers ready? J. Walker. Ed & Pub 83:54 O 21 '50

Color cathode-ray tube with three phosphor bands. C. S. Szegho. il diags Soc Motion Picture & Tv Eng J 55:367-76 O '50

Color; from Tiffany's to Gimbel's basement. J. Walker. Ed & Pub 83:62 N 18 '50

Color fundamentals for tv engineers. D. G. Fink. diags Electronics 23:88-93 D '50; 24:78-83 Ja; 104-9 F '51

Color television. F. H. McIntosh and A. F. Inglis. diags Soc Motion Picture & Tv Eng J 55:343-66 O '50

Color television. N. Smith. diags Sci Am 183:13-17 D '50

Color television battle moves to Supreme court. Ptr Ink 233:67+ D 29 '50

Color tv comes closer; Paramount's new picture tube. Bsns W p24 S 29 '51

Color tv in hands of Supreme court. Tele-Tech 10:92-3 My '51

Color-tv progress. Tele-Tech 10:43 Ap '51

Color tv ruckus. Fortune 42:26+ N '50

Color television system for industry. H. R. Smith and others. il diag Elec Eng 70:517 Je '51

CBS color selection held not capricious. J. Walker. Ed & Pub 84:44 Je 2 '51

CBS color television really goes commercial. J. Walker. Ed & Pub 84:42 Je 30 '51

CBS color tv wins final court battle. Bsns W p21 Je 2 '51

Comparative analysis of color tv systems. A. V. Loughren and C. J. Hirsch. diags Electronics 24:92-6 F '51

Constructing the tricolor picture tube. il diags Electronics 24:86-8 My '51

Crispening circuit for color tv. il diags Electronics 24:85-7 S '51

Death of color tv. Bsns W p24 D 30 '50

Doctors see operating table techniques by color television. il Elec Eng 69:1134 D '50

Dual standards for television scanning. il diags Electronics 23:66-71 N '50

18-mc telecolor for surgical training. il Electronics 23:182+ D '50

Field-sequential color companion. E. Cohen and A. Easton. il diags Electronics 24:110-14 My '51

Field-sequential color television tube. il Electronics 23:216+ D '50

Filters for color television. J. W. Christensen. il Mod Plastics 28:85-6 Ag '51

How to program for color television. F. Rickey. il Adv Agency 44:74-5+ Ja '51

How will admen count the house in split tv? J. Walker. Ed & Pub 84:34 Jl 14 '51

Improved RCA color tv. il Tele-Tech 10: 31+ Ja '51

Is CBS stuck with color? il Bsns W p49-50+ O 21 '50

JTAC color television system comparison table. Tele-Tech 10:33+ Ap '51

Kodachrome pictures to illustrate spectrum-saving property of mixed-highs system of color television. il(cover) Electronics 23: 122 D '50

Latest color television developments. il diags Tele-Tech 10:28-9+ Jl '51

Motion pictures and television. V. K. Zworykin. Soc Motion Picture & Tv Eng J 55: 562-6 D '50

Picture generator for color television. R. P. Burr and others. il diags Electronics 24: 116-19 Ag '51

Plans for compatible color television; Ad Hoc committee of NTSC proposes broad standards for composite system. diags Electronics 24:90-3 Ag '51

Progress in dot-sequential color tv. il diag Electronics 24:80-1 F '51

Quality of color reproduction. D. L. MacAdam. bibliog diags Inst Radio Eng Proc 39:468-85 My '51; Same. Soc Motion Picture & Tv Eng J 56:487-512 My '51

Radar jamming tube to serve as transmitter for color television; reflex Resnatron. Mech Eng 73:581 Jl '51

RTMA replies to FCC on color video. Electronics 23:134+ N '50

Radio-tv service industry news. Radio & Tv N 46:116+ S '51

Service implications of color tv. Radio & Tv N 46:128-9 Ag '51

Simulating a CBS color signal. M. Barlowe. il diags Radio & Tv N 46:43-5 S '51

Simultaneous systems. A. C. Schroeder. Electronics 24:154, 318+ Mr '51

Spectrum utilization in color television. R. B. Dome. diags Gen Elec R 54:18-22 Je '51

Subtractive color tv. I. Kamen. diags Tv Eng 1:12-13+ O '50

Supreme court refuses to upset Commission decision on color television. Pub Util 48:192-3 Ag 2 '51

Supreme court's color tv decision favors CBS, poses some questions. Elec World News ed 135:11 Je 11 '51

Synchronizing the color wheel. W. H. Buchsbaum. il diags Radio & Tv N 46:43-5+ O '51

Tv color opponents explain all in ad copy. N. Kelne. il Ptr Ink 233:85+ O 27 '50

Tv has triple trouble. il Bsns W p25 N 25 '50

Tv is big business; RCA tells it to three judges. J. Walker. Ed & Pub 83:50 N 11 '50

Tv pictures in color. N. Chalfin. il diags Radio & Tv N 46:38-40+ Ag '51

Tentative color-tv specifications. diag Tele-Tech 10:39+ S '51

TELEVISION—Color—*Continued*

Voters and FCC's color-tv order; an open letter to the members of Congress. il Tele-Tech 9:25-7 D '50

Washington sees CBS color-tv with scanning drums. Tele-Tech 10:76 Je '51

Your stake in the color decision. M. S. Kiver. il diag Radio & Tv N 44:65+ N '50

History

Blow for youngsters in television almanac. Ed & Pub 83:38 D 23 '50

Dunlap's radio and television almanac. O. E. Dunlap, jr. 211p $4 Harper & brothers, 49 E. 33d st, New York 16 '51

Industrial applications

Can industry use television? il plan Fortune 44:120-3+ S '51

Color television system for industry. H. R. Smith and others. il diag Elec Eng 70:517 Je '51

Handling scrap by remote control; television screen shows inside operator progress of car loading outside; Fisher Body plant. il Nat Safety N 63:46 Ja '51; Mill & Factory 48:148+ Ja '51; Safety Maint & Prod 101:52-3 Mr '51; Automotive Ind 103:47+ D 15 '50

Steel pouring viewed at distance; wired television. il Steel 128:78 Ap 23 '51; Nat Safety N 63:42 Je '51; Elec World 135:114 Je 4 '51; Mech Eng 73:510 Je '51; Mill & Factory 49:138 S '51

Television in industry. il Tv Eng 1:8 N '50

Television in industry; applications in the steel plant. J. A. Good. il diags Iron & Steel Eng 28:107-10; Discussion. 110-11 Mr '51

Tv watches smoke emission at Waterside. il Elec World 136:136 S 10 '51

See also
Sales conventions—Television conventions

Medical uses

Can industry use television? il plan Fortune 44:120-3+ S '51

Medical diagnosis possible over tv with new X-ray machines. Elec Eng 70:89 Ja '51

Photographic aspects

Image graduation, graininess and sharpness in television and motion picture systems. O. H. Schade. bibliog il diags Soc Motion Picture & Tv Eng J 56:137-77 F '51

Next time fit the animation to the sound; N. W. Ayer exhibit; tv commercials on films. B. Tolk. il plan Ptr Ink 236:38-40 Jl 6 '51

Perspective distortion in tv pictures. E. C. Lloyd. il diag Tv Eng 2:12-15 Ja; 18-22 F '51

Some comparative factors of picture resolution in television and film industries. H. J. Schlafly. Inst Radio Eng Proc 39:6-10 Ja '51; Same. bibliog Soc Motion Picture & Tv Eng J 56:44-51 Ja '51

Tone rendition in photography. W. T. Wintringham. Inst Radio Eng Proc 38:1284-7 N '50

Video system design; the gray scale. F. G. Albin. diags Tv Eng 2:8 My '51

Program guides

Media man's viewpoint; tv program guides. D. B. Arnold. Adv Agency 44:82 F '51

Scientific applications

Range and power of light microscope extended by tv. Elec Eng 70:371 Ap '51

Stereo television at Argonne laboratories for viewing atomic-energy experiments at extreme distances. Electronics 23:126+ N '50

Televised microscopy. il Tv Eng 2:8 Ja '51

Television as research tool; Lewis flight propulsion laboratory. F. A. Friswold. il Electronics 23:122+ N '50

Sound transmission

Interference effects in pulse-width modulation; television sync-pulse sound system. W. E. Ingham. bibliog plans diags Wireless Eng 27:241-56 O-N '50

New television studio audio console. R. W. Byloff. il diags RCA R 12:211-19 Je '51

Television-link sound diplexer. L. Staschover and H. G. Miller. il diag Elec Com 28:108-9 Je '51

Tv sound diplexer for studio-transmitter links. L. Staschover and H. G. Miller. il diag Tele-Tech 10:34-5+ Mr '51

Standards

Dual standards for television scanning. il diags Electronics 23:66-71 N '50

Standards on television; methods of measurement of electronically regulated power supplies, 1950. diags Inst Radio Eng Proc 39:29-35 Ja '51 (reprints 75c)

Standards on television; methods of measurement of time of rise, pulse width, and pulse timing of video pulses in television, 1950. bibliog diags Inst Radio Eng Proc 38:1258-63 N '50 (reprints 75c)

Study and teaching

Unit chassis system; technique used to facilitate television engineering instruction. B. E. Arneson and W. A. Van Zeeland. il Radio & Tv N 45:73-4 Je '51

Denmark

Progress in television, Denmark. For Comm W 45:22 O 8 '51

Latin America

Television cities in Latin America; table. Adv Agency 44:101 O '51

Tv in Latin America. A. M. Martinez. il Adv Agency 44:105-6+ O '51

TELEVISION, Stereoscopic

Stereo television at Argonne laboratories for viewing atomic-energy experiments at extreme distances. Electronics 23:126+ N '50

Stereo-television in remote control; electric manipulators at the Argonne national laboratory. H. R. Johnston and others. il diags Elec Eng 69:1058-62 D '50; Same cond. Electronics 24:120+ Ja '51; Excerpts. Soc Motion Picture & Tv Eng J 56:75-6 Ja '51

TELEVISION advertising

Amos 'n' Andy hassle won't stop tv show. W. R. Bruner. il Ptr Ink 236:30 Jl 20 '51

Are tv programs overcommercialed? T. H. Thompson. Ptr Ink 235:98 My 18 '51

Are we making the right approach to television? W. Weir. Ptr Ink 235:37-8 Ap 13 '51

ANA members told afternoon tv gains. R. B. McIntyre. Ed & Pub 84:32 Ap 7 '51

Astronomy professor may devote full time to delivering commercials on television. Ptr Ink 234:74 Mr 2 '51

Chevrolet sponsors a tv sportscast series. W. H. Case; L. Arries. Adv Agency 44:62-3+ Ja '51

Co-op tv program to help independent merchant may prove talent mine. il Ptr Ink 233:32 D 1 '50

Country-wide view of coverage by operating tv stations. map Sales Management 66:54 Ja 15 '51

Designs package on video. il Ptr Ink 233.42 N 10 '50

FCC to defrost tv without oral current. J. Walker. Ed & Pub 84:49 Ag 4 '51

Handy kit of facts about tv. I. Graham. Adv Agency 44:62-3+ O '51

How about video for utility companies? T. Armstrong. il Sales Management 65:84+ N 1 '50

How tv aids poster remembrance. M. Harper. Adv Agency 44:82+ My '51

How to make tv commercials better at less cost; put more sell and less production into the act. J. R. Kern. il Ptr Ink 233:26-7 D 15 '50

How to step up your promotional tempo; Congoleum-Nairn. M. Beuick. il Ptr Ink 236:40-1 Jl 27 '51

Is tv a mass and/or class medium? G. Seldes. Ptr Ink 236:43-4 S 7 '51

Jobber says television music show has doubled gallonage within year; Clipper oil co. Nat Pet N 43:54 Ja 24 '51

Kiddies; are they now our number one pressure group? J. H. Collins. il Sales Management 67:60+ Ag 15 '51

Likes and dislikes about merchandising film spots. Sales Management 67:88 Ag 1 '51

TELEVISION advertising—*Continued*

Medicine men are back, on tv and radio. E. B. Weiss. Ptr Ink 235:35 Ap 27 '51

Network? agency? packager? which should produce your tv show? C. Adams. Ptr Ink 236:48-9 S 21 '51

New light on the legal headaches of the advertising agency; what about a Kefauver show? D. Miller. Ptr Ink 235:36-7 My 11 '51

New tv show is public relations man's dream come true; Richfield Oil gives television tour of plants to potential customers. L. F. Thomann. il Ptr Ink 235:44-5 Je 22 '51

Next time fit the animation to the sound; N. W. Ayer exhibit; tv commercials on films. B. Tolk. il plan Ptr Ink 236:38-40 Jl 6 '51

Now industry telecasts its story. T. Armstrong. il Sales Management 66:45-6+ Ap 15 '51

Pitchman proves point, gets boot from video. A. Rodner. Ed & Pub 84:58 F 10 '51

Product demonstration; how it pulls direct orders for tv advertisers; dozen case histories. T. Armstrong. il Sales Management 65:70+ D 1 '50

Radio or television? E. E. Sundquist. Adv Agency 44:56-7+ Jl '51

Realism in the refrigerator, or give your ads that lived-in look. F. Burgess. Adv Agency 44:53 Ag '51

Reps welcome tv competition for ad dollars. H. J. Gediman. Ed & Pub 84:16 Ap 28 '51

Shoe manufacturers, retailers add tv schedules, boost over-all advertising prospects for '51. M. F. Harris. Ptr Ink 233:114 N 10 '50

So you're thinking about television. G. J. Watts, jr.; R. M. Thomason. il Banking 43:33-8 O '50

Subscription tv gets an interested audience. J. Walker. Ed & Pub 84:58 Je 9 '51

Televised Lucky Strike Hit Parade's rating zooms. B. Tolk. il Ptr Ink 233:68+ D 29 '50

Tv ad presentation. E. D. Madden. Ed & Pub 84:56 Mr 10 '51

Television and radio; $120 million for tv, $600 million for radio in '51. il Ptr Ink 233:37 D 29 '50

Tv as an advertising medium. N. F. McEvoy. Adv Agency 44:67+ Jl '51

Tv at the crossroads; technical as well as international difficulties. P. Langhoff. Adv Agency 44:52-3+ Ja '51

Tv looks terrific. il Bsns W p27 Je 30 '51

Television techniques. L. Winslow. Am Gas Assn Proc 1950:262-5

Ten top tv commercials. Adv Agency 44:16+ Jl '51

They made a painting come to life; Rockwell advertisement reconstructed for television. il Ptr Ink 236:55 S 7 '51

This tell-all sales manual goes along on every call; tv time buyers told Edward Petry & co. what kind of information they wanted. il Sales Management 67:94+ Ag 1 '51

Warns against cutting dailies budget for tv. A. B. Sikes. Ed & Pub 84:30 Ap 21 '51

Westinghouse nets these returns from its $2,300,000 tv show. J. G. Baird. il Sales Management 66:42-4 Je 15 '51

What has tv done to other media? Sales Management 67:45-6+ Jl 15 '51

What kind of sales control system in selling intangibles? CBS' sales control system. il Sales Management 65:102+ D 15 '50

What's wrong with tv typography today? J. M. Secrest. il Ptr Ink 236:26-7 Ag 31 '51

Which ad pulled best? il Ptr Ink 233:33+ D 8 '50

See also

Advertising—Television tie-in

Advertising agencies—Television departments

Copy

How to get better tv copy. E. Lessere and H. Gunter. Adv Agency 44:62-3+ Jl '51

Tv copy calls for simple salesmanship; it's personal selling on a house-to-house basis. B. Foreman. il Ptr Ink 234:25-6+ Ja 26 '51

Cost

High cost of tv laid to networks' control. J. H. S. Ellis. Ed & Pub 84:30 Ja 20 '51

Kudner blast at tv nets draws silence except Du Mont's full approval. Ptr Ink 234:77+ Ja 19 '51

Measurement

Hooper starts new survey service on brand use with city-by-city index among radio and television homes. D. Bruner. Ptr Ink 234:69+ Ja 5 '51

How we live on 69 hours a day; or (the outlook for research was never so rosy). L. M. Hughes. Sales Management 65:88-92 D 15 '50

Let's end the confusion in radio and tv audience research; ratings laboratory proposed. E. L. Deckinger. Adv Agency 44:64-5+ S '51

Who will pick a basic measurement for radio and tv? S. E. Gill. Ptr Ink 236:48+ S 14 '51

Premium offers

Close-ups of low budget tv shows that bring high viewer response. T. Armstrong. il Sales Management 66:92+ Ja 15 '51

Research

Agency makes fourth Videotown study. il Adv Agency 44:70-2+ Ag '51

Split sponsorship

See Television advertising, Cooperative

Testing

How to test tv today. B. Foreman. il Ptr Ink 235:42-4 Je 15 '51

What does your package look like on tv? B. Foreman. il Ptr Ink 235:36-7 My 18 '51

TELEVISION advertising, Cooperative

Split sponsorships sometimes confuse the public. E. B. Weiss. Ptr Ink 236:47 Ag 10 '51

TELEVISION aids to aviation

Flight-test video. Aviation W 53:35 O 30 '50; Mech Eng 72:993-4 D '50

TELEVISION antennas

Aerial control; cellulose acetate remote-control box. il Mod Plastics 28:134 D '50

Antenna installation for stratovision airplanes. il Electronics 24:196+ F '51

Community tv antenna system increases station coverage. Elec Eng 70:942 O '51

Designing the Bridgeport uhf antenna. R. M. Scudder. il diags Electronics 23:76-80 N '50

Designing world's highest tv antennas; installation on Empire State building. J. H. Battison. il diags Tele-Tech 10:34-5+ F '51

Directional operation planned for KRON-TV. R. A. Isberg. il map Tele-Tech 10:26-7+ Jl '51

Empire State story. Tv Eng 2:8-9 Ap '51

Engineering a super-gain tv antenna. M. E. Hiehle. il diags Tv Eng 2:16-18+ My; 18-20+ Je '51

Horn antennas for television. D. O. Morgan. il diag Electronics 24:84-5 O '51

How safe is your tv antenna? abstract. Weekly Underw 163:1256 D 2 '50

How tv came to Panther valley; community aerial and multiple outlet system solves problem. E. D. Lucas, jr. il diag Radio & Tv N 45:31-4+ Mr '51

Installation hazards of television aerials. diags Rough Notes 94:38+ O '51

London-Birmingham television radio-relay link. R. J. Clayton and others. il Engineering 171:477-9 Ap 20 '51

Multiple-tv installation in Washington. il Radio & Tv N 45:126 Je '51

Novel tv antenna installation overcomes mountain terrain. A. E. Combs. il Radio & Tv N 45:57+ Ap '51

Practical considerations in the use of television super turnstile and super-gain antennas. H. E. Gihring. il diags RCA R 12:159-76 Je '51

Radiation from wide-angle conical antennas fed by a coaxial line. C. H. Papas and R. King. diag Inst Radio Eng Proc 39:49-50 Ja '51

Sidefire helix uhf-tv transmitting antenna. L. O. Krause. il diags Electronics 24:107-9 Ag '51

Simplified antenna-tuning technique. Tv Eng 2:7 Jl '51

TELEVISION antennas—*Continued*

Survey of television antennas. A. Smolen. il diags Radio & Tv N 44:31-4+ D '50

Tv receiving antenna research, design and production. R. G. Peters. il Tv Eng 2:8-10 F '51

Television totem pole; 222-foot structure atop Empire State building. F. G. Kear and O. B. Hanson. il map diag Electronics 24:66-70 F '51

Tilting of antenna increases uhf tv station signal strength. il Elec Eng 70:651 Jl '51

Yagi antenna. H. Harris. il diags Radio & Tv N 46:66-7+ O '51

Testing

Tv receiving antenna measurements. K. H. Lippitt. il Electronics 24:164+ Ja '51

TELEVISION apparatus

Electrical and allied developments during 1950; electronics. G. Bartlett. il Gen Elec R 54:47-9 Ja '51

Experimental utilization of tv equipment in navy training film production. J. S. Leffen. Soc Motion Picture & Tv Eng J 57:15-17 Jl '51

Linear phase shift video filters. G. L. Fredendall and R. C. Kennedy. il diags RCA R 11:418-30 S '50

Methods of developing sweep and marker generator signals. C. H. Brown. il diags Radio & Tv N 46:48-9+ Ag '51

New radio-tv and communications products at IRE show. il Tele-Tech 10:44-7, 56+ Ap '51

New tv products on the market. il Published in monthly numbers of Radio and television news

New trends in component design. R. G. Peters. Tv Eng 2:14+ My '51

Rooter for video signals. B. M. Oliver. diags Inst Radio Eng Proc 38:1301-5 N '50

Silicones in tv. M. C. Hommel. il Tv Eng 2:22-3 Jl '51

Tv field equipment maintenance. J. B. Ledbetter. il Tv Eng 2:20-1+ Jl '51

Television waveform display. K. R. Sturley. il diags Wireless Eng 28:261-5 S '51

See also

Television antennas
Television cameras
Television receiving apparatus
Television transmitters

Exhibitions

Technical services; Radio show, London, Aug. 28-Sept. 8. Engineer 192:269 Ag 31 '51

Manufacture

Beryllium disease from the ceramic industry; smoothing off beryllium oxide beads used for television insulators. P. W. Reynolds. A M A Archives Ind Hygiene & Occup Med 3:575-8 Je '51

Liquid resin curing in component manufacture. R. G. Peters. Tv Eng 2:18-19+ Ag '51

Mechanized production and unitized construction. R. G. Peters. il Tv Eng 2:18-20 Ap '51

TELEVISION apparatus industry

Can industry use television? il plan Fortune 44:120-3+ S '51

Conservation of critical materials. il Electronics 24:84-7 Ap '51

Dealers; reluctant speculators; unwilling to absorb more stock. Bsns W p81-2 D 2 '50

Dealers tell Du Mont how they sell the television line. Sales Management 65:45-6 N 1 '50

Don't blame color; drooping sales. Bsns W p84 N 18 '50

History and problems of television industry. R. A. Graver. Comm & Fin Chr 172:10-11+ sec 2 O 19 '50

News by commodities; radio and television. For Comm W 42:24+ Mr 19; 43:21 My 7; 44:21-2 Jl 23; 22 Ag 20 '51

Prospects in television industry. B. Abrams. Comm & Fin Chr 173:2559 Je 21 '51

Sale I never forgot; RCA promotes competition in television. F. M. Folsom. il Ptr Ink 233:67+ N 24 '50

Set makers censured for malpractices. Tv Eng 2:5 Jl '51

Set makers; television manufacturers look to sales pick-up later this year. A. Glenn. Barron's 31:11 Ap 9 '51

Stress is on the trade-up in retail sales training; Hoffmann radio corp. L. F. Thomann. il Ptr Ink 235:36-7 Ap 20 '51

Tv auction; dealers hate it. il Bsns W p20 My 26 '51

Tv has triple trouble. il Bsns W p25 N 25 '50

Television; its investment aspects. R. D. Siragusa. Comm & Fin Chr 172:2435+ D 21 '50

Television output; short cutbacks ahead, but metal substitutes may ease blow. A. Glenn. Barron's 31:9+ Ja 29 '51

Tv set manufacturers and retailers set up trade-ins, hold auctions to cut inventories. Ptr Ink 235:318 My 25 '51

Tv slump. il Bsns W p86+ My 5 '51

Advertising

Ad says children need tv; public calls admen addled. L. Farrant. Ed & Pub 83:5+ N 25 '50

Ads pegged to hot tv news help establish the Raytheon brand. W. L. Dunn. il Sales Management 66:44-6 Ja 1 '51

Ad-viser; advertising can build your radio and television business. I. Settel. Radio & Tv N 44:37+ S; 108+ O; 178-9+ N; 74+ D '50; 45:112+ Ja; 144-6 F; 164-6 Mr '51

Good taste in advertising; campaign by American television dealers and manufacturers. S. R. Bernstein. Harvard Bsns R 29:42-50 My '51

Product on a pedestal; how to build a reputation for quality on a small budget; Du Mont television sets. il Ptr Ink 234:36-7 Mr 30 '51

Sales aids. H. Becker. il Radio & Tv N 46:68-9+ O '51

Starch reports best-read advertisements. il Adv Agency 44:66-7 Ag '51

Television makers' ad campaign revised as protests mount over snob appeal. B. Tolk. il Ptr Ink 233:105+ N 24 '50

That roar on tv ad swell for newspapers. T. S. Irvin. Ed & Pub 83:61 N 25 '50

They made a painting come to life; Rockwell advertisement reconstructed for television. il Ptr Ink 236:55 S 7 '51

Tie-ins with circus and radio show are putting the spotlight on Emerson. il Ptr Ink 236:42 Jl 6 '51

Directories

Station and studio equipment directory. Tele-Tech 10:85-8+ S '51

Finance

Radio-tv manufacturers' profits 1946-1950. R. C. Sprague. Tele-Tech 10:50 Ja '51

Securities

Changed outlook for television; with data on leading manufacturers. G. W. Mathis. Mag of Wall St 88:194-6+ My 19 '51

Radio-tv stock price analysis; price ranges of 115 radio-tv and communications stocks 1945-1951, with dividends paid and per cent yield; tabulation. Tele-Tech 10:80-1 F '51

Tv outlook brightens up. Bsns W p 126+ My 5 '51

Statistics

Radio-tv civilian and military production; tabulations and chart. Tele-Tech 10:18-19 Ja '51

Great Britain

Television prospect. Economist 161:529-30 S 1 '51

Television's half-million. Economist 159:1027 D 9 '50

TELEVISION apparatus on aircraft

Antenna installation for stratovision airplanes. il Electronics 24:196+ F '51

TELEVISION authority

Television networks are pretty well surrounded by A.F. of L. performers. G. Heller. Fortune 43:48 Ja '51

TELEVISION broadcasting

Back projection in B.B.C. television production. Engineer 191:829 Je 22 '51

Ford in tv's future, with expert at wheel; Television-radio workshop. J. Walker. Ed & Pub 84:49 Ag 11 '51

TELEVISION broadcasting—*Continued*

Investigation of ultra-high-frequency television transmission and reception in the Bridgeport, Connecticut area. R. F. Guy. il maps diags RCA R 12:98-142 Mr '51

Polycasting. R. M. Wilmotte. diags Inst Radio Eng Proc 39:740-52 Jl '51

Principles of polycasting; use of many low power stations in lieu of one large unit. R. M. Wilmotte. diags Tele-Tech 10:36+ Ja '51

Shooting a close up. W. L. Stuart. il Radio & Tv N 45:39+, cover My '51

Survey of foreign television; status, standards, receivers in use, etc.; table by country. For Comm W 44:25-6 S 17 '51

Telecasters; economic picture still cloudy, but progress is unimpeded. J. S. Bowen. Barron's 31:15-16 Ap 9 '51

Video special-effects system. E. M. Gore. il diags Tv Eng 1:14-16+ O '50

Video utilization, an introduction and definition of the art. R. L. Garman. Inst Radio Eng Proc 39:4-5 Ja '51

Amos 'n' Andy program

Amos 'n' Andy hassle won't stop tv show. W. R. Bruner. il Ptr Ink 236:30 Jl 20 '51

Negro leader looks at tv race problem. W. White. Ptr Ink 236:31 Ag 24 '51

Tv bumps into the Negro problem; sociologist looks at Amos 'n' Andy controversy. A. M. Rose. il Ptr Ink 236:36-7+ Jl 20 '51

Court news

Electronic journalism debate is enlightening. J. Walker. Ed & Pub 84:55 Je 23 '51

Educational programs

Analysis of television programs. D. W. Smythe. Sci Am 184:15-17 Je '51

Educational opportunities in television. F. B. Hennock. Comm & Fin Chr 173:1131+ Mr 15 '51

Siberia for culture? G. Seldes. il Ptr Ink 234:33-5+ Mr 9 '51

History

Television broadcasting in the United States, 1927-1950. D. G. Fink. Inst Radio Eng Proc 39:116-23 F '51

Moving pictures

Continuous film scanner for tv. il diags Electronics 24:114-16 Jl '51

Image gradation, graininess and sharpness in television and motion picture systems. O. H. Schade. bibliog il diags Soc Motion Picture & Tv Eng J 56:137-77 F '51

Image tubes and techniques in television film camera chains. R. L. Garman and R. W. Lee. bibliog diags Soc Motion Picture & Tv Eng J 56:52-64 Ja '51

Motion picture production for television. J. Fairbanks. il Soc Motion Picture & Tv Eng J 55:567-75 D '50

National Board films appear much on tv. Nat Underw 55:16 S 6 '51

New all-purpose film leader. C. L. Townsend. il Soc Motion Picture & Tv Eng J 56:562-7 My '51

Now industry telecasts its story. T. Armstrong. il Sales Management 66:45-6+ Ap 15 '51

Orthogam amplifier. C. L. Townsend and E. D. Goodale. il diags RCA R 11:399-410 S '50; Excerpts. Soc Motion Picture & Tv Eng J 56:76-8 Ja '51

Practical use of iconoscopes and image orthicons as film pickup devices. K. B. Benson and A. Ettlinger. Soc Motion Picture & Tv Eng J 57:9-14 Jl '51

Some comparative factors of picture resolution in television and film industries. H. J. Schlafly. Inst Radio Eng Proc 39:6-10 Ja '51; Same. bibliog Soc Motion Picture & Tv Eng J 56:44-51 Ja '51

Techniques for the production of electronic motion pictures. E. A. Hungerford, jr. Soc Motion Picture & Tv Eng J 57:18-22 Jl '51

Television film recording and editing. A. Abramson. bibliog Soc Motion Picture & Tv Eng J 56:227-31 F '51

Television films adapt tv techniques. J. H. Battison. il diag Tele-Tech 10:38-9+ Je '51

Television in cinemas. Economist 160:288 F 3 '51

Tv recording; pickup and reproduction factors; abstract. G. E. Hamilton. Tv Eng 2:6 Ap '51

Multiple outlet system

How tv came to Panther valley; community aerial and multiple outlet system solves problem. E. D. Lucas, jr. il diag Radio & Tv N 45:31-4+ Mr '51

News

Electronic journalism debate is enlightening. J. Walker. Ed & Pub 84:55 Je 23 '51

If it's public event should tv be there? J. Walker. Ed & Pub 84:26 Mr 3 '51

Local issues and people on Chicago press parley. Ed & Pub 84:58 S 8 '51

New concepts of television technique will result from the Kefauver show. G. Seldes. il Ptr Ink 235:33-5 Ap 20 '51

Senate probe stopped New York's clock. il Bsns W p21 Mr 24 '51

Tv shows stimulate newspaper reading. J. Walker. Ed & Pub 84:46 Jl 21 '51

Video news shows built to fit advertiser's purse. R. Oberlin. Ed & Pub 84:38 F 3 '51

WPIX takes bow (no $) for a reportorial job. J. Walker. Ed & Pub 84:51 Mr 24 '51

Performers

See also
Muir, Jean

Phonevision

Phonevision; McDonald figures it has a future. E. F. McDonald. Sales Management 66:45 Je 15 '51

Rave reviews greet phonevision's debut in 90-day Chicago test. H. E. Green. Ptr Ink 234:79+ Ja 19 '51

Political conventions

Who'll pay for tv's biggest show? Republican and Democratic conventions. Bsns W p21 Ag 25 '51

Programs

Analysis of television programs. D. W. Smythe. Sci Am 184:15-17 Je '51

What makes the top ten tv shows tick? C. Adams. il Ptr Ink 236:29-31 Ag 24 '51

See also
Newspapers—Television program listing

Sports programs

Chevrolet sponsors a tv sportscast series. W. H. Case; L. Arries. Adv Agency 44:62-3+ Ja '51

College tv plan for '51 football. W. Byers. Ed & Pub 84:66 Ap 28 '51

Get your megaphone, television age is here. J. Walker. Ed & Pub 84:52 S 22 '51

Sports and tv; what next? Bsns W p24 Je 16 '51

Tv disrupts sports business. il Bsns W p49-50+ Ja 27 '51

Tv may cut sports attendance, but there are dividends. Ptr Ink 233:108 N 24 '50

Standards

Video levels in tv broadcasting. J. H. Roe. il Tele-Tech 10:45-7+ Ag '51

War uses

Radio's job in civil defense. J. H. Battison. il diags Tele-Tech 10:36-8+ Ap '51

Canada

Canada to establish tv stations. For Comm W 43:22 Je 11 '51

Cuba

Cuban tv chain planned by Union radio-television, S.A. For Comm W 44:23 Jl 2 '51

Denmark

Continuation of Danish experimental tv station. For Comm W 45:26-7 O 8 '51

Egypt

Experimental television broadcasts held in Cairo. For Comm W 44:23 Jl 2 '51

Germany

U.S. video counters Berlin red rally; illustrations with text. Bsns W p 158+ S 8 '51

TELEVISION, broadcasting—*Continued*

Great Britain

Conspicuous consumption; BBC plans. Economist 159:1136-7 D 23 '50

London-Birmingham television radio-relay link. R. J. Clayton and others. il diags Engineering 171:447-9, 477-9 Ap 13-20 '51

Report of Broadcasting committee. map Wireless Eng 28:54-5 F '51

Television in Britain. il Electronics 24:182+ My '51

Television progress in the United Kingdom. For Comm W 44:22 Ag 20 '51

Scotland

Kirk O'Shotts television transmitting station. Engineer 191:863 Je 29 '51

TELEVISION cables

Coaxial spacers of Teflon. il Mod Plastics 28:131 Ja '51

Coaxial television cable. Elec R (Lond) 148: 755 Ap 13 '51

Inaugural address; developments in telecommunication engineering. A. J. Gill. il diags Inst E E Proc 98 pt 1:6-8 Ja '51; Abstract. Elec R (Lond) 147:565-6 O 13 '50

Local wire video television networks. C. N. Nebel. il diags Elec Eng 70:130-5 F '51

Manufacture of coaxial cables; illustrations with text. Elec Com 28:83-9 Je '51

Television transmission in local telephone exchange areas. L. W. Morrison. il diags Soc Motion Picture & Tv Eng J 56:280-94 Mr '51

Testing

Fluoroscopic co-axial cable test. R. M. Kreuger and H. M. Neben. il diags Tele-Tech 9:41-3+ D '50

TELEVISION cameramen

Television cameraman. R. Bretz. il Soc Motion Picture & Tv Eng J 56:378-85 Ap '51

TELEVISION cameras

Can industry use television? il plan Fortune 44:120-3+ S '51

Design of a television camera channel for use with the C.P.S. Emitron. E. L. C. White and M. G. Harker. bibliog il diags Inst E E Proc 97 pt 3:393-408; Discussion. 408-13 N '50

Iconoscope electro-optical shutter for high-speed photography. H. A. Prime and R. C. Turnock. bibliog il diag Inst E E Proc 97 pt 2:793-6 D '50

Image tubes and techniques in television film camera chains. R. L. Garman and R. W. Lee. bibliog diags Soc Motion Picture & Tv Eng J 56:52-64 Ja '51

Impedance changes in image iconoscopes; methods of automatic compensation. J. E. Cope and R. Theile. bibliog il diags Wireless Eng 28:239-47 Ag '51

Light-transfer characteristics of image orthicons. R. B. Janes and A. A. Rotow. il diags RCA R 11:364-76 S '50

Perspective distortion in tv pictures. E. C. Lloyd. Tv Eng 2:18-22 F '51

Portable television camera. Franklin Inst J 251:664 Je '51

Review of some television pick-up tubes. J. D. McGee. bibliog il diags Inst E E Proc 97 pt 3:377-92; Discussion. 408-12 N '50

Simplified operation keynoted in new tv equipment. R. L. Garman and J. E. Cope. il diags Tele-Tech 10:34-6+ S; 48-9+ O '51

Televised microscopy. Franklin Inst J 251: 411-13 Mr '51; Same cond. Tv Eng 2:8 Ja '51

Television camera tubes; sensitivity and other properties. L. H. Bedford. bibliog Wireless Eng 28:4-16 Ja '51; Discussion. 28: 163-4 My '51; Reply. 28:288-9 S '51

Tv field equipment maintenance. J. B. Ledbetter. il Tv Eng 2:20-1+ Jl '51

Power supply

Hum and stability problems of power line synchronization in television. W. L. Hughes. il diags Elec Eng 70:900-4 O '51

TELEVISION filters

Filters for color television. J. W. Christensen. il Mod Plastics 28:85-6 Ag '51

TELEVISION in education

Tv and education. Sci Am 184:27 Ja '51

TELEVISION in medical education

Doctors see operating table techniques by color television. il Elec Eng 69:1134 D '50

18-mc telecolor for surgical training. il Electronics 23:182+ D '50

TELEVISION industry

Color; from Tiffany's to Gimbel's basement. J. Walker. Ed & Pub 83:62 N 18 '50

Electronics era. L. P. Lessing. il diags Fortune 44:78-83+ Jl '51

Electronics, the growth story of a century. P. A. Just. Comm & Fin Chr 173:1121+ Mr 15 '51

1950, banner year for tv. H. Becker. il map Radio & Tv N 45:31-4+ F '51

Outlook for television, radio and motion pictures. P. Raibourn. Comm & Fin Chr 173: 1126+ Mr 15 '51

Radio-tv service industry news. Radio & Tv N 46:116+ S; 132-4+ O; 160-4 N '51

Television; number one growth industry. J. S. Meck. Comm & Fin Chr 173:1128+ Mr 15 '51

Tv's time of trouble. il Fortune 44:74-9+ Ag '51

Statistics

Radio and television statistics of the U.S.; world; tabulations, map, chart. Tele-Tech 10:20-1 Ja '51

TELEVISION projection

Improvements in large-screen television projection. T. M. C. Lance. il diags Soc Motion Picture & Tv Eng J 55:509-24 N '50

Installation of theater television equipment. E. Stanko and C. Y. Keen. il diag Soc Motion Picture & Tv Eng J 56:343-53 Mr '51

Projection kinescope 7NP4 for theater television. L. E. Swedlund and C. W. Thierfelder. bibliog il diags Soc Motion Picture & Tv Eng J 56:332-42 Mr '51

Projection- versus direct-viewing television in the home; discussion meeting. Inst E E Proc 98 pt 3:103-4 Mr '51

RCA PT-100 theater television equipment. R. V. Little, jr. il diags Soc Motion Picture & Tv Eng J 56:317-31 Mr '51; Excerpts. Tv Eng 1:15 D '50

Swiss system of large screen tv; Eidophor theatre television system. diag Tele-Tech 10:60 F '51

TELEVISION receiving apparatus

Adjacent-channel rejection receiver. H. Magnuski. il diags Electronics 24:101-4 Ja '51

Approaches to CBS color. J. H. Battison. diags Tele-Tech 9:44-5 D '50

Cascode type antenna-mounted tv booster. G. Voyles. il diags Radio & Tv N 46:54-5+ Jl '51

Characteristics of all-glass television picture bulbs. J. L. Sheldon. bibliog il diags Soc Motion Picture & Tv Eng J 56:65-74 Ja '51

Characteristics of germanium diodes. B. F. Osbahr. il diags Tele-Tech 9:33-4 D '50

Color cathode-ray tube with three phosphor bands. C. S. Szegho. il diags Soc Motion Picture & Tv Eng J 55:367-76 O '50

Color tv comes closer; Paramount's new picture tube. Bsns W p24 S 29 '51

Conservation of critical raw materials; design changes to effect savings in tv receiver manufacture. il Tele-Tech 10:39+ Ap '51

Constructing the tricolor picture tube. il diags Electronics 24:86-8 My '51

Converting the Admiral model 4H16S. R. Kempton. il diag Radio & Tv N 45:39+ Je '51

Converting the G-E model 809. R. Kempton. il diags Radio & Tv N 46:34-5 Jl '51

Converting the G-E model 811. R. Kempton. il diags Radio & Tv N 45:40-1+ My '51

Converting the RCA-730 TV1 and TV2. R. Kempton. il Radio & Tv N 46:44+ Ag '51

Cosine deflection yoke. J. Pell. diags Tv Eng 2:10-11+ Je '51

Critical metals usage slashed in revised television circuits. A. H. Allen. il Steel 128: 78-81 Ap 2 '51

Crosley's styrene t.v. windows. il Mod Plastics 28:62-3 F '51

Custom-built for profit. D. Ellis. il Radio & Tv N 45:46 Ja '51

Dallas plan for tvi. J. F. Skelton and E. M. Shook. Q S T 35:26-8 Je '51

TELEVISION receiving apparatus—*Cont.*

Design features of 30-inch tv receiver. R. Muniz. il diags Tv Eng 2:10-11+ My '51

Design of 90° deflection picture tubes. H. W. Grossbohlin. il diags Tele-Tech 10:42-4 Ag '51

Determining capacity in circuits by frequency-shift method. E. A. Slusser. diags Tv Eng 2:16-17+ Jl '51

Dot arresting improves tv picture quality. K. Schlesinger. il diags Electronics 24:96-101 S '51

DuMont picture tube data chart. diags Tele-Tech 10:2-7 pt 2 Je '51

Eliminating ignition interference in tv receivers. R. Gary. il diags Radio & Tv N 46:54-6+ O '51

FCC reports on television intermodulation tests. Tele-Tech 10:33+ Je '51

Field-sequential color companion. E. Cohen and A. Easton. il diags Electronics 24:110-14 My '51

Highlight controls in video amplifiers. R. H. Cook. diags Tv Eng 2:10-13+ Ag '51

Horizontal deflection system requirements. J. Narrace. diags Tv Eng 2:12-13 My '51

Horizontal pulling. J. R. Meagher. il Radio & Tv N 45:61-3+ Mr; 50-2 Ap '51

Improved vertical synchronizing system. R. C. Moses. diags Electronics 24:114-16+ Ja '51

Improving performance of older tv sets. W. H. Buchsbaum. il diags Radio & Tv N 45:33-5+ Ja '51

Inverted pictures. J. Najork. Radio & Tv N 45:88 Mr '51

Locked-in oscillator for tv sound. M. S. Corrington. bibliog diags Electronics 24:120-5 Mr '51

Low-noise silver-printed television tuner. H. Kayner. il diags Tele-Tech 10:39-41 Mr '51

Low-reflection picture tubes. G. S. Szegho and others. il Electronics 24:97-9 Ja '51

Material-saving picture tube; electrostatic-focus electron gun. L. E. Swedlund and R. Saunders, jr. il diags Electronics 24:118-20 Ap '51

Metal-backed tv picture tubes. C. T. Waugh. diags Tv Eng 1:12-14 D '50

Modified butterfly uhf-tv converter. M. W. Slate and others. il diags Electronics 24:92-6 O '51

New damper diode. M. Bareiss. il Electronics 24:262+ O '51

New horizontal deflection circuit. R. K. Seigle. diags Radio & Tv N 45:140-2 Je '51

New tv components. il diags Radio & Tv N 46:51+ S '51

New transparent screen for kinescopes promises improved picture contrast. il Elec Eng 70:842 S '51

Number of tv receivers in use, by market areas; table. Tele-Tech 10:1 pt 2 Je '51

P-m focus devices for picture tubes. K. James and R. T. Capodanno. il diags Electronics 24:94-7 Mr '51

Picture-tube design; abstract. H. Grossbohlin. Tv Eng 2:6 Ap '51

Projection- versus direct-viewing television in the home; discussion meeting. Inst E E Proc 98 pt 3:103-4 Mr '51

Quality amplifier for tv sound. L. Fleming. il diag Radio & Tv N 45:44-5+ My '51

Receiver design; uhf tuner; abstract. M. W. Slate and others. Tv Eng 2:7 Ap '51

Selenium rectifiers for tv applications. R. P. Turner. il diags Tv Eng 2:14-15+ Ap '51

Service implications of color tv. Radio & Tv N 46:128-9 Ag '51

Simplification of television receivers. W. B. Whalley. diags Inst Radio Eng Proc 38:1404-8 D '50

Simplifying assumptions. W. T. Cocking. diags Wireless Eng 27:217-19 Ag-S '50

Some design considerations of ultra-high-frequency converters. Wen Yuan Pan. il diags RCA R 11:377-98 S '50

Speed of response of the cathode-coupled clipper. P. F. Ordung and H. L. Krauss. diags Tv Eng 2:22-4+ Ap; 21-2 My; 21+ Je '51

Stainless steel, USS 17-TV, for video vacuum tubes. Mech Eng 72:911 N '50

Synchronizing the color wheel. W. H. Buchsbaum. il diags Radio & Tv N 46:43-5+ O '51

Television booster. M. S. Kiver. il diags Radio & Tv N 46:35-8+ O '51

Tv frequency, conversion problems. J. J. Skiles. diags Tv Eng 1:8-10+ O '50

Tv pictures in color. N. Chalfin. il diags Radio & Tv N 46:38-40+ Ag '51

Tv receiver conversion for velocity modulation. M. A. Honnell and M. D. Prince. il diag Radio & Tv N 45:36-7 Ap '51

Tv receiver manufacturers ready with uhf conversion devices. il Tele-Tech 10:30-1 Ag '51

Tv reception in fringe areas; service tips on circuit adjustments. D. Lerner. il diags Radio & Tv N 45:48-9+ Je '51

Television synchronizing circuits. J. Racker and P. Selvaggi. diags Radio & Tv N 45:70-2 Ja; 58-61 F '51

Tv tube developments. P. B. Lewis. il diag Tv Eng 1:34-5 N; 20 D '50

Tone rendition in television. B. M. Oliver. Inst Radio Eng Proc 38:1288-300 N '50

Uhf-converter design features. il diag Tele-Tech 10:37-8+ S '51

Unique i.f. turret booster developed. il diag Radio & Tv N 45:114 My '51

Video amplifier frequency response. W. H. Buchsbaum. diags Radio & Tv N 44:56-8+ D '50

V.f. amplifier couplings; unsymmetrical π-section filters. G. G. Gouriet. bibliog diags Wireless Eng 27:257-65 O-N '50

Wide-range resonators for vhf and uhf. G. F. Montgomery and P. G. Sulzer. il diags Electronics 24:200+ My '51

Your stake in the color decision. M. S. Kiver. il diag Radio & Tv N 44:65+ N '50

Bibliography

Radio progress during 1950; receivers. Inst Radio Eng Proc 39:388-9 Ap '51

Installation

Tele-vention home puts video on turntable for three-room viewing. il plan Am Bld 73:159 My '51

Manufacture

Hardware's contributions to the streamlined tv chassis. E. M. Jeffery. il diags Tv Eng 2:18+ Mr '51

How better methods can bring greater output per man-hour; camera tour of Sylvania electric products, Seneca Falls, N.Y. Factory Management 109:112-16 F '51

How tv makers save material. Bsns W p48-50 Mr 31 '51

Mass production component and circuit die stamping. R. G. Peters. il diags Tv Eng 2:10-11+ Ja '51

Mass production test and alignment. R. G. Peters. il plan Tv Eng 1:16+ D '50

Metal sealing techniques for large television tubes. W. L. Hyde. il Radio & Tv N 45:38-9 F '51

Modern television-tube manufacture; illustrations with text. Elec Com 27:262-7 D '50

Production aids in television receiver manufacture; illustrations with text. B. F. Osbahr. Tele-Tech 10:42-3+ Jl '51

Production experience with a 40-mc i-f receiver. D. W. Pugsley. il diags Electronics 23:98-100 N '50

Progressive dies for television parts. J. Kleinoder. il diags Mach 57:174-81 My '51

Progressive dies make precision tv parts. R. LeGrand. il diags Am Mach 94:133-6 D 11 '50

Television makers save on strategic materials. D. Marshall. Barron's 31:22 Ap 9 '51

Noise

Expediting tv receiver noise calculations; nomograms and graphs. D. A. Miller and E. A. Slusser. diags Tv Eng 2:12-13 Ap '51

Theatre tv; random noise. Tv Eng 2:7 My '51

Power supply

Hum and stability problems of power line synchronization in television. W. L. Hughes. il diags Elec Eng 70:900-4 O '51

Tv receiver operation with floating B minus bus. E. S. White. diags Tele-Tech 10:48-9+ Ap '51

TELEVISION receiving apparatus—*Cont.*

Radio and phonograph combination

Tv consolette incorporates compact am tuner; combination phono-radio-tv. K. Kleidon. il diags Radio & Tv N 46:59+ Jl '51

Rating

Capehart 322M recommended (tentative rating). Consumers Res Bul 27:7 Ap '51
Six television receivers. il Consumers Res Bul 26:19-22 D '50
Television receivers. il Consumers Res Bul 28:9-11 O '51

Repair

Alignment notes on tv receivers. J. B. Ledbetter. il diags Radio & Tv N 45:54-5+ Je '51
Audels television service manual. E. P. Anderson. 384p $2 Theo. Audel & co, 49 W. 23d st, New York 10 '51
Detent repair. H. G. Loewy. Radio & Tv N 45:166 Mr '51
Increasing width. M. Kalashian. Radio & Tv N 45:167 Mr '51
Radio-tv service industry news. il Radio & Tv N 44:128+ D '50; 45:160-5 Ja; 150-6 F; 158-63 Mr; 140-3 Ap; 104+ My; 146-50 Je; 46:83+ Jl; 128-33 Ag; 118-21 S; 132-4+ O '51
Servicing intersync circuits. S. Heller and P. Orne. il diags Radio & Tv N 45:64-6 Mr '51

See also
Television service shops

Safety measures

Tv maintenance safety measures. J. B. Ledbetter. il Tv Eng 2:15+ Je '51

Standards

Dual standards for television scanning. il diags Electronics 23:66-71 N '50

Testing

Checking quality of aluminized screens. H. J. Evans. diags Electronics 24:140+ Jl '51
Determining amplifier sensitivity with noise diode. B. Ely. Tv Eng 2:13+ Mr '51
Let's put square waves to work. H. Anthony. il diags Radio & Tv N 44:83+ N '50
Picture-tube performance. K. A. Hoagland. il diag Electronics 24:123-5 My '51
Signal strength analyzer. R. W. George. il diags Electronics 24:75-7 Ja '51
Signal substitution in tv servicing. D. Lerner. diags Radio & Tv N 46:62-3+ Ag '51
Square-wave testing speeds tv servicing. L. E. Garner, jr. il diags Radio & Tv N 45:67-70 My '51
Tv contrast generator and gamma checker. J. R. Popkin-Clurman. il diags Radio & Tv N 44:40-2 D '50
Tv test equipment for outside service work. M. B. Long. il diags Radio & Tv N 46:64-5+ S '51
Test equipment in tv receiver manufacture. il Tele-Tech 10:30-2+ Ap '51

Tuning

Day with uhf-tv at KC2XAK, Bridgeport; uhf conversion strips for use in tv tuners. J. H. Battison. il Tele-Tech 10:32+ Jl '51
Open-field test facilities for measurement of incidental receiver radiation. C. G. Seright. il RCA R 12:45-52 Mr '51
R-f amplifier for uhf television tuners. B. F. Tyson and J. G. Weissman. il diags Electronics 24:106-9 O '51
Two-tube television tuner design. C. S. Root. il diag Tele-Tech 10:54-5+ My; 54+ Je '51
Uhf rf amplifier design. R. G. Peters. il diag Tv Eng 2:10-11 Jl '51
Use of new low-noise twin triode in television tuners. R. M. Cohen. bibliog il diags RCA R 12:3-25 Mr '51
Variable inductance tv tuner. D. R. DeTar and H. T. Lyman, jr. il diags Electronics 23:102-6 D '50

TELEVISION reception

Investigation of ultra-high-frequency television transmission and reception in the Bridgeport, Connecticut area. R. F. Guy. il maps diags RCA R 12:98-142 Mr '51
Television picture fidelity. M. W. Baldwin, jr. Electronics 24:106-7 Ja '51
Uhf-tv reception in office and residential locations, 18 miles from transmitter. R. Frank. Tele-Tech 10:42+ S '51

TELEVISION relay stations

Application of polarity diplexing to microwave relay systems. C. A. Rosencrans. il Tv Eng 2:14+ Je '51
Bell System opens transcontinental radiorelay. W. Alberts. il Radio & Tv N 46:40-1 O '51
Diesel-powered m-g sets for tv. Steel 128:104+ Je 18 '51
London-Birmingham television radio-relay link. R. J. Clayton and others. il diags Engineering 171:447-9, 477-9 Ap 13-20 '51
Los Angeles to San Francisco microwave relay. B. W. Southwell. il diags Tele-Tech 10:44-5+ F '51
Portable microwave television link. il Elec Com 27:295-7 D '50
Safety on the hilltops; Bell System's concrete relay stations. E. S. Hannaford. il Nat Safety N 64:22-3+ Ag '51
Television relay service. Elec R (Lond) 148:810 Ap 20 '51
Tv sound diplexer for studio-transmitter links. L. Staschover and H. G. Miller. il diag Tele-Tech 10:34-5+ Mr '51
Video design considerations in a tv repeater link. M. Silver and others. il diags Tele-Tech 10:28-30+ Ja '51

TELEVISION research

Engineering research of the British broadcasting corporation. il Engineering 171:793-5 Je 29 '51

TELEVISION service contracts

Radio-tv service industry news. il Radio & Tv N 44:128+ D '50; 45:160-5 Ja; 150-6 F; 158-63 Mr; 104+ My; 146-50 Je; 46:83+ Jl '51

Accounting

Accounting for income from television service guarantees. J Account 91:623-4 Ap '51

TELEVISION service shops

Is the one man tv shop doomed? P. Wendel. il Radio & Tv N 45:40-1+ F '51
Modern service center. M. Farr. il Radio & Tv N 46:33-5 Ag '51
Tv servicing is big business. C. Korn. il Radio & Tv N 45:44-5 Mr '51
Western Union's new East Orange tv service center. il Radio & Tv N 46:72 Ag '51

TELEVISION stations

General Tire pension trust buys radio network. Bsns W p 112+ N 4 '50
Holme Moss television transmitting station. Engineer 190:624 D 22 '50
Tv systems engineering for economy of manpower. R. A. Isberg. il plans Tv Eng 1:26-9+ N '50
Tilting of antenna increases uhf tv station signal strength. il Elec Eng 70:651 Jl '51
Wenvoe television transmitting station for the Bristol channel area. Engineer 191:168 F 2 '51

Costs

F-m and tv station costs. R. C. Singleton. il Electronics 24:114-16 Mr '51

Coverage

Country-wide view of coverage by operating tv stations. map Sales Management 66:54 Ja 15 '51
Uhf-tv coverage under proposed FCC allocations. Tele-Tech 10:pt 2 Ag '51

Equipment

Automatic tv sync lock. L. M. Leeds. il diag Electronics 24:99-101 Jl '51
Genlock, new tool for better tv programming. J. H. Roe. Soc Motion Picture & Tv Eng J 56:232-4 F '51
Kirk O'Shotts television transmitting station. Engineering 171:793 Je 29 '51; Abstract. Engineer 191:863 Je 29 '51
Logic in tv maintenance. J. B. Ledbetter. il Tv Eng 1:12-13+ N '50
New video distribution system. E. D. Hilburn. diags Tele-Tech 9:28-30+ D '50
Station and studio equipment directory. Tele-Tech 10:85-8+ S '51

TELEVISION stations—Equipment—*Cont.*

Tv audio systems engineering. R. A. Isberg. il diag Tv Eng 2:16-17+ Ja '51

Tv maintenance procedures. J. B. Ledbetter. il Tv Eng 2:12-13+ F; 16+ Ap '51

Television scanner for slides. il Elec Com 28: 156 Je '51

Utility video amplifier. E. C. Kluender. il diags Electronics 24:125-7 S '51

Video special-effects system. E. M. Gore. il diags Tv Eng 1:14-16+ O '50

See also

Television antennas

Finance

In most cases it pays to have connections. J. Walker. Ed & Pub 84:46 Ap 7 '51

Fires and fire protection

Projection-tv room fire prevention. Tv Eng 2:6 Ag '51

TELEVISION stations, Newspaper

Defeated solon wants press-radio-tv divorce. J. Walker. Ed & Pub 83:42 D 2 '50

Tv and am compete in Detroit news setup. G. W. Parker. il Ed & Pub 84:46 Ja 20 '51

Today's news tonight; WPIX's newsreel operations. Ed & Pub 83:42 D 2 '50

WPIX offers education tieup. J. Walker. Ed & Pub 83:46 D 9 '50

TELEVISION studios

Improved video system for television studios. N. F. Smith. il plans Soc Motion Picture & Tv Eng J 55:477-84 N '50

Shooting a close-up. W. L. Stuart. il Radio & Tv N 45:39+, cover My '51

Television studio building for WWJ-TV, Detroit. il Arch Forum 94:156 My '51

Employees

See also

Television cameramen

Equipment

Automatic synchronizing generator for tv. C. Ellis. il diags Tv Eng 2:20-2+ Ag; 22-3 S '51

Crystal diodes in tv studio equipment. R. Kuehn. diags Electronics 23:114-16 D '50

New television studio audio console. R. W. Byloff. il diags RCA R 12:211-19 Je '51

Station and studio equipment directory. Tele-Tech 10:85-8+ S '51

Tv video switching. J. M. Brush. il diags Tv Eng 2:12-15+ Jl '51

Video relay switching. C. R. Monro. il plan diags Tv Eng 1:22-3 D '50; 2:18-21 Ja; 17 F '51

Lighting

Blue tv lamp design report. R. D. Chipp. il diag Tv Eng 2:16-17+ Ag '51

Lighting methods for television studios. H. M. Gurin. il Soc Motion Picture & Tv Eng J 55:576-89 D '50

Television studio illumination. H. M. Gurin and R. L. Zahour. il diag Illum Eng 45: 606-12 O '50

Television-studio lighting. H. M. Gurin and R. L. Zahour. il Westinghouse Eng 10:245-9 N '50

Television studio lighting committee report. R. Blount. Soc Motion Picture & Tv Eng J 57:69-70 Jl '51

TELEVISION theaters. See Moving picture theaters—Television

TELEVISION transmission

Application of polarity diplexing to microwave relay systems. C. A. Rosencrans. il Tv Eng 2:14+ Je '51

Bandwidth of a sinusoidal carrier wave, frequency-modulated by a rectangular wave with half-sine-wave build-up. W. A. Cawthra and W. E. Thomson. Inst E E Proc 98 pt 3:69-74 Ja '51

High definition monochrome tv. F. Loomis. diags Tele-Tech 9:52+ D '50

Investigation of ultra-high-frequency television transmission and reception in the Bridgeport, Connecticut area. R. F. Guy. il maps diags RCA R 12:98-142 Mr '51

Local wire video television networks. C. N. Nebel. il diags Elec Eng 70:130-5 F '51

Quality rating of television images. P. Mertz and others. diags Inst Radio Eng Proc 38:1269-83 N '50

Rooter for video signals. B. M. Oliver. diags Inst Radio Eng Proc 38:1301-5 N '50

Television by pulse code modulation. W. M. Goodall. il diags Bell System Tech J 30: 33-49 Ja '51

Tv pulse techniques. C. J. Auditore. diags Tv Eng 2:14-16+ F '51

Television transmission in local telephone exchange areas. L. W. Morrison. il diags Soc Motion Picture & Tv Eng J 56:280-94 Mr '51

Tone rendition in television. B. M. Oliver. Inst Radio Eng Proc 38:1288-300 N '50

Uhf tv propagation measurements. K. H. Cook and R. G. Artman. il Tele-Tech 10:50-1+ Mr; 52-4+ Ap '51

Frequency allocation

Du Mont television allocation plan. J. H. Battison. il Tele-Tech 10:39+ Jl '51

End of tv freeze is in sight. Bsns W p25-6 Jl 28 '51

End of tv freeze nears. Bsns W p21 Mr 31 '51

Signs of spring, FCC prepares to thaw allocations; prediction of areas of service and of interference. Tele-Tech 10:38-40 My '51

Tv freeze. Radio & Tv N 45:14+ My '51

Uhf-tv coverage under proposed FCC allocations. Tele-Tech 10:pt 2 Ag '51

Interference

Building an 813 transmitter; modern style; simplified tvi treatment. R. M. Smith. il diags Q S T 35:11-17 Jl '51

By-passing for harmonic reduction. G. Grammer. il Q S T 35:14-17 Ap '51

Chasing the Tennessee Valley Indians out of the BC-610 transmitter. L. C. Harlow. il diag Q S T 35:65-7+ My '51

Curing industrial tvi; preventing radiation from r.f. heating machines. P. S. Rand and others. il diags Q S T 35:29-33 S '51

Curing rf heater television interference; F.C.C. rules and regulations. P. S. Rand and others. il plans diags Mod Plastics 29:101-2+ S '51

Dallas plan for tvi. J. F. Skelton and E. M. Shook. Q S T 35:26-8 Je '51

Dayton plan for tvi. Q S T 35:34-5 S '51

Eliminating ignition interference in tv receivers. R. Gary. il diags Radio & Tv N 46:54-6+ O '51

Eliminating tvi caused by the BC-610. R. H. Mitchell. Radio & Tv N 45:132-4 Ap '51

FCC reports on television intermodulation tests. Tele-Tech 10:33+ Je '51

Hum and stability problems of power line synchronization in television. W. L. Hughes. il diags Elec Eng 70:900-4 O '51

Open-field test facilities for measurement of incidental receiver radiation. C. G. Seright. il RCA R 12:45-52 Mr '51

Over-age lamps may mar television reception. J. H. Campbell and H. E. Schultz. il Gen Elec R 54:42-4 Jl '51

Suppression of harmonics in radio transmitters. G. T. Royden. bibliog(35 titles) il diags Elec Com 28:112-20 Je '51

Tvi-proofing the ARC-5 v.h.f. transmitter. O. W. H. Johnson. il Q S T 34:50-1 N '50

Tvi-proofing the ten-meter transmitter. P. S. Rand. il diags Q S T 35:31-5 Ap '51

Tvi tips. il diags Q S T 34:46-7 Ag; 30-2 D '50

Your power system voltage can influence tv receivers. H. E. Campbell. il Elec World 136:73-5 Jl 30 '51

Remote pickup

Portable microwave television link. il Elec Com 27:295-7 D '50

Problems in mobile tv. E. B. Pores. il map diag Electronics 24:136+ S '51

Tv field equipment maintenance. J. B. Ledbetter. il Tv Eng 2:20-1+ Jl '51

TELEVISION transmitters

Five-kw klystron uhf television transmitter. H. M. Crosby. il diags Electronics 24:108-12 Je '51

Logic in tv maintenance. J. B. Ledbetter. il Tv Eng 1:12-13+ N '50

London-Birmingham television radio-relay link. R. J. Clayton and others. il diags Engineering 171:447-9 Ap 13 '51

Shunt-regulated amplifiers; television modulator applications. V. J. Cooper. diags Wireless Eng 28:132-45 My '51

TELEVISION transmitters—*Continued*

Tv pulse techniques. C. J. Auditore. diags Tv Eng 2:14-16+ F '51

Power supply

Automatic synchronizing generator for tv. C. Ellis. il diags Tv Eng 2:20-2+ Ag; 22-3 S '51

High-power uhf-tv klystron. il diags Electronics 24:117-19 O '51

Safety measures

Tv maintenance safety measures. J. B. Ledbetter. il Tv Eng 2:15+ Je '51

Testing

Measuring television transmitter amplitude characteristics. J. Ruston. il diags Tele-Tech 10:30-1+ S '51

TELEVISION transmitters, Portable

Walkie-lookie is tv's latest; portable transmitter. il Bsns W p72-3 Mr 24 '51

TELEVISION workers

Television networks are pretty well surrounded by A.F.of L. performers. G. Heller. Fortune 43:48 Ja '51

See also

Television cameramen

TELLURIUM

Absence of cross-over transitions in tellurium isomers. R. D. Hill. Phys R 81:470-1 F 1 '51

Conversion coefficient of the 35-kev gamma-ray of Te^{125}. G. Friedlander and others. Phys R 80:1103-4 D 15 '50

Extraction of carrier-free ^{131}I from pile-irradiated tellurium. A. W. Kenny and W. T. Spragg. Chem Soc J supp no 2: S323-6 '49

Neutron resonances of tellurium. C. Heindl and I. W. Ruderman. bibliog Phys R 83: 660-1 Ag 1 '51

Structural aspects of tellurium and graphite additions for chill-control in cast iron. E. A. Loria. il Foundry 79:126-9+ Je '51

Structure of Te II. J. E. Mack and others. bibliog Phys R 83:654-5 Ag 1 '51

Three job-hungry metals now report for duty; indium, tellurium and thallium. il Mod Ind 21:48-51 My '51

Analysis

Spectrophotometric determination of tellurium as the iodotellurite complex. R. A. Johnson and F. P. Kwan. bibliog Anal Chem 23:651-3 Ap '51

Isotopes

Decay of Xe^{125}→I^{125}→Te^{125}. I. Bergström. bibliog Phys R 82:111-12 Ap 1 '51

TELLURIUM alloys

Average mechanical properties of tellurium copper; table. Machine Design 23:315 O '51

TELOMERIZATION. See Polymerization

TEMPERATURE

Analytical evaluation of metal-cutting temperatures. K. J. Trigger and B. T. Chao. bibliog il diags A S M E Trans 73:57-66; Discussion. 66-8 Ja '51

Catalytic reactions at high pressures and temperatures; decomposition of butanol-1 over an alumina-silicate catalyst investigated. C. M. Sliepcevich and G. G. Brown. bibliog flow sheet il Chem Eng Prog 46: 556-62 N '50

Compressor and expander design; temperature change for reversible polytropic paths. W. C. Edmister. bibliog Chem Eng Prog 47: 191-8 Ap '51

Decay of isotropic temperature fluctuations in an isotropic turbulence. S. Corrsin. bibliog J Aeronautical Sci 18:417-23 Je '51

Determination of saturation temperatures of inorganic salt solutions; refractive index measurements. C. R. Parkerson. diags Anal Chem 23:610-13 Ap '51

Dry metallic friction as a function of temperature between 4.2°K. and 600°K. I. Šimon and others. bibliog il diags J Ap Phys 22:177-84 F '51; Correction. 22:848-9 Je '51

Effect of initial mixture temperature on burning velocity. G. L. Dugger. Am Chem Soc J 73:2398 My '51

Effect of temperature of entrained fluid on the performance of steam-jet ejectors. W. C. Holton and E. J. Schulz. A S M E Trans 73:911-13 O '51

Effect of time and temperature on potentials measured with the glass electrode. H. Irving and R. J. P. Williams. Chem Soc J p2890-2 O '50

Flame propagation; the effect of initial temperature on flame velocities of propane-air mixtures. G. L. Dugger. bibliog diag Am Chem Soc J 72:5271-4 N '50

Friction as a function of temperature. Engineer 192:118-19 Jl 27 '51

Influence of temperature during the beating process. O. K. Ronning and C. E. Libby. bibliog il Tappi 34:223-33 My '51

Intrinsic viscosity-temperature relationships for polyisobutylene in various solvents. T. G. Fox, jr. and P. J. Flory. bibliog Am Chem Soc J 73:1909-15 My '51

Liquid-vapour equilibrium as a function of temperature for the system arsenic trichloride-germanium tetrachloride. F. Sebba. diag Chem Soc J p 1975-7 Ag '51

Mechanism of hydrolysis of acid chlorides; the effect of hydroxyl ions, temperature, and substituents on the rate of hydrolysis of benzoyl chloride. R. F. Hudson and J. E. Wardill. diag Chem Soc J p 1729-33 Jl '50

Mechanism of the hydrolysis of acid chlorides; the effect of temperature and solvent composition. B. L. Archer and R. F. Hudson. diags Chem Soc J p3259-69 N '50

Pressure-temperature relations in gas-filled (class III) thermometers. E. E. Modes. diag A S M E Trans 73:957-62 O '51

Rates and temperature coefficients in the hydration of gaseous isobutene by dilute aqueous nitric acid. J. B. Levy and others. diag Am Chem Soc J 73:3792-6 Ag '51

Relation of tensile strength to brittle temperature in plasticized polymers. R. F. Boyer. bibliog diag J Ap Phys 22:723-9 Je '51

Spectrum of isotropic temperature fluctuations in an isotropic turbulence. S. Corrsin. bibliog J Ap Phys 22:469-73 Ap '51

Structure of barium titanate at elevated temperatures. J. W. Edwards, R. Speiser and H. L. Johnston. bibliog Am Chem Soc J 73:2934-5 Je '51

Temperature coefficients for use with rock-salt prism spectrometers. J. H. Towler and W. Guy. J Sci Instr 28:105 Ap '51

Temperature dependence of the energy gap in semiconductors. H. Y. Fan. bibliog Phys R 82:900-5 Je 15 '51

Temperature gradients and temperatures in carbon black flame. F. W. Jensen and K. Anderson. bibliog il diags Ind & Eng Chem 43:176-81 Ja '51

Temperature-interfacial tension studies of some alkyl esters of monobromoacetic acid against water. J. J. Jasper and W. J. Mayer. Am Chem Soc J 73:2610-11 Je '51

Temperature rise in electronic equipment cases. R. J. Bibbero. Machine Design 23: 174-5 F '51

Transient temperature distribution in a wing flying at supersonic speeds. J. Kaye. bibliog diags J Aeronautical Sci 17:787-807+ D '50

True temperature difference in split flow. D. Q. Kern and C. L. Carpenter. diags Chem Eng Prog 47:211-14 Ap '51

Wind-tunnel tests for temperature recovery factors at supersonic velocities. W. F. Hilton. bibliog il J Aeronautical Sci 18:97-100 F '51

Zero temperature coefficient quartz crystals for very high temperatures. W. P. Mason. Bell System Tech J 30:366-80 Ap '51

See also

Atmospheric temperature
Boiling points
Cold
Color temperature
Curie point
Earth temperature
Electric machinery—Temperature
Heat
Melting points
Metals—Temperature effect
Petroleum—Well temperature
Softening points
Temperature, Low
Thermal analysis
Thermochemistry

TEMPERATURE—*Continued*

Measurement

Axial-flow compressors guarded by potentiometer watchdogs; Westinghouse electric corp. Aviation gas turbine development laboratory. R. N. Grassi and W. H. Wannamaker. il diags Power 95:90-1+ Je '51

Capacitive slip ring for instrumentation; problem of multiple temperature measurements on aircraft supercharger impellers solved with thermistor elements capacitively connected to an r-f bridge. F. P. Fischer and C. H. Coogan, jr. diags Electronics 24:84-5 Ja '51

Comparison of methods for measuring temperature of molten metals. J. W. Percy. diags Instruments 24:766-8 Jl '51

Effect of the cutting fluid upon chip-tool interface temperature. M. C. Shaw and others. bibliog il diags A S M E Trans 73:45-52; Discussion. 52-6 Ja '51

Equivalent temperature; what it is, how it's measured. T. Bedford. Heating-Piping 23:87-91 Ag '51

Furnace heat absorption in pulverized-coal-fired steam generator, Willow Island station. J. W. Myers and others. bibliog il diags A S M E Trans 73:419-55; Discussion. 457-9 My '51

Ground heat in cold storages. G. F. Sainsbury. diags Refrig Eng 58:1066-9+ N '50

Ignition temperatures of magnesium and magnesium alloys. W. M. Fassell, jr. and others. bibliog diags J Metals 3:Trans 522-8 Jl '51

Ingot heat conservation; ingot mould temperature measurements. R. T. Fowler and J. Stringer. plan diags Iron & Steel Inst J 167:283-8 Mr '51

Instruments for chemical plant; thermometry and pyrometry. il diags Chem Age (Lond) 64:807-12 My 26 '51

Measurement of roll temperature. diag Blast F & Steel Pl 39:467 Ap '51; Same. Automotive Ind 104:84 Ap 15 '51; Same. Rubber Age 69:476 Jl '51

Measurement of temperatures in high-velocity steam. J. W. Murdock and E. F. Fiock. il diags A S M E Trans 72:1155-61 N '50

Measurement of the thermal conductivities of soils, and the calculation of oil temperatures in buried pipelines. K. G. Brummage. maps diag Inst Pet J 36:575-92 S '50

Method for the determination of flame temperature from emission in the ultraviolet OH band. J. A. Curcio and others. il diag Opt Soc Am J 41:173-9 Mr '51

Monitor supervises temperatures at remote sports. il diag Product Eng 22:180 Ja '51

New method of determining thermal diffusivity of solids at various temperatures. D. Rosenthal and A. Ambrosio. il diag A S M E Trans 73:971-4 O '51

Noncontact temperature measuring device. J. E. Field and S. D. Gehman. diags J Ap Phys 22:106-7 Ja '51

Piezoelectric crystals as sensing elements of pressure, temperature, and humidity. E. A. Roberts and P. Goldsmith. il diags Elec Eng 70:776-80 S '51

Rapid method for calculating and using platinum thermohm tables. R. A. Buerschaper. R Sci Instr 21:996-8 D '50

Rough riding unit charts truck's cooling efficiency. il Food Eng 23:151+ Ag '51

Significance of air temperature in open hearth operation; abstract. J. S. Marsh. Metal Prog 60:124+ Ag '51

Technical apparatus for determining thermal conductivity of steels up to 500°C. Z. Horák and F. Krupka. il diags R Sci Instr 21:827-30 O '50

Temperature measurement; discussion. Inst E E Proc 97 pt 2:735-6 D '50

Temperature measurements by electricity. Franklin Inst J 251:178-9 Ja '51

Temperature-response measurements. diags Mech Eng 73:230-1 Mr '51

Temperatures of openhearth bottoms measured. R. B. Snow. diag Iron Age 167:103-6 F 1; 98-100 F 8 '51

Thermocouple system for molten-metal temperature measurement. L. H. Veiock. il diags Instruments 24:769-70+ Jl '51

Two-path method for measuring flame temperatures and concentrations in low pressure combustion chambers. S. S. Penner. bibliog diag J Chem Phys 19:272-80 Mr '51

See also

Bolometers
Calorimeters and calorimetry
Pyrometers and pyrometry
Thermocouples
Thermometers and thermometry

Bibliography

Bibliography on the measurement of gas temperature. P. D. Freeze. U S Nat Bur Stand Circ 513:1-14; pa 15c Supt. of doc. '51

Physiological effect

Climatic adaptation in arctic and tropic animals. L. Irving. Pub Health Rep 66:939-41 Jl 20 '51

Comfort at work. Safety Maint & Prod 101:69+ Ap '51

Engineering aspects of comfort data. C. S. Leopold. Heating-Piping 23:136-40; Discussion. 147-50 Ap '51

Equivalent temperature; what it is, how it's measured. T. Bedford. Heating-Piping 23:87-91 Ag '51

Heat and humidity in the paper and pulp manufacturing industry. W. Schweisheimer. Pulp & Pa of Can 51:236-7+ N '50

Physiological aspects of heating and ventilating. E. F. Du Bois. bibliog Heating-Piping 23:134-6; Discussion. 147-50 Ap '51

Standards for industrial heat control. T. F. Hatch. Heating-Piping 23:140-2; Discussion. 147-50 Ap '51

Stress of the physical environment; how temperature and humidity affect the normal subject and the sick patient. R. W. Keeton. bibliog il Heating-Piping 22:96-100+ D '50

Summer in the dyehouse; how to improve working conditions. Rayon 32:70+ Ag '51

What is a draft? H. Wright. Heating-Piping 23:71-2 Jl '51

See also

Cold—Physiological effect
Plants, Effect of temperature on

Regulation

Army map-making truck has controlled temperatures. il Refrig Eng 59:682 Jl '51; Heating-Piping 23:105 S '51; Heat & Ven 48:103 O '51

Individual apartment heating control. L. Johnson. diags Heat & Ven 48:81-3 Ag '51

Method of temperature programme control for thermal analysis. J. G. Ball and E. T. Adams. il diag J Sci Instr 28:47-9 F '51

Reduce steam consumption with control instruments. L. Walter. il diags Textile World 101:113+ Ap '51

See also

Temperature regulators
Thermostats

TEMPERATURE, Animal and human

Average body temperature in mice. J. S. Hart. bibliog Science 113:325-6 Mr 23 '51

Climatic adaptation in arctic and tropic animals. L. Irving. Pub Health Rep 66:939-41 Jl 20 '51

Influence of skin temperature upon the pain threshold as evoked by thermal radiation. J. D. Hardy and others. bibliog Science 114:149-50 Ag 10 '51

See also

Thermometers, Clinical

TEMPERATURE, Low

Aircraft metallic materials under low temperature conditions. P. L. Teed. bibliog il diags Roy Aeronautical Soc J 55:61-81 F '51; Abstract. Engineering 170:357-8 N 10 '50; Discussion. Roy Aeronautical Soc J 55:81-6 F '51

Anomalous heat flow in superconductors. K. Mendelssohn and J. L. Olsen. bibliog Phys R 80:859-62 D 1 '50

Choosing metals for low temperature use. J. R. Watt. bibliog Refrig Eng 59:751-4 Ag '51

Choosing the right low-temperature metals. J. R. Watt. bibliog Machine Design 23:117-21 O '51

TEMPERATURE, Low—*Continued*

Cold facts on your product's future. il Mod Ind 21:42-7 Ap '51

Ductility of metals at low temperatures. bibliog Engineer 191:254-5 F 23 '51

Effect of low temperatures on aircraft metals. J. B. Johnson and D. A. Shinn. bibliog il Product Eng 22:187-92 O '51

Ester plasticizers for low temperature rubber compounding. W. A. Woodcock. bibliog(p 104) Rubber Age 69:51-3 Ap '51

Evaluation of various torsion wires for the Gehman apparatus used for determining low-temperature stiffness of elastomers. B. G. Labbe. il India Rubber World 124:443-4 Jl '51

Fatigue strength of steel at low temperatures. Engineer 190:266 S 15 '50; Same cond. Product Eng 22:252-4 S '51

Gibbs medal awarded to Giauque for low temperature research. Chem & Eng N 29: 2270-1 Je 4 '51

Heat capacities at low temperatures and entropies at 298.16°K. of andalusite, kyanite, and sillimanite. S. S. Todd. bibliog Am Chem Soc J 72:4742-3 O '50

Influence of low temperatures on the mechanical properties of metals; symposium abstracts. Metal Prog 60:79-80+ Jl '51; Materials & Methods 34:146+ Ag '51; Welding J 30:sup572-5 N '51

Isothermal formation of martensite at subzero temperatures in a high chromium steel. S. C. Das Gupta and B. S. Lement. bibliog il diags J Metals 3:Trans 727-31 S '51

Low temperature heat capacities of inorganic solids; heat capacities and entropies of lithium hydroxide and of lithium hydroxide monohydrate from 15 to 300° K; third law check on the entropies through the reaction $LiOH + H_2O$ (gas) = $LiOH \cdot H_2O$. T. W. Bauer, H. L. Johnston and E. C. Kerr. bibliog Am Chem Soc J 72:5174-6 N '50

Low temperature heat capacities of inorganic solids; heat capacity of aluminum oxide (synthetic sapphire), from 19 to 300°K. E. C. Kerr, H. L. Johnston and N. C. Hallett. Am Chem Soc J 72:4740-2 O '50

Low temperature heat capacities of inorganic solids; the heat capacity of boric acid from 16 to 296°K; description of the Ohio state university solid calorimeters. H. L. Johnston and E. C. Kerr. bibliog il diags Am Chem Soc J 72:4733-8 O '50

Low temperature heat capacities of inorganic solids; the heat capacity of crystalline boric oxide from 17 to 300°K. E. C. Kerr, H. N. Hersh and H. L. Johnston. Am Chem Soc J 72:4738-40 O '50

Low-temperature heat capacity, entropy at 298.16°K., and high-temperature heat content of ferric chloride. S. S. Todd and J. P. Coughlin. Am Chem Soc J 73:4184-5 S '51

Low temperature oxidation of copper; physical mechanism. T. N. Rhodin, jr. bibliog Am Chem Soc J 72:5102-6 N '50

Low temperature oxidation of copper; reaction rate anisotropy. T. N. Rhodin, jr. Am Chem Soc J 73:3143-6 Jl '51

Low temperature properties of ferrous materials. Metal Prog 60:98+ S '51

Low temperature refrigeration systems. T. Lopiccolo. diags Refrig Eng 59:239-42+ Mr '51

Low temperature resistance minimum in magnesium measured by a mutual inductance method. H. E. Rorschach and M. A. Herlin. Phys R 81:467 F 1 '51

Low temperature separation of ethane from methane and air. R. L. Slobod. bibliog diag Anal Chem 23:361-3 F '51

Low temperature thermodynamic properties of sodium hydroxide. J. C. R. Kelly and P. E. Snyder. bibliog Am Chem Soc J 73:4114-15 S '51

Magnetic moments and eddy currents in spheres of superconducting tin. J. J. Fritz and others. bibliog diag Phys R 80:894-9 D 1 '50

Martensitic transformation at temperatures approaching absolute zero. S. A. Kulin and M. Cohen. bibliog il J Metals 188:Trans 1139-43 S '50; Discussion. 3:Trans 551-3 Jl '51

Raman spectrum of tetramethyldiborane; apparatus for the production of Raman spectra at low temperatures. B. Rice, J. M. Gonzalez Barredo and T. F. Young. diag Am Chem Soc J 73:2306-7 My '51

Refrigeration design considerations below -20 F. E. R. Michel. flow diag il Refrig Eng 59:552-6+ Je '51

Spherical shells subjected to internal pressure and low temperatures. J. L. Walmsley. bibliog il diag Welding J 30:sup 153-67 Mr '51

T-R (temperature-reaction) test for characterizing the low-temperature behavior of elastometric compositions. J. F. Svetlik and L. R. Sperberg. bibliog India Rubber World 124:182-7 My '51

Temperature scale of the Ohio state university Cryogenic laboratory. T. Rubin, H. L. Johnston and H. Altman. il diag Am Chem Soc J 73:3401-4 Jl '51

Temperature testing the B-36. R. C. Sebold. il Aero Digest 63:20-1+ Jl '51

Thermal expansion at low temperatures. S. Visvanathan. Phys R 81:626-7 F 15 '51

Thermal switch for use at low temperatures. G. O. Jones. diag J Sci Instr 28:181 Je '51

Variable thickness low temperature infra-red cell. R. B. Holden and others. bibliog il diags Opt Soc Am J 40:757-60 N '50

$ZnSO_4 \cdot 7H_2O$, $ZnSO_4 \cdot 6H_2O$; heat capacities, entropies and crystal perfection at low temperatures; heats of solution and transition. R. E. Barieau and W. F. Giauque. Am Chem Soc J 72:5676-84 D '50

See also

Cold
Freezing
Refrigeration and refrigerating machinery
Testing laboratories—Cold rooms

TEMPERATURE indicating paint. See Paint, Temperature indicating

TEMPERATURE regulators

Control of electric element furnaces to fine limits at high temperatures for research purposes. T. W. Lomas and others. bibliog diags Iron & Steel Inst J 168:126-34 Je '51

Improved cabin heat control for 4-0-4; Barber-Colman system. G. L. Christian. il diags Aviation W 53:43-4 O 30 '50

Sensitive temperature controller. il diags Engineering 172:203-4 Ag 17 '51; Engineer 192: 183 Ag 10 '51

Thermoregulator for gas-heated baths. J. A. Brown. diags J Chem Educ 28:465 S '51

Testing

Test units nip costly shutdowns. W. O. Whitney. il Food Eng 23:75+ Je '51

Testing temperature-sensing devices. Machine Design 23:112 Ag '51

TEMPERING

Carbides in long-tempered vanadium steels; study with the electron microscope. W. Crafts and J. L. Lamont. il J Metals 188: Trans 561-74 Mr '50; Discussion. 188:Trans 1354-5 N '50

Embrittlement of tempered martensite better defined. P. Payson. bibliog Iron Age 168:86-9 S 27 '51

Low-temperature fractures in tempered alloy steels. A. R. Entwisle. bibliog 2pls Iron & Steel Inst J 169:36-8 S '51

Magnetic analysis of iron-carbon alloys; the tempering of martensite and retained austenite. J. Crangle and W. Sucksmith. bibliog Iron & Steel Inst J 168:141-51 Je '51

Structural transformations in the tempering of high-carbon martensitic steels. K. H. Jack. bibliog 2pls diags Iron & Steel Inst J 169:26-36 S '51

Tempering of chromium steels. R. W. Balluffi and others. Automotive Ind 103:132 N 15 '50

TEMPLES

See also

Synagogs

TEMPLETS

Optical layout system adopted at Götaverken. il diag Marine Eng 56:65-6 Je '51

TEMPORARY bridges. See Bridges, Temporary

TENANT lease insurance. See Insurance, Group life—Tenant lease insurance

TENDERS, Locomotive. See Locomotive tenders

TENITE
Butyrate handles, better tools. il Mod Plastics 28:62-3 My '51

TENNESSEE
Tennessee planning commission sponsors local capital budget studies. C. L. Crangle. Pub Works 82:51-2 My '51

See also
Copper mines and mining—Tennessee
Steel works—Tennessee

TENNESSEE gas transmission company
Bonds offered. Comm & Fin Chr 173:967; 174:999 Mr 5, S 17 '51
Capacity still expanding. Barron's 31:25 Je 18 '51
Preferred stock offered. Comm & Fin Chr 173:1993-4 My 14 '51
Stock offered. Comm & Fin Chr 172:1675; 173:1587-8 O 30 '50, Ap 16 '51

TENNESSEE Valley authority
Extension of graduate education in engineering. L. E. Grinter. J Eng Educ 41:142-7 N '50
Fiscal '50 saw TVA hit over 17 million kwhr. Elec World News ed 135:12 Ja 8 '51
TVA fuel-burning plants explode by-product myth. E. R. Abrams. Barron's 31:16 Mr 5 '51
TVA is raising rates from 12-15 per cent to its large industrial customers. Elec World 136:62 Jl 2 '51
TVA moves into steam to fill power needs for atom. il map Bsns W p98-100+ Je 16 '51
TVA plans 540,000-kw station; predicts 4.9-million-kw peak in '53. Elec World News ed 134:6 D 25 '50

Bibliography

Congressional hearings, reports, and documents relating to TVA, 1933-1950. A. M. Norwood, comp. 63p Technical lib, Tennessee Valley authority, Knoxville '51
Indexed bibliography of the Tennessee Valley authority; cumulative supplement, Jan. 1949-Dec. 1950. B. L. Foy, comp. 60p, 23p Technical lib, Tennessee Valley authority, Knoxville '51
TVA program; a bibliography of selected readings. B. L. Foy, comp. 24p Technical lib, Tennessee Valley authority, Knoxville '51

TENNESSEE Valley project
Flood-control operation of Tennessee Valley Authority reservoirs. E. J. Rutter. map Am Soc C E Proc 76 [no 19]:1-33 My '50; Discussion. 77 [no D-19]:1-4 Mr '51

TENNIS balls

Manufacture

Tennis balls keep company bouncing; Pennsylvania rubber co. il Bsns W p50-1 Ag 4 '51

Rating

Tennis balls. Consumers Res Bul 28:25-6 Ag '51

TENNYSON-D'EYNCOURT, Sir Eustace Henry, 1868-1951
Sketch. por Engineer 191:194 F 9 '51; Engineering 171:167-8 F 9 '51

TENSILE strength of liquids. See Liquids

TENSIOMETERS
Simple surface tensiometer. N. B. Colthup and R. E. Torley. diag Anal Chem 23:804-5 My '51
Spinning tension measured continuously; yarn tensiometer. P. C. Wolters. il Textile World 100:153+ D '50

TENSION control. See Winding machines—Tension control

TENTERING machines
Pin-tenter technique varies with fabric framed. K. S. Laurie. il Textile World 101:114-15+ Ja '51

TERBIUM
Mass assignments of alpha-active isotopes in the rare-earth region. J. O. Rasmussen and others. Phys R 80:475-6 N 1 '50

TERBIUM oxides
Higher oxides of the lanthanide elements; terbium dioxide. D. M. Gruen, W. C. Koehler and J. J. Katz. bibliog diags Am Chem Soc J 73:1475-9 Ap '51

TEREDOS
More basic research vital in fight against costly marine borers. J. F. Jelley. il Civil Eng 21:200-1 Ap '51

TERHUNE, Roger A.
Terhune works fast on a double shooting. J. L. Collings. por Ed & Pub 83:55 N 4 '50

TERMINAL city iron works, ltd.
Fifty years of growth for Vancouver waterworks equipment firm. il Munic Util 89:40+ Ap '51

TERMINALS
New marine terminal for Bull lines in Brooklyn. il Marine Eng 55:55-6 N '50
Opening of maritime passenger terminal in Sydney. For Comm W 44:21 S 10 '51
Ready mix in Los Angeles terminal. M. E. Sylvester. il Concrete 58:12-13 D '50
Ship terminal for fast cargo handling, port of La Guaira, Venezuela. A. D. Quinn. il plan diag Eng N 146:32-4 My 31 '51
Study for an ideal port facility. J. A. Merz and R. Corbelletti. il plans Arch Rec 109:167-70 Ap '51
Terminal for Oahu transport co., ltd., Honolulu. il Arch Rec 108:113-15 N '50

See also
Airport buildings
Ferry terminals
Locomotive terminals
Motor bus lines—Terminals
Motor truck terminals
Petroleum pipe lines—Terminals
Petroleum shipping terminals
Ports
Railroads—Terminals

TERMITES
DDT for termite protection. Eng N 145:44 S 21 '50; Pub Works 81:56 N '50
Life artery of a building; termite control. il diags Am Bld 73:244+ Ja '51

TERNE plate roofing. See Roofing, Terne plate

TERPENES
Chemistry of the triterpenes. T. R. Ames and others. Chem Soc J p450-61 F '51
Infra-red examination of terpenoid substances. M. F. Carroll and others. Chem Soc J p3457-61 D '50
Infra-red spectroscopic investigation of double-bond structure in simple acyclic terpenes and derivatives thereof. D. Barnard and others. Chem Soc J p915-25 Mr '50
Oxidation of terpenes with molecular oxygen; oxidation of terpinolene in aqueous dispersion. J. N. Borglin and others. bibliog il Am Chem Soc J 72:4591-6 O '50
Oxidation of terpenes with molecular oxygen; oxidation products of terpinolene. E. J. Lorand and J. E. Reese. bibliog Am Chem Soc J 72:4596-601 O '50
Some terpene carboxy esters from turpentine; their synthesis from crude sulphate turpentine and other sources and their preliminary evaluation as plasticizers. T. Haselstrom and others. bibliog Tappi 33:538-41 N '50
Studies in the terpene series; isomerization accompanying cycloalkylation of benzene. V. N. Ipatieff, H. R. Appell and H. Pines. bibliog Am Chem Soc J 72:4260-2 S '50
Study in terpene series; the dehydroxymethylation of bicyclic primary terpenic alcohols by hydrogenolysis in the presence of nickel catalysts. V. N. Ipatieff, G. J. Czajkowski and H. Pines. bibliog Am Chem Soc J 73:4098-101 S '51
Study in the terpene series; isomerization accompanying hydrogenolysis of alcohols. V. N. Ipatieff, W. W. Thompson and H. Pines. bibliog Am Chem Soc J 73:553-5 F '51
Synthesis of structural isomers of the terpenes. G. R. Clemo and B. K. Davison. Chem Soc J p447-50 F '51
Terpene derivatives; basic ethers. W. B. Wheatley and others. Am Chem Soc J 73:229-32 Ja '51
Triterpene resinols and related acids. J. McLean and others. Chem Soc J p935-8, 1093-6 Ap '51
Triterpenoids. D. H. R. Barton, C. J. W. Brooks and N. J. Holness. Chem Soc J p257-79 F '51

TERPENES—*Continued*

Triterpenoids; *cyclo*artenone, a triterpenoid ketone. D. H. R. Barton. Chem Soc J p 1444-51 Je '51

See also

Diterpenes

Humulene

Analysis

Separation and identification of some terpenes by a new chromatographic technique; adsorbent-coated glass strips. J. G. Kirchner, J. M. Miller and G. J. Keller. bibliog il diag Anal Chem 23:420-5 Mr '51

TERPHENYL

Fluorescence of solutions bombarded with high energy radiation (energy transport in liquids). H. Kallmann and M. Furst. il Phys R 81:853-64 Mr 1 '51

Reactions in the *m*-terphenyl series. C. K. Bradsher and I. Swerlick. bibliog Am Chem Soc J 72:4189-92 S '50

Solid non-crystalline scintillation phosphors. M. G. Schorr and F. L. Torney. bibliog Phys R 80:474 N 1 '50

TERPINOLENE

Oxidation of terpenes with molecular oxygen; oxidation of terpinolene in aqueous dispersion. J. N. Borglin and others. bibliog il Am Chem Soc J 72:4591-6 O '50

Oxidation of terpenes with molecular oxygen; oxidation products of terpinolene. E. J. Lorand and J. E. Reese. bibliog Am Chem Soc J 72:4596-601 O '50

TERRACES (geology)

Pleistocene history of coastal Alabama. C. W. Carlston. bibliog Geol Soc Bul 61:1119-29, pl 1-3 O '50

TERRAMYCIN

Blase gets award for his terramycin recovery process. Chem Eng 58:190-1 Jl '51

Blase gets first New York ChE award for terramycin work. Chem & Eng N 29:2636 Je 25 '51

Chemical engineers achievement award winner; inventor of Pfizer's unique Q-process for the recovery of terramycin. Chem Eng 58:234 Je '51

Degradation of terramycin. R. Pasternack and others. Am Chem Soc J 73:2400 My '51

Distribution in jig time; the story of terramycin. T. Armstrong. il Sales Management 66:74+ Mr 1 '51

Isolation and general properties of terramycin and terramycin salts. P. P. Regna and others. bibliog Am Chem Soc J 73:4211-15 S '51

Pfizer put an old name on a new drug label. il Bsns W p 130-1+ O 13 '51

Stabilization of terramycin. W. L. Ruigh, M. R. S. Iyengar and E. Bailey. Am Chem Soc J 73:4057-8 Ag '51

Successful treatment of ulcer disease in brook trout (salvelinus fontinalis) with terramycin. S. F. Snieszko and others. bibliog Science 113:717-18 Je 22 '51

Terramycin; case history. Chem Eng 57:162 N '50

TERRATEX. See Mica, Substitutes for

TERRAZZO

Terrazzo sealers. G. J. Flanagan. Soap & San Chem 27:151+ Je '51

TERYLENE

Dielectric properties of terylene; abstract. W. Reddish. Chem & Ind p808-9 D 16 '50

Dyeing of terylene polyester fibre. E. Waters. 2pls Soc Dyers & Col J 66:609-15 D '50; Abstract. Am Dyestuff Rep 40:199-200 Mr 19 '51

Imperial chemical industries, ltd.; Terylene council. Chem & Ind p264 Ap 7 '51

I.C.I. Wilton works to make petroleum-derived terylene. V. S. Swaminathan. il Oil & Gas J 50:86-7+ Je 7 '51

New synthetic fibre. Chem Age (Lond) 63:705 N 18 '50

Properties of terylene filament yarns and staple fiber; abstract. Am Dyestuff Rep 40:233 Ap 2 '51

TESTIMONIALS. See Advertising copy—Testimonials

TESTING

Central instrumentation widens testing scope. F. Friswold. il Product Eng 22:168-71 Ag '51

Great flaw hunt; non-destructive testing. il diags Fortune 43:103-6+ Mr '51

Human analyzers; new techniques add precision to sensory testing. Chem Ind 67:721-2 N '50

Nondestructive testing of engineering materials and parts. R. C. McMaster and S. A. Wenk. il diags Materials & Methods 33:82-96 F '51

Test techniques using electro-dynamic shakers. R. C. Lewis. il diags Product Eng 22:142-7 Ja '51

Versatility displayed by recorders of test data. il Product Eng 22:224 My '51

See also

Electric testing — Testing laboratories

Laboratories — Testing machines

Magnetic testing — Textile testing

also subdivision Testing under various subjects, e.g.

Corrosion and anticorrosives — Metals

Hardness — Plastic materials

Steel

TESTING laboratories

Flexible test room facilitates investigation of lighting systems. il Elec Eng 70:650 Jl '51

Gem-testing laboratory of Tiffany & co. A. E. Alexander. il J Chem Educ 28:128-33 Mr '51

GE laboratory tests gas turbine components. il Product Eng 22:155 Ja '51

Materials testing laboratory. Engineer 192:158 Ag 3 '51

New laboratory for durability studies of protective coatings. Franklin Inst J 251:540-1 My '51

New Texaco laboratory at Beacon. G. Weber. Oil & Gas J 49:55 N 9 '50

Service lab has fast answer; Socony Vacuum laboratories' Technical service dept., Brooklyn. il Mod Ind 21:99 Ap '51

See also

Electric laboratories

also American gas association—Appliance testing laboratory

Cold rooms

Tons of conditioned air for jet engine research; Lewis flight propulsion laboratory. il Steel 128:80-1 My 21 '51

Weather rooms

All-weather laboratory; Wright-Patterson. il Heat & Ven 48:124 Ap '51

14 test chambers duplicate weather in navy laboratory. il Refrig Eng 59:780 Ag '51

Low temperature piping and air conditioning essential in testing equipment for the air force. il diag Heating-Piping 23:80-3 Je '51

Refrigeration; a research tool. il Refrig Eng 59:343-5+ Ap '51

TESTING machines

Accelerator tests aircraft components. il Machine Design 23:120-1 Ag '51

Analysis of the Rockwell hardness test, employing a new deadweight testing machine. C. E. Phillips and A. J. Fenner. il diag Engineering 172:57-61 Jl 13 '51

Apparatus for accelerated weathering tests. il Engineering 171:57 Ja 12 '51

Applying shakers for product vibration analysis. R. C. Lewis. il diags Product Eng 21:150-4 N '50

Automobile test rigs. L. H. Dawtrey. il diags Inst Mech Eng Proc (Auto div pt 4):176-85, pl 1-8 '49-50; Same. Automobile Eng 40:259-65, 286-94 Jl-Ag '50; Discussion. Inst Mech Eng Proc (Auto div pt 4):185-92 '49-50

Baldwin tension and compression testing machine. il Mach 57:199 Ag '51

Design of tester simplified. il diag Machine Design 22:121-2 N '50

Ductility testing machine. il Mach 57:208 F '51

Field-like samples from lab for soils, bituminous tests. il diag Eng N 146:43-4 F 22 '51

Low-cost testing machine has electronic indicating system. il diag Product Eng 22:118-19 Jl '51

Low range tester for light weight materials. il Product Eng 22:214 O '51

Measurement of stress relief. C. R. Tottle. Metallurgia 43:148-50 Mr '51

Measurement of tensile strength of suture materials. S. P. Steward. il J Sci Instr 28:114-15 Ap '51

TESTING machines—*Continued*

Mechanical load-indicator simplifies tester. il diag Machine Design 23:125-6 Mr '51

New sand testing method used to eliminate casting defects. W. H. Moore. il Foundry 79:152+ Ja '51

1951 production preview. il Am Mach 95: 265-75 Ja 22 '51

Olsen testing machines. il Mach 57:209 Ap '51

Pulsating-pressure testing plant for pressure vessels. il diag Engineering 170:384-5 N 17 '50

Refinements aid metal fatigue studies. Aviation W 55:21+ S 3 '51; Same cond. Steel 129:78 Jl 16 '51; Same cond. Product Eng 22:193-4 S '51; Same abr. Materials & Methods 34:11+ Ag '51

Test metals by impact loading. Steel 127:112 D 18 '50

Testing machine aids research. il Machine Design 23:116 O '51

Testing machine for combined tension and torsion. H. V. Pollard and H. J. Tapsell. il diags Engineering 171:58-9 Ja 12 '51

Torsion impact machine sensitive to small energy changes. Mach 57:169 Mr '51

See also

Dynamometers
Extensometers
Gear testing machines
Textile testing machines

TESTOSTERONE

Attempted total synthesis of testosterone. A. J. Birch. bibliog Chem & Ind p616 Jl 14 '51

Preparation of 17 α-propargyltestosterone. D. Magrath, V. Petrow and R. Royer. Chem Soc J p845-6 Mr '51

See also

Nortestosterone

TESTS, Ability. See Ability tests

TETRABENZOPORPHIN

Phthalocyanines and related compounds; further investigations on tetrabenzporphin and allied substances. R. P. Linstead and F. T. Weiss. Chem Soc J p2975-81 N '50

Phthalocyanines and related compounds; the oxidation of phthalocyanine, tetrabenzporphin, and allied substances. R. P. Linstead and F. T. Weiss. Chem Soc J p2981-7 N '50

TETRABROMOPHENOLPHTHALEIN

Behavior of bromophthalein magenta E (tetrabromophenolphthalein ethyl ester) with organic bases and its bearing on the Brønsted-Lowry and Lewis concepts of acidity. M. M. Davis and H. B. Hetzer. bibliog (45 ref) J Res Nat Bur Stand 46:496-511 Je '51

TETRACHLOROBUTANE

Insecticidal activity of 1,1,4,4-tetra-[*p*-chlorophenyl]-2,2,3,3-tetrachlorobutane. J. Bernimolin. Am Chem Soc J 71:2274-5 Je '49; Reply. R. Riemschneider. 73:1374-5 Mr '51

TETRACHLOROETHANE

Kinetics of the dehydrochlorination of substituted hydrocarbons; the mechanism of the thermal decompositions of 1 : 1 : 2 : 2- and 1 : 1 : 1 : 2-tetrachloroethane. D. H. R. Barton and K. E. Howlett. Chem Soc J p2033-8 Ag '51

TETRACHLOROETHYLENE

Vapor liquid equilibria at subatmospheric pressures; trichloroethylene-tetrachloroethylene and ethyl phenyl acetate-ethyl α-phenyl butyrate. K. C. Bachman, A. Zimmerli and E. L. Simons. bibliog Ind & Eng Chem 42:2569-71 D '50

TETRACHLORONITROBENZENE

Colorimetric estimation of tetrachloronitrobenzene. M. E. Auerbach. Anal Chem 22: 1287-8 O '50

TETRACHLOROPHTHALIC anhydride

Tetrachlorophthalic anhydride. W. C. McCrone. il diags Anal Chem 23:1339-40 S '51

TETRACHLOROPROPANE

Preparation of 1,1,3,3-tetrachloropropane. A. M. Whaley and H. W. Davis. Am Chem Soc J 73:1382-3 Mr '51

TETRACHLOROSILANE

Density-composition relation of mixtures of trichlorosilane and tetrachlorosilane. R. I. Grady, J. W. Chittum and C. K. Lyon. Anal Chem 23:805 My '51

TETRACRESYL silicate

High temperature liquid process piping systems; installation utilizing tetra cresyl silicate. W. F. Moore. diags Heating-Piping 23:100-2 My '51

TETRACYCLONE. See Tetraphenylcyclopentadienone

TETRAETHYLAMMONIUM chloride

Solubility of tetraethylammonium chloride in benzene-ethylene dichloride mixtures. A. A. Vernon, G. M. Goldberg and J. H. LaRochelle. Am Chem Soc J 73:2844-5 Je '51

TETRAETHYLAMMONIUM iodide

Solubility of quaternary ammonium salts in methanol-benzene mixtures; the anomalous behavior of tetraethylammonium iodide. G. M. Goldberg and A. A. Vernon. Am Chem Soc J 73:2845-6 Je '51

TETRAETHYL lead

Antiknock antagonists. H. K. Livingston. bibliog Ind & Eng Chem 43:663-71 Mr '51

Gasoline octane likely to drop one number with lead allocation. Nat Pet N 43:31 Mr 14 '51

Majors push uniform TEL reduction with exemptions for small refiner. Nat Pet N 43: 30-1 F 7 '51

New process for production of tetraethyl lead. Automotive Ind 104:52 Je 1 '51

Polymorphism in tetraethyl-tin and -lead. L. A. K. Staveley and others. diag Chem Soc J p2290-301 S '50

Analysis

Determination of tetraethyllead in gasoline by X-ray absorption. S. W. Levine and A. H. Okamoto. bibliog Anal Chem 23:1293-6 S '51

Tetraethyllead in gasoline; symposium. V. A. Smith and others. bibliog il diags Anal Chem 22:1230-61 O '50

TETRAETHYLTHIURAM disulfide

Prolongation of thiopental anesthesia in the mouse by premedication with tetraethylthiuram disulfide (antabuse). N. J. Giarman and others. Science 114:35-6 Jl 13 '51

TETRAETHYL tin

Polymorphism in tetraethyl-tin and -lead. L. A. K. Staveley and others. diag Chem Soc J p2290-301 S '50

TETRAFLUOROETHYLENE

Action of alkanols on tetrafluoroethylene. J. D. Park and others. Am Chem Soc J 73: 1329-30 Mr '51

Decomposition temperatures of polytetrafluoroethylene and polymonochlorotrifluoroethylene as indicated by halogen liberation. H. A. Watson and others. 3pls U S Bur Mines Rep of Invest 4756:1-6 '50

Reaction of methyl radicals with olefins; the reaction with tetrafluoroethylene and vinyl fluoride. F. A. Raal and C. J. Danby. Chem Soc J p 1596-9 Je '50

Use of polytetrafluoroethylene insulators in integrating ion chambers. H. Lysons. diags J Sci Instr 27:334-5 D '50

See also

Teflon

TETRAHYDROCARBAZOLE

Dehydrogenation of 1 : 2 : 3 : 4-tetrahydrocarbazole. W. E. Badcock and K. H. Pausacker. Chem Soc J p 1373-4 My '51

Peroxides of tetrahydrocarbazole and related compounds. R. J. S. Beer, L. McGrath and A. Robertson. Chem Soc J p3283-6 N '50

Peroxides of tetrahydrocarbazole and related compounds; tetrahydrocarbazolyl hydroperoxide. R. J. S. Beer, L. McGrath and A. Robertson. Chem Soc J p2118-26 Ag '50

Preparation of dimethyltetrahydrocarbazoles. G. Anderson and N. Campbell. Chem Soc J p2855-7 O '50

Preparation of tetrahydrocarbazoles from 2-chloro*cyclo*hexanone. N. Campbell and E. B. McCall. Chem Soc J p2870-4 O '50

Structure of certain compounds derived from tetrahydrocarbazole. S. G. P. Plant and M. L. Tomlinson. Chem Soc J p2127-30 Ag '50

TETRAHYDROFURAN

Effect of added gases upon the thermal decomposition of tetrahydrofuran. G. McDonald, N. M. Lodge and W. D. Walters. bibliog Am Chem Soc J 73:1757-60 Ap '51

TETRAHYDROFURAN—*Continued*

Stereochemical studies of olefinic compounds; ring scission of 2-1′-halogenoalkyltetrahydrofurans and 3-halogeno-2-alkyl-tetrahydropyrans as a route to alk-4-en-1-ols of known configuration and as a method of chain extension by five methylene groups. L. Crombie and S. H. Harper. Chem Soc J p 1707-14 Jl '50

Stereochemical studies of olefinic compounds; ring-scission of 3-halogeno-2-alkyltetrahydrofurans as a route to alk-3-en-1-ols of known configuration and as a method of chain extension by four methylene groups. L. Crombie and S. H. Harper. Chem Soc J p 1714-22 Jl '50

Vapor-liquid equilibria in binary systems; systems involving *cis*- or *trans*-dichloroethylene and an acetal or ether. D. G. Flom, N. Alpert and P. J. Elving. diag Ind & Eng Chem 43:1178-81 My '51

TETRAHYDROPYRAN

Some derivatives of tetrahydropyran as potential pharmacodynamic agents. A. Burger, L. B. Turnbull and J. G. Dinwiddie, jr. Am Chem Soc J 72:5512-15 D '50

Stereochemical studies of olefinic compounds; ring scission of 2-1′-halogenoalkyltetrahydrofurans and 3-halogeno-2-alkyl-tetrahydropyrans as a route to alk-4-en-1-ols of known configuration and as a method of chain extension by five methylene groups. L. Crombie and S. H. Harper. Chem Soc J p 1707-14 Jl '50

2-Substituted tetrahydropyranyl sulfides. F. Kipnis and J. Ornfelt. Am Chem Soc J 73:822 F '51

Vibrational spectra of tetrahydropyran and *p*-dioxane. S. C. Burket and R. M. Badger. bibliog Am Chem Soc J 72:4397-405 O '50

TETRAHYDROPYRIDINE

1 : 2 : 5 : 6-Tetrahydropyridine; isolation from technical piperidine by efficient fractional distillation. W. H. Davies and L. L. McGee. Chem Soc J p678-80 F '50

TETRAHYDROPYRIMIDINE

2,5,5-Trialkyl-1,4,5,6-tetrahydropyrimidines. G. S. Skinner and P. R. Wunz. Am Chem Soc J 73:3814-15 Ag '51

TETRAHYDROTHIOPHENE

Dehydrogenation of tetrahydrothiophene. W. Friedmann. Inst Pet J 37:239-41 My '51

TETRALIN

Hydrogen transfer over silica-alumina catalysts. R. W. Blue and C. J. Engle. bibliog Ind & Eng Chem 43:494-501 F '51

TETRALONE

Anomalous reaction of 1-tetralone with *o*-tolylmagnesium bromide. M. Orchin, L. Reggel and R. A. Friedel. bibliog Am Chem Soc J 73:1449-54 Ap '51

TETRAMETHYLAMMONIUM iodide

Structure of tetramethylammonium pentaiodide. R. J. Hach and R. E. Rundle. bibliog diags Am Chem Soc J 73:4321-4 S '51

TETRAMETHYLBUTYLPHENOL

Acridines derived from *p*-(1,1,3,3-tetramethyl)-butylphenol. J. B. Niederl and M. B. Hindert. Am Chem Soc J 72:4071-2 S '50

TETRAMETHYLENEDITHIOL

Polyalkylene sulfides; the polymer from tetramethylenedithiol and biallyl. C. S. Marvel and A. Kotch. Am Chem Soc J 73:481 Ja '51

TETRAPHENYLARSONIUM chloride

Amperometric titrations of Sn^{IV} and Hg^{II} with tetraphenylarsonium chloride. I. M. Kolthoff and R. A. Johnson. Electrochem Soc J 98:231-3 Je '51

Polarography of tin(IV) in presence of traces of tetraphenylarsonium chloride. I. M. Kolthoff and R. A. Johnson. Anal Chem 23:574-6 Ap '51

TETRAPHENYLCYCLOPENTADIENONE

Absorption spectra of some chloro-substituted tetracyclones. F. J. Thaller, D. E. Trucker and E. I. Becker. bibliog Am Chem Soc J 73:228-9 Ja '51

TETRAPHENYLPORPHINE

Exchange and replacement reactions of α,β,γ,δ-tetraphenyl-metalloporphins. J. W. Barnes and G. D. Dorough. diags Am Chem Soc J 72:4045-50 S '50

Spectra of the metallo-derivatives of α,β,γ,δ-tetraphenylporphine. G. D. Dorough, J. R. Miller and F. M. Huennekens. Am Chem Soc J 73:4315-20 S '51

TETRAZOLES

Comparative acidic properties of some 5-substituted tetrazoles. E. Lieber, S. H. Patinkin and Hsiang Hsia Tao. bibliog Am Chem Soc J 73:1792-5 Ap '51

Crystallographic data. W. C. McCrone, D. Grabar and E. Lieber. il diag Anal Chem 23:543 Mr '51

1-(3′,4′-Dimethylphenyl)-5-methyltetrazole. F. R. Benson, L. W. Hartzel and W. L. Savell. Am Chem Soc J 73:4457-8 S '51

TETRAZOLIUM compounds

Tetrazolium salt. F. E. Smith. bibliog Science 113:751-4 Je 29 '51

TETROLIC acid

Researches on acetylenic compounds; further Reformatsky reactions with propargyl bromides. H. B. Henbest, E. R. H. Jones and I. M. S. Walls. Chem Soc J p3646-50 D '50

TETRYL

Nitration of dimethylaniline to tetryl, 2 : 4 : 6 : *N*-tetranitromethylaniline; the course of the reaction. C. E. Clarkson, I. G. Holden and T. Malkin. Chem Soc J p 1556-62 Je '50

TEXAS

See also

Paleontology—Texas

Petroleum laws and regulations—Texas

Sanitary affairs

How Texas controls water pollution. D. F. Smallhorst. il map Pub Works 82:46-8+ My '51

TEXAS company

Annual report. Comm & Fin Chr 173:1279 Mr 26 '51

Earnings on the new stock likely to top $5 per share. W. B. Moses, jr. Barron's 31:19-20 Je 18 '51

TEXAS eastern transmission corporation

Preferred stock offered. Comm & Fin Chr 172:2224-5 D 11 '50

TEXAS electric service company

Bonds offered. Comm & Fin Chr 173:2614 Je 25 '51

TEXAS gas transmission corporation

Planning new expansion. Barron's 31:15 Je 4 '51

Preferred stock offering oversubscribed. Comm & Fin Chr 174:406-7 Jl 30 '51

TEXAS Illinois natural gas pipeline company

Subscriptions, etc. Comm & Fin Chr 173:107-8 Ja 8 '51

TEXAS university

Texas research center aids oil industry; Off-campus research center. F. D. Thompson. il World Oil 133:69-70 Jl '51; Same cond. Pet Eng 23:B50+ Je '51

TEXAS utilities company

Newcomers on the New York stock exchange. G. W. Mathis. Mag of Wall St 88:376-7 Je 30 '51

Revenue uptrend strong. Barron's 31:14 O 1 '51

Security I like best. J. J. D'Arcy. Comm & Fin Chr 173:948 Mr 1 '51

TEXTBOOKS

Textbook from the publisher's point of view. E. P. Hamilton. J Eng Educ 41:589-93 Je '51

Textbook planning from the point of view of author and editor. W. L. Everitt. J Eng Educ 41:598-600 Je '51

Textbook planning from the point of view of teacher and author. H. H. Skilling. J Eng Educ 41:594-7 Je '51

See also

Journalism—Textbooks

TEXTILE analysis

Copper in textiles to be rubberized; proposed new method for determination of injurious copper. M. W. Weiss and others. bibliog Am Dyestuff Rep 40:41-3 Ja 22 '51

Non-injurious copper in textiles to be rubberized. S. Lee and others. bibliog India Rubber World 124:58-61 Ap '51

TEXTILE analysis—*Continued*

Simplified method for the determination of the oil content of textiles; comparison of Aliquot method with Soxhlet and nonionic scouring methods. Am Dyestuff Rep 40:30-2 Ja 8 '51

Spot test analysis of the ash of natural cellulosic fibers. N. A. Matlin. Am Dyestuff Rep 40:44-8 Ja 22 '51

TEXTILE associations

See also

National federation of textiles

TEXTILE chemicals

Alphabetical list of new products developed since Nov. 1949. Am Dyestuff Rep 39:848-63 D 11 '50

Animal glue; many millions of pounds used for the sizing of textiles. H. B. Sweatt. Rayon 32:64+ Mr '51

Application of cellulose ethers to textiles on a laboratory scale; abstract. N. Lakshminarayanaiah. Am Dyestuff Rep 39:805 N 27 '50

Chemicals you live by in the textile industry. L. P. Seyb. bibliog Rayon 31:79+ O; 75+ N '50

Contributions of petroleum to textile processing. W. A. Beman. Rayon 32:84+ Ap '51

Corn products play an essential role in manufacture of textiles. F. A. Lewis. il Rayon 32:85-6+ S '51

Detergents; a dilemma. S. M. Edelstein. Am Dyestuff Rep 40:519-23+ Ag 20 '51; Same. il Soap & San Chem 27:35-8+ S; 51+ O '51

Gluconic acid; versatile agent for the textile chemist. J. P. Bilello. Textile World 101: 151+ O '51

Glycerine; its importance in textile progress. M. A. Lesser. bibliog Rayon 32:62+ F '51

Improved fatty intermediates for textile finishing. L. J. Armstrong. diag Am Dyestuff Rep 40:497-500 Ag 6 '51

New jobs for zirconium. il Chem Ind W 68: 27 Mr 31 '51

Resorcinol; its applications for textiles. E. W. Shand. bibliog Rayon 31:79-80+ N '50

Salt; its importance and use in textile industry. E. B. Tustin, jr. Rayon 31:83-4 D '50

Sodium silicate; inexpensive and extensively used tool in the textile industry. A. B. Middleton. bibliog il Rayon 32:51-2 Ag '51

Synthetic detergents; are they here to stay? O. M. Morgan. il Rayon 32:93-4+ S '51

Synthetic fibers discovered; C&EN annual review. M. Harris. Chem & Eng N 29: 35-6 Ja 1 '51

Textile and leather chemicals. Published in weekly numbers of Oil, paint and drug reporter

Use of textile auxiliaries. J. E. Smith. Chem & Eng N 29:548-51 F 12 '51

Zirconium chemicals; their application to textiles. W. B. Blumenthal. bibliog Rayon 31:81-3 D '50; 32:85-6+ Ja; 79-80+ Ap '51

See also

Starch

Surface active substances

Wetting agents

Prices

Textile and leather chemicals; 1950 market trends. Oil Paint & Drug Rep 159:44-6 sec 2 Ja 29 '51

TEXTILE chemistry

Nonionic surface-active agents; their chemistry and utilization in the textile industry. H. Robinette. Am Dyestuff Rep 39:888-90 D 11 '50

See also

Resinous products—Textile uses

Textile fibers, Synthetic

TEXTILE chemists and colorists, American association of. See American association of textile chemists and colorists

TEXTILE design

Design and the silk centre. E. W. Goodale. Textile Inst J 42:P857-66 S '51

Electromagnetic dobby speeds sample design variations; illustrations with text. G. Zellnik. Textile World 101:89-91 Ap '51

Enumeration problem in textile design. S. A. Shorter. bibliog Textile Inst J Trans 40: T189-99, T735-48; 41:T333-48 Mr, N '49, S '50

TEXTILE drying

Drying of dyed textile fibres; difficulties imposed by heat sensitivity. R. W. Speke. Chem Age (Lond) 64:405-7 Mr 17 '51

Moisture controller reduces tenter costs, increases production. il Textile World 101: 151+ S '51

Past and present trends in textile drying. F. W. Thomas. Textile Inst J 42:P703-14; Discussion. P714-16 Ag '51

Radio-frequency drying of textile fabrics. P. Alexander and G. A. Meek. bibliog diags Soc Dyers & Col J 66:530-7 O '50

Rate of drying of fabrics. L. Fourt and others. bibliog Textile Res J 21:26-33 Ja '51

Some aspects of the drying and heating of textiles; migration in relation to moisture content. J. M. Preston and A. Bennett. bibliog 2pls Soc Dyers & Col J 67:101-3 Mr '51

Some aspects of the drying and heating of textiles; modifications produced by thermal treatments. J. M. Preston and others. bibliog Soc Dyers & Col J 67:169-76 My '51

Some aspects of the drying and heating of textiles; the effect of drying conditions on the latent strain in the yarn of viscose cakes. J. M. Preston and J. C. Chen. bibliog il Soc Dyers and Col J 67:97-100 Mr '51

See also

Drying apparatus—Textiles

Rayon drying

TEXTILE education

Textile education in Great Britain. C. Lloyd. Textile Inst J 42:P284-93; Discussion. P294-301 Jl '51

Trained hands and minds make good jobs better; opportunities for textile education. M. B. Andrews. Textile World 101:177+ Mr '51

TEXTILE fabrics

All wrapped up in synthetics. il Bsns W p75-6 N 18 '50

Lighting for fabrics; need for colour discrimination in home furnishing. H. Hewitt. Elec R (Lond) 147:1069-70 D 22 '50

New synthetic fabrics; hope of future. J. V. Sherman. Barron's 31:13-14 Jl 30 '51

New textiles; their impact on manufacturers and users. B. P. Ridge. Textile Inst J 42: P885-91; Discussion. p891-3 S '51

New type of non-woven fabric; Webril-R fibers are entangled and twisted and interlocked. J. F. Ryan. Am Dyestuff Rep 40: 262-4 Ap 16 '51

Relationship between the structural geometry of a textile fabric and its physical properties; textile geometry and abrasion-resistance. S. Backer and S. J. Tanenhaus. il diags Textile Res J 21:635-54 bibliog(p653-4) S '51

Relationship between the structural geometry of a textile fabric and its physical properties; the mechanics of fabric abrasion. S. Backer. il diags Textile Res J 21:453-68 bibliog(70 titles, p466-8) Jl '51

Remedies for sewing problems. H. Wedemeyer. il Rayon 31:36+ O '50; Excerpts. Am Dyestuff Rep 39:924 D 25 '50

Some relations of fiber properties to fabric hand. R. M. Hoffman and L. F. Beste. bibliog il diags Textile Res J 21:66-77 F '51

See also

Automobile fabrics

Bleaching

Carpets

Cloth cutting machines

Cotton fabrics

Duck (textile)

Felt

Knit goods

Laundry

Lining fabrics

Mildew

Military fabrics

Napping of textiles

Nylon fabrics

Pile fabrics

Rayon fabrics

Ribbon

Rubberized fabrics

Saran

Silk

Singeing (textiles)

Sizing (textiles)

Textile fibers

Textile finishing

Textile printing

Textile research

Tire fabrics

Waterproofing of textiles

Woolen and worsted fabrics

Bibliography

Abstracts. Published in monthly numbers of Journal of the Textile institute

TEXTILE fabrics—*Continued*

Bonded web

Bonded fabrics; abstract. C. E. Coke. Am Dyestuff Rep 40:233 Ap 2 '51
Bonded fibre fabrics. G. H. Elliott. bibliog diag Textile Inst J 42:P661-72; Discussion. P672-4 Ag '51
Laboratory evaluation of the wear resistance of nonwoven fabrics. R. G. Stoll. bibliog il diags Am Dyestuff Rep 40:305-11 My 14 '51
Lace to laminates with bonded fabrics; illustrations with text. Mod Ind 20:68+ D '50

Cleaning

See Cleaning

Coating

Vinyl-coated fabrics are not hard to process continuously. E. D. White. il Textile World 101:135+ Je '51

Defects

49 cloth defects, and what may cause them; reference chart. S. C. Veney. Textile World 101:113-15 Ag '51

Electrostatic properties

Measurement of static electricity on fabrics. M. Hayek and F. C. Chromey. bibliog il diags Am Dyestuff Rep 40:164-8 Mr 5 '51

Heat transmission

Apparatus for evaluating warmth of textile fabrics. J. D. Tallant and R. K. Worner. bibliog il diag Textile Res J 21:591-6 Ag '51
Milium; resinated aluminum-sprayed fabric that reflects the heat radiated from the body to make clothing warmer. il Light Metal Age 8:11 O '50
Warm clothes. M. E. Barker. il Sci Am 184: 56-60 Mr '51

Moisture content

Moisture controller reduces tenter costs, increases production. il Textile World 101: 151+ S '51

Narrow fabrics

Smallwares and narrow fabrics; historical sketch (to 1944). il maps Textile Inst J 41:P751-99 N '50
Structure and properties of yarns in relation to narrow fabrics. W. E. Morton. Textile Inst J 41:P692-700 S '50; Discussion. J. E. Hill. 42:P89 F '51

Permeability

Improved tester determines properties of dust filter media. L. R. Michels and C. A. Wolbach. il diag Chem Eng 58:126 Ja '51

Porosity

Air porosity of open-weave fabrics; metallic meshes; textile fabrics A. F. Robertson. bibliog diags Textile Res J 20:838-57 D '50
See also
Cotton fabrics—Porosity

Protection

Protection of paper and textile products from insect damage. S. S. Block. bibliog il Ind & Eng Chem 43:1558-63 Jl '51
Rot research. il Chem Ind W 68:15-16 F 3 '51
Static electricity prevention; glycols plus common salt used; patent. Am Dyestuff Rep 40:357 My 28 '51
See also
Cotton fabrics—Protection
Fireproofing of textiles.
Rotproofing of textiles
Waterproofing of textiles

Shrinkage

British continuous-shrinking machine is tensionless. il Textile World 101:168 O '51
See also
Cotton fabrics—Shrinkage
Rayon fabrics—Shrinkage
Woolen and worsted fabrics—Shrinkage

Stains

Lee brings out stainproof skirts; Terson process. Bsns W p42 F 10 '51

Strength

Investigation of fabric structure and its relation to certain physical properties; combination fabrics. G. H. Hotte. bibliog Textile Res J 20:811-28 D '50

Testing

Air porosity of open-weave fabrics; metallic meshes; textile fabrics. A. F. Robertson. bibliog diags Textile Res J 20:838-57 D '50
Investigation of fabric structure and its relation to certain physical properties; combination fabrics. G. H. Hotte. bibliog Textile Res J 20:811-28 D '50
Laboratory evaluation of the wear resistance of nonwoven fabrics. R. G. Stoll. bibliog il diags Am Dyestuff Rep 40:305-11 My 14 '51
Measurement of static electricity on fabrics. M. Hayek and F. C. Chromey. bibliog il diags Am Dyestuff Rep 40:164-8 Mr 5 '51
Measurement of stiffness in textile fabrics; comparison of five methods of laboratory evaluation; study of the Peirce cantilever test. N. J. Abbott. bibliog Textile Res J 21:435-44 Je '51
Use of a discriminant function in textile research. W. D. Baten and others. bibliog Textile Res J 20:869-72 D '50
See also
Cotton fabrics—Testing
Rayon fabrics—Testing

Uses

New industrial fabrics; RST report. A. W. Williams. Rayon 32:36+ S '51

Water absorption

Method of measuring penetration and wetting. C. R. Trommer. Am Dyestuff Rep 39:811-12+ N 27 '50

Wear

Abrasion test as a criterion to determine the wear of textiles. F. H. Germans. bibliog il diags Textile Inst J Trans 42:T 185-93 My '51
Relation between fiber properties and apparent abrasion resistance. D. D. Gagliardi and A. C. Nuessle. Am Dyestuff Rep 40: 409-15 Je 25 '51
Studies of worn and aged cotton fabrics. M. E. Murdison and J. S. Roberts. Textile Inst J Trans 41:T429-45 N '50
Wear testing; abstract. D. L. C. Jackson. Am Dyestuff Rep 39:803-4 N 27 '50

TEXTILE fabrics, Interior decoration
Current trends in home fashions. M. L. Brandt. J Retailing 26:117-21+ Fall '50

TEXTILE fibers
Bast and leaf fibres; development and prospects. A. J. Turner. Textile Inst J 42:P325-36; Discussion. P336-8 Ag '51
Capillary and imbibed water in assemblies of moist fibres. J. M. Preston and others. bibliog diag Textile Inst J Trans 42:T79-90 F '51
Chemical attack on polymeric materials as modified by diffusion. S. M. Katz and others. bibliog Textile Res J 20:754-60 N '50
Chemical engineering materials of construction; fibers. C. S. Grove, jr., J. L. Vodonik and R. S. Casey. bibliog(70 ref) il Ind & Eng Chem 43:2235-8 O '51
Clothing an expanding population. D. Traill. bibliog Textile Inst J 42:P221-36 Je '51
Composition of bimlipatam and mesta fibres; hibiscus cannabinus. D. B. Das and others. bibliog Textile Inst J Trans 42:T 181-4 Ap '51
Interfiber stress and its transmission; measurement and theory of the contact area between fibers under pressure. R. B. Finch. bibliog il diags Textile Res J 21: 375-92 Je '51
Microscopic study of oiled textile fibres immersed in aqueous media. D. G. Stevenson. bibliog il diags Textile Inst J Trans 42:T 194-206 My '51
Physics of fibers; methods of X-ray and microscopic study; swelling action; abstract. W. R. Moore. Am Dyestuff Rep 40:137 F 19 '51
Relationship between detergency and adsorption by the fibre. K. McLaren. bibliog diag Soc Dyers & Col J 66:521-9 O '50

TEXTILE fibers—*Continued*

Shortage of textile fibres; with data on world production, 1938, 1946-50. Economist 160: 395-6 F 17 '51

Soiling and soil retention in textile fibers; cotton fiber, grease-free carbon black systems. J. Compton and W. J. Hart. il Ind & Eng Chem 43:1564-9 Jl '51

Some relations of fiber properties to fabric hand. R. M. Hoffman and L. F. Beste. bibliog il diags Textile Res J 21:66-77 F '51

See also

Bast fibers
Cashmere
Cotton fibers
Flax
Jute
Manila hemp
Mohair
Ramie
Silk
Sisal hemp
Wool

Bibliography

Abstracts. Published in monthly numbers of Journal of the Textile institute

Textile research and development during 1950; review of the literature. R. O. Steele and others. Textile Res J 21:293-373 bibliog(1622 titles, p335-73) My '51

Blending

Blended yarns, the constant challenge. J. McComb. il Rayon 32:31+ S '51

Fiber blending is best done mechanically. W. F. Leineweber, jr. diags Textile World 101:139+ Je '51

Mechanized fiber blender. L. E. Hessler and H. E. Kieke. il diags Textile Res J 20:802-4 N '50

Quantitative determination of nylon, orlon and fiber V in wool blends. H. W. Wolf. bibliog il Am Dyestuff Rep 40:273-6 Ap 30 '51

Damage

Detection and estimation of damage in jute fibre; assessment of fungal damage. S. N. Basu and S. N. Ghose. Textile Inst J Trans 42:T 1-5 Ja '51

Identification

Identification of fibres. J. M. Preston. bibliog diags Textile Inst J 41:P679-91 S '50

Specialty hair fibers; how to identify them. A. N. Patterson. Rayon 31:41-3 N '50

Types and dimensions of fiber scales from the wool types of domestic sheep and wild life. G. S. Mahal and others. bibliog il Textile Res J 21:83-93 F '51

Measurement

Aid to the measurement of fibre diameter. P. Larose. il diag Textile Inst J 42:P104-6 Mr '51

Fibre diameter measurements of tops, 1947. Textile Inst J 42:P 132-5; Discussion. P 135-6 Ap '51

Measurement of fiber orientation. C. H. Lindsley. il diag Textile Res J 21:39-46 Ja '51

Simple expressions for the circularity and fullness of fibers. E. L. Skau. bibliog Textile Res J 21:14-17 Ja '51

Moisture content

Some aspects of the drying and heating of textiles; migration in relation to moisture content. J. M. Preston and A. Bennett. bibliog 2pls Soc Dyers & Col J 67:101-3 Mr '51

Re-use

Machine manufacturer looks at rag picking vs. picking and shredding. J. H. Senior. il Rayon 32:39+ S '51

Modern ideas on garnetting; abstract. H. B. Riehl. Rayon 32:46 Ag '51

Swelling

Some aspects of the drying and heating of textiles; modifications produced by thermal treatments. J. M. Preston and others. bibliog Soc Dyers & Col J 67:169-76 My '51

Testing

Electronic work-recovery integrator. L. P. Haner. il diags Textile Res J 21:277-80 My '51

Limitations of the arealometer method for the measurement of fiber diameters. J. M. DallaValle and others. bibliog diag Textile Res J 20:676-82 O '50

Measurement of dynamic modulus and energy losses in single textile filaments subjected to forced longitudinal vibrations. B. A. Dunell and J. H. Dillon. bibliog diags Textile Res J 21:393-403 Je '51

Mechanical hysteresis properties of single fibers and cords. H. Wakeham and E. Honold. bibliog il Textile Res J 21:1-5 Ja '51

Tensile recovery behavior of textile fibers. G. Susich and S. Backer. bibliog il Textile Res J 21:482-509 Jl '51

Tentative textile specification no. 18, 1950; methods of fibre sampling for testing. Textile Inst J 41:S 1-6 O '50

Tentative textile specification no. 19, 1950; determination of conditioned fibre weight per centimetre. il diag Textile Inst J 41: S7-10 O '50

Use of density gradient tubes in fibre studies and their application to the analysis of fibre mixtures. J. M. Preston and M. V. Nimkar. bibliog diags Textile Inst J Trans 41:T446-54 N '50

TEXTILE fibers, Synthetic

All wrapped up in synthetics. il Bsns W p75-6 N 18 '50

Animal-protein synthetic has wool-like composition; Merinova. il Textile World 101:170 S '51

Army discovers the fibers. Rayon 32:33+ Ap '51

Carbide & Carbon tells of doubled dynel capacity in '51. Chem & Eng N 28:4352 D 11 '50

Changes in synthetic yarn production; revised table, deniers and filament numbers as of March 1951. Rayon 32:53-5 Mr '51

Changes in synthetic yarn production; with revised denier and filament number tables as of Sept. 1951. Rayon 32:57-9 S '51

Check these pointers to help you in handling dynel. Textile World 100:126-7+ D '50

Chemical engineering materials of construction; fibers. C. S. Grove, jr., J. L. Vodonik and R. S. Casey. bibliog(70 ref) il Ind & Eng Chem 43:2235-8 O '51

Chemstrand corp. registers Acrilan. Rayon 32:63 S '51

Chemstrand corp. to produce new acrylic type fiber. map Rayon 31:66 N '50

Crystallization phenomena in fibre-forming synthetic polymers; abstract and discussion. L. B. Morgan. Chem & Ind p796 S '51

Dacron data sheet. il Textile World 101:120-1 Jl '51

Dacron, new name for fiber V. Rayon 32:41 Ap '51

Development of the synthetic fibres. G. Loasby. Textile Inst J 42:P411-37 bibliog(307 ref, p433-7); Discussion. P437-41 Ag '51

Du Pont expanding synthetic fiber capacity. Barron's 31:25 Jl 30 '51

Du Pont looks back at 1950. R. L. Richards. Rayon 32:71-2 Ja '51

Du Pont turns the spotlight on Dacron. il Rayon 32:52 Je '51

Dynel showing highlights progress of new fiber. il Rayon 32:73 Ja '51

Dynel's performance as filter cloth reported superior. Am Dyestuff Rep 40:456 Jl 9 '51

Ethylene chemicals; the next decade; with graphs and tables. W. E. Kuhn and J. W. Hutcheson. bibliog Chem W 69:19-34 S 29 '51

Fiber, atom, new boss at Monsanto; Chemstrand. il Bsns W p 112-14+ My 5 '51

Finisher's position regarding new synthetic fabrics. F. S. Richardson. Am Dyestuff Rep 40:223-4 Ap 2 '51

Foreign producers of synthetic yarns and fibers. Textile World 101:125-6 S '51

Future of synthetic fibres; abstract and discussion. J. G. Evans. Chem & Ind p74 Ja 27 '51

Here's the Dacron story; fiber to produce resilient fabrics. L. L. Larson. Textile World 101:112-13+ Je '51; Same cond. il Rayon 32:39-40+ Jl '51

How to eliminate static on dynel. Rayon 31: 74 D '50

Introduction to dyeing of Chemstrand acrylic fiber. J. A. Woodruff. bibliog il Am Dyestuff Rep 40:402-8 Je 25 '51; Excerpt. Textile World 101:126-7 Ag '51

TEXTILE fibers, Synthetic—*Continued*

Learn a lesson from nylon in promotion of new synthetics. il Rayon 32:34-5+ Je '51

Man-made fibers are annexing a bigger share of textile markets. S. L. Sherman. Barron's 31:11-12 Jl 30 '51

Man-made fibers in '50 show greatest percent gain. R. C. Scott. Textile World 101:115-17 S '51

Microscopy and identification of synthetic fibers. F. D. Houghton. il Tappi 34:353-6 Ag '51

More specific properties is need of textile industry from new synthetic fibers. M. Harris. il Chem & Eng N 29:545-7 F 12 '51

New deal in clothing. Rayon 32:78+ S '51

New French fibers; abstract. Am Dyestuff Rep 40:233-4 Ap 2 '51

New materials for industry; third Chance memorial lecture. P. C. Allen. Chem & Ind p344-50 My 5 '51

New synthetic fabrics; hope of future. J. V. Sherman. Barron's 31:13-14 Jl 30 '51

New synthetic fiber gets going; Union Carbide's dynel. il Bsns W p58-9 D 16 '50; Chem Eng 58:186-7 Ja '51

New synthetic fibers draw investors. Bsns W p 124+ Je 9 '51

New synthetic fibers show promise of wide use in industry. K. Rose. il Materials & Methods 34:76-9 Ag '51

New textile fibers. il Mod Plastics 29:75-8 S '51

New textiles; their impact on manufacturers and users. B. P. Ridge. Textile Inst J 42:P885-91; Discussion. p891-3 S '51

1951 table of commercial synthetic yarns and fibers. Textile World 101:108-9, 118-19 S '51

Outlook for synthetics in the year ahead; with details on leading companies. J. M. Morahan. Rayon 32:52-3+ Ja '51

Peanut protein fibers; pilot scale plant. J. C. Arthur, jr. and H. G. Many. bibliog il diag Am Dyestuff Rep 39:719-22 O 30 '50

Present and future developments in the dyeing and finishing of synthetics. W. F. Brosnan. Am Dyestuff Rep 40:350-3 My 28 '51

Printing of synthetics, trends and mill problems. A. F. McLean. Am Dyestuff Rep 40:501-3 Ag 6 '51

Production of newer synthetics follows course of rayon; with 1951 revision, Textile World's synthetic-fiber table. W. A. Newell, comp. Textile World 101:105-24 S '51

Sky's the limit for synthetic fibers; interview with David A. Travis. il Bsns W p46-8+ S 29 '51

Some aspects of the chemical finishing of fabrics derived from synthetic fibers. A. C. Nuessle. Am Dyestuff Rep 40:524-8 Ag 20 '51

Some plain talk about wool; new synthetics as alternatives. A. W. Williams. il Rayon 32:31-2+ Ag '51

Some trials by ingenious inquisitive persons; regenerated protein fibres. D. Traill. bibliog(71 ref) diag Soc Dyers & Col J 67:257-70 Jl '51

Stabilization of zein filaments by baking. C. B. Croston and C. D. Evans. Textile Res J 20:857-8 D '50

Synthetic fibers. il Chem & Eng N 29:2552-7 Je 25 '51

Synthetic fibers. S. Williams. il diag Sci Am 185:37-45 Jl '51

Synthetic fibers; blends and substitutes for wool. Mech Eng 73:141 F '51

Synthetic fibers; Chemical Engineering report. il diags Chem Eng 58:125-32 Ag '51

Synthetic fibers dig in on the carpet front. J. M. Morahan. il Rayon 32:32-3+ F '51

Synthetic fibers discovered; C&EN annual review. M. Harris. Chem & Eng N 29:35-6 Ja 1 '51

Synthetic fibers in the rubber industry. E. Weller. il Rayon 32:39-41+ Ag '51

Technical aspects of the wet finishing of synthetics. H. F. Creegan. il Rayon 32:57-8+ F '51

Test-tube textiles for industry. A. W. Williams. il Mill & Factory 48:84-6 Ja '51

Uses of artificial fibres in woollens. R. R. Franck. bibliog Textile Inst J 42:P873-6 S '51

Vicara staple fiber; its uses, properties and end products, abstract. L. B. Whitcomb. Am Dyestuff Rep 40:559-60 S 3 '51

Vinylon from Japan; a new synthetic fiber. Textile World 101:123+ Ap '51

What's ahead for the chemical fibers? J. B. Quig. il Rayon 31:67-8 O '50

What's new in staple fibers; RST survey. Rayon 32:60-3 S '51

Why five fibers? J. B. Quig. il Rayon 32:34-5+ S '51

See also

Dyes and dyeing—Synthetic fibers
Nylon
Nylon fibers
Orlon
Rayon
Saran
Terylene
Vinyon

Blending

Blended yarns, the constant challenge. J. McComb. il Rayon 32:31+ S '51

Synthetic blends; the wool trade's salvation? Rayon 32:32-3+ S '51

Synthetic fabric blends; nylon, Fiber V and Orlon; abstract. J. B. Quig. Chem Eng 57:263-5 D '50

Two fibers often better than one; Vicara, a good mixer. il Rayon 32:64-5 S '51

Viracle tropical suit; blend of Dacron and wool. Rayon 32:34 Jl '51

Identification

Identification of fibres. J. M. Preston. bibliog diags Textile Inst J 41:P679-91 S '50

Uses

New industrial fabrics; RST report. A. W. Williams. Rayon 32:36+ S '51

TEXTILE finishing

Aspects of emulsion applications in textile processing; abstract. Am Dyestuff Rep 40:360 My 28 '51

Canadian textile seminar discusses modern methods; abstracts of papers. Textile World 100:139+ D '50

Characteristics of Positex; a natural rubber latex modified for textile finishing. C. M. Blow. il diags Rubber Age 68:319-21 D '50

Chintz effects; ureaformaldehyde preparations mixed with wetting oils; patent. Am Dyestuff Rep 40:198 Mr 19 '51

Enzymes for textile processing; abstract. J. H. Downey. Am Dyestuff Rep 40:388 Je 11 '51

Finisher and textile quality; abstract. J. G. Evans. Am Dyestuff Rep 40:361 My 28 '51

Finishing of face cloths, pile fabrics, etc. A. I. Read. Textile Inst J 42:P205-8 My '51

Improved fatty intermediates for textile finishing. L. J. Armstrong. diag Am Dyestuff Rep 40:497-500 Ag 6 '51

Interrelationship of functional fabric properties resulting from the use of special textile finishes. J. F. Oesterling. Am Dyestuff Rep 40:346-9 My 28 '51

Lee brings out stainproof skirts; Terson process. Bsns W p42 F 10 '51

Modern concept of finishing. P. T. Gale and R. J. Smith. bibliog Textile Inst J 42:P579-86; Discussion. P586-9 Ag '51

New dyes and finishes for synthetics shown at AATCC exhibit. il Textile World 100:171+ N '50

Nonionic surface-active agents; their chemistry and utilization in the textile industry. H. Robinette. Am Dyestuff Rep 39:888-90 D 11 '50

Odor prevention in resin treated fabrics. L. A. Fluck and others. bibliog Am Dyestuff Rep 40:154-60 Mr 5 '51

Recent developments in the mechanical finishing of textile fabrics; wool fabrics; cellulosic fabrics. C. S. Whewell; H. A. Turner. bibliog Textile Inst J 42:P633-52 Ag '51

Remedies for sewing problems. H. Wedemeyer. il Rayon 31:36+ O '50

Removing static electricity in textile processing; abstract. G. Neuhof. Am Dyestuff Rep 39:723 O 30 '50

TEXTILE finishing—*Continued*

Review of textile coloring and finishing research; Olney medal paper. G. L. Royer. Am Dyestuff Rep 39:877-87 bibliog(145 ref, p886-7) D 11 '50

Scientific approach to the study of the coloring and finishing of textiles; abstract. G. L. Royer. Am Dyestuff Rep 39:580 S 4 '50; Same. Rayon 31:53 D '50

Some aspects of the chemical finishing of fabrics derived from synthetic fibers. A. C. Nuessle. Am Dyestuff Rep 40:524-8 Ag 20 '51

Technical aspects of the wet finishing of synthetics. H. F. Creegan. il Rayon 32:57-8+ F '51

Textralizing process imparts permanent crimp to fibers. J. H. Pfau and W. D. Hay. il diag Textile World 100:106-7+ D '50

Top-notch finishing plant; Mount Hope finishing co.; illustrations with text. Textile World 101:115-19 Jl '51

Vat-color aging calls for strict control. T. N. Patrick. Textile World 101:141+ Mr '51

Zirconium chemicals; their application to textiles. W. B. Blumenthal. bibliog Rayon 31:81-3 D '50; 32:85-6+ Ja; 79-80+ Ap '51

See also

Bleaching
Cotton finishing
Creasing of textiles
Dyes and dyeing
Napping of textiles
Rayon finishing
Singeing (textiles)
Sizing (textiles)
Tentering machines
Textile fabrics—Coating
Waterproofing of textiles
Woolen and worsted finishing

TEXTILE finishing machines

Compartment-type open soaper has new design features. il Textile World 101:129-30 Ap '51

Continuous treating unit sets yarns permanently. F. H. Muller. il Textile World 101:132-3+ Mr '51

TEXTILE industry

Consumer reactions. H. F. W. Brooks. Textile Inst J 42:P798-804 Ag '51

Economics of the textile industry. D. H. Angney. Am Dyestuff Rep 40:343-5 My 28 '51

High lights of the past year. P. J. Wood. Am Dyestuff Rep 39:869-70 D 11 '50

Man-made fibers are annexing a bigger share of textile markets. S. L. Sherman. Barron's 31:11-12 Jl 30 '51

Mills gird themselves for all-out production in 1951; annual review and forecast. R. C. Scott and others. Textile World 101:107-19+ F '51

New synthetic fabrics; hope of future. J. V. Sherman. Barron's 31:13-14 Jl 30 '51

1950 expenditures and commitments reach an all-time high. R. C. Scott. Textile World 100:108-9+ N '50

Outlook for synthetics in the year ahead; with details on leading companies. J. M. Morahan. Rayon 32:52-3+ Ja '51

Quartermaster and his defense orders. Rayon 32:34-5+ Mr '51

Some problems in distribution. Lord Hollenden. Textile Inst J 41:P701-6 S '50

Textile buyers hold off. Bsns W p26 Jl 7 '51

Textile industry has good first half, considers third quarter problems. J. A. Daly. Manuf Rec 120:35 Jl '51

Textile industry outlook. H. E. Dickhuth. Banking 43:52+ Mr '51

Textile mergers; Cone and Dwight. Bsns W p90 Ja 6 '51

Textile pinched by excessive military, civilian demand. J. A. Daly. Manuf Rec 119:36-7 D '50

Textile slump. F. Henle. Barron's 31:9 Jl 30 '51

Textiles show signs of life. Bsns W p21 S 1 '51

Trends of the textile industry. H. C. Borghetty. Am Dyestuff Rep 39:777-81; Discussion. 781+ N 13 '50

Use of textile auxiliaries. J. E. Smith. Chem & Eng N 29:548-51 F 12 '51

Why Belding says it with color slides; salesmen's Kodachromes and viewers. Sales Management 66:118+ Ap 15 '51

See also

Carpets
Clothing trade
Cotton trade
Dye industry
Dyes and dyeing
Hosiery trade
Knit goods
Rayon industry
Silk
Silk trade
Textile fibers
Textile fibers, Synthetic
Textile mills
Weaving
Wool trade

Advertising

New brand-name fabric due for heavy ad and promotion buildup; Reeves-Erenmade. il Ptr Ink 234:34 Mr 23 '51

Bibliography

Abstracts. Published in monthly numbers of Journal of the Textile institute

Textile bibliography; revised and reprinted from Textile world, August 1950. R. C. Scott, comp. 25c Textile World, 330 West 42d st New York 18 '51

Textile research and development during 1950; review of the literature. R. O. Steele and others. Textile Res J 21:293-373 bibliog(1622 titles, p335-73) My '51

Exhibitions

American association of textile chemists and colorists 30th annual convention textile exposition, New York, Oct. 17-19; plans and guide to exhibitors. Textile World 101:181-2+ O '51

History

History of long-draft spinning and roving. Textile World 101:206+ S '51

Smallwares and narrow fabrics; historical sketch (to 1944). il maps Textile Inst J 41:P751-99 N '50

Periodicals

Production and utilisation of textile information; Mather lecture, 1951. J. C. Withers. Textile Inst J 42:P 181-90 My '51

Regulation

Price controls; how adequate are the present federal orders? Rayon 32:36+ Mr '51

Securities

Battle for stock; Consolidated Textile lures stockholders of Bates Manufacturing. Bsns W p 124 Mr 17 '51

New synthetic fibers draw investors. Bsns W p 124+ Je 9 '51

Soft goods industries in 1951; with statistical data on selected companies. G. W. Mathis. Mag of Wall St 87:318-19+ D 30 '50

Stockholders snug in wool, cotton. Bsns W p 102+ O 21 '50

Textile industry looking to the fall; with statistical data on leading companies. S. Devlin. Mag of Wall St 88:137-9+ My 5 '51

Textiles out of the dumps? with data on leading companies. S. Devlin. Mag of Wall St 89:27-9+ O 6 '51

Statistics

Overseas picture. Textile World 101:119+ F '51

World position of textiles in 1950; tabulation. Textile World 101:120 F '51

Canada

Balance between research and production. G. E. Hall. Can Chem & Process Ind 34:810-12+ O '50

Germany

Prospects and problems of the textile industry in western Germany. R. Roux. bibliog map Int Labour R 62:264-90 S-O '50

Great Britain

Its mills are old, but Britain counts on new textile machines. il Bsns W p 148-50 Je 9 '51

No targets for textiles. Economist 160:1588-9 Je 30 '51

Shortage of textile fibres; consequences for British textiles. Economist 160:395-6 F 17 '51

TEXTILE industry—Great Britain—*Continued*

Smallwares and narrow fabrics; historical sketch (to 1944). il maps Textile Inst J 41:P751-99 N '50

Textiles and rearmament. Economist 160:1186-7 My 19 '51

Japan

Post-war developments in the Japanese textile industry. C. Hsieh. bibliog Int Labour R 62:364-88 N '50

Puerto Rico

Here's the Puerto Rico textile story. C. W. Bendigo. il Textile World 101:103-18 Mr '51

United States

American textile exports reveal declining trend. M. Stroock. Barron's 30:12 N 6 '50

TEXTILE institute

Annual general meeting, 41st, Manchester, April 18. Textile Inst J 42:P 173-204 My '51

Proceedings of annual conference, Brighton, May 21-25. Textile Inst J 42:P309-856 Ag '51

TEXTILE laboratories

Here's a mill man's lab; Durham div. lab., Erwin mills. W. A. Thomason, jr. il Textile World 100:89-91 O '50

How to set up a small testing lab. F. C. Williams, jr. il Textile World 101:136-7+ O '51

Whitin's new research unit. il Rayon 32:74+ My '51

Worsted-mill laboratory. C. E. Medde and P. E. Morally. Am Dyestuff Rep 40:193-5 Mr 19 '51

See also

Dye laboratories

Air conditioning

Hightower textile building conditions air for all fabrics. C. T. Baker. il diags Power 95:88-91 F '51

TEXTILE machinery

Automatic machine cleans reeds and heddles. il Textile World 101:151 Je '51

Building safety into textile machines. E. R. Schwarz. Mech Eng 72:977-8 D '50

Experimental, gas-fired, infrared textile slasher. R. A. Rusca and G. J. Kyame. il diags Textile Res J 21:445-50 Je '51

Gara, a new weft trimmer. il Rayon 32:45 Ag '51

Here's how a modern garnetting plant operates; illustrations with text. J. H. Kennedy. Textile World 101:122-3 Ag '51

Machine manufacturer looks at rag picking vs. picking and shredding. J. H. Senior. il Rayon 32:39+ S '51

Modern ideas on garnetting; abstract. H. B. Riehl. Rayon 32:46 Ag '51

1950 shows point up machinery advances. W. A. Newell. Textile World 101:112-13 F '51

Padder has air motors for more even pressure. il Textile World 101:166 O '51

Paper and textile machinery drives. il Machine Design 23:148-52 Ap '51

Papers on static electricity at AIEE textile conference, Philadelphia, April 23. Elec Eng 70:549-50 Je '51

Swaging saves time and material; bobbin spindles for textile machines. il Machine Design 23:144 Ja '51

Where can your mill use nylon plastic? il diags Textile World 100:103-7 O '50

Year of new equipment for the textile industry; roundup of data in issues of Textile world, Oct. 1949-Sept. 1950. il diags Textile World 100:110-46+ N '50

See also

Carding machines
Cloth cutting machines
Cotton machinery
Dyeing machines
Electric driving—Textile mills
Hosiery machines
Knitting machines
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Rayon machinery
Rolls (textile machinery)
Spinning machinery
Spooling machines
Tentering machines
Textile finishing machines
Textile printing machines
Textile testing machines
Woolen and worsted machinery

Exhibitions

Lille textile show; illustrations with text. P. M. Thomas. Textile World 101:89-99 Jl '51

New ideas for mill men abound at Southern textile exposition, Greenville, S.C.; illustrations with text. Textile World 100:147+ N '50

Southern textile exposition, 16th; descriptions of some important items. il Rayon 31:92-5 O '50

Lubrication

Automatic lubrication; abstract. L. C. Rotter and B. S. Davis. diag Mech Eng 73:324-5 Ap '51

Proper lubrication can prevent mill fires. V. Christiansen. il Textile World 101:155+ Mr '51

Relation of lubrication to production costs. il Rayon 32:74+ Mr '51

Maintenance and repair

Keep card rooms running with organized maintenance. E. H. Helliwell. il Textile World 101:118-19 Je '51

Proper treatment increases V-belt life. T. G. Hicks. il diags Textile World 101:124-5 Ja '51

Manufacture

In department 200, machines run 88 per cent of the day; Crompton & Knowles loom works. O. V. Payne. il Am Mach 94:93-5 N 27 '50

Master schedule guides production planning at Saco-Lowell. W. B. Lund. il Am Mach 95:108-12 Ag 6 '51

You can't be half-hearted about modernization; Saco-Lowell shops, Biddeford, Me. E. J. Tangerman. il diags Am Mach 95:147-66 Ap 16 '51

Tension devices

Spinning tension measured continuously; yarn tensiometer. P. C. Wolters. il Textile World 100:153+ D '50

Synthetics call for new type tension. J. S. Gosnell. Rayon 32:104+ Ap '51

Thread guides

Here's a quiz on thread guides. J. B. Shacklett. il Rayon 31:49-50+ O '50

TEXTILE machinery industry

Great Britain

Engineering outlook. Engineering 171:309-11 Mr 16 '51

TEXTILE mills

Educating the educators taps the roots of community understanding; steps being taken to interest educators in operation of mills. M. B. Andrews. Textile World 101:164 Ag '51

Good plant design can cut finishing costs. E. C. Gwaltney. il Textile World 101:143+ Je '51

How to pick a site for a new mill. G. Wrigley, jr. Textile World 101:137+ Mr '51

Mills can profit from school-teacher visits. M. C. Powers. Textile World 101:258+ F '51

1950 expenditures and commitments reach an all-time high. R. C. Scott. Textile World 100:108-9+ N '50

Textile division, ASME, begins study of mill modernization. Textile World 100:103+ D '50

See also

Carpet factories
Cotton mills
Electric driving—Textile mills
Hosiery mills
Knitting mills
Rayon mills
Water supply for textile mills
Woolen and worsted mills

Air conditioning

Air-conditioning principles applicable in any mill. G. Eckman. diag Textile World 101:139+ Ag '51

Here's how humidifiers boost plant efficiency. F. Honerkamp. il Rayon 32:31+ F '51

Here's the new Pneumafil-central system. W. A. Thomason, jr. il Textile World 101:141-3 S '51

To get the most from air conditioning; Narricot co., Philadelphia. il plan Textile World 100:116-17 O '50

TEXTILE mills—Air conditioning—*Continued*

Use basement air to control humidity in small plant. diags Rayon 32:80 Mr '51

Ventilation humidification air-conditioning. il Rayon 32:95+ Ap '51

Costs

Where does your cost dollar go in manufacturing? Textile World 100:108-9+ D '50

Electric equipment

Moisture controller reduces tenter costs; increases production. il Textile World 101:151+ S '51

Suggested specifications for electrical-equipment enclosures for use in linty atmospheres. il Textile World 101:178 S '51

Employees

See Textile workers

Equipment

Alphabetical list of new products developed since Nov. 1949. il Am Dyestuff Rep 39:863-8 D 11 '50

Hidden lost time expense; use of Sterilamps for air purification. C. J. Mack. Rayon 32:48 F '51

Ideas for textile mills from materials-handling show; illustrations with text. Textile World 101:104-8 Jl '51

Modern equipment and modern methods. H. Miedendorp. il Rayon 32:108+ S '51

New ideas for mill men abound at Southern textile exposition, Greenville, S.C.; illustrations with text. Textile World 100:147+ N '50

Planned, continuous modernization necessary today. il Rayon 32:76+ My '51

Safety and efficiency through materials handling. il Rayon 32:66-8 Ag '51

Textile specialty line announced by U.S. Rubber. il Textile World 101:137-8+ Jl '51

Top-notch finishing plant; Mount Hope finishing co.; illustrations with text. Textile World 101:115-19 Jl '51

Year of new equipment for the textile industry; roundup of data in issues of Textile world, Oct. 1949-Sept. 1950. il diags Textile World 100:110-46+ N '50

See also
Textile machinery

Fires and fire protection

Fire and accident prevention is really important. il Rayon 31:89-90 O '50

Fire! it is better to prevent than to have to fight it. P. C. Hensler. il Rayon 32:79+ Jl '51

Loom-motor starter. il Westinghouse Eng 11:136 Jl '51

Proper lubrication can prevent mill fires. V. Christiansen. il Textile World 101:155+ Mr '51

Suggested specifications for electrical-equipment enclosures for use in linty atmospheres. il Textile World 101:178 S '51

Floors

See also
Cotton mills—Floors

Heating and ventilation

What is a good empirical rule-of-thumb to use in figuring the hourly air change in a textile mill in the summer? Heat & Ven 48:95 Jl '51

Lighting

Maximum efficiency through good lighting. il Rayon 32:74+ Jl '51

Textile mills need the best in lighting. W. T. Watson and R. McClellan. il Elec World 136:125-6 Ag 13 '51

Maintenance and repair

Get that parts supply room in shape now. W. A. Newell. il diags Textile World 101:110-12+ My '51

Insulation prevents corrosion of equipment. diag Textile World 101:224+ Je '51

Manpower shortage calls for good maintenance; abstract. L. C. Morrow. Textile World 101:204+ Mr '51

Mill maintenance spotlighted by Alabama executives. Textile World 101:127+ Jl '51

Management

Cases in methods improvement; Laros textiles co.; illustrations with text. Factory Management 108:126-8 N '50

Efficiency in textile management a must to-day. Rayon 31:86-8 D '50

Every mill should have a research evaluator. G. E. Hopkins. il Textile World 101:130-1+ O '51

Industrial relations ideas you can use. P. King. Textile World 101:148, 234 Ap '51

Open house; the way to an open heart. M. B. Andrews. Textile World 101:156 Jl '51

Operation recorders help in making time-studies. A. N. Engblom. il Textile World 101:134-6+ Mr '51; Mech Eng 73:549-53 Jl '51

Over-all mill controls; give your operations flexibility. R. Ashner. Rayon 31:45-8+ N '50

Setting a workload; case study. N. M. Mitchell. Textile World 101:109-16 O '51

Suggestion box, an incentive generator. M. B. Andrews. Textile World 101:142+ Ap '51

Top-notch finishing plant; Mount Hope finishing co.; illustrations with text. Textile World 101:115-19 Jl '51

Power

Coal-fired steam-generating plant is clean and efficient. E. D. White. il Textile World 101:116-17+ Je '51

Modernized power plant gives more economical service. M. Sampson. il diags Textile World 101:120-2 O '51

Power and heat in textile mills. il Rayon 32:95+ Ja '51

Scottish textile works; private generation hydro-electric scheme. il Elec R (Lond) 148:367-9 F 23 '51

See also
Cotton mills—Power
Woolen and worsted mills—Power

Quality control

How about quality control for small mills? W. A. Thomason, jr. il Textile World 101:99-101 Ja '51

Quality-control men say we're out of the dark; Uster evenness tester. W. A. Thomason, jr. il Textile World 100:94-5+ O '50

See also
Cotton mills—Quality control

Records

Perpetual-inventory system safeguards our space-parts supply; Gastonia combed yarn corp. S. Funderburk. Textile World 101:270+ S '51

Safety measures

Building safety into textile machines. E. R. Schwarz. Mech Eng 72:977-8 D '50

Fire and accident prevention is really important. Rayon 31:90-1 O '50

Making safe jobs safer; periodic checkups can help remove accident causes. M. B. Andrews. Textile World 101:192+ O '51

Simple safety measures give confidence on the job. M. B. Andrews. Textile World 101:176+ S '51

Waste

Textile industry and stream pollution. J. A. McCarthy. Am Dyestuff Rep 39:732-5 O 30 '50

Water purification and waste disposal. il Rayon 32:74-6 Je '51

See also
Cotton mills—Waste

TEXTILE oils

Liability to spontaneous combustion of oils on jute. A. N. Saha. bibliog Textile Inst J Trans 42:T207-10 My '51

See also
Wool oiling

TEXTILE patents

Patent digest. P. Wengraf. diags Published in biweekly numbers of American dyestuff reporter

See also
Bleaching—Patents

TEXTILE printing

Checklist for screen printers. T. N. Patrick. il Textile World 101:224+ S '51

Hand printing of textiles. E. S. Beton. Textile Inst J 42:P550-6 Ag '51

TEXTILE printing—*Continued*

Intensifying effect of urea in printing textiles; abstract. R. Haller. Am Dyestuff Rep 39:802 N 27 '50

Make-up of print paste for soil cloth. Soap & San Chem 27:73 F '51

Orema dyes in printing and dyeing textiles; abstract. F. Enderlin and L. Schibler. Am Dyestuff Rep 39:724 O 30 '50

Printing of synthetics, trends and mill problems. A. F. McLean. Am Dyestuff Rep 40:501-3 Ag 6 '51

Sidelights on textile print thickeners. Am Dyestuff Rep 40:369-71 Je 11 '51

Studies in textile printing; practical applications of the analytical method. R. D. Greene and others. Am Dyestuff Rep 40: 127-30 F 19 '51

Studies in the fundamental processes of textile printing; the influence of thickener composition on dye transfer during steaming. D. A. Reilly and H. A. Turner. bibliog Soc Dyers & Col J 67:103-15+ Mr '51

Textile printing troubles. il Rayon 32:66+ My; 62+ Jl '51

Thickener study points way to improved printing exhaustion. E. Rhodes. Textile World 101:208+ Ag '51

Thickening agents during the war and in the postwar period; abstract. H. Barth. Am Dyestuff Rep 39:722-3 O 30 '50

Vistas in printing research. H. A. Turner. bibliog Textile Inst J 42:P557-76; Discussion. P576-8 Ag '51

See also

Rayon printing

Woolen and worsted printing

Patents

Indigosol printing pastes; basic pyrazolones added. Am Dyestuff Rep 40:477 Jl 23 '51

Mixed fabrics of nylon and cellulose; burnout style; patent. Am Dyestuff Rep 39:766 N 13 '50

Printing acrylonitrile fabrics; vat dyes plus potassium thiocyanate. Am Dyestuff Rep 40:490 Ag 6 '51

Printing indigosols; modified steam developing method. Am Dyestuff Rep 40:134-5 F 19 '51

Printing textiles, photographic method using diazonium salts and zinc chloride. Am Dyestuff 40:374 Je 11 '51

Printing textiles; photographic production of patterns. Am Dyestuff Rep 40:66 Ja 22 '51

Printing thickener; styrene-maleic anhydride-divinylbenzene-copolymer (terpolymer); patent. Am Dyestuff Rep 40:280 Ap 30 '51

Transparentizing fabrics; various resist effects. Am Dyestuff Rep 40:279 Ap 30 '51

TEXTILE printing machines

Drum-type gravure; printing vinyl film. B. H. Allison. diag Mod Plastics 28:84-5 Ap '51

Print-roll brushes are 18 months old and still going! J. Kluthe. il Textile World 101: 102 Ag '51

Printing blanket; spliced along a line of interfitted V-shaped cuts; patent. diags Am Dyestuff Rep 40:538 Ag 20 '51

Relief printing machine; printing plates, moved against the fabric's surface; British patent. diags Am Dyestuff Rep 40:65 Ja 22 '51

Roller for printing machines covered with spongy rubber; patent. diags Am Dyestuff Rep 40:372 Je 11 '51

Screen printing apparatus; patent. diags Am Dyestuff Rep 40:338-9 My 28 '51

Screen printing machine; patent. diags Am Dyestuff Rep 39:765 N 13 '50

TEXTILE research

AATCC technical papers point up advances in technology; abstracts of papers. il diags Textile World 100:128-31+ D '50; 101:122-3+ Ja '51

Balance between research and production. G. E. Hall. Can Chem & Process Ind 34: 810-12+ O '50

Every mill should have a research evaluator. G. E. Hopkins. il Textile World 101:130-1+ O '51

Industrial research and the consumer target. A. G. Ashcroft. Textile Res J 21:597-605 Ag '51; Same. bibliog Textile Inst J 42: P805-16 Ag '51

Lowell textile institute research foundation. Am Dyestuff Rep 40:390 Je 11 '51; Excerpt. Rayon 32:56 Jl '51

More specific properties is need of textile industry from new synthetic fibers. M. Harris. il Chem & Eng N 29:545-7 F 12 '51

Production and utilisation of textile information; Mather lecture, 1951. J. C. Withers. Textile Inst J 42:P 181-90 My '51

Review of textile coloring and finishing research; Olney medal paper. G. L. Royer. Am Dyestuff Rep 39:877-87 bibliog(145 ref, p886-7) D 11 '50

Seek a common language, textile, chemical industries told. Chem & Eng N 29:374 Ja 29 '51

Textile research keeps rolling ahead. P. M. Thomas. Textile World 101:113-14 F '51

Trends of the textile industry. H. C. Borghetty. Am Dyestuff Rep 39:777-81+; Discussion. 781+ N 13 '50

Use of a discriminant function in textile research. W. D. Baten and others. bibliog Textile Res J 20:869-72 D '50

Use of textile auxiliaries. J. E. Smith. Chem & Eng N 29:548-51 F 12 '51

See also

Rayon research

Textile laboratories

Bibliography

Textile research and development during 1950; review of the literature. R. O. Steele and others. Textile Res J 21:293-373 bibliog(1622 titles, p335-73) My '51

TEXTILE research institute

Annual meeting, 21st, New York. Rayon 32: 44+ My '51

TRI becomes New Jersey Institution of learning. Rayon 32:83 Ag '51

TEXTILE samples

Tentative textile specification no. 18, 1950; methods of fibre sampling for testing. Textile Inst J 41:S 1-6 O '50

TEXTILE standards

A.S.T.M. standards on textile materials (with related information); specifications, tolerances, methods of testing, definitions and terms. 572p pa $4.50 Am. soc. for testing materials, 1916 Race st, Philadelphia 3 '50 [issued annually]

Business approach to consumer standards. T. C. Blaisdell, jr. Am Dyestuff Rep 40: 161-3+ Mr 5 '51; Same abr. Standardization 21:304-9 D '50

D-13; the men who set the standards. Textile World 101:106-7+ Ja '51

Tv tackles rayon; Kathi Norris television show; discussion and demonstration of the proposed American standards for rayon fabrics. il Standardization 22:276+ S '51

Tentative textile specification no. 18, 1950; methods of fibre sampling for testing. Textile Inst J 41:S 1-6 O '50

Tentative textile specification no. 19, 1950; determination of conditioned fibre weight per centimetre. il diag Textile Inst J 41: S7-10 O '50

Tentative textile specification no. 20, 1950; determination of wool fibre fineness by the projection microscope. il diags Textile Inst J 41:S 11-15 O '50

Tentative textile specification no. 21, 1950; determination of breaking load and extension of single threads of yarn by means of constant-rate-of-load testing machines. Textile Inst J 41:S 16-19 O '50

TEXTILE technical federation of Canada

Canadian textile seminar, 2d. Can Chem & Process Ind 34:813-14+ O '50

TEXTILE testing

Abrasion testing. H. F. Schiefer. Textile Inst J 41:P800-3 N '50

Catalog of test equipment and materials, AATCC. il diags Am Dyestuff Rep 40:183-92 Mr 19 '51

Comparative breakdown resulting from abrasion of round and square samples with the Taber abraser. M. H. Zook. Am Dyestuff Rep 39:895-6 D 11 '50

Frictional properties of jute and some other long vegetable fibers; general study of characters. S. B. Bandyopadhyay. bibliog diags Textile Res J 21:659-70 S '51

TEXTILE testing—*Continued*

Investigation of fabric structure and its relation to certain physical properties; combination fabrics. G. H. Hotte. bibliog Textile Res J 20:811-28 D '50

Mechanics of elastic performance of textile materials; influence of yarn twist on modulus of elasticity. M. M. Platt. bibliog Textile Res J 20:665-7 O '50

Mechanics of elastic performance of textile materials; mechanical properties of hard fibers with reference to their use in cordage structures. E. R. Kaswell and M. M. Platt. bibliog Textile Res J 21:263-76 My '51

Uses and limitations of textile testing. J. Pollitt. Textile Inst J 42:P754-69; Discussion. P769-70 Ag '51

See also

Dye testing

Textile fabrics—Testing

Textile fibers—Testing

Yarn—Testing

TEXTILE testing machines

Abrasion test as a criterion to determine the wear of textiles. F. H. Germans. bibliog il diags Textile Inst J Trans 42:T 185-93 My '51

Apparatus for evaluating warmth of textile fabrics. J. D. Tallant and R. K. Worner. bibliog il diag Textile Res J 21:591-6 Ag '51

Ballistic determination of work of rupture of short textile samples. W. R. Lang. bibliog il diags Textile Inst J Trans 42:T314-28 Jl-Ag '51

Comparative breakdown resulting from abrasion of round and square samples with the Taber abraser. M. H. Zook. Am Dyestuff Rep 39:895-6 D 11 '50

Comparison of the breakdown produced by abrasion, using four combinations of wheels and pressures on the Taber abraser. M. H. Zook. Am Dyestuff Rep 39:795-800 N 27 '50

Conversion of the Saco-Lowell sliver tester to electrical recording. R. A. Rusca. bibliog il diags Textile Res J 20:780-6 N '50

Converted sliver tester speeds evenness analysis; uses electrical counters. R. A. Rusca. il Textile World 101:120 Ja '51

Development of a reproducible testing technique using the Taber abraser on rayon fabrics. M. H. Zook. bibliog diags Am Dyestuff Rep 39:679-85 O 16 '50

Electrical resistance of textile materials. M. Hayek and F. C. Chromey. il diag Am Dyestuff Rep 40:225-7 Ap 2 '51

Fatigue test for tire cord. C. B. Budd. il diags Textile Res J 21:174-9 Mr '51

Orifice test as a method for studying closing capacity of cotton fiber in the raw state. L. W. Scott and others. bibliog il diag Textile Res J 21:148-55 Mr '51

Photo-electric instrument for measuring tippiness in wool staples. H. Goot and R. E. Belin. bibliog diags Textile Inst J Trans 41:T455-65 D '50

Quality-control men say we're out of the dark; Uster evenness tester. W. A. Thomason, jr. il Textile World 100:94-5+ O '50

Relation between fiber properties and apparent abrasion resistance. D. D. Gagliardi and A. C. Nuessle. Am Dyestuff Rep 40:409-15 Je 25 '51

Rotafil; evenness of low-twist filament yarns can now be measured accurately. J. A. Truitt. il diags Rayon 32:40-1 F '51

Strip-tester; an instrument designed to measure dimensional change in woven rayon fabrics. il diags Am Dyestuff Rep 40:210-17 Ap 2 '51

Tentative textile specification no. 21, 1950; determination of breaking load and extension of single threads of yarn by means of constant-rate-of-load testing machines. Textile Inst J 41:S 16-19 O '50

Ulster instrument for the stapling of cotton and rayon fibres. E. Honegger. bibliog il Textile Inst J 42:P57-74 F '51

Use of tabulator data in the analysis of sliver and roving uniformity. J. P. Elting and J. C. Barnes. bibliog Textile Res J 20:773-9 N '50

Use of the Furness milling machine in the determination of shrinkage due to felting. A. N. Davidson. il diags Textile Inst J 42:S6-16 Ap '51

TEXTILE workers

Christianity with its sleeves rolled up; industrial chaplain in textile community. M. B. Andrews. Textile World 101:164 Je '51

Emotional maturity, a must for good labor relations. F. T. de Vyver. Textile World 101:174+ S '51

Good health leads to good morale. M. B. Andrews. Textile World 100:175+ D '50

Help your workers adjust to new production methods. W. Eastman. Textile World 100:157 D '50

How accurate are your job-placement tests? J. Gardner. Textile World 101:162+ Ag '51

How do you rate on your community relations? pointers for the supervisor. H. Nix. Textile World 100:118-19 O '50

How four mills improved interviewing techniques. M. B. Scharff. Textile World 101:144-5+ S '51

In-plant feeding; report to textile-mill management. R. C. Scott. il Textile World 101:103-8 Ag '51

Industrial dental health program sponsored by the Cooperative service, Wyomissing, Pa. H. H. Dougherty. Ind Med 20:408-10 S '51

Information, please! it's the link to better understanding. M. B. Andrews. Textile World 101:163+ Ja '51

Labor drives for equal pay; textiles lead off. il Bsns W p 118 D 16 '50

Men, training, communications; personnel issues of 1951. M. Miller. Textile World 101:119 F '51

Nursery can help solve manpower problem. M. B. Andrews. Textile World 101:161+ F '51

Post-war developments in the Japanese textile industry. C. Hsieh. bibliog Int Labour R 62:364-88 N '50

Profit sharing really works at American velvet co. E. H. Helliwell. Textile World 100:124-5 D '50

Recreation as an avocation. M. B. Andrews. Textile World 100:143+ O '50

Sincerity of purpose means good labor-management relations. C. A. Wimpfheimer. Textile World 101:178+ Mr '51

Suggestion box, an incentive generator. M. B. Andrews. Textile World 101:142+ Ap '51

Textiles; North and South; union will try again to reduce the wage spread. Fortune 43:42+ F '51

Training system helps morale of foremen. G. M. Dodson. Textile World 101:268 F '51

What is fair play in worker discipline? P. A. King. Textile World 101:178+ O '51

See also

Cotton mills—Employees

Rayon mills—Employees

Woolen and worsted mills—Employees

TEXTILE workers union of America

Controls embitter this textile strike; ceilings on wool prices and wage increases add to bargaining woes. il Bsns W p 126-7 F 24 '51

Textile tension; CIO fears defeat in southern mill strike. il Bsns W p31-2 My 5 '51

Trouble at top. Bsns W p34+ Jl 28 '51

TEXTILE world (periodical)

Prentice M. Thomas succeeds C. W. Bendigo as editor. Textile World 101:121 F '51

TEXTRALIZING. See Crimping of textiles

TEXTRON, Inc.

1951 outlook is bright for revamped Textron. Barron's 31:21-2 Ja 15 '51

THACKRAH, Charles Turner, 1795-1833

Contribution of C. T. Thackrah; English pioneer in the field of industrial health. J. W. Brown. A M A Archives Ind Hygiene & Occup Med 2:517-28 N '50

THAILAND. See Siam (Thailand)

THALLIUM

Absorption spectrum of thallium-activated potassium chloride phosphor at low temperatures. P. D. Johnson and F. J. Studer. diag Phys R 82:976 Je 15 '51

Anodic oxidation of thallous ion on the rotating platinum microelectrode. P. Delahay and G. L. Stiehl. Am Chem Soc J 73:1755-6 Ap '51

Calculation of the absorption and emission spectra of the thallium-activated potassium chloride phosphor. F. E. Williams. bibliog Phys R 80:306-7 O 15 '50

THALLIUM—*Continued*

Crystal structures and transformations in indium-thallium solid solutions. L. Guttman. bibliog il J Metals 188:Trans 1472-7 D '50; Discussion. 3:Trans 1056-7 N '51

Crystallography of cubic-tetragonal transformation in the indium-thallium system. J. S. Bowles and others. bibliog il diags J Metals 188:Trans 1478-85 D '50

Electrodeposition of thallium. E. Bertorelle. Chem Age (Lond) 64:211-12 F 3 '51

Exchange reaction between the two oxidation states of thallium in solution. G. Harbottle and R. W. Dodson. bibliog Am Chem Soc J 73:2442-7 Je '51

Polarography in liquid ammonia; the polarography of thallium(I), copper(II), and ammonium ions and of molecular oxygen. H. A. Laitinen and C. E. Shoemaker. bibliog Am Chem Soc J 72:4975-7 N '50

Theoretical low temperature spectra of the thallium activated potassium chloride phosphor. F. E. Williams. Phys R 82:281-2 Ap 15 '51

Thermodynamic study of liquid metallic solutions; the systems bismuth-gold and thallium-gold. O. J. Kleppa. diags Am Chem Soc J 73:385-90 Ja '51

Thermoelectromotive force of a superconductor versus the same metal in the nonsuperconductive state. M. C. Steele. bibliog diag Phys R 81:262-7 Ja 15 '51

Three job-hungry metals now report for duty; idium, tellurium and thallium. il Mod Ind 21:48-51 My '51

Isotopes

Beta-ray spectrum of Tl^{206}. D. E. Alburger and G. Friedlander. Phys R 82:977 Je 15 '51

Radiations of Tl^{199} and Tl^{200}. H. I. Israel and R. G. Wilkinson. diag Phys R 83:1051 S 1 '51

THALLIUM bromoiodide

Influence of optical working on surface structure of plastic crystals. A. Smakula and M. W. Klein. il diags Opt Soc Am J 40:748-50 N '50

THALLIUM hypophosphite

Preparation and thermal stability of thallous hypophosphite. W. A. Jenkins and D. M. Yost. bibliog Am Chem Soc J 73:2945-6 Je '51

THALLIUM sulfide

Photo-conductivity of thallous sulfide cells. A. W. Ewald. bibliog Phys R 81:607-11 F 15 '51

THAMES river

London's river. il Chem & Ind p494-6 Je 30 '51

Mr Betts keeps it clean; control of stream pollution. A. Matheson. il Munic Util 89:26-7+ Ag '51

THAWING

Cars of frozen ore thawed. Blast F & Steel Pl 39:sup88 Ap '51

Did it thaw? gel will tell; indicator, combining oxidizing enzyme and ascorbic acid, will spot any temperature rise. P. E. Ramstad and F. E. Volz. il Food Ind 22:2091+ D '50

Solar thawing increases profit from sub Arctic placer gravels. E. N. Patty. il Min Eng 190:27-8 Ja '51

THAWING, Electric

Dielectric thawing of frozen products; abstract. Gutschmidt. Refrig Eng 58:1178-9 D '50

THAYER, John

Thayer's talk songs boost Hoover report. J. L. Collings. Ed & Pub 84:20 Mr 10 '51

THEATER

See also

Musical comedies, revues, etc.

New York (city)

On Broadway; more shows, more hits; catalog of plays. il Bsns W p96+ D 16 '50

THEATER programs. See Programs (printing)

THEATERS

Air force theater, Andersen field, Guam. plan diags Arch Forum 95:172-3+ S '51

Hexagonal theater, Newport, R.I. R. W. Kennedy. il plan Arch Forum 94:142-3 Je '51

See also

Kansas City, Missouri—Theaters

Moving picture theaters

Air conditioning

Air conditioning in theaters. G. B. Priester and O. W. Armspach. plan diags Refrig Eng 59:1-8 sec 2 F '51

Air conditioning theaters. L. J. DuBois. Heat & Ven 48:81-92 Ap '51

Electric equipment

Theatre engineering; electrical and mechanical innovations. il Electrician 146:1033-7 Mr 30 '51

Lighting

Old Vic. il Elec R (Lond) 147:915-17 D 8 '50

Theatre engineering; electrical and mechanical innovations. il Electrician 146:1033-7 Mr 30 '51

THEATERS, Open air

Kansas City, Mo. goes into show business; Starlight theatre. il Bsns W p60+ Je 9 '51

See also

Moving picture theaters, Open air

THEBAINE

Structure of phenolic dihydrothebaine and of β-dihydrothebaine. G. Stork. Am Chem Soc J 73:504 Ja '51

THEFT

Lie-detector tests on workers; to locate source of thefts. il Bsns W p24 Ap 28 '51

Maybe a good detecting system is what your plant needs. L. Stessin. Mill & Factory 48:135-7 Ap '51

Nickel thefts are plaguing electroplaters. Bsns W p50 O 13 '51

Stopping pilferage; secret profit-sapper. il diags Mod Ind 21:50-1 Mr '51

See also

Embezzlement

Motor truck robberies

THENOYLTRIFLUOROACETONE. See Trifluoroacetone

THENYLPYRAMINE

Infrared analysis of pharmaceutical products; acetylsalicylic acid, phenacetin, and caffeine, and combinations of these with codeine or thenylpyramine. T. V. Parke and others. bibliog Anal Chem 23:953-7 Jl '51

THENYL salicylate

Analysis

Determination of the miticide, 2-thenyl salicylate. J. Goldenson and S. Sass. Anal Chem 23:1170-2 Ag '51

THEOBROMINE

Absorption spectrum of 3,7-dimethylxanthine. E. E. Lockhart and M. C. Merritt. Am Chem Soc J 72:5328-9 N '50

THEODORSEN circulation function

Tables of the Theodorsen circulation function for generalized motion. Y. L. Luke and M. A. Dengler. bibliog J Aeronautical Sci 18:478-83 Jl '51

THEOPHYLLINE

Experiments on the synthesis of purine nucleosides; 1 : 2 : 3 : 5-tetra-acetyl D-xylofuranose and the D-xylofuranosides of theophylline and adenine. P. Chang and B. Lythgoe. Chem Soc J p 1992-3 Ag '50

THERAPEUTICS

See also

Chemotherapy

Electrotherapeutics

Psychotherapy

Radiotherapy

Vaccines

X rays—Therapeutic use

THERMAL analysis

Apparatus for differential thermal analysis. D. McConnell and J. W. Earley. bibliog il diag Am Cer Soc J 34:183-7 Je 1 '51

Hydration products formed in cement pastes at 25 to 175 C. G. L. Kalousek and M. Adams. bibliog Am Concrete Inst J 23:77-90 S '51

Method of temperature programme control for thermal analysis. J. G. Ball and E. T. Adams. il diag J Sci Instr 28:47-9 F '51

Temperature distribution during mineral inversion and its significance in differential thermal analysis. H. T. Smyth. Am Cer Soc J 34:221-4 Jl 1 '51

THERMAL diffusion. See Diffusion

THERMISTORS. See Electric resistors

THERMIT welding. See Welding—Thermit process

THERMOBALANCE

Continuous weighing in analytical chemistry. C. Duval. bibliog(111 ref) il diags Anal Chem 23:1271-86 S '51

THERMOCELLS. See Thermoelectricity

THERMOCHEMISTRY

Action of heat on D-fructose. M. L. Wolfrom and others. bibliog diags Am Chem Soc J 73:3553-8 Ag '51

Applications of the Eastman thermocell equation; certain absolute ionic entropies and entropies of transfer of alkali metal and tetraalkylammonium bromides and hydroxides. J. C. Goodrich and others. bibliog diags Am Chem Soc J 72:4411-18 O '50; Reply. H. J. V. Tyrrell and G. L. Hollis. 73:2401-2 My '51

Correlation of thermochemical data by the ionic potential. G. H. Cartledge. bibliog J Phys & Colloid Chem 55:248-56 F '51

Entropy concept penetrates fields not involving heat; abstract. D. H. Andrews. Chem & Eng N 29:4168 O 8 '51

Heat of combustion and formation of cyanogen. J. W. Knowlton and E. J. Prosen. bibliog J Res Nat Bur Stand 46:489-95 Je '51

Heat of formation of CN and the dissociation energies of N_2 and C_2N_2. L. Brewer, L. K. Templeton and F. A. Jenkins. bibliog Am Chem Soc J 73:1462-5 Ap '51

Heat of formation of iodine pentafluoride. A. A. Woolf. Chem Soc J p231-2 Ja '51

Heat of formation of thorium tetrachloride. L. Eyring and E. F. Westrum, jr. bibliog Am Chem Soc J 72:5555-6 D '50

Heat of reaction of americium metal with 1.5 *M* hydrochloric acid and a note on the heats of formation of La^{+3}(aq.) and Pr^{+3}(aq.). H. R. Lohr and B. B. Cunningham. bibliog diag Am Chem Soc J 73:2025-8 My '51

Heats of combustion and formation of titanium nitrate (TiN) and titanium carbide (TiC). G. L. Humphrey. bibliog Am Chem Soc J 73:2261-3 My '51

Heats of combustion, formation, and isomerization of ten C_4 hydrocarbons. E. J. Prosen and others. bibliog J Res Nat Bur Stand 46:106-12 F '51

Heats of formation of crystalline calcium orthosilicate, tricalcium silcate and zinc orthosilicate. E. G. King. Am Chem Soc J 73:656-8 F '51

Heats of formation of sodium potassium alloys. R. L. McKisson and L. A. Bromley. Am Chem Soc J 73:314-15 Ja '51

Heats of formation of TiO, Ti_2O_3, Ti_3O_5 and TiO_2 from combustion calorimetry. G. L. Humphrey. bibliog Am Chem Soc J 73:1587-90 Ap '51

Production of ethylene by autothermic cracking. R. M. Deanesly and C. H. Watkins. flow diag Chem Eng Prog 47:134-40 Mr '51

Soft X-ray valence band spectra and the heat of formation of chemical compounds and alloys. K. Das Gupta. diags Phys R 80:281-2 O 15 '50

Thermal decomposition of carbonyl sulphide. J. R. Partington and H. H. Neville. diag Chem Soc J p 1230-7 My '51

Thermal interchange of acyl groups in triglycerides. C. Barker, R. V. Crawford and T. P. Hilditch. Chem Soc J p 1194-200 My '51

Thermochemistry for the petrochemical industry (cont). K. A. Kobe and others. bibliog Pet Refiner 29:93-6 D '50; 30:123-4 Ap; 143-4 Je; 119-22 Ag '51

See also

Combustion
Combustion, Heat of
Combustion analysis
Denaturation, Heat of
Dissociation, Heat of
Melting points
Oxidation, Heat of
Polymerization, Heat of
Solution, Heat of
Soret effect
Specific heat
Thermal analysis
Thermodynamics
Transition points
Vapor pressure
Vaporization, Heat of

THERMOCHROMISM

Some adsorption colors and their significance for thermochromic and tautomeric effects; experiments with spiropyrans and with 1,3-diketohydrindene. A. Schönberg, A. Mustafa and W. Asker. bibliog diag Am Chem Soc J 73:2876-9 Je '51

THERMOCOUPLES

Annealing of platinum for thermometry. R. J. Corruccini. bibliog diag J Res Nat Bur Stand 47:94-103 Ag '51

Continuous temperature measurement of liquid steel in the furnace. D. Hardwick and H. Everard. diags Iron & Steel Inst J 166:147-8 O '50

'Couples raise efficiency, slash costs; new method of measuring internal temperature of meats reduces smoking time. J. Meyer. il Food Ind 23:75-6 Ja '51

Multi-channel apparatus for recording temperatures; temperature gradients in various road surfacings and subgrades. W. I. J. Price and J. J. Trott. il diags J Sci Instr 28:15-17 Ja '51

New molten steel thermocouple has speed, low weight. diag Blast F & Steel Pl 39:469 Ap '51

Notes temp in fully-agitated kettles. il Food Eng 23:5 Je '51

Nylon is answer in new system guarding bulk food; foolproof way to scan stored-grain temperatures. il plan Food Eng 23:51-2+ Jl '51

Reference tables for thermocouples. H. Shenker and others. U S Nat Bur Stand Circ 508:1-71; pa 35c Supt. of doc. '51

Simple method for butt welding fine wires. M. Spielman. diags R Sci Instr 22:216-17 Mr '51

Simplified thermocouple for temperature measurements in high velocity gas streams. H. M. Beede and C. R. Droms. il diags Instruments 24:338-41 Mr '51

Some thermocouple details for temperature measurement. H. W. Cole, jr. diags Product Eng 22:166-7 Ag '51

Thermocouple junctions are improved by arc welding in inert atmosphere. A. J. Francescan and E. A. Nitz. il Pet Processing 5:1205-6 N '50

Thermocouple system for molten-metal temperature measurement. L. H. Veiock. il diags Instruments 24:769-70+ Jl '51

Thermocouple type automatic ignition systems analyzed. L. J. Kane. diags Am Gas Assn Mo 33:22-3+ Jl-Ag '51

Thermocouple-type combustible gas analyzer expands field of application. F. Taylor, jr. il diag Pet Refiner 30:124-6 Jl '51

Thermocouples for more accurate temperature measurement. R. H. Munch. diags Ind & Eng Chem 43:sup65A-6A+ Ap '51

Thermocouples for testing steam turbine plant. il diags Engineer 190:524-6 D 1 '50

Standards

First symposium on standardization of thermocouple wire specifications. Instruments 24:877+ Ag '51

Standardization of iron-constantan thermocouple tables. Franklin Inst J 251:542-3 My '51; Same. Instruments 24:29 Ja '51; Glass Ind 32:128 Mr '51

THERMOCOUPLES, Plastic

Supersensitive thermoelements from plastics. H. A. Pohl. R Sci Instr 22:345 My '51

THERMODYNAMICS

Acid-catalyzed anomerization of the D-glucose pentaacetates; a kinetic thermodynamic and mechanistic study. W. A. Bonner. bibliog Am Chem Soc J 73:2659-66 Je '51

Acidic dissociation constant and related thermodynamic quantities for monoethanolammonium ion in water from 0° to 50° C. R. G. Bates and G. D. Pinching. bibliog J Res Nat Bur Stand 46:349-52 My '51

Application of automatic digital computing methods to the prediction of phase behavior. T. J. Connolly and others. bibliog Elec Eng 70:47 Ja '51

Basic concepts in surface thermodynamics. R. S. Hansen. diag J Phys & Colloid Chem 55:1195-200 O '51

Calculated thermochemical properties for hydrazine-hydrogen peroxide reaction at high pressures. W. J. Barr and E. J. Wilson, jr. J Chem Phys 19:470-3 Ap '51

THERMODYNAMICS—*Continued*

Chemical engineering unit processes fourth annual review; kinetics and equilibria. R. H. Wilhelm and R. K. Toner. bibliog(83 ref) Ind & Eng Chem 43:1903-7 S '51

Chemical reaction equilibria in calcium and magnesium-base sulphite recovery systems. R. P. Whitney and others. bibliog Tappi 34: 396-400 S '51

Compressor and expander design; temperature change for reversible polytropic paths. W. C. Edmister. bibliog Chem Eng Prog 47: 191-8 Ap '51

Correlation of the thermodynamic properties of nitrogen absorbed on titanium dioxide. G. L. Kington and J. G. Aston. bibliog Am Chem Soc J 73:1934-6 My '51

Crystal perfection of $ZnSO_4 \cdot 7H_2O$; partial molal heat capacity, heat content and vapor pressure of its aqueous solutions; thermodynamics of Clark cell. W. F. Giauque, R. E. Barieau and J. E. Kunzler. bibliog Am Chem Soc J 72:5685-90 D '50

Effect of temperature on the thermodynamic properties and interfacial tension of water with some alkyl esters of monochloroacetic acid. J. J. Jasper and W. J. Mayer. bibliog Am Chem Soc J 72:4767-9 O '50

Empirical equation for thermodynamic properties of light hydrocarbons and their mixtures; constants for twelve hydrocarbons. M. Benedict, G. B. Webb and L. C. Rubin. bibliog Chem Eng Prog 47:419-22 Ag '51

Empirical equation for thermodynamic properties of light hydrocarbons and their mixtures; fugacities and liquid-vapor equilibria. M. Benedict, G. B. Webb and L. C. Rubin. bibliog Chem Eng Prog 47: 449-54 S '51

Energetic treatment of non-isothermal processes; the principle of thermal interaction. H. Holtan, jr. bibliog diag J Chem Phys 19:519-25 My '51

Enthalpy-concentration chart for methanol-water solutions. L. S. Ansell and others. Chem Eng 58:133-4 Ap '51

Equilibrium and thermodynamic relation in the vapour-phase catalytic dehydration of ethyl alcohol to ethyl ether. F. H. H. Valentin. Chem Soc J p498-500 F '50

First dissociation constant of succinic acid from 0° to 50° C and related thermodynamic quantities. G. D. Pinching and R. G. Bates. bibliog J Res Nat Bur Stand 45:444-9 D '50

Force constants, frequency assignments, and thermodynamic properties of ozone. M. J. Klein and others. bibliog J Chem Phys 19: 1068-9 Ag '51

Formalism of thermodynamic fluctuation theory. R. F. Greene and H. B. Callen. bibliog Phys R 83:1231-5 S 15 '51

Heat capacity, heats of fusion and vaporization, vapor pressures and entropy of symmetrical dimethylhydrazine. J. G. Aston, G. J. Janz and K. E. Russell. Am Chem Soc J 73:1943-5 My '51

Heat capacity, heats of fusion and vaporization, vapor pressures, entropy and thermodynamic functions of methylhydrazine. J. G. Aston and others. bibliog diags Am Chem Soc J 73:1939-43 My '51

Heat capacity of liquid mercury between 0° and 450° C; calculation of certain thermodynamic properties of the saturated liquid and vapor. T. B. Douglas and others. bibliog J Res Nat Bur Stand 46:334-48 Ap '51

Infra-red spectra of $N^{15}N^{14}O^{16}$ and $N^{14}N^{15}O^{16}$; some thermodynamic properties of the isotopic N_2O molecules. J. Bigeleisen and L. Friedman. bibliog J Chem Phys 18:1656-9 D '50

Low temperature heat capacities of inorganic solids; heat capacity and thermodynamic functions of Li_2O; thermodynamics of the Li_2O-H_2O system. H. L. Johnston and T. W. Bauer. bibliog Am Chem Soc J 73:1119-22 Mr '51

Low temperature thermodynamic properties of sodium hydroxide. J. C. R. Kelly and P. E. Snyder. bibliog Am Chem Soc J 73: 4114-15 S '51

Maxwell's demon cannot operate; information and entropy. L. Brillouin. J Ap Phys 22: 334-7 Mr '51

Non-equilibrium thermodynamics of two-fluid models. S. R. de Groot and others. bibliog Phys R 81:1070 Mr 15 '51

Numerical integration as a labor-saving device in the compilation of thermodynamic properties of polyatomic molecules. R. E. Pennington and K. A. Kobe. J Chem Phys 19:510-11 Ap '51

Physical entropy and information. L. Brillouin. J Ap Phys 22:338-43 Mr '51

Rates, heats, and entropies of polymerization. F. S. Dainton. bibliog Can Chem & Process Ind 35:36-9+ Ja '51

Rotational isomerism and thermodynamic functions of 2-methylbutane and 2,3-dimethylbutane; vapor heat capacity and heat of vaporization of 2-methylbutane. D. W. Scott and others. bibliog Am Chem Soc J 73:1707-12 Ap '51

Simple analog computer for thermodynamic calculations. H. R. Davidson and D. L. Fuller. il diag J Phys & Colloid Chem 55: 200-3 F '51

Some thermodynamic properties of hexadecafluoroheptane. G. D. Oliver and J. W. Grisard. Am Chem Soc J 73:1688-90 Ap '51

Spiropentane; heat capacity, heats of fusion and vaporization, vapor pressure, entropy and thermodynamic functions. D. W. Scott and others. bibliog Am Chem Soc J 72:4664-8 O '50

Substituted ethanes; Raman and infrared spectra, assignments, force constants, and calculated thermodynamic properties for 1,1,1-trichloroethane. M. Z. El-Sabban and others. bibliog diag J Chem Phys 19:855-64 Jl '51

Substituted methanes; force constants and calculated thermodynamic properties for some trifluoromethanes. C. E. Decker and others. bibliog J Chem Phys 19:784-8 Je '51

Substituted methanes; infrared spectra and calculated thermodynamic properties for some trichloromethanes. J. R. Madigan and F. F. Cleveland. J Chem Phys 19:119-23 Ja '51

Thermochemistry for the petrochemical industry (cont). K. A. Kobe and others. bibliog Pet Refiner 29:93-6 D '50; 30:123-4 Ap; 143-4 Je; 119-22 Ag '51

Thermodynamic background of iron and steel making processes. F. D. Richardson and J. H. E. Jeffes. bibliog(72 ref) Iron & Steel Inst J 163:397-420 D '49; Discussion. 167: 378-82 Ap '51

Thermodynamic background of iron and steel-making processes; deoxidation. F. D. Richardson. bibliog(42 ref) Iron & Steel Inst J 166:137-46 O '50

Thermodynamic data of the metallic chlorides. H. Villa. bibliog Soc Chem Ind J 69 (sup no 1):S9-18 '50

Thermodynamic factors in stereo-specific processes; the transformation of diastereoisomers of brucine 2′-(2-hydroxy-2-propyl)-diphenyl-2-carboxylic acid. H. Kacser and A. R. Ubbelohde. Chem Soc J p2152-8 Ag '50

Thermodynamic functions for fluorine. G. M. Murphy and J. E. Vance. bibliog J Chem Phys 18:1514-15 N '50

Thermodynamic functions of cycloöctatetraene. E. R. Lippincott and R. C. Lord. Am Chem Soc J 73:3889-91 Ag '51

Thermodynamic functions of iron. L. S. Darken and R. P. Smith. bibliog Ind & Eng Chem 43:1815-20 Ag '51

Thermodynamic investigations on ternary amalgams. C. Wagner. bibliog J Chem Phys 19:626-31 My '51

Thermodynamic properties and rotational isomerism of 2-thiabutane. D. W. Scott and others. bibliog Am Chem Soc J 73:261-5 Ja '51

Thermodynamic properties of aqueous lithium chloride solutions; evaluation of the gas current method for the determination of the thermodynamic properties of aqueous salt solutions. E. F. Johnson, jr. and M. C. Molstad. bibliog il diags J Phys & Colloid Chem 55:257-81 F '51

Thermodynamic properties of carbon disulfide. L. J. O'Brien and W. J. Alford. bibliog Ind & Eng Chem 43:506-10 F '51

Thermodynamic properties of ethyl alcohol. R. C. Reid and J. M. Smith. bibliog(43 ref) Chem Eng Prog 47:415-18 Ag '51

THERMODYNAMICS—*Continued*

Thermodynamic properties of gaseous titanium. P. W. Gilles and Q. D. Wheatley. bibliog J Chem Phys 19:129-30 Ja '51

Thermodynamic properties of liquid ternary cadmium solutions. J. F. Elliott and J. Chipman. diags Am Chem Soc J 73:2682-93 Je '51

Thermodynamic properties of naphthalene. G. M. Barrow and A. L. McClellan. bibliog Am Chem Soc J 73:573-5 F '51

Thermodynamic properties of propane. Ju Chin Chu and others. bibliog Pet Processing 5:1202-4 N '50

Thermodynamic properties of propylene. L. N. Canjar, M. Goldman and H. Marchman. bibliog Ind & Eng Chem 43:1186-93 My '51

Thermodynamic properties of reactive gas mixtures. A. S. Campbell. Franklin Inst J 251:437-52 Ap '51

Thermodynamic properties of silver sulfide. J. R. Goates and others. Am Chem Soc J 73:707-8 F '51

Thermodynamic properties of sulphur in molten iron-sulphur alloys. C. W. Sherman and others. bibliog diag J Metals 188:Trans 334-40 F '50; Discussion. 188:Trans 1347-8 N '50

Thermodynamic study of liquid metallic solutions; the systems bismuth-gold and thallium-gold. O. J. Kleppa. diags Am Chem Soc J 73:385-90 Ja '51

Thermodynamic study of the reaction $CaS+H_2O \rightleftarrows CaO+H_2S$ and the desulphurization of liquid metals with lime. T. Rosenqvist. bibliog diags J Metals 3:Trans 535-40 Jl '51; Discussion. 3:Trans 1047-8 N '51

Thermodynamic study of the turbojet engine. B. Pinkel and I. M. Karp. bibliog diag U S Nat Advisory Com for Aeronautics 1947:599-627 '50

Thermodynamic theory; International congress of pure and applied chemistry papers. Chem & Eng N 29:3972-3 S 24 '51

Thermodynamics and chemical kinetics of one-dimensional nonviscous flow through a Laval nozzle. S. S. Penner. J Chem Phys 19:877-81 Jl '51

Thermodynamics of 1-butyne from calorimetric and spectroscopic data. J. G. Aston, S. V. R. Mastrangelo and G. W. Moessen. bibliog Am Chem Soc J 72:5287-91 N '50

Thermodynamics of fluorine-chlorine exchange reactions; the systems NaF-NaCl, BaF_2-$BaCl_2$, NiF_2-$NiCl_2$ and PbClF-$PbCl_2$. G. C. Hood and M. M. Woyski. bibliog Am Chem Soc J 73:2738-41 Je '51

Thermodynamics of iron-silicate slags; slags saturated with gamma iron. R. Schuhmann, jr. and P. J. Ensio. bibliog diags J Metals 3:Trans 401-11 My '51

Thermodynamics of lime manufacture. R. Gibbs. il map diag Rock Prod 53:118-21+ F; 122-4 Je; 110-12 O '50; 54:108-11+ F '51

Thermodynamics of metalloprotein combinations; buffer effects in copper-albumin complexes. I. M. Klotz and H. A. Fiess. J Phys & Colloid Chem 55:101-11 Ja '51

Thermodynamics of natural gas compression. G. L. Farrar. diags Pet Eng 22:C23-4+ N '50

Thermodynamics of substances of interest in iron and steel making; compounds between oxides. F. D. Richardson and others. Iron & Steel Inst J 166:213-34+ bibliog(134 ref, p233-4+) N '50

Thermodynamics of the critical point. C. F. Curtiss and others. J Chem Phys 19:801 Je '51

Thermogalvanic potentials; the application of thermodynamics to thermogalvanic data (a study of the silver chloride electrode from 25° to 90°C). H. Levin and C. F. Bonilla. bibliog diag Electrochem Soc J 98:388-94 O '51

Transport phenomena in dense media; thermal diffusion in compressed gases. W. L. Robb and H. G. Drickamer. bibliog J Chem Phys 19:818-20 Jl '51

Use of equilibrium constants to calculate thermodynamic quantities; equilibria in the system *tert.*-butyl chloride, *iso*-butene, hydrogen chloride. K. E. Howlett. diag Chem Soc J p 1409-12 Je '51

$ZnSO_4 \cdot 7H_2O$, $ZnSO_4 \cdot 6H_2O$; heat capacities, entropies and crystal perfection at low temperatures; heats of solution and transition. R. E. Barieau and W. F. Giauque. Am Chem Soc J 72:5676-84 D '50

See also

Boiling
Entropy
Equation of state
Evaporation
Free energy
Melting points
Specific heat
Vapor pressure

Study and teaching

Graphical representation of kinetic energy changes for an adiabatic irreversible expansion. W. B. Nordquist. diags J Eng Educ 42:52-3 S '51

THERMOELECTRIC effect

Energetic treatment of non-isothermal processes; the principle of thermal interaction. H. Holtan, jr. bibliog diag J Chem Phys 19:519-25 My '51

THERMOELECTRICITY

Applications of the Eastman thermocell equation; certain absolute ionic entropies and entropies of transfer of alkali metal and tetraalkylammonium bromides and hydroxides. J. C. Goodrich and others. bibliog diags Am Chem Soc J 72:4411-18 O '50; Reply. H. J. V. Tyrrell and G. L. Hollis. 73:2401-2 My '51

Electrical measurement by thermal effects; discussion. Inst E E Proc 98 pt 2:422-4 Je '51; Abstract. Elec R (Lond) 148:537-8 Mr 16 '51

Electrical resistivity and thermoelectric power of antimony-selenium alloys. B. D. Cullity and others. bibliog J Metals 188: Trans 47-52 Ja '50; Discussion. 188:Trans 1367-8 N '50

Empirical correlation for a thermoelectric property of superconductors. M. C. Steele and J. de Launay. Phys R 82:276-7 Ap 15 '51

Improved theory of thermoelectric refrigeration; abstract. P. O. Gehlhoff and others. Refrig Eng 58:1079 N '50

Measurement of molecular weight in organic solvents; thermoelectric method. C. B. Taylor and M. B. Hall. diags Anal Chem 23:947-9 Jl '51

Relationship between resistance and temperature of thermistors. G. Bosson and others. J Ap Phys 21:1267-8 D '50

Thermoelectromotive force of a superconductor versus the same metal in the nonsuperconductive state. M. C. Steele. bibliog diag Phys R 81:262-7 Ja 15 '51

Thermogalvanic potentials; the application of thermodynamics to thermogalvanic data (a study of the silver chloride electrode from 25° to 90°C). H. Levin and C. F. Bonilla. bibliog diag Electrochem Soc J 98:388-94 O '51

See also

Peltier effect
Seebeck effect
Thermocouples

THERMOFOR kiln

Evolution of a process; moving-bed process, Thermofor, Houdriflow, pyrolytic cracking, etc. M. Sittig. diags Chem Eng 57:106-8+ D '50

THERMOFOR process. See Gasoline—Manufacture

THERMOHM tables. See Temperature—Measurement

THERMOID company

Bigger dividend seen in improved finances. Barron's 31:17 My 28 '51

THERMOLUMINESCENCE. See Luminescence

THERMOMAGNETISM

Automatic magnetic balance for the study of ferromagnetic materials. R. F. S. Robertson and P. W. Selwood. bibliog diags R Sci Instr 22:146-52 Mr '51

Thermomagnetic investigations of promoted and unpromoted iron oxide and iron catalysts. L. R. Maxwell and others. bibliog diag J Chem Phys 19:303-9 Mr '51

THERMOMETERS, Clinical

Rating

Clinical thermometers. il Consumers Res Bul 27:15-17 Mr '51

THERMOMETERS, Medical. See Thermometers, Clinical

THERMOMETERS and thermometry

Accurate methods for determining average temperatures in storage tanks; averaging resistance thermometer. J. H. Berglund and R. T. Pierce. il diags Pet Eng 23: A39-44+ Ja '51

Annealing of platinum for thermometry. R. J. Corruccini. bibliog diag J Res Nat Bu Stand 47:94-103 Ag '51

Apparatus checks jet thermometer. diag Aviation W 53:25-6+ N 27 '50

Converting platinum resistance to temperature. D. N. Eggenberger. Anal Chem 22: 1335 O '50

Design of thermistor thermometers with linear calibration. W. R. Beakley. diag J Sci Instr 28:176-9 Je '51

Modification in the construction of calorimetric resistance thermometers. F. J. Gittings. bibliog diags J Sci Instr 28:238 Ag '51

New dial-type mercury-actuated thermometer is more convenient than older types. R. H. Munch. il Ind & Eng Chem 43: sup65A-6A+ Mr '51

Pressure-temperature relations in gas-filled (class III) thermometers. E. E. Modes. diag A S M E Trans 73:957-62 O '51

Protect thermometers in water tunnels. R. D. Briggs and J. R. Krier. diag Elec World 136:140 Ag 13 '51

Some design considerations in connection with the use of high speed thermometry for telemetering. V. C. Westcott. il Instruments 23:1298-9 D '50

Temperature scale of the Ohio state university Cryogenic laboratory. T. Rubin, H. L. Johnston and H. Altman. il diag Am Chem Soc J 73:3401-4 Jl '51

Tertiary butyl alcohol as a thermometric standard at 25° C. T. De Vries and H. Soffer. J Phys & Colloid Chem 55:406-8 Mr '51

See also

Atmospheric temperature
Bolometers
Calorimeters and calorimetry
Color temperature
Paint, Temperature indicating
Pyrometers and pyrometry
Temperature—Measurement

Rating

Household thermometers. il Consumers Res Bul 27:13-16 Ap '51

THERMOPSINE

Papilionaceous alkaloids; identity of hexalupine with *d*-thermopsine. L. Marion, W. F. Cockburn and J. F. Couch. Am Chem Soc J 73:1769-70 Ap '51

THERMOSTATS

Automatic heating control systems for homes and small commercial structures. L. H. Johnson. il diags Am Bld 73:147-9+ Ja; 128-9+ F '51

Inexpensive thermostat relay. D. Taylor. diags Chem Soc J p232-3 Ja '51

Low temperature thermostat. R. Haul and J. J. Theron. diags J Sci Instr 28:236-7 Ag '51

NBS develops thermostat for high temperatures. il Elec Eng 69:1043-4 N '50

Precision thermostat for high temperatures. Franklin Inst J 250:443-5 N '50; Same. il diag Glass Ind 31:637+ D '50; Excerpts. Elec World 135:122 F 12 '51

Precision thermostat for high temperatures. W. R. Eubank. bibliog il diags R Sci Instr 21:845-51 O '50

Super thermostat. il Aero Digest 61:34 D '50

THESES. See Dissertations, Academic

THÉVENIN theorem

Some tests of an exact practical theory of the induction motor. D. Morris. bibliog diags Inst E E Proc 97 pt 2:767-78 D '50

THIABUTANE. See Methyl ethyl sulfide

THIACYCLOHEXANONE

Some reactions of thia*cyclo*hexan-4-one and 1-alkyl-4-piperidones. H. M. E. Cardwell. Chem Soc J p 1059-62 Ap '50

THIADIAZOLE

Cyclic meso-ionic compounds; ψ-4-aryl-2 : 4-dihydro-2-thio-1-thia-3 : 4-diazoles (*endo*thiodihydrothiodiazoles). W. Baker and others. Chem Soc J p289-91 F '51

THIAMIN. See Vitamins—Vitamin B_1

THIAMINASE

Enzymatic synthesis of folic acid by the action of carp thiaminase. D. W. Woolley. Am Chem Soc J 73:1898 Ap '51

THIANTHRENE

Formation of thianthrene by a free radical mechanism. D. A. Shirley and P. A. Roussel. Science 113:208-10 F 23 '51

THIAPYRAN

Thiapyran derivatives; the preparation, properties, and reactions of Δ^3-dihydrothiapyran 1,1-dioxide. E. A. Fehnel and P. A. Lackey. bibliog Am Chem Soc J 73:2473-9 Je '51

THIAXANTHENOL

Improved synthesis of 10-thiaxanthenol. H. F. Oehlschlaeger and I. R. MacGregor. bibliog Am Chem Soc J 72:5332-3 N '50

THIAZINES

Rearrangements of some benzoylvinylisothiourea and of metathiazine derivatives. C. J. Cavallito, C. M. Martini and F. C. Nachod. Am Chem Soc J 73:2544-7 Je '51

THIAZOLE yellow

Determination of magnesium in plant tissue with thiazole yellow. H. Y. Young and R. F. Gill. bibliog Anal Chem 23:751-4 My '51

THIAZOLES

Accelerator-activators from amic acids. M. C. Throdahl, R. O. Zerbe and D. J. Beaver. Ind & Eng Chem 43:926-30 Ap '51

Preparation of 2-vinylthiazoles. D. L. Schoene. Am Chem Soc J 73:1970-1 My '51

Pyrido[3,2-d]thiazoles. S. J. Childress and R. L. McKee. Am Chem Soc J 73:3504-5 Jl '51

Some naphthothiazoles. W. A. Boggust and others. Chem Soc J p680-2 F '50

Synthesis of some analogs of histamine and histidine containing the thiazole nucleus. R. G. Jones, E. C. Kornfeld and K. C. McLaughlin. bibliog Am Chem Soc J 72: 4526-9 O '50

Thiazole analogs of pyridoxine. L. H. Conover and D. S. Tarbell. bibliog Am Chem Soc J 72:5221-5 N '50

See also

Dimethyl mercaptothiazole

THIAZOLIDINE

Syntheses in the penicillin field; thiazolinyl-amino-oxazole derivatives. A. H. Cook and G. Harris. Chem Soc J p3236-41 D '49

Synthesis of substituted penicillins and simpler structural analogs. J. C. Sheehan and others. bibliog Am Chem Soc J 73: 4367-80 S '51

Thiazolid-2 : 5-dione. P. Aubert, R. A. Jeffreys and E. B. Knott. Chem Soc J p2195-7 Ag '51

THIAZOLIDONE

Studies in the azole series. A. H. Cook and A. L. Levy. Chem Soc J p637-45 F '50

Studies in the azole series; a new method of peptide synthesis; alanyl-peptides. A. H. Cook and A. L. Levy. Chem Soc J p651-6 F '50

Studies in the azole series; a new method of peptide synthesis; glycyl peptides. A. H. Cook and A. L. Levy. Chem Soc J p646-51 F '50

Synthesis of some 3-aryl-2-arylimino-4-thiazolidones. P. N. Bhargava. Am Chem Soc J 73:2553-4 My '51

THIAZOLINE

Syntheses in the penicillin field; attempts to synthesise true thiazolinyl-oxazolones. A. H. Cook and others. Chem Soc J p3220-7 D '49

Syntheses in the penicillin field; the preparation of thiazolinyl-amino-oxazole derivatives. A. H. Cook, G. Harris and A. L. Levy. Chem Soc J p3227-35 D '49

Syntheses in the penicillin field; the structure and reduction of some thiazolinyl-oxalones. R. Bentley, A. H. Cook and J. A. Elvidge. Chem Soc J p3216-20 D '49

THIAZOLONE

Studies in the azole series; the interaction of amines and 2-mercapto-4-alkylidene- or -arylidene-5-thiazolinones. A. H. Cook, G. D. Hunter and J. R. A. Pollock. Chem Soc J p 1892-8 Jl '50

Syntheses of certain thiazolopyrimidines (4 : 5 : 6 : 9-tetrahydro-1-thia-7 : 9-diazaindanes). P. J. Heald and T. K. Walker. Chem Soc J p 1127-9 Ap '50

THICKENERS
Application of cyclone thickeners to preparation plant water circuits. G. H. Kennedy and H. E. Criner. diags Min Eng 3:Trans 259-61 Mr '51
Cyclone thickener applications in the coal industry. M. G. Driessen and H. E. Criner. bibliog il diags Min Eng 187:Trans 102-7 Ja '50; Discussion. 187:Trans 1158-9 N '50
Cyclone thickeners, a practical solution for closed water circuit operation. V. Phillips and J. P. Blair. il Min Eng 3:Trans 699-702 Ag '51
See also
Thickening agents

THICKENING agents
Sidelights on textile print thickeners. Am Dyestuff Rep 40:369-71 Je 11 '51
Sodium polyacrylate as a latex thickener. W. D. Schroeder and G. L. Brown. bibliog Rubber Age 69:433-6 Jl '51
Studies in the fundamental processes of textile printing; the influence of thickener composition on dye transfer during steaming. D. A. Reilly and H. A. Turner. bibliog Soc Dyers & Col J 67:103-15+ Mr '51
Thickening agents during the war and in the postwar period; abstract. H. Barth. Am Dyestuff Rep 39:722-3 O 30 '50

THICKNESS measurement
Alignment chart for computing the thickness of evaporated films. A. L. Schoen and R. H. Davis. Opt Soc Am J 41:362-3 My '51
Beta gauge thickness. Franklin Inst J 250: 442 N '50
Ceramic thickness gage. il diag Instruments 24:692+ Je '51
Color yardstick measures microinches; abstracts. K. B. Blodgett. Instruments 24:659 Je '51; Mech Eng 73:584 Jl '51
Conversion of Pfund gage reading to dry film thickness. M. H. Switzer. Anal Chem 23: 800-2 My '51
Fine coating of tin; X-ray and the Geiger counter made thickness gage. Steel 128:57 Ap 9 '51; Comp Air Mag 56:132 My '51; Mach 57:172-3 Je '51
Indicator-holding fixture inspects tube-wall thickness. A. Vetsch. diags Am Mach 95: 135 Mr 5 '51
Interferometric method for accurate thickness measurements of thin evaporated films. L. G. Schulz. diags Opt Soc Am J 40:690-2 O '50
Measurement of thin film thickness by interferometry. S. Tolansky. Opt Soc Am J 41: 425-6 Je '51
Measuring the thickness of thin coatings with radiation backscattering. E. Clarke and others. bibliog il diag Elec Eng 70:35-7 Ja '51; Abstract. Electronics 24:226+ Ap '51
Metal wall thickness measurement from one side by the ultrasonic method. N. G. Branson. il diags Elec Eng 70:619-23 Jl '51
Method of determining the thickness of silver deposited on glass. L. S. Nelson. J Chem Educ 28:103 F '51
New type beta ray gauge. il Rubber Age 69: 354+ Je '51
Non-contact gaging; X-ray gage and air gage. J. T. Welch. il diags Instruments 24: 652-4+ Je '51
Non-contacting thickness gages for flat rolled steel products; abstracts. W. A. Black. Iron & Steel Eng 28:132-4 Ag '51; Metal Prog 60:130+ Ag '51
Oil film thickness indicators for sleeve-type bearings. il Diesel Power 29:62 S '51
Portable gage rapidly checks thickness of sheet. il Product Eng 22:166 F '51
Production testing of tin coating by X-rays. A. W. Williams. il Mill & Factory 49:89 S '51
Radioactivity in textile production. Electronics 24:172+ Ja '51
Small layer thickness meter. il Engineer 191: 359-60 Mr 16 '51; Electrician 146:971-2 Mr 23 '51
Survey of coating-thickness variation on commercially galvanized sheets. M. L. Hughes. bibliog diag Iron & Steel Inst J 167:48-65 Ja '51
Thickness gage shows effective use of light metals. diag Mach 57:197 My '51
Thickness gaging by radiation absorption methods. C. W. Clapp and S. Bernstein. il Gen Elec R 53:39-42 N '50
Thickness measurement of wet films; new German apparatus. diag Chem Age (Lond) 64:311-12 F 24 '51

THIENOINDOLE
Synthesis of heterocyclic compounds from aryl azides; carbolines and thienoindole. P. A. S. Smith and J. H. Boyer. bibliog Am Chem Soc J 73:2626-9 Je '51

THIENOL
Thienol. C. D. Hurd and K. L. Kreuz. bibliog Am Chem Soc J 72:5543-6 D '50

THIENYL group
Aminoalkyl tertiary carbinols and derived products; 3-amino-1 : 1-di-2′-thienyl-alkan-1-ols and -alk-1-enes. D. W. Adamson. Chem Soc J p885-90 Mr '50

THINKING. See Thought and thinking

THIOCHROMANONE
Structure and properties of certain polycyclic indolo- and quinolino-derivatives; derivatives of 1-thiochroman-4-one and of 2-thio*iso*chroman-4-one. A. K. Kiang and F. G. Mann. Chem Soc J p 1909-14 Jl '51

THIOCHROME
Aneurin; the mechanism of thiochrome formation from aneurin and aneurin disulphide. P. Sykes and A. R. Todd. Chem Soc J p534-44 F '51

THIOCYANATES
Millicoulometry; the polarographic reduction of copper(II) from thiocyanate solutions. L. Meites. bibliog Am Chem Soc J 73:4479-81 S '51
Phenoxy- and benzyloxyalkyl thiocyanates. J. D. Genzer, C. P. Huttrer and G. C. van Wessem. bibliog Am Chem Soc J 73:3159-62 Jl '51
Reactions in the system azide-iodine-thiocyanate. P. Senise. bibliog J Phys & Colloid Chem 55:1151-70 O '51
See also
Cobalt thiocyanate

THIODIALANINE
Lanthionine in subtilin. G. Alderton and H. L. Fevold. bibliog Am Chem Soc J 73:463-4 Ja '51

THIODIPHENYLAMINE. See Phenothiazine

THIOETHERS. See Sulfides

THIOGLYCOLLIC acid. See Mercaptoacetic acid

THIOINDIGO
Absorption spectra of thioindigo dyes in benzene and chloroform. W. R. Brode and G. M. Wyman. J Res Nat Bur Stand 47: 170-8 S '51
Reactions of diaryldicoumaranonyls and 2 : 2′-diphenylthioindigo-white. A. Mustafa and A. M. Islam. Chem Soc J p 1616-17 Je '51
Relation between the absorption spectra and the chemical constitution of dyes; absorption spectra of some thioindigo dyes in sulfuric acid. W. R. Brode and G. M. Wyman. bibliog Am Chem Soc J 73:4267-70 S '51
Relation between the absorption spectra and the chemical constitution of dyes; *cis-trans* isomerism in thioindigo dyes. G. M. Wyman and W. R. Brode. bibliog Am Chem Soc J 73:1487-93 Ap '51

THIOKOL
Polysulfide liquid polymers. J. S. Jorczak and E. M. Fettes. bibliog Ind & Eng Chem 43: 324-8 F '51
Polysulfide polymers. E. M. Fettes and J. S. Jorczak. bibliog(69 ref) Ind & Eng Chem 42:2217-23 N '50

THIOLACETIC acid. See Mercaptoacetic acid

THIOLS. See Mercaptans

THIOLSULFONATES. See Sulfonates

THIONAPHTHALENE
1 : 2-Dihydro-2-thianaphthalene derivatives; preparation and reactions of 1 : 2-dihydro-1-keto-2-thianaphthalenes. D. J. Dijksman and G. T. Newbold. Chem Soc J p 1213-18 My '51

THIONAPHTHENE
Benzothiophenes and their 1-dioxides. A. H. Schlesinger and D. T. Mowry. bibliog Am Chem Soc J 73:2614-16 Je '51
Thiophen derivatives of potential biological interest; thionaphthen analogues of stilbene and related compounds. N. P. Buu-Hoï and N. Hoán. Chem Soc J p251-5 F '51

THIONAPHTHENE—*Continued*

Analysis

Determination of thionaphthen in naphthalene by infra-red absorption spectroscopy. W. E. Armstrong, A. B. Densham and G. Gough. Chem Soc J p3359-60 D '50

THIONES

Some new alkyl 1,2-dithia-4-cyclopentene-3-thiones. R. S. Spindt, D. R. Stevens and W. E. Baldwin. bibliog Am Chem Soc J 73:3693-7 Ag '51

THIONYL chloride

Acids and bases; aluminum chloride, ferric chloride and stannic chloride as acid catalysts in the reaction of metals with thionyl chloride. R. A. Hubbard, 2d and W. F. Luder. Am Chem Soc J 73:1327-9 Mr '51

THIONYL halides

Experiments on the interaction of hydroxy-compounds and phosphorus and thionyl halides in the absence and in the presence of tertiary bases. K. H. V. French and others. Chem Soc J p3326-30 D '49; p2088-92 Ag '50

THIOÖXAZOLIDONE

Infrared spectra and tautomerism of 2-thioöxazolidone and congeners. M. G. Ettlinger. bibliog Am Chem Soc J 72:4699-702 O '50

Synthesis of the natural antithyroid factor *l*-5-vinyl-2-thioöxazolidone. M. G. Ettlinger. bibliog Am Chem Soc J 72:4792-6 O '50

THIOPENTAL anesthesia. See Pentothal sodium

THIOPHANES

Dithionethiophanes. W. Friedmann. pl Inst Pet J 37:40-3 Ja '51

THIOPHENE

Acylation studies in the thiophene and furan series; mixed melting points of some homologous acetylmethylthiophene derivatives. H. D. Hartough. Am Chem Soc J 73:4033-5 Ag '51

Condensation of thiophene and homologs with ketones. J. W. Schick and D. J. Crowley. Am Chem Soc J 73:1377 Mr '51

Condensations effected by acidic catalysts; the acylation of substituted and condensed thiophenes and furans. M. W. Farrar and R. Levine. bibliog Am Chem Soc J 72:4433-6 O '50

Cylic sulfones; alkylation of 2,5-diphenyl-3,4-dihydroxythiophene-1-dioxide with methyl and ethyl iodide; an extension of a method for the alkylation of benzyl sulfone. C. G. Overberger and J. M. Hoyt. Am Chem Soc J 73:3957-8 Ag '51

Cyclic sulfones; methylation of 2,5-diphenyl-3,4-dihydroxythiophene-1-dioxide with methyl sulfate and diazomethane. C. G. Overberger and J. M. Hoyt. bibliog Am Chem Soc J 73:3305-8 Jl '51

Cyclic sulfones; the polymerization of styrene in the presence of 3,4-diphenylthiophene-1-dioxide and 3,4-di-(*p*-chlorophenyl)-thiophene-1-dioxide. C. G. Overberger, H. J. Mallon and R. Fine. bibliog Am Chem Soc J 72:4958-61 N '50

Hydrogenolysis of thiophene over vanadium oxide. V. I. Komarewsky and E. A. Knaggs. bibliog diag Ind & Eng Chem 43:1414-18 Je '51

Thienol. C. D. Hurd and K. L. Kreuz. bibliog Am Chem Soc J 72:5543-6 D '50

α-Thienyl substituted aminoesters with analgetic and spasmolytic properties. F. Leonard and I. Ehrenthal. Am Chem Soc J 73:2216-18 My '51

Thiophen derivatives of potential biological interest; thionaphthen analogues of stilbene and related compounds. N. P. Buu-Hoï and N. Hoán. Chem Soc J p251-5 F '51

Thiophen derivatives of potential biological interest; thiophen analogues of stilbene and of related compounds. N. P. Buu-Hoï, N. Hoán and D. Lavit. Chem Soc J p2130-4 Ag '50

Thiophene analog of sulfanilamide. H. Y. Lew and C. R. Noller. bibliog Am Chem Soc J 72:5715-17 D '50

Thiophene isostere of 2-methyl-1-indanone. J. H. Burckhalter and J. Sam. Am Chem Soc J 73:4460 S '51

Willgerodt reaction in the heterocyclic series; some compounds of the α- and β-thienyl series. J. A. Blanchette and E. V. Brown. bibliog Am Chem Soc J 73:2779-81 Je '51

Analysis

Color reactions of thiophene derivatives and of other compounds with a ceric nitrate reagent. H. D. Hartough. bibliog Anal Chem 23:1128-30 Ag '51

Colorimetric method for the determination of thiophene in synthesis gas. H. W. Wainwright and G. I. Lambert. bibliog 7pls U S Bur Mines Rep of Invest 4753:1-11 '50

THIOPHENE acetamide

Reactions of aceto-2-thiophenamide. C. D. Hurd and J. Moffat. bibliog Am Chem Soc J 73:613-15 F '51

THIOPHENE butenol

Preparation and properties of some thienyl butenols. G. T. Gmitter and F. L. Benton. bibliog Am Chem Soc J 72:4586-9 O '50

THIOPHENOL. See Benzenethiol

THIOPHOSPHATES

See also

Parathion

THIOPHOSPHORIC acid

Reaction of O,O-dialkyl thiophosphoric acid salts with some α-haloacyl derivatives. E. I. Hoegberg and J. T. Cassaday. bibliog Am Chem Soc J 73:557-9 F '51

THIOPHTHENE

Substitution products of the isomeric thiophthens; the structure of liquid thiophthen (thiopheno-2′ : 3′ : 2 : 3-thiophen). F. Challenger and R. Emmott. bibliog Inst Pet J 37:396-405 Jl '51

THIOSEMICARBAZIDE

Compounds related to thiosemicarbazide; 5-amino-3-phenyl-1 : 2 : 4-triazoles. E. Hoggarth. Chem Soc J p612-14 F '50

Compounds related to thiosemicarbazide; benzylthiosemicarbazides. E. Hoggarth and E. H. P. Young. Chem Soc J p 1582-4 Je '50

Compounds related to thiosemicarbazide; 4 : 5-diamino-3-phenyl-4 : 1 : 2-triazole. E. Hoggarth. Chem Soc J p614-17 F '50

Compounds related to thiosemicarbazide; further routes to 4 : 5-diamino-3-phenyl-4 : 1 : 2-triazole and related compounds. E. Hoggarth. Chem Soc J p 1579-82 Je '50

Compounds related to thiosemicarbazide; the oxidation of thiosemicarbazones. E. Hoggarth. Chem Soc J p2202-4 Ag '51

THIOSEMICARBAZONES

Antituberculous compounds 2,4-disubstituted benzaldehyde thiosemicarbazones. L. Katz and W. E. Hamlin. Am Chem Soc J 73:2801-2 Je '51

Chemotherapy of experimental tuberculosis; the synthesis of thiosemicarbazones and related compounds. J. Bernstein and others. bibliog Am Chem Soc J 73:906-12 Mr '51

Compounds related to thiosemicarbazide; the oxidation of thiosemicarbazones. E. Hoggarth. Chem Soc J p2202-4 Ag '51

Oxidation and reduction of 4-acetamidobenzaldehyde thiosemicarbazone. R. Duschinsky and H. Gainer. Am Chem Soc J 73:4464-6 S '51

Preparative method for thiosemicarbazones of aromatic aldehydes. B. Puetzer, W. E. Hamlin and L. Katz. Am Chem Soc J 73:2958 Je '51

Spectrophotometric analysis of amithiozone preparations. G. B. Levy and D. Fergus. Anal Chem 23:384-5 F '51

THIOSULFATES

Electrolyte effect upon the kinetics of the bromoacetate-thiosulfate reaction in *n*-propyl alcohol-water solutions. F. G. Ciapetta and H. M. Tomlinson. bibliog J Phys & Colloid Chem 55:429-39 Mr '51

Kinetics of the exchange of sulfur between thiosulfate and sulfite. D. P. Ames and J. E. Willard. bibliog Am Chem Soc J 73:164-72 Ja '51

Rate law and mechanism of the reaction of iodine with thiosulfate ion; the formation of the intermediate $S_2O_3I^-$. A. D. Awtrey and R. E. Connick. bibliog diag Am Chem Soc J 73:1341-8 Mr '51

THIOURACIL
Competitive action of 2-thiouracil and uracil in AAF-induced cancer of the liver. K. E. Paschkis and others. bibliog Science 114: 264-5 S 7 '51
Improved syntheses in the pyrimidine series; the use of pyrimidine-thiols. D. J. Brown. bibliog Soc Chem Ind J 69:353-6 D '50
Preparation of some substituted 2-thiouracils and 2,4-dimercaptopyrimidines. E. A. Falco, P. B. Russell and G. H. Hitchings. Am Chem Soc J 73:4466-8 S '51
Role of thiouracil in the induction, growth, and transplantability of mouse thyroid tumors. H. P. Morris and C. D. Green. bibliog Science 114:44-6 Jl 13 '51
Synthesis of 6-alkyl-2-thiouracils labelled with radioactive sulphur. J. Bell and K. A. Macdonald. Chem Soc J p 1930 Jl '51

THIOUREA
Addition compounds of thiourea. O. Redlich and others. Am Chem Soc J 72:4161-2 S '50
Cyanamides; the interaction of arylthioureas and aromatic sulphonyl chlorides. F. Kurzer. Chem Soc J p3269-76 N '50
Inability of thiourea to modify Roentgen ray irradiation mortality in rats. T. J. Haley and others. Science 114:153-4 Ag 10 '51
Isobornylisothiuronium salts. L. A. Subluskey and L. C. King. bibliog Am Chem Soc J 73:2647-50 Je '51
Mechanism of formation of cholesterylisothiuronium tosylate from thiourea and cholesteryl tosylate. R. G. Pearson, L. C. King and S. H. Langer. bibliog Am Chem Soc J 73:4149-52 S '51
Micro syntheses with tracer elements; the synthesis of thiourea labeled with C^{14} and of thiourea labeled with S^{35}. C. W. Bills and A. R. Ronzio. Am Chem Soc J 72:5510-11 D '50
Monosubstituted pyrimidines, and the action of thiourea on chloropyrimidines. M. P. V. Boarland and J. F. W. McOmie. Chem Soc J p 1218-21 My '51
Polarography of copper complexes; dipyridyl, orthophenanthroline and thiourea complexes; a double complex system. E. I. Onstott and H. A. Laitinen. bibliog Am Chem Soc J 72:4724-8 O '50
Reactions of ethylene thiourea. N. R. Easton, A. Hlynsky and H. Foster. Am Chem Soc J 73:3507-8 Jl '51
Spectrophotometric study of the ruthenium-thiourea complex. G. H. Ayres and F. Young. bibliog Anal Chem 22:1277-80 O '50

THIOXANTHONE. See Xanthione

THIURONIUM compounds
Action of direct current on aqueous solutions of S-benzyl- and S-1-naphthylmethylthiuronium chlorides. W. A. Bonner. Am Chem Soc J 73:464-5 Ja '51
Study of some S-(polyacetyl-β-D-glycopyranosyl)-thiuronium halides. W. A. Bonner and J. E. Kahn. bibliog Am Chem Soc J 73:2241-5 My '51

THODE, Harry G.
Canadian chemists honor Thode and Thorvaldson. por(cover) Chem & Eng N 29:2732 Jl 2 '51

THOMAS, Charles Allen, 1900-
Fiber, atom, new boss at Monsanto. por (cover) Bsns W p 112-14+ My 5 '51
Portrait. Chem & Eng N 29:1870 My 7 '51
Sketch. por Fortune 44:16-17 Jl '51
Thomas to head NSRB advisers on scientific manpower. por Chem & Eng N 28:4440-1 D 18 '50

THOMAS, Woodlief, 1897-
Portrait. Bsns W p 100 S 22 '51

THOMAS-FERMI function
Asymptotic expression of the Thomas-Fermi function for a packed atom. K. Umeda. Phys R 83:651-2 Ag 1 '51

THOMPSON, Henry G., and son company
How to please distributors. Bsns W p 116+ S 8 '51

THOMPSON, John, limited
Statement by the chairman. E. W. Thompson. Economist 161:60 Jl 7 '51

THOMPSON, John Fairfield, 1881-
Portrait. Fortune 43:29 Ap '51

THOMPSON, Ronald W.
Portrait. Fortune 44:130 S '51

THOMPSON, Walter Scott, 1885-
Thompson is recalled to handle royal tour. Ed & Pub 84:45 Jl 21 '51

THOMPSON products, inc.
Engineering is their business. G. P. Muir. il Tool Eng 26:55-63 Je '51
Rapid air force build-up spurs Thompson. Barron's 31:15-16 Ap 23 '51
Securities offered. Comm & Fin Chr 173:1484 Ap 9 '51

THORIA. See Thorium oxides

THORIUM
Absolute determination of the *F*, *I*, and *L* lines of Th(B+C+C″). G. Lindström. bibliog Phys R 83:465-6 Jl 15 '51
Coagulation isotherm of thorium. J. D. Kurbatov and A. M. Silverstein. J Phys & Colloid Chem 54:1250-2 N '50
Lower valency states of thorium. J. S. Anderson and R. W. M. D'Eye. diags Chem Soc J supp no 2:S244-8 '49
Probable emission of a beryllium-8 nucleus in the fast neutron fission of thorium-232. E. W. Titterton. bibliog Phys R 83:1076-7 S 1 '51
Reaction between oxygen and thorium. P. Levesque and D. Cubicciotti. Am Chem Soc J 73:2028-31 My '51

Analysis

Amperometric titrations with *m*-nitrophenylarsonic acid. I. M. Kolthoff and R. A. Johnson. bibliog Electrochem Soc J 98:138-45 Ap '51
Chemical determination of thorium in ores. J. C. Ingles. bibliog Can Chem & Process Ind 35:397-8+ My '51
Volumetric determination of thorium by high frequency titrimetry. W. J. Blaedel and H. V. Malmstadt. bibliog Anal Chem 23: 471-5 Mr '51

Isotopes

Beta-disintegration of Th^{233}. M. E. Bunker and others. Phys R 80:468 N 1 '50
Emission of long-range particles in the fast neutron ternary fission of U-238 and Th-232. E. W. Titterton. bibliog Phys R 83:673-4 Ag 1 '51
Energy of the ThC″ 2.62-Mev gamma-ray. A. Hedgran. Phys R 82:128-9 Ap 1 '51
Preparation of Th^{235} and Pa^{235}. B. G. Harvey and B. I. Parsons. Phys R 80:1098-9 D 15 '50
Radiations of UY. A. H. Jaffey and others. bibliog Phys R 82:498-501 My 15 '51
Some properties of thorium in very dilute aqueous solutions. M. H. Kurbatov, H. B. Webster and J. D. Kurbatov. bibliog J Phys & Colloid Chem 54:1239-50 N '50

THORIUM, Powdered
Production of powdered uranium and thorium. P. Chiotti and B. A. Rogers. bibliog diag Metal Prog 60:60-5 S '51

THORIUM bromides
Crystal structure of thorium tetrabromide. R. W. M. D'Eye. Chem Soc J p2764-6 O '50

THORIUM carbides
Carbides of uranium and thorium. H. A. Wilhelm and others. 4pls Chem Soc J supp no 2:S318-21 '49

THORIUM chlorides
Heat of formation of thorium tetrachloride. L. Eyring and E. F. Westrum, jr. bibliog Am Chem Soc J 72:5555-6 D '50

THORIUM compounds
Chemistry of thorium in aqueous solutions; some organic and inorganic complexes. R. A. Day, jr. and R. W. Stoughton. Am Chem Soc J 72:5662-6 D '50
Preparation and properties of the oxide-sulfides of cerium, zirconium, thorium and uranium. E. D. Eastman and others. Am Chem Soc J 73:3896-8 Ag '51

THORIUM D
$H\rho$ of the high energy internal conversion electrons from thorium D. W. L. Brown. bibliog diags Phys R 83:271-4 Jl 15 '51
Nuclear spins of the 2.62-Mev and 3.20-Mev excited states of thorium *D*. H. E. Petch and M. W. Johns. bibliog Phys R 80:478-9 N 1 '50

THORIUM nitrate

Coagulation effects of thorium nitrate on aqueous sols of silver halides in statu nascendi. B. Težak, E. Matijevič and K. Schulz. bibliog Am Chem Soc J 73:1602-9 Ap '51

THORIUM oxides

Base-metal effects in thoria-coated filaments. H. Nelson. J Ap Phys 21:1194-5 N '50

Emissivity changes of thoria cathodes. O. A. Weinreich. bibliog J Ap Phys 21:1272-5 D '50

Magnetic susceptibilities of urania-thoria solid solutions. W. Trzebiatowski and P. W. Selwood. bibliog Am Chem Soc J 72:4504-6 O '50

Spectral emissivity of coatings of thoria and other refractories as a function of temperature. F. H. Morgan. J Ap Phys 22:108-9 Ja '51

Thoria as a cathode emitter. W. E. Danforth. Franklin Inst J 24:515-20 My '51

Tungsten-thoria electrodes for inert arc welding. N. A. Chapin and others. il diags Welding J 30:529-31 Je '51

THORIUM sulfides

Preparation and properties of the sulfides of thorium and uranium. E. D. Eastman and others. bibliog diag Am Chem Soc J 72:4019-23 S '50

Preparation and tests of refractory sulfide crucibles. E. D. Eastman and others. diags Am Cer Soc J 34:128-34 Ap 1 '51

Thorium sulfide as a thermionic emitter. T. E. Hanley. J Ap Phys 21:1193 N '50

THORNTON, Frank, jr.

McGraw award given to Frank Thornton, jr. por Elec World (News ed) 134:6 N 27 '50

THORNTON, William Mundell, 1870-1944

Work of the late W. M. Thornton. J. C. Prescott. Inst E E Proc 98 pt 1:73-6 Mr '51

THORON

Diffusion of thoron atoms through photographic gelatin. G. G. Eichholz and F. C. Flack. bibliog il J Chem Phys 19:363-6 Mr '51

THORVALDSON, Thorbergur

Canadian chemists honor Thode and Thorvaldson. por(cover) Chem & Eng N 29:2732 Jl 2 '51

THOUGHT and thinking

Always a grasshopper. D. Eastman. Ptr Ink 236:88 Ag 10 '51

Think! it's part of every job. Coal Age 56:120-1 Je '51

THREAD

Remedies for sewing problems. H. Wedemeyer. il Rayon 31:36+ O '50

THREAD, Rubber. See Rubber thread

THREAD cutting

Adjustable headstock center shifts for threading work. M. Poprick. diags Am Mach 95:122 Ja 8 '51

Center setup guides threading die. G. Duff. diags Am Mach 94:169 D 11 '50

Chasing attachment for lathes. il diag Engineer 191:138 Ja 26 '51

Chuck jaws are threading dies to chase large shafts. N. Palmer. diags Am Mach 95:163 S 17 '51

Cut-thread blanks for Dryseal parts; reference book sheet. diag Am Mach 95:129 Ja 8 '51

Grinder without leadscrew cuts threads, anyhow. C. D. Mackinnon. diags Am Mach 95:172 Je 11 '51

Screws and screwing; producing screw threads by cutting, rolling, grinding, and milling. C. Eatough. diags Inst Mech Eng Proc 164 no 1:52-9, pl 3-4; Discussion. il 59-67 '51

Tailstock threading attachment for the engine lathe. A. R. Christensen. diag Tool Eng 26:52 My '51

Thread chasing. W. M. Stocker, jr. il diags Am Mach 95:113-28 Mr 5 '51

See also

Screw threads

THREAD guides. See Textile machinery—Thread guides

THREAD rolling

Developments and present status of thread rolling; abstract. A. B. Reed. Mech Eng 73:424 My '51

How to mill, roll, grind threads for production. W. M. Stocker, jr. il diags Am Mach 95:152-9 Jl 9 '51

Planetary rolling increases bolt-threading production. H. L. Rasmussen. il Mach 57:163-5 Ap '51

Thread roller employs planetary action. il diag Machine Design 22:146 D '50

Thread roller reduces cost 50 per cent. Steel 127:92 D 11 '50

THREADING machines

Chamberlain single-spindle screwing machine. il Engineer 192:251 Ag 24 '51

How to mill, roll, grind threads for production. W. M. Stocker, jr. il diags Am Mach 95:145-68 Jl 9 '51

Newall thread grinder. il Automobile Eng 41:30-1 Ja '51

1951 production preview. il Am Mach 95:189-90 Ja 22 '51

See also

Pipe threading machines

THREONINE

Preparation of L-threonine; interconversion of the four stereoisomeric α-amino-β-hydroxybutyric acids. D. F. Elliot. Chem Soc J p62-8 Ja '50

THRIFT. See Saving

THROAT

Isolation of pleuropneumonialike organisms from the throats of humans. P. F. Smith and H. E. Morton. bibliog Science 113:623-4 Je 1 '51

THROMBIN

Clotting time and reaction velocity in the interaction of bovine fibrinogen and thrombin. D. F. Waugh and B. J. Livingstone. bibliog Science 113:121-4 F 2 '51

Formaldehyde as an inhibitor of clotting of fibrinogen by thrombin. D. F. Waugh and B. J. Livingstone. bibliog diag J Phys & Colloid Chem 55:464-76 Mr '51

Kinetics of the interaction of bovine fibrinogen and thrombin. D. F. Waugh and B. J. Livingstone. bibliog J Phys & Colloid Chem 55:1206-18 O '51

THROMBOSIS

Control of blood clots. S. Shapiro. il Sci Am 184:18-21 Mr '51

Coronary heart disease and the employee. A. J. Geiger. bibliog Ind Med 19:509-11 N '50

THRUST bearings. See Bearings, Thrust

THUJAPLICIN

Thujaplicins; abstract. H. Erdtman. Chem & Ind p 12-13 Ja 6 '51

Tropolones; the synthesis of α-, β-, and γ-thujaplicins. J. W. Cook, R. A. Raphael and A. I. Scott. Chem Soc J p695-8 Mr '51

THUNDERSTORMS

He watched the clouds roll by; electric power station's weather watcher. J. P. Callahan. Pub Util 46:873-80 D 21 '50

Similarity of certain atmospherics waveforms. W. F. Zetrouer and W. J. Kessler. il Franklin Inst J 252:137-41 Ag '51

THYLOX process. See Gas purification—Sulfur removal

THYMINE

Enzymatic formation of barbituric acid from uracil and of 5-methylbarbituric acid from thymine. O. Hayaishi and A. Kornberg. Am Chem Soc J 73:2975-6 Je '51

THYMONUCLEIC acid

Thymonucleic acid; abstract. J. A. V. Butler and others. Chem & Eng N 29:3949-50 S 24 '51

THYMUS gland

Isolation and identification of desoxy-5-methylcytidylic acid from thymus nucleic acid. W. E. Cohn. bibliog Am Chem Soc J 73:1539-41 Ap '51

THYRATRON

Circuit for the automatic stabilization of X-ray tube current. C. S. Lees and M. D. Armitage. diag J Sci Instr 27:300-1 N '50

Grid current and grid emission studies in thyratrons, the trigger-grid thyratron. L. Malter and M. R. Boyd. diags Inst Radio Eng Proc 39:636-43 Je '51

High-current thyratron. A. W. Coolidge, jr. il diag Elec Eng 70:698-9 Ag '51

Hot-cathode thyratrons; practical studies of characteristics. H. D. Knight. bibliog il diags Inst E E Proc 96 pt 3:361-78 S '49; Discussion. 96 pt 3:379-81; 97 pt 3:455-8 S '49, N '50

THYRATRON -*Continued*

Load sharer for welder ignitrons; flip-flop thyratron circuit transfers load from one pair of ignitrons to another every two seconds. G. M. Chute. il diags Electronics 24:71-3 F '51

Magnetic scaling circuit. H. Hertz. diags J Ap Phys 22:107-8 Ja '51

Motor magnetizer. O. E. Carlson. il diag Electronics 23:107 D '50

Novel pressure-measuring method. diag Electronics 24:190+ Ja '51

Precision thermostat for high temperatures. W. R. Eubank. bibliog il diags R Sci Instr 21:845-51 O '50

Radio and product control by shield-grid thyratrons. C. F. Spitzer. Electronics 24: 202+ Ja '51

Signal strength analyzer. R. W. George. il diags Electronics 24:75-7 Ja '51

Thyratron control circuits for over 180-degree phase shift. C. F. Spitzer. diags Electronics 23:222+ D '50

Thyratron-controlled photoelectric umpire; detects passage of baseball through strike zone and indicates speed of ball. R. F. Shea. il diags Electronics 23:74-7 D '50

Thyratron grid circuit design. J. H. Burnett. il diags Electronics 24:106-11 Mr '51

Thyratron grid spike. M. P. Givens. diags R Sci Instr 22:533-4 Jl '51

Timing machine operations with small thyratrons. S. C. Rockafellow. il diags Product Eng 21:85-90 N '50

Trends in electronic nonsynchronous resistance welding controls. S. Rockafellow. Welding J 30:801-2 S '51

THYRITE

Applications for Thyrite resistors. R. P. Turner. bibliog il diags Radio & Tv N 45: 50-1+ Ja '51

THYROID gland

Changes in biliary cholesterol in abnormal thyroid states. R. H. Rosenman and others. bibliog Science 114:210-11 Ag 24 '51

Colloidophagy in the human thyroid gland. C. A. Hellwig. bibliog il Science 113:725-6 Je 22 '51

Effect of desiccated thyroid, iodinated casein, and casein on a rachitogenic diet. I. A. Schechet. Science 113:60-1 Ja 19 '51

Recent work on the thyroid gland; abstract. R. Pitt-Rivers. Chem & Ind p736-7 S 1 '51

Role of thiouracil in the induction, growth, and transplantability of mouse thyroid tumors. H. P. Morris and C. D. Green. bibliog Science 114:44-6 Jl 13 '51

Synthesis of the natural antithyroid factor *l*-5-vinyl-2-thioöxazolidone. M. G. Ettlinger. bibliog Am Chem Soc J 72:4792-6 O '50

Taste reactions to antithyroid substances. W. C. Boyd. bibliog Science 112:153 Ag 4 '50; Discussion. 112:475 O 20 '50

Thyroprotein and the *in vitro* conversion of carotene to vitamin-A. W. A. McGillivray. Chem & Ind p744 N 18 '50

Tracer techniques succeed in thyroid diagnoses. Chem & Eng N 28:4554 D 25 '50

See also
Thyroxine

THYROXINE

Iodinated proteins and thyroxine in animal husbandry; abstract and discussion. K. L. Blaxter. Chem & Ind p69-70 Ja 27 '51

Synthesis of thyroxine and related substances; a synthesis of L-thyroxine from L-tyrosine. J. R. Chalmers and others. Chem Soc J p3424-33 D '49

Synthesis of thyroxine and related substances; the preparation of diphenyl ethers from 2 : 6-di-iodophenols. J. H. Barnes and others. Chem Soc J p2824-33 O '50

Synthesis of thyroxine and related substances; the preparation of some derivatives of DL-thyroxine. J. C. Clayton and B. A. Hems. Chem Soc J p840-3 Mr '50

TIBET

Tibet capitulates. map Economist 160:1282-3 Je 2 '51

Tibet, the legal aspect. Economist 159:799 N 18 '50

TIDAL power

Production of tidal power by the two-basin system. G. S. Collyns. maps diag Engineering 171:392-4, 427-9 Ap 6-13 '51

Tidal power and the Severn barrage. H. Headland. bibliog map diags Inst E E Proc 96 pt 2:427-42 Je '49; Same. 96 pt 1:185-200 Jl '49; Discussion. 96 pt 2:443-51; 97 pt 2: 827-35 Je '49, D '50; 96 pt 1:201-9; 98 pt 1: 112-20 Jl '49, Mr '51

See also
Passamaquoddy tidal power project

TIDE water power company

Preferred stock offered. Comm & Fin Chr 172:2129 D 4 '50

TIDES

See also
Tidal power

TIE-in sales. See Sales policies

TIES. See Neckties

TIES, Railroad. See Railroad ties

TILE construction

Large structural clay units; building material with a future. il Brick & Clay Rec 118: 28-30+ F '51

Test tile footings for expansive soils. R. F. Dawson. il diag Arch Rec 108:155-7 N '50

Tile and pre-stressed wire form pre-fab units in Stahlton system; floors and lintels. il Brick & Clay Rec 119:44-6 Ag '51

Tile-concrete pre-fab units used in Italian building construction. diags Brick & Clay Rec 119:38-9 Jl '51

TILE floors. See Floors, Tile

TILE industry

Advertising

Let semantics help sell tile. J. Courtney. Cer Ind 55:84+ N '50

TILES

Metropolitan Life projects; features of clay tile installation at Parklabrea. il Brick & Clay Rec 117:58-9 N '50

Prefabricated tile media for biological filters. H. C. Leibee and R. L. Smith. il Pub Works 82:36-7 My '51

Successful application of through-the-wall building units. N. Boldrick. il Brick & Clay Rec 118:28-9 F '51

Tile mastic saves one-fifth of installation costs, permits tile use on dry-built walls. il Arch Forum 93:150 N '50

Manufacture

Development of large, light-weight clay building units. W. C. Bell and D. H. McGinnis. il Brick & Clay Rec 118:30+ F '51

Efficiency; the key to progress at Boren clay products co. il plan Brick & Clay Rec 118: 32-4+ Ja '51

Huge tunnel kiln cuts production costs; Kankakee clay products co. il Brick & Clay Rec 118:41-3 Ap '51

Licks minimums to start production; Angeleno corp. tile plant. il Cer Ind 56:86-7+ Mr '51

Slab kiln for structural hollow tile. H. B. Grace. flow plan diags Am Cer Soc Bul 30:283-4 S 15 '51

Sliding panel kiln fires clay tile in 12 hours. L. R. Whitaker. il diags Brick & Clay Rec 118:40-1+ My '51

Use of a concrete block machine in production of clay building tile. N. P. Vest. Brick & Clay Rec 117:48 D '50

Wanted; cheaper way to end pock marks. H. Schatzkin. Cer Ind 57:81 Ag '51

Windpuffs can be eliminated at times. H. Schatzkin. Cer Ind 57:73-4 S '51

Testing

Portable abrasion tester for tile. Cer Ind 55:81 D '50

TILLING, Thomas, limited

Review by the chairman. W. L. Fraser. Economist 160:957-8 Ap 21 '51

TILLS. See Glacial geology

TIMBER

See also
Dry rot
Forests and forestry
Lumber
Lumbering
Mine timber
Trees
Wood

TIME, inc.

Symposium on indexing. A. Blanchet. Special Lib 42:62-3 F '51

TIME, Standard

Comparing outputs from precision time standards; intercomparison of crystal clocks. J. M. Shaull and C. M. Kortman. il diags Electronics 24:102-7 Ap '51

Man who made standard time, C. F. Dowd. R. W. Riis. Standardization 22:290 S '51

TIME cards

Intercoms replace two girls handling time-cards at Burd piston ring co. il Am Bsns 21:36-7 Jl '51

TIME clocks

Partnership in time; IBM consecutive spacing time recorder. il Bankers Mo 68:50-1 F '51

Push-button, time-clock setup pumps gravity flow field. World Oil 132:202 Ap '51

Why Parker Pen junked its time clocks. il Ptr Ink 235:36 My 4 '51

TIME keeping

How to set up time-record system and client scheduling file for smaller accounting firms. J. M. Stoy. J Account 91:610-12 Ap '51

Task of the time and production reporting staff; Caterpillar tractor co. F. O. Call. N A C A Bul 32:946-55 Ap '51

See also

Time clocks

TIME measurement

Determination of time and frequency. H. M. Smith. bibliog Inst E E Proc 98 pt 2:143-53; Discussion. 164-71 Ap '51

Determination of very small changes in rate over intervals of several days in mechanical timepieces. H. A. Bowman. il diags J Res Nat Bur Stand 45:218-22 S '50

Master precision timekeeper. Franklin Inst J 252:213-14 Ag '51

Measuring time and frequency in Hawaii. V. E. Heaton. bibliog il Tele-Tech 10:36-8+ Mr '51

See also

Chronoscope

TIME saving

My time is my time. O. C. Olin. Ptr Ink 236:82-3 S 7 '51

My time is your time; appointments and waiting rooms. H. Hertz. Ptr Ink 235:100 Je 22 '51

TIME signals, Radio

Measuring time and frequency in Hawaii. V. E. Heaton. bibliog il Tele-Tech 10:36-8+ Mr '51

Precision measurement of shaft speeds; use of 440-cycle tone from station WWV as standard. O. V. Riley. il diags Electronics 24:104-5 O '51

TIME study

Accuracy of time study methods in brick laying. W. Kinniburgh and L. S. Vallance. Engineering 171:353-4 Mr 23 '51

Application of statistical techniques in time study; abstract. G. D. Wilkinson. Mech Eng 73:514 Je '51

Eleven-year time-study project provides basis for standard of fair day's work. il Mech Eng 73:353-4 Ap '51

Establishing finishing operation rates with elemental time standards; Sargent & co. J. S. Kelly. il Metal Finishing 49:71-4 Mr '51

Fair day's work; can time-study experts measure it objectively? il Fortune 43:52-4 My '51

How to rate job performance; S.A.M. films of 24 simple jobs performed at different speeds aid time-study men. il Bsns W p65-6 Mr 3 '51

How to set up effective cost control in your plant; establishing the method. J. A. Parton, jr. diag Mill & Factory 49:95-9 Ag '51

Hudson truce hangs on study. Bsns W p32+ Ag 18 '51

Incentives for tool grinding. E. A. Cyrol and W. R. Olson. il Mill & Factory 48:115-17 F '51

Let's have more accurate time standards for basic motions. B. W. Niebel and G. L. Thuering. Factory Management 109:101 S '51

Machine design; Wisconsin professor makes new breakdown of time, motion. il Bsns W p48-9 Ag 25 '51

Methods time measurement; six competing consulting firms form association. Mod Ind 22:76+ Ag '51

Non-productive time and its practical implications; abstract. A. Abruzzi. Management R 40:548-9 S '51

Office time-study; Mulligan & company's clerical cost control. Bsns W p94+ S 8 '51

Operation recorders help in making time-studies. A. N. Englom. il Textile World 101:134-6+ Mr '51; Mech Eng 73:549-53 Jl '51

Productivity standards; warehousing; distribution study committee, Shell oil co. S. S. Tomlin. Advanced Management 16:19-22 Mr '51

Setting bookkeeping standards by time study; abstract. R. L. Petersen. Management R 40: 365 Je '51

Snap-back and continuous methods of taking time study readings. A. Abruzzi. bibliog Advanced Management 16:11-12 Ap '51

Timestudy, a tool for management; Hollinger consolidated gold mines. T. J. Harkness. il Eng & Min J 152:79-80 Ap '51

Time study as a basic tool. E. Laitala. Tool Eng 25:29-30 O; 32-3 N; 39-40 D '50

Upsetting the setup bugaboo. D. P. Sweetser. il Advanced Management 16:19-22 Ap '51

What about incentives for maintenance? E. A. Cyrol and W. R. Olson. il Mill & Factory 48:105-8 Ja '51

What is a fair day's work? time studies films of Society for advancement of management. Mill & Factory 48:88 Ap '51

Work measurement research; value of statistical analysis in the interpretation of a time study. D. J. Desmond. Engineering 170:310-12 O 20 '50

Work psychology and time and motion study. J. J. Gillespie. bibliog Advanced Management 16:4-6 Ap '51

See also

Production standards

TIME study (of machinery)

Time-motion study by methods of high-speed cinematography. H. W. Baer and others. il diags Soc Motion Picture & Tv Eng J 56:513-18 My '51

TIME tables. See Railroads—Time tables

TIMEPIECES

Some early timepiece escapements. il Engineer 192:49-51 Jl 13 '51

See also

Chronograph

Watches

TIMES-PICAYUNE case. See Advertising—Rates

TIMING devices

Casting machine timing control speeds operation; illustrations and diagrams with text. Product Eng 22:130-1 F '51

Digital computer timing unit. R. M. Goodman. diags Inst Radio Eng Proc 39:1051-4 S '51

Gilmer timing belt developed. il India Rubber World 123:563-4 F '51

Gilmer timing belt with teeth that eliminate slippage. il Mach 57:217-18 F '51; Steel 128:71 Ja 29 '51

Millisecond timer. J. M. Sturtevant. diags R Sci Instr 22:359-62 Je '51

Novel belt provides precise timing, increased power. il Machine Design 23:161 Ap '51

Process timer. diag Engineer 190:476 N 17 '50

Signal strength analyzer. R. W. George. il diags Electronics 24:75-7 Ja '51

Simple apparatus for recording time intervals. E. F. Maillard. il J Sci Instr 28:190 Je '51

Simple timing device for use with camera recording of oscilloscope traces. R. C. Robson. il diag J Sci Instr 28:60 F '51

Timer checks demand meter printing period. C. H. Amundsen. diags Elec World 135: 104+ Je 4 '51

Timers cut non-productive time. il diag Product Eng 22:178 Ap '51

Timing control for small spot welders. M. H. Nichols. diags R Sci Instr 22:372-3 Je '51

Timing equipment records velocities up to 2000 miles per hour. Mach 57:191 Ja '51

Timing machine operations with small thyratrons. S. C. Rockafellow. il diags Product Eng 21:85-90 N '50

Timing relays; their selection and application in electrical control circuits. J. C. Ponstingl. il diags Machine Design 23:131-41 Ap '51

See also

Chronograph

TIMKEN roller bearing company
Must affiliates compete? Bsns W p25 Ap 28 '51
Timken loses; Supreme court rules it conspired with overseas affiliates in restraint of trade. Bsns W p22 Je 9 '51

TIMPE, Anton
Stress-function approaches of Boussinesq and Timpe to the axisymmetric problem of elasticity theory. E. Sternberg and others. bibliog J Ap Phys 22:1121-4 S '51

TIN
Catalyst evaluation and middle oil preparation in an experimental high pressure coal hydrogenation plant. H. J. Kandiner, R. W. Hiteshue and E. L. Clark. Chem Eng Prog 47:392-6 Ag '51
Chemical engineering materials of construction; tin and its alloys. R. J. Nekervis. il Ind & Eng Chem 43:2272-5, 2288-9 bibliog(147 ref, p2274-5) O '51
Fission of medium weight elements. R. E. Batzel and G. T. Seaborg. bibliog Phys R 82:607-15 Je 1 '51
Government order suspends tin stockpiling. R. Gibbs. Chem & Eng N 29:1082-3 Mr 19 '51
Magnetic moments and eddy currents in spheres of superconducting tin. J. J. Fritz and others. bibliog diag Phys R 80:894-9 D 1 '50
Metal recovery by cation exchange. A. B. Mindler, M. E. Gilwood and G. H. Saunders. bibliog il diag Ind & Eng Chem 43:1079-81 My '51
Photochemical exchange reaction between tin(II) and tin(IV) in hydrochloric acid solution. R. P. Craig and N. Davidson. diag Am Chem Soc J 73:1951-4 My '51
Spectrophotometric and radiochemical investigation of the interaction between tin(II) and -(IV) in hydrochloric acid solutions. C. I. Browne, R. P. Craig and N. Davidson. bibliog Am Chem Soc J 73:1946-51 My '51
Thermoelectromotive force of a superconductor versus the same metal in the nonsuperconductive state. M. C. Steele. bibliog diag Phys R 81:262-7 Ja 15 '51
Tin and its alloys; developments during the past twenty-one years. J. Ireland. il diag Metallurgia 42:307-10 N '50
White-to-grey tin formation in refrigeration equipment. H. S. Kalish. il Materials & Methods 34:136+ Ag '51

See also
Tin plate

Analysis

Amperometric titrations of Sn^{IV} and Hg^{II} with tetraphenylarsonium chloride. I. M. Kolthoff and R. A. Johnson. Electrochem Soc J 98:231-3 Je '51
Amperometric titrations with *m*-nitrophenylarsonic acid. I. M. Kolthoff and R. A. Johnson. bibliog Electrochem Soc J 98:138-45 Ap '51
Determination of tin in ferro-tungsten and tungsten metal. Iron & Steel Inst J 168:51-6 My '51
Polarography of tin(IV) in presence of traces of tetraphenylarsonium chloride. I. M. Kolthoff and R. A. Johnson. Anal Chem 23:574-6 Ap '51
Reductometric titration of antimony, copper, and tin with chromous ion. J. J. Lingane and C. Auerbach. bibliog Anal Chem 23:986-91 Jl '51

Conservation

Co-deposited stopoff conserves tin. E. S. Coe. il Iron Age 167:86-8 Je 14 '51
Tin conservation and diversion to necessities ordered by NPA. Oil Paint & Drug Rep 159:4+ F 5 '51

Isotopes

Disintegration of Sn^{119m}. R. D. Hill. bibliog il Phys R 83:865-6 Ag 15 '51
L to *K* capture ratio and disintegration energy of Sn^{113}. D. A. Thomas and others. bibliog Phys R 82:961-2 Je 15 '51
Radioactivity of Ag^{111}, Cd^{111}, In^{111}, and Sn^{111}. C. L. McGinnis. bibliog Phys R 81:734-40 Mr 1 '51
Two-step isomeric transition in Sn^{119m} (250 days). G. Scharff-Goldhaber and others. bibliog il Phys R 83:480-1 Jl 15 '51

Prices

Bolivian tin price set for US. Oil Paint & Drug Rep 160:5 Jl 30 '51
Nonferrous prices; tabulation. Steel 128:129 Ja 1 '51
RFC can still lose war of the tin prices. Barron's 31:27 Je 25 '51
Straits tin, prompt price, 1929-1950; tabulation. Iron Age 167:305 Ja 4 '51

TIN alloys
Cadmium-tin alloy plating stops corrosion. B. E. Scott and R. D. Gray, jr. il Iron Age 167:59-62 Ja 18 '51
Chemical engineering materials of construction; tin and its alloys. R. J. Nekervis. il Ind & Eng Chem 43:2272-5, 2288-9 bibliog(147 ref, p2274-5) O '51
Constitution and precipitation-hardening properties of copper-rich copper-tin-beryllium alloys. R. A. Cresswell and J. W. Cuthbertson. bibliog il J Metals 3:Trans 782-91 S '51
Solidification of lead-tin alloy droplets. J. H. Hollomon and T. Turnbull. bibliog il J Metals 3:Trans 803-5 S '51
Tin and its alloys; developments during the past twenty-one years. J. Ireland. il diag Metallurgia 42:307-10 N '50
Tin-zinc alloy can replace cadmium. Steel 127:118+ N 20 '50

TIN bromides
Phase studies on the binary systems of tin tetrabromide, tin tetraiodide and trichlorosilane with some aliphatic ethers. H. H. Sisler, E. E. Schilling and W. O. Groves. Am Chem Soc J 73:426-9 Ja '51

TIN cans
Cans without tin; CanCo's low-tin solder. Bsns W p62-3 F 17 '51
Europe studies tinplate substitutes. W. G. Cass. Materials & Methods 33:132+ My '51
Fewer tins of food. Economist 160:157 Ja 20 '51
Food can restrictions issued for three months. Food Ind 23:183-4 F '51
For protection keyed to the product; those synthetic can linings. S. L. Flugge. il Food Eng 23:114-16+ Ag '51
Get the most from your war-time cans. Food Eng 23:5+ Je '51
Metal curbs crack down on tin cans. Bsns W p34-5 F 3 '51
NPA slaps limits on tinplate for cans. Bsns W p33-4 F 17 '51
Stabilizing shellac in tin-starved containers. W. E. Drown. Oil Paint & Drug Rep 159:74 Mr 26 '51
Tin can output, use regulated. Oil Paint & Drug Rep 160:4 Ag 27 '51
Tinless tin can. Mod Packaging 24:170 Mr '51
What women like and dislike about packages today; consumer attitudes toward tin containers. A. R. Hahn. il Sales Management 67:48-50+ Ag 15 '51

See also
Beer containers

Manufacture

Application of down-draft exhaust ventilation; automatic soldering of metal containers. E. D. Sallee and R. B. Carter. diags Heat & Ven 48:61-4 Mr '51

TIN chlorides
Acids and bases; aluminum chloride, ferric chloride and stannic chloride as acid catalysts in the reaction of metals with thionyl chloride. R. A. Hubbard, 2d and W. F. Luder. Am Chem Soc J 73:1327-9 Mr '51
Colorimetric determination of tungsten; study of variables involved in stannous chloride-thiocyanate method. H. Freund, M. L. Wright and R. K. Brookshier. bibliog Anal Chem 23:781-4 My '51
α-Methylenic reactivity in olefinic systems; the structure of the dimeride formed by the stannic chloride-catalysed polymerisation of trimethylethylene; synthesis and characterisation of isomeric methyl hexyl ketones. J. W. Baker. Chem Soc J p 1302-9 My '50
Phase studies on the binary systems of tin tetrabromide, tin tetraiodide and trichlorosilane with some aliphatic ethers. H. H. Sisler, E. E. Schilling and W. O. Groves. Am Chem Soc J 73:426-9 Ja '51

TIN chlorides—*Continued*

Spectrophotometric study of the platinum (IV)-tin(II) chloride system. G. H. Ayres and A. S. Meyer, jr. bibliog Anal Chem 23:299-304 F '51

Analysis

Stannous chloride-iodine and zinc-ferrocyanide titrations; application of the deadstop end point. D. F. Swinehart. bibliog Anal Chem 23:380-1 F '51

TIN compounds

Role of halide ions in the ferric-stannous reaction. F. R. Duke and R. C. Pinkerton. bibliog Am Chem Soc J 73:3045-9 Jl '51

TIN industry and trade

Gouging and stockpiling. Economist 160:558-9 Mr 10 '51

London tin corporation, limited; statement by the chairman. J. I. Spens. Economist 161:597-8 S 8 '51

More on tin; a note from Britain; charge of gouging. G. Schwartz. Barron's 31:14 Ap 9 '51

Protest government tin import monopoly. Comm & Fin Chr 173:1536 Ap 12 '51

RFC foils tin combine. Bsns W p 110 Ag 4 '51

Tin can; tin crisis has been greatly overplayed. Barron's 31:1 Mr 26 '51

Tin market reflects stockpile actions. Barron's 30:30 N 20 '50

Tin markets firm up; expect U.S. to buy soon. Barron's 31:43-4 S 10 '51

Tin talks break down in Geneva. Economist 159:913-14 N 25 '50

Tin, tungsten. C. A. Scarlott. il diags Westinghouse Eng 11:151-5 S '51; Same cond. Materials & Methods 34:69-73 S '51

U.S. shifts stockpile policy. Bsns W p36 Mr 17 '51

Statistics

Fluctuations in tin. Economist 160:1583 Je 30 '51

Tin, 1950. H. H. Wanders. Eng & Min J 152:86+ F '51

U.S. tin imports, consumption and stocks, smelter output, world tin; tabulations. Steel 128:133 Ja 1 '51

Bolivia

Bolivian boon; tin price talks may be key to payment of defaulted bonds. G. Cruikshank. Barron's 31:13 O 8 '51

Bolivia's tin trouble flares up again. il Bsns W p 145-6 Je 9 '51

Malayan Union

Malayan tin industry growing. For Comm W 41:20 O 30 '50

TIN iodides

Friedel-Crafts synthesis of germanium and tin tetraiodides. W. H. Nebergall and R. H. Walsh. Am Chem Soc J 73:4043 Ag '51

TIN metallurgy

Improved method of gravity concentration in the fine-size range. A. Thunaes and H. R. Spedden. flow sheet il Min Eng 187:Trans 879-82 Ag '50; Discussion. 187:Trans 1156-7 N '50

New process may make low-grade tin ore profitable. C. G. Fink and H. J. Strauss. Eng & Min J 151:96-7 D '50

TIN mines and mining

Alabama

Current high tin price puts Alabama mine back in operation. Iron Age 167:138+ My 3 '51

Malayan Union

Tin lode mining in Malaya. il Eng & Min J 151:128 D '50

Mexico

Tin deposits of Durango, Mexico. W. C. Smith and others. U S Geol S Bul 962-D: 155-204, pl 32-49[in pocket] '50

TIN plate

Europe studies tinplate substitutes. W. G. Cass. Materials & Methods 33:132+ My '51

Huge tinplate expansion program spurred. J. Delaney. Iron Age 166:99-100 N 16 '50

Metallography of electro-tinplate. J. E. Davies and W. E. Hoare. bibliog 4pls diags Iron & Steel Inst J 168:134-40 Je '51

Tin restriction hastens hot dip method end. Iron Age 167:77 Ja 11 '51

Manufacture

Annealing atmospheres for tin plate strip. J. R. Trimble and J. E. Hill. Iron & Steel Eng 28:70-3; Discussion. 73 Ap '51

Cold rolling of tinplate. G. E. Stoltz and J. W. Brinks. plan diag Iron & Steel Eng 27: 69-77; Discussion. 77-88 O '50

Prices

Tinplate at Pittsburgh; prices, 1929-1950; tabulation. Iron Age 167:293 Ja 4 '51

Testing

Etched pattern identifies lighter tinplate coat. J. Kolb. il Iron Age 168:90-1 Ag 2 '51

Fine coating of tin; X-ray and the Geiger counter made thickness gage. Steel 128:57 Ap 9 '51; Comp Air Mag 56:132 My '51; Mach 57:172-3 Je '51

Production testing of tin coating by X-rays. A. W. Williams. il Mill & Factory 49:89 S '51

TIN plating

Anode maintenance in the alkaline stannate tin plating bath. F. A. Lowenheim. Metal Finishing 49:60-4 Mr '51

Bright plating of tin-nickel alloys. N. Parkinson and J. W. Price. Metal Finishing 49:61-3 Ag '51

Co-deposited stopoff conserves tin. E. S. Coe. il Iron Age 167:86-8 Je 14 '51

Dual tin coat may alter production, pricing. J. Delaney. Iron Age 167:115 F 15 '51

Palm oil gets replacement; tallow as substitute in hot dip tinning. Steel 128:112 Ap 9 '51; Bsns W p60+ Ap 21 '51; Iron Age 167: 118-19 Ap '51

Recent developments in tin and tin alloy plating; abstract. J. W. Cuthbertson. Metal Finishing 49:73 Ja '51

Tallow can replace palm oil in hot dip tinning. G. C. Ference and W. R. Johnson. il diag Iron Age 168:86-9 Ag 2 '51

Waste

Metal recovery by cation exchange. A. B. Mindler, M. E. Gilwood and G. H. Saunders. bibliog il diag Ind & Eng Chem 43: 1079-81 My '51

TIN research

Tin research institute laboratories. il Engineer 191:757 Je 8 '51; Engineering 171:698-9 Je 8 '51; Chem Age (Lond) 64:881-3 Je 9 '51; Chem & Ind p434 Je 9 '51; Metallurgia 43: 297-8 Je '51

Work of the Tin research institute; new equipment installed at Greenford. il Chem Age (Lond) 65:159-60 Ag 4 '51

TIN sulfide

Solubilities of the sulfides of arsenic, antimony, and tin in hydrochloric acid. C. H. Sorum and H. A. Wolf. J Chem Educ 27: 614-16 N '50

TINNERMAN products, inc.

Industrial finds a consumer market on its doorstep; Tinker Kit. il Sales Management 67:144+ S 15 '51

TINPLATE. See Tin plate

TIRE fabrics

Design and construction of earthmover tires; abstract. C. W. Moss. S A E J 59:72-3 Ag '51

Synthetic fibers in the rubber industry. E. Weller. il Rayon 32:39-41+ Ag '51

See also

Rayon cords

Testing

Evaluating dynamic fatigue of adhesion of tire cords to rubber stocks. W. J. Lyons. bibliog il diags Anal Chem 23:1255-9 S '51

Fatigue test for tire cord. C. B. Budd. il diags Textile Res J 21:174-9 Mr '51

Mechanical hysteresis properties of single fibers and cords. H. Wakeham and E. Honold. bibliog il Textile Res J 21:1-5 Ja '51

Tire-cord compression fatigue. M. W. Wilson bibliog il Textile Res J 21:47-54 Ja '51

TIRE factories

Equipment

Contribution of compressed air to better production and improved labor relations. E. B. Erickson. il Rubber Age 69:441-3 Jl '51

TIRE factories—Equipment—*Continued*

Solutions to extrusion and coating problems in the rubber manufacturing industry. J. H. Gepfert. diags Rubber Age 68:325-7 D '50

Variable speed transmission installation supplies delivered speed accuracy within .04 per cent; Goodyear tire & rubber co. il Mill & Factory 48:147-8 Je '51

TIRE gages

Rating

Tire gauges. il Consumers Res Bul 26:23 N '50

TIRE industry and trade

Tire drought; tire industry seeks more civilian rubber. Bsns W p26 Mr 31 '51

Tire makers expect cheaper natural rubber. Bsns W p38 Ja 13 '51

Tires up again? Bsns W p 40 O 21 '50

See also

Firestone tire and rubber company

Finance

Tire industry profits. India Rubber World 124:713 S '51

Regulation

Bid for softer rubber controls. Bsns W p26 N 11 '50

Government allocation move assures camelback supply for tire recapping. F. C. Sturtevant. Nat Pet N 42:46 D 20 '50

NPA ban on spares puts new load on critical replacement tire supply. Nat Pet N 43:30-1 Ap 4 '51

NPA orders manufacturers to limit variety and volume of tire output. Nat Pet N 43:29 F 21 '51

Securities

Another look at the rubbers; with position of leading tire and rubber companies. R. Colston. Mag of Wall St 88:616-17+ S 8 '51

Bounce in the rubber industry; with statistical position of leading tire and rubber companies. H. F. Travis. Mag of Wall St 87:674-5+ Mr 24 '51

Statistics

1950 record tire year. India Rubber World 123:704 Mr '51

Shipments of car, truck and bus tires, 1946-1950. Automotive Ind 104:177 Mr 15 '51

U.S. exports of tires and inner tubes, 1949-1950; tabulation. Automotive Ind 104:117 Mr 15 '51

Finland

Finland's tire production and trade. For Comm W 43:23 Je 25 '51

TIRE rims

Effect of lug height and of rim width on the performance of farm tractor tires. I. F. Reed and J. W. Shields. il diags S A E J 58:40-1 D '50

TIRES, Airplane

Tires keep in step with jet planes. Aviation W 54:46+ Je 11 '51

TIRES, Automobile

Causes of tire failures. Consumers Res Bul 27:19 Ja '51

Collapsible wood pallets speed tire handling in warehouse. F. C. Sturtevant. il Nat Pet N 43:64+ Je 6 '51

NPA ban on spares puts new load on critical replacement tire supply. Nat Pet N 43:30-1 Ap 4 '51

Riding comfort; abstract. R. D. Evans. S A E J 59:40-1 Jl '51

Rising low pressure tire demand changes inventory needs. Nat Pet N 43:67 Ap 4 '51

Safety and ease of car handling; abstract. J. J. Robson. il S A E J 59:38 Jl '51

Tire noise; abstract. W. F. Perkins and W. F. Billingsley. il S A E J 59:39 Jl '51

Tire wear and durability; abstract. A. W. Bull. il S A E J 59:40 Jl '51

Care

Showing dealers how to inflate tires helps draw care-conscious motorists. il Nat Pet N 43:66 Mr 7 '51

Manufacture

Contribution of compressed air to better production and improved labor relations. E. B. Erickson. il Rubber Age 69:441-3 Jl '51

Effect of air on Banbury breakdown of low temperature polymers. G. J. Tiger, M. H. Reich and W. K. Taft. bibliog Ind & Eng Chem 42:2562-9 D '50

Master batches from carbon blacks with GR-S latices. J. W. Adams, W. E. Messer and L. H. Howland. bibliog il diag Ind & Eng Chem 43:754-65 Mr '51

One machine does the work of three. il Comp Air Mag 56:102 Ap '51

Utilization of butyl rubber in automotive inner tubes. D. J. Buckley, E. T. Marshall and H. H. Vickers. bibliog il diag Ind & Eng Chem 42:2407-13 D '50

Retreading and recapping

Design of exhaust systems; installation in an auto recapping plant. F. H. Stebbins. diags Sheet Metal Worker 42:46-7 Ap '51

Independents open tire re-tread shop. il Nat Pet N 43:66 Ag 1 '51

Testing

Tests reveal facts about winter hazards. Safety Maint & Prod 101:43-4 F '51

Tire separations detected by supersonic test machine; abstract. G. M. Sprowls. il S A E J 58:75 D '50

Tire tread noise analyzer. S. A. Lippmann and K. A. Ferguson. il diags Electronics 23:84-7 N '50

TIRES, Motor bus

More miles per tire. il Bus Transportation 30:45-7 Je '51

Still more miles per tire with balanced wheels. G. Heiber. il Bus Transportation 30:48-9 Je '51

TIRES, Motor truck

How to get more tire mileage from Diesel trucks. Coal Age 56:110+ Mr '51

How to get the best tire mileage. Coal Age 56:109 S '51

Tires and tubes for commercial vehicles and factors affecting their service. G. M. Sprowls. il S A E J 58:40-3 N '50

TIRES, Rubber

Earthmoving; an art and a science; tire problems. D. K. Heiple. il Constr Methods 33:84+ Ag '51

Engineering the tire to the vehicle; abstract. L. W. Fox. S A E J 59:77+ Jl '51

Norwegian tire supply meets demand. For Comm W 41:21 O 30 '50

Performance of earthmoving tires in sand; abstract. R. V. Snyder. S A E J 59:122 Jl '51

Rate of cure of present-day whole-tire reclaimed rubber. J. M. Ball and R. L. Randall. bibliog India Rubber World 124:53-7+ Ap '51

Rubber-tired wheels result in smoother skip travel. diags Eng & Min J 151:112 D '50

Tire for corn planters. il India Rubber World 123:600 F '51

Water-filled pneumatic tires for weed mowers. J. F. Snyder. il Roads & Sts 94:94 Jl '51

Water-filled tires on underground machines lower operating costs and boost tire life. il Coal Age 56:108 Ag '51

Water filling of big load-carrying tires not recommended by manufacturer. Constr Methods 33:98 Ag '51

Care

Tracks or tires; you can renew the lugs. R. B. Chessin: D. D. Cooper. il diags Constr Methods 33:126-7+ Jl '51

Length of service

25,000 hours' service for tire on LeTourneau carryall scraper, and still in use. il Roads & Eng Constr 88:58 D '50

Manufacture

Machining steel molds for curing rubber tires. A. Felton. il Mach 57:144-50 Ag '51

TIRES, Rubber—Manufacture—*Continued*

Solutions to extrusion and coating problems in the rubber manufacturing industry. J. H. Gepfert. diags Rubber Age 68:325-7 D '50

See also

Rubber, Artificial—
  Tire use

Testing

Determination of intrinsic low stress properties of rubber compounds; use of inclined plane tester. W. B. Dunlap, jr., C. J. Glaser, jr. and A. H. Nellen. Anal Chem 23:638-43 Ap '51

Radioactive tires used in tests. Rubber Age 69:737 S '51

Study of curing of tires. V. Paschkis. il diags Rubber Age 69:45-50 Ap '51

TIRES, Steel

Manufacture

400-kw grid-controlled rectifier for tyre-rolling mill. il Engineering 171:68-9 Ja 19 '51

TIRES, Tractor

Effect of lug height and of rim width on the performance of farm tractor tires. I. F. Reed and J. W. Shields. il diags S A E J 58:40-1 D '50

Retreading

Putting new lugs on old tires. il Bsns W p 120 Je 16 '51

TIRUCALLOL

Euphorbia resins; a comparative study of euphol and tirucallol. D. W. Haines and F. L. Warren. Chem Soc J p 1562-5 Je '50

TISELIUS, Arne, 1902-

Arne Tiselius accepts presidency of the International union of pure and applied chemistry. por(cover) Chem & Eng N 29:4074-5 O 1 '51

Sketch. R. E. Oesper. por(front) J Chem Educ 28:538 O '51

TISELIUS-CLAESSON interferometer. See Interferometers

TISSUE paper

See also

Toilet paper

Manufacture

Northern paper mills starts new Yankee tissue machine. il Paper Ind 33:280-2 Je '51

Yankee machine for dry or semi-creped tissue. L. R. Adkins. Paper Tr J 132:21-2+ My 18 '51

TISSUES

Anodic decalcification of mineralized tissue. J. De Ment and E. B. Jump. bibliog il diags Science 112:438-9 O 13 '50

Electron microscopy of wet biological tissues by replica techniques. I. W. Fischbein. il diags J Ap Phys 21:1199-204 D '50

Evidence for the heparin nature of the nonspecific hyaluronidase inhibitor in tissue extracts and blood serum. D. Glick and B. Sylvén. bibliog Science 113:388-9 Ap 6 '51

Hemolytic substance present in animal tissues. H. Laser. Science 113:609 My 25 '51

Improved technique for weighing tissues with the Cartesian diver. J. A. Smith and M. Post. Science 112:471-3 O 20 '50

Low-temperature sterilization of organic tissue by high-voltage cathode-ray irradiation. I. A. Meeker, jr. and R. E. Gross. bibliog Science 114:283-5 S 14 '51

Mucopolysaccharides of the ground substance of connective tissue. K. Meyer and M. M. Rapport. bibliog Science 113:596-9 My 25 '51

Nucleic acids of normal and tumour tissues; the preparation and composition of a pentosenucleic acid from the fowl sarcoma G.R.C.H. 15. R. N. Beale, R. J. C. Harris and E. M. F. Roe. Chem Soc J p 1397-407 My '50

Physical factors involved in ultrasonically induced changes in living systems; amplitude duration relations and the effect of hydrostatic pressure for nerve tissue. W. J. Fry and others. diag Acoustical Soc Am J 23:364-8 My '51

Physical factors involved in ultrasonically induced changes in living systems; identification of non-temperature effects. W. J. Fry and others. bibliog il diags Acoustical Soc Am J 22:867-76 N '50

Tissue respiration and body size. L. von Bertalanffy and W. J. Pirozynski. bibliog Science 113:599-600 My 25 '51; Discussion. K. Schmidt-Nielsen. 114:306-7; Reply. 307 S 21 '51

Velocity of sound through tissues and the acoustic impedance of tissues. G. D. Ludwig. bibliog diag Acoustical Soc Am J 22:862-6 N '50

See also

Cells
Mitochondria
Muscle
Tumors

Analysis

Colorimetric determination of alkaloids in tissues by means of methyl orange. A. O. Gettler and I. Sunshine. bibliog Anal Chem 23:779-81 My '51

Determination of small amounts of chromium in human blood, tissues, and urine; colorimetric method. P. F. Urone and H. K. Anders. bibliog Anal Chem 22:1317-21 O '50

Estimation of nicotinic acid in tissues by the cyanogen bromide reaction. H. C. Goldthorpe and D. Tippit. Anal Chem 23:484-7 Mr '51

Inorganic phosphates and phosphate esters in tissue extracts. B. L. Griswold, F. L. Humoller and A. R. McIntyre. Anal Chem 23:192-4 Ja '51

Culture

Growth effects on chick fibroblast cultures of fractions of adult and embryonic tissue extracts following differential centrifugation. R. S. Hoffman and others. bibliog Science 113:268-9 Mr 9 '51

Culture mediums

Tissue culture from potato tuber; the synergistic action of 2,4-D and of coconut milk. F. C. Steward and S. M. Caplin. bibliog il Science 113:518-20 My 4 '51

TISZA'S theory

Tisza's theory of superconductivity. J. M. Luttinger. bibliog Phys R 80:727-9 N 15 '50

TITANIUM

Annealing of Ti and Zr. A. M. Bounds and H. W. Cooper. il Metal Prog 59:69+ Ja '51

Annual symposia on analysis and metallography of titanium and on surfaces, 4th, Chicago, June 11-16. Anal Chem 23:1051-2 Jl '51

Carrier-free radioisotopes from cyclotron targets; preparation and isolation of Sc 44, 46, 47, 48 from titanium. J. D. Gile and others. J Chem Phys 18:1685 D '50

Casting and forging of titanium. J. B. Sutton and others. il diag Metal Prog 58:716-20 N '50

Chemical engineering materials of construction; less common metals. D. B. Broughton. bibliog(51 ref) il Ind & Eng Chem 43:2280-2 O '51

Conservation of columbium. J. F. Tyrrell. bibliog il Metal Prog 58:63-8 Jl '50; Abstract. S A E J 59:108-9 F '51; Discussion. Metal Prog 58:691-708+ N '50

Designing with modern materials; survey of latest developments in engineering materials. il Machine Design 23:318-19 O '51

Desulphurizing action of titanium in steels. W. P. Fishel and others. bibliog il J Metals 3:Trans 674-6 Ag '51

Difference effect on titanium dissolving in hydrofluoric acid. M. E. Straumanis and P. C. Chen. bibliog il diag Electrochem Soc J 98:351-5 S '51

Differentiation of grain size and phases in titanium. C. B. Craver. il Metal Prog 59:371-3 Mr '51

Effect of rate of cooling on the alpha-beta transformation in titanium and titanium-molybdenum alloys. P. Duwez. bibliog il J Metals 3:Trans 765-71 S '51

Effects of three interstitial solutes (nitrogen, oxygen, and carbon) on the mechanical properties of high-purity alpha titanium. W. L. Finlay and J. A. Snyder. bibliog il J Metals 188:Trans 277-86 F '50; Discussion. 188:Trans 1368-9 N '50

Electrical properties of αFe_2O_3 and αFe_2O_3 containing titanium. F. J. Morin. diag Phys R 83:1005-10 S 1 '51

Fabrication of titanium. il Light Metal Age 9:14-15 Ap '51

TITANIUM—*Continued*

Flash welding titanium. il Welding J 30:365 Ap '51

Four join hands for titanium work. Bsns W p46 Je 30 '51

Hardness conversions for titanium and the relation between hardness and tensile strength; charts; data sheet. J. B. Sutton and others, comps. Metal Prog 58:720B N '50

Heat treatment and structure of commercial titanium. J. Maltz and V. DePierre. il Metal Prog 58:862-6 D '50

Heat's on titanium. Bsns W p60 N 25 '50

How titanium behaves at temperatures to 900°F. W. L. Williams. il Iron Age 167: 81-4 Je 14 '51

How to work titanium and its alloys. A. Ashburn. il Am Mach 95:145-53 Je 11 '51

Jap titanium bid. Bsns W p 177 O 6 '51

Machinability of titanium 150A; reference book sheet. Am Mach 95:179 O 1 '51

Mallory, Sharon Steel form titanium subsidiary. Bsns W p21 Ap 7 '51

Materials of military motorized equipment; abstract. B. S. Mesick. S A E J 59:100+ My '51

Mechanism and rate of dissolution of titanium in hydrofluoric acid. M. E. Straumanis and P. C. Chen. bibliog diag Electrochem Soc J 98:234-40 Je '51

Microstructure of titanium; data sheet. H. P. Roth. il Metal Prog 59:816B Je '51

More tonnage for titanium. il Chem W 68: 14-15 Je 16 '51

National Lead expanding its stake in titanium. Barron's 31:13 Jl 23 '51

New smelter gives titanium industry a lift. il map Eng & Min J 152:76-8 Mr '51

New titanium process. Mech Eng 73:742 S '51

Panel discussion on titanium. Iron Age 167: 118+ Mr 1 '51

Physical and metallurgical characteristics of spot-welded titanium. M. L. Begeman and others. bibliog il diag Welding J 30: sup429-35 S '51

Properly treated titanium-stabilized 18-8S stainless steel. M. G. Fontana. il Ind & Eng Chem 43:sup69A-70A+ Ja '51

Short road to titanium; U.S. companies use new process to smelt ore from Canadian deposit. maps Bsns W p42-4 D 9 '50

Structural-efficiency evaluation of titanium at normal and elevated temperatures. G. J. Heimerl and P. F. Barrett. Aviaion W 54:28-30 F 19 '51

Studies with titanium as an agent for imparting durable fire-retardancy to fabrics. A. E. Jacobsen and others. il Am Dyestuff Rep 40:439-43 Jl 9 '51

Textures of cold-rolled and annealed titanium. H. T. Clark, jr. bibliog il diags J Metals 188:Trans 1154-6 S '50; Discussion. 3:Trans 549-50 Jl '51

Thermodynamic properties of gaseous titanium. P. W. Gilles and Q. D. Wheatley. bibliog J Chem Phys 19:129-30 Ja '51

Titanic titanium. Bsns W p62 Jl 21 '51

Titanium and titanium alloys for high-temperature applications. Mach 57:183 N '50

Titanium, how it fits in your tomorrow. A. H. Allen. il Steel 128:54-8+ Ja 8 '51

Titanium-hydrogen system and titanium hydride; low-pressure studies. T. R. P. Gibb, jr. and H. W. Kruschwitz, jr. bibliog diag Am Chem Soc J 72:5365-9 D '50

Titanium-hydrogen system and titanium hydride; studies at high pressure. T. R. P. Gibb, jr., J. J. McSharry and R. W. Bragdon. diag Am Chem Soc J 73:1751-5 Ap '51

Titanium in aircraft. J. B. Johnson and E. J. Hassell. Metal Prog 60:51-5 S '51

Titanium, 1950. F. J. Cservenyak. Eng & Min J 152:93 F '51

Titanium prodigy. B. Ravits. Barron's 30:13-14 N 27 '50

Titanium production. Mech Eng 73:585-6 Jl '51

Titanium rapidly growing as useful engineering material. W. T. Tiffin and P. C. Hoffman. il Materials & Methods 33:57-9 F '51

Titanium resists stress corrosion. H. H. Uhlig and J. R. Cobb, jr. Metal Prog 59: 816 Je '51

Titanium situation. H. P. Croft. Comm & Fin Chr 173:916+ Mr 1 '51

Titanium standards and extras established. Iron Age 166:107-8 N 2 '50

Titanium surge. W. Wells. Barron's 31:7-8 O 8 '51

Titanium; Washington urges quantity output. Iron Age 168:86-7 Ag 9 '51

Trends of light metals in airframes. L. Shapiro. il Light Metal Age 9:13 Ap '51

USAF tests titanium in airplane structurals. Steel 127:60-1 N 27 '50; Aviation W 53:38-9 N 20 '50; Mech Eng 73:20-1 Ja '51

Wanted, huge titanium expansion. D. I. Brown. Iron Age 166:87-8 N 30 '50

Welding titanium for titans of the air; illustrations with text. Mill & Factory 48: 110 F '51

Analysis

Determination of titanium in rocks and minerals; mercury cathode polarographic method. R. P. Graham and J. A. Maxwell. bibliog Anal Chem 23:1123-6 Ag '51

Determination of titanium(III) in titaniferous slags. L. E. MacCardle and E. R. Scheffer. Anal Chem 23:1169-70 Ag '51

Spectrochemical determination of iron, magnesium, and manganese in titanium metal. M. J. Peterson. bibliog Anal Chem 22:1398-400 N '50

Bibliography

Selected bibliography on titanium. Light Metal Age 8:34 D '50

Isotopes

Disintegration of Ti^{45}. M. Ter-Pogossian and others. bibliog Phys R 80:360-5; 81: 285 N 1 '50, Ja 15 '51

(p,n) Reaction on scandium and vanadium; energy levels of Ti^{46} and Cr^{52}. W. D. Baker and others. Phys R 81:48-50 Ja 1 '51

TITANIUM alloys

Crystal structure of Ti$_5$Si$_3$, Ti$_5$Ge$_3$, and Ti$_5$Sn$_3$. P. Pietrokowsky and P. Duwez. bibliog diag J Metals 3:Trans 772-3 S '51

Designing with modern materials; survey of latest developments in engineering materials. il Machine Design 23:318-19 O '51

Effect of rate of cooling on the alpha-beta transformation in titanium and titanium-molybdenum alloys. P. Duwez. bibliog il J Metals 3:Trans 765-71 S '51

Effect of welding on the properties of titanium-carbon alloys. E. M. Mahla and R. B. Hitchcock. bibliog il Welding J 29:sup544-51 N '50

Experience growing in forming, machining titanium alloys. J. McElgin. il Steel 129: 68-9+ O 1 '51

New titanium alloys; abstract. Nowotny and Pesl. Chem Age (Lond) 65:24 Jl 7 '51

Preparation and properties of titanium-chromium binary alloys; abstract. D. J. McPherson and M. G. Fontana. Materials & Methods 32:108+ D '50

Titanium and titanium alloys for high-temperature applications. Mach 57:183 N '50

Titanium-boron alloys. H. R. Ogden and R. I. Jaffee. il J Metals 3:Trans 335-6 Ap '51

Two new titanium alloys announced. Iron Age 166:74 D 28 '50

TITANIUM bromide

Apparatus for the preparation of anhydrous titanium (III) chloride and titanium (III) bromide. J. M. Sherfey. diag J Res Nat Bur Stand 46:299-300 Ap '51

TITANIUM carbide

Bonding of titanium carbide with metal. W. J. Engel. il Metal Prog 59:664-7 My '51

Bonding titanium carbide with various elements. Product Eng 22:162 Jl '51

Cemented titanium carbide. J. C. Redmond and E. N. Smith. bibliog il diags J Metals 1:Trans 987-93 D '49; Discussion. 188:Trans 1371-2 N '50

Effect of chromium on the oxidation resistance of titanium carbide. J. D. Roach. bibliog Electrochem Soc J 98:160-5 Ap '51

Heats of combustion and formation of titanium nitride (TiN) and titanium carbide (TiC). G. L. Humphrey. bibliog Am Chem Soc J 73:2261-3 My '51

Oxidation of hot pressed titanium carbide; abstract. R. E. Wilson and others. Brick & Clay Rec 119:52 Jl '51

Sintering reactions in MgO-TiC mixtures. H. F. G. Ueltz. bibliog diag Am Cer Soc J 33: 340-4 N 1 '50

TITANIUM carbide—*Continued*

Some physical properties of eight refractory oxides and carbides. J. J. Gangler. bibliog il diag Am Cer Soc J 33:367-74; Discussion. 374-5 D 1 '50

Titanium carbide bonding tested. Aviation W 53:31 D 4 '50

TITANIUM chlorides

Apparatus for the preparation of anhydrous titanium (III) chloride and titanium (III) bromide. J. M. Sherfey. diag J Res Nat Bur Stand 46:299-300 Ap '51

Low-temperature polymerisation of *iso*-butene. P. H. Plesch. Chem Soc J p543-56 F '50

Oxidation-reduction; the kinetics of the reduction of iodine by titanous ion. C. E. Johnson, jr. and S. Winstein. bibliog Am Chem Soc J 73:2601-5 Je '51

Preparation of titanium tetrachloride from rutile. C. H. Gorski. bibliog il J Metals 191:Trans 131-3 F '51

Production of titanium from $TiCl_4$ in an arc furnace. L. D. Jaffe and R. K. Pitler. J Metals 188:Trans 1396 N '50

TITANIUM compounds

Conductivity measurements of the aqueous solutions from the sulfates of bivalent metal and titanium. S. R. Patel. Am Chem Soc J 73:488-9 Ja '51

Organic derivatives of titanium; preparation and properties of some ortho-esters. N. M. Cullinane and others. bibliog diag J Ap Chem 1:400-6 S '51

Organic derivatives of titanium; preparation of some orthoesters. N. M. Cullinane and others. bibliog Soc Chem Ind J 69(sup no 1):S38-40 '50

Polarographic study of the oxalato complexes of titanium. R. L. Pecsok. bibliog Am Chem Soc J 73:1304-8 Mr '51

TITANIUM hydride

Titanium-hydrogen system and titanium hydride; low-pressure studies. T. R. P. Gibb, jr. and H. A. Kruschwitz, jr. bibliog diag Am Chem Soc J 72:5365-9 D '50

Titanium-hydrogen system and titanium hydride; studies at high pressure. T. R. P. Gibb, jr., J. J. McSharry and R. W. Bragdon. diag Am Chem Soc J 73:1751-5 Ap '51

TITANIUM metallurgy

Arc melting of titanium metal. S. F. Radtke and others. bibliog il diag J Metals 3:Trans 620-4 Ag '51

New smelting process means more TiO_2 for US. il map Chem Eng 58:184+ Je '51

Production of titanium from $TiCl_4$ in an arc furnace. L. D. Jaffe and R. K. Pitler. J Metals 188:Trans 1396 N '50

Tons of titanium. il Chem W 69:11+ Ag 25 '51

Vacuum melting titanium and zirconium. A. C. Haskell, jr. diags Steel 128:77-9 Je 18 '51

TITANIUM nitride

Heats of combustion and formation of titanium nitride (TiN) and titanium carbide (TiC). G. L. Humphrey. bibliog Am Chem Soc J 73:2261-3 My '51

High temperature bodies in the system MgO-TiN-NiO; abstract. L. D. Hower. Metal Prog 59:566+ Ap '51

TITANIUM ores

See also

Illmenite

TITANIUM oxides

Behavior of solutions of titanium dioxide in sulfuric acid in the presence of certain bivalent metallic sulfates. S. M. Mehta and R. P. Poncha. Am Chem Soc J 73:227-8 Ja '51

Behavior of solutions of titanium dioxide in sulfuric acid in the presence of metallic sulfates. S. M. Mehta and S. R. Patel. Am Chem Soc J 73:224-6 Ja '51

British titan products, ltd.; new laboratories at Billingham. il Chem & Ind p788-90 S 22 '51

Color stability of clear and opaque titania enamels containing various color oxides. N. K. Russell and others. Am Cer Soc J 34:28-31 Ja 1 '51

Correlation of the thermodynamic properties of nitrogen absorbed on titanium dioxide. G. L. Kington and J. G. Aston. bibliog Am Chem Soc J 73:1934-6 My '51

Evaluation of fineness gage and paint film characteristics based on particle size distributions on pigment dispersion. C. Baker and J. F. Vozzella. bibliog il Paint Oil & Chem R 113:109-20 N 23 '50

Formation of late magmatic oxide ores. A. M. Bateman. il diags Econ Geol 46:404-26 Je '51

Heat of adsorption of nitrogen on titanium dioxide (rutile) at 77.3°K. G. L. Kington and J. G. Aston. Am Chem Soc J 73:1929-34 My '51

Heats of formation of TiO, Ti_2O_3, Ti_3O_5 and TiO_2 from combustion calorimetry. G. L. Humphrey. bibliog Am Chem Soc J 73:1587-90 Ap '51

High-lime refractory resistant to phosphate melts; studies in the system CaO-TiO_2. H. G. Fisk. bibliog il Am Cer Soc J 34:9-13 Ja 1 '51

Improvement of the stain resistance of lead glasses. M. M. Aposhian and N. J. Kreidl. bibliog il diag Am Cer Soc J 34:103-7 Ap 1 '51

New smelting process means more TiO_2 for US. il map Chem Eng 58:184+ Je '51

Phase diagram of the BaO-TiO_2 system. W. O. Statton. bibliog il diag J Chem Phys 19:33-40 Ja '51

Pilot-plant smelting of ilmenite in the electric furnace. C. K. Stoddard and others. bibliog 6pls U S Bur Mines Rep of Invest 4750:1-15 '50

Preparation, structure, and applications of thin films of silicon monoxide and titanium dioxide. G. Hass. bibliog il diags Am Cer Soc J 33:353-60 D 1 '50

Quenching furnace for high-temperature studies of small specimens. H. G. Sowman and A. I. Andrews. diags Am Cer Soc J 33:365-6 D 1 '50

Reactions in the system TiO_2-SiO_2; revision of the phase diagram. R. W. Ricker and F. A. Hummel. bibliog Am Cer Soc J 34:271-9 S 1 '51

Recovery of titania from the bauxite sludge. S. M. Mehta and S. R. Patel. Am Chem Soc J 73:226-7 Ja '51

Recrystallization halts uniform color. Cer Ind 56:623+ My '51

Some factors affecting the opacity, color, and color stability of titania-opacified enamels. R. F. Patrick. bibliog Am Cer Soc J 34:96-102 Mr 1 '51

Some further observations of the effects of mill additions on the color value of titania enamels. E. E. Marbaker and H. S. Saunders. Am Cer Soc J 34:38-43 F 1 '51

White; not so tight. Chem W 69:48-9 O 20 '51

Zero point entropy of nitrogen adsorbed on titanium dioxide. J. G. Aston, G. J. Szasz and G. L. Kington. Am Chem Soc J 73:1937-8 My '51

TITANIUM tetrachloride. See Titanium chlorides

TITLES of honor and nobility

Birthday honours awards to electrical men. Elec R (Lond) 148:1249-50 Je 15 '51

Birthday honours list. Engineering 171:727 Je 15 '51

New year honours list. Engineering 171:19-20 Ja 5 '51

TITRATION. See Volumetric analysis

TITRIMETERS. See Volumetric analysis

TIZARD, Sir Henry, 1885-

Honorary foreign fellow, Institute of the aeronautical sciences. por Aeronautical Eng R 10:7 Mr '51

TOBACCO

Plywood tobacco hogsheads fold away. il Bsns W p98-101 Jl 14 '51

Symposium on chemistry of tobacco; A.C.S. Division of agriculture and food chemistry. Chem & Eng N 29:3810 S 17 '51

Tidier world shuns chaw. il Bsns W p85-6+ My 26 '51

U.S. taste buds want it bland. Bsns W p 102-3 Jl 14 '51

See also

Nicotine

Snuff

Analysis

Burley tobacco; relation of the nitrogenous fractions to smoking quality. J. M. Moseley, W. R. Harlan and H. R. Hanmer. bibliog il Ind & Eng Chem 43:2343-7 O '51

TOBACCO—*Continued*

Diseases and pests

Electric light traps reduce tobacco worms. L. L. Koontz. il Elec World 135:134 My 7 '51

Physiological effect

See also
Smoking

Transportation

Truckers must lift rates on tobacco to rail level. Ry Age 131:70+ Jl 2 '51

TOBACCO, Tree. See Tree tobacco

TOBACCO industry and trade

News by commodities; tobacco. Published in Foreign commerce weekly

Tidier world shuns chaw; snuff steady. il Bsns W p85-6+ My 26 '51

Tobacco auction; takes an expert in sight, sound; illustrations with text. Bsns W p 116-18 Je 9 '51

See also
Cigar industry and trade
Cigaret industry and trade
also American tobacco company; Imperial tobacco company (of Great Britain and Ireland), limited

Securities

What about the tobaccos? with data on leading companies. F. R. Walters. il Mag of Wall St 87:562-3+ F 24 '51

What about the tobaccos? with position of leading companies. P. Dobbs. Mag of Wall St 88:458-9+ Jl 28 '51

Balkan states

Who will buy Balkan tobacco? Economist 160: 749-50 Mr 31 '51

Canada

Canada expects bumper crop. For Comm W 44:15 Ag 13 '51

Egypt

Egyptian tobacco market in 1950. For Comm W 43:31 Ap 2 '51

Israel

Israel encourages production. For Comm W 45:28 O 15 '51

Japan

Outlook of Japanese tobacco industry promising. For Comm W 43:30 My 14 '51

Rhodesia

Britain and Rhodesian tobacco. Economist 159:774 N 11 '50

TOBACCO mosaic virus

Electron microscopic observations on the unit of length of the particles of tobacco mosaic virus. R. C. Williams and R. L. Steere. bibliog Am Chem Soc J 73:2057-61 My '51

Macromolecular weights determined by direct particle counting; the weight of the tobacco mosaic virus particle. R. C. Williams, R. C. Backus and R. L. Steere. bibliog Am Chem Soc J 73:2062-6 My '51

Microscopic studies of inclusion bodies found in plants infected with tobacco mosaic virus. M. E. Bergmann. bibliog il Science 113:415-17 Ap 13 '51

Quantum yields, ionic yields, and molecular weights of proteins. A. D. McLaren. bibliog Science 113:716-17 Je 22 '51

Some effects of high-intensity ultrasound on tobacco mosaic virus. N. Newton. il Science 114:185-6 Ag 17 '51

Tobacco mosaic virus mutation. J. Johnson. bibliog Science 114:239-40 Ag 31 '51

X-ray diffraction studies of inclusion bodies found in plants infected with tobacco mosaic virus. M. E. Bergmann and I. Fankuchen. bibliog il Science 113:415 Ap 13 '51

TOBACCO pouches

Embedments sealed in flexible film; process by Transeal, ltd., Plainfield, N.J. il Mod Plastics 28:82-3 Jl '51

TOCOPHEROL

Preparation of a reversible oxidation product of α-tocopherol, α-tocopheroxide and of related oxides. P. D. Boyer. bibliog Am Chem Soc J 73:733-40 F '51

See also
Vitamins—Vitamin E

Analysis

Estimation of antioxidants in lard and shortening. J. H. Mahon and R. A. Chapman. bibliog Anal Chem 23:1116-20 Ag '51

Separation of the tocopherols by paper chromatography. F. Brown and K. L. Blaxter. Chem & Ind p633-4 Jl 21 '51

TODD, Alexander Robertus, 1907-

General lecturer at International congress of pure and applied chemistry. por(cover) Chem & Eng N 29:3466 Ag 20 '51

TOES

See also
Tarsals

TOILET goods

Stability of mineral oils in toilet and cosmetic preparations. W. W. Myddleton. bibliog 2pls Inst Pet J 37:45-58; Discussion. 59-66 F '51

United States imports first nine months of 1950. For Comm W 41:27 D 18 '50

See also
Bath preparations
Cosmetics
Perfumery
Soap

TOILET goods association

Annual convention, 16th, New York, May 15-17; with abstracts of papers. Oil Paint & Drug Rep 159:5+ My 21 '51; Soap & San Chem 27:34-6 Je '51

Meeting of scientific section, New York, Dec. 6. Oil Paint & Drug Rep 158:7+ D 11 '50

Scientific section annual meeting, New York, Dec 6. Soap & San Chem 27:49 Ja '51

TOILET paper

Hudson Sharp continuous operating toilet winder. il Paper Tr J 133:104 S 7 '51

Scott paper company. C. J. Swan. il Ptr Ink 236:42-4+ Jl 27; 38-40 Ag 3; 36-8+ Ag 10; 36-8 Ag 17 '51

TOILET seats

Rating

Toilet seats. il Consumers Res Bul 28:22-3 Jl '51

TOILET soaps. See Soap—Rating

TOLBERT, Frank X.

Readers elect Tolbert to job he lampooned. por Ed & Pub 83:28 N 18 '50

TOLEDO, Ohio

Toledo plan for civil defense. J. F. More. il Pub Works 82:64-7+ Ap '51

Galleries and museums

Museum starts 'em young on glass; Libbey gift enriches glass collection; educational program. il Bsns W p44-6 Ja 20 '51

Railroads

Toledo's new Central Union terminal. il plan Ry Age 129:67-71 N 4 '50

TOLEDO Edison company

Preferred stock offered. Comm & Fin Chr 174:1302 O 8 '51

TOLERANCE

Accuracy in machining, its standardization and cost. T. H. Vogel. diags Tool Eng 25: 17-19 N; 28-31 D '50

Aluminum die forgings design; standard dimensional tolerances. A. E. Favre and A. J. Orazem. il diags Product Eng 22:125-9 Ja '51

Commercial tolerances for die castings; reference book sheet. H. K. Barton. diags Product Eng 22:169, 171 Ap '51

Conversion chart for dimensional tolerances, angular and linear; reference book sheet. K. F. Stone. diags Product Eng 21:169 N '50

Determining practical tolerances by statistical means. W. A. Ring. diags Machine Design 23:121-3 Mr '51

Dimensional tolerance charts for helical springs; reference book sheet. C. H. Sacks. diags Product Eng 22:199, 201, 203 S '51

Dimensional tolerance system for molded hard rubber parts. W. L. Harnevious. diags Product Eng 22:124-5 Ap '51

Establishing tolerances for die castings. H. K. Barton. il diags Product Eng 22:118-23 Ap '51

Just what tolerances can that machine meet? F. M. Gryna, jr. il Mill & Factory 48:113-15 My '51

Keep tolerances workable. bibliog diags Steel 127:102-4 N 13 '50

TOLERANCE—*Continued*

Methods research lab helps set shop tolerances that can be met; Minneapolis-Honeywell regulator co. R. S. Fries and J. A. Thorud. il Factory Management 109:134-5 S '51

Natural machine tolerances; tables. R. W. Bolz. Machine Design 23:151 Ag '51

Requirements of a good tolerance system. H. G. Conway. diag Engineer 192:76-9 Jl 20 '51

Standard dimensional tolerances; tabulation; reference book sheet. Product Eng 21:169 D '50

Statistical aids for tool engineering; probability and the accumulation of tolerances. L. E. Doyle. diags Tool Eng 26:38-41 Ja '51

TOLL booths. See Roads—Toll booths

TOLL roads. See Roads—Tolls

TOLLS

See also

Roads—Tolls

TOLOXYACETIC acid

m-Cresoxyacetic acid, a selective reagent for zirconium. M. Venkataramaniah and B. S. V. R. Rao. Anal Chem 23:539-40 Mr '51

TOLOXY propanediol. See Myanesin

TOLUENE

Adsorbing aromatics; chromatography separates xylenes, toluene and benzene; Arosorb process. diags Chem Eng 58:234+ S '51

Apparent polarities of a number of substituted chloro-, nitro-, methyl-, methoxy-, and acetyl-benzenes. C. G. Le Fèvre and R. J. W. Le Fèvre. Chem Soc J p 1829-33 Jl '50

Application of the chloromethylation reaction to the syntheses of certain polymethylbenzenes. C. D. Shacklett and H. A. Smith. bibliog Am Chem Soc J 73:766-8 F '51

Bromination of hydrocarbons; photo-bromination of toluene. E. W. Swegler and others. J Chem Phys 19:135-6 Ja '51

Condensations by sodium; the effect of salts and other substances on the alkylation of toluene, a modified Wurtz reaction. A. A. Morton and A. E. Brachman. bibliog Am Chem Soc J 73:4363-7 S '51

Cresol from toluene. il Chem W 68:16 Je 2 '51

Critical limits of metastability in binary systems. H. Reiss and L. Friedman. bibliog J Chem Phys 19:253-4 F '51

Dielectric constant of solutions of polystyrenes and polyisobutylenes in toluene. A. Voet and L. R. Suriani. J Phys & Colloid Chem 54:1070-2 O '50

Equilibrium relations of two methane-aromatic binary systems at 150° F. M. Elbishlawi and J. R. Spencer. bibliog Ind & Eng Chem 43:1811-15 Ag '51

Estimation of surface tensions; ternary liquid mixtures. A. S. Michaels, R. S. Alexander and C. L. Becker. bibliog Ind & Eng Chem 42:2332-6 N '50

Extraction in a pilot-unit spray tower. C. J. Geankoplis, P. L. Wells and E. L. Hawk. bibliog flow diag diags Ind & Eng Chem 43:1848-56 Ag '51

Heat transfer data for kettles with jackets and coils. G. H. Cummings and A. S. West. bibliog diag Ind & Eng Chem 42:2303-13 N '50

Improved apparatus for determining moisture in rubber by distillation with toluene. M. Tryon. bibliog diag J Res Nat Bur Stand 45:362-6 N '50

Kinetics of the reaction of tri-*p*-biphenylmethyl and of tri-*p*-*t*-butylphenylmethyl with toluene. R. M. Dobres and P. W. Selwood. bibliog Am Chem Soc J 72:5731-3 D '50

Oxidation of toluene by sodium dichromate. R. D. Abell. Chem Soc J p 1379-81 Je '51

Photochlorination; the photochlorination of toluene vapour. M. Ritchie and W. I. H. Winning. Chem Soc J p3579-83 D '50

Relative basicity of the methylbenzenes. D. A. McCaulay and A. P. Lien. bibliog diag Am Chem Soc J 73:2013-17 My '51

Solutions of metal soaps in organic solvents: peptisation and micelle size in solutions of some zinc soaps in toluene. V. D. Tughan and R. C. Pink. Chem Soc J p 1804-8 Jl '51

Studies in photochemistry and radiation chemistry of toluene, mesitylene and ethylbenzene. R. R. Hentz and M. Burton. bibliog Am Chem Soc J 73:532-6 F '51

Toluene goes to defense. il Chem W 69:47 S 22 '51

Ultrasonic absorption in liquids. C. J. Moen. bibliog il diag Acoustical Soc Am J 23:62-70 Ja '51

Analysis

Re-examination of the infrared spectra of the monodeutero toluenes; a method of analysis. G. V. Tiers. J Chem Phys 19:1072 Ag '51

Manufacture

Aromatics by Platforming. V. Haensel and C. V. Berger. il Pet Processing 6:264-7 Mr '51

Aromatics production by the Platforming process. V. Haensel. diag Oil & Gas J 50:80+ Ag 9 '51

Two-stage reforming process produces pure toluene; patent. flow sheet Pet Processing 6:525 My '51

TOLUENE sulfonamide

Action of phthalide on toluene-*p*-sulphonamide and its derivatives. D. H. Peacock. Chem Soc J p891-3 Ap '51

TOLUENE sulfonanilide

Preparation of some toluene-*p*-sulphonanilide derivatives; a note on the reactivity of ethylene chlorohydrin. J. Glazer and E. E. Turner. Chem Soc J p 197-9 Ja '51

TOLUENE sulfonate

Alkylation with long chain *p*-toluenesulfonates; alkylation of phenols with *n*-octadecyl *p*-toluenesulfonate. D. A. Shirley and W. H. Reedy. bibliog Am Chem Soc J 73:458-9 Ja '51

Dithiols; the reaction of toluene-*p*-sulphonates and methanesulphonates with potassium thiolacetate; a new method for the preparation of thiols. J. H. Chapman and L. N. Owen. Chem Soc J p579-85 F '50

Researches on acetylenic compounds; the preparation and properties of the toluene-*p*-sulphonates of acetylenic alcohols. G. Eglinton and M. C. Whiting. Chem Soc J p3650-6 D '50

Some reactions of *p*-tolyl toluene-*p*-thiolsulphonate. H. T. Hookway. Chem Soc J p 1932-4 Jl '50

TOLUENESULFONIC acid

Isobornylisothiuronium salts. L. A. Subluskey and L. C. King. bibliog Am Chem Soc J 73:2647-50 Je '51

Reduction of toluene-*p*-sulphonic esters. G. W. Kenner and M. A. Murray. Chem Soc J p406 Ja '50

TOLUENE sulfonyl compounds

Deoxy-sugars; some methanesulphonyl and toluene-*p*-sulphonyl derivatives of α-ethyl-2 : 3-dideoxy-D-glucoside. S. Laland, W. G. Overend and M. Stacey. Chem Soc J p738-43 F '50

N-Toluene-*p*-sulphonyl derivatives of the *p*-halogenoanilines. J. Ratcliffe. Chem Soc J p 1140-1 Ap '51

TOLUENE sulfonyl esters

Alicyclic glycols; toluene-*p*-sulphonyl and methanesulphonyl derivatives of *cyclo*hexane-1 : 3-diol. M. F. Clarke and L. N. Owen. Chem Soc J p2103-8 Ag '50

Substitution reactions of the naphthylenediamines; the bromination of the ditoluene-*p*-sulphonyl derivatives of 1 : 5- and 1 : 8-naphthylenediamines. J. S. Whitehurst. Chem Soc J p221-6 Ja '51

TOLUENETHIOL

Steroids; reaction of α,β-unsaturated steroid ketones with benzylmercaptan; thioenol ether formation and 1,4-addition. J. Romo and others. bibliog Am Chem Soc J 73:1528-33 Ap '51

TOLUIC acid

Reactivities of 4- and 5-substituted 2-methylbenzoic acids. J. D. Roberts and J. A. Yancey. Am Chem Soc J 73:1011-13 Mr '51

See also

Phenylacetic acid

TOLUIDINE

Bromination of *o*-acylaminotoluenes; a correction. D. G. I. Felton. Chem Soc J p2213 Ag '51

TOLUIDINE—*Continued*

Formation of *m*-toluidine by a new synthetic route. D. A. Salzberg. Am Chem Soc J 72: 4307-8 S '50

TOLYLMAGNESIUM bromide

Anomalous reaction of 1-tetralone with *o*-tolylmagnesium bromide. M. Orchin, L. Reggel and R. A. Friedel. bibliog Am Chem Soc J 73:1449-54 Ap '51

TOLYL succinimide

Orientation problems; the nitration of the isomeric tolylsuccinimides. W. H. Evans and A. McGookin. bibliog J Ap Chem 1:26-9 Ja '51

TOMATIDINE

Degradation of tomatidine. Y. Sato, A. Katz and E. Mosettig. Am Chem Soc J 73:880 F '51

Isolation of tomatidine from the roots of the Rutgers tomato plant. N. G. Brink and K. Folkers. Am Chem Soc J 73:4018 Ag '51

Sex hormones, possibly cortisone derived from tomato leaves. il Chem & Eng N 29: 916+ Mr 5 '51

Tomatidine, a steroid secondary amine. T. D. Fontaine, J. S. Ard and R. M. Ma. Am Chem Soc J 73:878-9 F '51

TOMATO juice

Tomato juice line. J. C. Moyer and others. bibliog flow sheet il plan Ind & Eng Chem 43:1874-80 Ag '51

Color

Effect of sterilization temperature on color of tomato juice; abstract. T. E. Blumer and others. Food Eng 23:171 Je '51

This meter gives better color evaluations; Hunter color-difference meter for tomato juice. A. Kramer. bibliog il diags Food Ind 22:1897-900 N '50

TOMATOES

Chemistry and tomato-growing. A. J. McGregor. Chem & Ind p444 Je 9 '51

Contamination of vegetables grown in polluted soil. W. Rudolfs and others. bibliog plan Sewage & Ind Wastes 23:253-68, 478-85, 656-60, 739-51, 853-60, 992-1000 Mr-Ag '51

Isolation of tomatidine from the roots of the Rutgers tomato plant. N. G. Brink and K. Folkers. Am Chem Soc J 73:4018 Ag '51

TOMBS

Making molds for concrete vaults; illustrations with text. Sheet Metal Worker 42:81 Ja '51

TOMLINSON, George Herbert

Awarded TAPPI medal. por Tappi 33:sup 58A+ D '50

Receives the TAPPI medal; presentation by J. N. Stephenson, response by G. H. Tomlinson. Tappi 34:sup65A+ Mr '51; Pulp & Pa of Can 52:74+ Mr '51

TONES

Accuracy of the method of best beats for determining the intensity of a tone. J. M. Warren and J. P. Egan. Acoustical Soc Am J 23:111-13 Ja '51

Changes in pitch of tones of low frequency as a function of the pattern of excitation produced by a band of noise. J. P. Egan and D. R. Meyer. diag Acoustical Soc Am J 22:827-33 N '50

Correspondence between the intensities of two tones for best beats. R. G. Klumpp and J. P. Egan. Acoustical Soc Am J 23:113-14 Ja '51

Error due to masking in the measurement of aural harmonics by the method of best beats. J. P. Egan and R. G. Klumpp. bibliog Acoustical Soc Am J 23:275-86 My '51

Musical tones; wave structure made visible. H. Lineback. il Sci Am 184:52-3 My '51

TONGS

Huge special tongs handle 30-ton breakwater stones. H. W. Holzhauer. il Roads & Sts 94:56 Je '51

TONGS, Pipe. See Pipe tongs

TOOELE, Utah

Seams burst in little boom towns. il Bsns W p74+ O 13 '51

TOOL engineering

Globe corporation; tooling for targets. G. P. Muir. il Tool Eng 26:51-5 Ap '51

New concepts for defense tooling. K. B. Wolfe. Automotive Ind 104:37+ Ap 15 '51

Statistical aids for tool engineering. L. E. Doyle. bibliog diags Tool Eng 25:17-20 D '50; 26:38-41 Ja; 46-8 F; 55-9 Mr; 42-4 Ap; 46-8 My '51

TOOL industry

Disston fights shortages by head-on attack on waste; illustrations with text. Mod Ind 21:39-40 Ja '51

Advertising

Are you catering to home workshop fans? il Sales Management 66:58-9 F 1 '51

How to quick-change a brand name; Proto Tools. L. F. Thomann. il Ptr Ink 234:28-9 Ja 12 '51

TOOL rooms

Carbide department for a job shop; reference book sheet. A. Tilston. il diags Am Mach 95:171, 173, 175 Mr 19 '51

How to control production elements; modern methods of tool crib control pay dividends. H. E. Evans. il Tool Eng 25:38-9 N '50

Procedure and forms for control in tool and die production. L. E. Wells. N A C A Bul 32:839-49 Mr '51

Simplified system for tool control. il Dom Eng 178:84-5 Ag '51

Tool controls showing results. il Mod Ind 20: 83 D '50

Well-stocked toolcrib aids diemakers. R. Le Grand. il Am Mach 95:134-5 Jl 9 '51

TOOL steel

Acid pickle doubles tool life on CI. J. Datsko. il Am Mach 95:140-1 Je 11 '51

Chart of comparable tool steel brands. Iron Age 167:70A-70C Je 28 '51

Control salt bath when heat-treating high-speed steel. J. G. Morrison. Iron Age 167: 63-6 My 31; 110-13 Je 7 '51

Corrections for tool-steel failures; reference book sheet. Am Mach 95:179, 181 Je 11 '51

Distortion of toolsteel in heat treatment. J. Y. Riedel. il diag Metal Prog 58:853-9 D '50

Engineering aspects of tool and die welding; classification of tool and die steels. A. R. Butler. il Tool Eng 26:42-5 Ja '51

Evaluation of protective atmospheres for tool steels. L. F. Spencer. bibliog il Tool Eng 27:32-5 Ag; 47-51 S '51

Grindability of tool steels; abstract. L. P. Tarasov. Automotive Ind 103:126+ N 15 '50

Hard steel grilled at a mile a minute. J. O. Outwater. diag Am Mach 95:87 Ap 2 '51

Metallurgy in tool design and production. E. D. Wiard. il Mach 58:144-8 S '51

Practical aspects of tool steel melting. C. F. Sawyer, jr. il J Metals 188:1433-4 D '50; Abstract. Steel 128:112+ Ja 15 '51

Production and metallurgical characteristics of mining hollow drill steel in Australia. D. Clark. il diag Metallurgia 43:112-17, 161-6 Mr-Ap '51

Production evaluation of cutting tool materials. T. Badger. il Tool Eng 26:31-4 Je '51

Raising the limits of high speed steel machining. W. R. Frazer. bibliog il Tool Eng 26:33-7 Mr '51

Redesign boosts production with high speed steel cutters. G. Hubbard. il diags Steel 128:76-7 My 28 '51

Rolling of tool steels. H. C. Bigge. il diags Iron & Steel Eng 28:57-66 My '51

Selecting and processing steels for lamination dies. L. F. Spencer. il Tool Eng 26: 25-7 My; 42-4 Je '51

Special roll for hot-working high speed steel. diag Blast F & Steel Pl 38:1358 N '50; Iron Age 167:116 Je 7 '51

Spoiled tool steels can be reclaimed. R. P. Seelig. il Iron Age 167:97-101 Ap 12 '51

Steam treatment increases high-speed tool life. H. Chase. il Iron Age 168:126-8 S 20 '51

Super high-speed steels set new production record. P. Leckie-Ewing. il Iron Age 166: 115-18 D 7 '50

Tool and die steels; classified list of 800 tool and die steels based on SAE and JIC methods with names of suppliers, composition, typical properties, applications, and basic heat-treat data. Am Mach 94:147-62 D 11 '50

Tool steel scrap, key to metal conservation. H. M. Givens, jr. Steel 128:101 Je 11 '51

TOOL steel—*Continued*

Testing

Test for the dimensional stability of gauges by an X-ray diffraction method. C. Wainwright and L. W. Nickols. il Metallurgia 42:401-4 D '50; Same. Engineering 171:141-2 F 2 '51

TOOLMAKERS

IBM develops its own toolmakers. E. J. Tangerman. il Am Mach 95:130-1 Mr 5 '51

TOOLS

Butyrate handles, better tools. il Mod Plastics 28:62-3 My '51

Considerations in designing tools for powder metallurgy. I. J. Donahue. diags Mech Eng 72:886-9 N '50

Defective tool can put a permanent defect in you. J. G. Reynolds. Power Eng 55:85-6 Ja '51

Engineering aspects of tool and die welding. A. R. Butler. il Tool Eng 25:21-3 D '50; 26:42-5 Ja; 40-2 F; 60-2 Mr; 45-6 Ap '51

Fight tool waste; aids offered by Henry Disston & sons. Iron Age 167:96-7 My 17 '51

Gauge and tool exhibition, 3d, London, May 15-25. il diag Engineer 191:648-9, 697-9 My 18-25 '51; Engineering 171:571-2, 600-2, 633-5 My 11-25 '51

Gauge and tool exhibition, 3d, May 15-25; electrical features. Electrician 146:1689-90 My 18 '51

Hand and power tools; safety aspects. Nat Safety N 63:151+ Mr '51

Hand tool aids snap ring insertion. F. Martindell. diag Tool Eng 26:41 Ap '51

How to make tools last longer; data from Disstons' Fight waste instruction cards; data sheet. Factory Management 109:126, 128, 130 F '51

How Vesta uses powder-power; installation of anchors for hanging wire, cable, pipe and equipment with powder-powered tool for shooting studs. il Coal Age 56:98-9 Je '51

How welding salvages broken tools and dies. L. D. Richardson. il Iron Age 168:162-5 S 13 '51

Limits on hand tools; some want them, some don't. Steel 128:47 F 19 '51

1951 production preview. il Am Mach 95:215-34 Ja 22 '51

Powder actuated tools cut costs. T. W. Reynolds. il diags Heat & Ven 48:93-5 Ap '51

Red tape in tools; separate DO rating needed for new hobs or taps. Bsns W p92 D 2 '50

Remington portable power tool shoots stud into steel, concrete. il Arch Forum 95:230 Jl '51; Arch Rec 110:180 Jl '51

Rented tools to the rescue; Cincinnati's Bedel brothers. il Bsns W p60+ Jl 28 '51

Simple tool heads soft, drilled rivets. diag Iron Age 167:100 Mr 29 '51

Special tools help maintenance programs. il diags Diesel Power 28:74-6 D '50

See also

Cutting tools
Electric tools, Portable
Machine tools
Machinery
Pneumatic tools
Saws
Tool rooms
Tool steel

TOOLS, Plastic

Plastic tools for light metals; Northrop aircraft, inc. G. C. Close. il Light Metal Age 9:8-10 Je '51

TOOTHBRUSHES

Convertible tube bander; cigar-banding machine adapted to handle both glass and acetate tooth-brush tubes. il Mod Packaging 24:151 Ap '51

TOPOGRAPHICAL maps

National topographic mapping. W. E. Wrather. Am Soc C E Proc 77 [no 65]:1-6 Ap '51

TOPOGRAPHICAL surveying

See also

Photographic surveying

TORAMOMEN. See Rayon fibers

TORCH discharge. See Flames

TORCHES

Electronic torch. J. D. Cobine and D. A. Wilbur. il diags Electronics 24:92-3 Je '51

New idea in blow-torches for faucet and hydrant sterilization. A. H. Ullrich. il Water & Sewage Works 98:247 Je '51

TORNADO insurance. See Insurance, Tornado

TORNADOES

Building construction and wind damage. S. D. Flora. Rough Notes 94:32+ Ag '51

Tornado forecasting research. F. Hall. Science 113:sup3 Je 22 '51

See also

Insurance, Tornado

TORONTO

Toronto has production boom. For Comm W 41:11-12 N 13 '50

$26 million improvement plan for Canada's second city. il Eng N 145:53 D 21 '50

Subway

Complex problems on first section of subway. C. B. Molineaux. il Roads & Eng Constr 89:105-7+ Ap '51

Miles of underpinning keep business distri out of subway; Toronto's Yonge St subway. G. Goodwin. il diags Eng N 146:30- My 24 '51

Yonge-street subway. il diags Engineering 171:177-8 F 16 '51

TORPEDO boat destroyers

Destroyers in the U.S. navy. il U S Naval Inst Proc 77:976-87 S '51

Extraordinary roll; Portuguese destroyer Lima. M. M. S. Rodrigues. il U S Naval Inst Proc 77:498-503 My '51

TORPEDO boats

Britain's secret weapon against the Bolsheviks; coastal motor boats. G. W. Patterson, 3d. il map U S Naval Inst Proc 77:38-45 Ja '51

First all-welded aluminum navy vessel. il Light Metal Age 9:14 F '51

TORPEDOES

High-speed torpedo. Mech Eng 73:657 Ag '51

TORQUE

Brake torque. G. A. G. Fazekas. bibliog diags Automobile Eng 41:185-91 My '51

Constant torque spring motor runs longer. il diag Iron Age 166:123 D 7 '50

Effect of tension on torque and roll force in cold strip rolling. W. C. F. Hessenberg and R. B. Sims. bibliog Iron & Steel Inst J 168:155-64 Je '51

Estimating and measuring pumping unit peak torque loads. K. N. Mills. il diag World Oil 132:185-6+ Ap '51

Home-made torque control cuts tool breakage. J. R. Wescott, jr. il diag Iron Age 168:107-8 Jl 19 '51

Measuring and interpreting the factors in tapping torques. A. J. Carruthers. il diags Tool Eng 26:25-7 Ap; 34-6+ My '51

Relations between roll-force, torque, and the applied tensions in strip-rolling. R. Hill. diags Inst Mech Eng Proc 163 (W.E.P. no 58):135-40; Discussion. 144-8 '50

Synchronous machine damping and synchronizing torques; abstract. C. Concordia. Elec Eng 70:613 Jl '51

TORQUE converters

Accurate stampings made at high production rates; torque converter shells, shrouds and blades for Ford automatic transmission. H. Chase. il Iron Age 168:159-61 S 13 '51

Applying torque converters to cranes. R. E. Orton. il diags Machine Design 23:119-24 Je; 138-44+ Jl; 113-16+ Ag '51

Automatic transmissions for automotive use; story about Buick's Dynaflow transmission. R. J. Gorsky. il diags Midwest Eng 3:4-7+ D '50

Investigation of torque-converter drives on mud pump. D. F. Toomey and E. G. Chilton. bibliog Pet Eng 23:B45-6+ S '51; Same. World Oil 133:189-90+ S '51; Same abr. Oil & Gas J 50:101+ Jl 19 '51; Discussion. Pet Eng 23:B56+ S '51

New Budd Diesel railroad car RDC-1 with torque converter transmission. R. M. Schaefer. il S A E J 59:49-51 Mr '51

Parking, neutral, drive, low, reverse; a detailed study of the American torque-converter transmissions. O. D. North. il diags Automobile Eng 41:83-90, 123-31 Mr-Ap '51

Power plants and torque converters; fit trucks for operation on Mesabi range. C. R. Burton. il Min Cong J 37:44-7 My '51

TORQUE converters—*Continued*

Problems involved in joining sheet metal for torque converters. H. O. Flynn. il S A E J 59:17-21 Mr '51

Significant operations on the Chrysler torque converter. J. Geschelin. il diag Automotive Ind 104:38-42+ Ap 1 '51

Torque converter and transmission data on latest model cars. Automotive Ind 104:53-4 F 1 '51

Torque converter parts shrink fitted. il Steel 127:122 N 20 '50

Torque converter transmission. C. Carmichael. il diags Machine Design 23:163-8 F '51

Torque converter ups efficiency of unit Diesel rail car. il diags Product Eng 22:120-3 Je '51

Torque converters eliminate use of power divider; Euclid road machinery co. dump truck; illustrations with text. diags Product Eng 21:96-7 N '50

Torque converters in strip haulage units; abstract. D. M. Schaefer. il Min Cong J 37:73-4 Je '51

What the torque converter can do for open-pit truck haulage. H. E. Farnam, jr. il diag Eng & Min J 152:68-72 Ag '51

TORQUE meters

Instrument records tapping torques. il Machine Design 23:131 My '51

New type of torquemeter. il Marine Eng 56:62-3 My '51

Optical torquemeter. Aviation W 53:30 D 18 '50

Torquemeter for measuring power to plant mixers. V. W. Uhl. diags Paint Oil & Chem R 113:95-8 N 23 '50

TORSION

Design of machine parts subjected to fluctuating combined bending and torsion. N. Sag. bibliog diags Engineer 192:172-6 Ag 10 '51

Evaluation of various torsion wires for the Gehman apparatus used for determining low-temperature stiffness of elastomers. B. G. Labbe. il India Rubber World 124:443-4 Jl '51

Strength of I-beams in combined bending and torsion. B. Sourochnikoff. diags Am Soc C E Proc 76 [no 33]:1-18 S '50; Discussion. 77 [no D-33]:1-6 S '51

Testing machine for combined tension and torsion. H. V. Pollard and H. J. Tapsell. il diags Engineering 171:58-9 Ja 12 '51

Torsion spring charts for round or square wire; reference book sheet. H. F. Ross. diags Product Eng 22:203, 205 O '51

Torsion texture of copper. W. A. Backofen. bibliog il diags J Metals 188:Trans 1454-9 D '50; Discussion. 3:Trans 1062-4 N '51

Torsional fatigue failures. J. O. Almen. bibliog il diags Product Eng 22:167-82 S '51

TOTALITARIANISM

Are we going totalitarian? W. A. Jones. Comm & Fin Chr 174:1353+ O 11 '51

Blind alley of totalitarianism. H. R. Isaacs. Ann Am Acad 276:81-90 Jl '51

TOTE boxes

Tote boxes get face lifting. Steel 129:98 S 3 '51

TOURIST camps, hostels, etc.

Bisonti lodge, resort motel, Palm Springs, Calif. il plans Arch Rec 110:124-6 Jl '51

Modern plumbing, heating and air conditioning in motor court accommodations. il Dom Eng 178:110-11 S '51

Money on the roadside. il Fortune 44:80-4+ Ag '51

Motel for a narrow lot. il plan Am Bld 73:137 Ja '51

Motel industry is a good field to cultivate. H. J. Ashe. Inland Ptr 126:52 O '50

Precast slabs permit 8-foot overhang; Flexicore; motor court, St Petersburg, Fla. il diag Am Bld 73:181-3 Ap '51

Room service on wheels at ten-acre hotel; El Rancho Grande, Brownsville, Tex. il Bsns W p90-1 Je 9 '51

Standards for trailer and tourist camps. Pub Works 81:44-5 D '50

Tourinns, inc.; a chain of motor courts. il plans Arch Rec 110:119-23 Jl '51

TOURIST cards

New tourist card simplifies visits to Colombia. For Comm W 44:9 S 17 '51

TOURIST trade

Americans may spend 12 billion on vacations this year; will you get your share of recreation dollar? P. B. B. Andrews. il Ptr Ink 235:41-2+ Ap 27 '51

Are tourist estimates accurate? with table of tourist trade by states, 1950. C. R. Walker. Manuf Rec 120:34-5 Ag '51

Europe travel booms steamship business. il Bsns W p22-3 Je 23 '51

Everyone's going someplace. il Bsns W p44+ My 26 '51

International travel in 1950; with tables. F. P. Sasscer and W. Lederer. Survey of Cur Bsns 31:20-4 My '51

Summer travel brightens outlook for 1951 tourism. E. Miller. il For Comm W 44:3+ S 3 '51

Wanderlust is still strong. Bsns W p 152-4 Ap 7 '51

See also

Tourist camps, hostels, etc.

Bermuda

Tourist trade ranks high in Bermuda's total revenue. For Comm W 41:26 N 20 '50

California

Vacation gold in them thar hills; California resorts. il Bsns W p 116+ O 6 '51

Canada

Canadian tourist industry girds for competition. J. Montagnes. Barron's 30:14 O 30 '50

Great Britain

Tourist boom; with chart, 1933-50. Economist 160:1555 Je 30 '51

Tourist industry. Economist 161:546-7, 613-14 S 8-15 '51

Mississippi

Recreation; Mississippi, a fine place to live or vacation. il Manuf Rec 120:99-102 Je '51

Southern states

Tourist trade is big business. C. R. Walker. il Manuf Rec 120:38-9 My '51

TOWBOATS

Carroll tugs equipped with Raytheon's two-way radiophone. il Marine Eng 55:54 N '50

Combination towboat and barge. il Marine Eng 56:67-8 F '51

Developments in Thames tugs. F. J. Mayor. Engineer 191:127 Ja 26 '51

Eugene F. Moran is latest addition to Moran fleet. il Marine Eng 56:56 O '51

La Crosse Socony joins river fleet. il Marine Eng 56:61-2 S '51

Long-distance towing and tug design. E. F. Moran, jr. il Marine Eng 55:50-4 N '50

Modernization of tugboat power plants. A. Levine. il diags Marine Eng 56:57-61 My '51

New life for tug Mahoe. H. J. Barbour. il Marine Eng 56:66-7 Jl '51

Repowered tugboat shows improved performance: Sonittep no 2. H. J. Barbour. il Marine Eng 55:71-2 D '50

Socony invites public to open house on new 3,200 h.p. flagship towboat, La Crosse. D. J. Warren. Nat Pet N 43:57-8 Ag 8 '51

Towboat Joan E. il Welding J 30:927-8 O '51

Towboat Joan E now towing petroleum products. il Marine Eng 56:38-9+ O '51

Towboat L. L. Wright. il Marine Eng 55:47-8 N '50

Towboats Detroit style; Dravo uses assembly line methods. il Bsns W p 116-17 Ap 14 '51

Towboats from Dravo's assembly line for river coal trade. il Marine Eng 56:69-71 Jl '51

Tug fleet converts to Diesel power. L. C. Turner. il Marine Eng 56:54-5 O '51

TOWELS

Use of a discriminant function in textile research. W. D. Baten and others. bibliog Textile Res J 20:869-72 D '50

TOWERS

Function plus beauty; Heliolab designed by F. L. Wright for Johnson & son. C. Fish. il diag Nat Safety N 63:18-19+ F '51

TOWERS—*Continued*

Movements of Sather tower measured by transit and Nilvar wires. N. P. Clyde and M. Polivka. il diags Civil Eng 21:282-3 My '51

See also

Electric lines—Poles and towers

Radio towers

TOWERS, Steel

Bridge foundation is built from top down. il diags Eng N 146:39-41 Ja 11 '51

Light steel tower line designs. A. A. Osipovich. Elec Eng 70:55 Ja '51

Pipe towers hold big caissons in swift tidal flow. il diags Constr Methods 33:42-6 Ja '51

TOWING tanks. See Ship model tanks

TOWMOTOR corporation

Operations setting new records. Barron's 31:16 O 1 '51

TOWN planning. See City planning

TOWNS. See Cities and Towns

TOWNS, Company. See Company towns

TOWNSEND discharges. See Metastable atoms

TOXAPHENE

Discretion; better part of sales; Hercules withdraws recommendations for use of toxaphene on tobacco. il Chem W 68:13 Je 16 '51

Naval stores tight; toxaphene, user of turpentine. Bsns W p 122+ Je 16 '51

TOXIFERINE

Curare alkaloids; some alkaloids of strychnos toxifera Rob. Schomb. H. King. Chem Soc J p3263-71 D '49

TOY industry and trade

Ohio tool makers strike gold in toys. il Bsns W p92-4 Je 9 '51

Post-retirement can be hectic as a three-ring circus; Humpty Dumpty toys. il Bsns W p 110-12+ O 13 '51

Trouble in toyland; war orders may see big firms through materials shortages. R. M. Bleiberg. Barron's 30:7-8 O 30 '50

See also

Dolls

Rubber toys

Advertising

Calendar of kids for toy buyers. il Ptr Ink 234:33 Ja 26 '51

National distribution secured through dual approach; comics for the kids; refill business for dealers; smoker gun. L. F. Thomann. il Ptr Ink 233:36 O 27 '50

TOY trains. See Railroads—Models

TOYS

Study toys for crippled children. Nat Safety N 63:86-7 Ap '51

Tiny voices from rolled zinc; sound unit used in talking dolls and in rubber toys. Steel 128:112 F 5 '51

Rating

Trains and toys for Christmas 1950. il Consumers Res Bul 26:10-15 D '50

TOYS, Inflatable

Pill inflates toys and mystifies customers; Clarvan corp.'s valveless plastic toys. il Bsns W p 138-40 S 15 '51

TOYS, Plastic

Miniature dishwasher; small-scale duplicate of Youngstown kitchens dishwasher. il Mod Plastics 28:189 Je '51

More play value in toys; fire engines. il Mod Plastics 28:89 N '50

Precision in miniatures; Product miniature co. il Mod Plastics 28:70-3 My '51

Toy soft drink dispenser. il Mod Plastics 28:172 Ap '51

TRACE analysis

Argentometric amperometric titration of traces of chloride with the rotated platinum electrode as indicator electrode. I. M. Kolthoff and P. K. Kuroda. Anal Chem 23:1306-9 S '51

Chemical analysis of soda-lime-silica glasses for trace quantities of several colorants. P. Close and others. diags Am Cer Soc J 33:345-52 N 1 '50

Colorimetric method for determination of traces of carbonyl compounds. G. R. Lappin and L. C. Clark. Anal Chem 23:541-2 Mr '51

Detection of trace quantities of radioactive materials in waste streams. P. R. Fields and G. L. Pyle. bibliog Anal Chem 23:1004-8 Jl '51

Determination of impurity traces; mass spectrometric method. R. E. Honig. bibliog Anal Chem 22:1474-6 D '50

Determination of trace quantities of elements by radioactivation analysis; abstract. A. A. Smales. Chem Age (Lond) 64:381-2 Mr 10 '51

Determination of traces of chloride; potentiometric titration to the apparent equivalence potential. I. M. Kolthoff and P. K. Kuroda. Anal Chem 23:1304-6 S '51

Determination of traces of mercury in copper alloys; titration with dithizone. W. L. Miller and L. E. Wachter. bibliog diag Anal Chem 22:1312-14 O '50

Determination of traces of water vapor in gases. F. E. Harris and L. K. Nash. diags Anal Chem 23:736-9 My '51

Determining traces of oxygen in bismuth metal; hydrogen reduction method. E. S. Funston and S. A. Reed. bibliog il diag Anal Chem 23:190-1 Ja '51

Evaporation errors in determination of trace concentrations of low molecular weight solutes in carbon tetrachloride. M. R. Meeks, V. E. Whittier and C. W. Young. Anal Chem 23:792-3 My '51

Organic chemical compounds in raw and filtered surface waters. H. Braus, F. M. Middleton and G. Walton. diags Anal Chem 23:1160-4 Ag '51

Separation of ultramicro quantities of elements by electrodeposition. L. B. Rogers. bibliog Anal Chem 22:1386-7 N '50

Spectrophotometric determination of tellurium as the iodotellurite complex. R. A. Johnson and F. P. Kwan. bibliog Anal Chem 23:651-3 Ap '51

Test for traces of organic matter in water. A. I. Medalia. bibliog Anal Chem 23:1318-20 S '51

Trace metals in biology; polarographic methods of analysis. bibliog Chem Age (Lond) 65:227-9+, 247-9 Ag 18-25 '51

TRACERLAB, inc.

Stock offered. Comm & Fin Chr 173:2394 Je 11 '51

TRACERS. See Dyes as indicators

TRACERS, Radioactive. See Radioactive tracers

TRACERS company of America

It's not necessarily worthless; tracing stockholders and valuing obsolete securities. R. H. Joseph. il Bankers Mo 68:30+ Ap '51

TRACK cleaning machinery. See Railroads—Track cleaning machinery

TRACKLESS trolley. See Trolley buses

TRACKMOBILE. See Tractors on rails

TRACTIVE resistance

Trolleybus tractive resistance. Engineer 192:219-20 Ag 17 '51; Engineering 172:256 Ag 24 '51

TRACTOR industry and trade

See also

Caterpillar tractor company

Statistics

Farm and non-farm tractor shipments, 1940-1949; 1949 tractor shipments by type and hp ratings; tabulations. Automotive Ind 104:87 Mr 15 '51

TRACTORS

Ball-and-chain and paired tractors make quick work of land clearing; Hungry Horse dam, Montana. il Roads & Eng Constr 89:80+ Jl '51

Concreting and back-filling tractor. il Engineering 170:520 D 15 '50

Diesels in the agriculture industry. G. W. Grupp. il Diesel Power 28:30-3 N '50

Does outside jobs quickly; modified tractor-shovel. il Food Eng 23:88-9 S '51

Farm tractor haul. R. H. Montgomery. Pulp & Pa of Can 52:109-10 Ja '51

Farm tractor sloop hauling. J. A. McNally. Pulp & Pa of Can 52:110 Ja '51

Oil-engined tractor. Engineer 190:539 D 1 '50

Pacific intermountain express also loads the tractor; newly designed vehicles eliminate extra freight handling. il Food Ind 23:125-6 Mr '51

TRACTORS—*Continued*

Rear axle designed for short wheelbase truck tractors. il diag Automotive Ind 104:41+ F 1 '51

SAE National tractor meeting, Milwaukee, Sept. 12-14. S A E J 58:66-9+ N '50

Tractor demand to continue heavy in '51. H. E. Everett. il Automotive Ind 104:42-3+ Ja 15 '51

Tractor parts redesigned for economy. il Machine Design 23:135-7 Jl '51

Tree planting with tractors in Minnesota. Pulp & Pa of Can 52:131 F '51

Twenty Vickers 180-hp. tractors soon to be shipped for field trial by contractors. il Roads & Eng Constr 89:60 Ja '51

Yarding of four-foot sap peeled pulpwood with Ford wheeled tractor with bombardier track conversion. C. C. Atkinson. Pulp & Pa of Can 52:111 Ja '51

See also

Agricultural machinery

Cold weather operation

How to operate a tractor cold-weather starting system. diags Coal Age 56:97 Ja '51

Fuel

Comparative operating data of tractors using gasoline or L.P.G. fuel; abstracts. M. J. Samuelson. Oil & Gas J 49:76-7 F 8 '51; Automotive Ind 104:36+ F 1 '51; S A E J 59:18-20 S '51

LP-gas as a motor fuel. L. Castle. il Nat Pet N 43:56-60+ F 14 '51

LP-gas utilization in farm equipment. E. Fannin. Am Pet Inst Proc 31 M(3):247-51 '51; Excerpts. Nat Pet N 43:32-3 My 9 '51; Automotive Ind 105:98+ Jl 1 '51

Tractor conversion to LP-gas off to fast start. L. Castle. il map Nat Pet N 43:53-6 F 21 '51

Gearing

Heat-treatment of crawler tractor gears. R. F. Kern. il plan S A E J 59:54-7 Ja '51

Maintenance and repair

Automatic weld surfacing reclaims scarce tractor parts. il diags Constr Methods 33:71-2 Ag '51

Oil's tractor maintenance contest saves fuel, hikes farm production. L. Castle. Nat Pet N 42:25-6 D 6 '50

Spring tonic peps up tractor performance. F. O. Schreck. il Constr Methods 33:83+ My '51; Same. Roads & Sts 94:58 Je '51

Tracks or tires; you can renew the lugs. R. B. Chessin; D. D. Cooper. il diags Constr Methods 33:126-7+ Jl '51

Tractors thrive with proper maintenance. il Diesel Power 28:66-7 D '50

Manufacture

Advanced equipment for mass producing farm tractors. J. Geschelin. il Auotmotive Ind 104:48-50+ Je 15 '51

Allocation of overhead costs, a short cut; Caterpillar tractor co. W. H. Franklin. N A C A Bul 32:1427-36 Ag '51

Fast-moving supply line paces tractor production; Caterpillar tractor co. il Steel 127:62-4+ O 30 '50

Versatile materials handling setup at large tractor plant. J. Geschelin. il Automotive Ind 105:40-1+ Jl 15 '51

Welding of farm tractors. J. L. Buchholz. il Welding J 29:995-1000 N '50

Specifications

1951 tractors; tabulations. Automotive Ind 104:144-9 Mr 15 '51

Testing

Proving ground versus field testing. P. H. Spennetta. il S A E J 58:26-9 D '50

TRACTORS, Industrial

Automatic tractor speeds handling of industrial trailers; Grip-Tow. il Factory Management 109:150-1 S '51

Hough puts new tractor shovel on crawler mounting. H. W. Richardson. il Constr Methods 33:104-6 Ap '51

Industrial crawler tractor. il Engineer 191:264 F 23 '51

Shipper solves a troublesome switching problem; Miller brewing company uses Payloader tractor. il Ry Age 129:60-1 D 2 '50

See also

Electric tractors, Industrial

TRACTORS on rails

Materials handling committee inaugurates new methods program; car shunting with Trackmobile. il Pulp & Pa of Can 52:102+ My '51

Whiting Trackmobile speeds car handling. il Ry Age 129:40 D 9 '50; Power Eng 54:81 D '50; Rock Prod 53:152 D '50; Factory Management 109:146-7 Ja '51; Machine Design 23:142 Mr '51

TRADE. See Commerce

TRADE agreements

Agreement expirations and wage adjustment provisions with detailed listing of contracts on file as of April 10, 1951. Mo Labor R 72:680-90 Je '51

Birthday bonus. Chem Ind W 68:60-1 Ja 20 '51

Cartoons help interpret contracts at Gardner board & carton co. il Bsns W p36 Je 30 '51

Characteristics of 12,000 labor-management contracts. N. M. Bortz and A. Moros. Mo Labor R 73:31-5 Jl '51

Contract puts new first on benefit demands; U.S. metals refining co. Bsns W p38 O 6 '51

Five-year labor agreement at the General motors corp.; abstract. H. Anderson. Mech Eng 73:330-1 Ap '51

GE sets precedent; new CIO contract lets union reopen on pensions a second time. Bsns W p32+ O 13 '51; Correction. L. R. Boulware. p74+ O 27 '51

Grievance procedures in union agreements, 1950-51. J. Nix and others. Mo Labor R 73:36-9 Jl '51

Happy ending; Crucible Steel drops union-shop contract escape clause. Bsns W p 135 F 24 '51

Is your union shop a legal booby trap? Mod Ind 22:81 Ag '51

Labor-management contract provisions, 1949-50; prevalence and characteristics of selected collective bargaining clauses [from Monthly labor review Nov. 1949-Jan. 1951]. U S Bur Labor Statistics Bul 1022:1-36; pa 25c Supt. of doc. '51

Master labor contract covers all construction at Niagara project of Ontario hydro commission. Roads & Eng Constr 89:86 Mr '51

NLRB and contract stability; Jacobs manufacturing co. Bus Transportation 30:57 Jl '51

On pre-1950 contracts, chaos. Bsns W p32 Jl 28 '51

Practical aims and purposes of American labor. W. P. Reuther. Ann Am Acad 274:64-74 Mr '51

Readability of union contracts. J. Lauer and D. G. Paterson. bibliog Personnel 28:36-40 Jl '51

Supervisor's part in the labor agreement. H. F. Gracey. Mech Eng 73:494-5 Je '51

Test foremen on your labor contract and watch grievances subside. H. S. Langdon. Factory Management 108:116-19 D '50

See also

Collective bargaining

Insurance clauses

Union group plans outrun state statutory authority. G. C. Reeves. Nat Underw (Life ed) 55:28-30 O 12 '51

International aspects

Master contract for U.S. and Canada; Electric auto-lite co. and UAW. Bsns W p96 D 9 '50

Maintenance of membership clauses

See Trade unions—Maintenance of membership

Reopening

Calmer reopening; NLRB permits contract reopening without interference from outside union. Bsns W p34 My 19 '51

NLRB limits bargaining. Bsns W p40+ Je 30 '51

Safety and health provisions

Health care grows under labor-management agreements. il Bsns W p 129 N 4 '50

TRADE agreements—*Continued*

Seniority provisions

Collectively bargained length-of-service benefits. J. Nix. Mo Labor R 73:152-5 Ag '51

Sequential seniority; step-by-step system for worker promotion at Weirton. Steel 129:66 S 24 '51

Wage clauses

Chrysler bows to cost-of-living. Bsns W p 120 D 16 '50

Contracts cold shoulder new index. Bsns W p37-8 Jl 7 '51

Escalator clauses; consumer price index of the Bureau of labor statistics. Fortune 42: 46+ N '50

Escalator contracts make trouble for WSB; with list. Bsns W p36-7 My 19 '51

Escalator wage adjustments based on price of product. Mo Labor R 73:48-9 Jl '51

General wage adjustment provisions, 1950. J. C. Nix and L. C. Chase. Mo Labor R 71:694-5 D '50

Good public relations aid wage negotiations. J. G. Mapes. Iron Age 166:79-81 N 16 '50

Holiday provisions in union agreements, 1950. I. Rubenstein and R. Theodore. Mo Labor R 72:24-7 Ja '51

If you open your contract, look out; unions at Allis-Chalmers reject company's ten cent boost. Bsns W p 104 Ja 6 '51

Industry representatives' dilemma; NAM opposes annual productivity increases at W.S.B. hearing. Bsns W p25 Je 2 '51

Labor angle; Murray and the next contract. Bsns W p32 O 13 '51

Raise for million workers covered by escalator contracts. Bsns W p 105-7 N 25 '50

Recently bargained cost-of-living wage adjustments. N. M. Bortz and J. C. Nix. Mo Labor R 71:557-9 N '50

Union rights in pay scales; case of National gypsum co. N. C. Rockwood. Rock Prod 54:71+ F '51

Up escalator. Steel 128:55-6 Mr 12 '51

Wage chronology no. three; United States steel corporation; supplement, 1950. Mo Labor R 71:473-4 O '50

Wage chronology number three; United States steel corp.; supplement number three. Mo Labor R 72:563 My '51

Wage chronology no. four; bituminous-coal mines; supplement number one. Mo Labor R 72:676-8 Je '51

Wage chronology, no. five; Chrysler corp.; supplement no. one. Mo Labor R 72:407-9 Ap '51

Wage chronology no. six; Armour & co., supplement, 1950. Mo Labor R 71:474-5 O '50

Wage chronology no. seven; Swift & co. supplement, 1950. Mo Labor R 71:476-8 O '50

Wage chronology no. eight; full fashioned hosiery; supplement, 1951. Mo Labor R 72: 295 Mr '51

Wage chronology; no. nine; General motors corp.; supplement no. one. Mo Labor R 72: 405-6 Ap '51

Wage chronology number ten; Pacific longshore industry; supplement number one. Mo Labor R 72:561-2 My '51

Wage chronology no. 11; Aluminum co. of America, 1939-50. A. S. Belman. Mo Labor R 71:688-92 D '50

Wage chronology no. 11; Aluminum co. of America; supplement. Mo Labor R 73:56-7 Jl '51

Wage chronology no. 12; Western Union Telegraph, 1945-50. A. A. Belman. Mo Labor R 72:174-83 F '51

Wage chronology, no. 14; Ford motor co., 1941-50. A. A. Belman. Mo Labor R 72:400-4 Ap '51

Wage chronology no. 15; New York City printing, 1939-50. J. P. Corkery. Mo Labor R 72:555-61 My '51

Wage chronology no. 16; Chicago printing, 1939-50. J. P. Corkery. Mo Labor R 73:49-56 Jl '51

Wage chronology no. 17; North Atlantic longshoring, 1934-51. A. A. Belman. Mo Labor R 73:170-6 Ag '51

Wage escalators and the adjusted CPI. L. M. Kramer and J. Nix. Mo Labor R 72:509-13 My '51

Wage pattern for millions; U.S. Steel CIO wage settlement. Bsns W p88-90 D 9 '50

Where'll escalator take pay? GM's stand. Bsns W p25-6 S 22 '51

TRADE agreements, Commercial. See Commercial treaties and agreements

TRADE associations

Calendar of meetings, 1951. Steel 128:333-4+ Ja 1 '51

How to use your trade association. W. Mitchell, jr. 287p bibliog(p271-7) $5.25 Prentice-Hall, 70 Fifth av, New York 11 '51

Metalworking meetings scheduled for 1951. Iron Age 167:114+ Ja 4 '51

1951 calendar of meetings and events. Chem & Eng N 29:684-6 F 19 '51

See also

Advertising, Association
Insurance associations
Petroleum associations
Trade unions

also names of associations e.g.

American petroleum institute
Glass container manufacturers institute
National association of manufacturers
National association of oil equipment jobbers
National association of securities dealers
National paint, varnish and lacquer association
National paper trades association
Printing industry of America, inc.

Directories

Addresses of trade, federal and professional organizations concerned with formulating and issuing standards, codes and manuals, helpful to architects. W. H. Deacy. Arch Rec 108:165 Ag; 163 D '50

National trade associations and technical societies; list of some 200 professional and technical societies and trade associations in metalworking and metal production. Iron Age 167:150+ Ja 4 '51

Standardization work

Standards for the chemical industry. J. G. Henderson. il Standardization 22:216-19 Jl '51

Canada

Associations and societies, Canada. Roads & Eng Constr 89:168 Je '51

Formation of Canadian association of British manufacturers and agencies. Roads & Eng Constr 89:34 Jl '51

TRADE catalogs. See Catalogs

TRADE directories

British empire trades index, 1950. 1063p Business dictionaries ltd, 133-137 Fetter lane, London, E.C. 4 '50

Canadian trade index, 1951. 936p, 50p $7.50 Canadian manufacturers' assn, 67 Yonge st, Toronto 1 '51

Classified index of products used in waterworks and sewage field. Water & Sewage Works 98:R1-13 Ap '51

Directory of manufacturers; buyers' guide of over 1000 manufacturers of power field products; with directory of former manufacturers. Power 95:35-142 Mid-Je '51

Electronics buyers' guide. Electronics 24:D 1-168 Mid-Je '51

Gas engineering and appliance directory. Gas Age 107:99-192 Je 21 '51

Product index and company addresses. Metal Prog 59:123-4+ Ja '51

Where to buy; foundry products section. Foundry 79:1-14 sec 2 Jl '51

See also subdivision Directories under various headings, e.g.

Airplane accessories industry
Airplane industry and trade
Diesel engines
Equipment industries
Machinery industry
Petroleum equipment industries
Petroleum refineries
Printing supplies industry
Rubber industry and trade

TRADE directories—*Continued*

Bibliography

Business reference publications. Ind Marketing 35:119-21 S 15 '50

Business reference publications; catalogs, directories, buyers' guides, etc. Ind Marketing 36:107-9 Je 25 '51

TRADE exhibitions. See Exhibitions

TRADE exhibits. See Exhibits

TRADE-in policies

Tv set manufacturers and retailers set up trade-ins, hold auctions to cut inventories. Ptr Ink 235:318 My 25 '51

Tips on trade-ins. Dom Eng 177:108 Ja '51

See also

Automobile industry and trade—Used cars

TRADE journals

Business papers; first line of communication for war industries in 1951. il Ptr Ink 233:39 D 29 '50

Employer-employee relations; more hard work for company- and business-publication editors. il Ptr Ink 233:29 D 29 '50

Western Union phone survey finds an elusive market; materials handling periodical builds circulation list of purchasing agents. N. L. Cahners. Ind Marketing 35:44+ N '50

See also

Advertising mediums—Trade journals

Directories

Annual market data and directory number. Ind Marketing 36:5-456 Je 25 '51

New ABC, CCA publication data brings market data book up to date. Ind Marketing 35:1-27 pt 2 N '50

1951 market data book number. maps Ind Marketing 35:5-474 S 15 '50

Editors

Free editorprise, or what makes a good business-paper editor. Ptr Ink 236:63+ Jl 27 '51

IM honors 56 business papers for editorial achievement. Ind Marketing 36:42-3+ Jl '51

Reader interest

ARF studies show best-read ads, editorial items; highlights of business publication readership research. il Ind Marketing 35:40-1+ N '50

American Builder; ARF readership study. Sales Management 66:112 Je 1 '51

McGraw-Hill finishes $65,000 readership study. Ind Marketing 36:110+ Ag '51

TRADE marks

Manage your trade marks; abstract. A. S. Greenberg. Management R 39:615-16 O '50

Most famous Scot in U.S. is old trademark; Johnnie Walker. il Ptr Ink 234:36-7 Ja 19 '51

Overhauling the trademark; AC spark plug division of GM. J. C. Hines. il Mod Packaging 24:112-14 Je '51

Patents and trade marks. Published in monthly numbers of India rubber world

Selecting an industrial trademark. A. S. Greenberg. Electronics 24:82-3 O '51

Soap and cosmetic trademarks. A. W. Gray. Soap & San Chem 27:46-7 Ap '51

Wanted; a trade-mark for advertising. il Ptr Ink 236:34-5 Ag 17 '51

When the line outgrows the trade-mark; AC spark plug division, General motors corp. J. C. Hines. il Ptr Ink 235:40-2 Ap 13 '51

Advertising

How to quick-change a brand name; Proto Tools. L. F. Thomann. il Ptr Ink 234:28-9 Ja 12 '51

Repeat item re-wrapped for brand recognition; Master white bread. J. Witte. il Ptr Ink 234:34-5 F 16 '51

Law

Diesel trademark controversy. Diesel Power 29:43 Ja '51

Protection

How advertisers protect their trade-marks. R. J. Friedman. il Adv Agency 44:73+ F '51

TRADE names

Ads pegged to hot tv news help establish the Raytheon brand. W. L. Dunn. il Sales Management 66:44-6 Ja 1 '51

American Builder directory section; alphabetical list of building products and equipment; brand names. Am Bld 73:D58-84 Ap '51

Heating, piping, and air conditioning equipment for industry and large buildings. Heating-Piping 23:94d-109d Ja '51

Trade name index; products in or related to the electronic field. Electronics 24:D 133-51 Mid-Je '51

Trade names; construction equipment. Roads & Eng Constr 89:244+ Je '51

Tron family; alphabetical listing of 250 words ending in the suffix tron, with definitions. W. C. White. Electronics 23:112+ My '50; 24:218+ Je '51

Advertising

How to quick-change a brand name; Proto Tools. L. F. Thomann. il Ptr Ink 234:28-9 Ja 12 '51

How to use a contest to build more interest in your ads. N. Keine. il Ptr Ink 236:48-50 Ag 10 '51

Small budget and a bright idea rescue business with name trouble; Pollio cheese called Polly-O. V. J. Dallaire. il Ptr Ink 234:32-3 F 9 '51

TRADE pacts. See Commercial treaties and agreements

TRADE practices

Floor wax practice rules proposed by FTC. Soap & San Chem 27:125+ My '51

Trade practice conference rules. M. J. Simon. Adv Agency 44:79+ Je '51

See also

Dealer relations
Discount, Trade
Federal trade commission
Price cutting
Price fixing
Price fixing, Resale
Price policies
Restraint of trade
Sales policies
Salesmen, Retail—Bonuses (manufacturers')

TRADE schools

Clinton, Iowa high school trains boys to build. il plans Am Bld 73:126-7 S '51

More power at Dunwoody; graduates qualify as assistant plant operators. il Power 95:116-17 Je '51

Norwegian trade school for woodsworkers. F. Bergestad. il diag Pulp & Pa of Can 52:136+ Ag '51

Technical education in Quebec. W. W. Werry. il Pulp & Pa of Can 51:118-19 N '50

TRADE secrets

Trade secrets and the employer. J. Lawes. Chem Age (Lond) 64:277-8 F 17 '51

Trade secrets; employers' protection. Chem Age (Lond) 63:909-10 D 30 '50

TRADE shows. See Exhibitions; Exhibits

TRADE union buildings

Built for night club; Akron office of International chemical workers union. il Am Bsns 21:22+ Ag '51

TRADE union newspapers. See Newspapers, Trade union

TRADE unions

Active unionist; comments on a research study by J. Seidman and others. Bsns W p38 My 26; 31 Je 2 '51

Do unions raise wages? D. Bell. Fortune 43:65+ Ja '51

Labor unions look at public ownership. L. D. Farrar. Pub Util 47:201-9 F 15 '51

Organized labor and management control. N. W. Chamberlain. Ann Am Acad 274:152-60 Mr '51

Professional engineers and labor unions. J. C. Birtell. bibliog World Oil 132:60+ Ap '51

Union security; embattled issue. Bsns W p35 Mr 31; 32 Ap 7; 38 Ap 14; 40 Ap 21 '51

Unions want white collarites. Bsns W p36-7 My 5 '51

TRADE unions—*Continued*

Why workers join unions. J. Seidman and others. Ann Am Acad 274:75-84 Mr '51

See also

Arbitration, Industrial

Banks and banking, Trade union

Boycott

Insurance agents—Unions

Labor and laboring classes

Newspapers, Trade union

Open and closed shop

Picketing

Shop stewards

Strikes

Television authority

Trade agreements

also names of unions, e.g.

Air line pilots association, International

Amalgamated meat cutters and butcher workmen of North America

American federation of labor

Building service employees international union

Congress of industrial organizations

Distributive, processing and office workers union

Financial employees' guild

Independent steelworkers union

Industrial union of marine and shipbuilding workers of America

International association of machinists

International federation of technical engineers, architects and draftsmen's unions

International ladies garment workers union

International longshoremen's and warehousemen's union

International typographical union

International union of mine, mill and smelter workers

Oil workers international union

Textile workers union of America

Transport workers union of America

United labor policy committee

United mine workers of America

United rubber workers of America

United steelworkers of America

Benefit funds

Are strike benefits taxable? Bsns W p38-9 Ap 21 '51

Lewis' welfare plan stumbles again. il Bsns W p36+ My 12 '51

Organized labor and the problem of medical care. H. Becker. Ann Am Acad 273:122-30 Ja '51

Resumption of benefits under UMWA welfare fund. Mo Labor R 71:706-9 D '50

Welfare state in Williamsburg. Fortune 44:85 O '51

Communist problem

Action against communism in Australian and New Zealand unions. A. S. Ritter and M. M. Smith. Mo Labor R 71:580-1 N '50

American labor and the threat of communism. P. Murray. Ann Am Acad 274:125-30 Mr '51

C.P.'s new labor line. Fortune 43:38+ Mr '51

Dock security check; ILWU yields. il Bsns W p 112-13 Ja 20 '51

Hot war on Europe's docks; Communist strength is on wane among dockworkers. il Bsns W p 148-9 Mr 17 '51

If red, no union; Canadian labour relations board rules. Bsns W p67 D 30 '50

Is it legal to help oust left? Stewart-Warner case. Bsns W p 133-4 F 17 '51

Left turn at Ford; Local 600. Bsns W p 130+ N 4 '50

Left-wing stand; labor leaders on the carpet. Bsns W p 126-7 Mr 3 '51

Leftist labor alliance; eight unions ousted by CIO lay groundwork for third group. Bsns W p92 D 9 '50

NLRB switches policy on Communists; contractors fight red labor leaders. Eng N 145:16 D 28 '50

New grounds for firing; NLRB's counsel upholds dropping of worker who signed Stockholm petition. Bsns W p31 Ap 14 '51

No union; Sylvania Electric workers in Altoona reject leftist group. Bsns W p 127 D 16 '50

Purged Buick worker keeps job; expelled from UAW on Communist charges. Bsns W p 120 N 11 '50

Red-proof radio is AFRA's aim. Bsns W p40+ Ag 25 '51

Red strength has faded in Canal Zone, but is still great in Hawaii. Bsns W p38+ Ag 18 '51

Taft-Hartley non-red oath test; Thomas case. Bsns W p90-1 Ja 13 '51

Too much help from employer; NLRB rules in Stewart-Warner case. Bsns W p41-2 My 26 '51

See also

World federation of trade unions

Cooperation with management

Case of the waffled truck; Philadelphia union-employer court cuts wrecks. il Bsns W p 108-10 N 25 '50

Employee co-operation key to increased productivity. W. R. Prada. Foundry 79:169 Mr '51

Management and labor learn together; Botany plan. I. J. Phillipson. Dun's R 59:20+ S '51

Union labor chiefs suggest; tell us about your sales plans. B. W. Dempsey and D. R. Henle. il Sales Management 66:78+ F 15 '51

Decertification

De-unionization; Pittsburgh store workers ask NLRB to decertify three locals. Bsns W p 116 Ja 27 '51

Directories

Directory of labor organizations in New York state. (Special bul. no. 228) 122p pa 50c State of New York, Dept. of labor, 80 Center st, New York 13 '50

Dues and fees

Information for union members; illustrations from URW booklet, Where your dues dollar goes. Bsns W p32 Je 2 '51

Educational work

Role-playing in leadership training; union education. A. A. Liveright. Personnel J 29:412-16 Ap '51

Schools; union trains leaders. J. Delaney. il Iron Age 168:40 S 27 '51

Skits in leadership training. A. A. Liveright. Personnel J 30:64-6 Je '51

Unions study management. R. Boyfield. Personnel J 30:25-6 My '51

Finance

Dollar worth of unions. J. B. S. Hardman. Personnel 27:359-65 Mr '51

Health service

Growth and work of ILGWU health centers. Mo Labor R 71:709-10 D '50

Organized labor and the problem of medical care. H. Becker. Ann Am Acad 273:122-30 Ja '51

History

Brief history of the American labor movement. J. M. Brumm and T. W. Reedy. bibliog U S Bur Labor Statistics Bul 1000: 1-66; pa 25c Supt. of doc. '51; Review. Bsns W p34-5 S 1 '51

Insurance plans

Attitudes of organized labor toward sickness disability insurance. D. Kaplan. A M A Archives Ind Hygiene & Occup Med 2: 670-4; Discussion. 689-97 D '50

Hits insurers' profits; tells plans for UAW-CIO life insurance company. W. P. Reuther. Nat Underw (Life ed) 55:7 F 16 '51

Strike insurance; Oil workers international union sets up own plan. Bsns W p 128 Mr 3 '51

Union developments described. W. S. Collins. East Underw 52:37+ F 16 '51

International aspects

American labor and world affairs. W. J. Handley. Ann Am Acad 274:131-8 Mr '51

See also

World federation of trade unions

Investments

Urges labor unions' pension funds invest in common stocks. P. D. Jackson. Comm & Fin Chr 174:425 Ag 2 '51

TRADE unions—*Continued*

Jurisdictional disputes

Boss settles the arguments; construction workers in New York city's metropolitan area. Eng N 147:112 S 20 '51
Building polls; plumbers win plea to NLRB. Bsns W p33-4 Ap 7 '51
Employers' illegal activities in fight between rival unions. N. C. Rockwood. Rock Prod 54:51+ S '51
More confusion on electrical workers. Bsns W p30+ S 22 '51
San Francisco waterfront battleground; AFL gangs up on Bridges. il Bsns W p32+ O 6 '51
Too much help from employer; NLRB rules in Stewart-Warner case. Bsns W p41-2 My 26 '51
UE and IUE tangle again. Bsns W p40 My 26 '51
Weirton holds out; CIO steelworkers lose to independent union. Bsns W p 126+ N 4 '50

See also
International union of electrical, radio and machine workers

Law

Affiliate hit by NLRB because employer-dominated. Bsns W p36-7 Jl 7 '51
Limitation on featherbedding ban. Mo Labor R 72:447 Ap '51
New hirings pose poll problem; Wagner iron case before NLRB. Bsns W p36 S 15 '51

Maintenance of membership

Suit over dues; Budd co. employee wins $5,000 damages from union. Bsns W p91 D 9 '50

Officials

Day in the life of a labor leader; William L. McFetridge. il Bsns W p42-6+ Ag 18 '51
How to become a labor leader; ILGWU's training institute; illustrations with text. Bsns W p96-8 Ja 13 '51
Labor's coming of middle age. D. Bell. Fortune 44:114-15+ O '51
Murray and the elders. Fortune 42:48+ D '50
Personalities in labor-management conflicts; abstract. A. A. Imberman. Management R 40:203-4 Ap '51

Political activities

CIO crossroads; political decision. Bsns W p 110+ D 2 '50
Labor's coming of middle age. D. Bell. Fortune 44:114-15+ O '51
Labor's failure; Nov. 7 elections. Fortune 42:47-8 D '50
Labor's mobilization team. Bsns W p38+ Je 23 '51
Labor's political role. J. Kroll. Ann Am Acad 274:118-22 Mr '51
Language of labor. D. Bell. il Fortune 44:86-8+ S '51
Organized labor and racial minorities. L. H. Bailer. Ann Am Acad 274:101-7 Mr '51
Organized labor as a pressure group. A. Leiserson. Ann Am Acad 274:108-17 Mr '51
Political bargaining. Fortune 43:53-4 Ap '51
Technicians move in; labor in the defense setup. Fortune 43:37-8 F '51
Unions mourn political defeats. Bsns W p 124 N 11 '50

Safety work

Case of the waffled truck; Philadelphia union-employer court cuts wrecks. il Bsns W p 108-10 N 25 '50

Africa

Trade union struggle for Asia and Africa. Economist 160:1378-9 Je 9 '51

Argentina

Inflation and labour unrest in Argentina. Economist 160:272 F 3 '51

Asia

Trade union struggle for Asia and Africa. Economist 160:1378-9 Je 9 '51

Australia

Action against communism. A. S. Ritter and M. M. Smith. Mo Labor R 71:580-1 N '50

Canada

If red, no union; Canadian labour relations board rules. Bsns W p67 D 30 '50

France

Activities of French labor unions in 1949-51. W. Powell. Mo Labor R 72:642-7 Je '51

Germany

Class war in western Germany. Economist 161:223+ Jl 28 '51
German labor's new management role; co-determination law. Mod Ind 21:60+ Je '51
Headed for a Ruhr showdown; workers want equal voice with management. Bsns W p 122+ Ja 20 '51
Trade union triumph in Germany. Economist 160:325-6 F 10 '51
Two heads not better; German unions' insistence on share in management may sour foreign aid, technical assistance. Mod Ind 21:68 Mr '51
Watch on the Ruhr; German labor may win a share in management. E. Hughes. Barron's 31:7-8 Ap 2 '51
West Germany moves closer to socialism; adopts union co-rule in the steel and coal industries. Steel 128:53 F 12 '51

Great Britain

Labour's self-interest; quality of union leadership. Economist 160:1213-14 My 26 '51
Shop steward pays his way; Britain's changing industrial picture demands basic changes in the old concept of trade unionism. C. D. Mackinnon. Am Mach 95:144-5 Ap 16 '51

Hawaiian Islands

Red strength has faded in Canal Zone, but is still great in Hawaii. Bsns W p38+ Ag 18 '51

Indo-China, French

Trade-union movement in Vietnam. A. W. Shurcliff. Mo Labor R 72:30-3 Ja '51

New Zealand

Action against communism. A. S. Ritter and M. M. Smith. Mo Labor R 71:580-1 N '50

United States

Basic philosophy of the American labor movement. S. Perlman. Ann Am Acad 274:57-63 Mr '51
Internal characteristics of American unionism. P. Taft. Ann Am Acad 274:94-100 Mr '51
Labor in industrial society. P. F. Drucker. Ann Am Acad 274:145-51 Mr '51
Labor's coming of middle age D. Bell. Fortune 44:114-15+ O '51
Language of labor. D. Bell. il Fortune 44:86-8+ S '51
Perlman's theory of the labor movement. Mo Labor R 72:121-6 F '51
Practical aims and purposes of American labor. W. P. Reuther. Ann Am Acad 274:64-74 Mr '51
Recent industrial relations developments; relations of labor-management negotiations to 1950 economic and international conditions and a review of union activities. B. Stern. Mo Labor R 71:663-7 D '50
Total members of unions, 1897-1950; tabulation. Iron Age 167:358 Ja 4 '51
U.S. labor movement. il Fortune 43:90-3+ F '51

See also
Coal miners—United States

Venezuela

ILO report on Venezuelan unions and working conditions. Mo Labor R 71:449-53 O '50

TRADE waste

Air diffusion, a versatile tool for sewage and industrial waste treatment. F. C. Roe. diags Sewage & Ind Wastes 23:829-31 Jl '51
Approach to the wastes control problem by two industries. V. E. Gex; E. A. Emmer. Sewage & Ind Wastes 22:1563-6 D '50
B.o.d. determination of trade waste samples in admixture with sewage. W. E. Abbott and R. J. Fearn. Sewage & Ind Wastes 23:505-7 Ap '51

TRADE waste—*Continued*

Breaking in a plant for treating gum wastes. H. E. Orford. flow diag il Sewage & Ind Wastes 23:313-18 Mr '51

Chemical engineering aspects of industrial wastes control. C. F. Gurnham. Sewage & Ind Wastes 23:82-8 Ja '51

Chemical oxygen consumed and its relationship to b.o.d. W. A. Moore and C. C. Ruchhoft. bibliog Sewage & Ind Wastes 23:705-12 Je '51

Chemical, waste disposal; reference book sheet. E. G. Meiter. Am Mach 95:143 Mr 5 '51

Chemistry of waste cyanide treatment. D. Milne. Sewage & Ind Wastes 23:174-80 F '51

Color in industrial wastes. W. Rudolfs and W. D. Hanlon. bibliog Sewage & Ind Wastes 23:1125-32, 1291-7 S-O '51

Critical review of literature on the toxicity of industrial wastes and their components to fish. P. Doudoroff and M. Katz. Sewage & Ind Wastes 22:1432-58 bibliog(126 titles, p 1453-8) N '50

Critical review of the literature of 1950 on sewage, waste treatment, and water pollution. W. Rudolfs and others. Sewage & Ind Wastes 23:555-642 bibliog(661 titles, p621-42) My '51

Determination of dissolved oxygen in industrial wastes by the Winkler and polarographic methods. M. C. Rand and H. Heukelekian. bibliog Sewage & Ind Wastes 23:1141-9 S '51

Economics of waste treatment; with particular reference to acid, plating, paper, and oil wastes. V. J. Calise. flow diags il diags Water & Sewage Works 97:479-83 N '50

Effects of industrial wastes on municipal sewage works at Detroit. I. Nusbaum. bibliog Sewage & Ind Wastes 22:1583-90 D '50

Experience with chlorination of cyanides in the General motors corporation. D. Milne and others. flow diag il Sewage & Ind Wastes 23:64-81 Ja '51

Field widens for chemist in waste disposal problems. Chem & Eng N 29:376 Ja 29 '51

Flexibility in industrial pollution control administration. L. L. Hedgepeth. Sewage & Ind Wastes 23:1036-7 Ag '51

Flotation processes for waste water; abstract. N. A. D'Arcy, jr. Chem Eng 58:252+ Je '51

Fundamentals of chlorination of sewage and waste. E. W. Moore. bibliog Water & Sewage Works 98:130-6 Mr '51

How industry can aid to prevent stream pollution; abstract. E. B. Besselievre. Mech Eng 73:590-1 Jl '51

How instrumentation facilitates industrial waste treatment for Cooper-Bessemer corp. W. E. Oesterling. il diag Water & Sewage Works 98:60-2 F '51

How to get rid of toxic industrial wastes. il Eng N 146:30-1 Je 14 '51

Industrial effluents. M. Lovett. Chem & Ind p813-16 S 29 '51

Industrial sewer rental with incentive base; how it works in Winchester, Va. S. H. Reaves. il Water & Sewage Works 98:63-5 F '51

Industrial viewpoint. J. C. Radcliffe. Sewage & Ind Wastes 23:915-17 Jl '51

Industrial waste investigations in New York city. R. Shapiro. Sewage & Ind Wastes 23:775-81 Je '51

Industrial wastes. L. L. Hedgepeth. Water & Sewage Works 98:392-3 S '51

Industrial wastes. H. R. Murdock. Published in monthly numbers of Industrial and engineering chemistry

Industrial wastes; a worms-eye view; abstract. L. L. Hedgepeth. Water & Sewage Works 98:232 My '51

Industrial wastes forum. Water & Sewage Works 98:39-41 Ja '51

Industrial water pollution, a new headache for power engineers? not necessarily! instrumentation techniques offer a way out. W. B. Hart and others. il Power 95:107-9+ F '51

Legal aspects of industrial waste. J. H. Murdoch, jr. Water & Sewage Works 98:267-9 Je '51

Manufacturing chemists' association 5th conference on pollution abatement, New York, April 16-17; with abstracts of papers. Water & Sewage Works 98:308-11 Jl '51

Michigan's industrial wastes control program. L. N. Rydland. Sewage & Ind Wastes 22:1591-5 D '50

Needs for sewage and industrial waste treatment. M. D. Hollis. Pub Works 81:40 D '50

Neutralizing industrial waste liquids; 5th annual industrial waste conferences sponsored by Purdue university and Indiana state board of health; abstracts of papers. Steel 128:75-7+ Ap 9 '51

1950 industrial wastes forum. Sewage & Ind Wastes 23:752-74 Je '51

Nutritional requirements in the biological stabilization of industrial wastes. E. N. Helmers and others. bibliog il Sewage & Ind Wastes 22:1200-6; 23:884-99 S '50, Jl '51

Orderly approach to industrial waste disposal; abstract. L. Cox. Water & Sewage Works 98:424-5 O '51

Ozonation of cyanide wastes. R. G. Tyler and others. Sewage & Ind Wastes 23:1150-3 S '51

Ozone kills phenols in waste. il Chem Eng 58:224+ S '51

Pennsylvania sewage and industrial wastes association 23d annual meeting; with abstracts of papers. Water & Sewage Works 98:420-5 O '51

Phenols in industrial wastes can be destroyed chemically. Eng N 147:43 Ag 16 '51

Planning for industrial waste treatment. A. D. Potter. Pub Works 81:38+ D '50

Polarographic determination of metals in industrial wastes. P. G. Butts and M. G. Mellon. Sewage & Ind Wastes 23:59-63 Ja '51

Pollution abatement and industrial water management. C. F. Hauck. bibliog il diags Chem Eng Prog 47:376-81 Jl '51

Pollution control; Chemical Engineering report. bibliog flow diags il diags Chem Eng 58:111-58 My '51

Problems caused by industrial wastes at sewage treatment plants; symposium. Water & Sewage Works 98:401-2 S '51

Proceedings of the fifth industrial waste conference held at Purdue university, Nov. 29-30, 1949. Purdue Univ, Eng Ext Dept, Ext Ser 72:1-430 '50 (pa $1)

Proposed toxicity test for industrial wastes to be discharged to marine waters. F. M. Daugherty, jr. bibliog Sewage & Ind Wastes 23:1029-31 Ag '51

Public health service sets waste works need; $9 billion. Eng N 146:26 My 17 '51

Purdue industrial waste conference, 6th, Feb. 21-23; with abstracts of papers. Water & Sewage Works 98:190-1, 235-7, 325-9 Ap My, Jl '51

Redox potentials predict waste treatment requirements; 6th industrial waste conference. Chem & Eng N 29:904 Mr 5 '51

Review of some industrial waste treatment plants in Connecticut; abstract. W. J. Snow. Water & Sewage Works 98:400-1 S '51

Semi-automatic water, sewage, and industrial waste sampler. R. Stone and P. M. Teeple. il plans diags Sewage & Ind Wastes 23:796-800 Je '51

Sewage and industrial waste treatment 1950: a review. R. E. Fuhrman. il Water & Sewage Works 98:47-59 F '51

Sewage disposal program for Cincinnati and vicinity; industrial wastes control. H. H. Kranz. Sewage & Ind Wastes 22:1399-402 N '50

Special charge formulas for industrial wastes in municipal sewage. G. E. Symons. bibliog Water & Sewage Works 98:R116-19 Ap '51

Stream protection and management. W. B. Hart. Am Gas Assn Proc 1950:413-16

Survey of industrial wastes in the Lake Huron-Lake Erie section of the international boundary waters. A. E. Berry and others. bibliog maps Sewage & Ind Wastes 23:508-35; Discussion. 536-8 Ap '51

Symposium on liquid industrial wastes; A.C.S. Division of water, sewage, and sanitation chemistry. Chem & Eng N 29:3845-6 S 17 '51

TRADE waste—*Continued*

Treatment and disposal of waste waters containing picric acid and dinitrophenol; abstract. R. Wilkinson. Sewage & Ind Wastes. 23:1211-12 S '51

Two-in-one treatment plant means savings for industry; combining water and waste treatment facilities at Monroe (Mich.) plant, Ford motor co. il plan Eng N 147:42 Ag 23 '51

Utilization of natural purification capacity in sewage and industrial waste disposal. C. J. Velz. Sewage & Ind Wastes 22:1601-13 D '50

Waste problems of industry. C. Lose. Pub Works 82:40+ F '51

Waste treatment developments in the General electric co. K. S. Watson. flow diags il diag Sewage & Ind Wastes 23:1133-40 S '51

Waste utilization and disposal systems; cost studies of evaporation and drying. W. D. Kohlins and E. L. Demarest. diags Chem Eng Prog 46:597-600 D '50

Waste utilization and waste treatment. H. R. Murdock. Ind & Eng Chem 43:sup83A-4A+ Mr '51

Water pollution by industry; a survey of state legislation and regulations. D. F. Othmer and others. Mech Eng 73:706-8 S '51

See also

Acid waste
Breweries—Waste
Canneries—Waste
Coal mines and mining—Waste
Coal waste
Coke plants—Waste
Dairy waste
Drug factories—Waste
Dyehouses—Waste
Electroplating—Waste
Fumes
Glass factories—Waste
Oil waste
Packing houses—Waste
Paper mills—Waste
Petroleum—Water problem
Petroleum waste
Refuse disposal
Sewage disposal
Sewerage
Slaughtering and slaughterhouses—Waste
Steel works—Waste
Sugar factories—Waste
Sulfite liquor
Textile mills—Waste
Waste, Utilization of
Water pollution

Radioactive waste

Contamination of public waterways by radioactive waste. H. R. Murdock. Ind & Eng Chem 43:sup 113A-14A+ S '51

Detection of trace quantities of radioactive materials in waste streams. P. R. Fields and G. L. Pyle. bibliog Anal Chem 23:1004-8 Jl '51

Environmental engineering aspects of nuclear activities. A. E. Gorman. J Eng Educ 41:179-84 N '50

High efficiency collection of radioactive dust. K. J. Caplan. bibliog il diags Heat & Ven 48:79-82 F '51

Incineration as means of reducing volume of radioactive waste materials presents problem. L. C. McCabe. il Ind & Eng Chem 43:sup 105A-6A+ Je '51

Nuclear fission operations and the waste treatment plant operator. G. A. Rhame. Sewage & Ind Wastes 22:1494-7 N '50

Observations on the removal of radioactive materials from waste solutions. C. P. Straub. bibliog Sewage & Ind Wastes 23:188-93 F '51

Radioactive waste disposal. J. F. Newell and C. W. Christenson. bibliog Sewage & Ind Wastes 23:861-8 Jl '51

Radioactive wastes; disposal at Knolls atomic power laboratory. G. E. McCullough. Mech Eng 72:902-3 N '50; Same abr. Heating-Piping 23:135 Ja '51

Radioactive wastes; symposium on problems and treatment. bibliog flow diags il diags Ind & Eng Chem 43:1499-544 Jl '51

Radioactive wastes will be future sewage-treatment problem. W. F. Brown. il Munic Util 89:22-4+ F '51

Sewage works aspects of radiological problems; abstract. L. W. Van Kleek. Water & Sewage Works 98:399-400 S '51

Studies on radioisotope removal by water treatment processes. R. Eliassen and others. bibliog il Am Water Works Assn J 43:615-30 Ag '51; Abstract. Munic Util 89:36+ My '51; Discussion. Am Water Works Assn J 43:630-7 Ag '51

Studies on the effect of radioactive phosphorus on the biochemical oxidation of sewage. W. N. Grune and R. Eliassen. bibliog flow diag il Sewage & Ind Wastes 23:141-54 F '51; Abstract. Water & Sewage Works 98:38 Ja '51

U.S. study of radioactive wastes. il Chem Age (Lond) 64:343-4 Mr 3 '51

Waste disposal problems in the atomic energy industry; abstract. A. E. Gorman. Water & Sewage Works 98:191 Ap '51

TRADING with the enemy

Can trade with the enemy be halted? il Bsns W p 137-8 Je 2 '51

TRAFFIC departments, Industrial

Scott Paper reduces damage claims; traffic department spearheads campaign. il Ry Age 130:48-50 Mr 5 '51

Transportation and industrial traffic management's new responsibility. E. B. Smith. il Ry Age 130:30-2 My 7 '51

See also

National industrial traffic league

TRAFFIC engineering

Study and teaching

Traffic fellowships. Safety Maint & Prod 101:33 My '51

TRAFFIC lines

Denison installs permanent traffic markers. W. McNutt. il Pub Works 82:45-6 Je '51

Methods and application procedures for pavement marking; with cost data. C. R. Waters. il Roads & Eng Constr 89:82+ S '51

Novel channelizing saves expensive intersection changes at Boise. H. K. Glidden. il plan Roads & Sts 93:48-9+ N '50

Plastic road line markers tried in Nassau, Queens. Eng N 146:26 F 15 '51

Traffic paint preferences and requirements. Pub Works 82:81-2 S '51

TRAFFIC lines, Plastic

Plastic road line markers tried in Nassau, Queens. Eng N 146:44 Ap 19 '51

TRAFFIC regulations

First aluminum traffic control arches. il Light Metal Age 9:31 Je '51

Traffic control planning for civil defense. B. A. Lefeve. il plan Pub Works 82:74-6+ Ap '51

TRAFFIC signals

Design capacity charts for signalized street and highway intersections. J. E. Leisch. plans Pub Roads 26:105-39 F '51

Light turns red; more will do so in 1951. Steel 128:62 Mr 5 '51

Minnesota engineers and contractors cooperate for safer traffic flagging through the job. C. L. Methven. il Roads & Sts 94:36-8 Ag '51

Self-supervised traffic control in Denver. Gen Elec R 53:50 N '50

Traffic signal; installation and maintenance by Ohio highway department. H. E. Neal. il Roads and Sts 93:42-5 N '50

Manufacture

Job cost procedure; an electronic signal company. S. W. Overly. N A C A Bul 32:606-10 Ja '51

TRAFFIC signals, Portable

Portable signal pylon of inflatable rubberized fabric. il Safety Maint & Prod 101:54 My '51

Portable traffic light units help handle race crowds. A. R. Pepper. il Roads & Sts 94:50-1 Ap '51

TRAFFIC surveys

Accounting device speeds road survey. Eng N 145:36 N 2 '50

Traffic trends on rural roads in 1949. T. B. Dimmick. Pub Roads 26:85-98 D '50; Same cond. Roads & Eng Constr 88:89-92+ D '50

Vehicle computer. il Engineer 191:394 Mr 23 '51; Engineering 171:295 Mr 9 '51

TRAGACANTH

Iranian gum-tragacanth industry. For Comm W 44:20 S 17 '51

TRAILERS

Close call for Fruehauf; special trailers built for Lustron are converted and resold. il Bsns W p72+ Ap 7 '51

Developments in trailer design. W. A. Magill. Pulp & Pa of Can 52:136+ My '51

TRAILERS—*Continued*
How to save time on the ground; tractor-trailer could carry passengers and cargo to airport. il Aviation W 54:44-5 Ap 30 '51
Large road trailer. il diags Engineer 192:25-7 Jl 6 '51
Multi-purpose trailer for service restoration. S. B. Sawyer. il Elec World 134:143 N 20 '50
Oil fleet tests powered trailer. H. Ridder. il Nat Pet N 43:38-9 Jl 18 '51
100-ton heavy-duty trailer. il Engineering 170:457-8, pl 38-9 D 8 '50
Trailer with retractable chassis. il Engineer 191:425-6 Mr 30 '51
Truck and trailer production and shipments, 1946-1949; tabulation. Iron Age 167:329 Ja 4 '51
Truck trailer shipments, by type, 1947-1950; shipments by months, 1949-1950; civilian and military truck trailer production, 1942-1945; tabulations. Automotive Ind 104:86 Mr 15 '51
Tunnel takes to trailer travel; illustrations with text. Bsns W p38-9 N 11 '50
See also
Automobile trailers

Manufacture

Contour forming cuts trailer costs; illustrations and drawings with text. H. E. Linsley. Am Mach 95:130-1 Ag 6 '51
Latest equipment in Fruehauf trailer plant; illustrations with text. Automotive Ind 105:34-5 Ag 1 '51

Transportation

G.T.T.M., the French system of winning truck traffic back to the rails. il Ry Age 130:46-8 Ap 2 '51
Moving highway trucks on trains. il Ry Age 129:50-3 N 4 '50

TRAILERS, Automobile. See Automobile trailers

TRAILERS, Industrial
Aluminum trailer tops for tool transport. A. F. Wetsch. il Elec World 136:106+ S 24 '51

TRAILMOBILE company
New line for new earnings; purchase by Pullman. il Bsns W p 114+ Jl 28 '51

TRAIN announcing. See Railroads—Stations—Train announcing

TRAIN ferries
Car ferry New Grand Haven. il plans diag Marine Eng 56:52-7 Je '51
Motor vessel Norfolk Ferry. G. W. Tripp. il Engineer 192:155-7 Ag 3 '51
New vessel for the Harwich-Zeebrugge train-ferry service. il Engineering 172:139-41, pl 14 Ag 3 '51

TRAINING directors, American society of. See American society of training directors

TRAINS. See Railroads—Trains

TRAMWAYS. See Cableways

TRANE, Reuben
Trane is profit-conditioned. Fortune 44:85-7+ Ag '51

TRANE company
Sales uptrend continuing strong. Barron's 31:11-12 Ag 27 '51

TRANSAMERICA corporation
Disposal of some assets likely. Barron's 31:15-16 Ag 6 '51
Giannini awaits FRB's ax. Bsns W p 140+ Je 23 '51
Transamerica sheds Bankamerica holdings. Bsns W p86 Ja 13 '51

TRANS-ARABIAN pipe line. See Petroleum pipe lines—Trans-Arabian line

TRANS-CANADA highway. See Roads—Canada

TRANSCONTINENTAL gas pipe line corporation
Preferred stock offered. Comm & Fin Chr 173:1115 Mr 12 '51

TRANSCRIPTION departments
Centralized transcription for improved office efficiency; abstract. Mrs. L. Cropper. Management R 40:401-2 Jl '51

TRANSDUCERS
Standards on transducers; definitions of terms, 1951. Inst Radio Eng Proc 39:897-9 Ag '51 (reprints 50c)

TRANSDUCERS, Electroacoustic. See Electroacoustic transducers

TRANSDUCTORS. See Reactors

TRANSESTERIFICATION. See Esterification

TRANSFER mechanism
Automatic transfer machinery. Economist 160:1118 My 12 '51
Centreless grinding; Scrivener development for transfer machining. il diags Automobile Eng 41:303-4 Ag '51
Duplex machine combines milling and handling; machining automotive clutch housings. J. Loviner. il diag Steel 127:84-6 N 6 '50
Forming washing machine legs on a transfer type press. A. E. Sweet. il Mach 57:177-80 N '50
Hydraulic controls installed in Cross Transfermatic machines. il Am Mach 94:191 D 11 '50
Longitudinal operations performed on automatic transfer machine. il Mach 57:173-5 Ap '51
New Buick crankcase line shows many improvements. S. White. il Am Mach 94:112-13 D 25 '50
Snyder transfer machine for operations on cylinder blocks. il Mach 57:206 Ap '51
Speeding production with modern transfer equipment at Indianapolis truck engine works of International harvester co. J. Olender. il Advanced Management 15:8-10 O '50
Transfer machining; the production of cylinder blocks for Consul and Zephyr engines. il Automobile Eng 41:255-64 Jl '51
Transfer press positions work at high speed. J. M. Delfs. il diags Iron Age 167:99-102 Ap 26 '51
Transfer principles applied to limited lot production. il Steel 128:78 Mr 19 '51

TRANSFER of employees. See Employees, Transfer of

TRANS-FLO hopper cars. See Freight cars

TRANSFORMATIONS (mathematics)
Transformations to speed the convergence of series. J. B. Rosser. bibliog J Res Nat Bur Stand 46:56-64 Ja '51
See also

Schwarz-Christoffel transformation	Laplace transformation

TRANSFORMER oil. See Insulating oil

TRANSFORMERS, Radio. See Radio transformers

TRANSGLUCOSIDASE. See Glycosidases

TRANSIENT analyzer. See Electric transient phenomena

TRANSISTORS
Auxiliary current alters transistor characteristics. J. G. Skalnik and others. diag Electronics 24:142+ S '51
Crystal triodes. T. R. Scott. bibliog diags Inst E E Proc 98 pt 3:169-77 My '51; Same. Elec Com 28:195-208 S '51; Discussion. il Inst E E Proc 98 pt 3:177-83 My '51
Duality, a new approach to transistor circuit design. R. L. Wallace, jr. diags Inst Radio Eng Proc 39:702 Je '51
Duality as a guide in transistor circuit design. R. L. Wallace, jr. and G. Raisbeck. diags Bell System Tech J 30:381-417 Ap '51
Effect of auxiliary current on transistor operation. H. J. Reich and others. J Ap Phys 22:682-3 My '51
Electric forming in *n*-germanium transistors using phosphorus-alloy contacts. J. P. Stelmak. Phys R 83:165 Jl 1 '51
Electrons and holes in semiconductors, by W. Shockley. Review and summary, by G. D. O'Neill. Electronics 24:150+ My '51
Graphical analysis of transistor characteristics. L. P. Hunter. diags Inst Radio Eng Proc 38:1387-91 D '50
High-performance transistor with wide spacing between contacts. B. N. Slade. diag RCA R 11:517-26 D '50
p-n Junction transistors. W. Shockley and others. diags Phys R 83:151-62 Jl 1 '51
Junction transistors developed by Bell laboratories. il Tele-Tech 10:66 Ag '51; Radio & Tv N 46:143 S '51
New type transistor. il R Sci Instr 22:710-11 S '51
Revolution in electronics. L. N. Ridenour. il diags Sci Am 185:13-17 Ag '51

TRANSISTORS—*Continued*

Semiconductors will become a major field of electrical engineering; vacuum tubes to transistors? il diags Product Eng 22:134 My '51

Significance of composition of contact point in rectifying junctions on germanium. W. G. Pfann. bibliog diags Phys R 81:882 Mr 1 '51

Some circuit properties and applications of *n-p-n* transistors. R. L. Wallace, jr. and W. J. Pietenpol. il diags Inst Radio Eng Proc 39:753-67 Jl '51; Same. Bell System Tech J 30:530-63 Jl '51

Some transistor trigger circuits. P. M. Schultheiss and H. J. Reich. diags Inst Radio Eng Proc 39:627-32 Je '51

Theory of relation between hole concentration and characteristics of germanium point contacts. J. Bardeen. diags Bell System Tech J 29:469-95 O '50

Tiny transistor invented at the Bell telephone laboratories. il Aviation W 55:26 Jl 30 '51; Elec Eng 70:751-2 Ag '51

Transistor frequency modulator circuit. L. L. Koros and R. F. Schwartz. il diags Electronics 24:130-2+ Jl '51

Transistor frequency; multiplying circuit. W. B. Bowers. diags Electronics 24:140+ Mr '51

Bibliography

Radio progress during 1950; electron tubes and solid-state devices. Inst Radio Eng Proc 39:373-5 Ap '51

TRANSIT radio, inc.

They shall have music; two years of fm transit radio have proved that car card of the air is useful as well as profitable. F. Otwell. Bus Transportation 29:66-7 N '50

TRANSITION points

Studies of gradual transitions in mixed crystals; the system ammonium chloride-ammonium bromide. C. J. Mandleberg and L. A. K. Stavely. diag Chem Soc J p2736-43 O '50

TRANSLATION

Problem of an international language; Acta physiologica polonica in Polish. Science 113:607-9 My 25 '51

TRANSLITERATION

Concerning orthography of scientific names. J. Pacit. Science 114:63-4 Jl 20 '51

TRANSMUTATION (chemistry)

Reactions of transmutation; abstracts of papers at American physical society meeting. Phys R 81:315-19 Ja 15 '51

TRANSOCEAN air lines

See also

Taloa trading corporation

TRANSPLANTATION (physiology)

Resumption of ovulation by mouse ovaries following implantation in the spleen; abstract. C. C. Little. Science 113:476-7 Ap 27 '51

Successful transplantation of a fertilized bovine ovum. E. L. Willett and others. Science 113:247 Mr 2 '51

TRANSPORT-building cycles. See Building cycles

TRANSPORT workers union of America

Fighting Irish; Mike Quill's transport workers. Fortune 44:58+ S '51

TRANSPORTATION

American society of traffic and transportation 1st national transportation conference, Chicago, Sept. 13-14. Ry Age 131:53-5 S 24 '51

Future developments in transportation. C. F. Kettering. Franklin Inst J 251:109-19 Ja '51

Transportation, 1950. il Eng N 146:109-14 Mr 29 '51

Transportation, 1950 projects. il Eng N 146:234+ Mr 29 '51

Transportation spending, 1935-1950; tabulation. Iron Age 167:333 Ja 4 '51

See also

Aeronautics, Commercial
Airlines
Airplanes
Automobiles
Barges
Carriers
Commerce
Delivery of goods
Electric railroads
Electric traction
Freight car service
Freight cars
Freight handling
Freight ships
Highway transportation
Mechanical handling
Merchant marine
Mine haulage
Motor bus lines
Motor ships
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Packing for shipment
Petroleum pipe lines
Pipe lines
Pneumatic conveying
Ports
Postal service
Railroads
Rapid transit
River traffic
Road traffic
Roads
Shipment of goods
Shipping
Ships
Steamboat lines
Street railroads
Street traffic
Streets
Terminals
Towboats
Traffic departments, Industrial
Trailers
Trolley buses
Waterways

Africa

Colonial powers discuss Africa transport integration. F. R. Brewster. map Eng N 146:36-7 Mr 22 '51

Transport south of the Sahara; African transport conference, Johannesburg. Economist 159:896 N 25 '50

Arabia

Transportation in Saudi Arabia. For Comm W 43:23 Ap 16 '51

Arkansas

Arkansas story. il map Manuf Rec 120:94-5 F '51

Australia

Transportation coordination in Australia. For Comm W 42:25 Mr 19 '51

British East Africa

Transportation developments. For Comm W 42:24 F 5 '51

Burma

Transportation developments in Burma, 1950-51. For Comm W 43:27 Ap 30 '51

Canada

Transportation aspects of Newfoundland's union with Canada. For Comm W 43:20 Ap 23 '51

Transportation on Prince Edward island. For Comm W 42:23 Ja 8 '51

Congo, Belgian

Transportation developments in Belgian Congo, 1950. For Comm W 44:28 Jl 16 '51

Formosa

Facilities improved. For Comm W 43:19 Ap 23 '51

Taiwan transportation developments. For Comm W 43:22-3 Je 18 '51

Great Britain

Road haulage and the Transport act. Economist 159:899-900, 960-2 N 25-D 2 '50

Transport and costs; summary of Transport commission's report for 1950. Economist 161:105-6+ Jl 14 '51

Transport and efficiency. Economist 160:936-7 Ap 21 '51

Greece

Greek transportation notes. For Comm W 43:27 My 14 '51

Madagascar

Transportation developments in Madagascar. For Comm W 43:31 Ap 30 '51

Mississippi

Mississippi story; transportation development. il Manuf Rec 120:90-2 Je '51

New Zealand

Transportation development in New Zealand. 1950. For Comm W 43:24-5 Ap 16 '51

Pakistan

Pakistan transport advisory council meeting, 1st, Nov. 16. For Comm W 42:22 Ja 15 '51

Russia

Transport; Russia's Achilles' heel? H. Hunter. map Automotive Ind 105:38-43+ S 15 '51

TRANSPORTATION—*Continued*

United States

One boss for transportation proposed. Bsns W p28 Ja 13 '51

One transport boss for land, sea and air; Delos W. Rentzel. Bsns W p26 Mr 24 '51

Poll indicates single transport agency wanted. Ry Age 130:98 Je 25 '51

Special appraisal of transportation companies; with charts and tables. J. C. Cresswill. Mag of Wall St 88:663-6 S 22 '51

Subsidies; user charges and the national transportation policy. il Ry Age 130:48-50 F 5 '51

Transit strengthens for an uncertain future. P. C. Groner. Pub Util 47:418-23 Mr 29 '51

Transportation as an outlet for investment. J. S. Duncan. il Ry Age 129:32-4 D 9 '50

Transportation; not quite enough. il Steel 128:57-9 My 21 '51

TRANSPORTATION, Military

See also

Airlines—Military use

Airplanes, Military transport

Conveying machinery (long distance)—Military use

Motor vehicles, Military

Railroads—Military use

Transports

United States—Military air transport service

United States—Military sea transportation service

TRANSPORTATION advertising. See Advertising cards

TRANSPORTATION insurance. See Insurance, Transportation

TRANSPORTATION workers

Transportation, earnings, 1947-1950; tabulation. Iron Age 167:363 Ja 4 '51

See also

Transport workers union of America

TRANSPORTS

Launching of transport President Adams. il Marine Eng 55:45-6 D '50

TRANSURANIUM elements

L X-ray spectra from radioactive decay of transuranium elements. G. W. Barton, jr. and others. bibliog diags Phys R 81:208-13 Ja 15 '51

TRANS WORLD airlines

Directors meet abroad; illustrations with text. Bsns W p 128-9 Ap 14 '51

TWA ocean Connies join luxury parade. il Aviation W 54:53+ My 28 '51

TWA studies major plane deals. Aviation W 55:16-17 Jl 2 '51

TWA's first 4-O-4 rolls out. il Aviation W 55:57 Jl 23 '51

TRAUMA

New developments in industrial surgery. H. E. Mock, jr. Ind Med 20:385-9 S '51

Vascular complications in fractures and traumatology. D. S. Miller and L. Markin. bibliog il Ind Med 20:323-4 Jl '51

TRAVEL

International travel in 1950; with tables. F. P. Sasscer and W. Lederer. Survey of Cur Bsns 31:20-4 My '51

Summer travel brightens outlook for 1951 tourism. E. Miller. il For Comm W 44:3+ S 3 '51

Travel by train; where to go for recreation, how to go in comfort; brief descriptions of vacation resorts, national parks, historic attractions and larger cities of the United States and Canada. il Ry Age 130:131-64 My 21 '51

See also

Air travel

Ocean travel

Railroads—Passenger traffic

Tourist trade

Voyages around the world

Advertising

Americans may spend 12 billion on vacations this year; will you get your share of recreation dollar? P. B. B. Andrews. il Ptr Ink 235:41-2+ Ap 27 '51

TRAVEL bureaus

See also

Banks and banking—Travel bureaus

TRAVEL time. See Wages—Law

TRAVELING exhibits. See Exhibits, Traveling

TRAVELING laboratories. See Laboratories, Traveling

TRAVELING stores

Levittown's roving shops. il Bsns W p 104-5 Mr 24 '51

TRAVELING wave tubes. See Vacuum tubes—Traveling wave tubes

TRAVIS, David A.

Sky's the limit for synthetic fibers; interview. pors Bsns W p46-8+ S 29 '51

TRAVIS, Maurice Eugene, 1910-

Why a copper strike? por Fortune 44:59-60 O '51

TREASON

Borderline of treason. Economist 161:324-6 Ag 11 '51

TREASURY department. See United States—Treasury department

TREATIES

See also

Commercial treaties and agreements

Financial treaties and agreements

United States—Treaties

TREE farms. See Woodlots

TREE insurance. See Insurance, Tree

TREE planting

Double-row tree planting is feature of machine designed by Nepco foresters. il Paper Ind 33:272 Je '51

Reforestation work of the Quinsam nursery of the British Columbia forest service. Pulp & Pa of Can 52:150 My '51

Tree planting with tractors in Minnesota. Pulp & Pa of Can 52:131 F '51

TreeP planting machine. L. Holt. il Pulp & Pa of Can 51:124+ D '50

TREE tobacco

Extraction of alkaloids from tree tobacco. L. Feinstein, P. J. Hannan and E. T. McCabe. bibliog diag Ind & Eng Chem 43:1402-3 Je '51

TREE trimming

Tree trimming; National safety council data sheet. il Nat Safety N 64:32-4+ S '51

TREES

Observations verify graph for water used by growing trees. A. F. Meyer. Civil Eng 21:347 Je '51

Progress report on Institute of paper chemistry's pulpwood plantation in miniature. I. H. Isenberg. il Paper Ind 32:866 N '50

See also

Aspen

Christmas trees

Douglas fir

Electric lines—Tree problem

Pine

Spruce

Woodlots

Diseases and pests

Spruce budworm in the Maritime Provinces. Pulp & Pa of Can (Convention no) 52:354 [F] '51

See also

Elm—Diseases and pests

TREES, Fossil

Probable chromosome number of fossil sequoia and metasequoia found in Japan. S. Miki and S. Hikita. bibliog il Science 113:3-4 Ja 5 '51

Tree trunks preserved in a volcanic flow in the northern Cameroons. H. P. T. Hyde. bibliog map Am J Sci 249:72-7, pl 1 Ja '51

Tree trunks preserved in lava. M. H. Battey. Am J Sci 249:695 S '51

TREFETHEN, Eugene Edgar, 1909-

Portrait. Bsns W p33 D 9 '50

TREHALOSE

Synthesis of trehalose-type disaccharides. V. E. Sharp and M. Stacey. Chem Soc J p285-8 F '51

TRENCHING machinery

Ditcher remodeled for highway clearance. M. J. Shelton. il Pub Works 82:62+ F '51

Jeep-a-trench expedites water main work. R. Cappell. il Pub Works 82:43 S '51

Long-boomed backhoe digs deep trench. il diag Eng N 145:32-4 N 23 '50

New trencher of novel design. J. W. Reilly. il diag Water & Sewage Works 97:496-8 D '50

Special backhoe solves trenching problems. W. G. Ridge. il Pub Works 82:43 S '51

Special backhoes on odd pipeline ditching. il Constr Methods 33:103 Je '51

TREND measurement
How to estimate crude oil reserves by decline trend method. R. W. Clark, jr. Pet Eng 23:B7-12+ S '51

TRENTON, New Jersey

Streets

Trenton would cut costs with flexible macadam. Eng N 147:52+ S 13 '51

TREPANNING
High-speed trepanning of alloy steel bar stock. il Mach 57:219 Jl '51
Production drilling and trepanning of deep holes. J. S. Ladendorf. diags Tool Eng 27:29-34 S '51
Special cutting head improves deep trepanning. W. Iwascheff. diags Iron Age 168:72-4 Ag 9 '51

TREPONEMA pallidum. See Syphilis

TRIAMYLAMINE
Extraction of lactic acid from water solution by amine-solvent mixtures. W. P. Ratchford and others. bibliog Ind & Eng Chem 43:778-81 Mr '51

TRIANGULATION
Triangulation parties conquer Arctic to map Alaska. K. B. Jeffers. il map Civil Eng 21:84-7 F '51

TRIAZENES
Reaction of aromatic triazenes with nitric oxide. T. W. Campbell. Am Chem Soc J 73:4019-21 Ag '51
Structure of the aromatic triazenes. T. W. Campbell and B. F. Day. bibliog Chem R 48:299-317 Ap '51

TRIAZINES
Cyanuric chloride derivatives. J. T. Thurston and others. bibliog Am Chem Soc J 73:2981-3008 Jl '51

TRIAZO compounds
Physical properties of some triazo compounds; dipole moments. H. O. Spauschus and J. M. Scott. bibliog Am Chem Soc J 73:210-12 Ja '51
Physical properties of some triazo compounds; molar refractions and parachors. H. O. Spauschus and J. M. Scott. bibliog Am Chem Soc J 73:208-10 Ja '51

TRIAZOLES
Compounds related to thiosemicarbazide; 5-amino-3-phenyl-1 : 2 : 4-triazoles. E. Hoggarth. Chem Soc J p612-14 F '50
Compounds related to thiosemicarbazide; 4 : 5-diamino-3-phenyl-4 : 1 : 2-triazole. E. Hoggarth. Chem Soc J p614-17 F '50
Compounds related to thiosemicarbazide; further routes to 4 : 5-diamino-3-phenyl-4 : 1 : 2-triazole and related compounds. E. Hoggarth. Chem Soc J p 1579-82 Je '50
Synthesis of phenyl-substituted triazole analogs of histamine. J. C. Sheehan and C. A. Robinson. bibliog Am Chem Soc J 73:1207-10 Mr '51

TRIBENZOYLARABINOPYRANOSYL bromide
Reaction of tribenzoyl-β-D-arabinopyranosyl bromide and tribenzoyl-α-D-xylopyranosyl bromide with methanol. H. G. Fletcher, jr. and C. S. Hudson. bibliog Am Chem Soc J 72:4173-7 S '50

TRIBENZOYLRHAMNOPYRANOSYL bromide
Reaction of tribenzoyl-α-L-rhamnopyranosyl bromide with methanol; various benzoylated derivatives of L-rhamnose. R. K. Ness, H. G. Fletcher, jr. and C. S. Hudson. bibliog Am Chem Soc J 73:296-300 Ja '51

TRIBENZOYLRIBOPYRANOSYL bromide
New tribenzoyl-D-ribopyranosyl halides and their reactions with methanol. R. K. Ness, H. G. Fletcher, jr. and C. S. Hudson. Am Chem Soc J 73:959-63 Mr '51

TRIBENZOYLRIBOPYRANOSYL chloride
New tribenzoyl-D-ribopyranosyl halides and their reactions with methanol. R. K. Ness, H. G. Fletcher, jr. and C. S. Hudson. Am Chem Soc J 73:959-63 Mr '51

TRIBENZOYLXYLOPYRANOSYL bromide
Reaction of tribenzoyl-β-D-arabinopyranosyl bromide and tribenzoyl-α-D-xylopyranosyl bromide with methanol. H. G. Fletcher, jr. and C. S. Hudson. bibliog Am Chem Soc J 72:4173-7 S '50

TRIBORINE triamine
Out-of-plane hydrogen vibrations in triborine triamine. R. A. Spurr and S. Chang. bibliog J Chem Phys 19:518 Ap '51

TRICHINA and trichinosis
Rapid flocculation test for the diagnosis of trichinosis. J. Bozicevich and others. Pub Health Rep 66:806-14 Je 22 '51

TRICHLOROACETATE
Fractionation of the carbon isotopes in decarboxylation reactions; the relative rates of decomposition of 1-C^{12} and 1-C^{13} trichloracetate ions. J. Bigeleisen and T. L. Allen. diags J Chem Phys 19:760-4 Je '51

TRICHLOROACETIC acid

Analysis

Polarographic behavior of organic compounds; analysis of mixtures of dichloroacetic and trichloroacetic acids. P. J. Elving and C. Tang. Anal Chem 23:341-3 F '51

TRICHLOROBENZENE
Wavelengths for calibration of prism spectrometers. E. K. Plyer and C. W. Peters. bibliog J Res Nat Bur Stand 45:462-8 D '50

TRICHLOROBROMOMETHANE. See Bromotrichloromethane

TRICHLOROBUTENE
Allylic chlorides; the preparation and properties of *cis-* and trans-1,2,3-trichloro-2-butene. L. F. Hatch and J. J. D'Amico. bibliog Am Chem Soc J 73:4393-400 S '51

TRICHLOROCHLOROPHENYL ethanol
Some esters of 2-trichloro-1-(*p*-chlorophenyl)-ethanol as potential insecticides. T. C. Chen and W. T. Sumerford. bibliog Am Chem Soc J 72:5124-5 N '50

TRICHLOROETHANE
Heat capacities, dielectric constants and molecular rotational freedom in solid trichloroethanes and disubstituted propanes. R. W. Crowe and C. P. Smyth. bibliog Am Chem Soc J 72:4009-15 S '50
Infrared spectrum of methyl chloroform in the region 1.6μ-20μ. P. Venkateswarlu. bibliog J Chem Phys 19:298-302 Mr '51
Substituted ethanes; Raman and infrared spectra, assignments, force constants, and calculated thermodynamic properties for 1,1,1-trichloroethane. M. Z. El-Sabban and others. bibliog diag J Chem Phys 19:855-64 Jl '51

TRICHLOROETHYLENE
Evaluating trichloroethylene exposures by urinalyses for trichloroacetic acid. A. Ahlmark and S. Forssman. bibliog A M A Archives Ind Hygiene & Occup Med 3:386-98 Ap '51
Generation of phosgene during operation of trichloroethylene degreaser. L. W. Spolyar and others. il A M A Archives Ind Hygiene & Occup Med 4:156-60 Ag '51
Heat-transfer coefficient of condensing vapours. J. C. Chu and others. bibliog flow sheet J Ap Chem 1:73-80 F '51
1-Phenyl-1,2-difluoro-2-chloroethylene and phenyltrichloroethylene. S. G. Cohen, H. T. Wolosinski and P. J. Scheuer. Am Chem Soc J 72:3952-3 S '50
Vapor-liquid equilibria at subatmospheric pressures; trichloroethylene-tetrachloroethylene and ethyl phenyl acetate-ethyl α-phenyl butyrate. K. C. Bachman, A. Zimmerli and E. L. Simons. bibliog Ind & Eng Chem 42:2569-71 D '50

TRICHLOROMETHANE. See Chloroform

TRICHLOROMETHYLAMINE
Trichloromethylamine (aminochloroform). K. R. S. Ascher. Chem Soc J p2209 Ag '51

TRICHLOROMETHYL cyanide
Organic fluoro-compounds; the Hoesch reaction with trifluoromethyl and trichloromethyl cyanides. W. B. Whalley. Chem Soc J p665-71 Mr '51

TRICHLOROPHENOXYACETIC acid
Beating brush with 2,4,5-T. il Chem Ind W 68:25-6 Ap 7 '51

TRICHLOROSILANE
Density-composition relation of mixtures of trichlorosilane and tetrachlorosilane. R. I. Grady, J. W. Chittum and C. K. Lyon. Anal Chem 23:805 My '51
Infrared spectra and force constants of chloroform and trichlorosilane. T. G. Gibian and D. S. McKinney. bibliog Am Chem Soc J 73:1431-4 Ap '51

TRICHLOROTOLUENE
- Nuclear chlorination of toluene; 2 : 3 : 4- and 2 : 3 : 6-trichlorotoluene. H. C. Brimelow, R. L. Jones and T. P. Metcalfe. Chem Soc J p 1208-12 My '51

TRICHLOROTRIZINE. See Cyanuric chloride

TRICKLING filters. See Sewage disposal—Filtration

TRI-CONTINENTAL corporation
- Security I like best. R. D. Donchian. Comm & Fin Chr 173:2442 Je 14 '51

TRICOSANOIC acid
- Synthetic long-chain aliphatic compounds; myristic, stearic, and tricosanoic acids. D. E. Ames, R. E. Bowman and R. G. Mason. Chem Soc J p 174-7 Ja '50

TRIETHYLAMINE
- Allylic rearrangements; the reaction of butenyl chlorides with diethylamine and triethylamine. W. G. Young, I. D. Webb and H. L. Goering. bibliog Am Chem Soc J 73:1076-83 Mr '51
- Infrared-transmitting solvents; triethylamine addition as a means of increasing applicability. J. S. Ard and T. D. Fontaine. bibliog Anal Chem 23:133-7 Ja '51

TRIETHYL orthoformate
- Triethyl orthoformate. Chem Age (Lond) 63:853 D 16 '50

TRIETHYLENE glycol
- Effect of propylene and triethylene glycol on atomized E. coli. R. Nagy and G. Mouromseff. bibliog Science 112:593-5 N 17 '50; Discussion. 113:698; Reply. 698-9 Je 15 '51
- Glycol extracts lignin in new pulping process. diag Chem Eng 58:202-3 Je '51
- More pulp, less pollution. il Chem Ind W 68:23 My 5 '51

TRIETHYLENETETRAMINE
- Inorganic complex compounds containing polydentate groups; formation constants of the triethylenetetramine-copper(II) and nickel(II) complex ions. H. B. Jonassen and A. W. Meibohm. bibliog J Phys & Colloid Chem 55:726-33 My '51

TRIFLUOROACETIC acid
- Esterification of polyvinyl alcohol with trifluoroacetic acid or anhydride. P. W. Morgan. Am Chem Soc J 73:860-1 F '51
- Positive halogens from trifluoroacetyl hypohalites. A. L. Henne and W. F. Zimmer. Am Chem Soc J 73:1362-3 Mr '51
- Reactions of metallic salts of acids with halogens; the reaction of metal trifluoroacetates with iodine, bromine, and chlorine. R. N. Haszeldine. Chem Soc J p584-7 F '51
- Studies of trifluoroacetic acid; preparation and properties of some trifluoroacetyl esters. E. J. Bourne, C. E. M. Tatlow and J. C. Tatlow. Chem Soc J p 1367-9 My '50
- Studies of trifluoroacetic acid; the use of 4 : 6-benzylidene trifluoroacetyl methyl-α-D-glucopyranoside in the synthesis of 2-and 3-substituted glucoses. E. J. Bourne and others. Chem Soc J p826-33 Mr '51
- Studies of trifluoroacetic acid; the use of trifluoroacetic anhydride in the synthesis of aromatic ketones and sulphones. E. J. Bourne and others. Chem Soc J p718-20 Mr '51

TRIFLUOROACETONE
- Activity coefficient of thenoyltrifluoroacetone in benzene solution. E. L. King and W. H. Reas. Am Chem Soc J 73:1804-5 Ap '51
- Hydration of thenoyltrifluoroacetone in benzene solution. E. L. King and W. H. Reas. Am Chem Soc J 73:1806-8 Ap '51
- Thenoyltrifluoroacetone as a complexing agent for the isolation and purification of carrier-free radioberyllium. R. A. Bolomey and L. Wish. bibliog Am Chem Soc J 72:4483-6 O '50

TRIFLUOROCHLOROETHYLENE
- Molding the specialized plastics; trifluorochloroethylene; Kel-F. J. A. Jupa. il Mod Plastics 28:84-5 D '50

TRIFLUOROETHANE
- Infra-red and Raman spectra of fluorinated ethanes; 1,1,1-trifluoroethane. J. R. Nielsen and others. bibliog J Chem Phys 18:1471-6 N '50

TRIFLUOROETHYLENE
- Addition products of trifluoroethylene. J. D. Park, W. R. Lycan and J. R. Lacher. bibliog Am Chem Soc J 73:711-12 F '51

TRIFLUOROIODOMETHANE
- Addition of free radicals to unsaturated systems. R. N. Haszeldine and B. R. Steele. Chem & Ind p684-5 Ag 11 '51
- Heterolytic fission of the carbon-iodine bond in trifluoroiodomethane. J. Banus, H. J. Emeléus and R. N. Haszeldine. Chem Soc J p60-4 Ja '51

TRIFLUOROMETHANE
- Rotation-vibration spectra of diatomic and simple polyatomic molecules with long absorbing paths; the spectrum of methyl fluoroform (CH_3CF_3) from 19μ to 0.7μ. R. D. Cowan and others. bibliog J Chem Phys 18:1538-44 D '50
- Substituted methanes; force constants and calculated thermodynamic properties for some trifluoromethanes. C. E. Decker and others. bibliog J Chem Phys 19:784-8 Je '51

TRIFLUOROMETHYL acetylene
- Microwave spectrum and molecular constants of trifluoromethyl acetylene. W. E. Anderson and others. il Phys R 82:58-60 Ap 1 '51

TRIFLUOROMETHYL benzene
- Alkylthio-(trifluoromethyl)-benzenes. E. T. McBee and P. J. Graham. Am Chem Soc J 72:4235-7 S '50
- Preparation and polymerization of trifluoromethvl- and chloro-(trifluoromethyl)-substituted styrenes. E. T. McBee and R. A. Sanford. bibliog Am Chem Soc J 72:4053-5 S '50

TRIFLUOROMETHYL cyanide
- Organic fluoro-compounds; the Hoesch reaction with trifluoromethyl and trichloromethyl cyanides. W. B. Whalley. Chem Soc J p665-71 Mr '51

TRIFLUOROMETHYL group
- Preparation and some reactions of 1,1,1-trifluoro-2-alkenes. K. N. Campbell, J. O. Knobloch and B. K. Campbell. bibliog Am Chem Soc J 72:4380-4 O '50

TRIFLUOROMETHYL iodide
- Reactions of fluorocarbon radicals; the reaction of trifluoroiodomethane with acetylene. R. N. Haszeldine. diag Chem Soc J p3037-41 N '50
- Reactions of fluorocarbon radicals; the synthesis of heptafluorobutyric acid. R. N. Haszeldine. Chem Soc J p2789-92 O '50
- Reactions of the perfluoroalkyl radicals. J. Banus, H. J. Emeléus and R. N. Haszeldine. Chem Soc J p3041-5 N '50

TRIFLUOROMETHYL phenols
- Chlorinated 3-trifluoromethylphenols. A. Mooradian, T. J. Slauson and S. J. Marsala. bibliog Am Chem Soc J 73:3470-2 Jl '51

TRIFLUOROPROPANE
- Amine and enol derivatives of 1,1,1-trifluoropropane. W. R. Nes and A. Burger. Am Chem Soc J 72:5409-13 D '50
- Compounds derived from 3-halo-1,1,1-trifluoropropane. E. T. McBee, A. E. Kelley and E. Rapkin. bibliog Am Chem Soc J 72:5071-3 N '50

TRIFLUOROPROPENE
- Polymerization of 3,3,3-trifluoropropene and 2-methyl-3,3,3-trifluoropropene. A. Goldschmidt. Am Chem Soc J 73:2940 Je '51

TRIFLUOROPROPYNE
- Reactions of fluorocarbon radicals; the synthesis of 3 : 3 : 3-trifluoropropyne. R. N. Haszeldine. Chem Soc J p588-91 F '51
- Trifluoropropyne. A. L. Henne and M. Nager. Am Chem Soc J 73:1042-3 Mr '51

TRIFLUOROSILANE
- Microwave spectra and molecular structures of trifluorosilane derivatives. J. Sheridan and W. Gordy. bibliog J Chem Phys 19:965-70 Jl '51

TRIFLUOROTOLUENE
- Organic fluorides; the ultra-violet absorption spectra of some aromatic compounds containing fluorine. F. Smith and L. M. Turton. Chem Soc J p 1701-5 Jl '51

TRIFLUOROTOLUIDINE
- Derivatives of *o*-, *m*- and *p*-aminobenzotrifluoride. P. M. Maginnity and C. A. Gaulin. bibliog Am Chem Soc J 73:3579-80 Ag '51

TRIGG, Ralph Stovall, 1908-
- Metals boss. por Bsns W p 130 Ag 25 '51
- Portrait. Fortune 44:125 O '51

TRIGLYCERIDES. See Glycerides

TRIGONELLINE
- Determination of trigonelline in coffee; ultraviolet absorption spectrophotometry. R. G. Moores and D. M. Greninger. bibliog Anal Chem 23:327-31 F '51

TRIGONOMETRY

Designing for efficiency; simplifying trigonometric calculations. F. N. LaMartine. Tool Eng 25:35 D '50

Trigonometrical indicator. Engineering 171: 667 Je 1 '51

TRIHYDROXYBENZOIC acid. See Gallic acid

TRILOBITES

Irvingella major (ptychopleurites) faunizone of the upper Cambrian. J. L. Wilson and E. A. Frederickson. bibliog Am J Sci 248: 891-902, pl 1 D '50

TRIMERIZATION. See Polymerization

TRIMETHOXYPHENYLPROPIONIC acid

Synthesis of β-(3,4,5-trimethoxyphenyl)-propionic acid. C. D. Gutsche and F. A. Hoyer. bibliog Am Chem Soc J 72:4285-6 S 50

TRIMETHYLACETONITRILE

Reduction of trimethylacetonitrile with Grignard reagents. H. S. Mosher and W. T. Mooney. Am Chem Soc J 73:3948-9 Ag '51

TRIMETHYLAMINE

Addition compound of boron tribromide and trimethylamine. R. C. Osthoff, C. A. Brown and F. H. Clarke. Am Chem Soc J 73:4045 Ag '51

TRIMETHYLAMMONIUM group

Electrical effect of the trimethylammonium $[-N(CH_3)_3\oplus]$ group. J. D. Roberts. R. A. Clement and J. J. Drysdale. bibliog Am Chem Soc J 73:2181-3 My '51

TRIMETHYLAMMONIUM hydroxide

Degradation of alkenyltrimethylammonium hydroxide. C. D. Hurd and E. H. Ensor. bibliog Am Chem Soc J 72:5135-7 N '50

TRIMETHYLBORINE

Olefin co-ordination compounds; discussion of proposed structures; the system ethylene-trimethylborine. J. Chatt. diags Chem Soc J p3340-8 D '49

TRIMETHYL boron. See Boron trimethyl

TRIMETHYLBRAZILONE

Furano-compounds; the synthesis of α-anhydro-*O*-trimethylbrazilone and related compounds. P. C. Johnson and A. Robertson. Chem Soc J p2381-9 S '50

Synthesis of β-anhydrotrimethylbrazilone. K. W. Bentley and R. Robinson. Chem Soc J p 1353-6 My '50

TRIMETHYLCYCLOPENTANONE

2 : 2 : 4- and 2 : 4 : 4-Trimethyl*cyclo*pentanone and some related compounds. S. F. Birch and E. A. Johnson. Chem Soc J p 1493-6 Je '51

TRIMETHYLETHYLENE. See Methyl butene

TRIMETHYLGALLIUM. See Gallium trimethyl

TRIMETHYLHEXENOIC acid

Alkaline cleavage of isophorone. H. Finch, K. E. Furman and S. A. Ballard. Am Chem Soc J 73:4299-301 S '51

TRIMETHYLHEXYLTRIDECANOL

Synthesis and reactions of branched-chain hydrocarbons; hydrocarbons with the 3 : 5 : 5-trimethylhexyl group. E. M. Gutman and W. J. Hickinbottom. Chem Soc J p2064-7 Ag '51

TRIMETHYLHYDRAZINE

Synthesis and properties of trimethylhydrazine. J. B. Class and J. G. Aston. Am Chem Soc J 73:2359 My '51

TRIMETHYLHYDROXYBENZOIC acid

2,4,5-Trimethyl-6-hydroxybenzoic acid. L. I. Smith and R. R. Holmes. Am Chem Soc J 73:4489-90 S '51

TRIMETHYLNAPHTHALENE

Synthesis of fluoranthenes; cyclisation of arylbutadienes; syntheses of 1 : 3-dimethyl- and of 1 : 2 : 3-trimethylnaphthalene. S. H. Tucker, M. Whalley and J. Forrest. Chem Soc J p3194-9 D '49

TRIMETHYLPENTANE

Aluminum bromide isomerization of 2,2,4-trimethylpentane alone and in the presence by naphthenes of side reactions during of naphthenes; mechanism of the inhibition paraffin isomerization. F. E. Condon. bibliog Am Chem Soc J 73:3938-47 Ag '51

Rearrangement in the reaction of 2,3,4-trimethyl-3-pentanol with hydrochloric acid; chlorination of 2,3,4-trimethylpentane. H. C. Brown and R. S. Fletcher. Am Chem Soc J 73:1317-20 Mr '51

2,2,4-TRIMETHYLPENTANE. See Isoöctane

TRIMETHYLPENTANOL

Rearrangement in the reaction of 2,3,4-trimethyl-3-pentanol with hydrochloric acid; chlorination of 2,3,4-trimethylpentane. H. C. Brown and R. S. Fletcher. Am Chem Soc J 73:1317-20 Mr '51

TRIMETHYLPHENYL succinic acid

Fries rearrangement of 2,3,5-trimethylphenyl succinate. L. I. Smith and R. R. Holmes. bibliog Am Chem Soc J 73:3847-50 Ag '51

TRIMETHYLPHOSPHINE oxide

Infrared and Raman spectra of trimethylphosphine oxide. L. W. Daasch and D. C. Smith. bibliog J Chem Phys 19:22-5 Ja '51

TRIMETHYLENE oxide

Reaction of trimethylene oxide with Grignard reagents and organolithium compounds. S. Searles. bibliog Am Chem Soc J 73:124-5 Ja '51

TRIMETON maleate

Metabolism of blastomyces dermatitidis, antagonists to the growth-inhibiting effect of trimeton maleate. F. Reiss and L. Caroline. bibliog Science 114:15-17 Jl 6 '51

TRINIDAD petroleum development company, limited

Statement by the chairman at annual general meeting. K. A. E. Moore. Economist 159:784-5 N 11 '50

TRINITROETHANOL

2,2,2-Trinitroethanol; preparation and properties. N. S. Marans and R. P. Zelinski. Am Chem Soc J 72:5329-30 N '50

TRINITRONAPHTHYLAMINE

Preparation and reactions of 2 : 4 : 8-trinitro-1-naphthylamine. E. R. Ward and L. A. Day. Chem Soc J p782-7 Mr '51

TRIOCTYLAMINE

Extraction of lactic acid from water solution by amine-solvent mixtures. W. P. Ratchford and others. bibliog Ind & Eng Chem 43:778-81 Mr '51

TRIODES. See Vacuum tubes

TRIOLEIN. See Olein

TRIOSES

Kinetics of hexose formation from trioses in alkaline solution. W. G. Berl and C. E. Feazel. Am Chem Soc J 73:2054-7 My '51

TRIOXANE

Carbon-hydrogen stretching modes of trioxane. J. C. Decius and others. J Chem Phys 19:806 Je '51

TRIPHENYLAMINE

Chromatographic investigations of smokeless powder; derivatives of acardite, carbazole, and triphenylamine formed in double-base powder during accelerated aging. W. A. Schroeder, B. Keilin and R. M. Lemmon. bibliog Ind & Eng Chem 43:939-46 Ap '51

TRIPHENYLBROMOETHANOL

Studies on the pinacol rearrangement; a kinetic study of some reactions of 1,1,2-triphenyl-2-bromoethanol. J. F. Lane and D. R. Walters. bibliog Am Chem Soc J 73:4238-41 S '51

Studies on the pinacol rearrangement; the composition of products obtained in some reactions of 1,1,2-triphenyl-2-bromoethanol. J. F. Lane and D. R. Walters. bibliog Am Chem Soc J 73:4234-7 S '51

TRIPHENYLCARBINOL

Absorption spectra of some N-substituted *p*-aminotriphenylmethyl ions. H. Walba and G. E. K. Branch. Am Chem Soc J 73:3341-8 Jl '51

TRIPHENYLETHYLENE

Chemical constitution and sex-hormonal activity; the synthesis of some 1-*cyclo*pentyl- and 1-*cyclo*hexyl-1 : 2-diarylethylenes. D. H. Hey and O. C. Musgrave. Chem Soc J p3156-64 D '49

TRIPHENYLGUANIDINE

Behavior of bromophthalein magenta E (tetrabromophenolphthalein ethyl ester) with organic bases and its bearing on the Brønsted-Lowry and Lewis concepts of acidity. M. M. Davis and H. B. Hetzer. bibliog(45 ref) J Res Nat Bur Stand 46: 496-511 Je '51

TRIPHENYLMETHANE

Photoconductivity of some triphenylmethane dyes. R. C. Nelson. J Chem Phys 19:798 Je '51

TRIPHENYLMETHYL

Diamagnetic correction for free radicals. P. W. Selwood and R. M. Dobres. bibliog diag Am Chem Soc J 72:3860-3 S '50

TRIPHENYLMETHYL group

Aromatic substitution by free radicals; the cleavage of benzoyl peroxide by the triphenylmethyl radical. G. S. Hammond, J. T. Rudesill and F. J. Modic. bibliog Am Chem Soc J 73:3929-31 Ag '51

Reaction of triphenylmethyl with nitrobenzene. G. S. Hammond and A. Ravve. Am Chem Soc J 73:1891 Ap '51

TRIPHENYL phosphate

Retention of air-borne particulates in the human lung. H. D. Landahl and others. diags A M A Archives Ind Hygiene & Occup Med 3:359-66 Ap '51

TRIPHENYLTETRAZOLIUM chloride

Differentiation of bacterial species and variation within species by means of 2,3,5-triphenyltetrazolium chloride in culture medium. I. F. Huddleson and B. Baltzer. Science 112:651-2 D 1 '50

Effects of an isolated dehydrogenase enzyme and flavoprotein on the reduction of triphenyltetrazolium chloride. A. F. Brodie and J. S. Gots. bibliog Science 114:40-1 Jl 13 '51

Reduction of triphenyltetrazolium chloride by dehydrogenases of corn embryos. C. O. Jensen and others. bibliog Science 113:65-6 Ja 19 '51

Survey of factors responsible for reduction of 2,3,5-triphenyltetrazolium chloride in plant meristems. L. W. Roberts. bibliog Science 113:692-3 Je 15 '51

Tetrazolium salt. F. E. Smith. bibliog Science 113:751-4 Je 29 '51

TRIPLE point

Critical constants, boiling points, triple point constants, and vapor pressures of the six isotopic hydrogen molecules, based on a simple mass relationship. A. S. Friedman and others. J Chem Phys 19:126-7 Ja '51

TRISACCHARIDES

Isolation of a crystalline trisaccharide from the unfermentable carbohydrate produced enzymically from maltose. S. C. Pan, L. W. Nicholson and P. Kolachov. bibliog il Am Chem Soc J 73:2547-50 Je '51

Structure of Pan's crystalline trisaccharide. D. French. il Science 113:352-3 Mr 30 '51

TRISHYDROXYMETHYLAMINOMETHANE

Tris(hydroxymethyl)aminomethane as an acidimetric standard. J. H. Fossum, P. C. Markunas and J. A. Riddick. bibliog Anal Chem 23:491-3 Mr '51

TRITANOPIA. See Color blindness

TRITERPENES

Chemistry of the pentacyclic triterpenes; elucidation of the betulin-oleanolic acid relationship. G. S. Davy and others. bibliog Chem & Ind p732 N 11 '50

Chemistry of the pentacyclic triterpenes; the formation of 18-*iso*-β-amyranol and germanicol from lupeol. T. R. Ames and others. Chem & Ind p741 S 1 '51

Chemistry of the pentacyclic triterpenes; the stereochemistry of rings D and E of the lupeol group. G. S. Davy and others. Chem & Ind p233 Mr 24 '51

Stereochemistry of rings D and E in the β-amyrin and lupeol groups of triterpenoids. D. H. R. Barton and N. J. Holness. Chem & Ind p233-4 Mr 24 '51

TRITERPENOIDS

Pentacyclic triterpenoids; 18-*iso*-β-amyranol. R. Budziarek and others. Chem & Ind p478-9 Je 23 '51

TRITHIANE

Preparation of certain *s*-trithianes. I. B. Douglass and W. R. Hydro. Am Chem Soc J 73:3507 Jl '51

TRITICIN

Studies on fructosans; triticin from the rhizomes of couch grass (triticum repens L.). P. C. Arni and E. G. V. Percival. Chem Soc J p 1822-30 Jl '51

TRITIUM

Angular distribution of the products of the $T(d,n)He^4$ reaction. J. E. Brolley, jr. and others. bibliog Phys R 82:502-5 My 15 '51

$3p^3\Sigma \rightarrow 2s^3\Sigma$-Bands of TH and T_2. G. H. Dieke and F. S. Tomkins. Phys R 82:796-807 Je 15 '51

Du Pont may try to make tritium at new AEC plant. map Chem Eng 58:181-2+ Ja '51

Excitation curve for the $H^3(p,\gamma)He^4$ reaction. C. E. Falk and G. C. Phillips. bibliog Phys R 83:468-9 Jl 15 '51

Half-life of tritium by absolute counting. W. M. Jones. bibliog Phys R 83:537-9 Ag 1 '51

$Li^6(n, \alpha)H^3$ reaction spectrum. U. Facchini and others. bibliog Phys R 81:475-6 F 1 '51

π- Meson reactions in tritium. A. M. L. Messiah and others. bibliog Phys R 83:652 Ag 1 '51

Methane, proportional counting method for the assay of tritium. C. V. Robinson. bibliog diags R Sci Instr 22:353-5 Je '51

Micro syntheses with tracer elements; the synthesis of hexestrol labeled with tritium. D. L. Williams and A. R. Ronzio. diag Am Chem Soc J 72:5787-9 D '50

Natural tritium. Sci Am 183:26 N '50

Precise determination of the half-life and average energy of tritium decay. G. H. Jenks and others. bibliog diags Phys R 80:990-5 D 15 '50

Preparation of thin tritium targets. A. B. Lillie and J. P. Conner. diags R Sci Instr 22:210-11 Mr '51

Relative rates of reaction of hydrogen and tritium hydride with chlorine. W. M. Jones. bibliog diag J Chem Phys 19:78-85 Ja '51

Tritium hfs and the anomalous magnetic moment of the triton. E. N. Adams, 2d. bibliog Phys R 81:1-7 Ja 1 '51

Tritium in nature. A. V. Grosse and others. Science 113:1-2 Ja 5 '51

Vapor pressures of hydrogen, deuterium and tritium up to three atmospheres. E. R. Grilly. bibliog Am Chem Soc J 73:843-6 F '51

Analysis

Detection of tritiated compounds in paper chromatography. I. Gray and others. diag R Sci Instr 21:1022 D '50

TRITIUM hydride. See Tritium

TRITONS (tritium ions)

Angular distribution of 14-Mev neutrons scattered by tritons. J. H. Coon and others. diag Phys R 81:33-5 Ja 1 '51

Angular yield of protons, tritons, and alphas from the deuteron bombardment of beryllium. I. Resnick and S. S. Hanna. bibliog Phys R 82:463-7 My 15 '51

Binding energy of the triton. R. L. Pease and H. Feshbach. Phys R 81:142-3 Ja 1 '51

Neutron yield for the Li+T reactions. R. W. Crews. Phys R 82:100-1 Ap 1 '51

Scattering of protons by tritons. R. S. Claassen and others. bibliog diags Phys R 82:589-96 Je 1 '51

T+T reactions. K. W. Allen and others. bibliog Phys R 82:262-3 Ap 15 '51

Tritium hfs and the anomalous magnetic moment of the triton. E. N. Adams, 2d. bibliog Phys R 81:1-7 Ja 1 '51

TRIXENYLMETHYL

Association of tri-*p*-xenylmethyl. T. Chu and S. I. Weissman. Am Chem Soc J 73:4462 S '51

TROFFERS. See Lighting fixtures

TROLLEY buses

Continental type trolleybus for Glasgow. Engineer 191:393 Mr 23 '51

First trolley-buses for Uruguay. il Elec R (Lond) 147:760 N 10 '50

1951 bus show in print; illustrations with text. Bus Transportation 30:93-5 S '51

Trackless trolley output picks up speed. Steel 127:75 N 6 '50

Trolley coaches cause pavement wear. P. W. Maetzel. il Roads & Eng Constr 88:82+ N '50

Trolleybus tractive resistance. Engineer 192:219-20 Ag 17 '51; Engineering 172:256 Ag 24 '51

Electric equipment

Trolley bus equipment. il Automobile Eng 41:12-16 Ja '51

Maintenance and repair

Trolley bus maintenance; illustrations with text. Bus Transportation 30:36-7 Mr '51

TROLLEY buses—*Continued*

Specifications

Front end specifications, 1951 motor and trolley bus; table. diags Bus Transportation 30:70 Je '51

1951 trolley bus specifications; tabulation. Bus Transportation 30:83 F '51

Statistics

Trolley buses gain modestly. il Bus Transportation 30:38-9 F '51

TRON (suffix)

Tron family; alphabetical listing of 250 words ending in the suffix tron, with definitions. W. C. White. Electronics 23:112+ My '50; 24:218+ Je '51

TRONA

See also

Soda ash

TROOP ships. See Transports

TROOST, George W.

Portrait. Bsns W p68 S 15 '51

TROOST, Gerard, 1775-1851

Petroleum geology pioneered in Tennessee; Troost, first geologist. World Oil 132:66+ F '51

TROPIC acid

Antispasmodics; esters of β-alkyltropic acids. A. W. Weston and R. W. DeNet. Am Chem Soc J 73:4221-3 S '51

TROPOLONE

Infra-red spectrum of tropolone. H. P. Koch. Chem Soc J p512-15 F '51

Mold metabolites; the synthesis of tropolone. J. D. Knight and D. J. Cram. bibliog Am Chem Soc J 73:4136-8 S '51

Molecular structure of tropolone. E. Heilbronner and K. Hedberg. Am Chem Soc J 73:1386-7 Mr '51

Nitration of tropolone. J. W. Cook and others. bibliog Chem & Ind p669 Ag 4 '51

Orientation of substitution in tropolone. R. D. Haworth and P. R. Jeffries. Chem & Ind p841 D 30 '50

Purpurogallin; some properties of tropolones. R. D. Haworth and J. D. Hobson. Chem Soc J p561-8 F '51

Symposium on tropolones and allied compounds. Chem & Ind p 12-13 Ja 6; 28-30 Ja 13 '51

Tropolone. W. V. Doering and L. H. Knox. bibliog Am Chem Soc J 73:828-38 F '51

Tropolones; the preparation and general characteristics of tropolone. J. W. Cook and others. Chem Soc J p503-11 F '51

Tropolones; the synthesis of α-, β-, and γ-thujaplicins. J. W. Cook, R. A. Raphael and A. I. Scott. Chem Soc J p695-8 Mr '51

TROPONE. See Cycloheptatrienone

TROUSERS

Rating

Slacks for men. il Consumers Res Bul 27:13 Je '51

TROUT

How they process quick-frozen trout. C. R. Havighorst. il Food Ind 23:79-81+ Ja '51

Relationship of muscle potassium to the melanophore-concentrating effect of pressure on the trout. O. H. Robertson. Science 114:11-12 Jl 6 '51

Successful treatment of ulcer disease in brook trout (salvelinus fontinalis) with terramycin. S. F. Snieszko and others. bibliog Science 113:717-18 Je 22 '51

TROWELS

Rolling mill for hoe and trowel blades. il Engineering 171:481 Ap 20 '51

TROY, Arnold Irving, 1908-

Portrait. Fortune 43:97 Je '51

TRUCKS

Handtruck moves transformers easily and safely. C. H. De Poy. il Elec World 135:94 F 26 '51

Transformer truck fits all tanks. J. B. Bowen. il Elec World 135:97 Je 4 '51

Truck for filling trash bags. H. R. Dampman. plan diags Sheet Metal Worker 42:64+ N '50

See also

Electric trucks, Industrial

Motor trucks

Motor trucks, Industrial

Trailers

TRUMAN, Harry S. 1884-

Little disorder, please. Fortune 44:63-4 Jl '51

President pleads for war potential build-up; text of message on state of Union. por Comm & Fin Chr 173:159+ Ja 11 '51

President sets mobilization program; excerpts from economic message to Congress. por Comm & Fin Chr 173:258+ Ja 18 '51

Song is ended, but notes (phew!) linger on; Truman's letter to Paul Hume, Washington Post music critic. Ed & Pub 83:11+ D 16 '50

Will arm to fight aggression. H. S. Truman. Comm & Fin Chr 172:1497+ O 19 '50

TRUSSES

Buckling of rigid-jointed plane trusses. N. J. Hoff and others. bibliog il diags Am Soc C E Proc 76 [no24]:1-29 Je '50; Discussion. 77 [no D-24]:1-12 My '51

Static and fatigue tests on spot-welded trusses. A. S. Joukoff. il diags Welding J 30:sup 264-5 My '51

Store roof hangs from concrete frames; Portland, Ore. shopping center. il plan diags Arch Rec 108:149-51 D '50

Truss deflections by the coordinate method. K. Chu. diags Am Soc C E Proc 77 [no 54]: 1-20 Ja '51; Discussion. 77[no D-54]:1-4 D '51

Welding trims steel from heavy trusses; additions to Mt Sinai hospital, New York. L. Grover and G. D. Fish. il diags Eng N 147:30-2 Ag 2 '51

TRUST associations

New Jersey bankers association annual trust and banking conference, Asbury Park, Nov. 15-16. Trusts & Estates 89:816 D '50

TRUST companies

Trust business gains. Trusts & Estates 90:80 F '51

See also

Banks and banking—

Trust departments

Investment trusts

Accounting

Benefits of cost accounting. W. G. Cleaver. Trusts & Estates 90:97-8 F '51

Know costs to make profits. W. J. Weig. Trusts & Estates 89:826 D '50

Advertising

Attention arresters in recent trust ads. il Trusts & Estates 90:331, 402, 481, 600 My-Jl, S '51

Tell public about trust service. G. T. Stephenson. Trusts & Estates 90:94 F '51

Trust booklets spell out story in simple terms. Trusts & Estates 89:833 D '50

Trust booklets worth seeing. Trusts & Estates 90:324-5 My '51

Costs

Benefits of cost accounting. W. G. Cleaver. Trusts & Estates 90:97-8 F '51

Employees

Rewards of a trust career. E. S. MacNeill. Banking 43:44 N '50

Fees

See Trust fees

Insurance requirements

See Trusts and trustees—Insurance requirements

Investments

See Trusts and trustees—Investments

Lawyers' cooperation

Successful trust-officer lawyer cooperation. E. S. MacNeill. Banking 44:88 Ag '51

Life underwriters' cooperation

See also

Insurance, Life—

Trust company cooperation

Management

Operating economies. D. T. Pyne. Trusts & Estates 90:99-100 F '51

Rotating memberships on trust committees. Trusts & Estates 89:781-3 N '50

Supervisory policies; A.B.A. trust conference panel. Trusts & Estates 90:171-2 Mr '51

TRUST companies—*Continued*

New business

New trust business; seven sources. A. Journeay. Banking 43:55+ Je '51
Referred trust business; planned program of leads proves profitable. A. Journeay. il Trusts & Estates 90:523-5 Ag '51

Public relations

Commissioners of financial health; civic leadership survey. Trusts & Estates 90:48-9 Ja '51

Records

Construction and uses of synoptic trust records. C. F. Zurlinden. Trusts & Estates 90:265-7 Ap '51

Reports

Banner year for trust growth; excerpts from 1950 reports. Trusts & Estates 90:196-201, 224-6+, 314-17+ Mr-My '51
Trust-minded directors; regular reports stimulate cooperation. J. M. Trenary. Trusts & Estates 90:296-9 My '51

Australia

Trust progress down under, Elder's trustee and executor co., Adelaide. R. F. Angus. Trusts & Estates 90:601 S '51

Canada

Canada's trust year in review. R. S. Anderson. Trusts & Estates 90:448-9 Jl '51

TRUST departments. See Banks and banking—Trust departments

TRUST fees
Appeal results seen affecting use of trust companies; Field vs. Continental bank & trust co. Nat Underw (Life ed) 55:2 F 2 '51
Common funds and fees; advantages of commingled trust investment and standard charges. R. Cutler. Trusts & Estates 90:451-2 Jl '51
Don's talk fees first. T. F. Mullens. Trusts & Estates 90:42 Ja '51

TRUSTS, Industrial
Case to save trouble; deny monopoly, Standard companies settle FTC-Atlas. Nat Pet N 43:26 Je 20 '51
Court rules Du Pont, ICI violated antitrust laws. Chem & Eng N 29:4173-4 O 8 '51
FTC can stop mergers; lays off arms makers. Bsns W p26 D 23 '50
Georgia would drop anti-trust complaint; tells court it is willing to have case dismissed. Ry Age 129:169 O 28 '50
Gypsum anti-trust judgment. Rock Prod 54:66 Mr '51
Indict union, employers on anti-trust charge; United association of plumbers and pipefitters, Local 525, two Nevada trade associations and seven Las Vegas plumbing contractors. Eng N 146:24 Ap 12 '51
Justice department drops ten-year suit against US oil industry. Oil Paint & Drug Rep 159:5 Je 11 '51
Schumpeter on monopoly and the large firm. E. S. Mason. R Econ & Stat 33:139-44 My '51
Soap anti-trust probe under way. Soap & San Chem 27:59 Jl '51
Their years in court; Judge Medina's famous trial; anti-trust suit against investment bankers. Barron's 31:1 F 26 '51
U.S. says New Orleans papers are separate. Ed & Pub 84:70 Je 23 '51
U.S. vs. bankers; antitrust suit against Investment bankers association and 17 underwriting houses. Bsns W p 100 N 25 '50
U.S. vs. investment bankers. M. Stroock. Barron's 30:5-6 N 27 '50
See also
Competition
Monopolies
Petroleum industry and trade—United States—Anti-trust suit
Price fixing
Restraint of trade
also Petroleum industry and trade—Western states—Antitrust suit

International trusts

Alkali industry cartel ended by US court. Oil Paint & Drug Rep 159:5 Ja 29 '51
What's a cartel? R. Hoe & co. faces antitrust suit. Bsns W p 159 My 26 '51

Law

Antitrust law studies needed. O. J. Dorwin. Nat Pet N 42:33 N 8 '50
Follow the rules; industrial advisory committees under NPA are granted immunity from anti-trust laws. W. R. Montgomery. Credit & Fin Management 53:10 F '51
How to be legal; Justice dept. hints. Bsns W p40 F 3 '51
Lorain journal asks for limited decree. Ed & Pub 83:11 N 4 '50
Must affiliates compete? Timken case. Bsns W p25 Ap 28 '51
Remedy for administrative abuse of antitrust laws. H. A. Toulmin, jr. Comm & Fin Chr 173:1766-7 Ap 26 '51
S. 1659; Humphrey bill would ban multiple directorates; editorial. Bsns W p 164 Je 23 '51; Discussion. H. H. Humphrey. p 106+; Reply. 148 Ag 18 '51; Rejoinder. p 108+ O 20 '51

TRUSTS and trustees
A.I.B. departmental conference on trust business and investments, 49th, Birmingham, Ala. June 4-10. Trusts & Estates 90:381+ Je '51
Avoiding business liquidation; alternatives to destruction of value. A. Eisemann, jr. Trusts & Estates 90:516-18 Ag '51
Case against jabberwocky; standards of draftsmanship, wills and trusts. E. S. MacNeill. Banking 43:78 O '50
Current trust questions discussed at Connecticut conference. Trusts & Estates 90:382-3 Je '51
Current trust questions; improvements in law and procedure noted; other notes from Pennsylvania trust conference. Trusts & Estates 90:24-5 Ja '51
Discretionary trusts; tax and administrative advantages; with citation of cases. F. M. Joseph. Trusts & Estates 90:360-2+, 476-81 Je-Jl '51
Liability of fiduciaries in operating business enterprises. D. F. McClatchey. Trusts & Estates 90:528-9 Ag '51
Recent fiduciary decisions. Published in monthly numbers of Trusts and estates
State legislation affecting trusts and estates. Trusts & Estates 90:268, 341-3, 412, 492, 553-4, 622-3 Ap-S '51
State legislation on trusts and estates, 1950; A.B.A. committee report. Trusts & Estates 89:686-8 O '50
Successor trusteeship; duties and problems of a successor fiduciary. A. H. Parker, jr. Trusts & Estates 90:30-2 Ja '51
Touch of immortality. L. B. Staver. Trusts & Estates 89:761-2 N '50
Trends in American fiduciary fields. M. A. Shattuck. Comm & Fin Chr 172:2273+ D 14 '50; Excerpts. Barron's 30:23+ D 11 '50
Trust and probate decisions; A.B.A. committee report. Trusts & Estates 89:690-7 O '50
Trusts under powers of appointment; legal theories create practical problems. J. S. Montgomery and A. M. Suchin. Trusts & Estates 90:162-4 Mr '51
What trustees should know about real estate titles. M. B. Ogden. Trusts & Estates 89:775-7 N '50
See also
American bankers association—Trust division
Banks and banking—Trust departments
Employees' trusts
Foundations, Charitable and educational
Insurance trusts
Investment trusts
Pension trusts

Accounting

Basis for gain or loss. C. A. Stutsman, jr. Trusts & Estates 90:237-8 Ap '51
Depreciation reserves problem in trust accounting; A.B.A. committee report; with citations of cases. Trusts & Estates 89:648-54 O '50
Florida's new trust accounting law. W. L. Jones. Trusts & Estates 90:546-8 Ag '51
Treatment of capital gains and losses. A. C. Baird. Trusts & Estates 90:239-40 Ap '51

TRUSTS and trustees—*Continued*

Bibliography

Trust and probate literature; A.B.A. committee report. Trusts & Estates 89:698-704 O '50

Charitable trusts

Charities under 1950 revenue act; suggestions for complying with new provisions. B. C. Eaton, jr. Trusts & Estates 90:220-2+, 304-8 Ap-My '51

Common trust funds

Common funds and fees; advantages of commingled trust investment and standard charges. R. Cutler. Trusts & Estates 90:451-2 Jl '51

Common trust funds exceed $600 million in 1950. Trusts & Estates 90:100 F '51

Common trust funds; nationwide study of diversification and growth. Trusts & Estates 89:740-1+ N '50

Equities in common funds; 494 common stocks in trust portfolios; with list. Trusts & Estates 90:364-6 Je '51

424 preferred stocks in common trust funds; with list. Trusts & Estates 90:576-8 S '51

Savings from common funds reported by Old Colony trust company, Boston. Trusts & Estates 90:593-5 S '51

Trust powers of national banks; amendments to Regulation F; investments in common trust funds. Fed Res Bul 37:148-9 F '51

Two new common trust funds; Kentucky trust co. of Louisville, and Old national bank of Evansville, Ind. Trusts & Estates 89:817 D '50

When to start common trust fund. Trusts & Estates 89:633-4+ O '50

Employees' trusts

See Employees' trusts

Insurance requirements

Insurance protection for trust operations. L. J. Ronder. Trusts & Estates 90:472-4 Jl '51

Investments

Are preferred stocks conservative? comparisons with bonds, commons and formula results. M. S. Thomas. Trusts & Estates 90:152-4+ Mr '51

Caution in common stocks for trust funds. A. M. Massie. Comm & Fin Chr 172:1998-9 N 23 '50; Same cond. Trusts & Estates 89:842-4 D '50

Choosing trust investments; California bankers association Trust division conference, Los Angeles, March 30. Trusts & Estates 90:384-5 Je '51

Cooperative investment analysis for small or medium-sized trust departments. C. F. Borgel. Trusts & Estates 90:20-2 Ja '51

Economic tendencies affecting trust investment policies. N. H. Jacoby. Comm & Fin Chr 172:1695+ N 2 '50; Same cond. Trusts & Estates 89:770-2 N '50

Fallacies of a modified prudent man rule. M. A. Shattuck. Trusts & Estates 89:848-9 D '50

How New York trustees invest under modified prudent-man rule. E. S. MacNeill. Trusts & Estates 90:432-4, 467-8 Jl '51

Industrial approach to investments. W. H. Winfield. Trusts & Estates 89:822-3 D '50

Investment company securities as trustee investments. R. L. Osgood. Comm & Fin Chr 174:1257+ O 4 '51

Investment selection and review for the small trust department. J. H. Evans. Trusts & Estates 90:96 F '51

Liberalize trust investment powers. L. G. Goodenough. Trusts & Estates 90:453-7 Jl '51

Mortgages as trust investments. F. C. Ransom. Trusts & Estates 90:465-6 Jl '51

New York trustees swarm into stocks. Bsns W p 106+ D 16 '50

Place of common stocks in trust investment. R. F. Murray. Comm & Fin Chr 172:1889+ N 16 '50; Excerpts. Trusts & Estates 89:829-31 D '50

Prudent man rule for trust investments; A.B.A. committee report. Trusts & Estates 89:706 O '50

Real estate for trusts; opportunities for investment and return. L. J. Pfau, jr. Trusts & Estates 89:764-5 N '50

Storm clouds in Pennsylvania; Berger bill and mutual fund shares as trust investment. R. R. Rich. Comm & Fin Chr 173:2158 My 24 '51

Trust investments and inflation. J. G. Taylor. Trusts & Estates 89:752-5+ N '50

Trust investments during the emergency. M. Nadler. Comm & Fin Chr 173:625+ F 8 '51; Excerpts. Trusts & Estates 90:92-3 F '51

See also
Endowments—Investments

Principal and income

Capital gain distributions; clauses to eliminate question of allocating investment company dividends; draftsmanship problems. D. Rogers. Trusts & Estates 90:300-2 My '51

Court rules fund's "capital gains dividends" to be life beneficiary income; text of decision in case of estate of Rebecca J. Lovett. Comm & Fin Chr 174:770+ Ag 30 '51

Should capital gain distributions be principal or income? investment company shares. H. R. Anderson. Trusts & Estates 90:530-1 Ag '51

Small trust funds

Mutual funds make small trusts possible. W. B. Putney, 3d. Trusts & Estates 89:836-7+ D '50

Tax problems

Annuity trusts; who pays the tax, trustee or beneficiary? G. F. Elmendorf. Trusts & Estates 90:380 Je '51

Basis for gain or loss. C. A. Stutsman, jr. Trusts & Estates 90:237-8 Ap '51

Charities under 1950 revenue act; suggestions for complying with new provisions. B. C. Eaton, jr. Trusts & Estates 90:220-2+, 304-8 Ap-My '51

Deductions for distributions. J. L. Lyons. Trusts & Estates 90:174-6 Mr '51

Depreciation on lessee's improvements; First national bank of Kansas City, trustees for L. S. Williams v. Collector of internal revenue. W. R. White. Banking 43:54 D '50

Discretionary trusts; tax and administrative advantages; with citation of cases. F. M. Joseph. Trusts & Estates 90:360-2+, 476-81 Je-Jl '51

Duties in filing returns; decedents' estates. K. Farrand. Trusts & Estates 90:310-11 My '51

Fiduciary income taxes; deduction for depletion and depreciation. B. A. Lewis. Trusts & Estates 90:129-30 F '51

Fiduciary income taxes; deductions on estate or income return; administration expenses. A. Y. Bennion. Trusts & Estates 90:128-9 F '51

Hints on marital deduction problems; A.B.A. committee report. Trusts & Estates 89:669-75 O '50

Legal and tax problems inherent in gifts to minors. M. A. Shattuck. Comm & Fin Chr 174:1251+ O 4 '51

Marital deduction pointers; overcoming tax and administrative problems. T. S. Edmonds. Trusts & Estates 90:389-91 Je '51

New tax law; effects on personal and business estate planning. S. J. Foosaner. map Trusts & Estates 89:640-3+ O '50

Personal liability of fiduciary for unpaid taxes of decedent. A. Groman. Trusts & Estates 90:311 My '51

Reciprocal trusts. B. Thompson. Trusts & Estates 90:538-9 Ag '51

Single or multiple trust? R. H. Forster. Trusts & Estates 90:537-8 Ag '51

Tax planning for distributions. A. A. Armstrong. Trusts & Estates 90:378-80 Je '51

Treatment of capital gains and losses. A. C. Baird. Trusts & Estates 90:239-40 Ap '51

When and how to take marital deduction; A.B.A. committee report. Trusts & Estates 89:644-7+ O '50

Taxation

Clifford doctrine; beneficial enjoyment. J. W. Ervin. Trusts & Estates 90:603-4 S '51

TRUSTS and trustees—Taxation—*Continued*

Reversions and administrative control; when is income of a trust taxable to grantor. A. Manella. Trusts & Estates 90:604-6 S '51

Some light on the Clifford doctrine; Meir case. W. R. White. Banking 43:47+ Ap '51

State and federal taxation; 1950 legislation; A.B.A. committee report. Trusts & Estates 89:678-9+ O '50

Technical changes act of 1949; reversionary interests; reserved life estates. M. M. Lore. Trusts & Estates 89:705 O '50

TRYPANOCIDES

Insecticides in industry and public health. H. Pirie. Chem & Ind p 104 F 10 '51

Potential trypanocides of the *N*-heterocyclic series; alkoxy- and hydroxy-phenanthridinium salts. F. C. Copp and L. P. Walls. Chem Soc J p311-17 Ja '50

Potential trypanocides of the *N*-heterocyclic series; analogues of dimidium bromide. L. P. Walls and N. Whittaker. Chem Soc J p41-7 Ja '50

Potential trypanocides of the *N*-hetero-cyclic series; 9-benzoyl- and 9 : 10-dihydro-phenanthridines. A. G. Caldwell, F. C. Copp and L. P. Walls. Chem Soc J p2698-704 O '50

Potential trypanocides of the *N*-heterocyclic series; structural conditions for activity against trypanosoma cruzi in the phenanthridine series. L. P. Walls. Chem Soc J p3511-16 D '50

Reactions of 4-arsonophenylglycine with polyalcohols. R. L. McGeachin and R. E. Cox. Am Chem Soc J 73:556 F '51

Some potential trypanocidal and antibacterial compounds in the heterocyclic series. J. D. Bower, F. F. Stephens and D. G. Wibberley. Chem Soc J p3341-4 N '50

Some potential trypanocidal and antibacterial compounds in the heterocyclic series; benzthiazoles. F. F. Stephens and D. G. Wibberley. Chem Soc J p3336-40 N '50

Trypanocides; a review. L. P. Walls. bibliog(30 refs) Chem & Ind p606-10 Jl 14 '51

TRYPSIN

Effect of ultraviolet light on the specific activity of chymotrypsin and trypsin. H. Goldenberg and A. D. McLaren. bibliog Am Chem Soc J 73:1131-3 Mr '51

Inhibition of trypsin by cholesteryl malonic acids and by *i*-cholesteryl acetic acid. E. Kaiser and R. Hubata. bibliog Am Chem Soc J 72:4289-91 S '50

Trypsin hydrolysis of lysine ethyl ester. H. Werbin and A. Palm. Am Chem Soc J 73:1382 Mr '51

TRYPTOPHAN

Adaptive increase of the tryptophan peroxidase-oxidase system of liver. W. E. Knox and A. H. Mehler. bibliog Science 113:237-8 Mr 2 '51

Bacterial oxidation of tryptophan; a study in comparative biochemistry. R. Y. Stanier and O. Hayaishi. bibliog Science 114:326-30 S 28 '51

Evaluation of the enzyme-inhibitor dissociation constant of α-chymotrypsin and acetyl-D-tryptophan methyl ester. H. T. Huang and C. Niemann. Am Chem Soc J 73:3228-31 Jl '51

Some benziminazolylalanines. P. Mamalis, V. Petrow and B. Sturgeon. Chem Soc J p 1600-3 Je '50

Studies on amino acids; the synthesis of α-hydroxytryptophan. M. Kotake, T. Sakan and T. Miwa. bibliog Am Chem Soc J 72:5085-7 N '50

Analysis

Determination of tryptophan with *p*-dimethylaminobenzaldehyde; elimination of interference by chloride and bisulfite ions. J. R. Spies. Anal Chem 22:1447-9 N '50

TSUGA canadensis. See Hemlock

TUBE bending

Bending and coiling tubes of nickel and high-nickel alloy. il Heat & Ven 48:78-80 S '51

Machine cuts tube bending time 60 per cent. il diag Elec World 136:108 S 24 '51

TUBE investments, limited

Statement by the chairman at annual general meeting. I. A. R. Stedeford. Economist 159:1119-20 D 16 '50

TUBE mills

Effects of rod mill reed size reduction. J. J. Strohl and H. J. Schwellenbach. Min Eng 187:Trans 1273-4 D '50

Rod mill liners; symposium. J. R. Clarkson and others. Min Cong J 36:71-2 O '50

TUBERCLE bacilli

Constitution of mycolipenic acid-I. N. Polgar and R. Robinson. Chem & Ind p685-6 Ag 11 '51

Effect of PAS on the emergence of tubercle bacilli resistant to streptomycin. Pub Health Rep 66:863-72 Jl 6 '51

Resistance to streptomycin of tubercle bacilli isolated from patients treated with streptomycin. S. H. Ferebee and F. W. Appel. Pub Health Rep 66:277-88 Mr 2 '51

TUBERCULIN

Experimental error in the determination of tuberculin sensitivity. S. N. Meyer and others. Pub Health Rep 66:561-9 My 4 '51

Relationship between tuberculin reaction and tuberculous infection. S. N. Meyer. bibliog Pub Health Rep 66:1-15 Ja 5 '51

Research contributions of BCG vaccination programs; tuberculin allergy as a family trait. C. E. Palmer and S. N. Meyer. Pub Health Rep 66:259-76 Mr 2 '51

Structure of an antigenic polysaccharide isolated from tuberculin. P. W. Kent. Chem Soc J p364-8 F '51

TUBERCULOSIS

Antituberculous compounds; *p*-(ω-alkoxyalkoxy)-*N*-arylbenzamidines and analogues. F. C. Cooper and M. W. Partridge. Chem Soc J p459-64 F '50

Antituberculous compounds; 2-benzalhydrazinobenzothiazoles. L. Katz. bibliog flow sheet Am Chem Soc J 73:4007-10 Ag '51

Antituberculous compounds; compounds related to diethyl-ω-aryloxyalkylamines. D. A. Peak and T. I. Watkins. Chem Soc J p445-52 F '50

Antituberculous compounds 2,4-disubstituted benzaldehyde thiosemicarbazones. L. Katz and W. E. Hamlin. Am Chem Soc J 73:2801-2 Je '51

Antituberculous compounds; some further *N*-substituted amidines and analogues. P. T. Charlton and others. Chem Soc J p485-92 F '51

Antituberculous compounds; 2-sulphanilamido-5-alkyl-1 : 3 : 4-oxadiazoles and -thiadiazoles and related *iso*thiosemicarbazones and *iso*thioureas. J. D. Brooks and others. Chem Soc J p452-9 F '50

BCG vaccination in Czechoslovakia. Pub Health Rep 66:444-5 Ap 6 '51

BCG vaccination in Poland. Pub Health Rep 66:873-4 Jl 6 '51

BCG vaccination on a world-wide scale. Pub Health Rep 66:1158-62 S 7 '51

Bactericidal effect of surface-active agents on tubercle bacilli. C. R. Smith and others. bibliog Pub Health Rep 65:1588-600 D 1 '50

Body mechanisms in progressive tuberculosis. H. M. Payne. bibliog Pub Health Rep 66:1263-72 O 5 '51

Central cooperative clinic study of follow-up in tuberculosis control. D. Ottenberg and others. Pub Health Rep 66:853-62 Jl 6 '51

Chemotherapy of experimental tuberculosis; the synthesis of thiosemicarbazones and related compounds. J. Bernstein and others. bibliog Am Chem Soc J 73:906-12 Mr '51

Chemotherapy of tuberculosis; some substituted N-4-diphenylylamidines. L. Bauer and J. Cymerman. Chem Soc J p 1826-9 Jl '50

Chemotherapy of tuberculosis; some *N*-substituted *p*-phenylbenzamidines. L. Bauer and J. Cymerman. Chem Soc J p2078-80 Ag '50

Constitutional factors in resistance to infection; the effect of cortisone on the pathogenesis of tuberculosis. M. B. Lurie and others. bibliog Science 113:234-7 Mr 2 '51

Controlled investigation of streptomycin treatment in pulmonary tuberculosis. E. R. Long and S. H. Ferebee. Pub Health Rep 65:1421-51 N 3 '50

Derivatives of bis-(4-aminophenyl) sulfone and related compounds. H. Bauer. bibliog Am Chem Soc J 73:2113-18 My '51

TUBERCULOSIS—*Continued*

Effect of PAS on the emergence of tubercle bacilli resistant to streptomycin. Pub Health Rep 66:863-72 Jl 6 '51

Nations united against TB. Economist 161: 637 S 15 '51

Occupational tuberculosis among interns and nurses. L. Brahdy. bibliog Ind Med 19:584-6 D '50

Opportunity for leadership. J. W. Mountin. Pub Health Rep 66:129-31 F 2 '51

PAS up, TB down; new medicinal use spurs production of previously obscure phenolic derivative. Chem Ind 67:715 N '50

Relationship between tuberculin reaction and tuberculous infection. S. N. Meyer. bibliog Pub Health Rep 66:1-15 Ja 5 '51

Research contributions of BCG vaccination programs; tuberculin allergy as a family trait. C. E. Palmer and S. N. Meyer. Pub Health Rep 66:259-76 Mr 2 '51

Some derivatives of 4-amino-2-hydroxybenzoic acid (*p*-aminosalicylic acid). L. Doub and others. bibliog Am Chem Soc J 73:903-6 Mr '51

Synthetic tuberculostats show promise; abstract. Chem & Eng N 29:3963 S 24 '51

Tuberculosis chemotherapy summed up in Dublin meeting, July 10-13. Chem & Eng N 29:3292+ Ag 13 '51

Tuberculosis control; a total program. R. J. Anderson and E. T. Blomquist. Pub Health Rep 66:132-8 F 2 '51

Case reporting

What is a reportable case of tuberculosis? Pub Health Rep 66:1291-4 O 5 '51

Diagnosis

Community-wide chest X-ray survey. S. Bloom. Pub Health Rep 66:139-56 F 2 '51

Community-wide chest X-ray survey. Z. Bryant and G. S. Jones. Pub Health Rep 65: 1573-87 D 1 '50

Community-wide chest X-ray survey; diagnostic clinic. D. Reisner and A. Rikli. Pub Health Rep 66:423-43 Ap 6 '51

Research in mass radiography. R. J. Anderson. Pub Health Rep 66:851-2 Jl 6 '51

Tuberculosis studies in Muscogee county, Ga.; tuberculosis mortality following a community-wide X-ray survey. G. W. Comstock and M. H. Burke. bibliog Pub Health Rep 66:695-711 Je 1 '51

See also
Tuberculin

Hospitals and sanatoriums

Medical social service in a tuberculosis sanatorium. P. Miller. Pub Health Rep 66:987-1008, 1139-57 Ag 3, S 7 '51

Nursing in tuberculosis hospitals. M. B. Naylor. bibliog Pub Health Rep 66:1272-90 O 5 '51

Tuberculosis hospitals; building types study. il plans diag Arch Rec 109:135-60 Ap '51

Statistics

Tuberculosis mortality in the United States, 1949 (with provisional figures for the first 11 months of 1950). E. H. Halpin and O. D. Turner. bibliog Pub Health Rep 66:547-60 My 4 '51

Tuberculosis studies in Muscogee county, Ga.; tuberculosis mortality following a community-wide X-ray survey. G. W. Comstock and M. H. Burke. bibliog Pub Health Rep 66:695-711 Je 1 '51

TUBERCULOSIS, Campaign against. See Christmas seals

TUBERCULOSTEARIC acid

Anodic syntheses; synthesis of (+)- and (—)-tuberculostearic acids. R. P. Linstead, J. C. Lunt and B. C. L. Weedon. Chem Soc J p 1130-2 Ap '51

Anodic syntheses; synthesis of (±)-tuberculostearic acid. R. P. Linstead, J. C. Lunt and B. C. L. Weedon. Chem Soc J p3331-3 N '50

Branched-chain fatty acids; synthesis of the optical isomers of 15-methyloctadecanoic acid. J. Cason and R. A. Coad. bibliog Am Chem Soc J 72:4695-7 O '50

Some amides of tuberculostearic acid. D. A. Shirley and G. A. Schmidt. Am Chem Soc J 73:867 F '51

TUBES

Casting-in of Inconel tubes in copper blocks. F. J. Lambert. il Metal Prog 59:809-11 Je '51

Designing tubes for bending loads; data sheet. G. E. Allison and A. S. Niles. Machine Design 22:163-5 N '50

Duplex tubing for use in the petroleum industry. C. L. Bulow. il diags Pet Eng 23:C5-8 S '51

Integral finned tubing for heat exchangers. W. P. Hill. il Product Eng 22:140-2 S '51

Investigation of turbulent flow and heat transfer in smooth tubes including the effects of variable fluid properties. R. G. Deissler. bibliog A S M E Trans 73:101-7 F '51

Loss coefficients for abrupt changes in flow cross section with low Reynolds number flow in single and multiple-tube systems. W. M. Kays. bibliog diags A S M E Trans 72:1067-74 N '50

Machine hot-forms tubing into complex parts. J. Kolb. il Iron Age 167:78-80 Je 28 '51

Optimum tube size for shell-and-tube type heat exchangers. F. D. Cardwell. diags A S M E Trans 72:1061-5; Discussion. 1066 N '50

Properties of thin-walled curved tubes of short-bend radius. T. E. Pardue and I. Vigness. bibliog il diags A S M E Trans 73:77-84; Discussion. 84-7 Ja '51

Push-pull and torque tubes. J. J. Sloan. il diags Machine Design 23:143-7 Ap '51

Small tube indent removing machine. il Engineer 190:509 N 24 '50

Stresses in tubes due to internal pressure. J. S. Blair. Engineering 170:218-21 S 15 '50; Discussion. 170:383, 412-13 N 17-24 '50

Manufacture

Bull block has improved features. il Blast F & Steel Pl 39:132 Ja '51

Making high-strength seamless tubing to close tolerances; Rockrite process. L. A. Karg. il diag Mach 57:164-9 My '51

Rotary straightener helps up tubing production. il Iron Age 168:70 Ag 9 '51

Theory of hollow sinking of thin-walled tubes. S. Y. Chung. diags Metallurgia 43: 215-18 My '51

Tube reducing machine has novel die arrangement. il Product Eng 21:100-1 D '50

Tube rolling; new and greatly simplified tube rolling control. il Blast F & Steel Pl 39: 124 Ja '51

TUBES (containers)

Convertible tube bander; cigar-banding machine adapted to handle both glass and acetate tooth-brush tubes. il Mod Packaging 24:151 Ap '51

Flexible tube-filling lines; Mennen co. tube-filling operation. il Mod Packaging 24:68-9 Jl '51

High-fashion paints; General Paint's one-shot color tube. il Mod Packaging 24:96-8 D '50

Manufacture

Plastics-foil collapsible tubes. il Mod Plastics 28:70-1 Mr '51

TUBES, Copper

Copper tubes spot annealed in deoxidizing atmosphere. W. W. Swarthout. il Steel 128:84 Mr 12 '51

Four fat dividends follow packaging of copper tubing. D. G. Baird. il Sales Management 66:82+ My 20 '51

Manufacture

Continuous bull block operation speeds output of copper tubing. il Steel 127:106 N 13 '50; Iron Age 166:114 D 14 '50

TUBES, Flexible

Armored vinyl tubing; braiding stainless steel over lengths of Koroseal. il Mod Plastics 28:182 Je '51

TUBES, Magnesium

Magnesium tubing spun and brazed to produce critical part. D. C. Law. il Materials & Methods 32:65-7 N '50

TUBES, Nickel

Welding pipe and tubes of nickel and high-nickel alloy. diags Heat & Ven 48:77-80 Ag '51; Same. Mach 57:163-8 Ag; 58:156-9 S '51

TUBES, Plastic

Armored vinyl tubing; braiding stainless steel over lengths of Koroseal. il Mod Plastics 28:182 Je '51

Industrial applications of thermosetting laminated plastic tubing. D. E. Roland. il Materials & Methods 32:64-6 D '50

Plastic tubing for radiant heat. il Steel 129: 96 Ag 27 '51

TUBES, Steel

Centerless turning of bars, billets and tubes. W. Siegerist. il diags Iron & Steel Eng 28: 67-74; Discussion. 74-5 My '51

Ductile steel tubing; low cost replacement for copper in radiant heating. il Arch Forum 94:206 Je '51

Sodium-hydride tube-descaling plant. Engineering 171:173 F 9 '51

See also

Pipes, Steel

Manufacture

American seamless tube mill; Gary works of the National tube co. il Engineer 191:248-50 F 23 '51

Babcock & Wilcox tube company develops continuous casting. I. Harter, jr. bibliog il plan diags Iron & Steel Eng 27:57-62 D '50

Colorado Fuel & Iron announces seamless tube mill for Pueblo steel plant. Blast F & Steel Pl 39:1115 S '51

Compression-sized tubing may offer machining economies. il Steel 128:74-5+ F 26 '51

Continuous casting of steel at Babcock & Wilcox tube co. I. Harter, jr. il diags J Metals 3:223-6 Mr '51

Design and operation of high-speed production tube mills. D. H. Fleig. il Welding J 30:589-96 Jl '51

Integrated processing boosts conduit output; Mahoning Valley steel co. D. Reebel. il plan diag Steel 127:94-8 D 11 '50

Manufacture of resistance-welded steel tubing in America. il diag Engineer 191:873-6 Je 29 '51

Plating and finishing tubing at Spang-Chalfant. il Metal Finishing 49:65 My '51

Radiation pyrometers control new high-gradient heating process. H. W. Cox. il diags Instruments 24:878-9 Ag '51

TUBES, Vacuum. See Vacuum tubes

TUCSON, Arizona

Sewerage

City and county team up to build sewage treatment plant. il Eng N 146:50 Je 21 '51

Streets

Tucson begins freeway to remove truck traffic from city streets. plan Eng N 145:30 D 21 '50

TUFF, Volcanic ash. See Volcanic ash, tuff, etc.

TUG boats. See Towboats

TULLAHOMA, Tennessee

Seams burst in little boom towns. il Bsns W p80-1 O 13 '51

TULSA, Oklahoma

New wealth brings new problems for officials. il Eng N 146:64 F 15 '51

Water supply

Tale of two pipelines, parallel but 28 years apart; contrast in pipe laying methods. il map Eng N 146:34-6 Je 28 '51

TUMBLERS

Manufacture

Burn-off for finishing tumblers, etc.; patent. diag Glass Ind 32:249-50 My '51

TUMBLING barrels

Abrasive tumbling, a precision finishing method. il diag Steel 128:81-4+ F 5 '51

Design of exhaust systems; dust from tumbling barrels. F. H. Stebbins. diags Sheet Metal Worker 42:74-6+ Ja; 37-40 F '51

Gravi-i-Flo tumbling machine. il Blast F & Steel Pl 39:466-7 Ap '51

How Chevrolet deburrs Powerglide parts. H. Chase. il Am Mach 95:138-9 Ap 16 '51

Practical barrel finishing. P. L. Veit. bibliog il diags Metal Finishing 49:71-7+ S; 70-3 O; 65-73+ N '51

Tumble finishing technique. H. M. Goldman. il Tool Eng 26:37-40 My '51

Wet tumbling lowers deburring costs. R. H. Anderson. il Iron Age 166:69-71 N 30 '50

TUMORS

Enzymes of the citric acid cycle in tumors. C. E. Wenner, M. A. Spirtes and S. Weinhouse. Am Chem Soc J 72:4333 S '50

Growth retarding effect of substituted malononitriles on transplant tumors in mice. E. M. Gal and D. M. Greenberg. Am Chem Soc J 73:502-3 Ja '51

New common biochemical property of tumors derived from different tissues. C. Carruthers and V. Suntzeff. bibliog Science 114:103-7 Jl 27 '51

Occurrence of the citric acid cycle in tumors. S. Weinhouse, R. H. Millington and C. E. Wenner. Am Chem Soc J 72:4332-3 S '50

Radiation counters aid brain tumor diagnosis. R. G. Davis. il diags Electronics 23:72-5 N '50

Role of thiouracil in the induction, growth, and transplantability of mouse thyroid tumors. H. P. Morris and C. D. Green. bibliog Science 114:44-6 Jl 13 '51

Use of positron-emitting radioisotopes for the localization of brain tumors. F. R. Wrenn, jr. and others. bibliog diags Science 113:525-7 My 4 '51

TUNA fish

Why Van Camp is giving its ads a new look. il Ptr Ink 236:34-5 Jl 6 '51

TUNG oil

Cutting loose from China. il Chem W 69:14 S 1 '51

Tung trouble. il Chem Ind W 68:13 F 3 '51

TUNGSTATES

Excitation spectra of some tungstates. A. J. Oszy. bibliog Opt Soc Am J 41:57-8 Ja '51

Molybdate and tungstate as corrosion inhibitors and the mechanism of inhibition. W. D. Robertson. bibliog diag Electrochem Soc J 98:94-100 Mr '51; Discussion. 98:513-15 D '51

TUNGSTEN

Barium oxide on tungsten cathode interface. H. P. Rooksby and E. G. Steward. J Ap Phys 22:358-9 Mr '51

Forgeable arc-melted tungsten. H. B. Goodwin and C. T. Greenidge. il Metal Prog 59: 812-14 Je '51

Hi-Thoria tungsten reduces cost. Welding J 30:264 Mr '51

Incandescent tungsten source for infrared spectroscopy. J. H. Taylor and others. diags Opt Soc Am J 41:626-9 S '51

Increased production, rather than stockpiling, is U.S. reserve. W. F. Boericke. Barron's 31:7-8 Ja 15 '51

Less familiar metals of commercial importance. O. Kay and R. A. Lubker. Product Eng 22:108-9 Ja '51

Measuring the tungsten consumption in inert gas arc welding. G. Urbain. il diags Welding J 30:sup260-4 My '51

Overlap forces and elastic constants of body-centered cubic metals. I. Isenberg. Phys R 83:637-40 Ag 1 '51

Products of the high energy helium ion and deuteron bombardment of tungsten. S. E. Turner and L. O. Morgan. Phys R 81:881-2 Mr 1 '51

Prolonging tungsten electrode life. diags Welding J 30:59-60 Ja '51

Red China halts tungsten shipments to U.S. B. Packard. Iron Age 166:85-6 N 30 '50

Reduction of SrO by tungsten in vacuum. G. E. Moore and others. bibliog J Chem Phys 18:1579-86 D '50

Relation of antiferromagnetic structure to the binding energies of some b.c.c. transition metals. Y. Hsu. bibliog Phys R 83: 975-9 S 1 '51

Shortage threatens our defense. R. Stroupe. Iron Age 168:109-10 Jl 12 '51

Tin tungsten. C. A. Scarlott. il Westinghouse Eng 11:155-7 S '51; Same. diags Materials & Methods 34:72-3 S '51

Tungsten and molybdenum world distribution program established. Oil Paint & Drug Rep 160:5 Jl 16 '51

Tungsten, 1950. R. W. Geehan. Eng & Min J 152:97 F '51

Tungsten order mild; NPA order M-30 limiting end uses. il Steel 128:48-9 F 5 '51

Tungsten-thoria electrodes for inert arc welding. N. A. Chapin and others. il diags Welding J 30:529-31 Je '51

TUNGSTEN—*Continued*

Analysis

Colorimetric determination of tungsten; study of variables involved in stannous chloride-thiocyanate method. H. Freund, M. L. Wright and R. K. Brookshier. bibliog Anal Chem 23:781-4 My '51

Determination of tin in ferro-tungsten and tungsten metal. Iron & Steel Inst J 168:51-6 My '51

Determination of tungsten; gravimetric analytical methods. bibliog Chem Age (Lond) 64:527-9, 601-4, 717-20 Ap 7, 21, My 5 '51

Substituted benzidines and related compounds as reagents in analytical chemistry; the precipitation of tungsten. R. Belcher and A. J. Nutten. Chem Soc J p 1516-19 Je '51

Isotopes

Identification of W^{188} formed in neutron-activated tungsten by a chemical separation of Re^{188}. M. Lindner and J. S. Coleman. Am Chem Soc J 73:1610-11 Ap '51

Neutron deficient radioactive isotopes of tantalum and wolfram. G. Wilkinson. bibliog Phys R 80:495-9 N 15 '50

Testing

Measurement of low order ductility. N. P. Pinto. diag J Metals 188:1444 D '50

TUNGSTEN, Powdered

Particle agglomeration in tungsten metal powder. B. Kopelman and C. C. Gregg. bibliog J Phys & Colloid Chem 55:557-63 Ap '51

TUNGSTEN boride

Thermal stability of the chromium, iron, and tungsten borides in streaming ammonia and the existence of a new tungsten nitride. R. Kiessling and Y. H. Liu. bibliog J Metals 3:Trans 639-42 Ag '51

TUNGSTEN carbide

Auger rods carbide-tipped for serpentine. il Eng & Min J 152:102 My '51

Carbide insert bits. A. J. Zinkl. Min Eng 3: 312-14 Ap '51

Drilling industry needs tungsten carbide. il Comp Air Mag 56:103 Ap '51

Grinding machine for tipped bits. il Engineer 191:232 F 16 '51

Some characteristics of composite tungsten carbide weld deposits. H. S. Avery. bibliog il diags Welding J 30:144-60; Discussion. 160-2 F '51; Reply. 30:532-4 Je '51

Tungsten carbide and the defense program; allocation to mining will save critical manpower and steel. M. L. McCormack. il Min Cong J 37:110-11 Ap '51

Tungsten carbide bits at the Consolidated Beattie mines. R. F. Fry. il Can Min J 72:55-7 Mr '51

Tungsten carbide rolls for cold rolling metals. R. T. Beeghly. il diags Iron & Steel Eng 28: 74-8; Discussion. 79 Ap '51

See also

Cutting tools, Carbide

TUNGSTEN carbonyl

Infrared spectrum and structure of tungsten carbonyl. R. K. Sheline. bibliog Am Chem Soc J 72:5761-2 D '50

TUNGSTEN compounds

Heteropoly-tungstic acids and heteropoly-tungstates. J. A. Mair and J. L. T. Waugh. Chem Soc J p2364-76 S '50

TUNGSTEN electric lamps. See Electric lamps, Tungsten

TUNGSTEN fluorides

Fluorides of niobium, tantalum, tungsten, and rhenium. H. J. Emeléus and V. Gutmann. Chem Soc J p2115-18 Ag '50

Liquid-vapor equilibrium of the system tungsten hexafluoride-perfluorocyclopentane. G. H. Rohrback and G. H. Cady. Am Chem Soc J 73:4250-1 S '51

Liquid-vapor equilibrium of the system tungsten hexafluoride-perfluoro-*n*-pentane. E. J. Barber and G. H. Cady. bibliog diag Am Chem Soc J 73:4247-50 S '51

Raman effect and ultraviolet absorption spectra of molybdenum and tungsten hexafluorides. K. N. Tanner and A. B. F. Duncan. bibliog Am Chem Soc J 73:1164-7 Mr '51

TUNGSTEN mines and mining

California

How U.S.V.'s Pine Creek mine will increase tungsten output. H. L. McKinley and others. flow sheet il diags Eng & Min J 152: 76-83 My '51

North Carolina

North Carolina tungsten. C. H. Vivian. il diag Comp Air Mag 55:260-7 D '50

TUNGSTEN nitride

Thermal stability of the chromium, iron, and tungsten borides in streaming ammonia and the existence of a new tungsten nitride. R. Kiessling and Y. H. Liu. bibliog J Metals 3:Trans 639-42 Ag '51

TUNGSTEN ores

See also

Scheelite

TUNGSTEN oxides

Domain structure of tungsten trioxide. R. Ueda and T. Ichinokawa. il Phys R 80:1106 D 15 '50

Ferroelectric Curie point of tungsten oxide. S. Sawada and others. Phys R 82:952-3 Je 15 '51

Phase transition of tungsten trioxide. R. Ueda and T. Ichinokawa. il Phys R 82:563-4 My 15 '51

Properties of evaporated gold and tungsten oxides. P. G. Wilkinson. il J Ap Phys 22: 226-32 F '51

System sodium tungsten bronze-lithium tungsten bronze-tungsten(VI) oxide. M. E. Straumanis and G. F. Doctor. bibliog Am Chem Soc J 73:3492-6 Jl '51

TUNGSTEN plating

Electroplating tungsten and tungsten alloys; abstract. Metal Finishing 49:64, 106 Ag '51

TUNING forks

Tuning fork filter. K. N. Wulfsberg. il diag Acoustical Soc Am J 22:847-9 N '50

TUNISIA

See also

Investments, Foreign (in Tunisia)

TUNNEL kilns. See Kilns

TUNNEL lighting

Lighting of new Tyne tunnels. il Elec R (Lond) 149:278 Ag 10 '51; Electrician 147: 408 Ag 10 '51

Lighting of the Brooklyn-Battery tunnel. L. Geenens and K. M. Reid. bibliog il map diags Illum Eng 45:697-703; Discussion. 703-4 N '50

Mercury vapor lights tunnels at low cost. il Elec World 136:132 Ag 27 '51

Morrison-Knudsen and city dispute over design of San Francisco tunnel. diags Eng N 147:29 S 13 '51

Tunnel lighting improved in Seattle. Eng N 147:42 Ag 9 '51

TUNNEL lining

Full circle, continuous concreting preserves tunnel's rock bore; Baltimore's Patapsco River water-supply project. il diag Eng N 146:32-4 Ja 4 '51

Garrison's big tunnels are moving fast. Eng N 146:35 Ja 18 '51

Sink tubes fast for Norfolk tunnel. H. T. Perez. il diag Constr Methods 33:48-53+ My '51

Trials develop best way to line three-mile sewer tunnel; Portland, Ore. il Eng N 145: 36 N 9 '50

Tunnel takes to trailer travel; illustrations with text. Bsns W p38-9 N 11 '50

TUNNEL shields

Rotary tunnelling shield. Engineer 191:779-80 Je 15 '51

TUNNEL ventilation

New ventilation system in Holland tunnel. il Roads & Eng Constr 89:80 Mr '51

Over 2000 louver blades in vent tower; Brooklyn-Battery tunnel. il Sheet Metal Worker 42:78 D '50

TUNNELS and tunneling

B&O railroad builds a new tunnel near Clarksburg, W.Va. C. J. Burton. il diags Explosives Eng 29:103-7 Jl '51

Bridge-approach tunnel dug doorstep-to-doorstep; new Manhattan approach to the George Washington bridge. R. J. O'Sullivan. il maps diag Eng N 145:40-1 D 14 '50

TUNNELS and tunneling—*Continued*

Choosing a tunnel route with dynamite. il Comp Air Mag 55:251 N '50

Colorado's Leadville tunnel. il Min Eng 3:416 My '51

Diversion tunnel driving without liners; Keyhole dam, Wyo. il diag Eng N 146:30-1 My 17 '51

Fannich scheme; North of Scotland hydro-electric board. il diags Engineering 172:65-8, pl 3-4 Jl 20 '51

Garrison's big tunnels are moving fast. il Eng N 146:32-5 Ja 18 '51

Good maintenance paces 25-mile tunnel job; part of the Delaware aqueduct. il Constr Methods 33:46-9 Jl '51

Holing through of Garrison Dam tunnel completes excavation operations. J. J. Walsh. il Civil Eng 21:114 F '51

How tough can a tunnel get? old coal mine turns B&O railroad's number one into nightmare. H. W. Richardson. il diags Constr Methods 33:60-4+ S '51

Large N.&W. bore gives lift to operations. il plan diags Ry Age 129:46-50 N 18 '50

Largest single construction job ever carried out in Quebec City; preparation of a new site for Laval university. il Roads & Eng Constr 88:79-83+ D '50

Leadville drainage tunnel. il Comp Air Mag 56:241-2 S '51

Mining Fort Randall tunnels in chalk. il Eng N 145:38-41 N 2 '50

Modern methods for recovering anthracite feature; operations at Porter tunnel. E. F. Young. il diags Coal Age 56:106-11 F '51

Ontario goes after new Niagara water. il map diag Eng N 147:39-40 S 6 '51

Porter tunnel will open up ten million tons of coal for Philadelphia & Reading. E. F. Young. il diag Min Eng 3:223-5 Mr '51

Progress with the new Woodhead tunnel. il diags Engineering 171:784-5 Je 29 '51

Roads, bridges and tunnels in 1950. il Engineer 191:17 Ja 5 '51

Short tunnel readies more water for Chicago's heavy summer demand. A. G. Anderson. il plans diags Eng N 147:41-3 Ag 2 '51

Templet speeds tracing of tunnel outline. diag Eng N 146:61 F 15 '51

Top jumbo leads the way in tough going as last Garrison tunnel holes through. il Constr Methods 33:101-2+ F '51

Tummel-Garry scheme of the North of Scotland hydro-electric board. il diags Engineering 170:460-2, pl 40 D 8 '50

Tunnel eight miles long ready for Peruvian hydro plant. il Eng N 146:52 F 22 '51

Tunnels for power; Big Creek no. 4 project of Southern California Edison co. D. W. Lutes. il diags Comp Air Mag 55:237-41 N '50

See also

Aqueducts

Subways

Cost

Bald Mountain tunnel Colorado-Big Thompson project; unit prices. Eng N 146:59 Ja 25 '51

Eklutna tunnel, Alaska; unit prices. Eng N 147:105 Ag 16 '51

Tunnel, Columbia basin; unit prices. Eng N 146:90 F 15 '51

Hoosac tunnel

Blasted bore; Hoosac tunnel now celebrates its centennial. E. H. Cameron. il diag Tech R 53:141-6+ Ja '51

Repair

Leaky tunnels get first aid. il Constr Methods 33:83-4+ Ap '51

Vehicular tunnels

Blasting rock tunnels under a Pittsburgh residential district. E. D. Phinney. il Explosives Eng 28:155-8 S '50

Bridge and tunnel promise traffic relief at Norfolk. il maps Eng N 145:44-5 N 16 '50

Floating tunnel for long water crossings. C. E. Andrew. maps diags Am Soc C E Proc 76 [no 8]:1-13 Mr '50; Discussion. 77 [no D-8]:1-8 Mr '51

Launching a tunnel. il Welding J 30:363-4 Ap '51

Lighting of the Brooklyn-Battery tunnel. L. Geenens and K. M. Reid. bibliog il map diags Illum Eng 45:697-703; Discussion. 703-4 N '50

Morrison-Knudsen and city dispute over design of San Francisco tunnel. diags Eng N 147:29 S 13 '51

New ideas mark design and construction of Baytown tunnel. J. O. Bickel; M. P. Anderson. il map diags Civil Eng 21:140-3 Mr '51

Port of New York authority discloses plans for third Lincoln Tunnel tube. il Eng N 146:26 Mr 15 '51

Sink tubes fast for Norfolk tunnel. H. T. Perez. il diag Constr Methods 33:48-53+ My '51

Sinking 300-ft. concrete tunnel section beneath the Elizabeth river. il Concrete 59:9-10 Ag '51

Unique patrol walk reduces cost of Battery Park underpass. W. D. Binger. il Civil Eng 21:368 Je '51

Washburn tunnel, Texas. il diags Engineer 191:390-1 Mr 23 '51

Work goes forward on Baytown tunnel under Houston ship channel. il Civil Eng 20:744 N '50

See also

Holland tunnel

TUNNELS and tunneling, Subaqueous

Bridge and tunnel promise traffic relief at Norfolk. il maps Eng N 145:44-5 N 16 '50

Excessive leakage in the Brooklyn-Battery tunnel. O. Singstad. Civil Eng 21:478 Ag '51

Floating tunnel for long water crossings. C. E. Andrew. maps diags Am Soc C E Proc 76 [no 8]:1-13 Mr '50; Discussion. 77 [no D-8]:1-8 Mr '51

Launching a tunnel. il Welding J 30:363-4 Ap '51

Launching a tunnel at Gulf yard. J. F. Christensen. il Marine Eng 56:64-6 F '51

Lighting of the Brooklyn-Battery tunnel. L. Geenens and K. M. Reid. bibliog il map diags Illum Eng 45:697-703; Discussion. 703-4 N '50

New ideas mark design and construction of Baytown tunnel. J. O. Bickel; M. P. Anderson. il map diags Civil Eng 21:140-3 Mr '51

Port of New York authority discloses plans for third Lincoln Tunnel tube. il Eng N 146:26 Mr 15 '51

Sink tubes fast for Norfolk tunnel. H. T. Perez. il diag Constr Methods 33:48-53+ My '51

Sinking 300-ft. concrete tunnel section beneath the Elizabeth river. il Concrete 59:9-10 Ag '51

Sound waves will tell Chicago where water tunnel should go: sonar depth finding method. il Eng N 147:44 Ag 23 '51

Washburn tunnel, Texas. il diags Engineer 191:390-1 Mr 23 '51

Work goes forward on Baytown tunnel under Houston ship channel. il Civil Eng 20:744 N '50

See also

Holland tunnel

TURBIDIMETERS

Apparatus for turbidimetric study of polymerization activators. T. W. Sarge. il diag Anal Chem 22:1435-8 N '50

Ratio circuit for turbidimeter. T. Mariner and R. F. Stamm. diags R Sci Instr 22:61-2 Ja '51

TURBIDITY

Expressions for turbidities. F. Bueche and others. J Chem Phys 19:803-4 Je '51

Light-scattering investigations of carefully filtered sodium silicate solutions. R. V. Nauman and P. Debye. bibliog J Phys & Colloid Chem 55:1-9 Ja '51

TURBIMETRIC analysis

Rapid determination of tetraethyllead in aviation gasoline. V. A. Smith and others. bibliog Anal Chem 22:1230-1 O '50

TURBINES

Influence of Reynolds number on the performance of turbomachinery. H. Davis and others. bibliog A S M E Trans 73:499-503; Discussion. 503-9 Jl '51

TURBINES—*Continued*

Submersible hydro plants increase low-head output; hydraulic turbines mounted in conduits through the base of low overflow dams. diags Eng N 145:35-6 N 16 '50

Ultrasonic method for measuring water velocity. W. B. Hess and others. il diag Elec Eng 69:983 N '50

See also

Air turbines

Gas turbines

Steam turbines

Blades

Thin aerofoil theory and the application of analogous methods to the design of Kaplan turbine blades. S. P. Hutton. bibliog diags Inst Mech Eng Proc 163 (W.E.P. no 57):81-9; Discussion. 89-97 '50

Control

Control of hydro-electric plant. A. C. H. Frost and W. Brittlebank. bibliog diags Inst E E Proc 98 pt 1:129-43 My '51; Same cond. Engineer 190:569-73 D 8 '50; Abstract. Engineering 171:56-7 Ja 12 '51; Discussion. Inst E E Proc 98 pt 1:144-54 My '51; Elec R (Lond) 147:1079-80 D 22 '50; Electrician 145:1447-8 D 15 '50

Design

62,000-hp vertical six-nozzle impulse turbines for the Bridge River hydrodevelopment. W. F. Boyle and I. M. White. il diags A S M E Trans 73:289-96 Ap '51

Water turbines for hydro-electric projects. R. W. Weekes and A. Feiner. il diags Engineering 172:185-7, 217-18 Ag 10-17 '51; Discussion. Engineer 192:207-8 Ag 17 '51

Manufacture

Peg-leg drill machines this turbine. S. K. Rudorf. il diags Am Mach 95:140-1 Jl 9 '51

Portable upside-down drill works beneath giant scroll cases. S. K. Rudorf. il diags Am Mach 95:164-5 Je 11 '51

Tooling for turbine production. H. Woodhouse. il diags Tool Eng 26:29-32 F '51

Testing

Index testing of hydraulic turbines. G. H. Voaden. diags A S M E Trans 73:481-8; Discussion. 488-97 Jl '51

TURBINES, Gas. See Gas turbines

TURBO CYCLONE engine. See Airplane engines—Compounding

TURBOJET engines, Aircraft. See Gas turbines, Aircraft

TURBULENCE

Broszko's theory of turbulent flow. W. Squire. bibliog J Aeronautical Sci 18:502-3 Jl '51

Clear air turbulence over Europe. G. S. Hislop. bibliog map diags Roy Aeronautical Soc J 55:185-211; Discussion. 211-25 Ap '51

Decay of isotropic temperature fluctuations in an isotropic turbulence. S. Corrsin. bibliog J Aeronautical Sci 18:417-23 Je '51

Decay of spectral components in isotropic turbulence. H. Sato. J Ap Phys 22:525 Ap '51

Difference between turbulence in a two-dimensional fluid and in a three-dimensional fluid. T. D. Lee. J Ap Phys 22:524 Ap '51

Effect of turbulence in thermal diffusion columns. J. Donaldson and W. W. Watson. bibliog Phys R 82:909-13 Je 15 '51

Heat transfer to a fluid flowing turbulently in a smooth pipe with walls at constant temperature. R. A. Seban and T. T. Shimazaki. bibliog A S M E Trans 73:803-7; Discussion. 807-9 Ag '51

Investigation of turbulent flames. B. Karlovitz and others. bibliog il diags J Chem Phys 19:541-7 My '51

Investigation of turbulent flow and heat transfer in smooth tubes, including the effects of variable fluid properties. R. G. Deissler. bibliog A S M E Trans 73:101-7 F '51

Laminar-turbulent transition in a boundary layer. H. W. Emmons. bibliog il diags J Aeronautical Sci 18:490-8 Jl '51

Mechanism of turbulent fluid motion. M. Munk. il diag Aero Digest 62:99-108 Je '51

Spectrum of isotropic temperature fluctuations in an isotropic turbulence. S. Corrsin. bibliog J Ap Phys 22:469-73 Ap '51

Turbulent boundary layer in a compressible fluid with positive pressure gradient. C. Ferrari. bibliog J Aeronautical Sci 18:460-77 Jl '51

Turbulent boundary layer in compressible fluids. E. R. Van Driest. bibliog J Aeronautical Sci 18:145-60+ Mr '51

Turbulent diffusion from a source in turbulent shear flow. J. O. Hinze. J Aeronautical Sci 18:565-6 Ag '51

Turbulent fluid motion. M. M. Munk. diag J Aeronautical Sci 18:442-6 Jl '51

Turbulent transfer mechanism and suspended sediment in closed channels. H. M. Ismail. bibliog diags Am Soc C E Proc 77 [no 56]: 1-26 F '51

TURF

How to get better grass for the taxpayer. J. W. Lentz. il Pub Works 82:45-7 S '51

TURIN, Italy

Architecture

Pier Luigi Nervi's exhibition hall. il diags Arch Forum 95:190-4 Jl '51

TURKEY

Middle East and Turkey in world affairs. N. Eren. Ann Am Acad 276:72-80 Jl '51

See also

Airports—Turkey

Electric apparatus industry—Turkey

Telephone—Turkey

Commercial policy

Turkey signs Torquay protocol to GATT. For Comm W 45:26 O 1 '51

Defenses

Arming the right flank of the West; Turkey's election to NATO. map Bsns W p 149-50 S 29 '51

Economic conditions

News by countries. For Comm W 41:13-14 D 25 '50; 42:27-8 F 19; 20 Mr 19; 43:18-19 Ap 30; 18 My 21; 15 Je 18; 44:18 Ag 6; 19 S 24 '51

Foreign relations

Frontier mischief; Turkish minority in Bulgaria. Economist 159:582 O 7 '50

Nato and Turkey. Economist 161:5-6 Jl 7 '51

TURKEY red

John Wilson, the first British dyer of turkey red. C. O. Clark. Soc Dyers & Col J 66:546 O '50

TURKEYS

Sliced turkey. Bsns W p90 N 4 '50

Advertising

First national ads on turkeys sell big flocks. M. C. Small. il Ptr Ink 236:31-3 Jl 13 '51

TURNER, Joseph Harold, 1900-1950

Memorial. D. E. Lounsbery and H. L. Baldwin. por Am Assn Pet Geologists Bul 35: 1704-6 Jl '51

TURNER and Newall, limited

Statement by the chairman. W. W. F. Shepherd. Economist 160:51-2 Ja 6 '51

TURNING

Box turning of bar stock. A. R. Christensen. diag Tool Eng 26:65 Mr '51

Carbide high-velocity turning. L. Fersing. il diags A S M E Trans 73:359-74 My '51

Centerless turning of bars, billets and tubes. W. Siegerist. il diags Iron & Steel Eng 28:67-74; Discussion. 74-5 My '51

Double cutters kill turning thrust. C. S. Ricker. diags Am Mach 95:154 Jl 23 '51

Fast carbide turning studied. Steel 128:103+ Ap 23 '51

Fixture for turning awkward-shaped piece. I. Mansfield. diag Mach 57:196-7 D '50

High-speed turning qualifies shafts and gears; illustrations and diagrams with text. J. M. Finally. Am Mach 95:136-7 F 19 '51

Hydraulic duplicating attachments speed contour turning and facing. il Mach 57:160-2 F '51

Sphere turning for small and medium production runs. H. G. Frommer. il diags Tool Eng 26:33-4 Ja '51

Tooling designed for turning railway car axles. E. A. Watson. il Mach 57:168-71 D '50

TURNING—*Continued*

Turning and polishing Rocket engine crankshafts; Oldsmobile's plant at Lansing, Mich. H. Chase. il diags Automotive Ind 103:34-7 D 1 '50

We turned SAE 1045 at 2150 SFPM. F. J. Fields. il Am Mach 95:102-3 Mr 5 '51

Wheel re-turning time halved. il Steel 127:99-100 D 4 '50

See also

Lathes

TURNOVER

Turning the spotlight on turnover. Dom Eng 178:90-1 Ag '51

TURPENTINE

Closer fractionation finer chemicals; Crosby chemicals puts in first 65-tray fractionating column. J. A. Lee. diag Chem Eng 58:142 Mr '51

Gum turp slips. il Chem Ind 67:879 D '50

New tack for gum naval stores. D. N. Collins and E. L. Patton. flow sheets Chem Eng 58:154-6 S '51

Peroxides from turpentine as catalysts for 5° C. GR-S polymerization. G. S. Fisher and others. bibliog Ind & Eng Chem 43:671-4 Mr '51

Some terpene carboxy esters from turpentine; their synthesis from crude sulphate turpentine and other sources and their preliminary evaluation as plasticizers. T. Hasselstrom and others. bibliog Tappi 33:538-41 N '50

Sulphur compounds in sulphate turpentine; abstract. T. Bruun and others. Paper Ind 32:1338 Mr '51

Prices

Rosin and turpentine given specific ceilings. Oil Paint & Drug Rep 160:3 Jl 2 '51

TURTLES

Effects of male hormone upon the tail of the slider turtle, pseudemys scripta troostii. L. T. Evans. bibliog il Science 114:277-9 S 14 '51

TUSSOCKS

Frost-heaved tussocks in Massachusetts. R. S. Sigafoos and D. M. Hopkins. bibliog 2pls maps Am J Sci 249:312-17 Ap '51

TUVE, Merle Antony, 1901-

Presentation of the Potts medal. por Franklin Inst J 250:563-4 D '50

TWIN CITY rapid transit company

Fight for control brings forth charges of corruption. Bus Transportation 29:54 D '50

TWINS

Explanation of twins. G. Dahlberg. il Sci Am 184:48-51 Ja '51

TWISTING machines

Headless package twister! W. F. Emlyn. il Rayon 32:102-3 Ap '51

TWO-family houses. See Architecture, Domestic—Two-family houses

2,4-D. See Dichlorophenoxyacetic acid

2,4,5-T. See Trichlorophenoxyacetic acid

TYPE and type founding

100 per cent shell casts, machine devised. J. Lithgow. Ed & Pub 83:64 N 11 '50

See also

Advertisements—
  Typography
Stereotyping

TYPE washing

Detergents for printers type. P. I. Smith. Soap & San Chem 26:44-5+ D '50

TYPESETTERS

Over one more hurdle. Inland Ptr 127:51-2 S '51

TYPESETTING

Faster composing from upper-and-lower case? no. B. Stern. Ed & Pub 83:64 N 11 '50

How copyfitting pays off at Popular Mechanics plant. J. Dalen. il Inland Ptr 126:43-4 Ja '51

See also

International typographic composition association
Justigraph
Printing, Practical

TYPESETTING machines

See also

Phototypesetting machines
Typewriters (composing machines)

TYPEWRITER ribbons

New kind of typewriter ribbon. Consumers Res Bul 27:11 My '51

TYPEWRITERS

Clay replaces blueprints; Royal restyles with clay models. il Bsns W p46+ D 9 '50

Design with a point; Italy's Olivetti. il Fortune 43:112-17 Je '51

Manual vs. electric typing; abstract. C. I. Keelan. Management R 40:402-3 Jl '51

Milestones in design. J. Kremer. il diags Machine Design 22:154-7 N '50

Manufacture

Air can clamp small parts, too; illustrations and drawings with text. C. Sanvenero. Am Mach 95:113-16 Ap 2 '51

Assembles over 1000 typewriter units an hour; International Business Machines. il Iron Age 167:64 Ja 25 '51

Duplex setup solders type to typewriter bars. H. Chase. il Steel 128:76 Je 18 '51

Indexing fixture aids drilling close holes for IBM electric typewriters. il Iron Age 167:64 Ja 18 '51

Special fixtures aid diecasting machining. H. Chase. il Iron Age 167:111-13 Mr 15 '51

Three view screen aligns type faces. il diags Product Eng 22:116 Ja '51

TYPEWRITERS (composing machines)

Huge Greenlandic language book set in record time by vari-typist. S. Hinrichsen. il Inland Ptr 126:60-1 O '50

Reader unit automatically justifies copy; Justowriter. il Machine Design 23:129-30 Ja '51

Source composition techniques. R. R. Karch. Ptr Ink 233:34-5+ D 8 '50

Type variety increased in justifying composer; Lithotype composer. il Machine Design 23:124-5 Ja '51

TYPEWRITING

See also

Typists

TYPHOID fever

Mouse-protective potency assay of typhoid vaccine. H. C. Batson and others. bibliog Pub Health Rep 66:789-805 Je 22 '51

TYPHUS fever

Evaluation of county-wide DDT dusting operations in murine typhus control, 1950. H. B. Morlan and V. D. Hines. Pub Health Rep 66:1052-7 Ag 17 '51

TYPISTS

Reducing typing costs with aptitude tests. A. Blakemore. Personnel J 30:20-4 My '51

Typist training: an often overlooked area for savings; abstract. R. E. Fox. Management R 39:647-8 N '50

Typists' speed test; Dictaphone's transcribing contest; illustrations with text. Bsns W p 100-1 Je 9 '51

TYPOGRAPHIC composition association, International. See International typographic composition association

TYROSINASE

Formation of tyrosine melanin. G. R. Clemo and F. K. Duxbury. Chem Soc J p 1795-800 Jl '50

TYROSINE

Effect of ACTH and some adrenocortical steroids on the metabolism of tyrosine and phenylalanine in premature infants. S. Z. Levine and others. bibliog Science 113:311-12 Mr 23 '51

Effect of ascorbic acid on the enzymatic oxidation of monohydric and *o*-dihydric phenols. R. C. Krueger. bibliog Am Chem Soc J 72:5582-7 D '50

Formation of tyrosine melanin. G. R. Clemo and F. K. Duxbury. Chem Soc J p 1795-800 Jl '50

Special respiratory system in mammalian adrenal glands. D. G. Humm and others. bibliog Science 113:578-9 My 18 '51

Synthesis of ethyl acetamidocyanoacetate, DL-lysine, DL-ornithine and DL-tyrosine labeled with isotopic carbon. M. Fields, D. E. Walz and S. Rothchild. bibliog Am Chem Soc J 73:1000-2 Mr '51

Synthesis of phenylalanine and tyrosine in yeast. C. Gilvarg and K. Bloch. Am Chem Soc J 72:5791-2 D '50

Synthesis of thyroxine and related substances; a synthesis of L-thyroxine from L tyrosine. J. R. Chalmers and others. Chem Soc J p3424-33 D '49

U

UGANDA
See also
Cotton trade—Uganda

UHLIG, Herbert Henry, 1907-
NACE awards. por Electrochem Soc J 98:sup 67C My '51

ULCERS
Leg ulcers; practicable method of treatment. J. A. Sanfilippo. bibliog Ind Med 20:245-6 My '51

ULMUS fulva. See Elm

ULRICH'S periodicals directory. See Periodicals—Directories

ULTRACENTRIFUGES. See Centrifuges

ULTRAMICROSCOPE. See Microscope and microscopy

ULTRASONIC corporation
Security I like best. C. H. Polley. Comm & Fin Chr 173:54+ Ja 4 '51
Stock offered. Comm & Fin Chr 174:1335 O 8 '51

ULTRASONIC waves. See Supersonic waves

ULTRASONOGRAPHY. See Photography of sound

ULTRAVIOLET rays
Effect of ultraviolet light on the specific activity of chymotrypsin and trypsin. H. Goldenberg and A. D. McLaren. bibliog Am Chem Soc J 73:1131-3 Mr '51
Intensity of ultraviolet radiation from solar flares. R. N. Sedra. bibliog Phys R 83:190 Jl 1 '51
Photochemical action of ultraviolet light on the absorption spectra of nucleic acid and related substances. D. Rapport and A. Canzanelli. Science 112:469-71 O 20 '50
Photoelectric changes induced in SrO and BaO by ultraviolet irradiation. J. E. Dickey and E. A. Taft. Phys R 80:308 O 15 '50
Resorcinol-formaldehyde reaction observed by ultraviolet absorption measurements. P. J. Stedry. bibliog Ind & Eng Chem 43:2372-5 O '51
Screening effect of vitamin C on the inactivation of leaf phosphatase by ultraviolet light. R. Das and K. V. Giri. Science 114:131-2 Ag 3 '51
Ultraviolet probe. C. E. Atkins. il diags Radio & Tv N 45:36-7+ Mr '51
Use of ultraviolet light as a means of diagnosing carnation mosaic. W. D. Thomas, jr. and others. bibliog Science 113:576-7 My 18 '51

Lamps

Advances in ultraviolet equipment. J. H. Laub. bibliog il diag Elec Eng 70:307-10 Ap '51
Color glamorizes concrete units; use of black light. W. B. Lenhart. il Rock Prod 53:181-3+ D '50
Hidden lost time expense; use of Sterilamps for air purification. C. J. Mack. Rayon 32:48 F '51
Infrared and germicidal lamps aid in potato conditioning. H. E. Rucks. il Elec World 135:174 My 21 '51
New photochemical lamps used in modern whiteprint machines. L. E. Barnes. bibliog il diag Illum Eng 46:41-3; Discussion. 43-4 Ja '51
Ohio bank finds black light poster really gets attention. il Bankers Mo 47:45-6 O '50
Ray-table unit curbs bacteria on sugar; to protect canners against thermophile contamination. A. F. Blake. il Food Ind 23:77 Ja '51
Ultraviolet air disinfection in room air conditioners. L. J. Buttolph. il Refrig Eng 59:54-7+ Ja '51

Measurement

Measurements of solar extreme ultraviolet and X-rays from rockets by means of a $CaSO_4$:Mn phosphor. R. Tousey and others. bibliog Phys R 83:792-7 Ag 15 '51
Photon counter measurements of solar X-rays and extreme ultraviolet light. H. Friedman and others. bibliog Phys R 83:1025-30 S 1 '51
Properties of a $CaSO_4$:Mn phosphor under vacuum ultraviolet excitation. K. Watanabe. il Phys R 83:785-91 Ag 15 '51

Physiological effect

Induced and other variations in bacterial cultures; reactions of bact. lactis aerogenes to ultraviolet light and other mutagenic agents. A. C. R. Dean and C. Hinshelwood. Chem Soc J p 1157-77 My '51
Influence of irradiation and penicillin on experimental syphilis transmission. T. F. Probey. bibliog Pub Health Rep 66:644-8 My 18 '51
Revival by light; resuscitates microorganisms apparently killed by ultraviolet. A. Kelner. il Sci Am 184:22-5 My '51
Spectral radiation involved in photoreactivation of ultraviolet-irradiated cultures of micro-organisms. T. Knowles and A. H. Taylor. il Franklin Inst J 252:217-23 S '51

ULTRAVIOLET spectrum. See Spectrum, Ultraviolet

UNCLAIMED bank deposits. See Bank deposits, Unclaimed

UNCONFORMITY
Mississippian-Pennsylvanian unconformity in southern Illinois. R. Siever. maps diags Am Assn Pet Geologists Bul 35:542-81 Mr '51

UNCONFORMITY (geology)
Ste Genevieve-Chester contact in Illinois-Kentucky fluorspar district. A. H. Sutton. bibliog il maps Am Assn Pet Geologists Bul 35:1661-8 Jl '51

UNDERDEVELOPED areas. See Backward regions

UNDERGROUND construction
Bomb shelter in Palisades urged again by engineer. Eng N 146:31 Ja 18 '51
Engineering geology principles of subterranean installations. G. A. Kiersch. bibliog diags Econ Geol 46:208-22 Mr '51
5,000-kva underground substation. J. F. Sinnott. il Elec Eng 69:965 N '50
Super blast tests sub-surface structures. il Eng N 146:28-9 Je 21 '51
Warehouse goes underground. il Bsns W p85-6 Je 23 '51

UNDERGROUND structures
Nothing can stop utility service; moving wires or conduits without interruption to customers' service. A. B. Marvin. Pub Util 46:811-16 D 7 '50
See also
Electric plants (central stations)—Underground stations
Pipe lines
Sewerage
Sewers, Concrete
Tunnels and tunneling

UNDERPINNING. See Shoring and underpinning

UNDERWATER explosions. See Explosions, Subaqueous

UNDERWEAR
Army underwear; modern designs and basic changes. T. J. Seery. il Rayon 32:34-5 My '51

Advertising

Sales-building promotion contest helps market new line; direct-mail campaign plus salesmen; Union underwear co. E. J. Dever, jr. il Ptr Ink 234:28-30 Ja 5 '51

Manufacture

Knitting techniques fix fabric shrinkage. L. I. Weiner. Textile World 101:151+ Mr '51
Underwear mill highlights preventive maintenance; Griffin knitting mills. E. D. White. il Textile World 101:96-7 Ap '51

UNDERWOOD corporation
Debt-free companies; with comparative balance sheet items. Mag of Wall St 88:404 Jl 14 '51

UNDERWRITERS' laboratories
Engineering work reorganized. Nat Underw 55:4 Je 14 '51; Weekly Underw 164:1493+ Je 16 '51
Laboratories had active testing year. N. H. Davis, jr. Weekly Underw 164:305 F 3 '51; Same. East Underw 52:23 F 9 '51

UNDERWRITERS salvage company of Chicago
Results of operations in 1950; abstract. J. McGregor. Weekly Underw 164:320 F 3 '51

UNEMPLOYMENT

Study of people who have exhausted unemployment benefits in an active labor market. R. S. Johnson. (Bur. of business research rep. 19) 61p Univ. of Michigan, School of business administration, Ann Arbor '51

Who suffers when a town's key industry shuts down? Chicago university survey. Bsns W p88 S 1 '51

Statistics

Explanatory notes on the tables on unemployment and employment, consumer prices, wages and hours of work [tabulations cont monthly]. Int Labour R 63:79-113 Ja '51

Who are the unemployed? P. M. Hauser and R. B. Pearl. Am Stat Assn J 45:479-500 D '50

Belgium

Unemployed in Belgium. Economist 159:658+ O 28 '50

Italy

Economic problems and reconstruction in Italy. A. Capanna. Int Labour R 64:24-60 Jl '51

United States

Shortage and surplus. Sci Am 185:49-50 S '51

UNFILLED orders. See Orders, Unfilled

UNICORN

Horn of the unicorn. J. T. Bonner. il Sci Am 184:42-3 Mr '51

UNIFIED field theory

Einstein's unified field theory. B. Kursunoğlu. Phys R 82:289-90 Ap 15 '51

Geometrical model for the unified theory of physical fields. J. I. Horváth. Phys R 80:901 D 1 '50

Nonlinear spinor fields. R. Finkelstein and others. bibliog diags Phys R 83:326-32 Jl 15 '51

Nonstatic solutions of Einstein's field equations for spheres of fluids radiating energy. P. C. Vaidya. bibliog Phys R 83:10-17 Jl 1 '51

UNILEVER, limited. See Lever brothers and Unilever, limited

UNILINE system. See Railroads, Single rail

UNIMERS (term)

Unimerism. J. K. Senior. J Chem Phys 19:865-73 Jl '51

UNION bag and paper corporation

New sales peak seen. Barron's 31:16-17 Je 25 '51

Stocks that should do well in war or peace; with comparative balance sheet items. Mag of Wall St 87:330 D 30 '50

Union Bag announces expansion for Savannah plant. A. Calder. il Paper Ind 33:34-5 Ap '51

UNION carbide and carbon corporation

Annual report. Comm & Fin Chr 173:967-8 Mr 5 '51

Union Carbide is concentrating on chemical end of its business. S. B. Self. Barron's 31:11-12 Jl 2 '51

UNION-CASTLE mail steamship company, limited

Statement by the chairman. V. Thomson. Economist 160:1407 Je 9 '51

UNION corporation, limited

Statement by the chairman. P. M. Anderson. Economist 160:1401-2 Je 9 '51

UNION electric company of Missouri

Bonds offered. Comm & Fin Chr 172:2225 D 11 '50

UNION of pure and applied chemistry, International. See International union of pure and applied chemistry

UNION oil company

Fast regaining former earning potential. Barron's 31:17 Mr 12 '51

UNION Pacific railroad

Annual report, 54th, year ended Dec. 31, 1950. Comm & Fin Chr 173:1854-5 My 3 '51; Same. Ry Age 130:118-20 My 14 '51

UNION shops. See Open and closed shop

UNIONMELT process. See Electric welding—Unionmelt process

UNISOL process. See Gasoline—Manufacture

UNIT heaters. See Heaters; Hot water heaters; Steam heaters

UNIT processes

Chemical engineering unit operations; sixth annual review. bibliog il Ind & Eng Chem 43:37-116 Ja '51 (reprints 50c)

Chemical engineering unit processes; fourth annual review. bibliog il diags Ind & Eng Chem 43:1893-2052 S '51 (reprints 50c)

Unit operations. T. H. Chilton. bibliog il Ind & Eng Chem 43:295-7 F '51

Unit process pilot plant. H. L. Shulman. il diags Ind & Eng Chem 43:1257-60 My '51

Unit processes. R. N. Shreve. il Ind & Eng Chem 43:297-9 F '51

Unit processes; Chemical Engineering report, March 1951. diags Chem Eng 58:129-41 Mr '51

See also

Sublimation

UNITED air lines

Making a big business out of air. il map Bsns W p 138-42 Je 16 '51

Q&A sessions with boss in UAL news. W. A. Patterson. Aviation W 53:58-9 N 13 '50

United air lines 1950; net well ahead of 1949. Barron's 30:14 D 25 '50

UNITED aircraft corporation

Profits won't keep pace with rising defense output. C. A. Clark, jr. Barron's 31:9-10 Jl 16 '51

Six stocks behind the market; ready to move. J. C. Clifford. Mag of Wall St 88:688-9 S 22 '51

UAC aims high; expansion program. Aviation W 54:17 Mr 26 '51

UNITED artists corporation

Trio unites to save United Artists. Bsns W p 102-5 Ap 28 '51

UNITED automobile workers of America (International union, United automobile, aircraft and agricultural implement workers of America)

Allis-Chalmers backs union. Bsns W p38 Je 16 '51

Area pension plan perks up. Bsns W p 120-1 N 4 '50

Bargaining aims. Bsns W p 117-18 Ja 27 '51

Burroughs drive. Bsns W p 140 Mr 17 '51

Convention, 13th, Cleveland, April 1-6. Mo Labor R 72:648-51 Je '51

Ford hit by new bid for UAW power. Bsns W p32+ Je 9 '51

In an era of controls UAW takes a new tack. Steel 128:50-1 F 5 '51

Kefauver echo; UAW files unfair labor charge against Briggs mfg. Bsns W p 133-4 Mr 24 '51

Kefauver legacy; UAW opens new drive at Detroit-Michigan Stove. Bsns W p39 Je 16 '51

Left turn at Ford; Local 600. Bsns W p 130+ N 4 '50

Lewis joins war on Reuther. il Bsns W p32 Je 30 '51

Master contract for U.S. and Canada; Electric auto-lite co. and UAW. Bsns W p96 D 9 '50

Mutiny at Ford; Local 600. il Fortune 44:43-4+ Ag '51

Mutiny in the ranks threatens. H. C. Tuttle. Steel 129:59-60 Jl 2 '51

Practical aims and purposes of American labor; major achievements of the UAW-CIO. W. P. Reuther. Ann Am Acad 274:64-74 Mr '51

Program for vets; UAW demands rights for drafted workers. Bsns W p 127-8 N 11 '50

Union politics in Electric auto-lite co. Bsns W p 134-5 F 24 '51

UAW is a tipoff; Cleveland convention. Bsns W p35-6 Ap 7 '51

UAW local fails in bid to control supervisors at Kaiser-Frazer. Bsns W p 136 F 17 '51

UAW loses Wisconsin bid. Bsns W p34+ Ap 21 '51

UAW sued by Midland Steel. Bsns W p 134 Mr 17 '51

UAW; war of words. il Bsns W p30+ S 8 '51

Wildcat strikers may get fired from UAW. Bsns W p36 Ag 4 '51

UNITED cigar-Whelan stores corporation

Marketing pattern. Bsns W p 102 Mr 24 '51

Stockholders fume at top brass. il Bsns W p22-3 O 6 '51

UNITED corporation
Plan approved by SEC. O. Ely. Pub Util 48:115-16 Jl 19 '51
SEC denies charges of favoritism in not forcing United corp. breakup. Elec World 136:88 Ag 27 '51
Securities disturbing investors. R. Colston. Mag of Wall St 88:375-6 Je 30 '51
To become investment company. Comm & Fin Chr 173:2614 Je 25 '51

UNITED dairies, limited
Statement by the chairman at annual general meeting. L. Maggs. Economist 159:566-7 S 30 '50

UNITED drill and tool corporation
Outlook favorable. Barron's 31:16 S 3 '51

UNITED electrical radio and machine workers of America
No union; Sylvania Electric workers in Altoona reject leftist group. Bsns W p 127 D 16 '50
UE and IUE tangle again. Bsns W p40 My 26 '51

UNITED engineering and foundry company
Five companies with big order backlogs; with comparative balance sheet items. Mag of Wall St 88:304 Je 16 '51

UNITED engineering trustees, inc.
Report for 1949-1950. Mech Eng 73:83 Ja '51

UNITED fruit company
Where bananas won't grow, oil palms will. il Bsns W p 148-9 Mr 24 '51

UNITED gas corporation
Bonds offered. Comm & Fin Chr 174:407 Jl 30 '51
Files financing program. Comm & Fin Chr 173:2193 My 28 '51
New expansion will not dilute common. Barron's 31:11-12 Mr 26 '51

UNITED gas improvement company
Public utility securities. O. Ely. Comm & Fin Chr 174:82 Jl 5 '51

UNITED labor policy committee
End of functional unity. Fortune 44:60+ O '51
United front on mobilization; unions new policy committee. Bsns W p66 D 30 '50

UNITED merchants and manufacturers, inc.
Running at capacity. Barron's 31:23 Mr 19 '51

UNITED mine workers of America
Behind the coal pact scenes; how Lewis' won $1.60-a-day boost. Bsns W p 112-14 Ja 27 '51
NLRB examiner rules on UMWA unfair labor charges. Coal Age 56:164+ F '51
Resumption of benefits under UMWA welfare fund. Mo Labor R 71:706-9 D '50
Trouble again in Kentucky. il Bsns W p34+ S 22 '51
UMW acts to swell treasury. Bsns W p 126+ F 10 '51
UMW extends sway to mine construction. Bsns W p 109 O 28 '50

UNITED nations
Against aggression; Acheson plan. Economist 159:637-8 O 28 '50
Aggression and the veto. Economist 159:620 O 21 '50
Close look at the U.N. W. A. Robertson. Comm & Fin Chr 172:2529+ D 28 '50
Eye-witnesses of aggression; United nations observer system. Economist 161:381-2 Ag 18 '51
Gloomy outlook for foreign investment under United nations. P. Einzig. Comm & Fin Chr 174:869 S 6 '51
Mr Acheson's lead. Economist 159:545-6 S 30 '50
Tainting the secretary-general. Economist 159:685 N 4 '50
United nations and full employment. L. L. Lorwin. For Comm W 41:3-4+ O 23 '50
U.N. bogs down over China. Bsns W p97-8 F 3 '51
Uno plans for peace. Economist 159:890 N 25 '50
Who helped the United nations? Economist 159:1089 D 16 '50
Yearbook of the United nations, 1948-49. 1171p $12.50 Columbia univ. press, 2960 Broadway, New York 27 '50

Biography

Who's who in the United nations. C. E. Burckel, ed. 580p Christian E. Burckel & associates, 33 Washington st., Yonkers 2, N.Y. '51 ($12)

Covenant on human rights

UN treaty imperils press freedom; freedom lovers wrote each phrase. J. W. Bricker; Z. Chafee, jr. Ed & Pub 84:10-11+ Jl 28 '51

Economic and social council

National and international measures for full employment; recommendations of the Economic and social council. Int Labour R 63: 40-63 Ja '51

Headquarters

Beating the leaks in a glass and metal wall like the U.N.'s. il diags Arch Forum 94: 204-5+ Je '51
Concrete pipelines for United nations. Eng N 146:30 Mr 22 '51
Secretariat; a campanile, a cliff of glass, a great debate. il plans diags Arch Forum 93:93-112 N '50
United nations Secretariat building. il Engineer 191:265-6 F 23 '51

Press facilities

Press praised in crisis as it opens new UN home. R. Erwin. Ed & Pub 84:12+ Ja 13 '51

Radio division

United Nations radio. K. R. Boord, comp. Radio & Tv N 45:55+ Mr '51

Reporters and reporting

News correspondents move to new United Nations home. R. Erwin. Ed & Pub 84:5 Ja 6 '51

Technical assistance program

UNO's army of experts; report on technical aid programme. Economist 161:400-1 Ag 18 '51

UNITED nations educational, scientific and cultural organization
Informal report on UNESCO conference on the improvement of bibliographical services. F. C. Francis. Aslib Proc 3:91-7 My '51
Problems of United nations in fight against illiteracy; Florian-Larsen plan. S. Hinrichsen. il Inland Ptr 127:73-4 Ap '51
UNESCO's activities and possibilities as viewed by an engineer. R. M. Gates. Mech Eng 73:496-7 Je '51

UNITED New Jersey railroad and canal company
Bonds offered. Comm & Fin Chr 173:665 F 12 '51

UNITED packinghouse workers of America
Lawyers of the jungle. Fortune 43:52+ Je '51
Union fights discrimination. il Bsns W p40+ O 6 '51

UNITED paramount theaters, inc.
ABC wed at last; merger with Paramount. Bsns W p20 Je 2 '51
Proposed merger. Comm & Fin Chr 173:2193 My 28 '51

UNITED press
Annual meeting, New York. Ed & Pub 84: 140-1 Ap 28 '51
Roy Howard praised for U.P.'s service. E. J. Meeman. Ed & Pub 84:38 My 12 '51
U.P. enlarges news service for Australia. H. Baillie. Ed & Pub 84:14 Jl 21 '51
U.P. establishes sixth division; Albany center. H. Baillie. Ed & Pub 84:70 Ja 13 '51

UNITED rubber workers of America
Inelastic rubber workers. Fortune 44:45-6+ Jl '51
Rubber may set sixth-round pay pattern. Bsns W p 108 Ja 20 '50
Union shop wins; Goodyear gives in to URW. Bsns W p31-2 Ap 7 '51

UNITED STATES

Agriculture, Department of

Election-year package for the farm states; Brannan's Family farm policy review. Bsns W p24-6 S 29 '51

Air service

Air appropriations rise five billion dollars. Aviation W 54:14-15 Ja 8 '51
Air force and industry study production. W. Kroger. Aviation W 53:17-18 N 13 '50

UNITED STATES—Air service—*Continued*

AF big enough? J. A. McCone. Aviation W 54:16 Je 25 '51
Air force commits 99.6 per cent of fiscal '51 funds. Aviation W 54:18 F 5 '51
AF freezes plane types to speed output. B. S. Lee. Aviation W 54:13-14 Ap 30 '51
AF, navy earmark '51 fiscal funds. Aviation W 54:14-15 Je 11 '51
AF overhaul. Aviation W 55:15-16 Jl 9 '51
Air force procurement and expansion program. J. A. McCone. Aeronautical Eng R 10:12-15 Je '51
AF procurement districts ease problems. Aviation W 55:31 S 24 '51
AF pushes buildup of B-47 jet bomber. A. McSurely. Aviation W 54:13-14 Ap 16 '51
Air force reports on methods projects; progress shown in joint production program. Aviation W 53:13-14 N 27 '50
AF reveals plans for engineering center; Arnold engineering development center. D. A. Anderton. Aviation W 55:13-14 Jl 2 '51
AF shuffle; reassignment of high officers. Aviation W 54:16 Je 4 '51
AF specialists train at 12 civil schools. Aviation W 54:14 Je 11 '51
Air force, where it stands today, and why. il Aero Digest 62:20-1+ Ja '51
Air forces planning. T. K. Finletter. Air Affairs 3:589-96 D '50
AMC expediter; new Industrial planning division will help solve manufacturer problems. Aviation W 54:19 Mr 5 '51
AMC tells how to do business with AF. Aviation W 53:15 N 6 '50
Army due to buy more planes. B. S. Lee. Aviation W 53:14-15 N 13 '50
Army plane purchases to grow. Aviation W 54:15 Ap 16 '51
Bid rules ease for air force $500 million dormitory plans. Eng N 147:23-4 S 20 '51
Buying change; new procurement rule lets small firms bid on negotiated contracts. Aviation W 55:13 Jl 16 '51
Clinic charts new business path; first joint procurement show. il Aviation W 54:18-19 My 28 '51
Congress questions contract slow-down. B. Lee. Aviation W 53:13-14 D 18 '50
Dispute over funds split delays build-up. K. Johnsen. Aviation W 54:14-15 Mr 26 '51
Down to earth; Vandenberg's view on strategic air power. Barron's 31:1 Je 4 '51
18th AF's job; troop transport. Aviation W 54:15 Ap 30 '51
Establishment of Air research and development command. Aviation W 53:14-15 N 6 '50
General O'Donnell denies AF factional fight. Aviation W 55:18 Jl 9 '51
Group strength classification. Aviation W 54:14 F 26 '51
House gets $15-billion air power budget. B. S. Lee. Aviation W 55:13-15 Ag 13 '51
Industrial mobilization planning with the aircraft industry. A. H. Johnson. S A E J 58:23-4+ N '50
Is USAF troop support adequate? B. S. Lee. Aviation W 54:14 F 12 '51
Mental hygiene service at a United States air force base. O. B. Schreuder and others. Ind Med 20:218-20 My '51
Money for production; obligations contemplated under the 1952 fiscal year budget. Aviation W 55:13 S 24 '51
Pentagon switches on aircraft. Bsns W p30+ Mr 3 '51
Quesada quitting in policy squabble. Aviation W 55:15 Jl 30 '51
Research command starts to function; Air research and development command rapidly taking shape. Aviation W 55:14 Jl 2 '51
Semi-annual report of the secretary of the air force. T. K. Finletter. Aviation W 54:66 Ap 9 '51
Strategic air warfare. R. A. Ofstie. il U S Naval Inst Proc 77:590-9 Je '51
U.S. air force machinability report, 1951. Am Mach 95:161-8 O 1 '51
USAF reveals plans for reopening plants. B. Lee. il Aviation W 53:15 D 25 '50
USAF spurs expanded production. Aviation W 54:14-15 F 26 '51
Vandenberg expected to step out soon; other command changes. Aviation W 54:13-14 Je 18 '51
What would 150-wing air force mean? il Bsns W p91-2+ S 22 '51
Where buying feeds production; Air materiel command quickens its pace. B. C. Dempsey. Aviation W 55:21-2+ S 24 '51
Where construction money will go. Aviation W 53:15 N 13 '50
Why, strategic air communications. F. L. Ankenbrandt. il Radio & Tv N 44:63-5+ D '50
Wolfinbarger named to air support unit. Aviation W 55:15 S 10 '51

Accounting

How air force mechanized; Kelly air force base, San Antonio, mechanizes its accounting. Am Bsns 21:45-6 Ja '51

Equipment and supplies

Air force contracts. Aviation W 53:17 D 4 '50 [cont weekly]
Air force invitations. Aviation W 53:17 O 30 '50 [cont weekly]
Air force needs fast fire trucks. il Automotive Ind 104:38-9+ Je 1 '51
Air materiel command buyers. Aviation W 55:32+ S 24 '51
Armed services rely on industry; air force buying. K. B. Wolfe. il Mill & Factory 48:80-2 Mr '51
Contracts listing. Aviation W 53:17 N 27 '50
Defense contracts; how to sell to the air force. S. Gerstin. Tele-Tech 10:33-6 My '51
Doing business with the air force; what and where; directory. Bsns W p98 My 26 '51
USAF awards. Aviation W 53:19 D 11 '50
USAF decentralizes supply setup. map Automotive Ind 104:56+ My 1 '51

Safety program

Third DSS award for air force. Nat Safety N 63:19 My '51

Air service, Navy

AJ-1 gives navy increased punch. il Aviation W 53:14 N 6 '50
Allison gets heavy T-40 orders. A. McSurely. Aviation W 54:14-15 Ja 1 '51
Five in field for navy chief post. Aviation W 55:17 Ag 6 '51
Grumman F9F Panther. il diags Aero Digest 61:24-7+ D '50
Naval aviation at mid-century. M. W. Cagle. il U S Naval Inst Proc 77:604-8 Je '51
Naval aviation orders reach $1.4 billion. A. McSurely. Aviation W 54:12-13 Ja 22 '51
Navy air strength shows increase. Aviation W 54:16 F 26 '51
Navy orders new jet fighter from NAA. il Aviation W 54:17 Ja 29 '51
Navy's needs changing with new role. il Aviation W 55:49-50 S 24 '51
Privateer incident. M. W. Cagle. il U S Naval Inst Proc 76:1336-43 D '50
We can reach the reds; interview with John H. Cassady. L. Shloss. il Aero Digest 62:22-3+ Ja '51

Antiquities

Early Americans. F. H. H. Roberts. il diag Sci Am 184:15-19 F '51

Apprenticeship, Bureau of

Training manpower for defense production. W. F. Patterson. il Mill & Factory 48:107-10 Je '51

Appropriations and expenditures

Interior's sails trimmed by House appropriation bill (HR 3790). Pub Util 47:695-6 My 24 '51

See also
Budget—United States

Armed services

Civilian engineers needed by armed services. Electronics 23:132+ N '50
Defense means development. il Chem Ind 67:720-1 N '50
Development of unification. D. W. Knox. il U S Naval Inst Proc 76:1308-15 D '50
How big the army? F. Morley. Barron's 30:3 D 18 '50
How engineers can apply for commissions. Pub Works 82:53-4 F '51

UNITED STATES—Armed services—*Cont.*

Inter-service dispute viewed with European eyes. J. A. Lukacs. il U S Naval Inst Proc 76:1236-47 N '50

Little disorder, please. Fortune 44:63-4 Jl '51

Military soft-pedals requests. Bsns W p136+ My 5 '51

New order of power? Fortune 44:81-2 O '51

No changes; all members of JCS to remain. Aviation W 54:18 Je 25 '51

Our vulnerable flank; the Arctic. C. W. Thomas. il U S Naval Inst Proc 77:146-51 F '51

This is the year. Fortune 43:53-60 Ja '51

See also

United States—Air service

United States—Army

United States—Navy

Dictionaries

New military and naval dictionary. F. Gaynor, ed. 295p bibliog(p291-5) $6 Philosophical library, 15 E. 40th st, New York 16 '51

Equipment and supplies

Armed services rely on industry. il diag Mill & Factory 48:75-82 Mr '51

Defense contract awards; list taken from news pages of American machinist beginning with issue of Aug. 7, 1950, and continuing up through Jan. 8, 1951. Am Mach 95:158-64 Ja 22 '51

Defense contract awards; orders placed for military vehicles, aircraft and related equipment. Automotive Ind 104:180+ Mr 15 '51

Defense contracts; who gets the business? S. Gerstin. Tele-Tech 10:28-9+ S '51

Impact of defense requirements in the pulp and paper industry. C. K. Royce. Tappi 34: sup 112A-13A Ag '51

Latest defense awards. Am Mach 94:167 S 4; 145 S 18; 134-5 O 30; 178-9 N 13; 144-5 N 27; 182-3 D 11 '50; 95:133-4 Ja 8; 174-6 F 5; 233-6 F 19; 197-8+ Mr 5 '51

Major metal products bought by the armed forces and where they are bought. Iron Age 167:371-3 Ja 4 '51

Military contract awards; manufacturers who have received contract awards for producing of radio-radar-electronic equipment for the armed services. Tele-Tech 10:87-91 My; 72-3 Ag; 66+ S '51

Military packaging requirements; summary of panel discussion. J. A. Way and others. Mod Packaging 4:122-3 My '51

Packaging and rearmament; panel discussion; abstract. H. T. Holbrook and others. Mod Packaging 24:120-2 D '50

Wake up, Uncle Sam! packaging lessons of the last war. H. T. Holbrook. map Mod Packaging 24:73-6+ N '50

Your guide to government procurement. Am Mach 95:152-4 Ja 22 '51

Medical and sanitary affairs

Medical care for members of the armed services. R. L. Meiling. Ann Am Acad 273:93-8 Ja '51

Reserves

Call on reserves will go up this fall. Bsns W p22 Ag 11 '51

Citizen soldier. E. S. Hoag. Air Affairs 3:500-8 D '50

Defense department proposes long-range reserve policies. R. Gibbs. Chem & Eng N 29: 1706-7 Ap 30 '51

Inactive reserves can relax. Bsns W p23 Ap 21 '51

Reservist problem. Science 114:108-9 Jl 27 '51

Textile requirements

Quartermaster and his defense orders. Rayon 32:34-5+ Mr '51

Army

Army almanac. 1009p $3 U.S. Supt. of doc. Washington 25 '50

Army gets stronger voice in tactical air. Aviation W 55:16-17 Jl 23 '51

Army plane purchases to grow. Aviation W 54:15 Ap 16 '51

Army's role in air power. Aviation W 54:17 F 26 '51

Case against army segregation. E. W. Kenworthy. Ann Am Acad 275:27-33 My '51

U.S. fights in luxury. il Bsns W p22-3 Ap 7 '51

Accounting

Army's internal audit program; how it works, what it is designed to accomplish. J Account 92:304-6 S '51

Appropriations and expenditures

Price of a division. Fortune 42:74-6+ D '50

Chemical corps

Chemical corps establishes engineering agency and operations research group. R. Gibbs. Chem & Eng N 29:2022 Mr 21 '51

Chemical corps expands training operations; pictorial presentation. Chem & Eng N 29: 2490-1 Je 18 '51

Industrial mobilization; abstract. A. C. McAuliffe. Chem Eng 57:291-2 N '50

Military procurement today. V. C. Searle. Am Dyestuff Rep 40:283-5 Ap 30 '51

Clothing

Army underwear; modern designs and basic changes. T. J. Seery. il Rayon 32:34-5 My '51

Wool ceilings lifted to ease army shortage. Bsns W p36 F 24 '51

Commissariat

Military increases frozen food usage. Refrig Eng 58:1098 N '50

Military packaging; container requirements. A. V. Grundy and F. Rubinate. il Food Eng 23:111-14+ S '51

Quartermaster needs; fuel tablet. W. Stubblebine. Chem Eng 58:278-9 My '51

Education

Army's photo school gives full treatment. J. L. Collings. Ed & Pub 84:48 F 17 '51

Engineer corps

Army engineers build Austrian homes. il Eng N 146:48+ Je 7 '51

Army Engineers corps is criticized for making unreliable cost estimates. Elec World 136:81 Ag 27 '51

Directory of government construction officials; army Corps of engineers. Arch Rec 109:16a-16b Mr '51

Emergency civil works. C. H. Chorpening. Mech Eng 73:413-14 My '51

Engineer research and development laboratories, Fort Belvoir, Va. plans diags Arch Rec 110:122-3 S '51

Equipment and supplies

Armed services rely on industry; army buying. T. B. Larkin. il Mill & Factory 48: 78-9 Mr '51

Army buying activities; what and where; directory. Bsns W p94-5 My 26 '51

Army buying; funds set aside for purchasing four Chase C-122C transports. Aviation W 54:17 Mr '51

Army needs for rubber-like materials; abstract. W. Stubblebine. India Rubber World 124:74-5 Ap '51

Army refrigeration requirements. J. W. Millard. il Refrig Eng 59:666-7+ Jl '51

Don't forget the quartermaster. il Steel 129: 54-5 Ag 6 '51

Fuels and lubricants trends for army equipment. B. S. Mesick. Am Pet Inst Proc 30(2):27-31 '50; Same. Pet Refiner 29:88-92 D '50; Same cond. Oil & Gas J 49:283+ N 16 '50; Excerpts. Nat Pet N 42:25-6 N 15 '50

Ice cream is regular treat for GI's in Korea, thanks to portable plants. il Refrig Eng 59: 896 S '51

Ordnance awakens its sleeping arsenal; storage methods of army ordnance. J. Kolb. il plan Iron Age 167:92-5 Ap 26 '51

Finance department

Army finance school; counterpart of banking is the Army finance corps. J. C. Lackas. il Banking 43:40+ Je '51

Libraries

Perm Base library, Guam, M.I. D. W. Sargent and M. A. Parker. Special Lib 42:259-60+ S '51

UNITED STATES—Army—*Continued*

Officers

Defining the requirements of the executive's job; critical incident technique; pilot studies of army officers and research workers. J. C. Flanagan. Personnel 28:28-35 Jl '51

Parachute troops

Field service report on C-119; first Korean combat paradrops. Aviation W 53:15 N 27 '50

Post exchanges

See Post exchanges

Public relations

How I got a $200 million account; agency owner gets 25th infantry division as public information account. A. A. David. Adv Agency 44:71+ O '51

Research

Metallurgical activities at Aberdeen proving ground. il diag Metal Prog 59:499-502 Ap '51

Signal corps

Defense contracts; how to sell to the signal corps. S. Gerstin. Tele-Tech 10:34-5+ Ap '51

Engineering the integrated communications system. E. R. Petzing. il Radio & Tv N 44:38-9+ D '50

Planning integrated signal communications. W. T. Guest. il Radio & Tv N 44:36-7+ D '50

Textile requirements

Army discovers the fibers. Rayon 32:33+ Ap '51

Capitol

New strength and beauty built into Capitol. il diag Eng N 147:30-2 Ag 9 '51

Civilization

American way of life. il Fortune 43:62-7+ F '51

Contemplation; its status in our society. J. A. Joffe. bibliog Tech R 53:26-9 N '50

Have we any friends? il Fortune 43:116-20+ F '51

Coast and geodetic survey

National geodesy, status and planning. L. O. Colbert. Am Soc C E Proc 77 [no 63]:1-6 Mr '51

Coast guard

Air-sea rescue service

Seaplane in the U.S. coast guard. D. B. MacDiarmid. il S A E J 59:56-7 Ag '51

Commerce

Balance of international payments, third quarter of 1950. Survey of Cur Bsns 30:5-10 D '50

Balance of international payments, fourth quarter of 1950; with tabulations. W. Lederer. Survey of Cur Bsns 31:6-11+ Mr '51

Balance of international payments, first quarter of 1951; with tables by area, 1948-1950. W. Lederer. Survey of Cur Bsns 31:15-23 Je '51

Balance of international payments, second quarter of 1951; with tables. Survey of Cur Bsns 31:9-12+ S '51

Current prospects for U.S. trade with the Far East. il For Comm W 45:3-4+ O 15 '51

Foreign trade in 1950. Survey of Cur Bsns 31:24-6 F '51

Foreign trade indexes; exports of U.S. merchandise and imports, 1913-1950; revised data. Survey of Cur Bsns 31:27-8 Jl '51

Foreign trade pattern changing. Nat City Bank p 101-3 S '51

Imported articles essential to the United States; value of such imports in 1949, and percentage supplied by principal countries; tabulation. For Comm W 42:27-8 Ja 15 '51

Imported articles essential to the United States; value of such imports in 1950 and percentage supplied by principal countries; tabulation. For Comm W 42:31-2 Mr 26 '51

Merchandise exports and imports, monthly Jan. 1946-Nov. 1950. Fed Res Bul 37:84 Ja '51 [cont monthly]

Recent balance of payments developments; with tabulation of payments of the U.S. Oct. 1948-Sept. 1950. R. L. Sammons. For Comm W 42:5-6+ Ja 22 '51

This is the turning point in U.S. trade. Bsns W p 129 Jl 28 '51

Trade joins forces; European sales efforts. F. P. Forbes. il For Comm W 41:3-5 N 20 '50

Trends in international trade and payments. Fed Res Bul 37:363-72 Ap '51

U.S. foreign trade, first half of 1950; with charts of imports and exports. G. A. Witherow. For Comm W 41:3-5+ O 30 '50

U.S. foreign trade in January-June 1951; with graph and tables. G. A. Witherow. For Comm W 45:3-5+ O 1 '51

United States foreign trade, 1950; with charts and tabulations. G. A. Witherow. For Comm W 43:3-7+ Ap 16 '51

United States foreign trade; total trade; distribution by countries and areas and by leading commodities; 1936-1938 annual average, figures for selected months Dec. 1949-Dec. 1950 and annual figures, 1949 and 1950. For Comm W 42:5-8+ Mr 5 '51 [cont quarterly]

U.S. strikes a new trade balance. Bsns W p 101-2+ D 9 '50

U.S. trading prospects in 1951. E. E. Schnellbacher. For Comm W 43:3-5 My 21 '51

Bulgaria

See Bulgaria—Commerce

Czechoslovakia

See Czechoslovakia—Commerce

Japan

See Japan—Commerce

Latin America

See Latin America—Commerce

Commerce, Department of

Government help and information; directory of field offices. Metal Finishing 49:69 Ag '51

U.S. Department of commerce field offices; directory. Iron Age 167:374 Ja 4 '51; Same cond. Am Mach 95:152 Ja 22 '51

Commercial policy

Ferment over cheese; U.S. foreign trade policy is in bad odor. Barron's 31:1 S 17 '51

International economics and national defense. W. M. Martin, jr. Comm & Fin Chr 172:1790+ N 9 '50

Reciprocal trade agreements program. H. P. Macgowan. il For Comm W 44:3-5+ Jl 30 '51

Trade agreement concessions suspended with regard to imports from Bulgaria. For Comm W 45:26 O 1 '51

Trade-agreement concessions suspended with respect to imports from Czechoslovakia. For Comm W 45:27 O 15 '51

See also

Economic cooperation administration
Export trade—Regulation
Imports
Tariff—United States

Congress

Biographical directory of the American Congress, 1774-1949. 2057p ($9.50) Supt. of doc. Washington '50

Congress' own budget bureau. Bsns W p 19-20 Ag 4 '51

Eighty-second Congress convenes. F. Morley. Barron's 31:3 Ja 1 '51

Constitution

Twenty-second amendment. F. Morley. Barron's 31:3 Mr 5 '51

Council of economic advisers

Truman's economic advisers urge more production and consumer controls; excerpts from fifth annual report to the President. Comm & Fin Chr 173:62-3+ Ja 4 '51

UNITED STATES—*Continued*

Cultural relations

Have we any friends? il Fortune 43:116-20+ F '51

Defense, Department of

Defense department's construction employment policy. Mo Labor R 71:687-8 D '50

Scientific manpower. E. L. Hess and others. Science 114:107-8 Jl 27 '51

T. L. Kane insurance chief of Department of defense. Nat Underw 54:2+ N 16 '50

Defense manpower, Office of

Office of defense manpower in Department of labor. Mo Labor R 71:575 N '50

Defense mobilization, Office of

Defense mobilization chief takes office. Oil Paint & Drug Rep 158:3 D 25 '50

Labor's spokesman in ODM; G. M. Harrison. Bsns W p34-5+ Je 23 '51

Mobilization director's first quarterly report; summary. Mo Labor R 72:543-5 My '51

New men for a new job. Bsns W p 19-20 D 23 '50

ODM unifies. Aviation W 54:63-4 Mr 19 '51

Personnel directory. Iron Age 168:insert Ag 30 '51

Sidney brings them in; recruiter-in-chief for Mobilizer Wilson. Bsns W p89-90+ Ja 27 '51

Wilson of GE takes top production job. S. Hull. Eng & Min J 152:90 Ja '51

Wilson's pattern for mobilization; organization chart. Bsns W p22 Ja 13 '51

Defenses

Adequate defense calls for industry-military coordination. B. B. Jennings. Pet Refiner 29:85+ N '50

Already, U.S. is a military nation again. Bsns W p22-4 Mr 17 '51

Announces defense plans; text of radio address, Dec. 15. H. S. Truman. Comm & Fin Chr 172:2444+ D 21 '50

Brainpower called U.S. hope for beating Russians. Chem & Eng N 29:2142+ My 28 '51

Coming impact of defense program on the civilian economy. J. W. Snyder. Comm & Fin Chr 174:1248 O 4 '51

Cost of the cold war. Nat City Bank p 110-13 O '51

Decisions coming in cold war. il map Bsns W p21-3 Ag 18 '51

Defense mobilization action, Dec. 1950-Jan. 1951. Mo Labor R 72:281-2 Mr '51

Defense organizations; directory. Steel 128:102+ Ja 1 '51

Defense program accelerates. Survey of Cur Bsns 31:2-4 Ap '51

Defense spending speeds up. Bsns W p 134+ Ap 7 '51

Fallacies of an area defense. J. F. Dulles. Comm & Fin Chr 173:64+ Ja 4 '51

Financial implications of rearmament. B. H. Beckhart. Comm & Fin Chr 172:1583+ O 26 '50

Full speed ahead? Economist 159:580 O 7 '50

Getting into gear. F. Morley. Barron's 31:3 Ja 8 '51

Handbook of emergency defense activities. 115p Federal register division, National archives and records service, General services administration; pa 25c Supt. of doc. '51

Health resources in defense of the Nation. F. Feiman and others. Pub Health Rep 65:1493-528 N 17 '50

How should we pay for rearmament? Mill and Factory survey. Mill & Factory 48:67-70 Ja '51

I.E.S. research for defense. A. F. Wakefield. Illum Eng 46:373-4 Jl '51

Industry and the defense effort. W. V. O'Brien. Edison Elec Inst Bul 19:149-52+ My '51

Inflation and wage-management discord is sabotaging defense. E. A. Johnston. Comm & Fin Chr 173:1435 Ap 5 '51

National estimate. il Fortune 43:86-91+ Ap '51

National security and military policy. R. E. Williams, jr. U S Naval Inst Proc 77:235-45 Mr '51

Natural gas in relation to national defense. P. Kayser. Pet Eng 23:D31-2+ Je '51; Same cond. Pub Util 47:714-16 My 24 '51; Same cond. Am Gas Assn Mo 33:8-10 Je '51

Partial war and economic expansion. M. R. Gainsbrugh. Comm & Fin Chr 172:1591+ O 26 '50

Preparation for defense; co-operation between government agencies, manufacturers, and scientists urged. A. R. von Hippel. Tech R 53:245-8 Mr '51

President pleads for war potential build-up; text of message on state of Union. Comm & Fin Chr 173:159+ Ja 11 '51

President sets mobilization program; excerpts from economic message to Congress. Comm & Fin Chr 173:258+ Ja 18 '51

Progress toward defense power. C. E. Wilson. Comm & Fin Chr 173:2147+ My 24 '51

Realistic appraisal of defense program and financing. E. A. Krauss. Mag of Wall St 87:433-5+ Ja 27 '51

Scope of our rearmament program. E. M. Zuckert. Comm & Fin Chr 172:12+ sec 2 O 19 '50

Symposium for defense. Pub Health Rep 66:827-33 Je 29 '51

To defend America, we must avoid inflation. L. H. Brown. Comm & Fin Chr 172:2278+ D 14 '50

We can have defense structure and sound economy by end of 1953. C. E. Wilson. Comm & Fin Chr 174:1047+ S 20 '51

We must plunge even faster into all-out mobilization; interview with Senator Lyndon Johnson. Factory Management 109:64E-64F Ja '51

What price defense? M. Winkler. Comm & Fin Chr 173:816 F 22 '51

Who's who in the defense organization. Steel 129:45-7 O 1 '51

You can't buy national defense. J. F. Jelley. Civil Eng 20:708-9 N '50

Your defense dollar. Aero Digest 62:52+ My '51

See also

Civilian defense
Defense production act
Industrial mobilization
Petroleum administration for defense
United States—Air service
United States—Armed services
United States—National security resources board
United States—Navy

Description and travel

Sea to shining sea. col il Fortune 43:101-8 F '51

Economic conditions

Analysis of economic conditions. M. Nadler. Comm & Fin Chr 173:1227+ Mr 22 '51

Current economic trends and their implications. O. G. Saxon. Comm & Fin Chr 173:2261+ My 31 '51

Economic implications of a Korean settlement. R. L. Reierson. Comm & Fin Chr 174:237+ Jl 19 '51

Economic implications of Korean crisis. S. H. Slichter. Comm & Fin Chr 172:2179+ D 7 '50

Economic outlook and the Washington scene. E. P. Schmidt. Comm & Fin Chr 173:2041+ My 17 '51

Economic outlook and the Washington scene; address at Seattle. E. P. Schmidt. Comm & Fin Chr 173:2670-1+ Je 28 '51

Economic puritanism, fact or fiction; high standard of living leads to prosperous economy. P. M. Mazur. Advanced Management 15:23-5 D '50

Economy expands under pressure of demand; review of 1950; with graphs, charts and tabulations. Survey of Cur Bsns 31:1-32 F '51

Estimates of gross national product in constant dollars, 1929-49. G. Jaszi and J. W. Kendrick. Survey of Cur Bsns 31:6-11 Ja '51

Expenditures and incomes in 1950. Fed Res Bul 36:1565-76 D '50

Glancing at 1951. M. Palyi. Comm & Fin Chr 173:524-5 F 1 '51

Hindsight on an old bogey; theory that our economy has no new frontiers for employment of capital and labor. Nat City Bank p21-3 F '51

UNITED STATES—Economic conditions—*Cont.*

History of the future; outlook for our country in the years ahead. J. P. Wernette. Life Ins Courant 56:12-13+ Mr; 12-14+ Ap '51
Impact of defense program on American economy. E. S. Mason. Comm & Fin Chr 172:2077+ N 30 '50
In goods and capacity, we're readier than we think; with pictograph of inventory and production; 1940 and now. Bsns W p22-3 Ja 20 '51
Major economic adjustment if shooting war stops? W. Gates. Mag of Wall St 88:436-8+ Jl 28 '51
National income and corporate profits, first quarter 1951; with figures for 1948-1950. Survey of Cur Bsns 31:8+ Jl '51
National income and product in the second quarter of 1951; with charts and table. Survey of Cur Bsns 31:3-9 Ag '51
Outlook for 1951. J. M. Dawson. Comm & Fin Chr 172:2532+ D 28 '50
Partial war and economic expansion. M. R. Gainsbrugh. Comm & Fin Chr 172:1591+ O 26 '50
Props in our defense economy. E. A. Krauss. Mag of Wall St 88:652-4 S 22 '51
Rising prices and costs; real causes and consequences. L. R. Robinson. Comm & Fin Chr 173:2050+ My 17 '51
Some current economic misconceptions. S. H. Slichter. Comm & Fin Chr 172:1881+ N 16 '50
Strong defense program and high living standards possible. A. H. Johnson. Comm & Fin Chr 174:1155+ S 27 '51
Supply and price situation at the beginning of 1951. Fed Res Bul 37:1-12 Ja '51
We can count on continued progress for U.S. economy. H. J. Simonson, jr. Comm & Fin Chr 174:961+ S 13 '51
We can meet enlarged demands on our resources. J. W. Snyder. Comm & Fin Chr 174:687+ Ag 23 '51
We have fundamentals of sound economy. J. M. Scribner. Comm & Fin Chr 173:722+ F 15 '51
What to expect from the defense economy. S. H. Slichter. Comm & Fin Chr 173:1942-3+ My 10 '51
What's ahead? long- and short-term prospects. E. G. Nourse. Comm & Fin Chr 172:1979+ N 23 '50
Why prosperity can be made permament. J. P. Wernette. Nat Underw (Life ed) 54:2+ N 17 '50

See also
Business conditions
Income—United States
Inflation (finance)

Economic history

Evolution of American labor. R. E. Montgomery. Ann Am Acad 274:1-8 Mr '51
Regional differences in jobs, income, and migration, 1929-49. M. Hayes. maps Mo Labor R 71:433-7 O '50
Transformation of American capitalism. il Fortune 43:78-83+ F '51

Economic policy

American security; lowest common denominator. E. Janeway. Harvard Bsns R 29:115-24 Jl '51
Conclusions from conference on economics of mobilization. A. W. May. Comm & Fin Chr 173:1533+ Ap 12 '51
Curbing civilian demand; critical economic problem. D. B. Woodward. Comm & Fin Chr 173:53+ Ja 4 '51
Defense economy recommendations of President and CEA. Mo Labor R 72:278-81 Mr '51
Economic freedom vs. economic security. W. A. Reckman. Comm & Fin Chr 174:1366-7+ O 11 '51
Economic problems of a defense economy. S. H. Slichter. Comm & Fin Chr 172:1485+ O 19 '50
Economic riddle wrapped in an enigma. E. G. Nourse. Comm & Fin Chr 172:2282+ D 14 '50
Fiscal policy as inflationary curb. R. Blough. Comm & Fin Chr 172:1790-1+ N 9 '50
Government policy and watered-down control bill. E. A. Krauss. Mag of Wall St 88:540-2+ Ag 25 '51
Greatest threat to our economy lies within. J. E. Shelton. Comm & Fin Chr 172:1892+ N 16 '50
How bad is it in Washington? it isn't the controls, it's the confusion. Bsns W p 19-21 O 6 '51
How do we keep our economy strong? J. C. Thomson. Comm & Fin Chr 173:1428+ Ap 5 '51
Individualism comes of age. Fortune 43:113-15+ F '51
Keep U.S. the arsenal of hope! H. Ford, 2d. Comm & Fin Chr 172:2445+ D 21 '50
Let us not lose the war on the home front through inadvertent conversion of our system to collectivism. D. M. Keezer. Comm & Fin Chr 173:826-9 F 22 '51
Mobilization survives first test. Bsns W p21-2 Jl 21 '51
Near term prospects and their policy implications. S. H. Slichter. Comm & Fin Chr 174:413+ Ag 2 '51
New economic controls act, a fairly good bill. E. P. Schmidt. Comm & Fin Chr 174:512 Ag 9 '51
Our defense program must prevent war and inflation. M. S. Eccles. Comm & Fin Chr 173:526+ F 1 '51
Our fiscal and banking policy; how to adapt it to limited war and rearmament. R. C. Leffingwell. Barron's 30:27-30 N 13 '50; Same. Comm & Fin Chr 172:1890+ N 16 '50
Our present economic policy is a destructive patchwork. A. Director. Comm & Fin Chr 173:1535+ Ap 12 '51
Our two major national problems. J. M. Hancock. Comm & Fin Chr 173:1643+ Ap 19 '51
Output, not controls, key weapon in crisis. L. H. Keyserling. Comm & Fin Chr 172:2291+ D 14 '50; Correction. 172:2447 D 21 '50
Pleads for more controls. C. E. Wilson. Comm & Fin Chr 174:152+ Jl 12 '51
President sets mobilization program; excerpts from economic message to Congress. Comm & Fin Chr 173:258+ Ja 18 '51
Problems facing our economy. R. Rodgers. Comm & Fin Chr 174:1152+ S 27 '51
Program for defense economy. M. Shields. Comm & Fin Chr 172:2440 D 21 '50
Promoting economic and monetary stability. L. R. Robinson. Comm & Fin Chr 174:417 Ag 2 '51
Recommends avoidance of wage-price controls, tighter credit controls and encouragement of savings. R. Rapport. Comm & Fin Chr 172:2543 D 28 '50
Renews plea for more taxes and economic controls; mid-year economic report to Congress. H. S. Truman. Comm & Fin Chr 174:330+ Jl 26 '51
Ripping the seams of our economy. J. E. McCarthy. Comm & Fin Chr 172:1992+ N 23 '50
Strategic economic policy for less-than-total war. A. G. Hart. Comm & Fin Chr 173:59+ Ja 4 '51
Taking Taft's advice; Symington concurs. F. Morley. Barron's 30:3 O 23 '50
Tasks that confront us. M. P. McNair. Comm & Fin Chr 173:156+ Ja 11 '51
Taxes, and more taxes! R. W. Babson. Comm & Fin Chr 172:1503 O 19 '50
Thinking ahead; how to achieve sustained readiness in the present crisis. Harvard Bsns R 29:13-16+ Ja '51
Too much expansion; Charles E. Wilson plan for expansion of the American economy. Barron's 31:1 F 19 '51; Discussion. 31:39 Mr 26 '51
Truman's economic advisers urge more production and consumer controls; excerpts from fifth annual report to the President. Comm & Fin Chr 173:62-3+ Ja 4 '51
Unsound government policies; our problem today. R. P. Shorts. Comm & Fin Chr 172:2535+ D 28 '50
We can have economic strength without damaging controls. H. W. Steinkraus. Comm & Fin Chr 173:2462+ Je 14 '51
We must maintain a strong and healthy economy. J. W. Snyder. Comm & Fin Chr 172:2531+ D 28 '50

UNITED STATES—Economic policy—*Cont.*

What controls do we need? L. H. Keyserling. Comm & Fin Chr 172:1581+ O 26 '50

Where's our economy headed? radio discussion. L. H. Keyserling; H. W. Steinkraus. Comm & Fin Chr 173:917+ Mr 1 '51

See also

Industry and state—United States

Prices—Regulation

Taxation—United States

United States—Commercial policy

United States—Economic relations

Wages—Regulation

Economic relations

Aid plans shrink. Bsns W p 124+ Je 2 '51

Center of Soviet aspirations; an informal briefing on the American interest in the Middle East; with Harrison maps. Fortune 44:93-8 Ag '51

Congressional battle axe; Battle bill. Economist 161:431-3 Ag 25 '51

Control of foreign aid. F. Morley. Barron's 31:3 Ag 13 '51

Foreign aid comes to a turning point. Bsns W p 145-7 Ap 28 '51

Foreign aid program. Nat City Bank p92-5 Ag '51

Foreign aid with and without dollar shortage. H. Mendershausen. R Econ & Stat 33:38-48 F '51

Gray on foreign aid; keep it up. Bsns W p 137-8+ N 18 '50

Gray report. Economist 159:815-16 N 18 '50

Gray report recommendations on foreign economic policies; excerpts from introductory chapter. il For Comm W 41:3-4+ D 4 '50

Our economic policy in Asia. R. W. Miller. 4pls Harvard Bsns R 29:52-70 Jl '51

Our foreign aid dollars will not come back. E. Van Cleef. Comm & Fin Chr 174:860 S 6 '51

Paper enemy; we are waging economic war against our friends. Barron's 31:1 Je 18 '51

Perpetuating foreign aid; Gray report. F. Morley. Barron's 30:3 N 20 '50

Point-four program. T. Hibben. il For Comm W 41:3-4+ N 27 '50

Promise of Point four. F. Morley. Barron's 30:5 N 6 '50

U.S. foreign economic policy. Fortune 44:70-3+ Ag '51

What should be our international economic policy? G. A. Sloan. Comm & Fin Chr 173:1336+ Mr 29 '51

World to win; Rockefeller plan on foreign aid points the wrong direction. Barron's 31:1 Mr 19 '51; Discussion. N. Bengston. 31:6 Ap 2 '51

Brazil

See Brazil—Economic relations—United States

Great Britain

See Great Britain—Economic relations—United States

Latin America

See Latin America—Economic relations—United States

Spain

See Spain—Economic relations—United States

Emergency procurement service

Personnel directory. Iron Age 168:insert Ag 30 '51

Executive departments

Government offices; map. Am Mach 95:149 Ja 22 '51

Half way to go; 50 per cent of Hoover commission's suggestions have been enacted. Credit & Fin Management 53:27 F '51

Handbook of emergency defense activities. 115p Federal register division, National archives and records service, General services administration; pa 25c Supt. of doc. '51

Hoover plan; performance and prospects. G. A. Price. il Dun's R 59:13-15+ Mr '51

Plans shown for decentralization of government bureaus in Washington, D.C. V. B. Smith. Eng N 145:32 D 7 '50

Reorganization's progress. I. Asay. Advanced Management 15:5-7 N '50

Two billion down, three to go. Fortune 43:83-4 Ap '51

See also

Administration, Public

Information service, Government

Federal bureau of investigation

Laboratory

Federal bureau of investigation laboratory. R. G. Gibbs. Chem & Eng N 29:4244-5 O 15 '51

Federal trade commission

See Federal trade commission

Food and drug administration

FDA tells results of food chemical tests. Chem W 68:14-15 Je 30 '51

MCA suggests FDA certification of food chemicals before use. Chem & Eng N 29:2741 Jl 2 '51

Support grows for FDA committee to advise on chemicals in food. Chem & Eng N 28:4441 D 18 '50

Foreign relations

American assembly; Columbia Graduate school of business conference. F. Morley. Barron's 31:6 My 28 '51

Are we falling into history's greatest trap? fallacy of waiting for next Russian move. M. Palyi. Comm & Fin Chr 173:149+ Ja 11 '51; Discussion. 173:251+, 431+, 523+, 615+, 711+, 811, 915+, 1024 Ja 18, 25, F 1, 8, 15, 22, Mr 1, 8 '51

Arms and the man; Mr Acheson may control foreign distribution of guns and butter. F. Morley. Barron's 31:3 Ap 30 '51

Asian mentality and United States foreign policy. F. S. C. Northrop. Ann Am Acad 276-118-27 Jl '51

Europe or Asia; which is more important? V. L. Horoth. il map Mag of Wall St 87:323-4+ D 30 '50

European attitude on our foreign situation; adverse to policy in Far East. E. T. Weir. Comm & Fin Chr 173:249+ Ja 18 '51; Discussion. 173:911+, 1025+, 1143 Mr 1, 8, 15 '51

Failure of administration's foreign policy. R. A. Taft. Comm & Fin Chr 174:329+ Jl 26 '51

For what we have achieved; American foreign policy of the last four years. Economist 160:1353-4 Je 9 '51

GOP and U.S. foreign policy. H. E. Stassen. Comm & Fin Chr 173:1450 Ap 5 '51

Helvidius vs. Pacificus; debate over prerogative in foreign policy has been perennial. F. Morley. Barron's 31:3 Ja 15 '51

How Asians view the United States. V. M. Dean. Ann Am Acad 276-128-34 Jl '51

Investment in Europe. F. Ayer, jr. Comm & Fin Chr 173:2676+ Je 28 '51; Same abr. Credit & Fin Management 53:21-2+ Ag '51

Ithuriel's hour; Secretary Acheson answers questions on Far Eastern policy. F. Morley. Barron's 31:3 Je 11 '51

Let's wash up our bankrupt foreign policy. J. P. Kennedy. Comm & Fin Chr 172:2276+ D 14 '50

Limits of a policy of power. W. H. Hessler. il map U S Naval Inst Proc 76:1320-7 D '50

MacArthur crisis. M. Palyi. Comm & Fin Chr 173:1841+ My 3 '51

Mantel of empire; it has fallen on the shoulders of the U.S. republic. R. Strausz-Hupe. Barron's 31:5-6 My 7 '51

Mistakes in our Far Eastern policy. J. C. Caldwell. Comm & Fin Chr 174:65 Jl 5 '51

Mutual defense insurance. W. C. Mott. il U S Naval Inst Proc 76:1186-95 N '50

National crisis policies. H. Hoover. Comm & Fin Chr 172:2433+ D 21 '50

National security and military policy. R. E. Williams, jr. U S Naval Inst Proc 77:235-45 Mr '51

Needed; new leadership in foreign policy. R. M. Nixon. Comm & Fin Chr 173:2259 My 31 '51

New policy towards Asia is being hammered out. Barron's 31:1 My 14 '51

Objectives of our foreign policy. H. E. Stassen. Comm & Fin Chr 173:252+ Ja 18 '51

UNITED STATES—Foreign relations—*Cont.*

On both fronts, the West holds its own. il Bsns W p 19-20 Je 23 '51
Our Asian policy. A. A. Berle, jr. Ann Am Acad 276:60-71 Jl '51
Our foreign policy; dedication to chaos. E. Lyons. Comm & Fin Chr 173:2341+ Je 7 '51
Perilous precedent; Iran's example endangers Europe's sources of supply. B. de-Jouvenel. Barron's 31:5 Jl 9 '51
Re-examination is here; as the MacArthur triumph mounts, Mr Acheson shifts his stance. F. Morley. Barron's 31:3 Ap 23 '51
Senate and foreign policy. F. Morley. Barron's 30:3 D 25 '50
Shaping a new approach to Europe. il Bsns W p 19-20 D 30 '50
These great times. E. D. Canham. Credit & Fin Management 53:10-12 Je '51
U.S. and the world today. E. Cocke, jr. Comm & Fin Chr 174:1364 O 11 '51
U.S. foreign policy. map Fortune 43:121-4+ F '51
Washington figures that Russia's on defensive. il Bsns W p26-7 O 13 '51
We should revise our foreign policies; radio address, Feb. 9. H. Hoover. Comm & Fin Chr 173:718+ F 15 '51
What our foreign policy should be. R. A. Taft. Comm & Fin Chr 173:158+ Ja 11 '51
What shall we do in Asia? W. H. Judd. Credit & Fin Management 53:7-9+ Je '51
Will arm to fight aggression; address at San Francisco; text. H. S. Truman. Comm & Fin Chr 172:1497+ O 19 '50
Year of Korea; positive American foreign policy in Asia. F. Morley. Barron's 31:3 Je 25 '51

See also
Reconstruction (World war, 1939-1945)—Marshall plan
United States—Economic relations

Bibliography

United States and Europe; a bibliographical examination of thought expressed in American publications during 1950. 209p pa $1.40 Library of congress Reference department, Card division, Washington '51

China

See China — Foreign relations — United States

Colombia

See Colombia—Foreign relations—United States

Denmark

See Denmark—Foreign relations—United States

Great Britain

See Great Britain—Foreign relations—United States

Italy

See Italy—Foreign relations—United States

Japan

See Japan—Foreign relations—United States

Spain

See Spain—Foreign relations—United States

Yugoslavia

See Yugoslavia—Foreign relations—United States

General accounting office

Testifies against S.913 establishing a congressional joint committee of the budget. T. C. Andrews. J Account 92:102-6 Jl '51

General services administration

Government planning for standardization. W. S. MacLeod. Standardization 22:48-51+ F '51

Guided missiles, Office of

OGM report. Aviation W 54:17 F 19 '51
Pushbutton war; new Office of guided missiles under Defense dept. Bsns W p20 N 4 '50

History

Civil war—Campaigns and battles

Fort Fisher campaigns, 1864-1865. J. E. King. bibliog il maps diags U S Naval Inst Proc 77:842-55 Ag '51

War of 1812—Claims

Guns, diplomacy, and litigation; American privateer General Armstrong. C. M. Robinett. il U S Naval Inst Proc 76:1224-9 N '50

Industries and resources

New facts on U.S. industrial economy; study by Harvard's Leontief provides new tool for analysis of the American economic structure. Mod Ind 22:55-8 Jl '51
Why is United States industry so productive? S. H. Slichter. Comm & Fin Chr 174:862 S 6 '51

See also
Industrial mobilization
also subdivision United States under names of specific industries or resources, e.g. Agriculture—United States; Coal—United States; Lumber trade—United States; Petroleum industry and trade—United States

Industry evaluation board

Sub rosa board. Bsns W p74 My 12 '51

Interior, Department of

Federal family fight for power over power. R. Tucker. Pub Util 48:267-74, 347-54 Ag 30-S 13 '51
House committee cuts $21 million from Interior department power budget. Elec World News ed 135:6 Ap 30 '51
Interior's power projects; map and tabulations. Elec World News ed 135:16-17 F 5 '51
Interior's sails trimmed by House appropriation bill (HR 3790). Pub Util 47:695-6 My 24 '51
Roanoke goes to court; Interior department's cause célèbre against the hydroelectric jurisdiction of the Federal power commission. Pub Util 48:429-30 S 27 '51

Internal revenue, Bureau of

Bureau's last chief counsel says taxpayers' rulings will be honored. bibliog J Account 91:134-5 Ja '51
Tax scandals hit public hard. Bsns W p28 O 13 '51

Labor, Department of

Functions of Labor department bureaus in defense manpower activities. Mo Labor R 71:575-6 N '50
Recommendations in Secretary of labor's 1950 report. Mo Labor R 72:693-4 Je '51

Labor standards, Bureau of

New national safety program. Standardization 22:90+ Mr '51

Labor statistics, Bureau of

She's the figure behind your payroll; Aryness Joy Wickens, Deputy commissioner of labor statistics. Bsns W p 108+ Ap 28 '51
Survey speedup; BLS San Francisco office consolidates wage inquiries. Bsns W p 135-6 Mr 17 '51

Marine corps

Invasion by air; U.S. marines and helicopters. il Aero Digest 62:24+ Ja '51

Military air transport service

Cargo fleet coming; but how? F. L. Moore. Aviation W 53:44 N 27 '50
MATS. il Aero Digest 62:25-8 Ja '51
MATS division betters safety mark. Aviation W 54:64 My 14 '51
Strategic importance of military air transport. C. H. Amme, jr. il U S Naval Inst Proc 77:456-65 My '51

Military sea transportation service

Atlantic MSTS ship-repair and maintenance work in first year of operation. Marine Eng 56:44-6 My '51
Carrying cargo in the military sea transportation service. C. V. Ricketts. il U S Naval Inst Proc 77:288-94 Mr '51

UNITED STATES—Military sea transportation service—*Continued*

Military sea transport service ends busy first year. Marine Eng 56:76 Ap '51

Mines, Bureau of

Bureau of mines role in secondary recovery; excerpted from Bur. of mines information circ. 7551 and Bur. of mines rep. of invest. 4654. R. A. Cattell. bibliog il diag World Oil 132:56-8 Ja; 50+ F '51

List of publications of the Bureau of mines, July 1, 1910-January 1, 1949. H. J. Stratton and M. E. Winslow, comps. 460p pa $2 Supt. of doc, Washington '50

Supplement to list of publications, Bureau of mines, Jan. 1 to Dec. 31, 1949; with subject and author index. 57p U.S. Bur. of mines, Washington '50

Mint

Big small change; mints work overtime. Bsns W p 105-6 N 4 '50

Munitions board

Castings industry and the Munitions board. E. D. Payne. Foundry 78:101+ N '50

Munitions board on the spot. Bsns W p26 S 30 '50; Discussion. F. B. Brinkley. p96-7 O 21 '50

Munitions shuffle. Bsns W p 103-4 Je 30 '51

Standards agency for the armed forces. A. E. Mickelsen. il Standardization 22:211-13+ Jl '51

Standards in national defense. M. L. Ring. Standardization 22:10-12+ Ja '51

National advisory committee for aeronautics

Aeronautical research; 36th annual report. J. C. Hunsaker. Mech Eng 73:416-17 My '51

NACA advisors; appointments for 1951. Aviation W 54:36 F 5 '51

NACA test program slashed by Congress. Aviation W 55:15 S 10 '51

National bureau of standards

See United States—Standards, National bureau of

National security resources board

National security resources board. H. Coonley. Standardization 22:15+ Ja '51

Personnel directory. Iron Age 168:insert Ag 30 '51

Naval engineering experiment station

U.S. naval engineering experiment station. W. D. Leggett, jr. il U S Naval Inst Proc 77:516-35 My '51

Naval gun factory

Nonferrous castings made at the U.S. naval gun factory. H. J. Roast. il Metal Prog 60:61-4 Jl '51

Naval history

Salvo-less naval victory; Koszta affair. T. F. Barett. il U S Naval Inst Proc 77:744-7 Jl '51

Naval reserve

Naval reserve offers new electronic training opportunities. E. L. Battey. il Radio & Tv N 45:35-8+ My '51

Reserve fleet. C. H. Sigel. il U S Naval Inst Proc 77:680-9 Jl '51

Navy

Naval communications. J. R. Redman. il diag Radio & Tv N 44:47-9+ D '50

Naval power and the American destiny. J. K. Eyre, jr. il U S Naval Inst Proc 77:296-307 Mr '51

Navy and national security. J. L. Howard. il U S Naval Inst Proc 77:748-53 Jl '51

Navy's oceanographic survey vessels. T. S. Austin. il U S Naval Inst Proc 77:386-91 Ap '51

Risky rescue; patrol craft escort (rescue). F. S. Bayley, jr. il U S Naval Inst Proc 77:358-63 Ap '51

Sea power at cost. il Fortune 43:79-80 Ap '51

Significance of the prize essay contest, 1879-1950. E. H. Clark, jr. il U S Naval Inst Proc 77:798-809 Ag '51

Technical aspects of naval communications. J. A. Morrison. il Radio & Tv N 44:50-1+ D '50

See also

Logistics, Naval
Oil reserves (United States navy)
United States—Air service, Navy
United States—Military sea transportation service
Warships—United States

Clothing

Battle suit of flexible expanded plastic for the navy; Ensolite. il Mod Plastics 28:160 Ag '51

Construction battalions

Seabees engineer amphibious landing at Inchon, Korea. J. F. Jelley. il Civil Eng 21:323-5 Je '51

Seabees repatriate their World war II equipment. J. Joseph. il Diesel Power 29:74-6 Je '51

Education

Growth of a best-seller; Blue jackets' manual. F. C. Dyer. il U S Naval Inst Proc 77:276-83 Mr '51

Naval lyceum. S. de Christofaro. il U S Naval Inst Proc 77:868-73 Ag '51

Equipment and supplies

Armed services rely on industry; navy buying. A. G. Noble. Mill & Factory 48:76-7 Mr '51

Defense contracts; how to sell to the navy. S. Gerstin. Tele-Tech 10:30-3+ Mr '51

High speed filling plant moves oil for navy. F. A. Edwards. il Nat Pet N 43:31+ My 30 '51

How and where the navy buys; directory. Bsns W p96-7 My 26 '51

Navy rebuilds wartime equipment. L. L. Wise; J. Joseph. il Constr Methods 33:64-7 Jl '51

Radio, radar, sonar in naval applications. S. Freedman. il diag Radio & Tv N 45:31-4+ Ap '51

International affairs division

Navy's role in international affairs. J. E. McAuley. il U S Naval Inst Proc 77:14-19 Ja '51

Officers

General staff system for the navy? S. R. Shaw. il U S Naval Inst Proc 77:820-7 Ag '51

New look. W. J. Miller. il U S Naval Inst Proc 77:954-7 S '51

New look at naval leadership. A. M. Harlow. il U S Naval Inst Proc 76:1212-23 N '50

Photographs

Origins of American naval photography. N. T. Kirk. il U S Naval Inst Proc 77:638-53 Je '51

Public relations

Navy and public opinion. R. Lane. il U S Naval Inst Proc 77:284-7 Mr '51

Navy department

Directory of government construction officials; navy district public works officers. Arch Rec 109:16b Mr '51

Politics and government

Administration's frustrations and failures. M. Palyi. Comm & Fin Chr 174:1245+ O 4 '51

All honorable men; Washington scandals are the country's peril. F. Morley. Barron's 31:3 Mr 19 '51

American system. Fortune 43:72-7+ F '51

Congress and President; their conflict tests our capacity for self-government. F. Morley. Barron's 31:5 Ap 16 '51

Controls under inefficient and inadequate government. A. H. Valentine. Comm & Fin Chr 173:1233+ Mr 22 '51

Election reveals no labor party wanted. J. A. Farley. Comm & Fin Chr 172:2097 N 30 '50

It's no deal on fair deal. Bsns W p25 N 18 '50

New political element; Committee to explore political realignment. F. Morley. Barron's 31:3 S 24 '51

New targets for new dealers; Keyserling's speech. Bsns W p 19-20 Je 2 '51

UNITED STATES—Politics and government—*Continued*

Pre-view of 1952; the South and West combined against the East in Senate debate. F. Morley. Barron's 31:5 Ap 9 '51

Slandermongers; will G.O.P. take issue with Truman's defense of corruption? F. Morley. Barron's 31:3-4 Ag 20 '51

That decisive election. F. Morley. Barron's 30:3 N 13 '50

Time for trumps; domestic, not foreign, issues are GOP's strongest cards. H. S. Taylor. Barron's 31:3 Ag 27 '51

Unholy alliance; domestic political front is flaming into activity. F. Morley. Barron's 31:3 Jl 9 '51

See also

Republican party

Price stabilization, Office of

Industry advisory committees. Foundry 79:136+ My '51

OPS juggles construction price rule. V. B. Smith. Eng N 147:23-4 Ag 2 '51

Personnel directory. Iron Age 168:insert Ag 30 '51

These recruiters are bringing businessmen like these to Washington. Bsns W p76+ My 12 '51

Public health service

CDC laboratory training courses, 1951. Pub Health Rep 66:87-8 Ja 19 '51

Public health service activities in water pollution control. L. F. Warrick. Am Gas Assn Proc 1950:486-90

U.S.P.H.S. position on fluoridation of public water supplies. H. T. Dean. Am Water Works Assn J 43:672-4 S '51

Bibliography

Public health service publications, January-June 1950. Pub Health Rep 65:1722-8 D 22 '50

Public health service publications, July-December 1950. Pub Health Rep 66:1091-8 Ag 24 '51

Laboratories

Nation's center of industrial hygiene research, Cincinnati. Ind Med 19:540-1 N '50

Quartermaster corps

Don't forget the quartermaster. il Steel 129:54-5 Ag 6 '51

Quartermaster and his defense orders. Rayon 32:34-5+ Mr '51

Quartermaster inspection and testing. R. E. Willett. Tappi 34:sup54A+ Ap '51

Site near Boston chosen for Quartermaster corps' new $11 million consolidated research and development laboratory. R. Gibbs. Chem & Eng N 29:1182 Mr 26 '51

See also

Quartermaster food and container institute for the armed forces

Reclamation, Bureau of

Home rule and home ownership for federal multipurpose projects. A. V. Watkins. Pub Util 46:645-50 N 9 '50

Reclamation Bureau budget high spots. Eng N 146:31 Ja 25 '51

Riddle of the Reclamation fund. D. J. Guy. Pub Util 47:374-6 Mr 15 '51

Self-perpetuating bureaucracy by the Bureau of reclamation. E. Abel. il Elec West 105:65-9 D '50

United States Bureau of reclamation; with tabulated summary of hydro-electric power developments. Engineer 191:282-3 Mr 2 '51

Research and development board

Military research and development. P. B. Taylor. Aeronautical Eng R 10:49-51 Ap '51

Navgroup folds as key men resign. F. L. Moore. Aviation W 54:17-18 Ap 30 '51

Research and development board. R. L. Van Boskirk. Mod Plastics 28:170 Mr '51

Whitman to head Research and development board. Chem & Eng N 29:3084 Jl 30 '51

Secret service

See Secret service—United States

Social conditions

Character types; one way to look at a changing world; review of the Lonely crowd, by D. Riesman, R. Denney and N. Glazer. Bsns W p84-7 Ag 18 '51

Portrait of Mr Nobody; review of White collar, by C. W. Mills. il Bsns W p 102+ O 6 '51

Problems of free men. il Fortune 43:109-12+ F '51

Standards, National bureau of

Annual summer symposium on standards and standard methods, 4th, Washington, June 14-16. Chem & Eng N 29:2734+ Jl 2 '51

Basic law creating National bureau of standards extensively amended. Instruments 23:1022-3+ O '50

Bureau of standards fifty years old in March. Mech Eng 73:171 F '51

Early work in applied optics at the National bureau of standards. E. C. Crittenden. bibliog Opt Soc Am J 41:369-76 Je '51

Electronic research laboratories established by NBS at Corona, Calif. il Eng N 147:72+ Jl 19 '51

Establishment of Corona laboratories announced by NBS. il Elec Eng 70:768 S '51

Fiftieth anniversary of the National bureau of standards. Franklin Inst J 252:261-3 S '51

National bureau of standards and its international relations. W. R. Brode. il For Comm W 42:3-4+ Mr 12 '51

National bureau of standards semi-centennial. Heating-Piping 23:114 My '51

Standards Bureau marks half-century. E. E. Halmos, jr. il Eng N 146:32-4 Mr 8 '51

State department

State department to bar foreign press if it pleases. J. J. Butler. Ed & Pub 83:6 N 18 '50

Statistics

Financial, industrial, and commercial statistics. Published in monthly numbers of Federal reserve bulletin

Supreme court

Affirmation of materialism; Chief Justice Vinson's conclusion in upholding conviction of Communist leaders. F. Morley. Barron's 31:3 Je 18 '51

Factoring the Supreme court. Sci Am 185:29-30 Jl '51

Supreme court as protector of civil rights; symposium. bibliog Ann Am Acad 275:61-110 My '51

Supreme court; 1950-51. M. H. Woolsey. Fortune 42:176+ N '50

Supreme court; 1951-52. M. H. Woolsey. Fortune 44:119+ O '51

Tariff commission

Library

United States Tariff commission library; a research collection. C. Notz. Special Lib 42:133-4+ Ap '51

Tax court

Tax court background of renegotiation and its effect on income and excess-profits taxation. S. S. Starr. J Account 92:316-21 S '51

United States tax court amends rules for admission to practice before it. J Account 91:613 Ap '51

Technical services, Office of

Technical reports news letter. Published monthly by United States Department of commerce, Office of technical services, Washington 25

Treasury department

It went like a snowball; distribution of 1836 Treasury surplus, a warning for today. Edison Elec Inst Bul 19:282-3 Ag '51

Treasury-Federal Reserve dispute. A. G. Lanston. Comm & Fin Chr 173:730+ F 15 '51

Treasury-Federal Reserve relationship. W. M. Martin. Banking 44:49 S '51

UNITED STATES—Treasury department—*Continued*
U.S. Treasury issues rules for special enrollment of former employees to practice before it. J. L. Graves. J Account 91:453 Mr '51
Victory for FRB in fight with Treasury to push interest rates up. Bsns W p 116-17 N 11 '50

Treaties

United States signs new treaty of friendship, commerce and navigation with Denmark. For Comm W 45:14+ O 15 '51

UNITED STATES airlines
Facing management change. Aviation W 55:74-5 Jl 16 '51

UNITED STATES chamber of commerce. See Chamber of commerce of the United States

UNITED STATES foil, inc.
Security I like best. T. Prince. Comm & Fin Chr 173:522+ F 1 '51

UNITED STATES freight company
Fast traffic pace seen for U.S. Freight. Barron's 31:14 Jl 2 '51

UNITED STATES gypsum company
Gypsum anti-trust judgment. Rock Prod 54:66 Mr '51

UNITED STATES independent telephone association
Annual convention, 53d, Chicago, Oct. 9-11. Pub Util 46:673-5 N 9 '50

UNITED STATES industrial chemicals, inc.
Sales and earnings in sharp uptrend; defense needs to keep volume high. W. Wells. Barron's 31:29-30 Ja 8 '51

UNITED STATES manganese corporation
Securities offered. Comm & Fin Chr 172:1538 O 23 '50

UNITED STATES naval institute
Significance of the prize essay contest, 1879-1950. E. H. Clark, jr. il U S Naval Inst Proc 77:798-809 Ag '51

UNITED STATES plywood corporation
Preferred stock offering oversubscribed. Comm & Fin Chr 174:457, 549 Ag 6, 13 '51

UNITED STATES potash company
Security I like best. T. R. Rankin. Comm & Fin Chr 174:1246+ O 4 '51

UNITED STATES potters association
Annual meeting, New York, Dec. 12-13. Cer Ind 56:70-1+ Ja '51

UNITED STATES rubber company
Investment study. G. W. Mathis. il Mag of Wall St 89:24-6+ O 6 '51
U.S. Rubber sets new record in 1950. Rubber Age 68:730 Mr '51

UNITED STATES savings and loan league
Annual convention, 58th, Washington, D.C. Arch Forum 93:16 D '50; Burroughs Clearing House 35:9-10 Ja '51

UNITED STATES steel company
List U.S. steel co. officers. Iron Age 167:84 Ja 11 '51
USS subsidiaries merge; Carnegie-Illinois, Delaware corporation, coal units become U.S. steel co. Steel 127:67-8 N 13 '50

UNITED STATES steel corporation
Annual report. Comm & Fin Chr 173:1371-3 Ap 2 '51
Big Steel settles. R. Molyneux. Barron's 30:13 D 11 '50
Big Steel streamlines itself. Bsns W p23 N 11 '50
Defending its industry position more vigorously; with financial data, 1940-50. F. D. Chutter. Barron's 31:19-20 Jl 30 '51
Investment audit. S. Devlin. Mag of Wall St 87:448-50+ Ja 27 '51
On its own; further U.S. Steel expansion to be internally financed. A. Cotter. Barron's 31:17 Ap 9 '51
Security I like best. A. G. Erpf. Comm & Fin Chr 174:858 S 6 '51
U.S. Steel gives the country a healthy example; to construct new facilities on eastern seaboard. Barron's 31:1 Ja 1 '51
Wage chronology no. three; supplement, 1950. Mo Labor R 71:473-4 O '50

UNITED steel companies, limited
Statement by the chairman at annual general meeting. W. B. Jones. Economist 159:851-3 N 18 '50

UNITED steelworkers of America
Schools; union trains leaders. J. Delaney. il Iron Age 168:40 S 27 '51
Trump for USW; closed-shop victory at Wheeling Steel. Bsns W p 122+ N 4 '50
Union shop at Crucible. Bsns W p66 D 23 '50

UNITED Sua Betong rubber estates, limited
Statement by the chairman. J. Hay. Economist 160:1347-8 Je 2 '51

UNITED utilities, inc.
Offering to stockholders underwritten. Comm & Fin Chr 174:11 Jl 2 '51

UNIVERSE
Still expanding. Sci Am 185:31-2 Ag '51

UNIVERSITIES. See Colleges and universities

UNIVERSITY teachers of insurance, American association of. See American association of university teachers of insurance

UNLISTED securities. See Securities—Unlisted securities

UNSATURATED compounds
New approaches to the synthesis of compounds containing conjugate unsaturation. C. D. Hurd and H. E. Winberg. Am Chem Soc J 73:917-19 Mr '51
Preparation of unsaturated fatty acids. W. J. Gensler, E. M. Behrmann and G. R. Thomas. bibliog Am Chem Soc J 73:1071-4 Mr '51
Synthesis of unsaturated fatty acids. W. R. Taylor and F. M. Strong. Am Chem Soc J 72:4263-5 S '50
Thermal decarboxylation of unsaturated acids. R. T. Arnold, O. C. Elmer and R. M. Dodson. bibliog Am Chem Soc J 72:4359-61 O '50

UPHOLSTERY
See also
Automobiles—Upholstery

UPHOLSTERY, Plastic
Variety in vinyls. Mod Plastics 28:160+ D '50

Advertising

Dual purpose ads create immediate demand and build future acceptance; hidden product force-fed to consumers through promotion of finished goods; Boltaflex. S. Sackel. il Ptr Ink 234:36-7 Mr 9 '51

UPSON, William Hazlett, 1891-
Meet Alexander Botts. R. H. Lewis. pors Roads & Sts 94:52+ F '51

URACIL
Competitive action of 2-thiouracil and uracil in AAF-induced cancer of the liver. K. E. Paschkis and others. bibliog Science 114:264-5 S 7 '51
Enzymatic formation of barbituric acid from uracil and of 5-methylbarbituric acid from thymine. O. Hayaishi and A. Kornberg. Am Chem Soc J 73:2975-6 Je '51

URANIN
Quenching of fluorescence in solution; effect of the structure of the quencher on the efficiency of the reaction. J. C. Rowell and V. K. LaMer. bibliog Am Chem Soc J 73:1630-4 Ap '51

URANINITE
Beaverlodge-Athabaska geology search for new pitchblende fields. W. J. Bichan. il map Can Min J 72:79-82 Je '51
Isolation of microgram quantities of naturally-occurring plutonium and examination of its isotopic composition. D. F. Peppard and others. Am Chem Soc J 73:2529-31 Je '51
Isotopes of xenon and krypton in pitchblende and the spontaneous fission of U^{238}. J. Macnamara and H. G. Thode. bibliog Phys R 80:471-2 N 1 '50
Natural black uranium powder. P. F. Kerr. Science 114:91-2 Jl 27 '51
Occurrence of plutonium in nature. C. A. Levine and G. T. Seaborg. bibliog Am Chem Soc J 73:3278-83 Jl '51
Uranium mineralization in British Columbia. J. S. Stevenson. il map Econ Geol 46:353-66 Je '51

URANIUM
American uranium; government support spurs interest in domestic exploration. B. Ravits. Barron's 30:11 N 20 '50
Approximate crystal structure for the beta phase of uranium; abstract. C. W. Tucker, jr. Science 112:448 O 20 '50
AEC raw materials program. il maps Min Cong J 37:86-9 F '51

URANIUM—*Continued*

Californium isotopes from bombardment of uranium with carbon ions. A. Ghiorso and others. bibliog Phys R 81:154 Ja 1 '51

Chemistry of aqueous uranium(V) solutions; the uranium(IV)-(V)-(VI) equilibrium in perchlorate and chloride solutions. F. Nelson and K. A. Kraus. Am Chem Soc J 73:2157-61 My '51

Continuous purification of hydrogen in a large electron-pulse chamber. W. N. English. bibliog diag R Sci Instr 22:598-600 Ag '51

Declassification to speed low-power reactor study. il Chem & Eng N 28:4254-7 D 4 '50

Economics of domestic uranium production; abstract. F. H. MacPherson. Min Cong J 36:83-4 O '50

Electrolytic polishing and etching of uranium. B. W. Mott and H. R. Haines. il Metallurgia 43:255-7 My '51

Exchange reactions of uranium ions in solution. E. Rona. bibliog Am Chem Soc J 72:4339-43 O '50

Extraction of uranium. F. W. McQuiston, jr. Chem Age (Lond) 64:214-15 F 3 '51

Hydrolytic behavior of metal ions; the acid constants of uranium(IV) and plutonium (IV). K. A. Kraus and F. Nelson. bibliog Am Chem Soc J 72:3901-6 S '50

Luminescent barium and magnesium halophosphates. J. T. Anderson and R. S. Wells. Electrochem Soc J 98:414-16 O '51

Meson production accompanying uranium fission. H. Bradner and J. K. Bowker. il Phys R 82:265-6 Ap 15 '51

Nuclear data for low-power research reactors released by U.S., United Kingdom, and Canada. Chem & Eng N 28:4464, 4469 D 18 '50

Occurrence of plutonium in nature. C. A. Levine and G. T. Seaborg. bibliog Am Chem Soc J 73:3278-83 Jl '51

Reactions involving like-charged ions; the rate of disproportionation of uranium(V) in deuterium oxide. F. R. Duke and R. C. Pinkerton. Am Chem Soc J 73:2361-2 My '51

Resonance capture of neutrons by uranium. H. L. Anderson. bibliog diag Phys R 80:499-506 N 15 '50

Separation of uranium. Chem Age (Lond) 63:648-50 N 4 '50

South Africa to produce uranium; South Africa's gold ores one of the largest known sources of uranium. Can Min J 72:68 Ja '51

Uranium from gold mines; South African supplies. Chem Age (Lond) 63:900 D 30 '50

Uranium from the gold mines. Economist 159:1164 D 23 '50

Uranium ore refinery will make feeds for atom plants. Chem Eng 58:223-4 My '51

Uranium procurement policies; abstract. J. C. Johnson. Min Cong J 36:83 O '50

Uranium; swords or plowshares. il diag Min Eng 3:762-6 S '51

See also
Uraninite

Analysis

Analysis of uranium solutions by X-ray fluorescence. L. S. Birks and E. J. Brooks. Anal Chem 23:707-9 My '51

Detection of trace quantities of radioactive materials in waste streams. P. R. Fields and G. L. Pyle. bibliog Anal Chem 23:1004-8 Jl '51

Determination of traces of silicon in vanadium and uranium; spectrophotometric method. R. Guenther and R. H. Gale. bibliog Anal Chem 22:1510-11 D '50

Determination of uranium in ores. F. T. Rabbitts. diags Can Chem & Process Ind 34:981-2+ D '50

Determination of uranium in solution by X-ray absorption. T. W. Bartlett. bibliog il Anal Chem 23:705-7 My '51

Determining U_3O_8 in ores and solutions by using the cellulose column method. diags Can Chem Process 35:725-6+ S '51

New method for the detection and determination of uranium. T. V. Arden, F. H. Burstall and R. P. Linstead. diags Chem Soc J supp no 2:S311-13 '49

New procedure developed for ore analysis. Chem & Eng N 29:4091-2 O 1 '51

Photoneutron fission analysis for U-235 in high purity U-238. R. L. Macklin and J. H. Lykins. bibliog J Chem Phys 19:844-5 Jl '51

Sample temperature in the carrier-distillation arc. S. Wexler. diag Anal Chem 23:1166-7 Ag '51

Isotopes

Complex alpha-spectrum of U^{235}. A. Ghiorso. Phys R 82:979 Je 15 '51

Emission of long-range particles in the fast neutron ternary fission of U-238 and Th-232. E. W. Titterton. bibliog Phys R 83:673-4 Ag 1 '51

Emission of short-range charged particles in the slow neutron fission of uranium. K. W. Allen and J. T. Dewan. bibliog diags Phys R 82:527-30 My 15 '51

Energy barrier for asymmetric fission in the static liquid drop model. J. Jungerman. diag Phys R 80:285-6 O 15 '50

Isotopes of xenon and krypton in pitchblende and the spontaneous fission of U^{238}. J. Macnamara and H. G. Thode. bibliog Phys R 80:471-2 N 1 '50

Measurement of the half-life of UX_2; a lecture demonstration. A. H. Booth. J Chem Educ 28:144-5 Mr '51

Resonance photo-fission cross section for U^{238}. W. E. Ogle and J. McElhinney. bibliog Phys R 81:344-6 F 1 '51

Search for short period activities from U^{235} fission products. J. E. Brolley, jr. and others. diag Phys R 83:990-3 S 1 '51

Specific alpha-activity of U^{235}. E. H. Fleming, jr. and others. Phys R 82:967 Je 15 '51

Study of low energy gamma-radiations emitted from Pa^{231} and U^{234}. G. Scharff-Goldhaber and M. McKeown. bibliog il Phys R 82:123-5 Ap 1 '51

Threshold for photoneutron reaction in U^{238}. J. R. Huizenga and others. bibliog Phys R 82:561-2 My 15 '51

U-235 production plant. Mech Eng 73:145 F '51

Uranium isotope U^{236}. A. Ghiorso and others. Phys R 82:558 My 15 '51

URANIUM, Powdered

Production of powdered uranium and thorium. P. Chiotti and B. A. Rogers. bibliog diag Metal Prog 60:60-5 S '51

URANIUM alloys

Crystal structure of UAl_4. B. S. Borie, jr. diags J Metals 3:Trans 800-2 S '51

URANIUM carbides

Carbides of uranium and thorium. H. A. Wilhelm and others. 4pls Chem Soc J supp no 2:S318-21 '49

URANIUM compounds

Preparation and properties of the oxide-sulfides of cerium, zirconium, thorium and uranium. E. D. Eastman and others. Am Chem Soc J 73:3896-8 Ag '51

Uranyl; citrate system; polarographic studies of the 1 : 1 complex. W. F. Neuman, J. R. Havill and I. Feldman. Am Chem Soc J 73:3593-5 Ag '51

Uranyl-citrate system; spectrophotometric studies in acid solution. I. Feldman and W. F. Neuman. Am Chem Soc J 73:2312-15 My '51

URANIUM fluorides

Reduction of uranium hexafluoride with hydrogen. J. K. Dawson, D. W. Ingram and L. L. Bircumshaw. Chem Soc J 1421-2 My '50

URANIUM halides

Magnetochemistry of the heaviest elements; the halides of ter- and quadri-valent uranium. J. K. Dawson. Chem Soc J p429-31 F '51

URANIUM hydride

Hydrogen positions in uranium hydride by neutron diffraction. R. E. Rundle. diag Am Chem Soc J 73:4172-4 S '51

URANIUM mines and mining

Earth's uranium. P. F. Kerr. il maps Sci Am 184:17-21 My '51

Saskatchewan

Uranium City to be located in the Saskatchewan's rich Beaverlodge uranium field. C. A. L. Hogg. Can Min J 72:97-8 Jl '51

URANIUM ores

Alaskan award for discovery of radioactive minerals. Can Min J 72:69 My '51

Exploration widens the U.S. uranium ore belt. il map Bsns W p 102-4 Mr 3 '51

Higher price to pull out uranium. Bsns W p20 Mr 10 '51

Local uranium; from the Colorado plateau comes better news. B. Ravits. Barron's 31:5 Ag 20 '51

New AEC bonus and price schedule announced. Min Cong J 37:80-1 Mr '51

Processing uranium ores. F. W. McQuiston, jr. il Min Cong J 36:28-30 O '50

Uraninitic pegmatites, northern Saskatchewan. J. B. Mawdsley. maps Can Min J 72:66-7 Ja '51

Uranium awakens sleepy parts of Utah. il Bsns W p78-80+ Je 2 '51

Uranium deposits near Marysvale, Piute county, Utah. J. W. Gruner and others. maps Econ Geol 46:243-51 My '51

Uranium ore plant near Cincinnati. Product Eng 22:201 My '51

Use of sensitive gamma ray detectors in prospecting. W. L. Russell and S. A. Scherbatskoy. il diag Econ Geol 46:427-46 Je '51

Utah plant being converted to process uranium ores. Chem Eng 58:211-12 F '51

Utah's new uranium mill. J. A. Butler. il flow sheets Eng & Min J 152:56-62 Mr '51

See also
Uraninite

URANIUM oxides

Determining U_3O_8 in ores and solutions by using the cellulose column method. diags Can Chem Process 35:725-6+ S '51

Magnetic susceptibilities of urania-thoria solid solutions. W. Trzebiatowski and P. W. Selwood. bibliog Am Chem Soc J 72:4504-6 O '50

Magnetochemistry of the heaviest elements; the oxides of uranium. J. K. Dawson and M. W. Lister. Chem Soc J p2181-7 Ag '50

Oxides of uranium. K. B. Alberman and J. S. Anderson. Chem Soc J supp no 2:S303-11 '49

Oxides of uranium; the binary system UO_2-CaO. K. B. Alberman, R. C. Blakey and J. S. Anderson. diag Chem Soc J p 1352-6 My '51

URANIUM sulfides

Preparation and properties of the sulfides of thorium and uranium. E. D. Eastman and others. bibliog diag Am Chem Soc J 72:4019-23 S '50

URANIUM tetrachloride

Magnetic susceptibility or uranium tetrachloride. R. Stoenner and N. Elliott. J Chem Phys 19:950-1 Jl '51

URANIUM Y. See Thorium—Isotopes

URANYL

Analysis

Amperometric titrations with *m*-nitrophenylarsonic acid. I. M. Kolthoff and R. A. Johnson. bibliog Electrochem Soc J 98:138-45 Ap '51

URANYL compounds

Hydrolysis of the uranyl ion. J. Sutton. Chem Soc J supp no 2:S275-86 '49

Osmotic and activity coefficients of uranyl nitrate, chloride, and perchlorate of 25°. R. A. Robinson and C. K. Lim. Chem Soc J p 1840-3 Jl '51

URANYL nitrate

Activity coefficient of uranyl nitrate in the presence of sodium nitrate. E. Glueckauf, H. A. C. McKay and A. R. Mathieson. diag Chem Soc J supp no 2:S299-302 '49

Ionic association in aqueous solutions of uranyl sulphate and uranyl nitrate. R. H. Betts and R. K. Michels. Chem Soc J supp no 2:S286-94 '49

Reaction between calcium hydroxide and uranyl nitrate solutions. C. Tanford, R. L. Tichenor and H. A. Young. Am Chem Soc J 73:4491-2 S '51

Stability of complexes of uranyl nitrate with ketones and ethers. A. R. Mathieson. diag Chem Soc J supp no 2:S294-8 '49

System uranyl nitrate-water-organic solvent. L. I. Katzin and J. C. Sullivan. bibliog J Phys & Colloid Chem 55:346-74 Mr '51

Uranyl nitrate-water system above 60°. W. L. Marshall, jr., J. S. Gill and C. H. Secoy. Am Chem Soc J 73:1867-9 Ap '51

Use of ion exchangers for the determination of physical-chemical properties of substances, particularly radiotracers, in solution; activity coefficients of barium nitrate in uranyl nitrate. J. Schubert. Am Chem Soc J 73:4488-9 S '51

Analysis

Spectrographic determination of silicon in uranyl nitrate solutions. F. T. Birks. Anal Chem 23:793-4 My '51

URANYL sulfate

Enriched homogeneous nuclear reactor. bibliog il diags R Sci Instr 22:489-99 Jl '51

Ionic association in aqueous solutions of uranyl sulphate and uranyl nitrate. R. H. Betts and R. K. Michels. Chem Soc J supp no 2:S286-94 '49

UREA

Addition compounds of urea and organic substances. O. Redlich and others. bibliog diags Am Chem Soc J 72:4153-60 S '50

Bell model; light-weight, durable mockups with resin-cloth technique. il Mod Plastics 28:130 D '50

Cyanamides; N-aryl-N′-arylsulphonylureas. F. Kurzer. Chem Soc J p 1258-62 My '51

Drying oils and resins; segregation of fatty acids and their derivatives by extractive crystallization with urea. H. A. Newey and others. bibliog il Ind & Eng Chem 42:2538-41 D '50

Effect of urea and related compounds on the mechanical properties of paper. H. D. Fisher. bibliog(42 titles) diag Tappi 34:276-88 Je '51

Effect of urea-formaldehyde treatment on the photochemical discolouration of bleached jute. H. J. Callow. bibliog Textile Inst J Trans 41:T404-6 O '50

Errors of combustion of compounds for C^{14} analysis. W. D. Armstrong and others. bibliog Science 112:531-3 N 3 '50

European urea moves in. il Chem W 68:33 Je 9 '51

Formation of crystalline complexes between urea and esters, and their application to the separation of mixtures of esters. R. P. Linstead and M. Whalley. Chem Soc J p2987-9 N '50

Heat of solution of halides, sulphuric acid, oxalic acid, sodium hydroxide, and urea in ethyl alcohol-water mixtures. M. Bobtelsky and R. D. Larisch. diag Chem Soc J p3612-15 D '50

Intensifying effect of urea in printing textiles; abstract. R. Haller. Am Dyestuff Rep 39:802 N 27 '50

Preparation and properties of urea-form. K. G. Clark and others. bibliog Ind & Eng Chem 43:871-5 Ap '51

Reduction of carbohydrazide; the acidity of carbohydrazide, semicarbazide and urea. A. H. Corwin and J. D. Reinheimer. bibliog diag Am Chem Soc J 73:1184-6 Mr '51

Reinvestigation of the kinetics of the urease-catalyzed hydrolysis of urea; the activity of urease in the presence of sodium and potassium phosphate. G. D. Fasman and C. Niemann. bibliog Am Chem Soc J 73:1646-50 Ap '51

Separation and stabilization of fatty acids by urea complexes. H. Schlenk and R. T. Holman. bibliog Am Chem Soc J 72:5001-4 N '50

Tris-(hydroxymethyl)-aminomethane derivatives; oxamides, ureas, oxazolidines and 1-aza-3,7-dioxabicyclo(3.3.0)octanes. J. S. Pierce and others. Am Chem Soc J 73:2595-6 Je '51

Urea-formaldehyde kinetic studies; variation in urea solutions. L. E. Smythe. Am Chem Soc J 73:2735-8 Je '51

Manufacture

Urea; a process survey. A. Rooseboom. bibliog diags Chem Eng 58:111-14 Mr '51

UREASE

Inhibition of urease by silver ions. J. F. Ambrose, G. B. Kistiakowsky and A. G. Kridl. bibliog Am Chem Soc J 73:1232-6 Mr '51

UREASE—*Continued*
Reinvestigation of the kinetics of the urease-catalyzed hydrolysis of urea; the activity of urease in the presence of sodium and potassium phosphate. G. D. Fasman and C. Niemann. bibliog Am Chem Soc J 73:1646-50 Ap '51

URETHANS
Base-catalyzed decomposition of N-nitroso-N-cyclohexylurethan. F. W. Bollinger, F. N. Hayes and S. Siegel. bibliog Am Chem Soc J 72:5592-4 D '50
Effect of *cis* and *trans* olefinic groups on the properties of polyurethans and polyesters. C. S. Marvel and C. H. Young. Am Chem Soc J 73:1066-9 Mr '51
Properties of urethane oils. E. B. Robinson and R. B. Waters. Chem Age (Lond) 64:481-3; Discussion. 483-4 Mr 31 '51

UREYLENECYCLOPENTANE
Studies in the cyclopentane series; the synthesis of 1,2-ureylenecyclopentane and related compounds. J. H. Müller and others. bibliog Am Chem Soc J 73:2487-91 Je '51

URIDINE
Isolation of uridine and cytidine from yeast ribonucleic acid. D. T. Elmore. Chem Soc J p2084-5 Ag '50
Partial purification of a non-phosphorylytic uridine nucleosidase from yeast. C. E. Carter. bibliog Am Chem Soc J 73:1508-10 Ap '51
Synthetic ribonucleoside-2′ phosphates. D. M. Brown, L. J. Haynes and A. R. Todd. Chem Soc J p408 Ja '50

URIDINE phosphates
Nucleotides: analogues of adenosine-5′ phosphate and uridine-5′ phosphate containing phenylphosphonate and ethylphosphonate groups. N. Anand and A. R. Todd. Chem Soc J p 1867-72 Jl '51

URINARY organs

Diseases

Urologic aspects of backache. T. E. McMillan. Ind Med 20:16-17 Ja '51

URINE
Antidiuretic substance obtained by digestion of globulin with pepsin. H. Croxatto and others. bibliog il Science 113:494-5 Ap 27 '51
Stress and ketone body metabolism. F. Sargent, 2d and C. F. Consolazio. bibliog Science 113:631-3 Je 1 '51

See also
Diuretics

Analysis

Appraisal of a urinary porphyrin test in detection of lead absorption. A. L. Brooks. Ind Med 20:390-2 S '51
Beryllium excretion in humans. F. W. Klemperer and others. A M A Archives Ind Hygiene & Occup Med 4:251-6 S '51
Determination of neutral 17-ketosteroids in urine. W. T. Beher and O. H. Gaebler. bibliog Anal Chem 23:118-23 Ja '51
Determination of small amounts of chromium in human blood, tissues, and urine; colorimetric method. P. F. Urone and H. K. Anders. bibliog Anal Chem 22:1317-21 O '50
Errors of combustion of compounds for C^{14} analysis. W. D. Armstrong and others. bibliog Science 112:531-3 N 3 '50
Evaluating trichloroethylene exposures by urinalyses for trichloroacetic acid. A. Ahlmark and S. Forssman. bibliog A M A Archives Ind Hygiene & Occup Med 3:386-98 Ap '51
Isolation and characterization of two metabolic products of myanesin (3-(*o*-toloxy)-1,2-propanediol). R. F. Riley. bibliog Am Chem Soc J 72:5712-14 D '50
Spectrophotometric determination of 8-quinolinol and some of its halogenated derivatives. W. T. Haskins and G. W. Luttermoser. bibliog Anal Chem 23:456-8 Mr '51

URONIC acid
Constitution of the disaccharide of glycyrrhinic acid. B. Lythgoe and S. Trippett. Chem Soc J p 1983-90 Ag '50

URONOSIDES
Uronoside formation catalyzed by cation active resin. E. M. Osman, K. C. Hobbs and W. E. Walston. Am Chem Soc J 73:2726-9 Je '51

UROPORPHYRIN
Synthesis of pyrroles related to the uroporphyrins. S. F. MacDonald. Chem & Ind p759-60 S 8 '51

URUGUAY
See also
Electric apparatus industry—Uruguay
Highway transportation—Uruguay

Economic conditions

News by countries. For Comm W 41:28 D 18 '50; 42:18+ Ja 29; 28 F 19; 43:16 My 7; 18+ Je 25; 44:11-12 Ag 13 '51

USED cars. See Automobile industry and trade—Used cars

USED machine tools. See Machine tools, Used

USURY
Interest on 360 day basis not usury; Ditmars vs. Trust co. F. C. Fiechter, jr. Burroughs Clearing House 35:75 Ag '51
Loan is usurious despite use of multiple agreements to cloak exaction of excessive interest from borrower; Arkansas case. Banking 44:60 S '51

UTAH
See also
Petroleum industry and trade—Utah

Industry and resources

Brigham Young wouldn't recognize it. il Bsns W p80-2+ S 1 '51
Uranium awakens sleepy parts of Utah. il Bsns W p78-80+ Je 2 '51

UTAH-IDAHO petroleum and manufacturing company, Pocatello, Idaho
Stock offered. Comm & Fin Chr 172:1835 N 13 '50

UTAH power and light company
Bonds offered. Comm & Fin Chr 172:1441 O 16 '50
Company behind George Gadsby. il map Elec World 135:96-7 Je 18 '51
Public utility securities. O. Ely. Comm & Fin Chr 174:785 Ag 30 '51
Stock offered. Comm & Fin Chr 174:1104 S 24 '51

UTILITIES, Public. See Public utilities

UTILITY units. See Houses—Mechanical equipment

V

V loans. See Loans, Banks—Defense loans

V-PARTICLES
Decay of neutral *V*-particles. R. B. Leighton and others. Phys R 83:843-5 Ag 15 '51
V-particle mass set at 2220 to 2265 electron masses. Chem & Eng N 29:2905-6 Jl 16 '51

VPI. See Corrosion and anti-corrosives

VACATION houses
Two California vacation houses and one in North Carolina. il plans Arch Forum 95:156-61 Ag '51
Two-family camp under one big roof is designed to become single residence. H. C. Kroll and C. Mochon. il plans Arch Forum 94:175 Je '51
Vacation house in Warm Springs, Ore. il plan Arch Rec 110:100-9 Jl '51

VACATIONS
Close down or stagger; what to do about vacations? experience of 60 companies. il Am Bsns 21:28+ Mr '51
Everyone's going someplace. il Bsns W p44+ My 26 '51
Mobilization calls the vacation deal. Bsns W p48 My 26 '51
Some practical aspects of the worker's annual holiday. A. Haulot. Int Labour R 62:453-68 D '50
Vacation gold in them thar hills; California resorts. il Bsns W p 116+ O 6 '51

VACCENIC acid
Constitution of vaccenic acid. S. S. Gupta and others. Chem Soc J p3484-90 D '50

VACCINATION
BCG vaccination on a world-wide scale. Pub Health Rep 66:1158-62 S 7 '51

VACCINES

BCG vaccination in Czechoslovakia. Pub Health Rep 66:444-5 Ap 6 '51

Charcoal agar culture medium for preparing hemophilus pertussis vaccine. H. M. Powell and others. Pub Health Rep 66:346-8 Mr 16 '51

Dried smallpox vaccine. J. W. Hornibrook and W. H. Gebhard. bibliog il Pub Health Rep 66:38-43 Ja 12 '51

Mouse-protective potency assay of typhoid vaccine. H. C. Batson and others. bibliog Pub Health Rep 66:789-805 Je 22 '51

Research contributions of BCG vaccination programs; tuberculin allergy as a family trait. C. E. Palmer and S. N. Meyer. Pub Health Rep 66:259-76 Mr 2 '51

VACUUM

Calculation of the Raman shift in vacuum. A. Opler. Opt Soc Am J 41:349-50 My '51

Electrical breakdown over insulators in high vacuum. P. H. Gleichauf. il diag J Ap Phys 22:535-41, 766-71 My-Je '51

Gauge invariance and vacuum polarization. J. Schwinger. Phys R 82:664-79 Je 1 '51

High vacuum evaporated optical coatings. R. E. Frazer. Instruments 24:284-5+ Mr '51

High vacuum metallizing of metals and plastics. A. H. Hartman and M. Schneider. flow diag il diags Metal Finishing 49:64-70 S '51

Less pressure, more product; continuous coal tar distillation reduces cracking and formation of carbon during final distillation. il Chem W 69:29 Jl 14 '51

Thin, attractive metal coatings produced by vacuum method. K. Rose. il Materials & Methods 33:71-3 Je '51

Vacuum metallizing. P. Rosenblatt. il diag Machine Design 23:141-4+ O '51

Vacuum plating of metals and plastics. T. M. Navoy. Metal Finishing 48:58-60 N '50

Vacuum systems for industrial apparatus. N. R. Maleady. il Product Eng 22:121-3 F '51

Bibliography

Classified abstracts. (In Vacuum, v 1 no 1: 41-72 Ja '51) W. Edwards & co, Worsley bridge road, Lower Sydenham, London, S.E. 26

VACUUM apparatus

Apparatus for vacuum sublimation. W. K. Noyce. diag Anal Chem 22:1581 D '50

Chemical engineering unit operations; sixth annual review; high vacuum distillation. K. C. D. Hickman. bibliog Ind & Eng Chem 43:68-9 Ja '51

Cold trap anti-icing shield. J. E. Skvarla and E. C. Evans. il diag R Sci Instr 22:341-2 My '51

Compact sliding vacuum seal. R. I. Garrod. diag J Sci Instr 28:187 Je '51

Glass-to-metal seal for vacuum systems. F. P. Strother and H. Granberry. diags R Sci Instr 22:432 Je '51

Glass valves for vacuum control. Franklin Inst J 251:643-4 Je '51; Glass Ind 32:304+ Je '51; il Instruments 24:656+ Je '51

High-efficiency vacuum method. M. A. Phillips. diag Chem Age (Lond) 63:681-2 N 11 '50

Liquid helium held 100 days. Steel 128:97-8 Ap 23 '51; Product Eng 22:198 My '51; il Mech Eng 73:466, 509-10 Je '51; Elec Eng 70:651-2 Jl '51; Westinghouse Eng 11:124 Jl '51

Modified vacuum fusion apparatus for determination of oxygen, hydrogen, and nitrogen in certain metals. A. F. Torrisi and J. L. Kernahan. diag Anal Chem 23:928-9 Je '51

Reliable Pirani vacuum safety circuit. W. Franzen and J. Horton. diag R Sci Instr 21:935 N '50

Vacuum-drying of electrical insulation in the service shop. N. R. Maleady. il Gen Elec R 54:52-4 Ag '51

Vacuum, the magic hat of industry. il diags Comp Air Mag 56:142-9 Je '51

VACUUM cleaners

Old hand at demonstration shows off new product; Singer to push new vacuum cleaner. M. Beuick. il Ptr Ink 237:46-8 O 12 '51

Seven extras your vacuum can give you. il Factory Management 109:108-9 Ag '51

Trim aluminum, copper, zinc parts in vacuum cleaners. Steel 128:83 Ap 2 '51

Unique vacuum cleaner design cuts weight. il diag Machine Design 22:124 N '50

Advertising

Lewyt says it over and over again, no dust bag to empty. il Sales Management 66:74-5 Mr 15 '51

Manufacture

Electrolux corporation; with blueprint. G. P. Muir. il diags Tool Eng 26:51-7 F '51

Take one problem at a time; Air-Way appliance corp. makes vacuum cleaners. il Mod Ind 20:58-60+ N '50

Rating

Seven vacuum cleaners. il Consumers Res Bul 26:17-20 N '50

Testing

High-speed motion pictures detect defects in design. L. G. Waller. il Machine Design 22:143-5 D '50

VACUUM concrete corporation

Security I like best. C. J. Straus. Comm & Fin Chr 173:1634 Ap 19 '51

VACUUM containers

Dewar flasks of unusual design; small liquid oxygen containers for use in fighter aircraft. D. S. Goalwin. il diags Refrig Eng 59:768-9 Ag '51

Vacuum bag it, for better quality; Armour's sliced bacon packages. E. S. Stateler. il Food Ind 22:2045-6 D '50

VACUUM gages

Measurement of nothing. il Chem Ind W 68:29 My 12 '51

New vacuum gauge for canned goods. J. C. Morpeth. Chem Age (Lond) 65:461-2+ O 6 '51

VACUUM pumps

Construction of an all-glass mercury circulation pump. H. Kerner. diags Chem & Ind p24-5 Ja 13 '51

Design of molecular pumps. R. B. Jacobs. diags J Ap Phys 22:217-20 F '51

High speed hot baffle for oil diffusion pump systems. R. L. Longini. diag R Sci Instr 22:345-6 My '51

Reverse separation in fractionation pumps. K. Hickman. bibliog diag R Sci Instr 22:141-6 Mr '51

Vacuum-pump figuring made easy. T. G. Hicks. il diags Food Ind 22:2088-90 D '50

Vacuum pumps prime 'em; here's how to use vacuum pumps to prime centrifugal types. B. A. Briggs. diags Power 95:122-3 My '51

Vacuum systems for industrial apparatus. N. R. Maleady. il Product Eng 22:121-3 F '51

VACUUM stills. See Distillation apparatus

VACUUM tube amplifiers. See Amplifiers, Vacuum tube

VACUUM tube voltmeters. See Voltmeters, Vacuum tube

VACUUM tubes

Acorn diode has logarithmic range of 10^9. T. S. Gray and H. B. Frey. R Sci Instr 22:117-18 F '51

Aluminum-clad iron for electron tubes. W. Espe and E. B. Steinberg. bibliog Tele-Tech 10:28-30+ F '51

Base-metal effects in thoria-coated filaments. H. Nelson. J Ap Phys 21:1194-5 N '50

Cathode field in diodes under partial space-charge conditions with initial velocities. A. O. Barut. Phys R 81:274-5 Ja 15 '51

Condenser microphone sensitivity measurement by reactance tube null method. H. E. Von Gierke and W. W. Von Wittern. diags Inst Radio Eng Proc 39:633-5 Je '51

Controllable gas diode; construction and characteristics of the plasmatron. E. O. Johnson. il diags Electronics 24:107-9 My '51

Design factors of the Bell telephone laboratories 1553 triode. J. A. Morton and R. M. Ryder. il diags Bell System Tech J 29:496-530 O '50

Electric field at a thermionic cathode as a function of space current. P. L. Copeland and D. N. Eggenberger. Phys R 80:298 O 15 '50

VACUUM tubes—*Continued*

Electric field in a multi-grid radio valve. G. B. Walker. il diags Inst E E Proc 98 pt 3: 64-7 Ja '51

Electric field in a singe-grid radio valve. G. B. Walker. bibliog diags Inst E E Proc 98 pt 3:57-63 Ja '51

Electrode deterioration in transmit-receive tubes. J. C. French. diags J Res Nat Bur Stand 45:310-15 O '50

Electron tube performance with large applied voltages. A. E.-S. Mostafa. diags Inst Radio Eng Proc 39:70-3 Ja '51

Electronics era. L. P. Lessing. il diags Fortune 44:78-83+ Jl '51

Electrostatic storage tube. S. H. Dodd and others. il diags Elec Eng 69:990-5 N '50

Elements of thermionics. W. E. Danforth. diags Inst Radio Eng Proc 39:485-99 My '51

Gated-beam mixer. S. Rubin and G. E. Boggs. diag Electronics 24:196+ O '51

High-speed ten-volt effect. R. M. Matheson and L. S. Nergaard. RCA R 12:258-68 Je '51

How reliable is a radio valve? discussion. G. H. Metson. Inst E E Proc 98 pt 3:207-8 My '51

Interelectrode impedances in triodes and pentodes. E. E. Zepler and S. S. Srivastava. bibliog diags Wireless Eng 28:146-50 My '51

JETEC approach to the tube-reliability problem. J. R. Steen. Inst Radio Eng Proc 39: 998-1000 S '51

Leaky-condenser oxide cathode interface. A. Eisenstein. bibliog il diags J Ap Phys 22: 138-48 F '51

Life of valves with oxide-coated cathodes. C. C. Eaglesfield. bibliog il Elec Com 28:95-102 Je '51

Millimeter waves; need for tubes and circuits that will operate in the wavelength region between microwaves and the infrared. J. R. Pierce. diags Electronics 24:66-9 Ja '51

New cathode design improves tube reliability. D. R. Hill. il diags Electronics 24:104-6 Ag '51

New damper diode. M. Bareiss. il Electronics 24:262+ O '51

New electronic apparatus for the measurement of the fusion frequency of flicker. C. Fritze and E. Simonson. bibliog diags Science 113:547-9 My 11 '51

New low-noise twin triode. diags Q S T 35:46-7 Ag '51

New microwave triode; its performance as a modulator and as an amplifier. A. E. Bowen and W. W. Mumford. bibliog il diags Bell System Tech J 29:531-52 O '50

New vacuum tube materials; terratex as a substitute material for mica spacers; aluminum-clad iron materials as a replacement for nickel. A. P. Haase and E. B. Fehr. il diags Tele-Tech 10:30-2 Je; 33-5 Jl '51

Nickel alloys for oxide-coated cathodes. A. M. Bounds and T. H. Briggs. bibliog il diag Inst Radio Eng Proc 39:788-99 Jl '51

1.5-kw 500-megacycle grounded-grid triode. C. E. Fay and others. il diag Inst Radio Eng Proc 39:800-3 Jl '51

Oxide cathode base metal studies; influence of magnesium in cathode nickel on the thermionic performance. R. Forman and G. F. Rouse. bibliog il diags J Res Nat Bur Stand 46:30-7 Ja '51

Poisoning of oxide cathodes by atmospheric sulfur. H. A. Stahl. Inst Radio Eng Proc 39:193 F '51

Potential and gradient distributions in parallel plane diodes at currents below space-charge-limited values. W. M. Brubaker. bibliog Phys R 83:268-70 Jl 15 '51

Rapid determination of gas discharge constants from probe data. L. Malter and W. M. Webster. diags RCA R 12:191-210 Je '51

Rectifier circuits using diode vacuum tubes. R. B. Immel. diags Product Eng 22:156-7 S '51

Reliability in electronics. D. D. Knowles. Westinghouse Eng 10:242-4 N '50

Secondary-emitting surfaces in the presence of oxide-coated cathodes. S. Nevin and H. Salinger. bibliog diags Inst Radio Eng Proc 39:191-3 F '51; Same. Elec Com 28:103-5 Je '51

6BN6 gated-beam tube. J. Kauke. il diags Radio & Tv N 46:42 O '51

Switch and storage tubes. L. S. Allard and R. T. Hill. il diags Wireless Eng 28:187-91 Je '51

Tv tube developments. P. B. Lewis. il diag Tv Eng 1:34-5 N; 20 D '50

Theory of the negative impedance converter. J. L. Merrill, jr. diags Bell System Tech J 30:88-109 Ja '51

32-channel high-speed commutator. N. Alpert and others. il diags Electronics 23:94-7 N '50

Triode transmission networks under linear negative-grid conditions. A. W. Keen. bibliog diags Wireless Eng 28:56-66 F '51

Tube substitutions in home receivers. M. Chertock. il diag Radio & Tv N 45:38+ Mr '51

Use of new low-noise twin triode in television tuners. R. M. Cohen. bibliog il diags RCA R 12:3-25 Mr '51

Using the 6BQ7 on 220 and 144 mc. E. P. Tilton and C. V. Chambers. il diag Q S T 35:41-3 S '51

Valve operating conditions. diag Wireless Eng 28:195-6 Jl '51

Variations in extinction voltages of glow-discharge voltage-regulator tubes. F. A. Benson. bibliog J Sci Instr 28:186 Je '51

Voltage-controlled secondary-emission multipliers. A. J. W. M. van Overbeek. bibliog diags Wireless Eng 28:114-25 Ap '51

See also

Amplifiers, Vacuum tube
Cathode followers
Cathode ray tubes
Electric discharges
Electron multipliers
Geiger-Müller counters
Klystron
Magnetron
Multivibrators
Photoelectric cells
Radio receiving apparatus
Radio rectifiers
Resnatron
Thyratron
Voltmeters, Vacuum tube
X ray tubes

Bibliography

Radio progress during 1950; electron tubes and solid-state devices. Inst Radio Eng Proc 39: 368-73 Ap '51

Cold cathode

Gas-discharge tubes for electronic counting circuits. Engineering 171:527 My 4 '51

Control uses

Amplidyne drive for veneer lathe. Machine Design 23:153 My '51

Control maintains lateral position of moving web of material. il diag Product Eng 22: 176 Mr '51

Electronic brain controls fuel flow. Aviation W 55:40 S 3 '51; Steel 129:97 Ag 6 '51

Electronic brains for machines. il diag Product Eng 22:138-41 My '51

Electronic control for dc motors. F. A. Annett. diag Power 95:100+ Je; 78-9+ Jl '51

Electronic control of heating systems. F. A. Annett. diags Power 95:90-1+ S '51

Electronic control of home heating. J. M. Wilson. il diag Electronics 23:84-7 D '50

Electronic control of production flamatic hardening. M. Garvin and D. Strauchen. il Welding J 29:981-5 N '50

Electronic control of veneer-peeling lathes. il Engineering 171:97 Ja 26 '51; Elec R (Lond) 147-1125-6 D 29 '50; Electrician 146:479-80 F 9 '51; Electronics 24:136+ Ap '51

Electronic instruments and controls. K. Steiner and W. G. Carter. il diags Heating-Piping 23:96-9 Jl; 77-9 S '51

Electronic knitting-machine drive. il diag Electronics 24:136+ Je '51

Electronic process controller; abstract. J. R. Boundy and S. A. Bergen. Elec R (Lond) 148:756 Ap 13 '51

Electronic speed control for the towing carriage of ship-model testing tank. R. H. Tizard and B. G. V. Harrington. bibliog il diags Inst E E Proc 97 pt 2:651-62 O '50

Electronics in industry; valve development and uses for control purposes; abstracts. O. W. Humphreys. Elec R (Lond) 148:1293-4 Je 22 '51; Electrician 146:2111-13 Je 22 '51

Electronics simplified; single unit design, containing complete subcircuits in plug-in packages. E. Forbes. il Aero Digest 62:19-20+ Ap '51

VACUUM tubes—Control uses—*Continued*

Filament voltage regulator. diag Electronics 23:120+ N '50

Home-heating control modification. E. M. Howe. diag Electronics 24:171-2+ Jl '51

Home-made torque control cuts tool breakage. J. R. Wescott, jr. il diag Iron Age 168:107-8 Jl 19 '51

Hot-cathode helium-filled diode that can control large currents continuously at low voltages. R. H. Müller. Anal Chem 23:sup23A-4A+ Jl '51

Improving industrial control design. E. H. Vedder. il Electronics 24:104-6 My '51

Inexpensive electronic switch. J. G. Arnold. il diags Radio & Tv N 46:32-3 Jl '51

Motor speed controls. E. Bukstein. il diags Radio & Tv N 45:35+ Mr '51

Phase-sensitive detector circuit having high balance stability. N. A. Schuster. diags R Sci Instr 22:254-5 Ap '51

Proposed symbols and terms for feedback control systems. diags Elec Eng 70:905-9 O '51

Quench controller for steel. W. K. Halstead and L. D. Jaffe. il diags Electronics 23:109-11 N '50

Radio and product control by shield-grid thyratrons. C. F. Spitzer. Electronics 24:202+ Ja '51

Remote control of positioning motors. G. M. Chute. diags Electronics 24:92-3 Jl '51

Republic's new Telemaster, an electronic master control system. il diags Power Eng 55:76-7 Ja '51

Resistance welding. E. Bukstein. il diags Radio & Tv N 45:52+ My '51

Simplified electronic switch for oscilloscopes. L. N. Van Allen. diag Electronics 24:136 Ap '51

Small-motor electronic control. F. A. Annett. diags Power 95:100-1+ My '51

Some developments in electronic instrumentation including process control. W. T. Marchment. il diags Instruments 24:42-4+ Ja '51

Speed control of ac motors. F. A. Annett. diags Power 95:100-2+ Ag '51

Speed-controlled switch. H. W. Kretsch and F. J. Walker. il diag Electronics 24:112-13 Jl '51

Stable electronic voltage regulator. P. G. Sulzer. bibliog diags Electronics 23:162+ D '50

Standard biscuits; electronic coordination of driven equipment at the Far Crest bakeries. il Electronics 23:120 N '50

Synchronized electronic switch. J. F. Dundovic and T. Lode. diags Electronics 24:136+ My '51

Thyratron grid circuit design. J. H. Burnett. il diags Electronics 24:106-11 Mr '51

Timing machine operations with small thyratrons. S. C. Rockafellow. il diags Product Eng 21:85-90 N '50

Trends in electronic nonsynchronous resistance welding controls. S. Rockafellow. Welding J 30:801-2 S '51

Unionmelt voltage controls. J. A. Kratz. il diags Elec Eng 69:1102-4 D '50

Use of feedback systems for the control of anesthesia; electrical activity of patient's brain used to actuate network which controls dosage of anesthetic. R. G. Bickford. il diags Elec Eng 70:852-5 O '51

Voltage regulators. J. E. Williams. diags Radio & Tv N 46:68-9+ S '51

Warp sizing machine. Elec R (Lond) 148:1336 Je 22 '51; diag Electrician 146:1866 Je 1 '51

Wide-range voltage regulators. J. Houle. diags Electronics 24:202+ Ag '51

Cooling

End-cooling of power tube filaments. J. W. Clark and R. E. Neuber. diags J Ap Phys 21:1084-7 N '51

Generating action

Alternate ways in the analysis of a feedback oscillator and its application. E. J. Post and H. F. Pit. bibliog diags Inst Radio Eng Proc 39:169-74 F '51

Some characteristics of diodes with oxide-coated cathodes. W. R. Ferris. diag RCA R 10:134-49 Mr '49; Correction. 11:568 D '50

See also
Oscillators

Industrial applications

Application of tubes in heating equipment. H. J. Dailey and C. H. Scullin. il diag Electronics 24:216+ O '51

Crawler detects gun-barrel cracks. R. D. Kodis and R. Shaw. il diags Electronics 24:92-5 S '51

Detecting tramp metal in logs and iron ore. C. W. Clapp. bibliog il diags Electronics 24:88-93 Mr '51

Electronic instruments. il Electrician 146:310-12 Ja 26 '51

Electronic power source for large d-c contact testing. D. L. Pettit. il diags Elec Eng 70:530-2 Je '51

Electronics for the power engineer (cont). F. A. Annett. diags Power 94:123-4+ D '50; 95:122+ Ja; 118+ F; 124+ Mr; 99-102+ Ap; 100-1+ My; 100+ Je; 78-9+ Jl; 100-2+ Ag; 90-1+ S; 94-5+ N '51

High-speed electronic reservoir analyzer. O. L. Patterson and others. il diags Oil & Gas J 49:87-8+ Ap 5 '51

Low-cost testing machine has electronic indicating system. il diag Product Eng 22:118-19 Jl '51

Multiple-output predetermined counter. D. L. Gerlough and H. R. Kaiser. il diags Electronics 24:122+ F '51

Showroom for industrial applications of electronics. il Engineer 191:552 Ap 27 '51

Synchro data switching circuit. J. Corwin and S. Adler. diags Electronics 24:112-13 Ja '51

Tube selection for heating equipment. H. J. Dailey and C. H. Scullin. il Electronics 24:188+ S '51

See also
Electric heating, Industrial—High frequency heating

Length of service

Statistical evaluation of life expectancy of vacuum tubes designed for long-life operation. E. M. McElwee. Inst Radio Eng Proc 39:137-41 F '51

Manufacture

Control of averages in tube manufacture. A. K. Wright. il Tv Eng 1:40-2 N '50

For lack of a better term they called it bad glass. B. C. Bender. il Cer Ind 56:83 Je '51

Glass selection and production techniques for X-ray and other tubes. M. J. Zunick and J. B. Gosling. bibliog il diags Glass Ind 32:117-20+ Mr '51

Grid-winding lathe. il diag Tv Eng 2:5 My '51

Manufacture of a high-frequency transmitting tube; illustrations with text. il Elec Com 28:171-185 S '51

Metal-ceramic sealing with manganese. H. J. Nolte and R. F. Spurck. il Tv Eng 1:14-16+ N '50

Physical aspect of glass-metal sealability in the electronic tube industry; tr. by N. J. Kreidl. G. Trebuchon and J. Kieffer. bibliog diags Glass Ind 32:165-74+, 240-7+, 290-5 Ap-Je '51

Thoria as a cathode emitter. W. E. Danforth. Franklin Inst J 251:515-20 My '51

Measurement uses

Airplane model profiles tested in water channel; development of an electronic depth indicating probe mechanism. il Product Eng 21:162 N '50

Automatic a-c bridges. J. F. Graham. il diags Electronics 24:110-16 F '51

Capacitance-change viscometer. R. W. Thickens. il diags Electronics 24:116-17 Ap '51

Dynamic flow-field measurement. A. Perone. il diags Aero Digest 62:50+ Je '51

Electronic analysis of walking. il Electronics 24:212+ Je '51

Electronic methods of pH measurement; discussion. Inst E E Proc 97 pt 2:755-6 D '50

Electronic plumb bob demonstrated; yields data on pile's out-of-plumb. il Eng N 146:39 F 8 '51

VACUUM tubes—Measurement uses—*Cont.*

Electronic work-recovery integrator. L. P. Haner. il diags Textile Res J 21:277-80 My '51

Electronics in naval architecture; some applications to research problems; abstracts. L. C. Burrill and A. G. Boggis. Engineer 191:295 Mr 2 '51; diag Electrician 146:388 F 2 '51

Gauge for measuring sustained stresses in soil. A. C. Whiffin and R. T. Smith. bibliog il diags Engineer 192:5-6 Jl 6 '51

Improved Ramberg vacuum-tube accelerometers developed by NBS. il Elec Eng 70:176 F '51; Electronics 24:120+ F '51; Aero Digest 62:44+ My '51

Light meter for that darkroom. S. Becker. il diag Radio & Tv N 46:60-1 Ag '51

Measuring moon radiation at 24,000 mc. J. H. Piddington and H. C. Minnett. diag Electronics 23:124+ N '50

Measuring power factor of low-loss dielectrics. J. L. Dalke and R. C. Powell. diag Electronics 24:224+ Ag '51

Measuring vector relationships. Y. P. Yu. il diags Electronics 24:124-7 Jl '51

Novel measuring and proportioning method. J. C. Frommer. diags Instruments 24:286+ Mr '51

Operation and maintenance of electronically operated instrument equipment. J. R. Green. il diags Iron & Steel Eng 28:102-7 My '51

Simonds electronic fuel gage; Pacitron gage. il(cover) diag Electronics 24:138 Jl '51

Techniques for measuring the dynamic characteristics of a low pressure discharge. B. T. Barnes and S. Eros. diags J Ap Phys 21:1275-8 D '50

Wide-range electronic chronoscope. R. G. Roush. il diags Electronics 24:120-4 S '51

See also

Voltmeters, Vacuum tube

Miniature tubes

High-reliability miniature tubes. G. Gage. il diags Electronics 23:66-8 D '50

Low-noise miniature pentode for audio amplifier service. D. P. Heacock and R. A. Wissolik. il diags Tele-Tech 10:31-3+ F '51

Military requirements for subminiature tubes. J. D. Fahnestock. il Electronics 4:108-9 Ap '51

Miniature traveling-wave tube. R. Adler. il diags Electronics 24:110-13 O '51

Reliability in miniature and subminiature tubes. P. T. Weeks. diags Inst Radio Eng Proc 39:499-503 My '51

Statistical evaluation of life expectancy of vacuum tubes designed for long-life operation. E. M. McElwee. Inst Radio Eng Proc 39:137-41 F '51

Subminiatures. R. E. Graham. diags Tv Eng 2:6 My '51

Noise

Direct-reading noise-factor measuring systems. R. W. Peter. bibliog il diags RCA R 12:269-81 Je '51

Expected number of crossings of axis by linearly increasing function plus noise. F. W. Lehan. J Ap Phys 22:1067-9 Ag '51

Experimental verification of space charge and transit time reduction of noise in electron beams. C. C. Cutler and C. F. Quate. bibliog diag Phys R 80:875-8 D 1 '50

Induced grid noise and noise factor. R. L. Bell. diag Inst Radio Eng Proc 39:1059-63 S '51

Induced grid noise in triodes. A. vanderZiel. Wireless Eng 28:226-7 Jl '51

Low-noise miniature pentode for audio amplifier service. D. P. Heacock and R. A. Wissolik. il diags Tele-Tech 10:31-3+ F '51

Methods to extend the frequency range of untuned diode noise generators. H. Johnson. diags RCA R 12:251-7 Je '51

Noise in traveling-wave tubes. F. N. H. Robinson and R. Kompfner. bibliog diags Inst Radio Eng Proc 39:918-26 Ag '51

Noise temperature of a d.c. gas discharge plasma. S. Kojima and K. Takayama. Phys R 80:907 D 1 '50

Power spectrum of a narrow band noise passed through a nonlinear impedance element. J. L. McLucas and R. C. Raymond. J Ap Phys 22:1211-13 S '51

Rapid and sensitive spectrophotometry; the accelerated and stopped-flow methods for the measurement of the reaction kinetics and spectra of unstable compounds in the visible region of the spectrum. B. Chance. bibliog diags R Sci Instr 22:619-27 Ag '51

Space-charge smoothing factor. C. S. Bull. bibliog diag Inst E E Proc 98 pt 3:149-52 Mr '51; Discussion. 98 pt 3:470-2 N '51

Theory of random noise; phenomenological models. D. Middleton. bibliog J Ap Phys 22:1143-63 S '51

Rating

Electron tube ratings at very high altitudes. R. J. Bibbero. il Tele-Tech 10:42-4 My '51

Principles of the electrical rating of high-vacuum power tubes. E. E. Spitzer. diags Inst Radio Eng Proc 39:60-9 Ja '51

Scientific applications

Digital electronic correlator. H. E. Singleton. bibliog diags Inst Radio Eng Proc 38:1422-8 D '50

Electronic instrumentation conference, 3d, sponsored by the AIEE and the Institute of radio engineers, New York, Oct. 23-25; abstracts of nucleonic and medical papers. Elec Eng 69:1127-9 D '50

Five sessions held at conference on electron tubes for computers; sponsored by the AIEE and Institute of radio engineers. Elec Eng 70:163-5 F '51

Graph-scope, an electronic graph plotter and graphical computer. A. L. Thomas, jr. diags Elec Eng 69:1097-100 D '50

High-speed sampling techniques. B. R. Shepard. il diags Electronics 24:112-15 Ag '51

Marginal checking as an aid to computer reliability. N. H. Taylor. bibliog diags Inst Radio Eng Proc 38:1418-21 D '50

Mechanical or electronic design? G. J. Giel. il diags Machine Design 23:118-20 F '51

Selective electrostatic storage tube. J. Rajchman. bibliog il diags RCA R 12:53-97 Mr '51

Systematization of tube surveillance in large scale computers. H. W. Spence. diags Elec Eng 70:605-8 Jl '51

Ultraviolet probe. C. E. Atkins. il diags Radio & Tv N 45:36-7+ Mr '51

Testing

Electrode deterioration in transmit-receive tubes. J. C. French. diags J Res Nat Bur Stand 45:310-15 O '50

Investigating subminiature tubes for microphonism. il(cover) diag Electronics 24:122 F '51

Tube characteristic tracer using pulse techniques. H. M. Wagner. bibliog il diags Electronics 24:110-14 Ap '51

Tube manufacturer's control of grid emission; quality control test equipment at the Tung-Sol plant. A. Carlson and R. Morgan. il Radio & Tv N 46:39+ O '51

Traveling wave tubes

Amplification at 50,000 megacycles; helix-type traveling-wave tube. il Electronics 24:140+ Ap '51

Amplification of the traveling wave tube. B. Friedman. J Ap Phys 2:443-7 Ap '51

Calculation of traveling-wave-tube gain. C. C. Cutler. diag Inst Radio Eng Proc 39:914-17 Ag '51

Effect of hydrostatic pressure in an electron beam on the operation of traveling-wave devices. P. Parzen and L. Goldstein. bibliog J Ap Phys 22:398-401 Ap '51; Same. Elec Com 28:228-32 S '51

Medium-power traveling-wave tube type 5929. J. H. Bryant. il diags Elec Com 27:277-9 D '50

Microwave sweep generator; permits oscilloscope indication of match between wide-band traveling-wave tubes and transmission lines. L. C. Elsaman. il diags Electronics 23:101-3 N '50

Miniature traveling-wave tube. R. Adler. il diags Electronics 24:110-13 O '51

Noise in traveling-wave tubes. F. N. H. Robinson and R. Kompfner. bibliog diags Inst Radio Eng Proc 39:918-26 Ag '51

VACUUM tubes—Traveling wave tubes—*Cont.*

Periodic-waveguide traveling-wave amplifier for medium powers. G. C. Dewey and others. bibliog diags Inst Radio Eng Proc 39:153-9 F '51; Same. Elec Com 28:200-7 S '51

Spatial harmonic traveling-wave amplifier for six millimeters wave-length. S. Millman. il diags Inst Radio Eng Proc 39:1035-43 S '51

Transmission-line equivalent of electronic traveling-wave systems. W. E. Mathews. bibliog diags J Ap Phys 22:310-16 Mr '51

Traveling-wave amplifier measurements. F. E. Radcliffe. diags Electronics 24:110-11 Ag '51

Traveling-wave tubes. J. R. Pierce. diags Bell System Tech J 29:1-59, 189-250, 390-460, 608-71 bibliog(p 670-1) Ja-O '50

Travelling-wave tubes with dispersive helices. F. N. H. Robinson. diags Wireless Eng 28:110-13 Ap '51

Wave propagation on helical wires. W. Sollfrey. bibliog diag J Ap Phys 22:905-10 Jl '51

Velocity modulation tubes

See also

Klystron

VALENCE

Calculation of coefficients of Coulomb and exchange integrals in matrix elements involving polar singlet structures. M. Simonetta and V. Schomaker. bibliog J Chem Phys 19:649-53 My '51

Covalency, co-ordination, and chelation. W. J. Lile and R. C. Menzies. Chem Soc J p617-21 F '50

General valence orbitals derivable by sp_3 hybridization. P. Torkington. bibliog diags J Chem Phys 19:528-33 My '51

Light absorption as a result of an interaction of two states of valency of the same element. W. A. Weyl. bibliog il J Phys & Colloid Chem 55:507-12 Ap '51

Lower valency states of thorium. J. S. Anderson and R. W. M. D'Eye. diags Chem Soc J supp no 2:S244-8 '49

Molecular orbital calculations from H_3. J. M. Walsh and F. A. Matsen. bibliog J Chem Phys 19:526-8 My '51

New valency of protoactinium. G. Bouissières and M. Haissinsky. diag Chem Soc J supp no 2:S256-8 '49

Tripyramidal bond orbitals. G. H. Duffey. bibliog J Chem Phys 19:553-4 My '51

Valence of precipitating rabbit antibody. S. J. Singer and D. H. Campbell. Am Chem Soc J 73:3543-4 Jl '51

Valency and the periodic table. G. Glockler and A. I. Popov. bibliog J Chem Educ 28:212-13 Ap '51

VALENCIA, Lake

Speed of salt increase in the waters of Lake Tacarigua, Venezuela. A. Bonazzi. bibliog Science 112:590-1 N 17 '50

VALENTINE, Alan, 1901-

Portrait. Bsns W p25 Ja 6 '51

VALERIC acid

Decomposition of the isomeric valeric acids in the ozonizer discharge. W. S. Partridge and W. M. Garrison. bibliog Am Chem Soc J 72:4302-3 S '50

5-Hydroxy-4,4-dimethyl-3-(6-hydroxynaphthyl-2)-pentanoic acid lactone. J. Ashmore and M. N. Huffman. bibliog Am Chem Soc J 73:1784-6 Ap '51

VALEROLACTONE

Synthesis of some cycloalkenyl-substituted butyro- and valerolactones. J. English, jr. and J. E. Dayan. bibliog Am Chem Soc J 72:4187-9 S '50

VALINE

Resolution of amino acids; phenylalanine and valine. L. R. Overby and A. W. Ingersoll. bibliog Am Chem Soc J 73:3363-6 Jl '51

Synthesis of N-(2-benzoyl-4-oxazoloyl)-valine. H. Adkins, R. M. Ross and D. C. Schroeder. bibliog Am Chem Soc J 72:5401-3 D '50

VALLEYS, Submarine. See Canyons, Submarine

VALUATION

Valuation of business interests; variable factors affect normal basis. S. A. Sakol. Trusts & Estates 90:617-21 S '51

See also

Assessment
Depreciation
Electric utilities—Valuation
Insurance—Valuation of property
Insurance, Fire—Valuation of property
Inventories—Accounting
Public utilities—Valuation
Stocks—Valuation

VALVES

Aerosol valves. W. Tuttle. Soap & San Chem 27:107+ Ja '51

Alloy steel valve casting unimpaired after six years' service. T. N. Armstrong and R. J. Greene. Steel 127:66 D 25 '50

Ball valve, utilizes Bernoulli's principle. il diag Machine Design 23:115 My '51

Chopper type slide valve saves catalyst; patent. diag Pet Processing 6:649 Je '51

Control valves; their action and selection. W. G. Holzbock. bibliog Chem Eng 58:118-21 Mr '51

Cutters designed for machining seats and grooves in air-valve parts. R. W. Newton. diags Mach 57:187-9 Ag '51

Diaphragm control valve embodies steel open yoke. il Product Eng 21:171 D '50

Double-disk gate valve. il Machine Design 23:107 Jl '51

Glass valves for vacuum control. Franklin Inst J 251:643-4 Je '51; Glass Ind 32:304+ Je '51; il Instruments 24:656+ Je '51

Greaseless gas flow valve. R. E. Honig. diags R Sci Instr 21:1024-5 D '50

Hard facing of steam valve seats and disks. O. E. Swenson. il diags Welding J 29:1053-8 D '50

How to get what you need when you order a valve. D. P. Thornton, jr. Pet Processing 6:722-4, 844-7 Jl-Ag '51

How to pick the right size butterfly valve; steam valve; maintenance data sheet. Factory Management 109:140, 142 Je '51

Keep them working; proper valve installation. il diags Dom Eng 177:108+ F; 104-5+ Mr '51

Lubricated plug valves for drilling and well-head services. E. E. Hedene. il Pet Eng 22:B59+ D '50

New valve developments; abstract. P. A. Elfers. Pet Eng 23:C40 Ja '51

Nickel-chromium-molybdenum steel valve casting after 50,000 hours of service at 900 F. T. N. Armstrong and R. J. Greene. il A S M E Trans 73:751-3; Discussion. 753-4 Ag '51

Overcoming some common difficulties with pipe and valve systems. B. Hornung. diags Chem Eng 58:124 Mr '51

Piping pointers. diags Dom Eng 178:158 Ag '51

Porcelain enamel selector valve cuts maintenance. il Iron Age 168:74 Ag 23 '51

Rubber valves for industrial uses. il Engineering 172:287 Ag 31 '51

Tips on valve piping; data sheet. diags Heating-Piping 23:106 S '51

Unbalanced force reactions in control valve plugs and their influence on diaphragm motor design and operation. R. A. Rockwell. il diags Pet Eng 23:C9-12+ F; C17-18+ Mr '51; Same. Instruments 23:1252-9+ D '50

Universal joints needed in extension stems for valves. G. W. Hauck. diags Heating-Piping 23:124-5 Ja '51

Unusual control valve practices in a petroleum refinery. C. W. Bates and J. R. Martin. il diag Pet Refiner 30:111-18 Ja '51

Use of lift type of check valve as against the swing check. Heat & Ven 48:105 Ag '51

Vacuum valve for glass systems. J. Stern. il diag R Sci Instr 22:703-4 S '51

Vacuum valve for the handling of very pure gases. D. Alpert. diags R Sci Instr 22:536-7 Jl '51

Valve salvage pays when it's part of routine maintenance. W. C. Uhl. il plan Pet Processing 6:388-92 Ap '51

See also

Airplane engines—Valves
Automobile engines—Valves
Safety valves

VALVES—*Continued*

Control

Heavy valves positioned by air motor; illustrations with text. Product Eng 22:132-3 F '51

Design

Performance analysis of butterfly valves. S. D. Cohn. bibliog diags Instruments 24:880-4 Ag '51

Electric control

Diaphragm motor coupled with magnets widens valve control; patent. diag Pet Processing 6:177 F '51

Gas burner controls; motorized gas valves. C. W. Nessell. diags Sheet Metal Worker 42:55-6+ D '50; 98+ Ja '51

Motor valve. Aviation W 55:48 Jl 23 '51

Motorized valves sample sewage in proportion to flow. G. S. Long. il diag Eng N 145:46-7 O 26 '50

Proportioning controls. diag Engineer 190:539 D 1 '50

Solenoid air valves in automatic machines. R. C. May. diags Product Eng 22:193-5 O '51

Manufacture

Productivity team report; valve manufacturers analyse U.S. methods. Chem Age (Lond) 65:51-2 Jl 14 '51

VALVES, Hydraulic

How hydraulic valves control S.S. Bland's propulsion unit. diag Marine Eng 56:48-9 S '51

Hydraulic valves improved. Tech R 53:396-7 Je '51

Surge valve. diag Machine Design 23:108 Jl '51

Valve and hydrant maintenance. H. W. Niemeyer. Am Water Works Assn J 42:680-6 Jl '50; Same. Water & Sewage Works 98:R69-71 Ap '51

Waterworks valve maintenance and repair in the city of Peterborough. R. L. Dobbin. Munic Util 89:24+ Ag '51; Same. Am Water Works Assn J 44:58-60 Ja '52

Electric control

Electrically operated valves control water distribution. W. W. Gentry. Pub Works 82:84-5 Je '51

Torque motor performs with servo-mechanisms. il Product Eng 22:176 Ja '51

VANADIUM

Coherent neutron scattering cross section of V^{51}. A. W. McReynolds and R. J. Weiss. bibliog Phys R 83:171-2 Jl 1 '51

Crystal structure of V$_3$Co. P. Duwez. J Metals 3:Trans 564 Jl '51

Deep configurations of V I and Cr II. A. A. Schweizer. Phys R 80:1080-2 D 15 '50

High-purity, ductile vanadium metal. il Chem Eng 57:194-5 N '50

Kinetics of the reactions of vanadium with oxygen and nitrogen. E. A. Gulbransen and K. F. Andrew. bibliog Electrochem Soc J 97:396-404 N '50

Less familiar metals of commercial importance. O. Kay and R. A. Lubker. Product Eng 22:107-8 Ja '51

Nils Gabriel Sefström and the discovery of vanadium. S. G. Sjöberg. J Chem Educ 28:294-6 Je '51

Polarographic characteristics of +2 and +3 vanadium; polarography in complexing solutions. J. J. Lingane and L. Meites. Am Chem Soc J 73:2165-70 My '51

Production of ductile vanadium by calcium reduction of vanadium trioxide. E. D. Gregory and others. bibliog il diags Electrochem Soc J 98:395-9 O '51

Promising new structural metal. Blast F & Steel Pl 38:1363-4 N '50

Rare vanadium, an active steel alloy. Blast F & Steel Pl 39:702-3 Je '51

(p,n) Reaction on scandium and vanadium; energy levels of Ti^{46} and Cr^{52}. W. D. Baker and others. Phys R 81:48-50 Ja 1 '51

U.S. vanadium ore output; world production of vanadium, since 1940; tabulations. Iron Age 167:308 Ja 4 '51

Vanadium in crude oils; occurrence. W. L. Nelson. bibliog Oil & Gas J 49:88 N 30; 105+ D 7; 330 D 21; 83 D 28 '50; 65 Ja 4 '51

Vanadium metal, a new article of commerce. A. B. Kinzel. il Metal Prog 58:315-21 S '50; Discussion. 58:867-8 D '50

Vanadium now available commercially. il Steel 127:108 O 2 '50; Same abr. Product Eng 21:176 N '50

Vanadium-oxygen equilibrium in liquid iron. J. Chipman and M. N. Dastur. bibliog il J Metals 191:Trans 111-15 F '51

Analysis

Colorimetric determination of vanadium with benzoylphenylhydroxylamine. S. C. Shome. bibliog Anal Chem 23:1186-8 Ag '51

Determination of microgram amounts of calcium and magnesium in vanadium metal. J. Rynasiewicz and others. bibliog Anal Chem 23:668-9 Ap '51

Determination of small amounts of vanadium in steel by photometric titration. R. F. Goddu and D. N. Hume. bibliog il diag Anal Chem 22:1314-17 O '50

Determination of traces of silicon in vanadium and uranium; spectrophotometric method. R. Guenther and R. H. Gale. bibliog Anal Chem 22:1510-11 D '50

Separation of chromium and vanadium salts by liquid-liquid extraction. A. E. Weinhardt and A. N. Hixson. bibliog Ind & Chem 43:1676-84 Jl '51

Ultraviolet spectrophotometric determination of vanadium. G. Telep and D. F. Boltz. bibliog Anal Chem 29:901-3 Je '51

Isotopes

$V^{51}(p,n)Cr^{51}$ neutron spectrum. P. H. Stelson and others. Phys R 80:287 O 15 '50

VANADIUM compounds

Fluorination of compounds of vanadium, chromium, and manganese by bromine trifluoride. A. G. Sharpe and A. A. Woolf. Chem Soc J p798-801 Mr '51

VANADIUM corporation of America

1951 net may approximate 1950. Barron's 31:31+ Ap 16 '51

VANADIUM oxide

Health hazards in the production and handling of vanadium pentoxide. S.-G. Sjöberg. bibliog diag A M A Archives Ind Hygiene & Occup Med 3:631-46 Je '51

Hydrogenolysis of thiophene over vanadium oxide. V. I. Komarewsky and E. A. Knaggs. bibliog diag Ind & Eng Chem 43:1414-18 Je '51

Low temperature heat capacities and entropies at 298.16°K. of ferrous oxide, manganous oxide and vanadium monoxide. S. S. Todd and K. R. Bonnickson. bibliog Am Chem Soc J 73:3894-5 Ag '51

Production of ductile vanadium by calcium reduction of vanadium trioxide. E. D. Gregory and others. bibliog il diags Electrochem Soc J 98:395-9 O '51

Analysis

Separation of chromium from vanadium by extraction of perchromic acid with ethyl acetate. R. K. Brookshier and H. Freund. bibliog Anal Chem 23:1110-13 Ag '51

VANADIUM pentoxide. See Vanadium oxides

VANADIUM poisoning

Health hazards in the production and handling of vanadium pentoxide. S.-G. Sjöberg. bibliog diag A M A Archives Ind Hygiene & Occup Med 3:631-46 Je '51

VANADIUM steel

Carbides in long-tempered vanadium steels; study with the electron microscope. W. Crafts and J. L. Lamont. il J Metals 188:Trans 561-74 Mr '50; Discussion. 188:Trans 1354-5 N '50

Typical properties of vanadium spring steels; tabulation; engineering file facts. Materials & Methods 34:113, 115 Jl '51

VANCOUVER, British Columbia

Canada's third largest city. il Eng N 146:48+ My 10 '51

Water supply

Serious defense problems face water authorities. J. C. Oliver. Munic Util 89:52+ Je '51

VANDALISM
Sign vandalism points to need for more strict law enforcement. J. Joseph. il Eng N 146:36 Ja 18 '51
See also
Motor bus lines—Vandalism

VANDALISM insurance. See Insurance, Fire—Policies—Extended coverage endorsements; Insurance, Riot and civil commotion—Vandalism coverage

VANDERBILT, Cornelius, 1794-1877
Portrait. Bsns W p45 My 19 '51

VANDERCOOK, Robert Oatman, 1866-1951
Sketch. por Inland Ptr 127:48 Jl '51

VAN DER WAAL'S equation
Liquid-vapor transition region and physical adsorption according to van der Waals' equation. T. L. Hill. bibliog J Chem Phys 19:261-2 F '51
Study of the two-component van der Waals fluid. J. W. Drenan and T. L. Hill. bibliog J Phys & Colloid Chem 54:1132-48 N '50
Van der Waals factor in carboxypeptidase interaction with inhibitors and substrates. E. L. Smith, R. Lumry and W. J. Polglase. bibliog J Phys & Colloid Chem 55:125-34 Ja '51

VANDERZEE, A.
Portrait. Bsns W p69 S 15 '51

VAN HORN mountains
Pegmatites of the Van Horn mountains, Texas. P. T. Flawn. bibliog il pl map diags Econ Geol 46:163-92 Mr '51

VANILLA
Vanilla exports from France and Madagascar, 1950. For Comm W 43:20 My 28 '51

VANILLIC acid
Reactions of vanillin and its derived compounds; a new synthesis of vanillic acid esters. I. A. Pearl and D. L. Beyer. Am Chem Soc J 73:4091-3 S '51
Studies on lignin and related products; oxidation of basic calcium lignosulphonate with silver oxide and alkali. I. A. Pearl and D. L. Beyer. bibliog Tappi 33:508-12 O '50

VANILLIN
Kinetics of the ammonium acetate-catalyzed condensation of vanillin and nitromethane. T. I. Crowell and F. A. Ramirez. bibliog Am Chem Soc J 73:2268-70 My '51
Rapid micromethod for alkaline nitrobenzene oxidation of lignin and determination of aldehydes. J. E. Stone and M. J. Blundell. bibliog il diag Anal Chem 23:771-4 My '51
Reactions of vanillin and its derived compounds; a new synthesis of vanillic acid esters. I. A. Pearl and D. L. Beyer. Am Chem Soc J 73:4091-3 S '51
Studies on lignin and related products; separation of syringaldehyde and vanillin by chromatography. I. A. Pearl and E. E. Dickey. Am Chem Soc J 73:863-4 F '51
Studies on lignin and related products; the oxidation of fermented sulphite spent liquor with cupric oxide under pressure. I. A. Pearl and D. L. Beyer. bibliog Tappi 33:544-8 N '50

VANONI, Ezio
Italy's daring tax reform. Fortune 44:84-5 S '51

VAPOR pressure
Accurate method for the determination of aqueous vapour pressure; abstract and discussion. F. R. Jones. Chem & Ind p72 Ja 27 '51
Acetaldehyde, propionaldehyde, and *n*-butyraldehyde; some physical properties. T. E. Smith and R. F. Bonner. bibliog diag Ind & Eng Chem 43:1169-73 My '51
Amino-acids and peptides; the solubility criterion of chemical purity with special reference to amino-acids; the use of differential vapour-pressure measurements. I. W. Hughes, E. W. Williams and G. T. Young. diags Chem Soc J p 1279-81 My '51
Applicability of the Ramsay-Young and Dühring rules, and an accurate method for calculating Θ, the characteristic temperature of a compound; an investigation using the best modern data. R. R. Dreisbach. Am Chem Soc J 73:3147-9 Jl '51
Clausius-Clapeyron equation. O. L. I. Brown. J Chem Educ 28:428-9 Ag '51
Continuous measurement of vapor pressures of petroleum products. R. B. Jacobs. il diags Instruments 24:468-70 Ap '51
Contribution to the theory of Bose-Einstein liquids. C. V. Heer and J. G. Daunt. bibliog Phys R 81:447-54 F 1 '51
Correlation of critical temperature, vapour pressure, and latent heat of vaporisation. L. H. Thomas. Chem Soc J p3415-19 D '49
Critical constants, boiling points, triple point constants, and vapor pressures of the six isotopic hydrogen molecules, based on a simple mass relationship. A. S. Friedman and others. J Chem Phys 19:126-7 Ja '51
Crystal perfection of $ZnSo_4 \cdot 7H_2O$; partial molal heat capacity, heat content and vapor pressure of its aqueous solutions; thermodynamics of Clark cell. W. F. Giauque, R. E. Barieau and J. E. Kunzler. bibliog Am Chem Soc J 72:5685-90 D '50
Density, refractive index, boiling point, and vapor pressure of eight monoolefin (1-alkene), six pentadiene, and two cyclomonoolefin hydrocarbons. A. F. Forziati and others. bibliog J Res Nat Bur Stand 45:406-10 N '50
Direct determination of the critical temperature and critical pressure of normal deuterium; vapor pressures between the boiling and critical points. A. S. Friedman, D. White and H. L. Johnston. Am Chem Soc J 73:1310-11 Mr '51
Effect on water vapour pressure of superimposed air pressure. T. J. Webster. diags Soc Chem Ind J 69:343-6 N '50
Graphical correlation of physical properties of a ternary system; vapor pressure and specific gravity for ammonia-ammonium nitrate-water. B. H. Sanders and D. A. Young. bibliog Ind & Eng Chem 43:1430-3 Je '51
Kinetics of the reactions of beryllium with oxygen and nitrogen and the effect of oxide and nitride films on its vapor pressure. E. A. Gulbransen and K. F. Andrew. bibliog Electrochem Soc J 97:383-95 N '50; Discussion. 98:257 Je '51
Measurement of low vapor pressures by means of a mass spectrometer. A. W. Tickner and F. P. Lossing. bibliog diag J Phys & Colloid Chem 55:733-40 My '51
Measurement of vapor pressures by means of matched thermistors. A. P. Brady, H. Huff and J. W. McBain. bibliog diag J Phys & Colloid Chem 55:304-11 F '51
Measurements of the vapour pressures of some alkylmercury halides; the latent heats of sublimation of methyl- and ethyl-mercury halides. T. Charnley and H. A. Skinner. Chem Soc J p 1921-4 Jl '51
Osmotic and activity coefficients of uranyl nitrate, chloride, and perchlorate at 25°. R. A. Robinson and C. K. Lim. Chem Soc J p 1840-3 Jl '51
Partial pressure of acrylonitrile over water. C. E. Funk, jr. bibliog Ind & Eng Chem 43:1152-4 My '51
Pressure dependence of second sound velocity in liquid helium II. R. D. Maurer and M. A. Herlin. bibliog Phys R 81:444-7 F 1 '51
Salt solutions for cooling. D. Wittenberg. diags Chem Eng 58:141 Je '51
Sensitive vapour pressure recorder. W. C. Swinbank. bibliog il diag J Sci Instr 28:86-9 Mr '51
Some measurements of thermal transpiration. S. Chu Liang. diag J Ap Phys 22:148-53 F '51
2,2,4-Trimethylpentane (iso-octane); vapor pressure, critical constants, and saturated vapor and liquid densities. W. B. Kay and F. M. Warzel. bibliog Ind & Eng Chem 43:1150-2 My '51
Vapor pressure and critical constants of neopentane. J. A. Beattie and others. J Chem Phys 19:948-9 Jl '51
Vapor pressure, critical point, heat of vaporization, and entropy of liquid He^3. B. M. Abraham and others. bibliog diag Phys R 80:366-71 N 1 '50
Vapor pressure of beryllium oxide. N. D. Erway and R. L. Seifert. bibliog diags Electrochem Soc J 98:83-8 Mr '51
Vapor pressure of *cis*-2-pentene, *trans*-2-pentene and 3-methyl-1-butene. D. W. Scott and G. Waddington. Am Chem Soc J 72:4310-11 S '50
Vapour pressure of diphenyl, dibenzyl, and diphenylmethane. N. F. H. Bright. Chem Soc J p624-5 F '51

VAPOR pressure—*Continued*

Vapor pressure of gold and the activities of gold in gold-copper solid solutions. L. D. Hall. bibliog diag Am Chem Soc J 73:757-60 F '51

Vapor pressure of inorganic substances; chromium between 1283 and 1561°K. R. Speiser, H. L. Johnston and P. Blackburn. bibliog Am Chem Soc J 72:4142-3 S '50

Vapor pressure of inorganic substances; tantalum between 2624 and 2943° K. J. W. Edwards, H. L. Johnston and P. E. Blackburn. Am Chem Soc J 73:172-4 Ja '51

Vapor pressure of inorganic substances; zirconium between 1949 and 2054° K. G. B. Skinner, J. W. Edwards and H. L. Johnston. bibliog diag Am Chem Soc J 73:174-6 Ja '51

Vapor pressure of liquid helium at the lambda-point. E. Long and L. Meyer. Phys R 83:860 Ag 15 '51

Vapor pressure of liquid nitrogen. A. S. Friedman and D. White. bibliog Am Chem Soc J 72:3931-2 S '50

Vapor pressure of mercury from 40°C to 240°C; (5 microns to 6 cm) measured by the streaming method. T. M. Dauphinee. J Chem Phys 19:389-90 Mr '51

Vapor pressure of normal hydrogen from the boiling point to the critical point. D. White, A. S. Friedman and H. L. Johnston. bibliog Am Chem Soc J 72:3927-30 S '50

Vapor pressure of water above saturated lithium chloride solution. N. A. Gokcen. Am Chem Soc J 73:3789-90 Ag '51

Vapor pressure of water over phosphoric acids. B. J. Fontana. bibliog Am Chem Soc J 73:3348-50 Jl '51

Vapor pressure of zinc in the range 300°-360°C. J. E. Vance and C. I. Whitman bibliog diags J Chem Phys 19:744-8 Je '51

Vapor pressures and freezing points of some organic fluorine compounds. J. C. Potter and J. H. Saylor. bibliog Am Chem Soc J 73:90-1 Ja '51

Vapor pressures of aqueous solutions of some detergents. H. Huff, J. W. McBain and A. P. Brady. bibliog J Phys & Colloid Chem 55:311-21 F '51

Vapor pressures of hydrogen, deuterium, and hydrogen deuteride and dew-point pressures of their mixtures. H. J. Hoge and R. D. Arnold. bibliog diag J Res Nat Bur Stand 47:63-74 Ag '51

Vapor pressures of hydrogen, deuterium and tritium up to three atmospheres. E. R. Grilly. bibliog Am Chem Soc J 73:843-6 F '51

VAPOR recovery. See Petroleum storage—Vapor recovery

VAPORIZATION

Boiling coefficients of heat transfer; C_4 hydrocarbon-furfural mixtures inside vertical tubes. W. E. Bonnet and J. A. Gerster. bibliog diag Chem Eng Prog 47:151-8 Mr '51

Equilibrium flash vaporization of petroleum crude oils or fractions; method and apparatus for determination. D. F. Othmer, E. H. Ten Eyck and S. Tolin. bibliog diags Ind & Eng Chem 43:1607-13 Jl '51

Graphs show vaporization of liquid in propane tanks. A. S. Wastie. Am Gas J 174:21+ Je '51

Refining of magnesium by vaporization at extremely low pressure. R. R. Rogers and G. E. Viens. bibliog diag Electrochem Soc J 97:419-24 D '50

Vaporization of small sulfur droplets. H. F. Johnstone and D. K. Eads. bibliog il diag Ind & Eng Chem 42:2293-8 N '50

Vaporization of strontium oxide. G. E. Moore and others. bibliog diags J Chem Phys 18:1572-9 D '50

See also
Evaporation
Sublimation

VAPORIZATION, Heat of

Correlation of critical temperature, vapour pressure, and latent heat of vaporisation. L. H. Thomas. Chem Soc J p3415-19 D '49

Entropies of vaporization, and internal order in liquids. L. A. K. Staveley and W. I. Tupman. Chem Soc J p3597-606 D '50

Experimental vapor heat capacities and heats of vaporization of seven octanes. G. M. Barrow. Am Chem Soc J 73:1824-6 Ap '51

Heats of vaporization and vapor heat capacities of some dimethylcyclohexanes. J. P. McCullough, W. B. Person and R. Spitzer. bibliog Am Chem Soc J 73:4069-71 S '51

Latent heats of vaporization nomograph. T. H. Arnold, jr. and P. K. Raiford. Chem Eng 58:138-9 Ap '51

Vapor pressure, critical point, heat of vaporization, and entropy of liquid He^3. B. M. Abraham and others. bibliog diag Phys R 80:366-71 N 1 '50

VAPORIZERS

Redesigned vaporizer features serviceability. il Product Eng 22:166-7 O '51

See also
Sublimation apparatus

VAPORS

Composition of vapors from boiling binary solutions; recirculation-type still and equilibria under pressure for ethyl alcohol-water system. D. F. Othmer and others. diag Ind & Eng Chem 43:707-11 Mr '51

Compositions of vapors from boiling solutions; equilibria under pressure of systems; ethyl ether-ethyl alcohol and ethyl ether-water-ethyl alcohol. W. P. Moeller and others. bibliog Ind & Eng Chem 43:711-17 Mr '51

Heat capacity of organic vapors; a flow calorimeter requiring only 25 ml. of liquid sample. A. E. Reynolds and T. De Vries. bibliog diag Am Chem Soc J 72:5443-5 D '50

Heat-transfer coefficient of condensing vapours. J. C. Chu and others. bibliog flow sheet J Ap Chem 1:73-80 F '51

Hot-wire ultrasonic interferometer and its application to vapors. K. Matta and E. G. Richardson. bibliog diags Acoustical Soc Am J 23:58-61 Ja '51

Magnetically compensated vapor density balance. E. W. Johnson and L. K. Nash. bibliog diags R Sci Instr 22:240-4 Ap '51

Nature of the vapor state of hydrazine monohydrate and ethylenediamine monohydrate. L. V. Coulter. bibliog Am Chem Soc J 73:3505-6 Jl '51

Permeation of vapors through polyethylene. J. A. Cutler and others. bibliog Tappi 34:404-7 S '51

Time lag in the self-nucleation of a supersaturated vapor. R. F. Probstein. bibliog J Chem Phys 19:619-26 My '51

Vapor phase reaction between phosgene and alcohols. J. H. Saunders, R. J. Slocombe and E. E. Hardy. Am Chem Soc J 73:3796-7 Ag '51

Viscosity of mixed vapours. R. B. Silgardo and J. A. Storrow. bibliog(48 ref) diags Soc Chem Ind J 69:261-6 S '50

See also
Adsorption
Electric precipitation
Evaporation
Fumes
Gases
Solvents
Steam
Vapor pressure
Vaporization
Water vapor

VARIATION (biology)

Induced and other variations in bacterial cultures; reactions of bact. lactis aerogenes to ultraviolet light and other mutagenic agents. A. C. R. Dean and C. Hinshelwood. Chem Soc J p 1157-77 My '51

VARIATION (statistics)

See also
Standard deviation

VARIETY stores. See Five- and ten-cent stores

VARISTORS. See Electric resistors

VARMETERS

Marking of varmeters. diag Elec Eng 69:1007-8 N '50

VARNISH, Fungicidal

Tropical performance of fungicidal coatings; statistical analysis; coated cotton-braid wires. J. M. Leonard and A. L. Pitman. bibliog il Ind & Eng Chem 43:2338-41 O '51

VARNISH, Insulating

High-flying varnish designed to protect electrical components in military aircraft at temperatures down to -70 F. Aviation W 53:52+ D 18 '50

Insulating varnishes. H. Quillatre. Electrician 145:1249-53 D 1 '50

VANISH, Insulating—*Continued*

New insulating materials and coatings extend electric motor life. R. L. Custis. il Materials & Methods 33:74-5 Mr '51

VARNISH, Printers'

Protective coatings; plasticoating. Inland Ptr 126:85 F '51

VARNISH and varnishing

Centrifugal clarification of waxes and varnishes. C. M. Ambler. il diags Soap & San Chem 27:118-20 F '51

Chemical progress during the 75 years of the American chemical society; paint, varnish, and plastics chemistry. C. R. Bragdon and M. M. Renfrew. bibliog il Ind & Eng Chem 43:1272-82 Je '51

Evaluation of body varnishes in properties of gloss enamels, by the Golden Gate club. Paint Oil & Chem R 113:103-5 N 23 '50

Oil-soluble phenolic resins. R. N. Shreve and B. Golding. bibliog(84 ref) il Ind & Eng Chem 43:134-41 Ja '51

Rainbow resins. il Chem Ind W 68:25-6 Ja 20 '51

Silicone varnishes; Overseas Research reports. Chem Age (Lond) 65:160 Ag 4 '51

Tropical performance of fungicidal coatings; statistical analysis; coated cotton-braid wires. J. M. Leonard and A. L. Pitman. bibliog il Ind & Eng Chem 43:2338-41 O '51

Water-in-oil emulsion varnishes and paints. W. Bosch. bibliog Paint Oil & Chem R 113:99-103 N 23 '50

Testing

Water and alkali tests, by the Cleveland club. diag Paint Oil & Chem R 113:127-9 N 23 '50

VARNISH factories

Disposal of oil and varnish fume. J. C. Dittmer. il diags Nat Safety N 63:36-7+ Ja '51

Fume control, a report on available systems; joint Chicago fume control committee. Paint Oil & Chem R 113:10+ O 26 '50

VASCULAR system

Special instrumentation problems encountered in physiological research concerning the heart and circulation in man. E. H. Wood. bibliog il diag Science 112:707-15 D 15 '50

Diseases

Vascular complications in fractures and traumatology. D. S. Miller and L. Markin. bibliog il Ind Med 20:323-4 Jl '51

VATICAN

Vatican assignment challenges newsmen. R. Erwin. Ed & Pub 84:17 Mr 3 '51

VATS, Concrete

Concrete vats give seven benefits in winery. F. Gallizio. il Food Eng 23:141+ Je '51

VAULTS

Hiding place down there; old iron mine becomes bomb proof vault; illustrations with text. Bsns W p76 Ap 14 '51

VAULTS (electric installation)

Dry type transformer used on network system. E. L. Leinbach. il Elec World 136:126-7 Ag 27 '51

Install vault of precast slabs in one day. W. A. Heineck and E. F. Johnson. il Elec World 136:136+ S 10 '51

Low cost underground in Hawaii. C. H. Williams. il diags Elec West 106:56-8 Ja '51

New transformer enclosures for buried cable systems. J. J. Stein. il diag Elec World 134:107 N 20 '50

Party line telephone aids underground work. il Elec World 135:68 Ja 1 '51

VAULTS (sepulchral). See Tombs

VECTOR analysis

Circuit and vector diagram conventions. M. G. Scroggie. diags Elec R (Lond) 148:267-71 F 9 '51

Elliptically polarized waves and antennas. M. L. Kales. Inst Radio Eng Proc 39:544-9 My '51

Regulation charts. R. O. Kapp. Electrician 146:1845-8 Je 1 '51

Separation of variables in electromagnetic theory. D. E. Spencer. J Ap Phys 22:386-9 Ap '51

Varley test for phase sequence. S. A. Swann. diags Electrician 146:881-2 Mr 16 '51

VEGETABLE oils. See Oils and fats

VEGETABLES

Contamination of vegetables grown in polluted soil. W. Rudolfs and others. bibliog plan Sewage & Ind Wastes 23:253-68, 478-85, 656-60, 739-51, 853-60, 992-1000 Mr-Ag '51

Continuous electronic blanching proved feasible in pilot plant. il diag Food Eng 23:81 My '51

Effect of sunlight on the ascorbic acid present in oxalic acid extracts of vegetables. L. H. Lampitt and others. Chem & Ind p699 O 14 '50

Literature review on the occurrence and survival of enteric, pathogenic, and related organisms in soil, water, sewage, and sludges, and on vegetation. W. Rudolfs and others. Sewage & Ind Wastes 22:1261-81, 1417-27 bibliog(179 titles, p 1277-81, 1424-7) O-N '50

See also

Canned food
Cooling of fruits and vegetables

also names of vegetables, e.g.

Beans
Corn
Lettuce
Potatoes
Tomatoes

Prepackaging

Visible spuds; transparent bags for ten-lb. quantities. il Mod Packaging 24:164-5+ Ap '51

Transportation

Factors in distribution affecting the quality and nutritive value of foodstuffs; fruits and vegetables; abstracts and discussion. W. H. Smith and others. Chem & Ind p421-2 Je 2 '51

Refrigeration is key to corn quality. J. D. Winter and others. bibliog il Refrig Eng 59:354-7+ Ap '51

VEGETABLES, Frozen

Bacteria in frozen vegetables; abstract. G. J. Kucker and W. B. Robinson. Food Ind 23:175-6 Mr '51

Refrigerating effect required to freeze fruits and vegetables. L. Riedel. bibliog diag Refrig Eng 59:670-3 Jl '51

See also

Lima beans, Frozen

VEHICLES

See also

Automobiles
Bicycles
Cars
Electric vehicles
Gyrobus
Motor buses
Motor trucks
Trailers

VELIKOVSKY, Immanuel, 1895-

1950 silly season; effort of American scientists to suppress "Worlds in collision." C. R. Longwell. Science 113:418 Ap 13 '51; Reply. J. Pfeiffer. 114:47 Jl 13 '51

VELOCITY

Isolated and cascade airfoils with prescribed velocity distribution. A. W. Goldstein and M. Jerison. bibliog diags U S Nat Advisory Com for Aeronautics 1947:201-15 '50

Timing equipment records velocities up to 2000 miles per hour. Mach 57:191 Ja '51

Wave velocities above the velocity of sound. R. C. Binder. diags J Eng Educ 41:631-3 Je '51

See also

Electrons—Velocity
Light—Velocity
Sound—Velocity
Speed variation

VELON

Vinyl movie screens. il Mod Plastics 28:63 Mr '51

VENDING machines

Coin-operated controls check for spurious coins. W. A. Patzer. il diags Machine Design 23:141-5 F '51

Lunchbox goes automatic; vending machines for in-plant feeding. A. E. Yohalem. il Mill & Factory 48:113-14 F '51

Pennsylvania railroad testing automatic food sales on trains. Ry Age 131:60 S 24 '51

Robot cafeterias. C. Menuez. Personnel J 29:266-8 D '50

Robot restaurants as aids to morale. C. H. Brinkman. il Advanced Management 16:9-10 Ag '51

Valeteria takes phone order, clothes; delivers them cleaned four hours later; illustrations with text. Bsns W p26 S 15 '51

VENDING machines—*Continued*

Directories

1951 directory and source book of the coin machine industry. 66p pa $1 Coin machine review, 1115 Venice Boulevard, Los Angeles 15 '51

Insurance company use

Down to cases; vending machine insurance. L. A. Burke. Spectator (Life ed) 159:46-7 Ag '51

Offer stock in insurance vending machine; Tele-Trip policy co. Nat Underw 54:16+ O 26 '50; Same. Nat Underw (Life ed) 54:4 O 27 '50

Slot machine policies make bow in Britain. Nat Underw 55:7 Je 14 '51

VENETIAN blinds

Component parts supplier uses seven-step promotional package; Lorentzen Hardware helps venetian blind manufacturer-customers help their retailers. H. K. Lorentzen. il Ptr Ink 233:32-4 N 3 '50

VENEZUELA

See also

Cement industry and trade—Venezuela
Gas, Natural—Venezuela
Petroleum industry and trade—Venezuela
Trade unions—Venezuela
Valencia, Lake

Antiquities

Trenches in Venezuelan archeology. J. M. Cruxent. Science 114:306 S 21 '51

Commercial policy

Tariffs and trade controls. For Comm W 44:17 S 17 '51

Trade agreement negotiations with Venezuela. For Comm W 44:23-4 S 10 '51

Economic conditions

News by countries. For Comm W 41:15+ O 30; 17+ N 27; 14+ D 25 '50; 42:28 Ja 29; 43:18+ Ap 2; 16+ My 7; 17+ My 28; 44:20+ Jl 9; 12+ Ag 13; 15 Ag 27; 45:16+ O 1 '51

VENOM

Fluorescence and photoinactivation of snake poisons. R. G. Ferri and R. Guidolin. Science 113:300-2 Mr 16 '51

VENTILATION

Check data for air conditioning and ventilating design. G. B. Priester. Heat & Ven 48:74-6 Jl '51

Facts on flow in ducts. W. Huebner. diags Heating-Piping 23:104-6 F '51

Heating and ventilating of factories and public buildings; abstract. L. C. Watts. Electrician 146:304 Ja 26 '51

How to check your air conditioning system. W. O. Huebner. il diag Mill & Factory 49:120-2 Jl '51

Physiological aspects of heating and ventilating. E. F. Du Bois. bibliog Heating-Piping 23:134-6; Discussion. 147-50 Ap '51

Residential ventilation. il diags Am Bld 73:48+ Ap '51

Selection of induction motors for air conditioning, heating and ventilating equipment. G. Nafe. il diags Heat & Ven 48:75-84 Je '51

Some general considerations in the natural ventilation of buildings. W. W. Caudill and others. (Research report no. 22) 43p Texas engineering experiment station, Texas A and M college system, College Station, Texas '51

Tempered air ventilation with floor panel hot water heating. J. Joseph. il plan diags Sheet Metal Worker 42:61-3 My '51

Ventilation of paint spray booths; question and answers. Heat & Ven 48:105+ O '51

Ventilation of survival areas for civil defense. H. C. Murphy. il diag Heating-Piping 23:97-9 My; 85-6+ Jl; 70 S '51

What is a draft? H. Wright. Heating-Piping 23:71-2 Jl '51

See also

Air conditioning
Air diffusers
Air filters
Air pipes
Air pollution
Air purification
Cooling
Dust removal
Electric fans, Ventilating
Exhaust systems
Gas appliances—Ventilation
Heating
Humidity
Mine ventilation
Plumbing—Ventilation
Ventilators

also subdivision Heating and ventilation under special subjects, e.g.

Automobiles
Churches
Factories
Garages
Moving picture theaters
Paper mills
Rolling mills
School buildings

Bibliography

Articles in Heating and ventilating relating to wartime production. Heat & Ven 48:79-80 Mr '51

Laws and regulations

Laws and regulations controlling school heating and ventilating. N. N. Wolpert. Heat & Ven 48:70-3 Mr; 105-7+ Ap; 103-6 My; 96-9 Je '51

Study and teaching

National college for heating, ventilating, refrigeration and fan engineering. il plan Engineering 171:156-7, 162 F 9 '51

Tables, calculations, etc.

Estimating air changes; chart; data sheet. T. G. Hicks. Power 94:144 N '50

VENTILATION research

American society of heating and ventilating engineers Environment laboratory, Cleveland. Heat & Ven 48:120 O '51

Annual report of committee on research; report of director of research, American society of heating and ventilating engineers. bibliog Heating-Piping 23:132-8 Mr '51

Control of air streams from a long slot. A. Koestel and C. Young. diags Heating-Piping 23:111-15 Jl '51

Cooperative research projects. Heating-Piping 22:121 N '50

Testing design; study of natural ventilation and lighting of buildings at Texas engineering experiment station. il diags Arch Forum 94:170-8 My '51

VENTILATORS

Air-supply grille sizes; data sheet. J. D. Constance. Power 95:146 S '51

Flow characteristics of air outlets. A. W. Evans. diags Heat & Ven 48:76-9 My '51

Stopping drafts in classrooms; new unit ventilator kills down-window drafts. il plan Arch Forum 93:151 N '50

VENTURE capital. See Capital

VENTURI meters

Pitot-Venturi flow element. H. W. Stoll. il diags A S M E Trans 73:963-8; Discussion. 968-9 O '51

Study of head loss in Venturi-meter diffuser sections. J. Warren. diags A S M E Trans 73:399-402 My '51

VENTURI scrubbers

Collection of aerosols in a Venturi scrubber. F. O. Ekman and H. F. Johnstone. bibliog flow sheet Ind & Eng Chem 43:1358-63 Je '51

Venturi scrubbers; efficient, low cost gas cleaners. W. P. Jones. il diag Steel 129:70-2 Jl 30 '51

Venturi scrubbers in fume removal and recovery operations. L. C. McCabe. il diag Ind & Eng Chem 43:sup 105A-6A Jl '51

VENTURI tubes

Discharge measurements by means of Venturi tubes. A. L. Jorissen. bibliog diags A S M E Trans 73:403-10; Discussion. 410-11 My '51

Parallel reinforced concrete Venturi tubes gage sewage flow entering treatment plant. il plan diag Eng N 145:48 N 23 '50

Recovery characteristics of differential producers. Water & Sewage Works 98:R172 Ap '51

VERATRUM

Hypotensive principles of veratrum viride. J. Fried, H. L. White and O. Wintersteiner. bibliog Am Chem Soc J 72:4621-30 O '50

Veratrum alkaloids regain attention as their chemistry unfolds. Chem & Eng N 29:1626-7 Ap 23 '51

VEREIN deutscher ingenieure
Annual meeting, Frankfort, Sept. 4-8. Engineer 190:561 D 8 '50
Annual meeting, 81st, Hanover, July 30-August 3. Engineer 192:245-6 Ag 24 '51

VERMICULITE
Insulating concrete improves radiant panel performance. Sheet Metal Worker 42:43 D '50
Mining vermiculite ore for national distribution; Libby, Mont. il Rock Prod 54:64-6 S '51
Ready-mixed insulating concrete; vermiculite concrete: Genovese coal & mason's material co. T. Sabia. il Rock Prod 54:152-3 F '51
Vermiculite cushioning; for shipment of fragile items. il Mod Packaging 24:80-1 Je '51
Vermiculite insulation allows shipment of hot ingots. il Manuf Rec 120:39 Mr '51
Vermiculite plaster partition passes impact test. Am Bld 72:144 N '50
Zonolite announces four-hour fire ratings for vermiculite uses. Concrete 59:32-3 Je '51

VERMICULITE association
Annual meeting, New York, June 27. Rock Prod 54:109-10 S '51
Miners and processors of vermiculite form national association. Concrete 58:14 D '50; Rock Prod 54:161 Ja '51

VERMICULITE institute
Annual meeting, Fort Lauderdale. Concrete 59:22 Je '51; Rock Prod 54:86-7 Jl '51

VERNIERS
How to read a vernier. H. E. Linsley. diags Am Mach 95:111 Ap 2 '51

VERSENATE
Volumetric determination of sulfate ion: using barium ion and a standard disodium dihydrogen ethylenediamine tetraacetate solution. J. R. Munger, R. W. Nippler and R. S. Ingols. bibliog Anal Chem 22:1455-7 N '50

VERTEBRATES, Fossil
Report on fossil vertebrates from the upper Magdalena valley, Colombia. D. E. Savage. bibliog Science 114:186-7 Ag 17 '51

VERTICILLIUM
Studies on the host range of the verticillium that causes wilt of mentha piperita L. R. J. Green. Science 113:207-8 F 23 '51

VESICANTS
Hydrolyses and derivatives of some vesicant arsenicals. W. A. Waters and J. H. Williams. Chem Soc J p 18-22 Ja '50

VETERANS
See also
Hospitals, Military

Bonuses

Request denied; West Virginia can't postpone veterans' bond issue. Bsns W p 128 My 19 '51

Education

New G.I. bill? Sci Am 185:48-9 S '51

Housing

Veterans home loan guaranty program. Am Bld 73:sup9-10 S '51

Insurance

See Insurance, Military and naval service

Laws and legislation

Proposed legislation ups veterans' benefits. Bsns W p24 D 30 '50

Loans

GI loans and the Soldiers & sailors civil relief act. T. J. Sweeney. Bankers Mo 68:18+ Ja '51
How to keep GI loans healthy. T. J. Sweeney. Bankers Mo 47:7-8+ O '50
Simplified GI farm loans. W. T. Robinson. Banking 43:66+ O '50
Veterans home loan guaranty program. Am Bld 73:sup9-10 S '51

Reemployment

Decisions of interest to labor; veterans' reemployment (cont). Mo Labor R 72:320, 448, 706-7; 73:189 Mr-Ap, Je, Ag '51
Reemployment rights under Universal military training act. Mo Labor R 73:183-4 Ag '51

VETERANS, Disabled

Employment

Veterans man wheelchair assembly line. il Bsns W p40-1 S 22 '51

VETERANS administration
VA to go ahead with consolidations, despite protests. Nat Underw (Life ed) 55:11 S 14 '51

VETERANS administration hospitals. See Hospitals, Military

VETERANS canteen service
Veterans buy brands, too! il Sales Management 66:122+ Ap 15 '51

VETERANS' hospitals. See Hospitals, Military

VETERINARY medicine
Pets get first crack at new medicines. il Bsns W p94-6+ Ag 25 '51
Veterinary medicinals in Syria. For Comm W 44:18-19 Ag 20 '51

VIBRATION
Applying shakers for product vibration analysis. R. C. Lewis. il diags Product Eng 21:150-4 N '50
Blasting vibrations' effects. L. D. Leet. il Explosives Eng 28:176-8+; 29:12-16, 42-4 N '50-Mr '51
Clarification of equations for simple forced vibration. B. D. Mills, jr. diag J Eng Educ 41:227-30 D '50
Elastic vibrations of almost cubic parallelepipeds. H. Ekstein and T. Schiffman. J Ap Phys 22:1215 S '51
Forced vibration of reed as a method of determining viscoelasticity. M. Horio and S. Onogi. bibliog diags J Ap Phys 22:977-81 Jl '51
Free and forced vibrations of rotating blades. R. Plunkett. bibliog J Aeronautical Sci 18:278-82 Ap '51
Generalised co-ordinates in vibration problems. T. M. Charlton. Engineering 172:276 Ag 31 '51
Investigation and elimination of unusual vibration in the field on a large single-phase frequency changer. W. M. H. Ballantyne and others. Elec Eng 69:1120 D '50
Iteration method for the solution of the eigenvalue problem of linear differential and integral operators. C. Lanczos. bibliog diag J Res Nat Bur Stand 45:255-82 O '50
Measurement of dynamic modulus and energy losses in single textile filaments subjected to forced longitudinal vibrations. B. A. Dunell and J. H. Dillon. bibliog diags Textile Res J 21:393-403 Je '51
Multiple excitation of an elastic system. G. S. Bennett. Acoustical Soc Am J 23:229-31 Mr '51
Position of the nodes of the transverse vibrations of a uniform thin fixed-free bar. R. Heller. bibliog Acoustical Soc Am J 23:232 Mr '51
Resistance network analogue for solving vibration problems. W. W. Soroka. diags Product Eng 22:103-5 Ap '51
Some effects of vibration on X-ray diffraction by crystals. J. E. White. il diag Acoustical Soc Am J 23:16-18 Ja '51
Test techniques using electro-dynamic shakers. R. C. Lewis. il diags Product Eng 22:142-7 Ja '51
Thickness-shear and flexural vibrations of crystal plates. R. D. Mindlin. bibliog J Ap Phys 22:316-23 Mr '51
Vibrational relaxation times in gases. W. Griffith. bibliog diags J Ap Phys 21:1319-25 D '50

See also
Airplanes—Vibration
Balancing of machinery
Bridges—Vibration
Buildings—Vibration
Machinery—Vibration
Oscillations
Ship—Vibration
Sound waves

Measurement

Amplitude of vibration in piezoelectric crystals. E. A. Gerber. bibliog Electronics 24:142+ Ap '51; Correction. 24:326-7 S '51
Bar-magnet velocity meter. T. A. Perls and E. Buchmann. bibliog il diags R Sci Instr 22:475-81 Jl '51

VIBRATION—Measurement—*Continued*

Electro-dynamic calibrators for vibration pickups. R. C. Lewis. il diag Product Eng 22:164-6 S '51

Electronic instrument for the measurement of the damping capacity of materials. A. D. N. Smith. diag J Sci Instr 28:106-9 Ap '51

Experimental determination of the natural modes of vibration of gas-turbine blades. D. A. Nutt. diags Engineering 170:323 N 3 '50

Magnetostrictive vibration of prolate spheroids; preliminary measurements. J. S. Kouvelites and L. W. McKeehan. bibliog diags R Sci Instr 22:108-11 F '51

Resonant vibrations in a water-filled piping system. D. B. Callaway and others. Acoustical Soc Am J 23:550-3 S '51

Self-generating accelerometers. G. K. Guttwein and A. I. Dranetz. bibliog il diags Electronics 24:120-3 O '51

Vibration test equipment for turbine blades. A. M. Roberts and A. A. Gregory. il diags Engineer 191:370-2 Mr 23 '51

Vibrations due to blasting and their effects on building structures. G. Morris. bibliog il diag Engineer 190:394-5, 414-18 O 27-N 3 '50

Vibrations of rectangular plates. H. Lurie. J Aeronautical Sci 18:139-40 F '51

Physiological effect

Effects of vibrating tools. Can Min J 72:53 Ja '51

Bibliography

Bibliography on sonic and ultrasonic vibration; biological, biochemical and biophysical applications. G. M. Naimark and others. Franklin Inst J 251:279-99, 402-8 F-Mr '51

VIBRATION absorbers

Built-in pulsation dampener provided in compressor piping system at Richfield's new Cuyama plant. D. H. Stormont. il Oil & Gas J 49:172-3 F 22 '51

Design of Lanchester damper for elimination of metal-cutting chatter. R. S. Hahn. il diags A S M E Trans 73:331-5 Ap '51

Designing hydraulic dampers. W. E. Soong. diags Machine Design 23:109-12 Ag '51

Experiences in dampening pulsations in compressor piping systems. M. L. Arnold. il diags Pet Eng 23:D14-16+ Ag '51

How to tame a wind tunnel; Cleveland tunnel has big new muffler. il Bsns W p60+ D 16 '50

Isolating machinery vibration. K. Kern. il Diesel Power 29:54-5 S '51

Keep vibration out of your plant. L. J. Murphy. il diags Mill & Factory 49:112-14 Jl '51

Production jitters; vibration of production tools. L. S. Metcalfe. il Safety Maint & Prod 102:16+ S '51

Vibration control for plant, for product, and for profit. il Mod Ind 22:60-3 Jl '51

VIBRATORS

Auxiliary vibrator for hand and machine sieving. T. H. Hughes. il diags Engineer 192:188-90 Ag 10 '51

Concrete vibrators. il Engineering 172:32 Jl 6 '51

Lazan adjustable oscillator. il diags Product Eng 21:98-9 D '50

Mechanical vibrator adjusts output force while running. il Product Eng 22:120-1 Jl '51

Pneumatic vibrators shake bins. il Product Eng 21:202+ D '50

Pumps and vibrators; forgotten equipment. il Constr Methods 33:91-2 Jl '51

Three-transducer reciprocity formula for vibration pick-ups. S. Greenblatt. Acoustical Soc Am J 22:881 N '50

VICARA. See Textile fibers, Synthetic

VICTORIA and Albert museum

Victoria and Albert museum. il Chem & Ind p497-8 Je 30 '51

VINAL, George Wood, 1882-

Sketch. por(cover) Chem & Eng N 28:3769 O 30 '50

VINBURY, Joseph T.

$1000 Industrial Press award for proving need for specific advertising won by J. T. Vinbury. por Heat & Ven 48:113-15 Jl '51; Mach 57:212-13 Jl '51

VINCENT, Lewis Adam

Sketch. por East Underw 51:17 O 20 '50

VINEGAR

Contribution to the study of acetobacters of the rapid vinegar type; abstract. J. M. Wiame and R. Lambion. Food Eng 23:158-9 My '51

VINER, Jacob, 1892-

Economists. J. McDonald. por Fortune 42:108-13+ D '50

VINYL acetate

Dehalogenation reaction; dechlorination of vinyl chloride/vinyl acetate copolymers. T. Alfrey, jr., H. C. Haas and C. W. Lewis. bibliog Am Chem Soc J 73:2851-3 Je '51

Mechanical properties of substances of high molecular weight; rigidities of polyvinyl acetate solutions in various solvents. W. M. Sawyer and J. D. Ferry. Am Chem Soc J 72:5030-4 N '50

Polyvinyl acetal resins. N. Platzer. diag Mod Plastics 28:142+ Je '51

VINYL alcohol

Esterification of polyvinyl alcohol with trifluoroacetic acid or anhydride. P. W. Morgan. Am Chem Soc J 73:860-1 F '51

Intrinsic electric strength of polyvinyl alcohol and its temperature variation. I. D. L. Ball. bibliog Inst E E Proc 98 pt 1:84-6 Mr '51

Investigations on proteins and polymers; critical phenomena in polyvinyl alcohol-acetate copolymer solutions. F. F. Nord, M. Bier and S. N. Timasheff. bibliog Am Chem Soc J 73:289-93 Ja '51

Near infrared pleochroism; the 0.8—2.5µ region of some linear polymers. L. Glatt and J. W. Ellis. bibliog J Chem Phys 19:449-57 Ap '51

Polyvinyl alcohol as indicator in iodometry. S. A. Miller and A. Bracken. Chem Soc J p 1933 Jl '51

Polyvinyl alcohol finds new uses. Chem Age (Lond) 64:820 My 26 '51

Polyvinyl alcohol in the war. R. L. Van Boskirk. Mod Plastics 28:172+ Mr '51

Reaction of acrylonitrile with macromolecular hydroxy substances; general survey of the reaction. J. H. MacGregor. bibliog Soc Dyers & Col J 67:66-73 F '51

Bibliography

Polyvinyl alcohol; structure, plasticization, water-insolubilizing treatments, and principal applications. N. Platzer. bibliog Mod Plastics 28:95-6+ Mr '51

VINYL benzofuran

Preparation and properties of 2-vinylbenzofuran. E. D. Elliott. Am Chem Soc J 73:754 F '51

VINYL chloride

Analytical examination of plasticizers obtained from polyvinyl chloride compositions. J. Haslam, W. Soppet and H. A. Willis. bibliog diags J Ap Chem 1:112-24 Mr '51

Anti-corrosion tape for service pipes. G. M. Carter, jr. il Gas Age 106:42-3+ N 23 '50

Apparatus for comparing the stabilities of polyvinyl chloride latices. H. G. Drinkwater and N. Payne. diags Chem & Ind p683-4 Ag 11 '51

Compounding of polyvinyl chloride. H. M. Zimmerman and P. J. Weaver. il Rubber Age 68:311-18 D '50

Dehalogenation reaction; dechlorination of vinyl chloride/vinyl acetate copolymers. T. Alfrey, jr., H. C. Haas and C. W. Lewis. bibliog Am Chem Soc J 73:2851-3 Je '51

Impact resilience as a brittleness test for polyvinyl plastics. G. Friedlander. bibliog il diags Anal Chem 22:1545-51 D '50

Near infrared pleochroism; the 0.8—2.5µ region of some linear polymers. L. Glatt and J. W. Ellis. bibliog J Chem Phys 19:449-57 Ap '51

New rigid vinyl processed without plasticizer. il Materials & Methods 33:74-5 My '51

No plasticizer; polyvinyl resin. Chem Eng 58:166+ Mr '51

Properties of a new vinyl chloride-vinylidene chloride latex for paper coating. E. K. Stilbert and H. L. Clack. bibliog il Tappi 34:337-46 Ag '51

VINYL chloride—*Continued*

Properties of polyvinyl chloride compounds; effect of phthalate ester structure. P. V. Smith, jr., R. G. Newberg and D. W. Young. bibliog il Ind & Eng Chem 42: 2576-9 D '50

Raw materials for electric cable making; plastics; polyvinyl chloride and related products. V. H. Wentworth. il Electrician 146:1197-207 Ap 13 '51

Solution, cast film; survey of vinyl chloride-acetate resin solution-cast film. W. J. Jebens and H. Lee. bibliog flow diag il diag Mod Plastics 28:104-7+ Je '51

Stabilization of polyvinyl chloride-type plastics. J. G. Hendricks and E. L. White. Ind & Eng Chem 43:2335-8 O '51

Thermal decomposition products and burning characteristics of some synthetic low-density cellular materials. H. A. Watson and others. bibliog 6pls U S Bur Mines Rep of Invest 4777:1-16 '51

Three vinyl formulations widen applications of these resins. K. Rose. il Materials & Methods 34:148+ S '51

Unplasticized polyvinyl chloride. N. Platzer. bibliog Mod Plastics 28:112+ Jl '51

Vinyl stabilizers. H. J. Ratti. il India Rubber World 123:451-4 Ja '51

Manufacture

Vinyl resins; how vinyl chloride is made. C. F. Ruebensaal. il diags Chem Eng 57: 102-5 D '50

Testing

Aging tests on vinyl chloride polymers; abstract. F. G. Clark. Chem & Eng N 29:3835 S 17 '51

VINYL chlorosilane

Glass-plastic. Chem Ind W 68:10 Mr 10 '51

VINYL compounds

Addition polymers; abstract. H. Zumstein. Paint Oil & Chem R 114:32+ Ag 2 '51

Color problems in vinyl film and sheeting. F. G. Clark. il India Rubber World 123: 571-3 F '51

Copolymerization of butyl vinylsulfonate; comments on sulfur shell expansion. C. G. Overberger, D. E. Baldwin and H. P. Gregor. bibliog Am Chem Soc J 72:4864-6 N '50

Copolymerization; reactivity of fumaronitrile in vinyl copolymerization. R. G. Fordyce and G. E. Ham. Am Chem Soc J 73:1186-9 Mr '51

Cyanuric chloride derivatives; vinylamino-*s*-triazines. F. C. Schaefer, J. R. Dudley and J. T. Thurston. Am Chem Soc J 73:3004-6 Jl '51

Extruded slide fastener; FlexiGrip. il diag Mod Plastics 29:79 S '51

Heat and light stabilisers; main requirements for the vinyl plastics. Chem Age (Lond) 63:569-70 O 21 '50

Ketene acetals; the preparation and properties of ketene divinylacetal and related compounds. S. M. McElvain and A. N. Bolstad. Am Chem Soc J 73:1988-92 My '51

Lamp sockets sealed with vinyl. il Mod Plastics 28:68-9 F '51

Polymerization of vinyl and allyl esters of fatty acids. S. A. Harrison and D. H. Wheeler. bibliog Am Chem Soc J 73:839-42 F '51

Polymerisation of vinyl compounds by the sulphite radical. B. D. Sully. diags Chem Soc J p 1498-505 Je '50

Polyvinyl resin and latex; production and properties of new resins and dispersions. il Chem Age (Lond) 63:639-41 N 4 '50

Preparation of 2-vinylthiazoles. D. L. Schoene. Am Chem Soc J 73:1970-1 My '51

Reaction of diborane with some alkene oxides and vinyl compounds. F. G. A. Stone and H. J. Emeléus. diag Chem Soc J p2755-9 O '50

Vinyl blood packs. il Mod Plastics 29:92-4 S '51

Vinyl plasticizers; effect on processing polyvinyl chloride in Banbury mixers. H. S. Bergen and J. R. Darby. bibliog il Ind & Eng Chem 43:2404-12 O '51

Vinyl stabilizers. H. J. Ratti. il India Rubber World 123:451-4 Ja '51

Viscosity index improvers for lubricating oils; polyvinyl esters of long-chain fatty acids. W. S. Port and others. bibliog Ind & Eng Chem 43:2105-7 S '51

VINYL cyanide. See Acrylonitrile

VINYLCYCLOÖCTATETRAENE

Cyclic polyolefins; isolation of vinylcycloöctatetraene and *cis*-1-phenyl-1,3-butadiene from acetylene polymers. A. C. Cope and S. W. Fenton. bibliog Am Chem Soc J 73: 1195-8 Mr '51

VINYL ethers

Preparation of cyclic vinyl ethers. W. E. Parham and H. E. Holmquist. bibliog Am Chem Soc J 73:913-14 Mr '51

Process control of vinyl ethers; high impedance conductivity measurements. H. R. Davidson and J. M. Lambert. bibliog diag Ind & Eng Chem 43:1458-60 Je '51

Two stage polymerizations; preparation and polymerization of vinyl ethers of unsaturated alcohols. G. B. Butler and J. L. Nash, jr. Am Chem Soc J 73:2538-9 Je '51

VINYL fluoride

Reaction of methyl radicals with olefins; the reaction with tetrafluoroethylene and vinyl fluoride. F. A. Raal and C. J. Danby. Chem Soc J p 1596-9 Je '50

VINYL naphthalene

Dehydrogenation of ethylnaphthalene to vinylnaphthalene. J. E. Nickels and B. B. Corson. bibliog diag Ind & Eng Chem 43: 1685-9 Jl '51

VINYL phenanthrene

Photochemistry and structure of 9,9′-phenanthroin and *sym*-di-(9-phenanthryl)-ethylene. Y. Hirshberg and F. Bergmann. Am Chem Soc J 72:5118-20 N '50

2-, 3- and 9-vinylphenanthrenes. C. C. Price and B. D. Halpern. Am Chem Soc J 73: 818-20 F '51

VINYL propionate

Toxicological studies of compounds investigated for use as inhibitors of biological processes; toxicity of vinyl propionate. A. M. Ambrose. diag A M A Archives Ind Hygiene & Occup Med 2:582-90 N '50

VINYLPYRAZINE

Vinylpyrazine. L. J. Kitchen and E. S. Hanson. Am Chem Soc J 73:1838-9 Ap '51

VINYLPYRIDINE

Electrical properties of solids; poly-4-vinylpyridine and some of its derivatives. W. N. Maclay and R. M. Fuoss. Am Chem Soc J 73:4065-9 S '51

Electrolytic properties of aqueous solutions of polyvinylpyridine neutralized with hydroiodic acid. F. T. Wall, J. J. Ondrejcin and M. Pikramenou. diag Am Chem Soc J 73:2821-5 Je '51

VINYL pyrrolidone

Acetylene chemicals; pictured flow sheet. Chem Eng 58:176-9 Je '51

Behavior of polyvinylpyrrolidone; abstract. Eirich. Chem & Eng N 29:1953, 1955 My 14 '51

New iodine compound is internal antiseptic. Chem & Eng N 29:664 F 19 '51

New product may spur sales of General Aniline. Barron's 31:25-6 Ap 16 '51

New wonder chemical; PVP. il Mod Ind 21: 72+ Mr '51

Plasma arena. Chem Ind W 68:16 F 17 '51

Polyvinyl plasma. il Chem Ind W 68:17 Ja 20 '51

PVP and dextran near commercial production as blood substitutes. flow sheets il Chem & Eng N 29:650-2+ F 19 '51

PVP-iodine. Chem Eng 58:172 Ap '51

Still more PVP. il Chem Ind W 68:13 Mr 3 '51

Synthetic blood substitutes; PVP, dextran. il Chem Age (Lond) 64:409-13 Mr 17 '51; Can Chem & Process Ind 35:298+ Ap '51

VINYL sulfone

Stabilizing cellulose; vinyl sulfone polymers used. Am Dyestuff Rep 40:197 Mr 19 '51

VINYL trichlorosilane

Vinyl trichlorosilane. Chem Eng 58:198 S '51

VINYLIDENE chloride. See Dichloroethylene

VINYLIDENE compounds

Infrared and Raman spectra of vinylidene cyanide. M. L. Dannis and J. J. Shipman. J Chem Phys 19:382 Mr '51

VINYLITE

Vinyl plastics gain in textile field. il Bsns W p35-6 D 23 '50

VINYLOGY
Vinylogy in sweetening agents; a vinylog of dulcin. W. K. Noyce, C. H. Coleman and J. T. Barr. Am Chem Soc J 73:1295-6 Mr '51

VINYLON. See Textile fibers, Synthetic

VINYON
Seven questions and answers about vinyon HH staple. H. E. Shearer. Textile World 100:100-2+ O '50
Vinyon HH staple. H. E. Shearer. Tappi 34: sup 118A-20A My '51

VIRGIN ISLANDS
See also
Hotels—Virgin Islands

VIRGINIA electric and power company
FPC examiner reaffirms decision on Roanoke Rapids development. Elec World (News ed) 134:13 N 27 '50
Preferred stock offered. Comm & Fin Chr 173:1115 Mr 12 '51
Stock offering. Comm & Fin Chr 173:2295 Je 4 '51

VIRIAL coefficients
Compressibility of gases at pressures up to 50 atmospheres; carbon tetrafluoride in the temperature range 0°-400°C; sulfur hexafluoride in the temperature range 0°-250°C. K. E. MacCormack and W. G. Schneider. J Chem Phys 19:845-8 Jl '51
Critical constants of polar gases. J. S. Rowlinson. bibliog J Chem Phys 19:831-3 Jl '51
Intermolecular potentials; carbon tetrafluoride and sulfur hexafluoride; carbon dioxide. K. E. MacCormack and W. G. Schneider. bibliog J Chem Phys 19:849-55 Jl '51
Interpretation of intermolecular force parameters. S. D. Hamann. J Chem Phys 19: 655-6 My '51
Third virial coefficients of polar gases. J. S. Rowlinson. bibliog J Chem Phys 19:827-31 Jl '51

VIRUSES
Coxsackie viruses; abstract. G. Dalldorf. Science 112:422 O 13 '50
Physical chemical studies on rabbit papilloma virus. H. K. Schachman. bibliog il Am Chem Soc J 73:4453-5 S '51
Virus strains of identical phenotype but different genotype. A. Novick and L. Szilard. Science 113:34-5 Ja 12 '51
Viruses. F. M. Burnet. il Sci Am 184:43-51 My '51

VIRUSES, Plant
Associations of rust and virus infections. C. E. Yarwood. bibliog il Science 114:127-8 Ag 3 '51
Grasshopper transmission of three plant viruses. H. J. Walters. bibliog Science 113: 36-7 Ja 12 '51
Plant virus diseases. K. M. Smith. Chem Age (Lond) 64:989-92 Je 30 '51
Size, shape, and hydration of southern bean mosaic virus and tobacco necrosis virus in solution. B. R. Leonard, jr. and others. J Chem Phys 19:793-4 Je '51
Some aspects of the spread and control of plant virus diseases; abstract and discussion. F. C. Bawden. Chem & Ind p435 Je 9 '51
Use of ultraviolet light as a means of diagnosing carnation mosaic. W. D. Thomas, jr. and others. bibliog Science 113:576-7 My 18 '51
See also
Tobacco mosaic virus

VISCOMETERS. See Viscosimeters

VISCOSE
Determining the suitability of dissolving pulps for viscose manufacture; abstract. W. Winkler. Paper Ind 32:1200+ F '51
Flow birefringence of viscose solutions. W. P. Conner and P. I. Donnelly. bibliog il diags Ind & Eng Chem 43:1136-42 My '51
Formation of ββ'-thiodipropionitrile (di-2-cyanoethyl sulphide) and a study of its derivatives. J. H. MacGregor and C. Pugh. Chem Soc J p736-8 F '50
Historical development of and the outlook for viscose fibres. H. J. Hegan. bibliog(60 ref) Textile Inst J 42:P395-410 Ag '51
Where viscose stands today. J. M. Morahan. Rayon 32:36+ Ag '51

VISCOSIMETERS
Capacitance-change viscometer. R. W. Thickens. il diags Electronics 24:116-17 Ap '51
Comparison of viscosities of rubbers from the McKee worker-consistometer and from the Mooney viscometer. A. B. Bestul and others. bibliog J Res Nat Bur Stand 46:283-7 Ap '51
Continuous flow, high temperature viscosimeter for drilling muds. R. W. Hoeppel. bibliog il diag R Sci Instr 22:248-53 Ap '51
Damping device for viscometers. A. O. Mathai. diag J Sci Instr 28:125 Ap '51
Diesel oil cold tests and method for cloud point determination. Y. C. Young. bibliog il diag Pet Eng 23:C40+ S '51; Same abr. Oil & Gas J 50:121 My 31; 115 Je 7 '51
High temperature viscometer. N. H. Spear and L. P. Herrington. bibliog diags Anal Chem 23:148-51 Ja '51

VISCOSITY
Analysis of data on flow of steam in pipes; evaluation of data on absolute viscosity of steam. R. H. Page and S. Konzo. Heat & Ven 48:99-102 Ag '51
Application of rate-process theory to glass; viscosity. F. B. Hodgdon and D. A. Stuart. diag J Ap Phys 21:1160-70 N '50
Aqueous solutions of sodium benzenesulfonate and monosubstituted derivatives; some physicochemical properties. P. W. Renich and R. Taft. bibliog Ind & Eng Chem 43: 2376-84 O '51
Asphalt-solvent blends; retardation of viscosity rise with time. A. J. Hoiberg. bibliog Ind & Eng Chem 43:1419-23 Je '51
Bound metal in ethyl cellulose effect on dilute solution properties. E. F. Evans and H. M. Spurlin. bibliog Am Chem Soc J 72:4750-6 O '50
Concentration dependence of the viscosity of solutions of macromolecules. J. Riseman and R. Ullman. bibliog J Chem Phys 19:578-84 My '51
Conversion of fibrinogen to fibrin; sedimentation and viscosity studies on clotting systems inhibited by hexamethylene glycol. S. Shulman and J. D. Ferry. bibliog J Phys & Colloid Chem 55:135-44 Ja '51
Densities and viscosities of solutions of the zinc halides in methanol from -50 to 20°. L. R. Dawson and others. bibliog Am Chem Soc J 73:4326-7 S '51
Distribution function in phase space, with application to the statistical theory of liquids. E. Ikenberry. bibliog J Chem Phys 19:467-70 Ap '51
Effect of oil viscosity on the power-transmitting capacity of spur gears. V. N. Borsoff and others. bibliog il diags A S M E Trans 73:687-94; Discussion. 694-6 Jl '51
Effect of rate of shear on the viscosity of dilute solutions of polyisobutylene. T. G. Fox, jr., J. C. Fox and P. J. Flory. diag Am Chem Soc J 73:1901-4 My '51
Electrical conductance and viscosity in the system tetra-*n*-butylammonium picrate-*n*-butyl alcohol at 91°. R. P. Seward. diags Am Chem Soc J 73:515-17 F '51
Empirical analysis of viscosity data. H. T. Hall and R. M. Fuoss. bibliog Am Chem Soc J 73:265-9 Ja '51
Flow characteristics of organopolysiloxane fluids and greases. C. C. Currie and B. F. Smith. bibliog Ind & Eng Chem 42:2457-62 D '50
Fractionation of starch; the fractionation of amyloses. D. Goodison and R. S. Higginbotham. bibliog diags Textile Inst J Trans 42:T249-73 Je '51
Friction pressure drop in the flow of paper pulp stock. T. E. Guenter and N. H. Ceaglske. bibliog plan diag Tappi 34:140-4 Mr '51
Further studies on the melt viscosity of polyisobutylene. T. G. Fox, jr. and P. J. Flory. bibliog J Phys & Colloid Chem 55:221-34 F '51
Heat transfer; processing viscous materials. E. Perry and F. E. Reese. bibliog Chem Eng Prog 47:354-62 Jl '51
High viscosity detergent solutions. H. L. Sanders and E. A. Knaggs. diags Soap & San Chem 27:41-3+ F '51
Intrinsic viscosity relationships for polystyrene. T. G. Fox, jr. and P. J. Flory. bibliog Am Chem Soc J 73:1915-20 My '51

VISCOSITY—*Continued*

Intrinsic viscosity-temperature relationships for polyisobutylene in various solvents. T. G. Fox, jr. and P. J. Flory. bibliog Am Chem Soc J 73:1909-15 My '51

Kinematic viscosity curves of hydraulic fluids; chart; reference book sheet. N. M. Sverdrup. Product Eng 22:173 Ap '51

Kinetics of the dissolution of zinc in aqueous iodine solutions. L. L. Bircumshaw and A. C. Riddiford. Chem Soc J p 1490-3 Je '51

Low-temperature conductance and viscosity of concentrated solutions of ammonium formate and ammonium acetate in some mixed solvents. L. R. Dawson and others. J Phys & Colloid Chem 55:422-8 Mr '51

McKee worker-consistometer with constant-speed drives. S. A. McKee and H. S. White. il diags J Res Nat Bur Stand 46:18-29 Ja '51

Mechanical properties of substances of high molecular weight; non-Newtonian flow and stress relaxation in concentrated polyisobutylene and polystyrene solutions. F. W. Schremp and others. bibliog diag J Ap Phys 22:711-17 Je '51

Mechanical properties of substances of high molecular weight; rigidities of polyvinyl acetate solutions in various solvents. W. M. Sawyer and J. D. Ferry. Am Chem Soc J 72:5030-4 N '50

Mechanical properties of substances of high molecular weight; the relaxation distribution function in polyisobutylene and its solutions. J. D. Ferry and others. bibliog J Ap Phys 22:717-22 Je '51

Melt-viscosity of some phenol-formaldehyde novolac resins; abstract and discussion. T. T. Jones. Chem & Ind p 127-8 F 17 '51

Physical properties of methanol-water system. C. Carr and J. A. Riddick. bibliog Ind & Eng Chem 43:692-6 Mr '51

Polymeric additives for synthetic ester lubricants. F. J. Glavis. bibliog Ind & Eng Chem 42:2441-6 D '50

Practical mixing techniques for viscous materials. H. L. Bullock. il Chem Eng Prog 47:397-400 Ag '51

Relation between the viscosity and concentration of cellulose solutions in cuprammonium; and the calculation of the intrinsic viscosity of cellulose. M. A. Calvert and D. A. Clibbens. bibliog Textile Inst J Trans 42:T211-34 Je '51

Simplified procedure for the characterization of starch fractions by viscosity and iodine sorption. I. A. Wolff, L. J. Gundrum and C. E. Rist. bibliog Am Chem Soc J 72:5188-91 N '50

Solution viscosity and partial specific volume of polystyrene; effect of solvent type and concentration. D. J. Streeter and R. F. Boyer. bibliog Ind & Eng Chem 43:1790-7 Ag '51

Some implications for geophysics of high-pressure phenomena. P. W. Bridgman. Geol Soc Bul 62:533-5 My '51

Some properties of the calcium salts of the lower fatty acids; viscosity. W. B. Bonnor and C. G. Smith. Chem Soc J p 1359-67 My '50

Studies in Newtonian flow; the dependence of the viscosity of liquids on temperature. A. K. Doolittle. J Ap Phys 22:1031-5 Ag '51

Studies in water-in-oil emulsions; the influence of disperse phase concentration on emulsion viscosity. P. Sherman. bibliog Soc Chem Ind J 69(sup no 2):S70-4 '50

Study of several physical properties of electrolytes over the temperature range of 25°C. to -73°C. A. B. Garrett and S. A. Woodruff. bibliog J Phys & Colloid Chem 55:477-90 Ap '51

Summary of viscosity and heat-conduction data for He, A, H_2, O_2, N_2, CO, CO_2, H_2O, and air. F. G. Keyes. bibliog A S M E Trans 73:589-95; Discussion. 595-6 Jl '51

Theories of viscosity applied to ionic liquids. B. S. Harrap and E. Heymann. bibliog Chem R 48:45-67 F '51

Thermal and oxidation stability of polymethylphenylsiloxanes. C. M. Murphy, C. E. Saunders and D. C. Smith. bibliog Ind & Eng Chem 42:2462-8 D '50

Thermal conductivity of liquids and polymers and its relation to the pressure coefficient of viscosity. A. Bondi. bibliog J Chem Phys 19:128-9 Ja '51

Treatment of intrinsic viscosities. P. J. Flory and T. G. Fox, jr. bibliog Am Chem Soc J 73:1904-8 My '51

Viscoelastic properties of several high polymers. M. Horio and others. bibliog diag J Ap Phys 22:966-70 Jl '51

Visco-elastic properties of solutions of rod-like macromolecules. J. G. Kirkwood and P. L. Auer. bibliog J Chem Phys 19:281-3 Mr '51

Viscosity. N. M. Coull. bibliog il diags Paper Tr J 131:26-8 D 21; 14+ D 28 '50; 132:18+ Ja 5; 18-19+ Ja 12 '51

Viscosity and density of aqueous lactic acid solutions. R. A. Troupe, W. L. Aspy and P. R. Schrodt. bibliog Ind & Eng Chem 43:1143-6 My '51

Viscosity and density of lubricating oils from 0 to 150,000 psig and 32 to 425 F. D. Bradbury and others. il diags A S M E Trans 73:667-72; Discussion. 672-6 Jl '51

Viscosity and density of molten optical glasses. L. Shartsis and S. Spinner. bibliog diags J Res Nat Bur Stand 46:176-94 Mr '51

Viscosity behavior of gases. L. A. Bromley and C. R. Wilke. Ind & Eng Chem 43:1641-8 Jl '51

Viscosity control of concentrated clay suspensions. N. Millman. diag Paper Tr J 132:28+ F 16 '51

Viscosity conversion charts; reference book sheet. N. M. Sverdrup. Product Eng 22:179, 181 Ag '51

Viscosity index improvers for lubricating oils; polyvinyl esters of long-chain fatty acids. W. S. Port and others. bibliog Ind & Eng Chem 43:2105-7 S '51

Viscosity of fire-fighting foam. C. S. Grove, jr. and others. bibliog diags Ind & Eng Chem 43:1120-2 My '51

Viscosity of glycerol and its aqueous solutions. J. B. Segur and H. E. Oberstar. bibliog Ind & Eng Chem 43:2117-20 S '51

Viscosity of liquid hydrocarbon mixtures. F. W. Lima. J Chem Phys 19:137-8 Ja '51

Viscosity of mixed vapours. R. B. Silgardo and J. A. Storrow. bibliog(48 ref) diags Soc Chem Ind J 69:261-6 S '50

Viscosity of sulfur vapor. G. A. Dalin and J. R. West. bibliog diag J Phys & Colloid Chem 54:1215-21 N '50

Viscosity of suspensions of spheres. J. V. Robinson. bibliog J Phys & Colloid Chem 53:1042-56; 55:455-64 O '49, Mr '51

Viscosity of the sodium-potassium system. C. T. Ewing, J. A. Grand and R. R. Miller. diag Am Chem Soc J 73:1168-71 Mr '51

Volume flow of asphalt. M. Reiner, P. J. Rigden and E. N. Thrower. bibliog diags Soc Chem Ind J 69:257-60 S '50

Volume viscosity and compressibilities from acoustic phenomena. Hoff Lu. bibliog Acoustical Soc Am J 23:12-15 Ja '51

See also
Plasticity

Measurement

Calculation of viscosity parameters for aqueous sucrose solutions. H. K. Zimmerman, jr. J Phys & Colloid Chem 55:1274-6 O '51

Effect of certain reagents upon the properties of bentonite colloids. W. H. Slabaugh and J. L. Culbertson. bibliog diags J Phys & Colloid Chem 55:744-57, 1131-9 My, O '51

Flexible ruler aids estimation of liquid mixture viscosities. N. Madsen. Chem Eng 58:152-3 F '51

Forced vibration of reed as a method of determining viscoelasticity. M. Horio and S. Onogi. bibliog diags J Ap Phys 22:977-81 Jl '51

Toward a referee viscosity method for cellulose. A. F. Martin. Tappi 34:363-6 Ag '51

See also
Viscosimeters

VISES

Special vise jaws for milling three angular surfaces. R. Mery. diags Mach 57:195 D '50

VISES—*Continued*
- Spinning and skinning eliminated by new vise. il Steel 127:106 N 20 '50
- Vise jaws for rounded workpieces. G. Wenke. diags Tool Eng 26:66 Mr '51

VISIBILITY
- Measurement of visibility. C. L. Cottrell. bibliog il diag Illum Eng 46:95-101; Discussion. 101-3 F '51

  See also
  Luminosity

VISIBLE records. See Records, Visible

VISIBLE speech. See Speech, Visible

VISION. See Sight

VISITORS
- Anniversary celebration looks to the future in terms of the past; open house, 100-year book and local merchandising; Pennsalt. C. Lane. il Ptr Ink 234:32-3 Ja 12 '51
- Educating the educators taps the roots of community understanding; steps being taken to interest educators in operation of mills. M. B. Andrews. Textile World 101:164 Ag '51
- Evansville, Ind. professors tour industry, learn new management techniques. Am Bsns 21:36 Ap '51
- Open house that opens eyes; American maize products co, Hammond, Ind. il Mill & Factory 47:103 N '50
- Open house; the way to an open heart. M. B. Andrews. Textile World 101:156 Jl '51
- Plants find it pays to have lots of company. il Bsns W p94-6 S 29 '51
- Public utility sight-seeing technique; tours of plant facilities; Pacific gas and electric co. J. E. Conant. Pub Util 46:735-43 N 23 '50
- Teachers say, we like to visit plants. Sales Management 66:63 F 1 '51
- What's wrong with plant tours? a tourist's view. W. G. Broehl, jr. Management R 39:586-8 O '50
- Why invite school teachers to visit your plant? tours for teachers and students improve understanding of business. E. Whitmore. il Am Bsns 21:18-19+ S '51
- Will fun plus facts put over an open house? Fluor corp., Los Angeles. R. Newcomb and M. Sammons. il Ind Marketing 36:48, 48D+ Mr '51

VISNAGIN
- Chemistry and physiological action of khellin and related products. C. P. Huttrer and E. Dale. Chem R 48:543-79 bibliog(105 ref, p575-8) Je '51
- Chromones; the conversion of khellol into visnagin; derivatives of khellol and visnagin. T. A. Geissman. bibliog Am Chem Soc J 73:3355-7 Jl '51
- Furanochromones; the synthesis of visnagin and related compounds. J. S. H. Davies and W. L. Norris. Chem Soc J p3195-201 N '50
- Khellin from visnagin. A. Schönberg and N. Badran. Am Chem Soc J 73:2960-1 Je '51

VISNAGINONE
- Chromones; the synthesis of visnaginone. T. A. Geissman and E. Hinreiner. bibliog Am Chem Soc J 73:782-6 F '51

VISUAL instruction
- Great interest in visual education in Denmark. For Comm W 43:23 My 14 '51
- Industrial aid to education; exhibits sponsored and paid for by industry, will tour U.S. colleges and universities. il Mod Ind 22:67-8+ S '51
- Picture book production of the Martin 4-0-4. il Aero Digest 62:23-8 F '51
- Use of visual aids in the Morenci branch safety program, Phelps Dodge corp., Morenci, Ariz. M. L. Williams and A. D. Look. 6pls U S Bur Mines Information Circ 7598: 1-6 '51
- Visual aids in education. W. L. Shilts. J Eng Educ 41:235-6 D '50
- Visual aids in life insurance teaching. R. W. Kelsey. Weekly Underw 164:177-80 Ja 13 '51
- Visual aids teach engineers. il Bsns W p93 O 6 '51
- Visual education in Norway. For Comm W 45:19 O 15 '51

  See also
  Lantern slides
  Moving pictures in education

VISUAL purple
- Chemistry of rod vision. G. Wald. bibliog diag Science 113:287-91 Mr 16 '51
- Rhodopsin and visual excitation; abstract. G. Wald and P. K. Brown. Science 113:474 Ap 27 '51

VITAL statistics

  See also
  Longevity
  Mortality—Statistics
  Population—Statistics
  Sex ratio

VITAMINS
- Effect of aureomycin and vitamins on the growth rate of chicks. J. Biely and B. March. Science 114:330-1 S 28 '51
- Forecasts vitamin cures for mental ills; abstract. R. J. Williams. Comm & Fin Chr 174:1063 S 20 '51
- Hickman honored for vitamin distillation work. Chem & Eng N 28:3883 N 6 '50
- How rats help vitamin assay. il Chem Ind W 68:28-9 Ja 27 '51
- How to vitaminize candies. A. E. Leighton. il Food Ind 23:104-6+ Mr; [cont as] Food Eng 23:169+ Ap '51
- Spinach vitamin; citrovarum factor. Chem Ind W 68:20 F 17 '51

Analysis
- Medium for assay of vitamins with lactic acid bacteria. L. M. Flynn and others. bibliog Anal Chem 23:180-5 Ja '51
- Variability in the Beckman spectrophotometer. W. O. Caster. bibliog diag Anal Chem 23:1229-36 S '51

Vitamin A
- Biochemical studies on vitamin A; biopotency of neovitamin A in the rat. P. L. Harris, S. R. Ames and J. H. Brinkman. bibliog Am Chem Soc J 73:1252-4 Mr '51
- Coat for A. il Chem Ind W 68:19-20 Mr 31 '51
- Commercial process for vitamin A revealed; abstract. O. Isler. il Chem & Eng N 29: 3962-3 S 24 '51
- Elucidation of the structure of vitamin A_2 by total synthesis. Mrs K. R. Farrar and others. bibliog Chem & Ind p49-50 Ja 20 '51
- Improved vitamin A. il Chem Eng 58:204+ My '51
- No fish story; synthetic vitamin A replacing its natural counterpart. il Chem Ind 67: 876 D '50
- Reactions of activated glycerol dichlorohydrin with vitamin A. R. S. Allen and S. W. Fox. bibliog Anal Chem 22:1291-5 O '50
- Stability of carotene and vitamin A in dry mixtures. M. E. Wall and E. G. Kelley. bibliog Ind & Eng Chem 43:1146-50 My '51
- Stability of dry vitamin A concentrates. M. J. Burns and F. W. Quackenbush. bibliog Ind & Eng Chem 43:1592-3 Jl '51
- Stabilized vitamin A now made by Pfizer with new process. il Chem & Eng N 29:1316-18 Ap 2 '51; Chem Eng 58:219-21 My '51; Oil Paint & Drug Rep 159:5 Mr 26 '51
- Studies in the polyene series; a new method for the synthesis of some acetylenic acids related to vitamin A. J. B. Toogood and B. C. L. Weedon. Chem Soc J p3123-6 D '49
- Studies in the polyene series; further syntheses of acetylenic acids related to vitamin A. T. Bruun and others. Chem Soc J p633-7 F '50
- Studies in the polyene series; the synthesis of a C_{17} alcohol related to vitamin A. G. W. H. Cheeseman and others. Chem Soc J p3120-3 D '49
- Synthesis of 4-carboxyvitamin-A acid. V. Petrow and O. Stephenson. Chem Soc J p 1310-15 My '50
- Synthesis of vitamin A. N. L. Wendler and others. bibliog Am Chem Soc J 73:719-24 F '51
- Thyroprotein and the *in vitro* conversion of carotene to vitamin-A. W. A. McGillivray. Chem & Ind p744 N 18 '50
- Use of U.S.P. XIV capsules of vitamin A reference standard. S. R. Ames and others. Anal Chem 23:536 Mr '51

Vitamin B

  See also
  Folic acid
  Folinic acid

VITAMINS—*Continued*

Vitamin B complex

Synthesis and isolation of a crystalline substance with the properties of a new B vitamin. J. A. Brockman, jr. and others. Am Chem Soc J 72:4325-6 S '50

Synthetical experiments in the B group of vitamins; pyrrolinones derived from the condensation products of primary aminoesters and formyl- or acetyl-succinic acid derivatives. A. Cohen. Chem Soc J p3005-9 N '50

Tests with lyxoflavin for vitamin activity. G. A. Emerson and K. Folkers. Am Chem Soc J 73:2398-9 My '51

Vitamin B_1

Aneurin; the mechanism of thiochrome formation from aneurin and aneurin disulphide. P. Sykes and A. R. Todd. Chem Soc J p534-44 F '51

Growth of an aneurin-requiring yeast strain in various substrates related to the tricarboxylic acid cycle. S. Jackson and B. C. Kilkenny. Chem Soc J p 1561-4 Je '51

Preparation of oxythiamine diphosphate and oxythiamine monophosphate. L. R. Cerecedo and A. J. Eusebi. bibliog Am Chem Soc J 72:5749 D '50

Recent vitamin research; biological action of thiamin. P. Karrer and others. Chem Age (Lond) 64:339-41 Mr 3 '51

Self-selection of diet in relation to audiogenic seizures in rats. W. J. Griffiths, jr. bibliog Science 112:786-7 D 29 '50

Vitamin B_2

Alkaline hydrolysis of riboflavin. A. R. Surrey and F. C. Nachod. bibliog Am Chem Soc J 73:2336-8 My '51

Biosynthesis of riboflavin, L. bulgaricus factor, and other growth factors; laboratory and pilot plant studies of biosynthesis by A. gossypii cultivated on grain stillage media. K. L. Smiley and others. bibliog Ind & Eng Chem 43:1380-4 Je '51

Nucleotides; riboflavin-5′ phosphate. H. S. Forrest and A. R. Todd. Chem Soc J p3295-9 N '50

Synthesis of 6,7-diethyl-9-(D-1^1-ribityl)-isoalloxazine. J. P. Lambooy. bibliog Am Chem Soc J 72:5225-8 N '50

Vitamin B_6

Lithium aluminum hydride reduction of pyridine carboxylic esters; synthesis of vitamin B_6. R. G. Jones and E. C. Kornfeld. bibliog Am Chem Soc J 73:107-9 Ja '51

Phosphates of the vitamin B_6 group. D. Heyl and others. bibliog Am Chem Soc J 73:3430-9 Jl '51

Vitamin B_{12}

Analog of vitamin B_{12}. R. P. Buhs and others. bibliog Science 113:625-6 Je 1 '51

Animal protein factor for the rat present in crude casein and its relationships with vitamin B_{12}. M. Piccioni and others. il Science 113:179-81 F 16 '51

B_{12}, a new vitamin promotion. Consumers Res Bul 27:12 F '51

B_{12} symposium emphasizes need for more research in the field. Chem & Eng N 29:1617 Ap 23 '51

Chemistry of the vitamin B_{12} group; acid hydrolysis studies; isolation of a phosphorus-containing degradation product. J. G. Buchanan and others. Chem Soc J p2845-55 O '50

Cobalt 60 labeled vitamin B_{12} of high specific activity. C. Rosenblum and D. T. Woodbury. Science 113:215 F 23 '51

Equilibrium between vitamin B_{12} (cyanocobalamin) and cyanide ion. J. B. Conn and others. bibliog Science 113:658-9 Je 8 '51

Formation of a competitive antagonist of vitamin B_{12} by oxidation. J. M. Beiler and others. Science 114:122-3 Ag 3 '51

How Pfizer introduces new chemicals; abstract. G. B. Stone. Chem Eng 57:186-8 D '50

Isolation of vitamin B_{12b} from neomycin fermentations. W. G. Jackson and others. bibliog Am Chem Soc J 73:337-41 Ja '51

Magnetic susceptibility of vitamin B_{12}. H. Diehl, R. W. Vander Haar and R. R. Sealock. bibliog Am Chem Soc J 72:5312-13 N '50

Magnetic susceptibility of vitamin B_{12} and B_{12b}. J. C. Wallmann and others. Science 113:55-6 Ja 19 '51

Perchloric acid salt of vitamin B_{12}. J. F. Alicino. Am Chem Soc J 17:4051 Ag '51

Preparation of radioactive vitamin B_{12} by direct neutron irradiation. R. C. Anderson and Y. Delabarre. Am Chem Soc J 73:4051-2 Ag '51

Replacement of vitamin B_{12} by desoxynucleotides in promoting growth of certain lactobacilli. W. Shive, M. E. Sibley and L. L. Rogers. Am Chem Soc J 73:867-8 F '51

Studies on euglena and vitamin B_{12}; abstract. W. J. Robbins and others. Science 112:455 O 20 '50

Vitamin B_{12}, active substances in fish products; abstract. H. L. A. Tarr and others. Food Ind 23:170-1 F '51

Vitamin B_{12}; additional data on vitamin B_{12a}. E. A. Kaczka and others. Am Chem Soc J 73:335-7 Ja '51

Vitamin B_{12}; 5,6-dimethylbenzimidazole, a degradation product of vitamin B_{12}. N. G. Brink and K. Folkers. bibliog Am Chem Soc J 72:4442-3 O '50

Vitamin B_{12} in activated sewage sludge, S. R. Hoover and others. Science 114:213 Ag 24 '51

Vitamin B_{12}; modifications of cyano-cobalamin. E. A. Kaczka and others. bibliog Am Chem Soc J 73:3569-73 Ag '51

Vitamin B_{12}; vitamin B_{12}-like activity of α- and β-ribazole. G. Emerson and others. Am Chem Soc J 73:1069-70 Mr '51

Vitamin C

Action of formaldehyde on L-ascorbic acid-1-C^{14}. E. H. Mosbach, J. J. Burns and C. G. King. Am Chem Soc J 73:1874-5 Ap '51

Ascorbic acid oxidase of cucumber. D. H. F. Clayson and J. A. Beesley. bibliog Chem & Ind p 191-2 Mr 10 '51

Effect of ascorbic acid on the enzymatic oxidation of monohydric and o-dihydric phenols. R. C. Krueger. bibliog Am Chem Soc J 72:5582-7 D '50

Effect of high-voltage cathode rays on ascorbic acid; in vitro and in situ experiments. B. E. Proctor and J. P. O'Meara. bibliog Ind & Eng Chem 43:718-21 Mr '51

Effect of sunlight on the ascorbic acid present in oxalic acid extracts of vegetables. L. H. Lampitt and others. Chem & Ind p699 O 14 '50

Getting your daily quota of vitamin C in frozen orange juice; report on 11 brands of frozen strawberries. il Consumers Res Bul 27:8-10 Ap '51

Influence of ascorbic acid pretreatment on the leukocyte response of rats exposed to sudden stress. H. Bacchus and C. A. Toompas. bibliog Science 113:269-70 Mr 9 '51

Physiological availability of dehydro-L-ascorbic acid. E. De Ritter and others. bibliog Science 113:628-31 Je 1 '51

Screening effect of vitamin C on the inactivation of leaf phosphatase by ultraviolet light. R. Das and K. V. Giri. Science 114:131-2 Ag 3 '51

Sensitized catalysts; the ascorbic acid method. H. J. Kauffmann. Am Chem Soc J 73:4311-14 S '51

Some properties of an ascorbic acid oxidation inhibitor in vegetables. B. J. Branthoover and M. M. Hard. bibliog Science 114:296-8 S 21 '51

Spectrophotometric assay of ascorbic acid with peri-naphthindanetrione hydrate. M. S. El Ridi and others. Science 112:751-2 D 22 '50

Analysis

Estimation of ascorbic acid in pharmaceuticals with particular reference to interfering substances. D. G. Chapman, O. Rochon and J. A. Campbell. bibliog Anal Chem 23:1113-15 Ag '51

Ultraviolet absorption spectra of normal cerebrospinal fluid. L. H. Sophian and V. J. Connolly. bibliog J Phys & Colloid Chem 55:712-16 My '51

VITAMINS—*Continued*

Vitamin E

Analysis

Chemical determination of vitamin E. R. A. Dunford. Can Chem & Process Ind 35:47-9+ Ja '51

Bibliography

Annotated bibliography of vitamin E, 1940 to 1950. P. L. Harris and W. Kujawski, comps. 184p pa $3 National vitamin foundation, 150 Broadway, New York 7 '50

Vitamin K

Tracer experiments with radioactive dicumarol. L. B. Jaques and others. Can Chem & Process Ind 34:821-3 O '50

Versatile vitamin; recently developed uses for vitamin K. Chem Ind 67:880-1 D '50

Vitamin P

Term vitamin P recommended to be discontinued. Science 112:628 N 24 '50

VITRAIN

Distribution of minor elements in vitrain; three vitrains from the Barnsley seam. L. Horton and K. V. Aubrey. bibliog Soc Chem Ind J 69(sup no 1):S41-8 '50

VIVISECTION

Method for dissection and electrical study in vitro of mammalian central nervous tissue. D. O. Rudin and G. Eisenman. bibliog il diags Science 114:300-2 S 21 '51

VOCAL cords. See Larynx

VOCAL music. See Singing

VOCATIONAL education

Public education for labor skills. W. L. Stoddard. Harvard Bsns R 29:61-72 My '51

Report for 1950 of the central committee on vocational training. Am Pet Inst Proc 30(4):74-80 '50

See also

Apprentices
Chemical education
Employees, Training of
Engineering education
Industrial education
Mining schools and education
Technical education
Textile education
Trade schools

Switzerland

Vocational training organisation in Switzerland. Int Labour R 62:525-32 D '50

VOCATIONAL guidance

Helping the new graduate choose his employment. D. W. McLenegan. J Eng Educ 41:326-8 Ja '51

Is business fumbling its personnel task? business should inform young people of job opportunities. F. L. Stovall. il Am Bsns 21:12-13+ Ag '51

Let's be a high school freshman. W. S. Evans. J Eng Educ 41:249-53 D '50

Occupational outlook handbook; employment information on major occupations for use in guidance. il maps U S Bur Labor Statistics Bul 998:1-576; pa $3 Supt. of doc. '51

Results of vocational guidance in France. Int Labour R 64:85-9 Jl '51

Bibliography

Current literature in vocational guidance. H. L. Lash. (Pub. no. 521) 23p Los Angeles city board of education '51

Directories

1951 directory of vocational counseling agencies. 125p pa $1 Ethical practices committee, National vocational guidance assn, box 64, Washington univ, St Louis 5 '51

VOGEL reaction

Nature of the cobalt-thiocyanate reaction. P. W. West and C. G. de Vries. bibliog Anal Chem 23:334-7 F '51

VOICE

Calculation of vowel resonances, and an electrical vocal tract. H. K. Dunn. bibliog il diags Acoustical Soc Am J 22:740-53 N '50

Opening time and opening-quotient of the vocal cords during phonation. T. H. Tarnóczy. bibliog il Acoustical Soc Am J 23:42-4 Ja '51

See also

Singing
Speech

VOICE operated relays

Novel unit for voice controlled operation will turn on your transmitter. E. A. Anderson. il diag Radio & Tv N 45:57+ My '51

VOLAN

Complex surface. Chem Ind W 68:12-13 Mr 24 '51

VOLATILITY

How to calculate distillations with variable relative volatility. M. Nord. Chem Eng 58:144-6 F '51

Properties of high boiling petroleum products; distillation studies with relation to polynuclear aromatic components. L. T. Eby, G. G. Wanless and J. Rehner, jr. bibliog il Ind & Eng Chem 43:954-60 Ap '51

Reverse separation in fractionation pumps. K. Hickman. bibliog diag R Sci Instr 22:141-6 Mr '51

VOLCANIC ash, tuff, etc.

Cretaceous glassy welded tuffs; Lewis and Clark county, Mont. J. D. Barksdale. bibliog Am J Sci 249:439-43, pl 1 Je '51

Mechanics of ash formation. J. Verhoogen. bibliog Am J Sci 249:729-39 O '51

Minerals from pumiceous tuff in Japan. T. Sudo. Science 113:266-7 Mr 9 '51

VOLCANOES

Eocene volcanism in central Utah. S. Muessig. Science 114:234 Ag 31 '51

1949 summit eruption of Mauna Loa, Hawaii. G. A. Macdonald and J. B. Orr. bibliog il maps U S Geol S Bul 974-A:1-33; pa 20c Supt. of doc. '50

Theory of air-coupled flexural waves. F. Press and M. Ewing. bibliog diag J Ap Phys 22:892-9 Jl '51

Volcanism; a contributing factor to major change in sea level. E. C. Zimmerman. Science 113:391 Ap 6 '51

See also

Lava

VOLK, Kurt

Famous New York typographer; printing progress through eight centuries is shown in permanent exhibition at his commercial shop. por Inland Ptr 126:45-8 N '50

VOLKERT, John, metal stampings, inc.

Small operator stars in redesign problems. il Bsns W p48+ D 9 '50

VOLTA, Alessandro Giuseppe, 1745-1827

Volta and the volt. G. W. Vinal. Electrochem Soc J 98:sup 11C-13C Ja '51

VOLTAGE

Effect of the duration of voltage dip on cyclic light flicker. L. Brieger. bibliog il diags Elec Eng 70:685-9 Ag '51

Pick the right voltage for efficient power distribution. H. B. Thacker. il Mill & Factory 49:87-9 Ag '51

Transformer and secondary drops obtained from chart; engineering reference sheet. N. H. Erlandson. Elec World 134:112 N 6 '50

User's voltage in terms of transformer and secondary conditions; chart; engineering reference sheet. N. H. Erlandson. Elec World 134:132 N 20 '50

See also

High voltages
Voltmeters

VOLTAGE regulation

Adjustable voltage drives for ore handling. C. B. Risler. il diags Iron & Steel Eng 28:102-7; Discussion. 108-9 Je '51

Aerial cable and larger substations reduce system investment. V. A. Rydbeck. diags Elec World 135:110-11 Mr 26 '51

Effect of three-phase motor loads on voltage changes produced by single-phase loads. M. A. Faucett and others. diag Elec Eng 69:1005 N '50

Have office machines overloaded your electrical system? il Am Bsns 21:32+ Ap '51

High-voltage stabilization by means of the corona discharge between coaxial cylinders. S. W. Lichtman. bibliog il diags Inst Radio Eng Proc 39:419-24 Ap '51

How series capacitors can improve today's transmission performance. J. E. Barkle and A. A. Johnson. diags Elec World 135:105-9 Ap 23 '51

Influence of polyphase motors on the voltage regulation of circuits supplying single-phase welder loads. M. A. Faucett and others. diags Ill U Eng Exp Sta Bul 392:1-78 '50 (pa $1)

VOLTAGE regulation—*Continued*

Kilovar supply and voltage control of subtransmission systems. C. A. Woodrow. il diags Elec World 134:106-9+ D 4 '50

New method of controlling voltage dips caused by motor starting currents. J. W. Anderson. diags Edison Elec Inst Bul 18:437-42+ D '50; Elec World 135:103-6 Mr 12 '51

Overcoming power cut problems; infinitely-variable voltage regulating auto-transformers. il diag Electrician 146:569 F 16 '51

Regulated low voltage supply for electrolysis and other uses. M. L. Greenough and others. il diag R Sci Instr 22:484-8 Jl '51

Regulation charts. R. O. Kapp. Electrician 146:1845-8 Je 1 '51

Transformers to boost or buck voltage; engineering reference sheet. diags Elec World 135:130 Je 18 '51

Transmission problems. A. G. Collis. diags Electrician 146:1527-31 My 4 '51

Unionmelt voltage controls. J. A. Kratz. il diags Elec Eng 69:1102-4 D '50

Variable-voltage generation applied to a.c. power systems; discussion. Electrician 146:1051-2 Mr 30 '51

Your power system voltage can influence tv receivers. H. E. Campbell. il Elec World 136:73-5 Jl 30 '51

VOLTAGE regulators

Adequate high-voltage equipment isolates trouble. R. R. Gobeli. il Factory Management 109:106-8 Je '51

Amplistat regulators for power rectifiers. M. J. Mulhern. bibliog il diags Gen Elec R 54:27-33 My '51

Dynamic characteristics of carbon-pile voltage regulators. R. L. Mills. diag Elec Eng 70:48 Ja '51

Feeder voltage regulators with ninety-nine percent accuracy. M. T. Reese. il Gen Elec R 54:48-50 S '51

Filament voltage regulator. diag Electronics 23:120+ N '50

General theory of voltage stabilizers. J. J. Gilvarry and D. F. Rutland. diags R Sci Instr 22:464-8 Jl '51

Low-power alternating voltage stabilizer. D. J. R. Martin and A. J. Maddock. il diag J Sci Instr 28:1-3 Ja '51

Precision regulated high voltage supplies. W. A. Higinbotham. diags R Sci Instr 22:429-31 Je '51

Precision selector for voltage-regulator tubes. O. B. Rudolph. diag R Sci Instr 21:497-8 My '50; Abstract. Electronics 24:174+ Ja '51

Single-step voltage regulator application. R. W. Schlie. diag Elec Eng 70:337 Ap '51

Stability of voltage regulators. F. E. Bothwell. diag Elec Eng 69:1090 D '50

Stable electronic voltage regulator. P. G. Sulzer. bibliog diags Electronics 23:162+ D '50

Static magnetic regulators in the power generation field. W. A. Hunter. il diags Power Eng 54:66-71 D '50

Use of the compensator on station-type voltage regulators. D. R. Samson and H. O. Simmons, jr. diags Gen Elec R 54:43-7 S '51

Variations in extinction voltages of glow-discharge voltage-regulator tubes. F. A. Benson. bibliog J Sci Instr 28:186 Je '51

Voltage regulators. J. E. Williams. diags Radio & Tv N 46:68-9+ S '51

Wide-range voltage regulators. J. Houle. diags Electronics 24:202+ Ag '51

Manufacture

Regulator parts mass-produced in progressive dies; Ford generator regulators. A. Ensign. il Iron Age 167:114-16 Mr 15 '51

Testing

Conveyorized testing of generator regulators. R. Smith. il diag Automotive Ind 104:40-3 My 1 '51

VOLTMETERS

Frequency compensation of a-c instruments. J. H. Miller. diag Elec Eng 70:494-7 Je '51

Testing

Calibration of a.c. instruments. F. A. Benson. diags Electrician 146:1118, 1535 Ap 6, My 4 '51

VOLTMETERS, Vacuum tube

D-c vtvm with two-stage feedback. L. Fleming. diag Electronics 24:181+ Ap '51

Electronic a.c. voltmeter. L. Fleming. il diags Radio & Tv N 45:56-7+ F '51

Instantaneous peak voltmeter. M. W. Tobin and others. diags R Sci Instr 22:189-90 Mr '51; Abstract. Electronics 24:126+ Je '51

Sensitive a-c vtvm. L. Fleming. diag Electronics 23:122+ D '50

Tv test equipment for outside service work. M. B. Long. il diags Radio & Tv N 46:64-5+ S '51

V.t. voltmeter/S-meter for the ham shack. P. S. Rand. il diag Q S T 35:48-51 Ag '51

Voltmeter-ammeter for determining characteristics of nonlinear devices. F. J. Lingel. il diags Electronics 24:240+ Mr '51

VOLUME

Free volume for rigid sphere molecules. R. J. Buehler and others. il diags J Chem Phys 19:61-71 Ja '51

Nomograph for the volume of cones or pyramids; reference book sheet. C. P. Nachod. diags Product Eng 22:209 My '51

Volume flow of asphalt. M. Reiner, P. J. Rigden and E. N. Thrower. bibliog diags Soc Chem Ind J 69:257-60 S '50

VOLUME, Specific. See Specific volume

VOLUMETRIC analysis

Acid-base titrations in glacial acetic acid; acid potassium phthalate as primary standard and behavior of crystal violet indicator. W. Seaman and E. Allen. bibliog Anal Chem 23:592-4 Ap '51

Acidimetric titration of alkali chloride and hydrochloride salts. T. Higuchi and J. Concha. Science 113:210-11 F 23 '51

Acidimetric titrations in the fluosilicic acid system. S. M. Thomsen. bibliog Anal Chem 23:973-5 Jl '51

Alphazurine G and some *N,N′*-substituted benzidines as redox indicators. R. N. Adams and E. M. Hammaker. bibliog Anal Chem 23:744-6 My '51

Amperometric titration of fluoride with lead. H. G. Petrow and L. K. Nash. bibliog Anal Chem 22:1274-7 O '50

Amperometric titrations with hexamminecobalt(III) chloride. H. A. Laitinen and L. W. Burdett. bibliog Anal Chem 23:1265-7 S '51

Amperometric titrations with *m*-nitrophenylarsonic acid. I. M. Kolthoff and R. A. Johnson. bibliog Electrochem Soc J 98:138-45 Ap '51

Analysis by permanganate titrations of 8-quinolinols. J. P. Phillips and F. J. O'Hara. Anal Chem 23:535-6 Mr '51

Analysis of mercuric ion-anion mixtures. J. B. Fernandez, L. T. Snider and E. G. Rietz. bibliog Anal Chem 23:899-900 Je '51

Argentometric amperometric titration of traces of chloride with the rotated platinum electrode as indicator electrode. I. M. Kolthoff and P. K. Kuroda. Anal Chem 23:1306-9 S '51

Behaviors of several compounds as indicators in lithium aluminum hydride titration of functional groups. T. Higuchi and D. A. Zuck. bibliog Am Chem Soc J 73:2676-9 Je '51

Coulometric determination of acid. W. N. Carson, jr. and R. Ko. bibliog Anal Chem 23:1019-22 Jl '51

Coulometric titration of 8-quinolinol. W. N. Carson, jr. bibliog diags Anal Chem 22:1565-8 D '50

Coulometric titrations with electrically generated ceric ion. N. H. Furman, W. D. Cooke and C. N. Reilley. diags Anal Chem 23:945-6 Jl '51

Coulometric titrations with externally generated reagents. D. D. DeFord, J. N. Pitts and C. J. Johns. bibliog diags Anal Chem 23:938-40 Jl '51

Determination of acid number of oils and resins in aqueous medium. G. Narsimhan and S. A. Saletore. bibliog Anal Chem 23:1315-17 S '51

Determination of aconitic and itaconic acids. K. Lauer and S. M. Makar. Anal Chem 23:587-9 Ap '51

Determination of copper and iron in oils by amperometric titration. T. D. Parks and L. Lykken. bibliog Anal Chem 22:1503-5 D '50

VOLUMETRIC analysis—*Continued*

Determination of fluorine in monofluorinated organic compounds in air and water. J. M. Salsbury and others. bibliog il diag Anal Chem 23:603-8 Ap '51

Determination of formal oxidation potentials of ferric-ferrous and dichromate-chromic systems; selection of substituted 1,10-phenanthroline indicators for determination of iron at low acidity. G. F. Smith. bibliog Anal Chem 23:925-7 Je '51

Determination of mercury and bromides with 1,10-phenanthroline ferrous sulfate. M. E. Hall and G. M. Smith. bibliog Anal Chem 23:1181-3 Ag '51

Determination of metal oxide content in metallic stearates; magnesium and zinc soaps. P. N. Cheremisinoff. Paint Oil & Chem R 114:14+ F 15 '51

Determination of microgram amounts of calcium and magnesium in vanadium metal. J. Rynasiewicz and others. bibliog Anal Chem 23:668-9 Ap '51

Determination of nitric oxide and nitrogen tetroxide in admixture. G. C. Whitnack and others. bibliog diag Anal Chem 23:464-7 Mr '51

Determination of organic peroxides by reaction with ferrous iron. I. M. Kolthoff and A. I. Medalia. bibliog Anal Chem 23:595-603 Ap '51

Determination of parathion and *p*-nitrophenol in technical grade materials and in dust preparations. K. O'Keeffe and P. R. Averell. bibliog Anal Chem 23:1167-9 Ag '51

Determination of purity and water content of xanthates and dithiocarbamates; use of iodine reagents. A. L. Linch. bibliog Anal Chem 23:293-6 F '51

Determination of residual chlorine compounds. H. C. Marks and others. bibliog Am Water Works Assn J 43:201-7 Mr '51

Determination of selenium in metallic copper and pyritic materials. J. S. McNulty, E. J. Center and R. M. MacIntosh. bibliog diag Anal Chem 23:123-5 Ja '51

Determination of small amounts of silver in lubricating oils by amperometric and gravimetric methods. T. D. Parks and L. Lykken. Anal Chem 22:1505-7 D '50

Determination of small amounts of vanadium in steel by photometric titration. R. F. Goddu and D. N. Hume. bibliog il diag Anal Chem 22:1314-17 O '50

Determination of sulfur after combustion in a small oxygen bomb; rapid titrimetric method. R. K. Siegfriedt, J. S. Wiberley and R. W. Moore. bibliog il Anal Chem 23:1008-11 Jl '51

Determination of total chlorine in inorganic salts. W. A. James and R. E. Belser. Anal Chem 23:1037-8 Jl '51

Determination of traces of chloride; potentiometric titration to the apparent equivalence potential. I. M. Kolthoff and P. K. Kuroda. Anal Chem 23:1304-6 S '51

Determination of traces of mercury in copper alloys; titration with dithizone. W. L. Miller and L. E. Wachter. bibliog diag Anal Chem 22:1312-14 O '50

Determination of tungsten; titrimetric methods. bibliog Chem Age (Lond) 64:717-20 My 5 '51

Dipositive silver as an intermediate in coulometric analysis. D. J. Meier and E. H. Swift. bibliog Am Chem Soc J 72:5331-2 N '50

Estimation of anionic detergents in solution by Hartley titrations. K. Swanston and R. C. Palmer. bibliog Soc Dyers & Col J 66:630-2 D '50

François Descroizilles, the inventor of volumetric analysis. C. Duval. il J Chem Educ 28:508-19 O '51

High frequency titrations; mercurimetric determination of chloride. W. J. Blaedel and H. V. Malmstadt. Anal Chem 22:1410-12 N '50

High frequency titrations of calcium and magnesium ions in aqueous solution. F. W. Jensen, G. M. Watson and L. G. Vela. bibliog diag Anal Chem 23:1327-9 S '51

Improved procedure for Karl Fischer microtitrations. J. S. Wiberley. bibliog diags Anal Chem 23:656-9 Ap '51

Iodopermanganate determination of nitrites in the presence of nitric acid. R. C. Brasted. bibliog Anal Chem 23:980-3 Jl '51

Ions made outside cell offer new titration technique. diag Chem & Eng N 29:1493 Ap 16 '51

Karl Fischer reagent titration. J. Mitchell, jr. bibliog diag Anal Chem 23:1069-75 Ag '51

Luminol as a chemiluminescent indicator in acid-base titrations with a dark-chamber titrimeter. F. Kenny and R. B. Kurtz. bibliog Anal Chem 23:339-41 F '51

Method for the quantitative estimation of copper with particular reference to proofed jute fabrics. W. G. Macmillan and P. C. Das. J Ap Chem 1:132-5 Mr '51

Microdetermination of chromium in catgut sutures. H. V. Weiss, V. E. Siler and P. R. Buechler. bibliog Anal Chem 23:797-8 My '51

Microdetermination of sulfur by the Grote method; photometric detection of the titrimetric end point. R. N. Walter. bibliog diag Anal Chem 22:1332-4 O '50

Microdetermination of total phosphorus by amperometric titration. R. N. Boos and J. B. Conn. Anal Chem 23:674-5 Ap '51

Millicoulometry; the purported reduction of nitrate at the dropping mercury electrode. L. Meites. bibliog Am Chem Soc J 73:4115-19 S '51

Mono- and dichloramine determinations in water. D. B. Williams. bibliog Water & Sewage Works 98:429-33 O '51 (to be cont)

Oscillator to supply current for rectified radio-frequency acid-base determinations. G. G. Blake. diag Chem & Ind p59 Ja 27 '51

Polarographic investigations of reactions in aqueous solutions containing copper and cysteine (cystine); amperometric titration of traces of cysteine and cystine with cupric copper as reagent. I. M. Kolthoff and W. Stricks. bibliog Anal Chem 23:763-8 My '51

Potentiometric, amperometric, and polarographic methods for microanalysis. T. D. Parks and L. Lykken. bibliog diags Anal Chem 22:1444-6 N '50

Potentiometric analytical methods for hydrazino compounds; hydrazine sulfate. W. R. McBride, R. A. Henry and S. Skolnik. bibliog Anal Chem 23:890-3 Je '51

Potentiometric method for microdetermination of iron; extension of use of silver reductor. I. C. Wells. bibliog Anal Chem 23:511-14 Mr '51

Potentiometric titrations involving solutions of metals in liquid ammonia. G. W. Watt and J. B. Otto, jr. bibliog diags Electrochem Soc J 98:1-8 Ja '51

Potentiometric titrations; review of 1950. N. H. Furman. bibliog(91 ref) Anal Chem 23:21-4 Ja '51

Properties of ion-exchange resins in relation to their structure; titration curves. N. E. Topp and K. W. Pepper. Chem Soc J p3299-303 D '49

Quantitative analysis of mixtures of primary, secondary, and tertiary aromatic amines. S. Siggia, J. G. Hanna and I. R. Kervenski. bibliog Anal Chem 22:1295-7 O '50

Radiometric titration with radioactive silver as end-point indicator. A. Langer. bibliog diags Anal Chem 22:1288-90 O '50

Reductometric titration of antimony, copper, and tin with chromous ion. J. J. Lingane and C. Auerbach. bibliog Anal Chem 23:986-91 Jl '51

Some aspects of boron analysis; Midlands analytical methods discussion group. Chem Age (Lond) 64:517-20 Ap 7 '51

Some new indicators in various titrimetric processes. A. J. Nutten. bibliog Metallurgia 42:216-19, 271-3, 407-10 S-O, D '50

Some physicochemical studies on gallium(III) salt solutions. T. Moeller and G. L. King. bibliog J Phys & Colloid Chem 54:999-1011 O '50

Substituted benzidines and related compounds as reagents in analytical chemistry; 3 : 3′-dimethylnaphthidine as indicator in the titration of zinc with ferrocyanide. R. Belcher, A. J. Nutten and W. I. Stephen. Chem Soc J p 1520-1 Je '51

Substituted benzidines and related compounds as reagents in analytical chemistry; 3-methylbenzidine and 3 : 3′-diethylbenzidine as indicators in argentometry. R. Belcher and A. J. Nutten. Chem Soc J p547-8 F '51

VOLUMETRIC analysis—*Continued*

Surface and interfacial tension titrations of long chain quaternary salts in brom phenol and brom thymol blue solutions. E. L. Colichman. bibliog Am Chem Soc J 73:1795-8 Ap '51

Three-dimensional model for interpreting electrometric processes. C. N. Reilley, W. D. Cooke and N. H. Furman. bibliog diags Anal Chem 23:1226-9 S '51

Titration of acids in nonaqueous solvents. J. S. Fritz and N. M. Lisicki. bibliog Anal Chem 23:589-91 Ap '51

Titration of dissolved oxygen using acid-chromous reagent. H. W. Stone and R. L. Eichelberger. bibliog diags Anal Chem 23:868-71 Je '51

Titrimetry in glacial acetic acid. P. C. Markunas and J. A. Riddick. bibliog Anal Chem 23:337-9 F '51

Use of high frequency titrimeter; volumetric determination of beryllium. K. Anderson and D. Revinson. bibliog Anal Chem 22:1272-4 O '50

Uses of nonaqueous titrations; high-frequency methods as new analytical tool. Chem & Eng N 29:1618-19 Ap 23 '51

Volumetric analytical methods for organic compounds; review of 1950. W. T. Smith, jr. and R. E. Buckles. Anal Chem 23:66-73 bibliog(151 ref, p72-3) Ja '51

Volumetric determination of calcium and magnesium in leaf tissue. A. E. Willson. bibliog Anal Chem 22:1571-2 D '50

Volumetric determination of iron in aluminium alloys. G. Norwitz. Metallurgia 43:154 Mr '51

Volumetric determination of sulfate ion; using barium ion and a standard disodium dihydrogen ethylenediamine tetraacetate solution. J. R. Munger, R. W. Nippler and R. S. Ingols. bibliog Anal Chem 22:1455-7 N '50

Volumetric determination of thorium by high frequency titrimetry. W. J. Blaedel and H. V. Malmstadt. bibliog Anal Chem 23:471-5 Mr '51

See also

Acidimetry
Colorimetric analysis
Fluorometric analysis
Iodometry

Apparatus

Automatic coulometric titrations with externally generated reagents; applications to acidimetry and alkalimetry. D. D. DeFord, C. J. Johns and J. N. Pitts. bibliog diags Anal Chem 23:941-4 Jl '51

Automatic titrator speeds, eases lab work. il Food Eng 23:139 Ap '51

Constant-current supply for coulometric analysis. C. N. Reilley, W. D. Cooke and N. H. Furman. bibliog diags Anal Chem 23:1030-2 Jl '51

Dark-chamber titrimeter for chemiluminescent indicator titrations in colored solutions. F. Kenny and R. B. Kurtz. diag Anal Chem 23:382-3 F '51

High-frequency titration; a bridge method. J. L. Hall and J. A. Gibson, jr. bibliog il diag Anal Chem 23:966-70 Jl '51

High-frequency titrations; a 350-megacycle titrimeter. W. J. Blaedel and H. V. Malmstadt. bibliog il diag Anal Chem 22:1413-17 N '50

Karl Fischer titration aid. J. B. Whittum. diag Anal Chem 23:209 Ja '51

Millicoulometry; construction and operation of an apparatus for the determination of polarographic *n*-values. S. Bogan and others. diag Am Chem Soc J 73:1584-7 Ap '51

Re-examination of photometric techniques and their usefulness in autotitrators. R. H. Müller. Anal Chem 23:sup23A-4A+ S '51

Stannous chloride-iodine and zinc-ferrocyanide titrations; application of the dead-stop end point. D. F. Swinehart. bibliog Anal Chem 23:380-1 F '51

See also

Nitrometers

Study and teaching

Titers. P. W. West. J Chem Educ 28:437-9 Ag '51

VOLUMETRIC apparatus

Volumetric displacement flask for measurement of gas flow. S. D. Snyder and others. diag R Sci Instr 21:887 O '50

VOLUMETRIC solutions. See Solutions, Standard

VOLUNTARY chain movement

Service + national brands; Winston & Newell co. il Bsns W p 122+ S 8 '51

VORTEX motion

Rolling up of the trailing vortex sheet and its effect on the downwash behind wings. J. R. Spreiter and A. H. Sacks. bibliog il diags J Aeronautical Sci 18:21-32+ Ja '51

VORTEX tube

How the Ranque-Hilsch-vortex tube operates. F. Schultz-Grunow. diag Refrig Eng 59:52-3 Ja '51

Vortex tube today. R. C. MacGee, jr. il diags Power Eng 55:82-3 Mr '51

Bibliography

Bibliography of the vortex tube. W. Curley and R. MacGee, jr. Refrig Eng 59:166+ F '51

VOTING

Incentive to Vote plan undertaken by Seattle gas co. and unions. Am Gas J 173:35 D '50

Votes in the making; what are the factors that influence voters and decide elections? P. F. Lazarsfeld. Sci Am 183:11-13 N '50

VOTOČEK, Emil, d 1950

Sketch. S. Malachta. Chem & Ind p 113 F 10 '51

VOWELS

Calculation of vowel resonances, and an electrical vocal tract. H. K. Dunn. bibliog il diags Acoustical Soc Am J 22:740-53 N '50

Study of the vowel formants of well-known male operatic singers. C. S. McGinnis and others. diag Acoustical Soc Am J 23:440-6 Jl '51

VOYAGES around the world

Round-world cruise on the cuff; manufacturers stock ship and Captain Orsborne plugs products. il Bsns W p22-3 F 17 '51

VULCANIZATION

Direct reinforcement of natural rubber latex mixes; use of resorcinol-formaldehyde resins. J. Le Bras and I. Piccini. bibliog il Ind & Eng Chem 43:381-6 F '51

Frosting of rubber; its occurrence, cause, prevention and nature. J. T. Beaudry. Rubber Age 69:429-32 Jl '51

Optical examinations of anisotropy in vulcanizates. S. Oberto. bibliog il Ind & Eng Chem 43:393-8 F '51

Polyacrylic rubber vulcanization; abstract. S. T. Semegen. Chem & Eng N 29:3951-2 S 24 '51

Polysulfide polymers. E. M. Fettes and J. S. Jorczak. bibliog(69 ref) Ind & Eng Chem 42:2217-23 N '50

Rate of cure of present-day whole-tire reclaimed rubber. J. M. Ball and R. L. Randall. bibliog India Rubber World 124:53-7+ Ap '51

Retraction test for serviceability of elastomers at low temperatures. O. H. Smith and others. bibliog il Anal Chem 23:322-7 F '51

Strain data as a basis for comparing cures of rubber compounds. J. W. Schade. India Rubber World 123:311-14 D '50

Vulcanization characteristics of *N,N′*-dithioamines in furnace black stocks. M. C. Throdahl and M. W. Harman. bibliog Ind & Eng Chem 43:421-9 F '51

Accelerators

Accelerator-activators from amic acids. M. C. Throdahl, R. O. Zerbe and D. J. Beaver. Ind & Eng Chem 43:926-30 Ap '51

Color reactions between silica pigments and certain accelerators and antioxidants. R. F. Wolf and others. bibliog(p 104) Rubber Age 69:55-6 Ap '51

N-Cyclohexyl-N′, N′-diethylthiocarbamyl sulfenamide as an accelerator. G. Alliger and S. R. Harrison. bibliog India Rubber World 123:181-5 N '50

Determination of free sulphur in vulcanizates by a polarographic method. F. C. J. Poulton and L. Tarrant. J Ap Chem 1:29-33 Ja '51

VULCANIZATION—Accelerators—*Continued*
Vulcanization accelerators; evaluation of 4,5-dimethyl-2-mercaptothiazole derivatives. R. A. Mathes and F. D. Stewart. bibliog Ind & Eng Chem 43:1569-71 Jl '51

Analysis

Spectrophotometric analysis of accelerator-rubber mixtures. K. E. Kress. bibliog Anal Chem 23:313-22 F '51

W

WABASH river
How much pollution can a river take? Wabash river study. map Eng N 146:38-40 My 24 '51

WAGE adjustment clauses. See Trade agreements—Wage clauses

WAGE differentials
Contribution of manufacturing wages to regional differences in per capita income. F. A. Hanna. R Econ & Stat 33:18-28 F '51
Labor drives for equal pay. il Bsns W p 118+ D 16 '50
Salaries of office workers; intercity differences, early 1950. T. P. Kanninen. Mo Labor R 71:576-80 N '50

WAGE incentive plans. See Wage payment plans

WAGE payment plans
Escalator wage adjustments based on price of product. Mo Labor R 73:48-9 Jl '51
Establishing finishing operation rates with elemental time standards; Sargent & co. J. S. Kelly. il Metal Finishing 49:71-4 Mr '51
Incentive wage systems increase labor efficiency. J. G. Hall. il Min Cong J 37:42-4 Je '51
Job evaluation, a good way to fix fair wage scales. N. J. Goodfellow. Eng & Min J 152: 86-8 Ap '51
Keeping wages in line; administration policy, Alexander Smith, inc. il Mod Ind 21:50-2+ Je '51
New wage chronology series (cont). Mo Labor R 71:688-92; 72:174-83, 296-309, 400-4, 555-61; 73:49-56, 170-6 D '50, F-My, Jl-Ag '51
Payment by results in the building industry. Int Labour R 63:64-78 Ja '51
Piece-work incentive with day rate guarantee. H. B. Young. N A C A Bul 32: 556-67 Ja '51
Premium pay: an analysis of industrial practices. F. W. Mueller and J. C. Nix. Mo Labor R 73:148-51 Ag '51
Premium pay practices in private industry. J. A. Carey and others. bibliog 54p U.S. Bur. of labor statistics, Washington 25 '51
Timeduction twin incentive plan. R. R. Langee. diag N A C A Bul 32:391-402 D '50
Union and the wage incentive plan. R. C. Smyth. Management R 40:206-9 Ap '51
Wage administration in shop and office; AMA handbook. E. Ahern. Personnel J 29:346-7 F '51
Wage chronology supplements. Mo Labor R 71:473-8; 72:294-309, 405-9, 561-3, 676-8; 73: 56-7 O '50, Mr-Jl '51
What are standard practices? Cleveland's employers annual "bible" gives facts. Bsns W p43-4 S 15 '51

See also
Bonus system
Overtime
Payrolls
Profit sharing
Salesmen—Salaries and commissions
Trade agreements—Wage clauses
Vacations

Cost of living adjustments

Cost-of-living provisions in union contracts. Management R 40:274-5 My '51
Cost-of-living wage base; government policy will follow formula. Bsns W p64 D 30 '50
Dangers of wage adjustments based on cost of living index. W. C. Ballaine. Comm & Fin Chr 174:777 Ag 30 '51
Million get five cent cost-of-living boost. Bsns W p 116-17 Mr 10 '51
Recently bargained cost-of-living wage adjustments. N. M. Bortz and J. C. Nix. Mo Labor R 71:557-9 N '50
Snags ahead in wage contracts tied to price index. E. Clague. Comm & Fin Chr 173: 437+ Ja 25 '51
Wage escalators and the adjusted CPI. L. M. Kramer and J. Nix. Mo Labor R 72: 509-13 My '51
WSB's emergency policy may set U.S. wage pattern from here on out. Bsns W p21-2 Ag 11 '51
Wage stabilizers' dilemma; with text of Reuther's letter to Valentine. Bsns W p62-3 D 23 '50

See also
Trade agreements—Wage clauses

Cost of living bonus

See Trade agreements—Wage clauses

Group bonus

Group incentive plan for the office. O. R. Altum. N A C A Bul 32:1033-9 My '51
Moving average lets us use group incentive in job shop; E. C. Atkins and co. P. Broadstone. Factory Management 109:132-3 S '51

Guaranty of earnings

Meat issue; annual wage for packing-house workers. il Bsns W p30-1 Jl 28 '51
Stabilisation of dockworkers' earnings. A. A. P. Dawson. bibliog Int Labour R 63:241-65, 364-89 Mr-Ap '51
What union workers think of the Hormel plan. F. C. Smith. Personnel J 29:325-30 F '51

WAGE scales
Steel blazed a trail in wage administration. A. A. Schweighauser. N A C A Bul 33: 38-47 S '51

WAGE stabilization board
Defense strikes; first test; Board's handling of American Smelting dispute. Bsns W p32 Ag 4 '51
Dispute over disputes. Fortune 43:49-50+ My '51
History of wage stabilization board. G. Farmer. Oil Paint & Drug Rep 159:5+ Ap 16 '51
How should the government handle labor disputes in the emergency? I. Mosher; A. J. Hayes. Factory Management 109: 48F Ap '51
In quest of a pension formula; panel appointed. Bsns W p30-1 S 29 '51
Labor issue up to Truman. Bsns W p26 Ap 14 '51
Labor puts Truman on the spot. Bsns W p28 Ap 21 '51
Labor vs. mobilizers; what's involved. Bsns W p 19-20 Mr 10 '51
Labor walks out on mobilization. Bsns W p 19-20 F 24 '51
Labor's mobilization victory. Bsns W p 130 Mr 17 '51
Labor's still bargaining. Bsns W p 130-2 Mr 24 '51
Let WSB do it; employers willing to settle quicker. Bsns W p 138 Mr 17 '51
Mapping policy in disputes. Bsns W p30 O 6 '51
New labor boycott of WSB? Bsns W p32 Jl 14 '51
New Wage stabilization board. Mo Labor R 72:711-12 Je '51
No argument over wage controls. Bsns W p30+ My 19 '51
Pay stabilizers in trouble. Bsns W p 128 F 17 '51
Set up wage-control enforcement body. Eng N 147:59 Ag 9 '51
Stabilizing the stabilizers. Fortune 44:57-8 S '51
Starting to thaw the wage freeze. Bsns W p30-1 My 12 '51
Strikes mount; WSB names Peter Seitz its disputes officer. Bsns W p37-8 S 22 '51
Unions return. Bsns W p34-5 My 5 '51
Wage board sets up pension and welfare advisory committee. Nat Underw (Life ed) 55:1+ Ag 10 '51
Wage board stresses stabilization. Eng N 146:68 My 17 '51

WAGE stabilization board—*Continued*

Wage board wonders what it's for. Bsns W p 108-10 Ja 20 '51

WSB airframe unit planning hearings. Aviation W 55:17 Jl 2 '51

WSB fights flames. Bsns W p30 My 26 '51

WSB going back to work. Bsns W p30+ Ap 28 '51

Wage stabilization board lined up, to mark time. Bsns W p 102-4+ D 2 '50

WSB policy calls for flexible wage controls. Bsns W p88-91 F 3 '51

WAGE stabilization research office, Employer. See Employer wage stabilization research office

WAGE surveys

Making an area salary survey. L. M. Schwartz. Banking 43:37+ My '51

Survey speedup; BLS San Francisco office consolidates wage inquiries. Bsns W p 135-6 Mr 17 '51

WAGES

AMA handbook of wage and salary administration; tested compensation methods for factory, office and managerial personnel. M. J. Dooher and V. Marquis, eds. 412p $7.50 American management assn, 330 W. 42d st, New York 18 '50

Contribution of manufacturing wages to regional differences in per capita income. F. A. Hanna. R Econ & Stat 33:18-28 F '51

Do unions raise wages? D. Bell. Fortune 43: 65+ Ja '51

Tobin sets AEC-Savannah River wages. Eng N 146:23-4 F 15 '51

Utility wage rates to climb further. Elec World 136:119 S 10 '51

Value for your wage dollar. J. L. Otis. Am Gas Assn Proc 1950:97-100

See also

Bonus system
Executives—Salaries
Labor and laboring classes
Overtime
Payrolls
Pensions, Industrial
Profit sharing
Railroads—Wages
Salaries
Salesmen—Salaries and commissions
Wage payment plans

Economic aspects

Employment stability and income security. C. R. Daugherty. Ann Am Acad 274:39-46 Mr '51

Labor's share in the national income. L. R. Tripp. Ann Am Acad 274:47-56 Mr '51

Price pressure; there's no stopping it; earnings climb and cost of living follows; with graphs. Bsns W p38 F 10 '51

Real wages; a yardstick of progress. W. A. Patterson. Advanced Management 15:8-11 N '50

Wages and living costs; letter of Stanley H. Ruttenberg and reply. Nat City Bank p 123-6 N '50

See also

Wages—Regulation

Law

Bill would free many distributors from observing U.S. wage-hour law. Nat Pet N 43: 27 Je 20 '51

Costlier travel; ship-repair companies may have to pay higher for travel time. Bsns W p 118+ O 21 '50

Opinions expressed on Connally bill and its effect on oil marketers. Nat Pet N 43:17-18 Jl 4 '51

Travel is work. Bsns W p43-4 O 13 '51

Wage and hour law questions answered for local agents. W. J. Rogers. Nat Underw 54:32-5 O 19 '50

See also

Minimum wage

Regulation

Blows lid on wages way up; Johnston allows ten per cent boosts plus fringe benefits. Bsns W p 120+ Mr 3 '51

Building wage rises get priority. Eng N 146: 65 Je 28 '51

Case for immediate wage-price controls. E. A. Krauss. il Mag of Wall St 87:312-14+ D 30 '50

Ceiling pitfalls; payments made in violation of rules cannot be deducted. Bsns W p44+ Ap 21 '51

Changes in price-wage policy and administration. Mo Labor R 73:164-6 Ag '51

Claim for a £10 basic wage in Australia. J. E. Isaac. Int Labour R 63:149-77 F '51

Cost-of-living wage base; government policy will follow formula. Bsns W p64 D 30 '50

Dispute settlement and wage stabilization in World war II; condensed from Bulletin 1009. W. E. Chalmers and others. Mo Labor R 72: 136-40 F '51

Electrical storm; rival unions fight ten per cent formula. Bsns W p 136 F 24 '51

Escalator or lid? Fortune 43:37-8 Mr '51

Federal wage-price regulations; initial orders. Mo Labor R 72:282-3 Mr '51

Fringe policy. Bsns W p36 Ag 18 '51

General wage regulations six to ten. Mo Labor R 72:409-10 Ap '51

General wage regulations 11-12. Mo Labor R 73:57-8 Jl '51

Greater Brannan plan; ineffectiveness of wage controls. F. Morley. Barron's 31:3 Je 4 '51

Here are facts on WSB's fifth round catch up wage policy. Am Mach 95:147 Mr 5 '51

Higher wages allowed by ODM to lure labor into high-priority industries. Bsns W p36 Ag 25 '51

How do you think government wage regulations will affect advertising agencies and personnel? Adv Agency 44:53 S '51

Index control for wages; White House yields to G.M. formula. Bsns W p25 D 30 '50

Industry representatives' dilemma; NAM opposes annual productivity increases at W.S.B. hearing. Bsns W p25 Je 2 '51

Is industry prepared for a new War labor board? D. Scheinman. Personnel 27:165-9 N '50

Labor walks out on mobilization. Bsns W p 19-20 F 24 '51

Labor wants cost plus. Bsns W p30 Ag 4 '51

Let WSB do it; employers willing to settle quicker. Bsns W p 138 Mr 17 '51

Look out for trouble on merit increases. Factory Management 109:sup W3 S '51

National policy, by bargaining; union-management conference, called by Wage stabilization board. Bsns W p98-9 Ja 6 '51

O.K. on fringes. Bsns W p38 Jl 28 '51

Pay controls enter new phase; abstract. Management R 40:538-9 S '51

Pay freeze produces strikes; Chicago packing house trouble. il Bsns W p 124-5 F 10 '51

Pay stabilizers in trouble. Bsns W p 128 F 17 '51

Price and wage freeze; aims and limitations. Nat City Bank p 13-16 F '51

Problems and policies of dispute settlement and wage stabilization during World war II. U S Bur Labor Statistics Bul 1009: 1-380; pa 75c Supt. of doc. '50

SSB loosens up on salaries. Bsns W p24-5 S 22 '51

Salary stabilization board outlines basic rules. R. G. Gibbs. Chem & Eng N 29:3072 Jl 30 '51

Selective price-wage freeze; new business-market factor. E. A. Krauss. Mag of Wall St 87:540-2 F 24 '51

Sixth round pierces ten per cent formula. Bsns W p38+ Ag 11 '51

Soft wage control; new threat to economic stability. E. A. Krauss. Mag of Wall St 88: 388-90 Jl 14 '51

Stabilization board tackles construction wage problems. J. Gambatese. Eng N 146:23 F 15 '51

Starting a plant? here's wage rule. Aviation W 55:170 S 24 '51

Steering wheel for wages, no brake. Bsns W p 19-20 Je 16 '51

Stopgap wage-price frost falls on industry. G. Hardy. Iron Age 167:128-31 F 1 '51

Strategy of direct control in economic mobilization. J. K. Galbraith. R Econ & Stat 33:12-17 F '51

Strategy of limited control. J. K. Galbraith. Fortune 43:66-7 Mr '51

To assure profits controls must be studied. S. Fish. Manuf Rec 120:44-5 My '51

Tobin bars high-wage lure; government contractors must stick to area's prevailing wage scales. Bsns W p 134 F 17 '51

Unions pose differing slant on wage control. J. J. Butler. Ed & Pub 84:10 Je 9 '51

WAGES—Regulation—*Continued*

Wage and price freezes and thaws. N. C. Rockwood. Rock Prod 54:77+ Ap '51
Wage control guide. Factory Management 109:64C-64E Mr '51
Wage controls; with questions and answers as of March 8, 1951. Mod Ind 21:58-9+ Mr '51
Wage curbs coming; but not today. Bsns W p 19-20 N 4 '50
Wage panel majority sees no exemptions. Ed & Pub 84:11 Ag 25 '51
Wage policy and inflation. S. H. Slichter. Barron's 31:23-6 Ap 23 '51
Wage-price controls. A. L. Gitlow. Comm & Fin Chr 172:2442 D 21 '50
Wage-price follow up OK'd by WSB. Eng N 147:93-4 Ag 16 '51
Wage-price pegs put brakes on rising construction costs. Eng N 146:23 F 1 '51
Wage-price policy and inflation; with tabulations. J. Backman. Comm & Fin Chr 173:914+ Mr 1 '51
WSB policy calls for flexible wage controls. Bsns W p88-91 F 3 '51
WSB sheds light; General regulation no. five. Bsns W p 132+ F 10 '51
Wage stabilization formula. Nat City Bank p26-7 Mr '51
Wage stabilization; principles and problems. C. R. Daugherty. Advanced Management 16:2-4 F '51; Same cond. il Dun's R 59:19-21+ Ja '51
Wages and salaries; effects of Wage stabilization Regulation six. Burroughs Clearing House 35:11-12 Ag '51
Wages; restrict raises of salaried; new Regulation three. Iron Age 168:44 S 27 '51
Wages; when is a freeze? Fortune 43:62-5 Ja '51
Walter Reuther marches on. Fortune 44:41-2+ Jl '51
What about raises under present wage controls? L. Stessin. Mill & Factory 48:95-8 Je '51
What can be done about salary raises under WSB regulations; the rules and exceptions. H. J. Griswold and W. W. King. J Account 92:180-3 Ag '51
What wage and salary increases are permitted? B. Werne. Dun's R 59:17+ O '51; Excerpts. Advanced Management 16:26-7 Ag '51
What wage controls mean to the plumbing-heating contractor. Dom Eng 178:94+ S; 123+ O '51
What wage increases can be made under Regulation six, and how to calculate them. P. F. Jacobs. J Account 91:827-32 Je '51
What you can and can't do now to raise salesmen's pay rates. J. Shoenfeld. Sales Management 67:84+ Jl 1 '51
Where do you stand under the wage stabilization program? J. L. Ames. Ptr Ink 235:37-8 My 11 '51

See also
Employer wage stabilization research office
Wage stabilization board

Statistics

All manufacturing employment and wages; 1939-1950; tabulation. Iron Age 167:361 Ja 4 '51
All metal mining, employment and earnings, 1947-1950; tabulation. Iron Age 167:358 Ja 4 '51
Automobile industry wages, 1947-1950; tabulation. Iron Age 167:326 Ja 4 '51
Automotive parts; wage structure, March-April 1950. J. F. Walker. Mo Labor R 72:37-9 Ja '51
Baking industry; union scales, July 1, 1950. A. Y. Sherier. Mo Labor R 72:171-3 F '51; Same, with additional tables. U S Bur Labor Statistics Bul 1014:1-33; pa 25c Supt. of doc. '51
Changes in the distribution of manufacturing wage earners by straight-time hourly earnings, 1941-48. F. Meyers. R Econ & Stat 32:352-5 N '50
Coal employment and wages; bituminous production; tabulation. Iron Age 167:316 Ja 4 '51
Communications industries; earnings in 1948 and 1949. L. E. Lewis. Mo Labor R 71:584-6 N '50
Construction wages; tabulations. maps Eng N 146:139+ Mr 29 '51
Co-ordination of wage statistics in the Scandinavian countries and Finland. Int Labour R 63:279-86 Mr '51
Cotton and rayon textiles; earnings in April 1950; with tabulations. C. Rubenstein. Mo Labor R 71:466-70 O '50
Department and women's ready-to-wear stores; earnings, 1950. C. Rubenstein. Mo Labor R 72:165-7 F '51
Drugs, medicines, and cosmetics; plant workers' earnings, May 1950. A. N. Jarrell. Mo Labor R 72:50-1 Ja '51
Durable goods industries; employment and earnings per worker, 1947-1950; tabulation. Iron Age 167:358 Ja 4 '51
Earnings and hours. Published in Monthly labor review
Earnings in forging industry, 1935-1950; tabulation. Iron Age 167:340 Ja 4 '51
Earnings of production workers; chart and tables. Automotive Ind 104:80 Mr 15 '51
Effects of 75-cent minimum; men's seamless hosiery industry. F. W. Mohr. Mo Labor R 72:674-6 Je '51
Effects of 75-cent minimum; wood-furniture industry. C. Rubenstein. Mo Labor R 72:672-4 Je '51
Electric utilities; wage structure, Sept. 1950. L. E. Lewis. Mo Labor R 72:665-8 Je '51
Electrical machinery; employment and earnings, 1947-1950; tabulation. Iron Age 167:360 Ja 4 '51
Employment, average hours and earnings; reported by companies having more than 93 per cent of the total employment of the steel industry; tabulation. Iron Age 167:291 Ja 4 '51
Employment, hours, earnings, nonferrous metal manufacturing and finishing; tabulation. Iron Age 167:308 Ja 4 '51
Farm machinery wages, 1947-1950; tabulation. Iron Age 167:335 Ja 4 '51
Flour and cereal-preparations industries; earnings in May 1950. A. N. Jarrell. Mo Labor R 72:163-4 F '51
Footwear manufacture; earnings in Sept. 1950. F. W. Mohr. Mo Labor R 72:292-4 Mr '51
Gas utilities; wage structure, Sept. 1950. L. E. Lewis. Mo Labor R 72:668-72 Je '51
Hosiery manufacture; earnings in Oct. 1950. F. W. Mohr. Mo Labor R 72:396-8 Ap '51
How widespread are wage increases? Mill & Factory survey. Mill & Factory 47:67-70 D '50
Iron and steel foundries; employment, hours and earnings; tabulations. Iron Age 167:338 Ja 4 '51
Iron mining employment, wages; tabulation. Iron Age 167:315 Ja 4 '51
Local city truck driving; union scales, July 1, 1950. J. P. Corkery. Mo Labor R 72:40-2 Ja '51
Local-transit operating employees; union scales, Oct. 1, 1950. J. P. Corkery. Mo Labor R 72:283-6 Mr '51; Same, with additional tables. U S Bur Labor Statistics Bul 1019:1-8; pa 15c Supt. of doc. '51
Machine tool labor, 1947-1950; tabulation. Iron Age 167:349 Ja 4 '51
Machinery manufacture; earnings in Jan. 1951. C. Rubenstein. Mo Labor R 73:43-6 Jl '51
Metal product earnings, 1947-1950; tabulation. Iron Age 167:358 Ja 4 '51
Metalworking machinery; employment and earnings, 1947-1950; tabulation. Iron Age 167:363 Ja 4 '51
Metalworking, wages and hours, employment; tabulations. Steel 128:143 Ja 1 '51
New wage chronology series (cont). Mo Labor R 71:688-92; 72:174-83, 296-309, 400-4, 555-61; 73:49-56, 170-6 D '50, F-My, Jl-Ag '51
Nonferrous foundries, labor 1947-1950; tabulation. Iron Age 167:341 Ja 4 '51
Occupational wage survey, Atlanta, Georgia, March 1951. U S Bur Labor Statistics Bul 1031:1-35; pa 30c Supt. of doc. '51
Occupational wage survey, Boston, March 1951. B. J. Fahres. U S Bur Labor Statistics Bul 1033:1-46; pa 40c Supt. of doc. '51
Occupational wage survey, Chicago, April 1951. G. E. Votava. U S Bur Labor Statistics Bul 1034:1-44; pa 40c Supt. of doc. '51

WAGES—Statistics—*Continued*

Occupational wage survey; Philadelphia, Pennsylvania, May 1950. J. A. Wells. U S Bur Labor Statistics Bul 1008:1-58; pa 35c Supt. of doc. '50

Occupational wage survey; San Francisco-Oakland, California, Jan. 1951. J. L. Dana. U S Bur Labor Statistics Bul 1028:1-54; pa 50c Supt. of doc. '51

Occupational wages in Philadelphia and San Francisco. T. P. Kanninen. Mo Labor R 71:684-7 D '50

Office workers earn more in government jobs, study shows. Management R 40:531 S '51

Paper and allied products; hourly earnings, May 1950. A. N. Jarrell. Mo Labor R 72:288-90 Mr '51

Pressed metal earnings, 1947-1950; tabulation. Iron Age 167:341 Ja 4 '51

Printing industry; union scales, July 1, 1950. J. F. Laciskey. Mo Labor R 72:167-70 F '51

Radio broadcasting industry; earnings in Oct. 1949. L. E. Lewis. Mo Labor R 71:582-3 N '50

Railroad employment, earnings; wages for non-supervisory employees, 1947-1950; tabulation. Iron Age 167:328 Ja 4 '51

Railroad equipment employment; tabulation. Iron Age 167:326 Ja 4 '51

Refining of aluminum; employment and earnings, 1947-1950; tabulation. Iron Age 167:363 Ja 4 '51

Rise in hourly wage earnings for selected major groups of industries, January 1950 to April 1951. Survey of Cur Bsns 31:3-4 Jl '51

Salaries of office workers; intercity differences, early 1950. T. P. Kanninen. Mo Labor R 71:576-80 N '50

Salaries of office workers; Los Angeles, Calif. March 1950. T. P. Kanninen. Mo Labor R 71:470-3 O '50

Spendable weekly earnings of workers, 1941-1950; tabulation. Iron Age 167:363 Ja 4 '51

Statistics of wages in manufacturing. Int Labour R 63:223-6 F '51 [cont bi-monthly]

Steel employment, wages, hours and payrolls, 1947-1950, by months; monthly averages, 1936-1949; tabulations. Steel 128:142 Ja 1 '51

Structural steel fabrication; earnings, 1949 and 1950. A. N. Jarrell. Mo Labor R 72:564-5 My '51

Sugar refining industry; earnings in 1950. A. N. Jarrell. Mo Labor R 73:46-7 Jl '51

Transportation, earnings, 1947-1950; tabulation. Iron Age 167:363 Ja 4 '51

Trends in employee compensation. Survey of Cur Bsns 30:7-8+ O '50

Union wages and hours; building trades, July 1, 1950. J. F. Laciskey. U S Bur Labor Statistics Bul 1011:1-33; pa 20c Supt. of doc. '51; Excerpt. Mo Labor R 72:42-5 Ja '51

Union wages and hours; motortruck drivers and helpers, July 1, 1950. U S Bur Labor Statistics Bul 1012:1-27; pa 20c Supt. of doc. '51

Union wages and hours; printing industry, July 1, 1950. J. F. Laciskey. U S Bur Labor Statistics Bul 1018:1-33; pa 20c Supt. of doc. '51; Excerpts. Mo Labor R 72:167-70 F '51

Wage chronology supplements. Mo Labor R 71:473-8; 72:294-309, 405-9, 561-3, 676-8; 73:56-7 O '50, Mr-Jl '51

Wage rates, New York city; Canadian wage rates; tabulations. Eng N 146:137 Mr 29 '51

Wage structure motor vehicles and parts, 1950. U S Bur Labor Statistics Bul 1015:1-26; pa 20c Supt. of doc. '51

Wages in 13 supplementary occupations in Oct. 1950. Int Labour R 63:596-7 My '51

Wages in 22 countries in Oct. 1950; hourly wages of adult males in 30 occupations. Int Labour R 63:452-63 Ap '51

Women's and misses' dresses; earnings in Aug. 1950. F. W. Mohr. Mo Labor R 72:290-2 Mr '51

Wood-furniture manufacturing; earnings in Oct. 1950. C. Rubenstein. Mo Labor R 72:398-400 Ap '51

Woolen and worsted textiles; earnings in May 1950. C. Rubenstein. Mo Labor R 71:464-6 O '50

Work time required to buy food, 1937-50, in United States and 19 foreign countries; with technical notes on methodology. I. B. Kravis. Mo Labor R 72:143-51, 195-7 F '51

Workers' earnings in ferrous foundries, 1950. C. Rubenstein. Mo Labor R 71:693-4 D '50

See also

Wage surveys

Atlanta, Georgia

Occupational wage survey, Atlanta, Georgia, March 1951. U S Bur Labor Statistics Bul 1031:1-35; pa 30c Supt. of doc. '51

Australia

Claim for a £10 basic wage in Australia. J. E. Isaac. Int Labour R 63:149-77 F '51

Boston

Occupational wage survey, Boston, March 1951. B. J. Fahres. U S Bur Labor Statistics Bul 1033:1-46; pa 40c Supt. of doc. '51

Chicago

Occupational wage survey, Chicago, April 1951. G. E. Votava. U S Bur Labor Statistics Bul 1034:1-44; pa 40c Supt. of doc. '51

Great Britain

Earnings and wage rates; data from Ministry of labour gazette. Economist 159:588 O 7 '50

When the ice breaks; outlook for wage advances. Economist 159:677-8 N 4 '50

Latin America

Minimum wages in Latin America. J. Méndez. bibliog Int Labour R 62:116-40 Ag '50

Los Angeles

Salaries of office workers; Los Angeles, Calif., March 1950. T. P. Kanninen. Mo Labor R 71:470-3 O '50

Philadelphia

Occupational wage survey; Philadelphia, Pennsylvania, May 1950. J. A. Wells. U S Bur Labor Statistics Bul 1008:1-58; pa 35c Supt. of doc. '50

Occupational wages in Philadelphia and San Francisco. T. P. Kanninen. Mo Labor R 71:684-7 D '50

San Francisco

Occupational wages in Philadelphia and San Francisco. T. P. Kanninen. Mo Labor R 71:684-7 D '50

San Francisco Bay region

Occupational wage survey; San Francisco-Oakland, California, Jan. 1951. J. L. Dana. U S Bur Labor Statistics Bul 1028:1-54; pa 50c Supt. of doc. '51

Scandinavia

Co-ordination of wage statistics in the Scandinavian countries and Finland. Int Labour R 63:279-86 Mr '51

Sweden

Enquiry on equal pay in Sweden. Int Labour R 64:90-6 Jl '51

United States

Earnings and hours. Published in Monthly labor review

Hourly wages continue uptrend; 1948-1950; tabulation. Am Mach 95:141 Ja 22 '51

New wage chronology series (cont). Mo Labor R 71:688-92; 72:174-83, 296-309, 400-4, 555-61; 73:49-56, 170-6 D '50, F-My, Jl-Ag '51

Next threat of inflation; steel wages. Bsns W p21-2 O 13 '51

Oil workers pace sixth round. Bsns W p38+ S 29 '51

Raise for million workers covered by escalator contracts. Bsns W p 105-7 N 25 '50

Rubber may set sixth-round pay pattern. Bsns W p 108 Ja 20 '50

Steel common labor rates, 1915-1950; tabulation. Steel 128:143 Ja 1 '51

Trends in wages in 1950. F. W. Mueller. Mo Labor R 72:638-41 Je '51

Unions bid to match steel pay. Bsns W p64 D 23 '50

Utility pay still above U.S. average. Elec World News ed 135:6 My 14 '51

Wage chronology supplements. Mo Labor R 71:473-8; 72:294-309, 405-9, 561-3, 676-8; 73:56-7 O '50, Mr-Jl '51

WAGES—United States—*Continued*
Wage movements; analysis of 1939-49 experience. L. M. David and R. W. Benny. Mo Labor R 72:13-16 Ja '51
Wages and living costs; letter of Stanley H. Ruttenberg and reply. Nat City Bank p 123-6 N '50
Where do we go from here? Fortune 43:43 Ja '51
Your new wage round; how much? Bsns W p30 Ap 14 '51

WAGNER, Carl Wilhelm, 1901-
Dr C. Wagner to receive first Palladium medal award. por Electrochem Soc J 98: sup 113C Ag '51

WAGNER, Charles Frederick
Personalities in engineering. por Westinghouse Eng 11:129 Jl '51

WAGNER-MEERWEIN rearrangement
Addition reactions and Wagner-Meerwein rearrangements in the indoxyl series. B. Witkop and J. B. Patrick. bibliog Am Chem Soc J 73:713-18 F '51
Unusual twofold Wagner-Meerwein rearrangement. B. Witkop and J. B. Patrick. bibliog Am Chem Soc J 73:1558-64 Ap '51

WAKE island
Life on a by-passed atoll. W. S. Howard. il U S Naval Inst Proc 77:942-5 S '51

WALD, Abraham, 1902-1950
Theory of statistical decision. L. J. Savage. bibliog Am Stat Assn J 46:55-67 Mr '51

WALDEN, Paul, 1863-
Notes from the life of a chemist. P. Walden. por J Chem Educ 28:160-3 Mr '51

WALDEN inversion
Steroids and the Walden inversion; reduction of cholest-5-en-3-one with lithium aluminium hydride. C. W. Shoppee and G. H. R. Summers. Chem Soc J p687-9 F '50
Walden inversion in the formation of β-lactones; the configurations of the bromoacids of Kohler and Jansen. P. D. Bartlett and P. N. Rylander. bibliog Am Chem Soc J 73:4275-80 S '51

WALES
See also
Petroleum industry and trade—Wales

WALKER, Hiram,-Gooderham and Worts, ltd.
Stocks that should do well in war or peace; with comparative balance sheet items. Mag of Wall St 87:329 D 30 '50

WALKER vitamin products, inc.
Stock offered. Comm & Fin Chr 173:608 F 5 '51

WALKIE-talkies. See Radio telephone, Portable

WALKING
Electronic analysis of walking. il Electronics 24:212+ Je '51; Instruments 24:700 Je '51; Nat Safety N 63:29+ Je '51

WALL board
Factors determining the quality of wallboard; abstract. F. Kollmann. Paper Ind 32:1102+ Ja '51
Remodeled offices demonstrate uses of fibre board panels; Upson Strong-Bilt panels. il Arch Rec 110:163 Jl '51

Advertising

Fine feathers promotion for a quality market; United States gypsum co. interests dealers, builders and architects in dry wall construction. M. C. Carpenter. il Sales Management 66:60+ F 1 '51
We think of advertising as correspondence; Upson company panels. A. E. Calver. il Ptr Ink 234:38-40+ F 16 '51

Manufacture

Hard board from agricultural residues. R. V. Williamson and E. C. Lathrop. Mod Plastics 28:126+ Ap '51
Johns-Manville's wallboard mill at Natchez. E. P. McGinn. il Paper Tr J 132:22+ Ap 20 '51
Manufacture of Pacific veneer hardboard; Canadian forest products ltd. E. W. Wellwood. il Pulp & Pa of Can 52:96-9 S '51
Some properties and processing variables of wallboard pulp produced in Bauer refiners from pinus radiata; abstract. I. G. Hodder and A. W. Mackney. Pulp & Pa of Can 52:73 Jl '51

WALL coverings, Plastic
New decorating aid cuts maintenance costs. A. J. Vogel. il Burroughs Clearing House 35:30-1+ N '50

WALL Street
The Street, 1950. Barron's 30:1 N 27 '50
See also
New York stock exchange

WALLACE collection, London
Wallace collection. Chem & Ind p496 Je 30 '51

WALLBOARD. See Wall board

WALLS
Cavity wall features new low cost insulation. il Arch Forum 94:214+ Je '51
Cavity wall that can be insulated; technical guide. il diags Am Bld 73:50+ S '51
Comparative masonry costs for walls constructed of brick, block and clay tile; with cost data. C. C. McGinnis. Brick & Clay Rec 117:49+ D '50
Exterior walls for industrial buildings; abstract. F. M. Kraus. Power 94:204+ N '50
How you use clay products makes the difference; poor workmanship, cause of leaky masonry walls. diags Am Bld 73:119 My '51
Non-load-bearing walls from a building contractor's point of view; abstract. J. P. H. Perry. Eng N 146:36 F 15 '51
Porcelain enamel institute curtain wall research committee plans to develop porcelain enameled curtain wall panel. Eng N 147:51 Ag 23 '51
Solar irradiation of walls and windows, east and west; October-April; data sheet. F. W. Hutchinson. Heating-Piping 23:106-8 My '51
Solar irradiation of walls and windows; Southeast and Southwest; October-April 1; data sheet. F. W. Hutchinson. Heating-Piping 22:106-8 D '50
Structural clay masonry wall types, uses. il diags Am Bld 73:115-18 My '51
Twin walled dual insulating construction; Alcon. il diags Am Bld 72:136-7 D '50
Walls like these, if codes permitted, could cut apartment costs and speed erection. diags Arch Forum 93:116 D '50
See also
Foundations
Retaining walls
Sea walls

WALLS, Brick
Fire endurance of hollow-brick walls tested in panel furnace. il diags Brick & Clay Rec 118:46+ Je '51

WALLS, Concrete
AEC turns to walls of concrete, foam glass for Arco, Idaho reactor. il Bsns W p 138-40 S 22 '51
Concrete-wall surgery by mining methods. C. H. Vivian. il Comp Air Mag 56:123-6 My '51
Extra-heavy concrete shields cyclotron. il Eng N 147:65 Jl 26 '51
How would you stop this leak in a concrete wall? H. B. McDermid. diags Power Eng 55:87-8 Ap '51
Marietta building precast panel plant. il Concrete 59:17 S '51; Same cond. Rock Prod 54:119 S '51
Painted concrete masonry walls; Portland cement association general office building. il diag Concrete 59:5-8+ S '51
Partitions function as columns in scheme for apartment buildings; called cellular construction. P. Weidlinger. il plans diags Arch Rec 109:134-9 Ja '51
Precast beams used on Snoqualmie Pass snowsheds. il Concrete 59:34+ Ja '51
Sandwich walls precast for pulp mill. S. B. Roberts. il diags Eng N 146:32-4 F 22 '51
Tilt-up block walls insulate warehouse. il diags Eng N 146:28-9 My 17 '51
Winter concreting intrusion method combined on barge canal lock repair. il Eng N 146:32-3 Mr 22 '51
See also
Retaining walls, Concrete
Sea walls, Concrete

WALLS, Garden
Garden walls; better detail plate. K. R. O'Neal. il diags Am Bld 73:132-3 Ag '51

WALLS, Interior
Quick new interiors with insulation board. il diags Am Bld 72:90-3 N '50
Wall lighting. il diags Illum Eng 45:637-46 O '50
WALMER, Charles Richard, 1911-
Walmer to head hygiene group. J. F. McMahon. Safety Maint & Prod 101:52 F '51
WALSH-HEALEY act. See Minimum wage
WALTER, Jean
Private Point four in Morocco. H. Solow. por Fortune 44:107-11+ S '51
WALTHER equation
Studies in Newtonian flow; the dependence of the viscosity of liquids on temperature. A. K. Doolittle. J Ap Phys 22:1031-5 Ag '51
WANKIE colliery company, limited
Statement by the chairman. R. Foot. Economist 160:50 Ja 6 '51
WANS, Oswald, 1879-1951
Sketch. por Engineering 171:196 F 16 '51
WAR
Case against preventive war. A. D. Sullivan. il U S Naval Inst Proc 77:700-7 Jl '51
Principal mineral strategic problems in a conflict between East and West. E. Just. maps Eng & Min J 152:80-4 Je '51
Roads will be our mainstay in transportation during war. A. de Seversky. Roads & Eng Constr 89:108-9+ F '51
Russia's new kind of war. B. Anderson. il U S Naval Inst Proc 76:1170-81 N '50
This thing called war. R. Hargreaves. il U S Naval Inst Proc 77:860-7 Ag '51
World asks: will armies march? Bsns W p 149-50+ Ap 14 '51
See also
Advertising and war
Aeronautics, Military
Air raids
Biological warfare
Communication, Military
Military engineering
Munitions
Peace
Petroleum industry and trade—War problems
Railroads in war
Rapid transit in war

Social aspects

Family adjustments to war separation and reunion. E. Boulding. Ann Am Acad 272:59-67 N '50
WAR, Ethics of. See International ethics
WAR, Maritime
See also
Submarine warfare
WAR and labor. See World war, 1939-1945—Labor problems
WAR and politics
War, politics, and the military. W. R. Kintner. il U S Naval Inst Proc 77:128-33 F '51
WAR casualties. See Korean war—Casualties
WAR correspondents
Communications lack hit by war writers. Ed & Pub 83:12 O 21 '50
8th army censors subject press to court-martial; with text of 8th army censorship rules. Ed & Pub 84:7-9 Ja 13 '51
Korea correspondent interviews Gen. Chiang. Ed & Pub 83:39 D 2 '50
Marine scribes work alongside press in Korea. S. A. Jaffee. Ed & Pub 84:55 Ja 20 '51
Military censorship imposed by MacArthur. il Ed & Pub 83:11 D 23 '50
Moore of AP was shot while aiding wounded. Ed & Pub 83:13 N 4 '50
13th reporter loses life in Korean war. Ed & Pub 84:16 F 17 '51
War writers wander in search of front. Ed & Pub 83:7+ D 9 '50
War's a nervy affair. F. Sparks. Ed & Pub 84:14+ F 3 '51
Welcome back, Yates. Ed & Pub 83:20 D 30 '50
WAR criminals. See World war, 1939-1945—War criminals
WAR damage corporation
Government war damage insurance; revival of War damage corporation. L. L. Vance. Comm & Fin Chr 172:2538+ D 28 '50
Statement before Senate committee on war damage corporation activation. E. T. Delaney. Weekly Underw 164:1096-7 Ap 28 '51
U.S. Chamber of commerce backs reactivation of War damage corp. East Underw 51:32 O 27 '50
War risk policy; Congress rushes bill to reactivate War damage corp. Bsns W p30+ D 30 '50
WAR finance
Defense of the dollar; pay-as-you-go program. M. S. Eccles. Fortune 42:78-81+ N '50
Taxes and the chemical industry; World war II tax amortization revived. R. A. Irwin. Chem & Eng N 29:2369-72+ Je 11 '51
WAR gases. See Gases, Asphyxiating and poisonous
WAR labor board, National. See National war labor board
WAR measures
Arms and the price system. Fortune 42:80-3+ D '50
Business week reports to executives on how to live with controls. Bsns W p 113-20 F 17; 77-8+ F 24 '51 (reprints 20¢)
Businessman's responsibilities in rearmament. E. L. Lindseth. Mech Eng 73:208-10+ Mr '51
Changes in administration of defense mobilization program. Mo Labor R 72:694-6 Je '51
Changes in price-wage policy and administration. Mo Labor R 73:164-6 Ag '51
Emergency week; first steps. Bsns W p 19 D 16 '50
How bad is it in Washington? it isn't the controls, it's the confusion. Bsns W p 19-21 O 6 '51
Letdown? it's time for a step-up. Fortune 44:63-4 Ag '51
Long lead time. Fortune 43:81-2 Je '51
Mobilization fight; Congress vs. Truman. Bsns W p 19-20 My 5 '51
Now; more mobilization. il Bsns W p 19-20 D 9 '50
Outlook changes. il Fortune 43:13-14 Ja '51
People at the controls. L. Stafford. Banking 43:36-7+ N '50
Response to defeat; mobilization start. il Bsns W p 19-23 D 23 '50
Worldwide shortcomings of wartime planning. F. A. Hayek. Comm & Fin Chr 173:1633+ Ap 19 '51
See also
Defense production act
Highway administration—War measures
Industrial mobilization
Requisitioning
Street traffic—War measures
WAR memorials
Veteran's memorial building, Detroit. il plans Arch Rec 109:102-7 Ja '51
War memorial to serve many purposes; Onondaga County war memorial; with cost data. F. S. Merritt. il plan diags Eng N 145:39-43 N 16 '50
WAR news
Communications setup in Korea fabulous. J. L. Collings. Ed & Pub 84:17 Je 23 '51
Do your readers know how to evaluate news? T. S. Irvin. Ed & Pub 84:46 Ja 6 '51
Two more wars glue attention of press. Ed & Pub 83:9 N 11 '50
U.P. tells of speed in news from Korea. Ed & Pub 84:140-1 Ap 28 '51
See also
Newspapers—War news
WAR photographers
Desfor tells brother about Korea problems. J. L. Collings. Ed & Pub 83:48 N 11 '50
See also
Noel, Frank
WAR photographs
Korean war photos shown at New York museum. J. L. Collings. Ed & Pub 84:56 F 24 '51
WAR profits
Profits and costs in a gray-war economy. J Account 91:385-6 Mr '51
WAR risk insurance. See Insurance, War risk
WAR veterans. See Veterans
WAREHOUSEMEN'S liability insurance. See Insurance, Warehousemen's liability
WAREHOUSES
Big-end-down piles in Jersey meadows save half-million cost for warehouse. il Eng N 146:30 Je 21 '51
Collapsible wood pallets speed tire handling in warehouse. F. C. Sturtevant. il Nat Pet N 43:64+ Je 6 '51

WAREHOUSES—*Continued*

- GF's new system cuts distribution knots; transit warehouses reship to wholesalers. A. C. Schier. il Food Ind 22:2053-5+ D '50
- Industrial trucks mechanize new sales warehouse of Black & Decker. il Steel 129:76 Jl 23 '51
- Novel warehouse planned by Westinghouse electric corp. Steel 129:125-6 S 10 '51
- Palletized vertical storage revolutionizes warehouse operations; International harvester co. D. I. Brown. il Iron Age 167: 87-90 Ap 26 '51
- Productivity standards; warehousing; distribution study committee, Shell oil co. S. S. Tomlin. Advanced Management 16:19-22 Mr '51
- Revolution in the warehouse; new approach to handling methods; Lazarus department store, Columbus, Ohio. il diags Arch Forum 93:108-13 D '50
- Room for warehousing is big bonus of well-planned suburban location; Electronic Park. il diag Arch Forum 95:148-9 Jl '51
- Savings on service; Lazarus co.'s warehouse, Columbus. Bsns W p70-1 D 9 '50
- Streamlined handling of warehouse goods. il Mill & Factory 49:112-13 S '51
- Tilt-up block walls insulate warehouse. il diags Eng N 146:28-9 My 17 '51
- Unique bulk-food warehouse is bringing new savings in sugar storing; C.&D. refinery, Montreal. il Food Eng 23:46-8+ Jl '51
- Warehouse blues; how to chase them; Sharp & Dohme, West Point, Pa. warehouse; photo visit. Mod Ind 21:18+ Mr '51
- Wholesaler teaches a lesson in distribution; Temple of distribution of Zion cooperative mercantile institution. il Mod Ind 22:118 Ag '51
- Wholesaling the Mormon way. il Bsns W p 128-30+ Je 23 '51

See also

Freight houses

Fires and fire protection

- Fire protection for the Fortress. il Safety Maint & Prod 101:21-2 F '51

Lighting

- Graybar sets a light example. il Elec West 105:78-9 D '50
- Planning and control for seeing tasks. il Elec West 106:66 Ja '51

WARFARIN. See Rats—Extermination

WARM air heating. See Heating, Warm air

WARNER, John Christian, 1897-

- Warner to expand graduate program as Carnegie president. por Chem & Eng N 28:3980-2 N 13 '50

WARNER and Swasey company

- Toolbuilder keeps its hedge. Bsns W p56 My 12 '51

WARNER brothers pictures, inc.

- Plan approved. Comm & Fin Chr 173:865 F 26 '51
- Warners split; agrees to separate production and exhibition. Bsns W p92 Ja 6 '51

WARNER gear division. See Borg-Warner corporation—Warner gear division

WARNER-HUDNUT, inc.

- Expanding in cosmetics and drugs. Barron's 31:27-8 S 10 '51
- Stock offered. Comm & Fin Chr 173:1588 Ap 16 '51

WARREN brothers company

- Security I like best. J. L. Shea, jr. Comm & Fin Chr 173:1326 Mr 29 '51

WARREN petroleum corporation

- New markets opening up. Barron's 30:13-14 D 4 '50
- Security I like best. G. P. Caterer. Comm & Fin Chr 173:1426 Ap 5 '51

WARSHIPS

- Designing a warship. C. Lillicrap. diags Engineer 191:624-7 My 11 '51
- Naval construction in 1950. R. V. B. Blackman. il Engineer 191:29-31, 71-4, 87-9, pl 4 Ja 5-19 '51
- Naval gearing; war experience and present development. J. H. Joughin. diags Engineer 190:632-5 D 22 '50; Discussion. 190:657-8 D 29 '50
- Prospects of gas turbines in naval applications. R. T. Simpson and W. T. Sawyer. bibliog diags Mech Eng 72:712-16 S '50; Same. Marine Eng 55:52-6 My '50; Discussion. Mech Eng 73:338-46 Ap '51
- Review of post-war construction. M. E. Holbrook. il U S Naval Inst Proc 76:1230-5 N '50

See also

Airplane carriers
Submarine boats
Torpedo boat destroyers
Torpedo boats

Great Britain

- Royal navy to-day. il Engineer 191:2-4, 45-8 Ja 5-12 '51

Japan

- Dragon puts to sea. W. S. Howard. il U S Naval Inst Proc 77:830-3 Ag '51

Peru

- River gunboat Ucayali for Peruvian navy. il Engineering 171:353 Mr 23 '51

United States

- Extensive utilization of rubber and plastic elastomers in the U.S. navy. T. A. Werkenthin. il Rubber Age 68:435-42 Ja '51
- New steering equipment for Navy destroyer. il Marine Eng 56:68 Je '51
- Reactivated warships prove that mothballing worked. C. H. Sigel. bibliog il Iron Age 167: 85-9 My 24 '51
- Refloating the U.S.S. Missouri. A. E. Smith. il map U S Naval Inst Proc 77:180-95 F '51
- Trends in U.S. naval refrigeration. G. Thompson. il Refrig Eng 59:453-5 My '51
- U.S.S. Timmerman launched at Bath Iron Works; experimental destroyer. il Marine Eng 56:59 Jl '51

WASHERS (machinery)

- American standard plain washers; tables; data sheet. Mach 57:245 Mr '51
- Lockwasher joined to nut is free to rotate. il diags Product Eng 21:174 D '50
- What kind of product preview when top brass prospects come? Shakeproof preassembled nut and lock washer. J. O'Connor and J. S. Hawley. il Sales Management 66:64+ Mr 1 '51

WASHING

- Theory of washing. K. Swanston and R. C. Palmer. bibliog il diags Textile Inst J 42: P675-88; Discussion. P688-90 Ag '51

See also

Laundry

WASHING machines

- Dealer advisory board heads off sales tangles for Bendix. A. E. Cascino. Sales Management 66::73+ F 1 '51
- Special valves have synthetic rubber parts. Product Eng 21:104-5 N '50

Manufacture

- Duz doesn't lap; but washer drive does. L. Gross. il Am Mach 94:137 D 11 '50
- Forming washing machine legs on a transfer type press. A. E. Sweet. il Mach 57:177-80 N '50
- Maytag takes on porcelain enameling. il plan Cer Ind 55:52-5 D '50
- Molded plastic and fiberglass conserve metals in washing machines; Apex electrical mfg. co. il Steel 128:120+ My 7 '51

Rating

- Automatic washing machines. il Consumers Res Bul 27:5-7 Ap '51

Testing

- Efficiency rating of washing machines. H. J. Wollner and A. I. Anderson. Am Dyestuff Rep 40:337-8 My 28 '51

WASHING machines (for metal parts)

- Air operated small parts washer. il Bus Transportation 30:44 Mr '51
- Thorough washing insures clean cylinder heads; Studebaker corp. F. D. Foreman and E. B. Rogers. il Steel 129:102 S 24 '51

WASHINGTON, D.C.

- It's moving day in Washington; dispersal program. Bsns W p34 F 17 '51
- One city's traffic solution; decentralization project. map Bsns W p26 D 2 '50

WASHINGTON, D.C.—*Continued*

Planning the national capital; objectives and problems of attainment. U. S. Grant, 3d. Am Soc C E Proc 77 [no 64]:1-9 Ap '51

Plans shown for decentralization of government bureaus. V. B. Smith. Eng N 145:32 D 7 '50

Washington, D.C.; capital of the western world. il Bsns W p42-4+ F 24 '51

See also

Retail trade—Washington, D.C.

Bridges

Record swing span characterizes South Capitol Street bridge. H. J. Engel. il map diags Civil Eng 21:1-5 Ja '51

Rapid transit

Better service asked. Bus Transportation 30:56+ Jl '51

Senate building

U.S. Senate gets new copper roof. il diags Sheet Metal Worker 42:66+ D '50

WASHINGTON (state)

See also

Hydroelectric plants—Washington (state)

Irrigation—Washington (state)

WASHINGTON, Mount

Gas turbine icing tests at Mount Washington, N.H. P. M. Bartlett and T. A. Dickey. il plan S A E J 59:25-8 Ja '51

WASHINGTON award

Edwin Howard Armstrong to receive Washington award. Midwest Eng 3:12 F '51

WASHINGTON county, Ohio

$25-million boundary dispute. il map Bsns W p 128-9 S 15 '51

WASHINGTON gas light company

Bonds offered. Comm & Fin Chr 174:278-9 Jl 23 '51

Offering to common stockholders. Comm & Fin Chr 173:1420 Ap 2 '51

Public utility securities. O. Ely. Comm & Fin Chr 173:1340 Mr 29 '51

WASHINGTON water power company

AP&L announces plan to sell WWP. Elec World 135:70 F 26 '51

Court turns down public utility deal. Bsns W p 128-9 Ap 28 '51

Idaho law, Washington bill aimed at WWP sale. Elec World News ed 135:12-13 F 5 '51

Injunction against sale is issued on Coast; SEC bows out. Elec World News ed 135:14 Mr 5 '51

Power fight dumped on SEC. Bsns W p 151 S 22 '51

Private interests trying to buy up Idaho facilities. Elec World News ed 135:20 Je 11 '51

Private vs. PUD. Bsns W p 104 Mr 10 '51

Sale of Washington Water Power stock to Chelan PUD is opposed. Elec World 135:44 Ja 1 '51

WASTE

Is there an American standard of waste? il Fortune 43:112-13+ My '51

Ohio Boxboard runs successful campaign to stop waste. il Paper Ind 33:408-10 Jl '51

Selling employees on waste control; abstract. Management R 40:142 Mr '51

Waste in the corrugated box shops. F. D. Long. Tappi 34:sup 111A-13A My '51

Waste prevention; case study from Britain; abstract. B. Cummings. Management R 40:483-4 Ag '51

Waste reduction. R. C. Sterley. Tappi 34:sup 108A-11A My '51

Why multiply your utility bills by a waste factor? J. D. Leonard. Chem Eng 58:112-13+ Ap '51

See also

Canneries—Waste
Conservation of resources
Dairy waste
Laundries—Waste
Metal waste
Paper mills—Waste
Salvage (waste etc.)
Scrap material
Scrap metal
Trade waste
Waste fuel
Waste heat
Waste paper
Wood waste
Wool waste

WASTE, Utilization of

Cull fruit, after juice processing, yields pulp and peel liquor. H. R. Murdock. Ind & Eng Chem 43:sup81A-2A+ My '51

Greater utilization of industrial waste urged as conservation step. J. Boyd and others. Chem & Eng N 29:3944-5 S 24 '51

Metal recovery by cation exchange. A. B. Mindler, M. E. Gilwood and G. H. Saunders. bibliog il diag Ind & Eng Chem 43:1079-81 My '51

Waste utilization and disposal systems; cost studies of evaporation and drying. W. D. Kohlins and E. L. Demarest. diags Chem Eng Prog 46:597-600 D '50

See also

Salvage (waste etc.)
Sulfite liquor

WASTE disposal. See Refuse disposal; Sewage disposal; Trade waste

WASTE fuel

Burning of calcium base sulfite liquor without auxiliary fuel. C. E. Rogers and R. S. Jolley. flow diag plans diags Paper Tr J 131:25-6+ N 16 '50; Abstract. Power 95:100-2 F '51

Report on sulphite waste liquor burning projects. Paper Ind 33:629 S '51

Sulphite liquor used as fuel. Eng N 146:37 Ja 4 '51

Waste felt scrap generates nearly cost-free steam. F. C. Messaros. diag Power Eng 55:115-16 F '51

WASTE heat

Diesel waste heat used by Swiss mill. il Textile World 101:149 Je '51

Heat used in drying paper can be evaluated and often recovered. H. R. Murdock. Ind & Eng Chem 42:sup81A-2A D '50

Recuperative system recovers heat for kiln use. diag Brick & Clay Rec 118:36 My '51

Using cooling water waste heat to heat and air condition a plant; Western blue print co. M. D. Pugh. il diags Diesel Power 29:50-2 Mr '51

WASTE heat boilers. See Boilers, Waste heat

WASTE paper

Contract plan of New York printers group builds income from waste paper. R. Savery. Inland Ptr 126:33-4 N '50

De-inking plant expansion includes major instrumentation; Fitchburg paper co. R. B. Wolf, jr. il Paper Tr J 133:112+ S 7 '51

Waste-paper shortage, United Kingdom. For Comm W 44:20 S 10 '51

Waste paper situation. C. S. Baker. Paper Tr J 132:98 F 23 '51

Waste paper; with waste paper grade definitions. C. S. Huestis. Paper Tr J 131:305-6 N 30 '50

WASTE products

Fibreboard products inc. turns sawmill waste into container materials. L. A. Lawrence. il Comp Air Mag 55:242-5 N '50

How West Coast brewery solved disposal problem; Lucky lager brewing co., Azusa, Calif. C. R. Havighorst. il diag Food Eng 23:142-3 Je '51

Metal recovery from former wastes. Mech Eng 73:331 Ap '51

1950 industrial wastes forum; pretreatment for recovery of usable products. Sewage & Ind Wastes 23:752-9 Je '51

Pickle liquor disposal can pay off. F. D. Jones. il Iron Age 167:88-91 Mr 8 '51

Wisconsin shows progress in sulphite waste liquor disposal. Paper Ind 33:499 Ag '51

See also

Bagasse
Bark
Blast furnace gas
Canneries—Waste
Chemurgy
Coal waste
Coke-oven gas
Corncobs
Cotton waste
Cottonseed
Farm produce—By-products
Flue dust
Flue gas
Lignin
Metal waste
Packing houses—By-products
Paper making—By-products
Rags
Rubber—Reclaiming
Salvage (waste, etc.)
Scrap metal
Sewage sludge
Slag
Smelter fumes
Straw
Sulfite liquor
Tailings
Trade waste
Waste, Utilization of
Waste paper
Wood waste

WASTE water. See Trade waste

WATCH straps

Regional manufacturer goes national; sells direct to retailers, advertises direct to public; Flex-Let corp. J. R. Storti. il Ptr Ink 233:27-9 N 3 '50

WATCHES

Elgin bows to the times as it updates style. il Bsns W p 146-8 S 15 '51

Watchmakers' and clockmakers' encyclopaedic dictionary. D. de Carle. 252p 30s N.A.G. press, 226 Latymer court, Hammersmith, London, W.6 '50

Manufacture

Coordinate design and measurement; Hamilton watch co. D. Hawks, jr. il diags Tool Eng 26:25-8 Ja '51

Testing

Determination of very small changes in rate over intervals of several days in mechanical timepieces. H. A. Bowman. il diags J Res Nat Bur Stand 45:218-22 S '50

Mainspring dynamometer. J. E. Hendricks. il Mech Eng 72:910-11 N '50

Recording motion of a watch balance wheel by watch-case reaction. E. C. Lloyd. il diag Instruments 24:154-5+ F '51

WATCHES, Automobile. See Clocks, Automobile

WATCHMAKERS

Robert Liner, watchmaker shop, Beverly Hills, Calif. il plan Arch Rec 110:120-1 Ag '51

WATCHMEN

Fire protection around the clock; importance of standard watchman service; abstract. Management R 40:369 Je '51

How sharp is your watchman? Mod Ind 22:97-8 Jl '51

WATER

Binary systems of water with dodecylammonium chloride and its N-methyl derivatives. F. K. Broome, C. W. Hoerr and H. J. Harwood. Am Chem Soc J 73:3350-2 Jl '51

Chemical and physical properties of ethanol-water mixtures. M. Bobtelsky. Chem Soc J p3615-17 D '50

Chemical characterization of catalysts; oxygen exchange between water and cracking catalysts. G. A. Mills and S. G. Hindin. bibliog Am Chem Soc J 72:5549-54 D '50

Concerted displacement reactions; the mechanism of acid-base catalysis in water solution. C. G. Swain. bibliog Am Chem Soc J 72:4578-83 O '50

Cryoscopic measurements in nitric acid; the solutes dinitrogen pentoxide and water; the self-dissociation of nitric acid. R. J. Gillespie, E. D. Hughes and C. K. Ingold. Chem Soc J p2552-8 S '50

Cryoscopic measurements in sulphuric acid; the solutes water and sulphur trioxide; the basic strength of water, and the acid strength of disulphuric acid. R. J. Gillespie. Chem Soc J p2493-503 S '50

Determination of purity and water content of xanthates and dithiocarbamates; use of iodine reagents. A. L. Linch. bibliog Anal Chem 23:293-6 F '51

Determination of water in sugar solutions by desiccation at room temperature. T. J. Mitchell. bibliog Chem & Ind p815-17 D 23 '50

Dielectric constant of water and the saturation effect. F. Booth. bibliog J Chem Phys 19:391-4 Ap '51; Correction. 19:1327-8 O '51

Distribution of several bivalent and trivalent metallic nitrates between water and *n*-hexyl alcohol at 25°. C. C. Templeton and L. K. Daly. Am Chem Soc J 73:3989-91 Ag '51

Distribution of the lower fatty acids between water and a variety of solvents. M. Davies and others. Chem Soc J p 1249-52 My '51

Effect of temperature on the thermodynamic properties and interfacial tension of water with some alkyl esters of monochloroacetic acid. J. J. Jasper and W. J. Mayer. bibliog Am Chem Soc J 72:4767-9 O '50

Efficiency of the primary photochemical process for halogens in water; the photochemical reaction of Mn(II) and Br_2. A. C. Rutenberg and H. Taube. Am Chem Soc J 73:4426-31 S '51

Efficiency of the primary photochemical process for halogens in water; the photochemical reaction of Mn(II) and Cl_2. A. C. Rutenberg and H. Taube. Am Chem Soc J 72:5561-4 D '50

Equilibria in the system boron trifluoride-water at 25°. C. A. Wamser. bibliog Am Chem Soc J 73:409-16 Ja '51

Ferric thiocyanate; the distribution of ferric thiocyanate between ether and water. J. Y. Macdonald, K. M. Mitchell and A. T. S. Mitchell. Chem Soc J p 1574-80 Je '51

Freezing-point diagram of the hydrazine-water system. T. C. H. Hill and J. F. Sumner. diag Chem Soc J p838-40 Mr '51

Heat capacity of the hydrazine-water system. E. W. Hough, D. M. Mason and B. H. Sage. Am Chem Soc J 72:5774-5 D '50

Heat of solution of halides, sulphuric acid, oxalic acid, sodium hydroxide, and urea in ethyl alcohol-water mixtures. M. Bobtelsky and R. D. Larisch. diag Chem Soc J p3612-15 D '50

Improved procedure for Karl Fischer microtitrations. J. S. Wiberley. bibliog diags Anal Chem 23:656-9 Ap '51

Ionization constants of β-alanine in water and isopropyl alcohol-water mixtures. M. May and W. A. Felsing. Am Chem Soc J 73:406-9 Ja '51

Magnetic shielding of the proton resonance in H_2, H_2O, and mineral oil. H. S. Gutowsky and R. E. McClure. bibliog il diag Phys R 81:276-7 Ja 15 '51

Methods for the determination of water. bibliog il diags Anal Chem 23:1058-80 Ag '51

Natural radioactivity of water. S. K. Love. bibliog Ind & Eng Chem 43:1541-4 Jl '51

Natural waters; a definition; abstract. R. W. Hess. Chem Eng 58:264-6 Jl '51

Near infrared absorption spectrum of liquid water. J. A. Curcio and C. C. Petty. diag Opt Soc Am J 41:302-4 My '51

Photographic study of surface-boiling heat transfer to water with forced convection. F. C. Gunther. il diags A S M E Trans 73:115-23 F '51

Ranges of high energy electrons in water. J. S. Laughlin and J. W. Beattie. bibliog diag Phys R 83:692-3 Ag 1 '51

Rate of evaporation in the determination of water. T. J. Mitchell. Chem & Ind p751-3 N 25 '50

Reactions of the cobaltic ion; the reaction of the cobaltic ion with water. C. E. H. Bawn and A. G. White. Chem Soc J p331-8 F '51

Saturated and compressed water; converting gpm to lb per hr.; data sheet. F. M. Kamarck. Power 95:150 My '51

Self-diffusion and structure of liquid water; measurement of self-diffusion of liquid water with deuterium as tracer. J. H. Wang. bibliog diag Am Chem Soc J 73:510-13 F '51

Self-diffusion and structure of liquid water; measurement of self-diffusion of liquid water with O^{18} as tracer. Jui Hsin Wang. bibliog Am Chem Soc J 73:4181-3 S '51

Solubility of water in diethyl ether at 25°. H. H. Rowley and W. R. Reed. bibliog Am Chem Soc J 73:2960 Je '51

Suggested structures of water in inert gas hydrates. W. F. Claussen. il J Chem Phys 19:259-60 F '51; Correction. 19:662 My '51

System ammonium fluoride-potassium fluoride-water at 25°. H. M. Haendler and A. W. Jache. Am Chem Soc J 72:4137-8 S '50

System oxalic acid-sodium hydroxide-water. W. H. H. Norris. diags Chem Soc J p 1708-15 Jl '51

Systems cobaltous nitrate-water-acetone and cobaltous nitrate-water-*t*-butyl alcohol at 25°. L. I. Katzin and J. R. Ferraro. bibliog Am Chem Soc J 72:5451-5 D '50

Transformation of water from covalent to electrovalent combination in formic acid-water mixtures. T. Yang. J Chem Phys 19:647-8 My '51

Vapor pressure of water above saturated lithium chloride solution. N. A. Gokcen. Am Chem Soc J 73:3789-90 Ag '51

Vapor pressure of water over phosphoric acids. B. J. Fontana. bibliog Am Chem Soc J 73:3348-50 Jl '51

WATER—*Continued*

Water, mysterious; common; strange; destroying; vital water. W. B. Walraven. Water & Sewage Works 98:253-7 Je '51

See also

Air conditioning equipment—Water requirements
Cooling water
Dehydration
Drinking water systems
Drying
Erosion
Feed water
Fire service (water supply)
Floods
Humidity
Hydraulic engineering
Hydraulics
Hydrolysis
Ice on rivers, lakes, etc.
Irrigation
Lakes
Moisture
Pumping
Rain and rainfall
Rivers
Rocks, Igneous—Water content
Sea water
Solution (chemistry)
Steam
Water supply and other headings beginning Water
Waterways
Waves
Wells

Analysis

Analytical instruments used in the modern water plant laboratory. S. K. Love. bibliog Am Water Works Assn J 43:725-35; Discussion. J. R. Baylis. 735-40 S '51

Colorimetric determination of aluminium in water using ammonium aurin tricarboxylate. A. C. Rolfe, F. R. Russell and N. T. Wilkinson. bibliog diag J Ap Chem 1:170-8 Ap '51

Determination of chloride in water; preparation and effect of mercuric nitrate reagent. F. E. Clarke. Anal Chem 22:1458 N '50

Determination of cyanides in sewage and polluted waters. I. Nusbaum and P. Skupeko. bibliog Sewage & Ind Wastes 23:875-9 Jl '51; Same. Metal Finishing 49:61-3 O '51

Determination of heavy water by mass spectrometer. B. W. Thomas. bibliog Anal Chem 22:1476-8 D '50

Determination of radon and radium in water. R. B. Jacobi. diags Chem Soc J supp no 2: S314-18 '49

Determination of residual chlorine compounds. H. C. Marks and others. bibliog Am Water Works Assn J 43:201-7 Mr '51

Determination of trace amounts of selenium in water. J. L. Lambert, P. Arthur and T. E. Moore. bibliog diag Anal Chem 23: 1101-6 Ag '51

Determination of water in pyridine homologues by the use of infra-red spectroscopy. E. A. Coulson, J. L. Hales and E. F. G. Herington. diag Chem Soc J p2125-8 Ag '51

Development of analytical methods, progress in 75 years. A. M. Buswell and L. A. Russell. il Ind & Eng Chem 43:597-8 Mr '51

Improved apparatus for determining organic nitrogen. D. B. Williams. il Water & Sewage Works 98:87-8 F '51

Improved dithizone field test for heavy metals in water. H. V. Warren and others. bibliog map Geol Soc Bul 62:609-17 Je '51

Mobile laboratory survey of the Miami river. B. M. McDill. il maps Sewage & Ind Wastes 22:1464-74 N '50

Mono- and dichloramine determinations in water. D. B. Williams. bibliog Water & Sewage Works 98:429-33 O '51 (to be cont)

Operation of a field laboratory unit in water pollution surveys. W. W. Sanderson. il Sewage & Ind Wastes 22:1475-81 N '50

Organic chemical compounds in raw and filtered surface waters. H. Braus, F. M. Middleton and G. Walton. diags Anal Chem 23:1160-4 Ag '51

Quick test determines dissolved solids. R. S. Robertson and M. F. Nielsen. il Power 95: 87+ F '51

Relation of b.o.d. to stream deoxygenation. W. E. Williams. bibliog map diag Sewage & Ind Wastes 23:1161-75 S '51; Abstract. Water & Sewage Works 98:400 S '51

System of balancing oxidation-reduction equations. J. F. Thomas. Water & Sewage Works 97:511-12 D '50

Test for traces of organic matter in water. A. I. Medalia. bibliog Anal Chem 23:1318-20 S '51

Third annual review of analytical chemistry. S. K. Love. bibliog(101 ref) Anal Chem 23: 253-7 F '51

Titration of dissolved oxygen using acid-chromous reagent. H. W. Stone and R. L. Eichelberger. bibliog diags Anal Chem 23: 868-71 Je '51

Volumetric determination of sulfate ion; using barium ion and a standard disodium dihydrogen ethylenediamine tetraacetate solution. J. R. Munger, R. W. Nippler and R. S. Ingols. bibliog Anal Chem 22:1455-7 N '50

See also

Water sampling

Bacteriology

Bacterial survey of streams and bathing beaches at Cleveland. J. S. Delos. map Sewage & Ind Wastes 22:1618-24 D '50

Bactericidal action of ozone; abstract. R. H. Leiguarda and others. Am Water Works Assn J 43:sup42+ Jl '51

Comparison of enterococci and E. coli as indices of water pollution. W. E. Lattanzi and E. W. Mood. bibliog Sewage & Ind Wastes 23:1154-60 S '51

Graphical approach to statistics; evaluation of bacterial density. C. J. Velz. Water & Sewage Works 98:66-73 F '51

Relative resistance of coliform organisms and enteric pathogens in the disinfection of water with chlorine. P. W. Kabler. bibliog Am Water Works Assn J 43:553-60 Jl '51

Survival of bacteria in high pH waters; abstract. M. H. Riehl and others. Am Water Works Assn J 43:sup54+ Mr '51

What a waterworks man should know about bacteriology. A. S. Richardson. bibliog il Munic Util 89:29-31+ Mr '51

Bound water

Exchange of water between hydrated cations and solvent. J. P. Hunt and H. Taube. bibliog J Chem Phys 19:602-9 My '51

Deactivation and deaeration

Estimation of dissolved oxygen in de-aerated water. J. Arnott and others. il diag Engineering 169:553-5 My 19 '50; Abstract. Power 95:78-9+ S '51

Hardness

Formation of scale from hard waters at temperatures below the boiling point. A. H. Howland and W. A. Simmonds. bibliog J Ap Chem 1:320-8 Jl '51

Quaternaries in hard water. E. W. Dennis. Soap & San Chem 27:117+ Mr '51

Heavy water

Critical temperatures, pressures and volumes of hydrogen, deuterium, and hydrogen deuteride. H. J. Hoge and J. W. Lassiter. bibliog J Res Nat Bur Stand 47:75-9 Ag '51

Exchange of deuterium oxide with bromodichloromethane and chlorodibromomethane. R. H. Sherman and R. B. Bernstein. Am Chem Soc J 73:1376-7 Mr '51

Infrared determination of methyl deuteride; application to analysis of deuterium oxide. T. L. Brown and R. B. Bernstein. Anal Chem 23:673-4 Ap '51

Isotopic exchange between D_2O and $NaBH_4$. P. R. Girardot and R. W. Parry. Am Chem Soc J 73:2368 My '51

Preparation and purification of hydrogen deuteride. A Fookson and others. bibliog diags J Res Nat Bur Stand 47:31-4 Jl '51

Reactions involving like-charged ions; the rate of disproportionation of uranium(V) in deuterium oxide. F. R. Duke and R. C. Pinkerton. Am Chem Soc J 73:2361-2 My '51

Vapor pressures of hydrogen, deuterium, and hydrogen deuteride and dew-point pressures of their mixtures. H. J. Hoge and R. D. Arnold. bibliog diag J Res Nat Bur Stand 47:63-74 Ag '51

Standards

Acceptable standards for natural waters used for bathing. C. R. Cox. Am Soc C E Proc 77 [No 74]:1-7 Je '51

Classifications and standards of water quality and purity; New York state water pollution control board. Am Water Works Assn J 42:1137-46 D '50

WATER—Standards—*Continued*

Progress report on water quality criteria; California water pollution control board. Am Water Works Assn J 42:1147-53 D '50

See also

Water supply—
Standards

Testing

Continuous odor monitor and threshold tester. H. H. Gerstein. il diags Am Water Works Assn J 43:373-7 My '51

Flasher device for continuous indication of conductivity. G. Knowles and others. diags Chem & Ind p700-1 Ag 18 '51

WATER, Distilled

Evaporators solve refinery's water problem; distilling Persian Gulf water. il diag Chem Eng 58:212+ Je '51

Preparation of distilled water as boiler feed water. C. H. Allen. il diags Chem & Ind p772-4 S 15 '51

Producing fresh water by the compression-distillation method. Marine Eng 56:73 O '51

See also

Sea water—Desalting

WATER, Underground

Ground water. A. N. Sayre. diags Sci Am 183:14-19 N '50

Ground-water movement controlled through spreading. P. Baumann. il diags Am Soc C E Proc 77[no 86]:1-38 Ag '51

Sewage reclamation by spreading basin infiltration. R. Stone and W. F. Garber. bibliog diags Am Soc C E Proc 77 [no 87]:1-20 S '51

Water movement induced by compaction of clastic sediments. R. A. Howard and C. E. Bleil. J Ap Phys 22:360 Mr '51

See also

Hot springs
Wells

Prospecting

Integrated geophysical and geological investigation of aquifers in glacial drift near Champaign-Urbana, Ill. J. W. Foster and M. B. Buhle. bibliog il maps diags Econ Geol 46:367-97 Je '51

Australia

Origin and salinity distribution of artesian water in the Adelaide Plains, South Australia. K. R. Miles. maps diags Econ Geol 46:193-207 Mr '51

Florida

Economic aspects of ground water in Florida. V. T. Stringfield and H. H. Cooper, jr. bibliog(46 titles) maps Min Eng 3:Trans 525-33 Je '51

Illinois

Integrated geophysical and geological investigation of aquifers in glacial drift near Champaign-Urbana, Ill. J. W. Foster and M. B. Buhle. bibliog il maps diags Econ Geol 46:367-97 Je '51

Michigan

Ground-water pollution in Michigan. N. Billings. Sewage & Ind Wastes 22:1596-600 D '50

New Mexico

Administration of the ground water law of New Mexico. J. H. Bliss. Am Water Works Assn J 43:435-40 Je '51

Oklahoma

Ground water in alluvial deposits in Oklahoma. S. L. Schoff and E. W. Reed. maps Econ Geol 46:76-83 Ja '51

Ontario

Ground water studies in Ontario. A. K. Watt. il maps Can Min J 71:169-71 N '50

WATER companies

Regulation

Relation of water utilities to state regulatory bodies. S. B. Eddy. Am Water Works Assn J 43:741-3 S '51

Securities

Recent financial data on telephone, transit, and water companies. Pub Util 47:50 Ja 4 '51 [cont monthly]

WATER conduits

Submersible hydro plants increase low-head output; hydraulic turbines mounted in conduits through the base of low overflow dams. diags Eng N 145:35-6 N 16 '50

See also

Aqueducts
Water pipes

WATER conservation

Feather River project authorized. Eng N 147:25 Jl 12 '51

Ground-water movement controlled through spreading. P. Baumann. il diags Am Soc C E Proc 77[no 86]:1-38 Ag '51

Industrial plants can conserve water; Fontana plant of the Kaiser steel corp. flow diag il Eng N 147:40-1 Jl 19 '51

Organization for a water conservation program. M. J. Shelton. Pub Works 82:72-4 Jl '51

Protection and conservation of the water resources of Pennsylvania. M. F. Draemel. il Franklin Inst J 251:323-32 Mr '51

Regulation of air conditioning and other refrigeration; committee report. Am Water Works Assn J 42:1111-19 D '50; Same. Heating-Piping 23:132-5 Ja '51; Same. Refrig Eng 59:60-2 Ja '51

Want to save dollars? quit wasting water; reclaiming used water, Solar aircraft co. il Eng N 147:47 Ag 30 '51

Water conservation is in the spotlight! how plumbing contractors can play a leading role. il Dom Eng 176:110-11 N '50

Water conservation program combats San Diego drought. Civil Eng 21:552 S '51

Water, water, everywhere, but not enough for comfort. W. V. Weir. il Refrig Eng 59:884-7 S '51

WATER consumption

Chicago water system serves growing population with decreased pumpage. W. W. DeBerard. il plan diag Civil Eng 20:699-703 N '50

Cost of refrigerative and other special service. E. L. Bean. bibliog Am Water Works Assn J 43:65-81 Ja '51

Determining future water requirements. C. C. Elder. Am Water Works Assn J 43:124-35 F '51

Increased water usage makes selection of water cooling equipment for re-use of water vital. H. E. Degler. Heat & Ven 48:130+ Ap '51

Planning expansions by forecasting public and industrial requirements. P. D. Cook. bibliog Am Water Works Assn J 43:585-90 Jl '51

Residential water use and family income. B. O. Larson and H. E. Hudson, jr. Am Water Works Assn J 43:603-11 Ag '51

Seasonal water demands in vacation areas. S. K. Keller. Am Water Works Assn J 43:694-9; Discussion. 699-704 S '51

See also

Air conditioning
equipment—Water
requirements
Water meters

WATER cooling. See Cooling of water

WATER distribution

Calgary's water supply and its operating problems. W. E. Robinson. map diags Munic Util 88:25-8+ O '50

Canada's oldest water-supply system; Saint John, N.B. W. R. Godfrey. il map Munic Util 88:22-4+ N '50

Chicago water system serves growing population with decreased pumpage. W. W. DeBerard. il plan diag Civil Eng 20:699-703 N '50

Design of main extensions of small size. D. R. Taylor. Water & Sewage Works 98:294-7 Jl '51

Distribution system problems. H. F. Wiedeman. Am Water Works Assn J 43:465-8; Discussion. 468-70 Je '51

Electrically operated valves control water distribution. W. W. Gentry. Pub Works 82:84-5 Je '51

Furnishing Chicago water to outlying municipal districts. L. D. Gayton. maps Am Water Works Assn J 43:539-44 Jl '51; Correction. 43:688 S '51

More water for Muskegon, Mich. A. J. O'Connor. il Pub Works 82:52-3 Ag '51

WATER distribution—*Continued*

Problems in water distribution; guided discussion at Canadian section, American water works association annual convention, Winnipeg. Munic Util 89:31-2 Jl '51

There's an easy way out of your pipe-network woes; pipeline-network analyzer at Binghamton, N.Y. M. S. McIlroy. map Eng N 147:35-6 Ag 30 '51

Unaccounted-for-water. H. E. Beckwith. Water & Sewage Works 98:341-3 Ag '51

Water-supply improvements for Canada's capital. map Munic Util 89:17-21+ F '51

See also

Aqueducts
Drinking water systems
Hydrants
Hydraulics
Pumping stations
Water conduits
Water hammer
Water pipes
Waterworks

Cost

Cost of refrigerative and other special service. E. L. Bean. bibliog Am Water Works Assn J 43:65-81 Ja '51

Water works system, Hallandale, Fla.; unit prices. Eng N 146:65 F 22 '51

Cross connetions

Elimination of cross connections requires continuous effort. R. Fowler. Civil Eng 21:96-7 F '51

Public relations first class; Milwaukee plumbing contractors' assn. back siphonage exhibit. il Dom Eng 178:102-3+ Jl '51

Tables, calculations, etc.

Use of alternating-current network calculator in distribution system design. M. V. Suryaprakasam and others. bibliog diags Am Water Works Assn J 42:1154-64 D '50

WATER drops. See Drops

WATER flow

Application of the analogy between water flow with a free surface and two-dimensional compresible gas flow. W. J. Orlin and others. bibliog il diags U S Nat Advisory Com for Aeronautics 1947:311-28 '50

Coefficient of friction and fire flow. D. R. Taylor. diag Water & Sewage Works 98:149-55 Ap '51

Exact analogy between free surface water flow and two-dimensional gas flow; abstract. V. G. Szebehely and L. F. Whicker. Mech Eng 73:516 Je '51

Experimental study of water flow in annular pipes. W. M. Owen. diag Am Soc C E Proc 77 [no 88]:1-12 bibliog(p 11-12) S '51

Flow of a flashing mixture of water and steam through pipes and valves. W. F. Allen, jr. bibliog A S M E Trans 73:257-63; Discussion. 263-5 Ap '51

Ground-water movement controlled through spreading. P. Baumann. il diags Am Soc C E Proc 77[no 86]:1-38 Ag '51

Investigations concerning flow conditions in a centrifugal pump, and the effect of blade loading on head slip. J. F. Peck. bibliog plan diags Inst Mech Eng Proc 164 no 1:1-15, pl 1-2; Discussion. 15-30 '51

Linear steady-state flow of oil and water. J. C. Calhoun, jr. diags Oil & Gas J 49:73 Ja 4 '51

Relative pipe roughness. H. H. Chenoweth and R. E. Leaver. diags Am Water Works Assn J 43:219-24; Discussion. M. S. McIlroy. 224-6 Mr '51

Sanitary engineering is short on fluid mechanics knowledge. T. R. Camp. Eng N 147:45-6 Ag 9 '51

Saturated and compressed water; converting gpm to lb per hr.; data sheet. F. M. Kamarck. Power 95:150 My '51

Ultrasonic method for measuring water velocity; abstracts. W. B. Hess and others. il diag Elec Eng 69:983 N '50; Mech Eng 72:911 N '50

Wind tides in small closed channels. G. H. Keulegan. bibliog diags J Res Nat Bur Stand 46:358-81 My '51

See also

Dams
Floods
Hydraulics
Run-off
Stream flow

WATER gages

How to clean boiler gage glass. A. Cannon. diags Power 95:142 My '51

WATER hammer

New method for bulk-modulus determinations. S. L. Kerr and others. bibliog il diags A S M E Trans 72:1143-54 N '50; Same. Pet Eng 22:D11-12+ S; D14+ N '50

Water hammer correctives. R. Bennett. il diags Water & Sewage Works 98:164-71 Ap '51

WATER heaters

Are your customers in hot water? worthwhile ideas to increase water heater business. il Dom Eng 178:108-9+ S '51

Formation of scale from hard waters at temperatures below the boiling point. A. H. Howland and W. A. Simmonds. bibliog J Ap Chem 1:320-8 Jl '51

Heat pump domestic water heater. G. G. Freyder. il Heat & Ven 48:77-80 Jl '51

Heat pump water heater. A. W. Ruff. il diags Refrig Eng 59:153-4 F '51

Hot water; Our health, our strength; booklet distributed by Gas appliance manufacturers association. Dom Eng 177:104 Je '51

How to eliminate rule-of-thumb in heating; domestic water heating. R. H. Weigel. diags Dom Eng 176:120+ N '50; 177:116+ Ja '51

Measures to avoid troubles in domestic hot water systems. T. W. Reynolds. diags Heat & Ven 48:73-7 O '51 (to be cont)

Report on residential heat pump water heater operation. il diags Edison Elec Inst Bul 18:379-81+ O '50

Two time winner tells all! Bell plumbing and heating co. il Dom Eng 177:99+ F '51

Water heater is king! at Deacon plumbing & heating co. il Dom Eng 176:98-9 D '50

Why won't hot-water tank heat water? diags Power 95:136+ Ap '51

See also

Electric water heaters
Gas water heaters
Hot water supply

Transportation

Paperboard packaging reduces shipping damage. W. J. Rusin. il Iron Age 166:93-4 N 9 '50

WATER heating

Cures heater troubles, saves money. E. H. Roper. il diag Power 94:94-5 N '50

WATER hyacinth

2,4-D eradicates water hyacinth. E. C. Greco. il Oil & Gas J 49:85 Ja 11 '51

WATER in the body

Methane, proportional counting method for the assay of tritium. C. V. Robinson. bibliog diags R Sci Instr 22:353-5 Je '51

WATER laws and legislation

Administration of the ground water law of New Mexico. J. H. Bliss. Am Water Works Assn J 43:435-40 Je '51

California pollution control legislation. L. W. Grayson. map Am Water Works Assn J 42:1133-6 D '50

Legal aspects of industrial waste. J. H. Murdoch, jr. Water & Sewage Works 98:267-9 Je '51

Water pollution by industry; a survey of state legislation and regulations. D. F. Othmer and others. Mech Eng 73:706-8 S '51

What the law says. M. Nord. Chem Ind 67:897-8 D '50

See also

Water rights
Waterworks—Laws and regulations

WATER level indicators

Remote control pays off for reservoir system. H. A. Evans. il map diag Elec World 134:110-11 D 4 '50

See also

Water gages

WATER level regulators

Control pump from water level to improve boiler operation. J. W. James. diags Heating-Piping 22:77-9 D '50

WATER measurement

Cubic feet, gallons, pounds, and tons of water in rectangular tanks; nomograph. Water & Sewage Works 98:R129 Ap '51

Free-flow discharge table for Parshall measuring flumes. N. W. Nester and G. C. Hanes. Water & Sewage Works 98:R130-1 Ap '51

Measuring flows by the orifice method. diag Water & Sewage Works 98:R38-9 Ap '51

WATER measurement—*Continued*

Practical methods for hydrant discharge measurements. P. S. Wilson. il Water & Sewage Works 98:R61-4 Ap '51

Remote control pays off for reservoir system. H. A. Evans. il map diag Elec World 134:110-11 D 4 '50

See also

Water meters

WATER meters

Fibre gaskets for meter couplings. M. B. Cunningham. Am Water Works Assn J 43:231-3 Mr '51

Maintenance of water-flood meters. H. O. Proske. il World Oil 132:156-7 Mr '51

Meter reading and commercial department operation. K. K. King. Am Water Works Assn J 43:705-12 S '51

Propeller type meters for main line metering. J. M. Montgomery. il diags Water & Sewage Works 98:176-8 Ap '51

Water meter symposium. Water & Sewage Works 97:449-50 N '50

Repair

Small meter shop. R. W. Esty. il Water & Sewage Works 98:R65-6 Ap '51

Testing

Meter maintenance costs. A. P. Kuranz. Am Water Works Assn J 43:689-93 S '51

WATER pipes

Cast iron water main cut in close quarters. il Eng N 146:46 My 17 '51

Dewatering mains with compressed air. A. C. King. Water & Sewage Works 98:R55 Ap '51

Experimental study of water flow in annular pipes. W. M. Owen. diag Am Soc C E Proc 77 [no 88]:1-12 bibliog(p 11-12) S '51

High speed laying of 78-inch pipe. il Pub Works 82:39 My '51

How we solved our digging problems. H. A. Gilbert. il Pub Works 82:50 Jl '51

Jeep-a-trench expedites water main work. R. Cappell. il Pub Works 82:43 S '51

Production line methods speed large Australian water pipeline. map Eng N 147:48 Jl 19 '51

River undercrossing at Peterborough. R. L. Dobbin. il Am Water Works Assn J 42:1083-6 N '50

Use of cascades at sharp elbows in water pipes. A. M. Binnie and D. P. Harris. il diags Engineer 190:232-3+ S 1 '50; Abstract. Product Eng 22:150-1 F '51

Ways to simplify water supply pipe sizing. diags Dom Eng 177:88-9+ My; 102-3+ Je '51

See also

Aqueducts
Hot water heating
Hot water supply
Pipe fittings
Pipe joints
Pipe laying
Plumbing
Water distribution
Water hammer
Waterworks

Cleaning

Chlorination maintains supply line capacity. L. A. Jackson and W. A. Mayhan. il Water & Sewage Works 98:248-52 Je '51

Corrosion

Control of corrosion. R. S. Weston. il Water & Sewage Works 98:R79-82 Ap '51

Corrosion and related problems in sea water cooling and pipe systems in the H. M. ships; abstract. I. G. Slater and others. Metal Prog 59:273-4+ F '51

Electrolysis in connected aqueducts. D. Hendrickson. diag Eng N 145:27-8 D 28 '50

Role of sodium silicate in inhibiting corrosion by film formation on water piping. L. Lehrman and H. L. Shuldener. bibliog il Am Water Works Assn J 43:175-88 Mr '51

Detection

Location of buried pipe and hidden leaks. H. Bernard. diags Water & Sewage Works 98:440-1 O '51

Freezing

Better way to prevent freezing of outdoor water pipes. Chem Eng 57:136 D '50

Freezing of water in exposed pipelines. T. M. Riddick and others. bibliog diags Am Water Works Assn J 42:1035-48 N '50; Same. Tappi 34:sup24A+ S '51

How to prevent pipeline freezing; an interview with T. M. Riddick. diags Eng N 145:38-41 N 9 '50

Leakage

Freeport solves its water loss problem. G. V. Maurer. il Water & Sewage Works 98:380-1 S '51

Leak detection on sub-aqueous raw water intake line; Wyandotte, Mich. G. Hazey. il diag Water & Sewage Works 98:382-4 S '51

Location of buried pipe and hidden leaks. H. Bernard. diags Water & Sewage Works 98:440-1 O '51

Lining

Cement lining cast iron and steel fittings. M. J. Shelton. il Pub Works 82:46-7 F '51

Location

Payment for utility changes in state highways. H. B. Shaw. Am Water Works Assn J 43:496-504 Jl '51

Painting

Painting damp water pipes. Water & Sewage Works 98:R50 Ap '51

Sterilization

Chlorinating water mains. H. R. Bruah. Pub Works 81:65 N '50

Chlorination maintains supply line capacity. L. A. Jackson and W. A. Mayhan. il Water & Sewage Works 98:248-52 Je '51

Quaternary ammonium compounds for main disinfection. M. K. Tenny. Am Water Works Assn J 43:82-4 Ja '51

Tables, calculations, etc.

Design of main extensions of small size. D. R. Taylor. Water & Sewage Works 98:294-7 Jl '51

Flow of water in house service pipes; table. Water & Sewage Works 98:R38 Ap '51

Loss of head in pipes and fittings. diags Water & Sewage Works 98:R29-36 Ap '51

Pipe networks. A. W. T. Daniel. diags Engineer 192:261-3 Ag 31 '51

Relative pipe roughness. H. H. Chenoweth and R. E. Leaver. diags Am Water Works Assn J 43:219-24 Mr '51; Correction. 43:512 Jl '51; Discussion. M. S. McIlroy. 43:224-6 Mr '51

Testing

Coefficient of friction and fire flow. D. R. Taylor. diag Water & Sewage Works 98:149-55 Ap '51

WATER pipes, Concrete

Big precast tubes are sunk for power plant intake. il Constr Methods 33:49-51 Ja '51

Design of prestressed concrete cylinder pipe. H. F. Kennison. bibliog diag Am Water Works Assn J 42:1049-64 N '50

Leak detection on sub-aqueous raw water intake line; Wyandotte, Mich. G. Hazey. il diag Water & Sewage Works 98:382-4 S '51

Manufacture of pipe in Australia. F. L. Fitzpatrick. il Rock Prod 54:149+ F '51

Prestressed concrete pipe saves steel. il Pub Works 81:36 N '50

Prestressed 84-in. concrete pipe for Montreal waterworks intake; construction of prestressed tanks. D. A. Hopkins. il Munic Util 89:25-8 My '51

Tale of two pipelines parallel but 28 years apart; contrast in pipe laying methods. il map Eng N 146:34-6 Je 28 '51

Testing

Tests of prestressed concrete cylinder pipe. F. E. Seaman. il Am Water Works Assn J 42:1065-82 N '50

WATER pollution

Acceptable standards for natural waters used for bathing. C. R. Cox. Am Soc C E Proc 77 [no 74]:1-7 Je '51

Addition of sodium nitrate to a river prevents formation of hydrogen sulfide odor nuisance. H. R. Murdock. Ind & Eng Chem 43:sup79A-80A Ja '51

Adjustment of water treatment to pollution loading; panel discussion. H. A. Faber and others. flow diags Am Water Works Assn J 43:31-54 Ja '51

WATER pollution—*Continued*

Adsorption of *E. coli* on river and estuarine silts. C. M. Weiss. bibliog Sewage & Ind Wastes 23:227-37 F '51

Alkalinity-nitrogen relationships in sewage treatment. W. W. Eckenfelder, jr. and J. W. Hood. bibliog Water & Sewage Works 97:507-10 D '50

Anaerobic persistence of phenol and *o*-cresol. M. B. Ettinger, W. A. Moore and R. J. Lishka. bibliog diag Ind & Eng Chem 43: 1132-5 My '51

Anguillula in water supply. J. M. Caird. Water & Sewage Works 98:266 Je '51

California pollution control legislation. L. W. Grayson. map Am Water Works Assn J 42:1133-6 D '50

Changes in the Schuylkill river; abstract. S. Crawford and W. C. Ringer. Water & Sewage Works 98:448-9 O '51

Chemical oxygen consumed and its relationship to b.o.d. W. A. Moore and C. C. Ruchhoft. bibliog Sewage & Ind Wastes 23: 705-12 Je '51

City and county attack pollution on Long Island's southern shore. il Eng N 146:32-3 My 3 '51

Classifications and standards of water quality and purity; New York state water pollution control board. Am Water Works Assn J 42:1137-46 D '50

Coal washery wastes in West Virginia. L. E. Gillenwater. bibliog Sewage & Ind Wastes 23:869-74 Jl '51

Cold weather retards biological reactions in the natural purification of a stream. H. R. Murdock. bibliog Ind & Eng Chem 43: sup83A-4A+ Ap '51

Comparison of enterococci and E. coli as indices of water pollution. W. E. Lattanzi and E. W. Mood. bibliog Sewage & Ind Wastes 23:1154-60 S '51

Complex water-pollution problems solved by applied research; Southwest research institute stands guard for the Celanese corporation of America. il Eng N 146:44-5+ F 8 '51

Contamination of public waterways by radioactive waste. H. R. Murdock. Ind & Eng Chem 43:sup 113A-14A+ S '51

Control of pollution in the port of Baltimore; abstract. T. D. Conn. Mech Eng 73:588-9 Jl '51

Court upholds commission in pollution case. Rock Prod 54:130-3 F '51

Critical review of literature on the toxicity of industrial wastes and their components to fish. P. Doudoroff and M. Katz. Sewage & Ind Wastes 22:1432-58 bibliog(126 titles, p1453-8) N '50

Critical review of the literature of 1950 on sewage, waste treatment, and water pollution. W. Rudolfs and others. Sewage & Ind Wastes 23:555-642 bibliog(661 titles, p621-42) My '51

Cures for stream pollution. Bsns W p96-7 My 12 '51

Determination of cyanides in sewage and polluted waters. I. Nusbaum and P. Skupeko. bibliog Sewage & Ind Wastes 23:875-9 Jl '51; Same. Metal Finishing 49:61-3 O '51

Domestic and industrial water supply and pollution. L. R. Howson and others. bibliog Sewage & Ind Wastes 23:210-26 F '51

Du Pont uses the biodynamic method of stream evaluation. H. R. Murdock. Ind & Eng Chem 43:sup 129A-30A+ O '51

Engineering planning for handling mill waste waters. H. W. Gehm. Tappi 34:sup 120A-2A My '51

Evaluation of stream pollution. L. L. Hedgepeth. bibliog Am Water Works Assn J 43: 55-60 Ja '51

Federal law of 1948 recognizes the rights of the states in controlling pollution. H. R. Murdock. Ind & Eng Chem 43:sup99A-100A+ Je '51

Fiber losses at paper mills; effects on streams and sewage treatment plants. N. Nemerow. Sewage & Ind Wastes 23:880-3 Jl '51

Fight against water pollution continues. Eng N 146:26 Je 14 '51

First remove solids from your wastes. E. B. Besselievre and A. Anable. bibliog il diag Chem Eng 58:123-7 My '51

Fish or factories? excerpts from statements made before Wisconsin River pollution hearing. Paper Tr J 132:23-4+ Ja 5 '51

Flexibility in industrial pollution control administration. L. L. Hedgepeth. Sewage & Ind Wastes 23:1036-7 Ag '51

Flushing of tidal estuaries. B. H. Ketchum. maps Sewage & Ind Wastes 23:198-208; Discussion. A. M. Rawn. 208-9 F '51

Glass-grinding industry processes which can abate stream pollution. H. R. Murdock. Ind & Eng Chem 42:sup 111A-12A N '50

Graphical representation of load on polluted streams. K. Imhoff. map Sewage & Ind Wastes 22:1614-17 D '50

Ground-water pollution in Michigan. N. Billings. Sewage & Ind Wastes 22:1596-600 D '50

Heavy stream clearance spending seen. Eng N 145:29 N 23 '50

How industry can aid to prevent stream pollution; abstract. E. B. Besselievre. Mech Eng 73:590-1 Jl '51

How much pollution can a river take? Wabash river study. map Eng N 146:38-40 My 24 '51

How Texas controls water pollution. D. F. Smallhorst. il map Pub Works 82:46-8+ My '51

How the petroleum industry controls pollution caused by oil wastes. A. D. McRae. map diags Munic Util 89:56+ S '51

If your wastes need not be separated. H. L. Jacobs. il diags Chem Eng 58:127-31 My '51

Increases in syndet use mean bigger problems for sanitation. il Chem & Eng N 29:1635-6 Ap 23 '51

Industrial effluents. M. Lovett. Chem & Ind p813-16 S 29 '51

Industrial viewpoint. J. C. Radcliffe. Sewage & Ind Wastes 23:915-17 Jl '51

Industrial wastes. L. L. Hedgepeth. Water & Sewage Works 98:392-3 S '51

Informed public helpful in solving pollution problems. Chem & Eng N 29:1734-6 Ap 30 '51

Investigation of pollution of Port Gardner bay and Snohomish River estuary. E. F. Eldridge and G. T. Orlob. maps Sewage & Ind Wastes 23:782-95 Je '51

Legal and engineering factors in waste treatment. R. L. Smith and others. bibliog Pub Works 82:43-4 F '51

Legal aspects of industrial waste. J. H. Murdoch, jr. Water & Sewage Works 98:267-9 Je '51

Manufacturing chemists' association 5th conference on pollution abatement, New York, April 16-17; with abstracts of papers. Water & Sewage Works 98:308-11 Jl '51

Mellon institute bearish on abating mine wastes. Eng N 146:67 Je 21 '51

Method for decontaminating small volumes of radioactive water. R. A. Lauderdale and A. H. Emmons. Am Water Works Assn J 43:327-31 My '51

Michigan's industrial wastes control program. L. N. Rydland. Sewage & Ind Wastes 22: 1591-5 D '50

Mr Betts keeps it clean; control of stream pollution on Thames river. A. Matheson. il Munic Util 89:26-7+ Ag '51

Mobile laboratory for water pollution control. il Pub Works 82:48-9 Jl '51

Mobile laboratory survey of the Miami river. B. M. McDill. il maps Sewage & Ind Wastes 22:1464-74 N '50

Natural reduction of paper mill color in streams. M. A. Churchill. map Sewage & Ind Wastes 23:661-70; Discussion. W. D. Hanlon. 670-1 My '51

Nature of organic pollutants in relation to stream b.o.d. W. B. Bollen. bibliog Water & Sewage Works 98:277-81 Je '51

Northern Paper Mills stream improvement plan. flow chart Paper Tr J 132:12+ Ja 5 '51; Same. Paper Ind 32:1056-7 Ja '51

Ohio Valley Commission pioneers in regional stream cleanup program. E. J. Cleary. il Civil Eng 21:464-5 Ag '51

Operation of a field laboratory unit in water pollution surveys. W. W. Sanderson. il Sewage & Ind Wastes 22:1475-81 N '50

Paper industry and stream pollution. T. E. Brookover. Paper Tr J 131:20+ Ag 10 '50; Same abr. Pulp & Pa of Can 51:86-8 S '50

Paper industry leads cities in water pollution abatement. Chem & Eng N 29:899 Mr 5 '51

Pollution abatement and industrial water management. C. F. Hauck. bibliog il diags Chem Eng Prog 47:376-81 Jl '51

WATER pollution—*Continued*
Pollution abatement policy. T. R. Camp. Am Soc C E Proc 76 [no 10]:1-9 Mr '50; Discussion. 76 [no D-10]:1-4 N '50
Pollution control, an industry must. M. Nord. bibliog Chem Eng 58:112-18 My '51
Pollution control and property rights. J. H. Murdoch, jr. map Am Water Works Assn J 43:61-4 Ja '51; Same. Water & Sewage Works 98:44-5 Ja '51
Pollution control needs $12 billion. il Chem Ind W 68:12 My 19 '51
Pollution control program for Ohio. B. M. McDill. il maps Iron & Steel Eng 28:101-7 Ag '51
Pollution of irrigation waters. C. T. Wright. bibliog map Sewage & Ind Wastes 22:1403-12 N '50
Pollution of U.S.-Canada boundary waters. Pub Works 82:99 Je '51
Pollution plagues Tennessee watershed. Eng N 146:31 Ap 19 '51
Pollution report. Chem Ind W 68:25-6 Mr 10 '51
Possible hazards from chemical contamination in water supplies. C. W. Muehlberger. bibliog Am Water Works Assn J 42:1027-33; Discussion. R. L. Derby. 1033-4 N '50
Progress report on water quality criteria; California water pollution control board. Am Water Works Assn J 42:1147-53 D '50
Proposed toxicity test for industrial wastes to be discharged to marine waters. F. M. Daugherty, jr. bibliog Sewage & Ind Wastes 23:1029-31 Ag '51
Public health service activities in water pollution control. L. F. Warrick. Am Gas Assn Proc 1950:486-90
Public health service sets waste works need; $9 billion. Eng N 146:26 My 17 '51
Reducing water pollution for oil refineries. W. H. Redlien, jr. and J. H. McClintock. il Pet Refiner 30:123-6 Je '51
Relation of b.o.d. to stream deoxygenation. W. E. Williams. bibliog map diag Sewage & Ind Wastes 23:1161-75 S '51; Abstract. Water & Sewage Works 98:400 S '51
River pollution in Scotland. Engineer 191: 103 Ja 19 '51
Sampling and metering are basic; adequate and economical pollution control. diags Chem Eng 58:121-2 My '51
Sewage shows up worse as Pennsylvania clears away coal silt. Eng N 147:26 Jl 5 '51
Size up your liquid waste problem. F. W. Mohlman. Chem Eng 58:119-21 My '51
Sludge problem tackled by Kalamazoo River mills. Paper Ind 33:629-30 S '51
Stream improvement progress. il Paper Tr J 132:17-18+ Mr 2 '51
Stream pollution. M. Nord. bibliog il Chem Ind 67:893-8, 904 D '50
Stream protection and management. W. B. Hart. Am Gas Assn Proc 1950:413-16
Stream quality objectives. M. LeBosquet, jr. bibliog Sewage & Ind Wastes 22:1459-63 N '50
Sugar cane process wastes. R. Stone. flow diag il Sewage & Ind Wastes 23:1025-8 Ag '51
Sulphite pulp manufacturers league continues study of stream pollution problem. Paper Ind 32:1258+ Mr '51
Survey finds Lake Erie foul; Ohio lab to help in clean-up. plan Eng N 147:39-40 Jl 12 '51
Survey of industrial wastes in the Lake Huron-Lake Erie section of the international boundary waters. A. E. Berry and others. bibliog maps Sewage & Ind Wastes 23:508-35 Ap '51; Abstract. Water & Sewage Works 98:39 Ja '51; Discussion. Sewage & Ind Wastes 23:536-8 Ap '51
Texas A.&M. college extension service aids industry with informative lectures. H. R. Murdock. Ind & Eng Chem 43:sup73A-4A+ F '51
Textile industry and stream pollution. J. A. McCarthy. Am Dyestuff Rep 39:732-5 O 30 '50
Thoughts on stream pollution. H. A. Spencer. Tappi 34:sup 113A-15A Ag '51
Threat to pacts; West Virginia tries to pull out of water-pollution compact. Bsns W p60-2 D 9 '50
Transmission of disease by water. C. R. Trask. Munic Util 88:25+ N '50
USPHS nationwide survey of water pollution. R. Gibbs. Chem & Eng N 28:3860 N 6 '50
Using sodium nitrate for odor control in a polluted stream, San Antonio, Tex. P. N. Albright. il map Pub Works 82:57-8 Ag '51
Washington, Oregon pollution control pays off. Eng N 146:27 Je 21 '51
Water pollution abatement in the United States. M. D. Hollis. Sewage & Ind Wastes 23:89-94 Ja '51; Abstracts. Water & Sewage Works 97:488-9 D '50; Pub Works 81:40 D '50; Chem Eng 57:292-4 N '50
Water pollution by industry; a survey of state legislation and regulations. D. F. Othmer and others. Mech Eng 73:706-8 S '51
Water-pollution problem. L. Cox. Am Dyestuff Rep 40:228-31 Ap 2 '51
Water supply, sanitation, 1950. il Eng N 146: 101-5 Mr 29 '51
Wisconsin stream improvement. Paper Tr J 133:164 S 7 '51
Wisconsin sulphite mills use ammonium base pulping. Paper Ind 33:626 S '51
See also
Algae
Sewage disposal
Trade waste
Water—Bacteriology
Water distribution—Cross connections
Water purification
Water supply—Salt water intrusion

WATER power
See also
Hydroelectric plants
Tidal power
Turbines

Canada
Canadian water power. Electrician 146:1305-6 Ap 20 '51
Water power, a key factor in Canadian industry. G. B. Hall. il For Comm W 41: 3-4+ D 25 '50

Maine
See also
Passamaquoddy tidal power project

WATER purification
Adjustment of water treatment to pollution loading; panel discussion. H. A. Faber and others. flow diags Am Water Works Assn J 43:31-54 Ja '51
AWWA Purification division annual meeting, Miami; with abstracts of papers. Water & Sewage Works 98:344-8 Ag '51
Carboxylic cation exchange resin in water conditioning; hydrogen cycle. F. X. McGarvey and J. Thompson. Ind & Eng Chem 43:741-6 Mr '51
Gelation times of various silica sols; effect of low temperatures. R. W. Spencer, A. B. Middleton and R. C. Merrill. bibliog Ind & Eng Chem 43:1129-32 My '51
Ion exchange for water treatment. E. B. Showell. il diags Am Water Works Assn J 43:522-38 Jl '51
Mixed-bed deionization. A. C. Reents and F. H. Kahler. bibliog il Ind & Eng Chem 43:730-4 Mr '51
Monobed deionization with ion exchange resins. R. Kunin and F. X. McGarvey. diag Ind & Eng Chem 43:734-40 Mr '51
Objectives and techniques of cooling-water treatment. D. Miller. bibliog Oil & Gas J 50:139+ Ag 23 '51
Operating control of small treatment plants; panel discussion. R. G. Yaxley and others. Am Water Works Assn J 43:145-52 F '51
Operation of one small water works; Haledon, N.J. J. J. Kapp, jr. il Water & Sewage Works 97:503-4 D '50
Purification of water on a small scale; abstract. H. J. Anderson. Am Water Works Assn J 43:sup52+ My '51
Selective use of raw water at Bartlesville, Okla. W. L. Patterson. il map diag Water & Sewage Works 97:491-4 D '50
Soft, ample supply guaranteed by Edmonton's second water plant. W. I. McFarland. il plan Eng N 146:38-40 Ap 12 '51
Special compound proves effective water conditioner. F. Latter and C. Parke. bibliog diag Oil & Gas J 49:72-4+ Mr 8 '51
Tentative standard specifications for ammonium sulfate. Am Water Works Assn J 42:1087-93 N '50
Tentative standard specifications for powdered activated carbon. Am Water Works Assn J 43:161-74 F '51

WATER purification—*Continued*

Water conditioning for oil-field flooding operations. N. A. Voss and E. Nordell. il diags Oil & Gas J 49:174-7 N 9 '50

Water purification and waste disposal. il Rayon 32:74-6 Je '51

Water treating experiences. A. H. Ullrich. il Water & Sewage Works 97:10-12, 109-10, 209-12, 323-5; 98:17-21, 283-8 Ja, Mr, My, Ag '50, Ja, Jl '51 (to be cont)

Water treatment in natural-gasoline plants. B. J. Willard and T. L. McCaleb. il Oil & Gas J 49:78+ Mr 8 '51

See also

Feed water purification

Filters and filteration

Filtration plants

Resinous products—Water treatment

Water softening

Chlorination

Amperometric residual chlorine recording. G. J. Hazey. Am Water Works Assn J 43:292-8 Ap '51

Cell-and-seawater chlorination; simple electrolytic unit employed by Gloucester fish plant. J. V. Ziemba. il diag Food Eng 23: 42-3+ Jl '51

Chlorine dioxide in water purification; abstract. R. N. Aston. Chem Eng 57:265 D '50

Controlling taste, odor and color with free residual chlorination. T. M. Riddick. Am Water Works Assn J 43:545-52 Jl '51

Copper with ammonia and chlorine in finished water. M. C. Smith. Am Water Works Assn J 43:763-9 S '51

Determination of residual chlorine compounds. H. C. Marks and others. bibliog Am Water Works Assn J 43:201-7 Mr '51

Effect of stepwise chlorination on taste-and odor-producing intensity of some phenolic compounds. M. B. Ettinger and C. C. Ruchhoft. bibliog Am Water Works Assn J 43: 561-7 Jl '51

Miami's Hialeah treatment plant, 1951. C. R. Henry. bibliog flow plan il Water & Sewage Works 98:143-8 Ap '51

Mono- and dichloramine determinations in water. D. B. Williams. bibliog Water & Sewage Works 98:429-33 O '51 (to be cont)

Relative resistance of coliform organisms and enteric pathogens in the disinfection of water with chlorine. P. W. Kabler. bibliog Am Water Works Assn J 43:553-60 Jl '51

Residual chlorine recorder experiences. H. J. Krum. il plan Water & Sewage Works 98: 376-9 S '51

St Louis dry line chlorinating system. A. V. Graf and E. E. Easterday. diag Am Water Works Assn J 43:260-2 Ap '51

Studies in local production of chlorine; panel discussion. C. A. Black; C. M. Hoskinson. bibliog diags Am Water Works Assn J 43: 513-21 Jl '51

Coagulation

Activated silica as an aid to coagulation in water treatment processes. H. J. Wheaton and J. G. Walker. bibliog Chem & Ind p710-16, 802-5 O 28, D 16 '50

Capacity and loadings of suspended solids contact units; committee report. diags Am Water Works Assn J 43:263-91 Ap '51

Pista process for purification of water and sewage; abstract. H. L. Bendel. Sewage & Ind Wastes 23:1212-13 S '51

Color removal

Color removal of process waters. J. H. Davidson. il diag Tappi 34:407-9 S '51

Corrosion control

Control of corrosion. R. S. Weston. il Water & Sewage Works 98:R79-82 Ap '51

Corrosion control at New Haven, Conn.; Calgon treatment. M. Wellington. il Water & Sewage Works 98:304-6 Jl '51

Corrosion control in water-flooding. F. Latter. bibliog World Oil 132:141-2+ Ja '51

Symposium on corrosion by water; A. C. S. Division of water, sewage, and sanitation chemistry. Chem & Eng N 29:3845 S 17 '51

Water quality control for air conditioning and refrigeration. R. M. Westcott. il Heating-Piping 23:98-101 S '51

Demineralization

Silica removal with highly basic anion exchange resins. R. Osmun and L. Wirth, jr. Ind & Eng Chem 43:1076-9 My '51

Iron removal

Iron and manganese in water supplies, and methods of removal. R. H. Babcock. bibliog il Water & Sewage Works 98:442-6 O '51

Iron removal and water softening. D. J. Saunders. il diags Water & Sewage Works 98:112-18 Mr '51

Removal of iron from water. P. H. Bouthillier. diags Munic Util 89:28-9+ Ja '51

Manganese removal

Iron and manganese in water supplies, and methods of removal. R. H. Babcock. bibliog il Water & Sewage Works 98:442-6 O '51

Radioactive water

Decontamination of radioactive water. Sewage & Ind Wastes 23:81 Ja '51

Method for decontaminating small volumes of radioactive water. R. A. Lauderdale and A. H. Emmons. Am Water Works Assn J 43:327-31 My '51

Oak Ridge reports results on water decontamination study. C. P. Straub and others. Eng N 147:38-41 Ag 16 '51

Studies on radioisotope removal by water treatment processes. R. Eliassen and others. bibliog il Am Water Works Assn J 43:615-30 Ag '51; Abstract. Munic Util 89: 36+ My '51; Discussion. Am Water Works Assn J 43:630-7 Ag '51

Treatment of radioactive water by phosphate precipitation. R. A. Lauderdale. Ind & Eng Chem 43:1538-40 Jl '51

Silica removal

Silica removal with highly basic anion exchange resins. R. Osmun and L. Wirth, jr. Ind & Eng Chem 43:1076-9 My '51

Swimming pool water

Diatomite filters solve municipal pool problems. H. D. Smith. Pub Works 82:114 Ap '51

Taste and odor removal

Actinomycetes and common tastes and odors. J. K. G. Silvey and others. bibliog Am Water Works Assn J 42:1018-26 N '50

Chlorine dioxide controls serious taste problem. J. G. K. Silvey. Pub Works 82:112-13 Ap '51

Continuous odor monitor and threshold tester. H. H. Gerstein. il diags Am Water Works Assn J 43:373-7 My '51

Controlling taste, odor and color with free residual chlorination. T. M. Riddick. Am Water Works Assn J 43:545-52 Jl '51

Controlling tastes and odors with activated carbon. E. A. Sigworth. il plan diags Water & Sewage Works 98:121-5 Mr '51

Effect of stepwise chlorination on taste-and odor-producing intensity of some phenolic compounds. M. B. Ettinger and C. C. Ruchhoft. bibliog Am Water Works Assn J 43: 561-7 Jl '51

Factors influencing the efficiency of activated carbon. D. Colebaugh and others. Am Water Works Assn J 43:322-6 Ap '51; Same. Munic Util 89:32+ Ag '51

Factors influencing the efficiency of activated carbon; abstract. A. Y. Hyndshaw. Water & Sewage Works 98:24 Ja '51

Studies on diatomaceous earth filtration. J. M. Sanchis and J. C. Merrell, jr. bibliog il diag Am Water Works Assn J 43:475-93; Discussion. J. E. Kiker, jr. 494-5 Jl '51

Using sodium nitrate for odor control in a polluted stream, San Antonio, Tex. P. N. Albright. il map Pub Works 82:57-8 Ag '51

WATER purification, Natural

Natural reduction of paper mill color in streams. M. A. Churchill. map Sewage & Ind Wastes 23:661-70; Discussion. W. D. Hanlon. 670-1 My '51

Utilization of natural purification capacity in sewage and industrial waste disposal. C. J. Velz. Sewage & Ind Wastes 22: 1601-13 D '50

WATER rates
Basic considerations in determining water rates. L. E. Ayres. bibliog Am Water Works Assn J 42:981-95 N '50; Same. Water & Sewage Works 98:R17-21 Ap '51; Discussion. Am Water Works Assn J 42:995-1002 N '50
Charges for private fire protection service. R. H. Ellis. Water & Sewage Works 97:441-5 N '50; Same. Am Water Works Assn J 42. 1009-17 N '50
Cities consider raising water service rates. Eng N 147:48+ Jl 5 '51
Distance and demand factors in suburban water rates. M. P. Hatcher. plan Am Water Works Assn J 42:1003-8 N '50
Water-rate structures. H. Randle. Munic Util 88:37+; Discussion. 60-3 O '50
Water rates; A.W.W.A. committee report. bibliog Am Water Works Assn J 43:665-71 S '51; Abstract. Water & Sewage Works 98:299 Jl '51

WATER resources development corporation. See Weather control

WATER resources policy commission
Comprehensive federal water policy recommended in report to President. map Eng N 145:23-4 D 21 '50
Coordinated development of water resources by river basins recommended by President's commission. Civil Eng 21:52 Ja '51
Here's what the report actually said. Elec World News ed 134:4 D 25 '50
Report of President's Water policy commission appraised. W. W. Horner. Civil Eng 21:83 F '51
Review of the report of the President's Water resources policy commission. S. B. Morris. Am Water Works Assn J 43:391-400 Je '51; Abstract. Pub Util 48:184-5 Ag 2 '51
TVA-type river basin projects get nod from water policy group. Elec World 134:71-2 D 18 '50
Water policy commission plans action. Eng N 145:15 D 28 '50
Water policy for the American people; summary of recommendations from the report of the President's water resources policy commission. Am Water Works Assn J 43: 91-112 F '51; Excerpt. Paper Tr J 132:25-6+ Mr 30 '51
WRPC presents development study of ten big river basins in third report. Eng N 146:29 Mr 8 '51
WRPC report. Pub Util 47:37-8, 51-3 Ja 4 '51

WATER rights
British Columbia sticks to Libby Dam demands. Elec World News ed 136:14 Ag 6 '51
Kings River controversy; integration of the Kings River district with the Central Valley project. C. L. Kaupke. Pub Util 48: 207-15 Ag 16 '51
Legal and engineering factors in waste treatment. R. L. Smith and others. bibliog Pub Works 82:43-4 F '51
See also
Riparian rights

WATER sampling
Emergency stream sampler. C. E. Fuess. diags Sewage & Ind Wastes 23:104-5 Ja '51
How to take water samples. G. G. Fassnacht. Pub works 82:35 Ja '51
Semi-automatic water, sewage, and industrial waste sampler. R. Stone and P. M. Teeple. il plans diags Sewage & Ind Wastes 23:796-800 Je '51

WATER softeners, Domestic

Advertising

Soften sales resistance with these softener sales ideas; illustrations with text. Dom Eng 177:86-7 F '51

WATER softening
Economics of water softening. L. R. Howson. Am Water Works Assn J 43:253-9 Ap '51
Hot lime zeolite proves practical. L. F. Wirth, jr. and W. S. Butler. diag Power 95:110-13+ Mr '51
Ideal lime-softened water. T. E. Larson. bibliog Am Water Works Assn J 43:649-61; Discussion. 661-4 Ag '51
Ion exchange for water treatment. E. B. Showell. il diags Am Water Works Assn J 43:522-38 Jl '51
Ion exchange in high temperature industrial applications. F. K. Lindsay, L. F. Wirth, jr. and A. M. Durinski. bibliog il Ind & Eng Chem 43:1062-5 My '51
Iron removal and water softening. D. J. Saunders. il diags Water & Sewage Works 98:112-18 Mr '51
Lime reclamation at the Miami softening plant; abstract. A. P. Black and others. Munic Util 89:24 My '51
Mexico's first water-softening plant. W. E. Bell. il Eng N 145:45 N 2 '50
Plastics that sort atoms. il diags Fortune 44:107-10+ Jl '51
Soap plant observer; home water conditioning. J. W. McCutcheon. Soap & San Chem 27: 85+ Mr; 79+ My '51
Softening plant has sea-water regeneration, and automatic control, for processing. il diag Eng N 146:46-8 F 1 '51
Water quality control for air conditioning and refrigeration. R. M. Westcott. il Heating-Piping 23:98-101 S '51
Water treating experiences; softening and filtration of the Colorado at Austin, Tex. A. H. Ullrich. il Water & Sewage Works 98:283-8 Jl '51
See also
Feed water purification
Water purification—Silica removal

WATER storage
Long-term storage capacity of reservoirs. H. E. Hurst. Am Soc C E Proc 76 [no 11]: 1-30 Ap '50; Discussion. 77 [no D-11]:1-9 Mr '51
New standpipe at Madison, Wis. L. A. Smith. il Water & Sewage Works 98:371-5 S '51
Old lake plan is revived to store waters of the Nile. Eng N 146:56-7 Je 14 '51
Water power and water storage in 1950. il map Engineer 191:42-4, 98-100, pl 10 Ja 12-19 '51
See also
Dams
Reservoirs

WATER supply
Domestic and industrial water supply and pollution. L. R. Howson and others. bibliog Sewage & Ind Wastes 23:210-26 F '51
Ecology of significant organisms in surface water supplies. C. M. Tarzwell and C. M. Palmer. Am Water Works Assn J 43:568-78 Jl '51
Literature review on the occurrence and survival of enteric, pathogenic, and related organisms in soil, water, sewage, and sludges, and on vegetation. W. Rudolfs and others. Sewage & Ind Wastes 22:1261-81, 1417-27 bibliog(179 titles, p 1277-81, 1424-7) O-N '50
Local and regional water supply management. H. E. Jordan. Am Water Works Assn J 43:441-52 Je '51
No method yet known will produce potable water from sea water at cost competitive with most surface waters. R. Gibbs. Chem & Eng N 29:2716 Jl 2 '51
Possible hazards from chemical contamination in water supplies. C. W. Muehlberger. bibliog Am Water Works Assn J 42:1027-33; Discussion. R. L. Derby. 1033-4 N '50
Some considerations on the water-supply to towns, with special reference to consumption and waste; abstract and discussion. H. F. Cronin. Engineering 172:231-2 Ag 24 '51
Water, water everywhere; municipalities plan to improve water supply. Eng N 145: 61+ D 7 '50
See also
Aqueducts
Dams
Feed water
Filters and filtration
Filtration plants
Fire service (water supply)
Hot water supply
Hydrants
Hydraulic engineering
Irrigation
Plumbing
Pumping machinery
Pumping stations
Rain and rainfall
Reservoirs
Rivers
Snow surveys
Water conservation
Water consumption
Water distribution
Water meters
Water pollution
Water purification
Water supply engineering
Waterworks
Wells
also subdivision Water supply under names of cities, e.g. New York (city)—Water supply

WATER supply—*Continued*

Fluorine content

Advancement of fluoridation. H. T. Dean. bibliog Am Water Works Assn J 43:17-21; Discussion. C. R. Cox. 22-3 Ja '51

Determination of fluoride content of water. Munic Util 89:11 Jl '51

Developments in fluoridation. H. A. Faber. bibliog Water & Sewage Works 98:203-11 My '51

Fluoridation keynoted at dental conference. Pub Health Rep 66:1171-6 S 14 '51

Fluoridation, new, safer chemical; abstract. W. E. White. Chem Eng 58:272+ My '51

Fluoridation of public water supplies. F. J. Maier. bibliog Am Water Works Assn J 42:1120-32 D '50

Fluoridation of public water supplies; questions and answers. il Munic Util 89:37-8+ Ap '51

Fluoridation policy of Maryland state health department. Pub Works 82:75-6 Je '51

Fluoride chemical feeding; with cost data. L. E. Harper. il diags Am Water Works Assn J 43:744-62 S '51

Fluoride fracas stirs West. Chem W 69:13-14 Ag 25 '51

New substance adds fluorine to water if not enough; takes it away if too much. Munic Util 89:20 Je '51

New York fluoridation policy and procedures. Pub Works 82:91-3 Ag '51

New York state backs water fluoridation. Eng N 146:29 Ap 5 '51

Newburgh-Kingston caries fluorine study; dental findings after three years of water fluoridation; abstract. D. B Ast and others. Am Water Works Assn J 43:sup68 S '51

Philosophy of supplementary treatment of public water supplies in the interest of group health. A. P. Black. Am Water Works Assn J 43:11-15; Discussion. J. L. T. Appleton. 15-16 Ja '51

Sodium fluoride in ice cubes. D. B. Williams. Water & Sewage Works 97:512 D '50

Studies on mass control of dental caries through fluoridation of the public water supply. H. T. Dean and others. Pub Health Rep 65:1403-8 O 27 '50

U.S. Public health service position on fluoridation of public water supplies. H. T. Dean. Am Water Works Assn J 43:672-4 S '51

Water boom for fluorides. il Chem W 69:14 Jl 7 '51

Water fluoridation; a sound public health practice. C. R. Cox and D. B. Ast. bibliog Am Water Works Assn J 43:641-8 Ag '51; Correction. 43:835 O '51

Water fluoridation at Charlotte, N.C. R. S. Phillips. bibliog il Water & Sewage Works 98:98-102 Mr '51

Salt water intrusion

Pump-flow controller protects wells from sea water seepage; North Truro, Mass. il Munic Util 89:31 Ag '51

Selective use of raw water at Bartlesville, Okla. W. L. Patterson. il map diag Water & Sewage Works 97:491-4 D '50

Standards

Changes in purity standards for drinking water; progress in 75 years. A. M. Bushwell. il Ind & Eng Chem 43:594-7 Mr '51

Arkansas

Surface and ground water supplies; map. Manuf Rec 120:78 F '51

Australia

See also
Water, Underground
—Australia

California

AWWA California section conference, San Diego, Oct. 24-27. Eng N 145:31 N 16 '50

California pollution control legislation. L. W. Grayson. map Am Water Works Assn J 42:1133-6 D '50

California's Kings River program is approved. Elec World News ed 136:6 Jl 9 '51

Determining future water requirements. C. C. Elder. Am Water Works Assn J 43:124-35 F '51

Metropolitan water district of southern California annual report, July 1, 1949-June 30, 1950. Am Water Works Assn J 43:sup42+ S '51

Progress report on water quality criteria; California water pollution control board. Am Water Works Assn J 42:1147-53 D '50

Canada

Directory of Canadian waterworks systems. Munic Util 88:10+ D '50

Government officials in charge of public water supplies and sewerage systems. Munic Util 88:8 D '50

Metered water services in Canada; tabulation. Munic Util 88:6 D '50

Statistics of Canadian waterworks systems, by provinces; tabulation. Munic Util 88:6 D '50

Florida

Florida's water supply problem. C. E. Wright. Pub Util 47:552-7 Ap 26 '51

Seasonal water demands in vacation areas. S. K. Keller. Am Water Works Assn J 43:694-9; Discussion. 699-704 S '51

Great Britain

Some considerations on the water supply to towns, with special reference to consumption and waste; abstract. H. F. Cronin. Engineer 191:877 Je 29 '51

Maine

See also
Maine water utilities
association

Mexico

Hydrology of Mexico. A. García-Quintero. maps Am Soc C E Proc 76 [no 38]:1-17 O '50; Discussion. 77 [no D-38]:1-4 S '51

Netherlands

Drawing water from a dune area. P. C. Lindenbergh. diags Am Water Works Assn J 43:713-24 S '51

New York (state)

Classifications and standards of water quality and purity; New York state water pollution control board. Am Water Works Assn J 42:1137-46 D '50

New York fluoridation policy and procedures. Pub Works 82:91-3 Ag '51

Northwestern states

Plenty of water ahead for hydro-power. Eng N 146:31 F 1 '51

Ohio

Pollution control program for Ohio. B. M. McDill. il maps Iron & Steel Eng 28:101-7 Ag '51

Ontario

See also
Water, Underground
—Ontario

Orange Free state

South African water supply scheme. il map diag Engineer 191:522-3 Ap 20 '51

Pennsylvania

Protection and conservation of the water resources of Pennsylvania. M. F. Draemel. il Franklin Inst J 251:323-32 Mr '51

Puerto Rico

Building waterworks in Puerto Rico. A. J. Fox, jr. il map Eng N 146:32-5 Ap 26 '51

Southwestern states

Resources for the chemical industry in the Southwest; water supplies. P. Weaver. map Ind & Eng Chem 43:1734-7 Ag '51

Tennessee

Pollution plagues Tennessee watershed. Eng N 146:31 Ap 19 '51

Report on Tennessee water systems; summary of annual survey. Pub Works 82:84 S '51

Texas

How Texas controls water pollution. D. F. Smallhorst. il map Pub Works 82:46-8+ My '51

WATER supply—Texas—*Continued*

Water for thirsty west Texans; Colorado River municipal water district project. il Manuf Rec 120:39 Jl '51

United States

Comprehensive federal water policy recommended in report to President. map Eng N 145:23-4 D 21 '50

Coordinated development of water resources by river basins recommended by President's commission. Civil Eng 21:52 Ja '51

EJC national water resources policy is reviewed by ASCE committee. Civil Eng 20:731 N '50

Ground water. A. N. Sayre. diags Sci Am 183:14-19 N '50

National water policy; Engineers joint council committee report. bibliog Am Water Works Assn J 43:24-30 Ja '51

National water policy; panel discussion. Am Water Works Assn J 43:414-22 Je '51

Objectives of a national water policy. M. Pirnie. Am Water Works Assn J 43:409-13 Je '51

Report on water resources policy. L. A. Miller. Edison Elec Inst Bul 19:230-2 Jl '51; Excerpts. Elec World 135:111 Je 18 '51

Review of the report of the President's Water resources policy commission. S. B. Morris. Am Water Works Assn J 43:391-400 Je '51; Abstract. Pub Util 48:184-5 Ag 2 '51

Statement of desirable policy with respect to the conservation, development, and use of the national water resources; digest and commentary. H. A. Steele and W. A. Green. Land Econ 27:252-6 Ag '51

Water policy as the engineers see it. A. Wolman. Am Water Works Assn J 43:401-8 Je '51

Water policy commission plans action. Eng N 145:15 D 28 '50

Water policy for the American people. Chem & Eng N 29:42-3 Ja 1 '51

Water policy for the American people; a commentary. R. J. Penn; M. G. Glaeser. Land Econ 27:76-9, 169-72 F-My '51

Water policy for the American people; summary of recommendations from the report of the President's Water resources policy commission. Am Water Works Assn J 43:91-112 F '51; Excerpt. Paper Tr J 132:25-6+ Mr 30 '51

Water supply big factor in U.S. industrial strength. R. C. Kelly. il Pet Refiner 30:75-6+ Je '51; Same, without il. Pet Eng (Ref annual) 23:E19+ Jl 15 '51

Water supply developments, 1950. W. V. Weir. il Water & Sewage Works 98:1-10 Ja '51

Western states

Drought, floods forecast. R. A. Work and C. E. Houston. il map Elec West 106:69-71 My '51

Little change in water situation. Elec West 106:91 Je '51

WATER supply, Rural

Comic books sell water systems. il Dom Eng 178:112-13 S '51

WATER supply engineering

Builder readies tap on Hudson. il Eng N 145:32-4 N 16 '50

Building waterworks in Puerto Rico. A. J. Fox, jr. il map Eng N 146:32-5 Ap 26 '51

Dallas is winning its battle for water. il Eng N 146:35-7 My 3 '51

Nine municipalities in Winnipeg area cooperate in obtaining water. N. S. Bubbis. map Munic Util 89:33-6+ Ap '51

Nomograph for estimation of population equivalent. J. W. Kirkpatrick. Water & Sewage Works 97:528 D '50

Selective use of raw water at Bartlesville, Okla. W. L. Patterson. il map diag Water & Sewage Works 97:491-4 D '50

Water supply, sanitation, 1950. il Eng N 146:101-5 Mr 29 '51

See also

Aqueducts
Filters and filtration
Pumping stations
Reservoirs
Water distribution
Water pipes
Waterworks

Study and teaching

Water resources planning and development in the civil engineering curriculum. M. O. Schmidt. J Eng Educ 41:284-7 Ja '51

WATER supply for armies

Purification of water on a small scale; abstract. H. J. Anderson. Am Water Works Assn J 43:sup52+ My '51

Water makers for the army. il Product Eng 22:161 Ap '51

WATER supply for factories

Adjustment of water treatment to pollution loading; Spruance works, Va. B. L. Strother. Am Water Works Assn J 43:48-9 Ja '51

Considerations involved in adding industrial customers to public water supply systems. A. O. Norris. Am Water Works Assn J 43:612-14 Ag '51

Effect of water quality on the manufacture of ceramic ware and porcelain enamel. J. B. Smith. bibliog flow diag il Am Cer Soc Bul 30:301-3 S 15 '51

Estimating requirements for process steam and process water. Chem Eng 58:110-11 Ap '51

Industrial plants can conserve water; Fontana plant of the Kaiser steel corp. flow diag il Eng N 147:40-1 Jl 19 '51

Quality control of industrial water. C. D. Adams. Am Water Works Assn J 43:579-84 Jl '51

Resources for the chemical industry in the Southwest; water supplies. P. Weaver. map Ind & Eng Chem 43:1734-7 Ag '51

Return on investment. H. J. Lang. Mech Eng 72:890-4 N '50

Supply and distribution of water to iron and steel works. J. L. Daniel. plans diag Iron & Steel Inst J 165:437-53 Ag '50; Discussion. 168:77-80 My '51

Supplying industrial water to Tacoma. A. R. MacPherson. il Pub Works 82:33+ My '51

Survey of water use in industry; abstract. Management R 40:82-3 F '51

Ten billion gallon industrial water supply; Cooper River Water supply project. maps Pub Works 82:59 S '51

Two-in-one treatment plant means saving for industry; combining water and waste treatment facilities at Monroe (Mich.) plant, Ford motor co. il plan Eng N 147:42 Ag 23 '51

Want to save dollars? quit wasting water; reclaiming used water, Solar aircraft co. il Eng N 147:47 Ag 30 '51

Water supply big factor in U.S. industrial strength. R. C. Kelly. il Pet Refiner 30:75-6+ Je '51; Same, without il. Pet Eng (Ref annual) 23:E19+ Jl 15 '51; Excerpts. Chem Eng 58:256+ Jl '51

Water use in industry. R. R. Green. Am Water Works Assn J 43:591-9 Ag '51; Abstracts. Munic Util 89:24+ My '51; Water & Sewage Works 98:302-3 Jl '51; Discussion. Am Water Works Assn J 43:599-602 Ag '51

See also

Cooling towers
Cooling water
Drinking water systems
Water supply for paper mills
Water supply for textile mills

WATER supply for mines

Application of cyclone thickeners to preparation plant water circuits. G. H. Kennedy and H. E. Criner. diags Min Eng 3:Trans 259-61 Mr '51

Electric water heating at a coal mine; data sheet. W. L. Faddis. diags Elec West 106:72 Ja '51

WATER supply for paper mills

Application of the OCO water system to paper mill white water recovery. G. C. Ehemann and others. flow diags il Pulp & Pa of Can 51:107-11 Je '50; Same. Sewage & Ind Wastes 22:1573-80; Discussion. 1580-2 D '50

Color removal of process waters. J. H. Davidson. il diag Tappi 34:407-9 S '51

Freezing of water in exposed pipelines. T. M. Riddick and others. bibliog diags Tappi 34:sup24A+ S '51

Hardinge automatic backwash sand filter; its use on fresh water and white water. G. E. Wilson. il diags Pulp & Pa of Can (Convention no) 52:249-51+ [F] 51

WATER supply for petroleum industry

Corrosion control in water-flooding. F. Latter. bibliog World Oil 132:141-2+ Ja '51

WATER supply for petroleum industry—*Cont.*

How Standard of Indiana achieves stabilization of cooling-tower water at its Sugar Creek refinery. H. Shields and L. V. Sorg. il diag Oil & Gas J 49:52+ Mr 1 '51

Portable unit to service and pump rig water wells. G. M. Wilson. il World Oil 131:124+ N '50

Special compound proves effective water conditioner. F. Latter and C. Parke. bibliog diag Oil & Gas J 49:72-4+ Mr 8 '51

Supply, sources and treatment of flood water. H. S. Barger. World Oil 133:213-14+ Ag '51

Water conditioning for oil-field flooding operations. N. A. Voss and E. Nordell. il diags Oil & Gas J 49:174-7 N 9 '50

Water cooling equipment. H. Dresser. il diags Pet Eng (Ref annual) 23:C27+ Jl 15 '51

WATER supply for plating

Practical water control methods for the plating room. J. B. Kushner. il diags Metal Finishing 49:56-8 Ag '51

WATER supply for power plants

Automatic control saves screen washing time. diag Elec World 135:74 Ja 15 '51

Choose industrial wells carefully. J. B. Murphy. il diags Power 95:74-6, 120-3 Ag '51

Cooling pond insures higher output. diag Elec World 136:153-4 Ag 13 '51

Cooling water shortage prompts four-source supply; with cost data. J. H. Hochuli. il plan Elec World 134:82-3 D 18 '50

How to predict lake cooling action. R. F. Throne. diags Power 95:86-9+ S '51

Puerto Nuevo to fight fouling. L. J. Myskowski and M. A. Quinones. il diag Power 95: 90-3 My '51

Type of water supply influences location and layout of Texas steam-electric plants. M. G. Salzman and L. Elliott. il map plan Civil Eng 21:260-3 My '51

Unique cofferdam foils Old Man River; building intake was to supply cooling water for Venice no. 2 plant. G. F. Flay, jr. il diag Civil Eng 20:780-4 D '50

Water supply big factor in U.S. industrial strength. R. C. Kelly. il Pet Refiner 30: 75-6+ Je '51; Same, without il. Pet Eng (Ref annual) 23:E19+ Jl 15 '51

See also

Feed water purification

WATER supply for refrigerating plants

Cost of refrigerative and other special service. E. L. Bean. bibliog Am Water Works Assn J 43:65-81 Ja '51

Regulation of air conditioning and other refrigeration; committee report. Am Water Works Assn J 42:1111-19 D '50; Same. Heating-Piping 23:132-5 Ja '51; Same. Refrig Eng 59:60-2 Ja '51

Save refrigeration condensing water with proper control. diags Power 94:100-1+ N '50

Water quality control for air conditioning and refrigeration. R. M. Westcott. il Heating-Piping 23:98-101 S '51

WATER supply for textile mills

Water purification and waste disposal. il Rayon 32:74-6 Je '51

WATER tanks

Hydropneumatic tank operation. H. Nickelsporn. diags Power Eng 55:88-90 Ap '51

Specially designed auxiliary water supply fire truck. A. M. Zuill. Pub Works 81:75-6 D '50

Water tank makes engine foundation. G. M. Wilson. il World Oil 133:124 Jl '51

Maintenance and repair

Guide for water tank maintenance inspection. J. O. Jackson. Water & Sewage Works 98:R49-50 Ap '51

Painting

Repainting steel water tanks. J. O. Jackson. il Water & Sewage Works 98:160-3 Ap '51

What you should know about painting water tanks. H. C. Jester. il Pub Works 72:50-2+ Je '51

Sterilization

Methods of disinfecting tanks and reservoirs; with cost data. H. W. Tracy. Am Water Works Assn J 43:85-90 Ja '51

WATER tanks, Concrete

Prestressed-concrete tanks at Hartlepool. il diags Engineering 172:235-6, 240 Ag 24 '51; Engineer 192:217 Ag 17 '51

Prestressed 84-in. concrete pipe for Montreal waterworks intake; construction of prestressed tanks. D. A. Hopkins. il Munic Util 89:25-8 My '51

WATER tanks, Steel

How can I figure supports for a horizontal tank? T. E. Bridge. Heating-Piping 23:88-9 Je '51

WATER towers

Water tower welding costs cut with selenium rectifier units. il Constr Methods 33:94 Je '51

WATER tube boilers. See Boilers, Water tube

WATER usage in air conditioning. See Air conditioning equipment—Water requirements

WATER vapor

Absorption spectra of water vapor and carbon dioxide in the region of 2.7 microns. W. S. Benedict and E. K. Plyler. bibliog J Res Nat Bur Stand 46:246-65 Mr '51

Apparatus for measuring the permeability to water vapour of bituminous emulsion films. A. Evans and C. Q. Keiller. diag Soc Chem Ind J 69(sup no 1):S1-3 '50

Calculation of index of refraction of gases from absorption data. M. A. Greenfield and F. W. Brown. Opt Soc Am J 40:643-6 O '50

Comparative study of water vapor permeability of saran films. T. W. Sarge. bibliog Anal Chem 22:1541-5 D '50

Condensation of water vapor in the shock tube below 150°K. P. Wegener and G. Lundquist. il J Ap Phys 22:233 F '51

Determination of traces of water vapor in gases. F. E. Harris and L. K. Nash. diags Anal Chem 23:736-9 My '51

Diffusivity of water vapor in some common gases. F. A. Schwertz and J. E. Brow. bibliog diags J Chem Phys 19:640-6 My '51

Effect on water vapour pressure of superimposed air pressure. T. J. Webster. diags Soc Chem Ind J 69(sup no 1):S1-3 '50

Electrical measurement of water vapor with a hygroscopic film. E. R. Weaver. bibliog diags Anal Chem 23:1076-80 Ag '51

Moisture permeability, diffusion and sorption in organic film-forming materials. A. M. Thomas. bibliog J Ap Chem 1:141-58 Ap '51

Sorption of water vapor by proteins and polymers. B. Katchman and A. D. McLaren. bibliog Am Chem Soc J 73:2124-7 My '51

Studies of the exchange reactions of solid oxides; the exchange of oxygen between water vapour and certain metallic oxides. E. Whalley and E. R. S. Winter. Chem Soc J p 1175-7 Ap '50

Thermal diffusion in hydrogen-water vapor mixtures. E. Whalley. J Chem Phys 19:509-10 Ap '51

Viscosity of mixed vapours. R. B. Silgardo and J. A. Storrow. bibliog(48 ref) diags Soc Chem Ind J 69:261-6 S '50

Water vapor absorption lines in the solar spectrum between 8μ and 13 μ. J. H. Shaw and H. H. Claassen. Phys R 82:559 My 15 '51

Water-vapor permeability of building papers and other sheet materials. E. R. Bell and others. bibliog il diag Heating-Piping 22: 109-15 D '50

See also

Humidity

Hygroscopicity

WATER waste

Do we waste too much water? chemical and drug industry; abstract. R. C. Kelly. il Chem Eng 58:256+ Jl '51

Unaccounted-for-water. H. E. Beckwith. Water & Sewage Works 98:341-3 Ag '51

Waste water detection and suppression; abstract. Am Water Works Assn J 43:sup76+ S '51

See also

Water conservation

WATERBURY, Connecticut

Sewerage

Effect of metal wastes on sewage treatment plant design. R. D. Mitchell and others. bibliog maps Sewage & Ind Wastes 23:1001-11 Ag '51

WATERMAN, Alan Tower, 1892-
Director of NSF. por(cover) Chem & Eng N 29:1212 Mr 26 '51

WATERPROOF paper. See Paper, Waterproof

WATERPROOF paper manufacturers association
Annual meeting, Chicago, Oct. 26. Paper Ind 32:988 D '50

WATERPROOFING
Beating the leaks in a glass and metal wall like the U.N.'s. il diags Arch Forum 94: 204-5+ Je '51
Clear water repellent for masonry finish. il Concrete 59:30+ F '51
Cocoon house uses navy's moth-balling material to weatherproof catenary curved roof. R. S. Twitchell and P. Rudolph. il plan diag Arch Forum 94:156-9 Je '51
Waterproofing electrical-resistance strain gauges. J. D. Todd. il diags Engineering 171:67 Ja 19 '51

WATERPROOFING of textiles
New loom attachment weaves extra-tight, waterproof cotton fabrics; Southern regional research laboratory. il diags Textile World 101:143 Ag '51
Water-repellency of textiles; past developments and future prospects; with list of patents. T. R. Harding. Textile Inst J 42: P691-9; Discussion. P700-2 Ag '51
Zirconium chemicals; their use in water repellent treatment of textiles. W. B. Blumenthal. diag Rayon 32:85-6+ Ja '51

Patents

Water repellent fabrics; methylolmelamine, etherified with lower and higher alcohols. Am Dyestuff Rep 39:925-6 D 25 '50
Water repellent fabrics; methylolmelamines, reacted with higher amides and transformed into quaternary compounds. Am Dyestuff Rep 39:726 O 30 '50
Water repellent fabrics; solutions of organosilicon halides at low temperatures. Am Dyestuff Rep 40:105 F 5 '51
Water repellent fabrics, substituted silicones and alkylsilicyl esters; patent. Am Dyestuff Rep 40:278 Ap 30 '51
Water repellent textiles; Velan (Zelane) and dimethylolurea, applied with excess formaldehyde. Am Dyestuff Rep 40:4-5 Ja 8 '51

WATERWAYS
Bridge waterway area formula developed for Indiana. R. B. Yule. il Civil Eng 20:650+ O '50; Discussion. F. B. Marsh. 21:97 F '51
Harbours and waterways in 1950. il diag Engineer 191:84-6 Ja 19 '51
Port authority for Chicago would smooth growing traffic on waterway. L. Castle. Nat Pet N 43:27 Ap 25 '51
Waterway traffic on the Great Lakes. J. R. Hardin. Am Soc C E Proc 77[no 83]:1-10 Ag '51

See also
Barges
Canals
Lakes
New York state barge canal
Railroads—Waterways competition
Rivers
St Lawrence waterway and power project
Thames river

Germany

Germany's inland-waterway traffic. For Comm W 44:16-17 Ag 13 '51

United States

Work injuries to crewmen on inland waterway vessels. F. S. McElroy and G. R. McCormack. Mo Labor R 71:676-80 D '50

WATERWORKS
A.W.W.A. Minnesota section meeting, St Paul, Sept. 6-8; with abstracts of papers. Water & Sewage Works 97:505-6 D '50
AWWA Virginia section 17th annual meeting, Richmond, Nov. 6-7. Water & Sewage Works 98:22-5 Ja '51
Building waterworks in Puerto Rico. A. J. Fox, jr. il map Eng N 146:32-5 Ap 26 '51
Canada's oldest water-supply system; Saint John, N.B. W. R. Godfrey. il map Munic Util 88:22-4+ N '50
Construction trends in the water works field. V. R. Kneer. Am Water Works Assn J 43:6-10 Ja '51
Dallas is winning its battle for water. il Eng N 146:35-7 My 3 '51
Dallas spends millions for water works improvements. il Pub Works 82:52 F '51
Equipment for waterworks construction and maintenance. R. T. Hollies. il Munic Util 88:30-2 O '50
Florida and Cuban water and sewage assn.'s joint meeting, Fort Lauderdale, Nov. 12-15. Water & Sewage Works 98:80-6 F '51
Gold Coast has waterworks problems similar to those of Canada. il Munic Util 89:29-30+ Ag '51
Houston plans an open-air waterworks. il Eng N 147:62 S 27 '51
Maine water utilities association 25th midwinter meeting, Portland. Water & Sewage Works 98:156-8 Ap '51
Metropolitan water board; works in progress and constructed in 1950. il Engineer 191: 150-2 F 2 '51
Pennsylvania water works operators' association 24th annual meeting, State College, Aug. 19-22; with abstracts of papers. Water & Sewage Works 98:447-51 O '51
South African water supply scheme. il map diag Engineer 191:522-3 Ap 20 '51
Water and sewage works reference and data section, 1951. Water & Sewage Works 98: R1-191 Ap '51
Water supply and sanitation in 1950. il Engineer 191:114-16 Ja 26 '51
Water supply developments, 1950. W. V. Weir. il Water & Sewage Works 98:1-10 Ja '51
Water-supply improvements for Canada's capital. map Munic Util 89:17-21+ F '51

See also
Aqueducts
Dams
Filters and filtration
Filtration plants
Hydrants
Pumping stations
Pumps
Reservoirs
Water distribution
Water purification
Water supply engineering

Accounting

Uniform system of accounts for water utilities. Munic Util 88:26-7+ N '50
Water and sewerage financing and accounting. R. S. Gillespie. Munic Util 88:38+ O '50
Water works accounting practices. E. F. Carter. Am Water Works Assn J 43:358-66 My '51

Bibliography

Condensation; abstracts of waterworks literature. Am Water Works Assn J 43:sup 36+ Ja '51 [cont monthly]
Water works digest. Published in monthly numbers of Public works

Costs

How zone pumping in Port Arthur, Ont. effects saving in power costs. R. B. Chandler. il plan Munic Util 89:21-4+ Jl '51
Material requirements for sewage and water installations. il Pub Works 82:35+ Jl '51
Meter maintenance costs. A. P. Kuranz. Am Water Works Assn J 43:689-93 S '51
Meter reading and commercial department operation. K. K. King. Am Water Works Assn J 43:705-12 S '51
Water supply and sanitation, 1950 projects. il Eng N 146:264+ Mr 29 '51

Directories

Directory of Canadian waterworks systems. Munic Util 88:10+ D '50

Electric equipment

Maintenance of electrical equipment in water and sewage works. A. R. Walker. Water & Sewage Works 98:172-5 Ap '51

Emergency problems

Emergency water connections. A. V. Agnew. Pub Works 82:52 Ja '51

Employees

Compensation of water works personnel; A.W.W.A. committee report. Am Water Works Assn J 43:675-80 S '51; Abstract. Water & Sewage Works 98:299-300 Jl '51

Equipment

Amperometric residual chlorine recording. G. J. Hazey. Am Water Works Assn J 43:292-8 Ap '51

WATERWORKS—Equipment—*Continued*

Capacity and loadings of suspended solids contact units; committee report. diags Am Water Works Assn J 43:263-91 Ap '51

Classified index of products used in waterworks and sewage field. Water & Sewage Works 98:R1-13 Ap '51

Fluoride chemical feeding; with cost data. L. E. Harper. il diags Am Water Works Assn J 43:744-62 S '51

How system head curves solve pump buying problems. T. F. Keating. il Pub Works 82: 48-50+ Mr '51

Need for water works reequipment. W. V. Weir. Am Water Works Assn J 43:1-5 Ja '51

New water supply for the Alexandria water co.; with cost data. E. H. Aldrich. il plans diags Am Water Works Assn J 43:332-48 My '51

Operating costs of construction equipment; Water bureau, Hartford, Conn. S. L. Rogers. il Water & Sewage Works 98:103-6 Mr '51

Small water treatment plant, Clear Lake, Ia. il Pub Works 81:49 N '50

Soft, ample supply guaranteed by Edmonton's second water plant. W. I. McFarland. il plan Eng N 146:38-40 Ap 12 '51

Softening plant has sea-water regeneration, and automatic control, for processing. il diag Eng N 146:46-8 F 1 '51

Truck equipped for water works service. F. G. Doggett. il Pub Works 82:37 F '51

Unusual flexibility features water plant; Chester, Ill. F. E. Wenger. il Pub Works 82:40-2+ Mr '51

Water department utility truck. B. R. Boyer. Pub Works 82:38 F '51

Waterworks for two small villages. il Pub Works 81:46 D '50

Extension rules

Tentative regulations governing water service. Am Water Works Assn J 43:299-312 Ap '51

Finance

Annual reports of various cities in the U.S. Am Water Works Assn J 43:sup 44+ F '51

Authorization for revenue bond issues in California. S. B. Robinson. Am Water Works Assn J 43:113-20 F '51

Basic considerations in determining water rates. L. E. Ayres. bibliog Am Water Works Assn J 42:981-95; Discussion. 995-1002 N '50

Computing size of a revenue bond issue. G. D. Russell. Water & Sewage Works 98:438-9 O '51

Cost of refrigerative and other special service. E. L. Bean. bibliog Am Water Works Assn J 43:65-81 Ja '51

Financing water works improvements. W. L. Gilmer. Am Water Works Assn J 43:313-20; Discussion. D. Mills. 320-1 Ap '51

Water and sewerage financing and accounting. R. S. Gillespie. Munic Util 88:38+ O '50

Flood damage

Kansas City, Mo. just missed a water famine. J. R. Carr. map Eng N 147:29 Ag 2 '51

Water supply notes on the Kansas flood. il maps Am Water Works Assn J 43:681-8 S '51

Winnipeg's flood emergency organization. W. D. Hurst. il Am Water Works Assn J 42: 1095-110 D '50

Laboratories

Analytical instruments used in the modern water plant laboratory. S. K. Love. bibliog Am Water Works Assn J 43:725-35; Discussion. J. R. Baylis. 735-40 S '51

Laws and regulations

Payment for utility changes in state highways. H. B. Shaw. Am Water Works Assn J 43:496-504 Jl '51

Maintenance and repair

Waterworks operation and maintenance; guided discussion. Munic Util 88:21+ N '50

Waterworks valve maintenance and repair in the city of Peterborough. R. L. Dobbin. Munic Util 89:24+ Ag '51; Same. Am Water Works Assn J 44:58-60 Ja '52

Welding-cutting equipment pays for itself on one job. L. E. Baxter. il Pub Works 82: 49-50 My '51

Management

Bill collection stations in large cities; panel discussion. W. R. LaDue and others. Am Water Works Assn J 43:136-44 F '51

Collections and complaints. A. E. Clark. Water & Sewage Works 98:385-6 S '51

Considerations involved in adding industrial customers to public water supply systems. A. O. Norris. Am Water Works Assn J 43: 612-14 Ag '51

General waterworks practice; guided discussion. Munic Util 89:62+ Je '51

Headaches, hunches and hard work; pages from the life of a superintendent. M. Maffitt. il Water & Sewage Works 97:101-3, 153-4, 272-4, 355-8, 499-502; 98:219-21 Mr-Ap, Jl, S, D '50, My '51

Helpful suggestions for operating water works; abstracts of chapters of Manual for water works operators, published by the Texas water works and sewerage short school. Pub Works 82:38+ My '51

Operating control of small treatment plants; panel discussion. R. G. Yaxley and others. Am Water Works Assn J 43:145-52 F '51

Operation of one small water works; Haledon, N.J. J. J. Kapp, jr. il Water & Sewage Works 97:503-4 D '50

Operation of small water plants. A. E. Clark. Water & Sewage Works 97:333-4, 454-5 Ag, N '50

Planning expansions by forecasting public and industrial requirements. P. D. Cook. bibliog Am Water Works Assn J 43:585-90 Jl '51

Procedures in handling water accounts; guided discussion. Munic Util 89:41-2+ Je '51

Quarter-century of water plant operation; Laurel, Md. F. Gosnell. il Water & Sewage Works 98:107-11 Mr '51

Sanitary supervision of the Houston water supply. Pub Works 82:42 F '51

Municipal ownership

Relationship of water works to general city administration. J. H. Huss. Am Water Works Assn J 43:349-55; Discussion. L. E. Ayres. 355-7 My '51

Power

Waterworks power-plant practice; the comparative costs of steam-, Diesel- and electrically-operated machinery. T. P. Wakeford. Inst E E Proc 96 pt 2:203-22 Ap '49; Discussion. 96 pt 2:222-7; 97 pt 2:67-76; 98 pt 2:69-73 Ap '49; F '50, F '51

Public relations

Public relations panel. Water & Sewage Works 98:24-5 Ja '51

Radio communication

Mobile radio communications in California. M. J. Shelton; N. J. Kendall. Am Water Works Assn J 43:367-72 My '51

Radio communications in water works. J. G. Copley. Pub Works 81:65-6 D '50

Radio control-Kardex record system combination; water works operation, maintenance and repair at Winnipeg. W. L. Wardrop. il Water & Sewage Works 98:195-202 My '51

Two way radio in Water department operation; San Angelo. J. E. Williams. il Pub Works 82:50 S '51

Use of radio by utilities. G. S. Moore. Am Water Works Assn J 43:227-30 Mr '51

Records

Radio control-Kardex record system combination; water works operation, maintenance and repair at Winnipeg. W. L. Wardrop. il Water & Sewage Works 98:195-202 My '51

Safety measures

New substance adds fluorine to water if not enough; takes it away if too much. Munic Util 89:20 Je '51

Safety practices. Am Water Works Assn J 43:423-34 Je '51

Supervisor's stake in safety. H. F. Webb. Water & Sewage Works 97:459-61 N '50

WATERWORKS—*Continued*

War measures

Civil-defense-conscious suburb readies water supply for emergency; Park Ridge, Ill. il Eng N 147:43 Jl 5 '51

Civil defense for water supplies. E. Devendorf. il map Pub Works 82:71-3+ Ap '51

Civil defense in the water works industry. J. S. Longwell. Am Water Works Assn J 43:505-12 Jl '51

Civil-defense measures as applied to municipal water systems. W. E. MacDonald. il Munic Util 89:44-6+ Je '51

Diesel power for pumping and civil defense; Park Ridge, Ill. il Pub Works 82:49 Ag '51

Mutual aid test drill. Water & Sewage Works 98:349 Ag '51

Preparing for atomic eventualities; duty of water works management. M. B. Cunningham. il Water & Sewage Works 98:95-7 Mr '51

Radioactive contamination of water supplies receives consideration by board of directors of American water works association. Munic Util 89:29-30 F '51

Serious defense problems face water authorities of Vancouver area. J. C. Oliver. Munic Util 89:52+ Je '51

Water supplies and atomic bombing; abstract. G. W. Moore. Water & Sewage Works 98:449-50 O '51

Waterworks and the defense program; discussion. Munic Util 89:42-4 My '51

Waterworks group ponders safeguards. Eng N 146:30 Ap 12 '51

Waterworks planning in Halifax area to meet civil-defense needs. I. P. Macnab. map Munic Util 89:48+ Je '51

What if an A-bomb hits Chicago's water supply? il Eng N 146:36-7 Ap 26 '51

WATT hour meters

Adjustable grip removes glass meter covers. E. C. Kohl. il Elec World 135:102 F 26 '51

Obsolescence of watt-hour meters. G. M. Donnelly. Elec West 105:84-8 O '50

Parasitic forces existing in induction watthour meters. G. F. Shotter. diags Inst E E Proc 96 pt 2:729-47 O '49; Discussion. 96 pt 2:747-51; 98 pt 2:67-8 O '49, F '51

Watthour-meter certification. F. H. Busch and J. C. Garrett. il Gen Elec R 54:10-15 Mr '51

Why we prefer the 30-amp meter. E. L. Keller. il Elec World 134:112-14 D 4 '50

History

Development of watthour meters. T. D. Barnes. bibliog il diags Westinghouse Eng 10:226-32 N '50

Testing

How can we check ac and dc watthour meters? diags Power 95:132+ Mr '51

Photocell speeds testing of watthour meters. H. F. Robinson and W. H. Wickham. il Elec World 134:116+ N 6 '50; Abstract. Instruments 23:1018 O '50

Two numerical indexes evaluate masses of meter test data. F. H. Busch. Elec World 134:84-6 D 18 '50

WATTLE

Chemical constitution of wattle (mimosa) tannin. A. M. Stephen. Chem Soc J p3082-5 D '49

WATTMETERS

Isolation ward for load peaks. Westinghouse Eng 10:254-5 N '50

Three-phase consumption tests. G. W. Stubbings. diags Electrician 146:133-4 Ja 12 '51

Use of an electrostatic wattmeter for magnetic loss measurements; discussion. Electrician 146:977-8 Mr 23 '51

WATTS, Arthur S. 1876-

Honorary degrees. por Am Cer Soc Bul 30:245 Jl 15 '51

WAUKESHA motor company

Profits in sharp recovery. Barron's 31:13-14 Ag 6 '51

WAVE guides

Analysis of symmetrical waveguide junctions. D. M. Kerns. diags J Res Nat Bur Stand 46:267-82 Ap '51

Corrugated-waveguide band-pass filters. J. C. Greene. bibliog il diags Electronics 24:117-19 Jl '51

Cut-off frequency in two-dielectric layered rectangular wave guides. J. Van Bladel and T. J. Higgins. diags J Ap Phys 22:329-34 Mr '51

Expandability of a wave-guide field in terms of normal modes. J. Van Bladel. diags J Ap Phys 22:68-9 Ja '51

Gaseous discharge super-high-frequency noise sources. H. Johnson and K. R. Deremer. bibliog il diags Inst Radio Eng Proc 39:908-14 Ag '51

High power attenuating tuner for a high Q ten-cm cavity. R. R. Perron. diags R Sci Instr 22:116-17 F '51

Instrument to demonstrate the synthesis of a wave-guide mode of propagation. H. M. Barlow. il diags J Sci Instr 27:307-9 N '50

Magneto-optics of an electron gas for guided microwaves; propagation in rectangular wave guide. L. Goldstein and others. diag Phys R 83:1255 S 15 '51; Same. Elec Com 28:322 D '51

Magneto-optics of an electron gas with guided microwaves. L. Goldstein and others. Phys R 82:956-7 Je 15 '51; Same. Elec Com 28:233-4 S '51

Microwave components; precision casting vs electroforming. A. A. Feldmann. il Materials & Methods 34:70-2 Jl '51

Offset wave-guide junction as a reactive element. L. D. Smullin and W. G. Glass. diags J Ap Phys 22:1124-7 S '51

Periodic-waveguide traveling-wave amplifier for medium powers. G. C. Dewey and others. bibliog diags Inst Radio Eng Proc 39:153-9 F '51; Same. Elec Com 28:220-7 S '51

Propagation characteristics in a coaxial structure with two dielectrics. A. Baños, jr. and others. diag J Ap Phys 22:117-23 F '51

Propagation on dielectric coated wires. E. T. Kornhauser. J Ap Phys 22:525 Ap '51

Properties of longitudinal slots in circular waveguides. C. E. Feiker and S. C. Clark, jr. diags Tele-Tech 10:42-4+ Mr '51

Representation of the electric and magnetic fields produced by currents and discontinuities in wage guides. N. Marcuvitz and J. Schwinger. diags J Ap Phys 22:806-19 Je '51

Study of single-surface corrugated guides. W. Rotman. bibliog il diags Inst Radio Eng Proc 39:952-9 Ag '51

Surface-wave propagation over a coated plane conductor. S. S. Attwood. diag J Ap Phys 22:504-9 Ap '51

Surface waves and their application to transmission lines. G. Goubau. diags J Ap Phys 21:1119-28 N '50

Theory of space-charge waves in cylindrical waveguides with many beams. P. Parzen. diags Elec Com 28:217-19 S '51

Tunable waveguide filters. W. Sichak and H. Augenblick. diags Inst Radio Eng Proc 39:1055-9 S '51

Waveguide taper design. J. F. Sodero. diags Tele-Tech 10:43-4 Je '51

Bibliography

Radio progress during 1950; antennas and waveguides. Inst Radio Eng Proc 39:359-61 Ap '51

Testing

Test-equipment for use in the design and testing of the waveguide components. diags Electronics 24:138 O '51

WAVE mechanics

Adiabatic theorem and the *S*-matrix. H. S. Snyder. Phys R 83:1154-9 S 15 '51

Application of a modified quantum-mechanical cellular method to the hydrogen molecule. V. A. Lewinson and G. E. Kimball. diag J Chem Phys 19:690-3 Je '51

Approximate eigensolutions of $(d^2\phi/dx^2)+[\alpha+\beta(e^{-x}/x)]\phi=0$. L. Hulthén and K. V. Laurikainen. bibliog Rs Mod Phys 23:1-9 Ja '51

Associated Legendre polynomial approximations. R. Landauer. bibliog J Ap Phys 22:87-9 Ja '51

Asymptotic expansion of irregular Coulomb function for angular momentum zero. G. Breit and M. H. Hull, jr. bibliog Phys R 80:392-5 N 1 '50

Asymptotic expansion of the irregular Coulomb function. G. Breit and M. H. Hull, jr. Phys R 80:561-3 N 15 '50

WAVE mechanics—*Continued*

Averaged field calculation of the polarity of the carbon-hydrogen bond. C. R. Mueller and H. Eyring. bibliog J Chem Phys 19:193-6 F '51

Binding regions in diatomic molecules. T. Berlin. J Chem Phys 19:208-13 F '51

Bipolar expansion of coulombic potentials. R. J. Buehler and J. O. Hirschfelder. Phys R 83:628-33 Ag 1 '51

Boundary conditions for the description of nuclear reactions. M. Moshinsky. diag Phys R 81:347-52 F 1 '51

Calculation of coefficients of Coulomb and exchange integrals in matrix elements involving polar singlet structures. M. Simonetta and V. Schomaker. bibliog J Chem Phys 19:649-53 My '51

Calculation of the electron affinity of sodium. R. M. Thaler. Phys R 83:131-3 Jl 1 '51

Canonical transformation in the theory of particles of arbitrary spin. W. A. Hepner. Phys R 81:290-1 Ja 15 '51

Classical spin-wave theory of Heller and Kramers. M. J. Klein and R. S. Smith. Phys R 80:1111 D 15 '50

Collective description of electron interactions; magnetic interactions. D. Bohm and D. Pines. bibliog Phys R 82:625-34 Je 1 '51

Conceptual foundations of the quantum theory. H. Margenau. Science 113:95-101 Ja 26 '51

Connection of the scattering and derivative matrices with causality. W. Schützer and J. Tiomno. bibliog Phys R 83:249-51 Jl 15 '51

Consequences of gauge invariance for radiative transitions. R. G. Sachs and N. Austern. Phys R 81:705-9 Mr 1 '51

Conventional perturbation theory. S. Wu. bibliog Phys R 83:730-4 Ag 15 '51

Coulomb functions for reactions of protons and alpha-particles with the lighter nuclei. I. Bloch and others. Rs Mod Phys 23:147-82 Ap '51

Coupling of a Dirac field to a Kemmer field. A. Klein. bibliog Phys R 82:639-46 Je 1 '51

Definition and approximation of Feynman's path integrals. C. Morette. bibliog diag Phys R 81:848-52 Mr 1 '51

Delayed coincidence angular correlations. S. P. Lloyd. bibliog Phys R 82:277-8 Ap 15 '51

Determination of reduced widths from the one-level dispersion formula. R. G. Thomas. bibliog Phys R 81:148-9 Ja 1 '51

Dirac central field wave functions. M. E. Rose. bibliog Phys R 82:389-91 My 1 '51

Discrete energy levels associated with the Lennard-Jones potential. J. E. Kilpatrick and M. F. Kilpatrick. J Chem Phys 19:930-3 Jl '51

Dodecahedral octacovalent bond orbitals. G. H. Duffey. J Chem Phys 18:1444-5 N '50

Electron-neutrino angular correlation. E. Greuling and M. L. Meeks. bibliog Phys R 82:531-7 My 15 '51

Electronic energy levels of molecular crystals. H. Winston. bibliog J Chem Phys 19:156-60 F '51

Energy level perturbation of a particle in a spheroidal potential well. S. Gallone and C. Salvetti. Phys R 82:551 My 15 '51

Energy levels of a vector particle in a pure coulomb field. K. M. Case and A. M. L. Messiah. Phys R 82:563 My 15 '51

Energy levels of light nuclei. W. F. Hornyak and others. diags Rs Mod Phys 22:291-372 bibliog(p364-72) O '50

Evaluation of the collision matrix. G. C. Wick. bibliog Phys R 80:268-72 O 15 '50

Evaluation of the *S*-matrix. F. Coester. Phys R 81:455-6 F 1 '51; Correction. 83:1066 S 1 '51

Explicit γ-γ angular correlations. S. P. Lloyd. bibliog Phys R 83:716-20 Ag 15 '51

Factorization method. L. Infeld and T. E. Hull. bibliog(53 ref) diag Rs Mod Phys 23:21-68 Ja '51

Franck-Condon principle and the size of the excited benzene molecule. D. P. Craig. Chem Soc J p2146-51 Ag '50

General valence orbitals derivable by sp_3 hybridization. P. Torkington. bibliog diags J Chem Phys 19:528-33 My '51

Hyperfine structure of the rotational spectra of XYZ_3-type molecule, where nuclei Z have electric quadrupole moments. M. Mizushima and T. Ito. bibliog J Chem Phys 19:739-44 Je '51

Information, measurement, and quantum mechanics. J. Rothstein. bibliog diag Science 114:171-5 Ag 17 '51

Interaction effects on radiative transitions in nuclei. N. Austern and R. G. Sachs. Phys R 81:710-16 Mr 1 '51

Interaction of the Dirac magnetic monopole with matter. W. V. R. Malkus. diags Phys R 83:899-905 S 1 '51

Intermediate spin-orbit coupling for large rotational quantum number. W. A. Nierenberg. bibliog diags Phys R 82:932-5 Je 15 '51

Internal excitation and apparent range of nuclear forces in scattering experiments. G. Breit and M. C. Yovits. bibliog Phys R 81:416-24 F 1 '51

Irreducible volume character of events; a theory of the elementary particles and of fundamental length. B. T. Darling. bibliog Phys R 80:460-6 N 1 '50

Kinetics of OH radicals from flame emission spectra; rotational and vibrational distribution functions and temperature determinations in the $^2\Sigma^+$-$^2\pi$ transition of OH. K. E. Shuler. bibliog J Chem Phys 18:1466-70 N '50

Kinetics of OH radicals from flame emission spectra; total transition probabilities and the energetic distribution of $OH(^2\Sigma^+)$ and $O_2(^3\Sigma_u^-)$ in the oxy-hydrogen flame. K. E. Shuler. bibliog J Chem Phys 19:888-94 Jl '51

l-Type doubling in axially symmetric molecules, in particular with reference to molecules belonging to the symmetry groups C_{4v} and V_d. J. de Heer. diags Phys R 83:741-5 Ag 15 '51

LCAO self-consistent field calculation of the twisting frequency and π-electron energy levels of allene. R. G. Parr and G. R. Taylor. bibliog J Chem Phys 19:497-501 Ap '51

Magnetic effects and the Hartree-Fock equation. J. C. Slater. bibliog Phys R 82:538-41 My 15 '51

Maximum rate of wave function amplitude change. R. Landauer. Phys R 82:549 My 15 '51

Methods of calculation of radial wave functions and new tables of Coulomb functions. I. Bloch and others. bibliog Phys R 80:553-60 N 15 '50

Mirror levels in Li^7 and Be^7. B. R. Mottelson. Phys R 82:287 Ap 15 '51

Molecular orbital calculations of the lower excited electronic levels of benzene, configuration interaction included. R. G. Parr and others. bibliog J Chem Phys 18:1561-3 D '50

Momentum representation of the coulomb scattering wave functions. E. Guth and C. J. Mullin. bibliog Phys R 83:667-8 Ag 1 '51

Nature of the scale factor occurring in the quantum-mechanical treatment of systems by the variational method. P. Torkington. J Chem Phys 19:979-80 Jl '51

New developments in molecular orbital theory. C. C. J. Roothaan. diags Rs Mod Phys 23:69-89 Ap '51

Non-local field theory. D. R. Yennie. bibliog Phys R 80:1053-61 D 15 '50

Nuclear energy levels, *Z*-11 to 20. D. E. Alburger and E. M. Hafner. Rs Mod Phys 22:373-85 bibliog(p384-5) O '50

Numerical variational method. R. E. Meyerott and others. Phys R 83:846-7 Ag 15 '51

One-to-one correspondence between infinitesimal canonical transformations and infinitesimal unitary transformations. D. C. Rivier. Phys R 83:862-3 Ag 15 '51

Orbital hybridisation and some other considerations concerning the transition state of bimolecular organic substitution reactions. V. Gold. Chem Soc J p 1430-4 Je '51

Orthogonal atomic orbitals. J. C. Slater. J Chem Phys 19:220-3 F '51

Overlap integrals and chemical binding. R. S. Mulliken. bibliog Am Chem Soc J 72:4493-503 O '50

Particle spin and rotation. N. Rosen. bibliog Phys R 82:621-4 Je 1 '51

WAVE mechanics—*Continued*

Properties of Dirac wave functions in a central field. M. E. Rose and R. R. Newton. bibliog Phys R 82:470-7 My 15 '51

Quantum limits of the electrostatic image force theory. R. G. Sachs and D. L. Dexter. J Ap Phys 21:1304-8 D '50

Quantum-mechanical equations of motion and commutation relations. C. R. Putnam. Phys R 83:1047-8 S 1 '51

Quantum mechanics of assemblies of interacting particles. H. S. Green. J Chem Phys 19:955-62 Jl '51

Quantum mechanics of chemical kinetics of homogeneous gas-phase reactions. S. Golden and A. M. Peiser. bibliog J Chem Phys 17:620-43 Jl '49; pt 3. J Phys & Colloid Chem 55:789-808; Discussion. 808-11 Je '51

Quantum statistics of fields. A. E. Scheidegger and C. D. McKay. bibliog Phys R 83:125-31 Jl 1 '51; Correction. 83:1263 S 15 '51

Quantum theory of non-local fields; irreducible fields and their interaction. H. Yukawa. bibliog Phys R 80:1047-52 D 15 '50

Radiative transition probabilities in nuclei. V. F. Weisskopf. Phys R 83:1073 S 1 '51

Reflections in one-dimensional wave mechanics. R. Landauer. Phys R 82:80-3 Ap 1 '51

Regarding covariant subtraction of infinities. G. Breit. bibliog Science 113:103-4 Ja 26 '51

Relative phase of the interaction constants for mixed invariants in beta-decay. L. C. Biedenharn and M. E. Rose. bibliog Phys R 83:459 Jl 15 '51

Relativistic corrections in high energy *n-p* scattering. A. Siegel. bibliog Phys R 82:194-203 Ap 15 '51

Relativistic quantum mechanics. K. V. Roberts. bibliog Phys R 81:158-9 Ja 1 '51

Retarded nuclear interaction. S. T. Ma. bibliog Phys R 82:275-6 Ap 15 '51

Role of E_g^+ vibrations in the 2600-A. benzene band system. D. P. Craig. Chem Soc J p59-62 Ja '50

Scattering of mesons by nuclear particles. Vachaspati. bibliog Phys R 80:973-6 D 15 '50

Scattering theory of the Dirac equation. G. Parzen. bibliog Phys R 80:261-8 O 15 '50

Selection rules for closed loop processes. C. B. van Wyk. Phys R 80:487-8 N 1 '50

Separation of the rotational coordinates from the *N*-particle Schroedinger equation. C. F. Curtis and others. diag J Chem Phys 18:1638-42 D '50

Simplification of the Hartree-Fock method. J. C. Slater. bibliog Phys R 81:385-90 F 1 '51

Singular potentials. K. M. Case. Phys R 80:797-806 D 1 '50

Solution of the Schrödinger equation for an approximate atomic field. E. H. Kerner. bibliog Phys R 83:71-5 Jl 1 '51

Some considerations on the strengths of hybrid bonds in excited states of the hydrogen molecule-ion. H. O. Pritchard and H. A. Skinner. Chem Soc J p945-52 Ap '51

Some quantum-mechanical divergences of a simple field. W. Sollfrey and G. Goertzel. diag Phys R 83:1038-44 S 1 '51

Theory of angular correlation phenomena. L. Eisenbud. Franklin Inst J 251:231-46 F '51

Theory of directional correlation. K. Alder. Phys R 83:1266-7 S 15 '51

Theory of internal conversion. N. Tralli and G. Goertzel. bibliog Phys R 83:399-404 Jl 15 '51

Theory of molecular complexes; abstract. R. S. Mulliken. Science 113:479 Ap 27 '51

Theory of spin waves in ferromagnetic media. C. Herring and C. Kittel. bibliog diags Phys R 81:869-80 Mr 1 '51

Triple-dipole interaction. B. M. Axilrod. bibliog J Chem Phys 19:719-29 Je '51

Variational approach to nuclear reactions. J. L. Jackson. Phys R 83:301-4 Jl 15 '51

Variational method for inelastic collision problems. B. L. Moiseiwitsch. Phys R 82:753 Je 1 '51

Variational principle for time-dependent problems. M. Cini and L. A. Radicati. bibliog Phys R 80:300-1 O 15 '50

Wave function of ionized lithium. P. J. Luke and others. Phys R 83:847 Ag 15 '51

Wave functions for superconducting electrons. J. Bardeen. bibliog Phys R 80:567-74 N 15 '50

See also

Quantum electrodynamics
Scattering of particles and rays

WAVES

Gulf Coast hurricane design data. A. H. Glenn. bibliog World Oil 131:101-2+ D '50

Preliminary investigation of the discrepancies between the calculated and measured wave-making of hull forms; abstract. J. R. Shearer. Engineer 190:603 D 15 '50

Problem of wave action on earth slopes. M. A. Mason. Am Soc C E Proc 76 [no 44]: 1-6 N '50

Submarine geology of Bikini lagoon as indicated by dispersion of water-borne explosion waves. M. B. Dobrin. bibliog map diag Geol Soc Bul 61:1091-117, pl 1-3 O '50

Theory of air-coupled flexural waves. F. Press and M. Ewing. bibliog diag J Ap Phys 22:892-9 Jl '51

Wind tides in small closed channels. G. H. Keulegan. bibliog diags J Res Nat Bur Stand 46:358-81 My '51

See also

Electric waves
Light
Radiation
Radio waves
Shock waves
Sound waves
Supersonic waves
Vibration

WAXED paper. See Paper, Waxed

WAXES

American lignites; geological occurrence, petrographic composition, and extractable waxes. W. A. Selvig and others. il maps diags U S Bur Mines Bul 482:1-63; pa 35c Supt. of doc. '50; Abstract. Am Assn Pet Geologists Bul 34:2347-51 D '50

Centrifugal clarification of waxes and varnishes. C. M. Ambler. il diags Soap & San Chem 27:118-20 F '51

Effect of compounding variables on styrene-butadiene latex used for protective coatings for paper. M. E. Wendt and W. H. Aiken. bibliog Tappi 34:49-56 F '51

Electrically heated oil replaces steam for wax melting. il Elec World 135:146 Ap 23 '51

Explosive sensitivity of ammonium nitrate-hydrocarbon mixtures. M. A. Cook and E. L. Talbot. bibliog il Ind & Eng Chem 43:1098-102 My '51

Extractives from ponderosa pine bark. E. F. Kurth and J. K. Hubbard. il Ind & Eng Chem 43:896-900 Ap '51

Johnson dedicates wax research laboratory tower. il Soap & San Chem 26:141+ D '50

Not so refined. il Chem Ind 67:881-2 D '50

Opening the closet door; adulteration of vegetable waxes. Chem Ind W 68:40-1 My 26 '51

Paraffin and microcrystalline waxes. D. T. Jones. Soap & San Chem 26:125+ N '50

Petroleum waxes; their use and evaluation for paper packaging. T. C. G. Thorpe. diags Inst Pet J 37:275-303; Discussion. 303-15 Je '51

Solvent fractionation of wax mixtures; patent. flow chart Pet Processing 6:523 My '51

Stabilization of wax aerosols. B. J. Eiseman, jr. il Soap & San Chem 27:106-9+ My '51

Wax emulsions effective as drawing lubricants. il Steel 129:67 Jl 30 '51

Wax fractionation. flow diag Oil & Gas J 49:212-13 Mr 29 '51

Wax manufacturing. flow diag Oil & Gas J 49:212-13 Mr 29 '51

Waxes; types, production, properties, uses. C. J. Marsel. bibliog il Chem Ind 67:563-74 O '50

What replacements for carnauba wax? A. A. Kroner. Soap & San Chem 27:110-113+ Mr '51

See also

Carnauba wax
Cotton—Wax content
Floor wax
Paraffin
Petroleum refining—Wax removal

Analysis

Detecting wax additives. C. J. Marsel and others. Soap & San Chem 27:122-3+, 161 Jl '51

Rating

Automobile waxes and polishes. il Consumers Res Bul 28:17-18 Jl '51

WAXES—*Continued*

Statistics

Oils, fats and waxes. Published in weekly numbers of Oil, paint and drug reporter

Testing

Oil content of petroleum waxes. diags Tappi 34:sup 140A-2A S '51

WAYBILLS

Fast billing for fast freight; teletypewriter communication of waybills. L. Mayrisch. il Ry Age 130:39-41 My 7 '51

Modern office machines speed Pennsylvania railroad freight billing. J. L. Webb. il Ry Age 130:42-4 My 7 '51

Wabash cuts waybill abstracting expense. W. R. Eastman. il Ry Age 129:27 N 25 '50

WAYNE knitting mills

Shows steady growth. Barron's 31:19 My 28 '51

WAYNE university, Detroit

Automotive arithmetic; Wayne university's computation laboratory to aid auto design. Bsns W p54 Mr 31 '51

WEALTH

Women's wealth. M. Adams. Barron's 30:7-8 D 11; 7 D 18 '50

See also

Capital
Economics
Income
Profit

WEAPONS

Korea yields a sample of Russian arms. il Bsns W p22-3 N 18 '50

Pushbutton weapons still under wraps. il Product Eng 22:164-6 Ap '51

Vapor packaging keeps rust off weapons, tools. G. Foster. il Iron Age 167:99-103 Je 7 '51

See also

Atomic bombs

WEATHER

See also

Atmospheric temperature
Cold
Droughts
Dust storms
Fog
Hot weather
Humidity
Meteorology
Rain and rainfall
Snow

Business aspects

He watched the clouds roll by; electric power station's weather watcher. J. P. Callahan. Pub Util 46:873-80 D 21 '50

How temperature affects sales; influence of cool summer on cold beverage consumption. H. Zeisel. Ptr Ink 233:40-2 N 17 '50

Weather's effect on the sales of a department store. A. T. Steele. J Marketing 15: 436-43 Ap '51

WEATHER control

See also

Rain making

WEATHER forecasting

Long range forecasting. J. M. Leaver. Pulp & Pa of Can 52:109-10+ Jl '51

See also

Radio meteorographs

WEATHER forecasts

Accurate temperature forecasting helps in gas operations. W. J. Hartnett. il Am Gas J 174:27+ My '51

Verification

Verification and scoring of weather forecasts. I. I. Gringorten. bibliog Am Stat Assn J 46:279-96 S '51

WEATHER improvement association, National. See National weather improvement association

WEATHER signals, Radio

Air-launched automatic weather station transmits data by radio. il Elec Eng 70: 649-50 Jl '51; Franklin Inst J 252:64-5 Jl '51; Electronics 24:232+ Ag '51

WEATHERING

Accelerated aging of fabric; effects of elimination of sunshine on weather-exposed fabric and subsequent deterioration in storage. J. Maas. bibliog diags Am Dyestuff Rep 39:693-8+ O 16 '50

Accelerated weathering; abstract. P. J. Gay. Paint Oil & Chem R 114:38 My 24 '51

Apparatus for accelerated weathering tests. il Engineering 171:57 Ja 12 '51

Correlation studies of accelerated and natural weathering tests of protectively finished cotton duck. P. J. Fynn and others. bibliog Textile Res J 21:116-23 F '51

Influence of weathering and of microorganisms on the aqueous-extract pH of cotton fiber. P. B. Marsh and others. bibliog il Textile Res J 21:565-79 Ag '51

Protective coatings tests by NBS in new durability laboratory. Heat & Ven 48:114-16 Mr '51

Study of the factors affecting the weathering of rubber-like materials. E. W. Ford and L. V. Cooper. bibliog il diags India Rubber World 124:696-8+; 125:55-60 S-O '51

Ultraviolet inhibitors for cellulose acetate-butyrate plastics; phenyl hydroxybenzoates, hydroxyphenyl benzoates, and their methyl ethers. L. W. A. Meyer and W. M. Gearhart. bibliog il Ind & Eng Chem 43:1585-91 Jl '51

Weathering studies on polyethylene; wire and cable applications. V. T. Wallder and others. il diag Ind & Eng Chem 42:2320-5 N '50

WEATHERING (rocks)

Mechanism of weathering. A. F. Frederickson. bibliog diags Geol Soc Bul 62:221-31 Mr '51; Discussion. D. McConnell. 62:700-1 Je '51; Reply. 62:1411-12 D '51

WEATHERPROOFING of wire. See Electric wire—Weatherproofing

WEAVER, George Leon-Paul

Portrait. Fortune 43:38 F '51

WEAVER, Paul, 1888-

Dean of research. por Oil & Gas J 49:88 Ap 26 '51

WEAVER, Robert Augustus, 1890-

Portrait. Fortune 44:130 S '51

WEAVING

Filling defects give constant trouble. A. Frantz. il diags Textile World 101:128-9 Ja '51

Glass yarns; tips on warping, filling, winding and weaving. H. E. Mahler. il Textile World 101:110-11 Ja '51

Loomfixer's cloth-defects; reference chart. S. C. Veney. Textile World 101:116-18 Ag '51

Setting a workload; case study. N. M. Mitchell. Textile World 101:109-16 O '51

Spinning and weaving ideas aired at spring Southern textile association meetings. Textile World 101:101+ Jl '51

Stop loom stops in warp preparation. E. P. Schremp. il Textile World 101:102-3 Ja '51

Textile factory conversion; electrical applications to automatic weaving. il Elec R (Lond) 148:209-14 F 2 '51

Weaving problems. D. C. Snowden. bibliog Textile Inst J 41:P832-8; Discussion. P838-42 D '50

Why homogenization helps slashing and weaving. J. H. Kennedy. il diags Textile World 101:130-1+ My '51

See also

Cotton weaving
Jacquard weaving
Looms
Nylon weaving
Rayon weaving
Shuttles
Silk weaving
Woolen and worsted weaving

WEBBING

Web guiding control. S. E. Amos. il diags Machine Design 23:159-62 S '51

WEBER-FECHNER law

Investigation of the relationship between amount of dye used and color sensation obtained and its possible application in textile dyeing. H. Cikurel. bibliog Am Dyestuff Rep 39:736-8 O 30 '50

Weber-Fechner law and dyeing strengths. I. H. Godlove. Am Dyestuff Rep 40:49-50 Ja 22 '51

WEBSTER-CHICAGO corporation

Common stock offered. Comm & Fin Chr 172:2484 D 25 '50

WECKLER, Herman L. 1888-

Portrait. Bsns W p69 S 15 '51

WEDEMEYER, Albert Coady, 1897-

Portrait. Bsns W p20 Jl 7 '51; Fortune 44: 26 Ag '51

WEEDS

See also

Crabgrass
Railroads—Weed removal
Water hyacinth

WEEDS—*Continued*

Control

Biological control of weeds in compacted soil cultures. V. P. Sokoloff. bibliog Science 114:271-4 S 14 '51

Chemical weed control. W. Templeman. Chem Age (Lond) 64:988-9 Je 30 '51

Chemical weed killers. M. E. Flentje. il Water & Sewage Works 98:R101 Ap '51

D.N.O.C. more than a weedkiller. Chem Age (Lond) 65:49-50 Jl 14 '51

Herbicides; history of chemical weed control. P. W. Zimmerman and A. E. Hitchcock. il Ind & Eng Chem 43:573-4 Mr '51

Highway weed control by soil sterilization. H. M. Barnes. Pub Works 82:70+ S '51

New materials and methods for pest control. A. M. Livingston. il Pub Works 82:46-7+ Mr '51

New weed killer may prevent injuries from vapor drift; Northeastern weed control conference, 5th, New York, Jan. 3-6. Chem & Eng N 29:198+ Ja 15 '51

United gas pipe line co. uses new weapon in its battle against brush; use of ammonium sulfamate, known as Ammate weed killer. A. E. Carlson. il Oil & Gas J 50:127 S 13 '51

Weed sprayer for along-the-curb-spraying. R. S. Hopson. il Pub Works 82:36-7 F '51

WEIGHING

Automatic statistical control saves on package overfill; Selectrol electronic checkweigher. R. L. Merrill and W. Hecox. il Food Eng 23:55-9 My '51

Compensating for chip moisture variations by chip weighing. M. L. Oliver. Tappi 34:273-5 Je '51

Cracker-filling achievement; new system of weighing; Megowen-Educator food co. il diag Mod Packaging 24:140-3 Ap '51

Electronics applied to production weighing. il Iron Age 168:119-20 S 6 '51

Improved technique for weighing tissues with the Cartesian diver. J. A. Smith and M. Post. Science 112:471-3 O 20 '50; Discussion bibliog diag 113:661-2 Je 8 '51

Pneumatic weighing in process control systems. J. E. Voytilla. il diags Instruments 23:1303-7 D '50

Strain gage scale saves time in weighing operations; illustrations with text. Factory Management 109:99 S '51

See also

Balances

Coal weighing

WEIGHING machines

Automatic weighing of foundry sand mixtures. D. H. Jillson. il diag Foundry 79: 136+ S '51

Batching unit for concrete mixers. il Engineer 191:171 F 2 '51; Engineering 171:147 F 2 '51

Electrical weighing. H. I. Andrews. diags Inst E E Proc 97 pt 1:98-109 My '50; Discussion. 97 pt 1:109-11; 98 pt 1:37-40 My '50, Ja '51

Weigher-stacker speeds matzoth line. il diags Food Eng 23:94-5+ Je '51

Weighing system is hydraulically controlled. il diag Product Eng 22:134-5 Ag '51

See also

Scales

WEIGHT (physiology)

Limitations of the normal body weight as a criterion of normality. J. Brožek and A. Keys. Science 112:788 D 29 '50

Nutrition and the control of chronic disease. R. W. Vilter and C. Thompson. bibliog Pub Health Rep 66:630-6 My 18 '51

Weight control; a simplified concept. A. L. Chapman. bibliog Pub Health Rep 66:725-31 Je 8 '51

WEIGHTS and measures

Conversion of pounds into decimal parts of a gross ton; data sheet. Foundry 78:162 N '50

Freedom to measure: yards or metres? H. S. Rowell. Engineering 171:744-6 Je 22 '51

Power handbook; weights and measures; useful conversions to help solve common power-plant problems. P. Swain and W. Arrott. Power 95:74-5 Mr '51

Report of the thirty-fifth national conference on weights and measures. U S Nat Bur Stand Misc Pub 199:1-170; pa 50c Supt. of doc. '50

Table converting one to 1000 millimeters to inches; data sheet. Foundry 79:213-14 Ap '51

Tables for rapid conversion of gross tons into pounds; data sheet. Foundry 78:161 N '50

Weights and measures; table. Water & Sewage Works 98:R174 Ap '51

Weights of materials; table. Water & Sewage Works 98:R108 Ap '51

See also

Balances

Electric measurements

Gages

Measuring instruments

Metric system

Specific gravity

Standards of mass

WEINBERG, Sidney James, 1891-

Portrait. Bsns W p26 Ja 6 '51

Sidney brings them in; recruiter-in-chief for Mobilizer Wilson. pors Bsns W p89-90+, cover Ja 27 '51

WEINSTEIN, Charles

Union head honored by employers' group. por Bsns W p 124 N 4 '50

WEIR, Ernest Tener, 1875-

Iron age salutes. por Iron Age 167:69 Ap 19 '51

WEIRS (measuring)

Charts for capacity of 60° and 90° V-notch weirs; rectangular weirs. Water & Sewage Works 98:R182-3 Ap '51

Nomograph provides method for comparison of weir formulas. C. G. Edson. Civil Eng 21:476-7 Ag '51

WEISS, Lewis Allen, 1893-

Looking out for civilians; OCR's new director. por Bsns W p21 Mr 17 '51

WEISS factors. See Magnetic properties

WEISSENBERG X-ray goniometer. See Goniometers

WELCH, Vincent S.

Sketch. East Underw 52:10 Ag 10 '51

WELCOME wagon, inc.

Hospitality, $10 million a year. Fortune 44: 146 S '51

WELDERS

Training

How's your supply of skilled welding operators? O. T. Barnett. il Steel 128:82-4 My 28 '51

WELDING

American welding society's annual meeting, Chicago; abstracts of papers. Materials & Methods 33:9+ Ja '51

Applications of welded design for cost reduction. R. H. Bennewitz. il diags Welding J 30:347-57 Ap '51

Clamp for pipe welding. diags Pet Eng 23: D36 S '51

Defense production; welding; illustrations with text. Mod Ind 22:44 S '51

Design and installation of large-diameter long-span welded pipe. H. Jackson. il diags Welding J 29:957-61 N '50

Dies for welding projections; reference book sheet. diags Am Mach 95:181 Ap 16 '51

Don't scrap it, weld it. E. L. Cady. il Mill & Factory 48:81-4 Ap '51

Economies accomplished by redesign for welding. K. H. Jackson. il Welding J 30: 56-8 Ja '51

Edge preparation of plate for welding. C. A. Heffernon. il diags Welding J 30:221-8 Mr '51; Same cond. Mach 57:182-6 F '51

Engineering aspects of tool and die welding. A. R. Butler. il Tool Eng 25:21-3 D '50; 26:42-5 Ja; 40-2 F; 60-2 Mr; 45-6 Ap '51

Engineering, marine and welding exhibition. il Metallurgia 44:78-83 Ag '51

General procedures for fabrication of pressure vessels. S. V. Williams. Welding J 30: 26-32 Ja '51

Good understanding of light metal welding is essential to chemist and chemical engineer. C. O. Brown. Ind & Eng Chem 43:sup93A-4A+ O '51

Growth of welding technology. C. S. Milne. Chem Age (Lond) 63:646 N 4 '50

WELDING—*Continued*

High-nickel alloys; procedures using arc, atomic hydrogen, gas, resistance welding, brazing and cutting. R. M. Wilson, jr. bibliog il diags Welding J 30:247-56 Mr '51

Hints for making corner welds; illustrations with text. Mill & Factory 48:84 F '51

Hints for welding common metals; reference book sheet. Am Mach 94:127, 129 O 30 '50

How to control welding quality in a petroleum refinery. A. F. Blumer. diags Oil & Gas J 49:94+ O 19 '50; Same. il Pet Refiner 29:101-8 N '50; Same. il Welding J 30:235-43 Mr '51; Same cond. Pet Processing 5: 1192-5 N '50

How welding salvages broken tools and dies. L. D. Richardson. il Iron Age 168:162-5 S 13 '51

Instrumentation minimizes the welding variable. J. Heuschkel. il diag Instruments 24: 1034-41 S '51

Machine welding in the field; internal clamp for large diameter pipe. W. R. Harper. il diags Pet Eng 22:D36-8 N '50

Methods improvement in welding. S. Tilles. Welding J 30:832-3 S '51; Same abr. Tool Eng 27:59 S '51

New welding methods for tough jobs. il Product Eng 22:124-5 My '51

1951 production preview. il Am Mach 95:254-9 Ja 22 '51

Pipe clamp for welding. il Engineer 191: 232 F 16 '51

Plan not little things. G. F. Nordenholt. Welding J 30:169-71 F '51

Pressure welding. F. C. Kelley. bibliog il Welding J 30:728-36 Ag '51

Pressure-welding characteristics of some copper-base alloys; abstract and discussion. E. Davis and E. Holmes. Engineering 170: 399 N 24 '50

Progress in welding, 1929-1950. A. J. Hipperson and R. G. Burt. Metallurgia 42:347-9 N '50

Reclamation of Diesel locomotive parts. L. Grover and R. L. Rex. il diag Welding J 29: 973-80 N '50; Same. Ry Mech & Elec Eng 125:56-9 S; 72-5 O '51

Refresher course on pipe welding and cutting. il diags Dom Eng 177:96-7+ My; 98-9+ Je; 178:114+ Jl; 116+ Ag; 157-8+ S '51

Reports of international welding commissions. Welding J 30:sup78+ F '51

Review of new plant equipment; welding equipment. il Power 95:173-4 Mid-Je '51

Steel castings and welding can be combined successfully. P. O'Keefe. il Materials & Methods 34:73-5 Jl '51

Stringer beads run by four welders. S. L. Pound. il Oil & Gas J 50:110 My 31 '51

Technical forum on progress in metalworking; joining and welding. Steel 128:241-2+ Ja 1 '51

Tips on welding high-temperature materials in production of military rockets. F. H. Stevenson. il Iron Age 168:109-11 Jl 19 '51

Tubular sections in frame design of hydraulic benders. E. J. DeWitt and others. il Welding J 30:139-43 F '51

Use of welding to facilitate piping suspension and support. G. W. Hauck. il diags Heating-Piping 23:83-7 Mr '51

Welding, a primary maintenance tool; illustrations with text. Mill & Factory 49:82-3 Jl '51

Welding broken gear teeth. diags Welding J 29:1102 D '50

Welding of farm tractors. J. L. Buchholz. il Welding J 29:995-1000 N '50

Welding on the farm. il Welding J 29:1097-8 D '50

Welding pipe and tubes of nickel and high-nickel alloy. diags Heat & Ven 48:77-80 Ag '51; Same. Mach 58:156-9 S '51

Welding sews up a cost problem; Baltimore broom machine co. C. G. Herbruck. il Am Mach 95:142 My 14 '51

Welding versus future highway engineer; design for RST prefabricated all-welded highway. A. Cibulka. diags Welding J 30:457-8 My '51

Work of the welding engineer. P. L. Pocock. il diag Metallurgia 43:249-52 My '51

Workmanship in welding industrial piping. Heating-Piping 22:98-9 N '50; 23:121-2 Ja; 96-7+ F '51

See also

Brazing
Bronze welding
Electric welding
Electric welding, Arc
Gas welding
Hard facing
Lead burning
Manipulators, Welding
Oxyacetylene welding
Positioners, Welding

also subdivision Welding or Welding operations under special subjects, e.g.

Airplanes
Aluminum
Cast iron
Magnesium
Piping
Piping (power plants)
Rail joints
Shipbuilding
Steel
Steel, Structural
Steel construction

Bibliography

Current welding literature. Welding J 30:39 Ja '51 [cont monthly]

Cold welding

Koldweld reveals new techniques. il Welding J 30:929-30 O '51

Latest developments in cold pressure welding widen its field of application. W. Dubilier. il Materials & Methods 32:78-80 N '50; Same. Light Metal Age 8:16-19 O '50; Same. Welding J 29:1077-81 D '50

New applications broaden heatless welding uses. il Steel 127:71 N 27 '50

New cold welding techniques. il Automotive Ind 105:41+ Ag 15 '51; Product Eng 22: 166 S '51

New techniques added to pressure welding. il Iron Age 166:58-60 O 26 '50

Pressure welding. F. C. Kelley. bibliog il Welding J 30:730-6 Ag '51

Some maintenance jobs you can do with cold pressure welding. il Power Eng 55:95-6 F '51

Welding without heat or electricity. il Automotive Ind 103:48+ D 15 '50

Failure

Weldcracking and blue-brittleness. L. W. C. Gaymans. bibliog Welding J 29:sup 623-4 D '50

Welding fractures. E. P. DeGarmo. diag Metal Prog 60:74-7 Ag '51

Patents

Abstracts of current welding patents. V. L. Oldham. Welding J 30:94-5 Ja '51 [cont monthly]

Safety measures

Be careful! welding can be dangerous. O. F. Lehman. il Standardization 22:115-17 Ap '51

Welding needn't be hazardous. S. A. Greenberg. il Nat Safety N 64:30-1+ Ag '51

Stresses

Explosion bulge test studies of the deformation of weldments. C. E. Hartbower and W. S. Pellini. il diags Welding J 30:sup307-18 Je '51; Same cond. bibliog Iron Age 167: 83-7 My 10 '51

Influence of biaxiality on notch brittleness. D. Rosenthal and W. D. Mitchell. bibliog il diags Welding J 29:sup409-21 S '50; Discussion. 30:sup319-20 Je '51

Investigation of factors which determine the performance of weldments. C. E. Hartbower and W. S. Pellini. il diags Welding J 30:sup499-511 O '51

Performance of high-strength aluminum alloy weldments. W. R. Apblett and W. S. Pellini. il diags Welding J 30:sup473-81 O '51

Relative strain-aging tendency of weld and base metal. R. W. Fountain and R. D. Stout. il diag Welding J 30:sup43-6 Ja '51; Discussion. 30:sup356-8 Jl '51

Residual stresses in welded mild-steel pipe. L. J. Privoznik. bibliog Welding J 30: sup422-8 S '51

Stress concentration problems in welded construction. G. J. Green and D. H. Marlin. il diags Welding J 30:607-17 Jl '51

Stress relieving and fracture strength. D. Swan and others. bibliog diags Welding J 30:sup 135-45 Mr '51

Stress relieving and pre-heating of welded joints. Engineering 170:392 N 17 '50

WELDING—Stresses—*Continued*

Stress studies of welded ship structure specimens. W. R. Campbell. il diags Welding J 30:sup68-76; Discussion. sup76-8 F '51

Stresses around a spot weld under static and cyclic loads. G. Welter. il diags Welding J 29:sup565-76 N '50

Use of oxyacetylene process to reduce stress. H. E. Kennedy. diags Welding J 29:985-8 N '50

Study and teaching

Metallurgy for the welding student. J. D. Paterson. il Welding J 30:809-11 S '51

Need for professional training for the welding engineer. J. J. Chyle. Welding J 30:245-6 Mr '51

Need of professional training for the welding engineer. A. G. Bissell. Welding J 30:330 Ap '51

Professional training for the welding engineer at the Rensselaer polytechnic institute. R. A. Wyant. Welding J 30:243-4 Mr '51

Should welding be on its own in education? R. C. Wiley. Welding J 30:602-6 Jl '51

Teaching welding in design courses. J. Heuschkel. il Welding J 30:314-23 Ap '51

Welding in American engineering education. J. Heuschkel. Welding J 30:435-46 My '51

See also
Welders—Training

Testing

Procedure approval tests developed for weldments used in naval equipment. S. S. Katsef. flow sheet diags Welding J 29:1070-7 D '50

Tensile tests and metallurgical studies of welded copper joints. R. J. Mosborg and others. il diags Welding J 30:sup519-28 O '51

Welding of pressure vessels. H. Harris. il diags Engineering 171:29-30 Ja 5 '51

Thermit process

Stubbing drill collars by thermit welding. R. F. Carlson. il Oil & Gas J 49:70-1+ Mr 8 '51

Thermit welding. J. M. Wilson. il diag Steel 129:106+ S 3 '51

X ray inspection

Natural gas line reaches New England; inspection of pipe welds. il maps Constr Methods 33:83-4+ S '51

WELDING, Electric. See Electric welding

WELDING equipment

Give distributors' salesmen the sort of catalog they want; Smith welding equipment corp. N. N. Canfield. il Ptr Ink 233:30-1 N 3 '50

How to apply removable insulation over process vessel welds. M. A. Allen. diag Chem Eng 57:155 N '50

WELDING machines

When a 68-year-old district manager hit the road; Harnischfeger's farm welder sales. il Sales Management 65:54+ N 10 '50

WELDING positioners. See Positioners, Welding

WELDING research

Announcement of predoctoral fellowships on the fundamental sciences related to welding, administered by the Welding research council. Welding J 30:sup41-3 Ja '51

British welding research association activities. K. Winterton. il Metallurgia 44:133-6 S '51

Current welding research problems. Welding J 30:sup273-82 Je '51

Explosion bulge test studies of the deformation of weldments. C. E. Hartbower and W. S. Pellini. il diags Welding J 30:sup307-18 Je '51; Same cond. bibliog Iron Age 167:83-7 My 10 '51

Interpretive report, Fabrication division, Pressure vessel research committee. H. C. Boardman. diags Welding J 29:sup422-32 S '50; Discussion. 30:sup291-302 Je '51

Interpretive report on box girders and small specimens. L. Grover and others. il plan diags Welding J 30:sup321-6 Jl '51

Investigation of factors which determine the performance of weldments. C. E. Hartbower and W. S. Pellini. il diags Welding J 30:sup499-511 O '51

Room temperature tensile tests as an index of transition temperature of steel plates. S. S. Tör and others. bibliog diags Welding J 29:sup477-83 S '50; Discussion. 30:sup259, 405-7 My, Ag '51

Some research techniques for studying arcs in inert gases. R. H. Gillette and R. T. Breymeier. il diag Welding J 30:sup 146-52 Mr '51

Stress relieving and fracture strength. D. Swan and others. bibliog diags Welding J 30:sup 135-45 Mr '51

Welding research; aspects of BWRA work at Abingdon. Chem Age (Lond) 63:645-6 N 4 '50

Welding research council announces fellowships in welding and closely allied fields. Welding J 30:sup 122 Mr '51

Work of the plasticity committee of the Welding research council. Welding J 30:sup39-41 Ja '51

WELDING rods

Welding electrodes and rods for ferrous and nonferrous metals. H. R. Clauser. il Materials & Methods 32:67-82 D '50

WELDING shops

Gas or arc welding shops; resistance welding shops; tabulations. Iron Age 167:348 Ja 4 '51

Profitable spare time welding shop jobs can be sold to home owners and farmers. L. J. MacLennan, jr. diags Welding J 30:450-1 My '51

Work of the welding engineer. P. L. Pocock. il diag Metallurgia 43:249-52 My '51

WELFARE work in industry

Welfare in Belgian industry. Int Labour R 63:412-26 Ap '51

See also
Day nurseries
Day nurseries, Factory
Employees' benefit plans
Employees' counselors
Medical service, Industrial

WELLPOINT system

Wellpoints dry excavation next to canal. il Eng N 146:38 Je 14 '51

Wellpoints hold tricky soil for building foundation; Phoenix fire insurance co. home office building. il Eng N 145:24 D 28 '50

WELLS, Edward Curtiss, 1910-

Wells of Boeing airplane co. por Aero Digest 62:32+ F '51

WELLS

Choose industrial wells carefully. J. B. Murphy. il diags Power 95:74-6, 120-3 Ag '51

Deep well replaces subsurface collection system; Middleville, Mich. il Pub Works 82:57 Je '51

Directional charge method of shooting wells. G. L. Smith. Am Water Works Assn J 43:463-4 Je '51

Drawing water from a dune area. P. C. Lindenbergh. diag Am Water Works Assn J 43:720-4 S '51

Dynamiting as a means of increasing well yield. H. House. diags Am Water Works Assn J 43:459-62 Je '51

Four million GPD from single caisson well. N. Sherwood. il Paper Tr J 132:18-20 Je 8 '51

Maintenance of water wells. N. E. Gunderson. il diag Water & Sewage Works 98:R51-3 Ap '51

Methane gas in water well. L. W. Fisher and W. H. Sawyer, jr. il map Science 113:7-8 Ja 5 '51

Photographing water wells. C. Laval, jr. il Am Water Works Assn J 43:378-82 My '51

Recovering well capacity with chlorine. W. E. Huston. Water & Sewage Works 98:R57 Ap '51

Selection of well pumps. G. E. Hubbell. Am Water Works Assn J 43:453-8 Je '51

Troubles with irregularly used wells and pumps. W. B. Kennedy. Power Eng 55:86-7 Ap '51

Well construction and operation. P. Schweitzer. Am Water Works Assn J 43:770-2 S '51

Well maintenance; abstract. J. B. Murphy. Water & Sewage Works 98:449 O '51

See also
Artesian wells
Petroleum—Well drilling
Water, Underground

WELLS—*Continued*

Cleaning

Fatalities from hydrogen sulfide in wells. J. M. McDonald and A. P. McIntosh. A M A Archives Ind Hygiene & Occup Med 3:445-7 My '51

Testing

Testing wells and well pumps in the field; data sheet. J. B. Murphy. diag Power 95:150 Ag '51

WERK, M., company
Dead; aged 119. Bsns W p20-1 My 5 '51

WERNER, A. Matt, 1894-
New Sheboygan publisher has law training. por Ed & Pub 84:22 Ag 25 '51

WERNER, William M.
Portrait. Fortune 43:75 Ja '51

WEST

Industries and resources

Rising tide of western industry. A. G. Roach. maps Elec West 105:72-3 O '50

WEST coast telephone company
Stock offering oversubscribed. Comm & Fin Chr 172:1737 N 6 '50

WEST INDIES, British
British West Indies trade-liberalization plan. For Comm W 41:9 N 27 '50

Commercial policy

Customs union planned. For Comm W 42:9 F 26 '51

WEST INDIES sugar corporation
Higher prices, output aid West Indies sugar earnings. Barron's 30:13-14 O 23 '50

WEST PENN electric company
Public utility securities. O. Ely. Comm & Fin Chr 173:1028 Mr 8 '51
Stock offered. Comm & Fin Chr 173:1115, 1216 Mr 12, 19 '51

WEST RIDING worsted and woollen mills, limited
Statement of the chairman. J. H. Keeling. Economist 160:293 F 3 '51

WESTCHESTER County, New York
Offices move to suburbs; Westchester County's garden-type office buildings. il map Bsns W p79-80+ Mr 17 '51

WESTERN air lines
WAL purchasing unit feels pinch. Aviation W 54:42 Mr 5 '51

WESTERN Canada water and sewage conference
Annual meeting, 2d, Calgary, Sept. 25-26. Munic Util 88:19-24+ O '50

WESTERN insurance bureau
Annual meeting. Nat Underw 55:4 Je 14 '51
Bureau dissolves. Nat Underw 55:1 S 20 '51

WESTERN Maryland railway
Railroad securities; recapitalization proposal. Comm & Fin Chr 172:1603 O 26 '50
Security I like best. A. B. Johnson. Comm & Fin Chr 172:2530 D 28 '50

WESTERN Massachusetts companies
Public utility securities. O. Ely. Comm & Fin Chr 174:1276 O 4 '51

WESTERN metal exposition and congress
Meeting, Oakland, March 19-23. Chem & Eng N 29:1407-8 Ap 9 '51
Meeting, Oakland; technical papers summarized. Iron Age 167:97-9 Mr 29 '51

WESTERN natural gas company
Sales accelerating. Barron's 31:15-16 My 21 '51
Stock offering. Comm & Fin Chr 172:1538 O 23 '50

WESTERN newspaper union
WNU suit started to save free press. Ed & Pub 84:12 Jl 28 '51

WESTERN Pacific railroad
Bonds offered. Comm & Fin Chr 172:2484; 173:10 D 25 '50, Ja 1 '51
Railroad securities. Comm & Fin Chr 173:1036 Mr 8 '51

WESTERN petroleum refiners association
Annual meeting, San Antonio. Oil & Gas J 49:65-6 Ap 12 '51

WESTERN pipeliners club
Organization provides medium for recognition of outstanding service and means of contact for retired pipeliners. R. Sneddon. Pet Eng 23:D35-6+ Ap '51

WESTERN society of engineers
Annual meeting and dinner, 83d, June 4. Midwest Eng 4:14-15+ S '51
Board of direction, section, division, council executive committees, special representatives. Midwest Eng 4:17 S '51
Year book, containing the constitution, by-laws, awards, officers, membership list, etc. Midwest Eng 3:1-113 pt 2 N '50

WESTERN underwriters association
Annual meeting, St Augustine, Florida. East Underw 52:32 Ap 20 '51; Nat Underw 55:1+ Ap 12 '51
Meeting, White Sulphur Springs, W.Va. Nat Underw 55:1+ S 20 '51

WESTERN union telegraph company
Comeback of Western Union. H. S. Coffin. il Mag of Wall St 87:130-1+ N 4 '50
Western Union goes from telephone to television. Pub Util 47:631-2 My 10 '51

WESTERN ventures, inc.
Stock offered. Comm & Fin Chr 172:1836 N 13 '50

WESTINGHOUSE, George, award in engineering education
George Westinghouse award, 1951, Glenn Murphy. J Eng Educ 42:27-8 S '51

WESTINGHOUSE air brake company
Edward Boshell heads Westinghouse Air Brake and Union Switch & Signal; A. N. Williams becomes vice-chairman. Ry Age 130:27 Ja 29 '51
Westinghouse Air Brake vs. New York Air Brake; a comparative study. H. S. Coffin. il Mag of Wall St 87:174-6+ N 18 '50

WESTINGHOUSE electric corporation
Education in industry; Westinghouse educational center. il Westinghouse Eng 10:240-1 N '50; Elec World (News ed) 134:16-17 N 27 '50
'50 research pays off. Steel 128:66+ Ja 8 '51
Growth has paralleled that of electric power; with financial data, 1941-50. D. W. McKnight. Barron's 31:9-10 Ag 13 '51
War at Westinghouse. il Fortune 43:49-50+ Je '51
Westinghouse engineering education, a new milestone. Westinghouse Eng 10:inside front cover N '50
Westinghouse makes a bet; reasoning behind huge expansion. Bsns W p25-6 O 6 '51
Westinghouse makes Fort, Lynde, McLeod, Loomis vice-presidents. Elec World News ed 135:22 F 19 '51
Westinghouse net sales pass billion-dollar mark. Elec World News ed 135:28 Mr 19 '51

WESTINGHOUSE science talent search. *See* Science talent search

WESTMINSTER bank, limited
Statement by the chairman. Lord Aldenham. Economist 160:236 Ja 27 '51

WESTMORELAND coal company
Greater prosperity seen. Barron's 31:13-14 Ja 1 '51

WETTING
Effect of wetting on the nitrogen adsorption-desorption isotherm of a silica aerogel. M. F. L. Johnson and H. E. Ries, jr. Am Chem Soc J 72:4289 S '50
Pseudo-metallic bonding of hydrides. A. R. Ubbelohde. diag Chem Soc J p 1143-6 Ap '50
Wettability in oil recovery. P. T. Kinney and R. F. Nielsen. bibliog diags World Oil 132:145-6+ Mr '51
Wetting characteristics of lubricating aerosols. D. G. Faust. il diag Product Eng 22:131-4 Jl '51

WETTING, Heat of
Moisture relationships of cellulose; the heats of wetting of partially saturated viscose rayon and standard cellulose in water. M. Wahba. bibliog diags J Phys & Colloid Chem 54:1148-60 N '50

WETTING agents
Additive compounds in electroplating baths. M. Rubinstein. bibliog diags Metal Finishing 48:68-74 N '50
Wetting agents for wet weather road surfacing. Pub Works 82:98-9 Je '51
Wetting agents useful in the foundry. P. Winters. diags Foundry 79:118-21 Je '51
See also
Surface active substances

WETTING agents—*Continued*

Testing

Method of measuring penetration and wetting. C. R. Trommer. Am Dyestuff Rep 39: 811-12+ N 27 '50

WHALE oil

Germany wants to resume whaling operations. For Comm W 41:19-20 N 20 '50

WHALING

International whaling commission 3d annual meeting, Capetown, South Africa, July 26. Oil Paint & Drug Rep 160:7 Jl 30 '51

Outlook for whales. Economist 160:806 Ap 7 '51

WHARVES

Bethlehem moves first Venezuelan iron ore; floating wharf at Palua. il diag Eng N 147:36-7 Jl 12 '51

WHARVES, Concrete

San Francisco builds large new wharf. il Eng N 147:48 Jl 5 '51

Wharf reconstruction at Levis, Que. hampered by tide conditions. il Roads & Eng Constr 89:75-6+ S '51

WHEAT

Falling wheat price ripe for CCC support. Barron's 31:28 Je 11 '51

Financing the wheat grower. R. N. Downie. il Banking 44:61+ Ag '51

Japan and the wheat agreement. Economist 160:1589 Je 30 '51

More wheat enters loan, but exports continue low. Barron's 30:28-9 D 11 '50

Post-mortem on wheat agreement. Economist 160:602-3 Mr 17 '51

Present wheat trend shows export rise. Barron's 31:34-5 Ja 29 '51

Taking a chance in wheat. Economist 159: 1221 D 30 '50

Wheat argument continued. Economist 161: 306 Ag 4 '51

Wheat growers face grim price prospects. Barron's 31:19-20 Ag 27 '51

Wheat takes a look at floor, not ceiling. Barron's 31:27 Mr 12 '51

Wheat; the edible stastitic; ABC of what's behind some key statistics. il Bsns W p79-80+ Je 9 '51

Winter helped wheat, hit vegetables hard. Bsns W p88+ Mr 10 '51

Prices

Canadian wheat price. Economist 160:456 F 24 '51

Dearer wheat without agreement? Economist 161:179 Jl 21 '51

Testing

Grain research laboratory keeps close check on quality of Canadian wheat. A. W. J. Dyck. il Can Chem Process 35:637-40 Ag '51

Transportation

Grain can't wait. il Ry Age 131:38-40 Jl 23 '51

WHEAT germ

Enzymatic disintegration of wheat germ desoxypentose nucleic acid. G. Brawerman and E. Chargaff. bibliog Am Chem Soc J 73: 4052 Ag '51

WHEATSTONE bridge

Wheatstone bridge in cooling tower control. M. J. Crowley, jr. il diags Pet Eng 23: C26-8+ Ag '51

WHEELER, John Neville, 1886-

Wheeler's NANA interest remains substantial. J. McMaster. por Ed & Pub 84:46 Mr 17 '51

WHEELER, Walter Heber, 1897-

Is New England too old? interview. pors Bsns W p77-8+ F 17 '51

WHEELING, West Virginia

Water supply

Adjustment of water treatment to pollution loading. A. R. Todd. Am Water Works Assn J 43:50-2 Ja '51

WHEELING steel corporation

Six stocks behind the market; ready to move. J. C. Clifford. Mag of Wall St 88:656-7 S 22 '51

WHEELS

Industrial wheels and casters. E. L. Cady. il diags Mill & Factory 49:81-5 S '51

Standardized wheels provide more efficient easy rolling for Lockheed's trucks, dollies, carts, racks, etc. F. M. Burt. il Mill & Factory 48:85-6 F '51

See also

Airplanes—Wheels
Automobiles—Wheels
Car wheels
Grinding
Locomotives—Wheels
Locomotives, Diesel—Wheels
Mine skip wheels

WHEELS, Magnesium

Goodrich produces huge magnesium wheels. B. A. Evans. il Mach 57:206-8 Jl '51

WHEELS, Steel

Steel trunnion wheels soft-surfaced at 60 per cent saving. J. F. Gulley. il Steel 128:76-7 Ja 22 '51

WHIPPED cream. See Cream, Whipped

WHISKY

Betting on blends. Bsns W p50+ S 22 '51

Drooping spirits; thinner blends at higher prices. Bsns W p76 N 25 '50

Ferment in rum; tie-in sales on Scotch worry Bacardi Imports. Bsns W p 116 Mr 17 '51

Four Roses; nominated for packaging's Hall of fame. il Mod Packaging 24:84-90+ N '50

Light look package for new King whisky. il Mod Packaging 24:84-5 F '51

Rare Jack Daniel's. il Fortune 44:103-6+ Jl '51

Straights climb but not enough. Bsns W p 118+ Jl 7 '51

Tax threat adds to liquor chaos. Bsns W p20 F 10 '51

Uncorking scotch; shortage to end. Bsns W p55+ Jl 28 '51

Voluntary whiskey cutback. Bsns W p 106+ My 19 '51

See also

Bootlegging
Distilling industries

Advertising

Most famous Scot in U.S. is old trade-mark; Johnnie Walker. il Ptr Ink 234:36-7 Ja 19 '51

Prices

Next round's on you. Fortune 43:82 Ap '51

WHISTLES

Adrian Stephens, inventor of the steam whistle. C. E. Lee. Engineering 171:299 Mr 9 '51

Air horns for Diesel locomotives. il diags Diesel Power 29:116-17 Ap '51

New York mayor asked to rescind siren ban. East Underw 51:22 N 17 '50

See also

Locomotive whistles

WHITAKER, Milton C. 1870-

Chandler medal. pors Chem & Eng N 29:384-5, cover Ja 29 '51

WHITE, George Avery, d 1951

Sketch. por East Underw 52:9 S 21 '51

WHITE, Sallie Lindsay, 1869-1950

Mrs W. A. White, editor's widow, dies in Emporia. Ed & Pub 83:12 D 23 '50

WHITE

Accelerated yellowing on white enamels, by the Baltimore club. Paint Oil & Chem R 113:79-80+ N 23 '50

WHITE (term)

Psychophysical study of white. L. M. Hurvich and D. Jameson. bibliog diag Opt Soc Am J 41:521-36 Ag '51 (to be cont)

WHITE HOUSE conference on children and youth, 1950. See Child welfare

WHITE motor company

Green light for sales, earnings. Barron's 30: 13-14 D 25 '50

White Motor announces emergency service plan. R. B. Temple. il Bus Transportation 30:48-9 Mr '51

WHITEPRINT machines

How the B.&O. reduces expense of form duplicating; use of Ozalid streamliner (whiteprinter). C. A. Strickland. il Ry Age 130:47-9 Je 11 '51

New photochemical lamps used in modern whiteprint machines. L. E. Barnes. bibliog il diag Illum Eng 46:41-3; Discussion. 43-4 Ja '51

WHITEWARE. See Pottery

WHITMAN, Walter Gordon, 1895-
Man of the month. por Chem Eng 58:304 S '51
Whitman to head Research and development board. por(cover) Chem & Eng N 29:3084 Jl 30 '51

WHITTAKER, Ralph
Fountainhead at Street and Smith. H. Woodward. por Sales Management 67:41 Ag 1 '51

WHITTEMORE, Laurence Frederick, 1894-
Railroad plus New England won for him. pors Bsns W p76+ Je 16 '51

WHITTINGHAM, Gordon
Memorial fund awards. Chem Age (Lond) 64:789 My 19 '51

WHITTLE engine. See Gas turbines, Aircraft

WHOLESALE prices. See Prices, Wholesale

WHOLESALE trade
See also
Certified grocers of California, ltd.
Jobbers

Statistics

Buyer-sellers tend to congregate in areas of large population. Ptr Ink 235:54+ My 25 '51
Comments on Alderson's index of sorting balance. S. Banks. J Marketing 15:331-5 Ja '51
Concentration of the American wholesale and retail markets in metropolitan areas. W. Alderson and L. Kent. Ptr Ink 235:29-32+ Ap 13 '51
Major American markets. W. Alderson and L. Kent. map Ptr Ink 235:31-5 My 25 '51
Sales and number of establishments, electrical goods, appliances, hardware, plumbing, machinery, supplies, metal work, iron and steel scrap: by states, 1948; tabulation. Iron Age 167:336 Ja 4 '51
Wholesale trade, 1948; chemicals, allied products; number of establishments, sales for metropolitan areas and for specific fields. Ptr Ink 235:210+ My 25 '51

WHOOPING cough
Charcoal agar culture medium for preparing hemophilus pertussis vaccine. H. M. Powell and others. Pub Health Rep 66:346-8 Mr 16 '51

WICHITA, Kansas
See also
Floods—Wichita, Kansas
Housing—Wichita, Kansas

Industries

Bigger boom for Wichita. il Bsns W p52-3 F 10 '51

WICHITA mountains
Assimilation in the Cold Springs area of the Wichita mountains igneous complex, Okla. J. L. Walper. bibliog fold map Am J Sci 249:47-65, pl 1-2 Ja '51
Faults in sedimentary part of Wichita mountains of Oklahoma. B. H. Harlton. bibliog maps Am Assn Pet Geologists Bul 35:988-99 My '51

WICKENS, Aryness Joy, 1901-
She's the figure behind your payroll; Deputy commissioner of labor statistics. pors Bsns W p 108+ Ap 28 '51

WIEN bridge
Tunable audio-frequency amplifier of variable selectivity. E. A. G. Shaw. bibliog diags J Sci Instr 27:295-8 N '50
Wien bridge as frequency-shift servo. J. Yeiser. diag Electronics 24:162+ Ja '51

WIENER-SHANNON theory of information. See Communication, Theory of

WIENER'S theorem
Auto-correlation function. D. A. Bell. Wireless Eng 28:31-2 Ja '51

WIGGINS airways
Robinson, Wiggins plan merger. map Aviation W 54:56 Je 11 '51

WIGGINS, Teepe and company, limited
Statement by the chairman at 32d annual general meeting. L. W. Farrow. Economist 161:129-30 Jl 14 '51

WIGHT, George T. d. 1950
Sketch. por East Underw 51:14 N 3 '50

WIGNER, Eugene Paul, 1902-
Presentation of the Franklin medal. por Franklin Inst J 250:572-4 D '50

WILCOX formation
Buried hill at Wilcox-Carrizo contact in east Texas. H. B. Stenzel. bibliog il map diags Am Assn Pet Geologists Bul 35:1815-28 Ag '51

WILCOX-GAY corporation
Stock offered. Comm & Fin Chr 173:205 Ja 15 '51

WILDLIFE
Wildlife economics; a neglected tool of management. C. H. Stoddard. Land Econ 27:248-9 Ag '51

WILFORDINE
Alkaloids from tripterygium wilfordii Hook; wilforine and wilfordine. M. Beroza. bibliog Am Chem Soc J 73:3656-9 Ag '51

Analysis

Chromatographic separation employing ultraviolet absorbancy ratios. M. Beroza. bibliog Anal Chem 22:1507-10 D '50

WILFORINE
Alkaloids from tripterygium wilfordii Hook; wilforine and wilfordine. M. Beroza. bibliog Am Chem Soc J 73:3656-9 Ag '51

WILLARD and Smith reagent
Determination of lead as chloride; separation from bismuth and other elements. S. Kallman. Anal Chem 23:1291-3 S '51

WILLGERODT-KINDLER reaction
Alternative method for the hydrolysis of thioamides in the Willgerodt-Kindler reaction. M. A. T. Rogers. Chem Soc J p3350 N '50

WILLGERODT reaction
Studies on the mechanism of the Willgerodt reaction; the over-all mechanism. E. V. Brown, E. Cerwonka and R. C. Anderson. bibliog Am Chem Soc J 73:3735-8 Ag '51
Willgerodt reaction in the heterocyclic series; some compounds of the α- and β-thienyl series. J. A. Blanchette and E. V. Brown. bibliog Am Chem Soc J 73:2779-81 Je '51

WILLIAMS, Albert Nathaniel, 1888-
Edward Boshell heads Westinghouse Air Brake and Union Switch & Signal; A. N. Williams becomes vice-chairman. por Ry Age 130:27 Ja 29 '51

WILLIAMS, C. Dickerman, 1900-
Portrait. Bsns W p 112 Ap 21 '51

WILLIAMS, Carroll M. 1916-
Thousand dollar prize for silkworm research. Science 113:24 Ja 5 '51

WILLIAMS, Clyde Elmer, 1893-
Honorary degrees. por Am Cer Soc Bul 30:245 Jl 15 '51

WILLIAMS, James Robert
Famous cartoonist joins safety effort. por Nat Safety N 64:30-1 Jl '51

WILLIAMS, John Henry, 1887-
Economists. J. McDonald. por Fortune 42:108-13+ D '50

WILLIAMS, Roger John, 1893-
R. Williams widens chemical horizons. por (cover) Chem & Eng N 28:4354 D 11 '50
Southwest award. por Chem & Eng N 28:4552 D 25 '50

WILLIAMS, Sidney J. 1886-
Named NSC consultant. por Nat Safety N 63:31 Ja '51
Named 1950 Beecroft memorial lecturer. por S A E J 58:55 N '50

WILLIAMS, Walker A.
Portrait. Fortune 42:30 N '50

WILLIAMS Deacon's bank, limited
Statement by the chairman. W. Sinclair. Economist 160:172-3 Ja 20 '51

WILLS
Administrative provisions for wills; A.B.A. committee on standards of draftsmanship presents forms. Trusts & Estates 89:661-7 O '50
Avoiding algebra in residuary charitable bequests. L. E. Rodman. Trusts & Estates 90:236 Ap '51
Case against jabberwocky; standards of draftsmanship, wills and trusts. E. S. MacNeill. Banking 43:78 O '50
Grandmother draws her will; abstract. G. W. Alger. Banking 44:38 S '51
Hearst estate willed in trust to family, charity. Ed & Pub 84:7+ Ag 18 '51
Hints on will drafting; provisions and manner of execution. D. Ives. Trusts & Estates 90:519-22 Ag '51

WILLS—*Continued*

Insurance and the will; integrating policy provisions with testamentary plan. S. A. Monroe. Trusts & Estates 90:166-7 Mr '51

Inventory of personal finances; work sheet for accumulating will and estate-planning data. Banking 44:65-6 Jl '51

Making of wills. R. W. Babson. Comm & Fin Chr 174:429 Ag 2 '51

New business in existing wills. E. S. MacNeill. Banking 43:87 My '51

Residue formula for maximum marital deduction; will drafting problems. T. S. Kiley and J. R. Golden. Trusts & Estates 89:744-7+ N '50

Set thy house in order, planning to carry out estate intentions. J. R. Frazer. Trusts & Estates 90:580-2 S '51

Some income tax aspects of wills. M. Young. Life Ins Courant 56:51-3 Ja '51

Touch of immortality. L. B. Staver. Trusts & Estates 89:761-2 N '50

When and how to take marital deduction; A.B.A. committee report. Trusts & Estates 89:644-7+ O '50

Where there's a will. Published in monthly numbers of Trusts and estates

Will check-list helps plan estate with attorney. S. Huber. Nat Underw (Life ed) 55:21 S 7 '51

Will contests; how to prosecute and defend them; A.B.A. committee report. Trusts & Estates 89:656-9 O '50

See also

Probate law

WILLYS-OVERLAND motors, inc.

Conversion to war a cinch for jeeps. il Bsns W p32+ Ja 13 '51

Growing backlog keeps Willys-Overland humming. Barron's 31:25 Ja 29 '51

WILMINGTON, Delaware

$40-million Delaware River bridge will boost business. il map Bsns W p59 Ja 20 '51

Sewerage

Sewage works program. A. R. Vollmer. map plan Water & Sewage Works 98:318-24 Jl '51

WILSON, Charles Edward, 1886-

C. E. Wilson gets James McGraw medal. por(cover) Elec World News ed 135:6 Ap 2 '51

Government man Wilson not run by slide-rulers. Sales Management 67:28+ S 15 '51

Iron age salutes. por Iron Age 166:45 D 28 '50

Political bargaining. Fortune 43:53-4 Ap '51

Portrait. Bsns W p20 O 6 '51

Portrait. Sales Management 66:40 F 1 '51

WILSON, Charles Erwin, 1890-

Blunt talk on steel expansion. por Bsns W p26 N 4 '50

WILSON, Earl, 1907-

Midnight Earl is an old homebody. P. Schuyler. pors Ed & Pub 83:13+ D 23 '50

WILSON, H. W., company

Reference publisher's reference collection. A. Rothe. Special Lib 42:51-5+ F '51

WILSON, Harold, 1916-

Portrait. Bsns W p 145 Mr 24 '51

WILSON, Irving W. 1890-

Alcoa's new president. por Bsns W p 129 Ap 28 '51

Iron age salutes. por Iron Age 167:83 My 3 '51

Portrait. Fortune 43:96 Je '51

WILSON cloud chamber

Effects of geometry on scattering distributions. A. V. Crewe and A. E. Litherland. J Sci Instr 28:182-5 Je '51

WINCHES

Design of logging winch controls. P. L. Brainard. il diags Machine Design 23:193-4 Ap '51

WINCHES, Electric

Designer reviews electric winches and windlasses for Lakes service. A. A. Johnson. il diags Marine Eng 56:54-7 S '51

WINCHESTER, Virginia

Sewerage

Industrial sewer rental with incentive base. S. H. Reaves. il Water & Sewage Works 98:63-5 F '51

WIND instruments

Color-match welding solves musical instrument fabrication problem; F. A. Reynolds co. L. D. Richardson. il Materials & Methods 33:82-3 Mr '51

WIND power

Favorable technical and economic aspects of wind-driven generators to supplement hydroelectric plants. R. G. Gibbs. Chem & Eng N 29:4056-7 O 1 '51

What can wind power do for us? G. A. Whetstone. bibliog diags Power Eng 55:72-3 Mr '51

WIND pressure

Beating the leaks in a glass and metal wall like the U.N.'s il diags Arch Forum 94:204-5+ Je '51

Lateral forces of earthquake and wind. A. W. Anderson and others. map plans Am Soc C E Proc 77 [no 66]:1-38 bibliog(69 titles, p35-8) Ap '51

Plastic data charts evaluate wind deflection of sheet acrylic used as glazing; Plexiglas. il Arch Forum 95:194+ Ag '51

Wind-load standards in Europe. J. W. T. Van Erp. diags Am Soc C E Proc 76 [no 42]:1-11 N '50

WIND tunnels

Aerodynamic wind tunnel at Modane-Avrieux. C. Carty. il diag Engineer 191:280-2 Mr 2 '51

Air condensation in hypersonic flow. P. Wegener and others. bibliog il diag J Ap Phys 22:1077-83 Ag '51

Air force installs world's largest single compressor low temperature system. H. A. Click. il Refrig Eng 59:572+ Je '51

Blowdown tunnel. Tech R 53:396 Je '51

Boeing to switch to school's windtunnel; agreement with the University of Washington gives company priority on use of the university windtunnel. Aviation W 54:30 F 19 '51

Colorado university's steam-jet-powered supersonic wind tunnel. il diag Aeronautical Eng R 10:38-9+ Mr '51

Condensation phenomena in supersonic tunnels; adsorption with silica gel. L. M. Majeske. bibliog il Aero Digest 63:19+ Ag '51

Design and performance of a simple interferometer for wind-tunnel measurements. H. I. Ashkenas and A. E. Bryson. il diag J Aeronautical Sci 18:82-90 bibliog(44 titles, p89-90) F '51

Development of a wind tunnel. H. G. Rhoden. il diags Engineering 171:677-80 Je 8 '51

Dual tunnel teams instruction, research. il diag Aviation W 53:29-30+ N 20 '50

Flexible nozzle for a small supersonic wind tunnel. S. Dhawan and A. Roshko. il diags J Aeronautical Sci 18:253-8 Ap '51

Glacier wind tunnel; Modane-Avrieux, Franco-Italian border region; a portfolio of photographs by Fenno Jacobs. Fortune 42:100-7 D '50

High-efficiency supersonic diffusers. E. P. Neumann and F. Lustwerk. bibliog il diags J Aeronautical Sci 18:369-74 Je '51

High-speed photography of reflection-lighted objects in transonic wind tunnel testing. E. R. Hinz and others. il diags Soc Motion Picture & Tv Eng J 55:613-26 D '50

Homemade gadget grinds in two dimensions; throat sections are installed in wind tunnels. H. E. Jackson. il diag Am Mach 94:89 O 30 '50

How to tame a wind tunnel; Cleveland tunnel has big new muffler. il Bsns W p60+ D 16 '50

Hypersonic research facilities at the Ames aeronautical laboratory. V. I. Stevens. il diags J Ap Phys 21:1150-5 N '50

Icing clouds simulated in tunnel. il Aviation W 53:39 N 13 '50

Method for designing wind tunnel contractions. R. Harrop. il diags Roy Aeronautical Soc J 55:169-80 Mr '51

NACA closes transonic gap. R. McLarren. il Aero Digest 62:32+ Je '51

NACA tunnels bare secrets of transonic. A. McSurely. il Aviation W 54:13-14 My 28 '51

New acoustical plan kills tunnel noise. il Aviation W 54:29-31 Ja 15 '51

New power extends tunnel data range; NACA's supersonic wind tunnel. il Aviation W 55:25 S 3 '51

WIND tunnels—*Continued*

New tunnel built for Canadian studies. Aviation W 55:43 Ag 27 '51

New way to study altitude flow; superaerodynamic windtunnel; device uses a molecular beam. il Aviation W 55:50+ Jl 16 '51

180,000-hp. wind tunnel drive. Steel 128:108+ Je 11 '51

Power compressors provide continuous operation in hypersonic wind tunnel. il Elec Eng 70:282 Mr '51

Speeds possible up to 5000 mph; wind tunnel for supersonic flight research for National research council. Steel 129:103-4 Ag 13 '51; Iron Age 168:129 S 20 '51

Stainless steel vital to aircraft research; used for lining supersonic wind tunnel; Lewis flight propulsion laboratory. il Steel 128:86+ Je 11 '51

Tempest in a tunnel; solving noise and vibration problems at Lewis flight propulsion laboratory. il Eng N 146:35-7 Mr 8 '51

Testing design; wind tunnel aids study of natural ventilation of buildings at Texas engineering experiment station. il diags Arch Forum 94:170-1, 174-6 My '51

Use of wind tunnel model data in aerodynamic design. R. Hills. bibliog il diags Roy Aeronautical Soc J 55:1-19 Ja '51; Abstract. Engineering 170:356-7 N 10 '50; Discussion. Roy Aeronautical Soc J 55:20-6 Ja '51

Wayne students build supersonic tunnel. Aviation W 53:43 N 20 '50

Wind tunnel balance. il Automotive Ind 103:60 D 15 '50

Wind-tunnel tests for temperature recovery factors at supersonic velocities. W. F. Hilton. bibliog il J Aeronautical Sci 18:97-100 F '51

WIND turbines. See Wind power

WINDING

See also

Rayon winding

WINDING machines

Automatic winder has 10,000-rpm. speed. il Textile World 101:156 Je '51; Rayon 32:131 S '51

Electric equipment for paper mill winders. C. D. Beck. il diags Tappi 34:153-62 Ap '51

New approach to production winding. L. A. Graham. il diag Machine Design 23:153-6 Ap '51

Planning coil production. C. E. Sullivan, jr. il Electronics 24:117-19 Mr '51

South Bend lathe adapted for winding solder into rolls of uniform weight. il Mach 57:191 D '50; Steel 127:106 D 4 '50

Web guiding control. S. E. Amos. il diags Machine Design 23:159-62 S '51

See also

Paper winders

Tension control

Electro-magnetic drive tugs at yarn tangles. il diag Textile World 100:159-60 D '50

Mechanical systems for controlling speed and tension. J. H. Gepfert. il diags Product Eng 21:85-9 D '50

New tensioning setup removes foil processing problems. il Blast F & Steel Pl 39:846-7 Jl '51

Tensioning holder for coiling spring wire. W. M. Halliday. diags Mach 58:192-3 S '51

WINDLASS

Designer reviews electric winches and windlasses for Lakes service. A. A. Johnson. il diags Marine Eng 56:54-7 S '51

WINDOW blinds. See Blinds

WINDOW frames, Concrete

Precasting concrete window frames. il diag Eng N 146:45-6 Mr 15 '51

WINDOW sashes

Manufacture

Metal window finishing plant. il Metallurgia 43:132 Mr '51

WINDOW sashes, Aluminum

Aluminum window manufacturing. H. E. Jackson. il Light Metal Age 9:12-14 Je '51

WINDOW shades

Curtains for offices? casement cloth versus venetian blinds. il Sales Management 66:89-90 Je 15 '51

WINDOWLESS construction

What! offices without windows? administrative offices, Toledo, Peoria & Western. il plan Ry Age 131:38-41 S 10 '51

Windowless buildings may introduce hazards to lives of occupants. Safety Maint & Prod 102:61+ S '51

WINDOWS

Glass-resin windows. il Chem W 68:11 Je 2 '51

Installing double-glazed windows. il diags Am Bld 72:48+ N '50

Integral-equation solution of the daylighting problem. D. E. Spencer and V. J. Stakutis. bibliog diag Franklin Inst J 252:225-37 S '51

New glass-plastic laminate resists explosion effects; Flexseal bomb glass. il Am Bld 73:224 S '51; Arch Forum 95:276 S '51; Product Eng 22:174 Ag '51

Solar irradiation of walls and windows, east and west; October-April; data sheet. F. W. Hutchinson. Heating-Piping 23:106-8 My '51

Solar irradiation of walls and windows; Southeast and Southwest; October-April; data sheet. F. W. Hutchinson. Heating-Piping 22:106-8 D '50

Suggested details for insulated window wall construction. il diags Am Bld 73:46+ Mr '51

See also

Glass — Show windows

Ships—Windows — Skylights

Frost and condensation

Simplified heating lessons; condensation on windows. C. H. Burkhardt. Sheet Metal Worker 42:105-6 Ja '51

Window condensation problem; question and answer. Sheet Metal Worker 42:84-5 S '51

See also

Show windows—Frost and condensation

WINDS

Anyone can fly a pressure pattern. D. G. Williams. diags Aero Digest 62:30-1+ Je '51

Clear air turbulence over Europe. G. S. Hislop. bibliog map diags Roy Aeronautical Soc J 55:185-211; Discussion. 211-25 Ap '51

High weather; science discovers that the apparent calm at great altitudes is a myth. P. M. Gormley. diags Aero Digest 61:30-1+ N '50

Variation in airplane range with wind velocity. R. E. Hage. Aeronautical Eng R 10:18-22 Jl '51

Wind tides in small closed channels. G. H. Keulegan. bibliog diags J Res Nat Bur Stand 46:358-81 My '51

See also

Wind pressure

WINE

Bordeaux wine output small. For Comm W 44:4 Ag 6 '51

Portugal's exports of port wine decrease. For Comm W 43:19 My 14 '51

Sales curve turns up when Petri repackages premium wines. il Sales Management 67:42-4 Jl 1 '51

Schoonmaker scorns the rule book, and wine sales double. F. Schoonmaker. il Sales Management 66:42-6 Mr 1 '51

Scientific aspects of wine production; abstract and discussion. R. B. Brock. Chem & Ind p 11-12 Ja 6 '51

Taste-test on a big scale helps build sale of wine. il Ptr Ink 235:27 Ap 27 '51

Advertising

90 years an advertiser and still going strong; American wine co. il Ptr Ink 234:32-3 Mr 2 '51

Manufacture

Concrete vats give seven benefits in winery. F. Gallizio. il Food Eng 23:141+ Je '51

Modern winemaking. W. Q. Hull, W. E. Kite and R. C. Auerbach. bibliog il diags Ind & Eng Chem 43:2180-92 O '51

WINNIPEG, Manitoba

Need of civil defense and how it is being met. W. D. Hurst. il Munic Util 89:43+ Je '51

Prairie industrial center. il Eng N 146:44 My 31 '51

Sewerage

City of Winnipeg sewerage system and the Manitoba flood. W. L. Wardrop. il Munic Util 88:48-51+ S '50; Same cond. Sewage & Ind Wastes 22:1626-34 D '50

WINNIPEG, Manitoba—Sewerage—*Continued*

Experiments on control of sewage odors. D. L. McLean and O. Petursson. Munic Util 89:32+ Ja '51

Lagooning of sludge under two years' trial. plan diags Munic Util 89:28+ Ag '51

Rebuilding of flood-damaged outfall sewer. N. S. Bubbis. il Munic Util 89:21-2+ Ag '51

Streets

Rehabilitation of old pavements in the city of Winnipeg. G. Dennis. Roads & Eng Constr 88:146+ O '50

Water supply

Greater Winnipeg water district's new booster pumping station. N. S. Bubbis and H. Shand. il plans Munic Util 89:25-30+ Jl '51

Nine municipalities in Winnipeg area cooperate in obtaining water. N. S. Bubbis. map Munic Util 89:33-6+ Ap '51

Remodelling Winnipeg pumping station to meet increased demands. F. L. Morton. il plan Munic Util 89:25-7+ Ap '51

Winnipeg's flood emergency organization. W. D. Hurst. il Am Water Works Assn J 42:1095-110 D '50

WINSTON and Newell company

Service + national brands. il Bsns W p 122+ S 8 '51

WINTER construction

How one builder beat winter weather. il Eng N 147:33-4 Jl 19 '51

Pointers for building in cold weather with structural clay products. il Am Bld 73:122-3 My '51

See also

Concrete construction in winter

WINTER sports

See also

Skis and skiing

WIRE

Area calculations for round wire and rods; tabulation; engineering data sheet. Metal Finishing 49:79 Mr '51

Deformation texture of body-centered cubic metal wires. W. R. Hibbard, jr. and others. il J Metals 3:Trans 808 S '51

How to assemble and grind fine wire brushes. M. J. Rowan. il diags Am Mach 95:89-92 My 28 '51

Investigation of the longevity of galvanized roofing sheets and wires. D. J. Swaine. bibliog Chem & Ind p764-7 S 15 '51

Preparation of very fine wire by electropolishing. W. H. Colner and others. il Metal Prog 59:795-7 Je '51

Manufacture

See also

Wire drawing

Testing

Formulas for the determination of residual stress in wires by the layer removal method. W. T. Read, jr. diag J Ap Phys 22:415-16 Ap '51

Some causes of the wear of Fourdrinier wires. H. T. Fisher. il diag Pulp & Pa of Can 52:87-92+ Mr '51

WIRE, Aluminum

Aluminum wire mill; Aluminum company of America. il map Elec West 105:78 O '50

WIRE, Bismuth

Ductile bismuth wire. Chem Eng 58:200 My '51

WIRE, Brass

Wire annealing furnace fits low headroom; Bridgeport brass co. W. J. Krailing. il diag Iron Age 168:93-5 Jl 12 '51; Same. Steel 129:104+ S 24 '51

WIRE, Copper

Deformation and recrystallization texture of cold-drawn OFHC copper wire. W. A. Backofen. il J Metals 3:Trans 250 Mr '51

Deformation texture of cold-drawn copper wire. W. R. Hibbard, jr. J Metals 3:Trans 467 Je '51

Secondary recrystallization in copper wire. G. Bassi. bibliog il J Metals 3:Trans 533-4 Jl '51

WIRE, Electric. See Electric wire

WIRE, Gold

Deformation of gold wire at high temperature. B. H. Alexander and others. il J Ap Phys 22:439-43 Ap '51

WIRE, Iron

Use of unweighed iron wire as a primary standard. M. Cefola and others. J Chem Educ 28:299 Je '51

WIRE, Steel

Vibration and fatigue life of steel strand. J. C. Little and others. Elec Eng 69:1065 D '50

Wire and wire products; table. Steel 129:135 O 1 '51

Manufacture

Patenting furnace features lightweight construction. W. R. Bloxdorf and A. M. Naysmith. il diag Iron Age 166:112-13 D 14 '50

Testing

Plastic strain and hysteresis in drawn steel wire. R. S. Brown. il pl Iron & Steel Inst J 162:189-200 Je '49; Discussion. 166:319-20 D '50

Tensile failure of carbon and stainless steel wires in the presence of water and hydrogen sulphide. J. E. Truman. il Metallurgia 43:8-10 Ja '51

WIRE association

Annual meeting, 21st, Baltimore, Oct. 23-26; abstracts of papers. Steel 127:108+ N 20 '50

WIRE cloth

Air porosity of open-weave fabrics; metallic meshes. A. F. Robertson. bibliog diags Textile Res J 20:838-44 D '50

Knitted metal parts have unique industrial applications. S. G. Kelley, jr. il Materials & Methods 34:61-3 Ag '51

Mesh ups output; wire cloth entrainment separators. Chem Ind 67:719 N '50

Manufacture

Standard costs in wire cloth manufacture. W. S. Hildebrand. N A C A Bul 32:1327-34 Jl '51

WIRE drawing

Nickel plated wire now can be cold drawn. Steel 127:86 N 6 '50

Ringing in wire-drawing dies. J. G. Wistreich. bibliog il diags Iron & Steel Inst J 167:162-4 F '51

WIRE forming machines

Mechanism that produces variable speed from constant rotary motion; wire fabricating machine. L. Kasper. diags Mach 57:187-8 N '50

60 per cent cut in machine noise; wire braiding machines, Western electric co. W. D. Boynton. il Factory Management 109:113-15 Je '51

WIRE rope

Abuses of wire ropes. C. M. Zerr. il World Oil 132:114-16 Je '51

Care and maintenance of wire rope. R. D. McNutt. il World Oil 132:108+ F '51

Enlarging rotary drilling rope reduces ton-mile costs. L. C. Torell. World Oil 132:151-2 Ap '51

Locking type mining ropes. R. Saxton. diags Can Min J 72:66-8 Mr '51

Seizing and socketing wire rope. il diags World Oil 131:109-10 N '50; Same cond. Constr Methods 32:82-4+ D '50; Same cond. Brick & Clay Rec 118:56 My '51

Wire-line repair and uses in the oil industry. R. F. Carlson. il Oil & Gas J 49:80+ Mr 1 '51

Wire rope blocks emerge from the barrel in the stock room. S. O. Brown. il Sales Management 66:42-4 Je 1 '51

Wire rope; how it's made, how to take care of it. C. M. Haas. il Min Eng 3:772-5 S '51

Wire rope parting machine. il Engineer 190:354 O 6 '50; Metallurgia 42:209 S '50; Elec R (Lond) 147:560 O 13 '50; Can Min J 72:65-6 Ja '51

Wire rope, so what? H. W. Richardson. il Constr Methods 33:94-6+ Jl '51

Wire ropes in mines; conference. Engineering 170:515-17 D 15 '50

See also

Cables

Advertising

How an industrial advertiser keeps distributors sold; MacWhyte wire rope. N. Kelne. il Ptr Ink 236:72-3 S 14 '51

Radio campaign is door-opener for industrial salesmen; Sunbury wire rope. Ptr Ink 236:36 Ag 31 '51

WIRE rope—*Continued*

Lubrication

Automatic lubricator for aerial tram cable. diags Eng & Min J 152:128 Ap '51
Device lubricates hoisting ropes in motion. il diag Eng & Min J 152:107 My '51
Lubrication of wire rope. J. A. Rigby. Iron & Steel Eng 28:131-2 S '51
Proper lubrication lengthens wire rope life. J. P. Critchlow and R. W. Flynn. il Steel 128:110-12+ Je 25 '51

Manufacture

Process costing in wire rope manufacture. W. Shortness. N A C A Bul 32:176-84 O '50

Safety measures

Wire rope. il Nat Safety N 63:135+ Mr '51

Testing

Electronic tester for mine ropes. Comp Air Mag 55:282 D '50

WIRE rope fastenings
Seizing and socketing wire rope. il diags World Oil 131:109-10 N '50; Same cond. Constr Methods 32:82-4+ D '50; Same cond. Brick & Clay Rec 118:56 My '51

WISCONSIN electric power company
Public utility securities. O. Ely. Comm & Fin Chr 173:2071 My 17 '51

WISCONSIN power and light company
Stock offerings underwritten. Comm & Fin Chr 173:1588+ Ap 16 '51

WISCONSIN public service corporation
Bonds offered. Comm & Fin Chr 172:2130 D 4 '50

WISCONSIN southern gas and appliance corporation
Securities offered. Comm & Fin Chr 173:108 Ja 8 '51

WISCONSIN university
Curricula in city and regional planning. F. A. Clarenbach. Land Econ 26:394-7 N '50
University of Wisconsin serves industry. D. D. Hay. Personnel J 29:424-6 Ap '51

WISCONSIN utilities association
Gas and electric section meeting, Milwaukee, Nov. 8-10. Edison Elec Inst Bul 18:432+ D '50

WISE, Harold
Macfadden's returning chief says ad execs are too insulated. por Ptr Ink 235:100 Je 8 '51

WITHHOLDING tax. See Income tax—Collection

WITHINGTON, S. B.
Portrait. Fortune 43:75 Ja '51

WITNESSES
See also
Accountants as witnesses
Physicians as witnesses

WITTENBERG college
Industry picks up Wittenberg's tab; new one-week Management development program. il Bsns W p84+ O 6 '51

WITTING, Chris J.
Portrait. Fortune 44:25 Ag '51

WIVES
And Eve told Adam; wives influence husbands' job attitudes; survey of industrial workers' wives in Cleveland. Mod Ind 21:45-7 My '51

WIVES of executives. See Executives' wives

WIVES of salesmen. See Salesmen's wives

WIX accessories corporation
Southern firm scores outstanding growth. il Manuf Rec 120:42-3 My '51

WOLFF-KISHNER reaction
Wolff-Kishner reduction of 11-keto steroids. R. B. Moffett and J. H. Hunter. bibliog Am Chem Soc J 73:1973 My '51

WOLFF rearrangement. See Molecular rearrangements

WOLFINBARGER, W. B.
Wolfinbarger named to air support unit. Aviation W 55:15 S 10 '51

WOLLASTONITE
Black to white. il Chem W 69:20 S 15 '51
Wollastonite, a new industrial mineral; Willsboro mining co. R. B. Ladoo. flow sheet il Eng & Min J 151:95-7 N '50

WOMAN
How to run a financial forum for women. G. N. Gildersleeve. il Banking 43:55+ F '51
Just like a woman. B. Kidd. Am Gas Assn Proc 1950:252-5
Women's wealth. M. Adams. Barron's 30:7-8 D 11; 7 D 18 '50
Your dollar's worth; financial forums for women. I. W. Foster. Banking 43:82-4 D '50; 75-7 Ja '51
See also
Advertising—Women, Appeal to
Executives' wives

Employment

Child care facilities for women workers. bibliog Int Labour R 62:389-406 N '50
Conditions of employment in postal, telegraph and telephone services. Int Labour R 63:537-70 My '51
Employment of married women and mothers of families. Int Labour R 63:677-97 Je '51
Enquiry on equal pay in Sweden. Int Labour R 64:90-6 Jl '51
Equality of remuneration for men and women workers for work of equal value. Int Labour R 62:226-9 S-O '50
Facilities for women workers with home responsibilities; canteens, school meals, washing and mending facilities, etc. Int Labour R 63:287-301 Mr '51
How women can help in mills; illustrations with text. Eng & Min J 152:63 Ja '51
Industrial injuries to women. Safety Maint & Prod 101:64-5 Mr '51
Katie's back at Kelly; planes outlure pans; women on job of plane maintenance at Kelly air force base. il Bsns W p 116 Ja 20 '51
Legal restrictions on night work by women. Mo Labor R 72:414-16 Ap '51
Mobilizing woman-power. Nat Safety N 63:6+ Mr '51
1950 handbook of facts on women workers. U S Women's Bur Bul 237:1-106; pa 30c Supt. of doc. '50
Rosie the riveter is coming back; hints on how to handle women workers. F. Whitelock. il Mill & Factory 48:77-80 Ap '51
Supervision of women in industry. H. A. Ford. Personnel J 29:421-3 Ap '51
Training new women workers. E. R. Swint. Personnel J 30:140-3 S '51
What mining officials think about women workers. Eng & Min J 152:66-8 Ja '51
When women have their say; factory personnel problems; abstract. L. O. Stockford and K. R. Kunze. S A E J 59:73 Ja '51
Women on card-tender tasks. E. H. Helliwell. Textile World 101:147 S '51
Women workers are different; abstracts. R. Welch. il Rayon 32:31-2+ My '51; Management R 40:125-6 Mr '51
Women workers; employment trends, 1900 to 1950. Mo Labor R 72:52 Ja '51
See also
Garment workers
Office workers
Saleswomen
Servants
Women as engineers

Health and hygiene

Housewives' fatigue. Sci Am 184:30 Mr '51

Law

Legal status of women in the United States of America as of Jan. 1, 1948; reports and summary for the territories and possessions. U S Women's Bur Bul 157-50:1-77; pa 25c Supt. of doc. '51
Legal status of women in the United States of America as of Jan. 1, 1948; summary for all states combined. S. L. Buchanan. rev U S Women's Bur Bul 157:1-105; pa 30c Supt. of doc. '51
State laws of special value to women, Jan. 1, 1951. U.S. Women's bur, Washington '51

Occupations

Outlook for women in community organization in social work. U S Women's Bur Bul 235-5:1-37 bibliog(p35-7); pa 20c Supt. of doc. '51
Outlook for women in social case work with children. il U S Women's Bur Bul 235-3:1-69 bibliog(p64-9); pa 25c Supt of doc. '51
Outlook for women in social case work with families. il U S Women's Bur Bul 235-4:1-80 bibliog(p77-80); pa 30c Supt of doc. '51

WOMAN—Occupations—*Continued*

Outlook for women in social group work. il U S Women's Bur Bul 235-7:1-41 bibliog(p39-41); pa 20c Supt. of doc. '51

See also

Saleswomen

Social workers

Women as engineers

Women in aeronautics

Near East

Votes and veils in the Middle East. Economist 160:601-2 Mr 17 '51

Philippine Islands

Filipino women; their role in the progress of their nation. 9p U.S. Dept. of labor, Women's bur, Washington '51

WOMEN as bankers

Where it's always ladies day; Nashville (Ind.) state bank is run on womanpower. Bsns W p 124-5 Mr 24 '51

WOMEN as engineers

Engineering jobs beckon to women. Eng N 146:58 F 22 '51

National defense program is creating opportunities for women engineers; abstract. B. Hicks. Mech Eng 73:444 My '51

WOMEN as investors

Women should learn investment art. A. M. deBebian. Comm & Fin Chr 172:2542 D 28 '50

Women should not take back seat in industry. E. M. Murphy. Comm & Fin Chr 172: 2089+ N 30 '50

Women's forums cover primary finance. Trusts & Estates 89:835+ D '50

Women's wealth. M. Adams. Barron's 30: 7-8 D 11 '50

WOMEN as journalists

Gal reporter is guinea pig again! Edan Wright. Ed & Pub 83:58 N 4 '50

Girl student finds etc. important to career. K. Whitmer. Ed & Pub 84:38 Je 2 '51

NFPW aids press women. I. R. Bedard. Ed & Pub 83:24 N 4 '50

Two women put weekly on feet, despite doom; Pompano Beach, Fla. Ed & Pub 84:54 Mr 10 '51

What they say about women staffers! D. O'Donnell. Ed & Pub 84:36 Ap 28 '51

Woman covers labor unions, inside and out. Ed & Pub 84:14 Ap 7 '51

See also

Delich, Helen

Roach, Gwendolyn

WOMEN as public officers

Lady commissioner looks at regulation; interview with the Honorable Hortense Fuld Kessler. Pub Util 48:465-76 O 11 '51

WOMEN as publishers

Women editors winning civic reform battle. G. W. Parker. Ed & Pub 84:18 Mr 24 '51

WOMEN as purchasers

Women's wealth; what is really their income and spending power? M. Adams. Barron's 30:7 D 18 '50

WOMEN as stockholders

Women's wealth. M. Adams. Barron's 30: 7-8 D 11 '50

WOMEN in advertising

Ad woman of the year successfully manages career and family; Jean Wade Rindlaub. Ptr Ink 235:96 Je 15 '51

Gals, wanna succeed? see Betty McGannon. J. L. Collings. Ed & Pub 84:20 Je 23 '51

Smart girls write ads on manure for Gimbels. L. Farrant. il Ed & Pub 83:40 D 9 '50

WOMEN in aeronautics

Smith of Northrop. J. Joseph. Aero Digest 63: 90+ S '51

WOMEN in selling. See Saleswomen

WOMEN in the petroleum industry

Oil women form own organization. M. Morris. Pet Eng 23:A58-9 Ag '51

WOMEN'S apparel

How a small company can turn its size to advantage; national sales plan and local advertising for women's swimsuits. L. F. Thomann. il Ptr Ink 236:58-9 S 7 '51

Sales girls can say, it's made this way; booklets issued by De De Johnson, designer. Sales Management 65:64 N 1 '50

See also

Corsets

Dresses

Garment industry

Advertising

See also

Brassieres—Advertising

WOMEN'S apparel shops

Lane Bryant, Brooklyn. il plans diags Arch Rec 110:113-18 Jl '51

Store for Edythe Nelson, inc., New York city. il plans Arch Rec 110:122-3 Ag '51

WOMEN'S shops. See Women's apparel shops

WOOD, J. Harry

To be commerce professor, edit CLU journal. por Nat Underw (Life ed) 55:2+ Jl 20 '51

WOOD, W. S.

Portrait. Chem & Ind p503 Je 30 '51

WOOD

Analytical studies in the suppression of wood fires. G. J. Tauxe and R. L. Stoker. bibliog il diags A S M E Trans 73:1005-20 O '51

Chemical engineering materials of construction. A. J. Stamm. bibliog(83 ref) il Ind & Eng Chem 43:2276-9, 2290-3 O '51

Structure of wood. F. Hyland. il diags Paper Tr J 131:87+ N 30 '50

Timber as a flooring material; its relative resistance to wear. F. H. Armstrong. bibliog il Chem & Ind sup S854-8 D 30 '50

See also

Aspen

Bark peeling

Birch

Bridges, Wooden

Cellulose

Douglas fir

Dry rot

Eucalyptus

Forests and forestry

Hard woods

Holocellulose

Lignin

Lumber

Lumbering

Pine

Plywood

Redwood

Spruce

Wood construction

Wood preservation

Wood pulp

Age

Radiocarbon dates. J. R. Arnold and W. F. Libby. bibliog Science 113:111-20 F 2 '51

Analysis

Chemical analysis of western woods. E. F. Kurth. Tappi 33:507-8 O '50

Chemical composition of eight tropical woods as indicated by proximate analysis. L. E. Wise and others. bibliog Tappi 34:185-8 Ap '51

Constituents of the wood of castanospermum australe Cunn. et Fras; the isolation of a new sapogenin, castanogenin. J. J. H. Simes. Chem Soc J p2868-70 O '50

Constitution of chlorophorin, a constituent of iroko, the timber of chlorophora excelsa. F. E. King and M. F. Grundon. Chem Soc J p3348-52 D '49

Constitution of chlorophorin; further oxidation experiments, and the completion of the structural problem. F. E. King and M. F. Grundon. Chem Soc J p3547-52 D '50

Determination of iron in wood and wood pulp. R. M. Kingsbury. bibliog diag Tappi 34: 382-4 Ag '51

Phenolic resin of the wood of chlorophora excelsa (Benth. and Hook f.). J. R. Nunn and W. S. Rapson. Chem Soc J p3151-5 D '49

Chemistry

Afzelin (kœmpferol-3-rhamnoside), a new glycoside isolated from doussié. F. E. King and R. M. Acheson. Chem Soc J p 168-70 Ja '50

Catalytic hydrogenolysis of wood. E. G. Hallonquist. bibliog Ind & Eng Chem 43:1427-30 Je '51

Chemical progress during the 75 years of the American chemical society; cellulose chemistry. W. O. Kenyon. bibliog il Ind & Eng Chem 43:820-30 Ap '51

Chemistry of cellulose and wood. I. B. Douglas. bibliog Paper Tr J 131:99-100+ N 30 '50

Chemistry of extractives from hardwoods; baikiain, an amino-acid present in baikiaea plurijuga. F. E. King, T. J. King and A. J. Warwick. Chem Soc J p3590-7 D '50

Chemistry of extractives from hardwoods; okanin and *iso*okanin, the isomeric 2 : 3 : 4 : 3′ : 4′-pentahydroxychalkones. F. E. King and T. J. King. Chem Soc J p569-71 F '51

Chemistry of the insoluble red woods; some mixed benzoins. G. G. Badcock and others. Chem Soc J p2961-5 N '50

WOOD—Chemistry—*Continued*

Existence of a lignin-carbohydrate bond. J. W. T. Merewether. Pulp & Pa of Can 52: 114 Ag '51

Investigation of the carbohydrate fraction of spruce chlorite liquors. W. J. Bublitz. bibliog flow sheet Tappi 34:427-32 S '51

Protein evaluations of yeast grown on wood hydrolyzate. E. E. Harris, G. J. Hajny and M. C. Johnson. bibliog Ind & Eng Chem 43: 1593-6 Jl '51

Selection and preparation of a reproducible wood sample for chemical studies; abstract. C. M. Stewart and others. Pulp & Pa of Can 52:100-1 Jl '51

Some effects of high velocity electrons on wood. E. J. Lawton and others. Science 113:380-2 Ap 6 '51

Decay

Investigations on lignin and lignification; the characterization of enzymatically liberated lignin. W. J. Schubert and F. F. Nord. bibliog Am Chem Soc J 72:3835-8 S '50

Jack pine pulpwood deterioration in yard storage. T. A. Pascoe and T. C. Scheffer. bibliog Paper Tr J 131:16-18+ Jl 13 '50; Same cond. Pulp & Pa of Can 52:184+ Je '51

Pathological deterioration of balsam fir killed by the spruce budworm. J. T. Basham. bibliog il Pulp & Pa of Can 52:120-2+ Ag '51

Wood deterioration in cooling towers. D. R. Baker. il Pet Eng 23:C76+ Ap '51

Moisture content

Compensating for chip moisture variations by chip weighing. M. L. Oliver. Tappi 34:273-5 Je '51

Moisture and lumber. il diag Am Bld 72:116-17 D '50

Storage

See Wood storage

Transportation

By raft and by rail, Consolidated water power and paper co. brings wood to Wisconsin. il Paper Ind 33:177 My '51

Developments in trailer design. W. A. Magill. Pulp & Pa of Can 52:136+ My '51

Floating log flume. C. Gliddon. il plan diags Pulp & Pa of Can 52:94-5+ Ja '51

WOOD, Compressed

Phenolic-improved wood. il Mod Plastics 28: 55-60 My '51

WOOD, Fossil

See also

Trees, Fossil

WOOD, Laminated

Glued laminated wood framing members. il Am Bld 73:122-4 F '51

Laminated wood for use in the textile industry; Hy-du-lignum. D. R. P. Booth. Textile Inst J 42:P867-72 S '51

Phenolic-improved wood. il Mod Plastics 28: 55-60 My '51

Solid laminations make strong test beams. G. E. Heck. il Eng N 146:38-9 Je 28 '51

WOOD adhesives. See Adhesives

WOOD as fuel

Investigation into properties of wood fuels. W. H. D. Clark. Pulp & Pa of Can 52:103-4 My '51

See also

Boilers—Wood firing

Locomotive boilers—
  Wood firing

WOOD construction

Cedar timber construction system cuts labor and material costs; Apex Easy-Bild lumber. il Arch Forum 94:232+ Je '51

Glued laminated wood framing members. il Am Bld 73:122-4 F '51

Toothed rings strengthen nailed joints. E. G. Stern and P. W. Stoneburner. il Eng N 147:39-40 S 27 '51

See also

Plywood

Testing

Oregon lab tests wood panels. il Eng N 146: 47-8 Ap 12 '51

WOOD distillation

Products obtained by destructive distillation of Douglas-fir bark. E. F. Kurth and C. V. S. Ratnam. bibliog diag Tappi 33:517-19 O '50

WOOD drying

Special methods of drying wood; abstract. H. Tombach. Mech Eng 73:40 Ja '51

Wood seasoning jackpot; vapor drying. J. A. Lee. il diag Chem Eng 58:115-16 Je '51

WOOD dust

Scrapbook of exhaust hood design; control of dust from woodworking machinery. J. M. Kane. il Heat & Ven 48:92-5 Je '51

WOOD engravings

Wine from the California desert; a portfolio of woodcuts by Antonio Frasconi. il Fortune 44:112-16 S '51

WOOD finishing

Display unit, offered in trade ads, is open sesame for consumer line; Breinig wood finishes. il Ptr Ink 234:27 Ja 12 '51

Finishes for wood. R. E. Prince. Paint Oil & Chem R 114:12+ My 10 '51

Infra-red heating for a wood finishing process. il Engineer 190:636 D 22 '50

See also

Floor finishes

WOOD floors. See Floors, Wood

WOOD flour

Manufacture

Grade costs in wood flour manufacturing. M. D. Gardner. N A C A Bul 32:309-16 N '50

WOOD grinders

Conversion from hydraulic to electric grinding; Abitibi power & paper co. ltd. W. B. Hall. flow diag il diags Pulp & Pa of Can (Convention no) 52:208-16 [F] '51

Effect of process variables in the grinding of newsprint groundwood. S. A. Collicutt. bibliog Pulp & Pa of Can (Convention no) 52:159-65+ [F] '51

Mechanical pulping; development of the grinder. R. M. Hume. Paper Tr J 131: 121-2+ N 30 '50

Mechanics of the grinding process. W. B. Campbell. il Pulp & Pa of Can (Convention no) 52:217-20 [F] '51

Preparation of groundwood for groundwood specialties. O. Anderson, jr. Tappi 34:sup 110A-11A; Discussion. sup 113A-14A Je '51

Wood counter for hydraulic-type grinders. P. X. Laberge. il Pulp & Pa of Can 52:99-100 Mr '51

Bibliography

Stone surface speed in the groundwood process; a literature review. Pulp & Pa of Can (Convention no) 52:316+ [F] '51

WOOD handling

Improved methods of handling pulpwood. W. S. Bromley. il Paper Tr J 131:18-21 N 2 '50

Outstanding material handling practices in the pulp and paper industry on the West coast. F. D. Helversen. il plans Tappi 33:sup 14A+ N '50

Power calculations for chain and cable pulpwood conveyors. R. E. Kirkpatrick. diags Pulp & Pa of Can 51:130+ O '50; Correction. 51:147 N '50

WOOD lots. See Woodlots

WOOD measurement

Bark volume in cordwood. E. B. Chamberlain and H. A. Meyer. il Tappi 33:554-5 N '50

WOOD oil

Production of essential oils from coniferous foliage. A. C. Shaw. bibliog Can Chem & Process Ind 35:44-5 Ja '51

WOOD preservation

Dentistry saves wood poles; stops pole-top heart rot. B. J. Barmack. il Elec World 136:112-13 Jl 16 '51

Dry rot in timber. W. P. K. Findlay. Chem Age (Lond) 64:171-2 Ja 27 '51

How Glen Alden coal co. employs a wood-preserving plant to get longer life from timber. E. M. Griffith. il diag Coal Age 56:74-6 Ja '51

Norfolk & Western expects longer service life from crossties. il Ry Age 130:56-8 Ap 2 '51

Shallow incisions give durable crossarm treatment. F. B. Doolittle. il Elec World 134: 120 D 4 '50

WOOD preservation—*Continued*

Storing timber to prevent decay. Nat Safety N 63:145+ Mr '51

Tie treatment and timber preservation. G. B. Shipley. il Ry Age 130:42-5 Ap 16 '51

To reduce replacements treat standing poles. L. E. Lockwood. il Elec World 135:102-3 Ap 9 '51

Treatment of timber. F. S. Crawford and J. H. Bird. 9pls U S Bur Mines Information Circ 7597:1-4 '51

Well-planned system of lumber treating pays off for dealer; Permatox. il Am Bld 73:156+ Mr '51

Wood preservation down slightly in 1949; statistics assembled by H. B. Steer. Ry Age 129:168-9 O 28 '50

See also

Wood drying

WOOD preservatives

Pentachlorophenol; green pine preservative; abstract. E. A. Behr and R. T. Rogers. Chem Eng 57:259-60 D '50

Wood preservatives. M. A. Lesser. bibliog Soap & San Chem 26:114-15+ N '50

Testing

Agar-block and soil-block methods for testing wood preservatives. R. W. Varner and R. L. Krause. bibliog il Ind & Eng Chem 43:1102-7 My '51

Improved toximetric agar-dish test for evaluation of wood preservatives. R. W. Finholt. bibliog Anal Chem 23:1038-9 Jl '51

WOOD preservers' association, American. See American wood preservers' association

WOOD products

Extractives from ponderosa pine bark. E. F. Kurth and J. K. Hubbard. il Ind & Eng Chem 43:896-900 Ap '51

Manufacture of consolidated products from wood residues. M. D. Macdonald. bibliog diag Paper Tr J 132:20+ Je 8 '51

Products obtained by destructive distillation of Douglas-fir bark. E. F. Kurth and C. V. S. Ratnam. bibliog diag Tappi 33:517-19 O '50

Thermophilic fermentation of cellulosic and lignocellulosic materials. G. J. Hajny, C. H. Gardner and G. J. Ritter. bibliog Ind & Eng Chem 43:1384-9 Je '51

See also

Cellulose
Fiber board
Wood flour

WOOD pulp

Abrasive application in double-disk refining of groundwood rejects. J. H. White. il Pulp & Pa of Can (Convention no) 52:232-5 [F] '51

Canadian pulp for U.S. textile mills; Celanese plant at Prince Rupert, B.C. il Bsns W p80+ Je 30 '51

Chain length and chain-length distribution of wood cellulose as compared with cotton. E. Heuser and L. Jörgensen. bibliog Tappi 34:57-67 F '51

Chemical pulping laboratory at the Pulp and paper research institute of Canada. G. J. C. Potter. flow plan il plan diags Pulp & Pa of Can 52:90-4 Ag '51

Chemical treatment softens hardwoods. il diag Chem Eng 58:184 Ap '51

Columbia Cellulose. J. C. W. Evans. flow diags il plans Pulp & Pa of Can 52:98-122 Je '51

Columbia Cellulose dedicates new sulphite mill at Prince Rupert. flow diag il Paper Ind 33:508-17 Ag '51

Criteria for pulp allocations. L. K. Larson. Paper Tr J 132:86+ F 23 '51

Curlator as a pulp refiner. H. A. Skinner. Paper Tr J 131:24-5 N 16 '50

Dedication of Columbia Cellulose plant. J. N. Stephenson. Pulp & Pa of Can 52:96-7 Je '51

Defects of pulp wood chips; abstract. O. Murto. Pulp & Pa of Can 52:95 Mr '51

Determining the suitability of dissolving pulps for viscose manufacture; abstract. W. Winkler. Paper Ind 32:1200+ F '51

Digester installation at Columbia Cellulose. il diag Pulp & Pa of Can 52:136-7 Je '51

Dissolving pulps by sulfate process; International paper company's new Natchez mill. il Chem Ind 67:576-7 O '50

Effect of storage of southern pine on pulp yield and quality. H. L. Keaton and W. F. Gillespie. Tappi 34:21-4 Ja '51

Fibre structure and pulp properties; abstract. W. H. Aigar and others. Pulp & Pa of Can 52:123 S '51

Groundwood mill process control. C. Davis. Tappi 34:sup 111A-12A; Discussion. sup 113A-14A Je '51

Hardwood pulp; Chemigroundwood; abstracts. Mech Eng 72:997-8 D '50; Comp Air Mag 56:132 My '51

High yield pulps from hardwoods. C. E. Libby. Pulp & Pa of Can 51:125 N '50

How to postpone pulp allocations. R. H. Evans. Paper Tr J 132:90-2 F 23 '51

Hydrogen peroxide bleaching of chemical and mechanical pulps. R. L. McEwen and others. bibliog(44 ref) il diags Tappi 34:193-201 My '51

Improved methods of handling pulpwood. W. S. Bromley. il Paper Tr J 131:18-21 N 2 '50

International paper co. makes dissolving pulp at new Natchez mill. il Paper Ind 32:724-7+ O '50; Paper Tr J 131:18-20+ O 5 '50; Tappi 33:sup78A+ N '50

International symposia, Appleton and Montreal; program. Paper Tr J 133:22+ Ag 24 '51

Jack pine pulpwood deterioration in yard storage. T. A. Pascoe and T. C. Scheffer. bibliog Paper Tr J 131:16-18+ Jl 13 '50; Same cond. Pulp & Pa of Can 52:184+ Je '51

Kraft pulp from old railroad cross ties; abstract. R. C. Sproull and others. Paper Ind 32:861 N '50

Manufacture of mechanical pulp. R. Nivison, jr. flow diag diags Paper Tr J 131:115-19+ N 30 '50

Market woodpulp, 1951. T. R. Wilbert. Paper Tr J 132:92+ F 23 '51

Mechanical pulping. R. M. Hume. Paper Tr J 131:121-2+ N 30 '50

Mechanics of the grinding process. W. B. Campbell. il Pulp & Pa of Can (Convention no) 52:217-20 [F] '51

New pulps used in the viscose industry; dissolving pulps; abstract. R. Bartunek. Paper Ind 33:321 Je '51

Paper problems have not been neglected by the chemical industry. H. F. Lewis. il Chem & Eng N 29:452-5 F 5 '51

Polymolecularity of viscose rayon and rayon-grade pulps. W. E. Davis. bibliog flow sheets Ind & Eng Chem 43:516-21 F '51

Production of commercial-grade chemical pulps at the Pulp and paper research institute of Canada. J. S. Hart and R. K. Strapp. Pulp & Pa of Can 52:103-6 Ag '51

Proportion of water-accessible and nonaccessible cellulose in wood pulps as affected by beating. S. I. Bergman and M. M. Johnson. Tappi 33:586-7 D '50

Pulp situation. L. P. Turcotte. Paper Tr J 133:64+ Jl 13 '51

Pulp situation; presented at American paper and pulp association's annual convention, New York L. P. Turcotte. Paper Tr J 132:133-6 F 23 '51

Pulpwoods, with special reference to the silviculture of spruce and lodgepole pine; abstract. A. F. von der Schulenburg. il Paper Ind 33:76 Ap '51

Purified sulphate wood pulp for viscose rayon; abstract. F. A. Simmonds. Tappi 33:sup 100A-1A D '50

Recent trends in the manufacture of pulps as related to papermaking. G. H. Tomlinson. Pulp & Pa of Can 51:112-14 O '50

Recent views in the field of white ground wood pulp manufacture; abstract. K. H. Klemm. Paper Ind 33:78 Ap '51

Redwood as a potential source of pulp. H. F. Lewis. il Tappi 34:385-90 S '51

Redwood plastic pulp for phenolic resin laminates. T. A. Howells and R. H. Goms. il Tappi 34:121-5 Mr '51

Refining of rejects; results of survey tabulated. C. T. Robinson. Pulp & Pa of Can 51:54-8 F '50; Same. Tappi 33:566-71 D '50

Reflections on groundwood bleaching. H. F. Lewis and M. A. Buchanan. bibliog Pulp & Pa of Can 52:93-5 Mr '51

Relation between wood and pulp properties. W. F. Holzer. Paper Tr J 132:30+ Ja 19 '51

WOOD pulp—*Continued*

Relation between wood and pulp properties. W. F. Holzer. Pulp & Pa of Can 51:163-4+ S '50

Resin bonding of hardwood fibers in offset papers. B. W. Scribner and others. bibliog J Res Nat Bur Stand 45:208-17 S '50

Role of the pulpwood industry in industrial mobilization. D. C. Everest. Paper Tr J 132:121-3 F 23 '51

Semi-chemical gains. Chem W 69:9-10 Ag 25 '51

Sources of wood dirt in unbleached pulp. C. A. Watson. Tappi 34:311-13 Jl '51

Structural and chemical differences between sulphite and sulphate pulps; abstract. G. Jayme and A. von Köppen. Paper Ind 33:76+ Ap '51

Sulphur reactions in sulphite cooking; some physico-chemical aspects. E. J. Howard. bibliog il diags Pulp & Pa of Can 52:91-7 Jl '51

Watson island; Celanese's dissolving pulp plant. il Rayon 31:31-3 O '50

Wood pulp supply. J. L. Ritchie. Paper Tr J 132:57 F 23 '51

See also

Wood grinders

Analysis

Carbohydrates in wood pulps; abstract. J. Sundman and others. Paper Ind 33:437 Jl '51

Determination of iron in wood and wood pulp. R. M. Kingsbury. bibliog diag Tappi 34:382-4 Ag '51

Bacteriology

Microbiological problems in the pulp and paper industry; abstract. G. O. Gadd. il Paper Ind 33:437-8 Jl '51

Standards

Standard drainage time of pulp for insulating board. diag Tappi 34:sup 120A-2A Jl '51

Statistics

Review of market pulp, 1950. K. A. Clauson. Paper Tr J 132:66+ F 23 '51

Testing

Consistency determination of slush pulps. Pulp & Pa of Can 52:112-15 S '51

Effect of pulpstone grit distribution on groundwood quality control. E. P. Walsh. bibliog Pulp & Pa of Can 52:76-81+ Mr '51

Examination of consistency and freeness control in typical groundwood mills. T. G. Rust. diags Pulp & Pa of Can (Convention no) 52:181-91 [F] '51

Fiber structure and pulp properties; abstract. W. H. Algar and others. il Paper Ind 33:686-7 S '51

Forming structural-type boards for physical tests of pulp. diags Tappi 34:sup 118A-21A Je '51

Influence of hemicelluloses in wood pulp fibers on their papermaking properties. L. G. Cottrall. bibliog il Tappi 33:471-80 S '50; Same. Pulp & Pa of Can 51:135-43 S '50

Presence of galactose units in unbleached kraft pulps. L. E. Wise and others. bibliog Tappi 34:15 Ja '51

Reddening of unbleached sulphite pulp; abstract. E. Adler and S. Häggroth. Paper Ind 32:998 D '50

Sampling and testing woodpulp to determine the dry content; abstract. J. Bergstrom. Pulp & Pa of Can 51:124 N '50

Some physical and chemical properties of high-yield kraft pulps. J. M. Limerick and C. V. Callaghan. flow diag Pulp & Pa of Can (Convention no) 52:175-80 [F] '51

Tappi pulp testing committee joint meeting with microscopy committee, Rochester, Sept. 13; summary of discussion. Tappi 33:sup80A-5A D '50

Testing the quality of wood-pulp; abstracted from Finnish paper and timber journal. Pulp & Pa of Can 51:137-8 N '50

Canada

British pulp and paper imports from Canada greatly reduced. R. D. Roe. Pulp & Pa of Can 52:158+ Ag '51

New York (state)

Industry's role as related to New York state's pulpwood supply. G. A. Pesez. Tappi 34:sup20A+ Ag '51

We have pulpwood in New York state. F. W. O'Neil. bibliog il Tappi 34:sup26A+ Ag '51

Scandinavia

Pulpwood preparation in Scandinavia. J. H. Stoeckeler. Paper Ind 32:971 D '50

WOOD research

Forest products research. Engineering 171:185 F 16 '51

WOOD seasoning. See Wood drying

WOOD storage

Effect of storage of southern pine on pulp yield and quality. H. L. Keaton and W. F. Gillespie. Tappi 34:21-4 Ja '51

Jack pine pulpwood deterioration in yard storage. T. A. Pascoe and T. C. Scheffer. bibliog Paper Tr J 131:16-18+ Jl 13 '50; Same cond. Pulp & Pa of Can 52:184+ Je '51

Storage of pulpwood; abstract. T. Wegelius. Paper Ind 33:687-8 S '51

WOOD waste

Abrasive application in double-disk refining of groundwood rejects. J. H. White. il Pulp & Pa of Can (Convention no) 52:232-5 [F] '51

Ammonia fertilizers from wood waste. J. Risi. flow sheet il Can Chem & Process Ind 34:972-4 D '50

Cedar waste cleans boilers. il Chem Ind W 68:28 F 17 '51

Fibreboard products inc. turns sawmill waste into container materials. L. A. Lawrence. il Comp Air Mag 55:242-5 N '50

Manufacture of consolidated products from wood residues. M. D. Macdonald. bibliog diag Paper Tr J 132:20+ Je 8 '51

Manufacture of Pacific veneer hardboard, Canadian forest products ltd. E. W. Wellwood. il Pulp & Pa of Can 52:96-9 S '51

Mechanical-handling plant for wood waste. il diags Engineering 171:674-5 Je 1 '51

Power generation from wood waste. D. L. Gusler. il Power Eng 55:60-1+ Ap '51

Production of insulating fibreboard from western red cedar shingle mill waste. F. W. King and F. Bender. il Pulp & Pa of Can 52:75-9 Ja '51

Some new European boards made from wood waste. J. Risi. Pulp & Pa of Can 52:82-4 Ja '51

Thermophilic fermentation of cellulosic and lignocellulosic materials. G. J. Hajny, C. H Gardner and G. J. Ritter. bibliog Ind & Eng Chem 43:1384-9 Je '51

Wood waste in the Douglas fir region. F. W. Guernsey. bibliog Paper Tr J 132:23-4+ My 11 '51

See also

Bark	Wood as fuel
Fiber board	Wood flour

WOODCRAFT equipment company

Fletchers are still in business; illustrations with text. Bsns W p92-3 My 12 '51

WOODCUTS. See Wood engravings

WOODEN bridges. See Bridges, Wooden

WOODLOTS

Farm woodland utilization in the Douglas-fir region. K. S. Landstrom. Land Econ 26:346-53 N '50

Quebec farm woodlots. R. Delisle. il Pulp & Pa of Can 52:143-4+ Ap '51

Southern pine; tree farming in Dixie promises good capital growth. J. L. Hopkins. Barron's 31:7 Jl 30 '51

Woodlands as an investment. R. W. Babson. Comm & Fin Chr 174:1368 O 11 '51

WOODRUFF, Robert Winship, 1889-

Nickel drink is groggy. por Fortune 43:78-9+ Ja '51

WOODWORK

You can learn copy writing from woodworking. R. C. Graham. Adv Agency 44:74+ Ag '51

WOODWORKING

You can learn copy writing from woodworking. R. C. Graham. Adv Agency 44:74+ Ag '51

WOODWORKING machinery

Scrapbook of exhaust hood design; control of dust from woodworking machinery. J. M. Kane. il Heat & Ven 48:92-5 Je '51

WOODWORKING machinery—*Continued*

Control

Amplidyne drive for veneer lathe. Machine Design 23:153 My '51

Electronic control of veneer-peeling lathes. il Engineering 171:97 Ja 26 '51; Elec R (Lond) 147:1125-6 D 29 '50; Electrician 146:479-80 F 9 '50; Electronics 24:136+ Ap '51

Safety devices

American standard is guide to woodworking safety. il diag Standardization 22:80-1 Mr '51; Same. Nat Safety N 63:127-9 My '51

WOODWORKING shops

Safety measures

American standard is guide to woodworking safety. il diag Standardization 22:80-1 Mr '51; Same. Nat Safety N 63:127-9 My '51

Safety in making box shook. C. S. Houston. il Safety Maint & Prod 101:18-20+ F '51

Safety with a high polish. N. Burch. il Nat Safety N 64:20-1+ Jl '51

WOOL

Effect of dilute salt solutions on the mechanical properties of animal fibers. H. M. Burte. bibliog Textile Res J 20:880-1 D '50

Hydrogen peroxide dry-in process for bleaching wool. E. S. Shanley and others. Am Dyestuff Rep 40:1-4 Ja 8 '51

Microscopic study of oiled textile fibres immersed in aqueous media. D. G. Stevenson. bibliog il diags Textile Inst J Trans 42:T 194-206 My '51

Plasticity of wool. O. Ripa and J. B. Speakman. bibliog diag Textile Res J 21:215-21 Ap '51

Properties of wool with particular reference to scouring. A. C. Goodings. bibliog il diag Am Dyestuff Rep 40:55-60 Ja 22 '51

Relationship between detergency and adsorption by the fibre. K. McLaren. bibliog diag Soc Dyers & Col J 66:521-9 O '50

Some plain talk about wool; new synthetics as alternatives. A. W. Williams. il Rayon 32:31-2+ Ag '51

Sub-cuticle membrane; a recently discovered morphological component of the wool fiber. P. Alexander and C. Earland. bibliog il Textile Res J 20:298-300 My '50; Discussion. 21:234-8 Ap '51

Types and dimensions of fiber scales from the wool types of domestic sheep and wild life. G. S. Mahal and others. bibliog il Textile Res J 21:83-93 F '51

Use of a microscopic technique in studying the filtration characteristics of wool and cotton fibers. C. A. Rodman and A. W. Pansey. il Textile Res J 20:873-9 D '50

Why don't your wet felts last longer? degradation of wool. B. F. Shema. il Paper Ind 33:400-3 Jl '51

See also

Bleaching—Wool
Cashmere
Dyes and dyeing—Wool
Felt
Mohair
Wool carding and other headings beginning Wool
Woolen and worsted fabrics

Analysis

Application of the specific gravity gradient column to the quantitative determination of additives in a base material; concentration of melamine resin, applied to wool. C. R. Stock and E. R. Scofield. il Textile Res J 21:521-6 Jl '51

Quantitative determination of nylon, orlon and fiber V in wool blends. H. W. Wolf. bibliog il Am Dyestuff Rep 40:273-6 Ap 30 '51

Rapid method of determining ether extracts. J. C. Dickinson and R. C. Palmer. bibliog diags Textile Inst J Trans 42:T6-14 Ja '51

Chemistry

Action of chlorine dioxide on wool. D. B. Das and J. B. Speakman. 2pls Soc Dyers & Col J 66:583-6 N '50

Changes produced in wool by processing. S. Blackburn. bibliog Chem & Ind p718-23 N 4 '50

Chemical modification of wool; treatment with formaldehyde solutions. A. E. Brown and others. bibliog Textile Res J 21:222-7 Ap '51

Combination of wool with acids in presence of salts. B. Olofsson. bibliog Soc Dyers & Col J 67:57-66 F '51

Epicuticle of wool; investigation of its chemical nature. Chem Age (Lond) 65:218-20 Ag 18 '51

Homologous mechanism of bactericidal action and gram-staining. R. Fischer and S. Seidenberg. Science 114:265-6 S 7 '51

Kinetics of anion exchange on wool fibers. R. F. Hudson and G. A. Schmeidler. bibliog J Phys & Colloid Chem 55:1120-30 O '51

Modification of wool by the application of linear synthetic polyamides; *N*-hydroxymethyl polyamides. D. L. C. Jackson. Textile Res J 21:655-9 S '51

Modification of wool by the application of linear synthetic polyamides; *N*-methoxymethyl polyamides. D. L. C. Jackson and M. Lipson. bibliog Textile Res J 21:156-63 Mr '51

Modification of wool with *beta*-propiolactone. H. W. Jones and H. P. Lundgren. bibliog il Textile Res J 21:620-34 S '51

Reaction of combined cystine of wool with sodium bisulfite. G. J. Schuringa and others. bibliog Textile Res J 21:281-5 My '51

Reaction of wool with organic chloroamines; the nature of the reaction. P. Alexander and others. bibliog Soc Dyers & Col J 67:17-22 Ja '51

Rôle of the disulphide bond in reactions which render wool non-felting. P. Alexander and others. bibliog Soc Dyers & Col J 67:23-7 Ja '51

Selective absorption of optical antipodes by proteins. W. Bradley and G. C. Easty. Chem Soc J p499-503 F '51

Sorption of anionic detergents by wool. K. Swanston and R. C. Palmer. bibliog diag Soc Dyers & Col J 66:632-8 D '50

Study of the polymerisation of methacrylamide in wool. N. K. Boardman and M. Lipson. bibliog Soc Dyers & Col J 67:271-4 Jl '51

Chlorination

Action of chlorine dioxide on wool. D. B. Das and J. B. Speakman. 2pls Soc Dyers & Col J 66:583-8 N '50

Color

Color changes in wool during processing. E. P. Mersereau and L. W. Rainard. bibliog Textile Res J 21:239-47 Ap '51

Nature of the canary colouration of wool. J. A. Serra and R. M. A. de Matos. bibliog Textile Inst J Trans 42:T329-31 Jl-Ag '51

Damage

Assessment of damage in wool materials; abstract. C. S. Whewell. Am Dyestuff Rep 40:255 Ap 16 '51

Measurement of damage to wool fibres. M. Robinet. Textile Inst J 42:P20-2 Ja '51

New microscopic tests for the identification of damage to wool and silk. E. Kornreich. bibliog il Textile Inst J Trans 41:T321-8; 42:T145-6 Ag '50, Mr '51

New wool-destroying fungus; ctenomyces species. S. R. Sen Gupta and others. bibliog il Textile Res J 20:671-5 O '50

Felting

Fulling characteristics of a light-weight woolen fabric. K. S. LaFleur. Am Dyestuff Rep 40:145-8 Mr 5 '51

Modification of wool by the application of linear synthetic polyamides; *N*-methoxymethyl polyamides. D. L. C. Jackson and M. Lipson. bibliog Textile Res J 21:156-63 Mr '51

Modification of wool with *beta*-propiolactone; effect on rate and degree of felting. H. W. Jones and H. P. Lundgren. bibliog il Textile Res J 21:629-34 S '51

Use of the Furness milling machine in the determination of shrinkage due to felting. A. N. Davidson. il diags Textile Inst J 42:S6-16 Ap '51

Measurement

Effect of moisture on the measurement of wool fineness. S. L. Anderson and R. C. Palmer. Textile Inst J 42:P 137-44 Ap '51

WOOL—Measurement—*Continued*

Effect of non-circular cross-section on fibre diameter measurement of wool by the profile method. S. L. Anderson and R. C. Palmer. Textile Inst J 42:P114-16 Mr '51

Fibre diameter measurements of tops, 1947. Textile Inst J 42:P 132-5; Discussion. P 135-6 Ap '51

Photo-electric instrument for measuring tippiness in wool staples. H. Goot and R. E. Belin. bibliog diags Textile Inst J Trans 41:T455-65 D '50

Report of the 1948 inter-laboratory diameter and length experiment; International wool textile organisation. R. C. Palmer. bibliog Textile Inst J 42:P23-43 Ja '51

Moisture content

Effect of moisture on the measurement of wool fineness. S. L. Anderson and R. C. Palmer. Textile Inst J 42:P 137-44 Ap '51

Prices

Wool prices down to December levels. Barron's 31:27 My 21 '51

Re-use

Better fiber blending with Garnett cross feed. E. H. Helliwell. il diag Textile World 100:141 O 50

Here's how a modern garnetting plant operates; illustrations with text. J. H. Kennedy. Textile World 101:122-3 Ag '51

World wool-stock and mill-waste situation; with tabulations. M. J. Schwartz. il For Comm W 42:3-4+ Ja 8 '51

Shrinkproofing

Application of s-bisalkoxymethylureas (dialkyl ethers of dimethylolurea) to wool. P. Alexander and others. Soc Dyers & Col J 66:579-83 N '50

Comparative tests on the shrink-resisting of men's half-hose. J. R. Stewart. Soc Dyers & Col J 67:138-41 Ap '51

Reaction of wool with organic chloroamines; conditions for rendering wool non-felting. P. Alexander and others. bibliog Soc Dyers & Col J 66:538-43 O '50

Reaction of wool with organic chloroamines; the nature of the reaction. P. Alexander and others. bibliog Soc Dyers & Col J 67:17-22 Ja '51

Rôle of the disulphide bond in reactions which render wool non-felting. P. Alexander and others. bibliog Soc Dyers & Col J 67:23-7 Ja '51

Shrinkproofing and mothproofing; alkylated methylolmelamines plus melamine fluosilicate; patent. Am Dyestuff Rep 40:64 Ja 22 '51

Shrinkproofing wool; alkaline peroxide pretreatment, aminoresin aftertreatment; patent. Am Dyestuff Rep 40:372-3 Je 11 '51

Shrinkproofing wool; animated ethylene, carbon-monoxide polymers and formaldehyde; patent. Am Dyestuff Rep 40:198 Mr 19 '51

Shrinkproofing wool; patents. Am Dyestuff Rep 40:197, 537-8 Mr 19, Ag 20 '51

Shrinkproofing wool; treatment with inert suspensions of opposite electrical charge; patent. Am Dyestuff Rep 40:375 Je 11 '51

Washable woolens; abstract. E. C. Dreby. Am Dyestuff Rep 40:8 Ja 8 '51

Testing

Ballistic determination of work of rupture of short textile samples. W. R. Lang. bibliog il diags Textile Inst J Trans 42:T314-28 Jl-Ag '51

Bikaner wool, a leading carpet wool, and its improvement. G. S. Mahal and others. bibliog Textile Res J 21:94-101 F '51

Detection of modification in animal fibers. H. M. Burte. bibliog Textile Res J 21:63-6 F '51

Determination of the nep count in tops. F. Monfort. Textile Inst J 42:P81-5 F '51

Measurement of damage to wool fibres. M. Robinet. Textile Inst J 42:P20-2 Ja '51

Measurement of whiteness of wool especially in the loose state. H. J. Selling. Textile Inst J 42:P44-5 Ja '51

Photo-electric instrument for measuring tippiness in wool staples. H. Goot and R. E. Belin. bibliog diags Textile Inst J Trans 41:T455-65 D '50

Recrystallisation of relaxed animal fibres. L. G. Jagger and J. B. Speakman. bibliog Textile Inst J 42:P771-82 Ag '51

Relation between strength and diameter of wool fibres. S. L. Anderson and D. R. Cox. Textile Inst J Trans 41:T481-91 D '50

Some frictional properties of wool and nylon fibres. G. King. bibliog diags Textile Inst J Trans 41:T135-44 Ap '50; Discussion. 41:T407-10, T493-4 O, D '50

Tentative textile specification no. 20, 1950; determination of wool fibre fineness by the projection microscope. il diags Textile Inst J 41:S 11-15 O '50

WOOL, Artificial

Successors to sheep. il Chem Ind W 68:15-16 Ja 20 '51

Synthetic fibers; blends and substitutes for wool. Mech Eng 73:141 F '51

WOOL, Effect of alkalies on

Action of alkali on the epicuticle of wool. G. Lagermalm and B. Philip. bibliog il Textile Res J 20:668-70 O '50

WOOL carding

Principles of carding and their application. G. Marshall. Textile Inst J 41:P725-32; Discussion. P732-6 O '50

WOOL combing

Short-wool top making requires special care. V. Saxl. il Textile World 101:104-5+ Ap '51

WOOL fat

Fatty alcohols from wool wax unsaponifiables by urea-complex formation. E. von Rudloff. bibliog Chem & Ind p338-9 Ap 28 '51

Mineral oil as a wool lubricant; emulsification of blends of mineral oil and wool-wax alcohols. E. V. Truter. bibliog J Ap Chem 1:254-7 Je '51

New method for raw-wool scouring and grease recovery. W. Fong and others. bibliog flow diag il Textile Res J 21:540-55 Ag '51

Wool wax; synthesis of some *anteiso*-acids. J. R. Nunn. Chem Soc J p 1740-4 Jl '51

Analysis

Isolation of some homologous higher molecular weight glycols from the unsaponifiable fraction of wool wax. D. H. S. Horn and F. W. Hougen. Chem & Ind p670 Ag 4 '51

WOOL oiling

Factors affecting the service life of leather in wool processing. R. M. Koppenhoefer. il Am Dyestuff Rep 40:469-72 Jl 23 '51

Mineral oil as a wool lubricant; emulsification of blends of mineral oil and wool-wax alcohols. E. V. Truter. bibliog J Ap Chem 1:254-7 Je '51

Polyalkylene glycols. Chem Ind 67:743 N '50

Resistance of wool oils to oxidation in storage; tentative test method. Am Dyestuff Rep 39:911 D 25 '50

WOOL research

Chemical attack on polymeric materials as modified by diffusion. S. M. Katz and others. bibliog Textile Res J 20:754-60 N '50

Some tensile properties of wool in solutions containing salt and acid. H. Bogaty and others. Textile Res J 21:479-81 Jl '51

Sub-cuticle membrane; a recently discovered morphological component of the wool fiber. P. Alexander and C. Earland. bibliog il Textile Res J 20:298-300 My '50; Discussion. 21:234-8 Ap '51

Trends in wool research. R. J. Bray and E. G. Carter. Textile Inst J 42:P361-82; Discussion. P382-4 Ag '51

WOOL scouring

Analytical survey of the problems of scouring; abstract. R. L. Elliott. Am Dyestuff Rep 40:399-400 Je 25 '51

Evaluating hair shampoos; studies of scouring of sheep's wool. G. Barnett and D. H. Powers. Soap & San Chem 27:59+ Ja '51

Hoffman improves scouring and depainting process. Am Dyestuff Rep 40:454 Jl 9 '51

New method for raw-wool scouring and grease recovery. W. Fong and others. bibliog flow diag il Textile Res J 21:540-55 Ag '51

Properties of wool with particular reference to scouring. A. C. Goodings. bibliog il diag Am Dyestuff Rep 40:55-60 Ja 22 '51

WOOL scouring—*Continued*

Proposed tentative test methods for evaluation of continuous scouring of raw grease wool. il diags Am Dyestuff Rep 39:813-15 N 27 '50

Rapid methods of scouring, milling and dyeing wool; abstract. E. I. Noble. Am Dyestuff Rep 40:136-7 F 19 '51

Research on wool scouring waste treatment; abstract. H. W. Webber. Water & Sewage Works 98:327 Jl '51

Scouring with synthetic detergents; abstract. Am Dyestuff Rep 39:685 O 16 '50

Self-scoured wool. Chem W 69:13 S 1 '51

Theory of washing. K. Swanston and R. C. Palmer. bibliog il diags Textile Inst J 42: P675-88; Discussion. P688-90 Ag '51

WOOL trade

From the sheep's back to yours; ABC of what's behind some key statistics. il Bsns W p92-4+ Je 23 '51

Full circle in wool. Economist 161:38-9 Jl 7 '51

New basis for wool? Economist 160:1312-13 Je 2 '51

New wool season begins without British stocks. Barron's 31:17 Ag 13 '51

Stockpiling threat drives wool higher. Barron's 31:42 Ja 22 '51

U.S. out of wool market but prices still high. Barron's 31:39 Ap 16 '51

Wool auctions presage new market stability. Barron's 31:21 O 1 '51

Wool ceilings lifted to ease army shortage. Bsns W p36 F 24 '51

Wool; everything spells shortage; with graphs showing production, consumption, stock and price trends, 1941-1950. Bsns W p 102-4+ F 24 '51

Wool prices at new highs as military calls begin. Barron's 30:20-1 D 25 '50

Wool prices up again as army buying plans unfold. Barron's 30:21-2 N 27 '50

Wool trade sits out official maneuvers. Barron's 30:21-2 O 23 '50

See also

American woolen company

Statistics

World wool-stock and mill-waste situation; with tabulations. M. J. Schwartz. il For Comm W 42:3-4+ Ja 8 '51

Australia

Australia's dependence on wool. Economist 161:512+ S 1 '51

Egypt

Markings on woolen textiles and knitted goods. For Comm W 43:13 Ap 30 '51

Great Britain

Last bale; disposal of the wartime stock. Economist 161:112-13 Jl 14 '51

See also

West Riding worsted and woollen mills, limited

WOOL waste

World wool-stock and mill-waste situation; with tabulations. M. J. Schwartz. il For Comm W 42:3-4+ Ja 8 '51

WOOL wax. See Wool fat

WOOLDRIDGE'S theory. See Electrons—Secondary emission

WOOLEN and worsted fabrics

Fulling characteristics of a light-weight woolen fabric. K. S. LaFleur. Am Dyestuff Rep 40:145-8 Mr 5 '51

See also

Carpets

Serge

Defects

You can trace worsted barre marks to various causes. W. J. Woolstan. il Textile World 101:134-5 F '51

Mixtures

Should mixture cloths be labelled? Economist 160:103 Ja 13 '51

Synthetic blends; the wool trade's salvation? Rayon 32:32-3+ S '51

Uses of artificial fibres in woollens. R. R. Franck. bibliog Textile Inst J 42:P373-6 S '51

Welcome mat for cottons; carpet industry turns to rayon blends and cotton. il Bsns W p 114+ Ag 18 '51

Wool vs. synthetics. Chem W 69:11-12 Jl 21 '51

Rayon mixtures

See Rayon fabrics—Wool mixtures

Shrinkage

Effect of construction on the laundering shrinkage of knitted woolens. H. Bogaty and others. bibliog Textile Res J 21:102-9 F '51

Shrinkage in wool fabrics; its cause and treatment; abstract. Am Dyestuff Rep 39: 686 O 16 '50

Shrinkage of woolen and worsted materials; abstract. L. H. Turl. Am Dyestuff Rep 40: 256 Ap 16 '51

Tentative textile specification no. 22, 1951; standard method for determining the shrinkage of knitted fabrics and garments containing wool. diag Textile Inst J 42:S2-5 Ap '51

Use of the Furness milling machine in the determination of shrinkage due to felting. A. N. Davidson. il diags Textile Inst J 42:S6-16 Ap '51

WOOLEN and worsted finishing

Crusher removes carbon from cloth. il Comp Air Mag 56:249 S '51

Finishing of face cloths, pile fabrics, etc. A. I. Read. Textile Inst J 42:P205-8 My '51

Fulling characteristics of a light-weight woolen fabric. K. S. LaFleur. Am Dyestuff Rep 40:145-8 Mr 5 '51

High-speed singeing gives smooth, clear finish. E. H. Helliwell. il Textile World 101: 147 Je '51

Modification of wool by the application of linear synthetic polyamides; *N*-methoxymethyl polyamides. D. L. C. Jackson and M. Lipson. bibliog Textile Res J 21:156-63 Mr '51

Recent developments in the mechanical finishing of textile fabrics; wool fabrics. C. S. Whelwell. bibliog Textile Inst J 42:P633-42 Ag '51

WOOLEN and worsted machinery

Better fiber blending with Garnett cross feed. E. H. Helliwell. il diag Textile World 100: 141 O '50

Knot-tying machine speeds worsted-warp preparation. E. H. Helliwell. il Textile World 101:131+ Jl '51

Warner & Swasey weaving machines tested at Cleveland Worsted. W. A. Newell. il Textile World 100:110-11+ D '50

Worsted spring-weighting system gives better fiber control. il diag Textile World 101: 143 Jl '51

WOOLEN and worsted manufacture

Changes produced in wool by processing. S. Blackburn. bibliog Chem & Ind p718-23 N 4 '50

Relative humidity important in processing of wool fibers. H. R. Rich and N. B. Chase. il Textile World 101:118-19 My '51

Wool-processing variables can be controlled; abstract. W. E. Prentice. Textile World 100:139+ D '50

WOOLEN and worsted mills

Worsted-mill laboratory. C. E. Medde and P. E. Morally. Am Dyestuff Rep 40:193-5 Mr 19 '51

Air conditioning

Relative humidity important in processing of wool fibers. H. R. Rich and N. B. Chase. il Textile World 101:118-19 My '51

Electric equipment

Large wool mills. il Elec R (Lond) 148:669-74, 719-23 Ap 6-13 '51

Employees

Careful selection and training solves mender shortage. M. B. Scharff. Textile World 101: 131 Mr '51

Controls embitter this textile strike; ceilings on wool prices and wage increases add to bargaining woes. il Bsns W p 126-7 F 24 '51

Departmental-liaison men reduce personnel-relations cost in woolen and worsted mill. M. B. Scharff. Textile World 101:222+ Ag '51

WOOLEN and worsted mills—Employees —*Continued*

Management and labor learn together; Botany plan. I. J. Phillipson. Dun's R 59:20+ S '51

Woolen and worsted textiles; earnings in May 1950. C. Rubenstein. Mo Labor R 71: 464-6 O '50

Equipment

England's most modern worsted mill; Patons & Baldwins. E. Walford. il Textile World 101:133-7 S '51

Flow measurement helps woolen mills. H. Kockritz. il Textile World 101:140 S '51

Power trucks cut warehouse handling time 75 per cent. il Textile World 101:292 O '51

See also

Woolen and worsted machinery

Power

Aim your sights at upkeep in the power plant; Forstmann woolen co. F. L. Bradley. diags Textile World 101:141+ My '51

WOOLEN and worsted printing

Resist printing on chlorinated wool; under solubilized phthalocyanine dyes; patent. Am Dyestuff Rep 40:339 My 28 '51

WOOLEN and worsted spinning

Developments in the Ambler Super-draft process for worsted spinning. M. Hannah. Textile Inst J 42:P246-50 Je '51

New French system cuts costs, ups production. V. Saxl. il Textile World 100:110-11+ O '50

Quality and production in worsted spinning. S. Kershaw. Textile Inst J 42:P877-82; Discussion. P883-4 S '51

Some aspects of the early history of spinning, with special reference to wool. H. Lemon. bibliog il diags Textile Inst J 42:P479-500; Discussion. P500-1 Ag '51

Studies in woollen ring frame spinning; a comparison of mule and frame-spun yarns and cloths made from them. P. P. Townend and C. S. Whewell. Textile Inst J 42:P239-45 Je '51

WOOLEN and worsted weaving

Uniform loom settings are a must for 18-oz. serge. E. P. Schremp. il Textile World 101: 104-5+ Je '51

Warner & Swasey weaving machines tested at Cleveland Worsted. W. A. Newell. il Textile World 100:110-11+ D '50

Yarn preparation and weaving. W. Barker. bibliog Textile Inst J 42:P251-63 Je '51

WOOLEN and worsted yarn

American-system drawing not used in Great Britain. Textile World 101:268+ F '51

Yarn preparation and weaving. W. Barker. bibliog Textile Inst J 42:P251-63 Je '51

Rayon mixtures

Slasher drive improves beam uniformity. E. H. Helliwell. il diags Textile World 101:110-11 Ap '51

Testing

Analysis of yarn irregularity. M. W. H. Townsend and D. R. Cox. bibliog Textile Inst J 42:P107-13 Mr '51

How mills are using the Pacific evenness tester. J. H. Kennedy, jr. and M. J. Koroskys. il Textile World 101:138-41+ O '51

Measurement of yarn irregularity. M. W. Townsend. bibliog Textile Inst J 42:P 12-19 Ja '51

Methods of counting the numbers of fibres in yarn cross-sections. F. Monfort and T. Neirynck. Textile Inst J 42:P75-80 F '51

Supercontraction of wool yarn. J. Menkart and W. Mitchell. Textile Inst J Trans 41: T491-2 D '50

WOOLWORTH, F. W., company

Institutional copy; Woolworth's. Aesop Glim. Ptr Ink 234:60 Ja 12 '51

Investors value its stable earning power; with financial data, 1940-1950. P. Hallingby, jr. Barron's 31:9-10 Ag 27 '51

Re-appraisal of Woolworth. G. W. Mathis. il Mag of Wall St 87:605-6+ Mr 10 '51

WOOSTER rubber company

Started by a man ringing doorbells. Am Bsns 21:10-11+ Ag '51

WORCESTER, Massachusetts

Industries

Small industries get expert advice free. Bsns W p87 Ja 20 '51

Worcester story; Management consulting services of the Worcester Chamber of commerce. J. P. Cleaver. il Advanced Management 16:2-5 Ag '51

Rapid transit

Transit tempest. Bsns W p 122 Ag 18 '51

WORDS

Semantics of industrial relations; language and reality. W. Exton, jr. Personnel 27: 194-201 N '50

Words to watch. M. J. Simon. Adv Agency 44:79+ My '51

See also

Advertising copy—Language, style, etc.
Dictionaries
English language
Synonyms
Technical writing

WORK

See also

Labor and laboring classes

WORK clothes

See also

Clothing, Protective

Advertising

Builds campaign around localized outdoor postings; hidden product advertised to consumers; Reeves army twill. il Ptr Ink 234: 36-7 Ja 12 '51

WORK units

What is the ideal unit of work? abstract. D. Cox and K. M. D. Sharp. Management R 40: 420-1 Jl '51

WORKING life, Length of

Applications of working-life tables to employment outlook. H. Wool. Mo Labor R 71:560-3 N '50

Measurement of work-life expectancy; tables of working life for men. S. L. Wolfbein; H. Wool. Mo Labor R 71:193-5, 323-31, 438-42 Ag-O '50

Methods of constructing tables of working life for men. H. Wool. Mo Labor R 71: 589-95 N '50

Tables of working life; length of working life for men. U S Bur Labor Statistics Bul 1001:1-74; pa 40c Supt. of doc. '50

WORKING papers, Accountants'. See Accountants—Working papers

WORKING women

State budgets for single women workers. H. Kefauver. Mo Labor R 71:698-701 D '50

Today's typical working woman; abstract. Management R 40:63-5 F '51

WORKMEN'S compensation

Extent of workmen's compensation in the United States, 1948; state and federal systems. Mo Labor R 71:487-8 O '50

Legislative trend continues toward liberalization of compensation laws. B. Jones. East Underw 52:34 Mr 2 '51

Medicolegal and social problems in permanent disability cases. A. St Clair. bibliog Ind Med 20:109-12 Mr '51

Present condition of workmen's compensation laws, and possible changes. M. Dawson. A M A Archives Ind Hygiene & Occup Med 3:350-8 Ap '51

State workmen's compensation legislation in 1950. B. A. Greene. Mo Labor R 71:484-7 O '50

Survey shows continued trend to compensation law liberalization. B. Jones. East Underw 52:29 Ag 31 '51

Workmen's compensation legislation. Safety Maint & Prod 102:70 S '51

See also

Accidents, Industrial
Insurance, Employers' liability
Insurance, Workmen's compensation

Second injury funds

Second injury fund is put to new use in Rhode Island. Nat Underw 55:21 Je 14 '51

Arizona

Arizona workmen's compensation limit petition loses out. Nat Underw 54:24 N 16 '50

WORKMEN'S compensation—*Continued*

California

Attitudes which may be adopted in the dubious compensation claim in California. C. Leggo. Ind Med 20:364-8 Ag '51

California compensation law changes signed by Warren. East Underw 52:35 Je 8 '51

Michigan

$10,000 death benefit bill vetoed in Michigan. Nat Underw 55:35 Je 14 '51

New York (state)

New York changes code phraseology; takes steps in relation to civil defense activities. East Underw 52:27 S 28 '51

Oklahoma

New Oklahoma compensation death benefit law. B. A. Bowman. Nat Underw 55:40 Je 7 '51

Specify $13,500 death benefit in Oklahoma workmen's compensation law. Nat Underw 55:17 My 24 '51

Quebec (province)

Quebec accident compensation act. W. L. Bennett. Pulp & Pa of Can 51:228+ N '50

WORKMEN'S compensation insurance. See Insurance, Workmen's compensation

WORKSHOPS, Home

Are you catering to home workshop fans? il Sales Management 66:58-9 F 1 '51

WORLD bank. See International bank for reconstruction and development

WORLD federation of trade unions

Revolutionary policy in Asia; conference of Asian and Australasian trade unions. Economist 159:1006 D 9 '50

WORLD metallurgical congress

First exploratory effort in world metallurgy; World metallurgical congress, Detroit, Oct. 15-19. A. H. Allen. Steel 128:76-7+ Je 11 '51

WORLD peace council

Moral disarmament; World peace council directs Soviet propaganda. Economist 160: 667-8 Mr 24 '51

WORLD petroleum congress

Congress, 3d, The Hague, May 28-June 6. Nat Pet N 43:32-5 Je 6; 30-1 Je 13 '51; Chem & Eng N 29:2742+ Jl 2 '51

Congress, 3d, The Hague, May 28-June 6; with abstracts of papers. Oil & Gas J 50:61, 95-6+ My 31; 58, 90-9 Je 7 '51

Many papers on processes, products, equipment scheduled for meeting. Pet Processing 6:543 My '51

WORLD power conference

Post-war sectional meeting, 2d, New Delhi, Jan. 10-15. Elec R (Lond) 148:223-4 F 2 '51

Sectional meeting, New Delhi, Jan. 10-15. Electrician 146:299-300, 376-9 Ja 26-F 2 '51

WORLD power conference, Fourth

World power conference papers released. Pub Util 46:777 N 23 '50

WORLD war, 1939-1945

Labor problems

Dispute settlement and wage stabilization in World war II; condensed from Bulletin 1009. W. E. Chalmers and others. Mo Labor R 72:136-40 F '51

Naval operations

Battle of the Philippine sea. A. O. Van Wyen. il U S Naval Inst Proc 77:156-69 F '51

Cruise of Schiff 45. A. E. Sokol. il maps U S Naval Inst Proc 77:476-89 My '51

Halsey's famous signals. R. H. Roupe. il U S Naval Inst Proc 77:828-9 Ag '51

Japanese commentary on Guadalcanal. T. Ohmae. il U S Naval Inst Proc 77:56-9 Ja '51

Leyte gulf, the first uncensored Japanese account. J. A. Field, jr. il map U S Naval Inst Proc 77:254-65 Mr '51

Peace and mediation

As India sees the treaty. Economist 161:633 S 15 '51

Britain and the Japanese peace treaty. Economist 160:750 Mr 31 '51

False dawn in Germany. Economist 161:77 Jl 14 '51

Filling the vacuums; administration steps to end legal state of war. Barron's 31:1 Jl 16 '51

Japan welcomes Mr Dulles. Economist 160: 203 Ja 27 '51

Japanese peace treaty; Mr Dulles' painstaking efforts will bolster U.S. security. F. Mayer. Barron's 31:7-8 Ap 9 '51

Japan's still under our wing. Bsns W p23 S 15 '51

Making peace with Japan. V. L. Horoth. Mag of Wall St 88:603-4+ S 8 '51

Peace treaty for Japan. Economist 161:145, 175 Jl 21 '51

Peace with Japan. Economist 160:1416-18 Je 16 '51

That Japanese peace treaty. Economist 159: 1192 D 30 '50

Towards a Japanese peace treaty. Economist 160:410-11 F 24 '51

War criminals

Return of the purged in Japan. Economist 161:163 Jl 21 '51

France

Casablanca, the French side of the fence. R. Brooks. il U S Naval Inst Proc 77:909-25 S '51

Japan

And your task, dear partner; Japanese-Nazi cooperation. R. M. Langdon. il U S Naval Inst Proc 77:364-9 Ap '51

Japanese commentary on Guadalcanal. T. Ohmae. il U S Naval Inst Proc 77:56-9 Ja '51

Rise and ruin of Rabaul. J. C. Shaw. il U S Naval Inst Proc 77:624-9 Je '51

Stepping-stones to war. K. Nomura. il U S Naval Inst Proc 77:926-31 S '51

See also

Iwo Jima, Battle of, 1945

New Guinea

Papua; a lesson in seapower. J. C. Shaw. il map U S Naval Inst Proc 76:1204-11 N '50

Rumania

Conquest by chicanery; introduction to the Soviet technique. P. B. Brannen. il U S Naval Inst Proc 77:790-7 Ag '51

WORM gearing. See Gearing, Worm

WORMS, Intestinal and parasitic

Biotic interrelationships of helminth parasitism. R. Rausch. bibliog Pub Health Rep 66:928-34 Jl 20 '51

Literature review on the occurrence and survival of enteric, pathogenic, and related organisms in soil, water, sewage, and sludges, and on vegetation; animal parasites. W. Rudolfs and others. bibliog Sewage & Ind Wastes 22:1420-4 N '50

See also

Ascaris

WORRILOW, William H. 1877-

Iron age salutes. por Iron Age 166:51 N 30 '50

WORRY

Why worry? G. Franklin. Ptr Ink 236:138 S 7 '51

WORTHINGTON, Leslie Berry, 1902-

Iron age salutes. por Iron Age 167:51 My 31 '51

WORTHITE

Construction material vs. hydrocarbon solvents. W. E. Pratt. Chem Eng 58:226-8 Jl '51

Construction materials in the paper industry; acid pulping. W. E. Pratt. il Chem Eng 57: 223-4 D '50

Construction materials in the paper industry; bleaching. W. E. Pratt. il Chem Eng 57:256+ N '50; 58:217 Ja '51

WOUNDS

See also

Hand—Wounds and injuries

Head—Wounds and injuries

WRAPPING machines

Automatic stretch wrapping of celery stalks. il Mod Packaging 24:102 Jl '51

Paster devised for single wrap. Ed & Pub 84: 51 Ja 13 '51

Redesigned for higher speed; bread wrapper. R. D. Rumsey. il diags Machine Design 23:123-30 Ap '51

WRAPPING machines—*Continued*
Stadler-Hurter automatic paper roll wrapping machine. diag Pulp & Pa of Can 52: 146-7 Je '51
Stadler Hurter roll wrapping machine. diag Pulp & Pa of Can 51:134 N '50
Stick and all; machine wraps and seals ice-cream-stick bars in printed cellophane. il Mod Packaging 24:86-8 My '51
Wrapper automatically packages textiles. il Machine Design 22:148 D '50

WRAPPING materials
Nine new wrappers offered. R. D. Couch. Food Eng 23:109 Je '51
Vapor-phase inhibitor goes to war; anti-corrosion packaging in the new armaments program. il Mod Packaging 24:92-5 Jl '51
See also
Aluminum foil
Cellophane
Paper, Waxed
Plastic films
Wrapping paper

WRAPPING paper
New vapor wrapper. G. A. Daubert. Paper Tr J 132:44 Je 15 '51
VPI to protect in transit. il Am Mach 95: 129 Jl 23 '51

WRECKING
They'll tear down anything that goes up; wrecking companies. il Bsns W p42-4+ Mr 24 '51
Tricks in dismantling concrete structures. H. B. McDermid. Power Eng 55:86-7 Je '51
Wreckers; colored photographs of tearing down a house. W. Evans. Fortune 43:102-5 My '51
Wrecking crews demolish New York's famous Ritz-Carlton hotel. J. M. Connolly. il Constr Methods 33:88+ My '51
See also
Bridges—Wrecking

WRENCHES
Bad usage of wrenches. W. F. Schaphorst. Pet Eng 23:D42 Ja '51
Emergency socket wrench. A. Moulton. diag Power Eng 55:83 My '51

WRIGHT, David McCord, 1909-
When you call me conservative, smile. por Fortune 43:76-7+ My '51

WRIGHT, Edan
Sketch. Ed & Pub 83:58 N 4 '50

WRIGHT, Frank Lloyd, 1869-
Portfolio of recent work; with his own commentary. por Arch Forum 94:73-108 Ja '51

WRIGHT brothers
Miracle at Kitty Hawk, the letters of Wilbur and Orville Wright, ed. by F. C. Kelly; review. por Aero Digest 63:52+ Jl '51
Wright brothers' aeronautical engineering collection at the Franklin institute, Philadelphia, Pa. R. H. McClarren. il Franklin Inst J 252:175-96 Ag '51

WRIGHT aeronautical corporation
WAC sets subcontracting pattern. E. J. Bulban. Aviation W 54:23-4 Mr 26 '51
Wright speeds Sapphire to production. I. Stone. il Aviation W 54:22+ Ap 16 '51

WRIST
Wounds and injuries
Carpal injuries. K. Speed. Ind Med 19:570-5 D '50

WRISTPINS
Automatic sorting speeds piston and wristpin production; refrigerator compressor parts. il Steel 127:91-2 D 11 '50

WROUGHT iron
Corrosion resistance of wrought iron and steel pipe. S. L. Case. il diags Metal Prog 59:378-84 Mr '51
Spinning flanged and dished wrought iron heads. E. B. Story. Metal Prog 59:375 Mr '51

WURTZ, Charles-Adolph, 1817-1884
European chemical developments in the nineteenth century. F. E. Wall. bibliog J Chem Educ 28:355-8 Jl '51

WURTZ reaction
Condensations by sodium; the effect of salts and other substances on the alkylation of toluene, a modified Wurtz reaction. A. A. Morton and A. E. Brachman. bibliog Am Chem Soc J 73:4363-7 S '51
Reactions of organometallic compounds with alkyl halides; on Wurtz syntheses with optically active halides. J. F. Lane and S. E. Ulrich. bibliog Am Chem Soc J 72:5132-4 N '50

WYANDOTTE chemicals corporation
Wyandotte widens its aims. il Bsns W p 52+ Ap 14 '51

WYNNE, William Palmer, 1861-1950
Sketch. E. H. Rodd. por(pl) Chem Soc J p1936-41 Jl '51

WYOMING
See also
Petroleum—Wyoming

X

X RAY apparatus
Case history; X-ray apparatus design for the military. il Product Eng 22:93-5 Ja '51
Cotton fibre tensile strength and X-ray orientation. R. Meredith. bibliog diag Textile Inst J Trans 42:T291-9 Jl-Ag '51
Crystal-electric inspection discovery. il Automotive Ind 104:78+ F 15 '51; Chem & Eng N 29:664-5 F 19 '51; Steel 128:82 F 26 '51
Electrical and allied developments during 1950; electromedical. G. Bartlett. il Gen Elec R 54:45-6 Ja '51
Engineering highlights of 1950; new improvements in X-rays. Westinghouse Eng 11:37-8 Ja '51
Improved device for X-ray diffraction studies at low temperatures. B. Post and others. diag R Sci Instr 22:218-19 Mr '51
Lorentz and polarization correction for the Buerger precession method. J. Waser. R Sci Instr 22:567-8 Ag '51
Lorentz factor for the Buerger precession method. J. Waser. diags R Sci Instr 22: 563-6 Ag '51
Mechanical X-ray structure-factor calculating machine. V. Vand. bibliog il diags J Sci Instr 27:257-61 O '50
Monochromator for X-ray powder camera. F. M. Wrightson and I. Fankuchen. il diags R Sci Instr 22:212-13 Mr '51
Mounting and centring of specimens in high temperature X-ray powder cameras. E. G. Steward. il diags J Sci Instr 28:29-30 Ja '51
New type of high-temperature X-ray camera for chemical reactions in the solid state. T. Kubo and H. Akabori. bibliog il diags J Phys & Colloid Chem 54:1121-31 N '50
New unit speeds analysis work; X-ray spectrogoniometer at Alfred university. E. D. Padgett. il diags Cer Ind 57:54-5+ Ag '51
Simple method of microradiography using ordinary diagnostic X-ray equipment. W. S. Tirman and H. W. Banker. il Science 113: 530-1 My 4 '51
Single crystal X-ray camera for direct recording of the reciprocal lattice. J. M. Torroja and others. il diag J Sci Instr 28:44-6 F '51
Structure of liquid aluminum chloride; vacuum X-ray camera for obtaining diffraction patterns. R. L. Harris, R. E. Wood and H. L. Ritter. bibliog diag Am Chem Soc J 73:3151-5 Jl '51
Study X-ray development for military use at National bureau of standards. Nat Safety N 63:62+ Ja '51
Technique of measuring orientation in cotton by X-rays. R. Meredith. bibliog il diags Textile Inst J Trans 42:T275-90 Jl-Ag '51
Test procedure for simultaneous determination of resolving power and image surface of fluorographic cameras. E. Ingelstam and P. J. Lindberg. il diag Opt Soc Am J 41: 346-8 My '51
200-kv industrial X-ray unit. il Engineering 171:644 My 25 '51; Elec R (Lond) 148:1115 My 25 '51
X-ray camera developed by E. C. Williams. J. R. Majer. Chem Age (Lond) 64:669-70 Ap 28 '51
X-ray liquid-level gage. J. E. Jacobs and R. F. Wilson. il diags Electronics 24:172+ O '51
See also
Betatrons
Electron accelerator
Metals—X ray inspection
Spectrometers, X ray
Synchrotron

X RAY apparatus—*Continued*

Safety measures

Hazards of shoe-fitting fluoroscopes. W. W. Van Allen. Pub Health Rep 66:375-8 Mr 23 '51

X RAY microscope

Atomic microscope. il Sci Am 185:56-7 Jl '51

Perforated plates for optical interference experiments; optical Fourier summation by means of the X-ray microscope. A. Magnéli. J Sci Instr 28:122-3 Ap '51

X-ray microscope using mirrors of adjustable curvature. C. M. Lucht and D. Harker. il diags R Sci Instr 22:392-5 Je '51

X RAY spectrometers. See Spectrometers, X ray

X RAY tubes

Circuit for the automatic stabilization of X-ray tube current. C. S. Lees and M. D. Armitage. diag J Sci Instr 27:300-1 N '50

Directional distribution of 1040-kev radiation from a high voltage X-ray tube. N. Goldstein and others. diags J Ap Phys 22:417-18 Ap '51

Million-volt resonant-cavity X-ray tube. B. Y. Mills. il diags Inst E E Proc 97 pt 3: 425-34; Discussion. 434-7 N '50; Electrician 144:1685-6 My 19 '50

New tubes can increase X-ray intensity 50-fold; Pittsburgh conference on X-ray and electron diffraction. Chem & Eng N 28: 4180-1 N 27 '50

New X-ray diffraction tubes of high brilliance. K. Drenck and R. Pepinsky. il diags R Sci Instr 22:539-40 Jl '51

Manufacture

Glass selection and production techniques for X-ray and other tubes. M. J. Zunick and J. B. Gosling. bibliog il diags Glass Ind 32: 117-20+ Mr '51

X RAYS

Action of ionizing radiations and of radiomimetic substances on deoxyribonucleic acid; the molecular weights of deoxyribonucleic acid degraded by X-rays and by treatment with a nitrogen mustard. B. E. Conway, L. Gilbert and J. A. V. Butler. pl Chem Soc J p3421-5 D '50

Annual Pittsburgh conference on X-ray and electron diffraction, 8th, Nov. 2-3; abstracts of papers. Anal Chem 22:1579-80 D '50

Calorimetric determination of the energy flux of 22.5-Mev X-rays. J. S. Laughlin and J. W. Beattie. il diags R Sci Instr 22:572-4 Ag '51

Chemical actions of ionising radiations in solution; radiation chemistry of sterols; the action of X-rays on cholesterol and 3β-hydroxypregn-5-en-20-one. M. Keller and J. Weiss. Chem Soc J p2709-14 O '50

Chemical actions of ionising radiations in solution; radiation chemistry of sterols; the action of X-rays on cholic acid in aqueous solution. M. Keller and J. Weiss. Chem Soc J p25-6 Ja '51

Chemical actions of ionising radiations in solution; radiation chemistry of sterols; the action of X-rays on (+)-œstrone-b in aqueous solution. M. Keller and J. Weiss. Chem Soc J p 1247-9 My '51

Chemical actions of ionising radiations on aqueous solutions; hydroxylation of benzoic acid by free radicals produced by X-rays. H. Loebl, G. Stein and J. Weiss. Chem Soc J p405-7 F '51

Chemical actions of ionising radiations on aqueous solutions; hydroxylation of nitrobenzene by free radicals produced by X-rays. H. Loebl, G. Stein and J. Weiss. Chem Soc J p2704-9 O '50

Chemical actions of ionising radiations on aqueous solutions; the action of X-rays on some amino-acids. G. Stein and J. Weiss. Chem Soc J p3256-63 D '49

Chemical actions of ionising radiations on aqueous solutions; the formation of free radicals: the action of X-rays on benzene and benzoic acid. G. Stein and J. Weiss. diag Chem Soc J p3245-54 D '49

Electrical conductivity of cadmium sulphide exposed to pulsating X radiation. J. E. Jacobs. bibliog il diag Elec Eng 70:667-71 Ag '51

Index of refraction as supplement to X-ray crystal analysis of solid solutions. L. J. Wood and A. J. Frank. bibliog Anal Chem 23:695-9 My '51

Mechanism of the action of ionizing radiations on sodium thymonucleate. D. B. Smith and G. C. Butler. bibliog Am Chem Soc J 73:258-61 Ja '51

New evaluation of *h/e* by X-rays. J. A. Bearden and others. diag Phys R 81:70-2 Ja 1 '51

Nuclear excitation of Ag^{107} and Ag^{109} by X-rays. E. J. Wolicki and others. bibliog Phys R 82:486-8 My 15 '51

Penetration and diffusion of X-rays; calculation of spatial distributions by polynomial expansion. L. V. Spencer and U. Fano. bibliog J Res Nat Bur Stand 46:446-56 Je '51

Photodisintegration of He^4 nuclei by X-rays from a 100-Mev betatron. E. R. Gaerttner and M. L. Yeater. bibliog il diag Phys R 83:146-50 Jl 1 '51

Production of π^+-mesons by X-rays as a function of atomic number. R. F. Mozley. Phys R 80:493-4 N 1 '50

Production of polarized high energy X-rays. M. May and G. C. Wick. Phys R 81:628 F 15 '51

Qualitative X-ray study of the oxidation of cotton cellulose by nitrogen dioxide. T. P. Nevell. bibliog il Textile Inst J Trans 42: T130-40 Mr '51

Resonance phenomena in (γ,n), (γ,p), and $(\gamma,2n)$ reactions measured by the technique of simultaneous activation. R. Sagane. Phys R 83:174-5 Jl 1 '51

Study of color centers produced in quartz by X-radiation. G. Forman. Opt Soc Am J 41: 377-80 Je '51

See also

Crystallography—X ray studies

Diagnosis, Radioscopic

Gamma rays

Metals—X ray inspection

Radiography

Welding—X ray inspection

X ray apparatus

X ray tubes

Absorption

Absorption of aluminum in the soft X-ray region. D. H. Tomboulian and E. M. Pell. bibliog Phys R 83:1196-201 S 15 '51

Density measurements in supersonic flow by means of the X-ray absorption method. E. M. Winkler. J Ap Phys 22:201-2 F '51

Determination of sulfur in petroleum fractions by X-ray absorption. S. W. Levine and A. H. Okamoto. bibliog il diag Anal Chem 23:699-704 My '51

Determination of tetraethyllead in gasoline by X-ray absorptiometry. G. Calingaert and others. bibliog Anal Chem 22:1238-48 O '50

Determination of tetraethyllead in gasoline by X-ray absorption. S. W. Levine and A. H. Okamoto. bibliog Anal Chem 23:1293-6 S '51

Determination of uranium in solution by X-ray absorption. T. W. Bartlett. bibliog il Anal Chem 23:705-7 My '51

Low energy X-ray absorption by nuclei. R. H. McFarland. Phys R 83:666 Ag 1 '51

Polychromatic X-ray beams; nonlinear relationship between composition and absorbance. H. A. Liebhafsky and P. D. Zemany. bibliog Anal Chem 23:970-2 Jl '51

X-ray absorption correction for encased diffracters in the Debye-Scherrer technique. H. L. Ritter and others. bibliog diags J Ap Phys 22:169-76 F '51

X-ray absorption in a crystal set at the Bragg angle. H. N. Campbell. bibliog il J Ap Phys 22:1139-42 S '51

X-ray absorption spectrometry for determination of tetraethyllead in gasoline; investigation of mono- and polychromatic methods and description of monochromatic method for routine use. H. K. Hughes and F. P. Hochgesang. bibliog il diags Anal Chem 22: 1248-58 O '50

Diffraction

Determination of the structures of complex molecules and ions from X-ray diffraction by their solutions; the structures of the groups $PtBr_6^{--}$, $PtCl_6^{--}$, $Nb_6Cl_{12}^{++}$, $Ta_6Br_{12}^{++}$, and $Ta_6Cl_{12}^{++}$. P. A. Vaughan, J. H. Sturdivant and L. Pauling. bibliog Am Chem Soc J 72:5477-86 D '50

X RAYS—Diffraction—*Continued*

High-temperature X-ray diffraction study of the polymorphism of $MgSiO_3$. W. R. Foster. bibliog Am Cer Soc J 34:255-9 S 1 '51

Improved direct-reading X-ray microdensitometer. A. Taylor. diags J Sci Instr 28: 200-5 Jl '51

Latex particle size from X-ray diffraction peaks. K. L. Yudowitch. bibliog il diag J Ap Phys 22:214-16 F '51

Low angle X-ray diffraction of colloidal gold and carbon black. J. Turkevich and H. H. Hubbell. bibliog il diags Am Chem Soc J 73:1-7 Ja '51

New X-ray diffraction method for studying imperfections of crystal structure in polycrystalline specimens. A. J. Reis and others. il J Ap Phys 22:665-72 My '51

Periodic statistical distortion of unidirectionally ordered diffractors, with application to collagen. R. S. Bear and O. E. A. Bolduan. il diags J Ap Phys 22:191-8 F '51

Rapid X-ray diffraction method for the determination of quartz in industrial dusts. L. L. Schmelzer. bibliog A M A Archives Ind Hygiene & Occup Med 3:121-8 F '51

Recent developments in X-ray diffraction studies of high polymers. C. W. Bunn. bibliog J Ap Chem 1:266-8 Je '51

Recent X-ray diffraction studies on the hydrous oxides and hydroxides. W. O. Milligan. bibliog il J Phys & Colloid Chem 55:497-507 Ap '51

Some effects of vibration on X-ray diffraction by crystals. J. E. White. il diag Acoustical Soc Am J 23:16-18 Ja '51

Standard X-ray diffraction patterns. H. E. Swanson and E. Tatge. bibliog J Res Nat Bur Stand 46:318-27 Ap '51

Structure of liquid aluminum chloride. R. L. Harris, R. E. Wood and H. L. Ritter. bibliog diag Am Chem Soc J 73:3151-5 Jl '51

Study of fatigue in metals by means of X-ray strain measurement. J. A. Bennett. il diag J Res Nat Bur Stand 46:457-61 Je '51

Study of oxide-coated cathode by X-ray diffraction method. E. Yamaka. il J Ap Phys 22:1087-8 Ag '51

Test for the dimensional stability of gauges by an X-ray diffraction method. C. Wainwright and L. W. Nickols. il Metallurgia 42:401-4 D '50; Same. Engineering 171:141-2 F 2 '51

X-ray absorption correction for encased diffracters in the Debye-Scherrer technique. H. L. Ritter and others. bibliog diags J Ap Phys 22:169-76 F '51

X-ray diffraction patterns of solid aromatic hydrocarbons. L. J. E. Hofer and W. C. Peebles. bibliog Anal Chem 23:690-5 My '51

X-ray diffraction study of calcium stearate monohydrate-cetane systems. R. D. Vold and T. D. Smith. bibliog Am Chem Soc J 73:2006-12 My '51

X-ray diffraction study of the oxidation characteristics of nickel-pickled sheet iron as related to enamel adherence. G. S. Douglas and J. M. Zander. bibliog il Am Cer Soc J 34:52-9 F 1 '51

X-ray diffraction study on the structure of the Ni-Cu coprecipitation catalysts. N. Kadota and S. Ikeda. Am Chem Soc J 73:4475-6 S '51

Industrial applications

Beam stabilizer for industrial X-rays; use of cadmium-sulfide crystals. J. E. Jacobs. bibliog il diags Electronics 24:125-7 Ag '51

Economical industrial X-ray detector; the application of cadmium sulfide crystals. R. Frerichs and J. E. Jacobs. bibliog il diags Gen Elec R 54:42-5 Ag '51

GE uses cadmium sulfide crystals for faster inspection. Iron Age 167:132 Mr 1 '51; Elec Eng 70:369 Ap '51; Food Eng 23:135 Ap '51

Inspecting 1,000 times better; cadmium sulphide crystal increases efficiency of X-ray. il Bsns W p78+ Mr 3 '51

Nondestructive testing of engineering materials and parts. R. C. McMaster and S. A. Wenk. il diag Materials & Methods 33:83-7 F '51

Production testing of tin coating by X-rays. A. W. Williams. il Mill & Factory 49:89 S '51

Study of the structure of paper by means of soft X-rays. J. D. Pelgroms. bibliog diags Pulp & Pa of Can 52:124-9 S '51

Thickness gaging by radiation absorption methods. C. W. Clapp and S. Bernstein. il Gen Elec R 53:39-42 N '50

200v industrial X-ray unit. il Engineer 191: 589 My 4 '51

See also

Metals—X ray inspection

Measurement

Detection of X-rays by means of NaI(Tl) scintillation counters. H. I. West, jr. and others. Phys R 81:141-2 Ja 1 '51

Directional distribution of 1040-kev radiation from a high voltage X-ray tube. N. Goldstein and others. diags J Ap Phys 22:417-18 Ap '51

Integrating X-ray dosemeter, reading directly in skin dose. R. Oliver. il diag J Sci Instr 28:97-9 Ap '51

Measurements of solar extreme ultraviolet and X-rays from rockets by means of a $CaSO_4$:Mn phosphor. R. Tousey and others. bibliog Phys R 83:792-7 Ag 15 '51

Photon counter measurements of solar X-rays and extreme ultraviolet light. H. Friedman and others. bibliog Phys R 83: 1025-30 S 1 '51

Scintillation counter for the relative determination of X-ray intensities in radiological work. M. Ter-Pogossian and W. B. Ittner, 3d. diags R Sci Instr 22:646-8 Ag '51

Study of fatigue in metals by means of X-ray strain measurement. J. A. Bennett. il diag J Res Nat Bur Stand 46:457-61 Je '51

The *r*-unit at 320 and 160 Mev. E. M. McMillan and others. Phys R 81:455 F 1 '51

Dosimeters

Photographic film dosimeter. Franklin Inst J 252:345-7 O '51

X-ray calibration of radiation survey meters, pocket chambers, and dosimeters. F. H. Day. bibliog U S Nat Bur Stand Circ 507:1-11; pa 15c Supt. of doc. '51

Physiological effect

Action of ionizing radiations and of radiomimetic substances on deoxyribonucleic acid; the effect of oxygen on the degradation of the nucleic acid by X-rays. J. A. V. Butler and B. E. Conway. diag Chem Soc J p3418-21 D '50

Effect of early cross transfusion on X-irradiation disease. P. F. Salisbury and others. bibliog Science 113:6-7 Ja 5 '51

Effect of sensitization and X-radiation on the metabolism of I^{131} labeled proteins. F. J. Dixon and others. bibliog Science 113:274-6 Mr 9 '51

Inability of thiourea to modify Roentgen ray irradiation mortality in rats. T. J. Haley and others. Science 114:153-4 Ag 10 '51

Number of entities inactivated by X-rays in greying of hair. H. B. Chase. bibliog Science 113:714-16 Je 22 '51

Protection

Radiation protection from the industrial hygiene standpoint. J. C. Soet. Ind Med 20: 227-33 My '51

Recommendations of the International commission on radiological protection and of the International commission on radiological units, 1950. U S Nat Bur Stand Handbook 47:1-29; pa 15c Supt. of doc. '51

Recovery from radiation injury. L. O. Jacobson and others. bibliog Science 113:510-11 My 4 '51

Secondary radiation limits in photofluorography. W. W. Van Allen. diags Pub Health Rep 66:712-16 Je 1 '51

Value of small lead shields against the injurious effect of total-body irradiation. J. Gershon-Cohen and others. Science 114:157-8 Ag 10 '51

Scattering

Atomic arrangements in gold-nickel solid solutions. P. A. Flinn and B. L. Averbach. Phys R 83:1070 S 1 '51

Diffuse X-ray scattering by disordered binary alloys. W. J. Taylor. Phys R 82:279-80 Ap 15 '51

Penetration and diffusion of X-rays; calculation of spatial distributions by polynomial expansion. L. V. Spencer and U. Fano. bibliog Phys R 81:464-6 F 1 '51

X RAYS—Scattering—*Continued*

Quantitative evaluation of small-angle X-ray scattering by various cellulose fibers for the determination of crystallite size with special reference to the problem of interparticle interference. A. N. J. Heyn. il Am Chem Soc J 72:5768-70 D '50

Small-angle scattering of X-rays by nitrogen. R. W. Wild. bibliog diag J Chem Phys 18: 1627-32 D '50

Therapeutic use

Roentgen irradiation of para-aminobenzoic acid solutions. P. G. Mar and I. C. C. Tchaperoff. bibliog Science 113:549-51 My 11 '51

Ten-million electron-volt linear accelerator. Engineering 170:333 N 3 '50; Elec R (Lond) 147:684 N 3 '50

XANTHATES

Analysis

Determination of purity and water content of xanthates and dithiocarbamates; use of iodine reagents. A. L. Linch. bibliog Anal Chem 23:293-6 F '51

XANTHINE

Studies in the azole series; the preparation of some natural xanthines and related purines. A. H. Cook and G. H. Thomas. Chem Soc J p 1884-8 Jl '50

XANTHIONE

Xanthones and thioxanthones. F. G. Mann and J. H. Turnbull. Chem Soc J p747-62 Mr '51

XANTHIUM

Induction and blossoming of xanthium. R. H. Roberts. bibliog il Science 113:726-8 Je 22 '51

XANTHONE

Xanthones and thioxanthones. F. G. Mann and J. H. Turnbull. Chem Soc J p747-62 Mr '51

XANTHOPTERIN

Pteridines; unambiguous syntheses of xanthopterin and 2-amino-4-hydroxy-6-methylpteridine. W. R. Boon and T. Leigh. Chem Soc J p 1497-501 Je '51

XANTHOTOXIN

Crystallographic data. J. Krc. il diags Anal Chem 23:389-90 F '51

Experiments with xanthotoxin and imperatorin obtained from the fruits of ammi majus (L). A. Schönberg and A. Sina. bibliog Am Chem Soc J 72:4826-8 O '50

XANTHURENIC acid

In vivo transformation of D,1-3-hydroxykynurenine in xanthurenic acid. L. Musajo and others. bibliog Science 113:125-6 F 2 '51

Preparation of xanthurenic acid. A. D. Mebane and W. Oroshnik. Am Chem Soc J 73:3520 Jl '51

XANTHYLIUM compounds

Structure of the nitration products of 9-phenylxanthylium salts. R. L. Shriner and C. N. Wolf. bibliog Am Chem Soc J 73: 891-4 Mr '51

XENON

Anesthetic properties of xenon in animals and human beings, with additional observations on krypton. S. C. Cullen and E. G. Gross. bibliog Science 113:580-2 My 18 '51

Structure of molecular compounds; a compound of xenon and quinol. H. M. Powell. Chem Soc J p468-9 F '50

Study of the short duration, high intensity, electric arc as a source of visible light. G. D. Hoyt and W. W. McCormick. Opt Soc Am J 40:658-63 O '50

Ultraviolet radiation of the high pressure xenon arc. W. A. Baum and L. Dunkelman. il diag Opt Soc Am J 40:782-6 N '50

Xenon compact arc lamps. W. T. Anderson, jr. bibliog il diag Opt Soc Am J 41:385-8 Je '51

See also

Electric lamps,
Xenon

Isotopes

Decay of $Xe^{125} \rightarrow I^{125} \rightarrow Te^{125}$. I. Bergström. bibliog. Phys R 82:111-12 Ap 1 '51

Isomerism of Kr^{83} and Xe^{133}. I. Bergström. bibliog Phys R 81:638-9 F 15 '51

Isotopes of xenon and krypton in pitchblende and the spontaneous fission of U^{238}. J. Macnamara and H. G. Thode. bibliog Phys R 80:471-2 N 1 '50

Relative neutron capture cross sections of the isotopes of krypton and xenon. J. Macnamara and H. G. Thode. Phys R 80:296-7 O 15 '50

β-Spectrometer investigations on electromagnetically separated Xe^{135} and Kr^{79}. I. Bergström. bibliog Phys R 82:112-13 Ap 1 '51

Two-day Xe^{133} isomer. B. H. Ketelle and others. Phys R 80:485-6 N 1 '50

XEROGRAPHY

Camera speeds duplicating and cuts costs. il Eng & Min J 152:123 My '51

XERORADIOGRAPHY. See Radiography

XYLAN

Constitution of a pear cell-wall xylan. S. K. Chanda, E. L. Hirst and E. G. V. Percival. Chem Soc J p 1240-6 My '51

Constitution of xylan from esparto grass (stipa tenacissima, L.). S. K. Chanda and others. Chem Soc J p 1289-97 My '50

Crystalline hemicelluloses; acid and enzymatic hydrolysis of xylans. A. P. Yundt. Tappi 34:92-4 F '51

Crystalline hemicelluloses; crystalline and amorphous xylan from barley straw. A. P. Yundt. bibliog il Tappi 34:89-91 F '51

Crystalline hemicelluloses; crystalline xylan from paper birch. A. P. Yundt. bibliog Tappi 34:91-2 F '51

Analysis

Automatic fraction collector for chromatographic separations. D. F. Durso, E. D. Schall and R. L. Whistler. il diags Anal Chem 23:425-7 Mr '51

XYLENE

Adsorbing aromatics; chromatography separates xylenes, toluene and benzene; Arosorb process. diags Chem Eng 58:234+ S '51

Aromatics production by the platforming process. V. Haensel. diag Oil & Gas J 50: 80+ Ag 9 '51

Interaction of chlorine with benzene and *m*-xylene. L. J. Andrews and R. M. Keefer. Am Chem Soc J 73:462-3 Ja '51

More xylenes loom. il Chem Ind W 68:17+ Mr 31 '51

Stereochemistry of the imidazolidine ring. E. Fischer. J Chem Phys 19:395-6 Ap '51

Thermochemistry for the petrochemical industry; some miscellaneous hydrocarbons. K. A. Kobe and R. E. Pennington. bibliog Pet Refiner 29:93-6 D '50

Xylene; commodity survey. diags Chem Eng 58:305-6+ F '51

XYLENE cyanole FF

Xylene cyanole FF, redox indicator. H. M. Tomlinson, O. T. Aepli and H. M. Ebert. bibliog Anal Chem 23:286-7 F '51

XYLENOL

Action of methylsuccinic anhydride on certain xylenols, and synthesis of some trimethylnaphthols. W. Cocker, A. K. Fateen and C. Lipman. Chem Soc J p926-9 Ap '51

Formaldehyde condensations with phenol and its homologues; condensation of 3 : 4-dimethylphenol with formaldehyde (with a note on the determination of molecular weight in phenol). S. R. Finn. bibliog diag Soc Chem Ind J 69(sup no 1):S7-9 '50

Oxidation of phenols with the free hydroxyl radical. S. L. Cosgrove and W. A. Waters. Chem Soc J p 1726-30 Jl '51

XYLIDINE

Preparation of dimethyltetrahydrocarbazoles. G. Anderson and N. Campbell. Chem Soc J p2855-7 O '50

XYLOFURANOSE

Experiments on the synthesis of purine nucleosides; 1 : 2 : 3 : 5-tetra-acetyl D-xylofuranose and the D-xylofuranosides of theophylline and adenine. P. Chang and B. Lythgoe. Chem Soc J p 1992-3 Ag '50

XYLOFURANOSIDES

Experiments on the synthesis of purine nucleosides; 1 : 2 : 3 : 5-tetra-acetyl D-xylofuranose and the D-xylofuranosides of theophylline and adenine. P. Chang and B. Lythgoe. Chem Soc J p 1992-3 Ag '50

XYLOPYRANOSYLBENZENE

Stereochemical configuration of the number one carbon atom in β-D-xylopyranosylbenzene. W. A. Bonner and C. D. Hurd. bibliog Am Chem Soc J 73:4290-4 S '51

XYLOSE

Chemical interactions of amino compounds and sugars; comparative studies with D-xylose and 2-furaldehyde. T. Tan, M. L. Wolfrom and A. W. Langer, jr. bibliog Am Chem Soc J 72:5090-5 N '50

Crystalline xylobiose and xylotriose. R. L. Whistler and C. C. Tu. Am Chem Soc J 73:1389-90 Mr '51

Deoxy-sugars; the conversion of D-arabinose into 3-deoxy-D-xylose derivatives. R. Allerton and W. G. Overend. Chem Soc J p 1480-4 Je '51

XYLOSIDES

Preparation of methyl 2,3,4-triacetyl-α-D-xyloside. R. L. Whistler, K. A. Kimmell and D. F. Durso. Am Chem Soc J 73:3530 Jl '51

XYLYL ether

Studies on the mechanism of the Claisen rearrangement; the ortho rearrangement of (—)α,γ-dimethylallyl phenyl ether and the para rearrangement of (—)α,γ-dimethylallyl 2,6-xylyl ether. E. R. Alexander and R. W. Kluiber. bibliog Am Chem Soc J 73:4304-6 S '51

XYLYLENE

Eight- and higher-membered ring compounds; di-*m*-xylyene, tri-*p*-xylylene, and new syntheses of pyrene and of coronene. W. Baker, J. F. W. McOmie and J. M. Norman. Chem Soc J p 1114-18 Ap '51

Y

YACHTS and yachting

Diesel cruising yacht Westlake. il Marine Eng 56:65-6 Jl '51

Yachting for the masses. il Bsns W p24-5 Jl 14 '51

YALE and Towne manufacturing company

Bankers underwrite stock offering. Comm & Fin Chr 173:2435 Je 11 '51

YAMS (dioscorea)

Cortisone synthesized from Mexican yam root. I. V. Sollins. Oil Paint & Drug Rep 160:5+ Jl 9 '51

New hope of cortisone for all; Syntex uses wild Mexican yam. il Bsns W p26 Jl 14 '51

YANT, William P.

New president for ASSE. Safety Maint & Prod 100:40 D '50

YARN

Certain aspects of yarn structure. E. R. Schwarz. bibliog il diags Textile Res J 21:125-36 Mr '51

Continuous treating unit sets yarns permanently. F. H. Muller. il Textile World 101:132-3+ Mr '51

How one mill eliminated clearer-waste slubs. E. H. Helliwell. il Textile World 101:111+ Jl '51

1951 table of commercial synthetic yarns and fibers. Textile World 101:108-9, 118-19 S '51

Structure and properties of yarns in relation to narrow fabrics. W. E. Morton. Textile Inst J 41:P692-700 S '50; Discussion. J. E. Hill. 42:P89 F '51

See also

Cotton yarn
Nylon yarn
Rayon yarn
Woolen and worsted yarn

Mixtures

For cheaper plied yarns try core spinning. A. Johnson. il diag Textile World 101:128-9 Mr '51

Up spinning production with filament-base combination yarns. A. Johnson. il Textile World 101:163+ O '51

Numbering

What is denier? C. Boyer. Textile World 101:270+ O '51

Standards

Designation of yarn structure. W. E. Morton. Textile Inst J 42:S22-4 Ap '51

Standardisation. A. W. Bayes. Textile Inst J 42:P273-5 Jl '51

Tentative textile specification no. 23, 1951; designation of the structure of single, plied and cabled yarns. diags Textile Inst J 42:S 17-21 Ap '51

Tables, calculations, etc.

Law of critical yarn diameter and twist; influence on yarn characteristics. A. Barella. Textile Res J 20:249-58 Ap '50; Discussion. diags 21:166-8 Mr '51

Use of correlograms for measuring yarn irregularity. D. R. Cox and M. W. Townsend. bibliog Textile Inst J 42:P 145-51 Ap '51

Testing

Analysis of yarn irregularity. M. W. H. Townsend and D. R. Cox. bibliog Textile Inst J 42:P107-13 Mr '51

Comparative measurements of yarn irregularity. bibliog Textile Inst J 42:P 152-60; Discussion. P 160-1 Ap '51

Contribution to the study of irregularity of yarns, rovings and slivers. A. M. vanden Abeele. Textile Inst J 42:P 162-8 Ap '51

Hand calculation of the standard deviation by successive summation. L. J. Worthington. Textile Inst J 42:P276-83 Jl '51

Measurement of yarn irregularity. M. W. Townsend. bibliog Textile Inst J 42:P 12-19 Ja '51

Mechanics of elastic performance of textile materials; influence of yarn twist on modulus of elasticity. M. M. Platt. bibliog Textile Res J 20:665-7 O '50

Photoelectric recorder speeds yarn testing. il Elec World 136:158 S 10 '51

Quality-control men say we're out of the dark; Uster evenness tester. W. A. Thomason, jr. il Textile World 100:94-5+ O '50

Tentative textile specification no. 21, 1950; determination of breaking load and extension of single threads of yarn by means of constant-rate-of-load testing machines. Textile Inst J 41:S 16-19 O '50

Yarn quality. E. R. Goshawk. il Textile Inst J 42:P 1-11 Ja '51

See also

Cotton yarn—Testing

YEAST ribonucleic acid. See Ribonucleic acid

YEASTS

Continuous laboratory propagation of sulphite waste liquor yeast. A. E. Markham and others. bibliog flow sheet Tappi 34:131-40 Mr '51

Effect of radiations on galactozymase formation in yeast. C. L. Brandt and others. bibliog Science 113:383-4 Ap 6 '51

Fleischmann's adopts the nitrogen pack for dry yeast. il Mod Packaging 24:98 D '50

Function of the symbiotic yeasts of two insect species, lasioderma serricorne F. and stegobium (sitodrepa) paniceum L. N. C. Pant and G. Fraenkel. diags Science 112:498-500 O 27 '50

Growth of an aneurin-requiring yeast strain in various substrates related to the tricarboxylic acid cycle. S. Jackson and B. C. Kilkenny. Chem Soc J p 1561-4 Je '51

Incorporation of glycine carbon into yeast lipides. S. Weinhouse, R. H. Millington and M. Strassman. bibliog Am Chem Soc J 73:1421-3 Ap '51

Partial purification of a non-phosphorylytic uridine nucleosidase from yeast. C. E. Carter. bibliog Am Chem Soc J 73:1508-10 Ap '51

Protein evaluations of yeast grown on wood hydrolyzate. E. E. Harris, G. J. Hajny and M. C. Johnson. bibliog Ind & Eng Chem 43:1593-6 Jl '51

Purine synthesis in a purine-requiring yeast mutant. R. Abrams. Am Chem Soc J 73:1888-9 Ap '51

Structure of a cell-wall polysaccharide of Baker's yeast. D. J. Bell and D. H. Northcote. Chem Soc J p 1944-7 Jl '50

Synthesis of phenylalanine and tyrosine in yeast. C. Gilvarg and K. Bloch. Am Chem Soc J 72:5791-2 D '50

Yield in yeast factories; abstract. R. Baetsle and Y. de Hemptinne. Food Eng 23:179-80 Jl '51

Analysis

Isolation of crystalline pyrophosphatase from baker's yeast. M. Kunitz. Am Chem Soc J 73:1387 Mr '51

Manufacture

Bakers yeast; unique product; special Food Industries report. F. W. Nordsiek. il Food Ind 23:101-8 F '51

YEASTS—Manufacture—*Continued*

Food yeast from sulfite liquor. G. C. Inskeep and others. bibliog flow sheet il diags Ind & Eng Chem 43:1702-11 Ag '51

How bakers yeast is made; picture flow-sheet. Food Eng 23:122-5 My '51

Rhinelander yeast plant. E. P. McGinn. il diag Paper Tr J 133:96+ S 7 '51

Testing

Control of French bakers' yeasts; abstract. J. Bure. Food Ind 23:172-3 F '51

YELLOW

Binocular fusion of yellow in relation to color theories. L. M. Hurvich and D. Jameson. bibliog Science 114:199-202 Ag 24 '51

Hiding power by Hunter reflectometer of synthetic iron oxides, by the Toronto club. il diag Paint Oil & Chem R 113:70-3 N 23 '50

YELLOW fever

Fifty year old medical battlefield. Ind Med 20:47-8 Ja '51

YELLOWING

Accelerated yellowing on white enamels, by the Baltimore club. Paint Oil & Chem R 113:79-80+ N 23 '50

YELLOWKNIFE gold mines. See Gold mines and mining—Northwest Territories

YEMEN

1946 friendship opens Yemen to reporter. J. B. McFadden. Ed & Pub 84:100 Ap 28 '51

YOHIMBINE

Constitution of yohimbine and related alkaloids; a synthesis of yohimbone. G. A. Swan. Chem Soc J p 1534-9 Je '50

Constitution of yohimbine and related alkaloids; some attempts to synthesise sempervirine. G. A. Swan. Chem Soc J p 1539-42 Je '50

YOLO steel and metal company

Iron ore mystery looms in central California; claims by backers of new Yolo steel & metal co. unsupported by federal, state, mining experts. R. T. Reinhardt. Iron Age 167:113 Mr 8 '51

YORK, Pennsylvania

Industries

York plan; defense job, too big for big business alone. E. P. Reiley. il Dun's R 58:20-3+ N '50

YORK corporation

York corporation. C. H. Vivian. il Comp Air Mag 56:30-7 F '51

YORKTOWN, Virginia

Bridges

Deep, lightweight piers for bridge built by caisson method. M. N. Quade and G. Vaccaro. il map diags Civil Eng 21:78-82 F '51

YOUNG, Howard Isaac, 1889-

Zinc maker turns buyer. por(cover) Bsns W p 124+ O 6 '51

YOUNG, Ralph A.

Portrait. Bsns W p 100 S 22 '51

YOUNG, Robert Ralph, 1897-

Coast-to-coast rail deal still simmers. Bsns W p88-90+ Mr 31 '51

Embattled Young; fights reorganization of bankrupt Missouri Pacific. Bsns W p82 D 9 '50

YOUNG men's Christian association

Railroad department

National assembly, Cleveland, June 20-21. Ry Age 131:78-80 Jl 9 '51

YOUNG presidents organization

These young presidents reached the top before turning 39. P. Eastman. pors Am Bsns 21:12-13+ Je '51

Young presidents with a purpose. Bsns W p96 N 18 '50

Young prexies form New York chapter. Am Bsns 21:41 F '51

YOUNG'S modulus. See Elasticity

YOUNGSTOWN, Ohio

Youngstown seeking to brighten outlook. Iron Age 168:122 Ag 16 '51

YOUNGSTOWN sheet and tube company

Stocks that should do well in war or peace; with comparative balance sheet items. Mag of Wall St 87:330 D 30 '50

Youngstown sheet and tube co. to expand at Indiana harbor. Blast F & Steel Pl 39:84 Ja '51

YOUNKER brothers, inc.

Security I like best. T. C. Henderson. Comm & Fin Chr 173:2342 Je 7 '51

YOUTH

Youth. G. D. Stoddard. il Sci Am 185:101-2+ S '51

YTTERBIUM

Isotopes

Radiations from Yb^{169}. D. S. Martin, jr. and others. bibliog diags Phys R 82:579-88 Je 1 '51

YTTRIUM

Efficient separation of dysprosium and yttrium. F. H. Spedding and J. L. Dye. Am Chem Soc J 72:5350 N '50

Analysis

Separation of yttrium and erbium with the aid of ethylenediaminetetra-acetic acid (enta acid). J. K. Marsh. Chem Soc J p 1461-3 Je '51

Isotopes

Decay of Y^{87} and Sr^{87m}. L. G. Mann and P. Axel. bibliog Phys R 80:759 N 15 '50

Isomeric state of Y^{89} and the decay of Zr^{89}. M. Goldhaber and others. bibliog Phys R 83:661-2 Ag 1 '51

Vacuum evaporation of radioactive materials. C. W. Sherwin. diag R Sci Instr 22:339-41 My '51

YTTRIUM oxides

Zirconia-yttria system. P. Duwez and others. bibliog il Electrochem Soc J 98:356-62 S '51

YUGOSLAVIA

See also

Public health—Yugoslavia

Defenses

Soviet satellites re-arm; Jugoslav weaknesses. Economist 160:85-6 Ja 13 '51

Economic conditions

Tito faces famine. Economist 159:620 O 21 '50

What kind of buy is Tito? il map Fortune 43:82-4 Je '51

Economic policy

Yugoslavia writes a new ticket. Bsns W p 173-4 Je 16 '51

Foreign relations

Importance of Tito. map Economist 160:246-8 F 3 '51

Neighbours of the Cominform. Economist 159:991-2 D 9 '50

United States

Stakes in the gamble on Tito? Bsns W p 106-7 D 9 '50

Tito gets his bread. Economist 159:1155 D 23 '50

Industries and resources

Marshal Tito's new plans for industry. Economist 160:1306 Je 2 '51

Politics and government

Reforms in Yugoslavia. Economist 160:438 F 24 '51

Tito's liberalism. Economist 159:890-2 N 25 '50

Yugoslavia writes a new ticket. Bsns W p 173-4 Je 16 '51

YUKON

See also

Forests and forestry—Yukon

Mines and mineral resources—Yukon

Paleontology—Yukon

YULE marble. See Marble

Z

ZEEMAN effect

Hyperfine structure of Zeeman levels in nitric oxide. A. F. Henry. Phys R 80:549-52 N 15 '50

Studies of Zeeman effects from solutions of europium and neodymium salts. G. J. Rotariu. bibliog J Chem Phys 19:977-8 Jl '51

Zeeman effect in oxygen. A. F. Henry. bibliog Phys R 80:396-401 N 1 '50

ZEIN

Stabilization of zein filaments by baking. C. B. Croston and C. D. Evans. Textile Res J 20:857-8 D '50

ZELENY, John, 1872-1951

Loss of an associate editor. por Franklin Inst J 252:168 Ag '51

ZEO-KARB H

Treatment of chromium wastes by ion exchange. R. G. Tyler and others. Sewage & Ind Wastes 23:1032-5 Ag '51

ZEOLITES

Ion-exchange and ion-sieve processes in crystalline zeolites. R. M. Barrer. Chem Soc J p2342-50 S '50

New hot lime-zeolite process. S. B. Applebaum. flow diag Power 95:114-17 F; 110-13+ Mr '51

ZIMMERMAN, Charles J. 1902-

Managing director of Life insurance agency management association. por East Underw 52:128+ pt 2 O 5 '51

ZINC

Alternative zinc sources. Chem Age (Lond) 64:46 Ja 13 '51

Creep behavior of zinc modified by copper in the surface layer. M. R. Pickus and E. R. Parker. bibliog il diags J Metals 3:Trans 792-6 S '51

Crystallographic angles for magnesium, zinc and cadmium. E. I. Salkovitz. J Metals 191:Trans 64 Ja '51

Experimental survey of deformation and annealing processes in zinc. D. C. Jillson. bibliog(61 titles) il diags J Metals 188: Trans 1009-18 Ag '50; Discussion. 3:Trans 541-4 Jl '51

Flow of zinc under constant stress; abstract. A. H. Cottrell and V. Aytekin. Metal Prog 59:290+ F '51

Kinetics of the dissolution of zinc in aqueous iodine solutions. L. L. Bircumshaw and A. C. Riddiford. diags Chem Soc J p598-603, 1490-3 F, Je '51

Metal recovery by cation exchange. A. B. Mindler, M. E. Gilwood and G. H. Saunders. bibliog il diag Ind & Eng Chem 43:1079-81 My '51

Orientations of zinc crystals produced by the Bridgman method. L. M. Slifkin. J Ap Phys 22:1216 S '51

Pad your trimming dies with economical zinc; illustrations and drawings with text. H. C. Slagle. Am Mach 95:136-7 Ap 16 '51

Polarographic studies of metal complexes; the cadmium(II), zinc(II) and iron(III) citrates. L. Meites. Am Chem Soc J 73:3727-31 Ag '51

Positron to γ-ray ratio in Zn^{65}. G. M. Griffiths. Phys R 83:852 Ag 15 '51

Potential-pH diagram of zinc and its applications to the study of zinc corrosion. P. Delahay and others. bibliog Electrochem Soc J 98:101-5 Mr '51

Preparation of Zn^{65} of high specific activity from copper bombarded with 16-Mev deuterons. G. J. Maletskos and others. diag J Chem Phys 19:796 Je '51

Production and examination of zinc single crystals. D. C. Jillson. bibliog il plan diags J Metals 188:Trans 1005-8 Ag '50; Discussion. 3:Trans 550-1 Jl '51

Quantitative removal of corrosion products from zinc. E. G. Stroud. J Ap Chem 1:93-5 Mr '51

Reactions of bis-(halomethyl)-dimethylsilanes with metals. J. D. Roberts and S. Dev. Am Chem Soc J 73:1879-80 Ap '51

Removal of stearic acid from surfaces by alkaline detergents. F. Hazel and W. Stericker. bibliog il Ind & Eng Chem 43: 919-25 Ap '51

Separation of copper from zinc by ion exchange. E. J. Breton, jr. and A. W. Schlechten. bibliog diag J Metals 3:Trans 517-21 Jl '51

Slow neutron velocity spectrometer studies; Au, Ag, Br, Fe, Co, Ni, Zn. W. W. Havens, jr. and L. J. Rainwater. bibliog Phys R 83:1123-33 S 15 '51

Structure of metal deposits obtained by electrochemical displacement upon zinc. M. E. Straumanis and C. C. Fang. bibliog il diag Electrochem Soc J 98:9-13 Ja '51

Studies of time-potential changes on an electrode surface during current interruption; zinc-steel couple in synthetic sea water. S. Schuldiner and R. E. White. bibliog il diags Electrochem Soc J 97:433-47 D '50

Study of metallic electrodes prepared by sublimation. B. C. Bradshaw. J Chem Phys 19:1026-7 Ag '51

Vapor pressure of zinc in the range 300°-360°C. J. E. Vance and C. I. Whitman. bibliog diags J Chem Phys 19:744-8 Je '51

White rust formation on zinc; abstract. P. T. Gilbert and S. E. Hadden. Metal Prog 59:264+ F '51

See also

American zinc institute

Galvanizing

Zinc metallurgy

Analysis

Alkalimetric determination of metals with the aid of acid-base indicators. J. F. Coetzee. Chem Soc J p2098-102 Ag '51

Determination of zinc. Chem Age (Lond) 64:15-16 Ja 6 '51

Geochemical techniques as applied in recent investigations in the Tintic district, Utah. H. Almond and H. T. Morris. bibliog maps diags Econ Geol 46:608-25 S '51

Improved qualitative test for the zinc ion. J. T. Dobbins and J. H. Norman. J Chem Educ 27:604-5 N '50

Manual polarograph for rapid determinations of lead and cadmium in zinc. L. C. Copeland and F. S. Griffith. bibliog il diag Anal Chem 22:1269-71 O '50

Prospecting for zinc using semiquantitative chemical analyses of soils. R. B. Fulton. bibliog map diags Econ Geol 45:654-70 N '50

Rapid electrolytic method for the determination of zinc in aluminium-zinc alloys. G. Norwitz. bibliog J Ap Chem 1:353-4 Ag '51

Rapid polarographic determination of zinc in copper-base alloys. M. Sherman. il Foundry 78:94-5 N '50

Stannous chloride-iodine and zinc-ferro-cyanide titrations; application of the dead-stop end point. D. F. Swinehart. bibliog Anal Chem 23:380-1 F '51

Substituted benzidines and related compounds as reagents in analytical chemistry; 3 : 3′-dimethylnaphthidine as indicator in the titration of zinc with ferrocyanide. R. Belcher, A. J. Nutten and W. I. Stephen. Chem Soc J p 1520-1 Je '51

Substituted benzidines and related compounds as reagents in analytical chemistry; naphthidine as indicator in the determination of zinc with ferrocyanide. R. Belcher and A. J. Nutten. Chem Soc J p548-9 F '51

Isotopes

Internal conversion of gamma-rays from Co^{60}, Cs^{134}, Zn^{65}. M. A. Waggoner and others. bibliog diags Phys R 80:420-8 N 1 '50

Photoneutron cross sections of Fe^{54}, N^{58} and Zn^{64}. L. Katz and others. bibliog Phys R 82:271-2 Ap 15 '51

Properties of (γ,n) cross sections. L. Marshall. bibliog Phys R 83:345-8 Jl 15 '51

Prices

Nonferrous prices; tabulation. Steel 128:129 Ja 1 '51

Protection

Protecting against white rusting of zinc plated parts. P. T. Gilbert and S. E. Hadden. Metal Finishing 49:66-9 Ap '51

ZINC, Powdered

Average zinc powder price; tabulation. Iron Age 167:342 Ja 4 '51

ZINC alloys

Anelastic effects arising from precipitation in aluminum-zinc alloys. A. S. Nowick. bibliog il J Ap Phys 22:925-33 Jl '51

Corrosion tests with zinc alloy die castings in damp gypsum plaster. L. A. J. Lodder and S. Baumgarten. il Metallurgia 43:273-9 Je '51

Die cost cut by tool shop foundry; Allied products corp. W. G. Patton. il Iron Age 166:81-3 N 2 '50

Improved finishing machine for zinc base die castings. il Automotive Ind 104:58 My 1 '51

Preparing zinc-base and aluminum-base die castings for finishing. D. F. Seymour. il Materials & Methods 33:68-9 Mr '51

Tin-zinc alloy can replace cadmium. Steel 127:118+ N 20 '50

20 mm fuze noses zinc die cast at high speed. il Steel 129:78-9 Ag 13 '51

X-ray measurement of long-range order in β-AgZn. L. Muldawer. J Ap Phys 22:663-5 My '51

Zinc alloy specifications tabulated. Iron Age 167:102 My 24 '51

ZINC ammonium chloride

Liquid flux technique reduces dross formation; coating surface of work in transit between pickling and galvanizing departments with zinc ammonium chloride. W. G. Imhoff. il Steel 127:62+ D 25 '50

ZINC beryllium silicate

Chronic berylliosis in the neon sign industry. O. O. Sander. A M A Archives Ind Hygiene & Occup Med 3:565-8 Je '51

ZINC blende. See Sphalerite

ZINC borate

Standard X-ray diffraction patterns. H. E. Swanson and E. Tatge. bibliog J Res Nat Bur Stand 46:318-27 Ap '51

ZINC chloride

Acylation reactions catalysed by strong acids; mixtures of zinc chloride and acetyl chloride or acetic anhydride as sources of acetylium ions. H. Burton and P. F. G. Praill. Chem Soc J p726-30 Mr '51

Chloride sure to follow. il Chem W 69:47-8 O 20 '51

Effect of topically applied zinc chloride and potassium ferrocyanide on dental caries experience. R. W. Anderson and J. W. Knutson. bibliog Pub Health Rep 66:1064-6 Ag 17 '51

Wood preservatives. M. A. Lesser. Soap & San Chem 26:117+ N '50

ZINC compounds

Reaction of ferrous and ferric iron with 1,10-phenanthroline; application to investigation of zinc phenanthroline complexes. I. M. Kolthoff, D. L. Leussing and T. S. Lee. bibliog Am Chem Soc J 73:390-4 Ja '51

Solutions of metal soaps in organic solvents; peptisation and micelle size in solutions of some zinc soaps in toluene. V. D. Tughan and R. C. Pink. Chem Soc J p 1804-8 Jl '51

ZINC dithizonate

Spectrophotometric studies of dithizone and some dithizonates; molecular extinction coefficient of dithizone in carbon tetrachloride. S. S. Cooper and Sister M. L. Sullivan. bibliog Anal Chem 23:613-18 Ap '51

ZINC halides

Apparent reduction of halogens by zinc halides in methanol solution. F. J. Shell and H. K. Zimmerman, jr. Am Chem Soc J 73:490-1 Ja '51

Conductivities of solutions of the zinc halides in methanol from -50 to 20°. L. R. Dawson and others. bibliog Am Chem Soc J 73:4327-30 S '51

Densities and viscosities of solutions of the zinc halides in methanol from -50 to 20°. L. R. Dawson and others. bibliog Am Chem Soc J 73:4326-7 S '51

ZINC hydrosulfite

Groundwood bleaching with zinc hydrosulphite; abstract. G. V. Rittenhouse. Tappi 33:sup 105A-6A D '50

ZINC industry and trade

Nonferrous metals, annual review. S. D. Strauss. Min Eng 190:110-12 F '51

U.S. zinc mines active but supply dips lower. Barron's 31:27-8 Ap 23 '51

Zinc in short supply despite stockpile cut. Barron's 31:34 Ja 29 '51

Zinc industry's progress outlined. Chem Age (Lond) 65:11-12 Jl 7 '51

Zinc, 1950. R. J. Mechin. il Min Cong J 37:53-4+ F '51

Statistics

Consumption, imports, exports, prices; tabulations. Iron Age 167:306-7 Ja 4 '51

Slab zinc, 1930-1950; mine production of zinc, 1946-1950; zinc and zinc alloy castings, 1947-1950; tabulations. Steel 128:131 Ja 1 '51

Zinc castings shipments, 1947-1950; tabulation. Iron Age 167:341 Ja 4 '51

Zinc, 1950. C. R. Ince. Eng & Min J 152:84-6 F '51

Great Britain

How the zinc cuts were felt; with table of UK consumption by main trades, 1946-1950, and monthly January-June 1951. Economist 161:590+ S 8 '51

Zinc and copper restrictions. Chem Age (Lond) 64:5-6 Ja 6 '51

ZINC malonate

Electrolytic dissociation of zinc sulphate, copper sulphate, and zinc malonate in mixed solvents. J. C. James. Chem Soc J p 153-7 Ja '51

ZINC manganese ferrate

Crystalline magnetic anisotropy in zinc manganese ferrite. J. K. Galt and others. bibliog Phys R 81:470 F 1 '51

ZINC metallurgy

Comparative results with galena and ferrosilicon at Mascot. D. B. Grove and others. flow sheets il diags Min Eng 3:Trans 691-8 Ag '51; Discussion. 3:Trans 986-7 N '51

New Reeves-MacDonald mill. J. B. Huttl. flow sheet il Eng & Min J 152:84-5 Ja '51

Quebec zinc concentrates. B. J. Walsh. il Can Min J 71:47-54 D '50

Reverse leaching of zinc calcine. L. P. Davidson and others. flow sheet J Metals 191: Trans 134-6 F '51

Solubility of lead in zinc sulphate solutions. C. W. Barker, J. Powell and R. S. Young. Soc Chem Ind J 69:362-3 D '50

21 years of progress in the zinc industry. il Metallurgia 42:313-16+ N '50

Vacuum treatment of Parkes' process crusts on a pilot-plant scale. A. W. Schlechten and R. F. Doelling. diags J Metals 3:Trans 327-30 Ap '51

Electrometallurgy

Pure metals by amalgam process. diags Chem Age (Lond) 64:21-5 Ja 6 '51

Relationships between germanium and cadmium in the electrolysis of zinc sulphate solutions. S. T. Ross and J. L. Bray. bibliog diag J Metals 3:Trans 465-7 Je '51

Relative reliability of aluminum and zinc starting sheets for the electrodeposition of zinc. G. C. Ware and K. B. Higbie. il Electrochem Soc J 97:425-9 D '50

ZINC mines and mining

Mine gob from old stopes; how Day mines, inc. recovers lead-zinc ore. R. Farmin. il diag Min Cong J 37:38-9 Mr '51

California

Investigation of West Belt copper-zinc mines, El Dorado, Amador, Calaveras, and Mariposa counties, Calif. F. J. Wiebelt and others. 13pls U S Bur Mines Rep of Invest 4760:1-62 '51

Germany

Promising lead-zinc district awaits development. H. Fritzsche. flow sheet il plan diags Eng & Min J 152:96-101 Je '51

Idaho

Pine Creek; where small mines are becoming major producers. J. C. Kieffer. il map Eng & Min J 152:90-3 Je '51

Zinc in the Coeur d'Alenes. H. W. Ingalls. il Comp Air Mag 56:96-7 Ap '51

Illinois

Exploration for lead and zinc; procedures used in the Illinois-Wisconsin district. H. B. Ewoldt and R. R. Reynolds. il diag Min Eng 3:230-1 Mr '51

ZINC mines and mining—*Continued*

Kansas-Oklahoma-Missouri district

Aspects of structure and mineralization used as guides in the development of the Picher field. J. P. Lyden. bibliog maps diags Min Eng 187:Trans 1251-9 D '50

Graphic statistical history of the Joplin or Tri-state lead-zinc district. J. S. Brown. map Min Eng 3:Trans 785-90 S '51

Missouri

Investigation of Canyon Diggings zinc-lead deposit, Newton county, Mo. L. C. Brichta and S. A. Allen. bibliog 3pls U S Bur Mines Rep of Invest 4745:1-115 '51

Morocco

Private Point four in Morocco. H. Solow. il map Fortune 44:107-11+ S '51

Nevada

Investigation of Copper Canyon lead-zinc deposit, Lander county, Nev. R. R. Trengove. 6pls U S Bur Mines Rep of Invest 4774:1-61 '51

Pennsylvania

Investigation of the Almedia lead-zinc deposit, Columbia county, Pa. K. M. Earl. 3pls U S Bur Mines Rep of Invest 4743:1-9 '50

Quebec (province)

Quebec zinc concentrates. B. J. Walsh. il Can Min J 71:47-54 D '50

Wisconsin

Exploration for lead and zinc; procedures used in the Illinois-Wisconsin district. H. B. Ewoldt and R. R. Reynolds. il diag Min Eng 3:230-1 Mr '51

ZINC ores

Geology of the Broken Hill ore deposit, Broken Hill, N.S.W., Australia. J. K. Gustafson and others. maps diags Geol Soc Bul 61:1369-437, pl 1-8 bibliog(p 1436-7) D '50

Paragenesis of the Tri-State jasperoid. E. S. Bastin. il Econ Geol 46:652-7 S '51

Prospecting for zinc using semiquantitative chemical analyses of soils. R. B. Fulton. bibliog map diags Econ Geol 45:654-70 N '50

Quebec zinc concentrates. B. J. Walsh. il Can Min J 71:47-54 D '50

See also

Sphalerite

ZINC oxides

Determination of relative specific surface of zinc oxide pigments. W. W. Ewing and R. N. Rhoda. bibliog Anal Chem 22:1453-5 N '50

Effect of zinc oxide on architectural white alkyd enamels, by the Western New York club. Paint Oil & Chem R 113:74-8 N 23 '50

Heat of solution of zinc oxide in 2 *N* hydrochloric acid. R. B. Peppler and E. S. Newman. bibliog J Res Nat Bur Stand 46:121-3 F '51

Precision determination of the lattice constants of zinc oxide. R. B. Heller and others. J Ap Phys 21:1283-4 D '50

Some electrical properties of zinc oxide semiconductor. E. E. Hahn. bibliog diags J Ap Phys 22:855-63 Jl '51

Substituting zinc oxide for zinc cyanide in plating solutions. M. B. Diggin. Metal Finishing 49:64+ F '51

Systems zinc oxide-phosphoric oxide-water and manganous oxide-phosphoric oxide-water at temperatures between 25° and 100°. J. E. Salmon and H. Terrey. Chem Soc J p2813-24 O '50

Technique for the study of solid-gas surface reactions; the decomposition of nitrous oxide on iron oxide-zinc oxide catalysts. L. P. Bupp and A. B. Scott. diag Am Chem Soc J 73:4422-6 S '51

Analysis

Determination of metal oxide content in metallic stearates; magnesium and zinc soaps. P. N. Cheremisinoff. Paint Oil & Chem R 114:14+ F 15 '51

ZINC phosphates

Luminescence of three forms of zinc orthophosphate:Mn. A. L. Smith. bibliog Electrochem Soc J 98:363-8 S '51

ZINC phthalocyanine

Novel method for the estimation of very low pressures. R. Gomer. il J Chem Phys 19:1072-3 Ag '51

ZINC plating

Bright zinc plating. R. O. Hull and J. B. Winters. Metal Finishing 49:58-61+ Je '51

Continuous electroplating effects operational economy; Shakeproof's new Elgin, Ill. plant. D. Reebel. il plan Steel 128:64-6 F 19 '51

Protecting against white rusting of zinc plated parts. P. T. Gilbert and S. E. Hadden. Metal Finishing 49:66-9 Ap '51

Substituting zinc oxide for zinc cyanide in plating solutions. M. B. Diggin. Metal Finishing 49:64+ F '51

Zinc plating; continuous process for treating steel sheets. il Elec R (Lond) 148:785-9 Ap 20 '51

See also

Galvanizing

ZINC silicates

Cathodoluminescence of zinc orthosilicate with manganese activator. S. Larach and R. E. Shrader. bibliog J Ap Phys 22:362 Mr '51

Fine structure in the emission spectrum of manganese activated zinc silicate. C. C. Vlam. bibliog Opt Soc Am J 41:558 Ag '51

Heats of formation of crystalline calcium orthosilicate, tricalcium silicate and zinc orthosilicate. E. G. King. Am Chem Soc J 73:656-8 F '51

Low-temperature heat capacities and entropies at 298.16°K. of crystalline calcium orthosilicate, zinc orthosilicate and tricalcium silicate. S. S. Todd. Am Chem Soc J 73:3277-8 Jl '51

Thermoluminescence characteristics of silicate phosphors activated by manganese and arsenic. C. Bull and G. F. J. Garlick. bibliog Electrochem Soc J 98:371-5 S '51

Thermoluminescence of zinc silicate phosphors activated with manganese and arsenic. J. R. Nelson and J. H. Berbert. diag Opt Soc Am J 41:644 S '51

ZINC sulfate

Crystal perfection of $ZnSO_4 \cdot 7H_2O$; partial molal heat capacity, heat content and vapor pressure of its aqueous solutions; thermodynamics of Clark cell. W. F. Giauque, R. E. Barieau and J. E. Kunzler. bibliog Am Chem Soc J 72:5685-90 D '50

Diffusion coefficient of zinc sulfate in dilute aqueous solution at 25°. H. S. Harned and R. M. Hudson. bibliog Am Chem Soc J 73:3781-3 Ag '51

Electrolytic dissociation of zinc sulphate, copper sulphate, and zinc malonate in mixed solvents. J. C. James. Chem Soc J p 153-7 Ja '51

Relationships between germanium and cadmium in the electrolysis of zinc sulphate solutions. S. T. Ross and J. L. Bray. bibliog diag J Metals 3:Trans 465-7 Je '51

Solubility of lead in zinc sulphate solutions. C. W. Barker, J. Powell and R. S. Young. Soc Chem Ind J 69:362-3 D '50

$ZnSO_4 \cdot 7H_2O$, $ZnSO_4 \cdot 6H_2O$; heat capacities, entropies and crystal perfection at low temperatures; heats of solution and transition. R. E. Barieau and W. F. Giauque. Am Chem Soc J 72:5676-84 D '50

ZINC sulfide

Arsenic-activated zinc sulfide phosphor. J. S. Prener. Electrochem Soc J 98:406-8 O '51

Effect of infra-red on emission and trapping in ZnS:Cu phosphors. R. H. Bube. Phys R 80:764-5 N 15 '50

Evaporated zinc sulfide films. J. L. Rood. bibliog Opt Soc Am J 41:201-2 Mr '51

Luminescence and trapping in zinc sulfide phosphors with and without copper activator. R. H. Bube. bibliog Phys R 80:655-66 N 15 '50

Photo-luminescence efficiency of ZnS:Cu phosphors as a function of temperature. R. H. Bube. bibliog Phys R 81:633-4 F 15 '51

Piezoelectric constant of zinc-sulfide. B. D. Saksena. bibliog Phys R 81:1012-15 Mr 15 '51

Role of chlorine in the luminescence of ZnS:Cu phosphors. R. H. Bube. J Chem Phys 19:985 Jl '51

ZINC sulfide—*Continued*

Transparent luminescent films. F. J. Studer and others. diag Opt Soc Am J 41:559 Ag '51

See also

Sphalerite

Analysis

Electrolytic determination of cadmium in zinc sulfide-cadmium sulfide phosphors. R. Bastian and others. bibliog Electrochem Soc J 98:307-10 Ag '51

ZINCBLENDE. See Sphalerite

ZIRCON

High-fire opaque glazes for zircon bodies. D. V. Van Gordon. diags Am Cer Soc J 34. 33-8 F 1 '51

ZIRCONIA. See Zirconium oxide

ZIRCONIUM

Action of hot ionized gases upon zirconium and copper. A. Dravnieks. bibliog diags J Phys & Colloid Chem 55:540-9 Ap '51

Adsorption separation of zirconium and hafnium. R. S. Hansen and others. bibliog Am Chem Soc J 72:5043-5 N '50

Anion exchange of complex ions of hafnium and zirconium in HCl-HF mixtures. E. H. Huffman and R. C. Lilly. Am Chem Soc J 73:2902-5 Je '51

Annealing of Ti and Zr. A. M. Bounds and H. W. Cooper. il Metal Prog 59:69+ Ja '51

Attempts to electrodeposit zirconium. M. L. Holt. bibliog Electrochem Soc J 98:sup33C-5C Mr '51

Chemical engineering materials of construction; less common metals. D. B. Broughton. bibliog(51 ref) il Ind & Eng Chem 43:2280-2 O '51

Commercial uses of zirconium developing. G. L. Miller. bibliog il Iron Age 167:83-7 My 17 '51

Ductile zirconium. W. W. Stephens and J. H. McClain. bibliog il diags Chem Eng 58:116-17 Mr '51

Electrolytic polishing of zirconium and its application to a study of the effects of abrasion upon the structure of the metal. P. A. Jacquet. il Metallurgia 42:268-70 O '50

Hydrolysis and polymerization of zirconium in perchloric acid solution. R. E. Connick and W. H. Reas. Am Chem Soc J 73:1171-6 Mr '51

Less familiar metals of commercial importance. O. Kay and R. A. Lubker. Product Eng 22:107 Ja '51

Magnesium alloys containing zirconium. G. W. Orton. bibliog Foundry 78:95+ D '50

Melting point-composition diagram of the zirconium-oxygen system. D. Cubicciotti. Am Chem Soc J 73:2032-5 My '51

Metallography of zirconium. H. P. Roth. il Metal Prog 58:709-11 N '50

New jobs for zirconium. il Chem Ind W 68:27 Mr 31 '51

Oxidation of zirconium at high temperatures. D. Cubicciotti. Am Chem Soc J 72:4138-41 S '50

Permeability of zirconium to hydrogen. R. B. Bernstein and D. Cubicciotti. bibliog diag J Phys & Colloid Chem 55:238-48 F '51

Production of malleable zirconium on a pilot-plant scale. W. J. Kroll and others. bibliog il diags J Metals 188:Trans 1445-53 D '50

Recent advances in the chemistry of zirconium and hafnium. E. M. Larsen. bibliog J Chem Educ 28:529-35 O '51

Spotlight on zirconium. il Chem W 69:27-8 O 6 '51

Vacuum melting titanium and zirconium. A. C. Haskell, jr. diags Steel 128:77-9 Je 18 '51

Vapor pressure of inorganic substances; zirconium between 1949 and 2054°K. G. B. Skinner, J. W. Edwards and H. L. Johnston. bibliog diag Am Chem Soc J 73:174-6 Ja '51

Zirconium. S. M. Shelton. il Sci Am 184: 18-21 Je '51

Zirconium and zirconium compounds. Chem Age (Lond) 65:297-8+ S 1 '51

Zirconium for manganese in cupola iron. W. C. Jeffery. Metal Prog 60:65-6 Ag '51

Zirconium for sodium peroxide fusions. G. J. Petretic. Anal Chem 23:1183-4 Ag '51

Zirconium; little-known metal slated for important atomic role. B. Ravits. Barron's 31:9 Mr 5 '51

Zirconium; production, properties and alloys. G. L. Miller. bibliog il Metallurgia 43:209-14+ My '51

Analysis

Amperometric titrations with *m*-nitrophenylarsonic acid. I. M. Kolthoff and R. A. Johnson. bibliog Electrochem Soc J 98: 138-45 Ap '51

Anion exchange of zirconium, hafnium, niobium and tantalum in hydrochloric acid solutions. E. H. Huffman, G. M. Iddings and R. C. Lilly. Am Chem Soc J 73:4474-5 S '51

Anion exchange studies; separation of zirconium and niobium in HCl-HF mixtures. K. A. Kraus and G. E. Moore. bibliog il Am Chem Soc J 73:9-13 Ja '51

m-Cresoxyacetic acid, a selective reagent for zirconium. M. Venkataramaniah and B. S. V. R. Rao. Anal Chem 23:539-40 Mr '51

Determination of oxygen in zirconium metal by the vacuum fusion method. J. K. Stanley, J. von Hoene and G. Wiener. bibliog Anal Chem 23:377-9 F '51

Determination of zirconium-hafnium ratios with *p*-bromomandelic acid. R. B. Hahn. bibliog Anal Chem 23:1259-61 S '51

Fluorometric determination of zirconium in minerals. W. C. Alford, L. Shapiro and C. E. White. bibliog Anal Chem 23:1149-52 Ag '51

Quantitative spectrographic analysis of zirconium-hafnium mixtures. V. A. Fassel and C. H. Anderson. bibliog Opt Soc Am J 40: 742-7 N '50

Zirconium chloranilate complexes. B. J. Thamer and A. F. Voigt. Am Chem Soc J 73: 3197-202 Jl '51

Isotopes

4.4-minute radiations from Zr^{89}. F. J. Shore and others. bibliog Phys R 83:688-9 Ag 1 '51

Isomeric state of Y^{89} and the decay of Zr^{89}. M. Goldhaber and others. bibliog Phys R 83: 661-2 Ag 1 '51

Radiations from Zr^{89}. K. Shure and M. Deutsch. Phys R 82:122 Ap 1 '51

Radiochemical and spectrometer studies of several neutron-deficient zirconium isotopes and their decay products. E. K. Hyde and G. D. O'Kelley. bibliog Phys R 82:944-51 Je 15 '51

ZIRCONIUM, Powdered

Powder metallurgy of zirconium. H. H. Hausner and others. bibliog il J Metals 3:Trans 625-33 Ag '51

ZIRCONIUM alcoholates

Zirconium alkoxides. D. C. Bradley and W. Wardlaw. Chem Soc J p280-5 F '51

ZIRCONIUM alloys

Preliminary investigation of the zirconium-beryllium system by powder metallurgy methods. H. H. Hausner and H. S. Kalish. bibliog il J Metals 188:Trans 59-66 Ja '50; Discussion. 188:Trans 1369-71 N '50

Ten zirconium alloys evaluated. F. B. Litton. il Iron Age 167:95-9 Ap 5; 112-14 Ap 12 '51

Zirconium; production, properties and alloys. G. L. Miller. Metallurgia 43:212-14 My '51

ZIRCONIUM carbide

Certain refractory compounds as thermionic emitters. D. L. Goldwater and R. E. Haddad. diag J Ap Phys 22:70-3 Ja '51

Graphite-rod hairpin-resistor radiation furnace for high temperatures. W. J. Kroll and others. bibliog diag J Metals 188:Trans 1394-5 N '50

Sintering mechanism between zirconium carbide and columbium; abstract. H. J. Hamjian and W. G. Lidman. Metal Prog 59:548+ Ap '51

Some physical properties of eight refractory oxides and carbides. J. J. Gangler. bibliog il diag Am Cer Soc J 33:367-74; Discussion. 374-5 D 1 '50

ZIRCONIUM carbonate

Precipitated itch; a new poison ivy remedy. TAM. Chem Ind W 68:43 Ja 27 '51

ZIRCONIUM chloride

Chloride ethoxides of zirconium; abstract. D. C. Bradley and others. Chem & Ind p310-11 Ap 21 '51

Four-centre, broad-side approach as a mechanism of reaction. W. Gerrard. Chem & Ind p463-4 Je 16 '51

ZIRCONIUM compounds

Chloride ethoxides of zirconium. D. C. Bradley, F. M. Abd-el Halim and W. Wardlaw. Chem Soc J p3450-4 D '50

Preparation and properties of the oxide-sulfides of cerium, zirconium, thorium and uranium. E. D. Eastman and others. Am Chem Soc J 73:3896-8 Ag '51

Zirconium and zirconium compounds. Chem Age (Lond) 65:297-8+ S 1 '51

Zirconium chemicals; their application to textiles. W. B. Blumenthal. bibliog Rayon 31:81-3 D '50; 32:85-6+ Ja; 79-80+ Ap '51

Zirconium chloranilate complexes. B. J. Thamer and A. F. Voigt. Am Chem Soc J 73:3197-202 Jl '51

ZIRCONIUM oxide

Ceramic halts heat, conducts current; stabilized zirconia. il Mod Ind 21:85 Mr '51

Development of fused stabilized zirconia. S. S. Kistler. il Brick & Clay Rec 118:57-8 Mr '51

Effect of nuclear substitution on the rate of silica-zirconia-alumina-catalyzed depropylation of cumene. R. M. Roberts and G. M. Good. bibliog Am Chem Soc J 73:1320-2 Mr '51

Electric furnace fusion and purification of zirconia. D. W. Marshall. Brick & Clay Rec 118:62 Je '51

Fused stabilized zirconia. il Chem Eng 58:199-200 F '51

Fused stabilized zirconia; new refractory product. Mech Eng 73:507-8 Je '51

Fused stabilized zirconia refractories; abstracts. O. J. Whittemore, jr. and D. W. Marshall. il Iron Age 167:95-6 My 24 '51; Brick & Clay Rec 118:58 Je '51

Heat limits raised; new refractory, fused stabilized zirconia. Steel 128:54 Ja 22 '51

New zirconia refractory withstands 4600°F. J. Kolb. Iron Age 167:79 Ja 18 '51

Norton announces commercial production of stabilized zirconia. il Chem & Eng N 29:559 F 12 '51

Preparation of zirconia and alumina shapes. L. E. Mong and J. J. Donoghue. bibliog il Am Cer Soc Bul 29:405-7 N 15 '50

Properties and uses of zirconia products. O. J. Whittemore. il Brick & Clay Rec 118:58-9 Mr '51

Quenching furnace for high-temperature studies of small specimens. H. G. Sowman and A. I. Andrews. diags Am Cer Soc J 33:365-6 D 1 '50

Stabilized zirconia, a pure oxide refractory. L. H. Milligan. il Brick & Clay Rec 118:52 My '51

Zirconia labors at new jobs. Power 95:140 Mr '51

Zirconia refractory good to 4600° F. il Steel 128:68 Ja 29 '51; Materials & Methods 33:81 Mr '51

ZIRCONIUM oxides

Zirconia-yttria system. P. Duwez and others. bibliog il Electrochem Soc J 98:356-62 S '51

Analysis

Spectrographic determination of hafnia in mixtures of hafnium and zirconium oxides. G. W. J. Kingsbury and R. B. Temple. bibliog diag J Ap Chem 1:406-11 S '51

ZIRCONIUM sulfates

Double sulfates of zirconium and the bivalent metals. S. R. Patel. Am Chem Soc J 73:2958-9 Je '51

ZIRCONIUM tetrachloride. See Zirconium chloride

ZONING

New kind of zoning; revolutionary proposal for improving wasteful land planning. C. K. Agle. plans diags Arch Forum 95:176-7+ Jl '51

ZONING laws

ARRL wins Pennsylvania antenna mast case. Q S T 35:13-14 O '51

NYC planning commission proposes a radical change in zoning regulations. diags Eng N 146:26-7 My 3 '51

Wright vs. Vogt; Supreme court of New Jersey okays 60-foot amateur tower despite restrictions in zoning ordinance. Q S T 35:39 Je '51

ZOOLOGICAL record (periodical)

Concerning the Zoological record. S. A. Neave. Science 112:761-2 D 22 '50

ZOOLOGICAL specimens

C-M medium; a mounting medium for small insects, mites, and other whole mounts. E. W. Clark and F. Morishita. Science 112:789-90 D 29 '50

Method for preparing slide mounts of small invertebrates. M. W. Boesel and C. M. Vaughn. Science 113:549 My 11 '51

ZOOLOGY

Classification

Blood relationships of animals. A. A. Boyden. il Sci Am 185:59-63 Jl '51

Legality of restriction of type locality. E. R. Dunn and L. C. Stuart. Science 113:677-8 Je 15 '51

Nomenclature

Concerning orthography of scientific names. J. Paclt. Science 114:63-4 Jl 20 '51

International commission on zoological nomenclature and the name of the monarch butterfly. R. F. Ferreira d'Almeida and J. Oiticica, F. Science 113:728-9 Je 22 '51

Monarch butterfly. N. D. Riley. Science 114:75-6 Jl 20 '51

Recent proposal to correct an error committed by the International commission on zoological nomenclature at the Paris 1948 meeting. W. D. Field and others. Science 113:68-70 Ja 19 '51

Results of a preliminary survey of group endings in zoological classifications above the category of genus. L. P. Schultz. Science 113:655-7 Je 8 '51

Should a Law of recency be added to the International code of zoological nomenclature? R. D. Shenefelt and J. T. Medler. bibliog Science 114:154-6 Ag 10 '51

Zoological nomenclature; notice of proposed suspension of rules in certain cases for avoidance of confusion and validation of current nomenclatorial practice (A.(n.s.) 8). F. Hemming. Science 114:48-9 Jl 13 '51

Zoological nomenclature; notice of proposed suspension of the rules in certain cases for the avoidance of confusion and the validation of current nomenclatorial practice (A. (n.s.) 7). F. Hemming. Science 113:560-1 My 11 '51

ZYMOSTEROL

Steroids and related compounds; some derivatives of zymosterol. W. J. Adams, V. Petrow and R. Royer. Chem Soc J p678-80 Mr '51

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